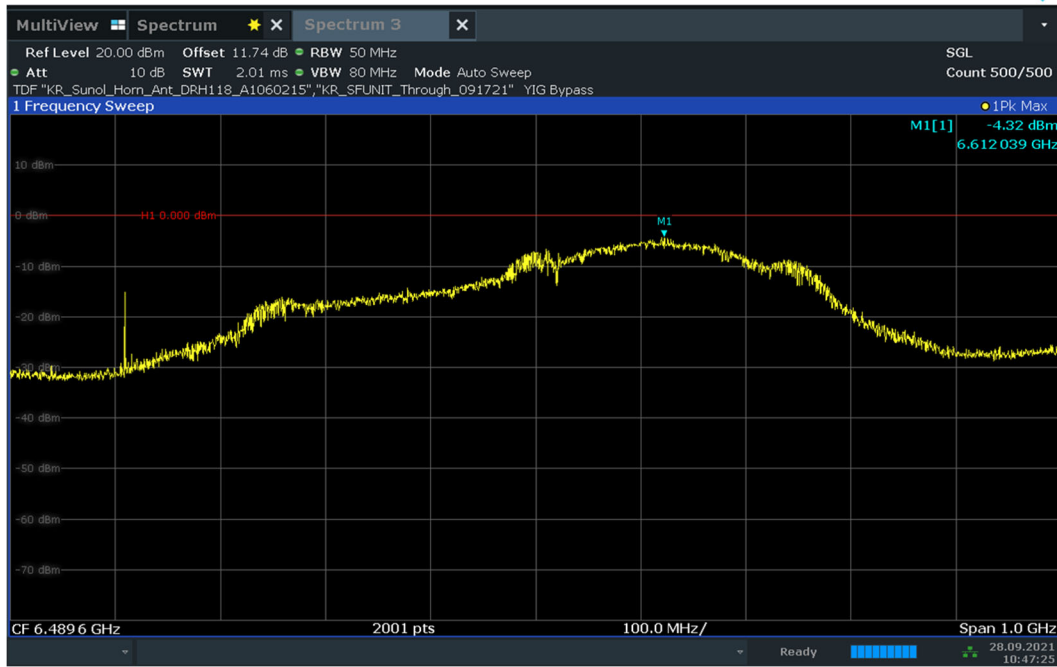
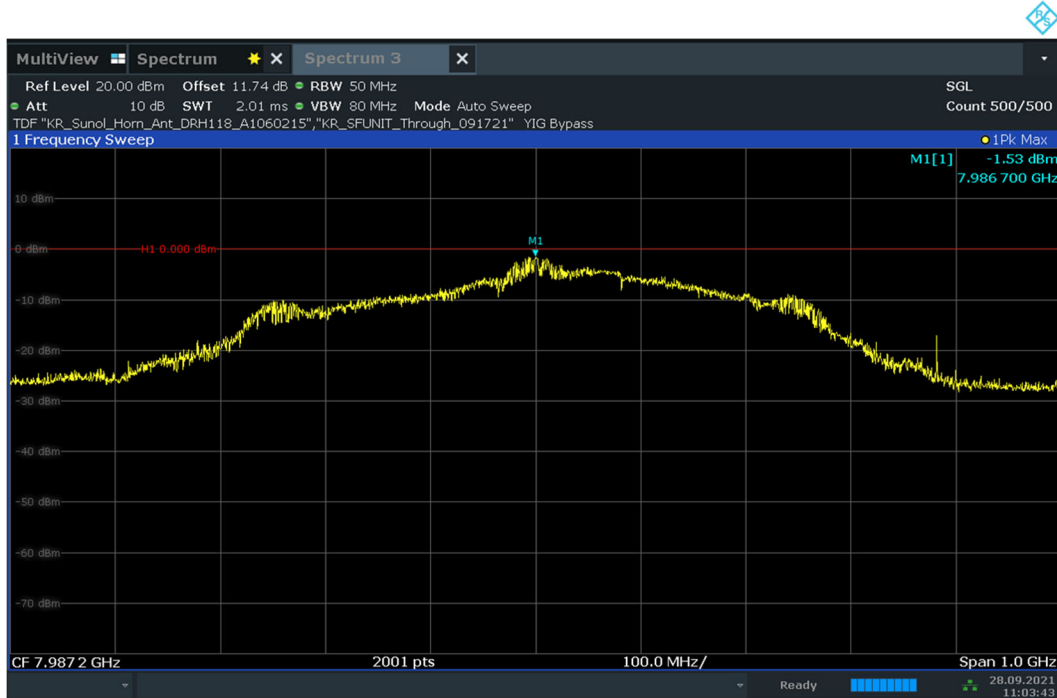


