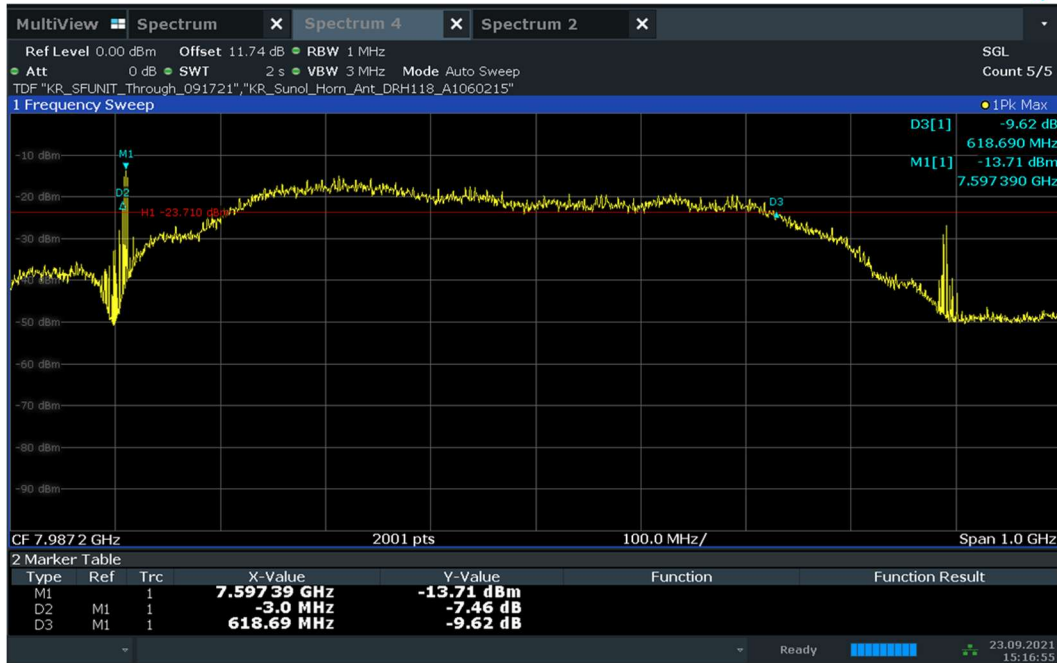


Plot 7-29. 10dBc Bandwidth – CH.9 – SP1 – Preamble 27



Plot 7-30. 10dBc Bandwidth – CH.9 – SP3 – Preamble 27

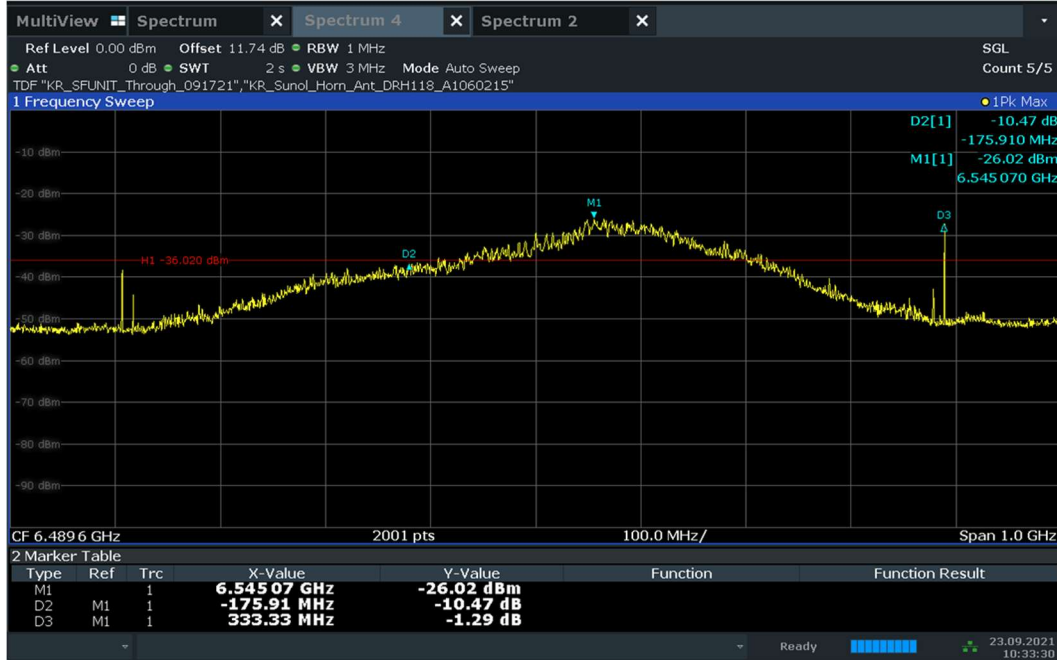
| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 27 of 86 |

| Frequency [GHz] | Channel | Preamble Id | Config | Mode | F _M [GHz] | F _L [GHz] | F _H [GHz] | F _c [GHz] | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|---------|-------------|--------|------|----------------------|----------------------|----------------------|----------------------|--------------------------|-------------------------|-------------|
| 6.5 | 5 | 9 | SP0 | BPRF | 6.545 | 6.369 | 6.878 | 6.624 | 509 | 500 | Pass |
| | | 9 | SP1 | BPRF | 6.551 | 6.100 | 6.882 | 6.491 | 782 | 500 | Pass |
| | | 9 | SP3 | BPRF | 6.551 | 6.100 | 6.882 | 6.491 | 782 | 500 | Pass |
| | | 10 | SP0 | BPRF | 6.564 | 6.096 | 6.702 | 6.399 | 607 | 500 | Pass |
| | | 10 | SP1 | BPRF | 6.564 | 6.099 | 6.881 | 6.490 | 782 | 500 | Pass |
| | | 10 | SP3 | BPRF | 6.551 | 6.101 | 6.721 | 6.411 | 620 | 500 | Pass |
| | | 11 | SP0 | BPRF | 6.544 | 6.099 | 6.881 | 6.490 | 782 | 500 | Pass |
| | | 11 | SP1 | BPRF | 6.551 | 6.099 | 6.881 | 6.490 | 782 | 500 | Pass |
| | | 11 | SP3 | BPRF | 6.551 | 6.102 | 6.727 | 6.414 | 625 | 500 | Pass |
| | | 12 | SP0 | BPRF | 6.565 | 6.099 | 6.881 | 6.490 | 782 | 500 | Pass |
| | | 12 | SP1 | BPRF | 6.564 | 6.100 | 6.882 | 6.491 | 782 | 500 | Pass |
| | | 12 | SP3 | BPRF | 6.551 | 6.100 | 6.882 | 6.491 | 782 | 500 | Pass |
| | | 27 | SP0 | HPRF | 6.560 | 6.099 | 6.881 | 6.490 | 782 | 500 | Pass |
| | | 27 | SP1 | HPRF | 6.560 | 6.099 | 6.881 | 6.490 | 782 | 500 | Pass |
| | | 27 | SP3 | HPRF | 6.552 | 6.101 | 6.707 | 6.404 | 607 | 500 | Pass |
| 8.0 | 9 | 9 | SP0 | BPRF | 8.121 | 7.597 | 8.272 | 7.934 | 675 | 500 | Pass |
| | | 9 | SP1 | BPRF | 8.114 | 7.812 | 8.379 | 8.095 | 567 | 500 | Pass |
| | | 9 | SP3 | BPRF | 8.124 | 7.798 | 8.380 | 8.089 | 581 | 500 | Pass |
| | | 10 | SP0 | BPRF | 7.998 | 7.818 | 8.380 | 8.099 | 562 | 500 | Pass |
| | | 10 | SP1 | BPRF | 8.124 | 7.791 | 8.380 | 8.085 | 588 | 500 | Pass |
| | | 10 | SP3 | BPRF | 8.124 | 7.798 | 8.376 | 8.087 | 578 | 500 | Pass |
| | | 11 | SP0 | BPRF | 8.126 | 7.596 | 8.273 | 7.934 | 676 | 500 | Pass |
| | | 11 | SP1 | BPRF | 8.124 | 7.798 | 8.380 | 8.089 | 582 | 500 | Pass |
| | | 11 | SP3 | BPRF | 8.124 | 7.812 | 8.377 | 8.094 | 565 | 500 | Pass |
| | | 12 | SP0 | BPRF | 8.120 | 7.597 | 8.277 | 7.937 | 680 | 500 | Pass |
| | | 12 | SP1 | BPRF | 8.113 | 7.598 | 8.269 | 7.933 | 671 | 500 | Pass |
| | | 12 | SP3 | BPRF | 8.124 | 7.788 | 8.377 | 8.082 | 588 | 500 | Pass |
| | | 27 | SP0 | HPRF | 8.151 | 7.749 | 8.269 | 8.009 | 520 | 500 | Pass |
| | | 27 | SP1 | HPRF | 8.120 | 7.749 | 8.269 | 8.009 | 520 | 500 | Pass |
| | | 27 | SP3 | HPRF | 8.120 | 7.795 | 8.379 | 8.087 | 584 | 500 | Pass |

