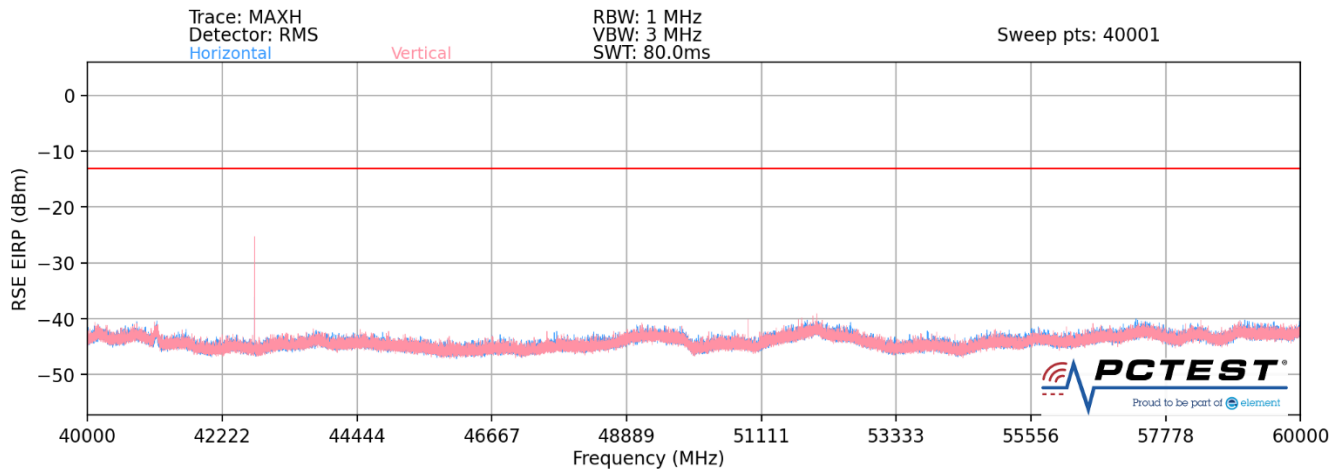


40GHz - 60GHz



Plot 7-50. Ant 1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1.5 meter.

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

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
41723.30	Low	50	2Tx	QPSK	V	93	306	-44.70	-13.00	-31.70
45387.59	Mid	50	2Tx	QPSK	V	89	269	-34.75	-13.00	-21.75
46154.89	High	50	2Tx	QPSK	V	240	294	-59.76	-13.00	-46.76
42753.00	High	50	2Tx	QPSK	V	89	281	-31.10	-13.00	-18.10
51072.00	High	50	2Tx	QPSK	V	87	286	-42.25	-13.00	-29.25
51772.76	High	50	2Tx	QPSK	V	89	285	-40.23	-13.00	-27.23
53529.21	High	50	2Tx	QPSK	V	89	287	-48.81	-13.00	-35.81
56364.77	High	50	2Tx	QPSK	V	89	285	-58.29	-13.00	-45.29

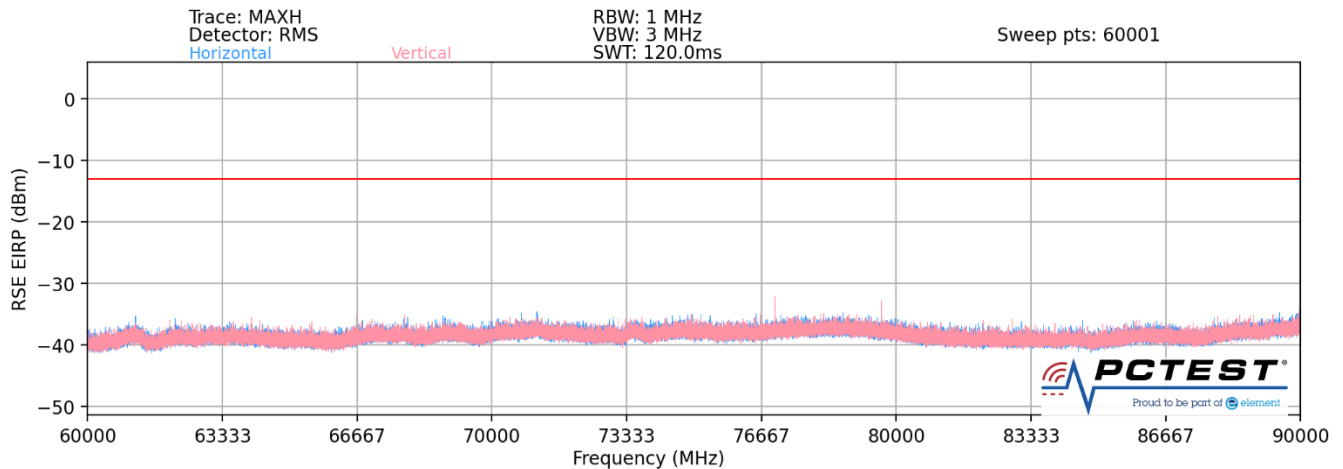
Table 7-88. Ant 1 - 2Tx - Spurious Emissions Table (40GHz - 60GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, and cable losses. Measurements were performed at a distance of 1.5 meter.

