

# TEST REPORT

## Part 15E & RSS-247 (Issue 2)

**Equipment under test** WISENET SMARTCAM

**Model name** SNH-P6415BN

**Derivative model** SNH-P6416BN, SNH-C6415BN,  
 SNH-C6415BNB, SNH-C6416BN,  
 SNH-C6416BNB

**FCC ID** NLMSNHP6415BN

**IC** 21482-SNHP6415BN

**Applicant** Hanwha Techwin Co., Ltd.



**Manufacturer** Hanwha Techwin(Tianjin) Co., Ltd  
 Hanwha Techwin Security Vietnam Co.,Ltd.  
 D-TECH Co.,Ltd.

**Date of test(s)** 2017.12.26 ~ 2018.01.11

**Date of issue** 2019.04.22

**Issued to**  
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<b>Test and report completed by :</b>	<b>Report approval by :</b>
	
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Test report No.:  
KES-RF-18T0007-R1  
Page (2) of (221)

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**Revision history**

Revision	Date of issue	Test report No.	Description
-	2018.01.15	KES-RF-18T0007	Initial
R1	2019.04.22	KES-RF-18T0007-R1	Add derivation model and Manufacturer for SNH-P6415BN

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## TABLE OF CONTENTS

1.	General information .....	4
1.1.	EUT description .....	4
1.2.	Test configuration.....	5
1.3.	Information about derivative model .....	5
1.4.	Accessory information .....	5
1.5.	Software and Firmware description.....	5
1.6.	Measurement results explanation example.....	6
1.7.	Measurement Uncertainty .....	6
1.8.	Frequency/channel operations.....	7
1.9.	Maximum average output power.....	7
2.	Summary of tests.....	8
3.	Test results.....	9
3.1.	26 dB bandwidth & 99% Occupied Bandwidth .....	9
3.2.	6 dB bandwidth.....	35
3.3.	Maximum conducted output power.....	41
3.4.	Power spectral density.....	49
3.5.	Frequency Stability.....	68
3.6.	Radiated restricted band and emissions.....	73
3.7.	AC conducted emissions .....	217
Appendix A.	Measurement equipment .....	220
Appendix B.	Test setup photos .....	221



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KES-RF-18T0007-R1  
Page (4) of (221)

### 1. General information

Applicant: Hanwha Techwin Co., Ltd.  
Applicant address: 6, Pangyo-ro 319 Beon-gil, Bundang-gu Seongnam-si,  
Gyeonggi-do, 13488, Korea  
Test site: KES Co., Ltd.  
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Test Facility: FCC Accreditation Designation No.: KR0100, Registration No.: 444148  
ISED Registration No.: 23298  
FCC rule part(s): 15.247 / RSS-247  
FCC ID: NLMSNHP6415BN  
IC Certification: 21482-SNHP6415BN  
Test device serial No.:  Production  Pre-production  Engineering

#### 1.1. EUT description

Equipment under test: WISENET SMARTCAM  
Frequency range:  
2 402 MHz ~ 2 480 MHz (LE)  
2 412 MHz ~ 2 462 MHz (11b/g/n\_HT20)  
2 422 MHz ~ 2 452 MHz (11n\_HT40)  
UNII-1: 5 180 MHz ~ 5 240 MHz (11a/n\_HT20, 11ac\_VHT20)  
5 190 MHz ~ 5 230 MHz (11n\_HT40, 11ac\_VHT40)  
5 210 MHz (11ac\_VHT80)  
UNII-2A: 5 260 MHz ~ 5 320 MHz (11a/n\_HT20, 11ac\_VHT20)  
5 270 MHz ~ 5 310 MHz (11n\_HT40, 11ac\_VHT40)  
5 290 MHz (11ac\_VHT80)  
UNII-2C: 5 500 MHz ~ 5 720 MHz (11a/n\_HT20, 11ac\_VHT20)  
5 510 MHz ~ 5 710 MHz (11n\_HT40, 11ac\_VHT40)  
5 530 MHz ~ 5 690 MHz (11ac\_VHT80)  
UNII-3: 5 745 MHz ~ 5 825 MHz (11a/n\_HT20, 11ac\_VHT20)  
5 755 MHz ~ 5 795 MHz (11n\_HT40, 11ac\_VHT40)  
5 775 MHz (11ac\_VHT80)  
Model: SNH-P6415BN  
Derivative model: SNH-P6416BN  
Modulation technique: WIFI : DSSS, OFDM  
BT : GFSK  
Antenna specification: Antenna type(2.4GHz WIFI) : Chip antenna, Peak gain : 3.50 dBi  
Antenna type(BT, 5GHz WIFI) : Chip antenna, Peak gain : 3.94 dBi

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Power source	AC 120 V Adaptor (Output : DC 5.0V//2.0A)
Number of channels	2 402 Mhz ~ 2 480 Mhz (LE) : 40ch
	2 412 Mhz ~ 2 462 Mhz (11n_HT20) : 11ch
	2 422 Mhz ~ 2 452 Mhz (11n_HT40) : 7ch
	5 180 Mhz ~ 5 240 Mhz (11a/n_HT20, 11ac_VHT20) : 4ch
	5 190 Mhz ~ 5 230 Mhz (11a/n_HT40, 11ac_VHT40) : 2ch
	5 210 Mhz (11ac_VHT80) : 1ch
	5 260 Mhz ~ 5 320 Mhz (11a/n_HT20, 11ac_VHT20) : 4ch
	5 270 Mhz ~ 5 310 Mhz (11a/n_HT20, 11ac_VHT40) : 2ch
	5 290 Mhz (11ac_VHT80) : 1ch
	5 500 Mhz ~ 5 720 Mhz (11a/n_HT20, 11ac_VHT20) : 12ch
	5 510 Mhz ~ 5 710 Mhz (11a/n_HT20, 11ac_VHT40) : 6ch
	5 530 Mhz ~ 5 690 Mhz (11ac_VHT80) : 3ch
	5 745 Mhz ~ 5 825 Mhz (11a/n_HT20, 11ac_VHT20) : 5ch
	5 755 Mhz ~ 5 795 Mhz (11n_HT40 , 11ac_VHT40) : 2ch
	5 775 Mhz (11ac_VHT80) : 1ch

**1.2. Test configuration**

The Hanwha Techwin Co., Ltd. WISENET SMARTCAM FCC ID: NLMSNHP6415BN , IC: 21482-SNHP6415BN was tested according to the specification of EUT, the EUT must comply with following standards and KDB documents.

FCC Part 15.407  
IC RSS-247 Issue 2 and RSS-Gen Issue 4  
KDB 789033 D02 v02r01  
ANSI C63.10-2013

**1.3. Information about derivative model**

The difference between basic and derivative model is external color, the other circuit diagram and software are fundamentally the same.

- Basic model(SNH-P6415BN) : Metal braket, White color
- Derivative model(SNH-P6416BN) : Metal braket, Black color
- Derivative model(SNH-C6415BN) : Metal braket, White color
- Derivative model(SNH-C6415BNB) : Metal braket, Black color
- Derivative model(SNH-C6416BN) : Plastic braket White color
- Derivative model(SNH-C6416BNB) : Plastic braket Black color

**1.4. Accessory information**

Equipment	Manufacturer	Model	Serial No.	Power source
-	-	-	-	-

**1.5. Software and Firmware description**

The software and firmware installed in the EUT is version 1.00\_180109.

### 1.6. Measurement results explanation example

For all conducted test items :

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 1.01 + 10 = 11.01 \text{ (dB)} \end{aligned}$$

### 1.7 Measurement Uncertainty

Test Item		Uncertainty
Uncertainty for Conduction emission test		2.62 dB
Uncertainty for Radiation emission test (include Fundamental emission)	9kHz - 30MHz	4.54 dB
	30MHz - 1GHz	4.36 dB
	Above 1GHz	5.00 dB
Note. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

## 1.8 Frequency/channel operations

**UNII-1**

Ch.	Frequency (MHz)
36	5 180
44	5 220
48	5 240

**UNII-2A**

Ch.	Frequency (MHz)
52	5 260
56	5 280
64	5 320

**UNII-2C**

Ch.	Frequency (MHz)
100	5 500
116	5 600
144	5 720

**UNII-3**

Ch.	Frequency (MHz)
149	5 745
157	5 785
165	5 825

**Table 1.8-1. 802.11a/n/ac\_HT20/VHT20 mode**

**UNII-1**

Ch.	Frequency (MHz)
38	5 190
46	5 230

**UNII-2A**

Ch.	Frequency (MHz)
54	5 270
62	5 310

**UNII-2C**

Ch.	Frequency (MHz)
102	5 510
118	5 590
142	5 710

**UNII-3**

Ch.	Frequency (MHz)
151	5 755
159	5 795

**Table 1.8-2. 802.11a/n/ac\_HT40/VHT40 mode**

**UNII-1**

Ch.	Frequency (MHz)
42	5 210

**UNII-2A**

Ch.	Frequency (MHz)
58	5 290

**UNII-2C**

Ch.	Frequency (MHz)
106	5 530
122	5 610
138	5 690

**UNII-3**

Ch.	Frequency (MHz)
155	5 775

**Table 1.8-3 802.11ac\_VHT80 mode**

## 1.9. Maximum average output power

Refer to the average output power.

Note.

- Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.
- Worst-case data rates as provided by the client were:  
 UNII-1 a : **54 Mbps**, n\_HT20/40 : **MCS7**, ac\_VHT20 : **MCS8**, ac\_VHT40/80 : **MCS9**  
 UNII-2A a : **54 Mbps**, n\_HT20/40 : **MCS7**, ac\_VHT20 : **MCS8**, ac\_VHT40/80 : **MCS9**  
 UNII-2C a : **54 Mbps**, n\_HT20/40 : **MCS7**, ac\_VHT20 : **MCS8**, ac\_VHT40/80 : **MCS9**  
 UNII-3 a : **54 Mbps**, n\_HT20/40 : **MCS7**, ac\_VHT20 : **MCS8**, ac\_VHT40/80 : **MCS9**
- This report contains the worst case data from the following mode of the test in 20/40/80 MHz signal bandwidth.



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Page (8) of (221)

**2. Summary of tests**

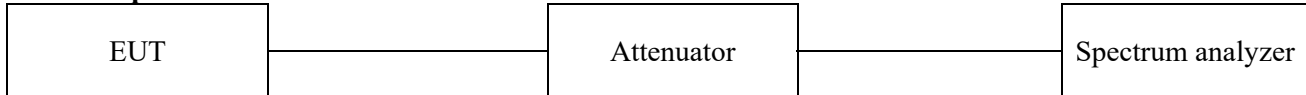
Section in FCC Part 15	Section in RSS-247 & Gen	Parameter	Test results
15.407(a)	RSS-Gen 6.6	26 dB bandwidth & 99 % bandwidth	Pass
15.407(e)	RSS-247 6.2.4	6 dB bandwidth (UNII-3)	Pass
15.407(a)	RSS-247 6.2	Maximum conducted output power	Pass
15.407(a)	RSS-247 6.2	Power spectral density	Pass
15.407(g)	RSS-Gen 6.11	Frequency stability	Pass
15.205 15.209 15.407(d)	RSS-247 6.2 RSS-Gen 8.9, 8.10	Radiated restricted band and emission	Pass
15.207	RSS-Gen 8.8	AC power line conducted emissions	Pass

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### 3. Test results

#### 3.1. 26 dB bandwidth & 99% Occupied Bandwidth

##### Test setup



##### Test procedure

##### 26 dB bandwidth

KDB 789033 D02 v02r01– Section C.1

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

##### Limit

N/A

##### 99 % bandwidth

KDB 789033 D02 v02r01– Section D

1. Set span = 1.5 times to 5.0 times the OBW.
2. Set RBW = 1% to 5% of the OBW
3. Set the VBW > 3 x RBW.
4. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak bandwidth function of the instrument (if available).
5. Use the 99% power bandwidth function of the instrument (if available).
6. If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

In the result,

-DFS requirements are not applicable in the 5 150 MHz ~ 5 250 MHz.

**Test results**

Band	Frequency(MHz)	Mode	26 dB bandwidth(MHz)	99 % bandwidth(MHz)	
UNII-1	5 180	a	19.899	16.643	
	5 220		19.682	16.932	
	5 240		20.188	16.860	
UNII-2A	5 260		20.116	16.787	
	5 280		19.754	16.715	
	5 320		19.682	16.715	
UNII-2C	5 500		21.491	17.004	
	5 600		23.082	21.418	
	5 720		20.478	16.860	
UNII-3	5 745		20.260	16.787	
	5 785		20.116	16.787	
	5 825		20.333	16.787	
UNII-1	5 180		HT20	20.405	17.873
	5 220			20.912	17.800
	5 240			20.767	17.800
UNII-2A	5 260	20.333		17.800	
	5 280	20.188		17.728	
	5 320	20.622		17.728	
UNII-2C	5 500	20.767		17.800	
	5 600	21.129		18.307	
	5 720	20.839		17.728	
UNII-3	5 745	20.260		17.728	
	5 785	20.188		17.800	
	5 825	20.043		17.728	
UNII-1	5 190	HT40		41.790	36.700
	5 230			42.720	36.469
UNII-2A	5 270			41.790	36.585
	5 310		41.680	36.469	
UNII-2C	5 510		42.720	36.932	
	5 590		42.600	39.247	
	5 710		42.140	36.469	
UNII-3	5 755		43.650	36.469	
	5 795		42.140	36.700	

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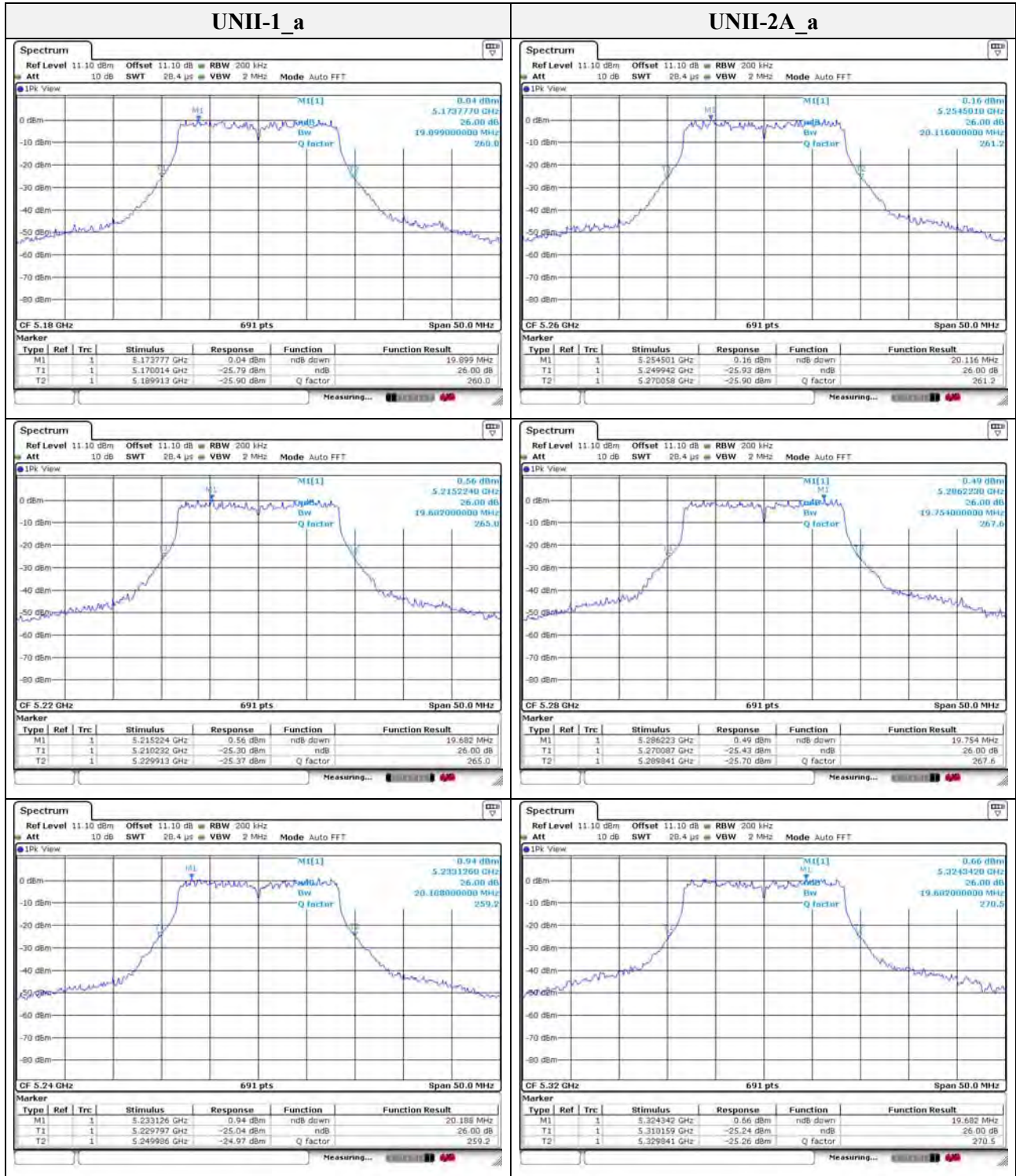
Test report No.:  
 KES-RF-18T0007-R1  
 Page (11) of (221)

Band	Frequency(MHz)	Mode	26 dB bandwidth(MHz)	99 % bandwidth(MHz)	
UNII-1	5 180	VHT20	21.201	17.728	
	5 220		20.550	17.945	
	5 240		20.405	17.800	
UNII-2A	5 260		20.550	17.800	
	5 280		20.622	17.873	
	5 320		20.912	17.800	
UNII-2C	5 500		21.418	17.800	
	5 600		21.563	18.379	
	5 720		20.550	17.800	
UNII-3	5 745		20.550	17.800	
	5 785		21.056	17.800	
	5 825		20.767	17.873	
UNII-1	5 190	VHT40	42.140	36.700	
	5 230		42.490	36.932	
UNII-2A	5 270		42.370	37.048	
	5 310		42.600	37.164	
UNII-2C	5 510		42.840	36.816	
	5 590		44.800	39.016	
	5 710		43.530	37.279	
UNII-3	5 755		41.100	37.048	
	5 795		42.260	37.048	
UNII-1	5 210		VHT80	81.790	75.543
UNII-2A	5 290			82.320	75.369
UNII-2C	5 530			83.700	75.716
	5 610	84.230		76.064	
	5 690	82.490		75.369	
UNII-3	5 775	81.970		75.195	
UNII-2C (Band-crossing channel)	5 720	a		15.492	-
	5 720	HT20	15.058	-	
	5 710	HT40	36.070	-	
	5 720	VHT20	15.492	-	
	5 710	VHT40	36.790	-	
	5 690	VHT80	76.560	-	

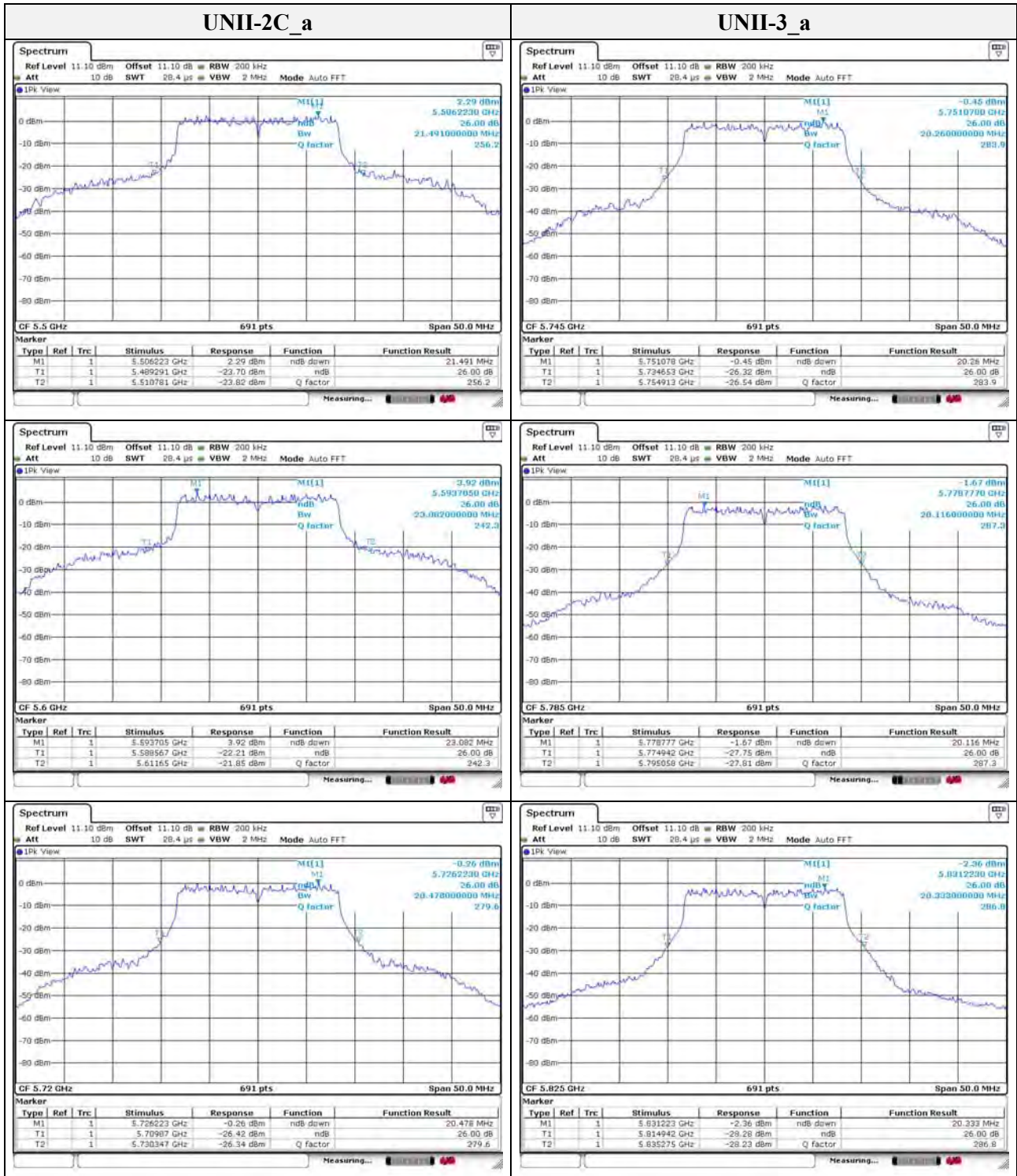
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**26 dB bandwidth**

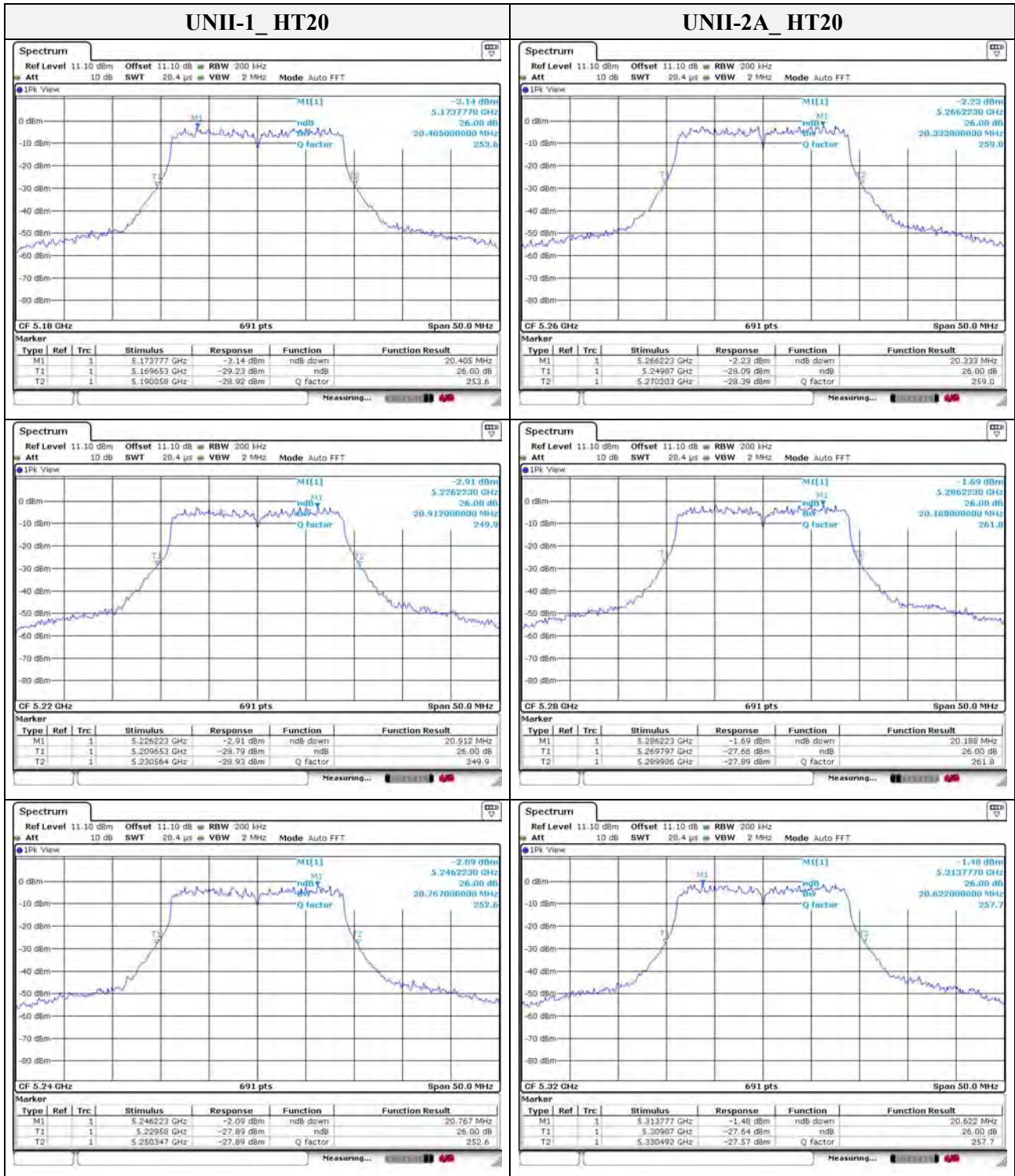


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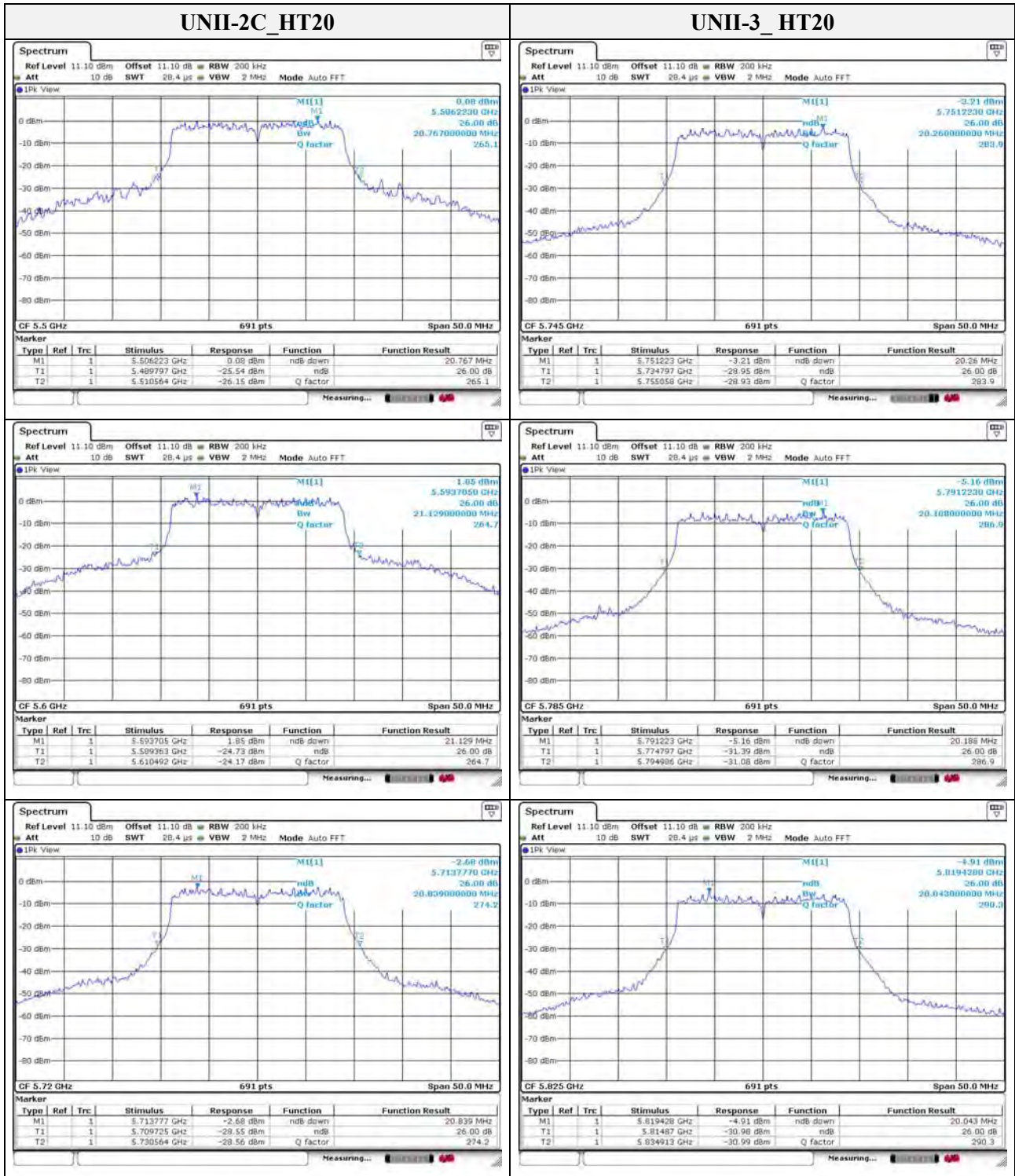


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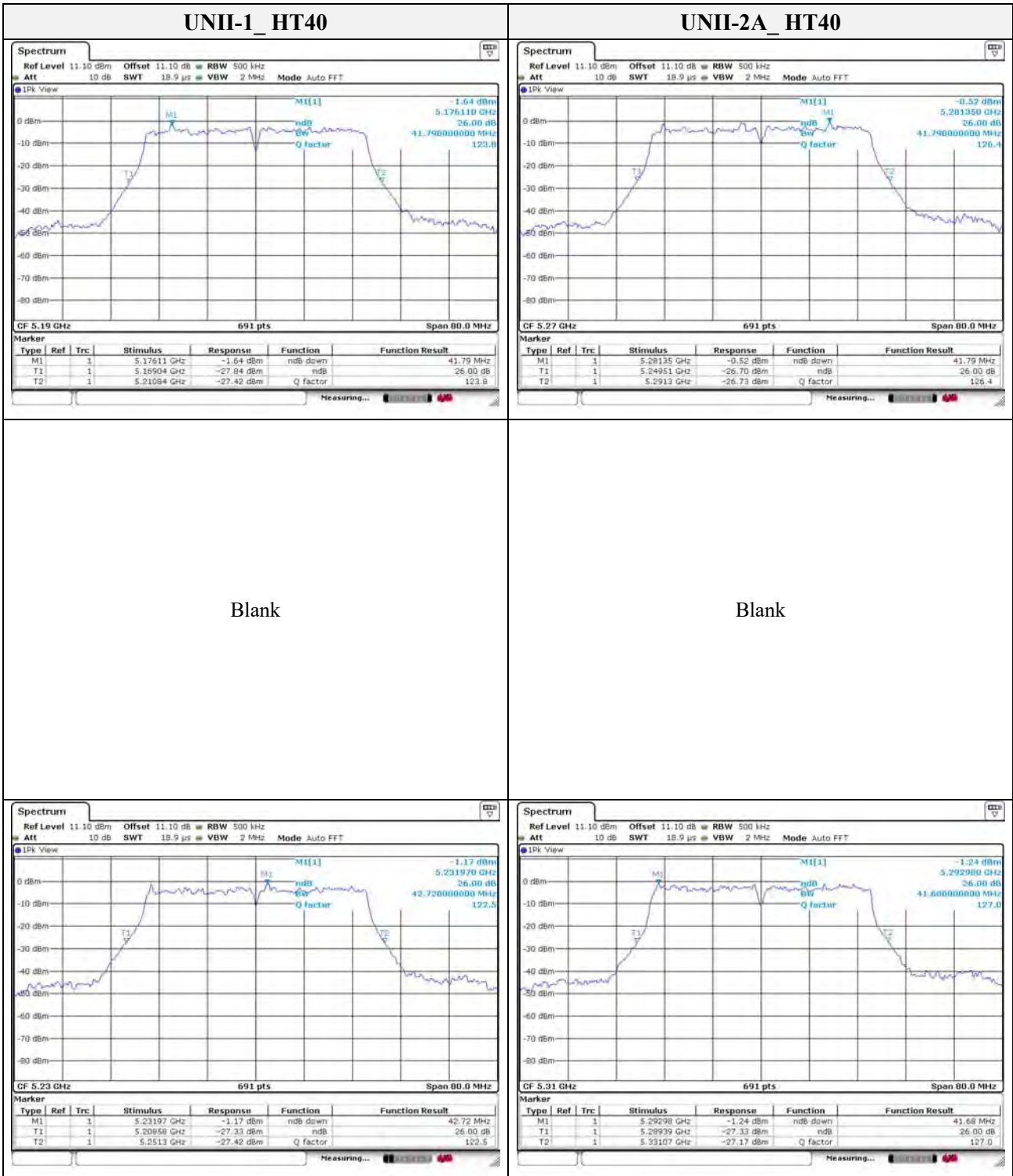


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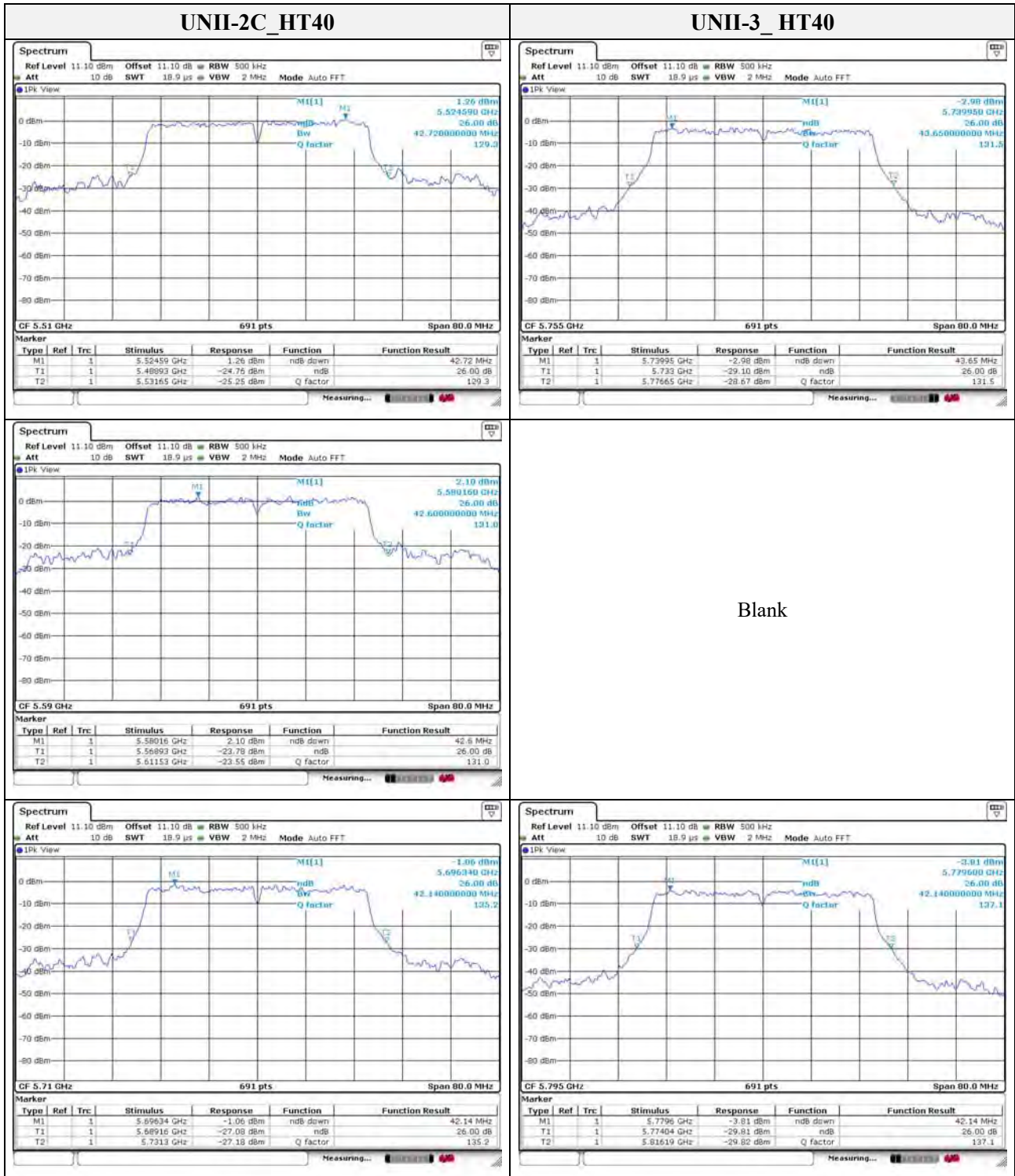


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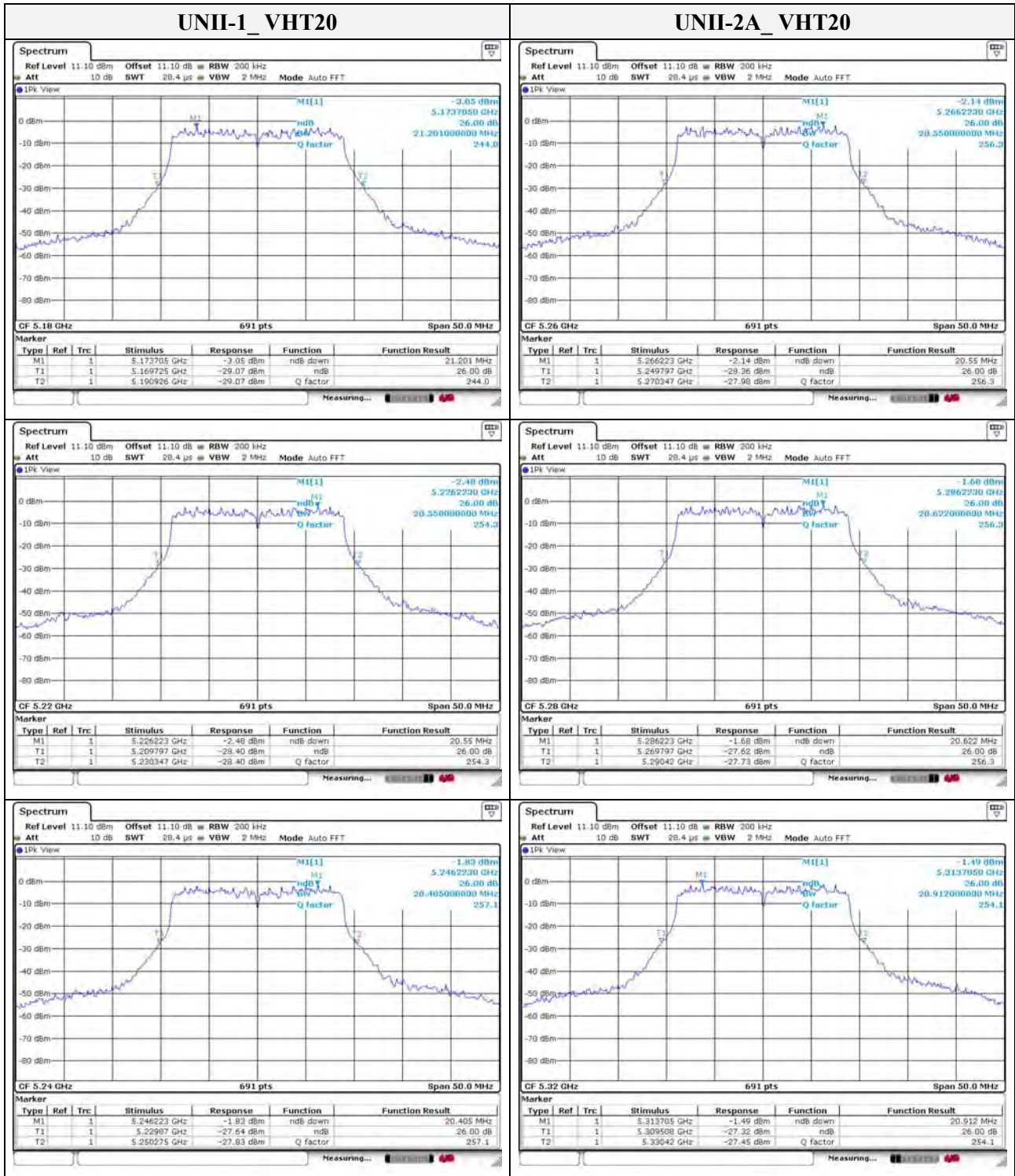




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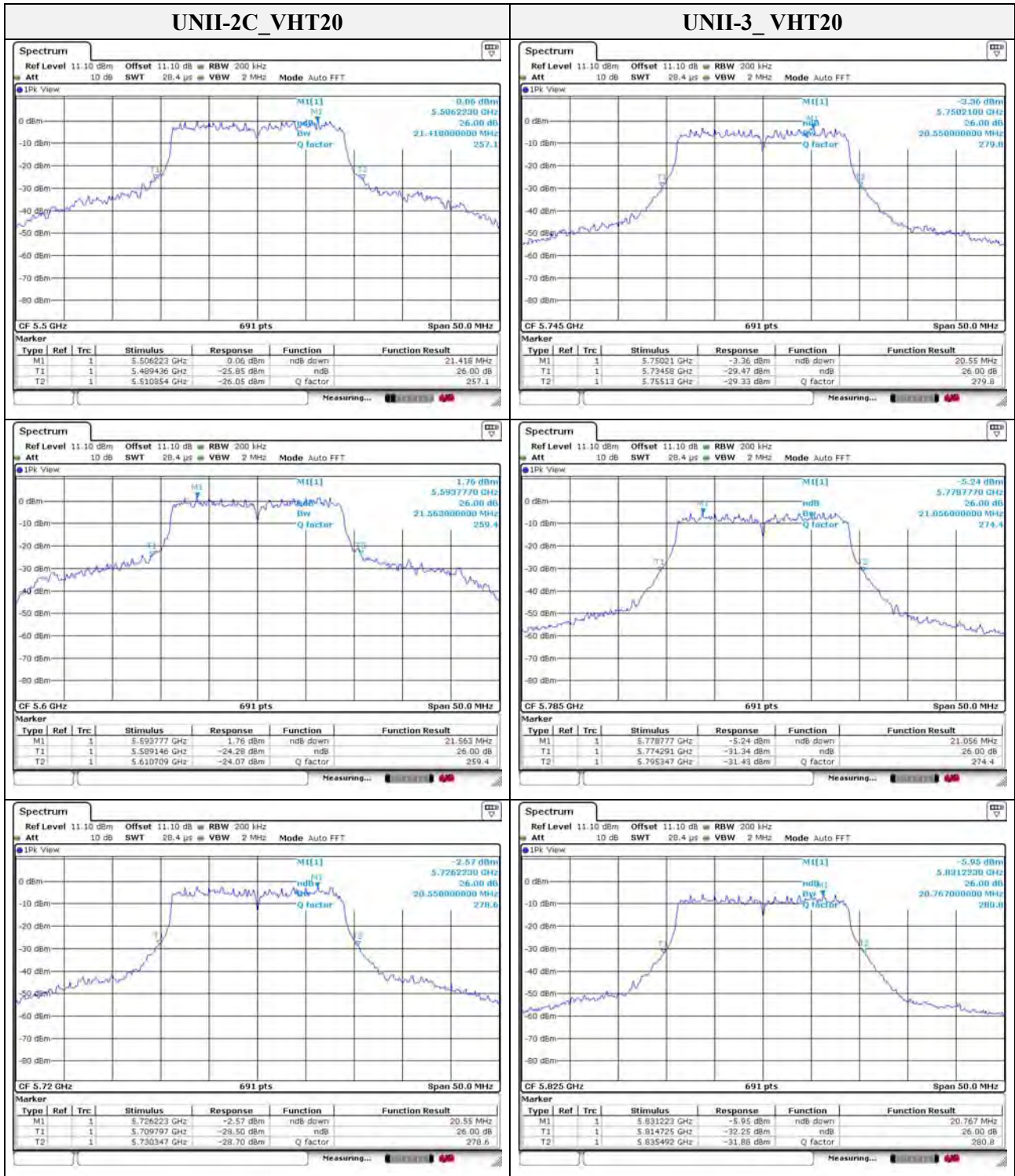


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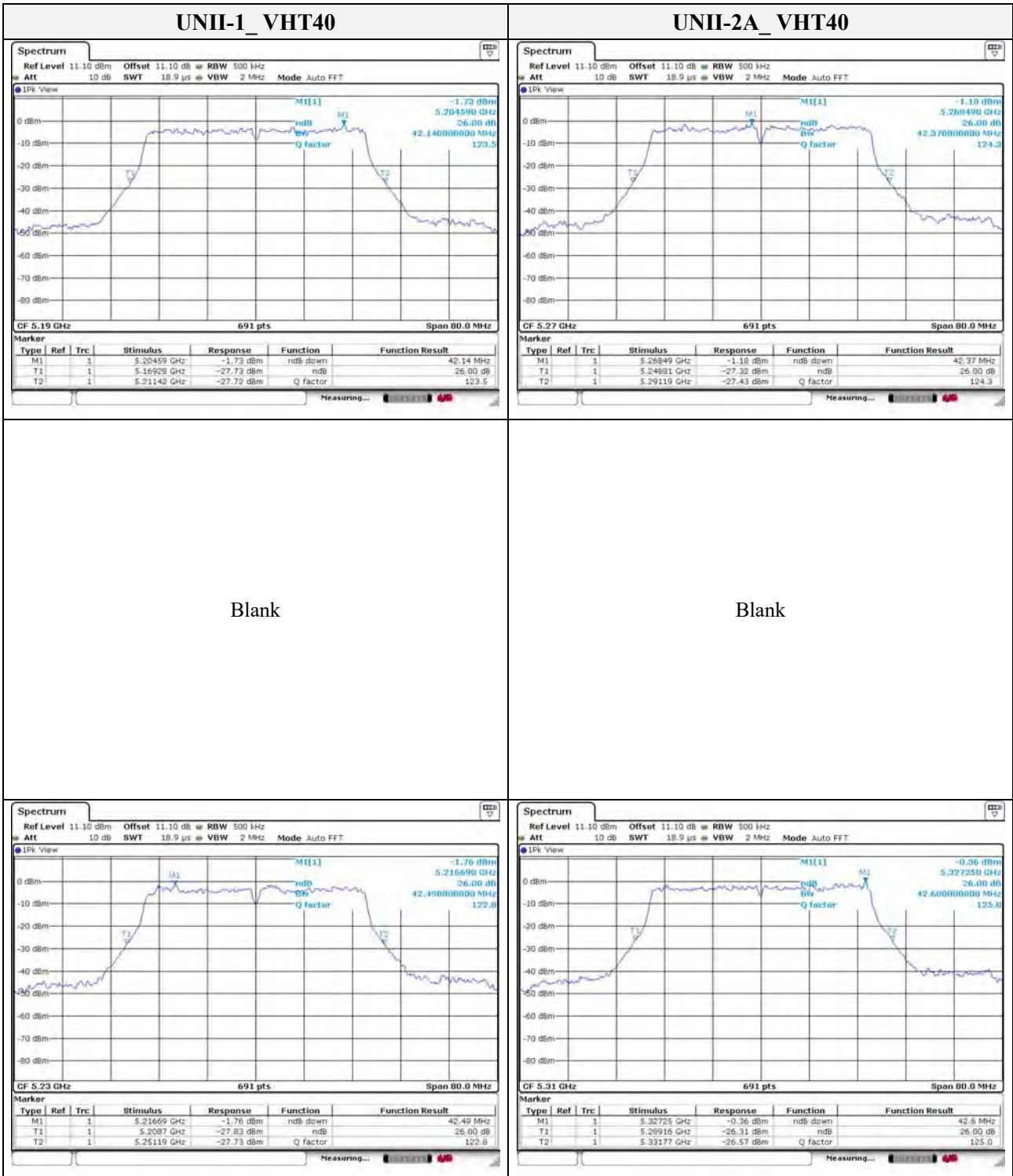


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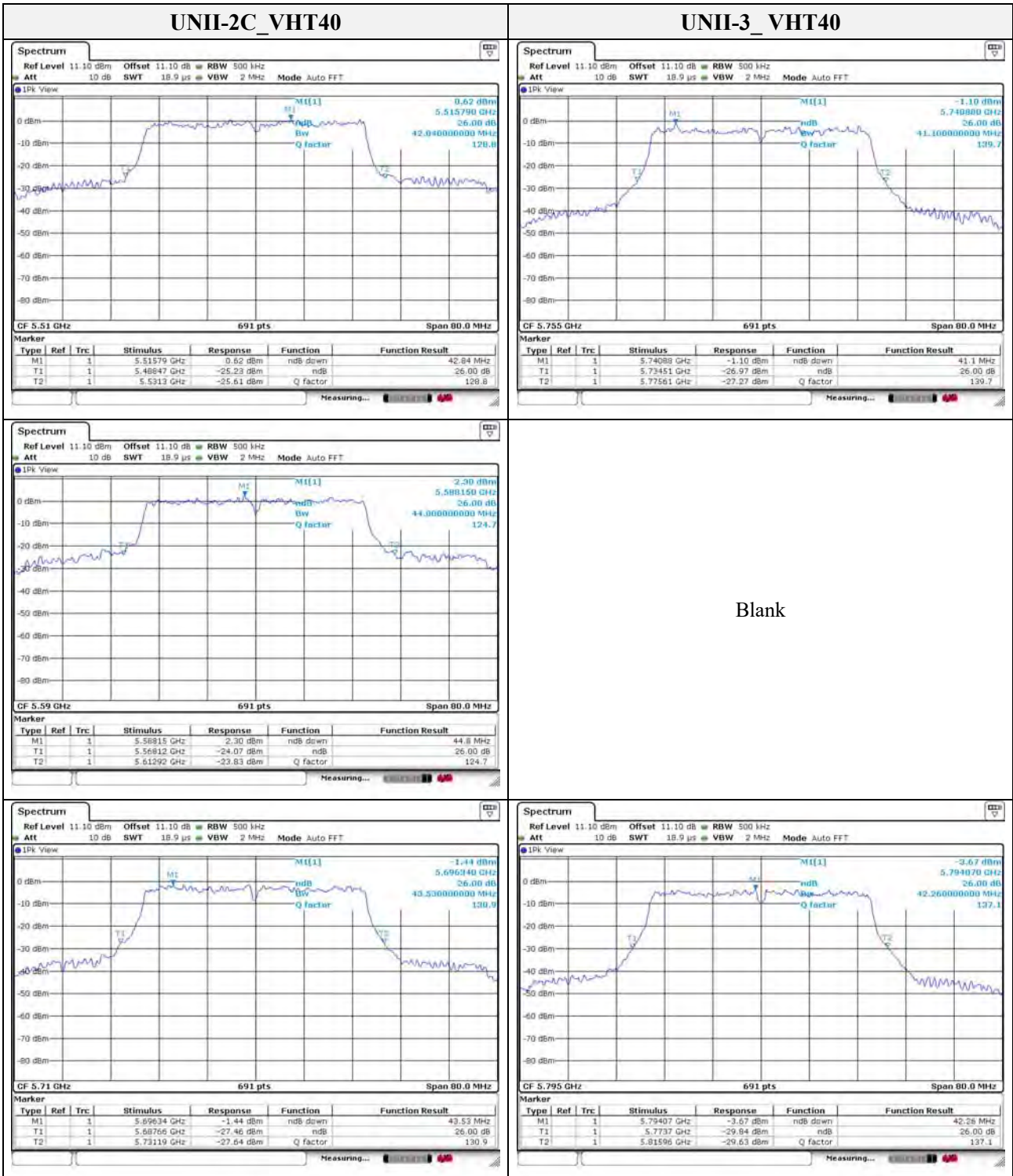




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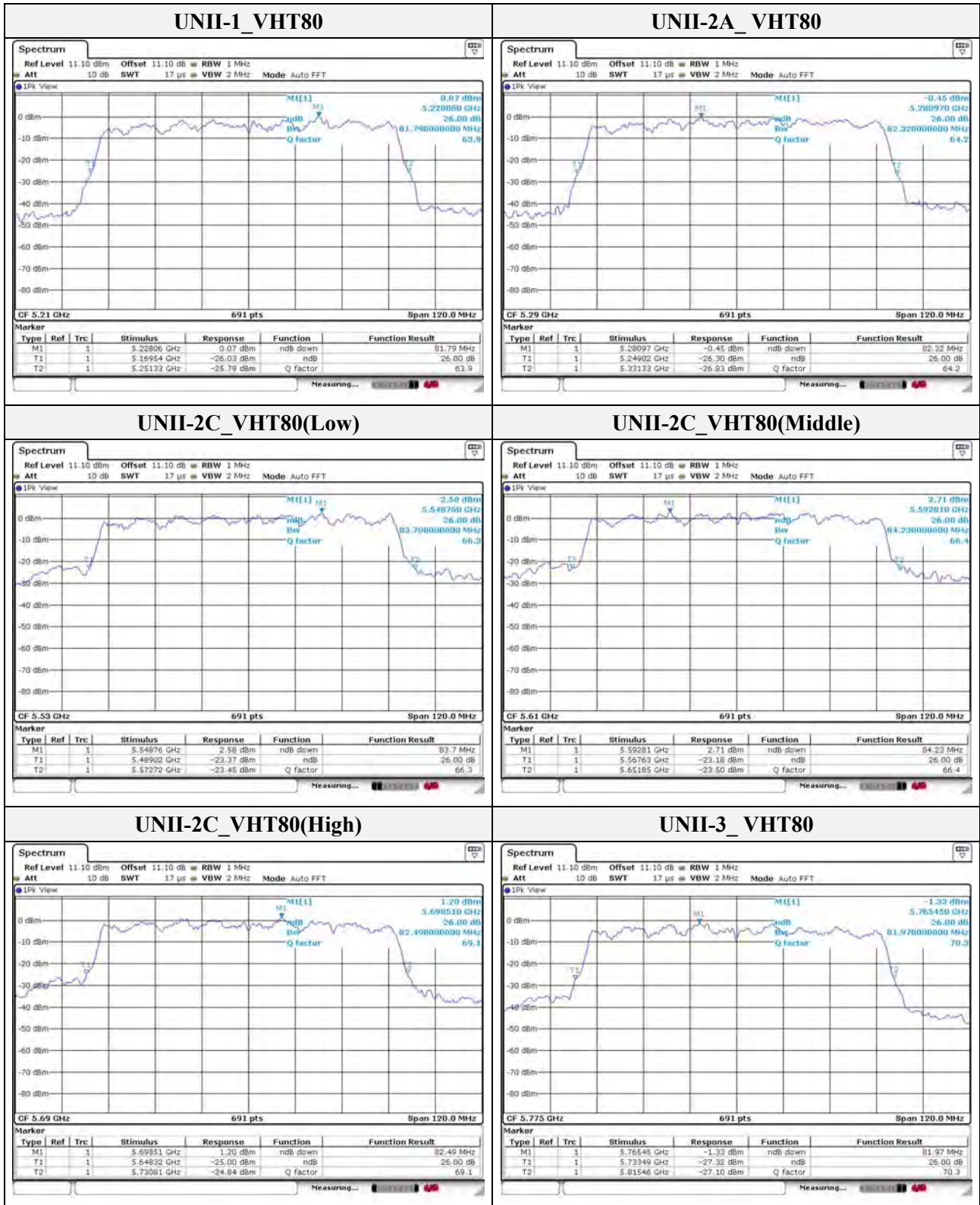


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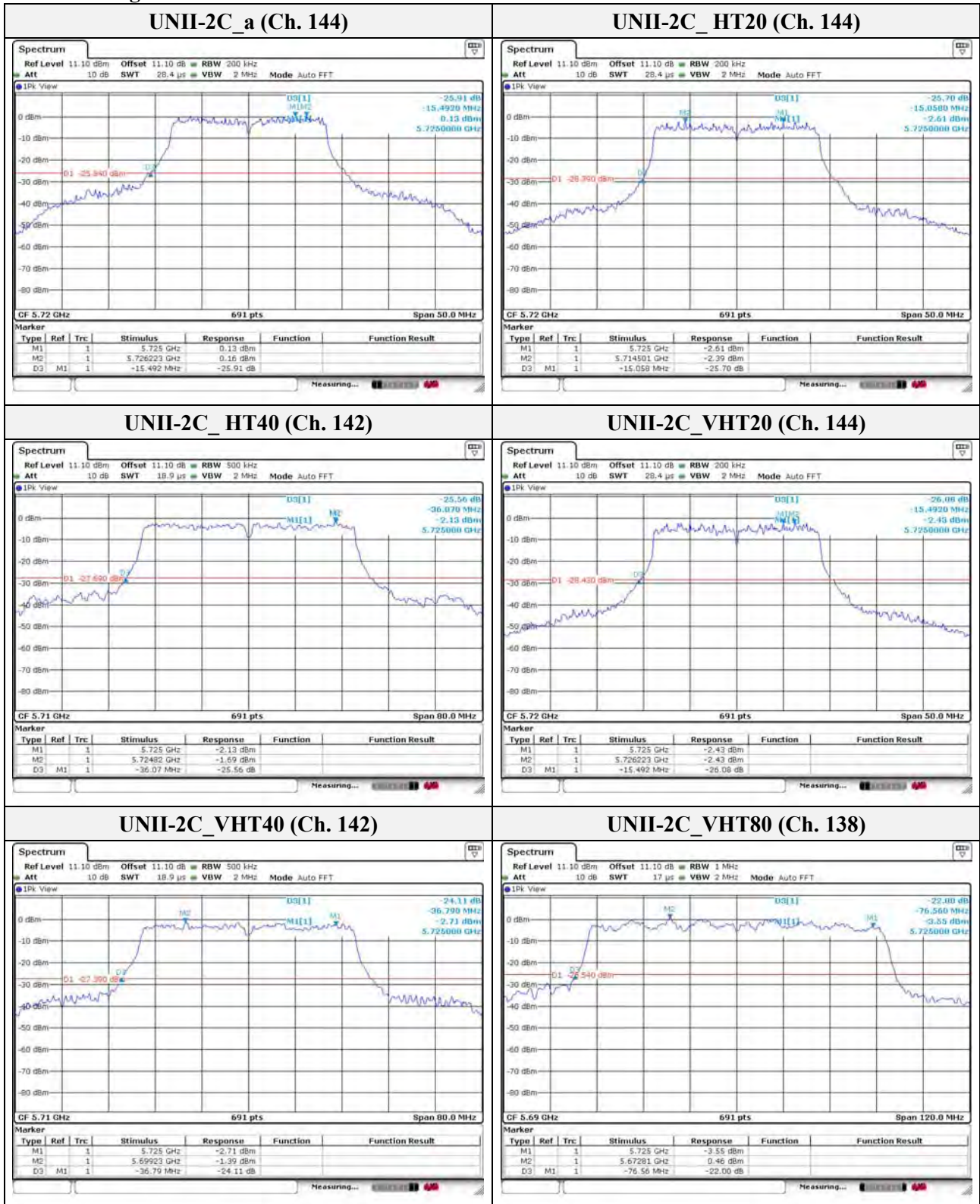
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**Band-crossing channels**



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**99% bandwidth**

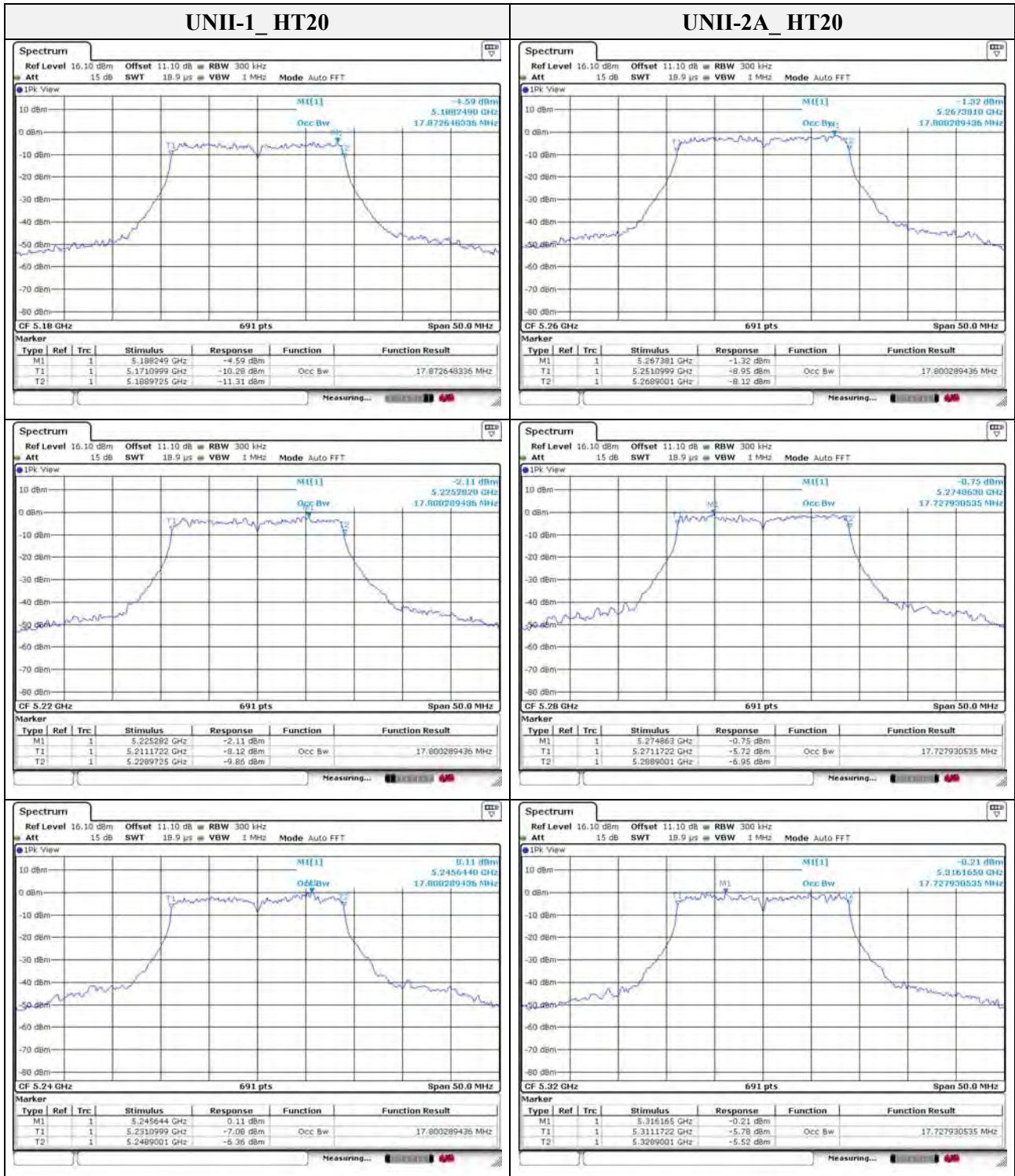


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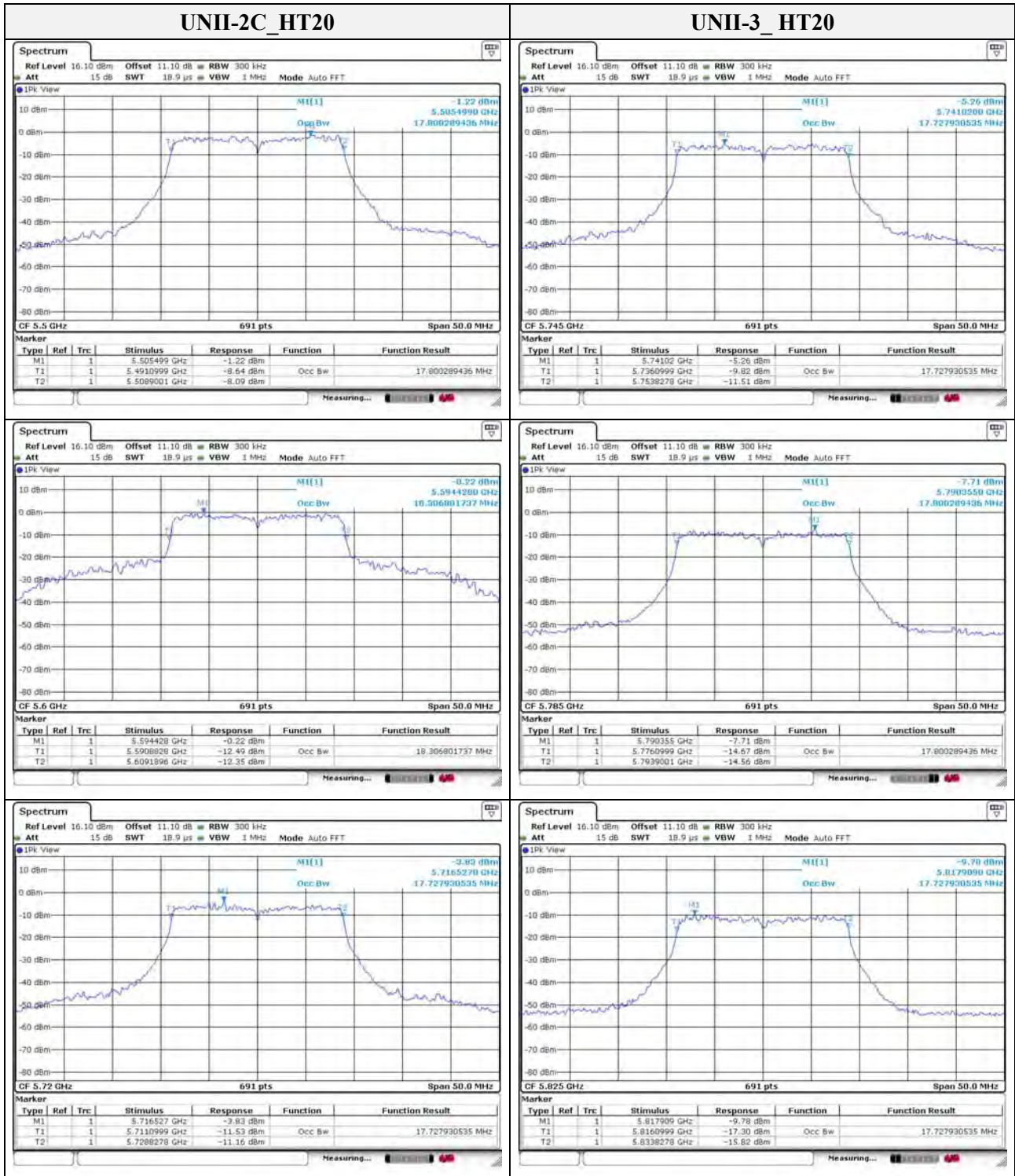


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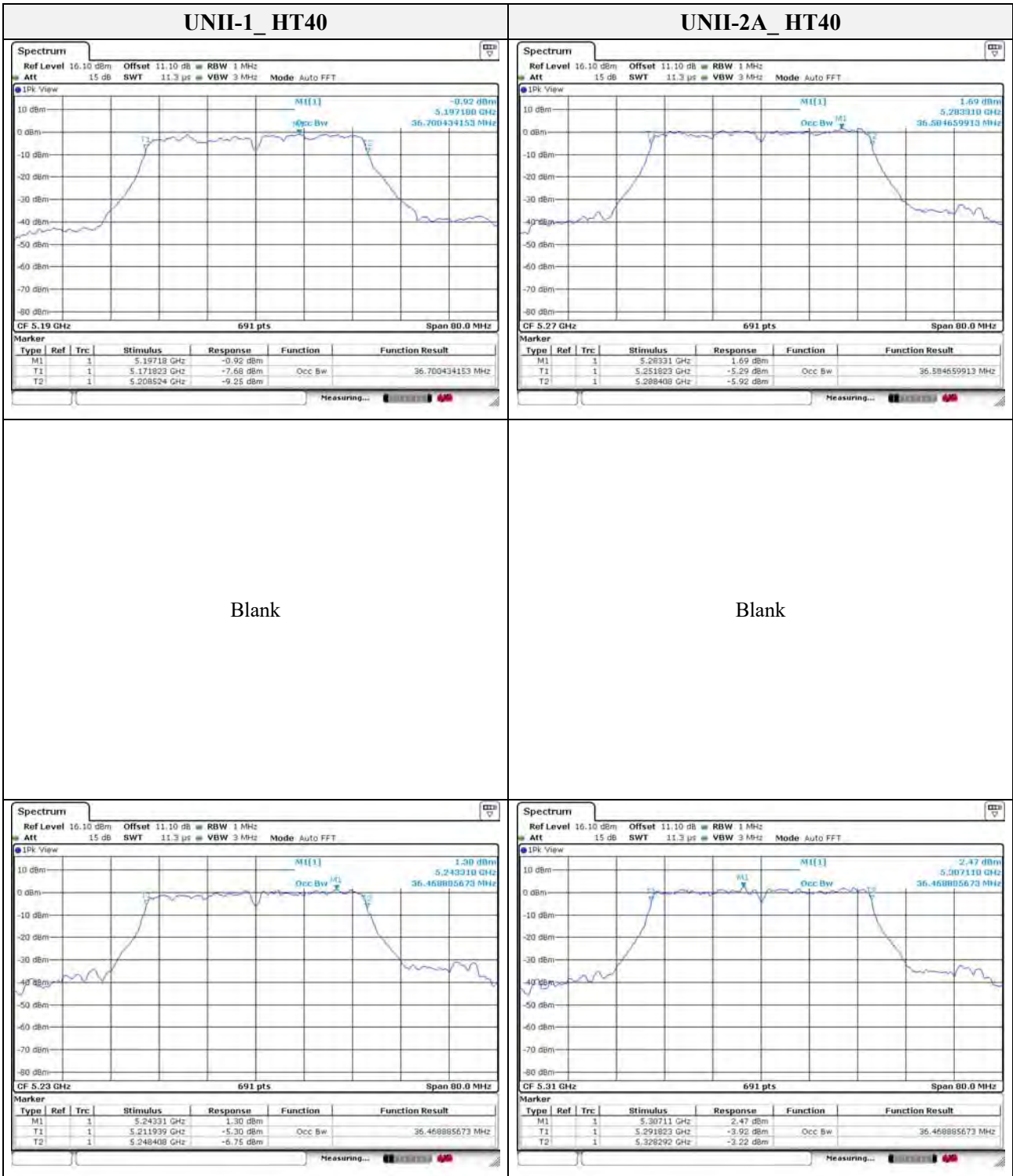