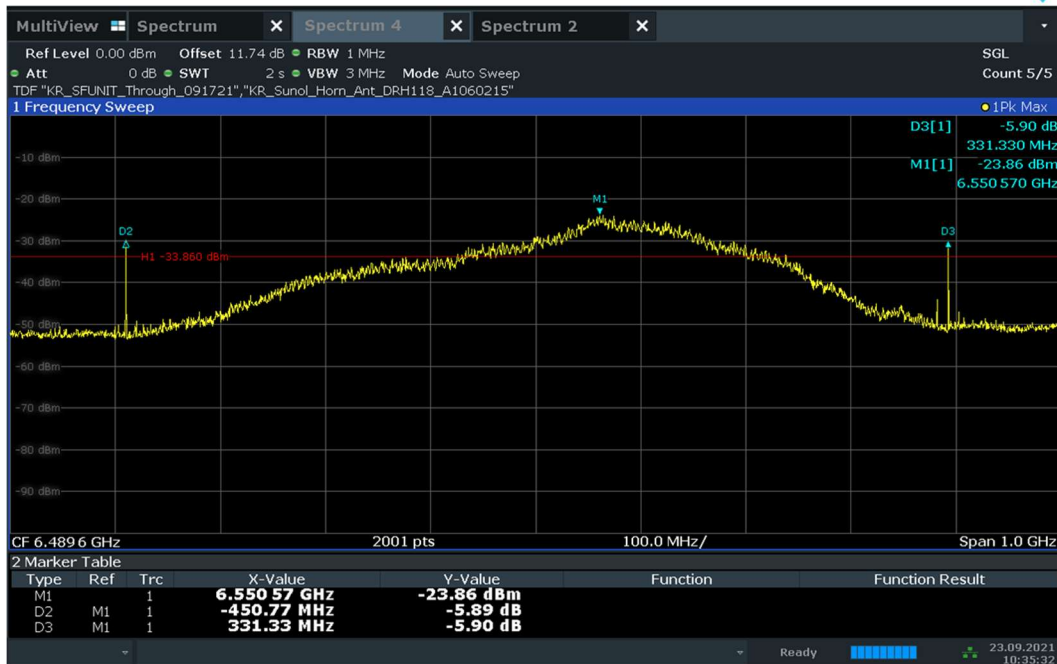
Table 7-3. UWB 10dBc Bandwidth Summary [ANT 2]