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60GHz - 90GHz



Plot 7-51. Ant 1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
76685.00	Low	50	2Tx	QPSK	V	306	252	-38.29	-13.00	-25.29
77000.67	Mid	50	2Tx	QPSK	V	307	252	-34.34	-13.00	-21.34
79950.82	High	50	2Tx	QPSK	V	305	252	-31.84	-13.00	-18.84
83107.50	High	50	2Tx	QPSK	V	305	252	-39.45	-13.00	-26.45

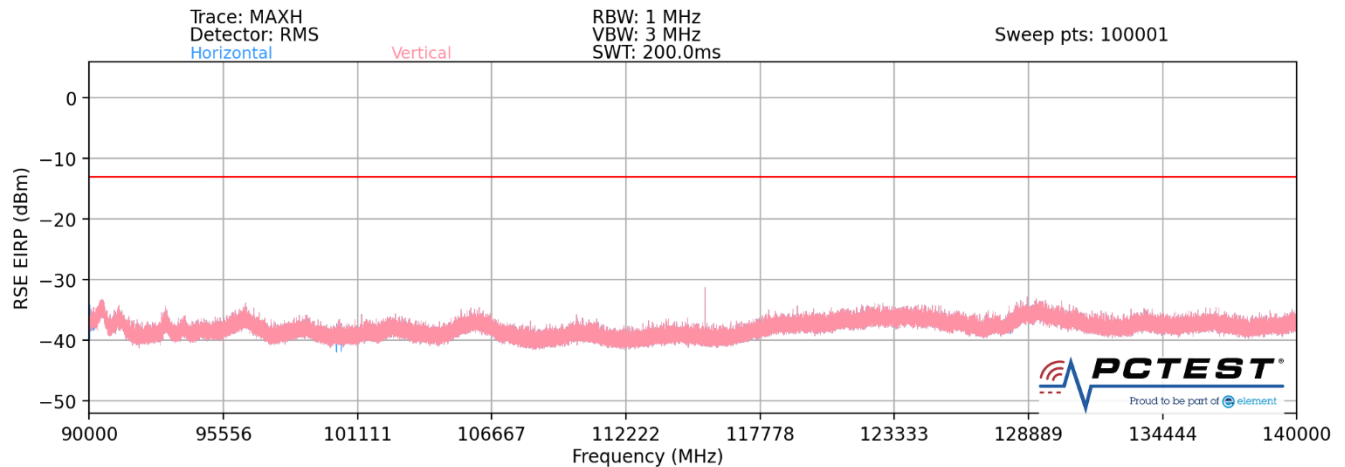
Table 7-89. Ant 1 - 2Tx - Spurious Emissions Table (60GHz - 90GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

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90GHz - 140GHz



Plot 7-52. Ant 1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
90030.00	Low	50	2Tx	QPSK	V	-	-	-39.78	-13.00	-26.78
96540.00	Low	50	2Tx	QPSK	V	-	-	-36.88	-13.00	-23.88
97485.06	Low	50	2Tx	QPSK	V	-	-	-39.63	-13.00	-26.63
115020.00	Mid	50	2Tx	QPSK	V	308	260	-33.40	-13.00	-20.40
115500.00	Mid	50	2Tx	QPSK	V	308	260	-33.42	-13.00	-20.42
115780.00	High	50	2Tx	QPSK	V	305	256	-33.28	-13.00	-20.28

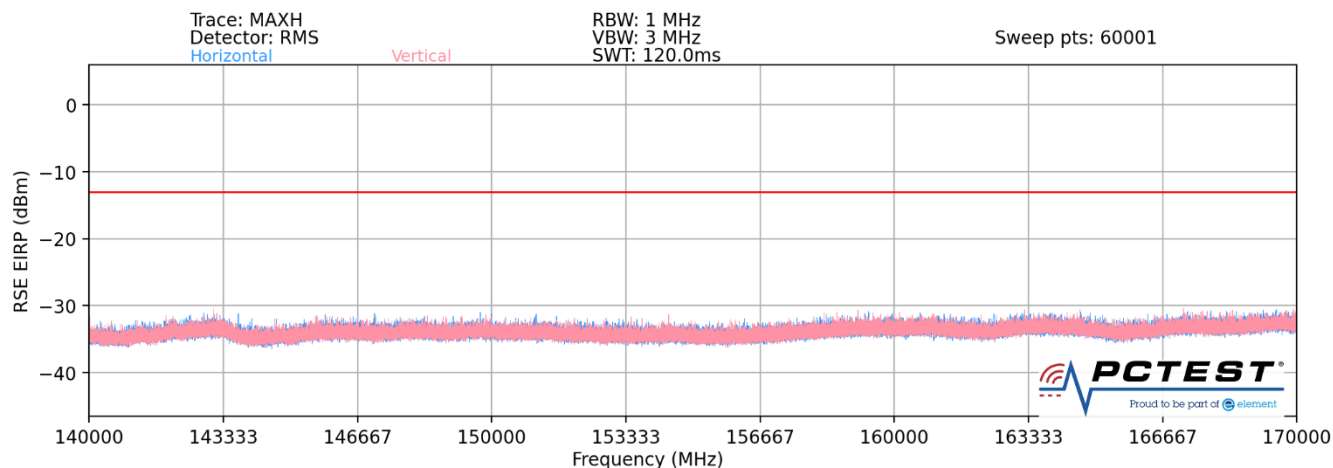
Table 7-90. Ant 1 - 2Tx - Spurious Emissions Table (90GHz - 140GHz)