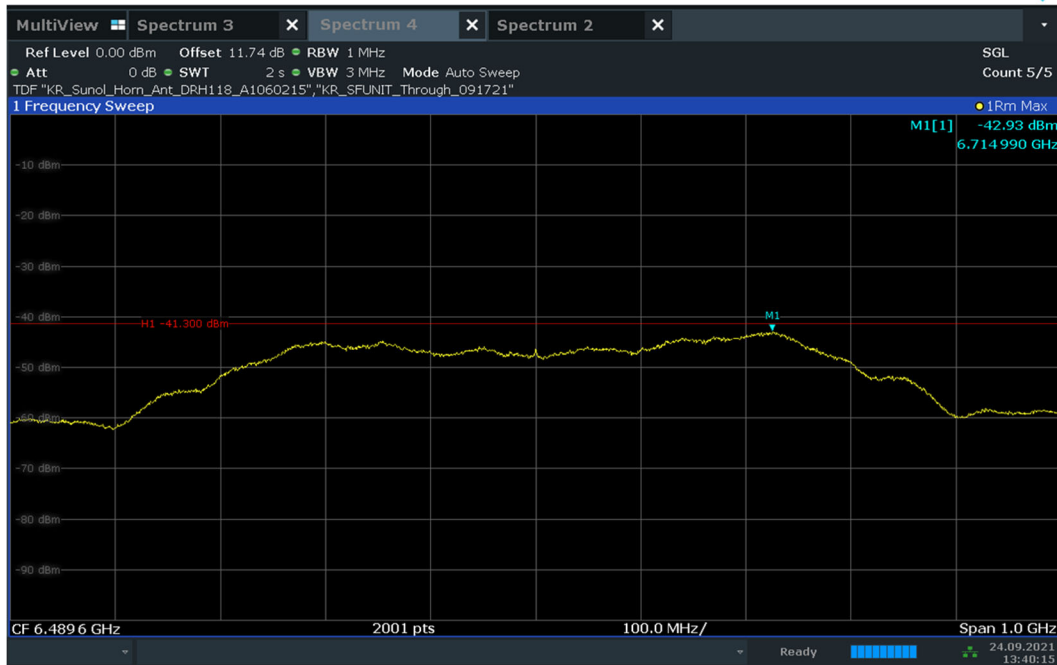


Plot 7-64. UWB Peak Power Measurement - ANT 2 - CH.5 – BPRF

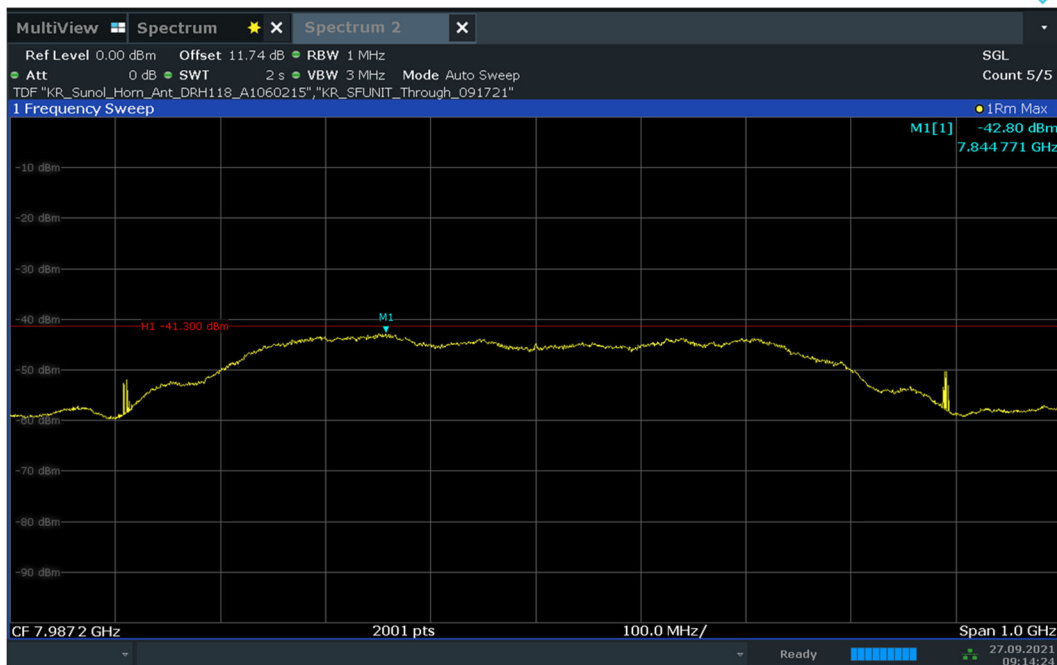


Plot 7-65. UWB Peak Power Measurement - ANT 2 - CH.9 – BPRF

FCC ID: A3LSMS908U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090102-30.A3L	Test Dates: 9/27 – 10/10/2021	EUT Type: Portable Handset		Page 49 of 86

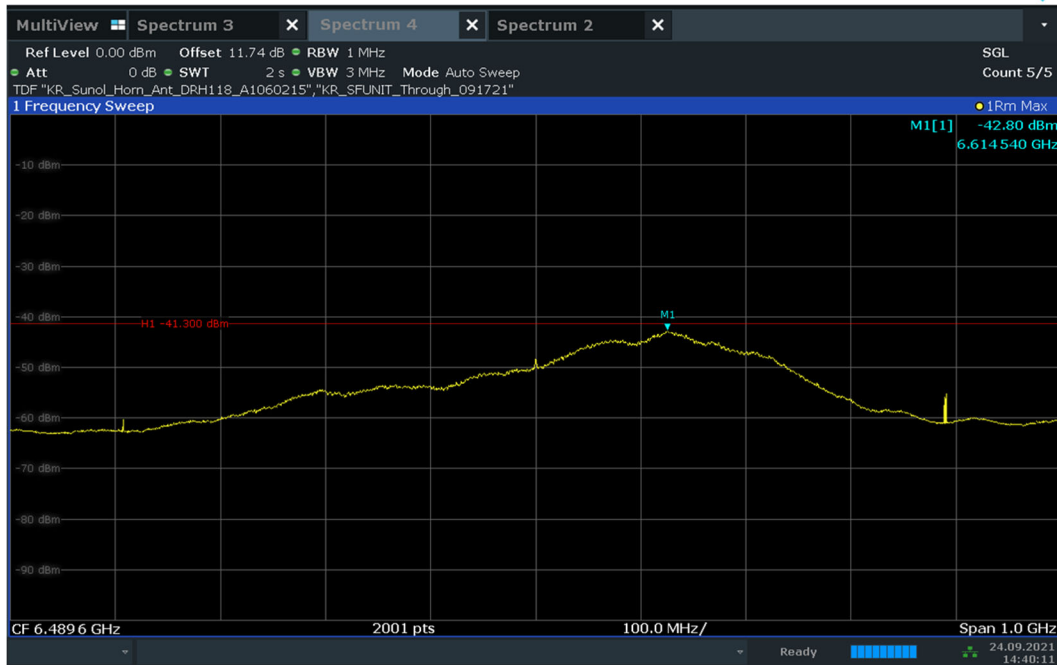


Plot 7-66. UWB Average Power Measurement - ANT 1 - CH.5 – BPRF

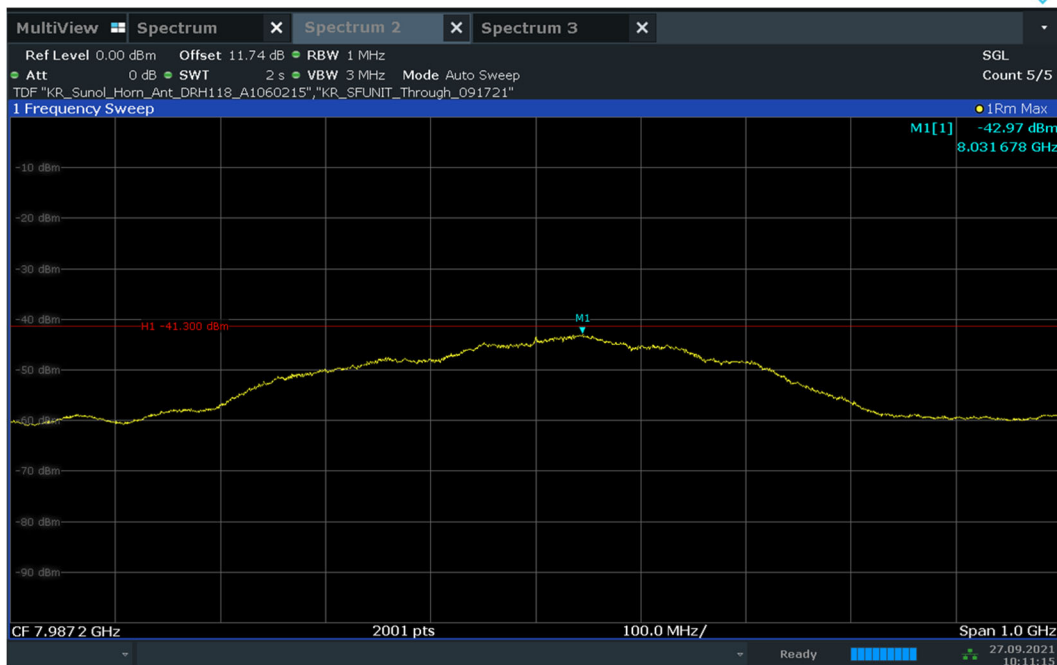


Plot 7-67. UWB Average Power Measurement - ANT 1 - CH.9 – BPRF

FCC ID: A3LSMS908U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-68. UWB Average Power Measurement - ANT 2 - CH.5 – BPRF



Plot 7-69. UWB Average Power Measurement - ANT 2 - CH.9 – BPRF

FCC ID: A3LSMS908U	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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RESULTS – HPRF

ANT	CH	MODE	Preamble	Meas. Ant.	FM[GHz]	Peak Power (dBm/50MHz)	Peak Limit (dBm/50MHz)	Margin [dB]
1	5	SP0	27	H	6.6105	-9.26	0	-9.26
	9	SP0	27	V	7.8598	-5.49	0	-5.49
2	5	SP0	27	H	6.6120	-6.67	0	-6.67
	9	SP0	27	H	7.9887	-7.24	0	-7.24

Table 7-7. HPRF Highest Peak Power Results

ANT	CH	MODE	Preamble	Meas. Ant.	FM[GHz]	Average Power (dBm)	Average Limit (dBm)	Margin [dB]
1	5	SP3	27	H	6.7040	-43.28	-41.3	-1.98
	9	SP3	27	V	8.1821	-43.26	-41.3	-1.96
2	5	SP3	27	H	6.6145	-43.17	-41.3	-1.87
	9	SP3	27	H	8.0227	-43.18	-41.3	-1.88