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | Page 28 of 86 | |

10dBc Bandwidth Results

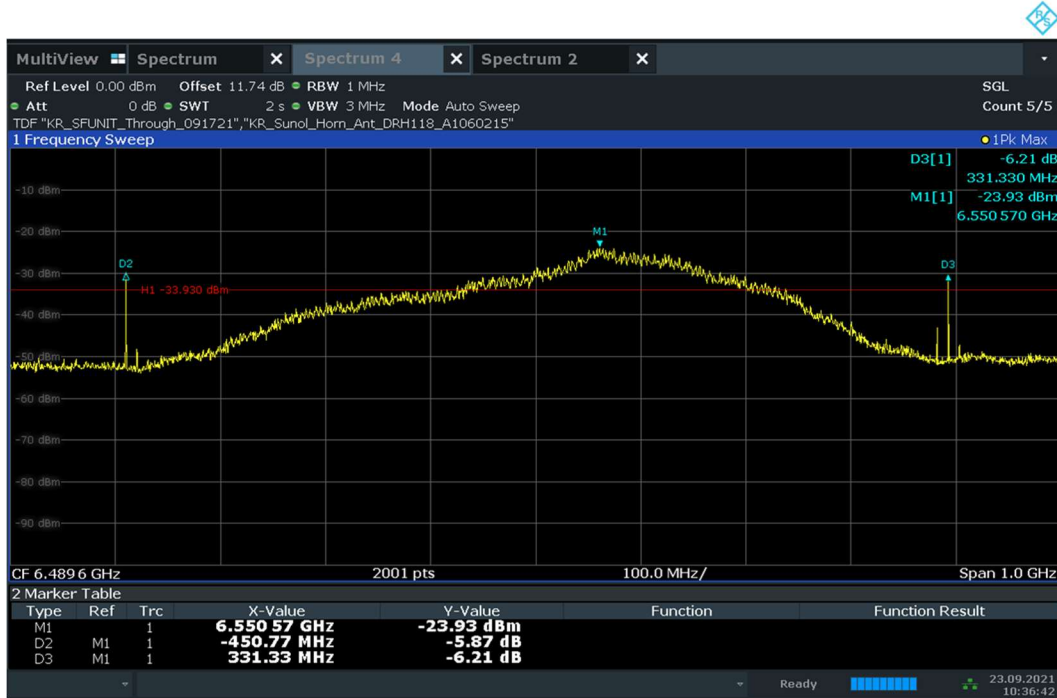


Plot 7-31. 10dBc Bandwidth – CH.5 - SP0 – Preamble 9

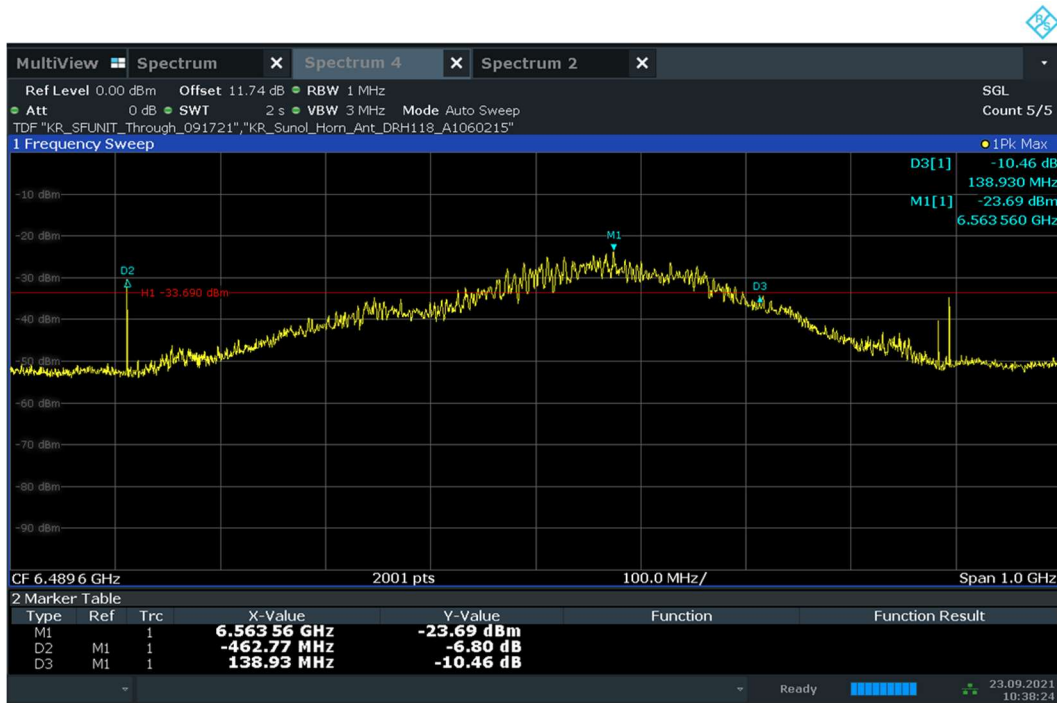


Plot 7-32. 10dBc Bandwidth – CH.5 – SP1 – Preamble 9

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 29 of 86 |

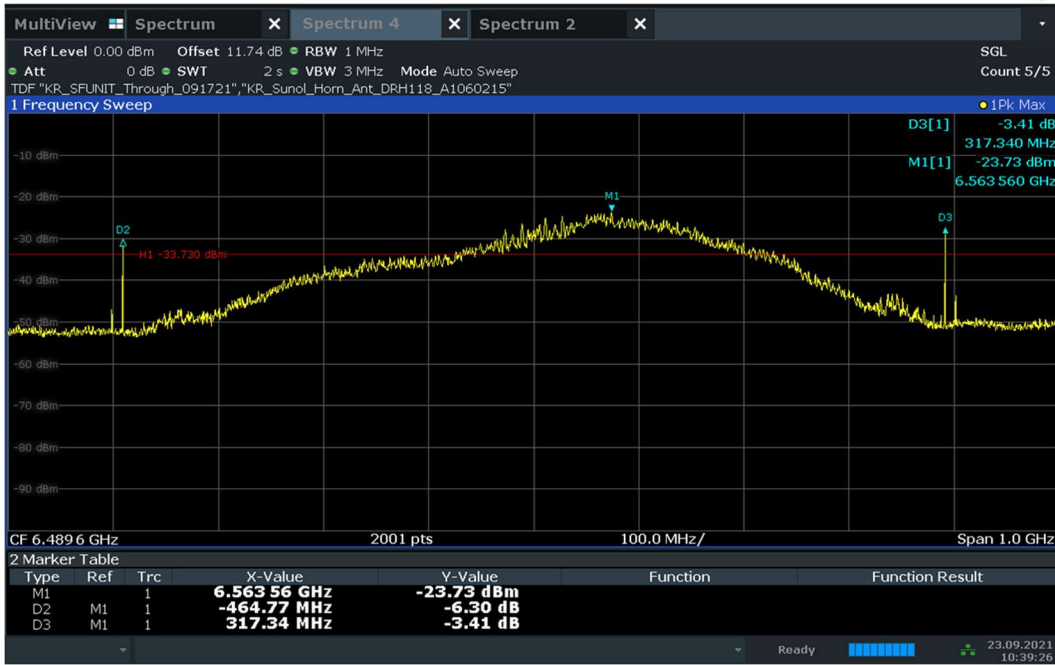


Plot 7-33. 10dBc Bandwidth – CH.5 – SP3 – Preamble 9

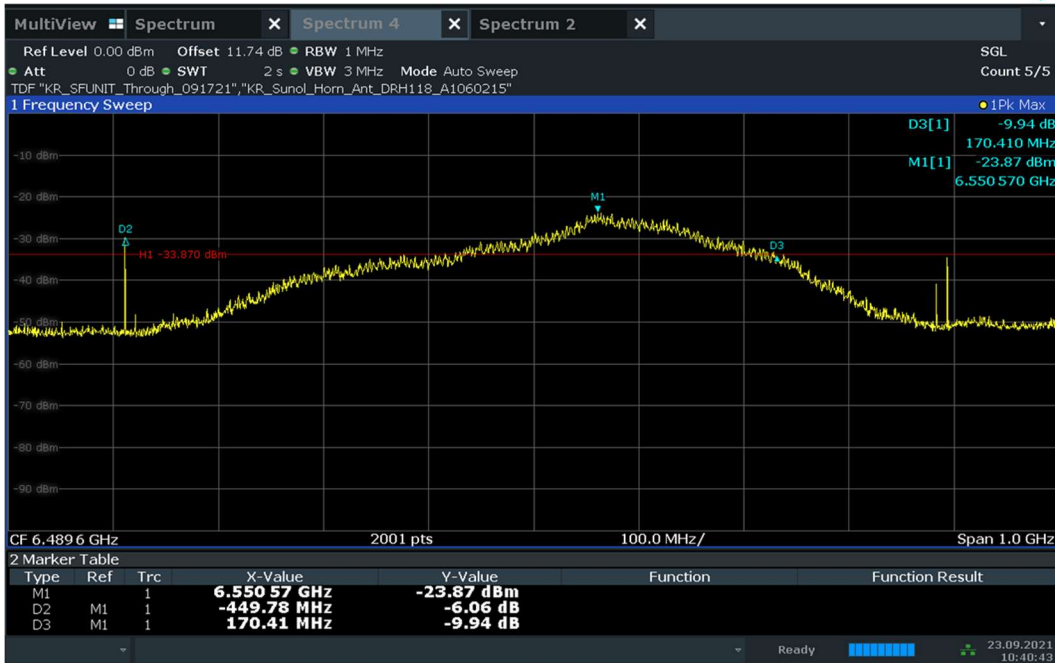


Plot 7-34. 10dBc Bandwidth – CH.5 - SP0 – Preamble 10

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 30 of 86 |

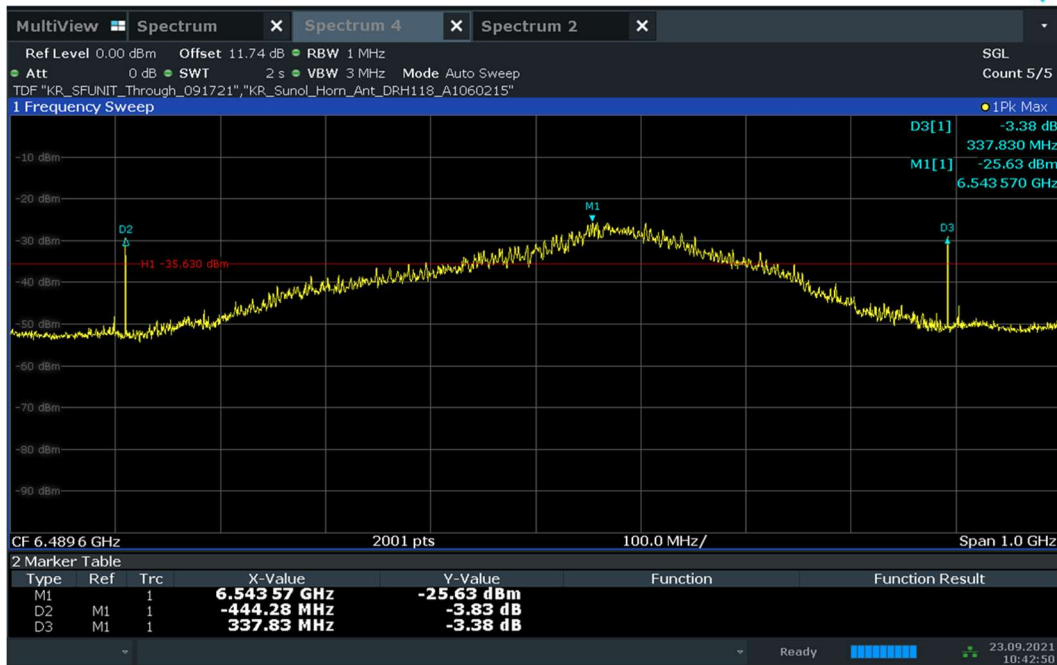