Notes

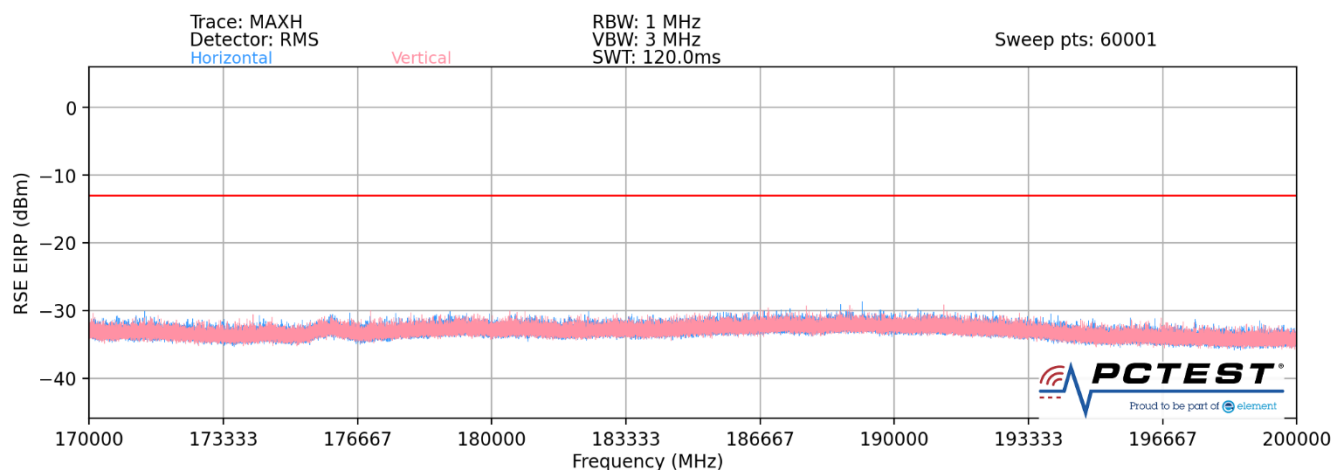
The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

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140GHz - 200GHz



Plot 7-53. Ant 1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)



Plot 7-54. Ant 1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

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Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
149450.00	Low	50	2Tx	QPSK	V	-	-	-35.88	-13.00	-22.88
153992.91	Mid	50	2Tx	QPSK	V	-	-	-37.71	-13.00	-24.71
177494.21	High	50	2Tx	QPSK	V	-	-	-37.72	-13.00	-24.72

Table 7-91. Ant 1 - 2Tx - Spurious Emissions Table (140GHz - 220GHz)

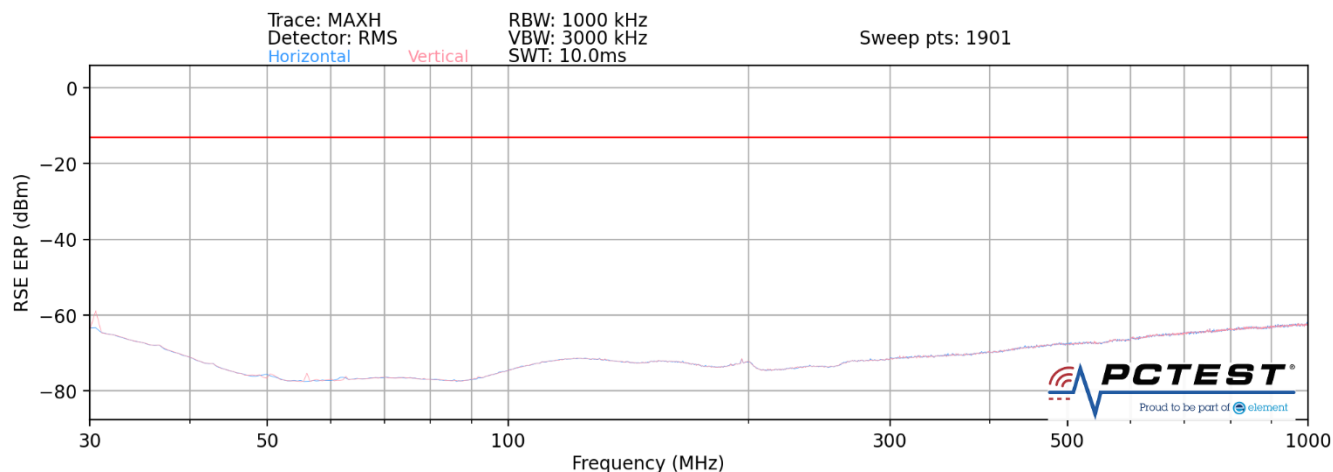
Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

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Band n260 (N Patch)

30MHz - 1GHz



Plot 7-55. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions ERP Sample Calculation (n260)

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

$$\text{RSE ERP (dBm)} = \text{Analyzer Level (dBm)} + 107 + \text{AFCL (dB/m)} + 20\text{Log(Dm)} - 104.8 - 2.15 \text{ (dB)}$$

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Antenna Height [cm]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
191.56	Low	50	2Tx	QPSK	H	-	-	-68.28	-13.00	-55.28
752.90	Mid	50	2Tx	QPSK	H	-	-	-67.86	-13.00	-54.86
982.64	High	50	2Tx	QPSK	H	-	-	-61.64	-13.00	-48.64