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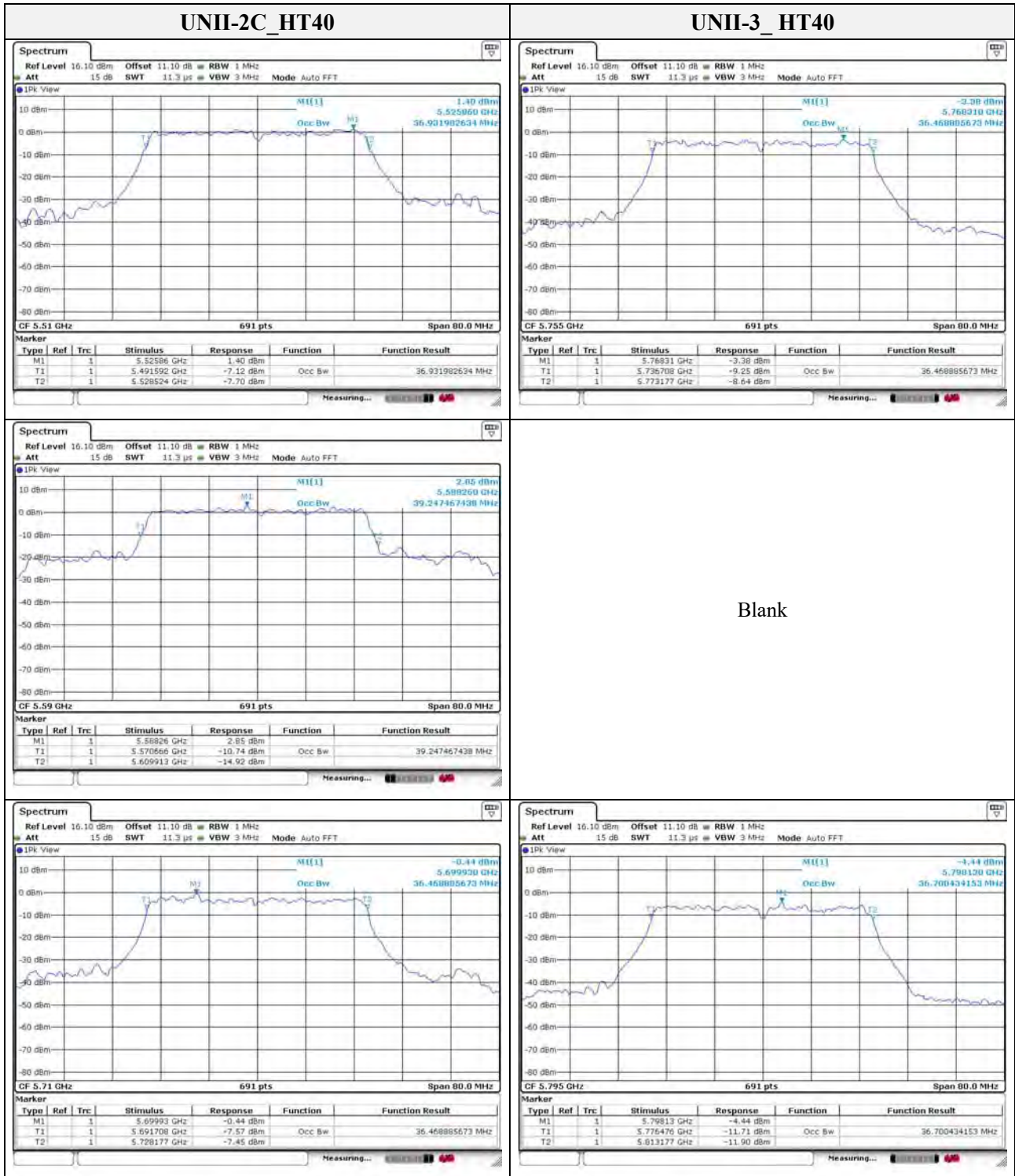


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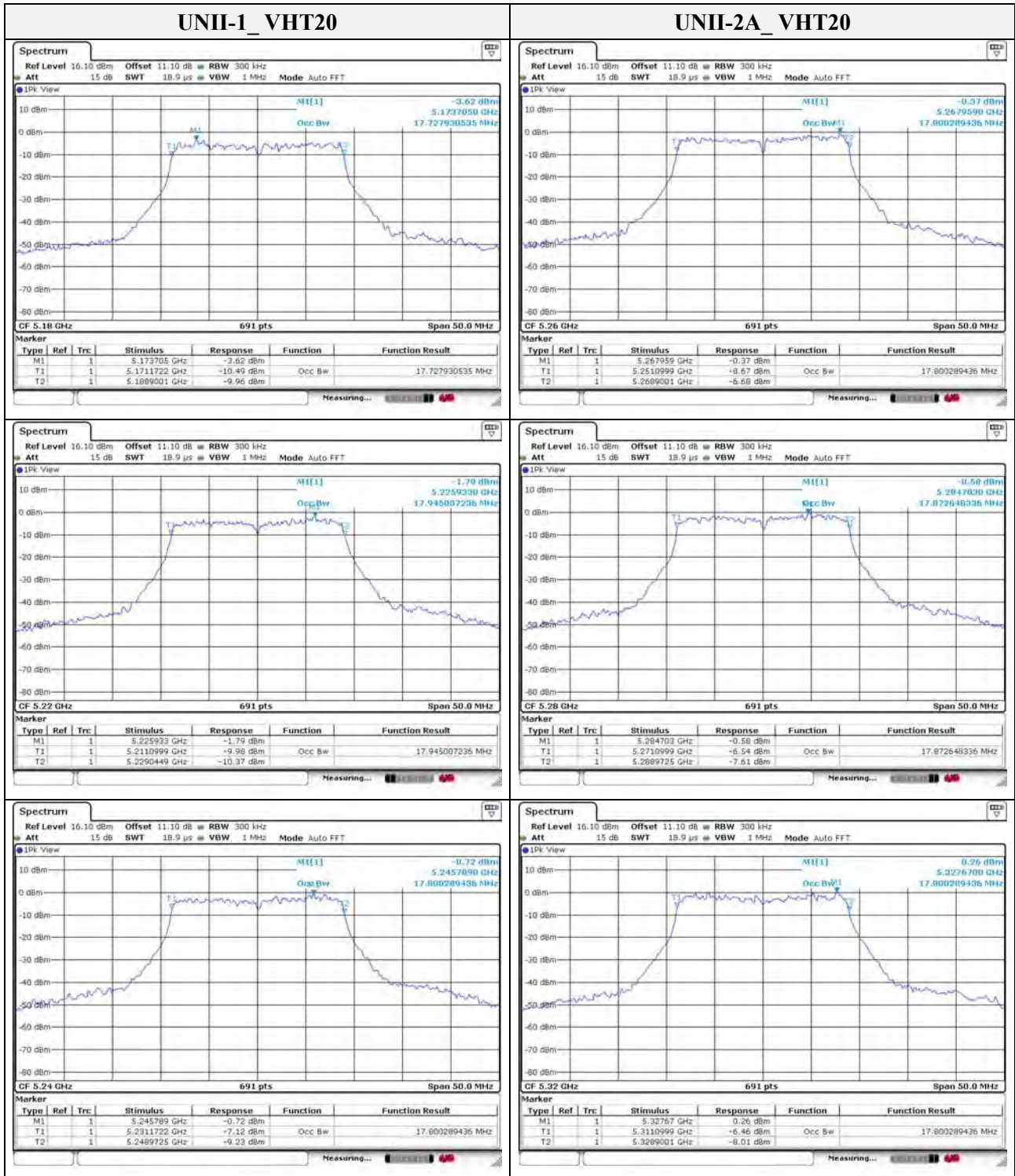




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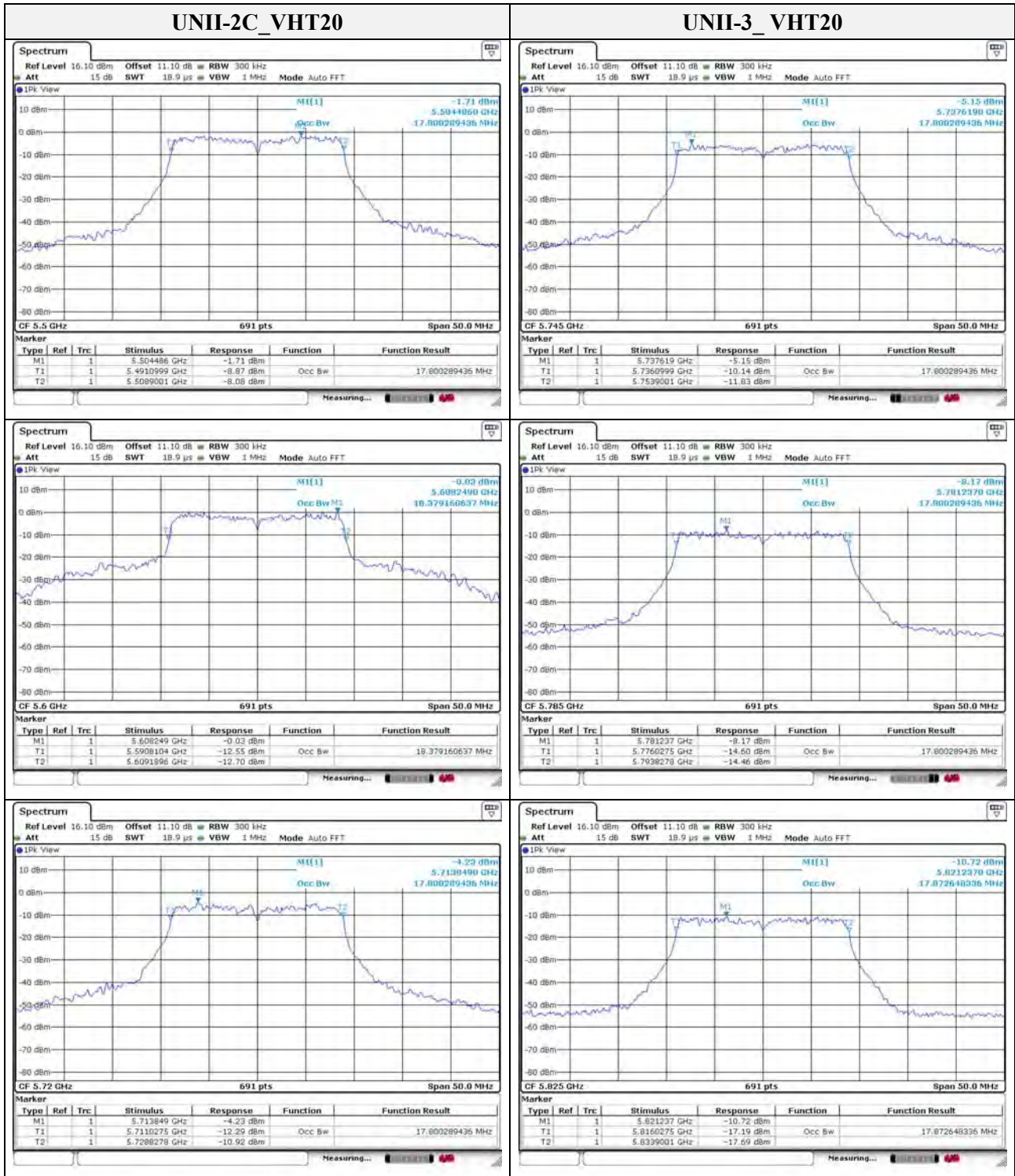


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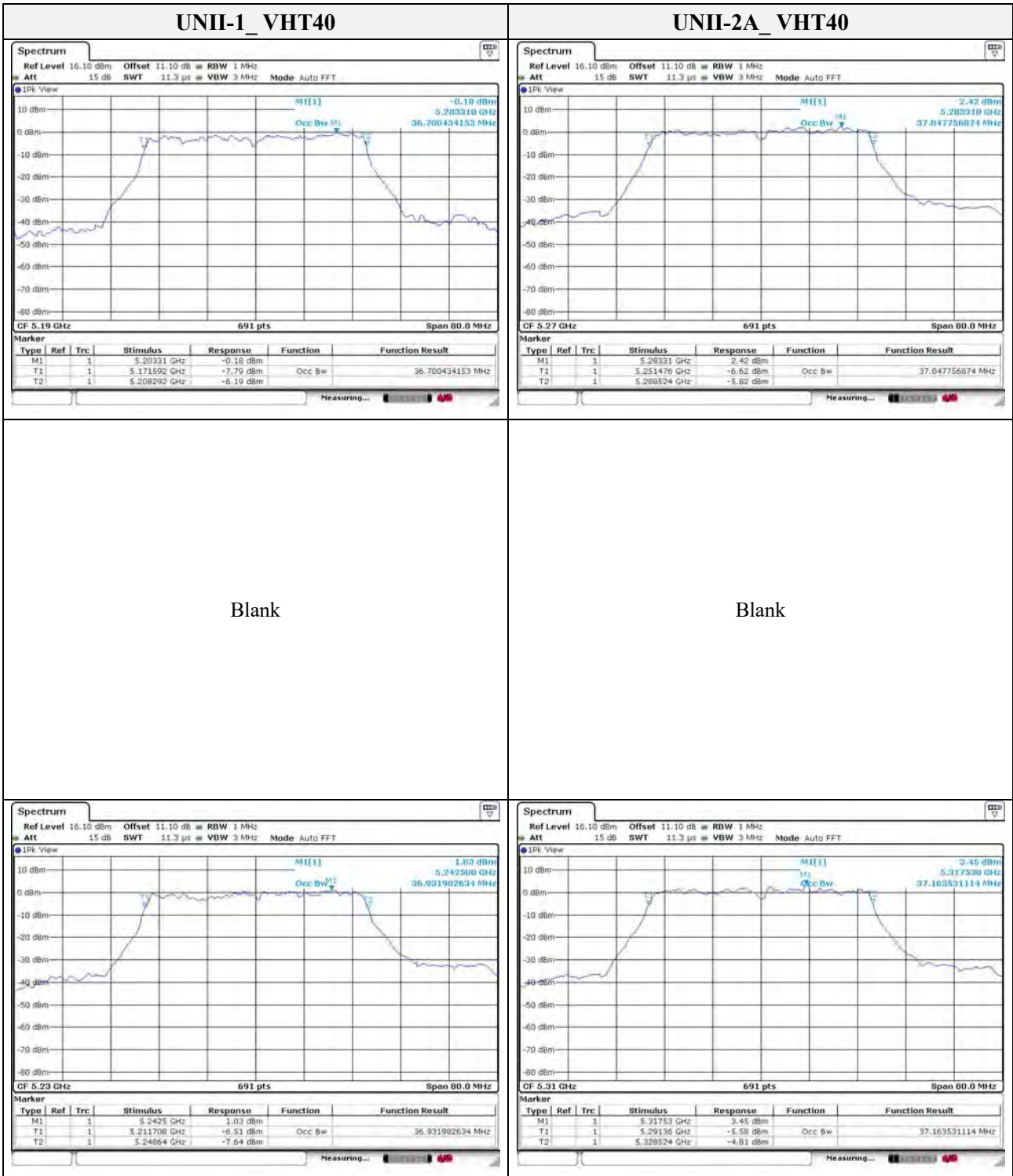


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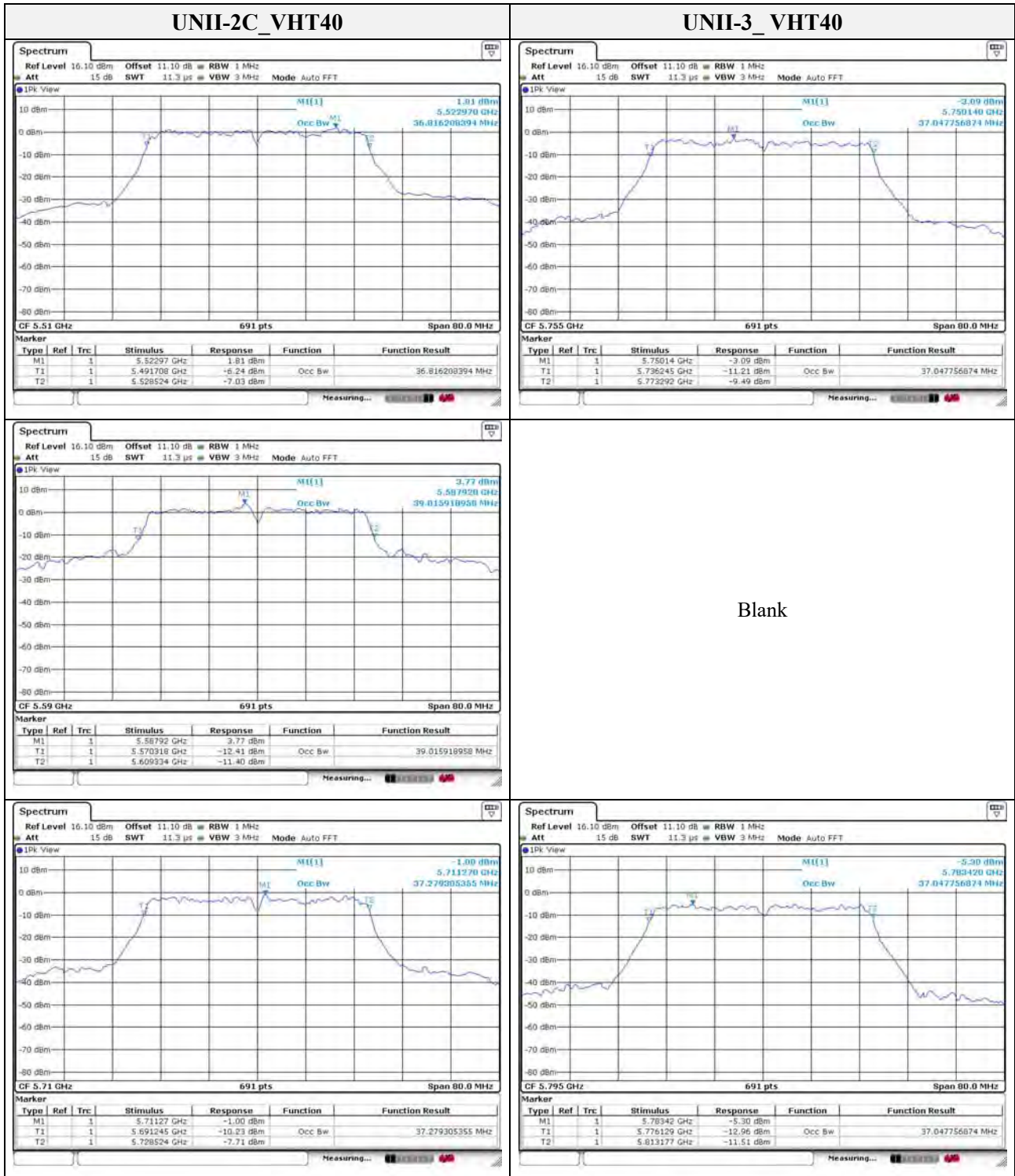


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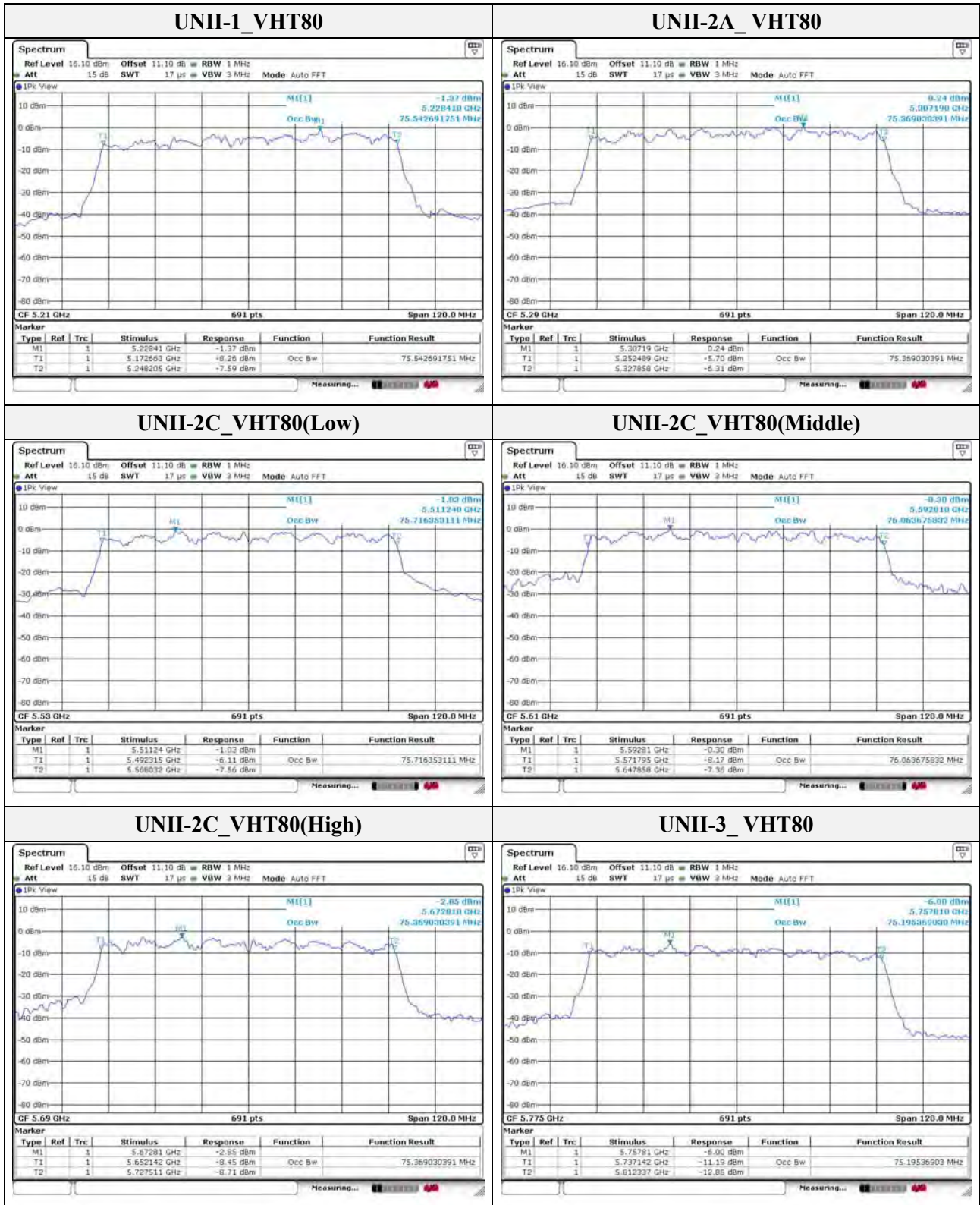


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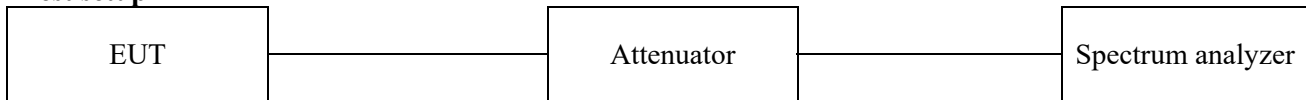
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### 3.2. 6 dB bandwidth

#### Test procedure

KDB 789033 D02 v02r01– Section C.2

#### Test setup



#### Section C.2

1. Set RBW = 100 kHz
2. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
3. Detector = peak.
4. Sweep = auto couple.
5. Allow the trace to stabilize
6. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

#### Limit

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

According to RSS-247 6.1 (1), equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.



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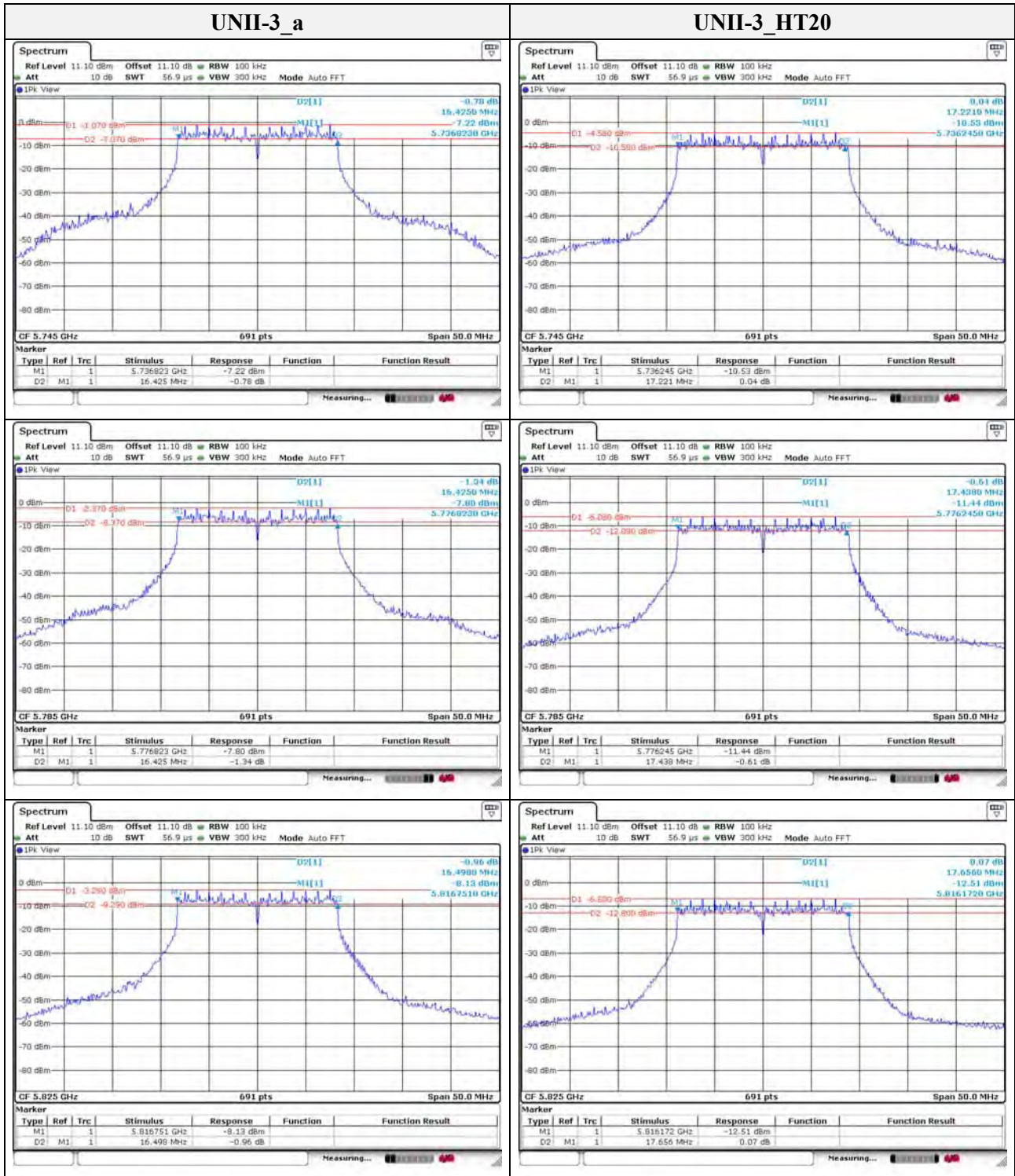
Test report No.:  
 KES-RF-18T0007-R1  
 Page (36) of (221)

**Test results**

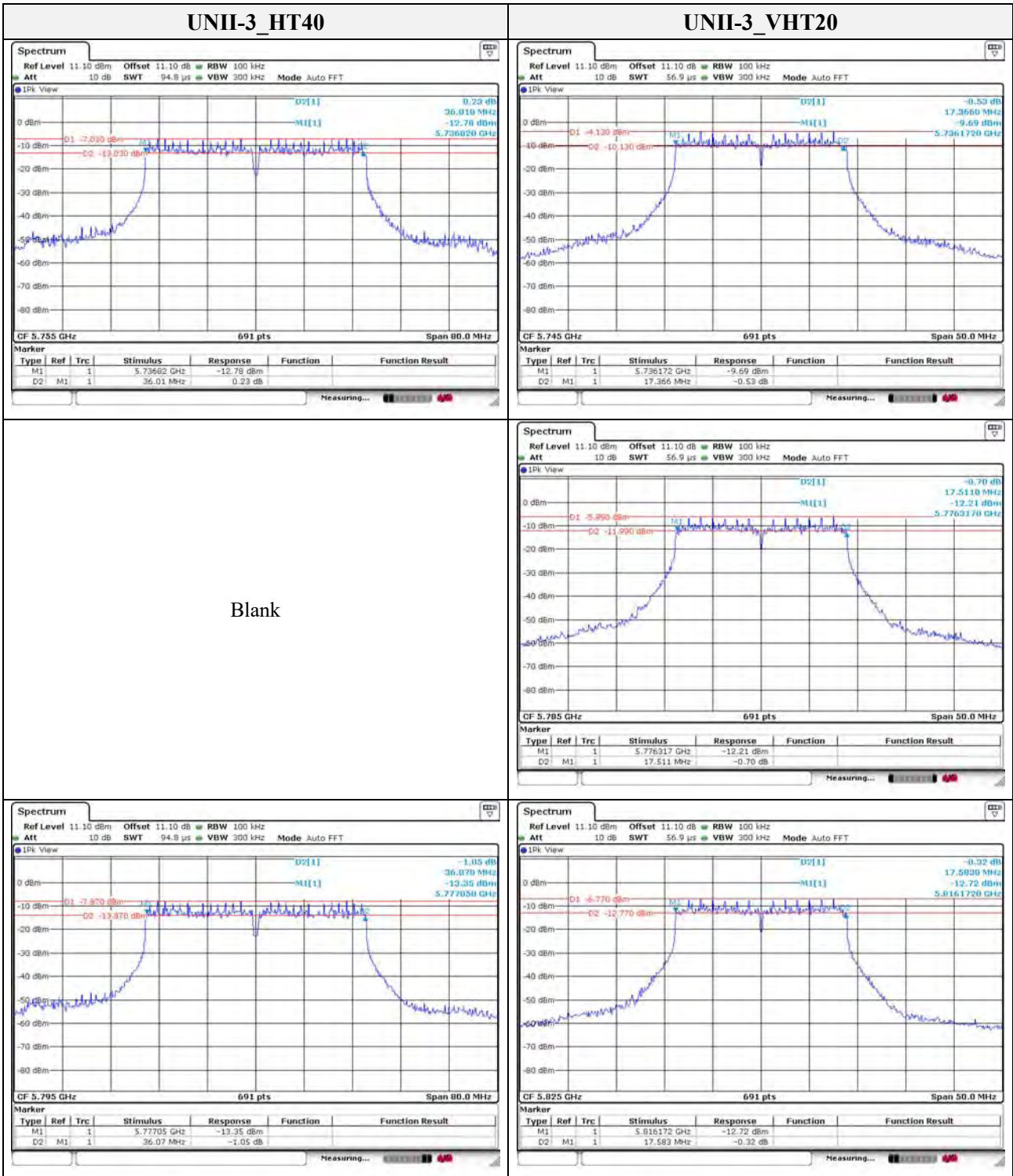
Band	Frequency(MHz)	Mode	6 dB bandwidth(MHz)
UNII-3	5 745	a	16.425
	5 785		16.425
	5 825		16.498
	5 745	HT20	17.221
	5 785		17.438
	5 825		17.656
	5 755	HT40	36.010
	5 795		36.070
	5 745	VHT20	17.366
	5 785		17.511
	5 825		17.583
	5 755	VHT40	36.470
	5 795		36.300
	5 775	VHT80	74.240
	UNII-3 (Band-crossing channels)	5 720	a
5 720		HT20	3.466
5 710		HT40	3.290
5 720		VHT20	3.755
5 710		VHT40	3.180
5 690		VHT80	2.480

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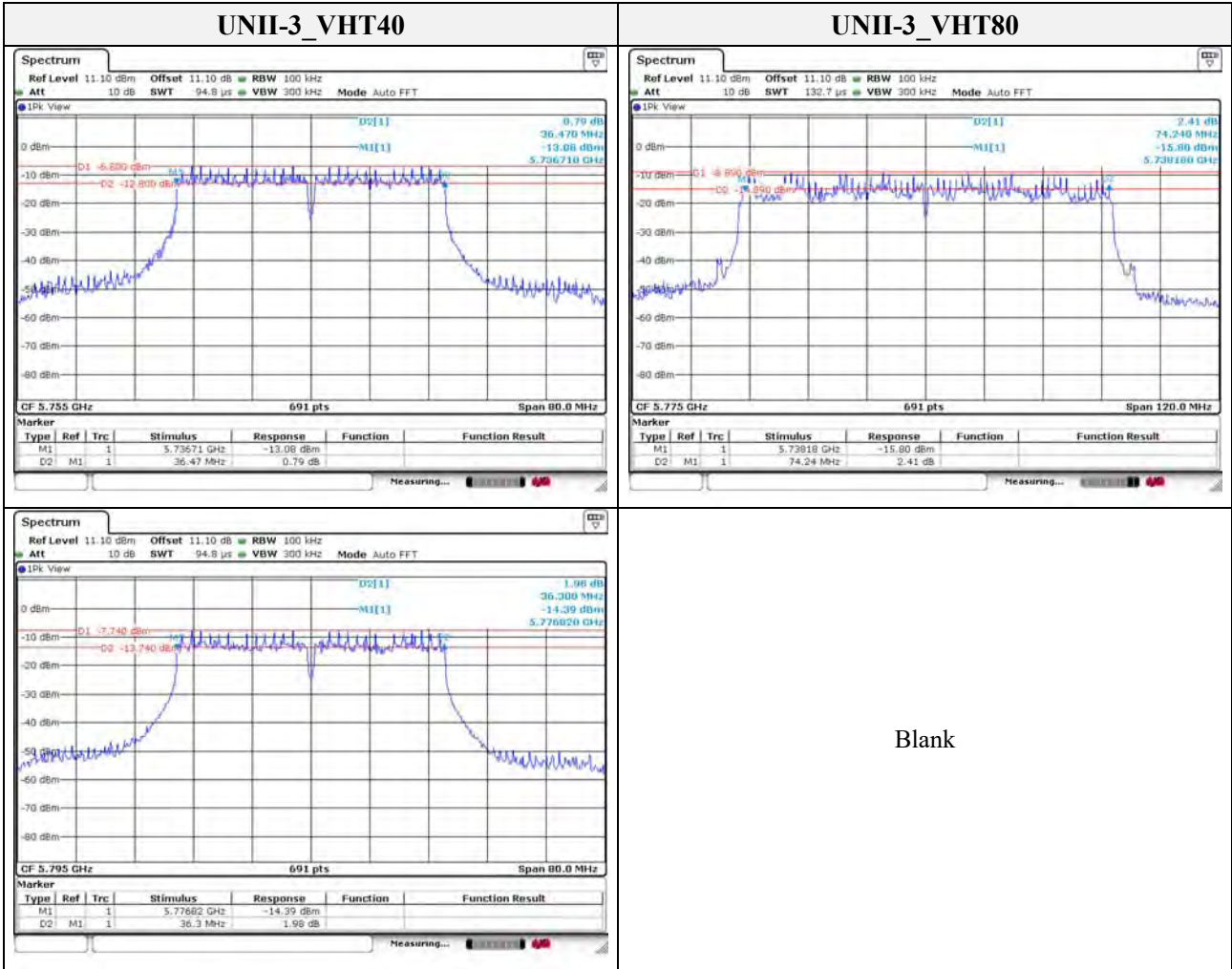




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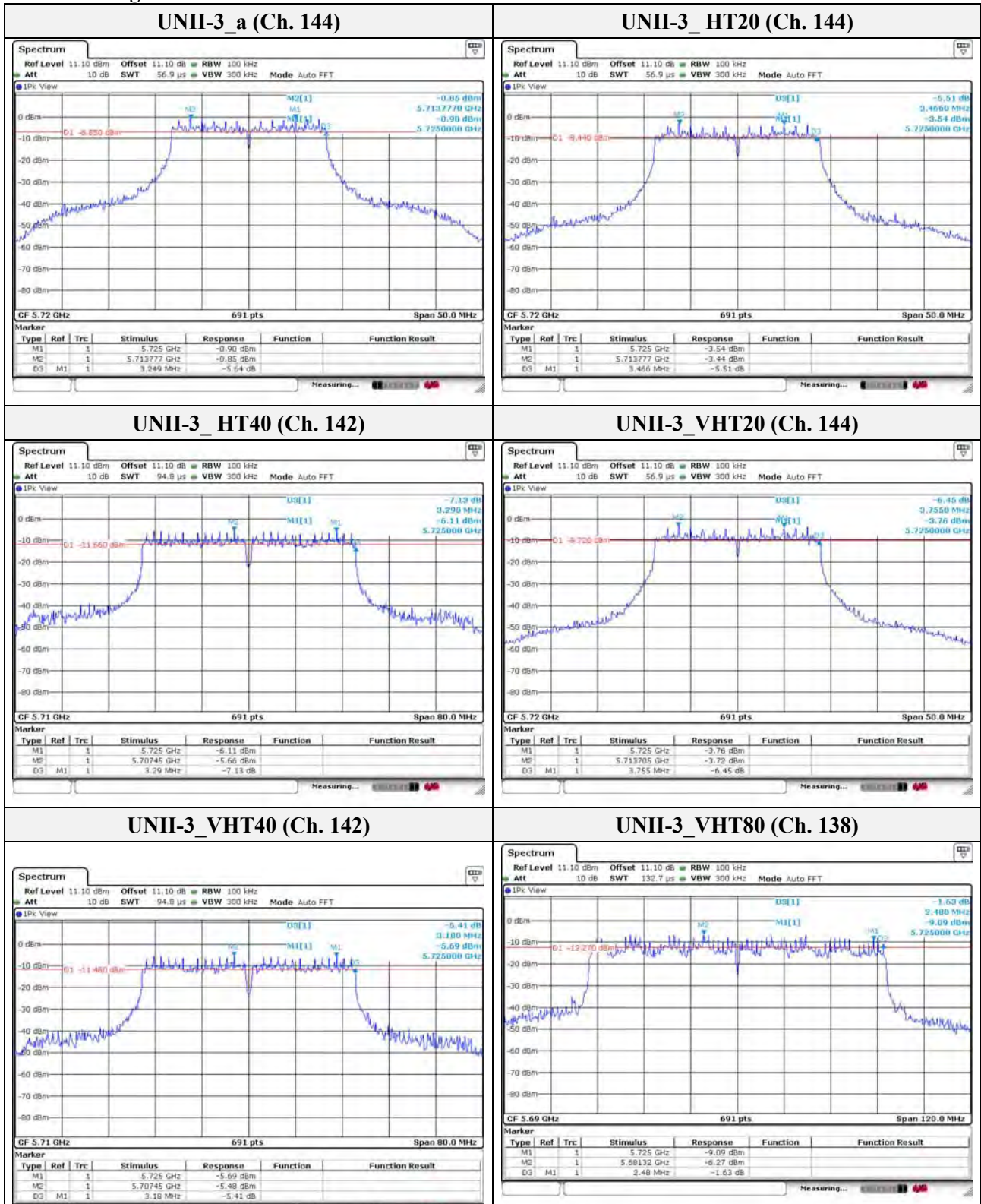
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**Band-crossing channels**



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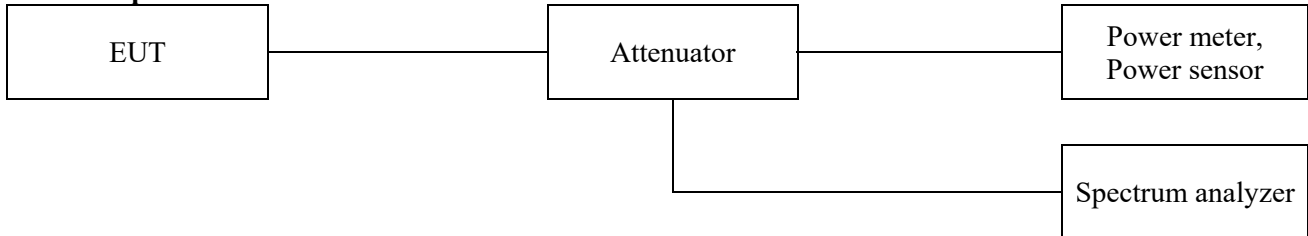
### 3.3. Maximum conducted output power

#### Test procedure

KDB 789033 D02 v02r01– Section E.3.a) or b)

Used test method is Section E.3.b)

#### Test setup



#### Section E.3.a)

##### Method PM (Measurement using an RF average power meter):

- i. Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.
  - The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
  - At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
  - The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- ii. If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section II.B.
- iii. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- iv. Adjust the measurement in dBm by adding  $10 \log (1/x)$  where x is the duty cycle (e.g.,  $10 \log (1/0.25)$  if the duty cycle is 25 %).

#### Section E.3.b)

##### Method PM-G (Measurement using a gated RF average power meter):

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

#### Limit

##### FCC

Band	EUT Category	Limit
UNII-1	Outdoor access point	1 W (30 dBm)
	Indoor access point	
	Fixed point-to-point access point	
	✓ Mobile and portable client device	250 mW(24 dBm)
UNII-2A	✓	250 mW or 11 dBm + 10logB*
UNII-2C	✓	250 mW or 11 dBm + 10logB*
UNII-3	✓	1 W (30 dBm)

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Test report No.:  
KES-RF-18T0007-R1  
Page (42) of (221)

**IC**

<b>Band</b>	<b>Limit</b>
5150~5250 MHz	EIRP shall not exceed 200 mW or $10+10\log B^*$ , dBm
5250~5350 MHz	Conducted output power shall not exceed 250 mW or 11 dBm + $10\log B^*$ EIRP shall not exceed 1.0 W or $17+10\log B^*$ , dBm
5470~5600 MHz and 5650~5725 MHz	Conducted output power shall not exceed 250 mW or 11 dBm + $10\log B^*$ EIRP shall not exceed 1.0 W or $17+10\log B^*$ , dBm
5725~5850 MHz	Conducted output power shall not exceed 1 W

**Note.**

1. FCC Limit B is the 26 dB emission bandwidth.
2. IC Limit B is the 99% emission bandwidth in megahertz.

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**Test results**

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit (dBm)	
					FCC	IC
UNII-1	5 180	a	AV	9.70	24.00	22.21
	5 220		AV	9.92		22.29
	5 240		AV	10.40		22.27
UNII-2A	5 260		AV	9.69	24.00	22.25
	5 280		AV	10.17		22.25
	5 320		AV	10.85		22.23
UNII-2C	5 500		AV	12.20	24.00	23.31
	5 600		AV	13.25		24.00
	5 720		AV	8.09		23.27
UNII-3	5 745		AV	9.58	30.00	30.00
	5 785		AV	8.05		
	5 825		AV	7.78		

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit (dBm)	
					FCC	IC
UNII-1	5 180	HT20	AV	6.69	24.00	22.52
	5 220		AV	7.41		22.50
	5 240		AV	8.12		22.50
UNII-2A	5 260		AV	7.60	24.00	23.50
	5 280		AV	8.26		23.49
	5 320		AV	8.80		23.49
UNII-2C	5 500		AV	10.04	24.00	23.50
	5 600		AV	11.54		23.63
	5 720		AV	7.51		23.49
UNII-3	5 745		AV	6.86	30.00	30.00
	5 785		AV	4.73		
	5 825		AV	4.11		

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Test report No.:  
 KES-RF-18T0007-R1  
 Page (44) of (221)

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit(dBm)	
					FCC	IC
UNII-1	5 190	HT40	AV	7.15	24.00	23.00
	5 230		AV	7.50		
UNII-2A	5 270		AV	7.88	24.00	24.00
	5 310		AV	8.66		
UNII-2C	5 510		AV	10.06	24.00	24.00
	5 590		AV	11.53		
	5 710		AV	7.93		
UNII-3	5 755		AV	6.50	30.00	30.00
	5 795		AV	5.82		

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit(dBm)	
					FCC	IC
UNII-1	5 180	VHT20	AV	7.21	24.00	22.49
	5 220		AV	7.90		22.54
	5 240		AV	8.45		22.50
UNII-2A	5 260		AV	7.78	24.00	23.50
	5 280		AV	8.32		23.52
	5 320		AV	8.84		23.50
UNII-2C	5 500		AV	10.02	24.00	23.50
	5 600		AV	11.42		23.64
	5 720		AV	7.46		23.50
UNII-3	5 745		AV	6.75	30.00	30.00
	5 785		AV	4.67		
	5 825		AV	4.05		

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 KES-RF-18T0007-R1  
 Page (45) of (221)

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit(dBm)	
					FCC	IC
UNII-1	5 190	VHT40	AV	7.40	24.00	23.00
	5 230		AV	7.73		
UNII-2A	5 270		AV	7.99	24.00	24.00
	5 310		AV	8.69		
UNII-2C	5 510		AV	10.12	24.00	24.00
	5 590		AV	11.52		
	5 710		AV	7.95		
UNII-3	5 755		AV	6.73	30.00	30.00
	5 795	AV	5.97			

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit(dBm)	
					FCC	IC
UNII-1	5 210	VHT80	AV	7.54	24.00	24.00
UNII-2A	5 290		AV	8.12	24.00	24.00
UNII-2C	5 530		AV	10.72	24.00	24.00
	5 610		AV	11.01		
	5 690		AV	9.13		
UNII-3	5 775	AV	5.98	30.00	30.00	

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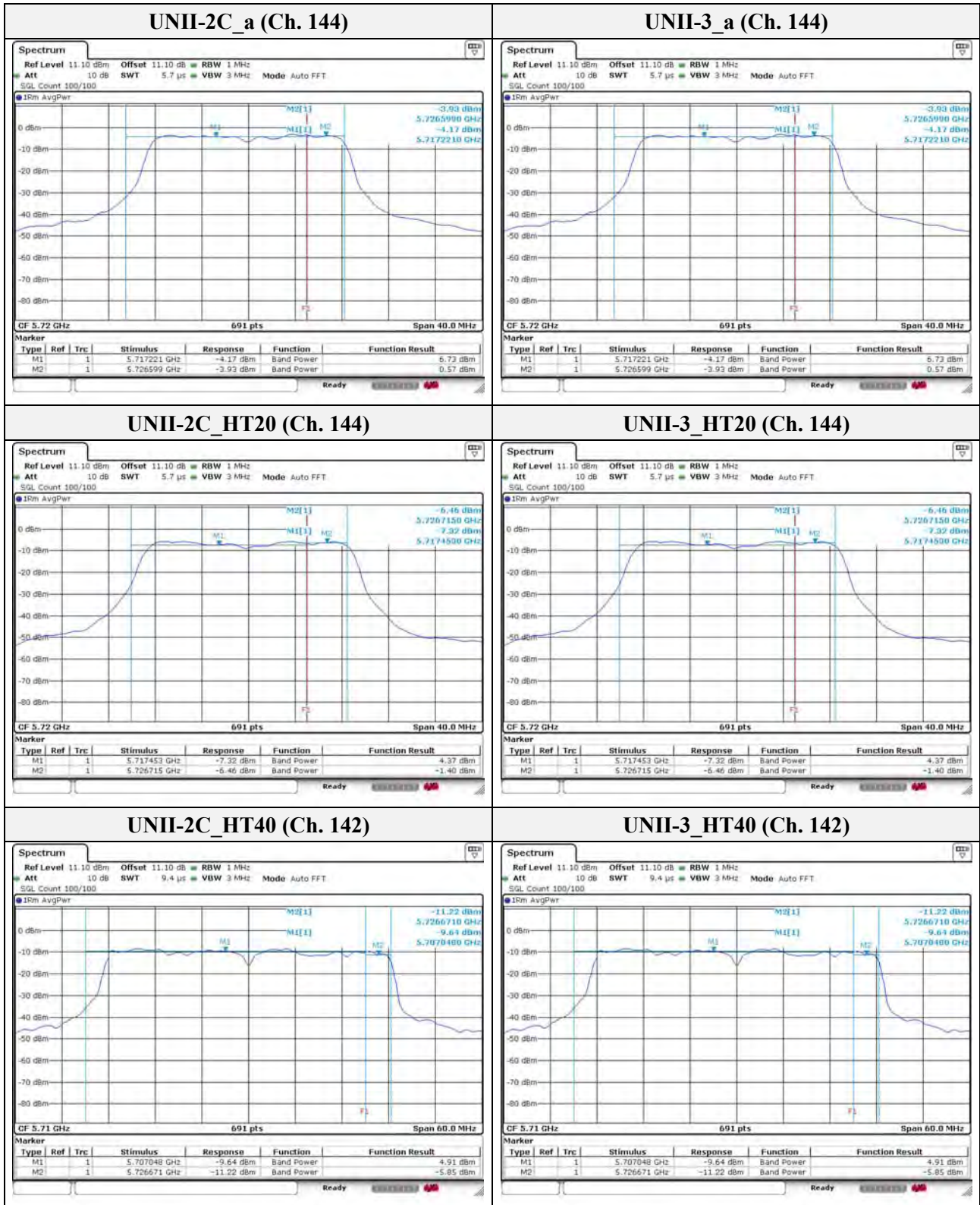
**Band-crossing channels**

Band	Frequency (MHz)	Mode	Detector mode	Output power (dBm)	Limit(dBm)	
					FCC	IC
UNII-2C	5 720	a	AV	6.73	22.90	23.27
	5 720	HT20	AV	4.37	22.78	23.49
	5 710	HT40	AV	4.91	24.00	24.00
	5 720	VHT20	AV	3.94	22.90	23.50
	5 710	VHT40	AV	3.92	24.00	24.00
	5 690	VHT80	AV	3.69	24.00	24.00
UNII-3	5 720	a	AV	0.57	30.00	30.00
	5 720	HT20	AV	-1.40		
	5 710	HT40	AV	-5.85		
	5 720	VHT20	AV	-1.05		
	5 710	VHT40	AV	-6.39		
	5 690	VHT80	AV	-12.77		

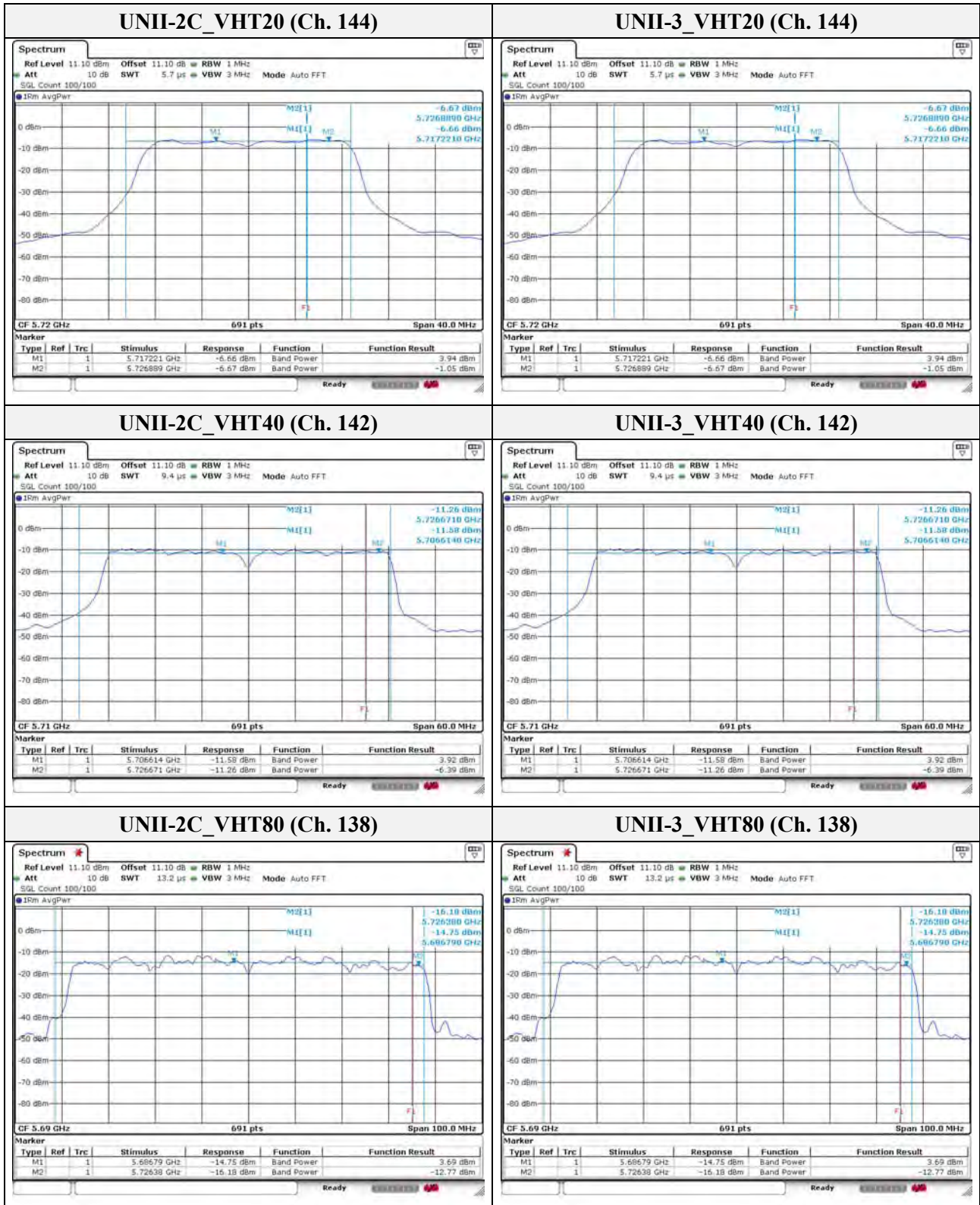
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**Band-crossing channels**



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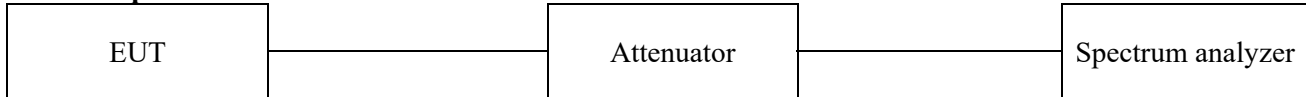
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### 3.4. Power spectral density

#### Test procedure

KDB 789033 D02 v02r01 – Section F

#### Test setup



#### Section F

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power...” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
3. Make the following adjustments to the peak value of the spectrum, if applicable:
  - a) If Method SA-2 or SA-2 Alternative was used, add  $10 \log(1/x)$ , where  $x$  is the duty cycle, to the peak of the spectrum.
  - b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4. The result is the Maximum PSD over 1 MHz reference bandwidth.
5. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:
  - a) Set  $RBW \geq 1/T$ , where  $T$  is defined in section II.B.1.a)
  - b) Set  $VBW \geq 3 RBW$ .
  - c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add  $10 \log(500 \text{ kHz}/RBW)$  to the measured result, whereas  $RBW (< 500 \text{ kHz})$  is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
  - d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add  $10 \log(1 \text{ MHz}/RBW)$  to the measured result, whereas  $RBW (< 1 \text{ MHz})$  is the reduced resolution bandwidth of spectrum analyzer set during measurement.
  - e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

#### Note.

As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since  $RBW=100 \text{ kHz}$  is available on nearly all spectrum analyzers.



**Limit  
FCC**

Band	EUT Category	Limit
UNII-1	Outdoor access point	17 dBm/MHz
	Indoor access point	
	Fixed point-to-point access point	
	✓ Mobile and portable client device	11 dBm/MHz
UNII-2A	✓	11 dBm/MHz
UNII-2C	✓	11 dBm/MHz
UNII-3	✓	30 dBm/500 kHz

**IC**

Band	Limit
5150~5250 MHz	EIRP spectral density 10 dBm/MHz
5250~5350 MHz	11 dBm/MHz
5470~5600 MHz and 5650~5725 MHz	11 dBm/MHz
5725~5850 MHz	30 dBm/500 kHz

**Note.**

1. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceed 6 dBi.





**Test results**

Band	Frequency (MHz)	Mode	PSD (dBm/MHz)	RBWF Note1	DCF Note2	Sum Note3	Limit(dBm/MHz)	
							FCC	IC
UNII-1	5 180	a	-2.12	-	1.12	-1.00	11.00	11.00
	5 220		-1.04			0.08		
	5 240		-1.94			-0.82		
	5 180	HT20	-4.77		0.75	-4.02		
	5 220		-4.57			-3.82		
	5 240		-4.41			-3.66		
	5 190	HT40	-9.57		1.92	-7.65		
	5 230		-8.27			-6.35		
	5 180	VHT20	-5.35		1.76	-3.59		
	5 220		-5.42			-3.66		
	5 240		-4.50			-2.74		
	5 190	VHT40	-8.91		2.43	-6.48		
	5 230		-9.26			-6.83		
	5 210	VHT80	-12.21		7.92	-4.29		

Band	Frequency (MHz)	Mode	PSD (dBm/MHz)	RBWF Note1	DCF Note2	Sum Note3	Limit(dBm/MHz)	
							FCC	IC
UNII-2A	5 260	a	-2.56	-	0.92	-1.64	11.00	11.00
	5 280		-1.74			-0.82		
	5 320		-1.11			-0.19		
	5 260	HT20	-4.80		1.38	-3.42		
	5 280		-4.51			-3.13		
	5 320		-2.89			-1.51		
	5 270	HT40	-8.53		2.76	-5.77		
	5 310		-7.82			-5.06		
	5 260	VHT20	-4.44		2.34	-2.10		
	5 280		-4.09			-1.75		
	5 320		-4.02			-1.68		
	5 270	VHT40	-9.22		3.52	-5.70		
	5 310		-8.33			-4.81		
	5 290	VHT80	-11.84		8.13	-3.71		

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Test report No.:  
 KES-RF-18T0007-R1  
 Page (52) of (221)

Band	Frequency (MHz)	Mode	PSD (dBm/MHz)	RBWF Note1	DCF Note2	Sum Note3	Limit(dBm/MHz)	
							FCC	IC
UNII-2C	5 500	a	0.25	-	0.92	1.17	11.00	11.00
	5 600		1.46			2.38		
	5 720		-2.16			-1.24		
	5 500	HT20	-1.84		0.97	-0.87		
	5 600		-0.87			0.10		
	5 720		-5.09			-4.12		
	5 510	HT40	-5.32		2.22	-3.10		
	5 590		-4.43			-2.21		
	5 710		-7.85			-5.63		
	5 500	VHT20	-2.39		1.09	-1.30		
	5 600		-0.73			0.36		
	5 720		-5.23			-4.14		
	5 510	VHT40	-6.31		3.28	-3.03		
	5 590		-5.12			-1.84		
	5 710		-8.48			-5.20		
	5 530	VHT80	-9.03		8.45	-0.58		
	5 610		-8.50			-0.05		
	5 690		-10.30			-1.85		

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Test report No.:  
 KES-RF-18T0007-R1  
 Page (53) of (221)

Band	Frequency (MHz)	Mode	PSD (dBm/500kHz)	RBWF Note1	DCF Note2	Sum Note3	Limit(dBm/MHz)	
							FCC	IC
UNII-3	5 745	a	-5.42	-	1.50	-3.92	30.00	30.00
	5 785		-6.15			-4.65		
	5 825		-6.50			-5.00		
	5 745	HT20	-8.61		0.97	-7.64		
	5 785		-10.27			-9.30		
	5 825		-10.42			-9.45		
	5 755	HT40	-12.47		2.76	-9.71		
	5 795		-13.06			-10.30		
	5 745	VHT20	-8.56		1.55	-7.01		
	5 785		-9.97			-8.42		
	5 825		-10.58			-9.03		
	5 755	VHT40	-12.41		3.01	-9.40		
	5 795		-13.23			-10.22		
	5 775	VHT80	-15.31		7.16	-8.15		

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**Band-crossing channels**

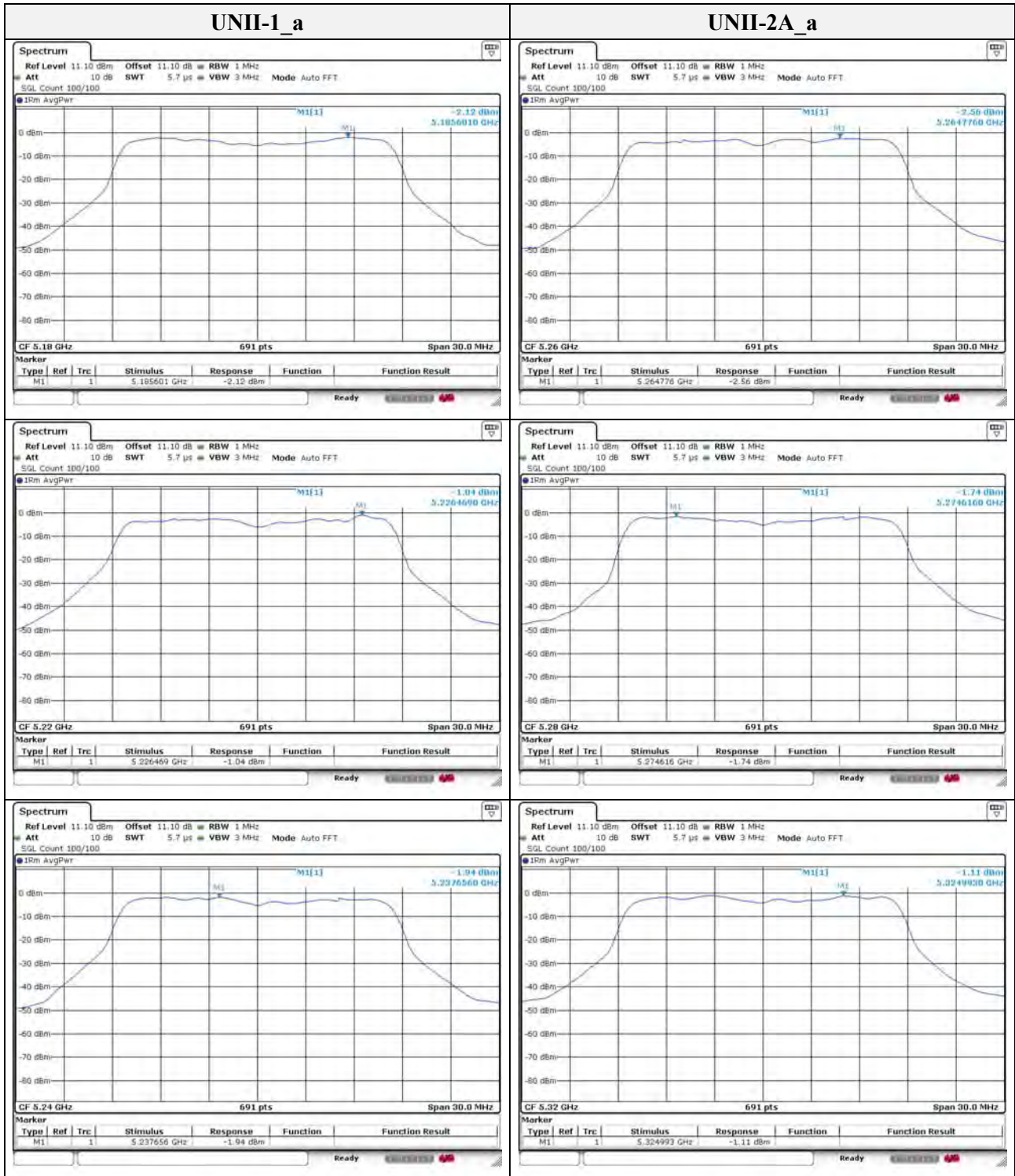
Band	Frequency (MHz)	Mode	PSD (dBm/MHz)	RBWF Note1	DCF Note2	Sum Note3	Limit(dBm/MHz)	
							FCC	IC
UNII-2C	5 720	a	-1.94	-	0.92	-1.02	11.00	11.00
	5 720	HT20	-4.70	-	0.97	-3.73		
	5 710	HT40	-7.38	-	0.22	-7.16		
	5 720	VHT20	-4.90	-	1.09	-3.81		
	5 710	VHT40	-8.14	-	3.28	-4.86		
	5 690	VHT80	-10.75	-	8.45	-2.30		

Band	Frequency (MHz)	Mode	PSD (dBm/500kHz)	RBWF Note1	DCF Note2	Sum Note3	Limit(dBm/500kHz)	
							FCC	IC
UNII-3	5 720	a	-5.21	-	1.50	-3.71	30.00	30.00
	5 720	HT20	-8.77	-	0.97	-7.80		
	5 710	HT40	-11.66	-	2.76	-8.90		
	5 720	VHT20	-8.52	-	1.56	-6.96		
	5 710	VHT40	-11.61	-	3.01	-8.60		
	5 690	VHT80	-17.35	-	7.16	-10.19		

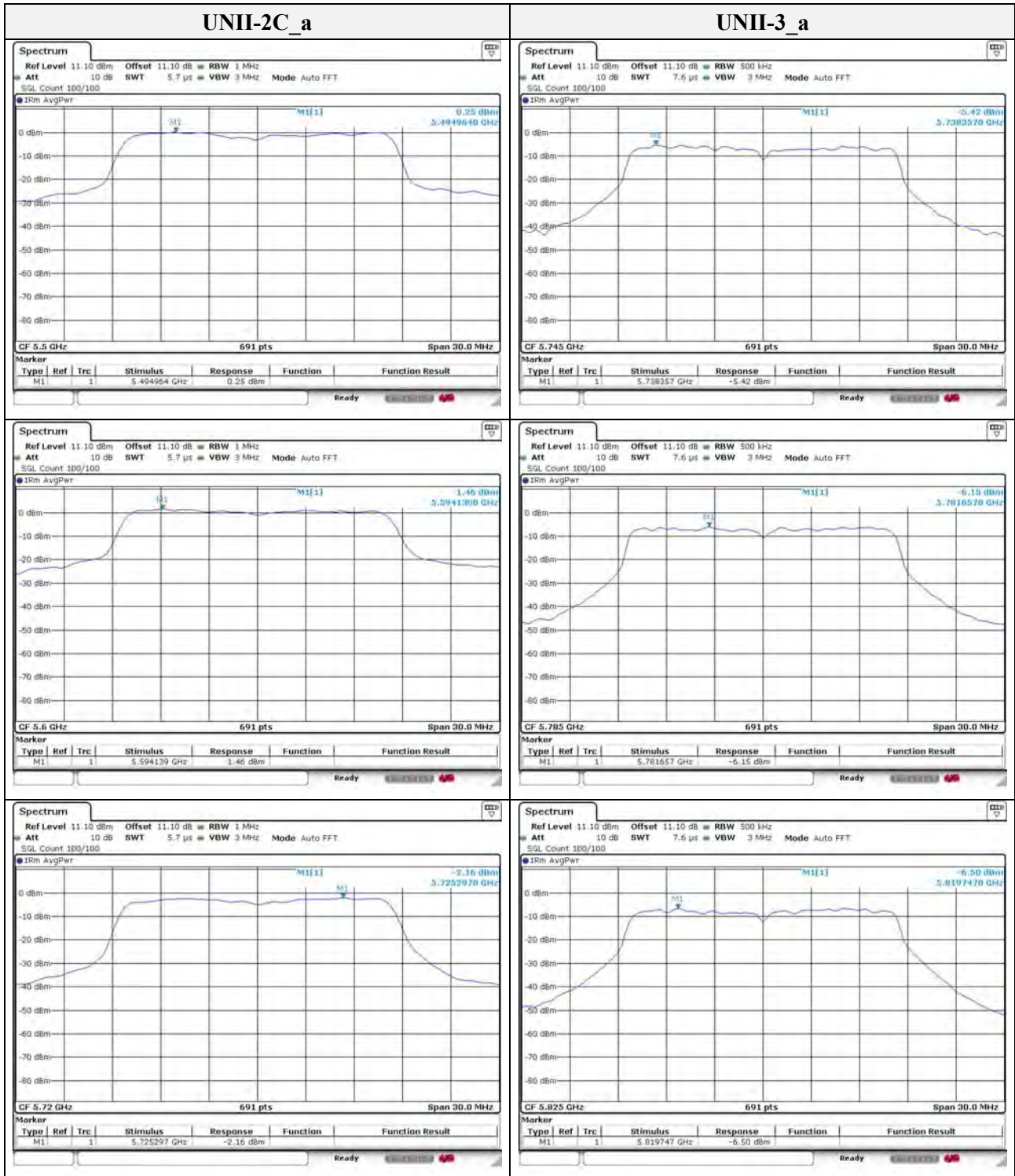
**Note.**

- UNII-1 =  $10\log(1 \text{ MHz}/1 \text{ MHz})$   
UNII-2A =  $10\log(1 \text{ MHz}/1 \text{ MHz})$   
UNII-2C =  $10\log(1 \text{ MHz}/1 \text{ MHz})$   
UNII-3 =  $10\log(500 \text{ kHz} / 500 \text{ kHz})$
- Refer to the page 78 on this report.
- Sum(dBm) = PSD(dBm) + RBWF + Duty correction factor (dB)