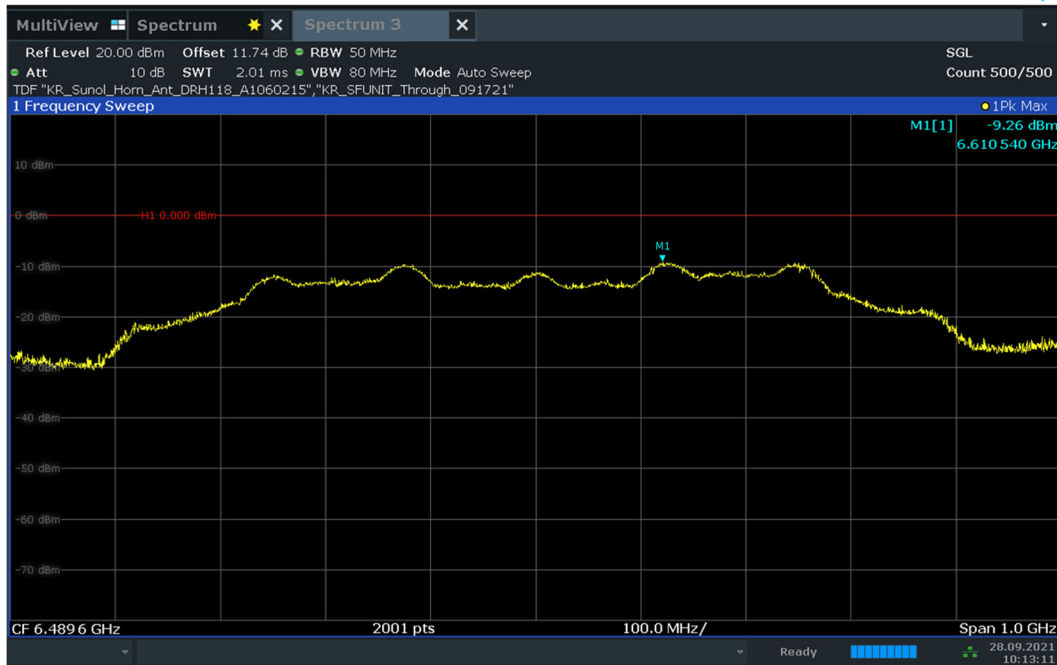
Table 7-8. HPRF Highest Average Power Results

Sample Calculation

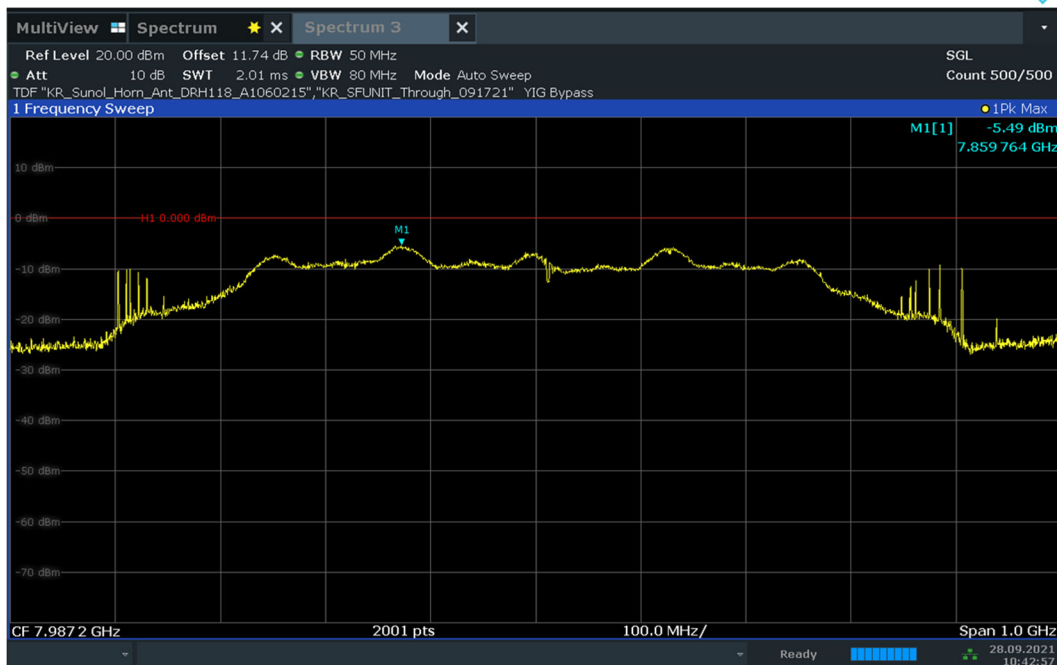
The raw radiated spurious level is converted to field strength in dBuV/m. Then, the EIRP level is calculated by applying the additional factors shown below for a test distance of 3 meter

$$\text{RSE EIRP (dBm)} = \text{Analyzer Level (dBm)} + 107 + \text{AFCL (dB/m)} + 20\text{Log(Dm)} - 104.8$$

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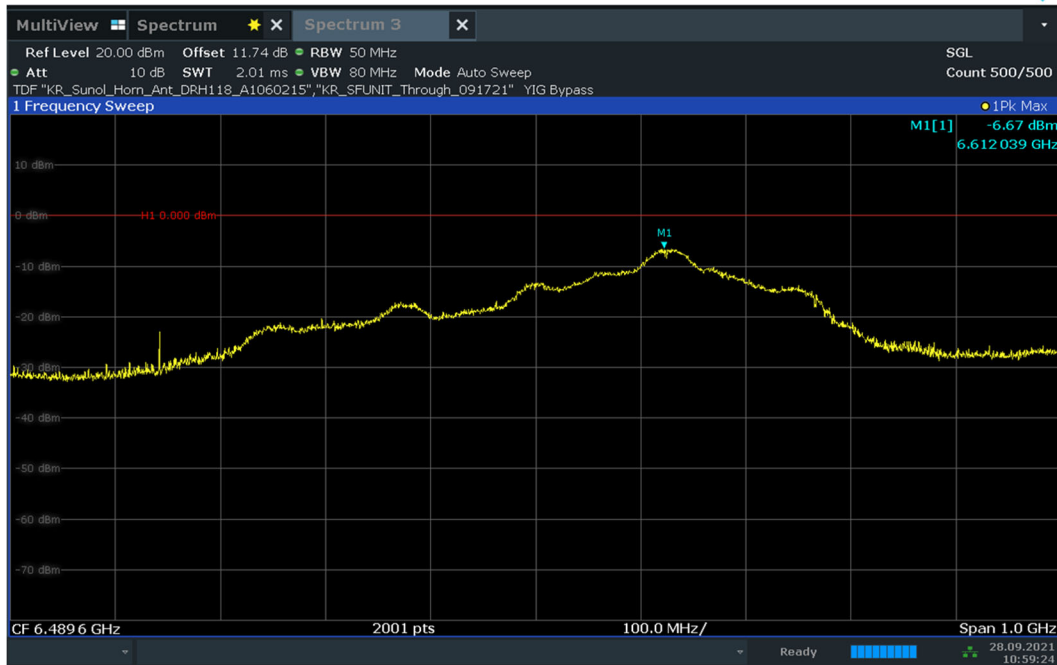