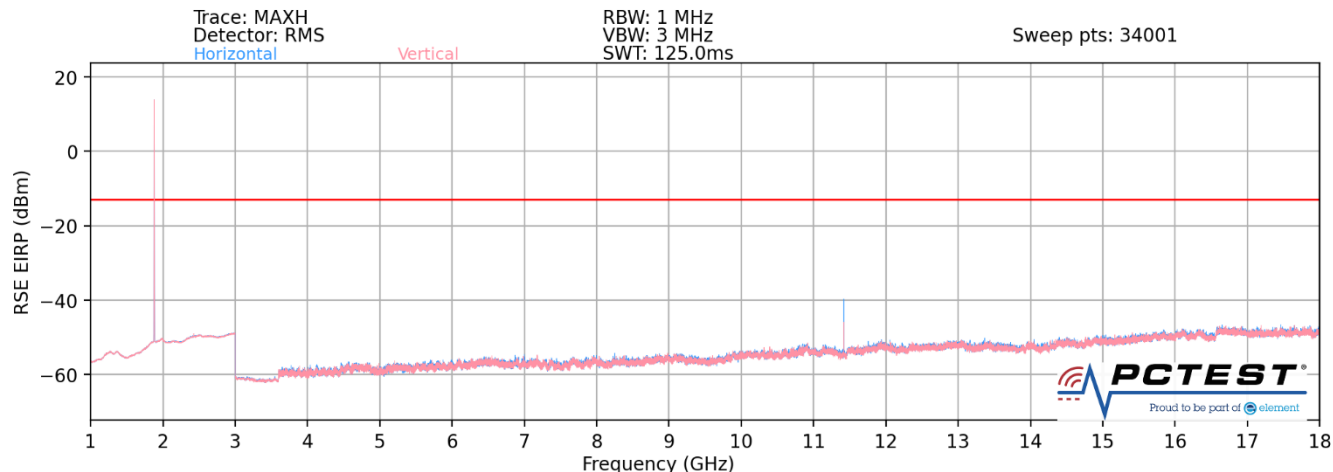
Table 7-92. Ant 2 - 2Tx - Spurious Emissions Table (30MHz - 1GHz)

Notes

The RSE ERP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, and cable losses. Measurements were performed at a distance of 3 meter.

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1GHz - 18GHz



Plot 7-56. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

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

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

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Antenna Height [cm]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
2426.00	Low	50	2Tx	QPSK	H	-	-	-66.45	-13.00	-53.45
5233.00	Mid	50	2Tx	QPSK	H	-	-	-69.68	-13.00	-56.68
11416.00	High	50	2Tx	QPSK	H	355	116	-46.93	-13.00	-33.93

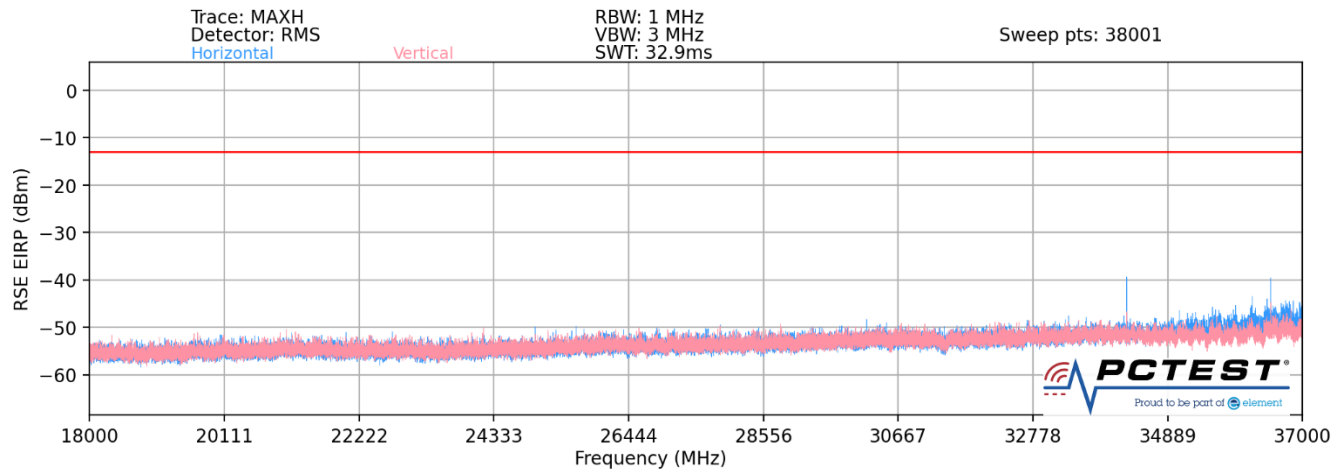
Table 7-93. Ant 2 - 2Tx - Spurious Emissions Table (1GHz - 18GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, and cable losses. Measurements were performed at a distance of 3 meter.

