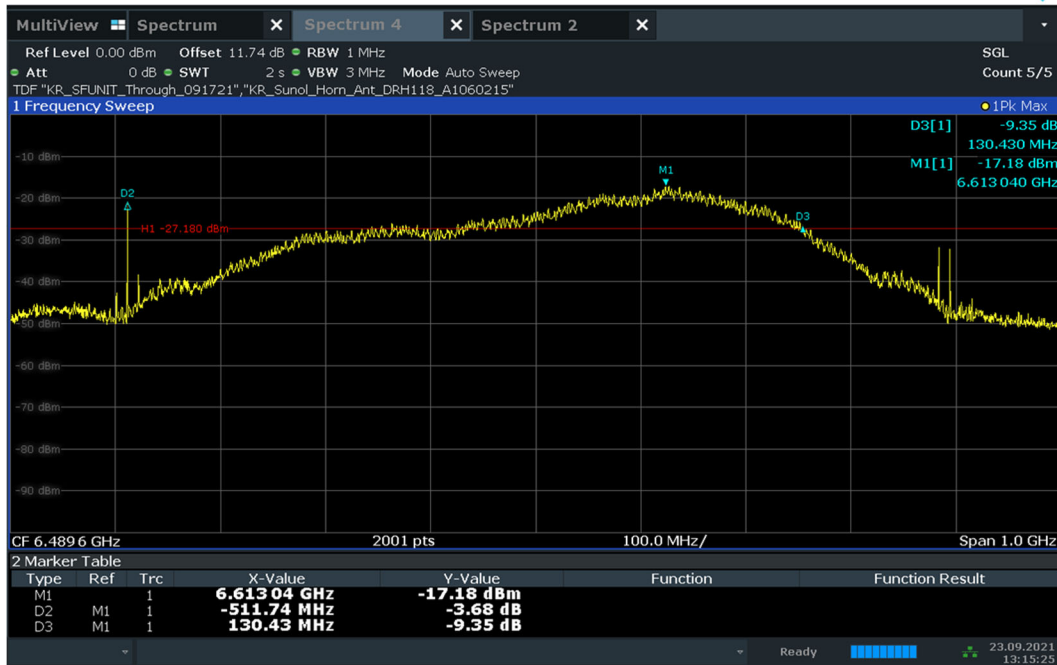
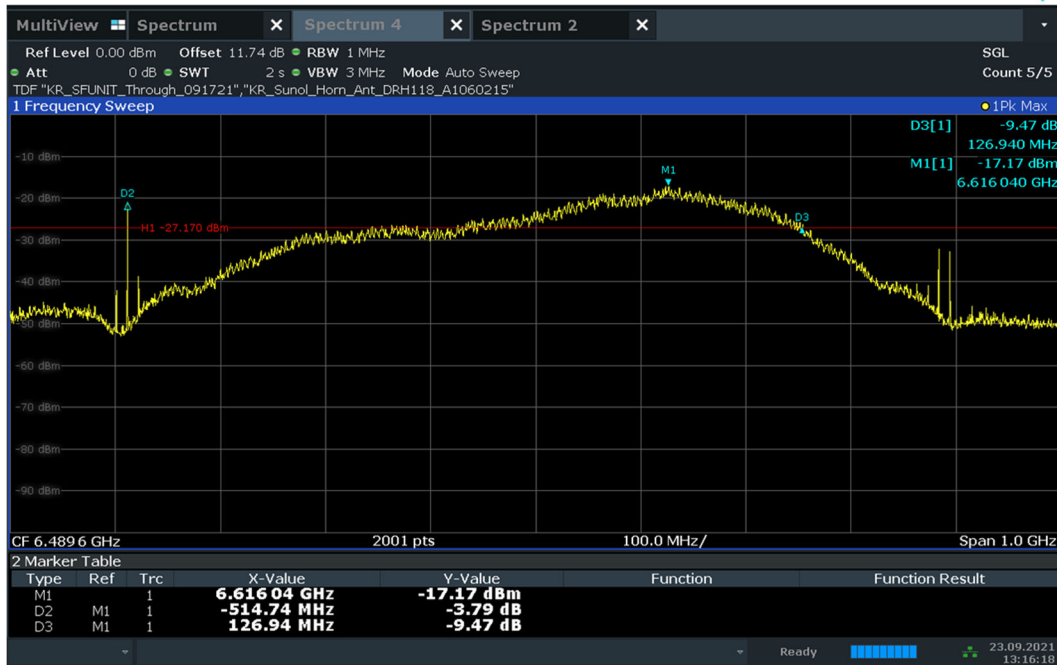