Plot 7-35. 10dBc Bandwidth – CH.5 – SP1 – Preamble 10

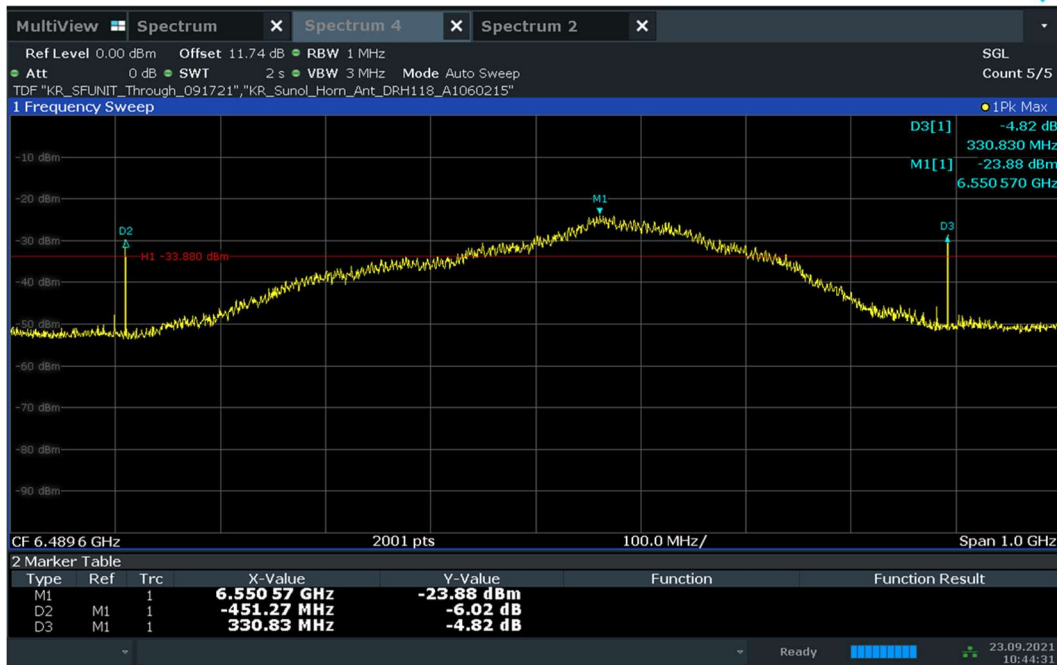


Plot 7-36. 10dBc Bandwidth – CH.5 – SP3 – Preamble 10

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 31 of 86 |



Plot 7-37. 10dBc Bandwidth – CH.5 - SP0 – Preamble 11

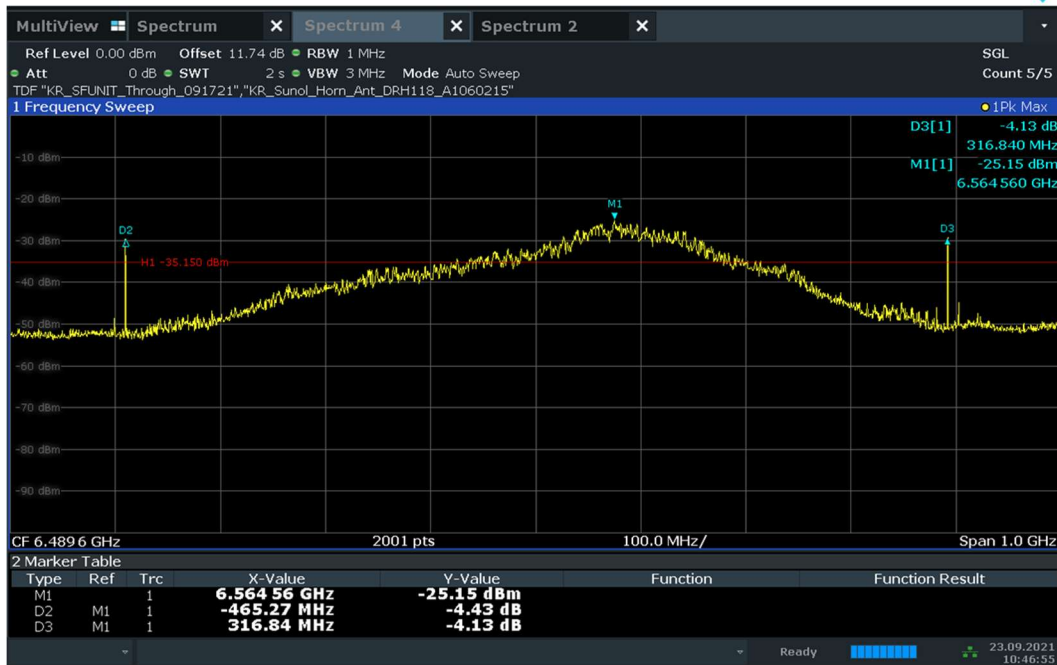


Plot 7-38. 10dBc Bandwidth – CH.5 – SP1 – Preamble 11

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 32 of 86 |

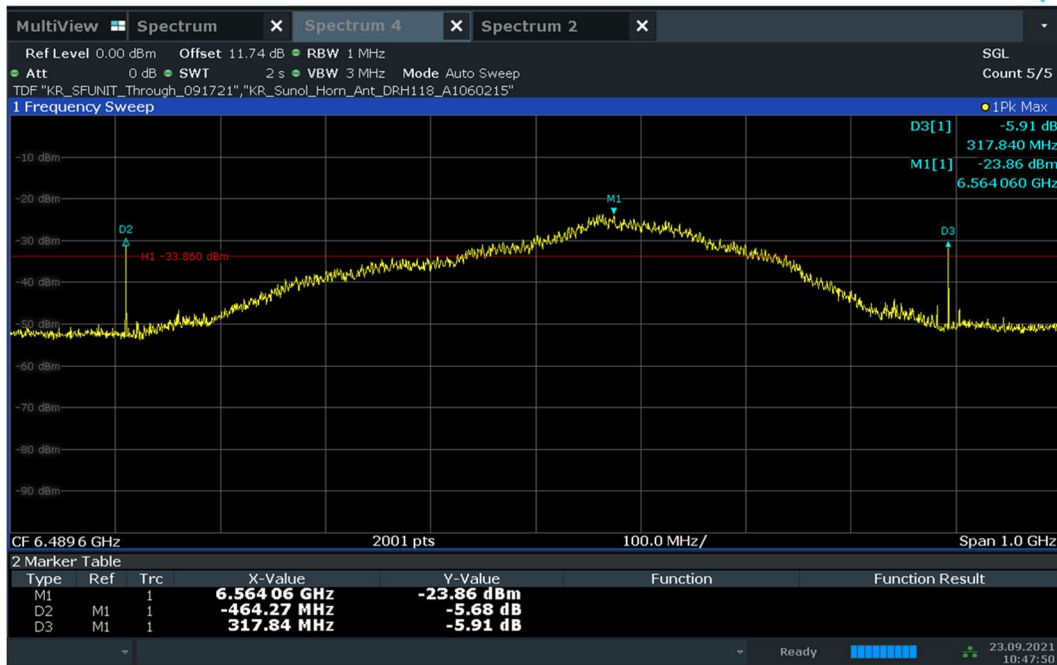


Plot 7-39. 10dBc Bandwidth – CH.5 – SP3 – Preamble 11

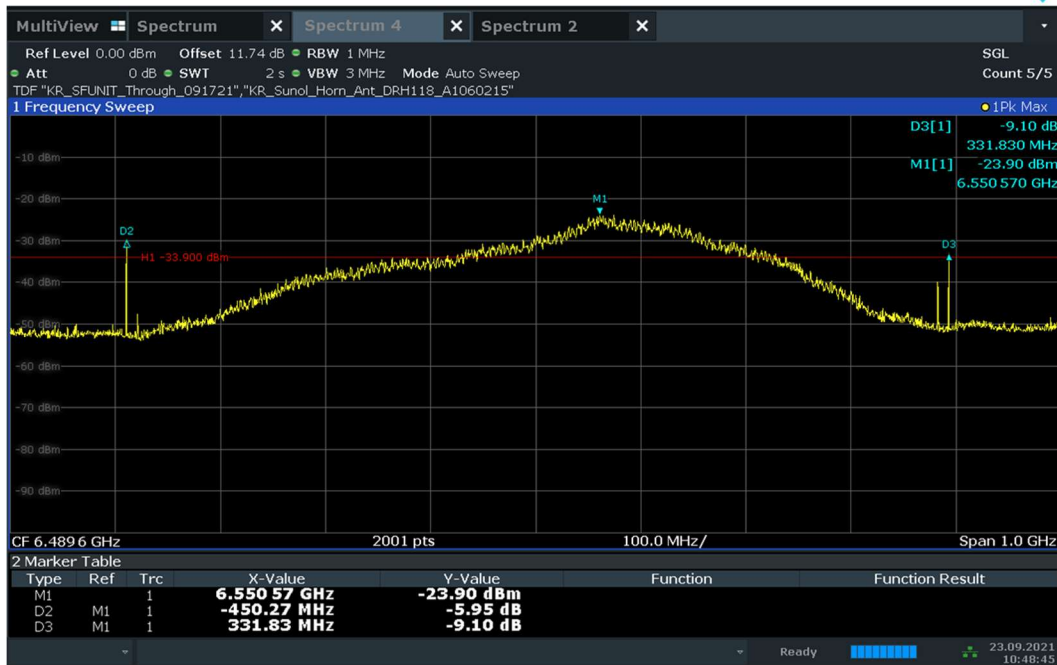


Plot 7-40. 10dBc Bandwidth – CH.5 - SP0 – Preamble 12