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18GHz – 37GHz



Plot 7-57. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx– EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

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

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Antenna Height [cm]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
27894.40	Low	50	2Tx	QPSK	H	174	150	-57.44	-13.00	-44.44
34247.30	Mid	50	2Tx	QPSK	H	328	150	-49.92	-13.00	-36.92
36503.00	High	50	2Tx	QPSK	H	222	150	-49.33	-13.00	-36.33

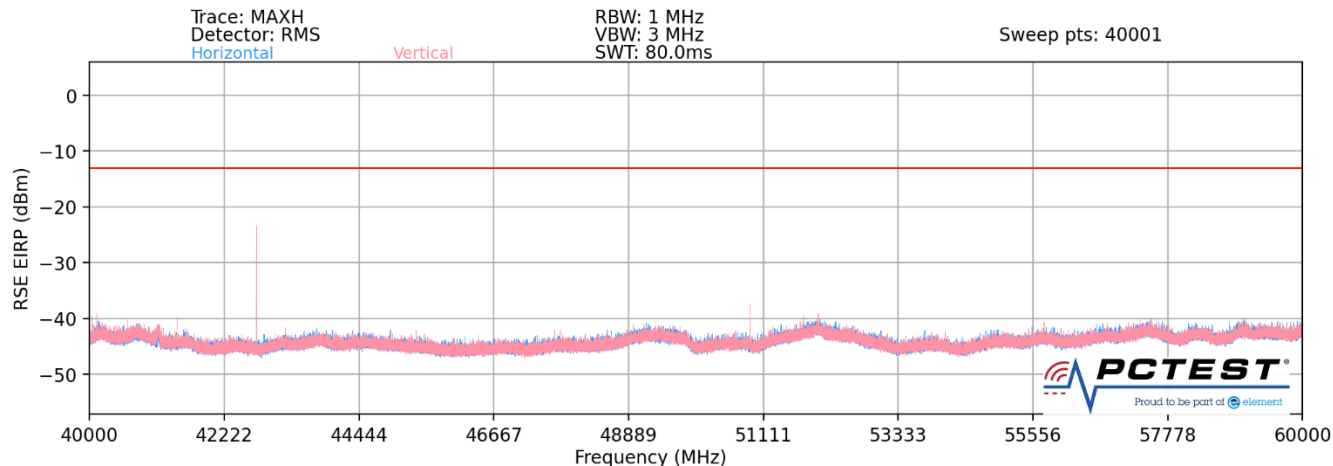
Table 7-94. Ant 2 - 2Tx - Spurious Emissions Table (18GHz – 37GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses. Measurements were performed at a distance of 1 meter.

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40GHz - 60GHz



Plot 7-58. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1.5 meter.

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

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
40627.37	Low	50	2Tx	QPSK	V	23	83	-44.71	-13.00	-31.71
42444.05	Low	50	2Tx	QPSK	V	321	259	-28.98	-13.00	-15.98
42753.50	Low	50	2Tx	QPSK	V	334	258	-28.12	-13.00	-15.12
43059.84	Mid	50	2Tx	QPSK	V	50	52	-29.56	-13.00	-16.56
46155.04	Mid	50	2Tx	QPSK	V	112	154	-54.91	-13.00	-41.91
50894.48	High	50	2Tx	QPSK	V	101	280	-43.12	-13.00	-30.12

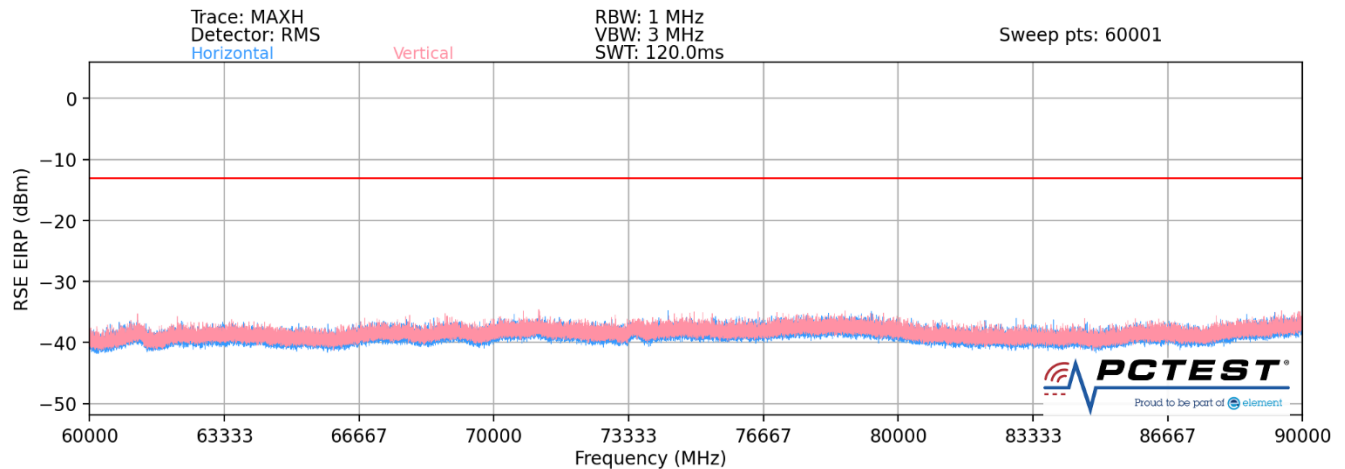
Table 7-95. Ant 2 - 2Tx - Spurious Emissions Table (40GHz - 60GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses. Measurements were performed at a distance of 1.5 meter.