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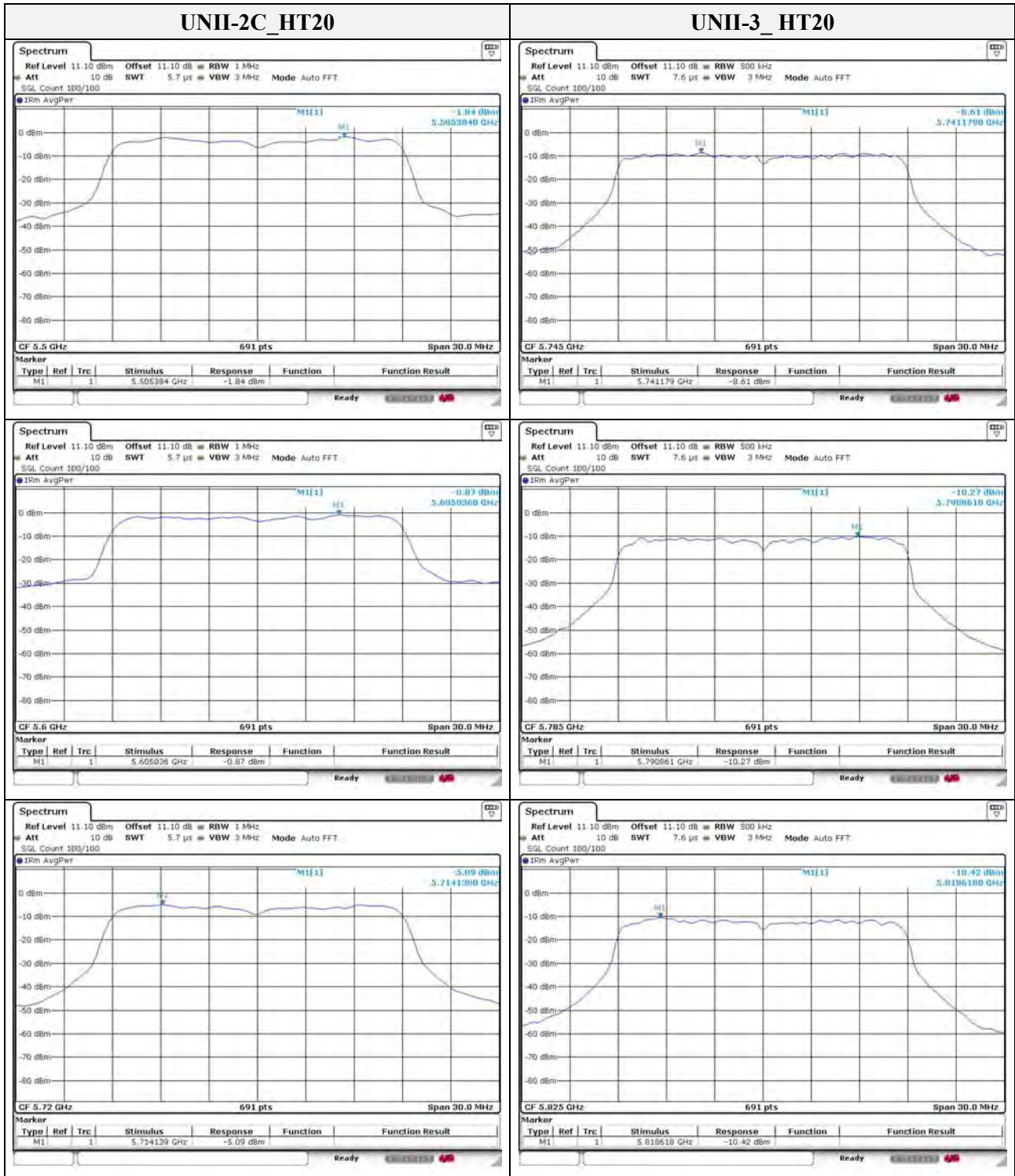


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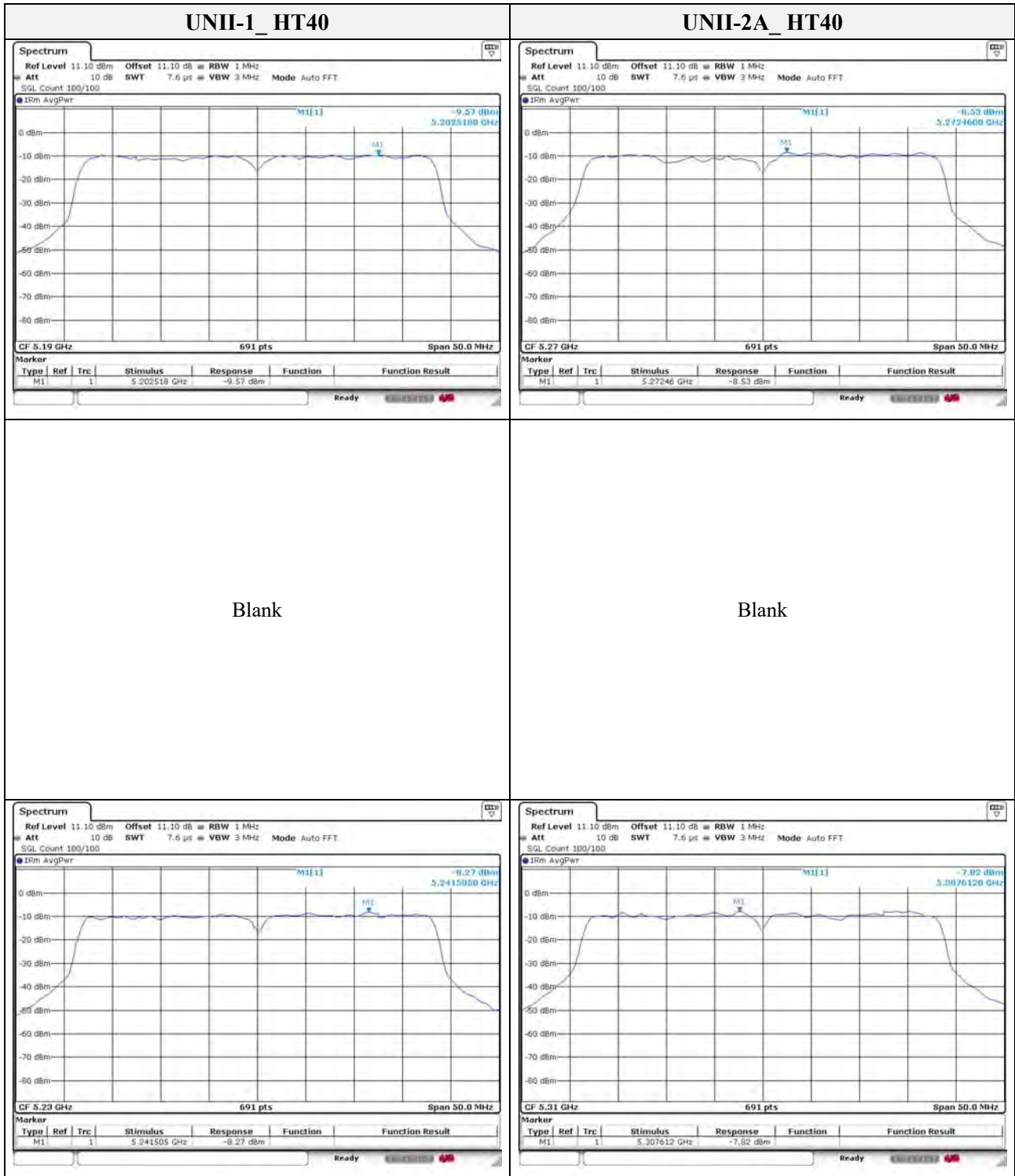
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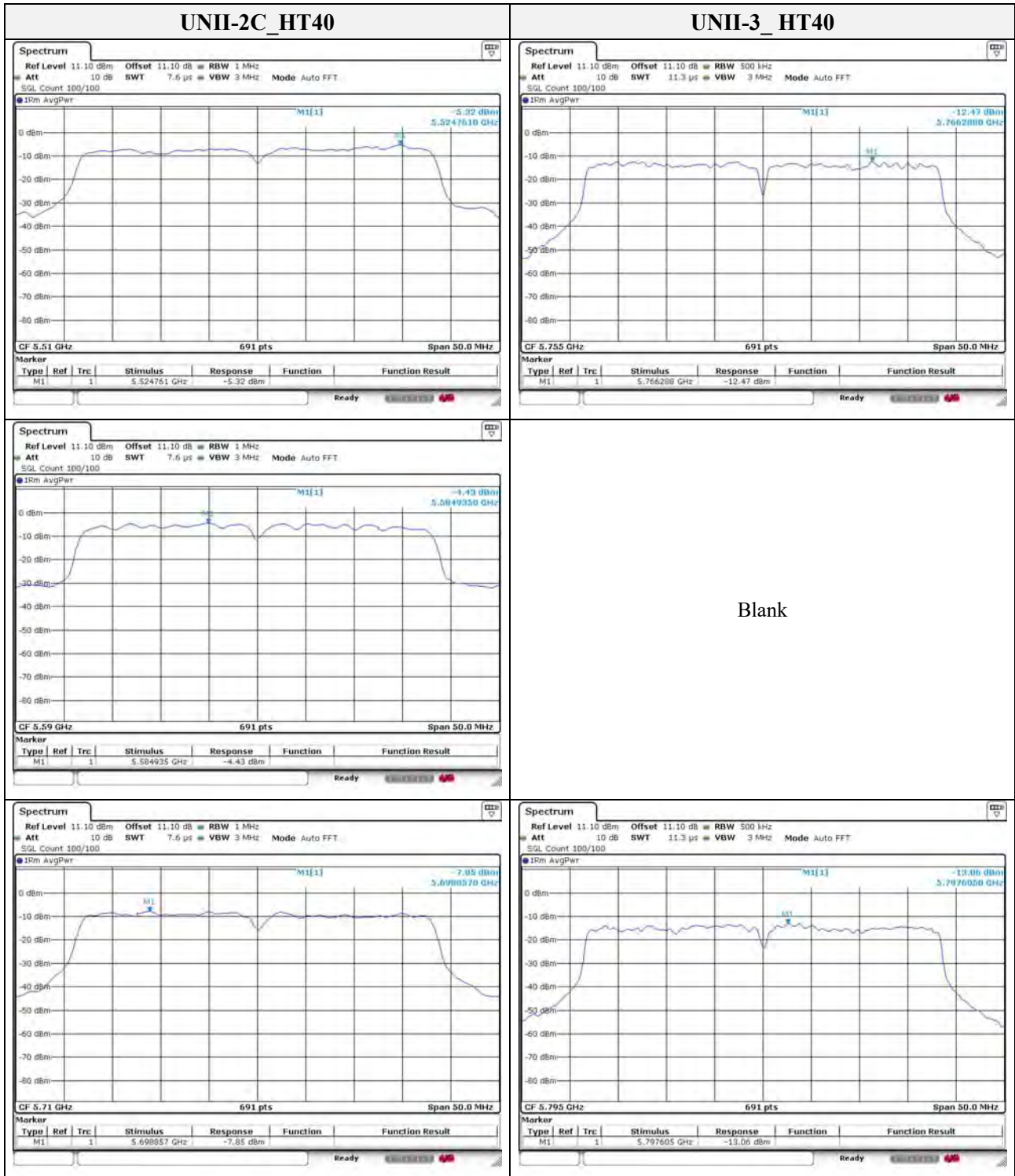


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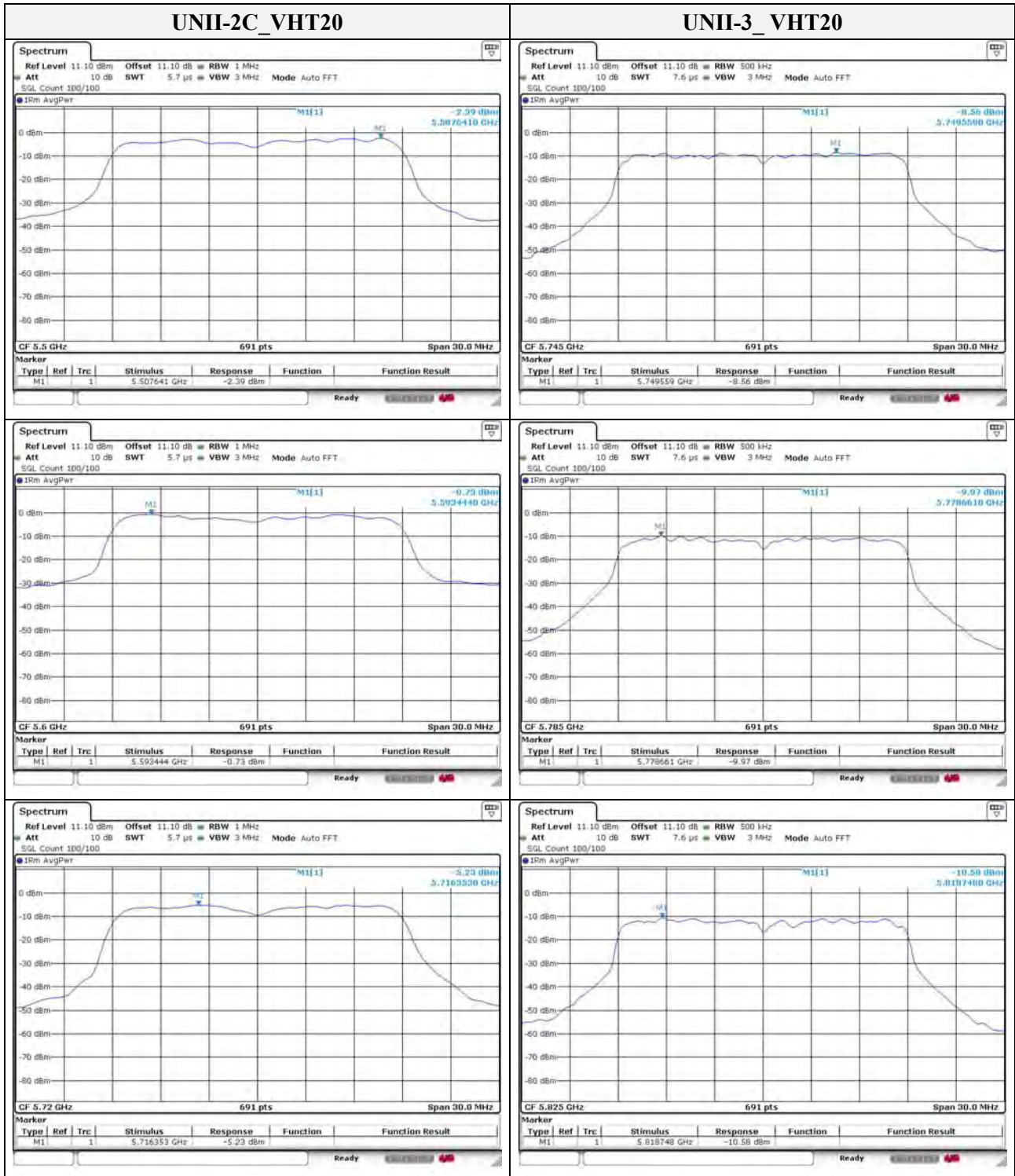


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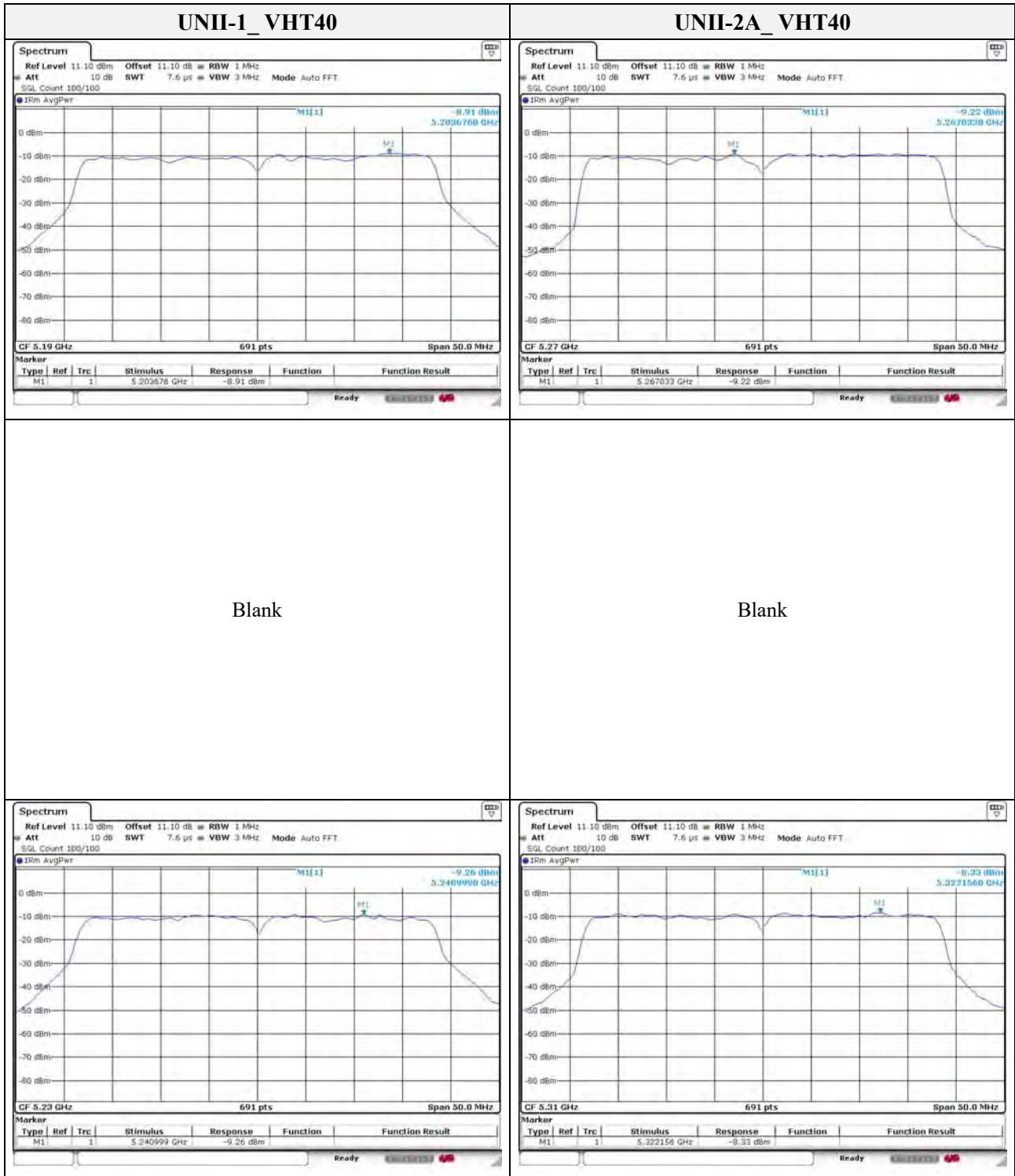
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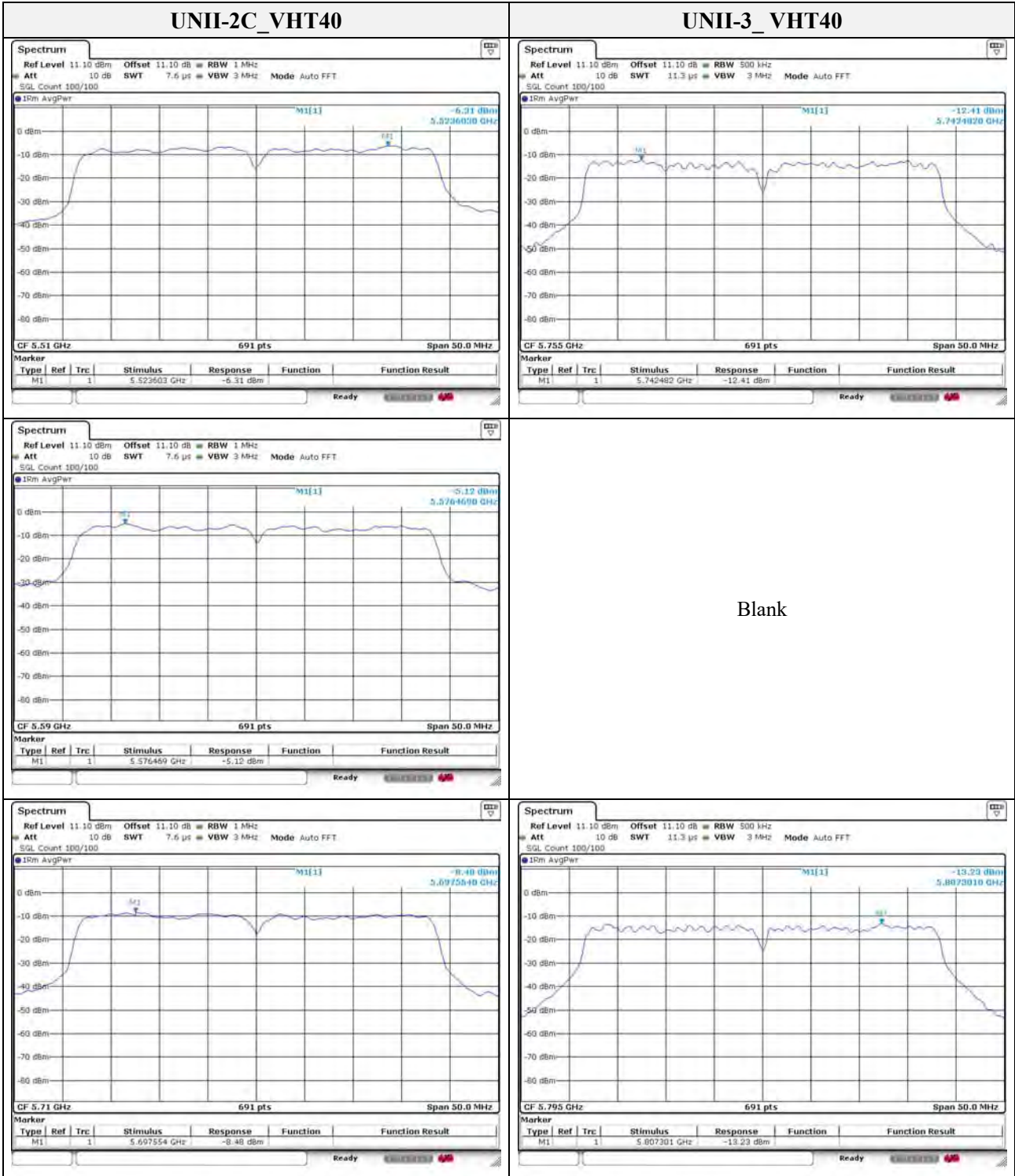


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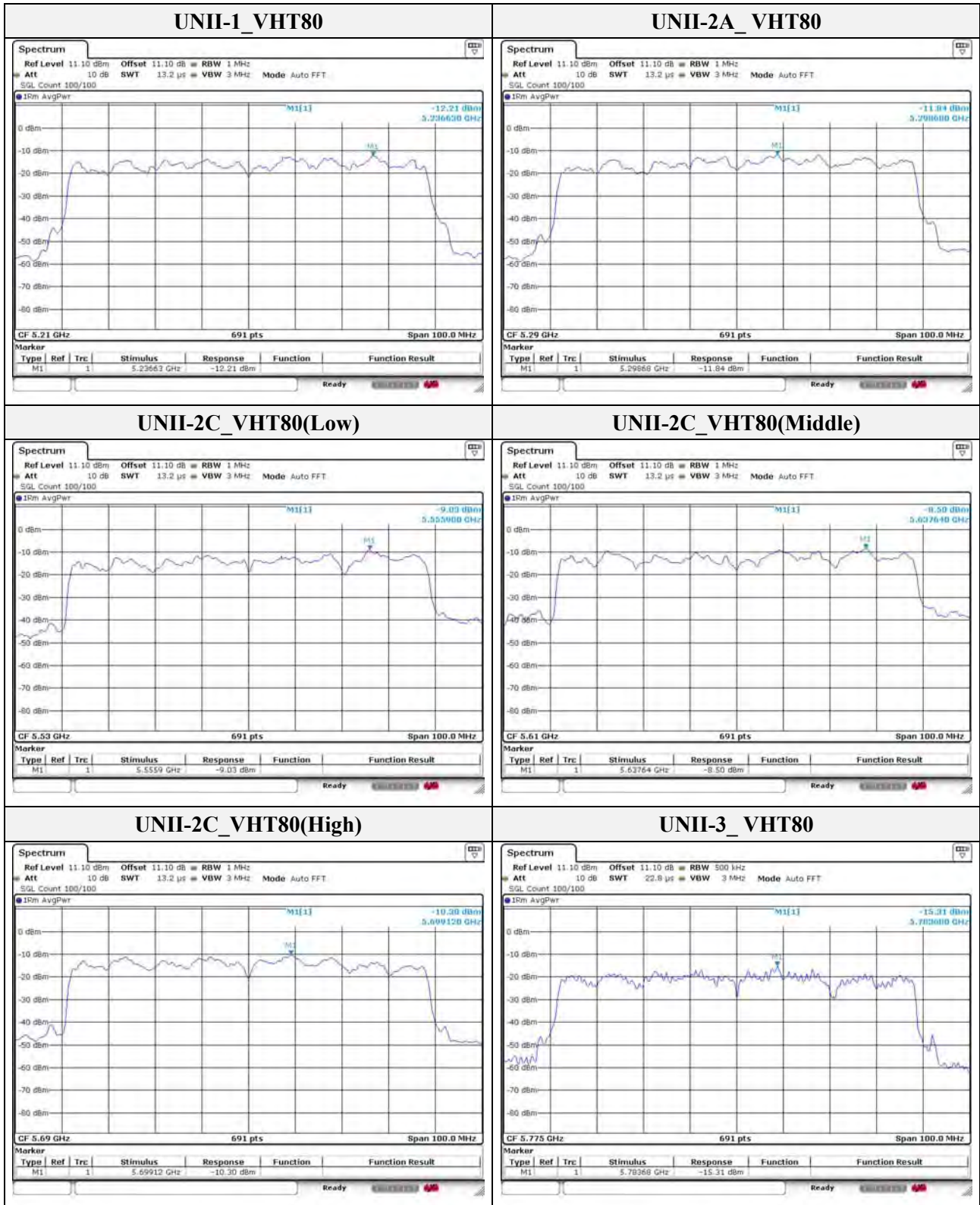




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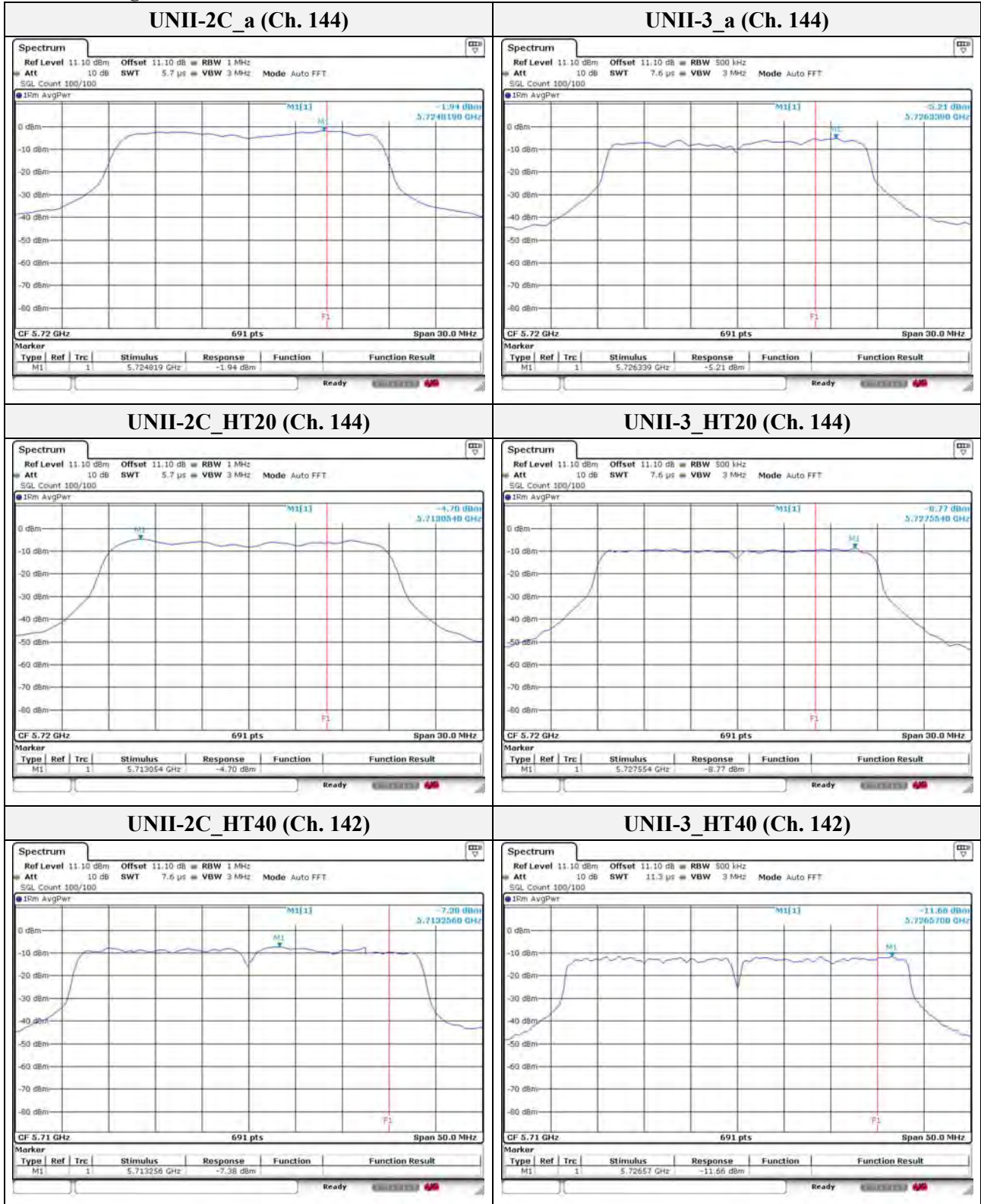
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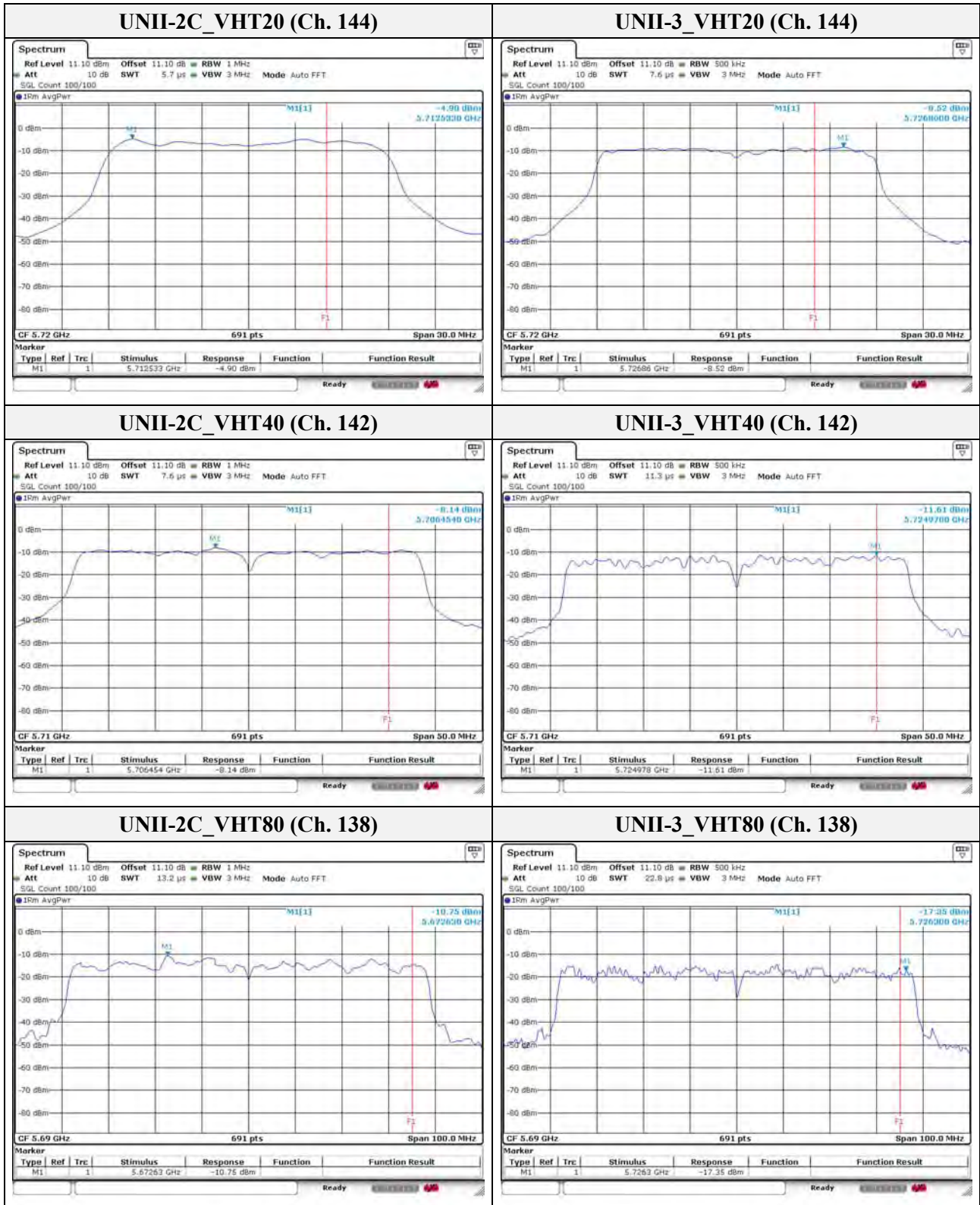


**Band-crossing channels**



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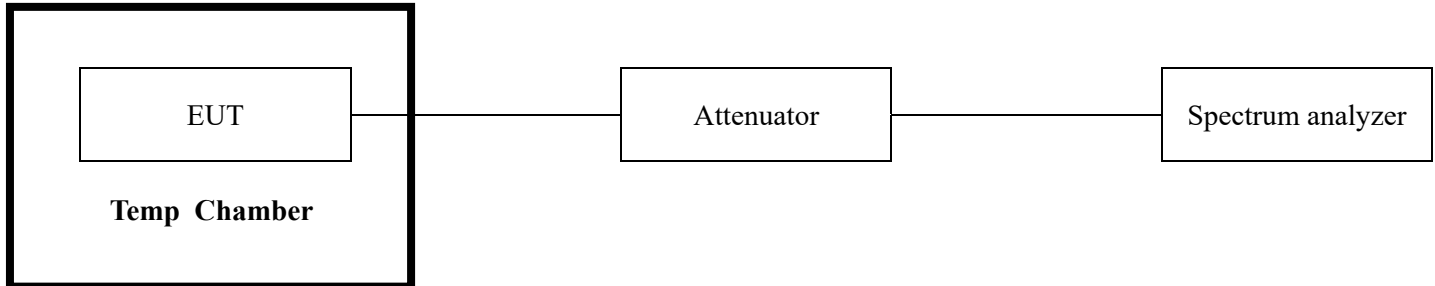
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### 3.5. Frequency Stability

#### Test procedure

ANSI C63.10-2013, clause 6.8.1

#### Test setup



1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
7. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

#### Limit

N/A



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Test report No.:  
 KES-RF-18T0007-R1  
 Page (69) of (221)

**Test results**

Mode: UNII-1  
 Operating frequency: 5 180 MHz

Test voltage (%)	Test voltage (V)	Temperature (°C)	Maintaining time	Measure frequency (MHz)	Frequency deviation (Hz)	Deviation (%)
100 %		0	Startup	5 179.996 190	-3 810	-0.000 074
			2 minutes	5 179.994 569	-5 431	-0.000 105
			5 minutes	5 179.993 903	-6 097	-0.000 118
			10 minutes	5 179.993 527	-6 473	-0.000 125
100 %		10	Startup	5 179.992 933	-7 007	-0.000 135
			2 minutes	5 179.992 790	-7 210	-0.000 139
			5 minutes	5 179.992 877	-7 123	-0.000 138
			10 minutes	5 179.993 138	-6 862	-0.000 132
100 %		20	Startup	5 179.992 528	-7 472	-0.000 144
			2 minutes	5 179.993 802	-6 198	-0.000 120
			5 minutes	5 179.994 207	-5 793	-0.000 112
			10 minutes	5 179.994 525	-5 475	-0.000 106
100 %	23.5	Startup	5 179.992 766	-7 234	-0.000 140	
		2 minutes	5 179.991 464	-8 536	-0.000 165	
		5 minutes	5 179.992 042	-7 958	-0.000 154	
		10 minutes	5 179.992 940	-7 060	-0.000 136	
100 %	30	Startup	5 180.005 114	5 144	0.000 099	
		2 minutes	5 179.998 661	-1 339	-0.000 026	
		5 minutes	5 179.995 159	-4 841	-0.000 093	
		10 minutes	5 179.993 770	-6 230	-0.000 120	
100 %	40	Startup	5 179.992 297	-7 703	-0.000 149	
		2 minutes	5 179.992 644	-7 356	-0.000 142	
		5 minutes	5 179.993 397	-6 603	-0.000 127	
		10 minutes	5 179.993 860	-6 140	-0.000 119	
85 %	AC 102	23.5	Startup	5 179.993 665	-6 335	-0.000 122
			2 minutes	5 179.993 010	-6 990	-0.000 135
			5 minutes	5 179.992 665	-7 336	-0.000 142
			10 minutes	5 179.992 421	-7 579	-0.000 146
115 %	AC 138	23.5	Startup	5 179.993 025	-6 975	-0.000 135
			2 minutes	5 179.992 883	-7 117	-0.000 137
			5 minutes	5 179.992 541	-7 460	-0.000 144
			10 minutes	5 179.992 153	-7 847	-0.000 151

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Test report No.:  
KES-RF-18T0007-R1  
Page (70) of (221)

Mode: UNII-2A  
Operating frequency: 5 260 MHz

Test voltage (%)	Test voltage (V)	Temperature (°C)	Maintaining time	Measure frequency (MHz)	Frequency deviation (Hz)	Deviation (%)
100 %		0	Startup	5 259.995 630	-4 370	-0.000 083
			2 minutes	5 259.993 054	-6 946	-0.000 132
			5 minutes	5 259.992 967	-7 033	-0.000 134
			10 minutes	5 259.993 199	-6 801	-0.000 129
100 %		10	Startup	5 259.993 140	-6 860	-0.000 130
			2 minutes	5 259.992 677	-7 323	-0.000 139
			5 minutes	5 259.993 632	-6 368	-0.000 121
			10 minutes	5 259.994 269	-5 731	-0.000 109
100 %		20	Startup	5 260.004 151	4 151	0.000 079
			2 minutes	5 259.998 189	-1 811	-0.000 034
			5 minutes	5 259.995 121	-4 879	-0.000 093
			10 minutes	5 259.993 558	-6 442	-0.000 122
100 %	23.5	Startup	5 260.001 706	1 706	0.000 032	
		2 minutes	5 260.005 469	5 469	0.000 104	
		5 minutes	5 260.007 292	7 292	0.000 139	
		10 minutes	5 260.008 826	8 826	0.000 168	
100 %	30	Startup	5 259.994 403	-5 597	-0.000 106	
		2 minutes	5 259.992 608	-7 392	-0.000 141	
		5 minutes	5 259.992 405	-7 595	-0.000 144	
		10 minutes	5 259.992 608	-7 392	-0.000 141	
100 %	40	Startup	5 259.992 185	-7 815	-0.000 149	
		2 minutes	5 259.993 401	-6 599	-0.000 125	
		5 minutes	5 259.994 067	-5 933	-0.000 113	
		10 minutes	5 259.994 906	-5 094	-0.000 097	
85 %	AC 102	23.5	Startup	5 259.997 325	-2 675	-0.000 051
			2 minutes	5 259.995 143	-4 857	-0.000 092
			5 minutes	5 259.994 877	-5 123	-0.000 097
			10 minutes	5 259.993 259	-6 741	-0.000 128
115 %	AC 138	23.5	Startup	5 259.995 028	-4 972	-0.000 095
			2 minutes	5 259.994 885	-5 115	-0.000 097
			5 minutes	5 259.994 253	-5 747	-0.000 109
			10 minutes	5 259.993 669	-6 331	-0.000 120

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Test report No.:  
 KES-RF-18T0007-R1  
 Page (71) of (221)

Mode: UNII-2C  
 Operating frequency: 5500 MHz

Test voltage (%)	Test voltage (V)	Temperature (°C)	Maintaining time	Measure frequency (MHz)	Frequency deviation (Hz)	Deviation (%)
100 %		0	Startup	5 499.992 991	-7 009	-0.000 127
			2 minutes	5 499.992 904	-7 096	-0.000 129
			5 minutes	5 499.992 933	-7 067	-0.000 128
			10 minutes	5 499.992 412	-7 588	-0.000 138
100 %		10	Startup	5 500.001 944	11 944	0.000 217
			2 minutes	5 500.005 808	5 808	0.000 106
			5 minutes	5 500.002 711	2 711	0.000 049
			10 minutes	5 500.000 511	511	0.000 009
100 %		20	Startup	5 499.994 166	-5 834	-0.000 106
			2 minutes	5 499.993 268	-6 732	-0.000 122
			5 minutes	5 499.992 921	-7 079	-0.000 129
			10 minutes	5 499.992 718	-7 282	-0.000 132
100 %	23.5	Startup	5 499.995 539	-4 461	-0.000 081	
		2 minutes	5 499.998 839	-1 161	-0.000 021	
		5 minutes	5 550.001 647	1 647	-0.000 030	
		10 minutes	5 500.003 297	3 297	-0.000 060	
100 %	30	Startup	5 499.992 967	-7 033	-0.000 128	
		2 minutes	5 499.992 359	-7 641	-0.000 139	
		5 minutes	5 499.992 099	-7 901	-0.000 144	
		10 minutes	5 499.990 912	-9 088	-0.000 165	
100 %	40	Startup	5 499.992 103	-7 897	-0.000 144	
		2 minutes	5 499.993 116	-6 884	-0.000 125	
		5 minutes	5 499.993 492	-6 508	-0.000 118	
		10 minutes	5 499.993 724	-6 276	-0.000 114	
85 %	AC 102	23.5	Startup	5 499.994 338	-5 662	-0.000 103
			2 minutes	5 499.995 237	-4 763	-0.000 087
			5 minutes	5 499.993 647	-6 353	-0.000 116
			10 minutes	5 499.991 833	-8 167	-0.000 148
115 %	AC 138	23.5	Startup	5 499.995 236	-4 764	-0.000 087
			2 minutes	5 499.996 778	-3 222	-0.000 059
			5 minutes	5 499.993 522	-6 478	-0.000 118
			10 minutes	5 499.993 311	-6 689	-0.000 122

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Test report No.:  
 KES-RF-18T0007-R1  
 Page (72) of (221)

Mode: UNII-3  
 Operating frequency: 5 745 MHz

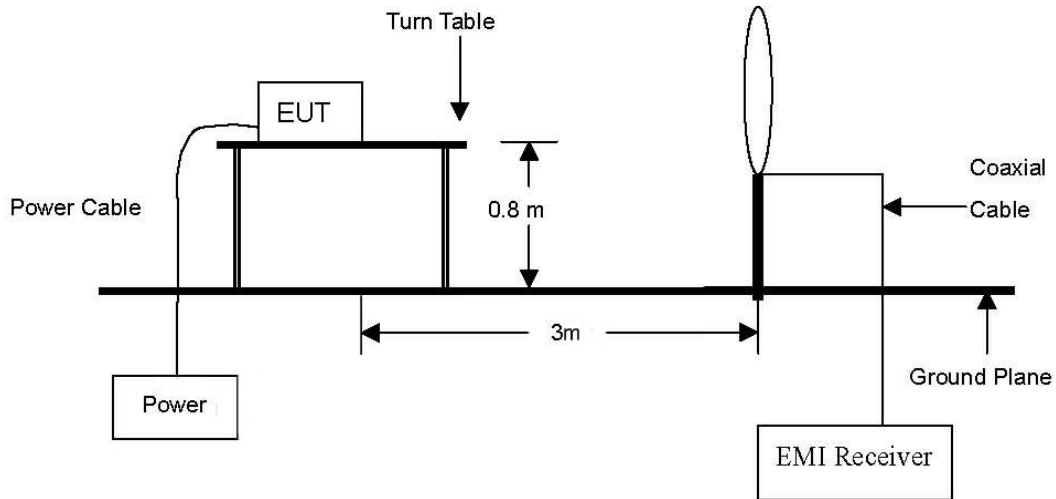
Test voltage (%)	Test voltage (V)	Temperature (°C)	Maintaining time	Measure frequency (MHz)	Frequency deviation (Hz)	Deviation (%)
100 %		0	Startup	5 745.007 177	7 177	0.000 125
			2 minutes	5 744.999 304	-696	-0.000 012
			5 minutes	5 744.995 802	-4 198	-0.000 073
			10 minutes	5 744.993 429	-6 571	-0.000 114
100 %		10	Startup	5 744.995 223	-4 777	-0.000 083
			2 minutes	5 744.992 242	-7 758	-0.000 135
			5 minutes	5 744.991 576	-8 424	-0.000 147
			10 minutes	5 744.991 489	-8 511	-0.000 148
100 %		20	Startup	5 744.991 806	-8 194	-0.000 143
			2 minutes	5 744.991 632	-8 368	-0.000 146
			5 minutes	5 744.993 080	-6 920	-0.000 120
			10 minutes	5 744.994 411	-5 589	-0.000 097
100 %	23.5	Startup	5 744.991 462	-8 538	-0.000 149	
		2 minutes	5 744.997 830	-2 170	-0.000 038	
		5 minutes	5 745.001 361	1 361	0.000 024	
		10 minutes	5 745.004 487	4 487	0.000 078	
100 %	30	Startup	5 744.991 346	-8 654	-0.000 151	
		2 minutes	5 744.992 330	-7 670	-0.000 134	
		5 minutes	5 744.993 835	-6 165	-0.000 107	
		10 minutes	5 744.995 369	-4 631	-0.000 081	
100 %	40	Startup	5 744.996 929	-3 071	-0.000 053	
		2 minutes	5 744.992 038	-7 962	-0.000 139	
		5 minutes	5 744.991 083	-8 917	-0.000 155	
		10 minutes	5 744.991 662	-8 338	-0.000 145	
85 %	AC 102	23.5	Startup	5 744.998 322	-1 6778	-0.000 029
			2 minutes	5 744.998 784	-1 216	-0.000 021
			5 minutes	5 745.001 155	1 155	-0.000 020
			10 minutes	5 745.001 733	1 733	0.000 030
115 %	AC 138	23.5	Startup	5 744.999 527	-473	-0.000 008
			2 minutes	5 744.999 883	-117	-0.000 002
			5 minutes	5 745.001 044	1 044	0.000 018
			10 minutes	5 745.001 327	1 327	0.000 023

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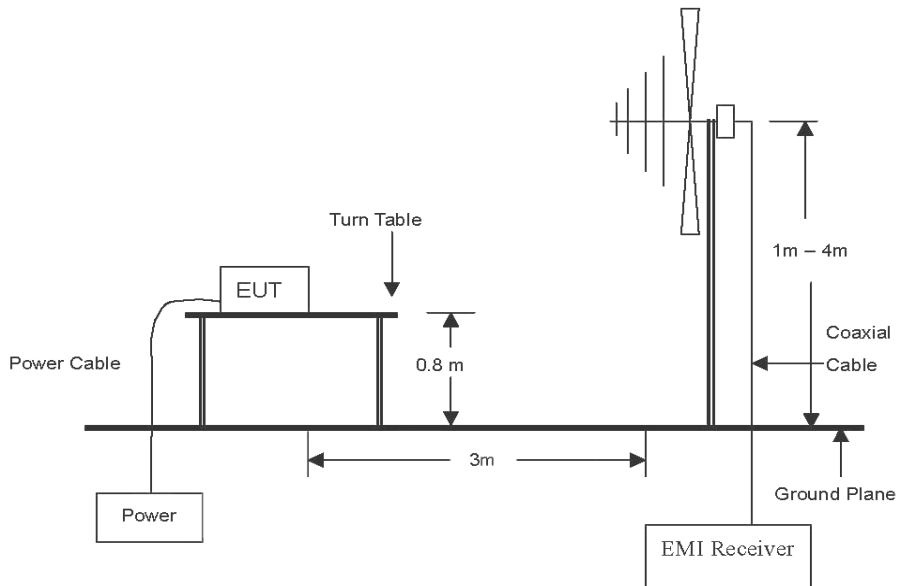
### 3.6. Radiated restricted band and emissions

#### Test setup

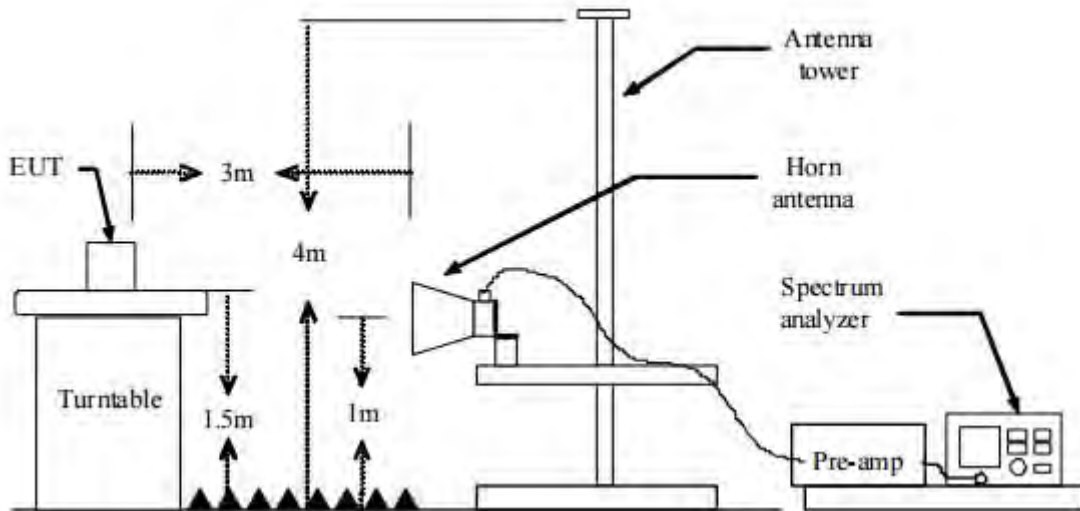
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz emissions, whichever is lower.



#### Test procedure below 30 MHz

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum hold mode.

#### Test procedure above 30 MHz

1. Spectrum analyzer settings for  $f < 1$  GHz:
  - ① Span = wide enough to fully capture the emission being measured
  - ② RBW = 120 kHz
  - ③ VBW  $\geq$  RBW
  - ④ Detector = quasi peak
  - ⑤ Sweep time = auto
  - ⑥ Trace = max hold
2. Spectrum analyzer settings for  $f \geq 1$  GHz: Peak
  - ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
  - ② RBW = 1 MHz
  - ③ VBW = 3 MHz ( $\geq 3 \times$  RBW)
  - ④ Detector = peak
  - ⑤ Sweep time = auto
  - ⑥ Trace = max hold
  - ⑦ Trace was allowed to stabilize



3. Spectrum analyzer settings for  $f \geq 1$  GHz: Average

- ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- ② RBW = 1 MHz
- ③ VBW  $\geq 3 \times$  RBW
- ④ Detector = RMS, if span/(# of points in sweep)  $\leq$  (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
- ⑤ Averaging type = power(i.e., RMS)
  - 1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
  - 2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
- ⑥ Sweep = auto
- ⑦ Trace = max hold
- ⑧ Perform a trace average of at least 100 traces.
- ⑨ A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
  - 1) If power averaging (RMS) mode was used in step ⑤, then the applicable correction factor is  $10 \log(1/x)$ , where x is the duty cycle.
  - 2) If linear voltage averaging mode was used in step ⑤, then the applicable correction factor is  $20 \log(1/x)$ , where x is the duty cycle.
  - 3) If a specific emission is demonstrated to be continuous ( $\geq 98$  percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

**Note.**

1.  $f < 30$  MHz, extrapolation factor of 40 dB/decade of distance.  $F_d = 40 \log(D_m/D_s)$   
 $f \geq 30$  MHz, extrapolation factor of 20 dB/decade of distance.  $F_d = 20 \log(D_m/D_s)$   
 Where:  
 $F_d$  = Distance factor in dB  
 $D_m$  = Measurement distance in meters  
 $D_s$  = Specification distance in meters
2. CF(Correction factors(dB)) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or  $F_d$ (dB)
4. Field strength(dB $\mu$ V/m) = Level(dB $\mu$ V) + CF (dB) + or DCF(dB)
5. Margin(dB) = Limit(dB $\mu$ V/m) - Field strength(dB $\mu$ V/m)
6. Emissions below 18 GHz were measured at a 3 meter test distance while emissions above 18 GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z, it was determined that **Y orientation** was worst-case orientation; therefore, all final radiated testing was performed with the EUT in **Y orientation**.
8. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
9. All channels, modes (e.g. 802.11a, 802.11n (20 MHz/40 MHz BW), 802.11ac (20 MHz/40 MHz /80 MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

10. According to exploratory test no any obvious emission were detected from 9 kHz to 30 MHz. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

**Limit**

According to 15.209(a), for an intentional radiator devices, the general required of field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values :

Frequency (MHz)	Distance (Meters)	Radiated ( $\mu V/m$ )
0.009 ~ 0.490	300	2400/F(kHz)
0.490 ~ 1.705	30	24000/F(kHz)
1.705 ~ 30.0	30	30
30 ~ 88	3	100**
88 ~ 216	3	150**
216 ~ 960	3	200**
Above 960	3	500

\*\*Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 ~ 72 MHz, 76 ~ 88 MHz, 174 ~ 216 MHz or 470 ~ 806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

According to 15.407(b), (b) Undesirable emission limits: Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
  - i) All emissions shall be limited to a level of  $-27$  dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
  - ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

According to RSS-247 6.2 The equipment output power and e.i.r.p. shall be measured in terms of average value. If the transmission is in bursts, the provisions of RSS-Gen for pulsed operation shall apply.

(1) For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

(2) For transmitters operating in the band 5250-5350 MHz Devices shall comply with the following:

- a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or
- b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text “for indoor use only.”

(3) For transmitters operating in the band 5470-5600 MHz and 5650-5725 MHz, Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

(4) For the band 5725-5850 MHz, Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

- a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
- b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
- c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
- d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.



**Duty cycle**

Regarding to KDB 789033 D02 v02r01, B)2)b), the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below.

Set RBW  $\geq$  OBW if possible; otherwise, set RBW to the largest available value. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are  $> 50/T$ , where T is defined in II.B.1.a), and the number of sweep points across duration T exceeds 100.

For the band 5.15-5.25 GHz

Test mode	T <sub>on</sub> time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11a	0.246 4	0.318 8	0.772 9	77.29	1.12
802.11n_HT20	0.231 9	0.275 4	0.842 0	84.20	0.75
802.11n_HT40	0.130 4	0.202 9	0.642 7	64.27	1.92
802.11n_VHT20	0.202 9	0.304 3	0.666 8	66.68	1.76
802.11n_VHT40	0.115 9	0.202 9	0.571 2	57.12	2.43
802.11n_VHT80	0.072 5	0.449 3	0.161 4	16.14	7.92

For the band 5.250-5.350 GHz

Test mode	T <sub>on</sub> time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11a	0.246 4	0.304 3	0.809 7	80.97	0.92
802.11n_HT20	0.231 9	0.318 8	0.727 4	72.74	1.38
802.11n_HT40	0.130 4	0.246 4	0.529 2	52.92	2.76
802.11n_VHT20	0.202 9	0.347 8	0.583 4	58.34	2.34
802.11n_VHT40	0.115 9	0.260 9	0.444 2	44.42	3.52
802.11n_VHT80	0.087 0	0.565 2	0.153 9	15.39	8.13

For the band 5.470-5.725 GHz

Test mode	T <sub>on</sub> time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11a	0.246 4	0.304 3	0.809 7	80.97	0.92
802.11n_HT20	0.231 9	0.289 9	0.799 9	79.99	0.97
802.11n_HT40	0.130 4	0.217 4	0.599 8	59.98	2.22
802.11n_VHT20	0.202 9	0.260 9	0.777 7	77.77	1.09
802.11n_VHT40	0.115 9	0.246 4	0.470 4	47.04	3.28
802.11n_VHT80	0.072 5	0.507 2	0.142 9	14.29	8.45



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Test report No.:  
KES-RF-18T0007-R1  
Page (80) of (221)

For the band 5.725-5.85 GHz

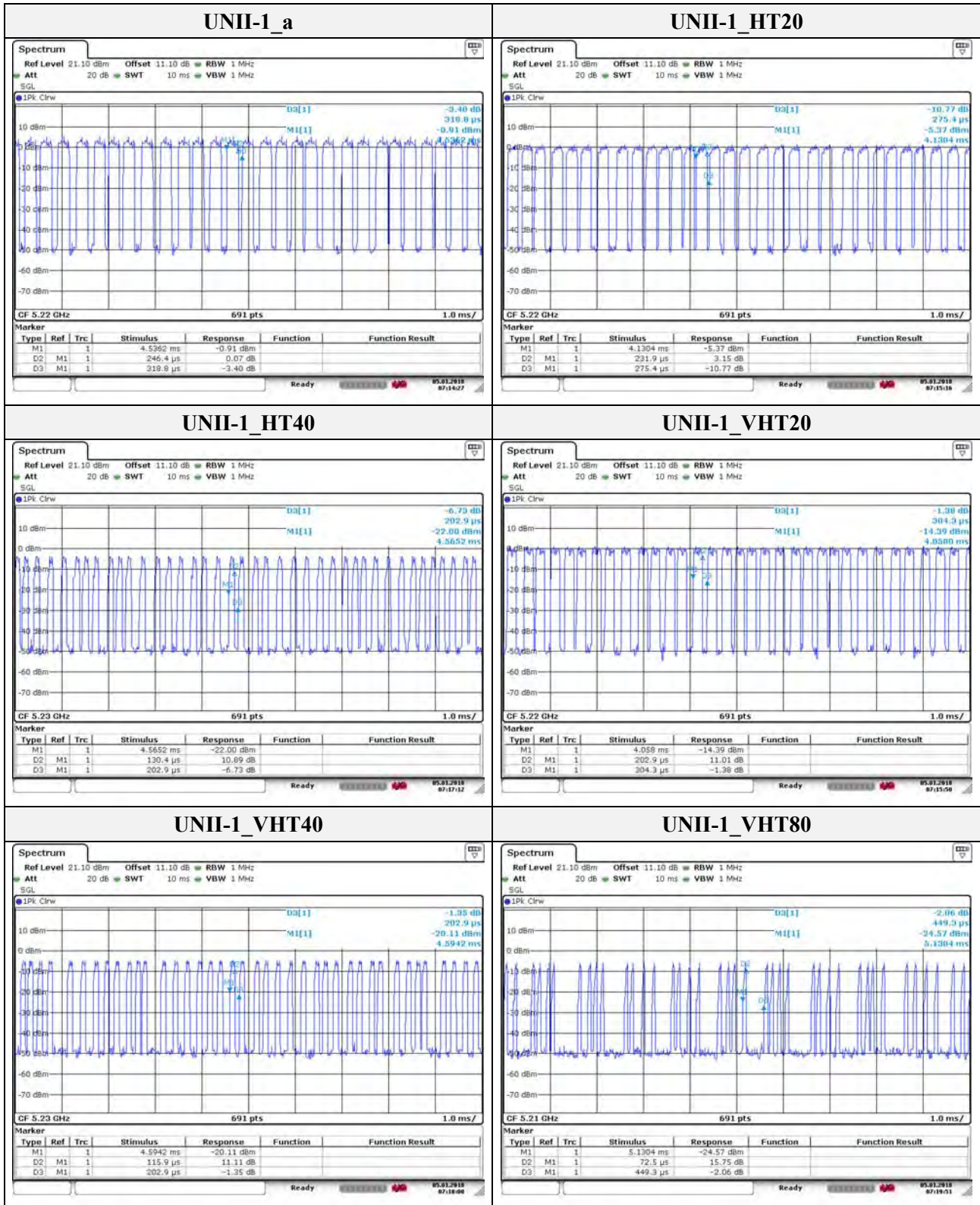
Test mode	T <sub>on</sub> time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11a	0.246 4	0.347 8	0.708 5	70.85	1.50
802.11n_HT20	0.231 9	0.289 9	0.799 9	79.99	0.97
802.11n_HT40	0.130 4	0.246 4	0.529 2	52.92	2.76
802.11n_VHT20	0.202 9	0.289 9	0.699 9	69.99	1.55
802.11n_VHT40	0.115 9	0.231 9	0.499 8	49.98	3.01
802.11n_VHT80	0.072 5	0.376 8	0.192 4	19.24	7.16

**Note:**

Duty cycle (Linear) = T<sub>on</sub> time/Period

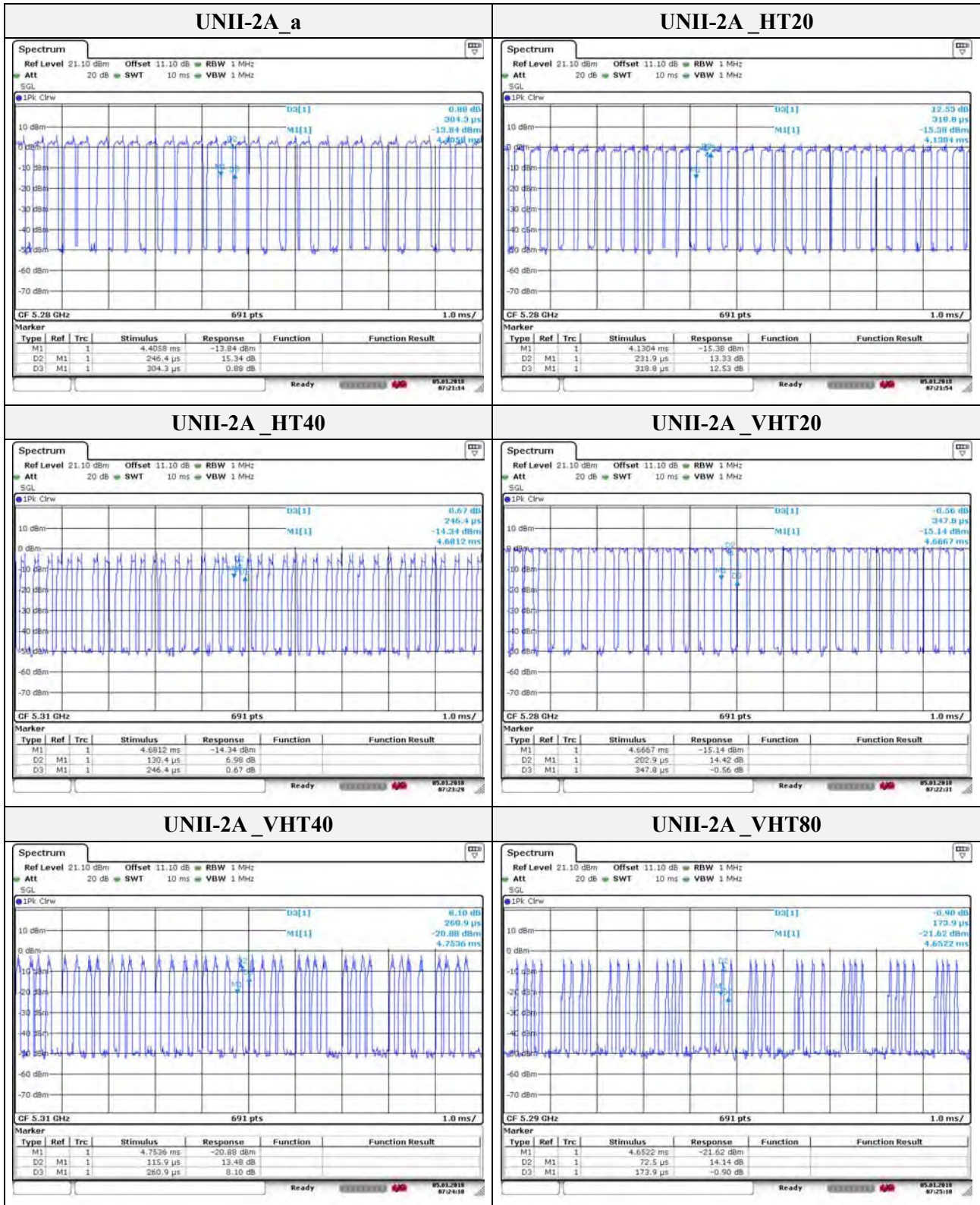
DCF(Duty cycle correction factor (dB)) = 10log(1/duty cycle)

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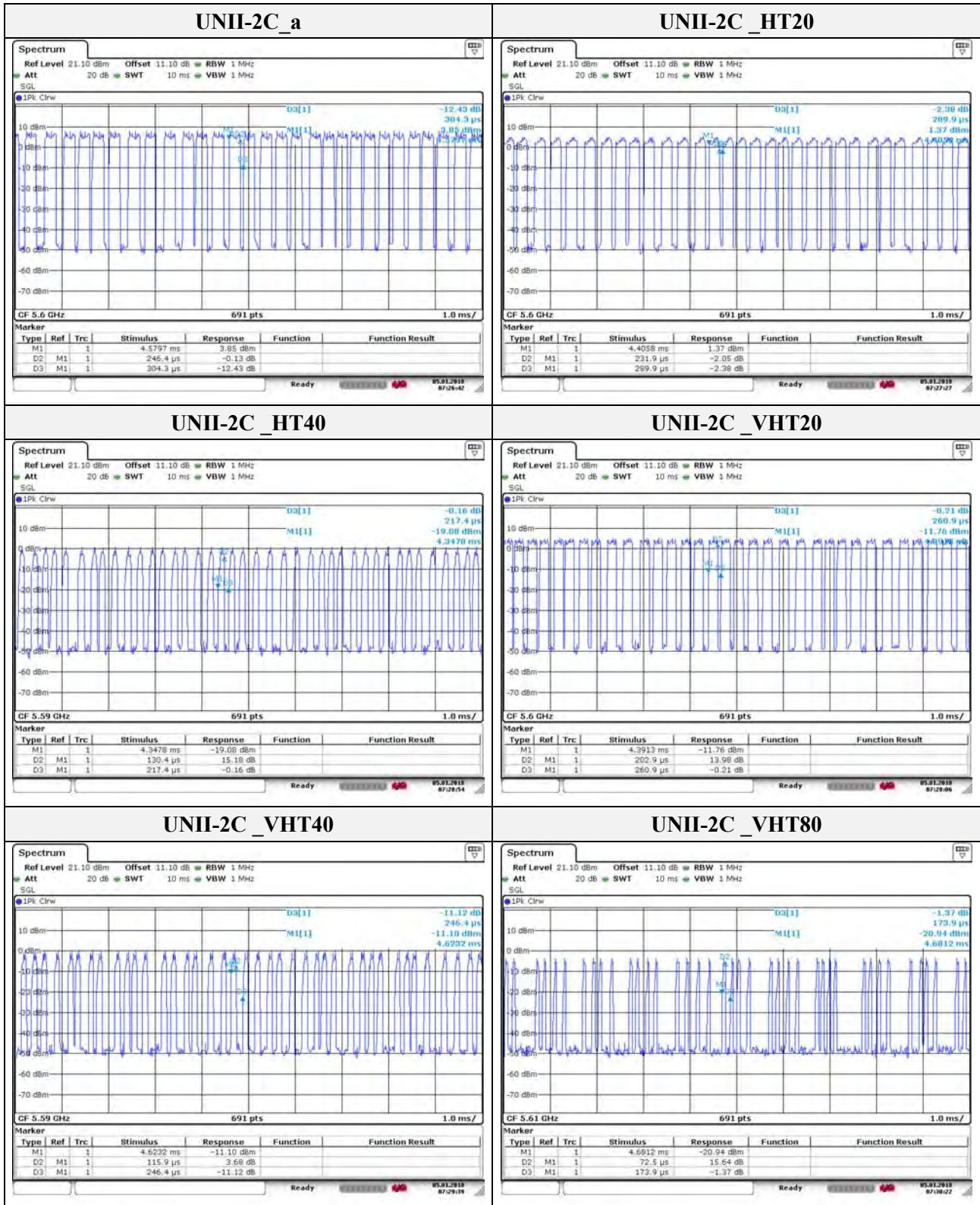
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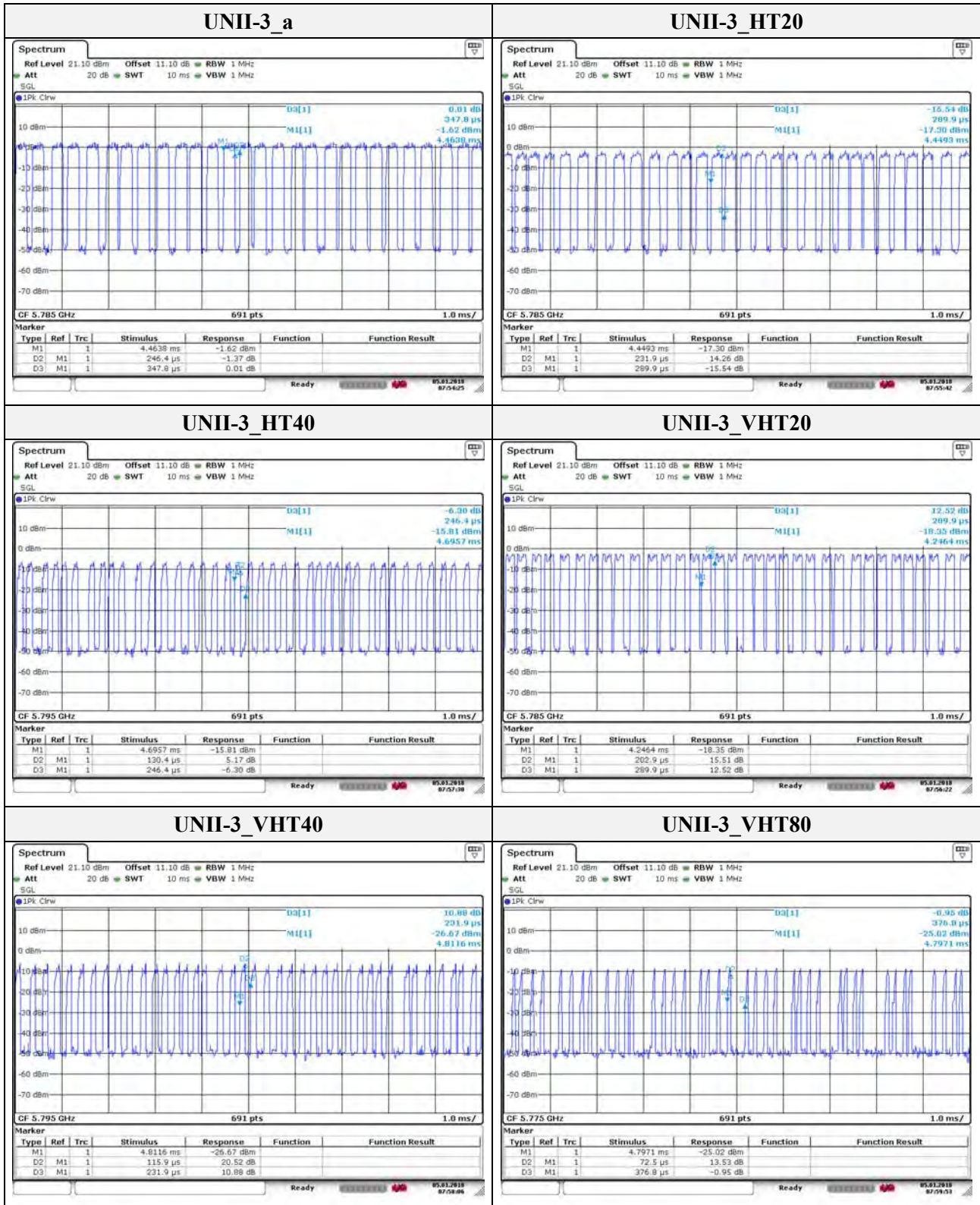