Plot 7-70. UWB Peak Power Measurement - ANT 1 - CH.5 – HPRF

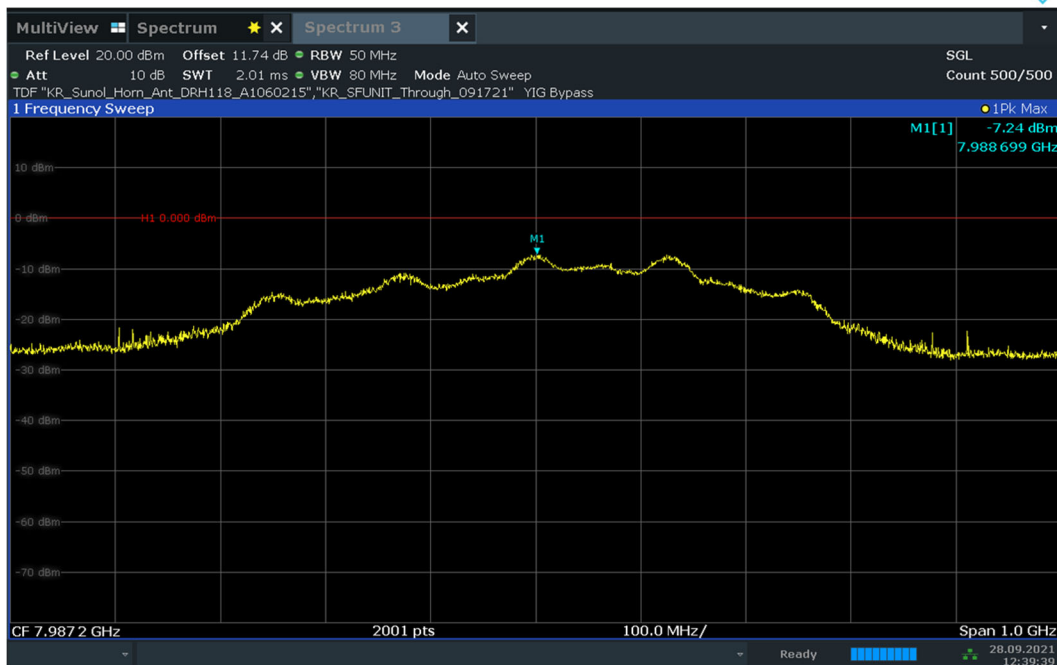


Plot 7-71. UWB Peak Power Measurement - ANT 1 - CH.9 – HPRF

FCC ID: A3LSMS908U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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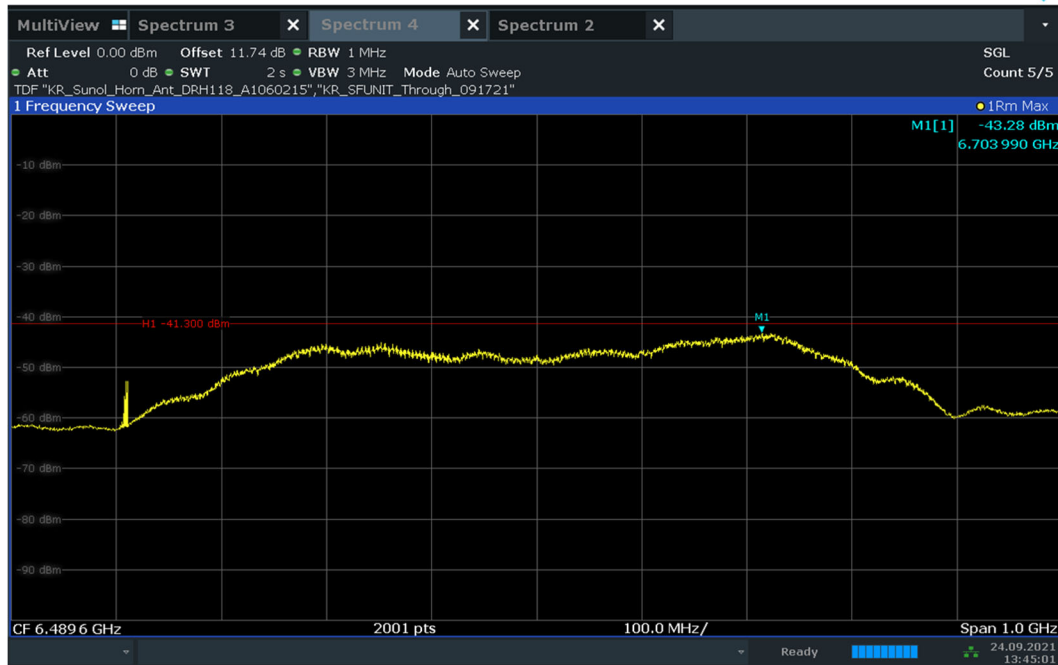


Plot 7-72. UWB Peak Power Measurement - ANT 2 - CH.5 – HPRF

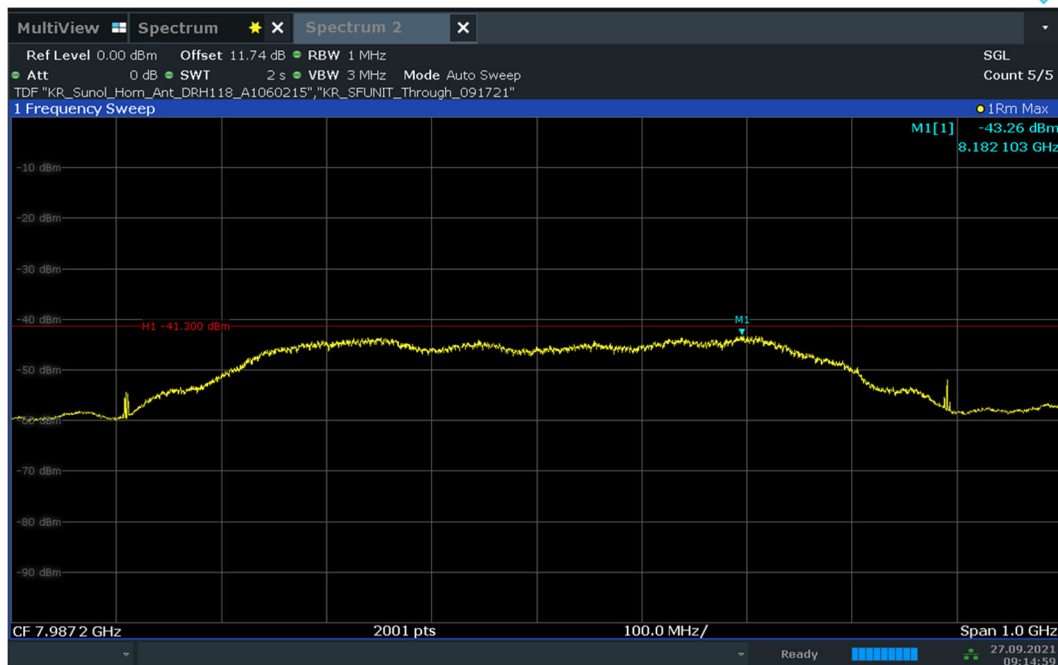


Plot 7-73. UWB Peak Power Measurement - ANT 2 - CH.9 – HPRF

FCC ID: A3LSMS908U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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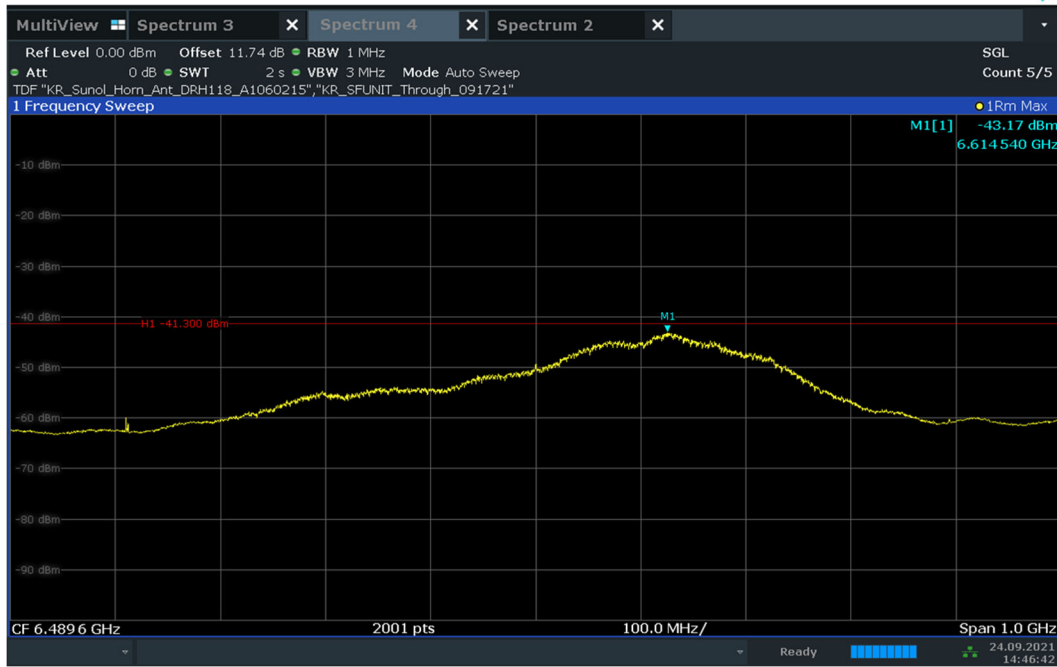