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60GHz - 90GHz



Plot 7-59. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
74367.65	Low	50	2Tx	QPSK	H	2	289	-48.41	-13.00	-35.41
77000.11	Mid	50	2Tx	QPSK	H	27	9	-44.24	-13.00	-31.24
86998.88	High	50	2Tx	QPSK	H	82	259	-49.41	-13.00	-36.41
88280.28	High	50	2Tx	QPSK	H	80	260	-39.15	-13.00	-26.15

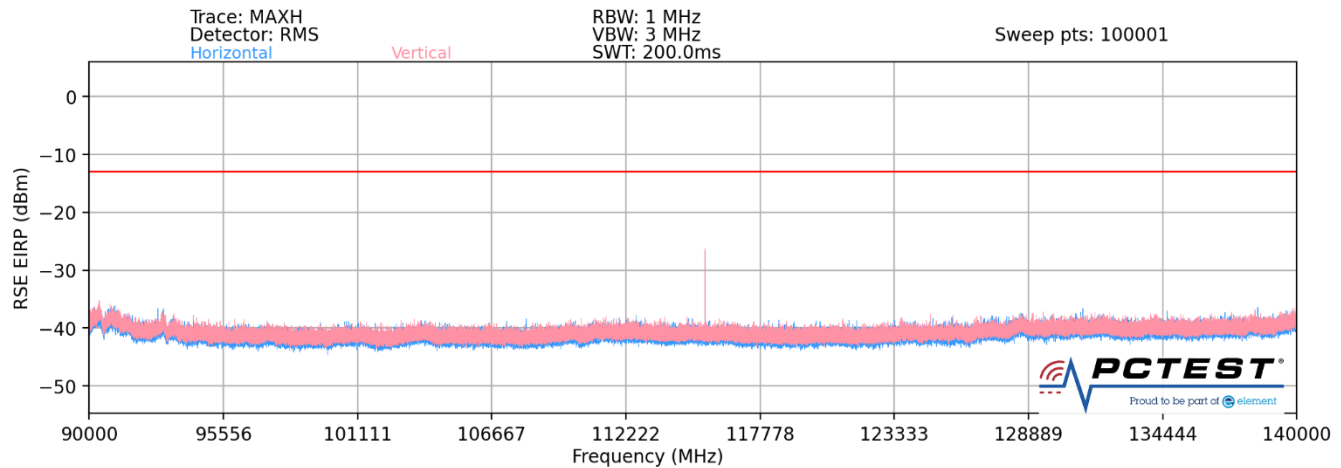
Table 7-96. Ant 2 - 2Tx -Spurious Emissions Table (60GHz - 90GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

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90GHz - 140GHz



Plot 7-60. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
90020.00	Low	50	2Tx	QPSK	V	-	-	-37.36	-13.00	-24.36
96480.00	Low	50	2Tx	QPSK	V	-	-	-36.88	-13.00	-23.88
97460.00	Low	50	2Tx	QPSK	V	-	-	-39.37	-13.00	-26.37
115020.00	Mid	50	2Tx	QPSK	V	58	289	-35.50	-13.00	-22.50
115500.00	Mid	50	2Tx	QPSK	V	58	289	-35.21	-13.00	-22.21
115780.00	High	50	2Tx	QPSK	V	58	289	-32.45	-13.00	-19.45

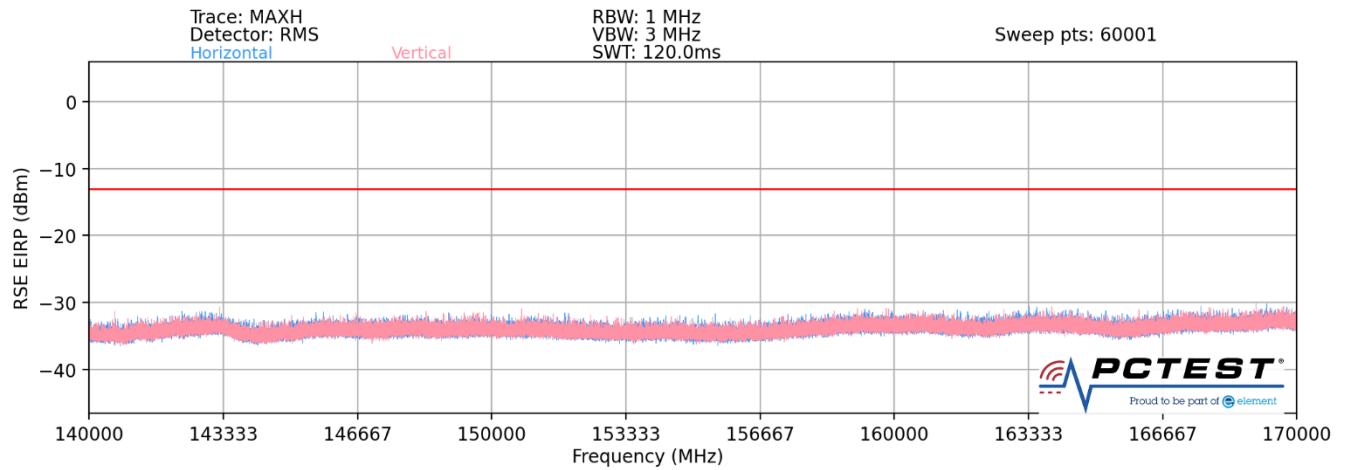
Table 7-97. Ant2 -2Tx - Spurious Emissions Table (90GHz - 140GHz)