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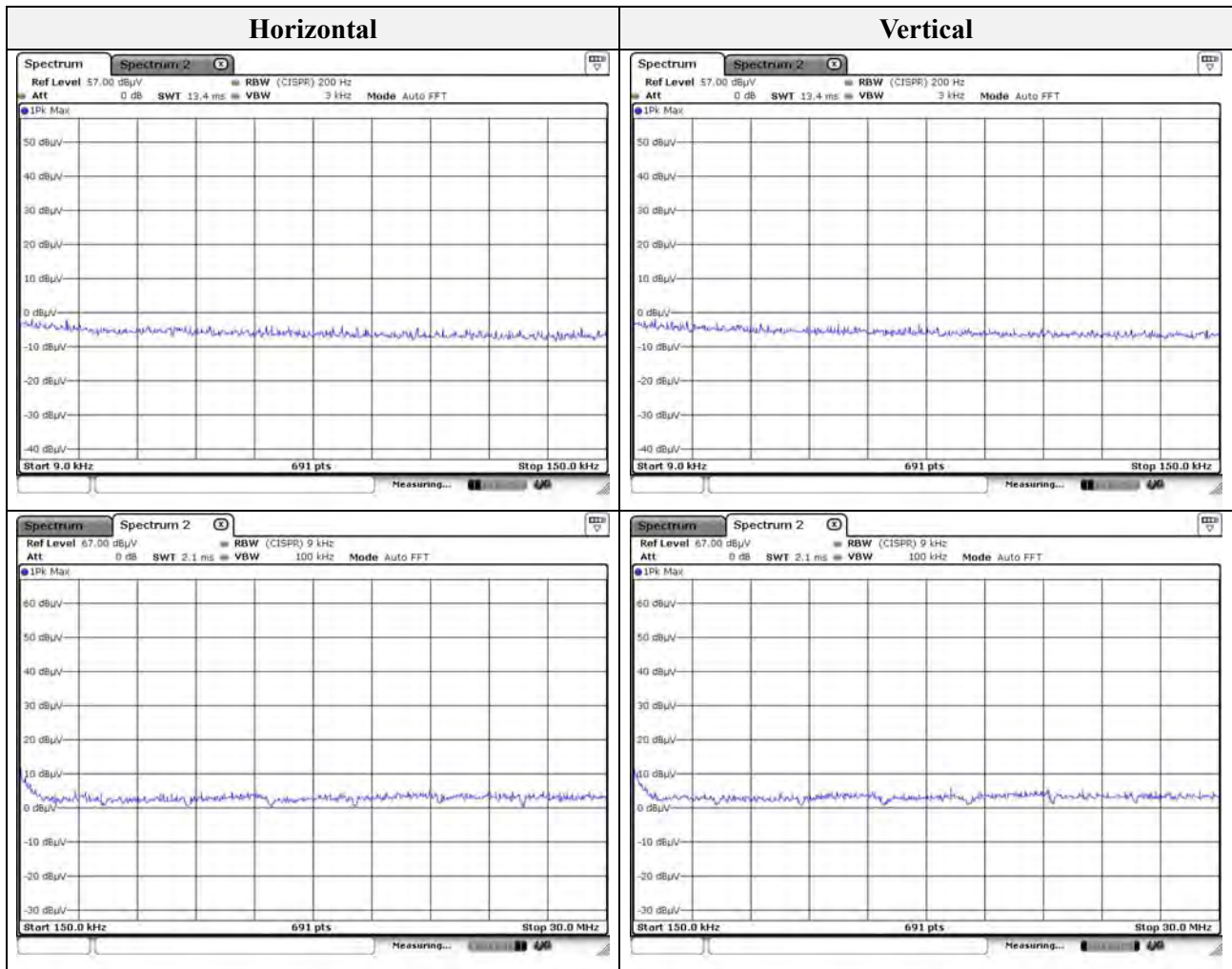
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**Test results (Below 30 MHz) – Worst case**

Mode: UNII-2C  
 Distance of measurement: 3 meter  
 Channel: 120

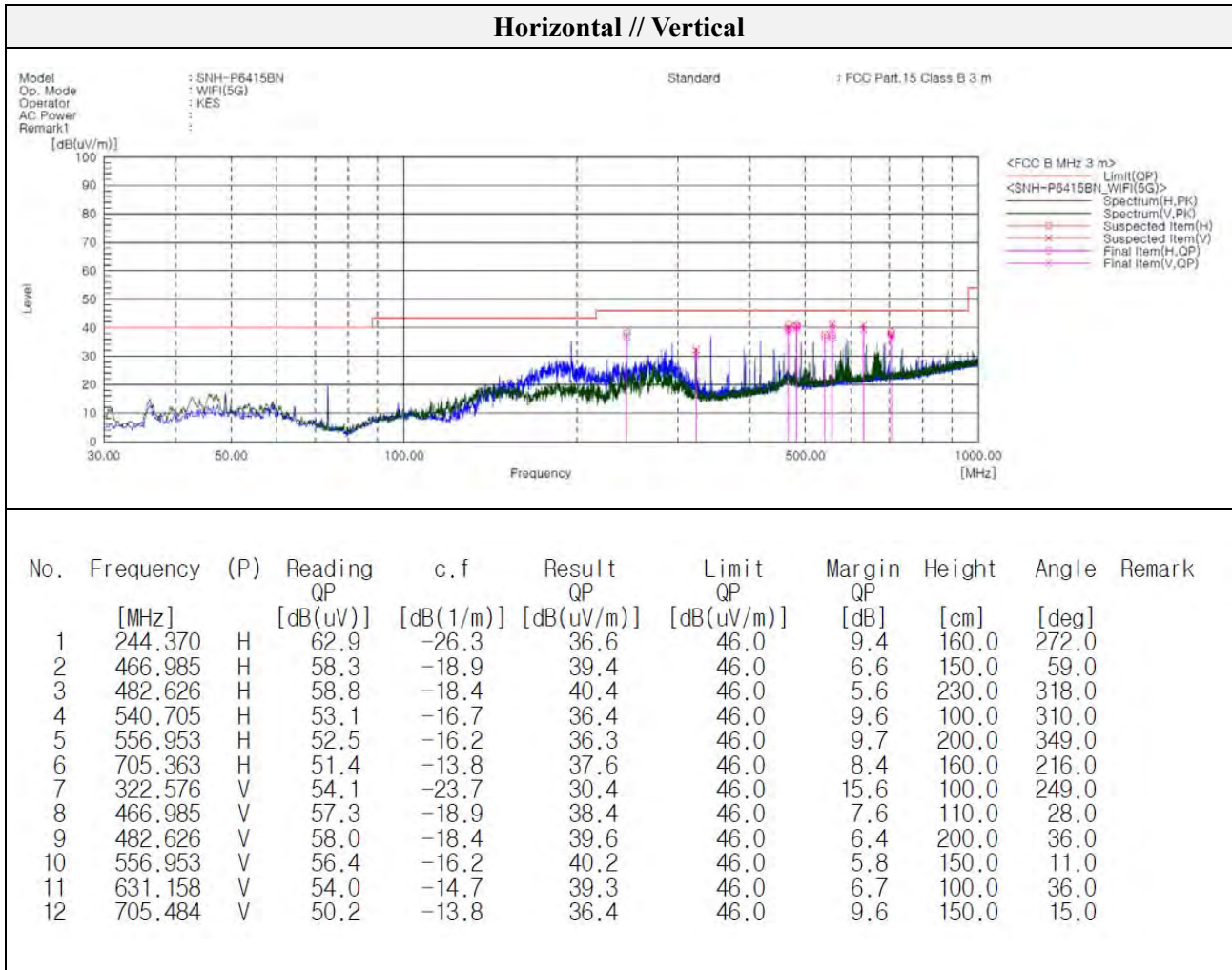
Frequency (MHz)	Level (dB $\mu$ V)	Ant. Pol. (H/V)	CF (dB)	F <sub>d</sub> (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
No spurious emissions were detected within 20 dB of the limit							



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**Test results (Below 1 000 MHz) – Worst case**

Mode: UNII-2C  
 Distance of measurement: 3 meter  
 Channel: 120



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Test report No.:  
KES-RF-18T0007-R1  
Page (87) of (221)

**Test results (Above 1 000 MHz)**

Mode: UNII-1  
Distance of measurement: 3 meter  
Channel: 36

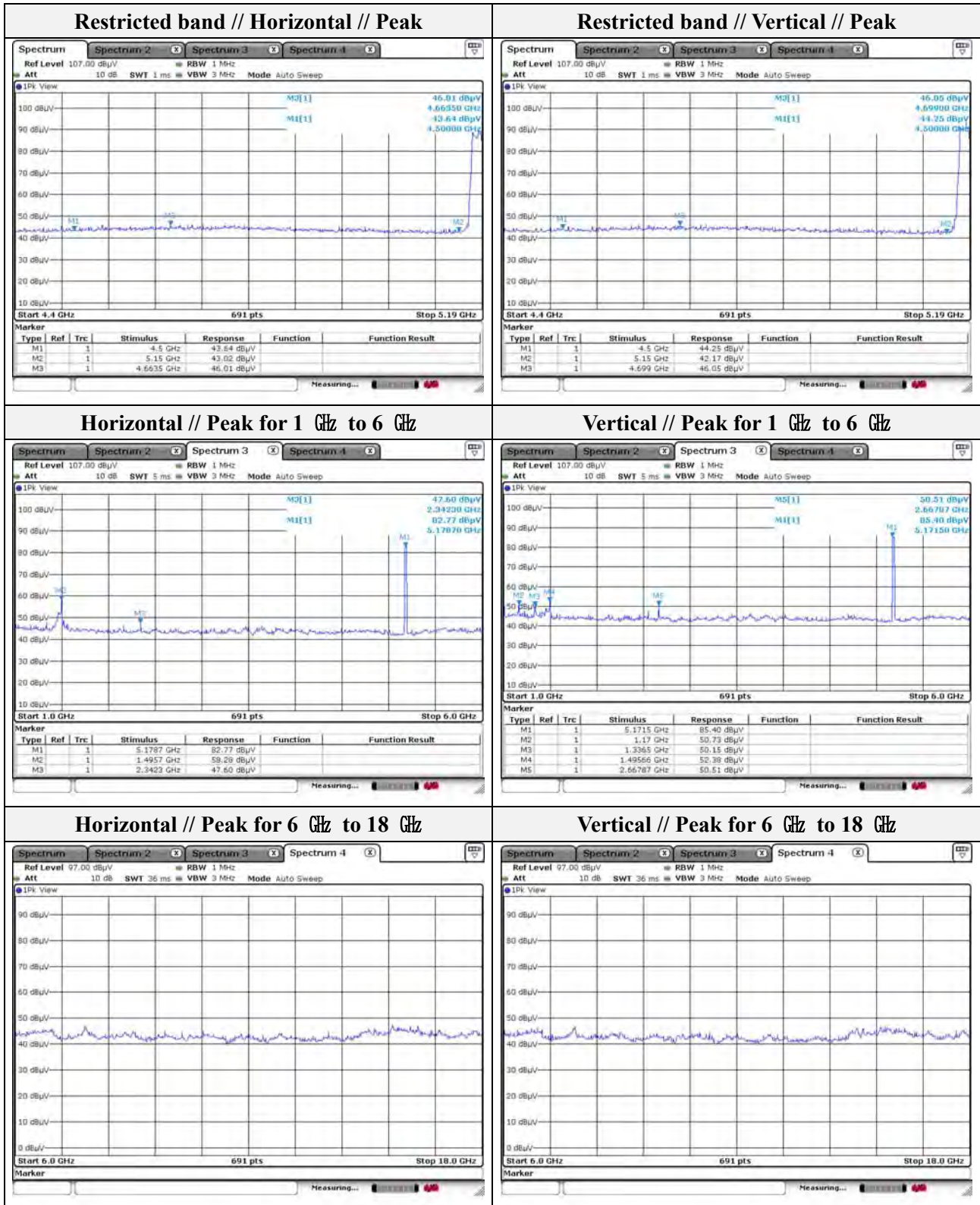
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 495.70	58.28	Peak	H	-6.00	-	52.28	74.00	21.72
2 342.30	47.60	Peak	H	-0.31	-	47.29	74.00	26.71
1 170.00	50.73	Peak	V	-8.05	-	42.68	74.00	31.32
1 336.50	50.15	Peak	V	-6.98	-	43.17	74.00	30.83
1 495.66	52.38	Peak	V	-6.00	-	46.38	74.00	27.62
2 667.87	50.51	Peak	V	0.60	-	51.11	74.00	22.89

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4 663.50	46.01	Peak	H	6.43	-	52.44	74.00	21.56
4 699.00	46.05	Peak	V	6.72	-	52.77	74.00	21.23

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (89) of (221)

Mode: UNII-1

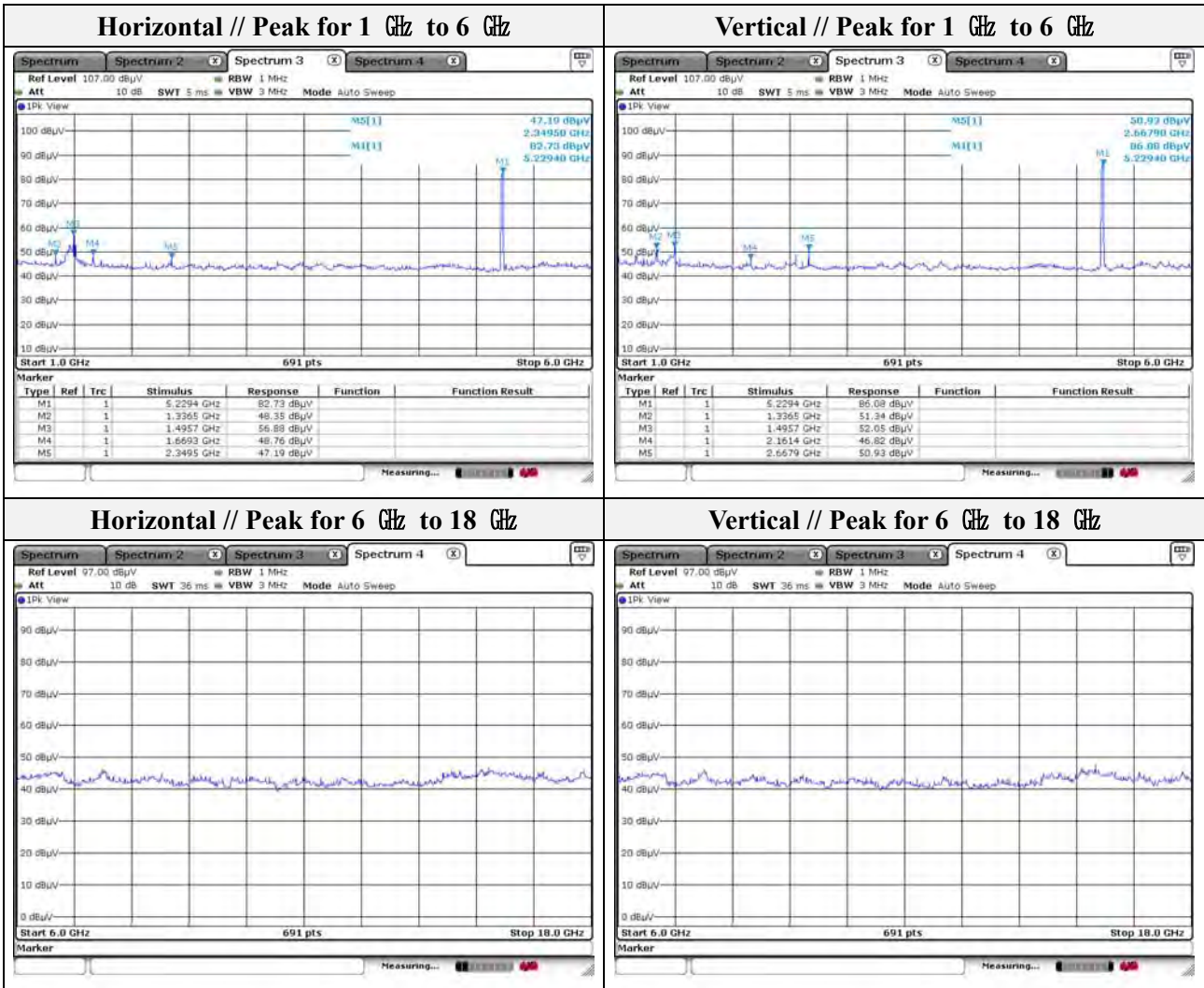
Distance of measurement: 3 meter

Channel: 44

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.35	Peak	H	-6.98	-	41.37	74.00	32.63
1 495.70	56.88	Peak	H	-6.00	-	50.88	74.00	23.12
1 669.30	48.76	Peak	H	-4.32	-	44.44	74.00	29.56
2 349.50	47.19	Peak	H	-0.30	-	46.89	74.00	27.11
1 336.50	51.34	Peak	V	-6.98	-	44.36	74.00	29.64
1 495.70	52.05	Peak	V	-6.00	-	46.05	74.00	27.95
2 161.40	46.82	Peak	V	-0.65	-	46.17	74.00	27.83
2 667.90	50.93	Peak	V	0.60	-	51.53	74.00	22.47

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.





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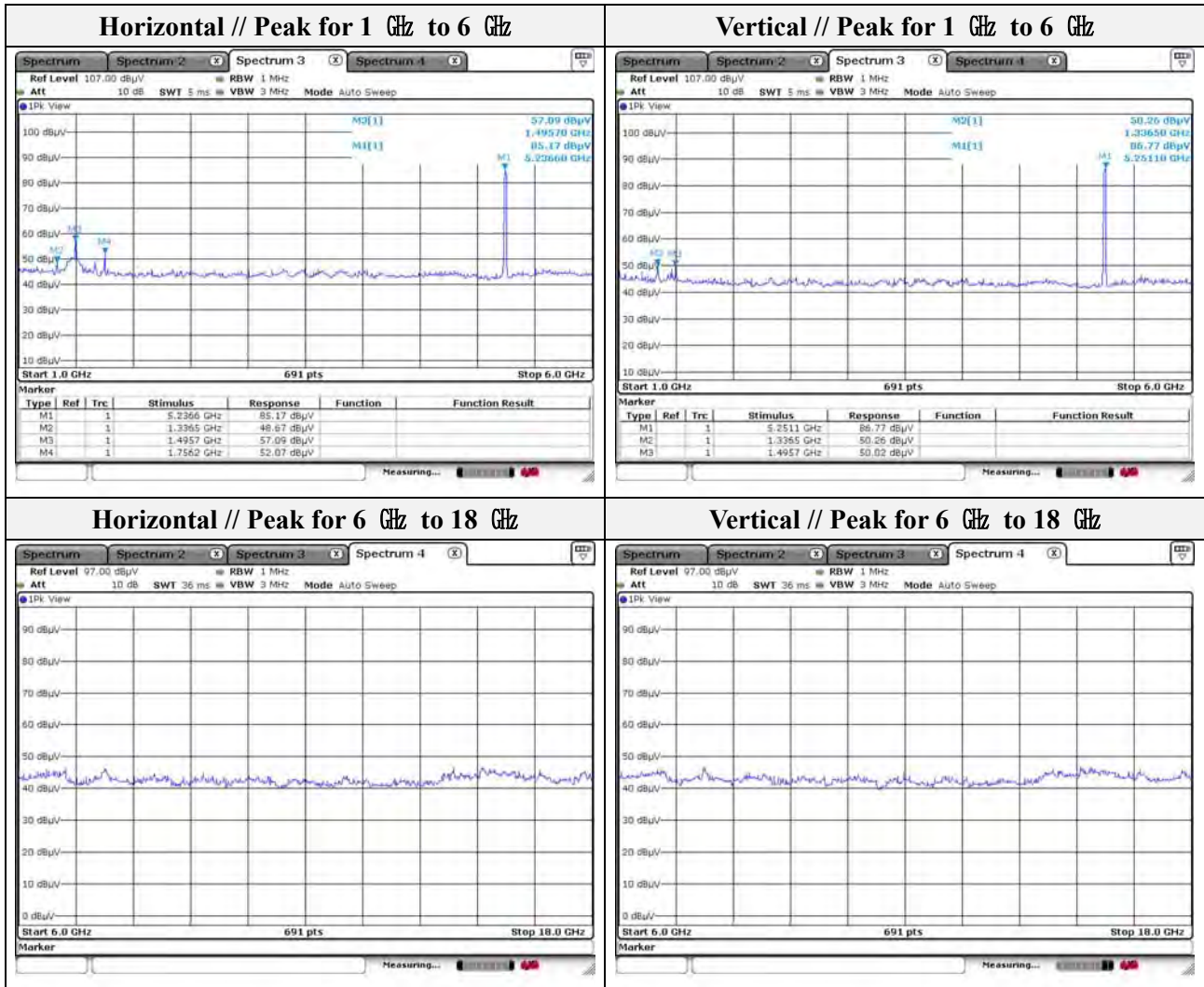
Test report No.:  
KES-RF-18T0007-R1  
Page (91) of (221)

Mode: UNII-1  
Distance of measurement: 3 meter  
Channel: 48

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.67	Peak	H	-6.98	-	41.69	74.00	32.31
1 495.70	57.09	Peak	H	-6.00	-	51.09	74.00	22.91
1 756.20	52.07	Peak	H	-3.50	-	48.57	74.00	25.43
1 336.50	50.26	Peak	V	-6.98	-	43.28	74.00	30.72
1 495.70	50.02	Peak	V	-6.00	-	44.02	74.00	29.98

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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Test report No.:  
KES-RF-18T0007-R1  
Page (93) of (221)

Mode: UNII-2A

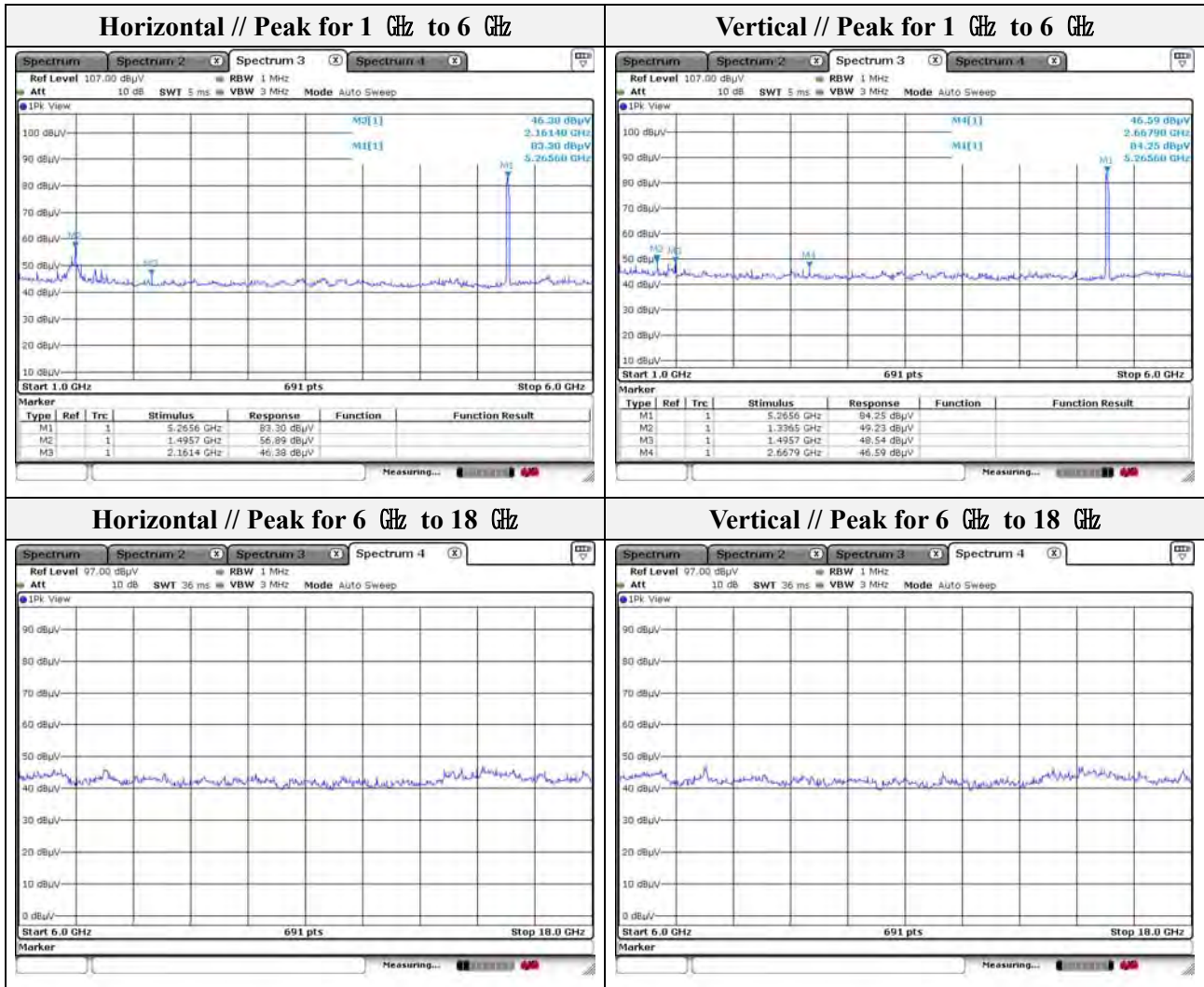
Distance of measurement: 3 meter

Channel: 52

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 495.70	56.89	Peak	H	-6.00	-	50.89	74.00	23.11
2 161.40	46.38	Peak	H	-0.65	-	45.73	74.00	28.27
1 336.50	49.23	Peak	V	-6.98	-	42.25	74.00	31.75
1 495.70	48.54	Peak	V	-6.00	-	42.54	74.00	31.46
2 667.90	46.59	Peak	V	0.60	-	47.19	74.00	26.81

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.





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Test report No.:  
KES-RF-18T0007-R1  
Page (95) of (221)

Mode: UNII-2A

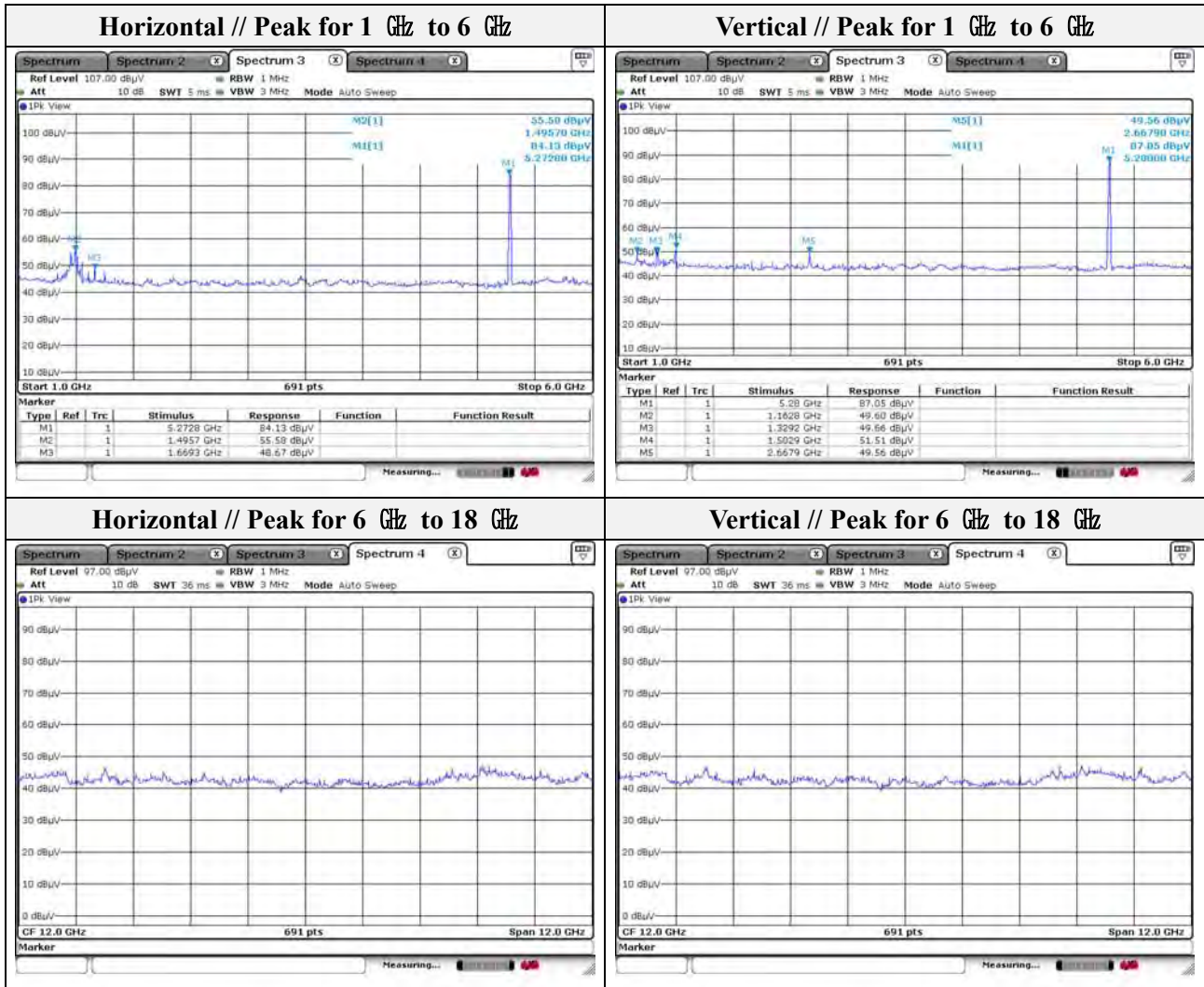
Distance of measurement: 3 meter

Channel: 56

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 495.70	55.58	Peak	H	-6.00	-	49.58	74.00	24.42
1 669.30	48.67	Peak	H	-4.32	-	44.35	74.00	29.65
1 162.80	49.60	Peak	V	-8.10	-	41.50	74.00	32.50
1 329.20	49.66	Peak	V	-7.03	-	42.63	74.00	31.37
1 502.90	51.51	Peak	V	-5.95	-	45.56	74.00	28.44
2 667.90	49.56	Peak	V	0.60	-	50.16	74.00	23.84

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (97) of (221)

Mode: UNII-2A

Distance of measurement: 3 meter

Channel: 64

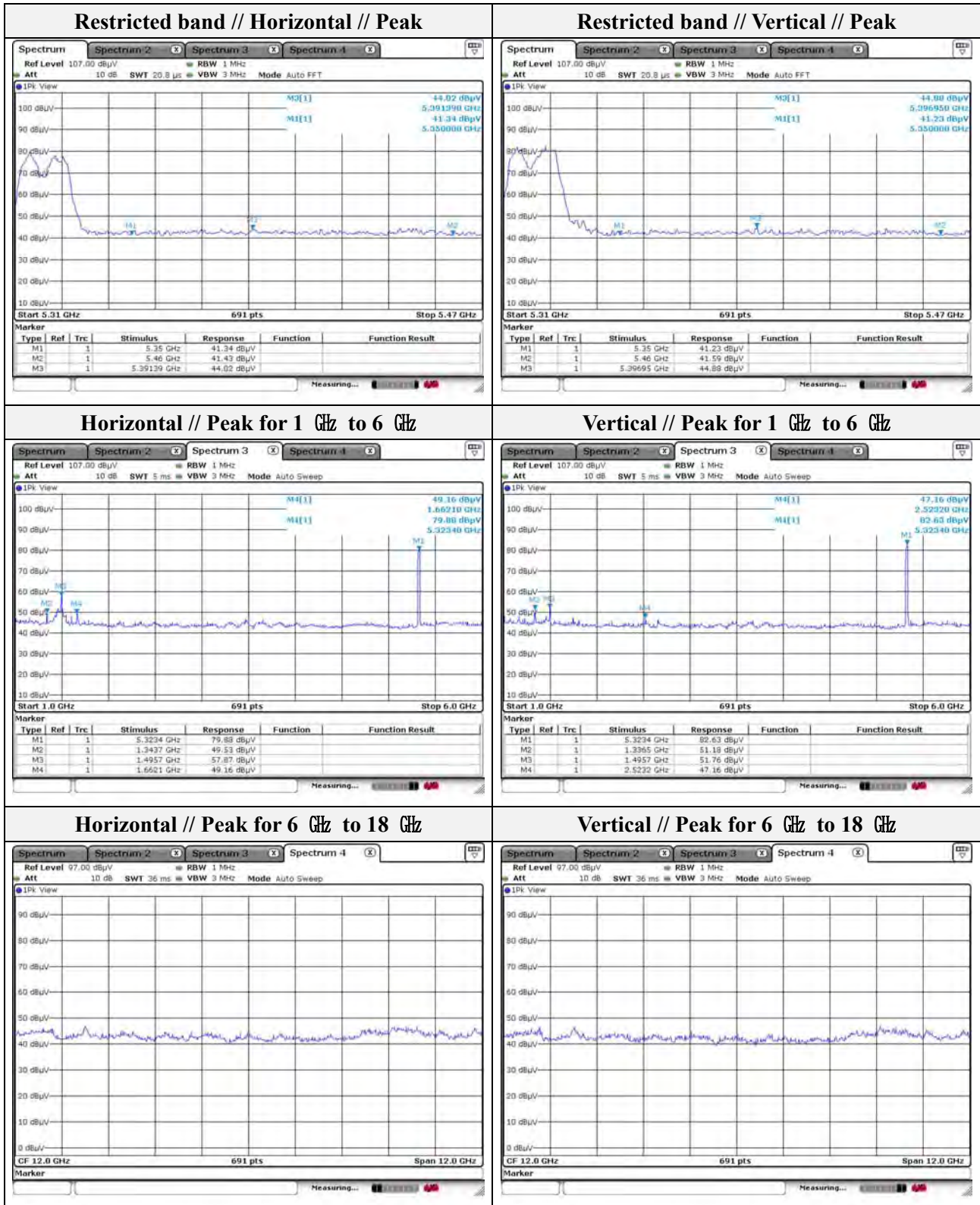
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 343.70	49.53	Peak	H	-6.94	-	42.59	74.00	31.41
1 495.70	57.87	Peak	H	-6.00	-	51.87	74.00	22.13
1 662.10	49.16	Peak	H	-4.39	-	44.77	74.00	29.23
1 336.50	51.18	Peak	V	-6.98	-	44.20	74.00	29.80
1 495.70	51.76	Peak	V	-6.00	-	45.76	74.00	28.24
2 523.20	47.16	Peak	V	0.07	-	47.23	74.00	26.77

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 391.39	44.02	Peak	H	9.01	-	53.03	74.00	20.97
5 407.37	44.88	Peak	V	9.02	-	53.90	74.00	20.10

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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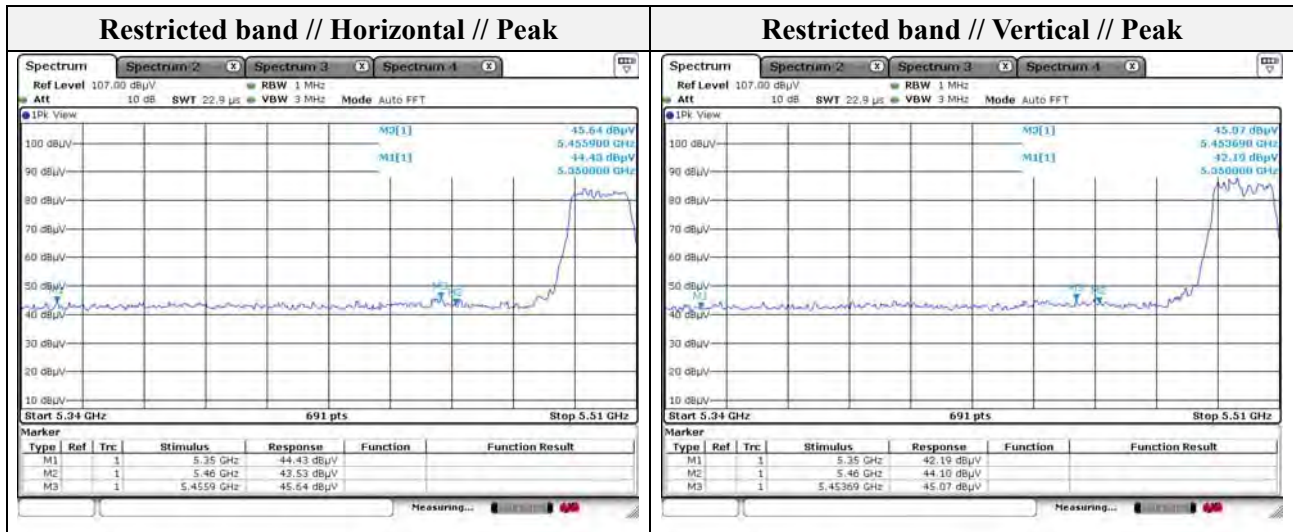
Mode: UNII-2C  
 Distance of measurement: 3 meter  
 Channel: 100

**- Spurious**

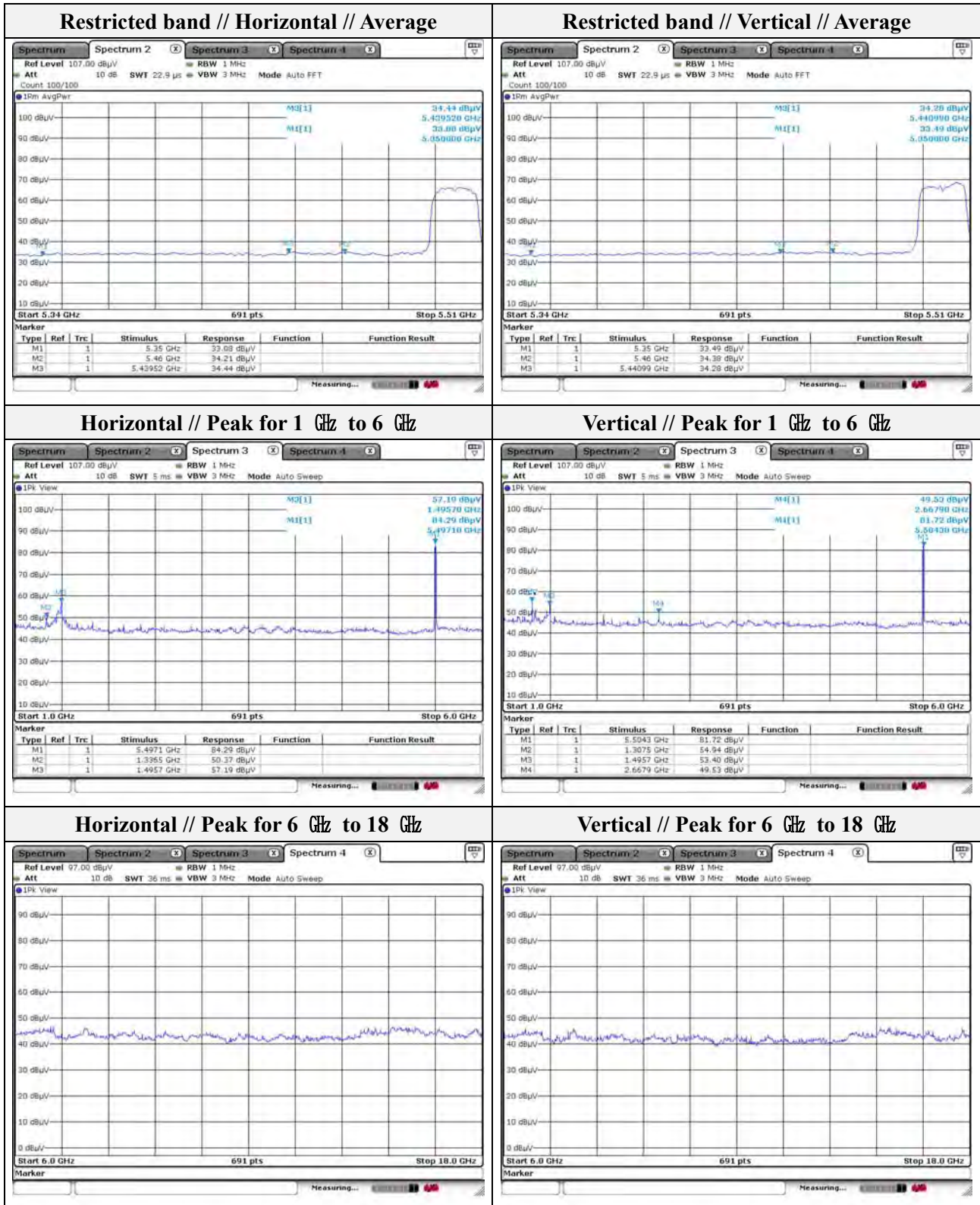
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	50.37	Peak	H	-6.98	-	43.39	74.00	30.61
1 495.70	57.19	Peak	H	-6.00	-	51.19	74.00	22.81
1 307.50	54.94	Peak	V	-7.17	-	47.77	74.00	26.23
1 495.70	53.40	Peak	V	-6.00	-	47.40	74.00	26.60
2 667.90	49.53	Peak	V	0.60	-	50.13	74.00	23.87

**- Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 455.90	45.64	Peak	H	9.08	-	54.72	74.00	19.28
5 439.52	34.44	Avg	H	9.06	0.92	44.42	54.00	9.58
5 453.69	45.07	Peak	V	9.08	-	54.15	74.00	19.85
5 460.00	34.38	Avg	V	-9.08	0.92	44.38	54.00	9.62



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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (101) of (221)

Mode: UNII-2C

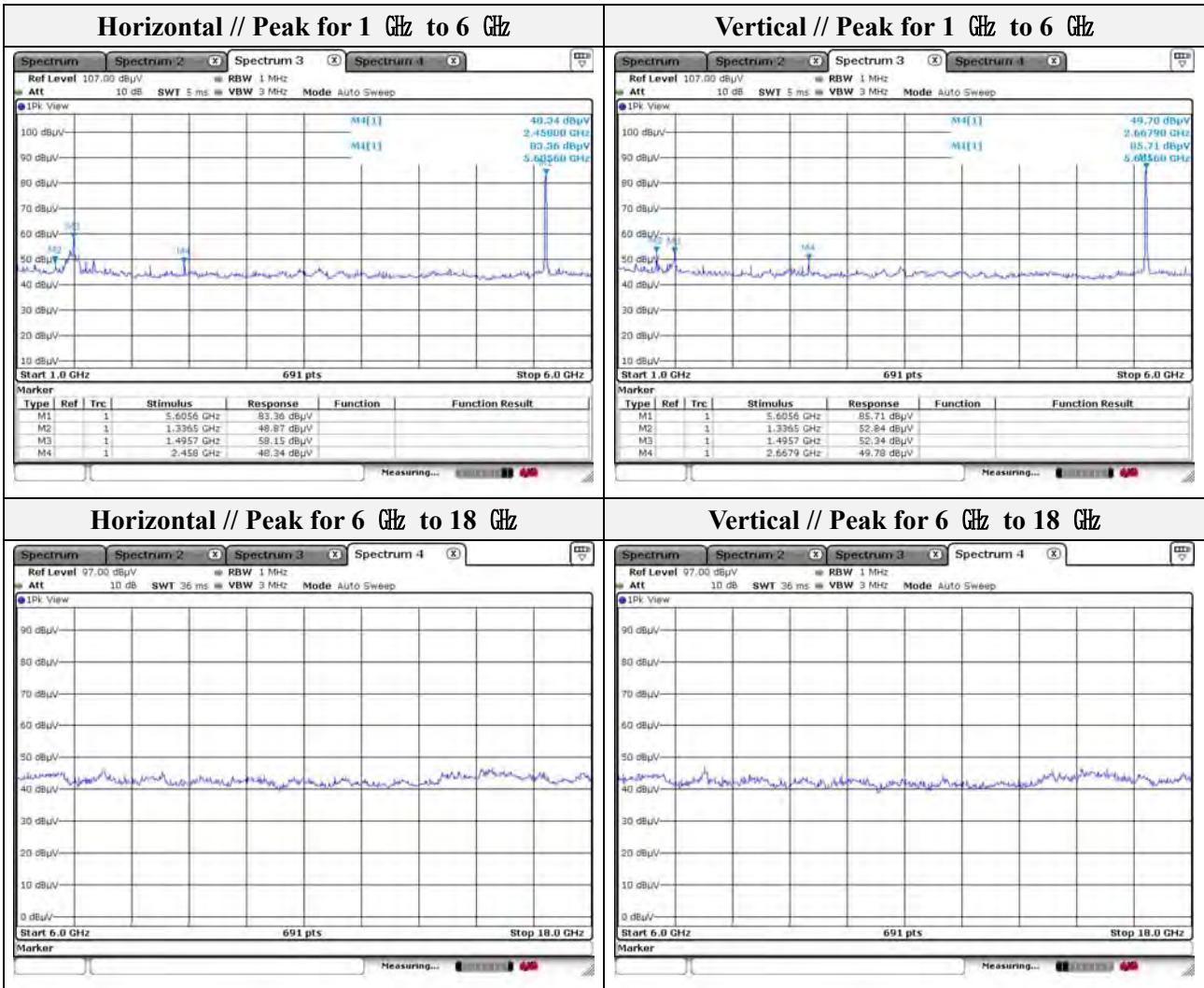
Distance of measurement: 3 meter

Channel: 120

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.87	Peak	H	-6.98	-	41.89	74.00	32.11
1 495.70	58.15	Peak	H	-6.00	-	52.15	74.00	21.85
2 458.00	48.34	Peak	H	-0.09	-	48.25	74.00	25.75
1 336.50	52.84	Peak	V	-6.98	-	45.86	74.00	28.14
1 495.70	52.34	Peak	V	-6.00	-	46.34	74.00	27.66
2 667.90	49.78	Peak	V	0.60	-	50.38	74.00	23.62

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: UNII-2C

Distance of measurement: 3 meter

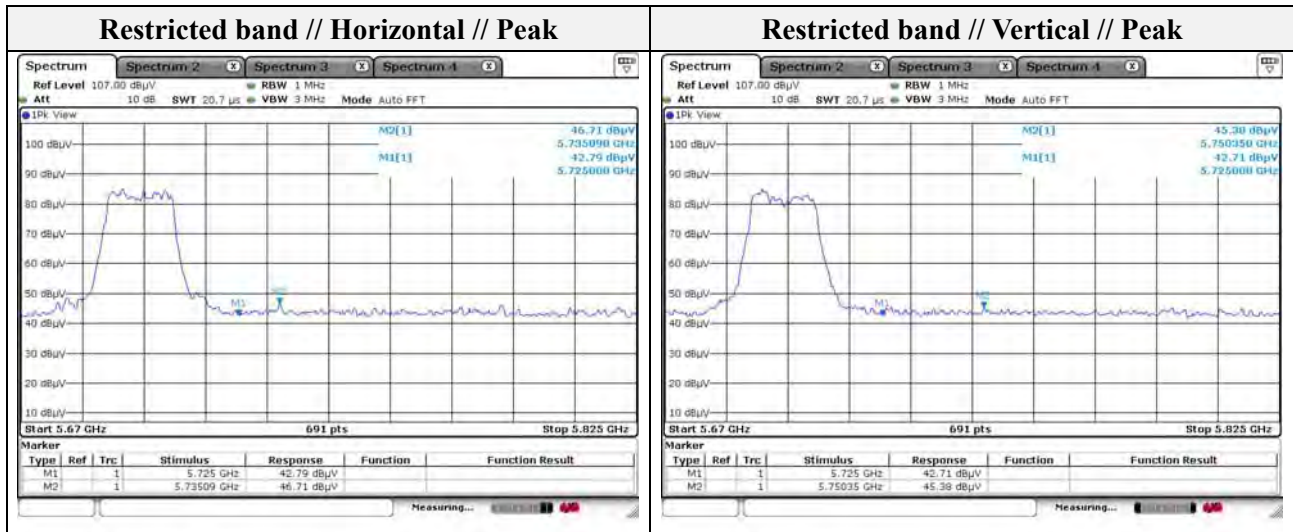
Channel: 140

**- Spurious**

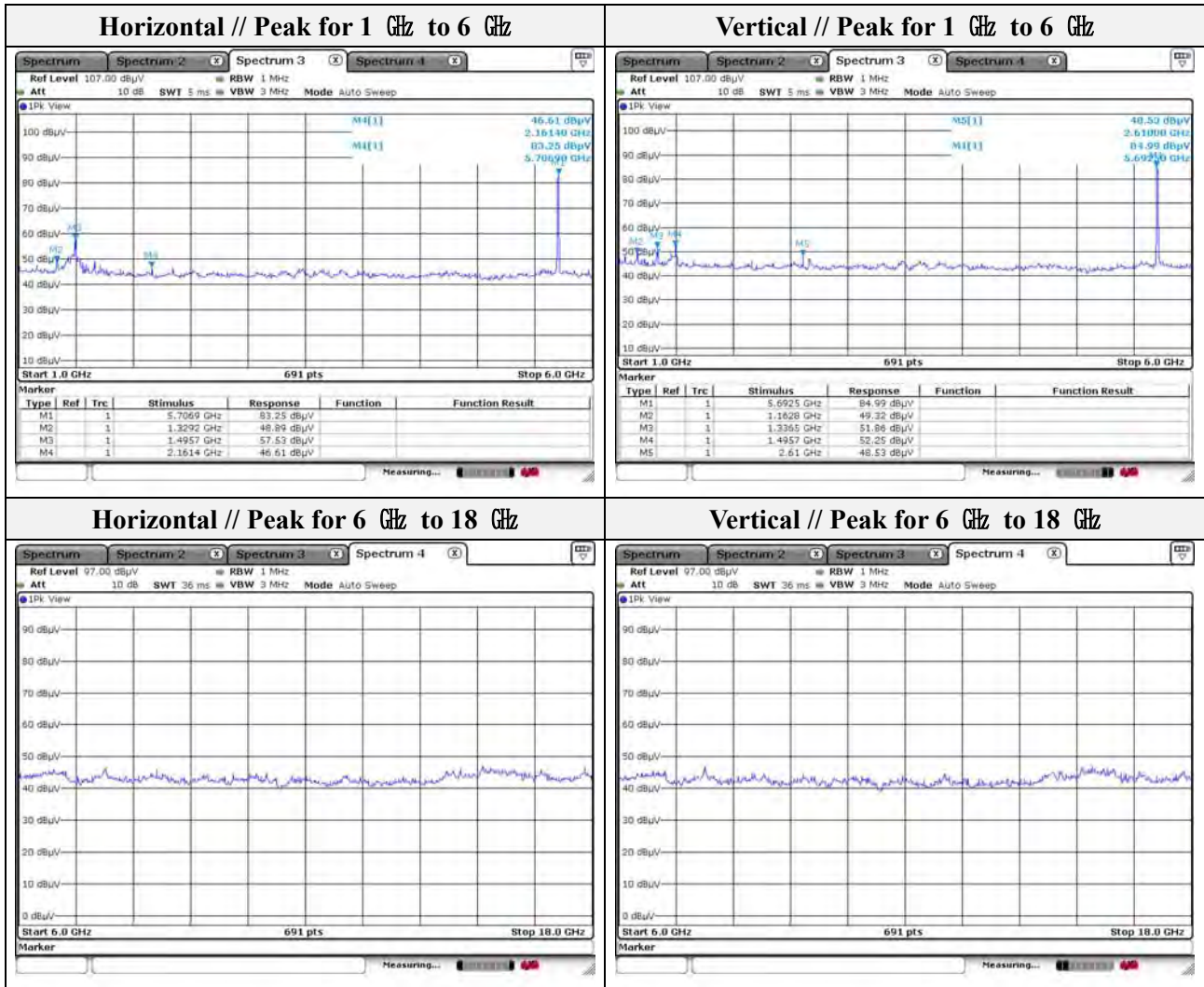
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 329.20	48.89	Peak	H	-7.03	-	41.86	74.00	32.14
1 495.70	57.53	Peak	H	-6.00	-	51.53	74.00	22.47
2 161.40	46.61	Peak	H	-0.65	-	45.96	74.00	28.04
1 162.80	49.32	Peak	V	-8.10	-	41.22	74.00	32.78
1 336.50	51.86	Peak	V	-6.98	-	44.88	74.00	29.12
1 495.70	52.25	Peak	V	-6.00	-	46.25	74.00	27.75
2 610.00	48.53	Peak	V	0.38	-	48.91	74.00	25.09

**- Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 735.09	46.71	Peak	H	10.96	-	57.67	68.20	10.53
5 750.35	45.38	Peak	V	11.09	-	56.47	68.20	11.73



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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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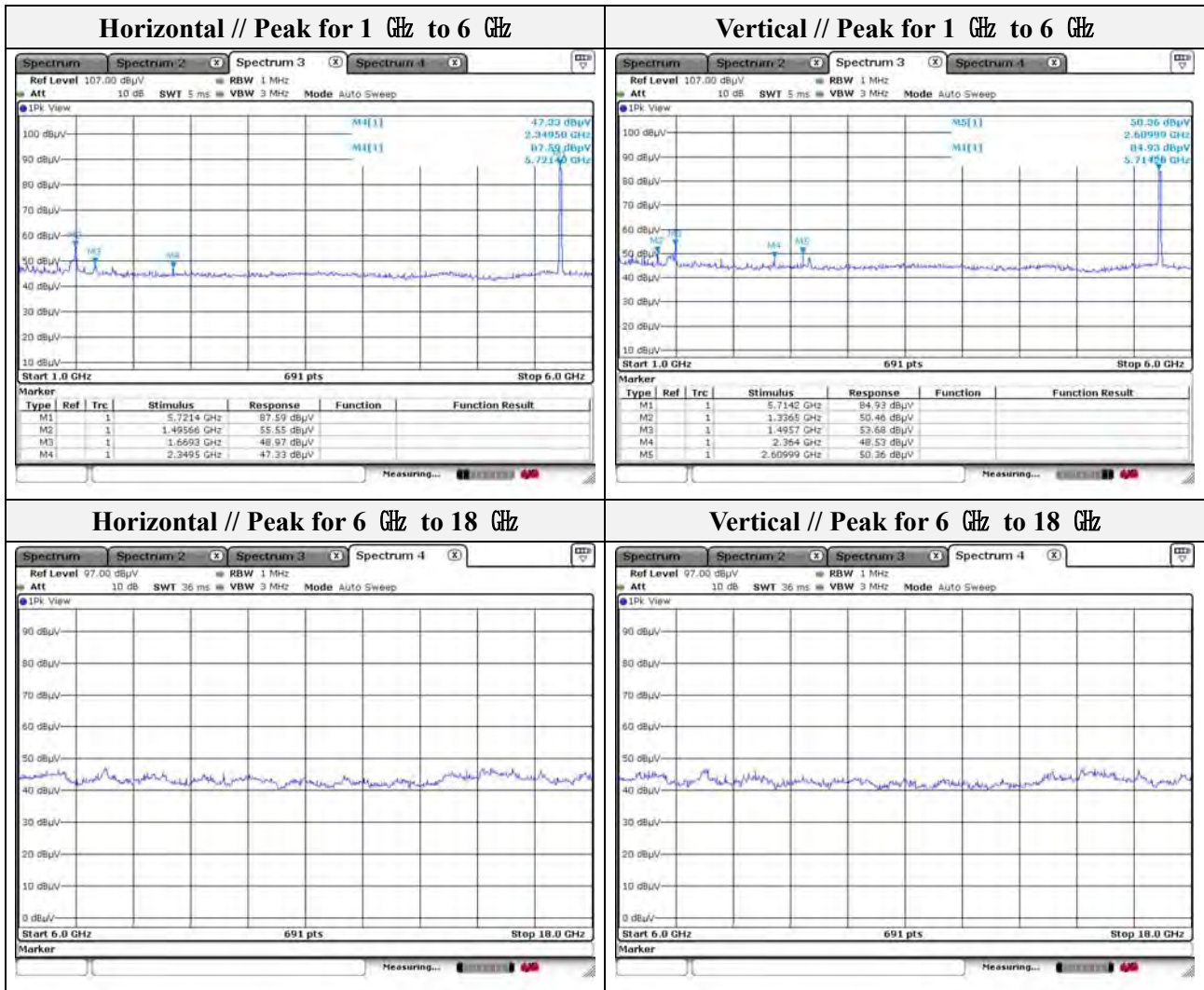
Test report No.:  
KES-RF-18T0007-R1  
Page (105) of (221)

Mode: UNII-2C  
Distance of measurement: 3 meter  
Channel: 144

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 495.66	55.55	Peak	H	-6.00	-	49.55	74.00	24.45
1 669.30	48.97	Peak	H	-4.32	-	44.65	74.00	29.35
2 349.50	47.33	Peak	H	-0.30	-	47.03	74.00	26.97
1 366.50	50.46	Peak	V	-6.79	-	43.67	74.00	30.33
1 495.70	53.68	Peak	V	-6.00	-	47.68	74.00	26.32
2 364.00	48.53	Peak	V	-0.27	-	48.26	74.00	25.74
2 609.99	50.36	Peak	V	0.38	-	50.74	74.00	23.26

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (107) of (221)

Mode: UNII-3

Distance of measurement: 3 meter

Channel: 149

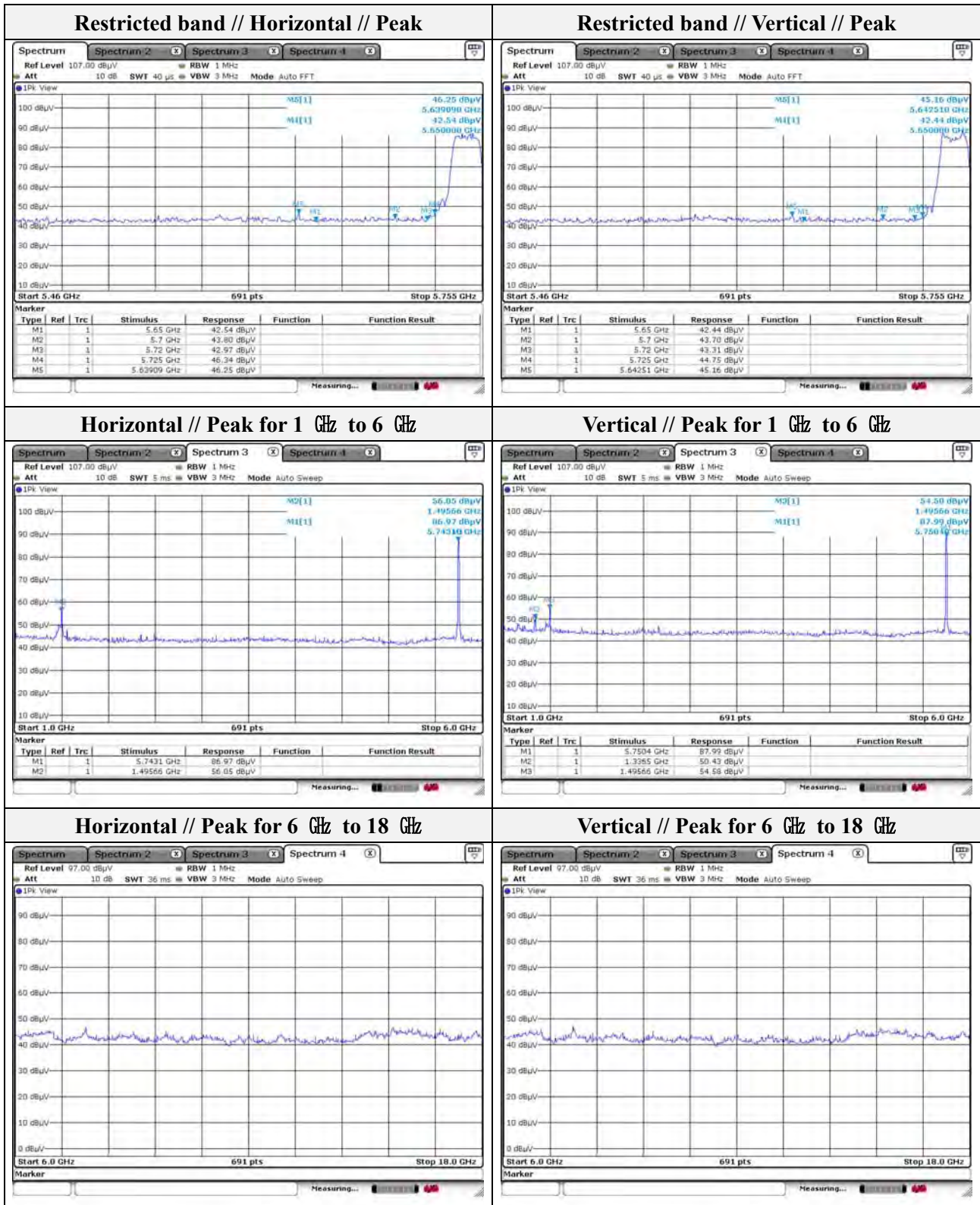
- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 495.66	56.05	Peak	H	-6.00	-	50.05	74.00	23.95
1 336.50	50.343	Peak	V	-6.98	-	43.45	74.00	30.55
1 495.66	54.58	Peak	V	-6.00	-	48.58	74.00	25.42

- **Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 725.00	46.34	Peak	H	10.87	-	57.21	122.20	64.99
5 639.09	46.25	Peak	H	10.16	-	56.41	68.20	11.79
5 725.00	44.75	Peak	V	10.87	-	55.62	122.20	66.58
5 642.51	45.16	Peak	V	10.18	-	55.34	68.20	12.86

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Note.

1. No spurious emission were detected above 6 GHz.

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KES-RF-18T0007-R1  
Page (109) of (221)

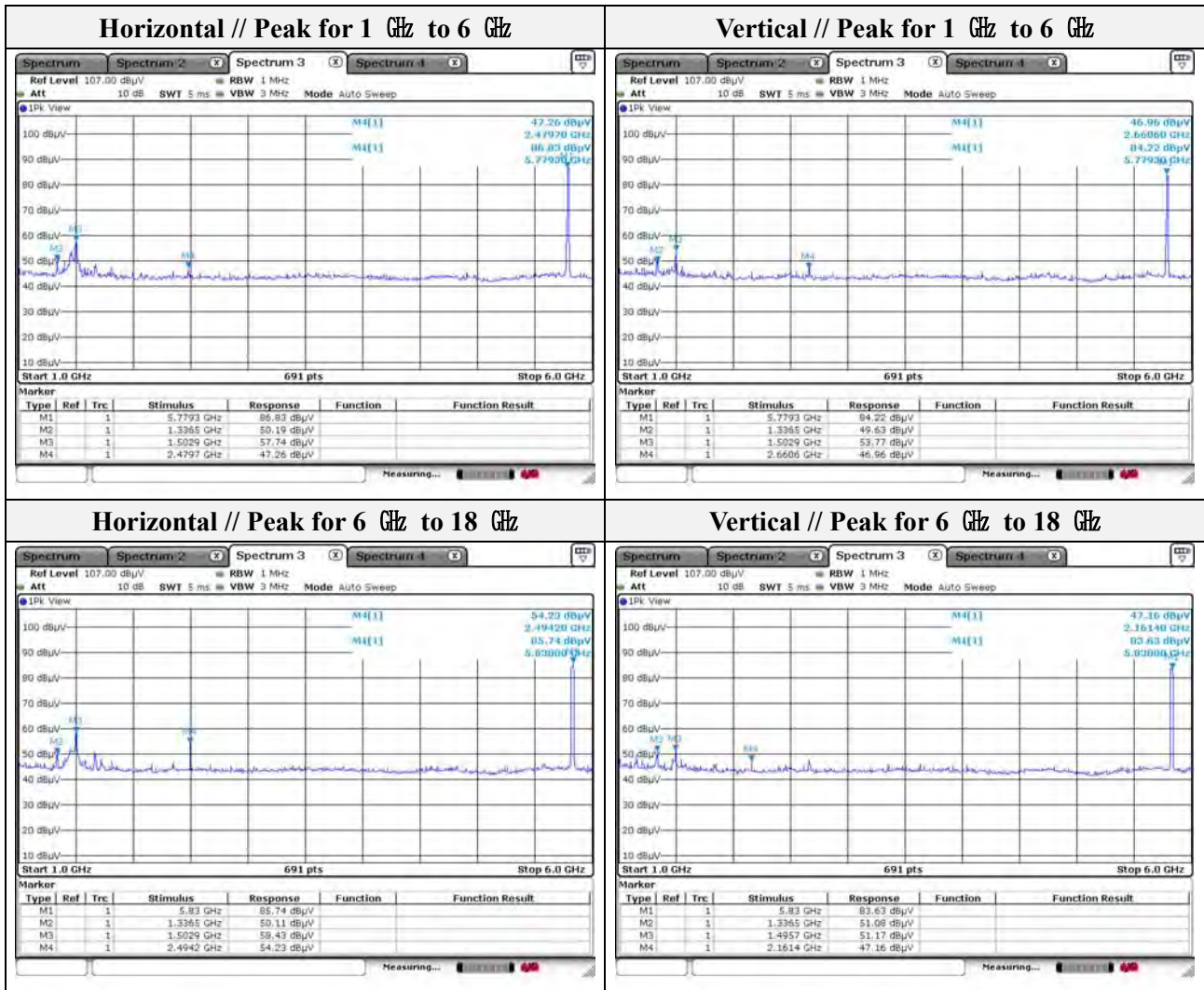
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-3  
Distance of measurement: 3 meter  
Channel: 157

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	50.19	Peak	H	-6.98	-	43.21	74.00	30.79
1 502.90	57.74	Peak	H	-5.95	-	51.79	74.00	22.21
2 479.70	47.26	Peak	H	-0.05	-	47.21	74.00	26.79
1 336.50	49.63	Peak	V	-6.98	-	42.65	74.00	31.35
1 502.90	53.77	Peak	V	-5.95	-	47.82	74.00	26.18
2 660.60	46.96	Peak	V	0.57	-	47.53	74.00	26.47

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (111) of (221)

Mode: UNII-3  
Distance of measurement: 3 meter  
Channel: 165

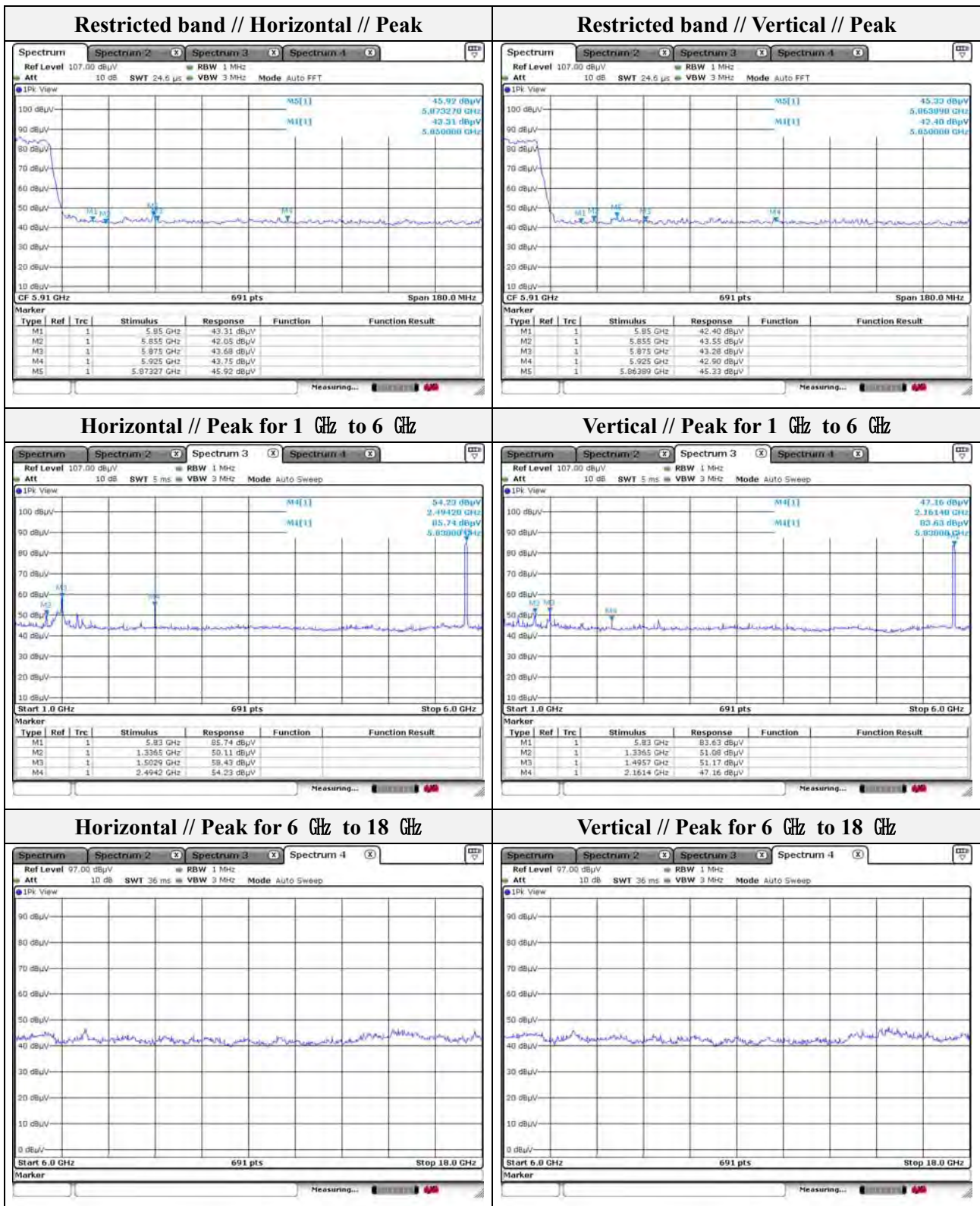
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	50.11	Peak	H	-6.98	-	43.13	74.00	30.87
1 502.90	58.43	Peak	H	-5.95	-	52.48	74.00	21.52
2 494.20	54.23	Peak	H	-0.03	-	54.20	74.00	19.80
1 336.50	51.08	Peak	V	-6.98	-	44.10	74.00	29.90
1 495.70	51.17	Peak	V	-6.00	-	45.17	74.00	28.83
2 161.40	47.16	Peak	V	-0.65	-	46.51	74.00	27.49

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 850.00	43.31	Peak	H	11.78	-	55.09	122.20	67.11
5 873.27	45.92	Peak	H	11.90	-	57.82	105.68	47.86
5 850.00	42.40	Peak	V	11.78	-	54.18	122.20	68.02
5 863.89	45.33	Peak	V	11.85	-	57.18	108.34	51.16

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Note.