Plot 7-74. UWB Average Power Measurement - ANT 1 - CH.5 – HPRF

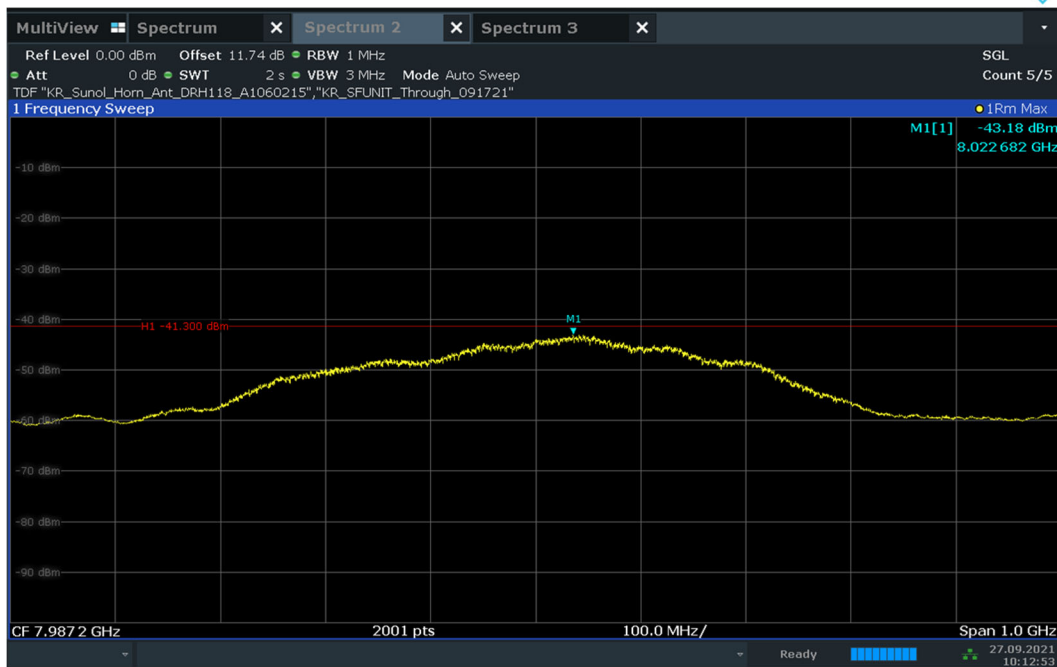


Plot 7-75. UWB Average Power Measurement - ANT 1 - CH.9 – HPRF

FCC ID: A3LSMS908U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109090102-30.A3L	Test Dates: 9/27 – 10/10/2021	EUT Type: Portable Handset		Page 55 of 86



Plot 7-76. UWB Average Power Measurement - ANT 2 - CH.5 – HPRF



Plot 7-77. UWB Average Power Measurement - ANT 2 - CH.9 – HPRF

FCC ID: A3LSMS908U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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7.5 Radiated Measurement Data above 960MHz

§15.519 (c), §15.519(d), §15.209(a)

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

§15.519(c)

Frequency in MHz	EIRP in dBm
960-1610	-75.3
1610-1990	-63.3
1990-3100	-61.3
3100-10600	-41.3
Above 10600	-61.3

Table 7-9. Above 960MHz Average Limits

§15.519(d)

Frequency in MHz	EIRP in dBm
1164-1240	-85.3
1559-1610	-85.3

Table 7-10. Above 960MHz Average Limits

Test Procedures Used

ANSI C63.10-2013

Test Settings

Average EIRP Measurements

1. Analyzer frequency set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz (30kHz for emissions in the GPS bands)
3. VBW = 3MHz (100kHz for the emissions in the GPS bands)
4. Detector = RMS
5. Sweep time = No more than 1ms integration period over each measurement bin
6. Trace mode = Max hold
7. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown test setup photos provided.

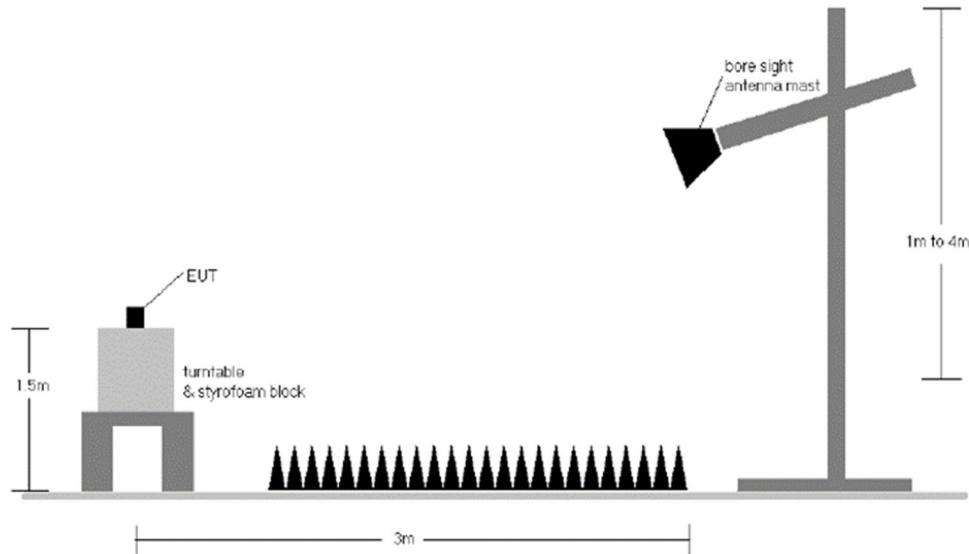


Figure 7-3. Radiated Test Setup > 1GHz

Test Notes

1. All modes of operation and settings (Preamble, Packet Type, etc) were investigated and the worst-case emissions are reported.
2. The RBW for measurements in the GPS Bands were reduced to 30kHz in order to prove compliance.
3. 1000 ~ 18000 MHz and above 18000 MHz pre-scan plots were conducted at 0.7 and 0.6 meter respectively. The plots are only for the purpose of spurious emission identification.
4. All final measurements were made at 0.7 meters.
5. All readings are calibrated by a signal generator with accuracy traceable to the National Institute of Standards and Technology (NIST).
6. $AFCL \text{ (dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)}$