Notes

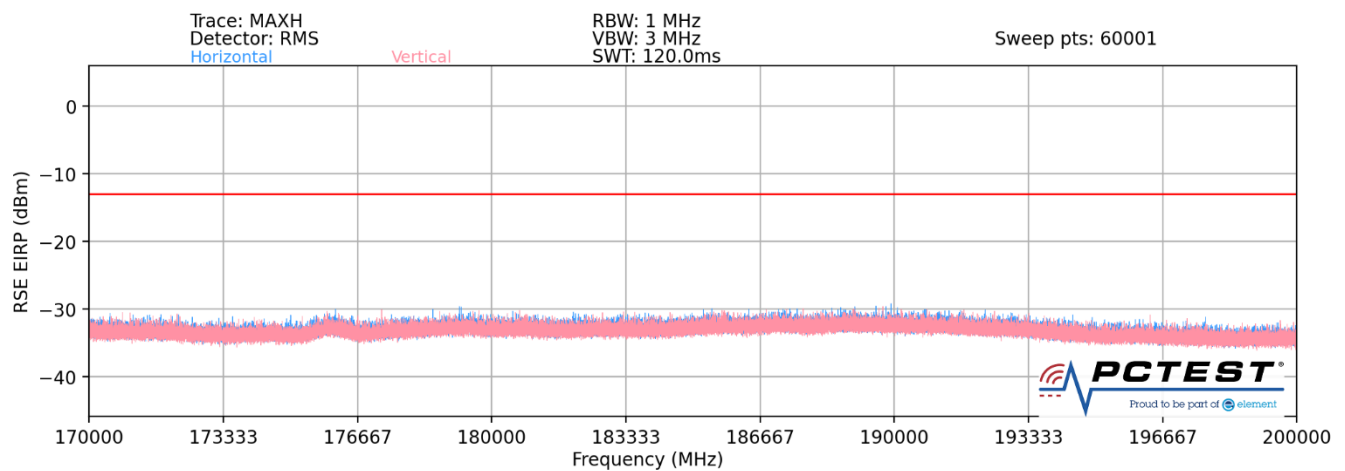
The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

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140GHz - 200GHz



Plot 7-61. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)



Plot 7-62. Ant 2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel 2Tx – EN-DC Anchor Band 2)

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Spurious Emissions EIRP Sample Calculation (n260)

The raw radiated spurious level is converted to field strength in dBuV/m. Then, the RSE EIRP level is calculated by applying the additional factors shown below for a test distance of 1 meter.

RSE EIRP (dBm) = Analyzer Level (dBm) + 107 + AFCL (dB/m) + 20Log(Dm) – 104.8 + Harmonic Mixer Conversion Loss [dB]

Frequency [MHz]	Channel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
147830.00	Low	50	2Tx	QPSK	H	-	-	-39.63	-13.00	-26.63
153994.00	Mid	50	2Tx	QPSK	H	-	-	-40.68	-13.00	-27.68
156830.00	High	50	2Tx	QPSK	H	-	-	-39.63	-13.00	-26.63

Table 7-98. Ant 2 - 2Tx - Spurious Emissions Table (140GHz - 220GHz)

Notes

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.

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7.5 Band Edge Emissions

§2.1051, §30.203

Test Overview

All out of band emissions are measured in a radiated setup while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All modulations were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is -13dBm/1MHz. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.

Test Procedure Used

ANSI C63.26-2015 Section 5 and ANSI C63.26-2015 Section 6.4
 KDB 842590 D01 v01r02 Section 4.4.2.4

Test Settings

1. Start and stop frequency were set such that both upper and lower band edges are measured.
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW = 1MHz
4. VBW $\geq 3 \times$ RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times$ Span/RBW
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning.
- 2) Band Edge emissions were measured at a 1 meter distance.
- 3) The spectrum analyzer for each measurement shows an offset value that was determined using the measurement antenna factor, cable loss, far field measurement distance. A sample calculation is shown on the following page.
- 4) This device supports transmission of H-polarized and V-polarized beams from the antenna array in both CP-OFDM and DFT-s-OFDM transmission schemes. SISO and MIMO operation is also supported for some configurations. As part of the testing, all modes were fully investigated and only the worst case has been included in this report.

FCC ID: A3LSMS901U	 Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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- 5) All combinations of 1CC and 2CC were fully investigated, and only the worst case has been included in this report.
- 6) All 2CC cases were investigated with PCC prioritization feature, which was the higher PCC at the band edge for the worst case.
- 7) The Total Radiated Power measurements shown in this section were performed in accordance with the guidance of Section 4.4.2.4 of KDB 842590 D01 for the Spherical Method.