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 33 of 86 |

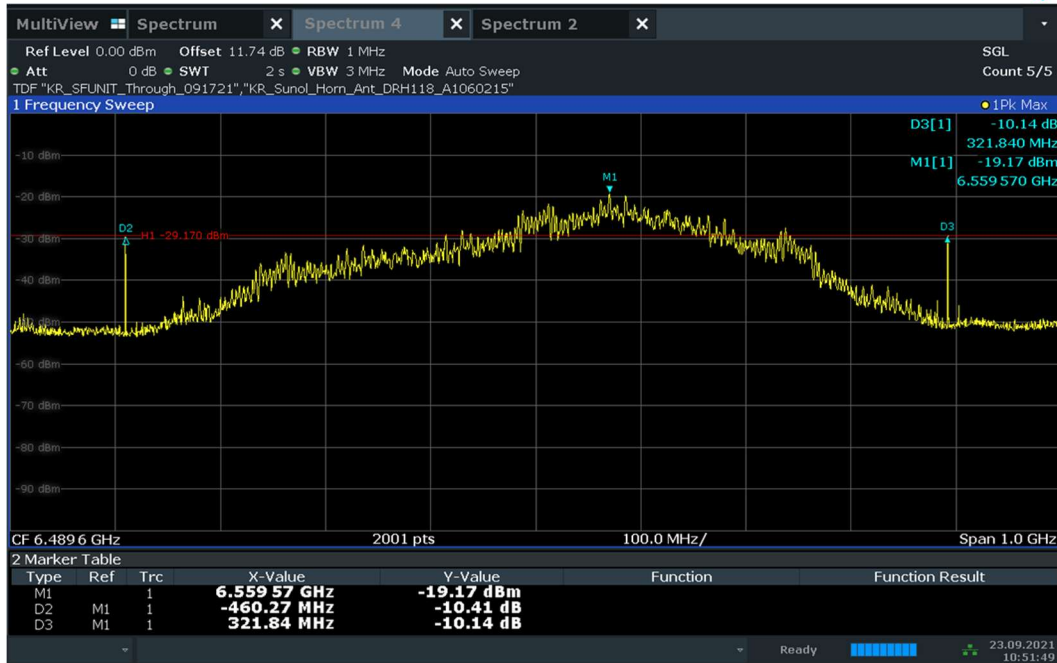


Plot 7-41. 10dBc Bandwidth – CH.5 – SP1 – Preamble 12

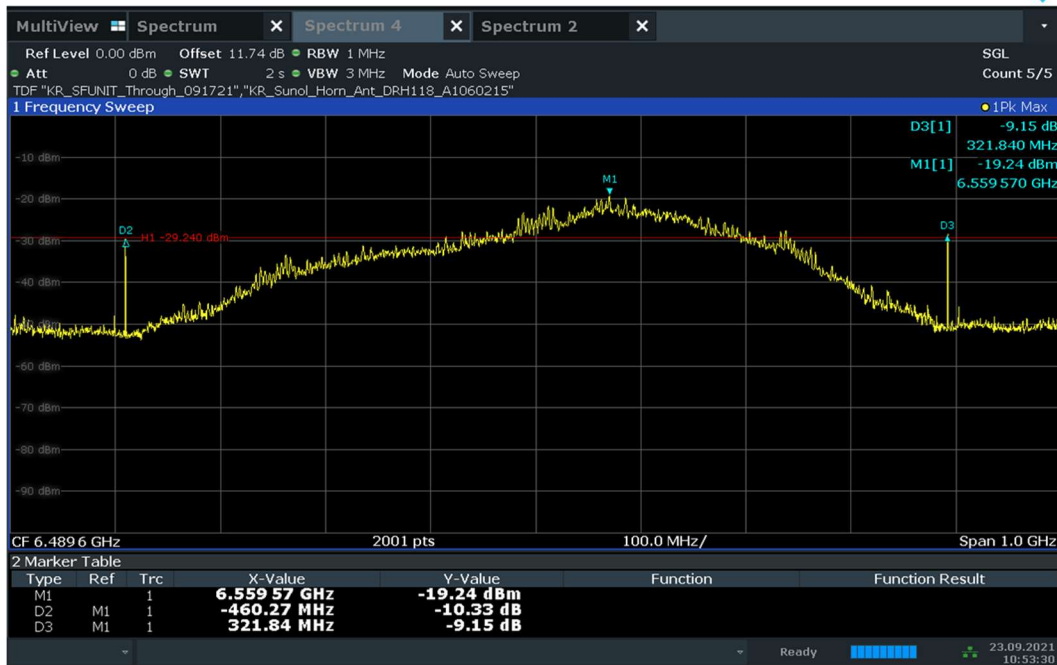


Plot 7-42. 10dBc Bandwidth – CH.5 – SP3 – Preamble 12

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 34 of 86 |

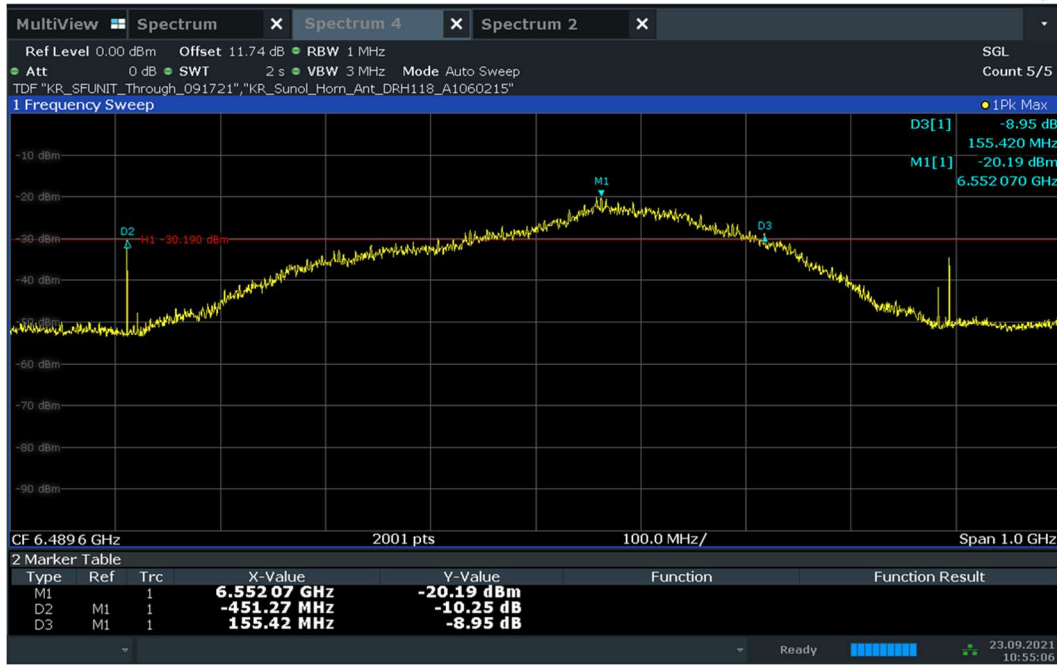


Plot 7-43. 10dBc Bandwidth – CH.5 - SP0 – Preamble 27

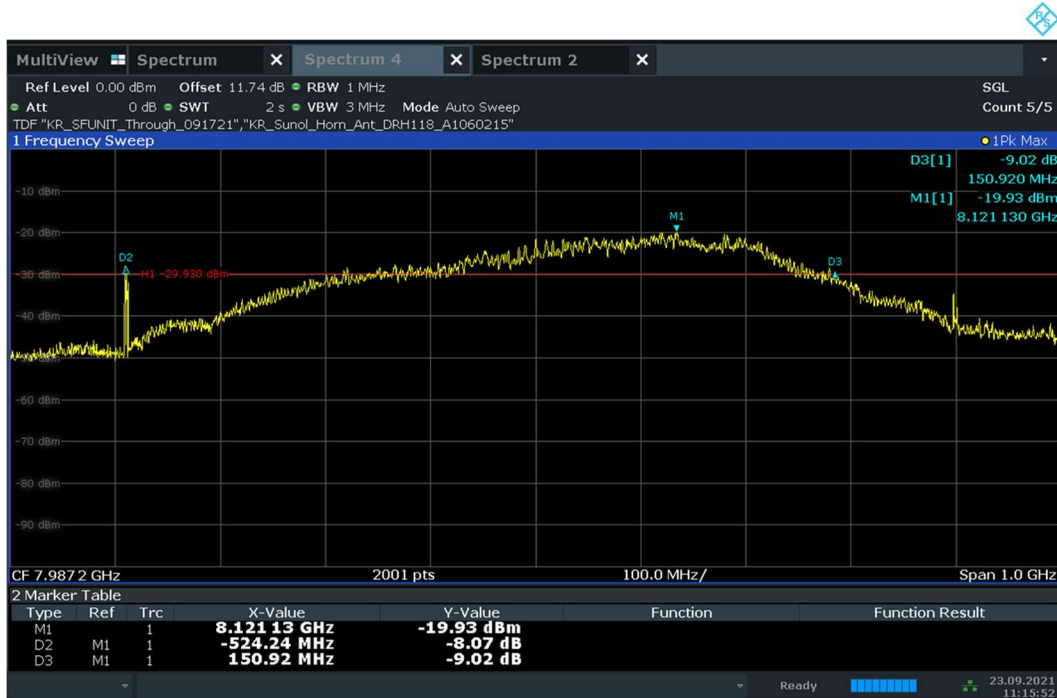


Plot 7-44. 10dBc Bandwidth – CH.5 – SP1 – Preamble 27

| | | | | |
|---|--|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  Proud to be part of  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 35 of 86 |