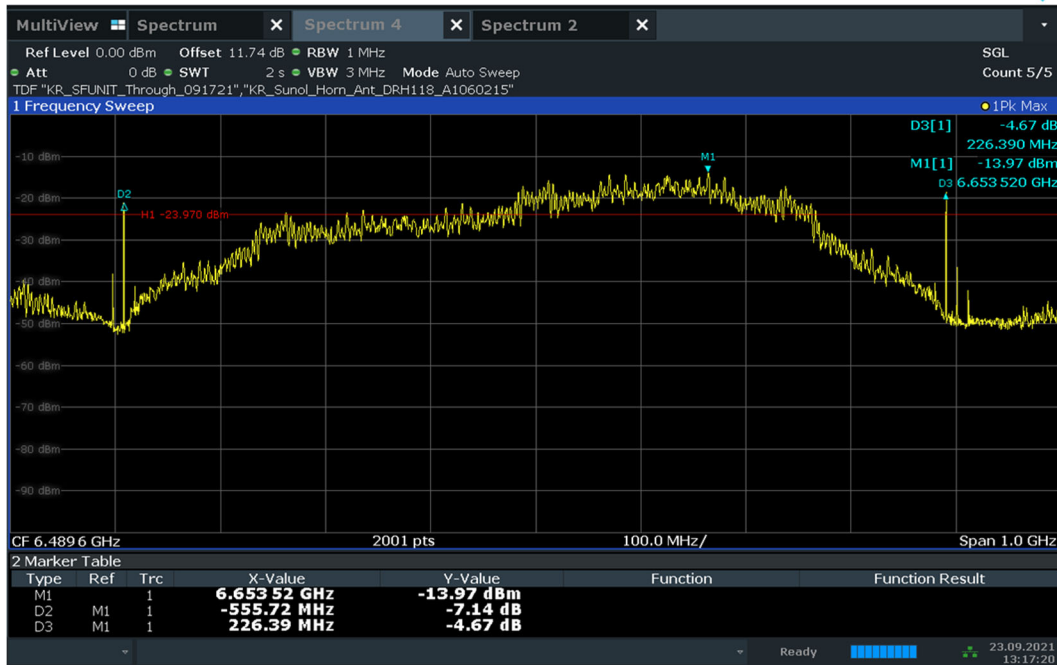


Plot 7-41. 10dBc Bandwidth – CH.5 – SP1 – Preamble 12

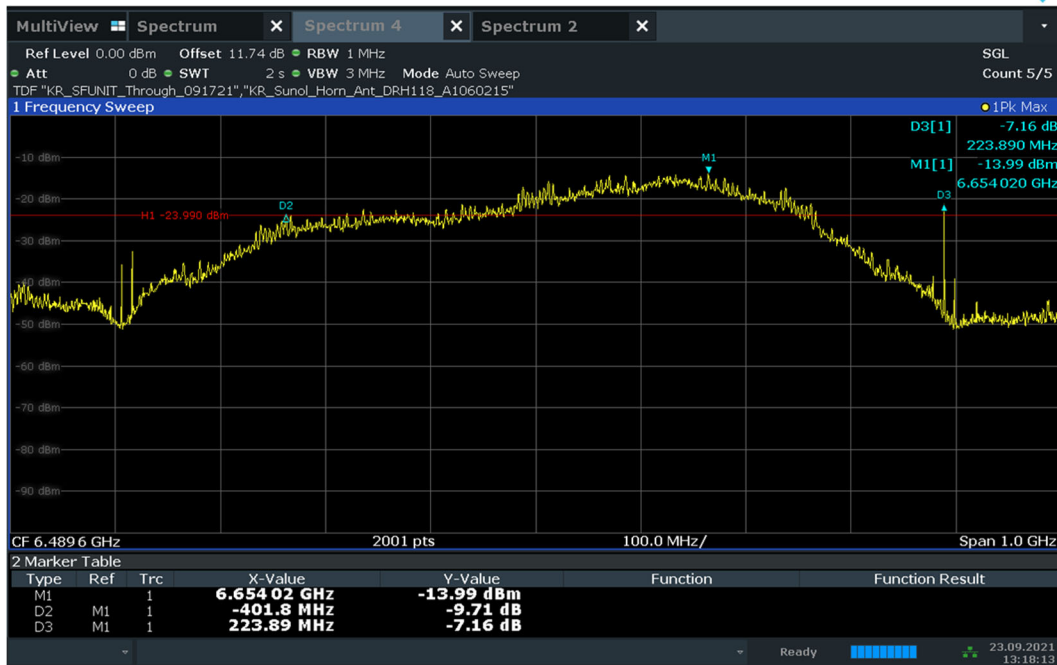


Plot 7-42. 10dBc Bandwidth – CH.5 – SP3 – Preamble 12

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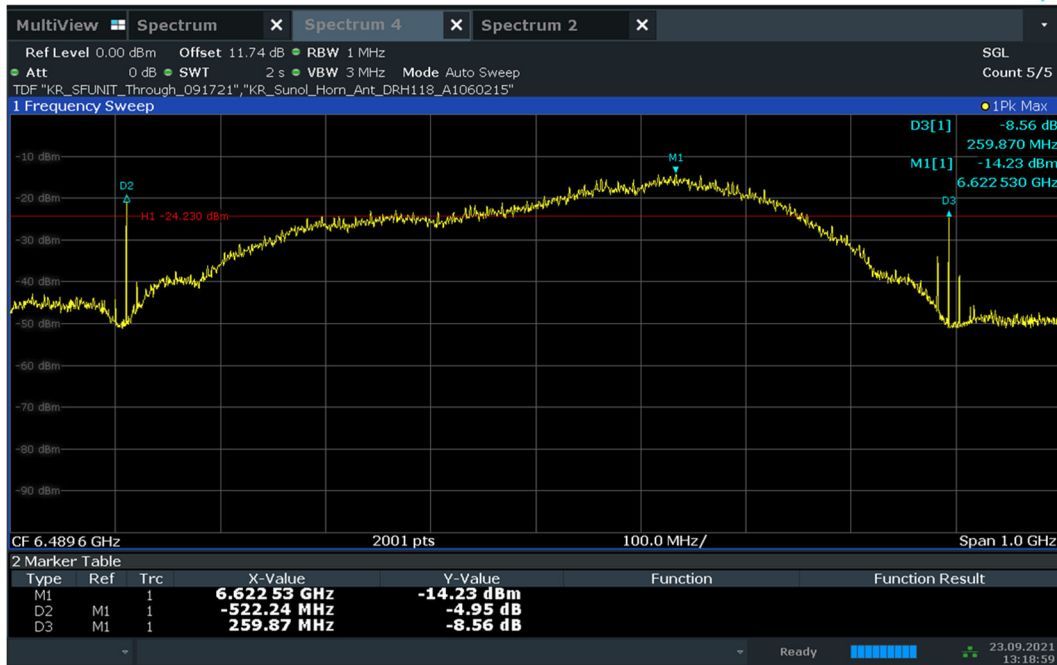