1. No spurious emission were detected above 6 GHz.

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Test report No.:  
KES-RF-18T0007-R1  
Page (113) of (221)

2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-1(HT20)  
Distance of measurement: 3 meter  
Channel: 36

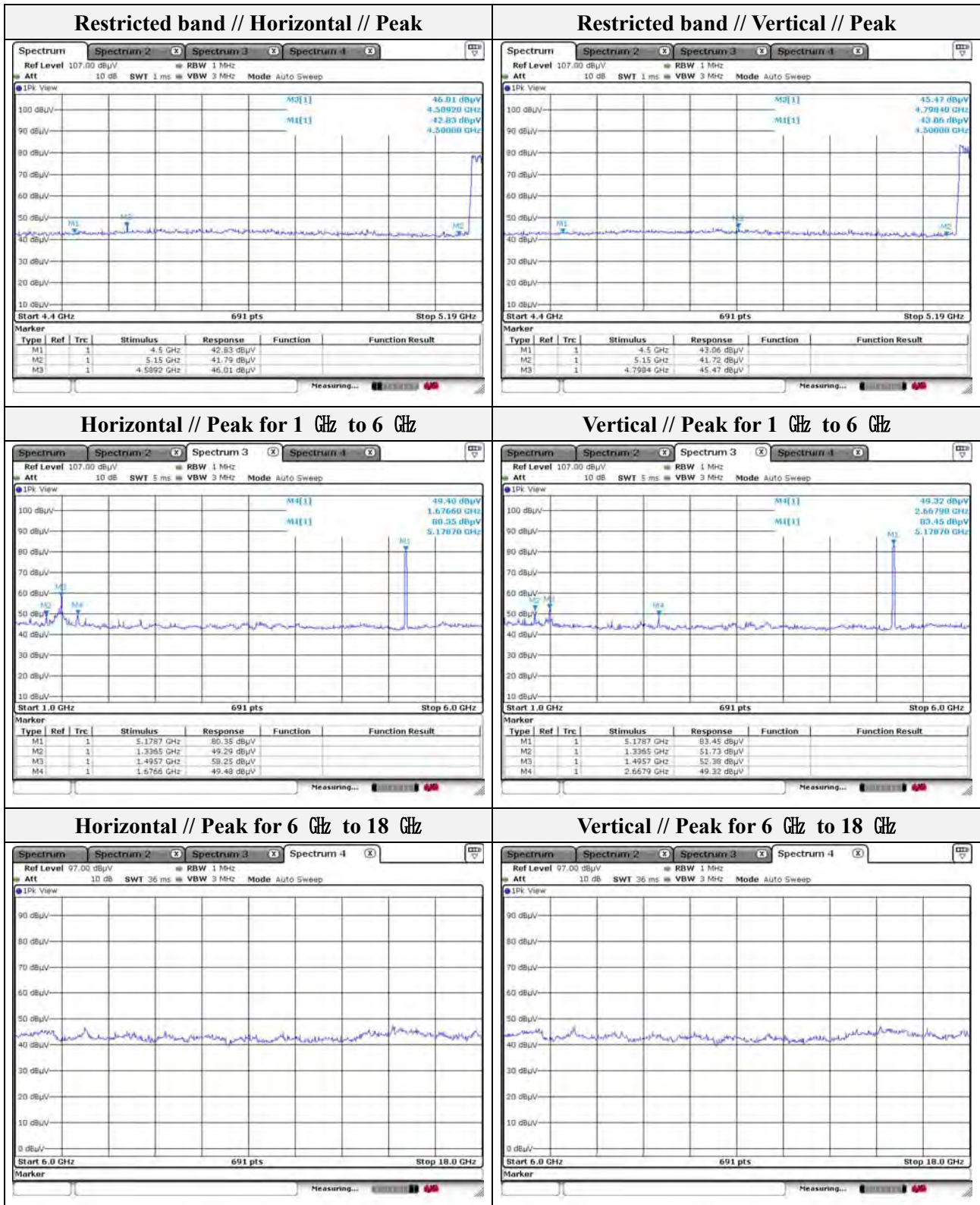
**- Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	49.29	Peak	H	-6.98	-	42.31	74.00	31.69
1 495.70	58.25	Peak	H	-6.00	-	52.25	74.00	21.75
1 676.60	49.48	Peak	H	-4.26	-	45.22	74.00	28.78
1 336.50	51.73	Peak	V	-6.98	-	44.75	74.00	29.25
1 495.70	52.38	Peak	V	-6.00	-	46.38	74.00	27.62
2 667.90	49.32	Peak	V	0.60	-	49.92	74.00	24.08

**- Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4 589.20	46.01	Peak	H	5.81	-	51.82	74.00	22.18
4 798.40	45.47	Peak	V	7.54	-	53.01	74.00	20.99

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Note.

1. No spurious emission were detected above 6 GHz.

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KES-RF-18T0007-R1  
Page (115) of (221)

2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-1(HT20)

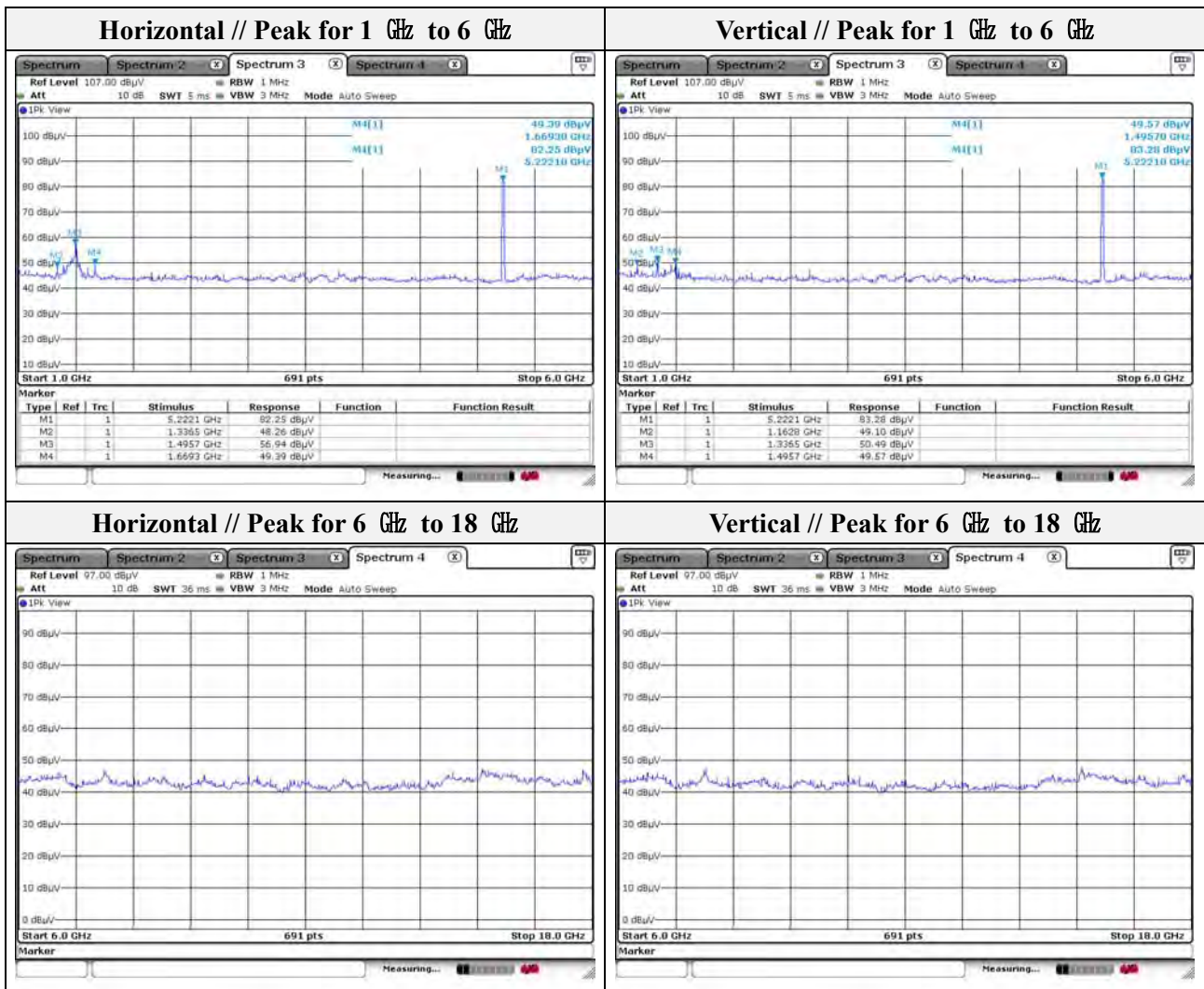
Distance of measurement: 3 meter

Channel: 44

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.26	Peak	H	-6.98	-	41.28	74.00	32.72
1 495.70	56.94	Peak	H	-6.00	-	50.94	74.00	23.06
1 669.30	49.39	Peak	H	-4.32	-	45.07	74.00	28.93
1 162.80	49.10	Peak	V	-8.10	-	41.00	74.00	33.00
1 336.50	50.49	Peak	V	-6.98	-	43.51	74.00	30.49
1 495.70	49.57	Peak	V	-6.00	-	43.57	74.00	30.43

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Note.

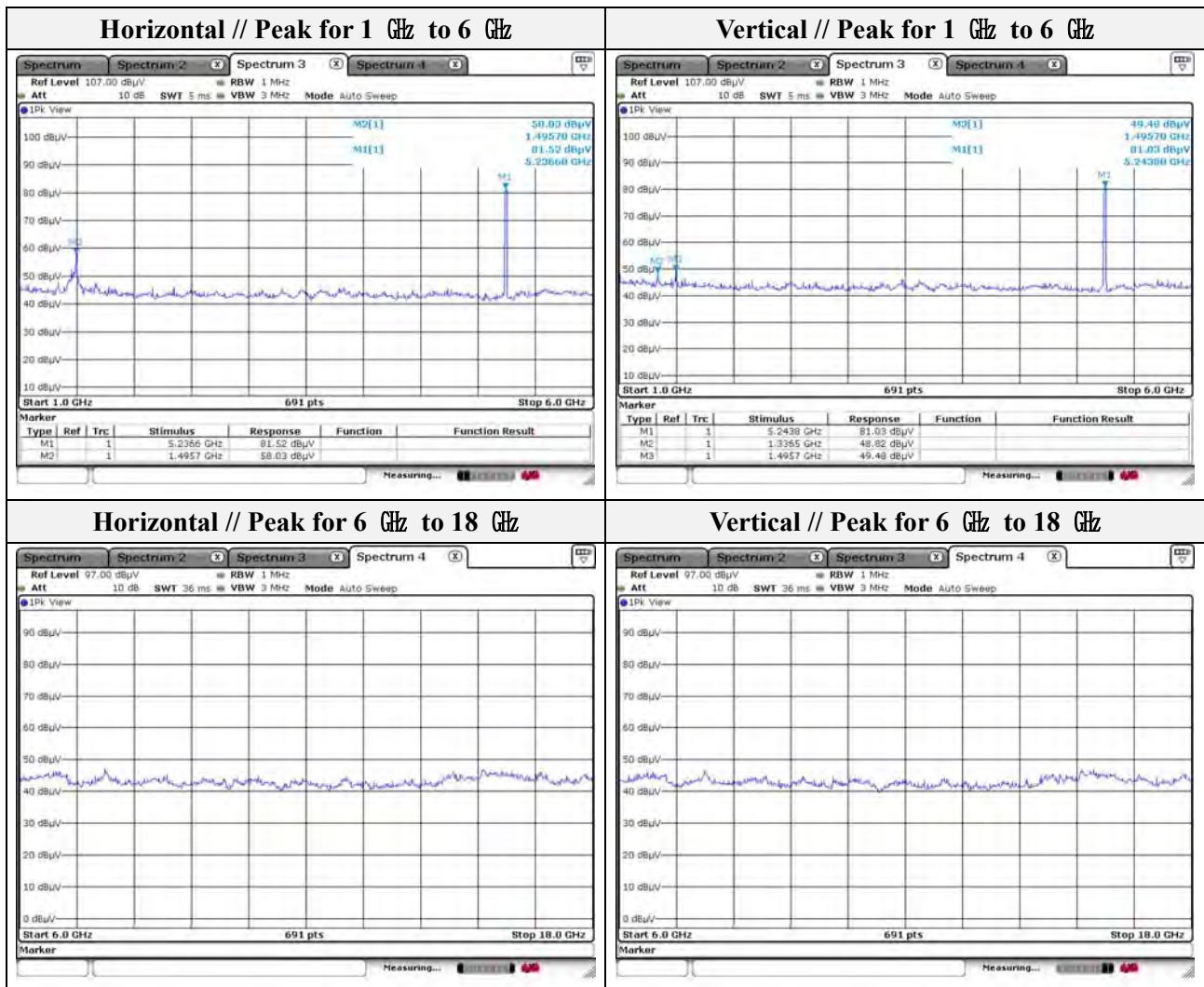
1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-1(HT20)  
 Distance of measurement: 3 meter  
 Channel: 48

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 495.70	58.03	Peak	H	-6.00	-	52.03	74.00	21.97
1 336.50	48.82	Peak	V	-6.98	-	41.84	74.00	32.16
1 495.70	49.48	Peak	V	-6.00	-	43.48	74.00	30.52



Note.

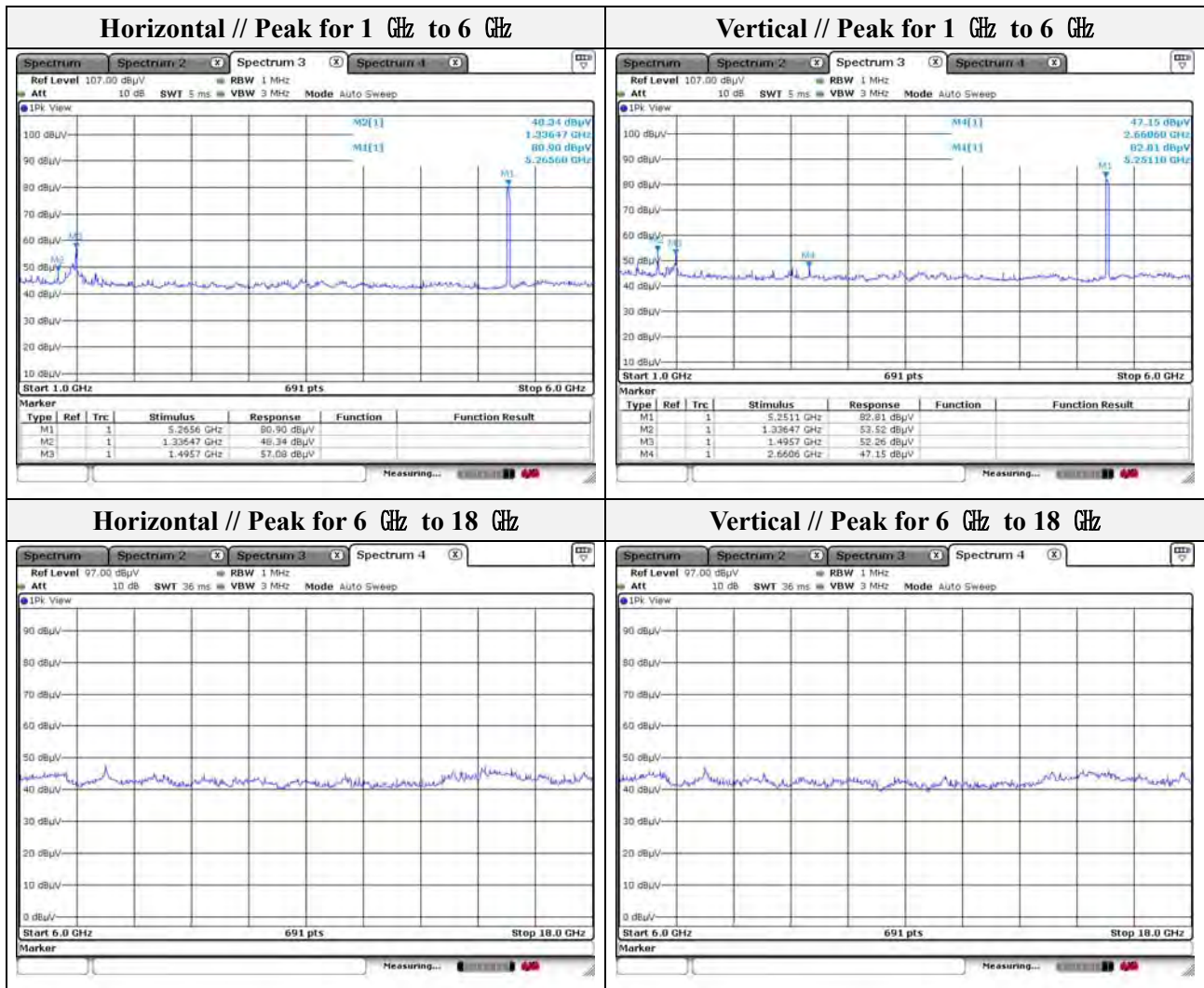
1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(HT20)  
 Distance of measurement: 3 meter  
 Channel: 52

**- Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.47	48.34	Peak	H	-6.98	-	41.36	74.00	32.64
1 495.70	57.08	Peak	H	-6.00	-	51.08	74.00	22.92
1 336.47	53.52	Peak	V	-6.98	-	46.54	74.00	27.46
1 495.70	52.26	Peak	V	-6.00	-	46.26	74.00	27.74
2 660.60	47.15	Peak	V	0.57	-	47.72	74.00	26.28



Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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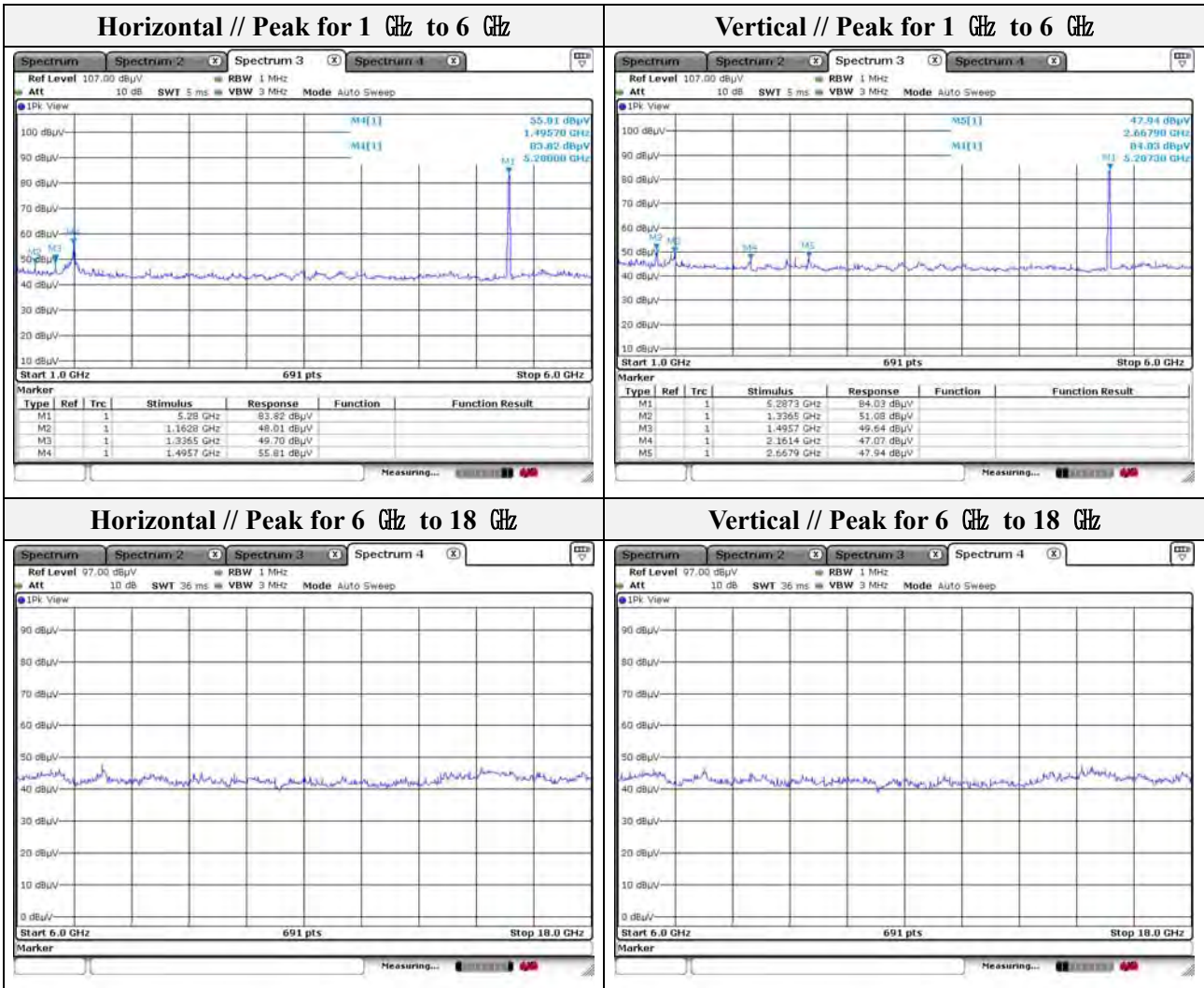
Test report No.:  
KES-RF-18T0007-R1  
Page (119) of (221)

Mode: UNII-2A(HT20)  
Distance of measurement: 3 meter  
Channel: 56

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 162.80	48.01	Peak	H	-8.10	-	39.91	74.00	34.09
1 336.50	49.70	Peak	H	-6.98	-	42.72	74.00	31.28
1 495.70	55.81	Peak	H	-6.00	-	49.81	74.00	24.19
1 336.50	51.08	Peak	V	-6.98	-	44.10	74.00	29.90
1 495.70	49.64	Peak	V	-6.00	-	43.64	74.00	30.36
2 161.40	47.07	Peak	V	-0.65	-	46.42	74.00	27.58
2 667.90	47.94	Peak	V	0.60	-	48.54	74.00	25.46

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (121) of (221)

Mode: UNII-2A(HT20)  
Distance of measurement: 3 meter  
Channel: 64

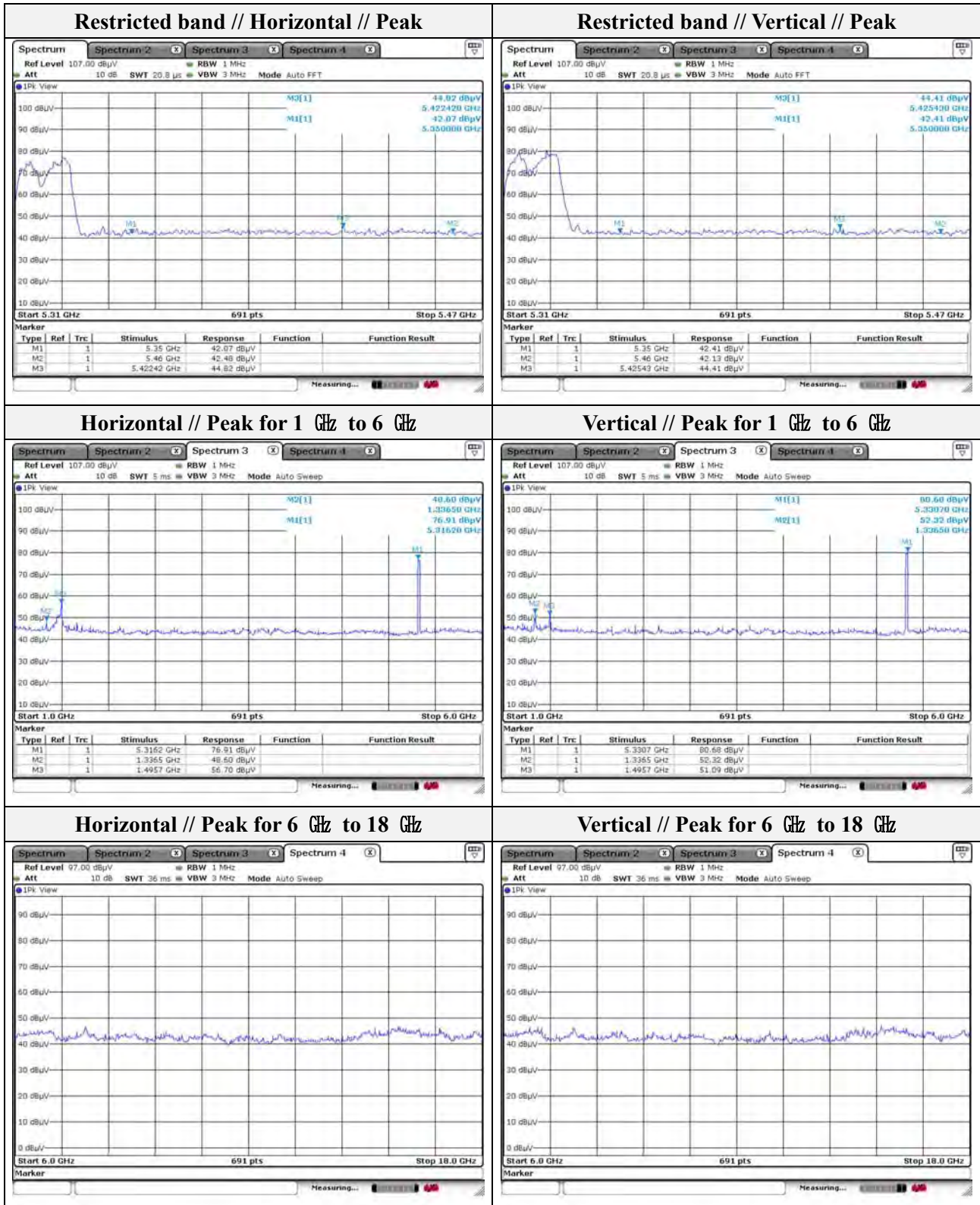
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.60	Peak	H	-6.98	-	41.62	74.00	32.38
1 495.70	56.70	Peak	H	-6.00	-	50.70	74.00	23.30
1 336.50	52.32	Peak	V	-6.98	-	45.34	74.00	28.66
1 495.70	51.09	Peak	V	-6.00	-	45.09	74.00	28.91

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 422.42	44.82	Peak	H	9.04	-	53.86	74.00	20.14
5 425.43	44.41	Peak	V	9.04	-	53.45	74.00	20.55

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (123) of (221)

Mode: UNII-2C(HT20)  
Distance of measurement: 3 meter  
Channel: 100

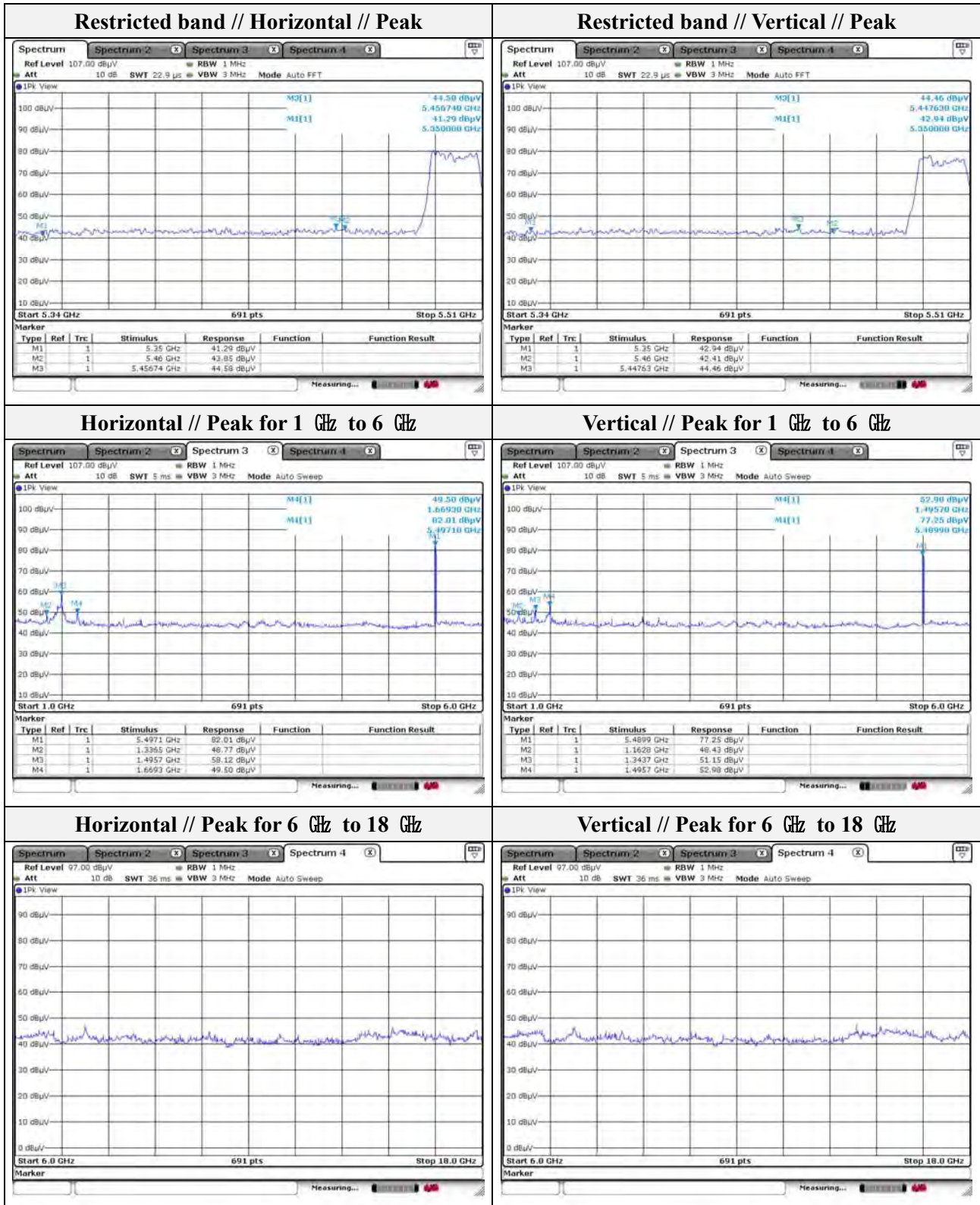
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.77	Peak	H	-6.98	-	41.79	74.00	32.21
1 495.70	58.12	Peak	H	-6.00	-	52.12	74.00	21.88
1 669.30	49.50	Peak	H	-4.32	-	45.18	74.00	28.82
1 162.80	48.43	Peak	V	-8.10	-	40.33	74.00	33.67
1 343.70	51.15	Peak	V	-6.94	-	44.21	74.00	29.79
1 495.70	52.98	Peak	V	-6.00	-	46.98	74.00	27.02

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 456.74	44.58	Peak	H	9.08	-	53.66	74.00	20.34
5 447.63	44.46	Peak	V	9.07	-	53.53	74.00	20.47

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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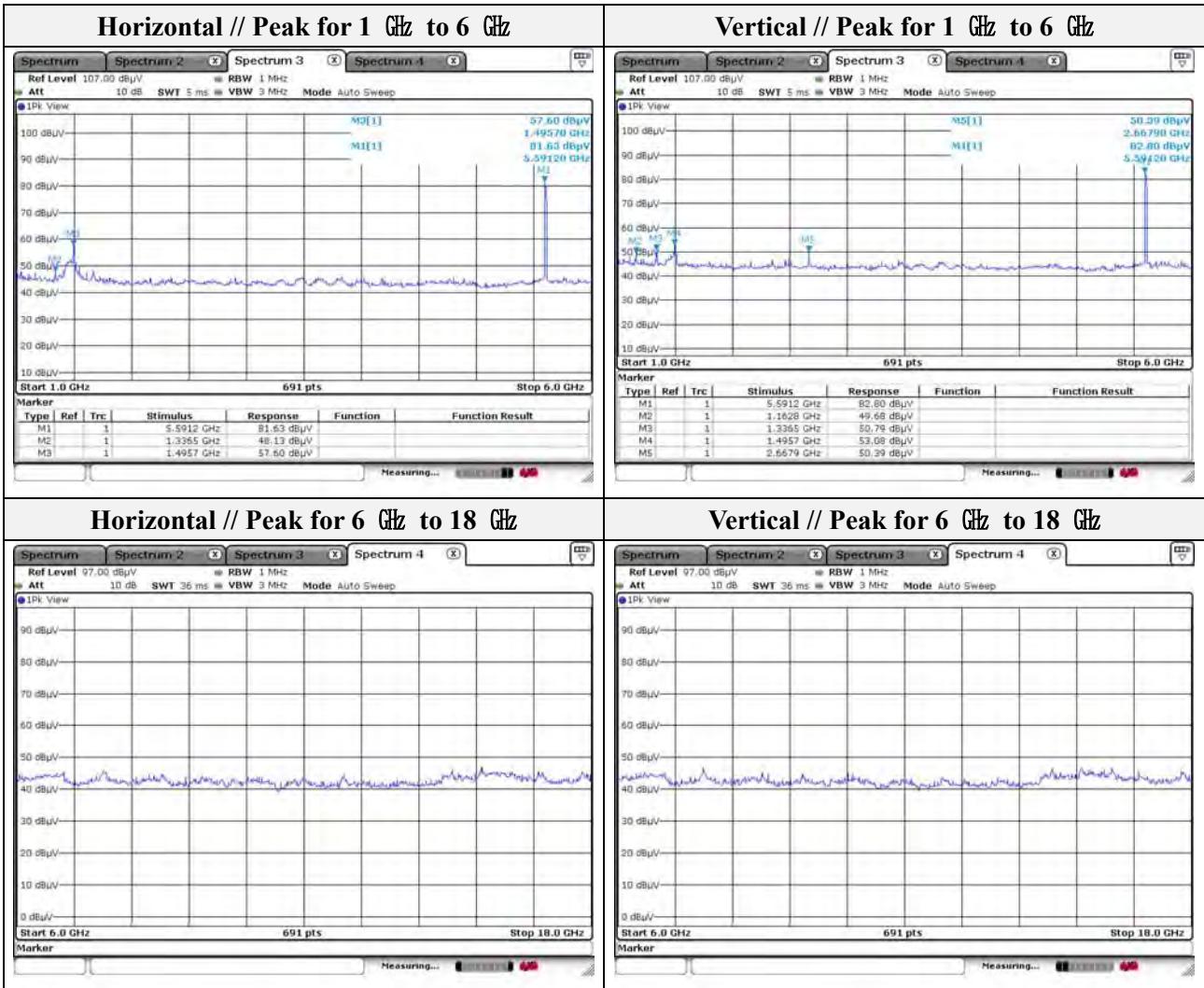
Test report No.:  
KES-RF-18T0007-R1  
Page (125) of (221)

Mode: UNII-2C(HT20)  
Distance of measurement: 3 meter  
Channel: 120

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.13	Peak	H	-6.98	-	41.15	74.00	32.85
1 495.70	57.60	Peak	H	-6.00	-	51.60	74.00	22.40
1 162.80	49.68	Peak	V	-8.10	-	41.58	74.00	32.42
1 336.50	50.79	Peak	V	-6.98	-	43.81	74.00	30.19
1 495.70	53.08	Peak	V	-6.00	-	47.08	74.00	26.92
2 667.90	50.39	Peak	V	0.60	-	50.99	74.00	23.01

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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Test report No.:  
 KES-RF-18T0007-R1  
 Page (127) of (221)

Mode: UNII-2C(HT20)  
 Distance of measurement: 3 meter  
 Channel: 140

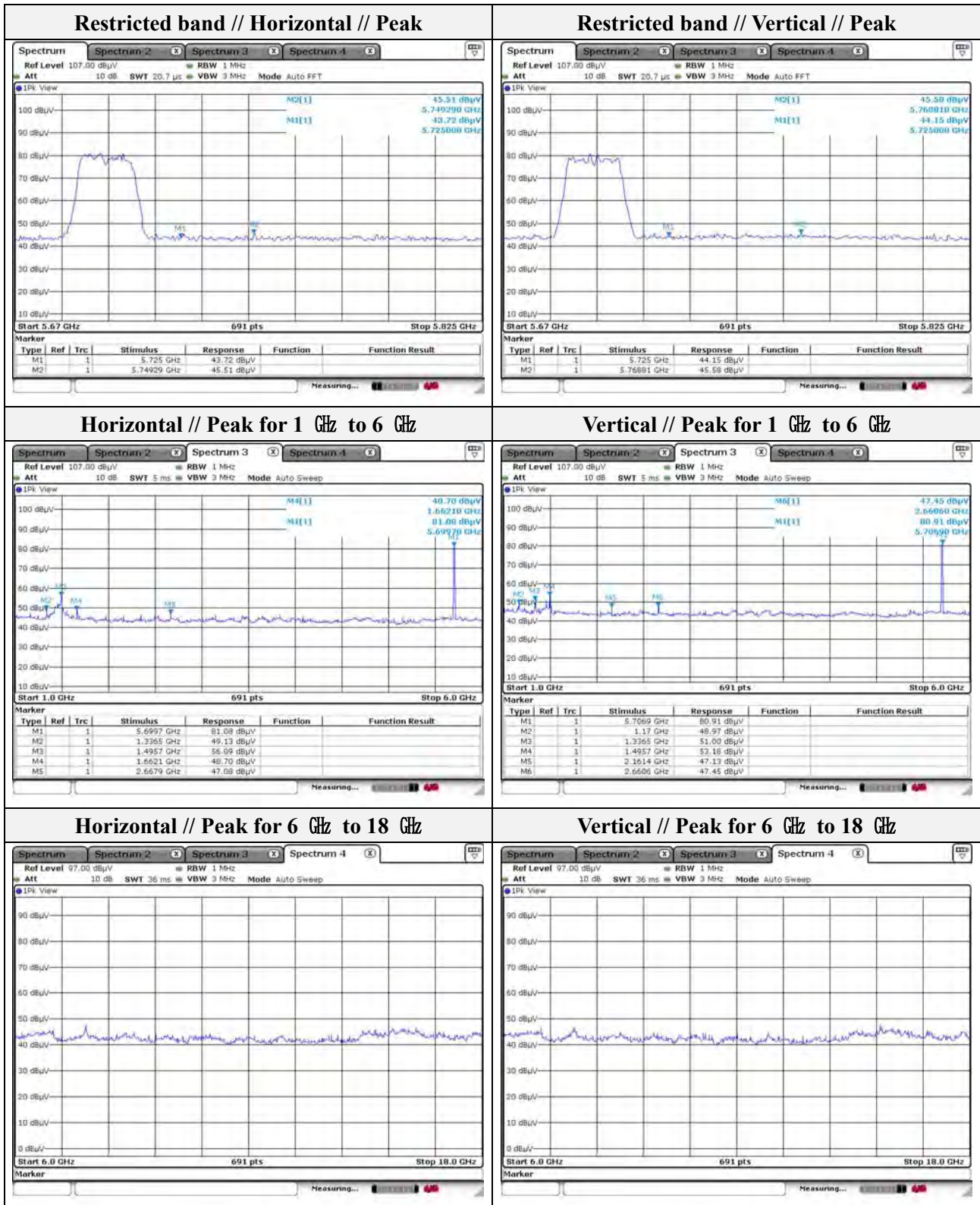
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	49.13	Peak	H	-6.98	-	42.15	74.00	31.85
1 495.70	56.09	Peak	H	-6.00	-	50.09	74.00	23.91
1 662.10	48.70	Peak	H	-4.39	-	44.31	74.00	29.69
2 667.90	47.08	Peak	H	0.60	-	47.68	74.00	26.32
1 170.00	48.97	Peak	V	-8.05	-	40.92	74.00	33.08
1 336.50	51.00	Peak	V	-6.98	-	44.02	74.00	29.98
1 495.70	53.18	Peak	V	-6.00	-	47.18	74.00	26.82
2 161.40	47.13	Peak	V	-0.65	-	46.48	74.00	27.52
2 660.60	47.45	Peak	V	0.57	-	48.02	74.00	25.98

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 749.29	45.51	Peak	H	11.08	-	56.59	68.20	11.61
5 768.81	45.58	Peak	V	11.24	-	56.82	68.20	11.38

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Note.

1. No spurious emission were detected above 6 GHz.

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Test report No.:  
KES-RF-18T0007-R1  
Page (129) of (221)

2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(HT20)

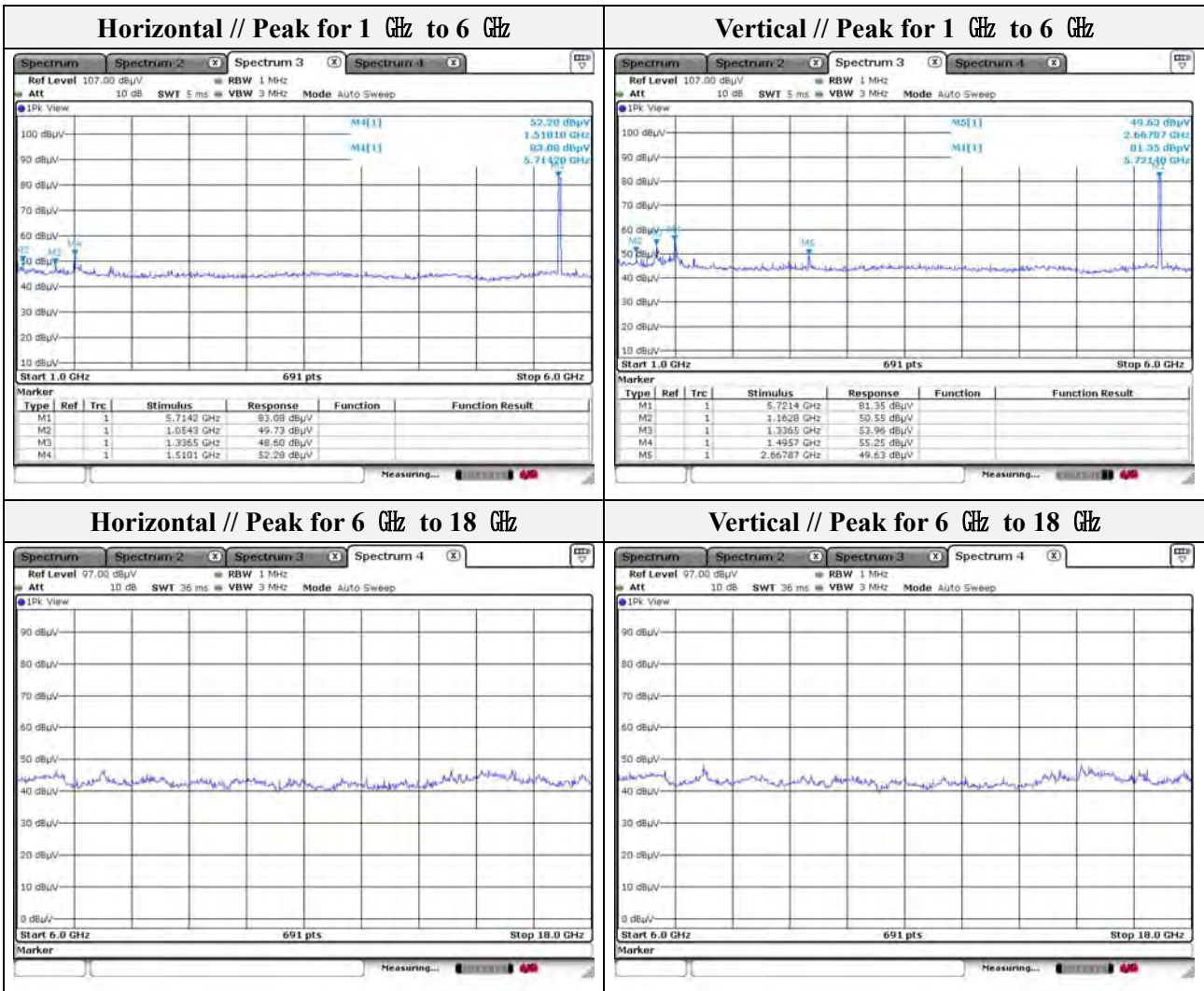
Distance of measurement: 3 meter

Channel: 144

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 054.30	49.73	Peak	H	-8.79	-	40.94	74.00	33.06
1 336.50	48.60	Peak	H	-6.98	-	41.62	74.00	32.38
1 510.10	52.28	Peak	H	-5.88	-	46.40	74.00	27.60
1 162.80	50.55	Peak	V	-8.10	-	42.45	74.00	31.55
1 336.50	53.96	Peak	V	-6.98	-	46.98	74.00	27.02
1 495.70	55.25	Peak	V	-6.00	-	49.25	74.00	24.75
2 667.87	49.63	Peak	V	0.60	-	50.23	74.00	23.77

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (131) of (221)

Mode: UNII-3(HT20)  
Distance of measurement: 3 meter  
Channel: 149

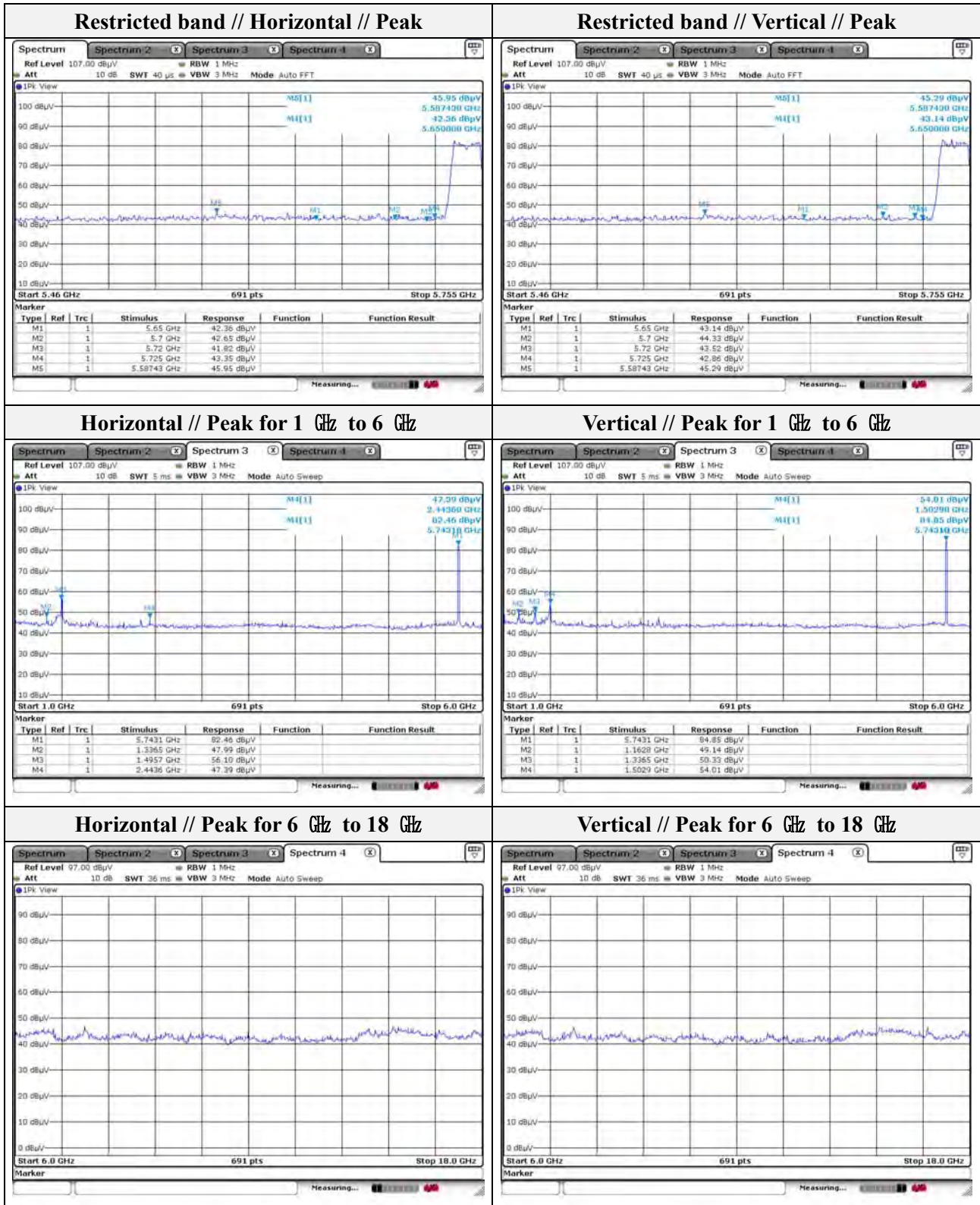
**- Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	47.99	Peak	H	-6.98	-	41.01	74.00	32.99
1 495.70	56.10	Peak	H	-6.00	-	50.10	74.00	23.90
2 443.60	47.39	Peak	H	-0.12	-	47.27	74.00	26.73
1 162.80	49.14	Peak	V	-8.10	-	41.04	74.00	32.96
1 336.50	50.33	Peak	V	-6.9	-	43.35	74.00	30.65
1 502.90	54.01	Peak	V	-5.95	-	48.06	74.00	25.94

**- Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 725.00	43.35	Peak	H	10.87	-	54.22	122.20	67.98
5 587.43	45.95	Peak	H	9.74	-	55.69	68.20	12.51
5 725.00	42.86	Peak	V	10.87	-	53.73	122.20	68.49
5 587.43	45.29	Peak	V	9.74	-	55.03	68.20	13.17

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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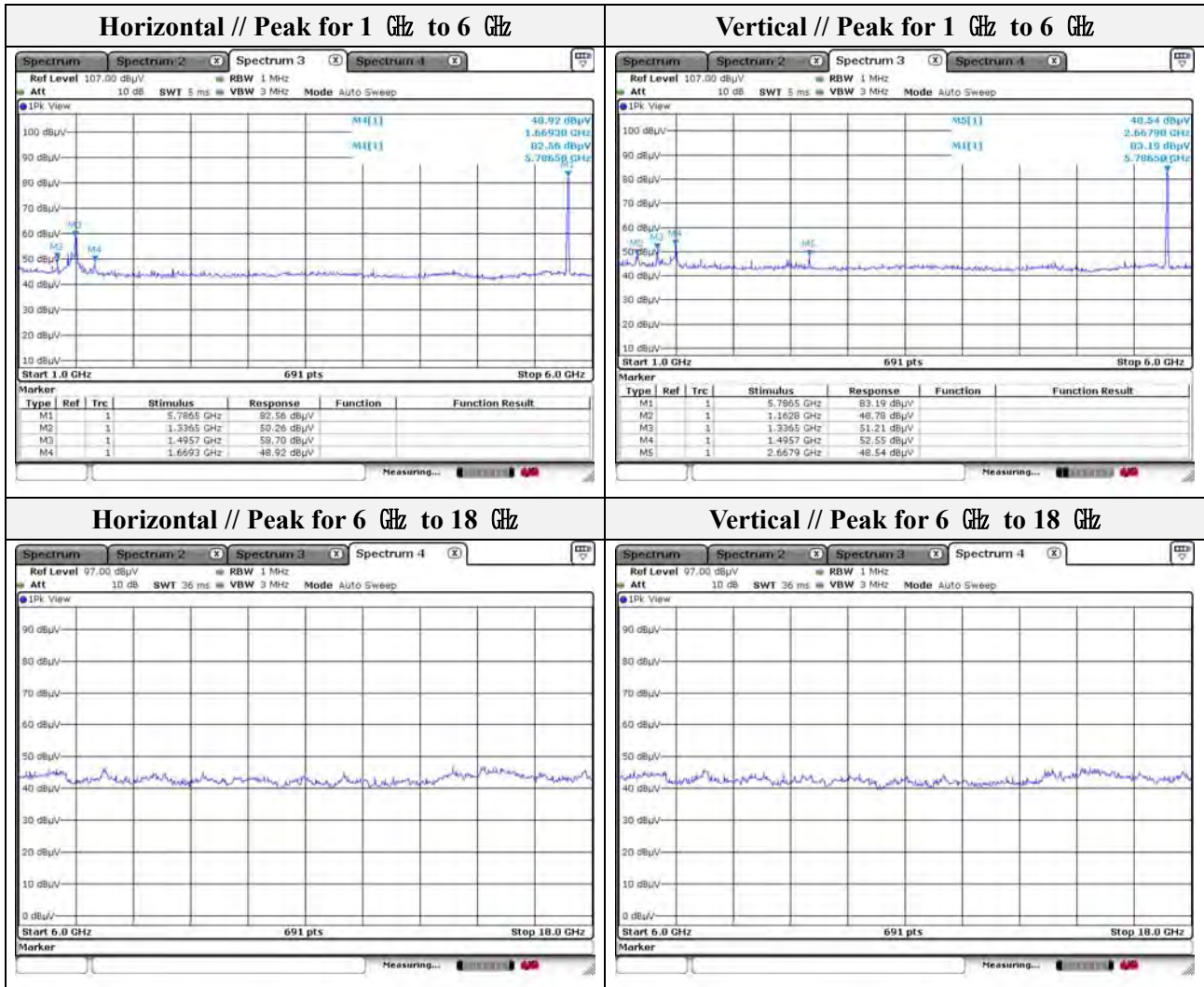
Test report No.:  
KES-RF-18T0007-R1  
Page (133) of (221)

Mode: UNII-3(HT20)  
Distance of measurement: 3 meter  
Channel: 157

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	50.26	Peak	H	-6.98	-	43.28	74.00	30.72
1 495.70	58.70	Peak	H	-6.00	-	52.70	74.00	21.30
1 669.30	48.92	Peak	H	-4.32	-	44.60	74.00	29.40
1 162.80	48.78	Peak	V	-8.10	-	40.68	74.00	33.32
1 336.50	51.21	Peak	V	-6.98	-	44.23	74.00	29.77
1 695.70	52.55	Peak	V	-4.07	-	48.48	74.00	25.52
2 667.90	48.54	Peak	V	0.60	-	49.14	74.00	24.86

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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Test report No.:  
KES-RF-18T0007-R1  
Page (135) of (221)

Mode: UNII-3(HT20)  
Distance of measurement: 3 meter  
Channel: 165

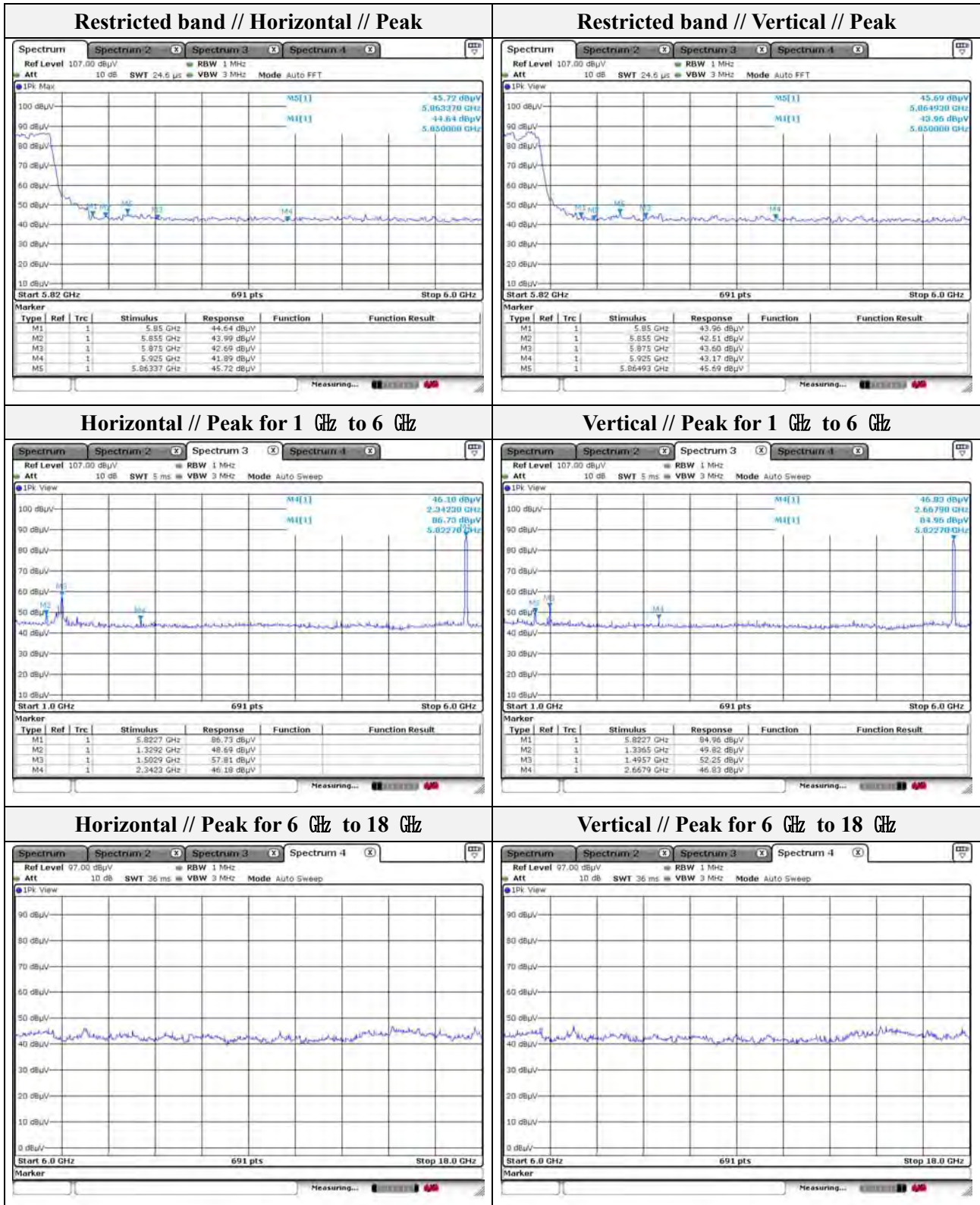
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 329.20	48.69	Peak	H	-7.03	-	41.66	74.00	32.34
1 502.90	57.81	Peak	H	-5.95	-	51.86	74.00	22.14
2 342.30	46.18	Peak	H	-0.31	-	45.87	74.00	28.13
1 336.50	49.82	Peak	V	-6.98	-	42.84	74.00	31.16
1 495.70	52.25	Peak	V	-6.00	-	46.25	74.00	27.75
2 667.90	46.83	Peak	V	0.60	-	47.43	74.00	26.57

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 850.00	44.64	Peak	H	11.78	-	56.42	122.20	68.78
5 863.37	45.72	Peak	H	11.85	-	57.57	108.46	50.89
5 850.00	43.96	Peak	V	11.78	-	55.74	122.20	66.46
5 864.93	45.69	Peak	V	11.86	-	57.55	108.02	50.47

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (137) of (221)

Mode: UNII-1(HT40)  
Distance of measurement: 3 meter  
Channel: 38

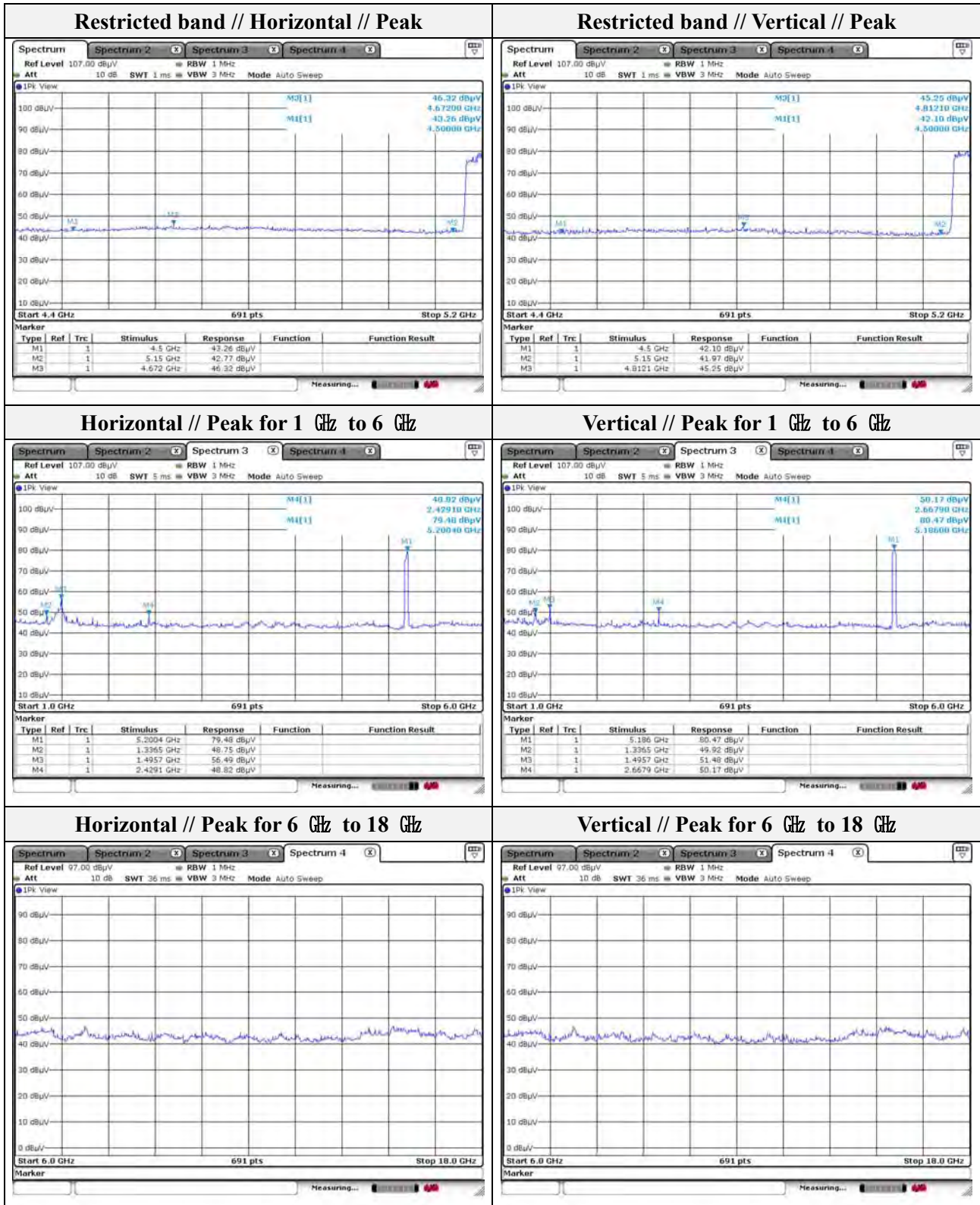
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.75	Peak	H	-6.98	-	41.77	74.00	32.23
1 495.70	56.49	Peak	H	-6.00	-	50.49	74.00	23.51
2 429.10	48.82	Peak	H	-0.15	-	48.67	74.00	25.33
1 336.50	49.92	Peak	V	-6.98	-	42.94	74.00	31.06
1 495.70	51.48	Peak	V	-6.00	-	45.48	74.00	28.52
2 667.90	50.17	Peak	V	0.60	-	50.77	74.00	23.23

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4 672.00	46.32	Peak	H	6.50	-	52.82	74.00	21.18
4 812.10	45.25	Peak	V	7.65	-	52.90	74.00	21.10

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (139) of (221)

Mode: UNII-1(HT40)

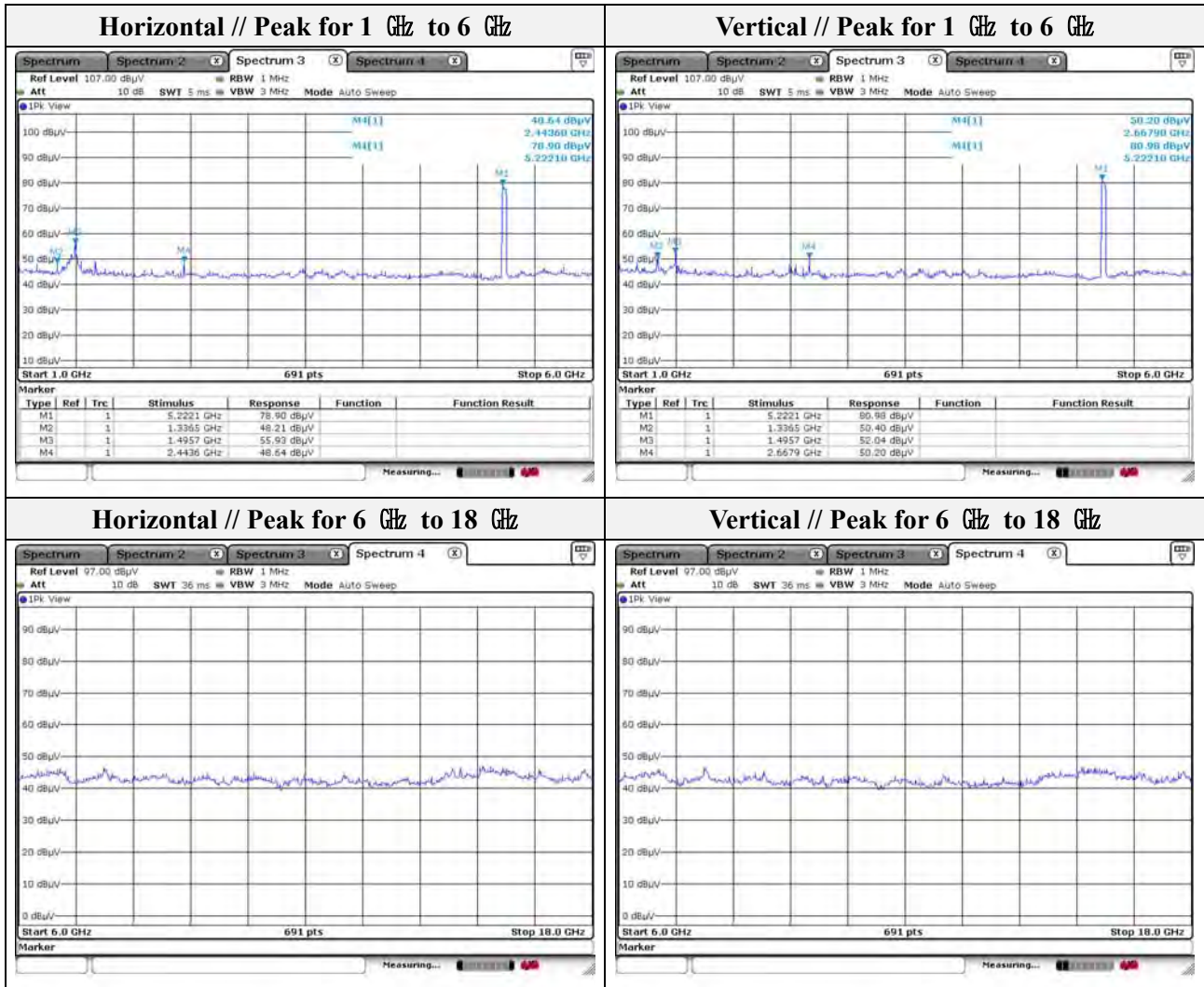
Distance of measurement: 3 meter

Channel: 46

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.21	Peak	H	-6.98	-	41.23	74.00	32.77
1 495.70	55.93	Peak	H	-6.00	-	49.93	74.00	24.07
2 443.60	48.64	Peak	H	-0.12	-	48.52	74.00	25.48
1 336.50	50.40	Peak	V	-6.98	-	43.42	74.00	30.58
1 495.70	52.04	Peak	V	-6.00	-	46.04	74.00	27.96
2 667.90	50.20	Peak	V	0.60	-	50.80	74.00	23.20