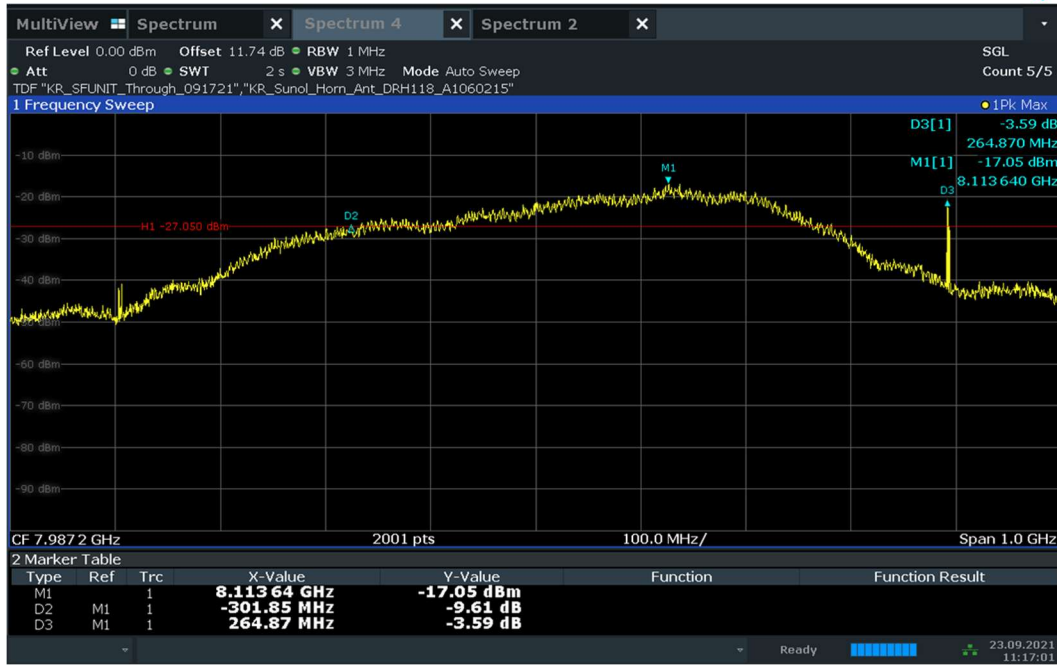


Plot 7-45. 10dBc Bandwidth – CH.5 – SP3 – Preamble 27

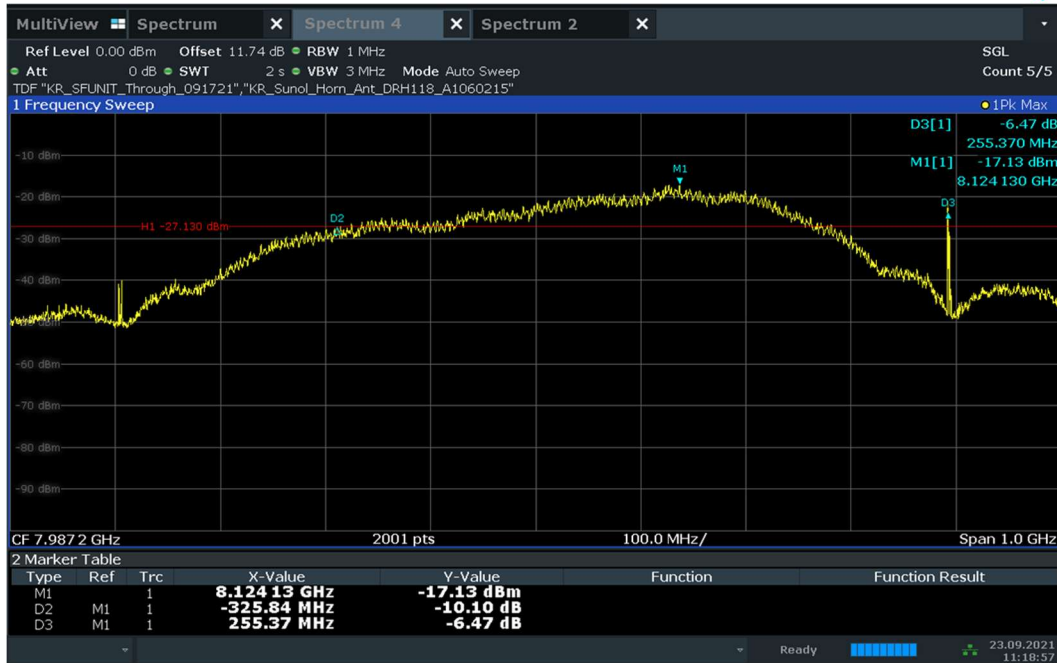


Plot 7-46. 10dBc Bandwidth – CH.9 - SP0 – Preamble 9

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 36 of 86 |

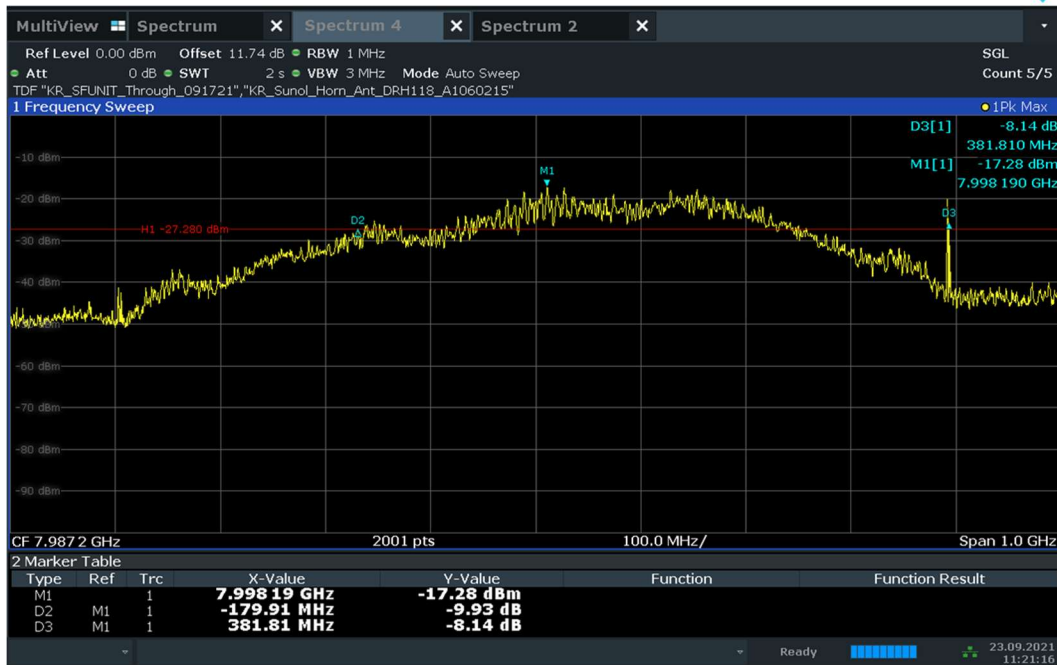


Plot 7-47. 10dBc Bandwidth – CH.9 – SP1 – Preamble 9

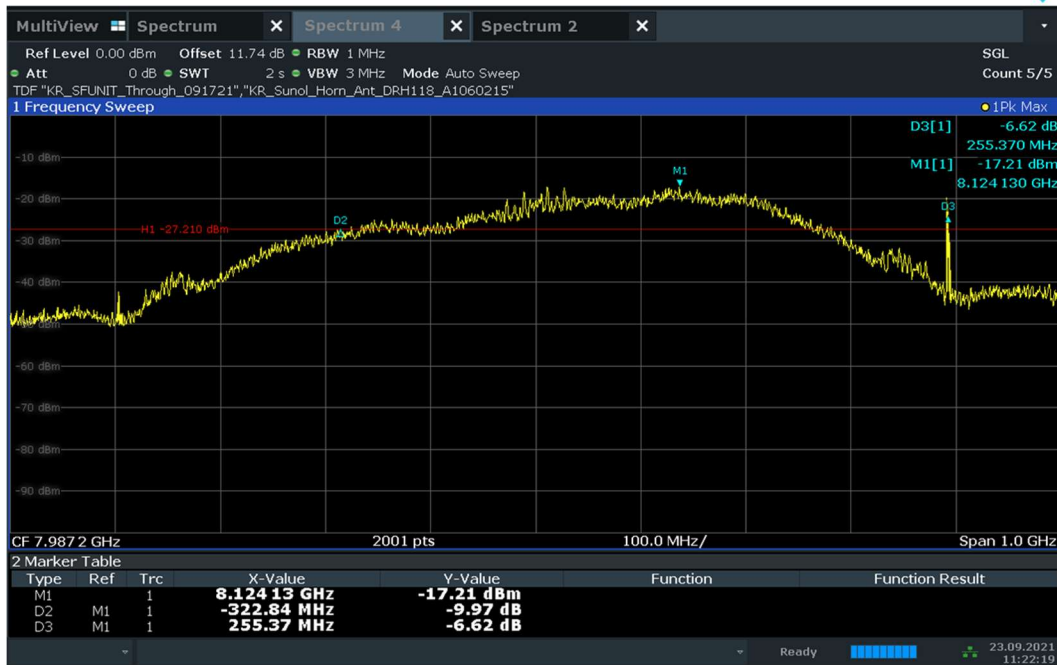


Plot 7-48. 10dBc Bandwidth – CH.9 – SP3 – Preamble 9

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 37 of 86 |

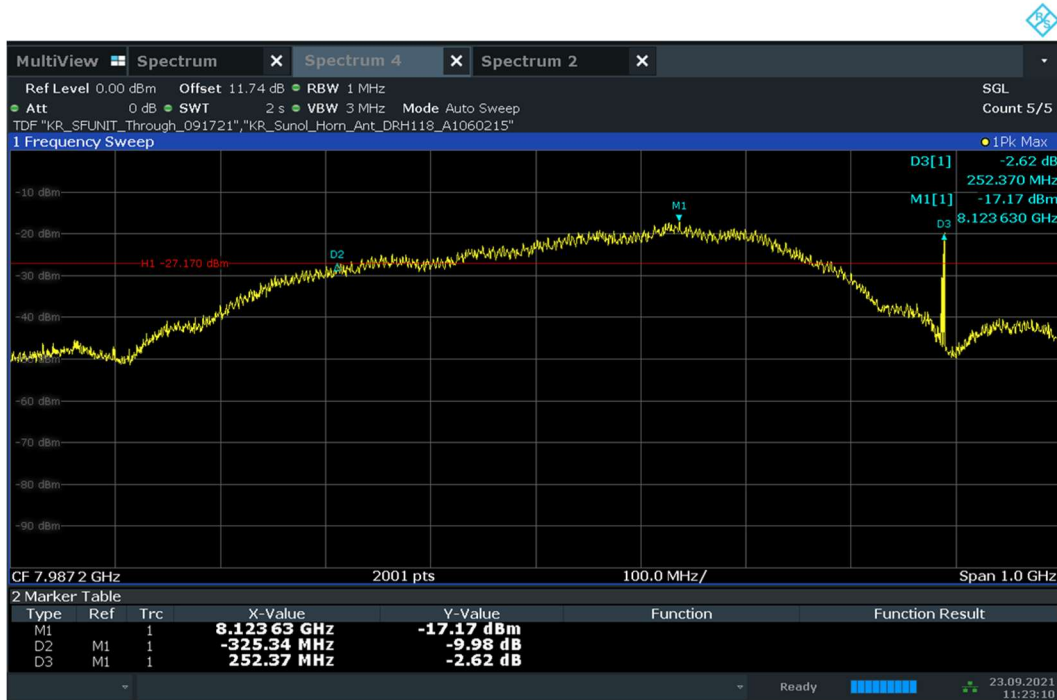


Plot 7-49. 10dBc Bandwidth – CH.9 - SP0 – Preamble 10

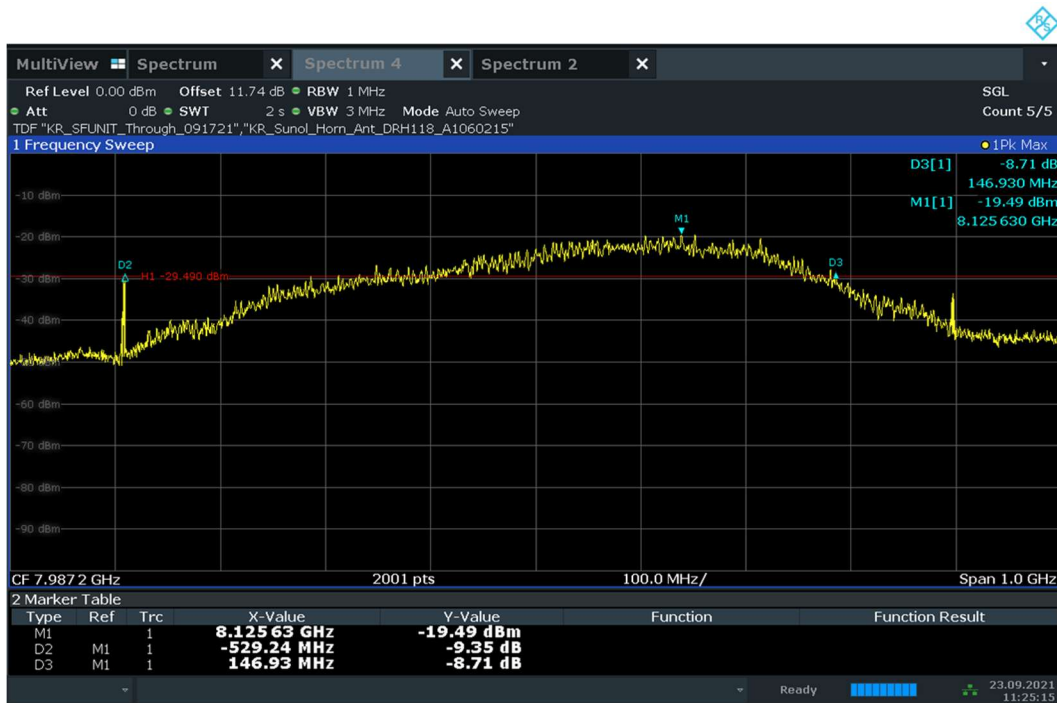


Plot 7-50. 10dBc Bandwidth – CH.9 – SP1 – Preamble 10

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 38 of 86 |