Plot 7-43. 10dBc Bandwidth – CH.5 - SP0 – Preamble 27

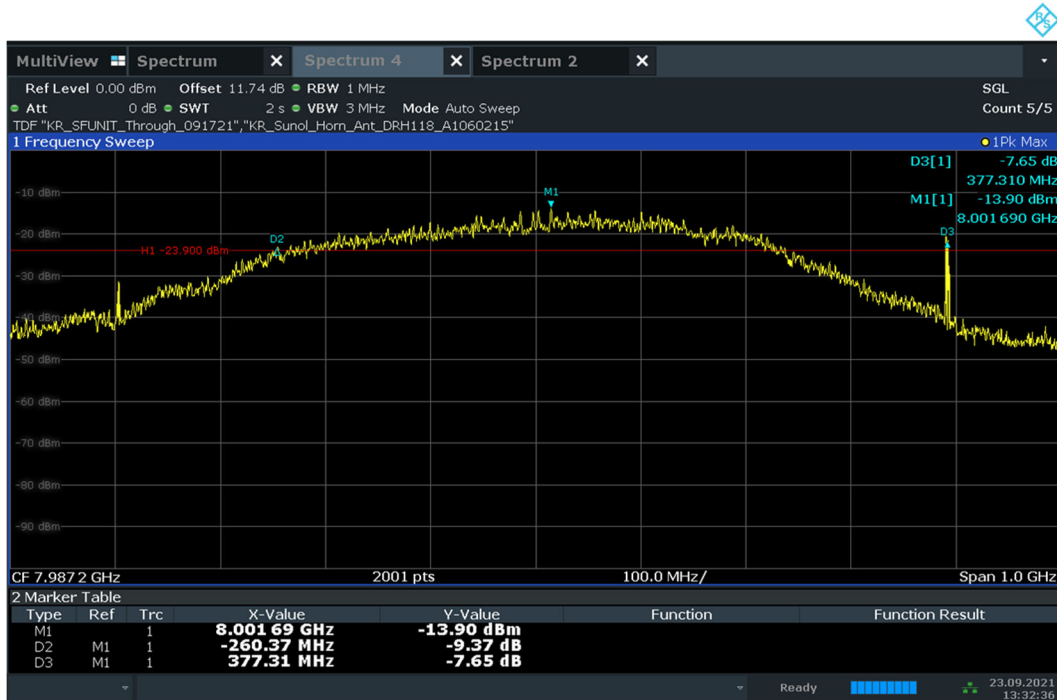


Plot 7-44. 10dBc Bandwidth – CH.5 – SP1 – Preamble 27

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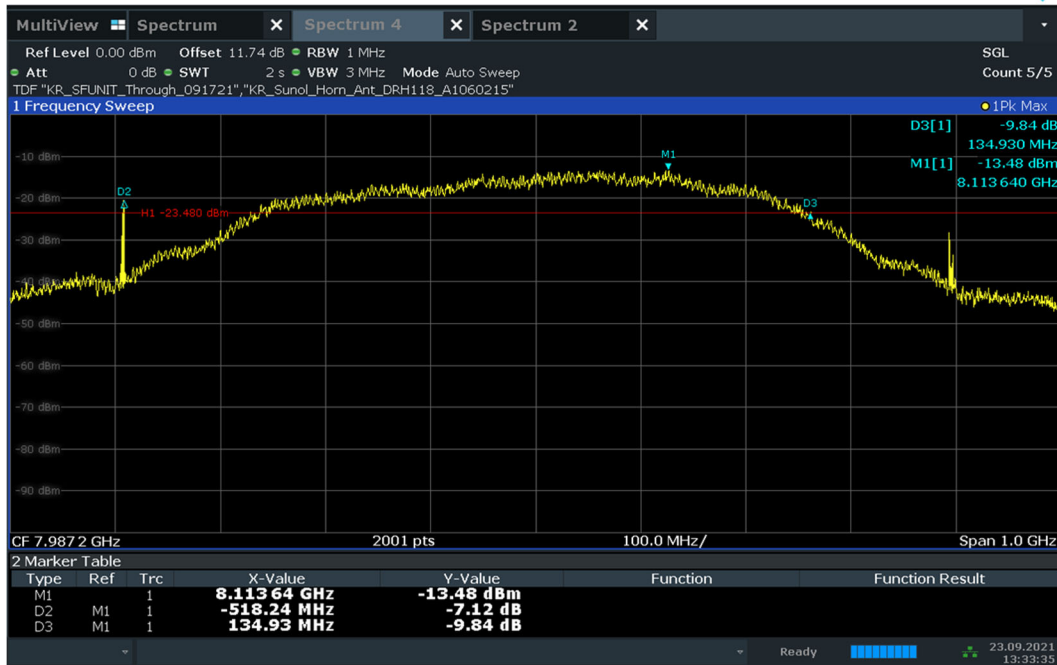


Plot 7-45. 10dBc Bandwidth – CH.5 – SP3 – Preamble 27

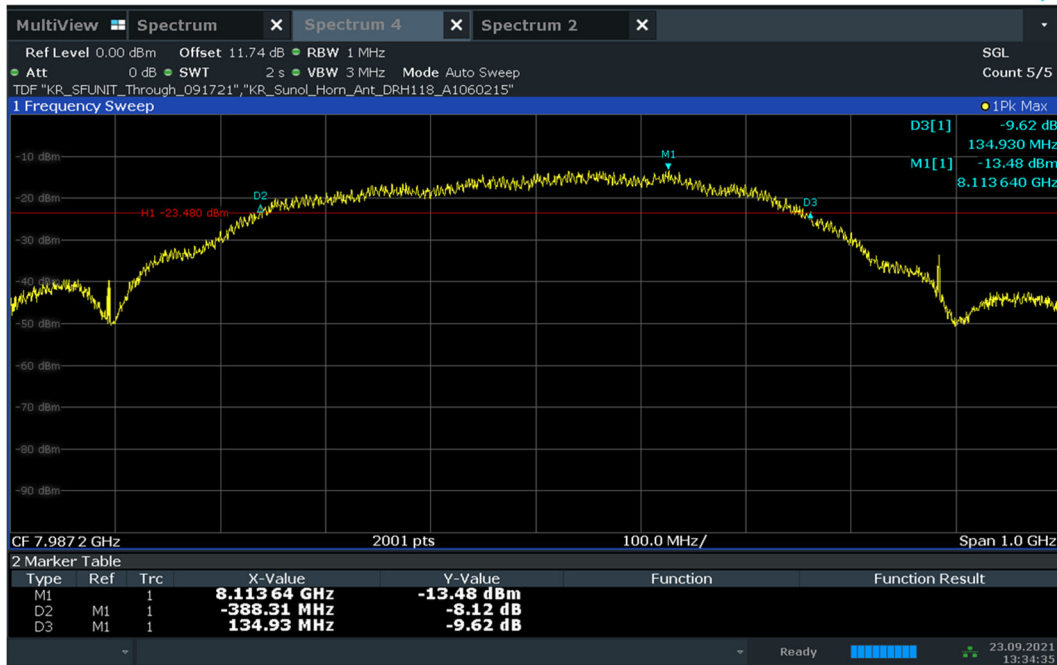


Plot 7-46. 10dBc Bandwidth – CH.9 - SP0 – Preamble 9

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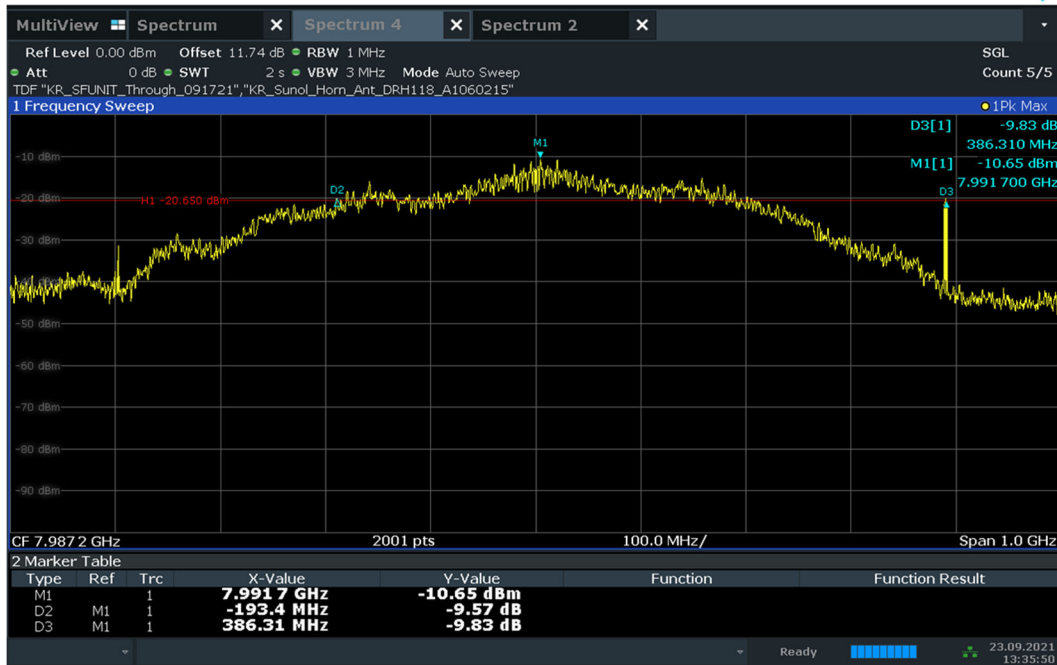