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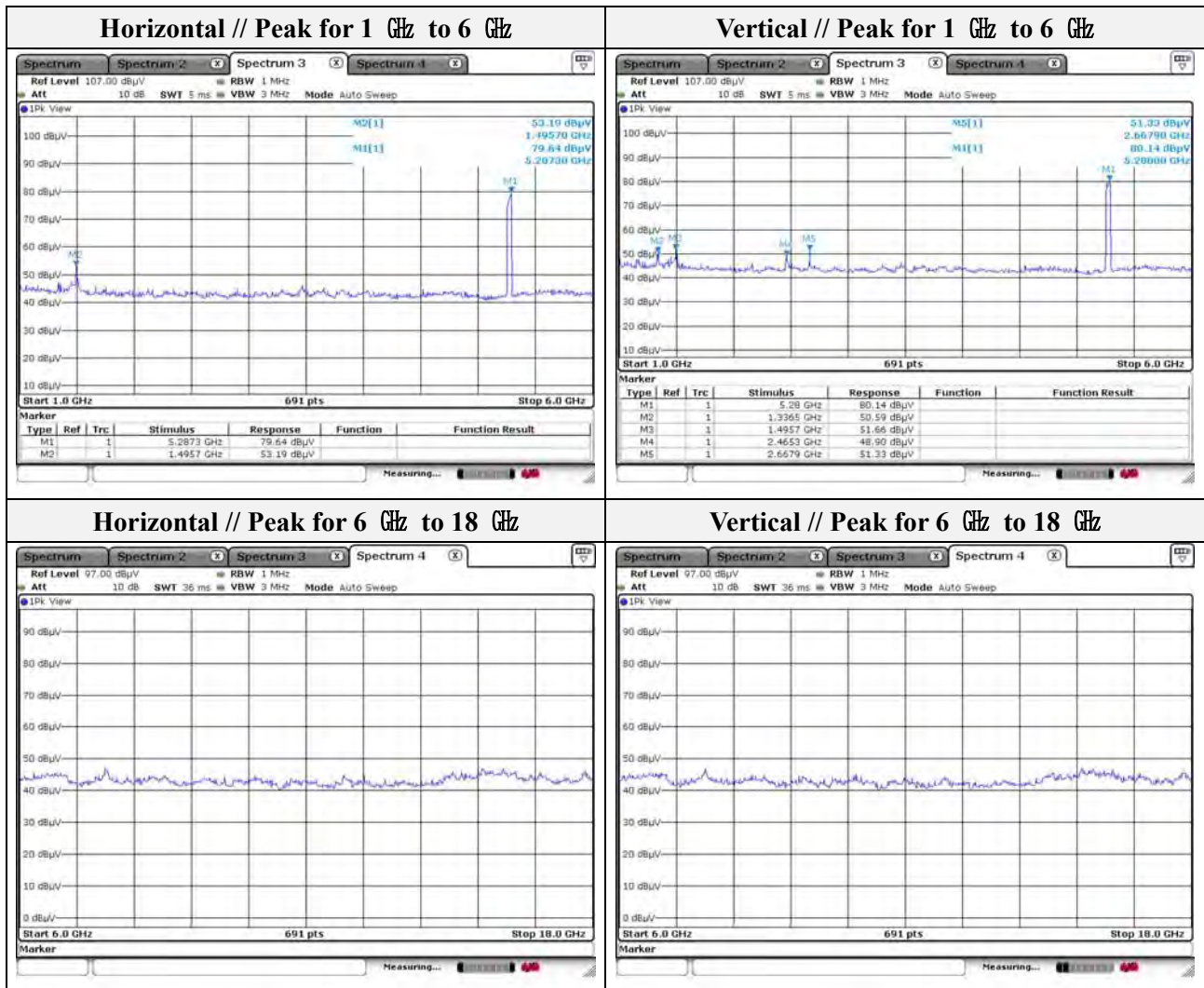


Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2A(HT40)  
 Distance of measurement: 3 meter  
 Channel: 54  
 - **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 495.70	53.19	Peak	H	-6.00	-	47.19	74.00	26.81
1 336.50	50.59	Peak	V	-6.98	-	43.61	74.00	30.39
1 495.70	51.66	Peak	V	-6.00	-	45.66	74.00	28.34
2 465.30	48.90	Peak	V	-0.08	-	48.82	74.00	25.18
2 667.90	51.33	Peak	V	0.60	-	51.93	74.00	22.07



Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (142) of (221)

Mode: UNII-2A(HT40)  
Distance of measurement: 3 meter  
Channel: 62

- **Spurious**

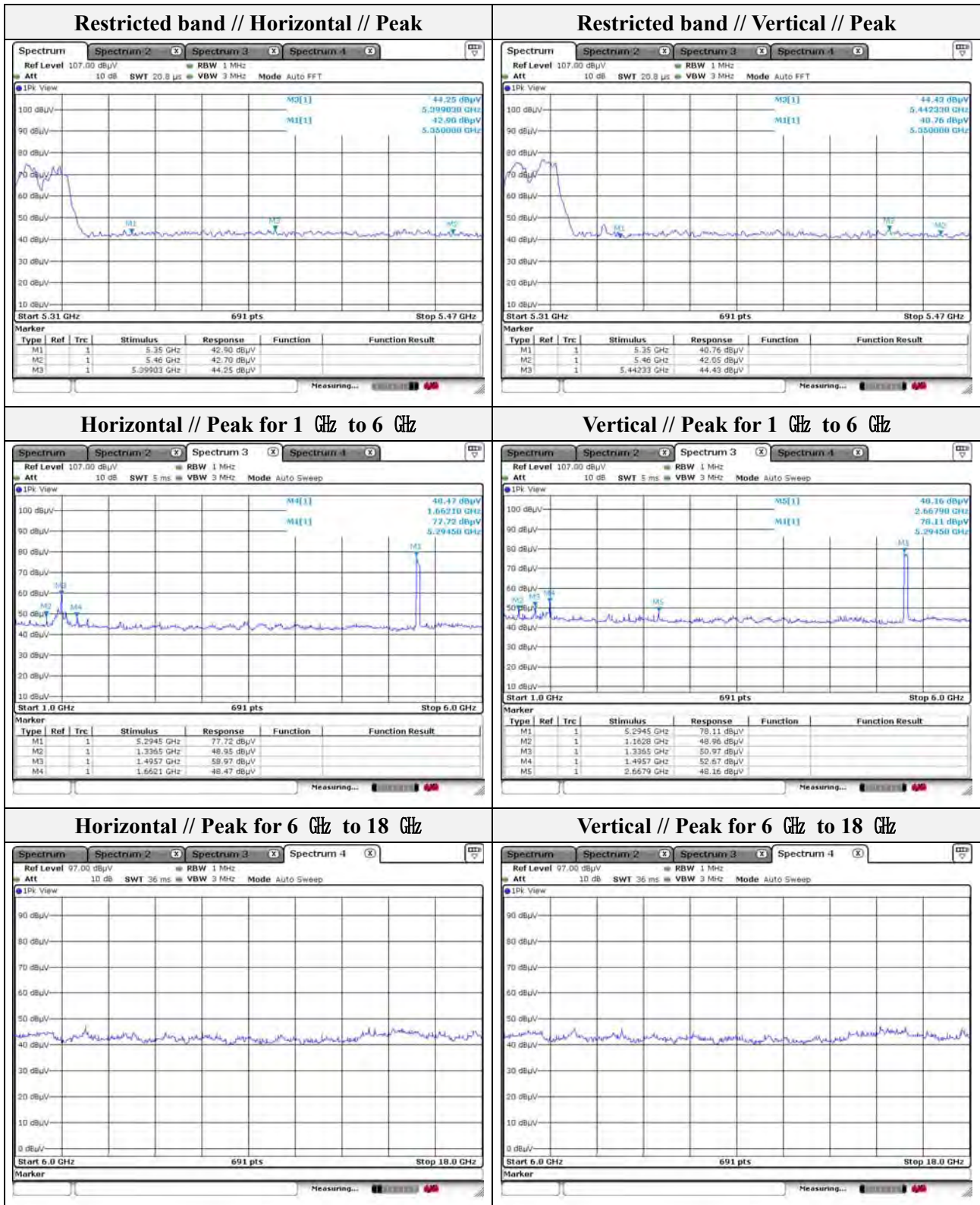
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.95	Peak	H	-6.98	-	41.97	74.00	32.03
1 495.70	58.97	Peak	H	-6.00	-	52.97	74.00	21.03
1 662.10	48.47	Peak	H	-4.39	-	44.08	74.00	29.92
1 162.80	48.96	Peak	V	-8.10	-	40.86	74.00	33.14
1 336.50	50.97	Peak	V	-6.98	-	43.99	74.00	30.01
1 495.70	52.67	Peak	V	-6.00	-	46.67	74.00	27.33
2 667.90	48.16	Peak	V	0.60	-	48.76	74.00	25.24

- **Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 399.03	44.25	Peak	H	9.01	-	53.26	74.00	20.74
5 442.33	44.43	Peak	V	9.06	-	53.49	74.00	20.51

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Note.

1. No spurious emission were detected above 6 GHz.

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2. Average test would be performed if the peak result were greater than the average limit.

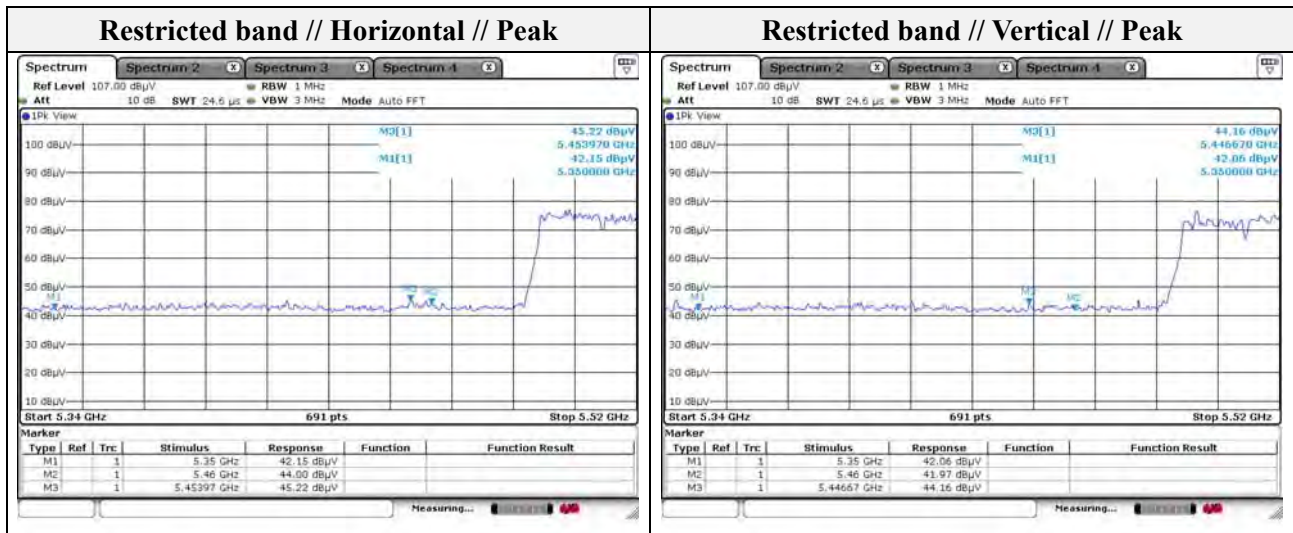
Mode: UNII-2C(HT40)  
 Distance of measurement: 3 meter  
 Channel: 102

**- Spurious**

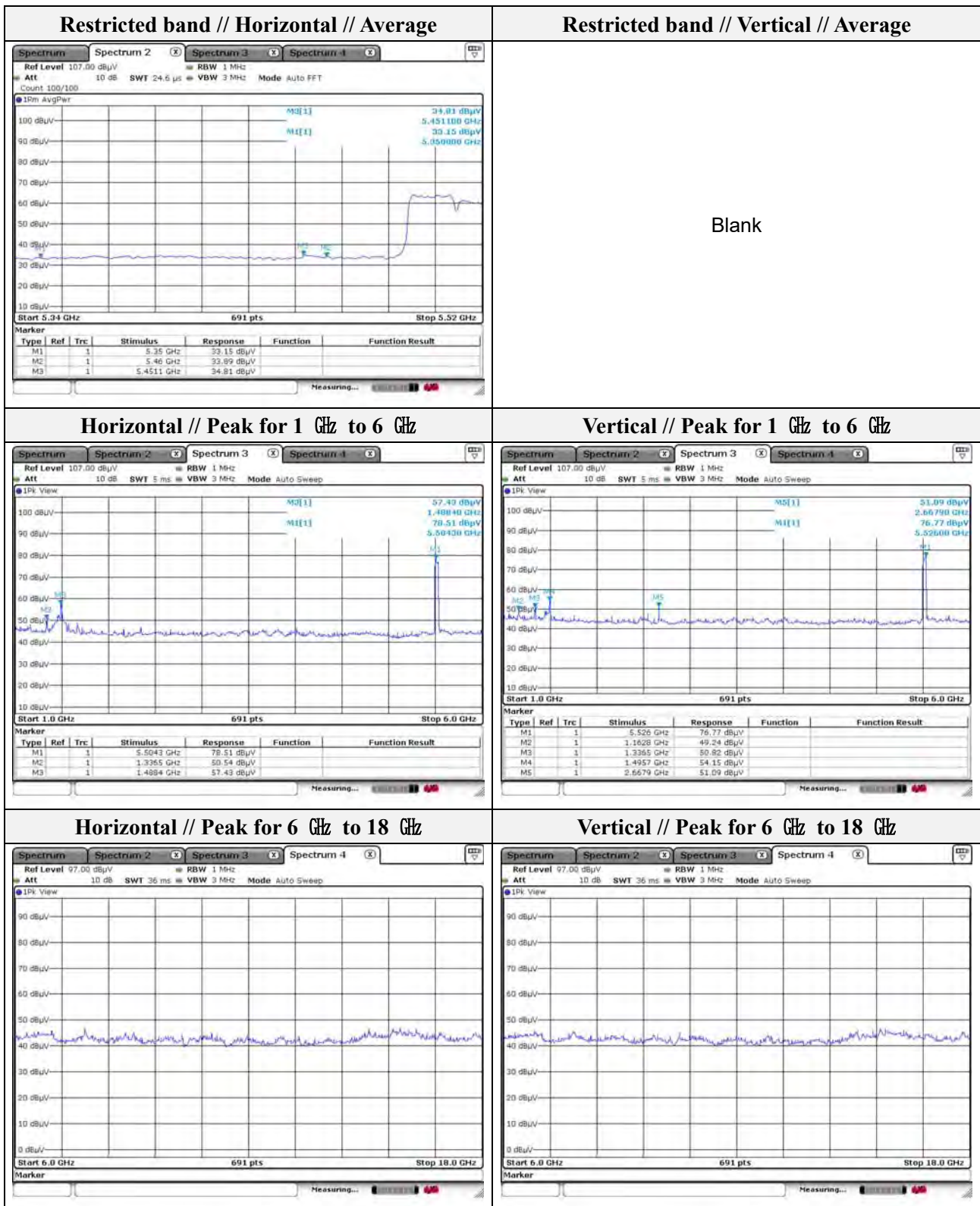
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	50.54	Peak	H	-6.98	-	43.56	74.00	30.44
1 488.40	57.43	Peak	H	-6.04	-	51.39	74.00	22.61
1 162.80	49.24	Peak	V	-8.10	-	41.14	74.00	32.86
1 336.50	50.82	Peak	V	-6.98	-	43.84	74.00	30.16
1 495.70	54.15	Peak	V	-6.00	-	48.15	74.00	25.85
2 667.90	51.09	Peak	V	0.60	-	51.69	74.00	22.31

**- Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 453.97	45.22	Peak	H	9.08	-	54.30	74.00	19.70
5 451.10	34.81	Avg	H	9.07	2.76	46.64	54.00	7.36
5 446.67	44.16	Peak	V	9.07	-	53.23	74.00	20.77



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Note.

1. No spurious emission were detected above 6 GHz.

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Test report No.:  
KES-RF-18T0007-R1  
Page (146) of (221)

2. Average test would be performed if the peak result were greater than the average limit.

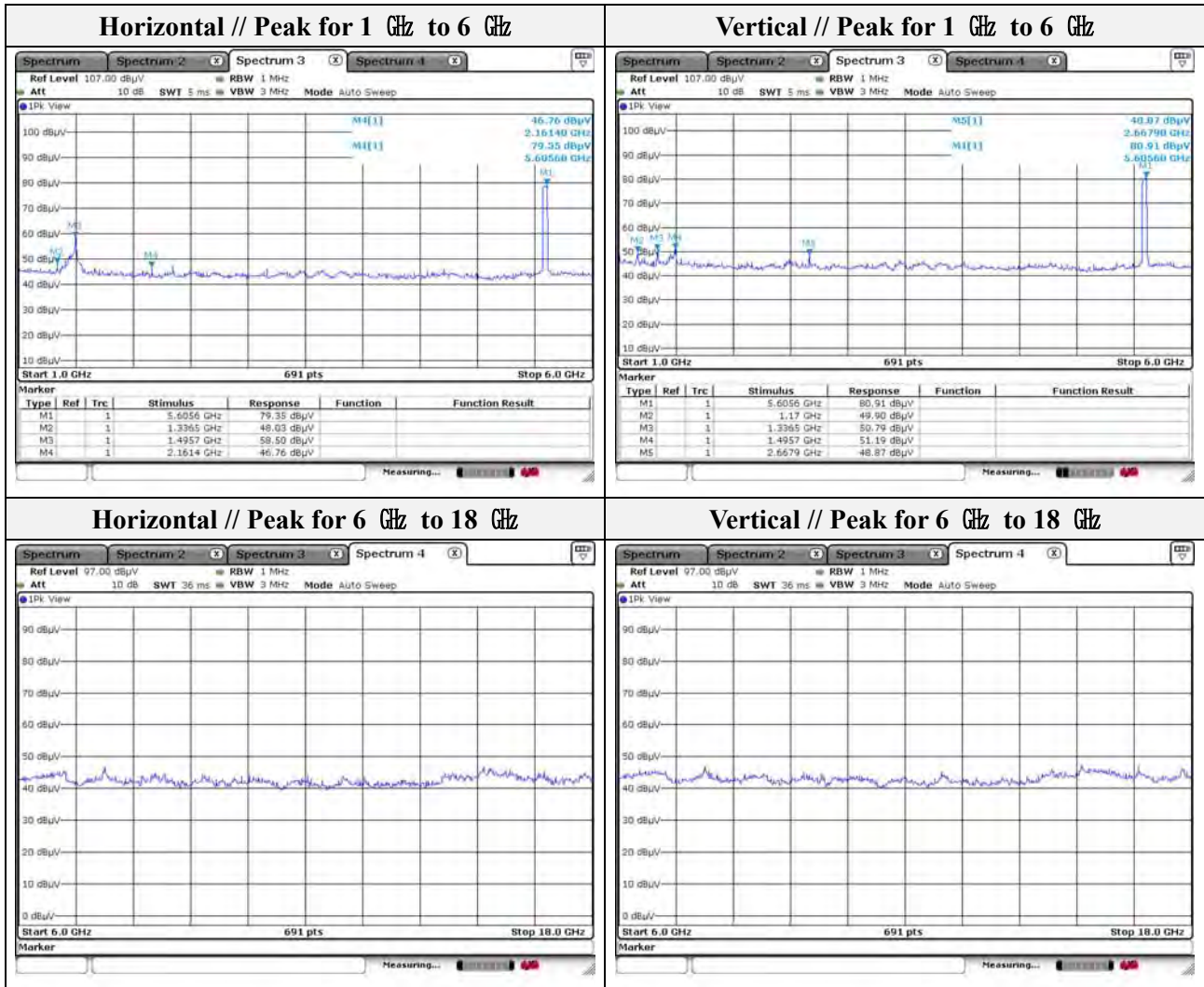
Mode: UNII-2C(HT40)  
Distance of measurement: 3 meter  
Channel: 118

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	48.03	Peak	H	-6.98	-	41.05	74.00	32.95
1 495.70	58.50	Peak	H	-6.00	-	52.50	74.00	21.50
2 161.40	46.76	Peak	H	-0.65	-	46.11	74.00	27.89
1 170.00	49.90	Peak	V	-8.05	-	41.85	74.00	32.15
1 336.50	50.79	Peak	V	-6.98	-	43.81	74.00	30.19
1 495.70	51.19	Peak	V	-6.00	-	45.19	74.00	28.81
2 667.90	48.87	Peak	V	0.60	-	49.47	74.00	24.53

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (148) of (221)

Mode: UNII-2C(HT40)  
Distance of measurement: 3 meter  
Channel: 134

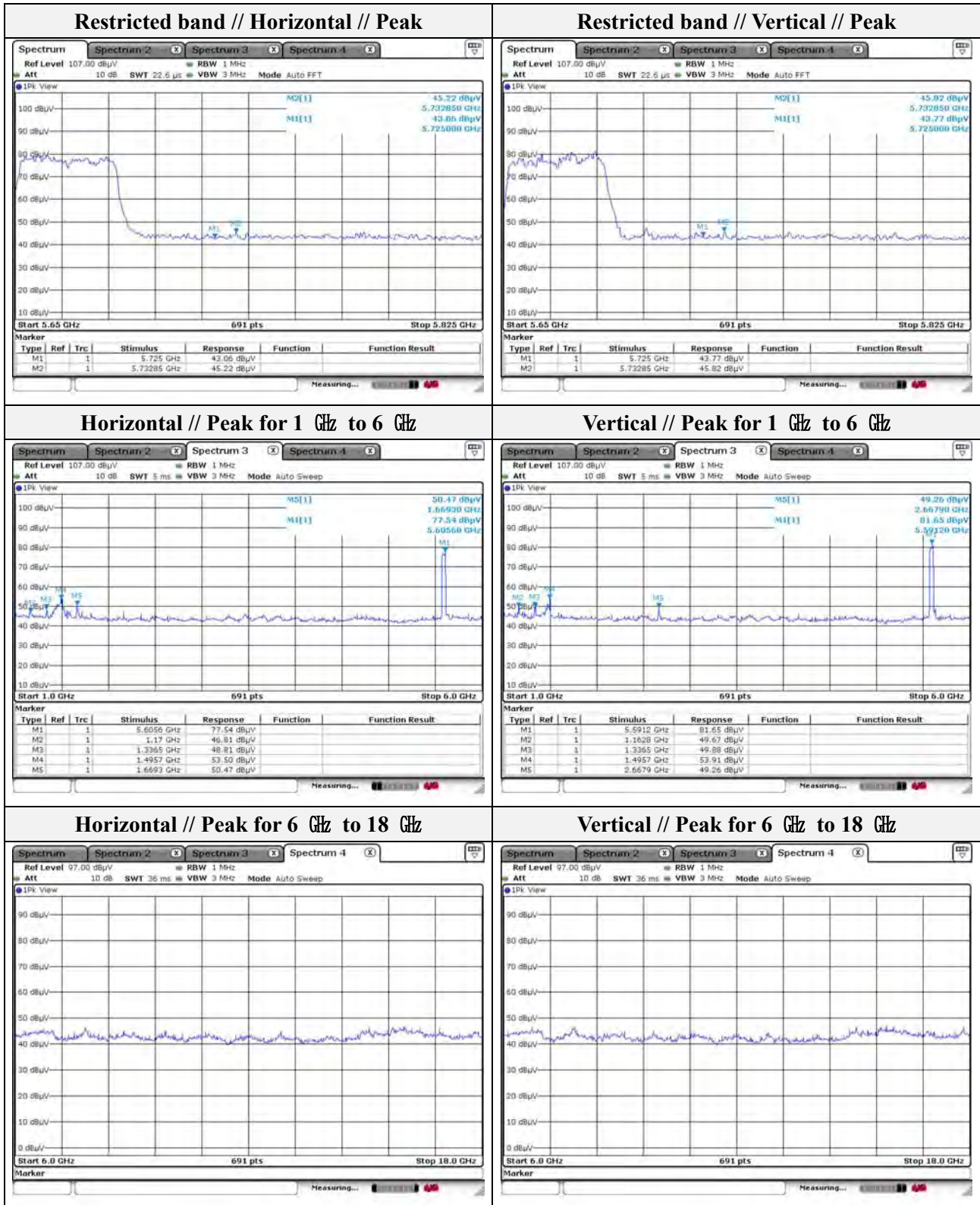
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 170.00	46.81	Peak	H	-8.05	-	38.76	74.00	35.24
1 336.50	48.81	Peak	H	-6.98	-	41.83	74.00	32.17
1 495.70	53.50	Peak	H	-6.00	-	47.50	74.00	26.50
1 669.30	50.47	Peak	H	-4.32	-	46.15	74.00	27.85
1 162.80	49.67	Peak	V	-8.10	-	41.57	74.00	32.43
1 336.50	49.88	Peak	V	-6.98	-	42.90	74.00	31.10
1 495.70	53.91	Peak	V	-6.00	-	47.91	74.00	26.09
2 667.90	49.26	Peak	V	0.60	-	49.86	74.00	24.14

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 732.85	45.22	Peak	H	10.94	-	56.16	68.20	12.04
5 732.85	45.82	Peak	V	10.94	-	56.76	68.20	11.44

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Page (150) of (221)

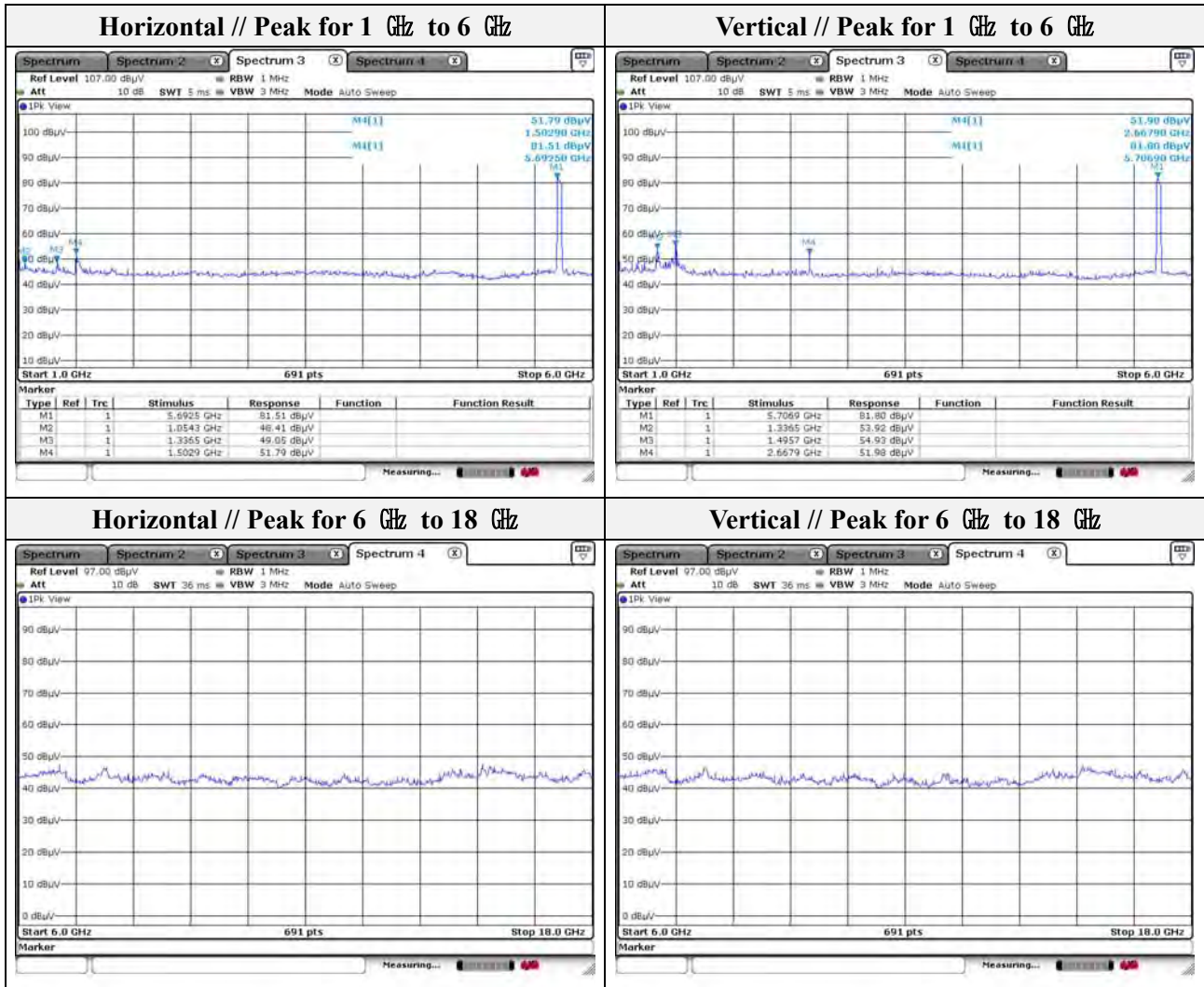
Mode: UNII-2C(HT40)  
Distance of measurement: 3 meter  
Channel: 142

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 054.30	48.41	Peak	H	-8.79	-	39.62	74.00	34.38
1 336.50	49.05	Peak	H	-6.98	-	42.07	74.00	31.93
1 502.90	51.79	Peak	H	-5.95	-	45.84	74.00	28.16
1 336.50	53.92	Peak	V	-6.98	-	46.94	74.00	27.06
1 495.70	54.93	Peak	V	-6.00	-	48.93	74.00	25.07
2 667.90	51.98	Peak	V	0.60	-	52.58	74.00	21.42

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (152) of (221)

Mode: UNII-3(HT40)  
Distance of measurement: 3 meter  
Channel: 151

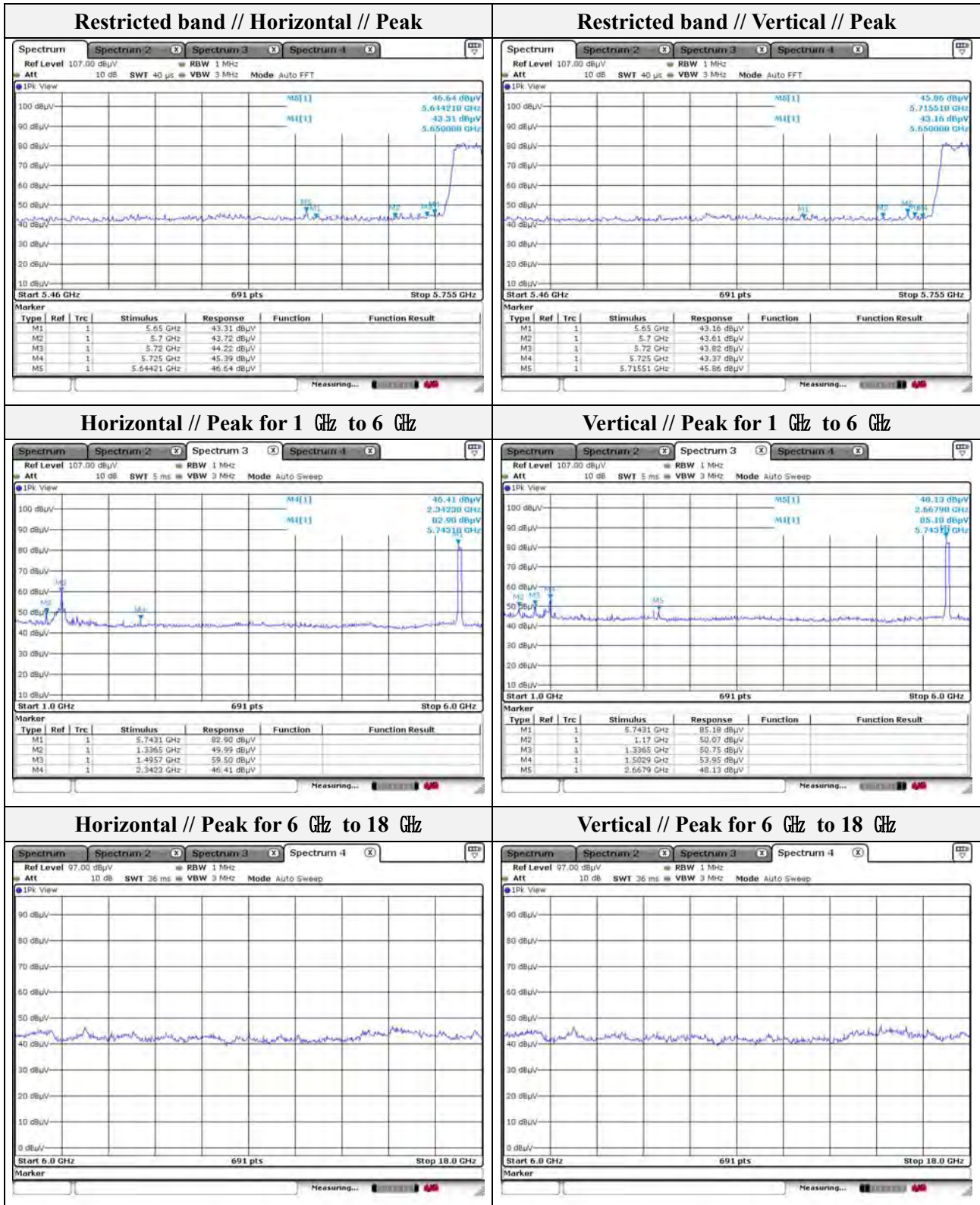
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	49.99	Peak	H	-6.98	-	43.01	74.00	30.99
1 495.70	59.50	Peak	H	-6.00	-	53.50	74.00	20.50
2 342.30	46.41	Peak	H	-0.31	-	46.10	74.00	27.90
1 170.00	50.07	Peak	V	-8.05	-	42.02	74.00	31.98
1 336.50	50.75	Peak	V	-6.98	-	43.77	74.00	30.23
1 502.90	53.95	Peak	V	-5.95	-	48.00	74.00	26.00
2 667.90	48.13	Peak	V	0.60	-	48.73	74.00	25.27

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 725.00	45.39	Peak	H	10.87	-	56.26	122.20	65.94
5 644.21	46.64	Peak	H	10.20	-	56.84	68.20	11.36
5 725.00	43.37	Peak	V	10.87	-	54.24	122.20	67.96
5 715.51	45.86	Peak	V	10.79	-	56.65	109.54	52.89

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (154) of (221)

Mode: UNII-3(HT40)  
Distance of measurement: 3 meter  
Channel: 159

**- Spurious**

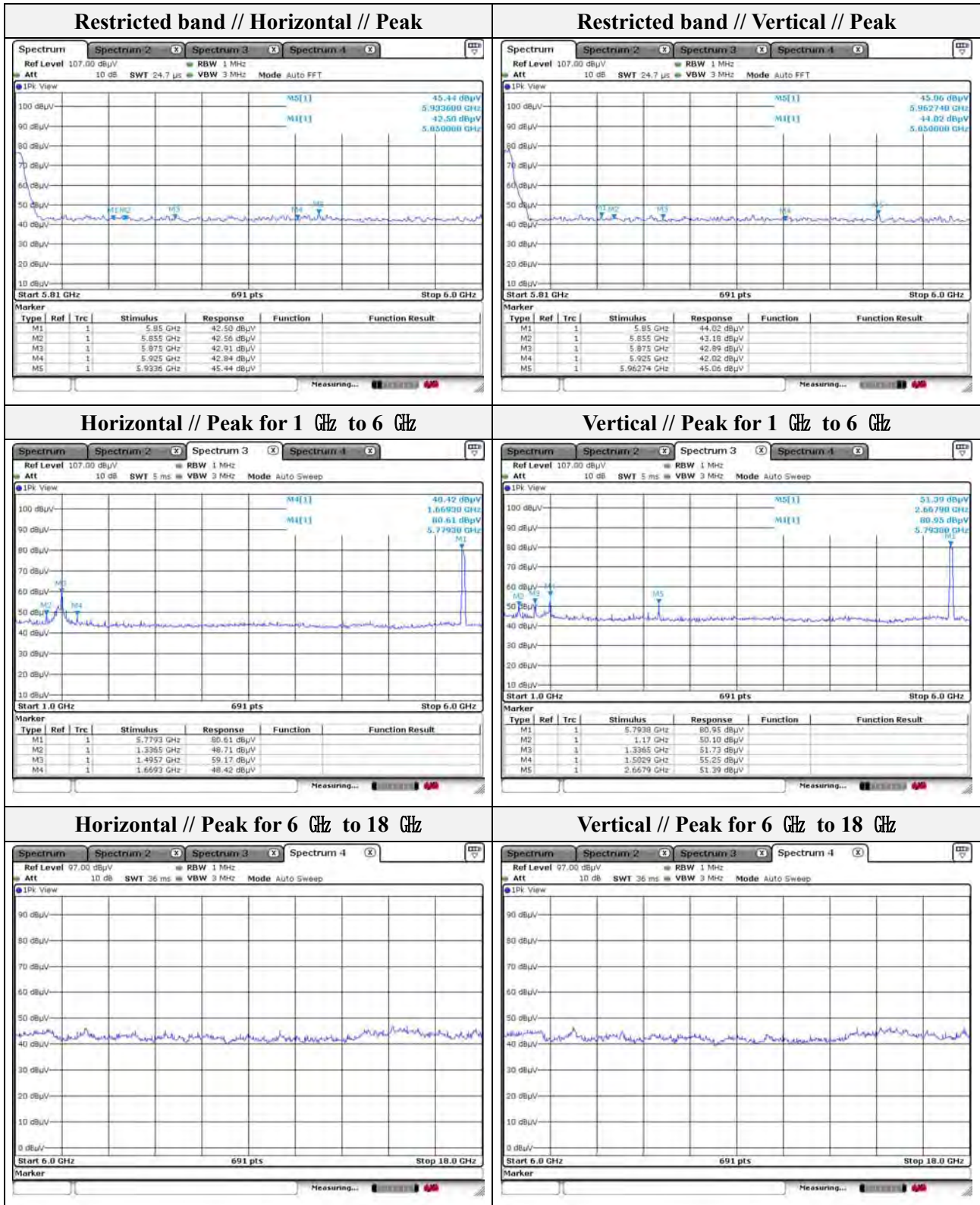
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.71	Peak	H	-6.98	-	41.73	74.00	32.27
1 495.70	59.17	Peak	H	-6.00	-	53.17	74.00	50.83
1 669.30	48.42	Peak	H	-4.32	-	44.10	74.00	29.90
1 170.00	50.10	Peak	V	-8.05	-	42.05	74.00	31.95
1 336.50	51.73	Peak	V	-6.98	-	44.75	74.00	29.25
1 502.90	55.25	Peak	V	-5.95	-	49.30	74.00	24.70
2 667.90	51.39	Peak	V	0.60	-	51.99	74.00	22.01

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 850.00	42.50	Peak	H	11.78	-	54.28	122.20	67.92
5 933.60	45.44	Peak	H	12.23	-	57.67	68.20	10.53
5 850.00	44.02	Peak	V	11.78	-	55.80	122.20	66.40
5 962.74	45.06	Peak	V	12.40	-	57.46	68.20	10.74

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (156) of (221)

Mode: UNII-1(VHT20)  
Distance of measurement: 3 meter  
Channel: 36

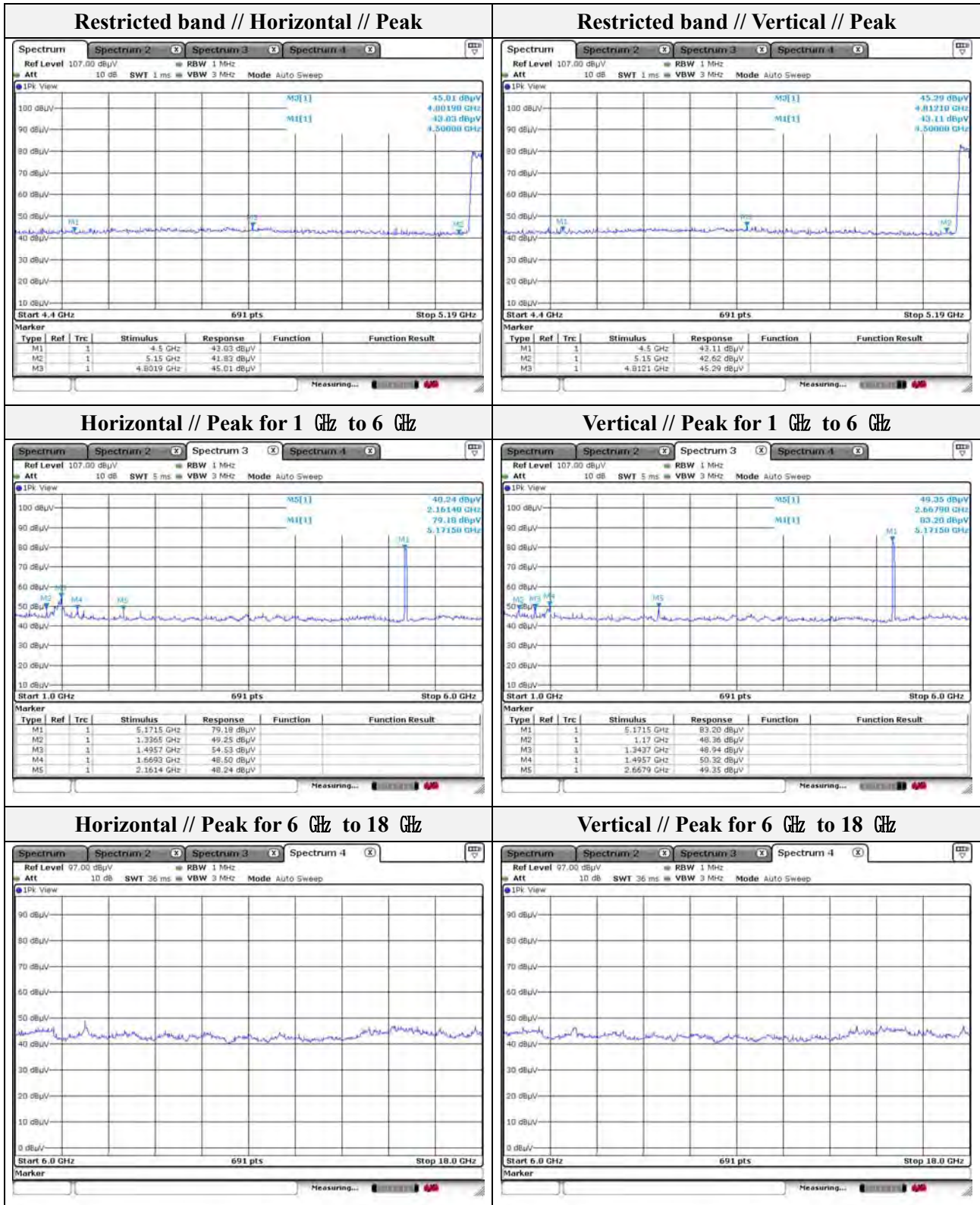
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	49.25	Peak	H	-6.98	-	42.27	74.00	31.73
1 495.70	54.53	Peak	H	-6.00	-	48.53	74.00	25.47
1 669.30	48.50	Peak	H	-4.32	-	44.18	74.00	29.82
2 161.40	48.24	Peak	H	-0.65	-	47.59	74.00	26.41
1 170.00	48.36	Peak	V	-8.05	-	40.31	74.00	33.69
1 343.70	48.94	Peak	V	-6.94	-	44.32	74.00	29.68
1 495.70	50.32	Peak	V	-6.00	-	44.32	74.00	29.68
2 667.90	49.35	Peak	V	0.60	-	44.32	74.00	29.68

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4 801.90	45.01	Peak	H	7.57	-	52.58	74.00	21.42
4 812.10	45.29	Peak	V	7.65	-	52.94	74.00	21.06

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (158) of (221)

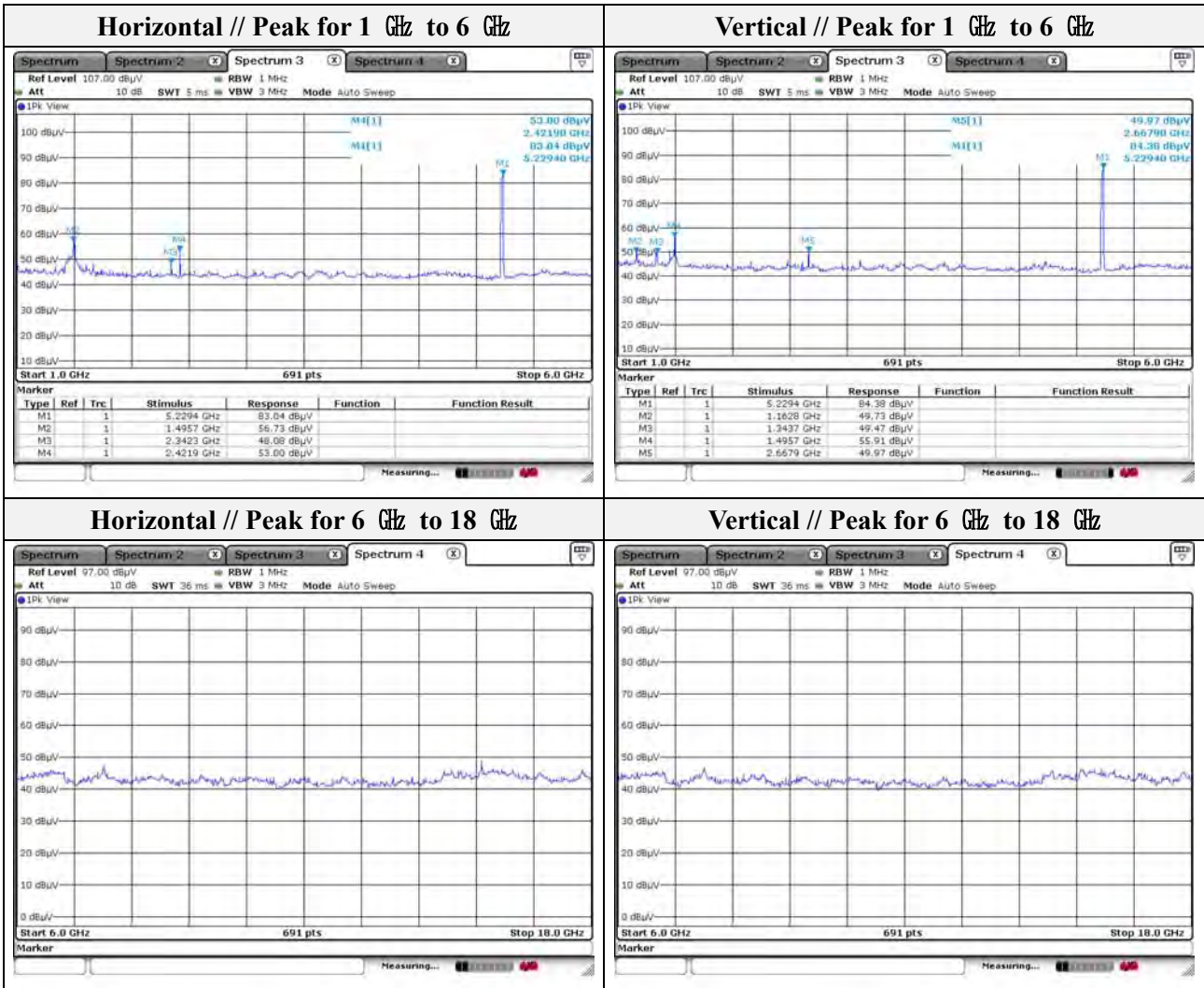
Mode: UNII-1(VHT20)  
Distance of measurement: 3 meter  
Channel: 44

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 495.70	56.73	Peak	H	-6.00	-	50.73	74.00	23.27
2 342.30	48.08	Peak	H	-0.31	-	47.77	74.00	26.23
2 421.90	53.00	Peak	H	-0.16	-	52.84	74.00	21.16
1 162.80	49.73	Peak	V	-8.10	-	41.63	74.00	32.37
1 343.70	49.47	Peak	V	-6.94	-	42.53	74.00	31.47
1 495.70	55.91	Peak	V	-6.00	-	49.91	74.00	24.09
2 667.90	49.97	Peak	V	0.60	-	50.57	74.00	23.43

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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Test report No.:  
KES-RF-18T0007-R1  
Page (160) of (221)

Mode: UNII-1(VHT20)

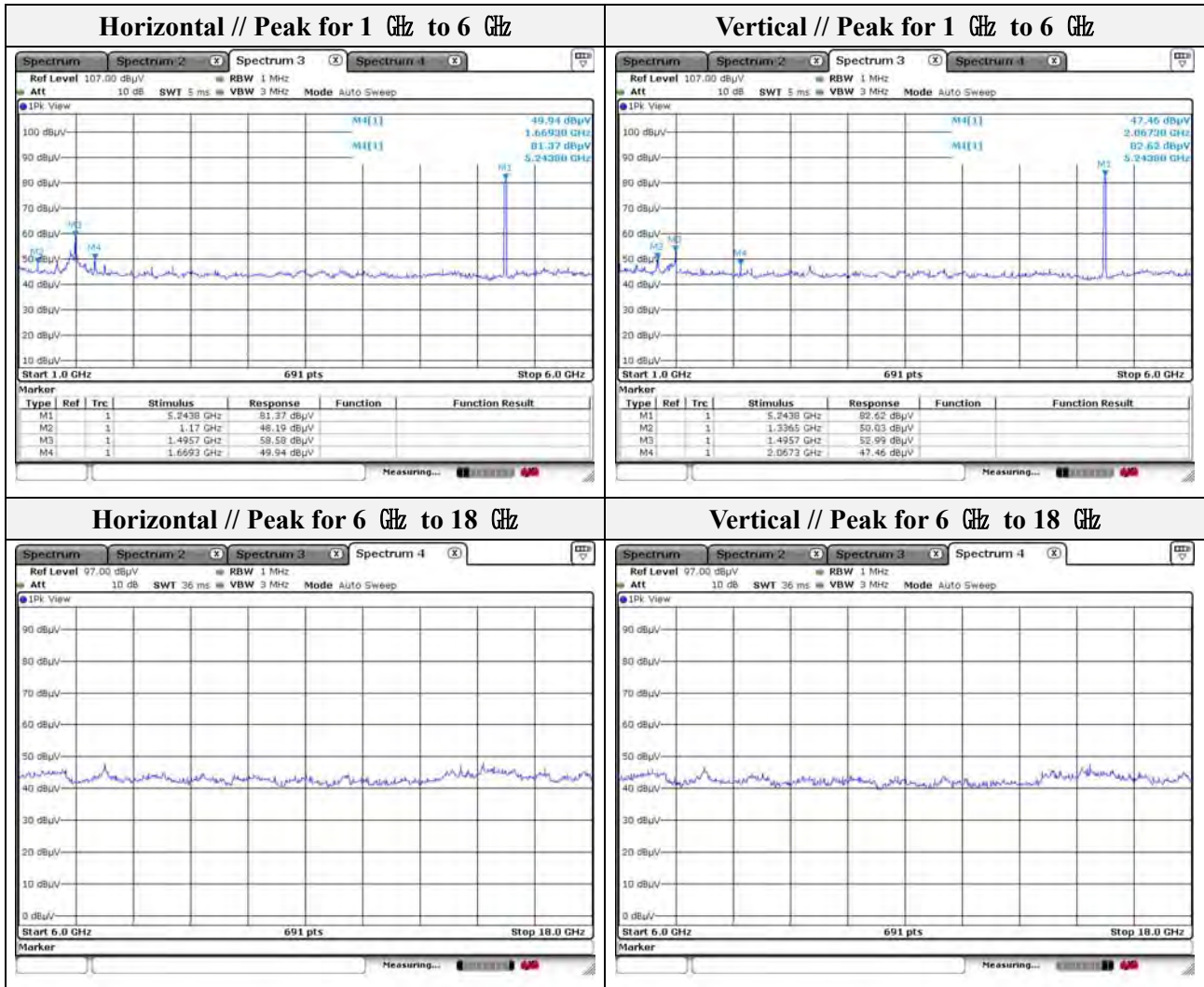
Distance of measurement: 3 meter

Channel: 48

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 170.00	48.19	Peak	H	-8.05	-	40.14	74.00	33.86
1 495.70	58.58	Peak	H	-6.00	-	52.58	74.00	21.42
1 669.30	49.94	Peak	H	-4.32	-	45.62	74.00	28.38
1 336.50	50.03	Peak	V	-6.98	-	43.05	74.00	30.95
1 495.70	52.99	Peak	V	-6.00	-	46.99	74.00	27.01
2 067.30	47.46	Peak	V	-0.84	-	46.62	74.00	27.38

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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Test report No.:  
KES-RF-18T0007-R1  
Page (162) of (221)

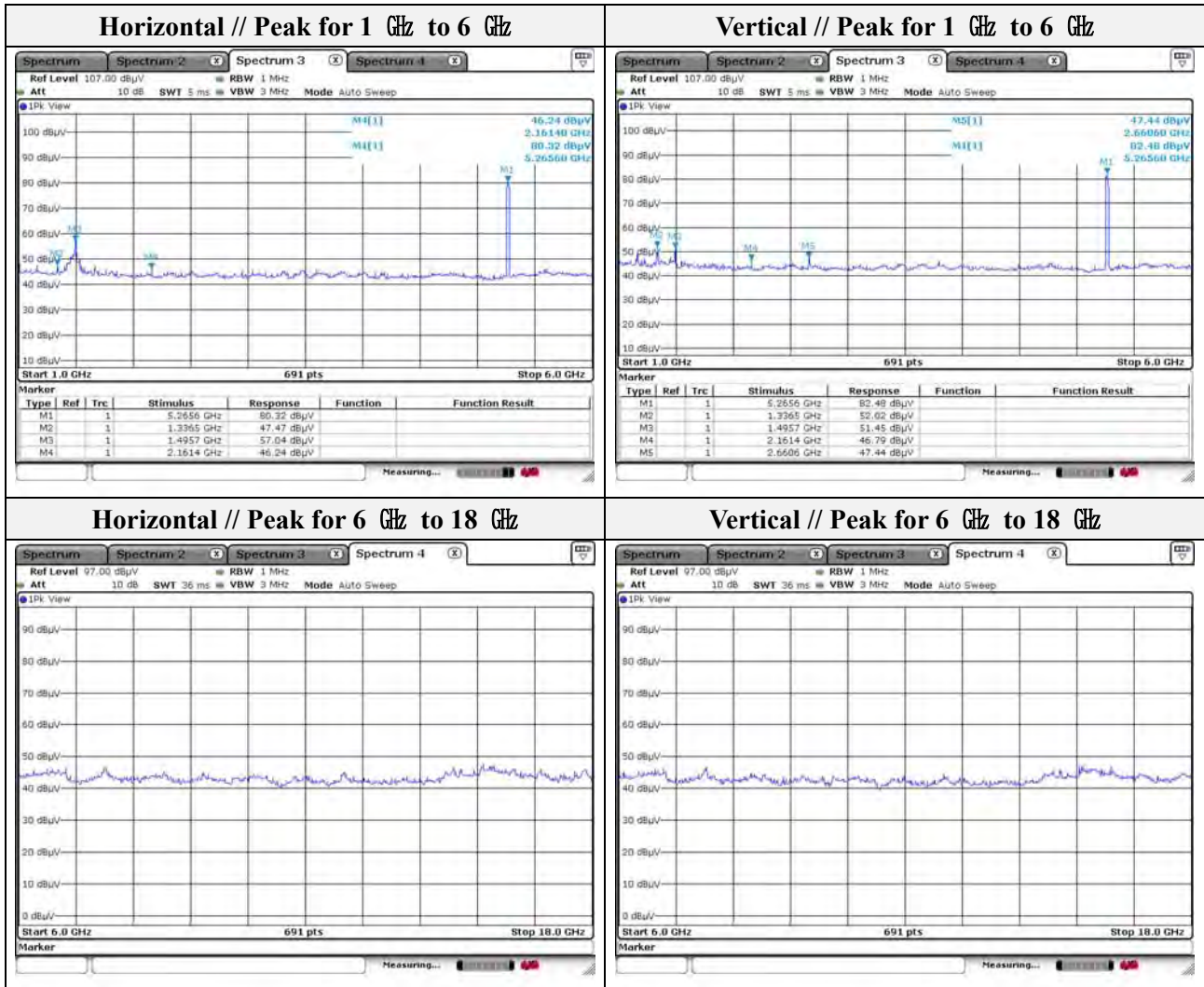
Mode: UNII-2A(VHT20)  
Distance of measurement: 3 meter  
Channel: 52

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	47.47	Peak	H	-6.98	-	40.49	74.00	33.51
1 495.70	57.04	Peak	H	-6.00	-	51.04	74.00	22.96
2 161.40	46.24	Peak	H	-0.65	-	45.59	74.00	28.41
1 336.50	52.02	Peak	V	-6.98	-	45.04	74.00	28.96
1 495.70	51.45	Peak	V	-6.00	-	45.45	74.00	28.55
2 161.40	46.79	Peak	V	-0.65	-	46.14	74.00	27.86
2 660.6	47.44	Peak	V	0.57	-	48.01	74.00	25.99

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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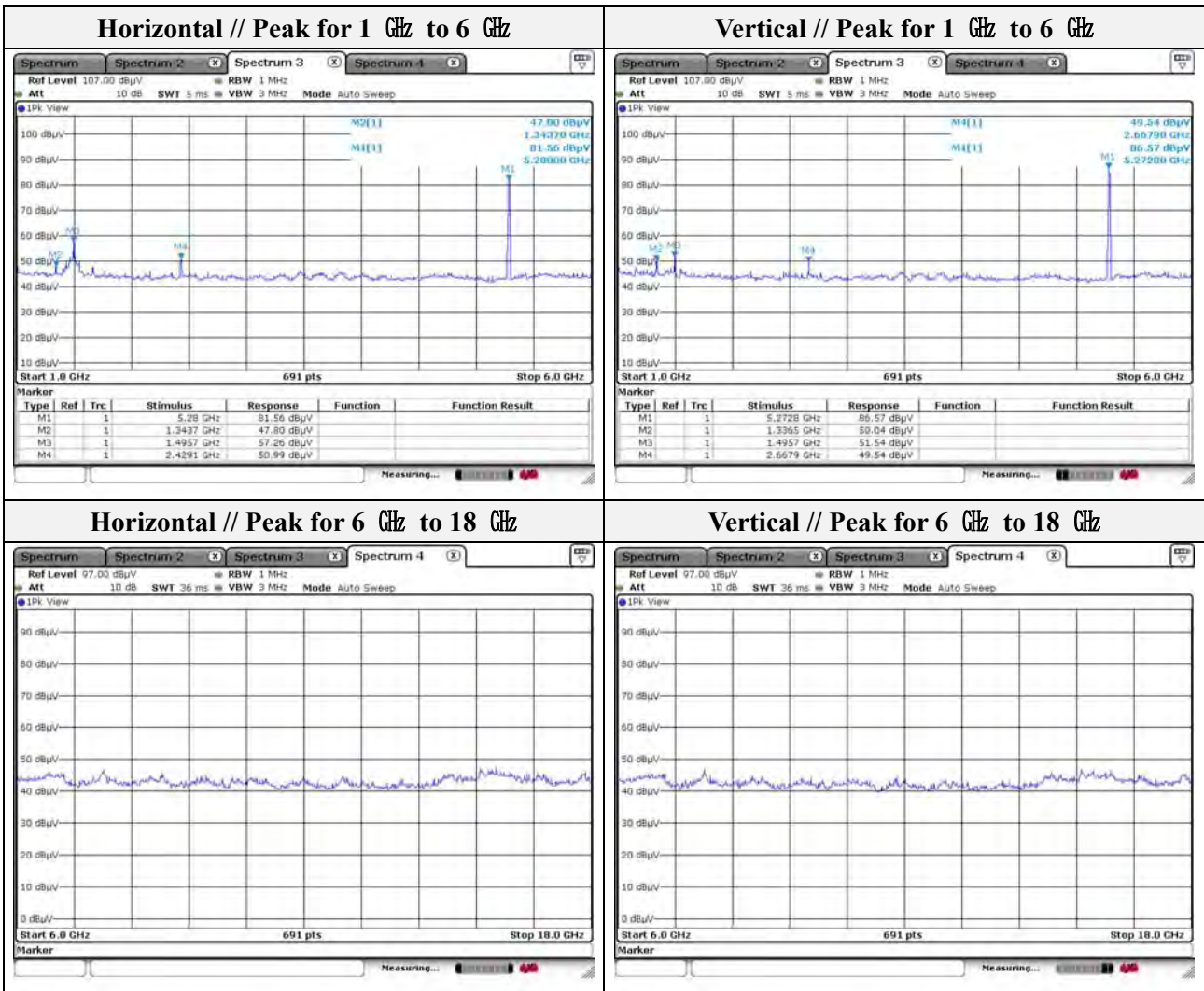
Test report No.:  
KES-RF-18T0007-R1  
Page (164) of (221)

Mode: UNII-2A(VHT20)  
Distance of measurement: 3 meter  
Channel: 56

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 343.70	47.80	Peak	H	-6.94	-	40.86	74.00	33.14
1 495.70	57.26	Peak	H	-6.00	-	51.26	74.00	22.74
2 429.10	50.99	Peak	H	-0.15	-	50.84	74.00	23.16
1 336.50	50.04	Peak	V	-6.98	-	43.06	74.00	30.94
1 495.70	51.54	Peak	V	-6.00	-	45.54	74.00	28.46
2 667.90	49.54	Peak	V	0.60	-	50.14	74.00	23.86

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (166) of (221)

Mode: UNII-2A(VHT20)  
Distance of measurement: 3 meter  
Channel: 64

**- Spurious**

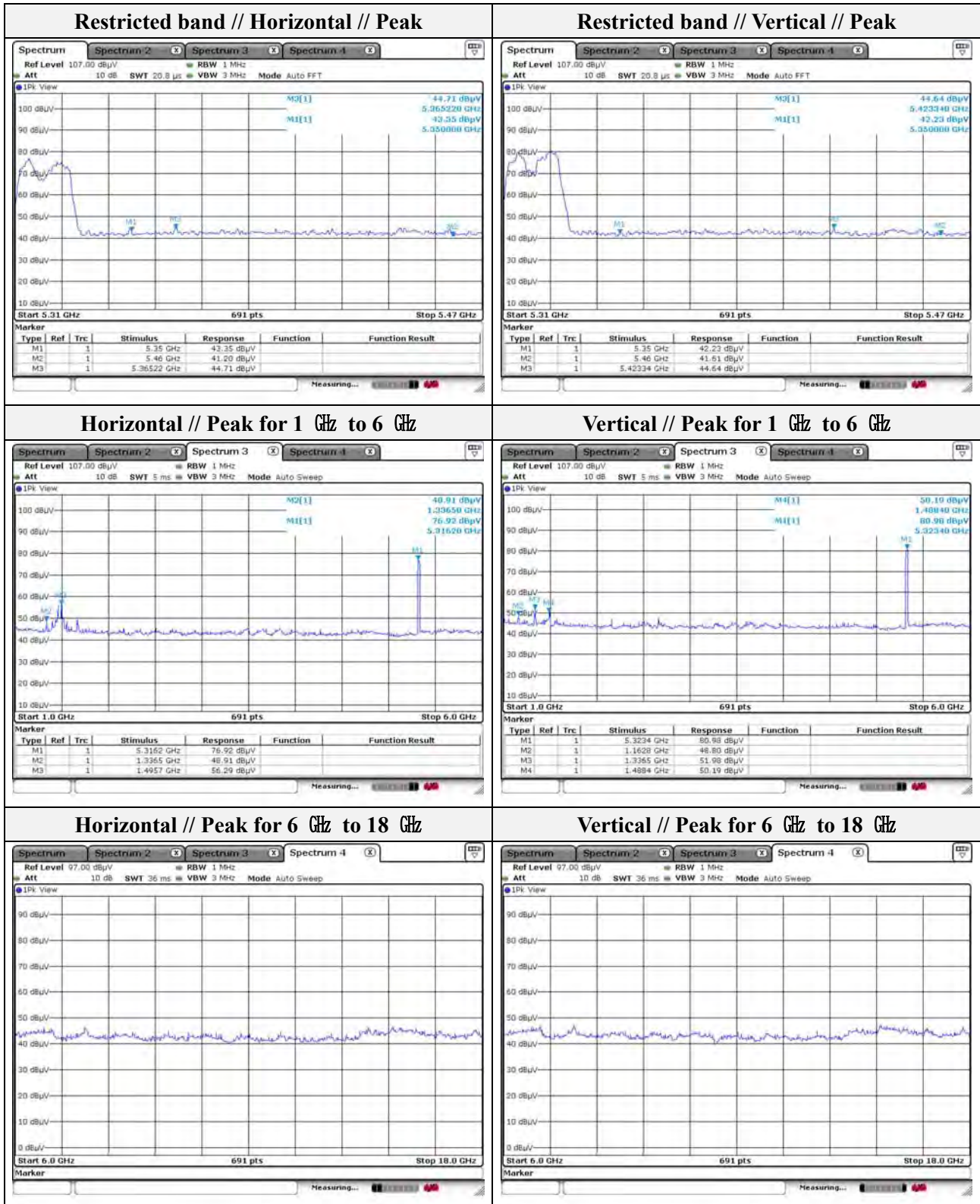
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.91	Peak	H	-6.98	-	41.93	74.00	32.07
1 495.70	56.29	Peak	H	-6.00	-	50.29	74.00	23.71
1 162.80	48.80	Peak	V	-8.10	-	40.70	74.00	33.30
1 336.50	51.98	Peak	V	-6.98	-	45.00	74.00	29.00
1 488.40	50.19	Peak	V	-6.04	-	44.15	74.00	29.85

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 365.22	44.71	Peak	H	9.00	-	53.71	74.00	20.29
5 423.34	44.64	Peak	V	9.04	-	53.68	74.00	20.32

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1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT20)  
 Distance of measurement: 3 meter  
 Channel: 100