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



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

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 39 of 86 |

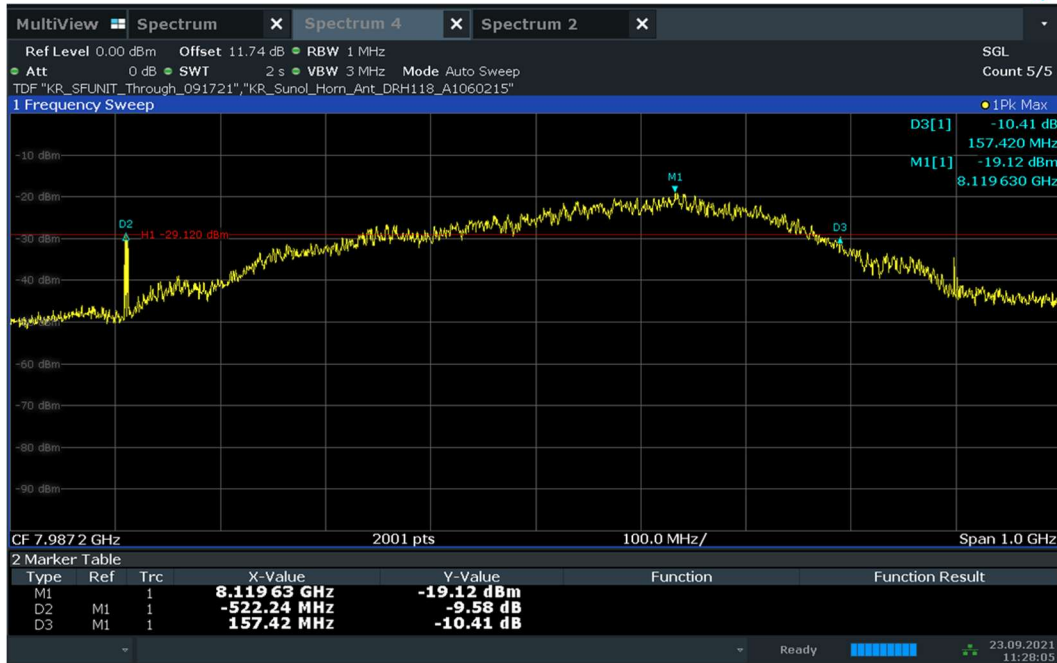


Plot 7-53. 10dBc Bandwidth – CH.9 – SP1 – Preamble 11

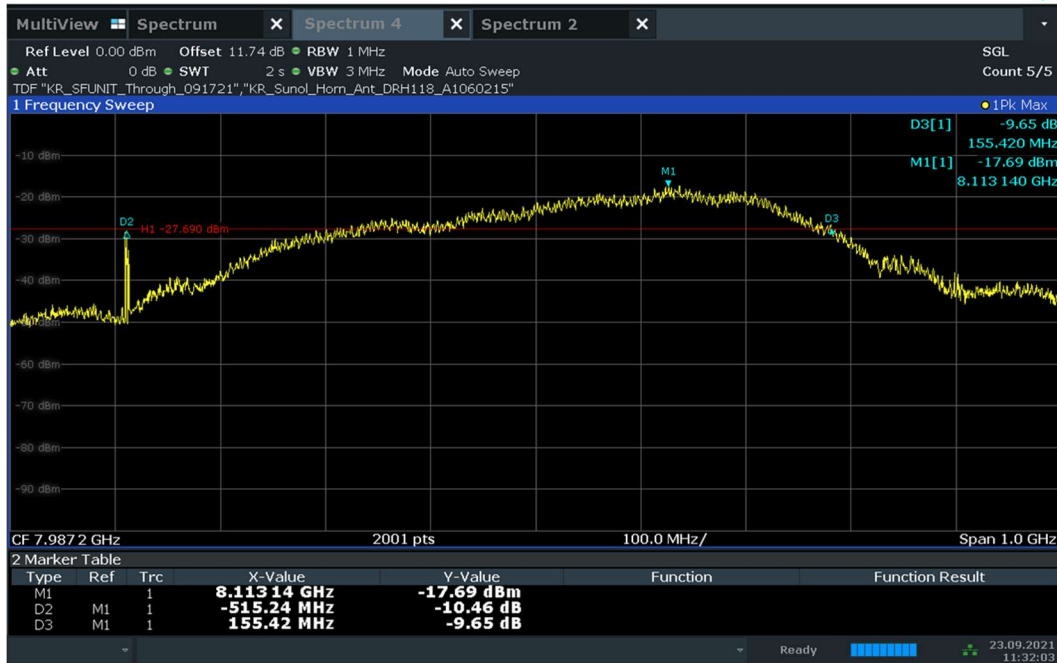


Plot 7-54. 10dBc Bandwidth – CH.9 – SP3 – Preamble 11

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 40 of 86 |



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

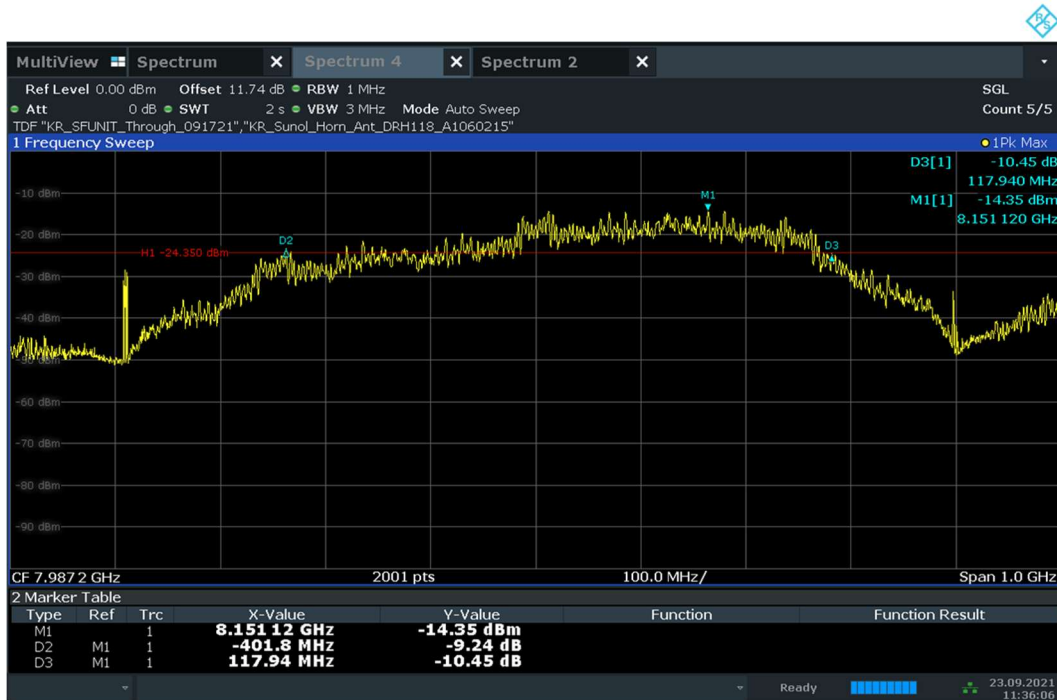


Plot 7-56. 10dBc Bandwidth – CH.9 – SP1 – Preamble 12

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS906E | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 41 of 86 |