Plot 7-47. 10dBc Bandwidth – CH.9 – SP1 – Preamble 9

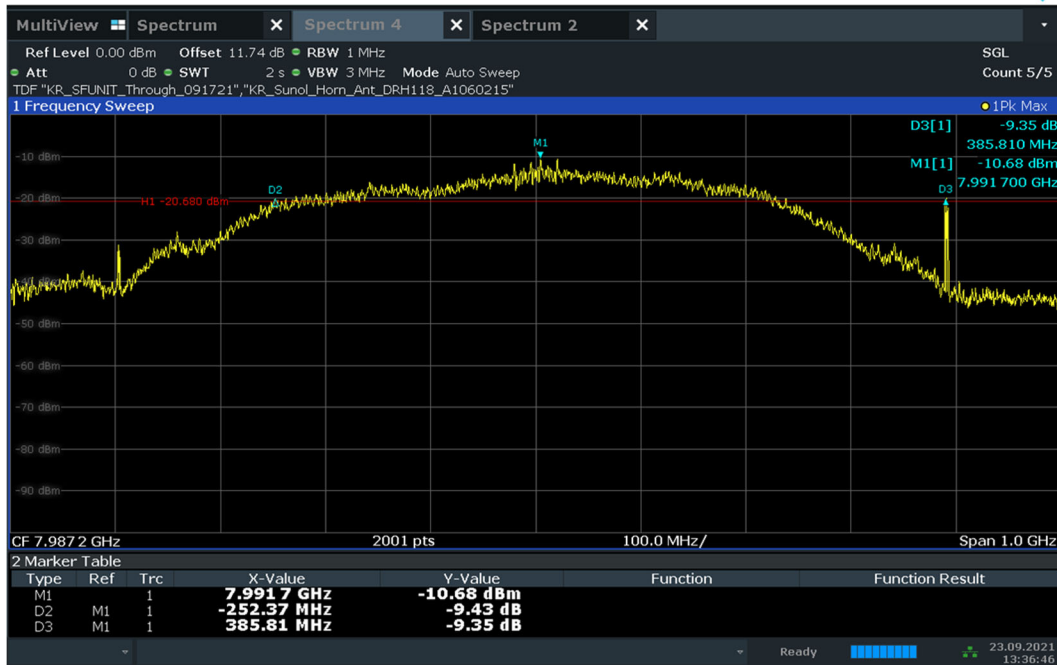


Plot 7-48. 10dBc Bandwidth – CH.9 – SP3 – Preamble 9

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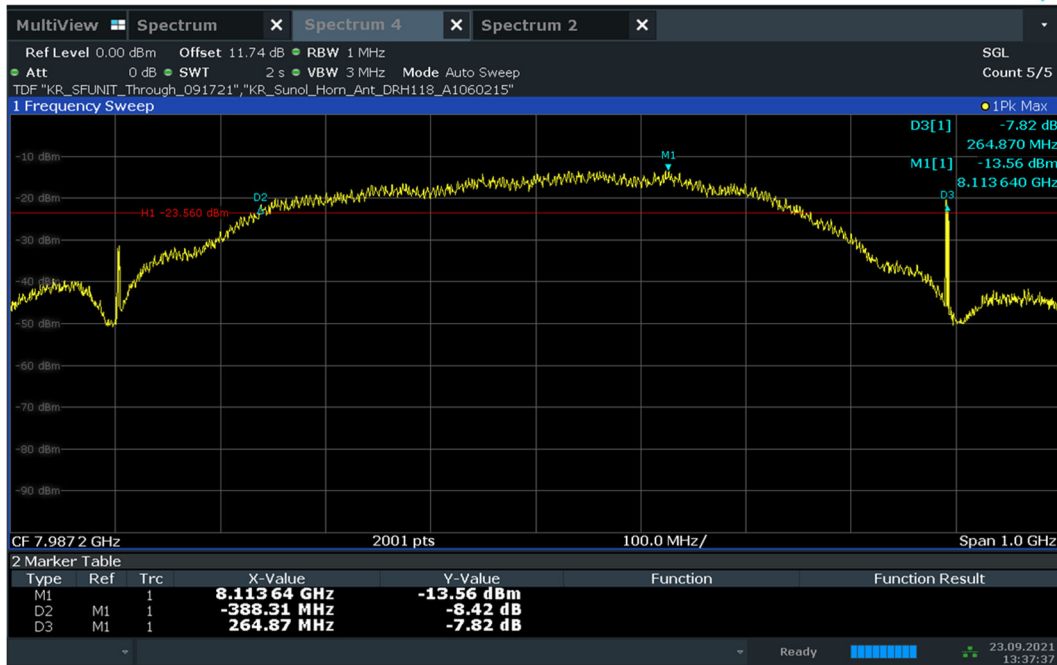