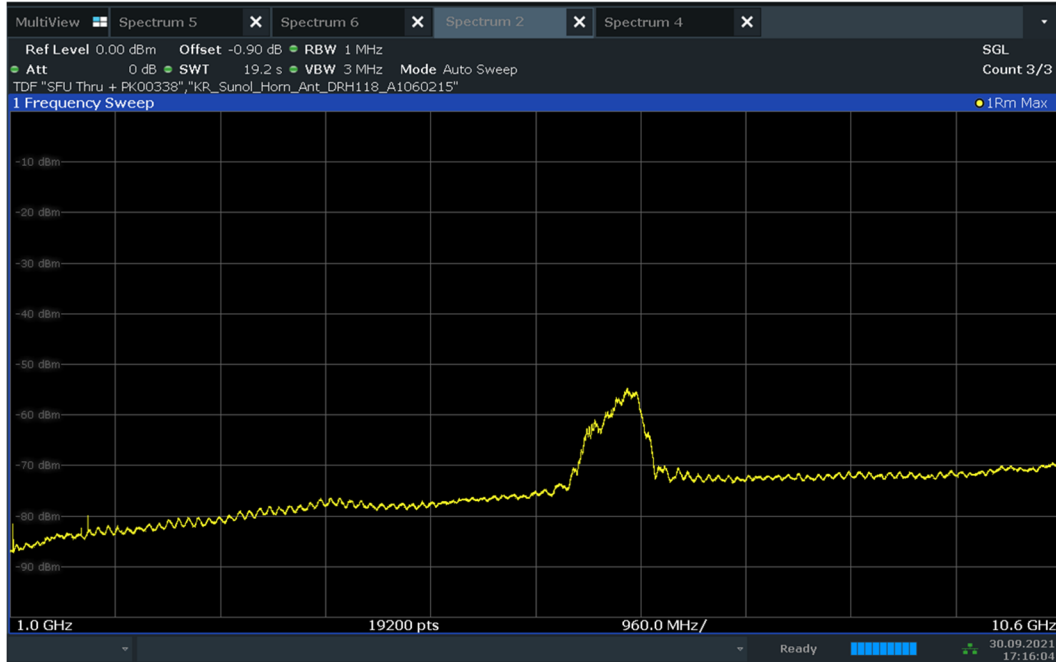
Sample Calculation

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the EIRP RSE level is calculated by applying the additional factors shown below for a test distance of 3 meter

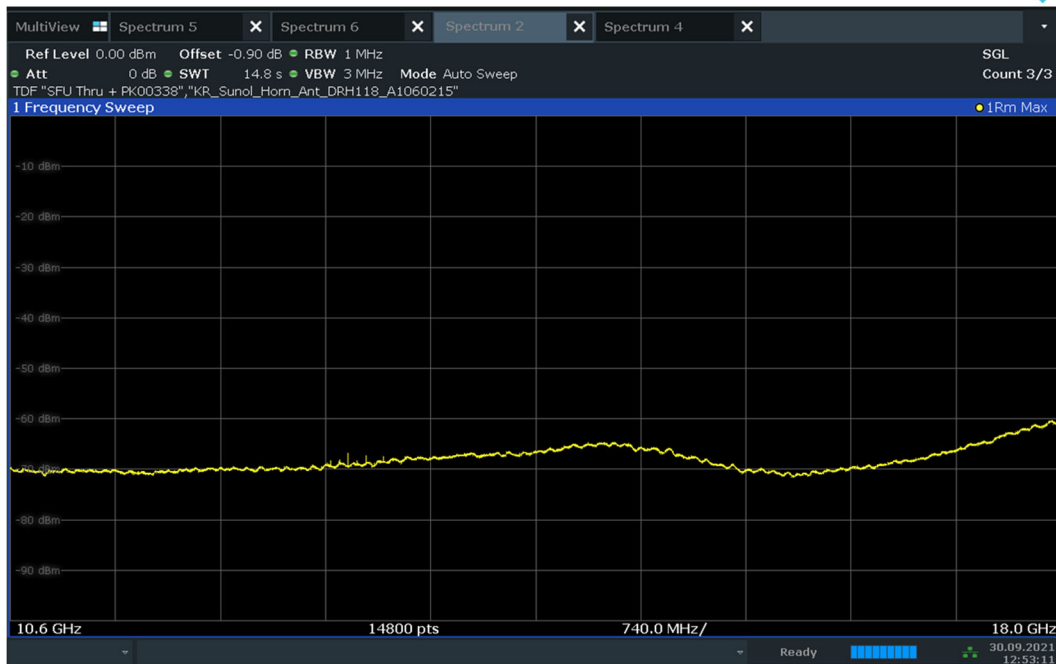
$$RSE \text{ EIRP (dBm)} = \text{Analyzer Level (dBm)} + 107 + AFCL \text{ (dB/m)} + 20\text{Log}(Dm) - 104.8$$

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Channel 5 ANTENNA 1:

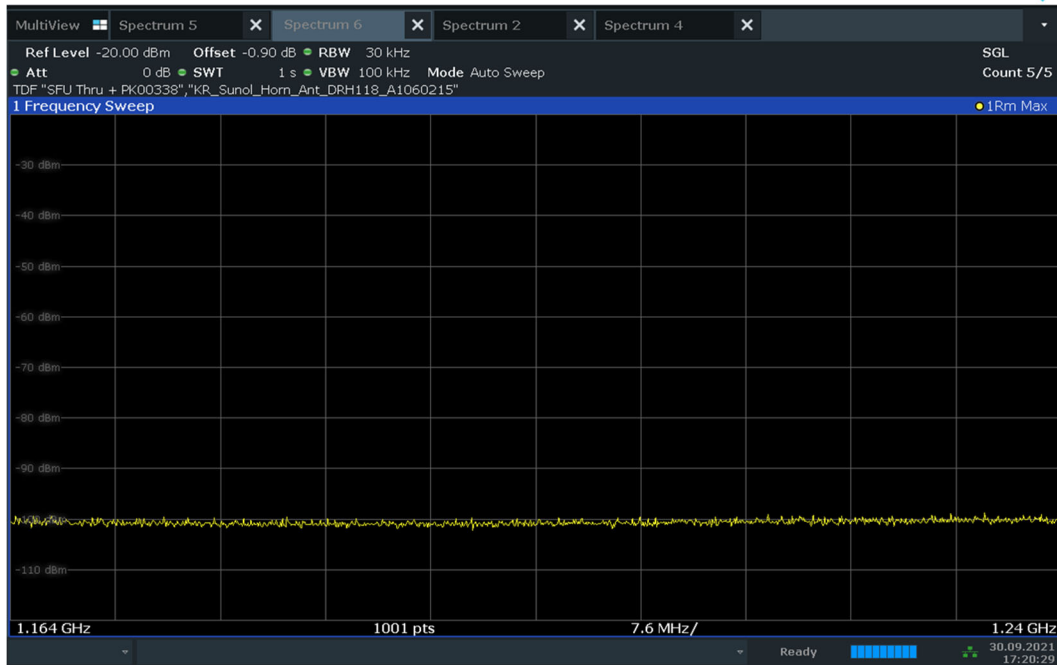


Plot 7-78. Radiated Spurious Pre-Scan 1000 - 10600 MHz - CH.5 - ANT 1

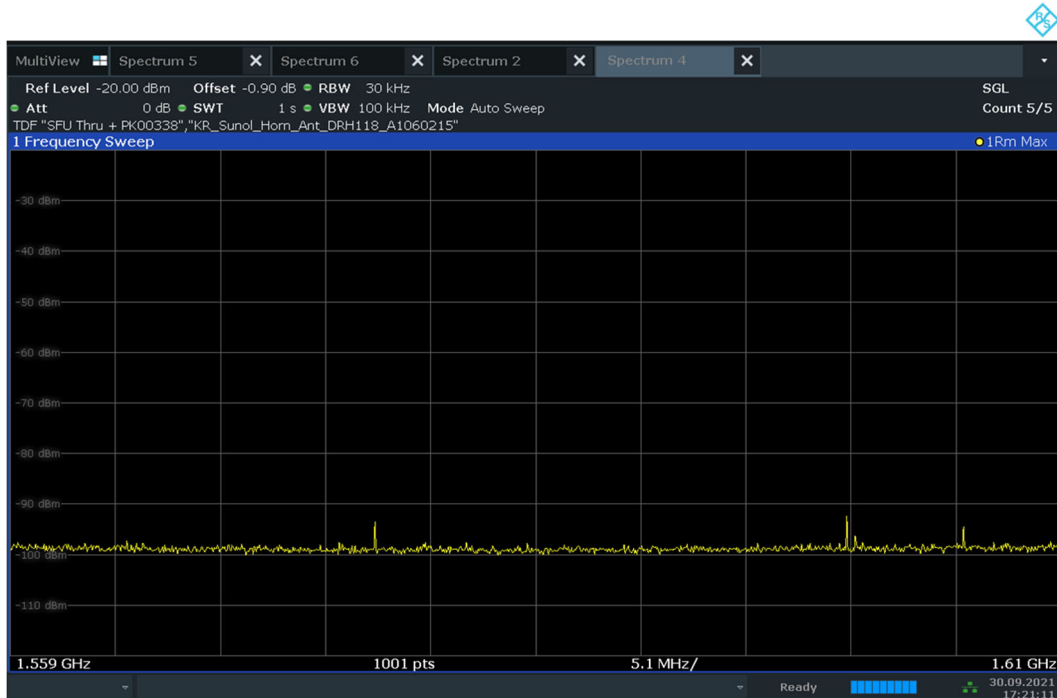


Plot 7-79. Radiated Spurious Pre-Scan 10600 - 18000 MHz - CH.5 - ANT 1

FCC ID: A3LSMS908U	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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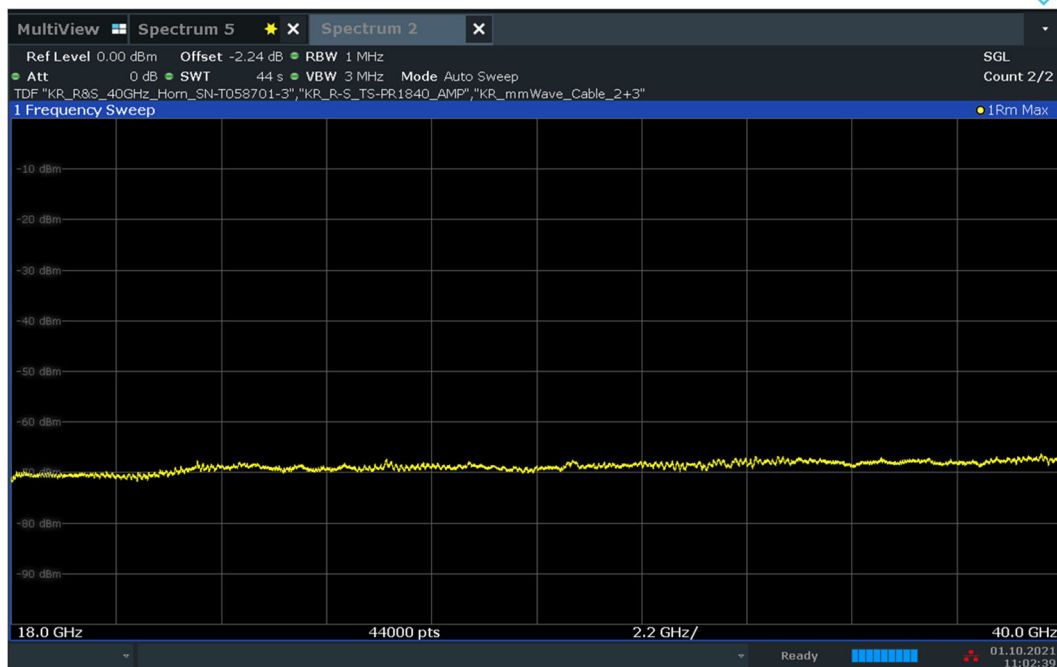


Plot 7-80. Radiated Spurious Pre-Scan 1164 - 1240 MHz - CH.5 - ANT 1 – GPS band



Plot 7-81. Radiated Spurious Pre-Scan 1559 - 1610 MHz - CH.5 - ANT 1 – GPS band

FCC ID: A3LSMS908U			MEASUREMENT REPORT (CERTIFICATION) 	Approved by: Technical Manager
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Plot 7-82. Radiated Spurious Pre-Scan 18 – 40 GHz - CH.5 - ANT 1

Channel:	5
Frequency (MHz):	6489.6
Preamble ID	11
Config	SP1

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Dist. Corr. Factor [dB]	Spurious Emission Level[dBm]	Limit [dBm]	Margin [dB]
1026	RMS	H	150	85	-68.26	-12.31	-12.64	-81.47	-75.30	-6.17
1710	RMS	H	150	85	-70.01	-8.97	-12.64	-79.88	-63.30	-16.58
10493	RMS	H	-	-	-76.31	7.27	-12.64	-69.94	-41.30	-28.64
10843	RMS	V	-	-	-77.16	6.70	-12.64	-71.36	-61.30	-10.06
12978	RMS	V	150	360	-74.67	8.67	-12.64	-66.90	-61.30	-5.60
14840	RMS	V	-	-	-76.13	12.35	-12.64	-64.68	-61.30	-3.38

Table 7-11. Radiated Spurious Emissions CH. 5 – ANT1

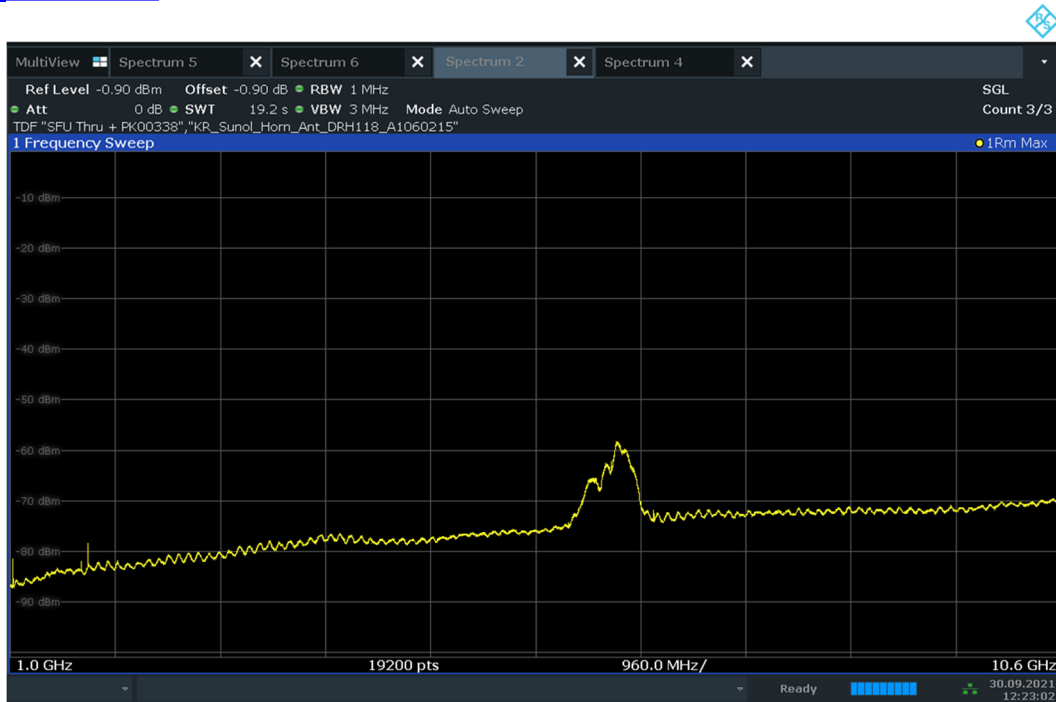
Channel:	5
Frequency (MHz):	6489.6
Preamble ID	11
Config	SP1

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Dist. Corr. Factor [dB]	Spurious Emission Level[dBm]	Limit [dBm]	Margin [dB]
1218	RMS	H	-	-	-86.66	-11.49	-12.64	-99.05	-85.30	-13.75
1232	RMS	H	-	-	-85.65	-12.42	-12.64	-98.97	-85.30	-13.67
1238	RMS	H	-	-	-86.86	-11.39	-12.64	-99.16	-85.30	-13.86
1576	RMS	H	150	360	-83.29	-9.30	-12.64	-93.49	-85.30	-8.19
1599	RMS	H	150	360	-82.08	-9.39	-12.64	-92.36	-85.30	-7.06
1605	RMS	H	150	360	-84.08	-9.45	-12.64	-94.43	-85.30	-9.13