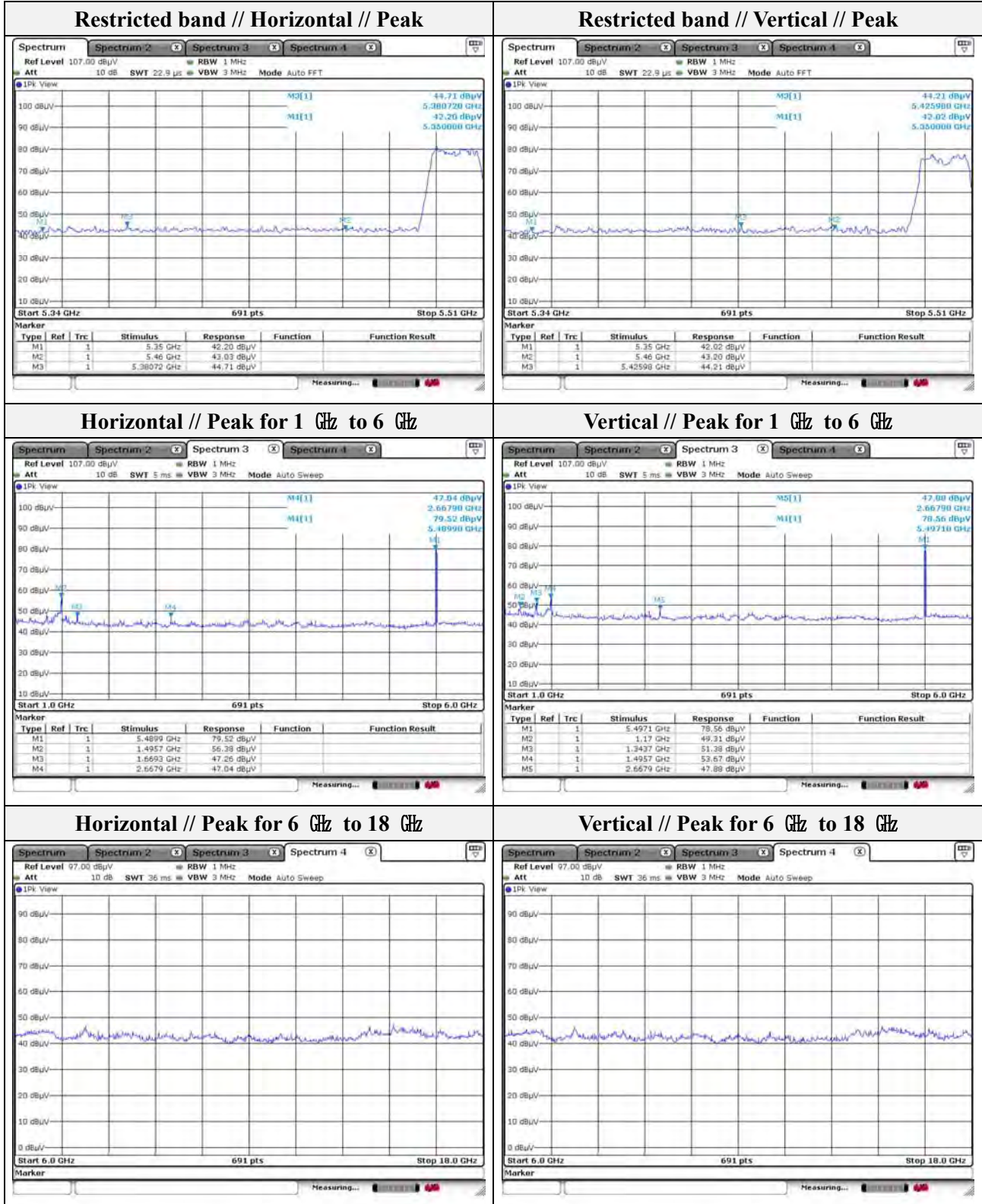
- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 495.70	56.38	Peak	H	-6.00	-	50.38	74.00	23.62
1 669.30	47.26	Peak	H	-4.32	-	42.94	74.00	31.06
2 667.90	47.04	Peak	H	0.60	-	47.64	74.00	26.36
1 170.00	49.31	Peak	V	-8.05	-	41.26	74.00	32.74
1 343.70	51.38	Peak	V	-6.94	-	44.44	74.00	29.56
1 495.70	53.67	Peak	V	-6.00	-	47.67	74.00	26.33
2 667.90	47.88	Peak	V	0.60	-	48.48	74.00	25.52

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 380.72	44.71	Peak	H	9.00	-	53.71	74.00	20.29
5 425.98	44.21	Peak	V	9.04	-	53.25	74.00	20.75

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Test report No.:  
KES-RF-18T0007-R1  
Page (170) of (221)

Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

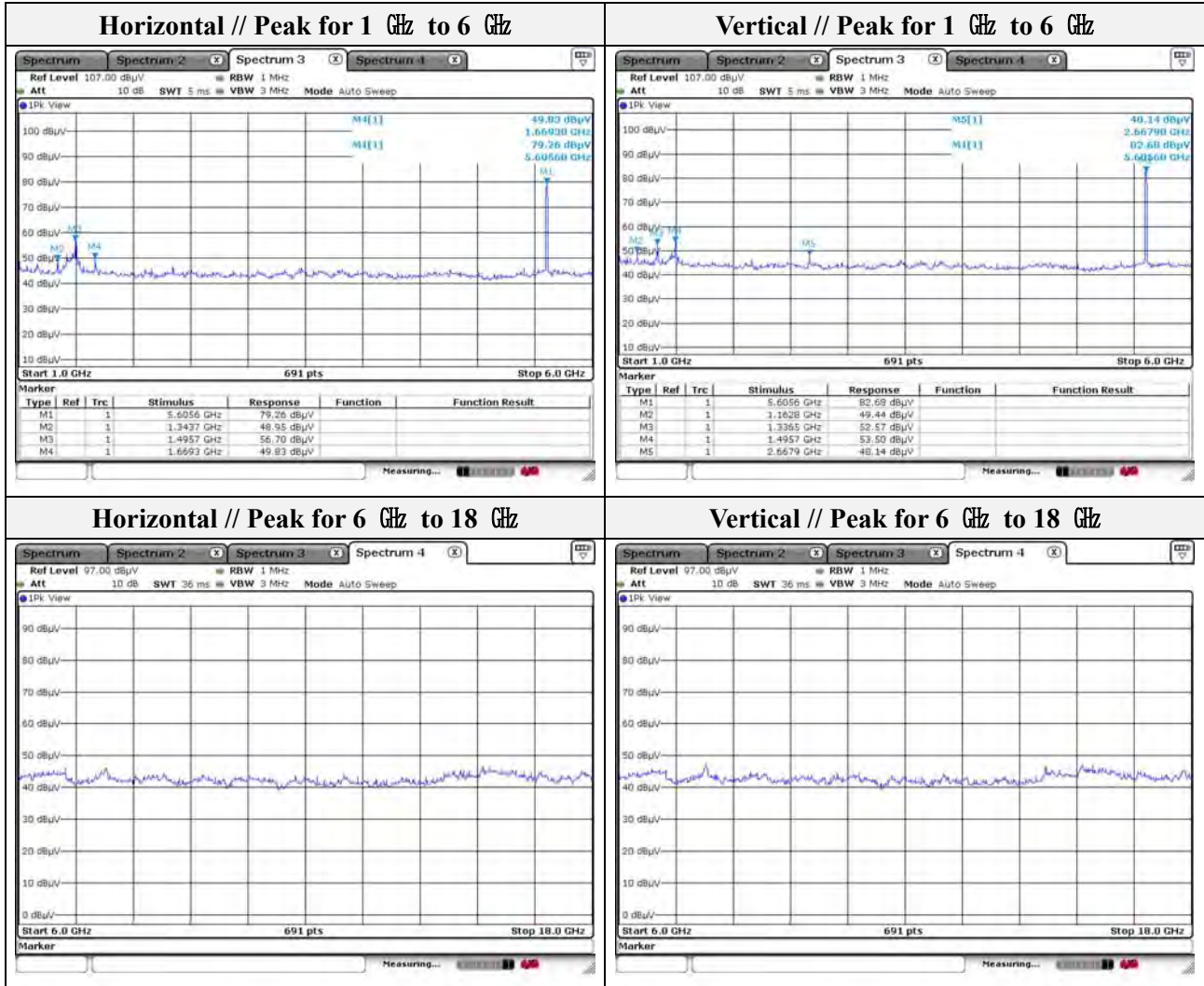
Mode: UNII-2C(VHT20)  
 Distance of measurement: 3 meter  
 Channel: 120

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 343.70	48.95	Peak	H	-6.94	-	42.01	74.00	31.99
1 495.70	56.70	Peak	H	-6.00	-	50.70	74.00	23.30
1 669.30	49.83	Peak	H	-4.32	-	45.51	74.00	28.49
1 162.80	49.44	Peak	V	-8.1.0	-	41.34	74.00	32.66
1 336.50	52.57	Peak	V	-6.98	-	45.59	74.00	28.41
1 495.70	53.50	Peak	V	-6.00	-	47.50	74.00	26.50
2 667.90	48.14	Peak	V	0.60	-	48.74	74.00	25.26

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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KES-RF-18T0007-R1  
Page (172) of (221)

Mode: UNII-2C(VHT20)  
Distance of measurement: 3 meter  
Channel: 140

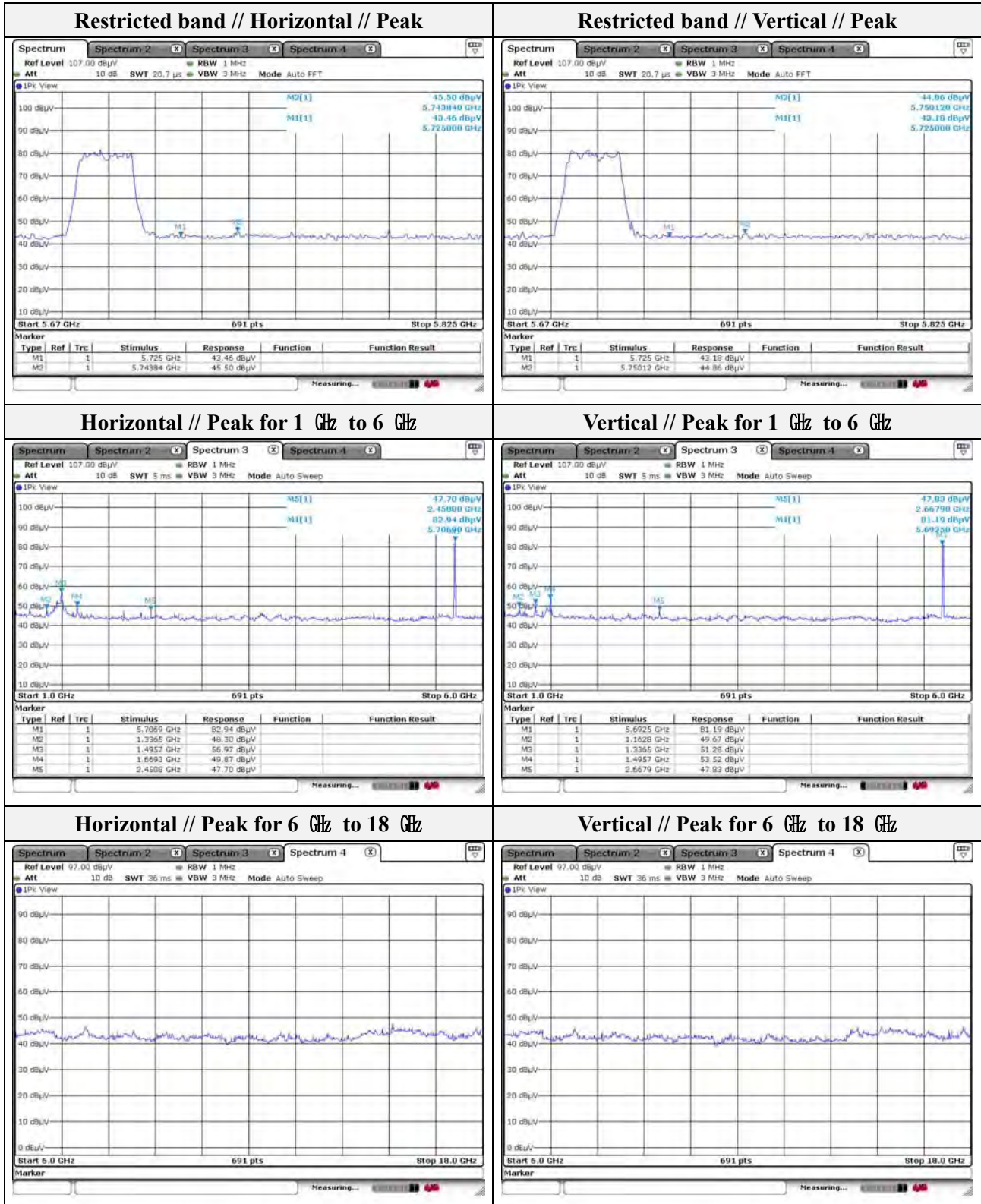
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.30	Peak	H	-6.98	-	41.32	74.00	32.68
1 495.70	56.97	Peak	H	-6.00	-	50.97	74.00	23.03
1 669.30	49.87	Peak	H	-4.32	-	45.55	74.00	28.45
2 450.80	47.70	Peak	H	-0.11	-	47.59	74.00	26.41
1 162.80	49.67	Peak	V	-8.10	-	41.57	74.00	32.43
1 336.50	51.28	Peak	V	-6.98	-	44.30	74.00	29.70
1 495.70	53.52	Peak	V	-6.00	-	47.52	74.00	26.48
2 667.90	47.83	Peak	V	0.60	-	48.43	74.00	25.57

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 743.84	45.50	Peak	H	11.03	-	56.53	68.20	11.67
5 750.12	44.86	Peak	V	11.08	-	55.94	68.20	12.26

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Test report No.:  
KES-RF-18T0007-R1  
Page (174) of (221)

Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

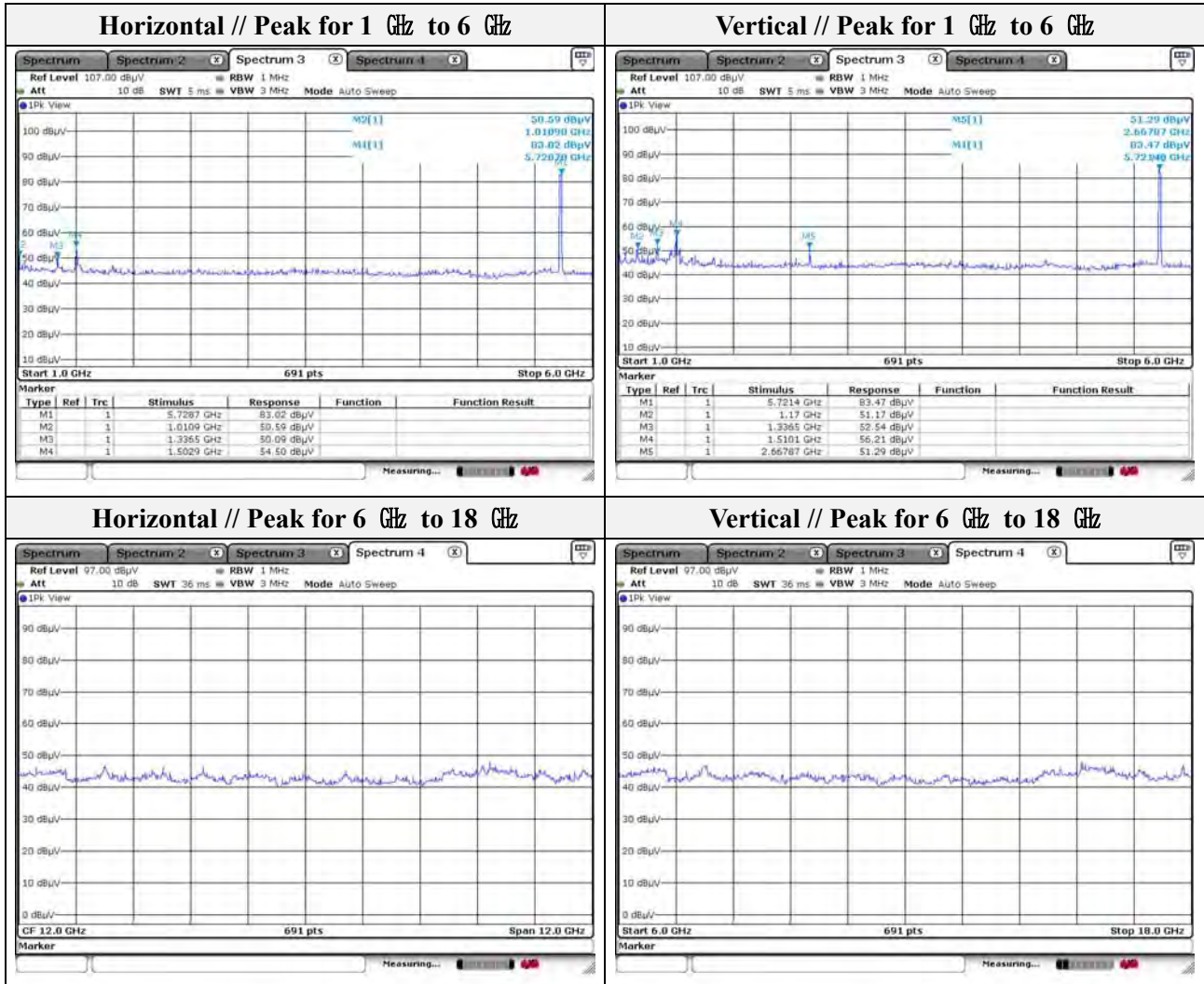
Mode: UNII-2C(VHT20)  
Distance of measurement: 3 meter  
Channel: 144

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 010.90	50.59	Peak	H	-9.07	-	41.52	74.00	32.48
1 336.50	50.09	Peak	H	-6.98	-	43.11	74.00	30.89
1 502.90	54.50	Peak	H	-5.95	-	48.55	74.00	25.45
1 170.00	51.17	Peak	V	-8.05	-	43.12	74.00	30.88
1 336.50	52.54	Peak	V	-6.98	-	45.56	74.00	28.44
1 510.10	56.21	Peak	V	-5.88	-	50.33	74.00	23.67
2 667.87	51.29	Peak	V	0.60	-	51.89	74.00	22.11

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (176) of (221)

Mode: UNII-3(VHT20)  
Distance of measurement: 3 meter  
Channel: 149

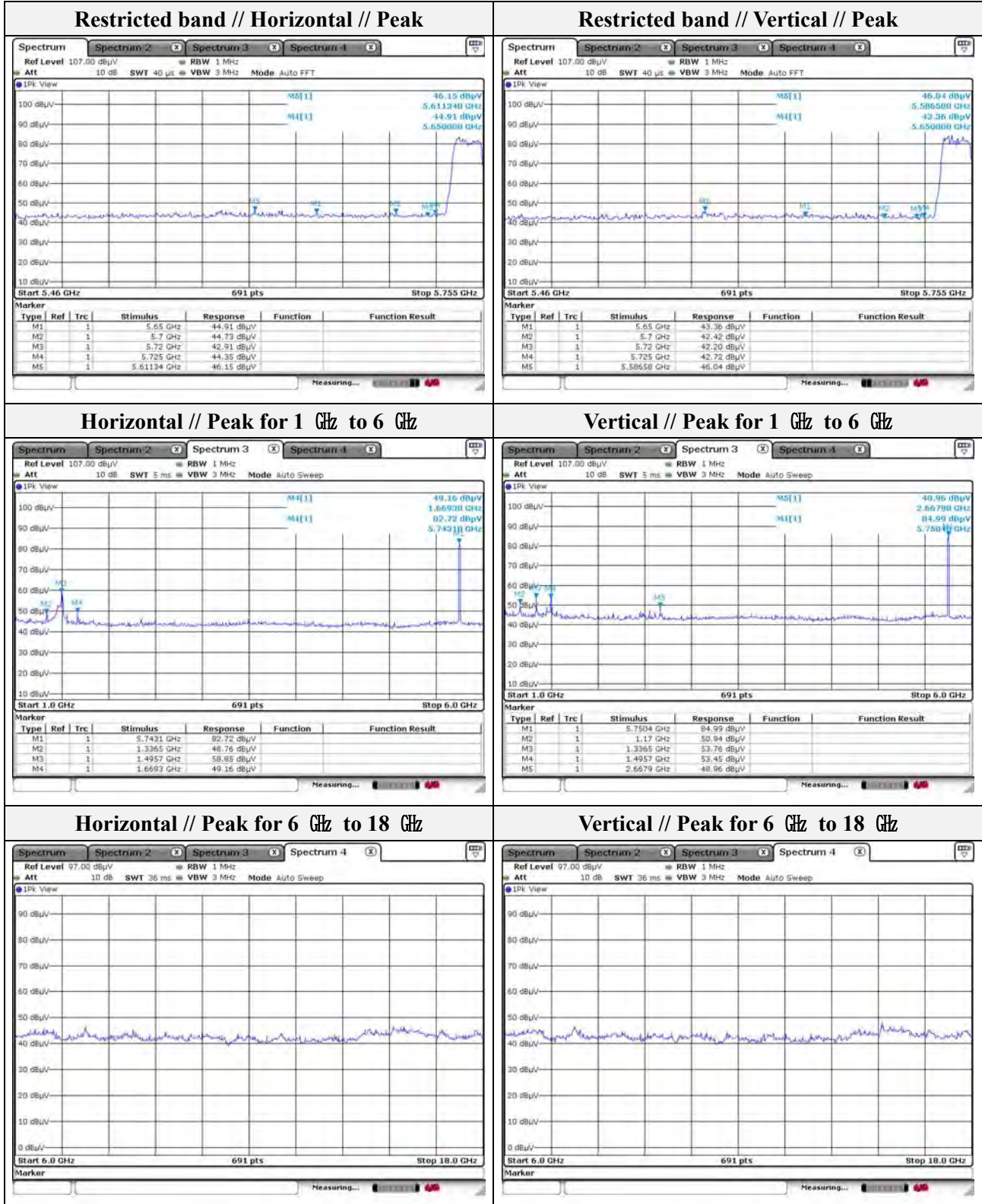
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.76	Peak	H	-6.98	-	41.78	74.00	32.22
1 495.70	58.85	Peak	H	-6.00	-	52.85	74.00	21.15
1 669.30	49.16	Peak	H	-4.32	-	44.84	74.00	29.16
1 170.00	50.94	Peak	V	-8.05	-	42.89	74.00	31.11
1 336.50	53.76	Peak	V	-6.98	-	46.78	74.00	27.22
1 495.70	53.45	Peak	V	-6.00	-	47.45	74.00	26.55
2 667.90	48.96	Peak	V	0.60	-	49.56	74.00	24.44

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 725.00	44.35	Peak	H	10.87	-	55.22	122.20	66.98
5 611.34	46.15	Peak	H	9.92	-	56.07	68.20	12.13
5 725.00	42.74	Peak	V	10.87	-	53.59	122.20	68.61
5 586.58	46.04	Peak	V	9.74	-	55.78	68.20	12.42

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Test report No.:  
KES-RF-18T0007-R1  
Page (178) of (221)

Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

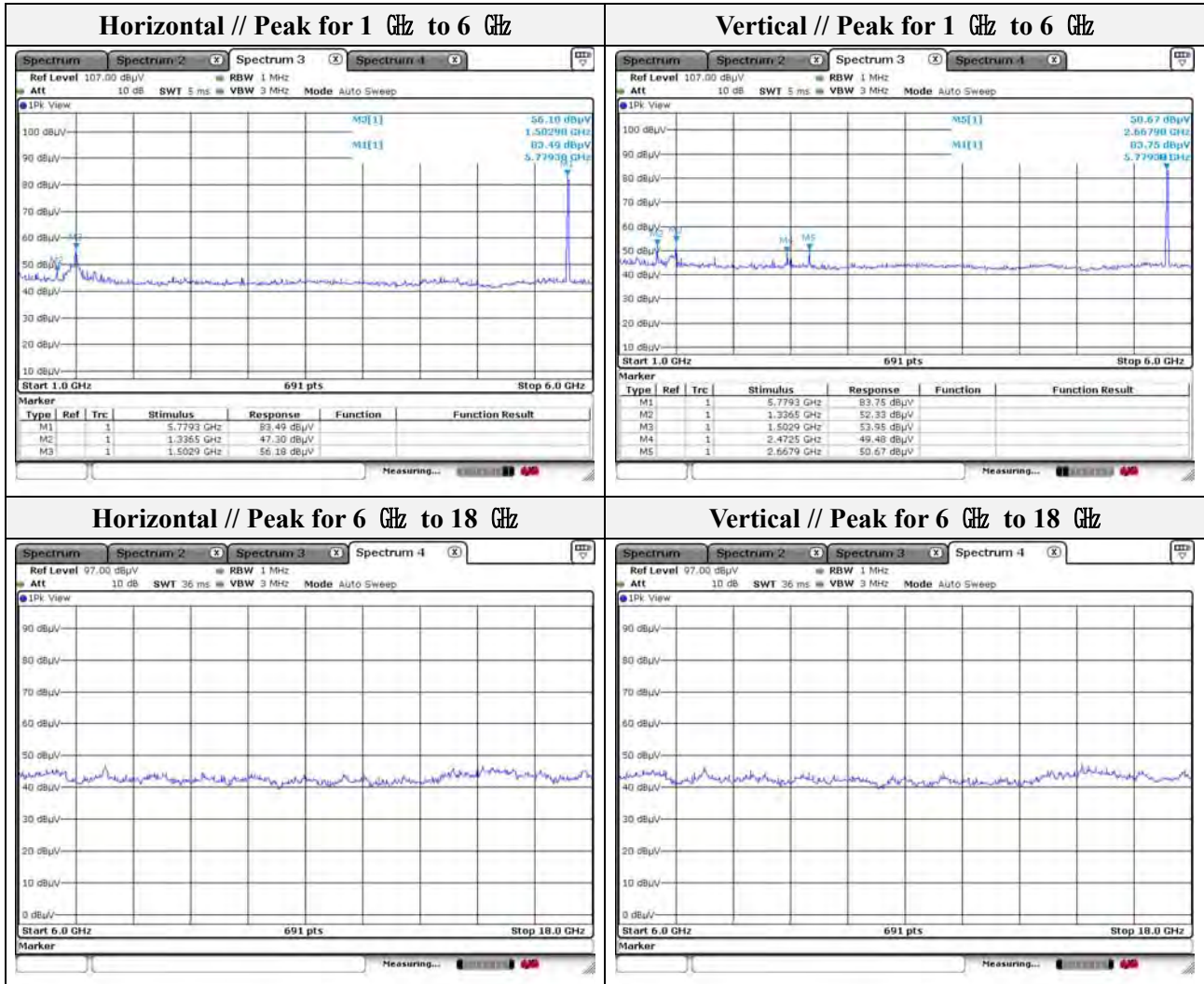
Mode: UNII-3(VHT20)  
 Distance of measurement: 3 meter  
 Channel: 157

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	47.30	Peak	H	-6.98	-	40.32	74.00	33.68
1 502.90	56.18	Peak	H	-5.95	-	50.23	74.00	23.77
1 336.50	52.33	Peak	V	-6.98	-	45.35	74.00	28.65
1 502.90	53.95	Peak	V	-5.95	-	48.00	74.00	26.00
2 472.50	49.48	Peak	V	-0.07	-	49.41	74.00	24.59
2 667.90	50.67	Peak	V	0.60	-	51.27	74.00	22.73

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



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Test report No.:  
KES-RF-18T0007-R1  
Page (180) of (221)

Mode: UNII-3(VHT20)  
Distance of measurement: 3 meter  
Channel: 165

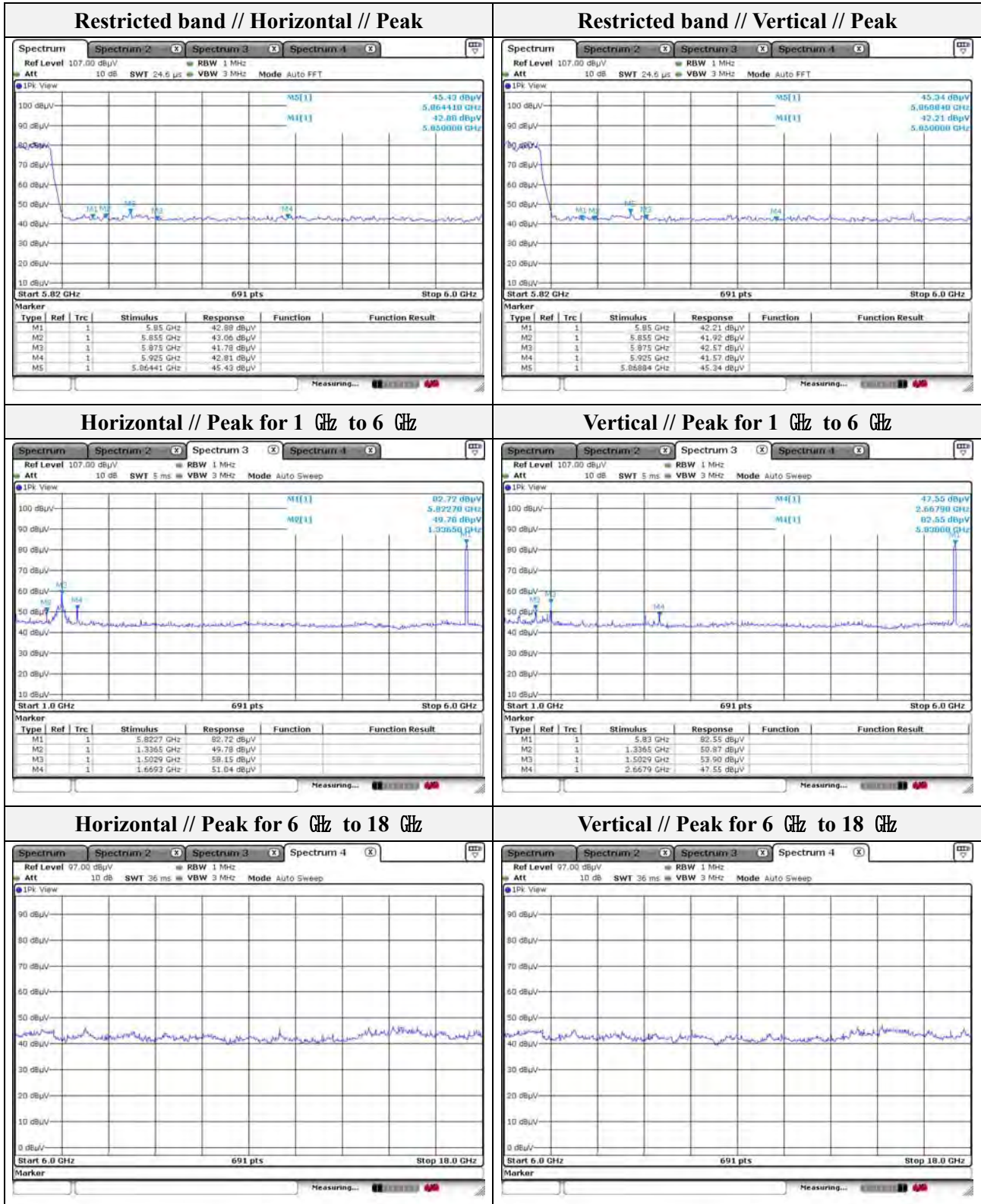
**- Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	49.78	Peak	H	-6.98	-	42.80	74.00	31.20
1 502.90	58.15	Peak	H	-5.95	-	52.20	74.00	21.80
1 669.30	51.04	Peak	H	-4.32	-	46.72	74.00	27.28
1 336.50	50.87	Peak	V	-6.98	-	43.89	74.00	30.11
1 502.90	53.90	Peak	V	-5.95	-	47.95	74.00	26.05
2 667.90	47.55	Peak	V	0.60	-	48.15	74.00	25.85

**- Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 850.00	42.88	Peak	H	11.78	-	54.66	122.20	67.54
5 864.41	45.43	Peak	H	11.185	-	57.28	108.17	50.89
5 850.00	42.21	Peak	V	11.78	-	53.99	122.20	68.30
5 868.84	45.34	Peak	V	11.88	-	57.22	106.92	49.70

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Test report No.:  
KES-RF-18T0007-R1  
Page (182) of (221)

Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-1(VHT40)  
Distance of measurement: 3 meter  
Channel: 38

- **Spurious**

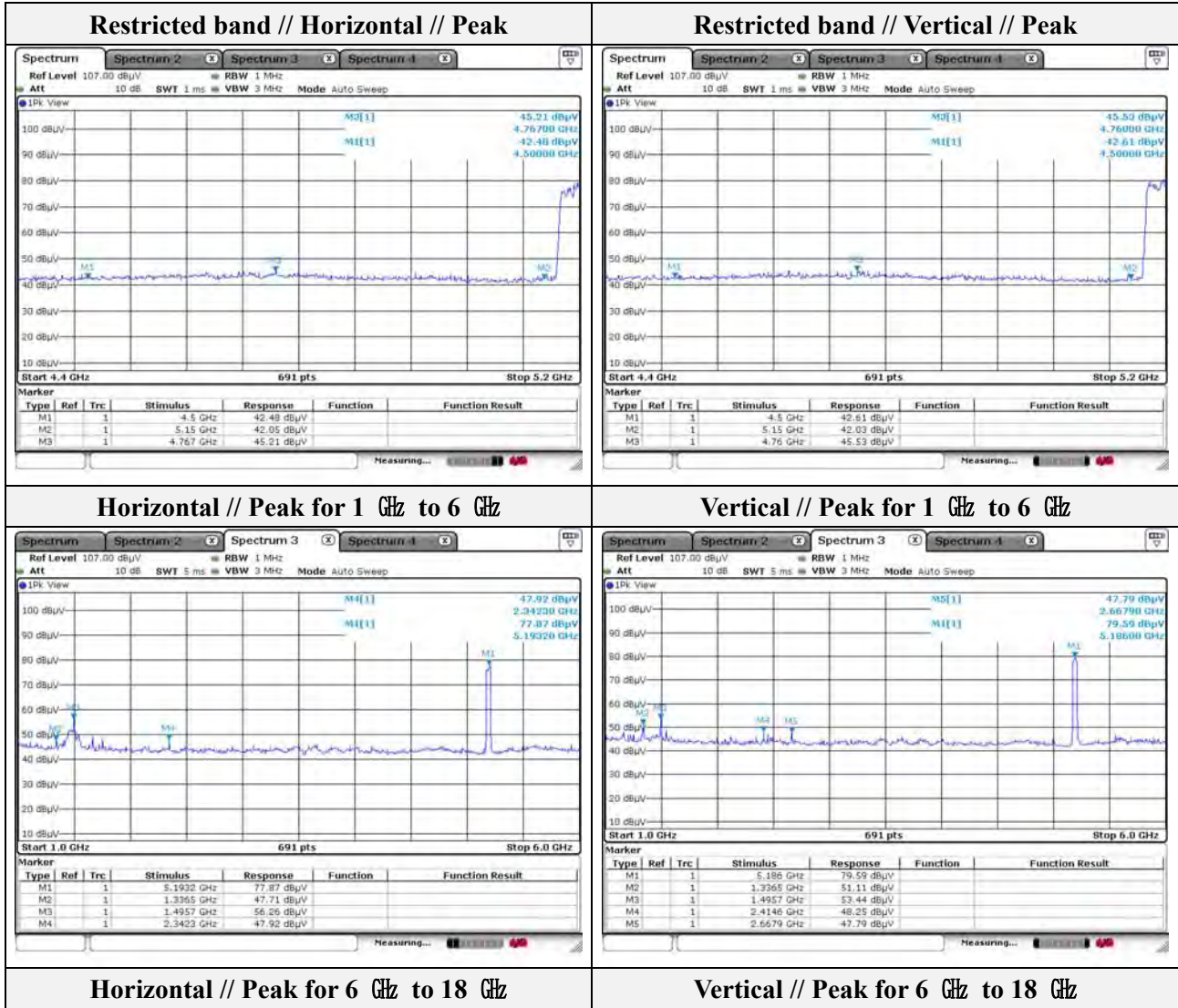
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	47.71	Peak	H	-6.98	-	40.73	74.00	33.27
1 495.70	56.26	Peak	H	-6.00	-	50.26	74.00	23.74
2 342.30	47.92	Peak	H	-0.31	-	47.61	74.00	26.39
1 336.50	51.11	Peak	V	-6.98	-	44.13	74.00	29.87
1 495.70	53.44	Peak	V	-6.00	-	47.44	74.00	26.56
2 414.60	48.25	Peak	V	-0.17	-	48.08	74.00	25.92
2 667.90	47.79	Peak	V	0.60	-	48.39	74.00	25.61

- **Band edge**

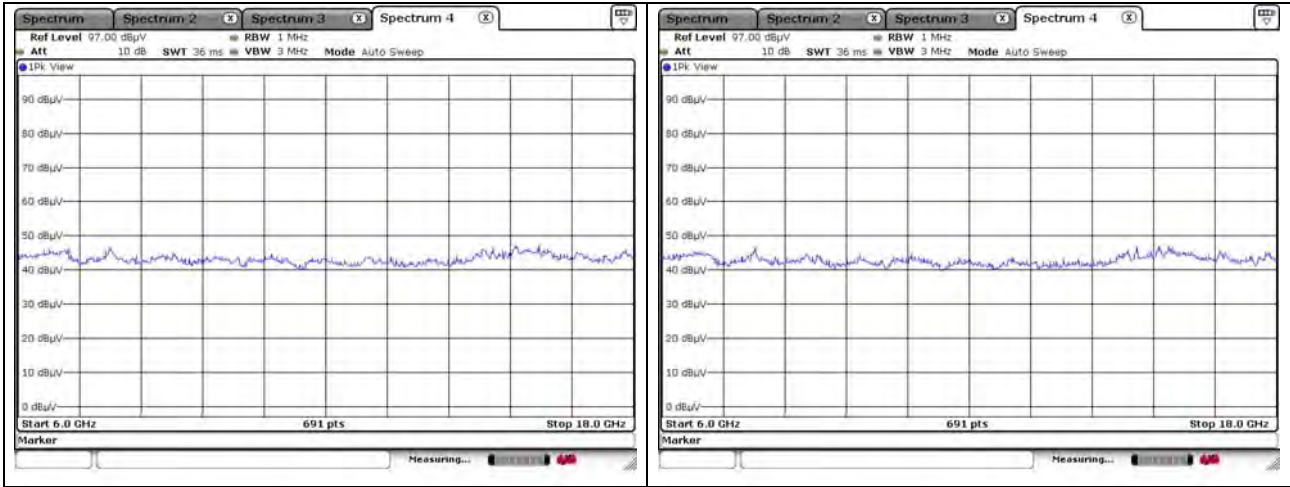
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4 767.00	45.21	Peak	H	7.28	-	52.49	74.00	21.51
4 760.00	45.53	Peak	V	7.23	-	52.76	74.00	21.24

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Note.

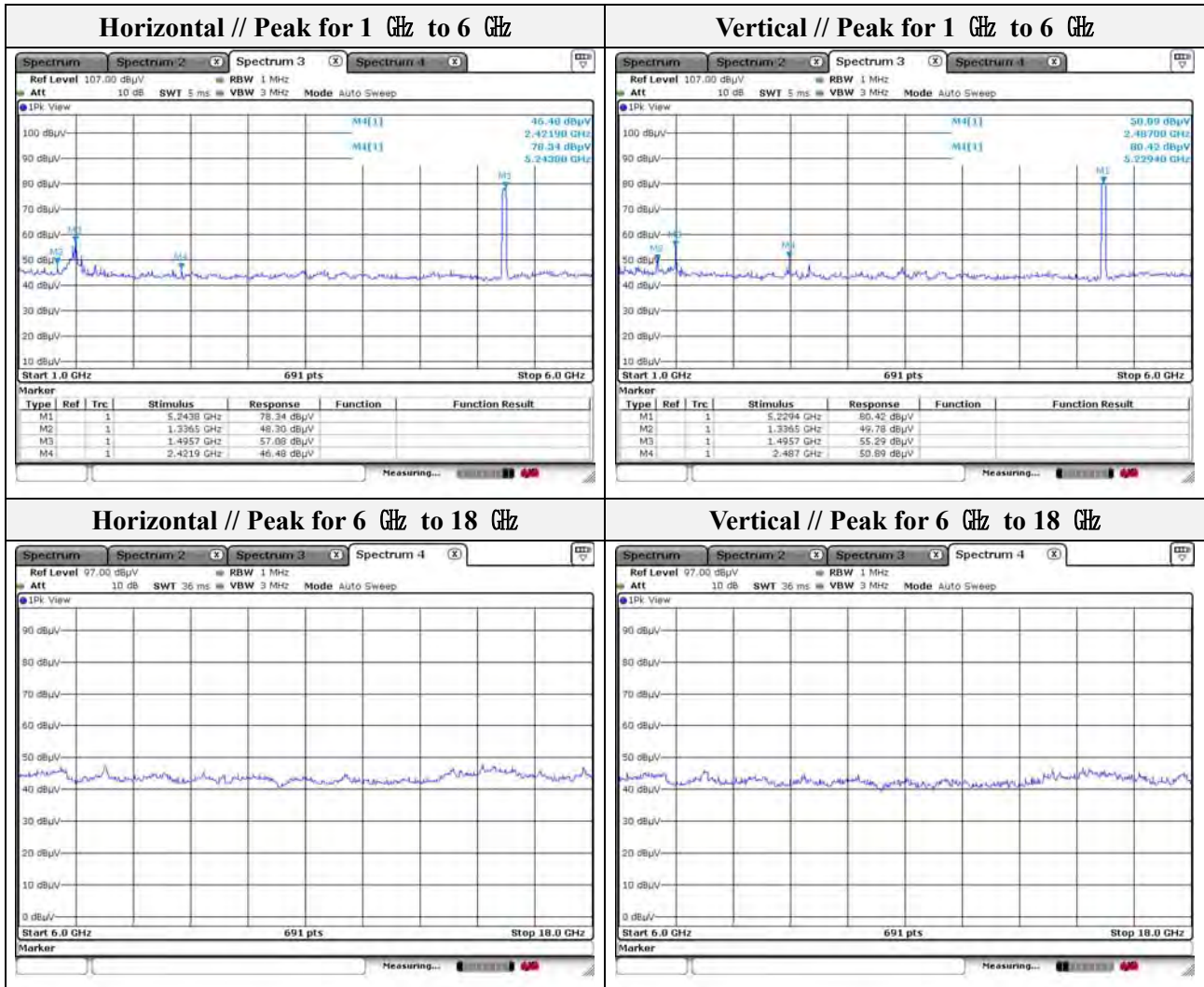
1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-1(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 46

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	48.30	Peak	H	-6.98	-	41.32	74.00	32.68
1 495.70	57.08	Peak	H	-6.00	-	51.08	74.00	22.92
2 421.90	46.48	Peak	H	-0.16	-	46.32	74.00	27.68
1 336.50	49.78	Peak	V	-6.98	-	42.80	74.00	31.20
1 495.70	55.29	Peak	V	-6.00	-	49.29	74.00	24.71
2 487.00	50.89	Peak	V	-0.04	-	50.85	74.00	23.15

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Test report No.:  
KES-RF-18T0007-R1  
Page (186) of (221)

Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

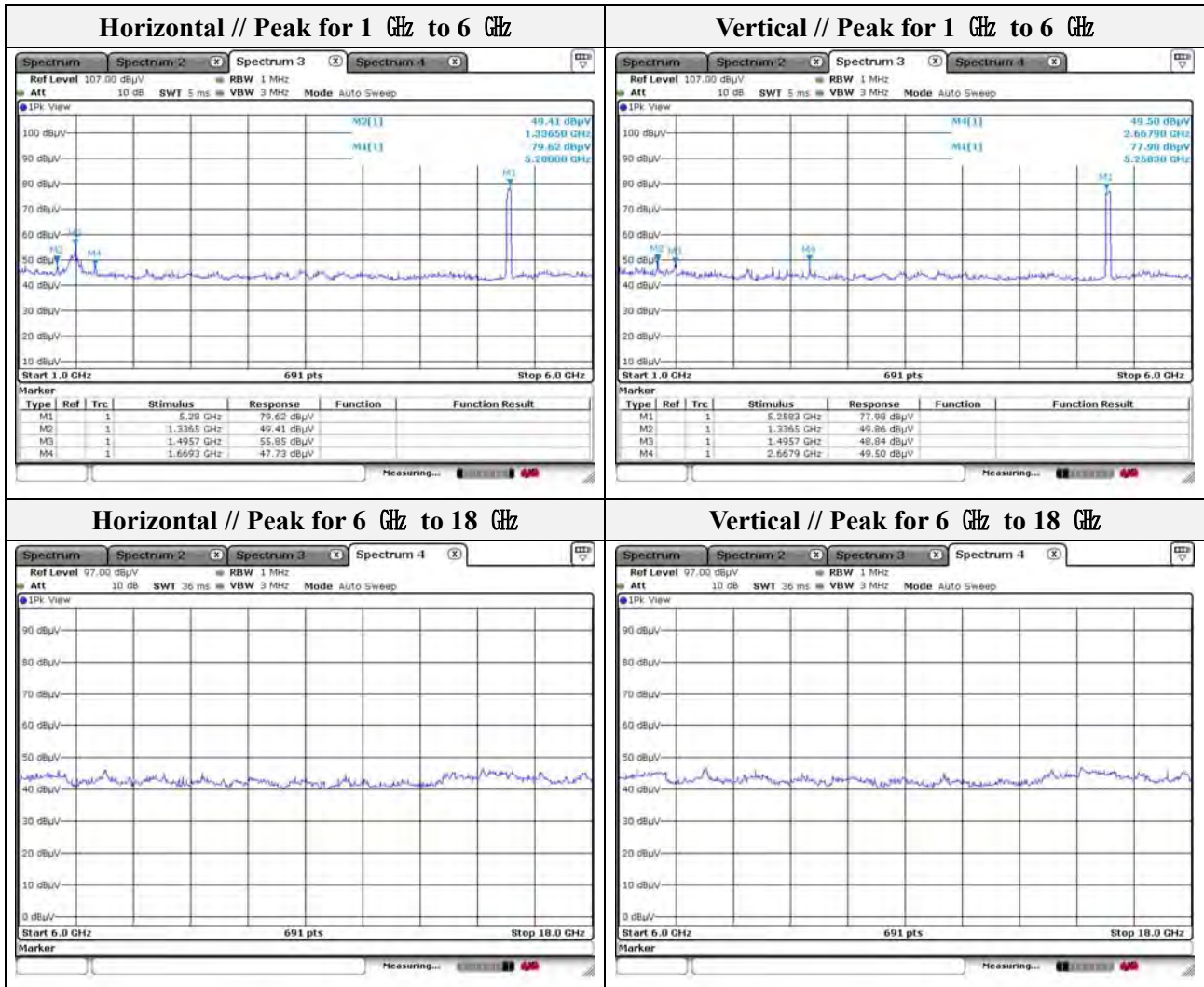
Mode: UNII-2A(VHT40)  
Distance of measurement: 3 meter  
Channel: 54

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	49.41	Peak	H	-6.98	-	42.43	74.00	31.57
1 495.70	55.85	Peak	H	-6.00	-	49.85	74.00	24.15
1 669.30	47.73	Peak	H	-4.32	-	43.41	74.00	30.59
1 336.50	49.86	Peak	V	-6.98	-	42.88	74.00	31.12
1 495.70	48.84	Peak	V	-6.00	-	42.84	74.00	31.16
2 667.90	49.50	Peak	V	0.60	-	50.10	74.00	23.90

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1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2A(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 62

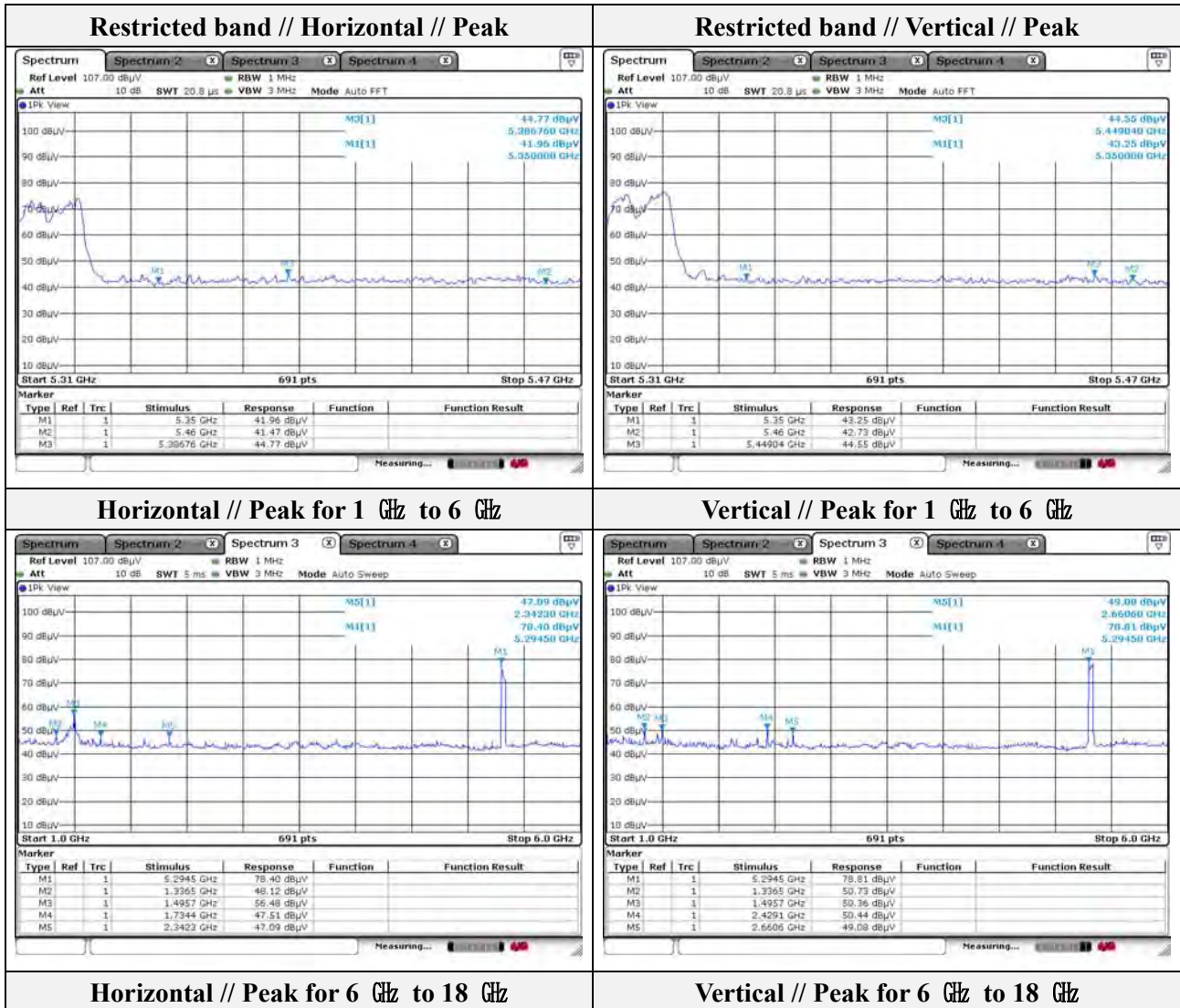
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.12	Peak	H	-6.98	-	41.14	74.00	32.86
1 495.70	56.48	Peak	H	-6.00	-	50.48	74.00	23.52
1 734.40	47.51	Peak	H	-3.70	-	43.81	74.00	30.19
2 342.30	47.09	Peak	H	-0.31	-	46.78	74.00	27.22
1 336.50	50.73	Peak	V	-6.98	-	43.75	74.00	30.25
1 495.70	50.36	Peak	V	-6.00	-	44.36	74.00	29.64
2 429.10	50.44	Peak	V	-0.15	-	50.29	74.00	23.71
2 660.60	49.08	Peak	V	0.57	-	49.65	74.00	24.35

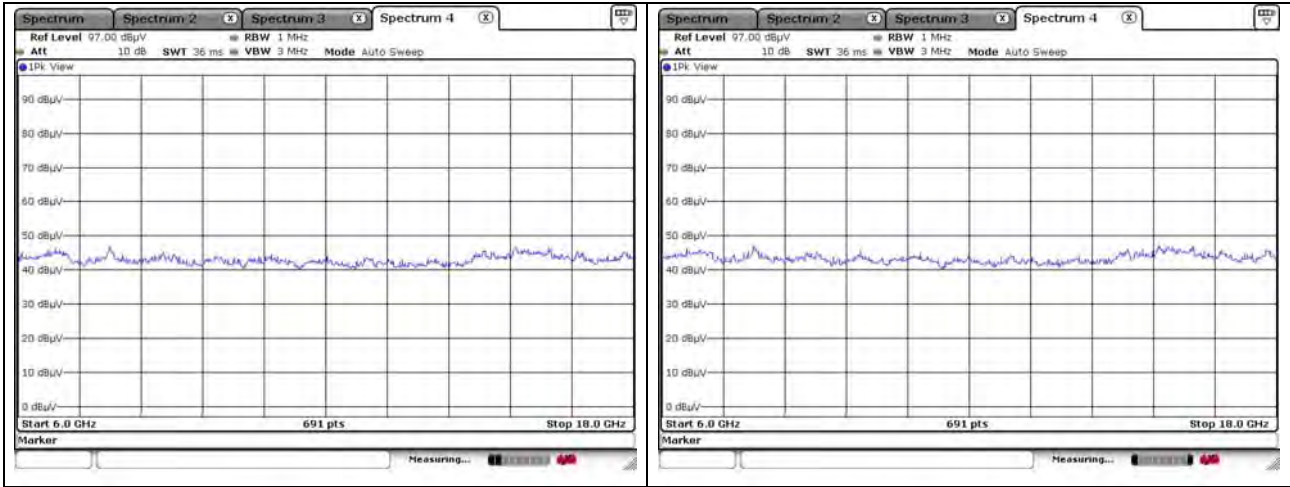
**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 386.76	44.77	Peak	H	9.00	-	53.77	74.00	20.23
5 449.04	44.55	Peak	V	9.07	-	53.62	74.00	20.38

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 102

**- Spurious**

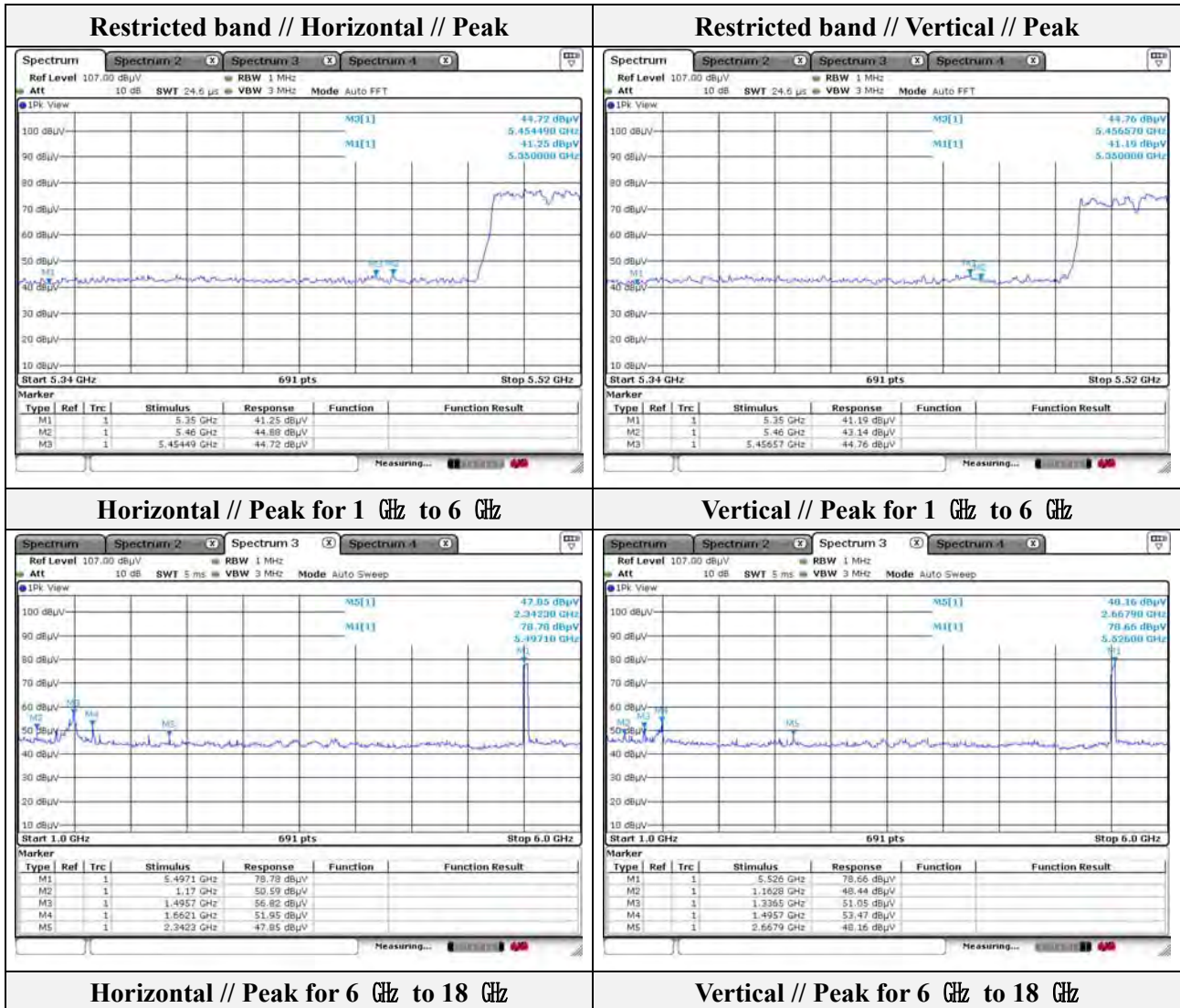
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 170.00	50.59	Peak	H	-8.05	-	42.54	74.00	31.46
1 495.70	56.82	Peak	H	-6.00	-	50.82	74.00	23.18
1 662.10	51.95	Peak	H	-4.39	-	47.56	74.00	26.44
2 3424.30	47.85	Peak	H	-0.31	-	47.54	74.00	26.46
1 162.80	48.44	Peak	V	-8.10	-	40.34	74.00	33.66
1 336.50	51.05	Peak	V	-6.98	-	44.07	74.00	29.93
1 495.70	53.47	Peak	V	-6.00	-	47.47	74.00	26.53
2 667.90	48.16	Peak	V	0.60	-	48.76	74.00	25.24

**- Band edge**

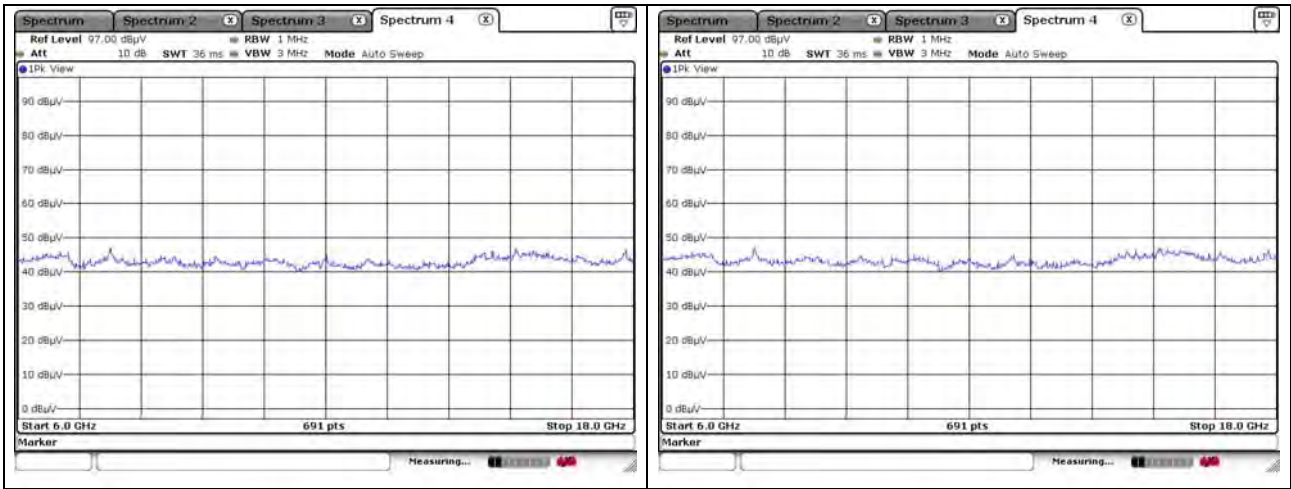
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 460.00	44.88	Peak	H	9.08	-	53.96	74.00	20.04
5 456.57	44.76	Peak	V	9.08	-	53.84	74.00	20.16

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Note.

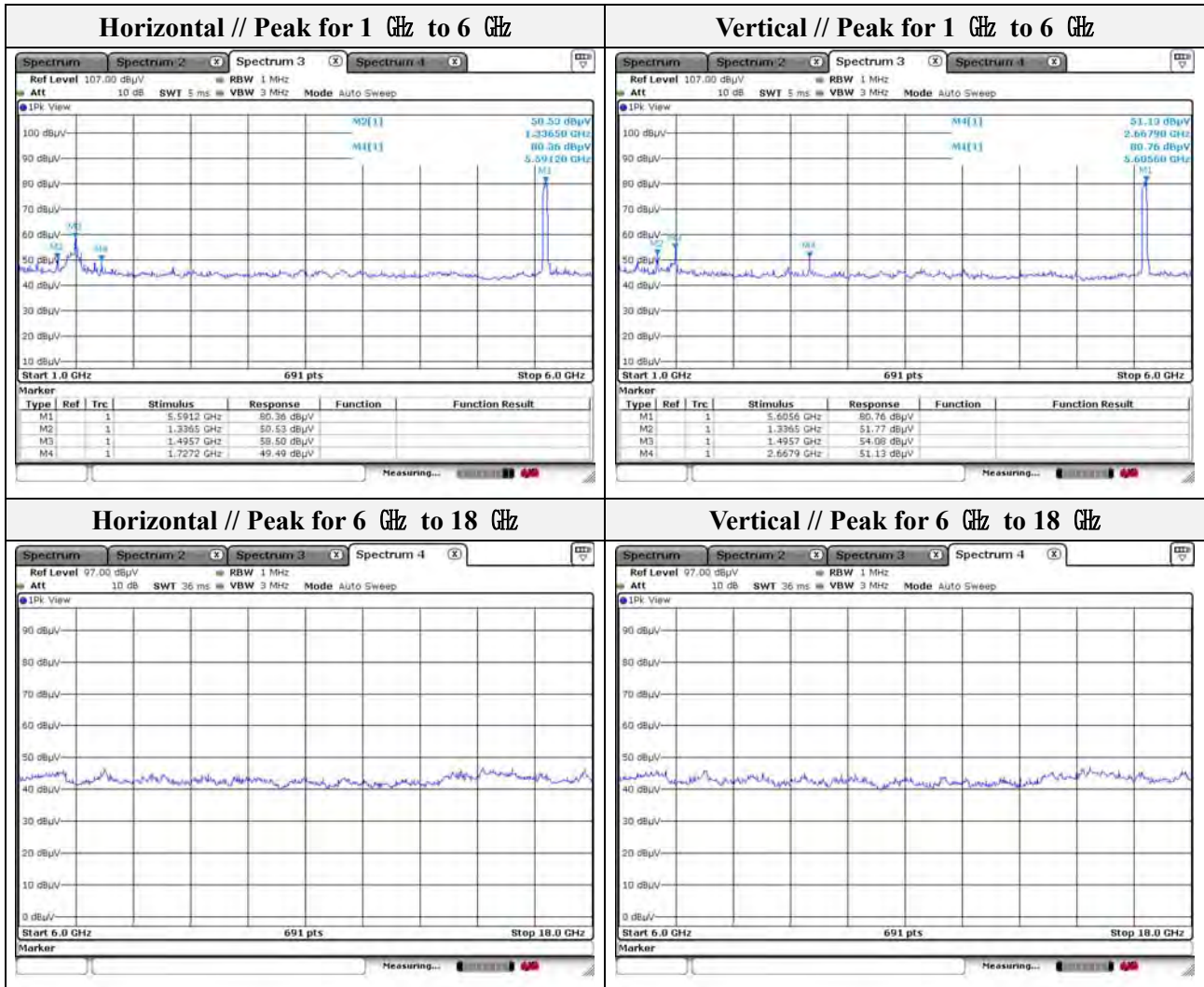
1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 118

**- Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	50.53	Peak	H	-6.98	-	43.55	74.00	30.45
1 495.70	58.50	Peak	H	-6.00	-	52.50	74.00	21.50
1 727.20	49.49	Peak	H	-3.77	-	45.72	74.00	28.28
1 336.50	51.77	Peak	V	-6.98	-	44.79	74.00	29.21
1 495.70	54.08	Peak	V	-6.00	-	48.08	74.00	25.92
2 667.90	51.13	Peak	V	0.60	-	51.73	74.00	22.27

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Test report No.:  
KES-RF-18T0007-R1  
Page (194) of (221)

Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 134

- **Spurious**

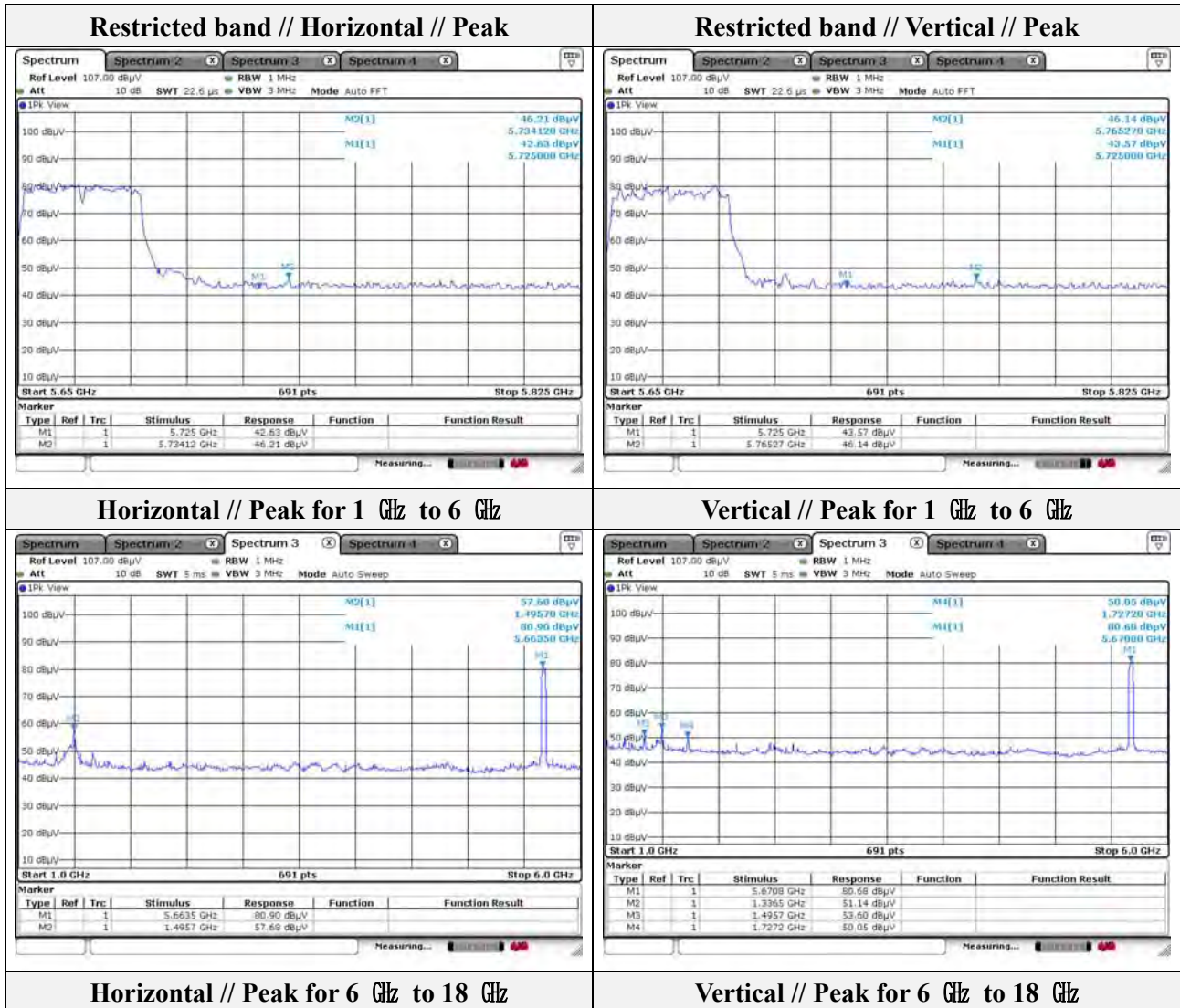
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 495.70	57.68	Peak	H	-6.00	-	51.68	74.00	22.32
1 336.50	51.14	Peak	V	-6.98	-	44.16	74.00	29.84
1 495.70	53.60	Peak	V	-6.00	-	47.60	74.00	26.40
1 727.20	50.05	Peak	V	-3.77	-	46.28	74.00	27.72

- **Band edge**

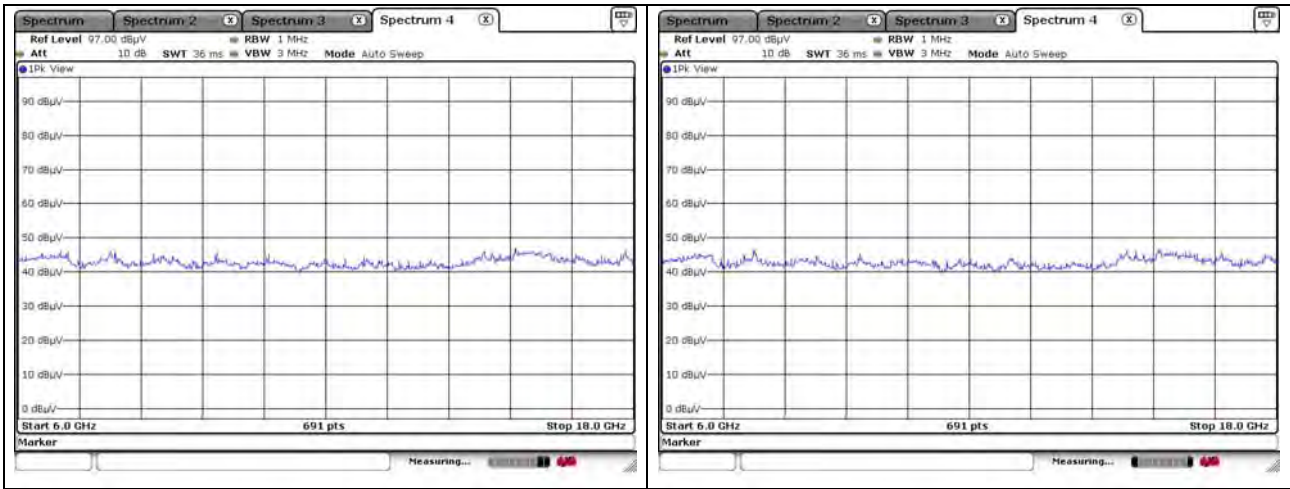
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 734.12	46.21	Peak	H	10.95	-	57.16	68.20	11.04
5 765.27	46.14	Peak	V	11.21	-	57.35	68.20	10.85

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Note.