Plot 7-49. 10dBc Bandwidth – CH.9 - SP0 – Preamble 10

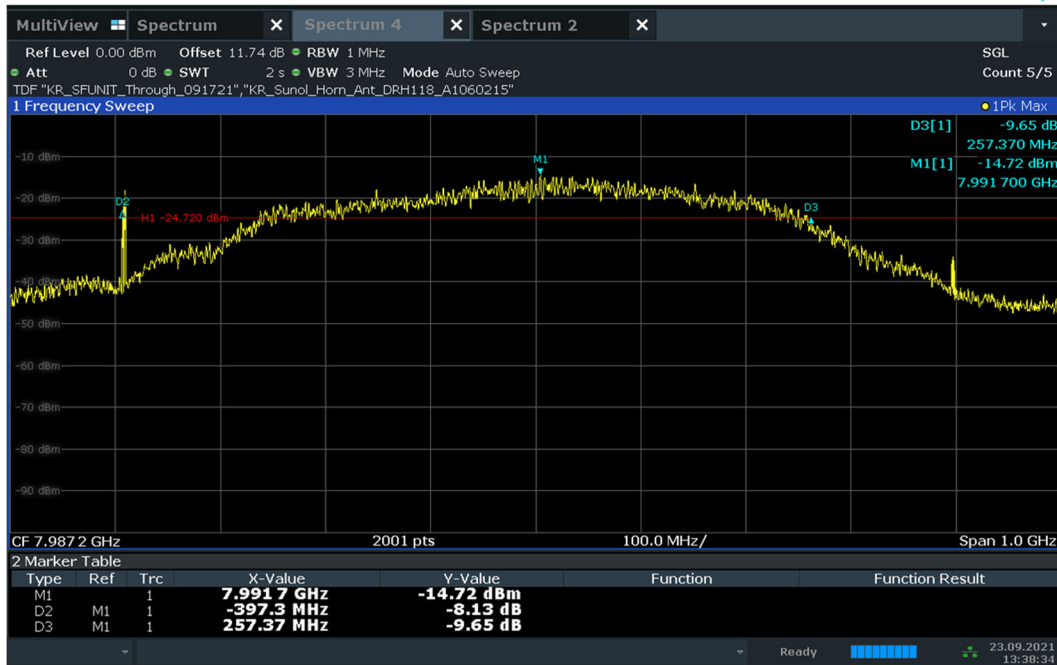


Plot 7-50. 10dBc Bandwidth – CH.9 – SP1 – Preamble 10

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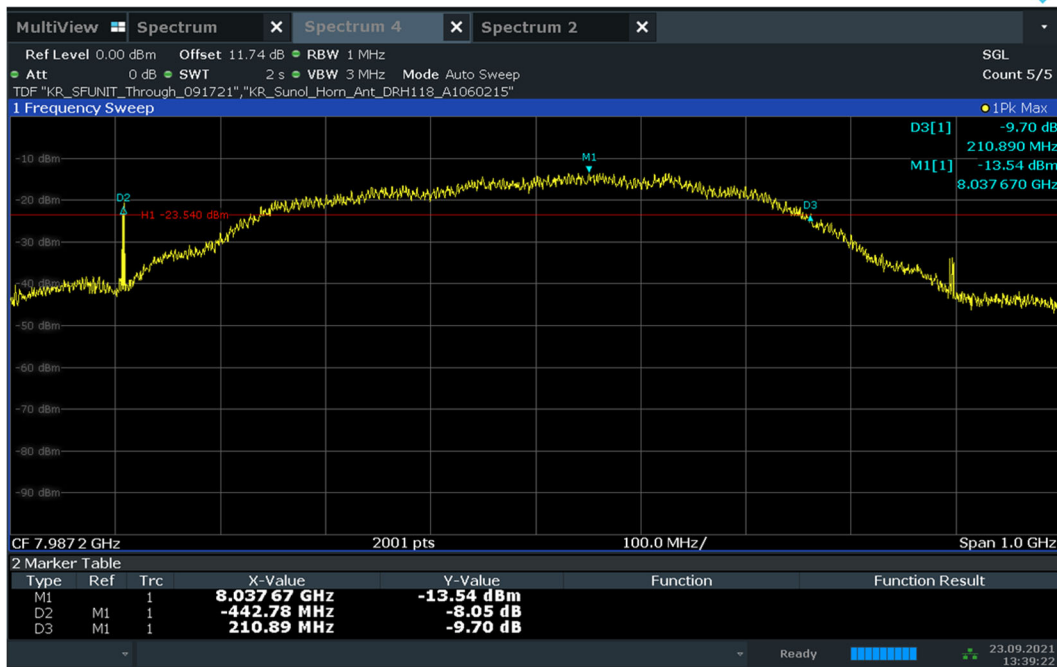