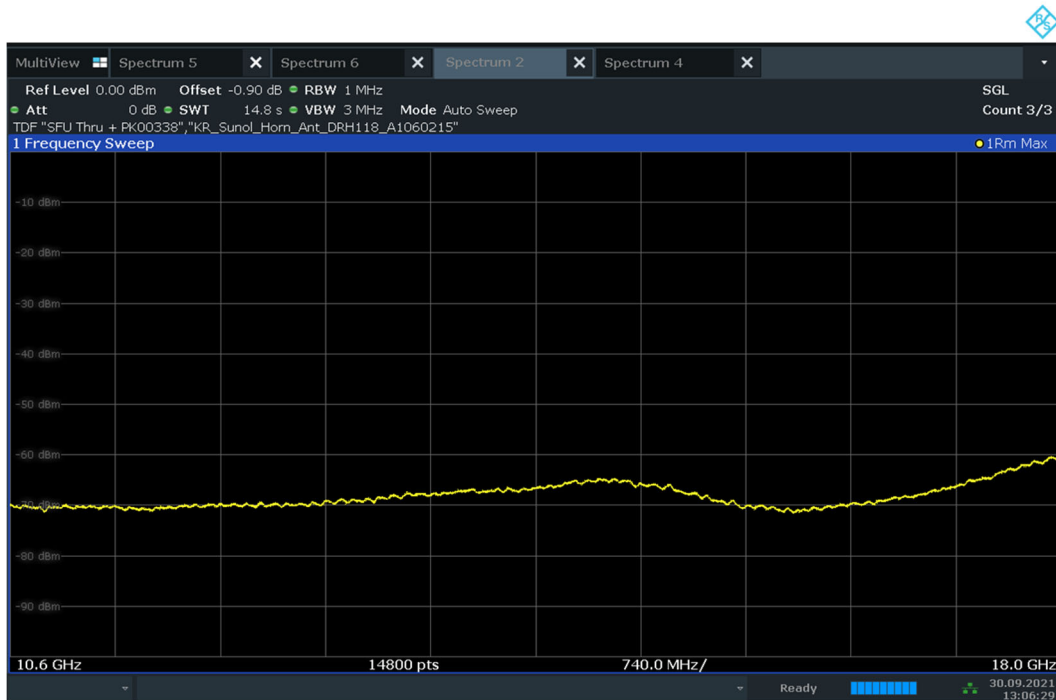
Table 7-12. Radiated Spurious Emissions CH. 5 – ANT1 – GPS BANDS

FCC ID: A3LSMS908U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Channel 5 ANTENNA 2:

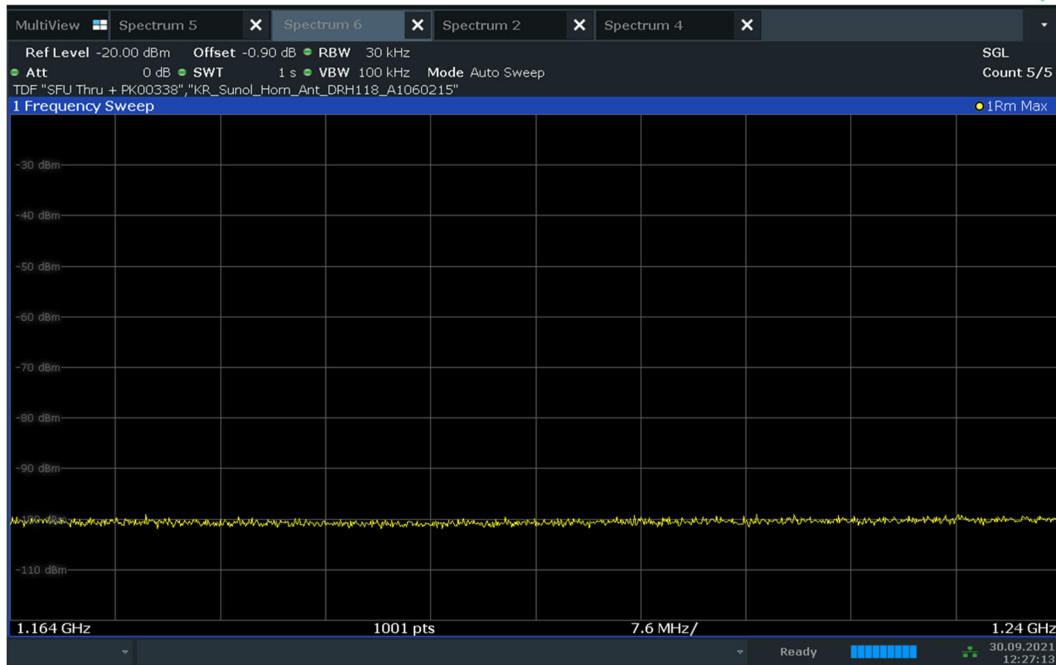


Plot 7-83. Radiated Spurious Pre-Scan 1000 - 10600 MHz - CH.5 - ANT 2

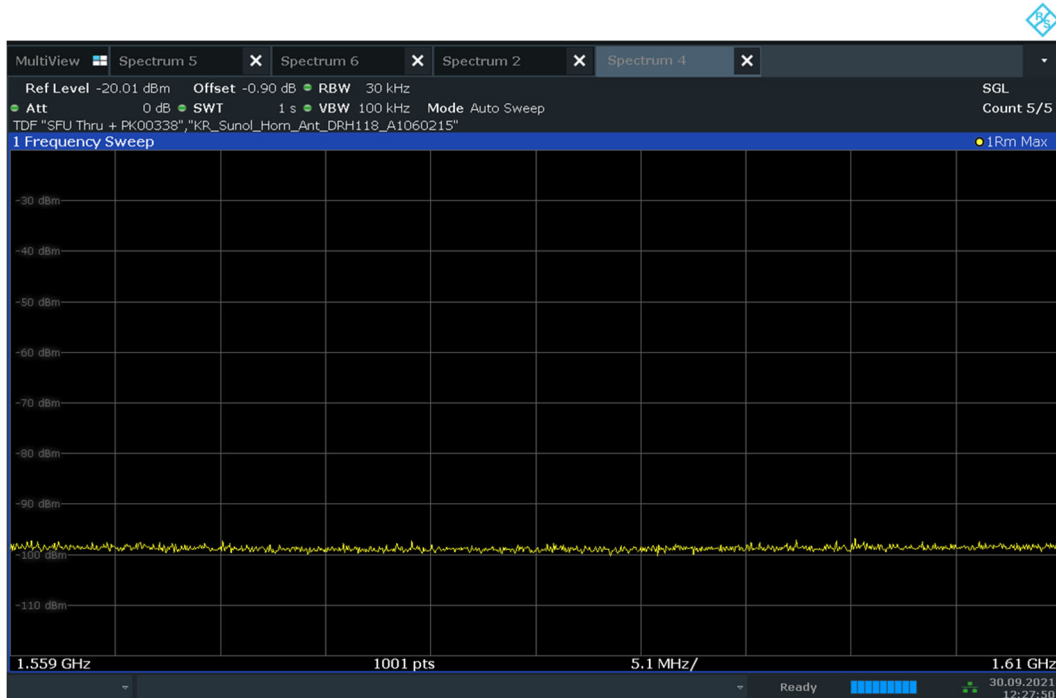


Plot 7-84. Radiated Spurious Pre-Scan 10600 - 18000 MHz - CH.5 - ANT 2

FCC ID: A3LSMS908U	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-85. Radiated Spurious Pre-Scan 1164 - 1240 MHz - CH.5 - ANT 2 – GPS band



Plot 7-86. Radiated Spurious Pre-Scan 1559 - 1610 MHz - CH.5 - ANT 2 – GPS band

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