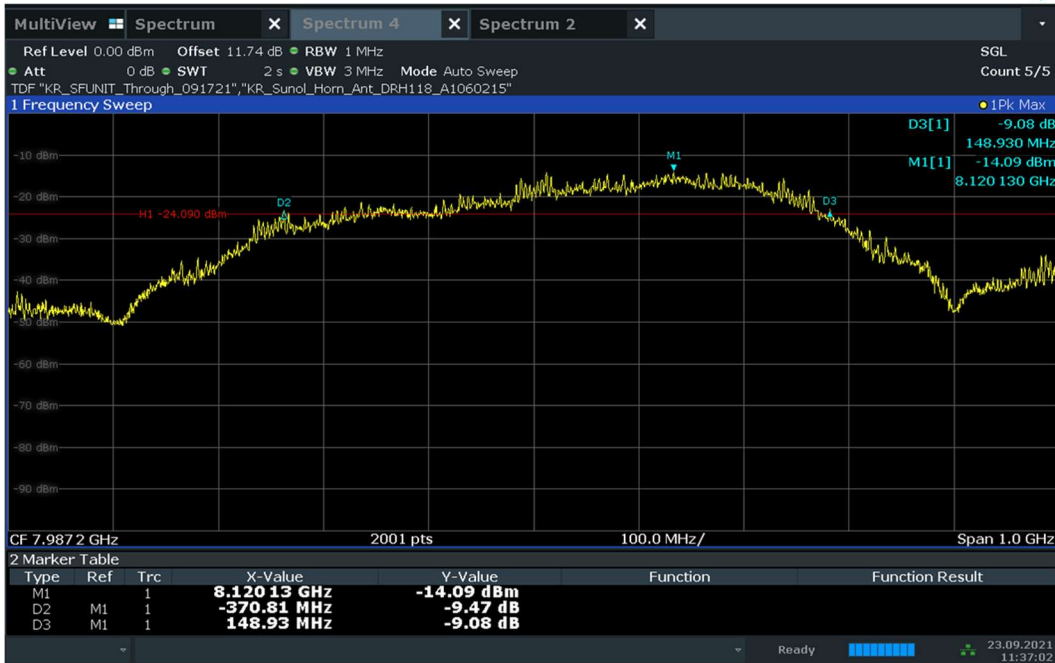


Plot 7-57. 10dBc Bandwidth – CH.9 – SP3 – Preamble 12

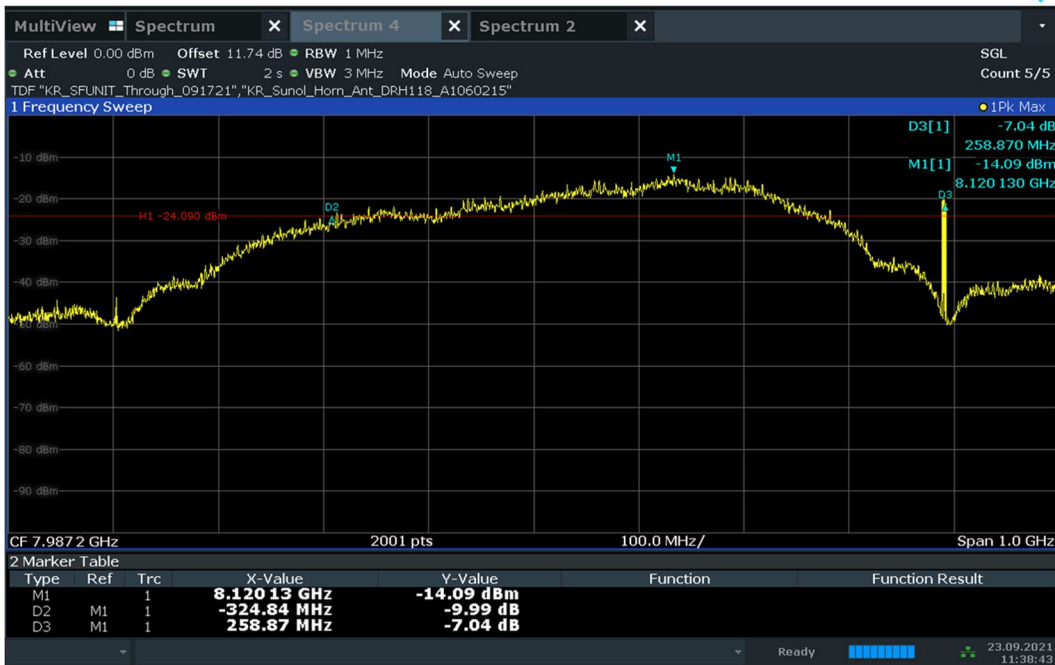


Plot 7-58. 10dBc Bandwidth – CH.9 - SP0 – Preamble 27

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.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: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.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.

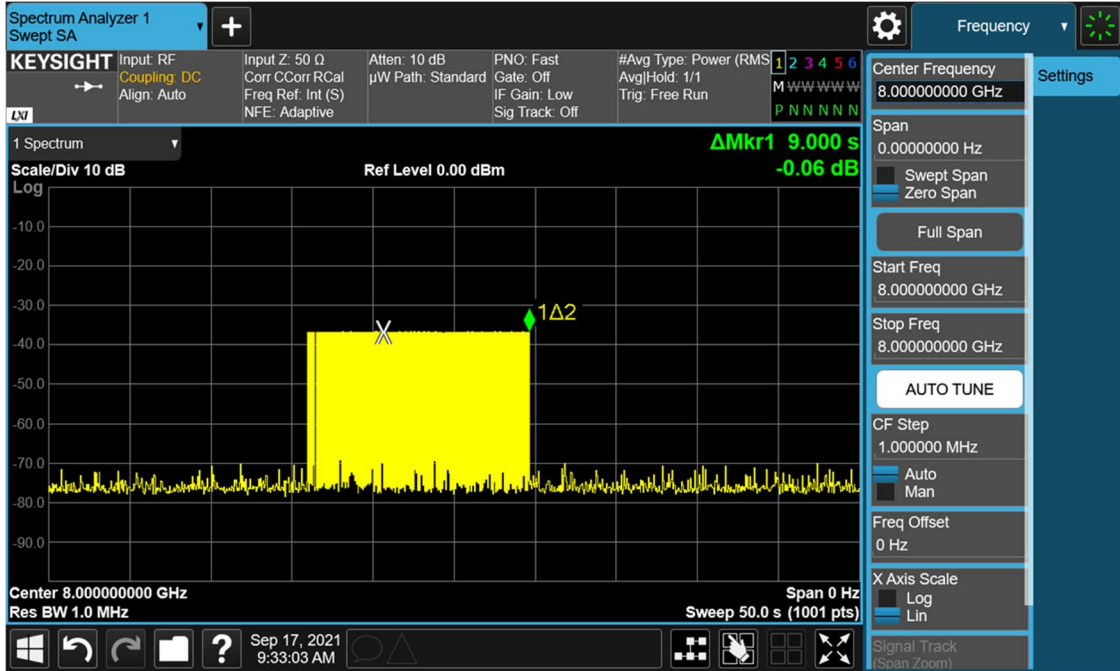
Test Setup

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



Figure 7-2. Test Instrument and Measurement Setup

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | Page 44 of 86 | |



Plot 7-61. Cessation Time Plot

| | | | | |
|---|----------------------------------|---------------------------------------|---------------|-----------------------------------|
| FCC ID: A3LSMS906E | | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | Page 45 of 86 | |

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 each measurement bin
5. Trace mode = max hold
6. Trace was allowed to stabilize

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 46 of 86 |

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 | V | 6.4886 | -1.78 | 0 | -1.78 |
| | 9 | SP0 | 11 | V | 7.7433 | -3.15 | 0 | -3.15 |
| 2 | 5 | SP0 | 12 | V | 6.5681 | -4.52 | 0 | -4.52 |
| | 9 | SP0 | 12 | V | 8.1211 | -4.35 | 0 | -4.35 |

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 | V | 6.4406 | -42.99 | -41.3 | -1.69 |
| | 9 | SP3 | 9 | V | 7.8448 | -43.07 | -41.3 | -1.77 |
| 2 | 5 | SP3 | 9 | V | 6.6145 | -43.17 | -41.3 | -1.87 |
| | 9 | SP3 | 9 | V | 8.1256 | -43.01 | -41.3 | -1.71 |

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.

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

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMS906E |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2110010116-17.A3L | Test Dates: 9/27 – 10/10/2021 | EUT Type: Portable Handset | | Page 47 of 86 |