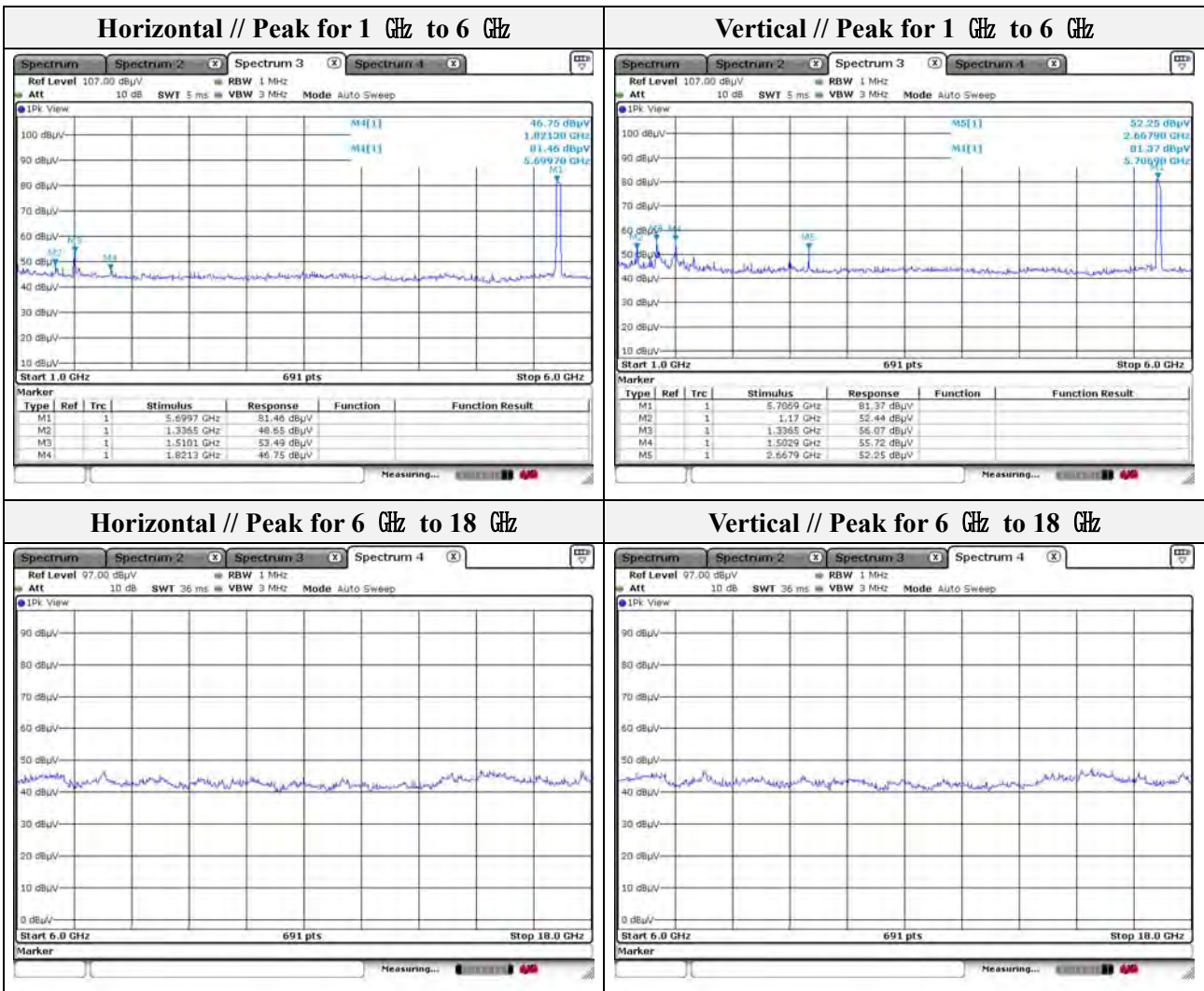
1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 142

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	48.65	Peak	H	-6.98	-	41.67	74.00	32.33
1 510.10	53.49	Peak	H	-5.88	-	47.61	74.00	26.39
1 821.30	46.75	Peak	H	-2.85	-	43.90	74.00	30.10
1 170.00	52.44	Peak	V	-8.05	-	44.39	74.00	29.61
1 336.50	56.07	Peak	V	-6.98	-	49.09	74.00	24.91
1 502.90	55.72	Peak	V	-5.95	-	49.77	74.00	24.23
2 667.90	52.25	Peak	V	0.60	-	52.85	74.00	21.15

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-3(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 151

**- Spurious**

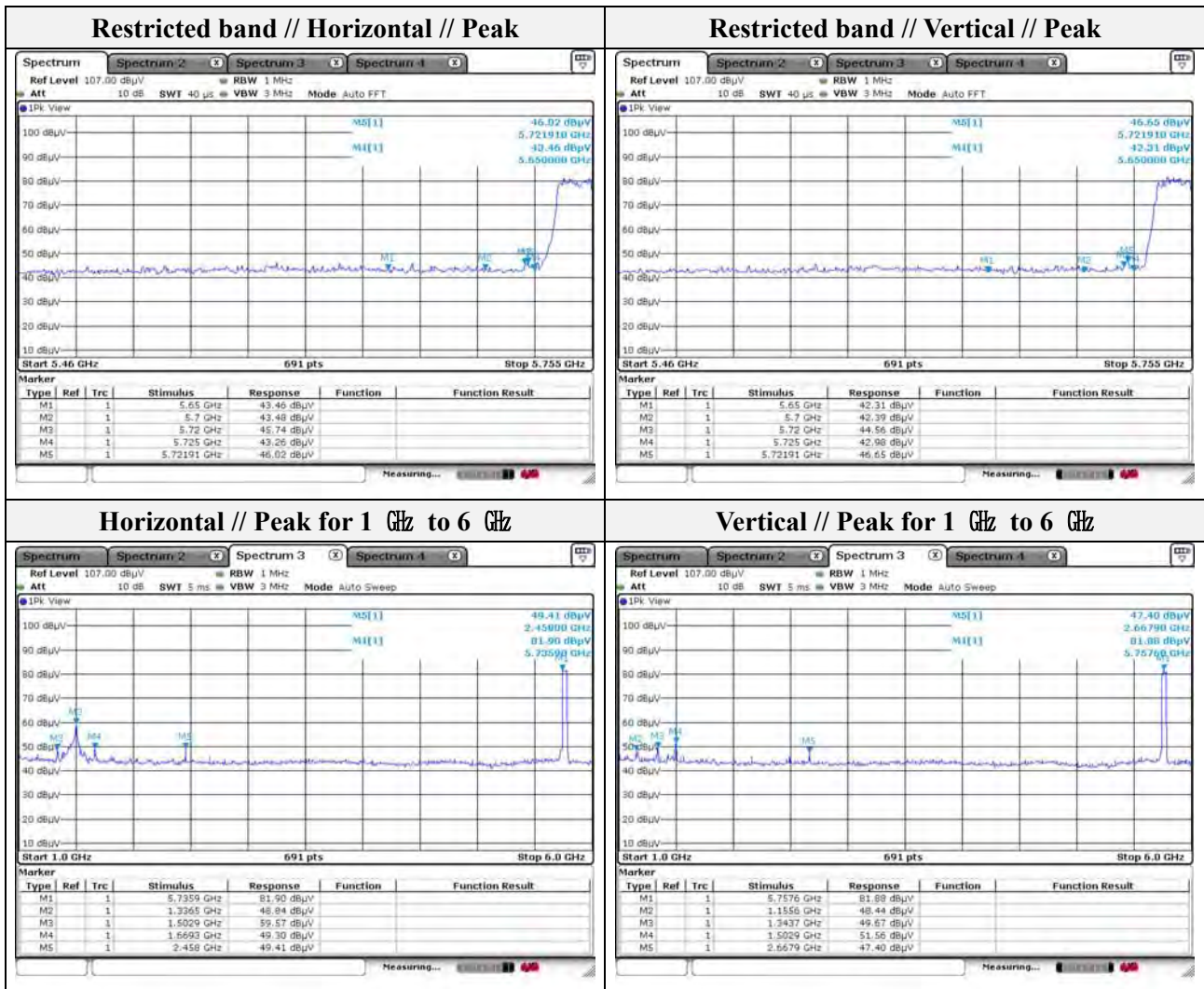
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	48.84	Peak	H	-6.98	-	41.86	74.00	32.14
1 502.90	59.57	Peak	H	-5.95	-	53.62	74.00	20.38
1 669.30	49.30	Peak	H	-4.32	-	44.98	74.00	29.02
2 458.00	49.41	Peak	H	-0.09	-	49.32	74.00	24.68
1 155.60	48.44	Peak	V	-8.14	-	40.30	74.00	33.70
1 343.70	49.67	Peak	V	-6.94	-	42.73	74.00	31.27
1 502.90	51.56	Peak	V	-5.95	-	45.61	74.00	28.39
2 667.90	47.40	Peak	V	0.60	-	48.00	74.00	26.00

**- Band edge**

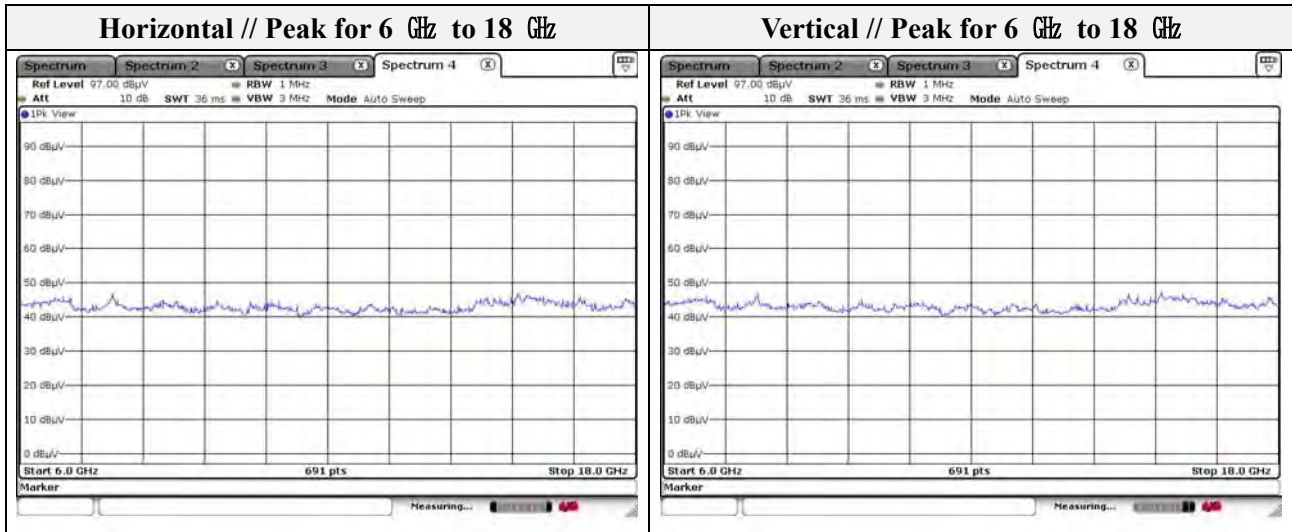
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 725.00	43.26	Peak	H	10.87	-	54.13	122.23	68.10
5 721.91	46.02	Peak	H	10.85	-	56.87	115.18	58.31
5 725.00	42.98	Peak	V	10.87	-	53.85	122.23	68.38
5 721.91	46.65	Peak	V	10.85	-	57.50	115.18	57.68

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-3(VHT40)  
 Distance of measurement: 3 meter  
 Channel: 159

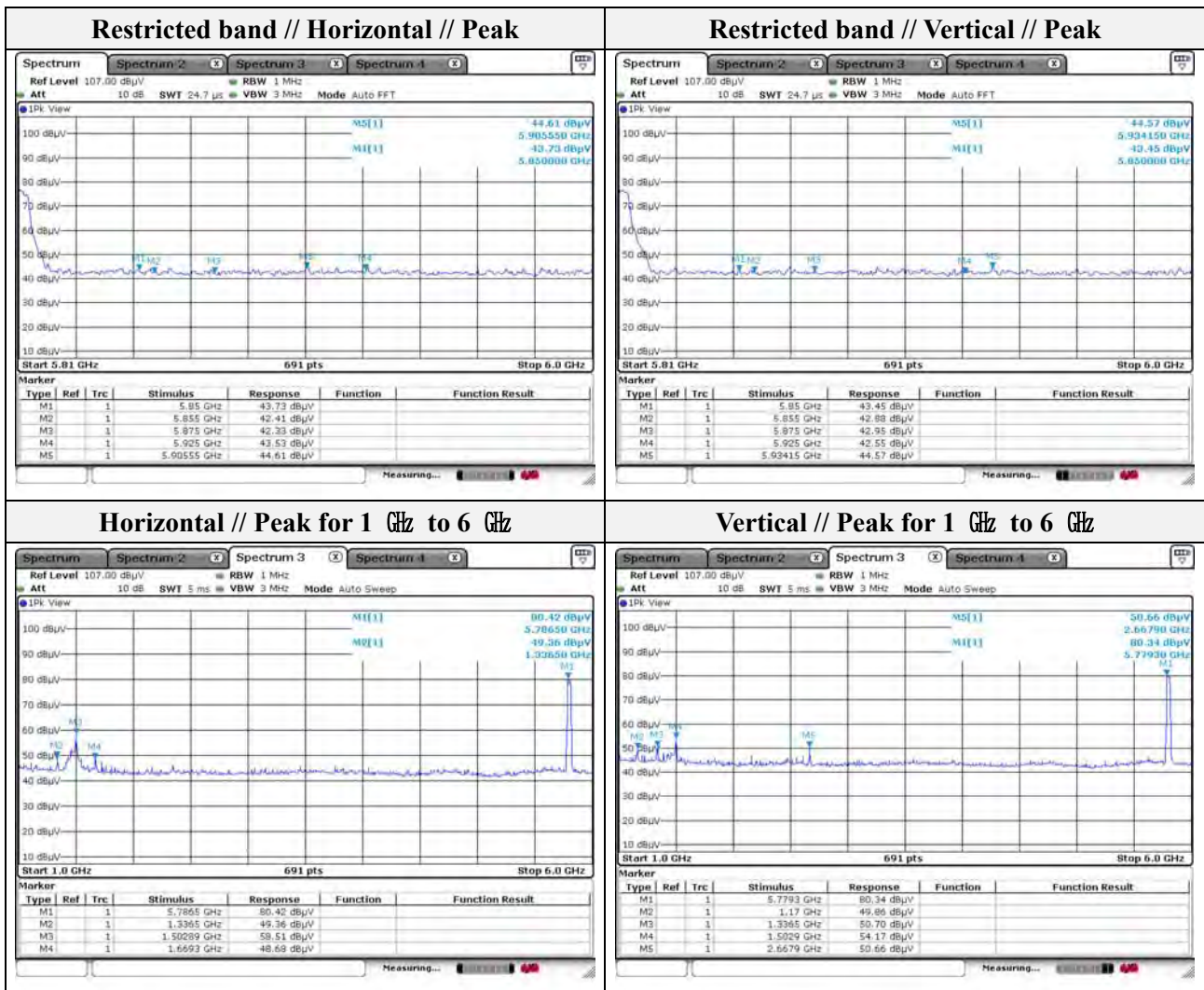
- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	49.36	Peak	H	-6.98	-	42.38	74.00	31.62
1 502.89	58.51	Peak	H	-5.95	-	52.56	74.00	21.44
1 669.30	48.68	Peak	H	-4.32	-	44.36	74.00	29.64
1 170.00	49.86	Peak	V	-8.05	-	41.81	74.00	32.19
1 336.50	50.70	Peak	V	-6.98	-	43.72	74.00	30.28
1 502.90	54.17	Peak	V	-5.95	-	48.22	74.00	25.78
2 667.90	50.66	Peak	V	0.60	-	51.26	74.00	22.74

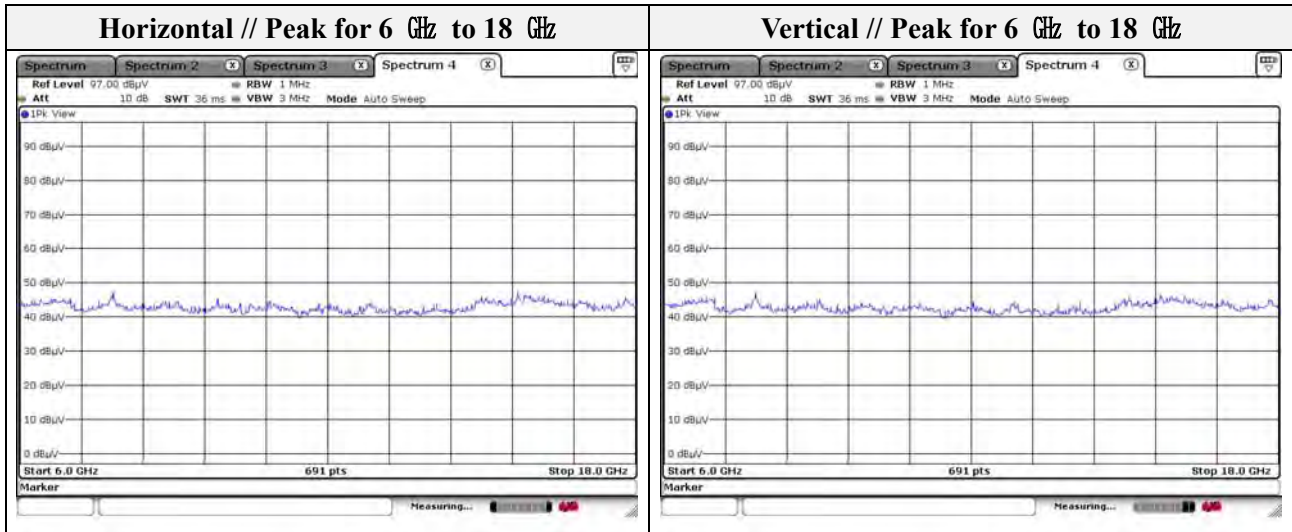
- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 850.00	43.73	Peak	H	11.78	-	55.51	122.20	66.69
5 905.55	44.61	Peak	H	12.08	-	56.69	80.08	23.39
5 850.00	43.45	Peak	V	11.78	-	55.51	122.20	66.69
5 934.15	44.57	Peak	V	12.24	-	56.81	68.20	11.39

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-1(VHT80)  
 Distance of measurement: 3 meter  
 Channel: 42

- **Spurious**

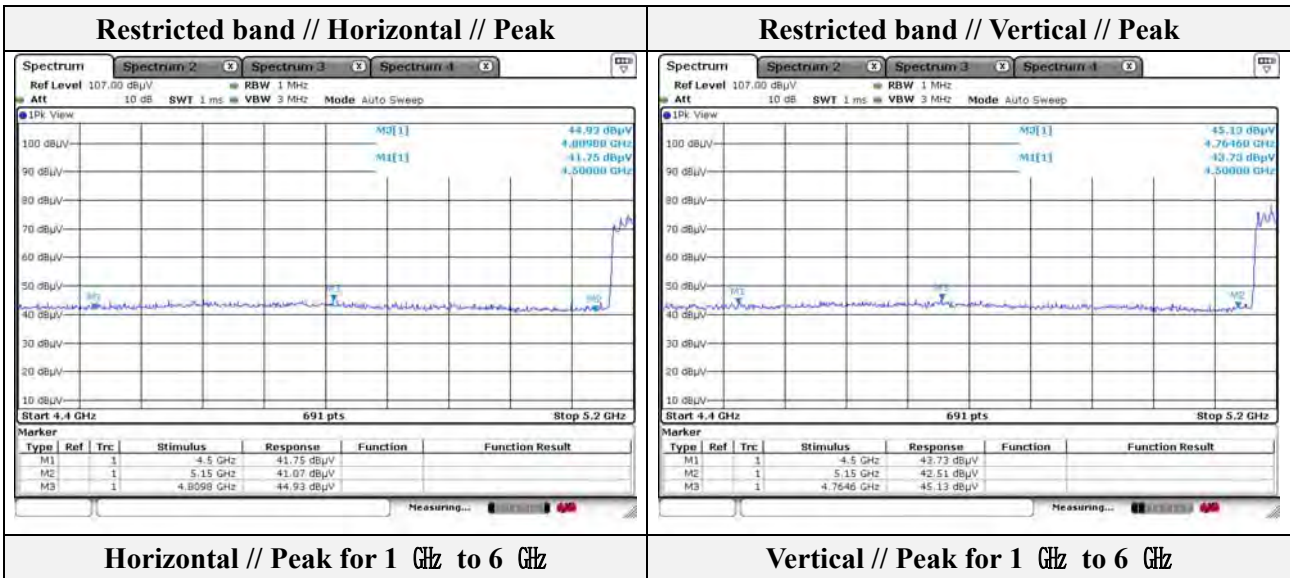
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	47.97	Peak	H	-6.98	-	40.99	74.00	33.01
1 495.70	54.71	Peak	H	-6.00	-	48.71	74.00	25.29
1 669.30	48.24	Peak	H	-4.32	-	43.92	74.00	30.08
1 336.50	49.02	Peak	V	-6.98	-	42.04	74.00	31.96
1 495.70	49.42	Peak	V	-6.00	-	43.42	74.00	30.58
2 667.90	47.97	Peak	V	0.60	-	48.57	74.00	25.43

- **Band edge**

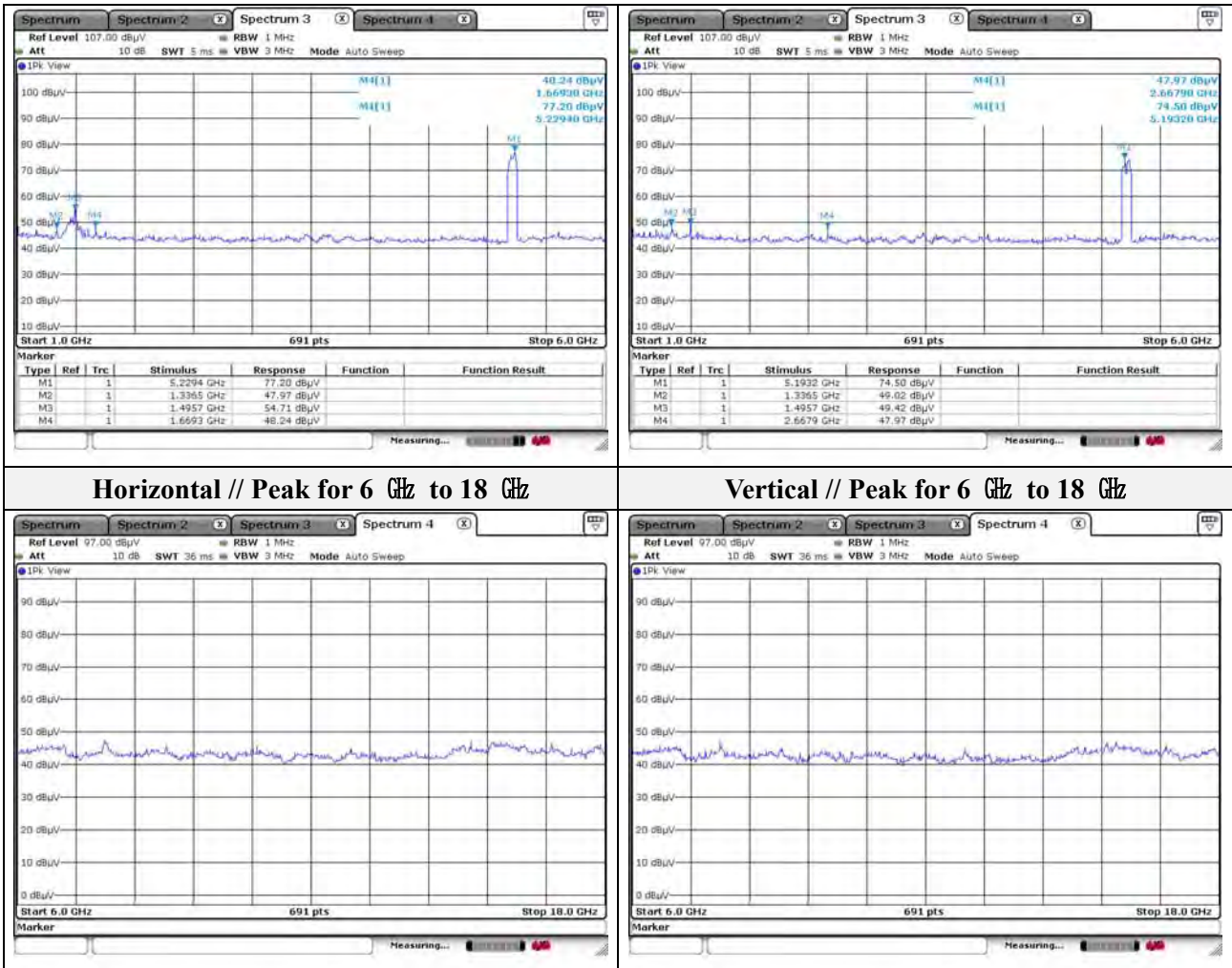
Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4 809.80	44.93	Peak	H	7.63	-	52.56	74.00	21.44
4 764.60	45.13	Peak	V	7.26	-	52.39	74.00	21.61

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2A(VHT80)

Distance of measurement: 3 meter

Channel: 58

**- Spurious**

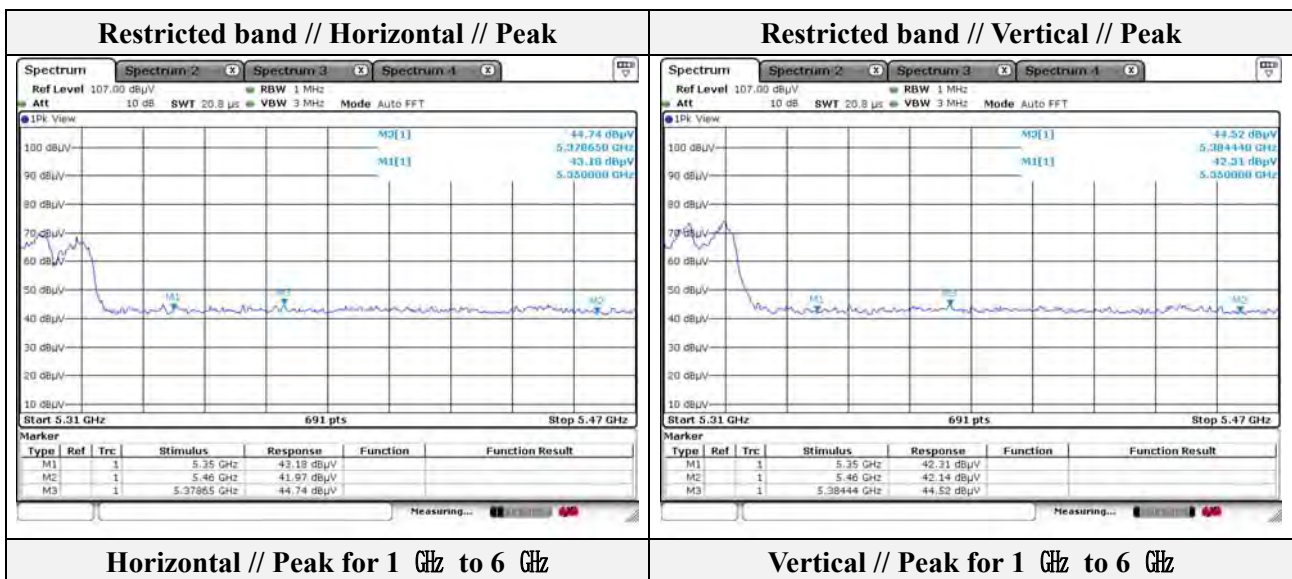
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	50.26	Peak	H	-6.98	-	43.28	74.00	30.72
1 495.70	56.62	Peak	H	-6.00	-	50.62	74.00	23.38
2 125.20	47.15	Peak	H	-0.72	-	46.43	74.00	27.57
1 336.50	50.74	Peak	V	-6.98	-	43.76	74.00	30.24
1 495.70	52.37	Peak	V	-6.00	-	46.37	74.00	27.63
2 508.70	48.64	Peak	V	0.02	-	48.66	74.00	25.34

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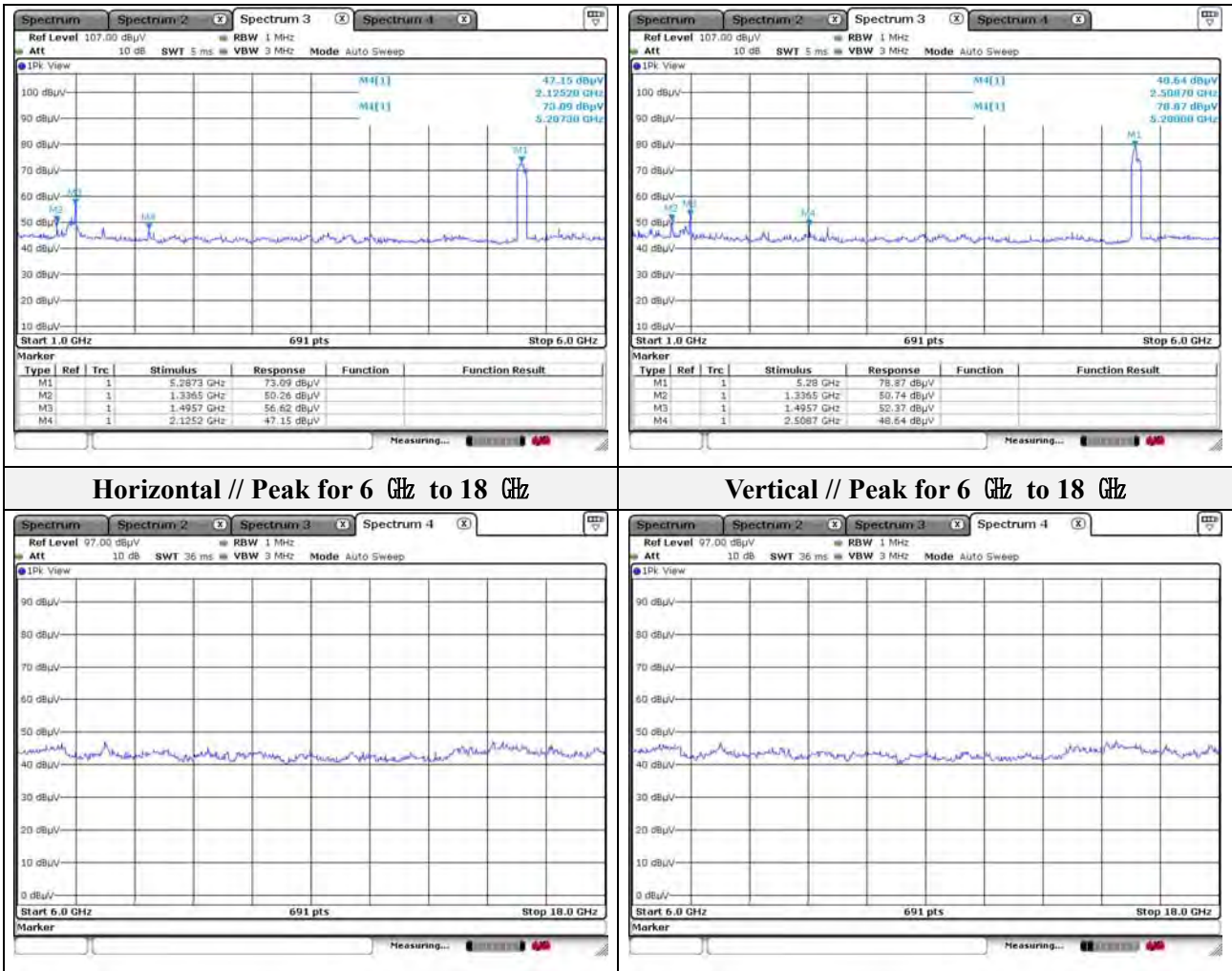


- **Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 378.65	44.74	Peak	H	9.00	-	53.74	74.00	20.26
5 384.44	44.52	Peak	V	9.00	-	53.52	74.00	20.48



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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT80)

Distance of measurement: 3 meter

Channel: 106

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	50.27	Peak	H	-6.98	-	43.29	74.00	30.71
1 495.70	58.42	Peak	H	-6.00	-	52.42	74.00	21.58
1 669.30	51.73	Peak	H	-4.32	-	47.41	74.00	26.59
2 494.20	51.53	Peak	H	-0.03	-	51.50	74.00	22.50
1 336.50	52.73	Peak	V	-6.98	-	45.75	74.00	28.25
1 495.70	54.64	Peak	V	-6.00	-	48.64	74.00	25.36

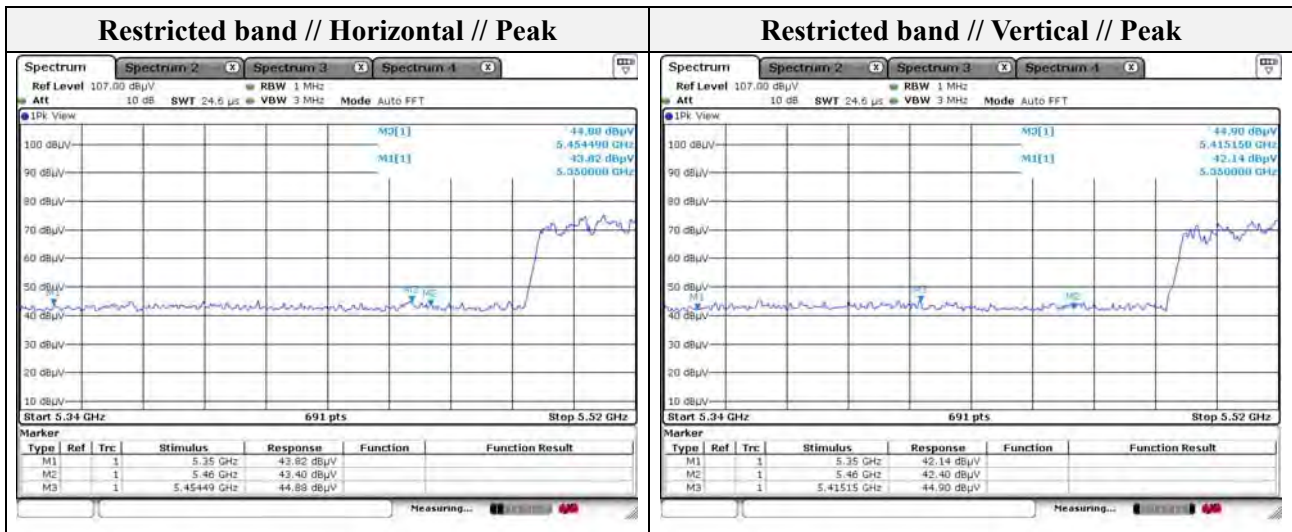
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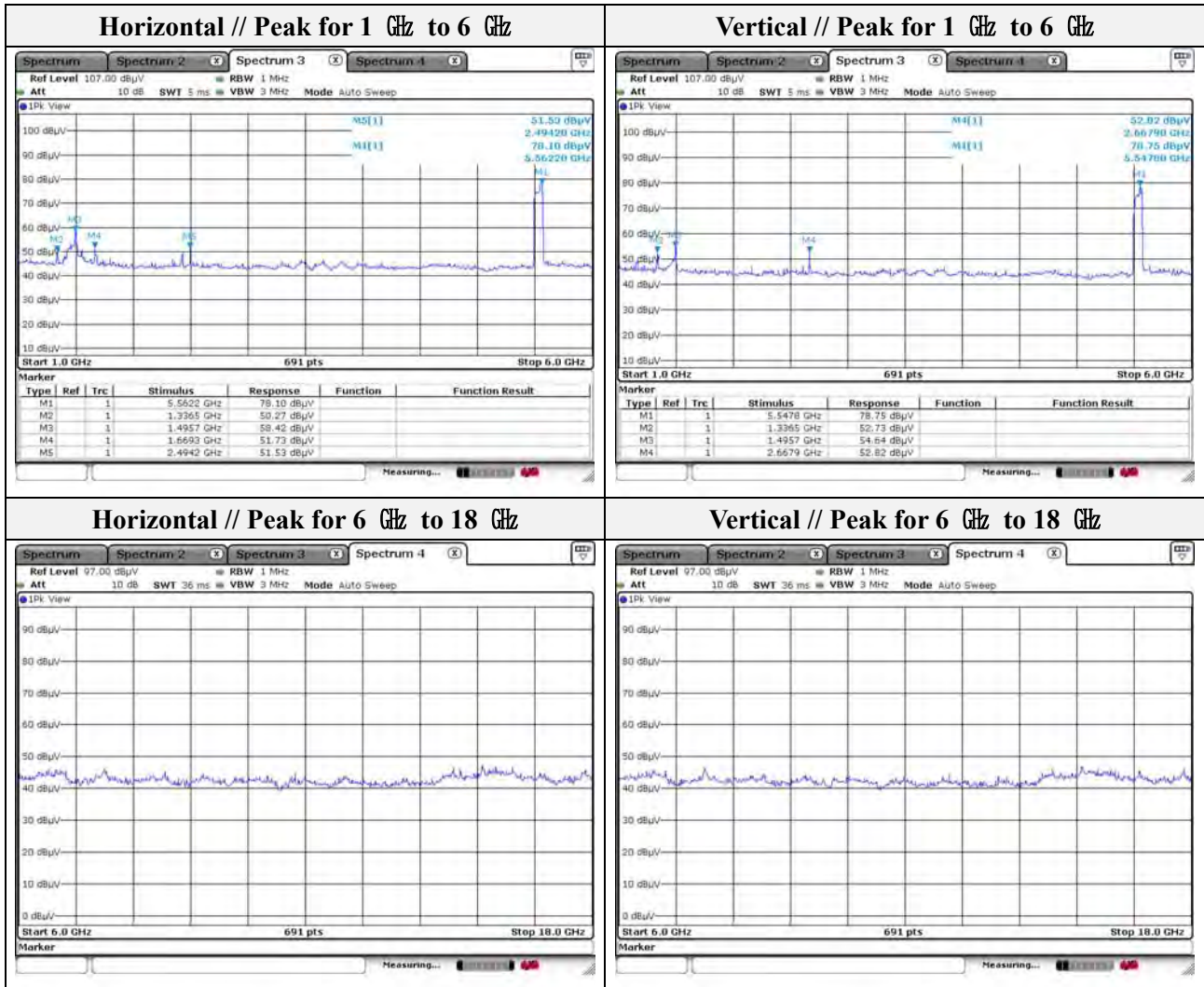
2 667.90	52.82	Peak	V	0.60	-	53.42	74.00	20.58
----------	-------	------	---	------	---	-------	-------	-------

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 454.49	44.88	Peak	H	9.08	-	53.96	74.00	20.04
5 415.15	44.90	Peak	V	9.03	-	53.93	74.00	20.07



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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

Mode: UNII-2C(VHT80)  
 Distance of measurement: 3 meter  
 Channel: 122

- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 336.50	49.25	Peak	H	-6.98	-	42.27	74.00	31.73
1 495.70	59.58	Peak	H	-6.00	-	53.58	74.00	20.42
1 669.30	51.59	Peak	H	-4.32	-	47.27	74.00	26.73
1 170.00	51.17	Peak	V	-8.05	-	43.12	74.00	30.88
1 336.50	51.16	Peak	V	-6.98	-	44.18	74.00	29.82

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Test report No.:  
KES-RF-18T0007-R1  
Page (209) of (221)

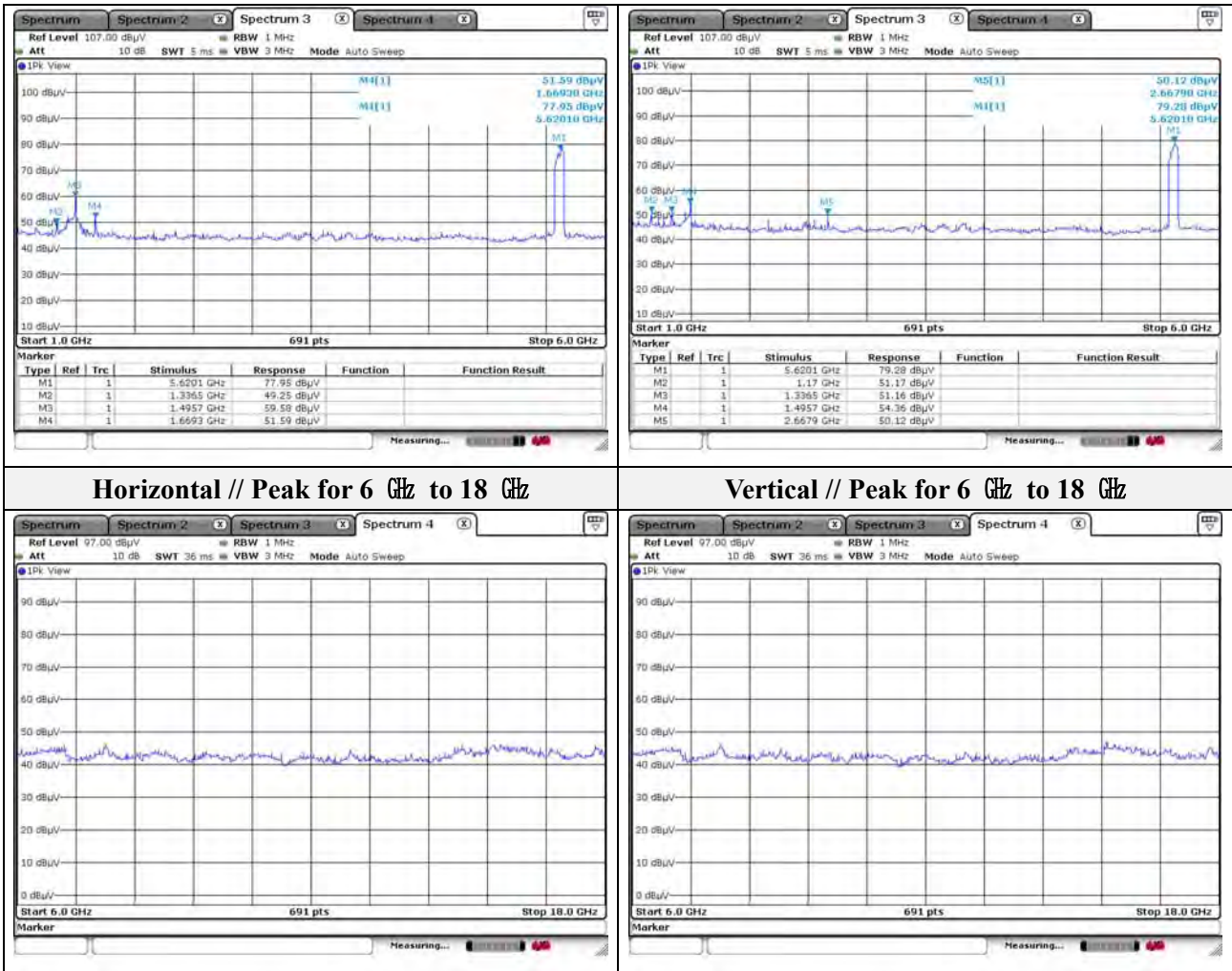
---

1 495.70	54.36	Peak	V	-6.00	-	48.36	74.00	25.64
2 667.90	50.12	Peak	V	0.60	-	50.72	74.00	23.28

<b>Horizontal // Peak for 1 GHz to 6 GHz</b>	<b>Vertical // Peak for 1 GHz to 6 GHz</b>
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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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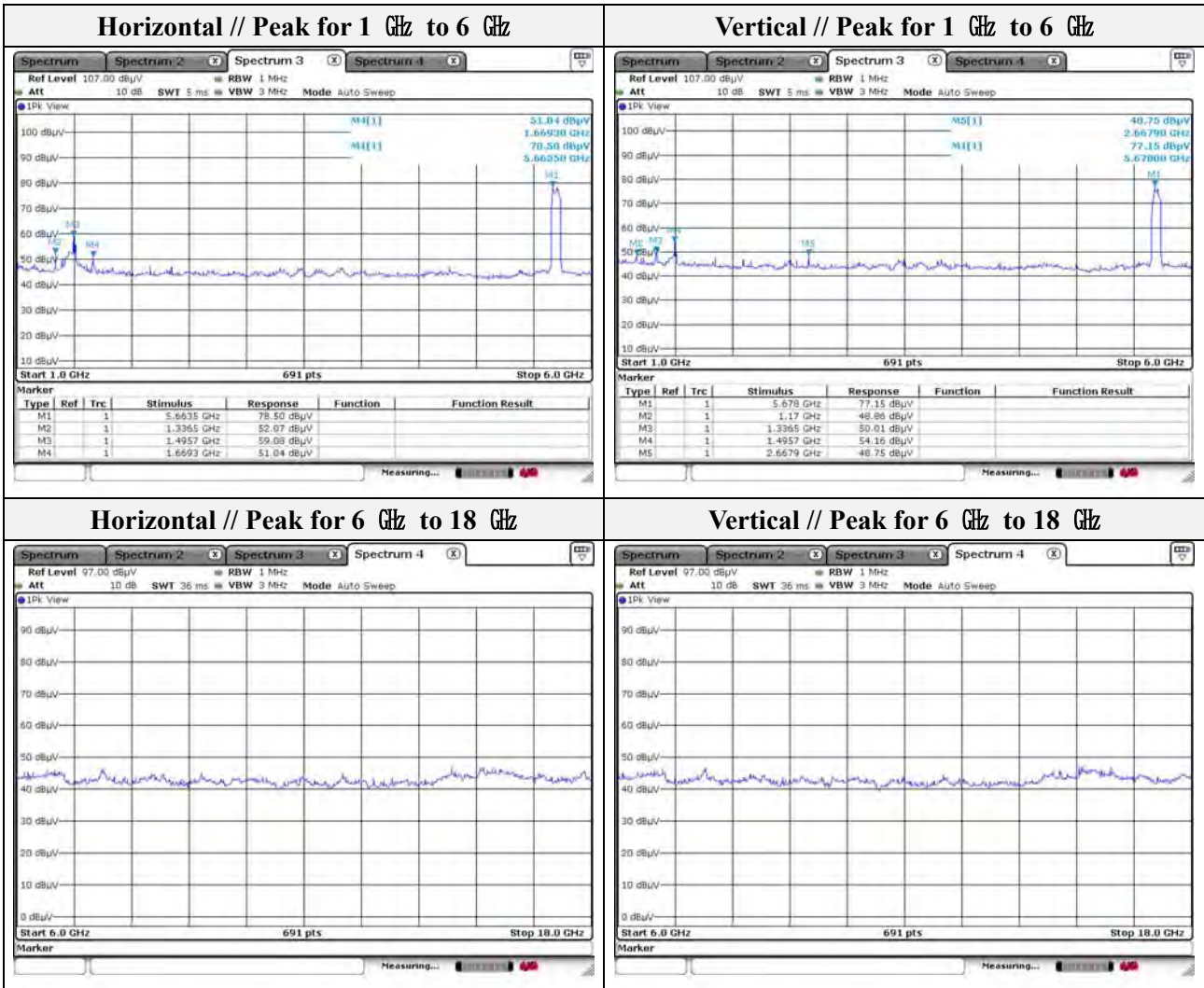
Test report No.:  
KES-RF-18T0007-R1  
Page (211) of (221)

Mode: UNII-2C(VHT80)  
Distance of measurement: 3 meter  
Channel: 138

- **Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	52.07	Peak	H	-6.98	-	45.09	74.00	28.91
1 495.70	59.08	Peak	H	-6.00	-	53.08	74.00	20.92
1 669.30	51.04	Peak	H	-4.32	-	46.72	74.00	27.28
1 170.00	48.86	Peak	V	-8.05	-	40.81	74.00	33.19
1 336.50	50.01	Peak	V	-6.98	-	43.03	74.00	30.97
1 495.70	54.16	Peak	V	-6.00	-	48.16	74.00	25.84
2 667.90	48.75	Peak	V	0.60	-	49.35	74.00	24.65

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Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Test report No.:  
KES-RF-18T0007-R1  
Page (213) of (221)

Mode: UNII-3(VHT80)  
Distance of measurement: 3 meter  
Channel: 155

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 336.50	50.05	Peak	H	-6.98	-	43.07	74.00	30.93
1 502.89	59.32	Peak	H	-5.95	-	53.37	74.00	20.63
1 734.40	49.37	Peak	H	-3.70	-	45.67	74.00	28.33
1 336.50	52.25	Peak	V	-6.98	-	45.27	74.00	28.73
1 502.90	53.35	Peak	V	-5.95	-	47.40	74.00	26.60
2 443.60	49.00	Peak	V	-0.12	-	48.88	74.00	25.12
2 667.90	50.42	Peak	V	0.60	-	51.02	74.00	22.98

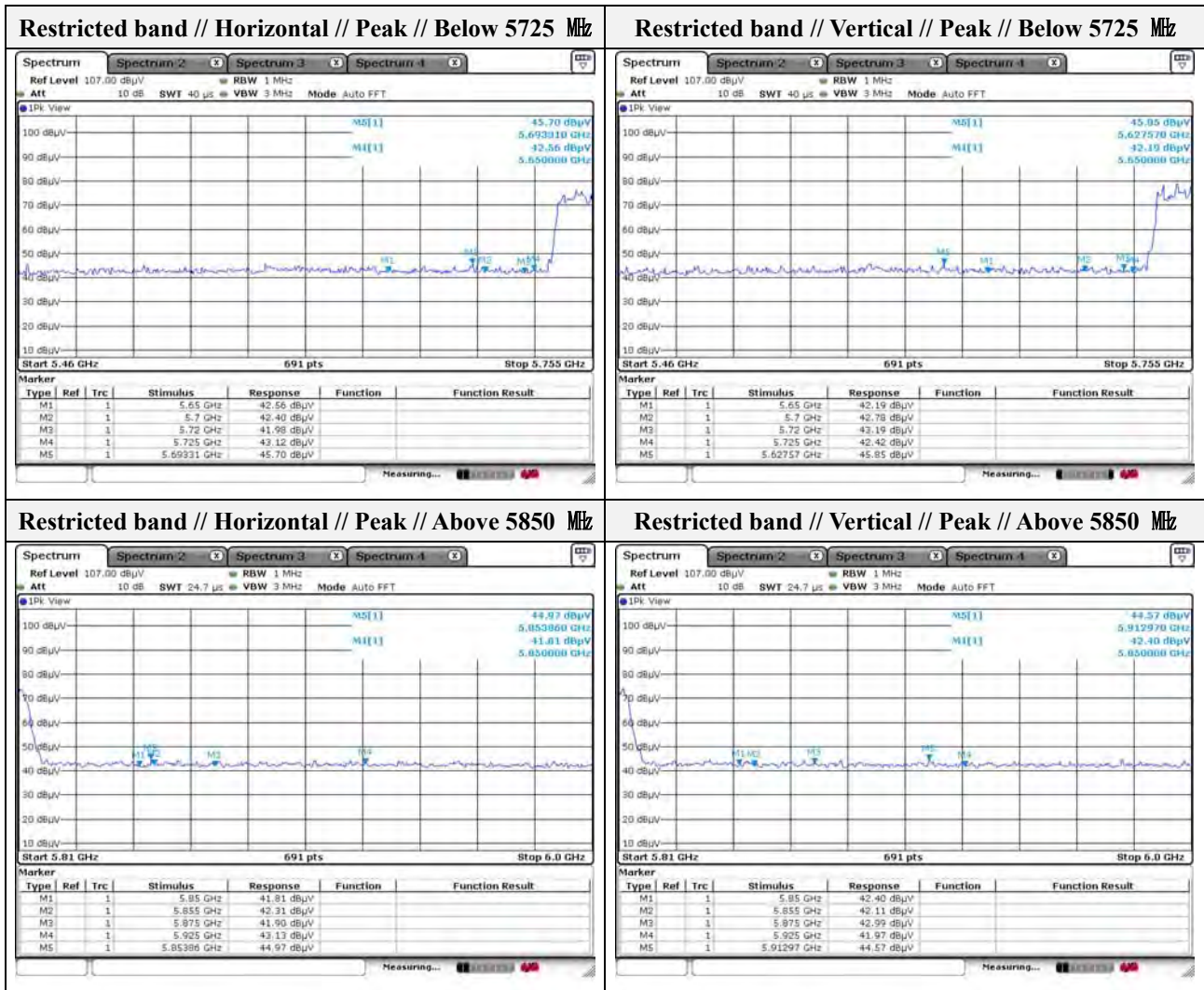
**- Band edge // Below 5725 MHz**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 725.00	43.12	Peak	H	10.87	-	53.99	122.20	68.21
5 693.31	45.70	Peak	H	10.61	-	56.31	100.50	44.19
5 725.00	42.42	Peak	V	10.87	-	53.29	122.20	68.91
5 627.57	45.85	Peak	V	10.06	-	55.91	68.20	12.29

**- Band edge // Above 5850 MHz**

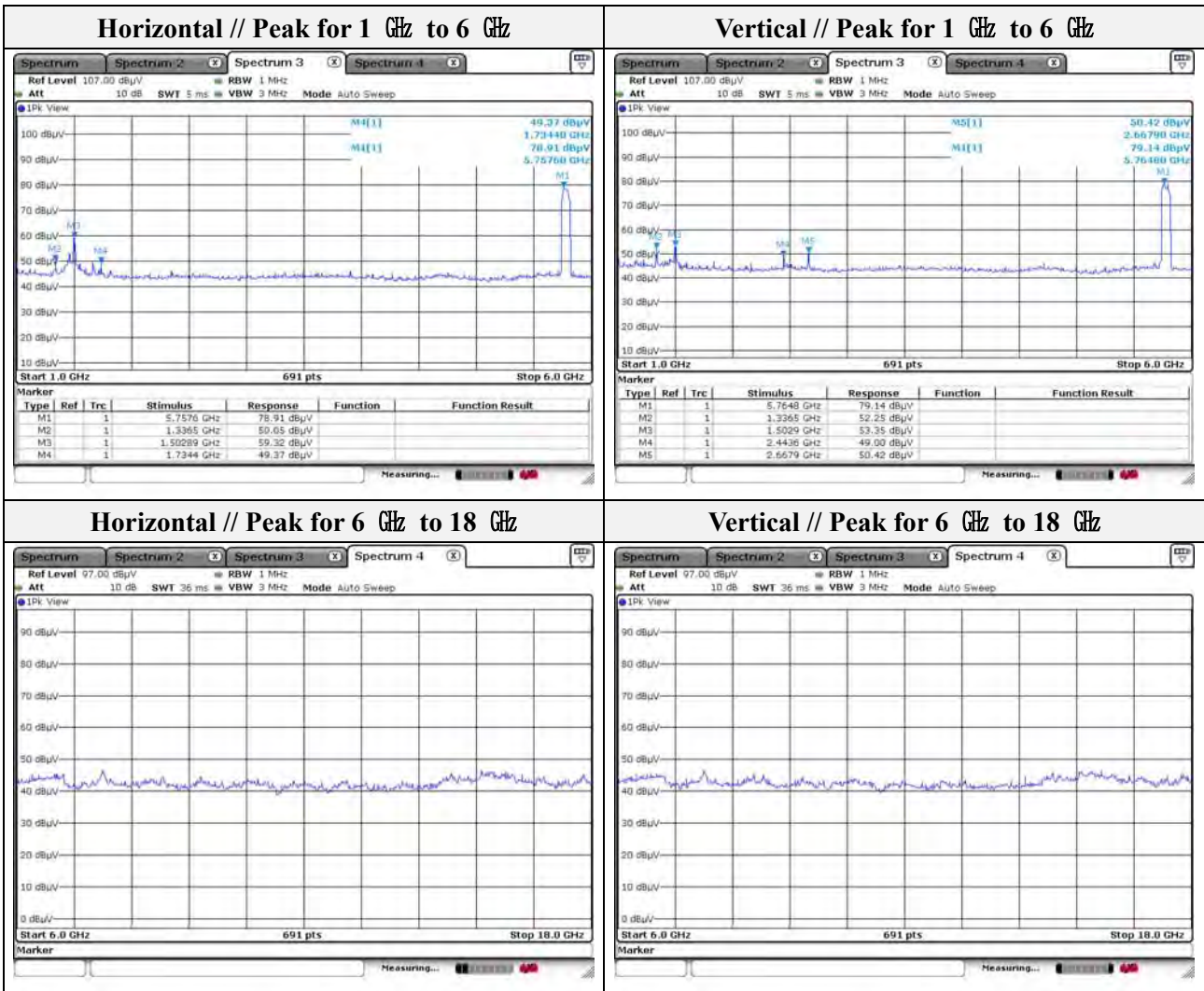
Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5 850.00	41.81	Peak	H	11.78	-	53.59	122.20	68.61
5 853.86	44.97	Peak	H	11.80	-	56.77	113.40	56.63
5 850.00	42.40	Peak	V	11.78	-	54.18	122.20	68.02
5 912.97	44.57	Peak	V	12.12	-	56.69	73.98	17.29

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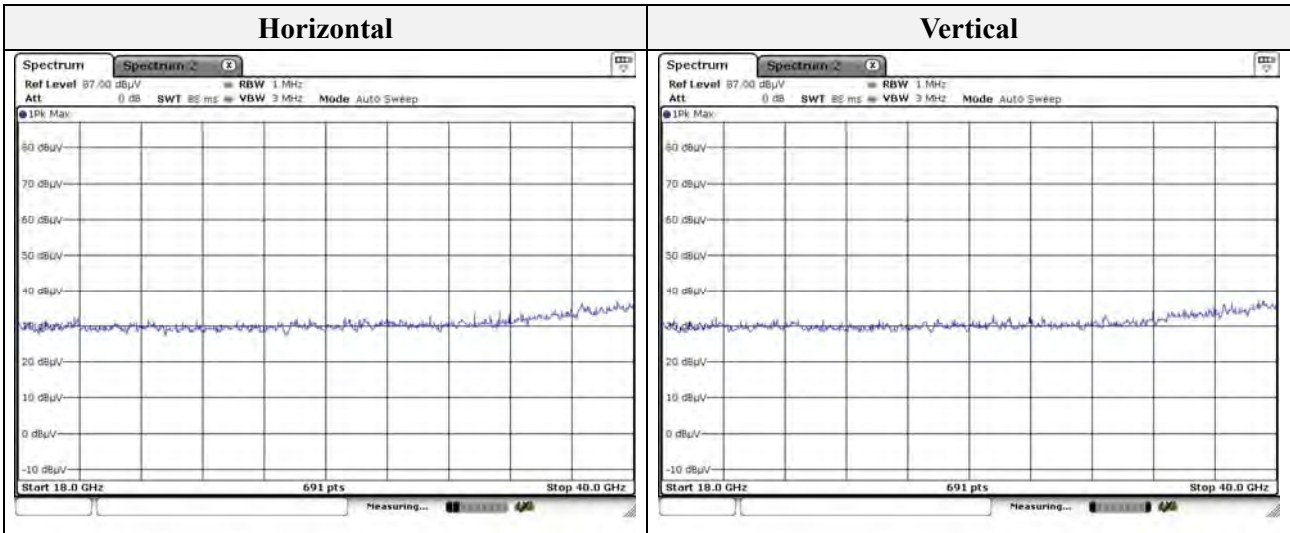


Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

**Test results (18 GHz to 40 GHz) – Worst case**

Mode: UNII-2C  
 Distance of measurement: 3 meter  
 Channel: 120

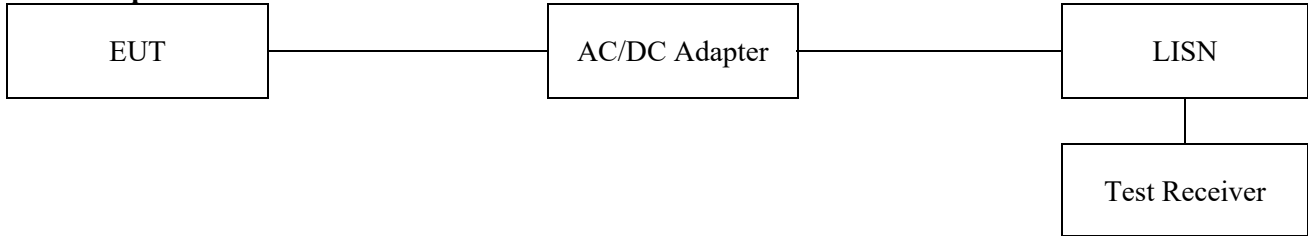


Note.

1. No spurious emission were detected above 18 GHz.

### 3.7. AC conducted emissions

#### Test setup



#### Limit

According to 15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50uH/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted limit (dB $\mu$ V/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

According to RSS-Gen 8.8, a radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz-30 MHz, shall not exceed the limits in Table 3.

Unless the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 3 below. The more stringent limit applies at the frequency range boundaries.

Frequency of Emission (MHz)	Conducted limit (dB $\mu$ V/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

\* The level decreases linearly with the logarithm of the frequency.

\* A linear average detector is required.

**Note:**

1. All AC line conducted spurious emission are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and the appropriate frequencies. All data rates and modes were investigated for conducted spurious emission. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.
2. Both Cable loss and LISN factor are included in measurement level (QP Level or AV Level).



**Test results**

<b>Hot Line</b>																																																																																																				
	<p><b>Final Result</b></p> <table border="1"> <thead> <tr> <th>Frequency (MHz)</th> <th>QuasiPeak (dBµV)</th> <th>CAverage (dBµV)</th> <th>Limit (dBµV)</th> <th>Margin (dB)</th> <th>Meas. Time (ms)</th> <th>Bandwidth (kHz)</th> <th>Line</th> <th>Corr. (dB)</th> </tr> </thead> <tbody> <tr><td>0.685000</td><td>---</td><td>28.46</td><td>46.00</td><td>17.54</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.7</td></tr> <tr><td>0.685000</td><td>35.74</td><td>---</td><td>56.00</td><td>20.26</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.7</td></tr> <tr><td>1.455000</td><td>---</td><td>22.60</td><td>46.00</td><td>23.40</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.9</td></tr> <tr><td>1.455000</td><td>29.35</td><td>---</td><td>56.00</td><td>26.65</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.9</td></tr> <tr><td>1.505000</td><td>---</td><td>23.79</td><td>46.00</td><td>22.21</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.9</td></tr> <tr><td>1.505000</td><td>30.46</td><td>---</td><td>56.00</td><td>25.54</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.9</td></tr> <tr><td>13.325000</td><td>---</td><td>22.55</td><td>50.00</td><td>27.45</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.8</td></tr> <tr><td>13.325000</td><td>27.62</td><td>---</td><td>60.00</td><td>32.38</td><td>1000.0</td><td>9.000</td><td>L1</td><td>19.8</td></tr> <tr><td>16.425000</td><td>---</td><td>20.45</td><td>50.00</td><td>29.55</td><td>1000.0</td><td>9.000</td><td>L1</td><td>20.1</td></tr> <tr><td>16.425000</td><td>26.72</td><td>---</td><td>60.00</td><td>33.28</td><td>1000.0</td><td>9.000</td><td>L1</td><td>20.1</td></tr> </tbody> </table>	Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	0.685000	---	28.46	46.00	17.54	1000.0	9.000	L1	19.7	0.685000	35.74	---	56.00	20.26	1000.0	9.000	L1	19.7	1.455000	---	22.60	46.00	23.40	1000.0	9.000	L1	19.9	1.455000	29.35	---	56.00	26.65	1000.0	9.000	L1	19.9	1.505000	---	23.79	46.00	22.21	1000.0	9.000	L1	19.9	1.505000	30.46	---	56.00	25.54	1000.0	9.000	L1	19.9	13.325000	---	22.55	50.00	27.45	1000.0	9.000	L1	19.8	13.325000	27.62	---	60.00	32.38	1000.0	9.000	L1	19.8	16.425000	---	20.45	50.00	29.55	1000.0	9.000	L1	20.1	16.425000	26.72	---	60.00	33.28	1000.0	9.000	L1	20.1
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)																																																																																												
0.685000	---	28.46	46.00	17.54	1000.0	9.000	L1	19.7																																																																																												
0.685000	35.74	---	56.00	20.26	1000.0	9.000	L1	19.7																																																																																												
1.455000	---	22.60	46.00	23.40	1000.0	9.000	L1	19.9																																																																																												
1.455000	29.35	---	56.00	26.65	1000.0	9.000	L1	19.9																																																																																												
1.505000	---	23.79	46.00	22.21	1000.0	9.000	L1	19.9																																																																																												
1.505000	30.46	---	56.00	25.54	1000.0	9.000	L1	19.9																																																																																												
13.325000	---	22.55	50.00	27.45	1000.0	9.000	L1	19.8																																																																																												
13.325000	27.62	---	60.00	32.38	1000.0	9.000	L1	19.8																																																																																												
16.425000	---	20.45	50.00	29.55	1000.0	9.000	L1	20.1																																																																																												
16.425000	26.72	---	60.00	33.28	1000.0	9.000	L1	20.1																																																																																												
<b>Neutral Line</b>																																																																																																				
	<p><b>Final Result</b></p> <table border="1"> <thead> <tr> <th>Frequency (MHz)</th> <th>QuasiPeak (dBµV)</th> <th>CAverage (dBµV)</th> <th>Limit (dBµV)</th> <th>Margin (dB)</th> <th>Meas. Time (ms)</th> <th>Bandwidth (kHz)</th> <th>Line</th> <th>Corr. (dB)</th> </tr> </thead> <tbody> <tr><td>0.670000</td><td>---</td><td>25.92</td><td>46.00</td><td>20.08</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.6</td></tr> <tr><td>0.670000</td><td>33.83</td><td>---</td><td>56.00</td><td>22.17</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.6</td></tr> <tr><td>1.560000</td><td>---</td><td>21.45</td><td>46.00</td><td>24.55</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.9</td></tr> <tr><td>1.560000</td><td>28.53</td><td>---</td><td>56.00</td><td>27.47</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.9</td></tr> <tr><td>1.690000</td><td>---</td><td>22.00</td><td>46.00</td><td>24.00</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.9</td></tr> <tr><td>1.690000</td><td>29.07</td><td>---</td><td>56.00</td><td>26.93</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.9</td></tr> <tr><td>5.270000</td><td>---</td><td>21.34</td><td>50.00</td><td>28.66</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.9</td></tr> <tr><td>5.270000</td><td>28.67</td><td>---</td><td>60.00</td><td>31.33</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.9</td></tr> <tr><td>13.325000</td><td>---</td><td>21.76</td><td>50.00</td><td>28.24</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.8</td></tr> <tr><td>13.325000</td><td>26.74</td><td>---</td><td>60.00</td><td>33.26</td><td>1000.0</td><td>9.000</td><td>N</td><td>19.8</td></tr> </tbody> </table>	Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	0.670000	---	25.92	46.00	20.08	1000.0	9.000	N	19.6	0.670000	33.83	---	56.00	22.17	1000.0	9.000	N	19.6	1.560000	---	21.45	46.00	24.55	1000.0	9.000	N	19.9	1.560000	28.53	---	56.00	27.47	1000.0	9.000	N	19.9	1.690000	---	22.00	46.00	24.00	1000.0	9.000	N	19.9	1.690000	29.07	---	56.00	26.93	1000.0	9.000	N	19.9	5.270000	---	21.34	50.00	28.66	1000.0	9.000	N	19.9	5.270000	28.67	---	60.00	31.33	1000.0	9.000	N	19.9	13.325000	---	21.76	50.00	28.24	1000.0	9.000	N	19.8	13.325000	26.74	---	60.00	33.26	1000.0	9.000	N	19.8
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 The authenticity of the test report, contact shchoi@kes.co.kr



## Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.
Spectrum Analyzer	R&S	FSV30	101389	1 year	2018.01.23
Spectrum Analyzer	R&S	FSV40	101002	1 year	2018.07.04
8360B Series Swept Signal Generator	HP	83630B	3844A00786	1 year	2018.01.23
PSG Analog Signal Generator	AGILENT	E8257C	US42340237	1 year	2017.07.05
Power Meter	Anritsu	ML2495A	1438001	1 year	2018.01.23
Pulse Power Sensor	Anritsu	MA2411B	1339205	1 year	2018.01.23
Attenuator	Agilent	8493C	82506	1 year	2018.01.23
Loop Antenna	Schwarzbeck	FMZB1513	225	2 years	2019.05.10
Trilog-broadband antenna	SCHWARZBECK	VULB 9163	9168-714	2 years	2018.11.28
Horn Antenna	A.H.	SAS-571	414	2 years	2019.02.15
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA 9170550	2 years	2019.02.15
Preamplifier	HP	8449B	3008A00538	1 year	2018.01.19
Broadband Amplifier	SCHWARZBECK	BBV-9721	PS9721-003	1 year	2018.01.23
High Pass Filter	Wainwright Instrument	WHNK6.0/26.5G-6SS	1	1 year	2018.07.04
High Pass Filter	WAINWRIGHT INSTRUMENT	WHJS3000-10TT	1	1 year	2018.07.03
EMI Test Receiver	R&S	ESR3	101781	1 year	2018.04.27
EMI Test Receiver	R&S	ESU26	100552	1 year	2018.04.19
Temperature & Humidity Chamber	Daehan Engineering	DH-1000	DH1000060628	1 year	2018.01.20
Pulse Limiter	R&S	ESH3-Z2	101915	1 year	2018.11.27
LISN	R&S	ENV216	101787	1 year	2018.01.11
AC Power Supply	HP	6813A	3729A00754	1 year	2018.01.19

## Peripheral devices

Device	Manufacturer	Model No.	Serial No.
-	-	-	-