Plot 7-51. 10dBc Bandwidth – CH.9 – SP3 – Preamble 10

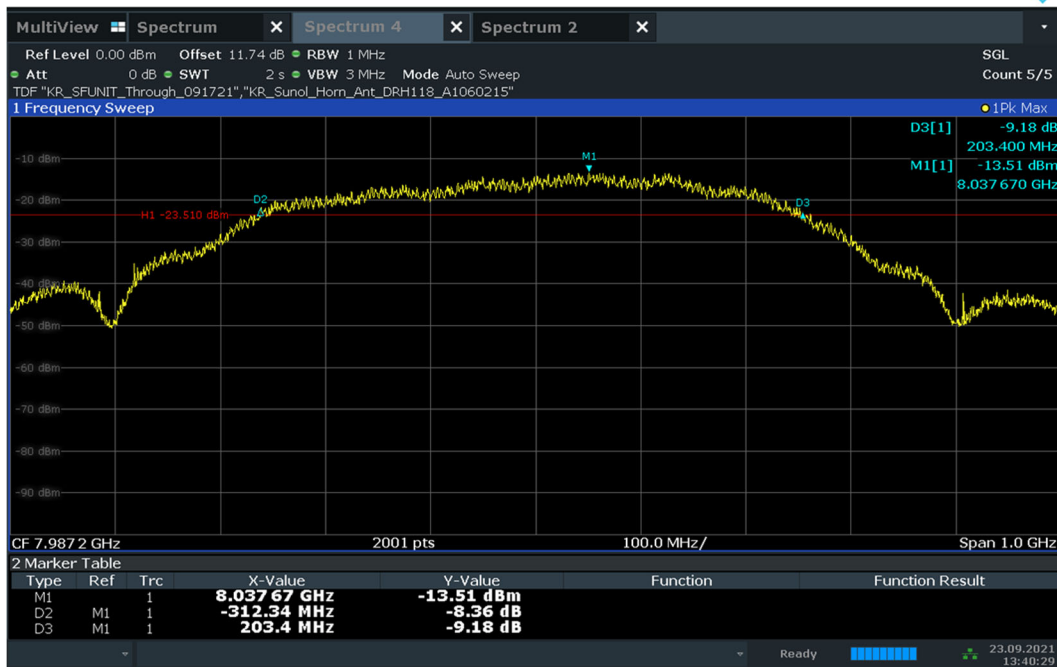


Plot 7-52. 10dBc Bandwidth – CH.9 - SP0 – Preamble 11

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 39 of 86

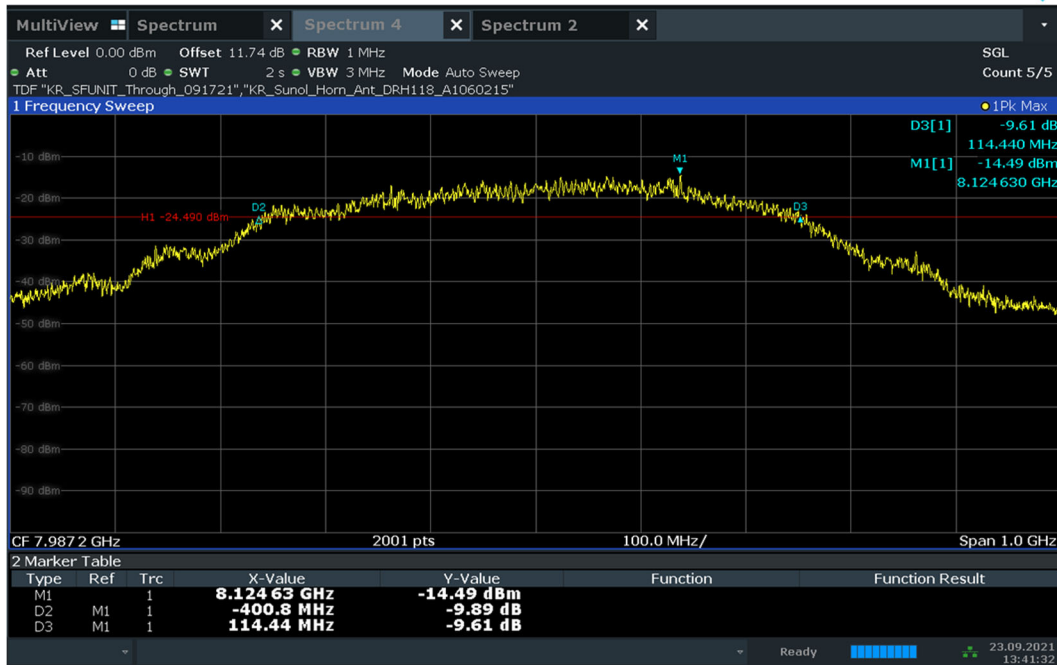


Plot 7-53. 10dBc Bandwidth – CH.9 – SP1 – Preamble 11

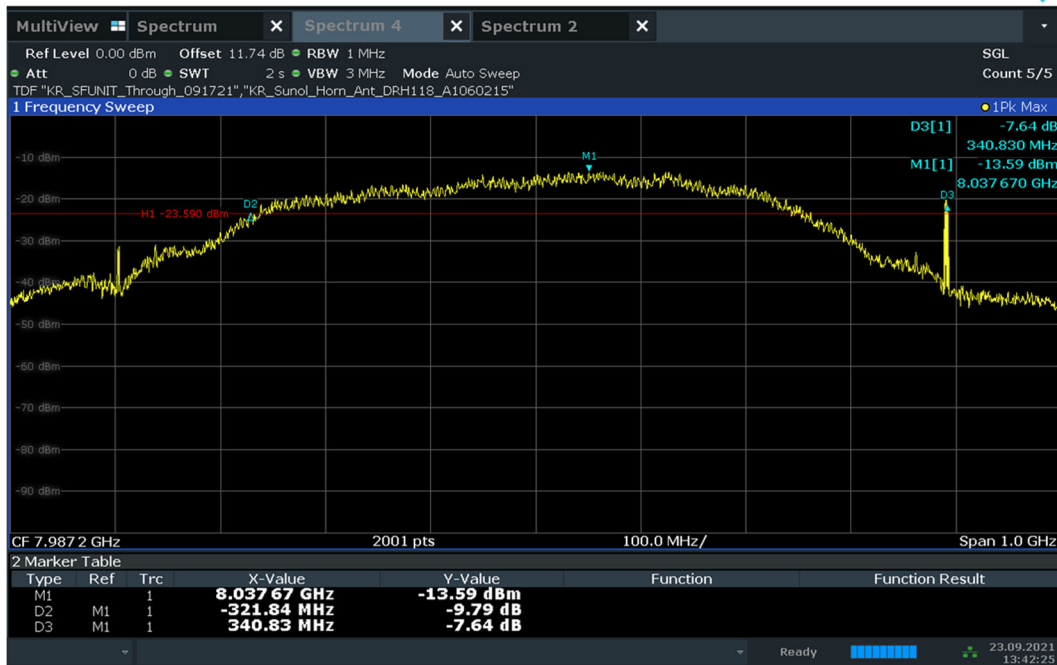


Plot 7-54. 10dBc Bandwidth – CH.9 – SP3 – Preamble 11

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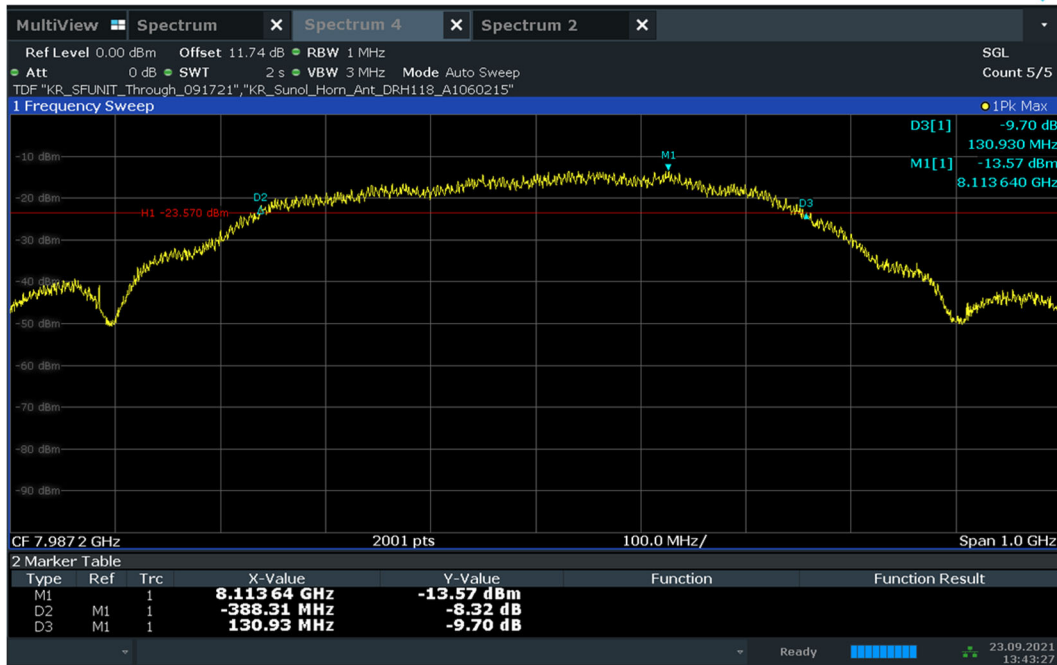


Plot 7-55. 10dBc Bandwidth – CH.9 - SP0 – Preamble 12

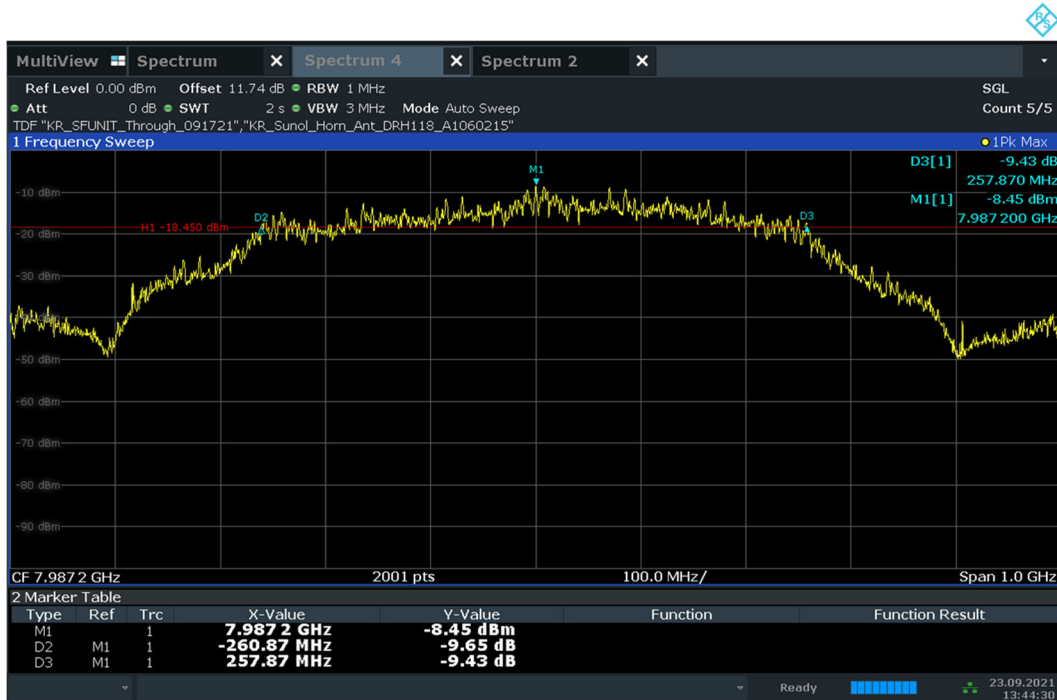


Plot 7-56. 10dBc Bandwidth – CH.9 – SP1 – Preamble 12

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 41 of 86

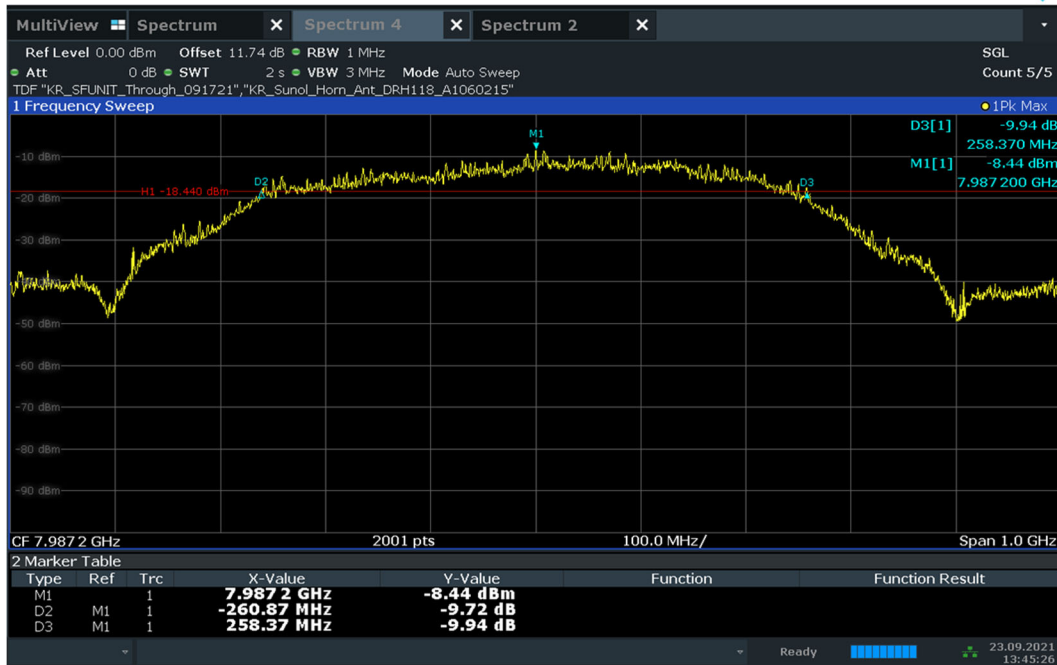


Plot 7-57. 10dBc Bandwidth – CH.9 – SP3 – Preamble 12

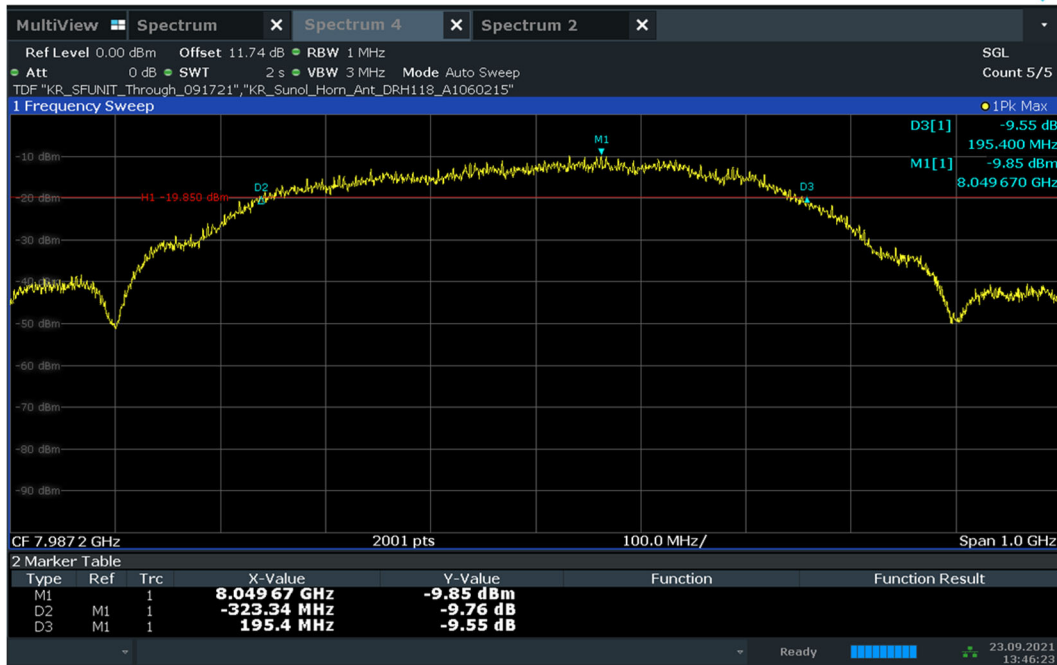


Plot 7-58. 10dBc Bandwidth – CH.9 - SP0 – Preamble 27

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 42 of 86



Plot 7-59. 10dBc Bandwidth – CH.9 – SP1 – Preamble 27



Plot 7-60. 10dBc Bandwidth – CH.9 – SP3 – Preamble 27

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 43 of 86

7.3 Cessation Time

§15.519(a)(1)

Test Overview and Limit

§15.519(a)(1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgment from the associated receiver that its transmission is being received an acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

Test Settings

1. RBW = 1MHz
2. VBW = 3MHz
3. Span = 0 Span Mode
4. Sweep time shall be sufficient to demonstrate EUTs compliance with the rule part.
5. Vertical Markers are placed to indicate the point in which the receiver ceases acknowledging the EUT and the point 10s after.

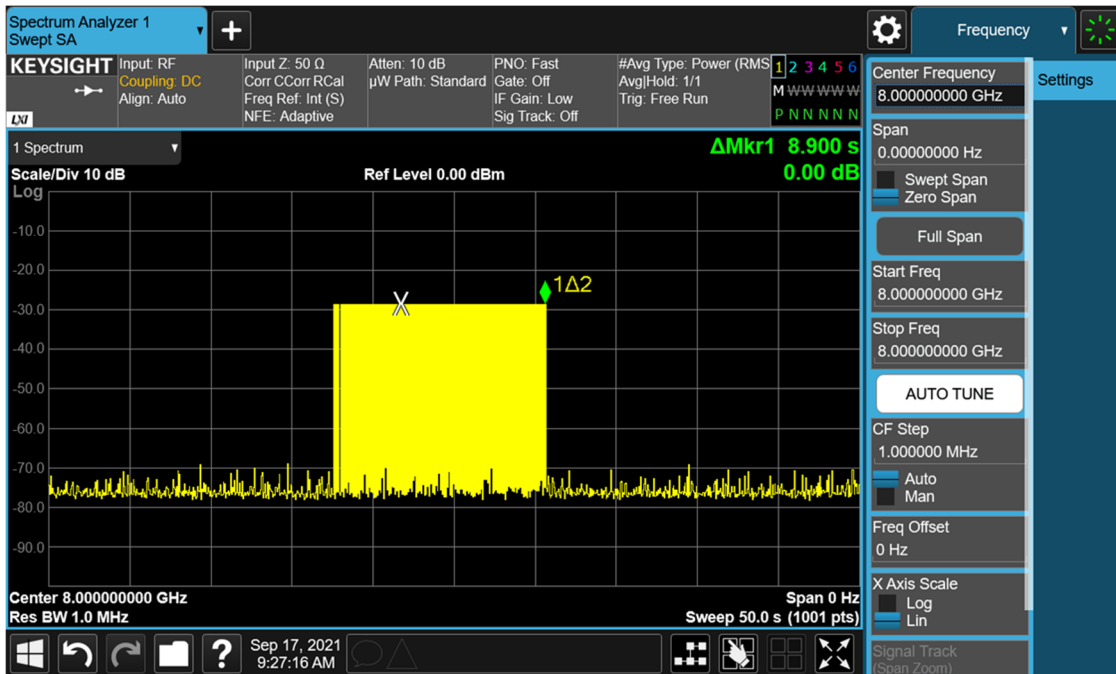
Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-2. Test Instrument and Measurement Setup

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Plot 7-61. Cessation Time Plot

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7.4 Peak Power and Maximum Average Emissions

§15.519(e), §15.519(c)

Test Overview and Limit

15.519 (3)(e) There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs, fM. That limit is 0 dBm EIRP.

15.519 (3)(c) The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Frequency in MHz	EIRP in dBm
3100 - 10600	-41.3

Table 7-4. Average EIRP Limit

Test Procedures Used

ANSI C63.10-2013

Test Settings

Peak:

1. Analyzer frequency set to the frequency of the radiated spurious emission of interest
2. RBW = 50MHz, VBW = 80MHz
3. Detector = Peak
4. Sweep time = auto coupled
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average:

1. Analyzer frequency set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz, VBW = 3MHz
3. Detector = Average (RMS)
4. Sweep time = No more than 1ms integration period over measurement bin
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Note

All combinations of HPRF/BPRF, power mode, and preamble are investigated for average and peak EIRP measurements. Only the worst case combinations are reported for each channel and each antenna.

RESULTS – BPRF

ANT	CH	MODE	Preamble	Meas. Ant.	FM[GHz]	Peak Power (dBm/50MHz)	Peak Limit (dBm/50MHz)	Margin [dB]
1	5	SP0	9	H	6.7325	-3.77	0	-3.77
	9	SP0	9	V	7.9822	-1.51	0	-1.51
2	5	SP0	9	H	6.6120	-4.32	0	-4.32
	9	SP0	9	H	7.9867	-1.53	0	-1.53

Table 7-5. BPRF Highest Peak Power Results

ANT	CH	MODE	Preamble	Meas. Ant.	FM[GHz]	Average Power (dBm)	Average Limit (dBm)	Margin [dB]
1	5	SP1	11	H	6.7150	-42.93	-41.3	-1.63
	9	SP3	12	V	7.8448	-42.80	-41.3	-1.50
2	5	SP3	9	H	6.6145	-42.80	-41.3	-1.50
	9	SP3	12	H	8.0317	-42.97	-41.3	-1.67

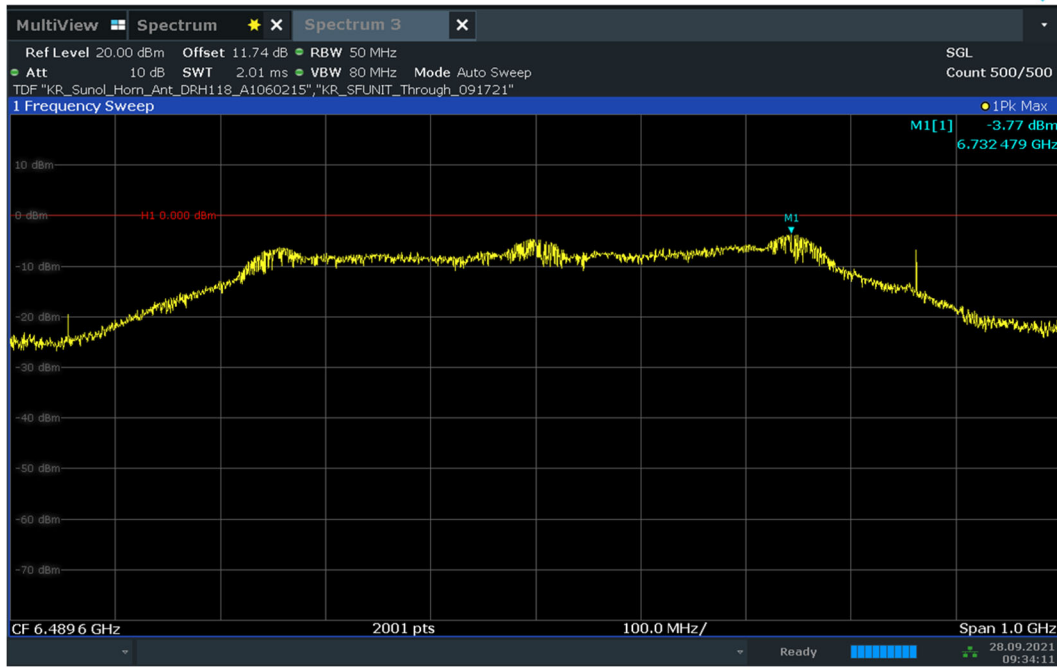
Table 7-6. BPRF Highest Average Power Results

Sample Calculation:

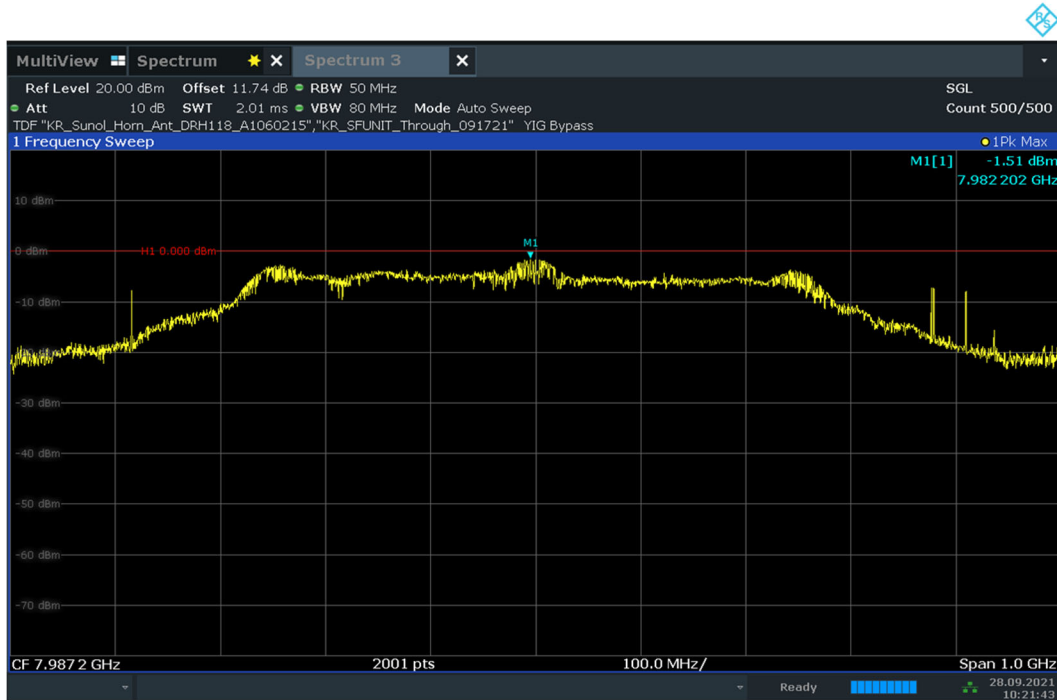
The raw radiated spurious level is converted to field strength in dBuV/m. Then, the EIRP level is calculated by applying the additional factors shown below for a test distance of 3 meter.

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

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Plot 7-62. UWB Peak Power Measurement - ANT 1 - CH.5 – BPRF



Plot 7-63. UWB Peak Power Measurement - ANT 1 - CH.9 – BPRF

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