Sample Analyzer Offset Calculation (at 27.5GHz)

Measurement Antenna Factor = 40.70dB/m

Cable Loss = 8.82dB

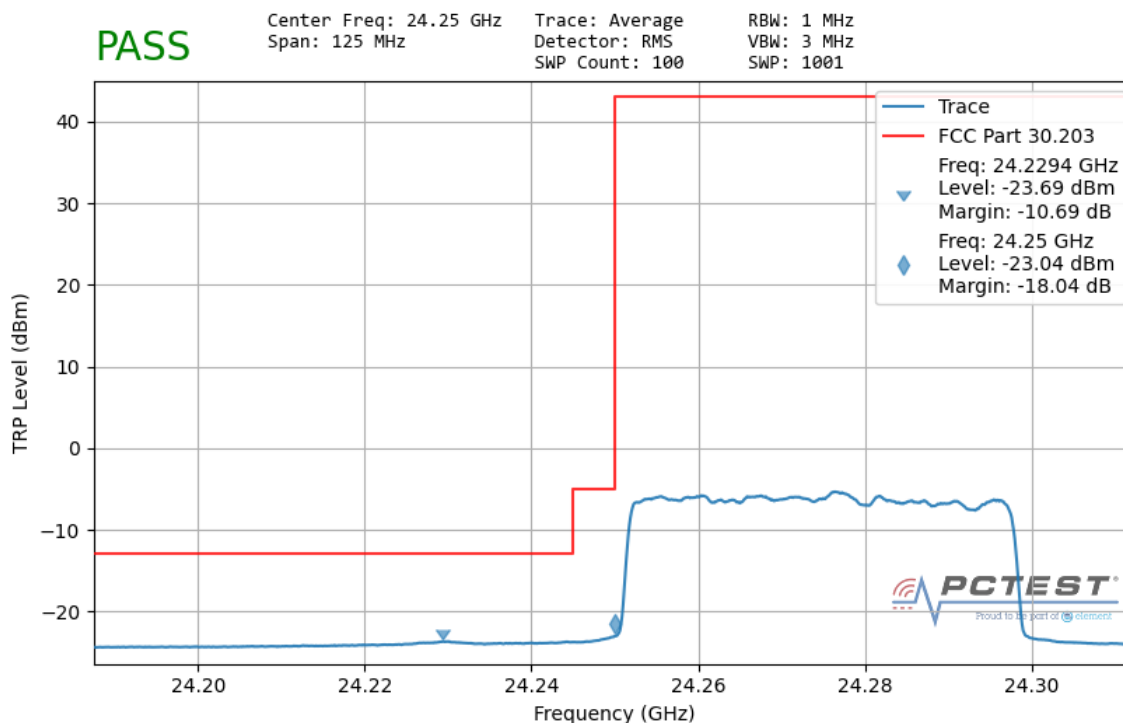
Analyzer Offset (dB) = AF (dB/m) + CL (dB) + 107 + 20log₁₀(D) – 104.8dB, where D = 1m

$$= 40.70\text{dB/m} + 8.82\text{dB} + 107 + 20\log_{10}(1\text{m}) - 104.8\text{dB}$$

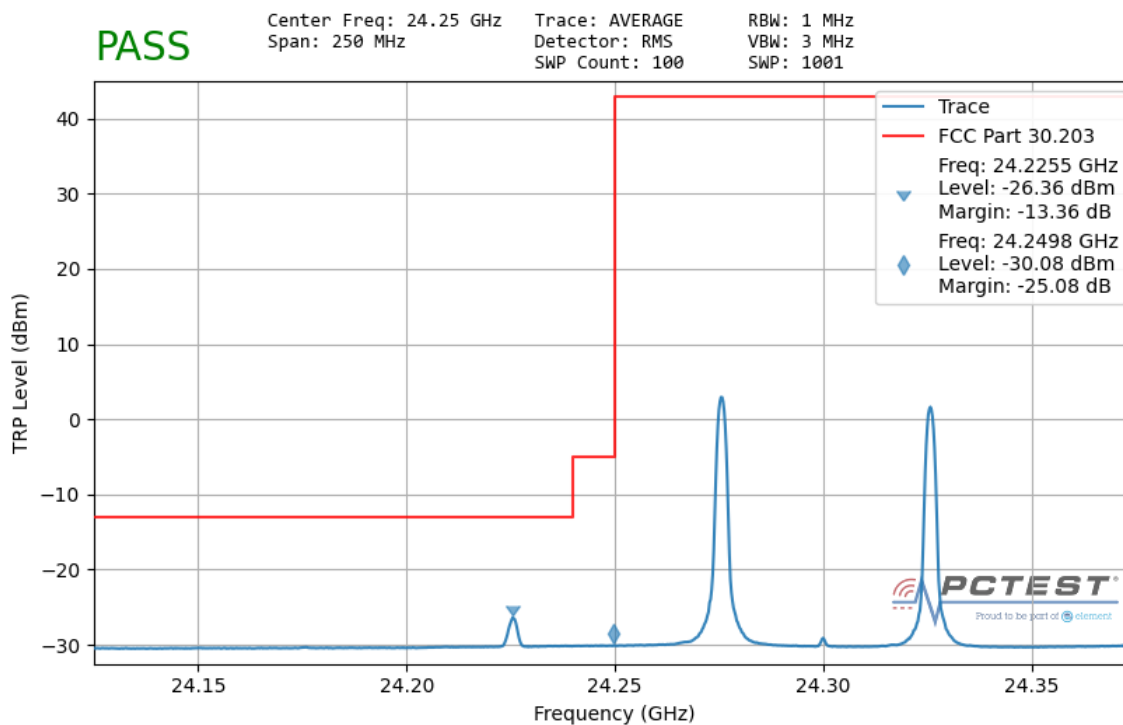
$$= 51.72\text{dB}$$

FCC ID: A3LSMS901U	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Band n258-R1 – Worst Case

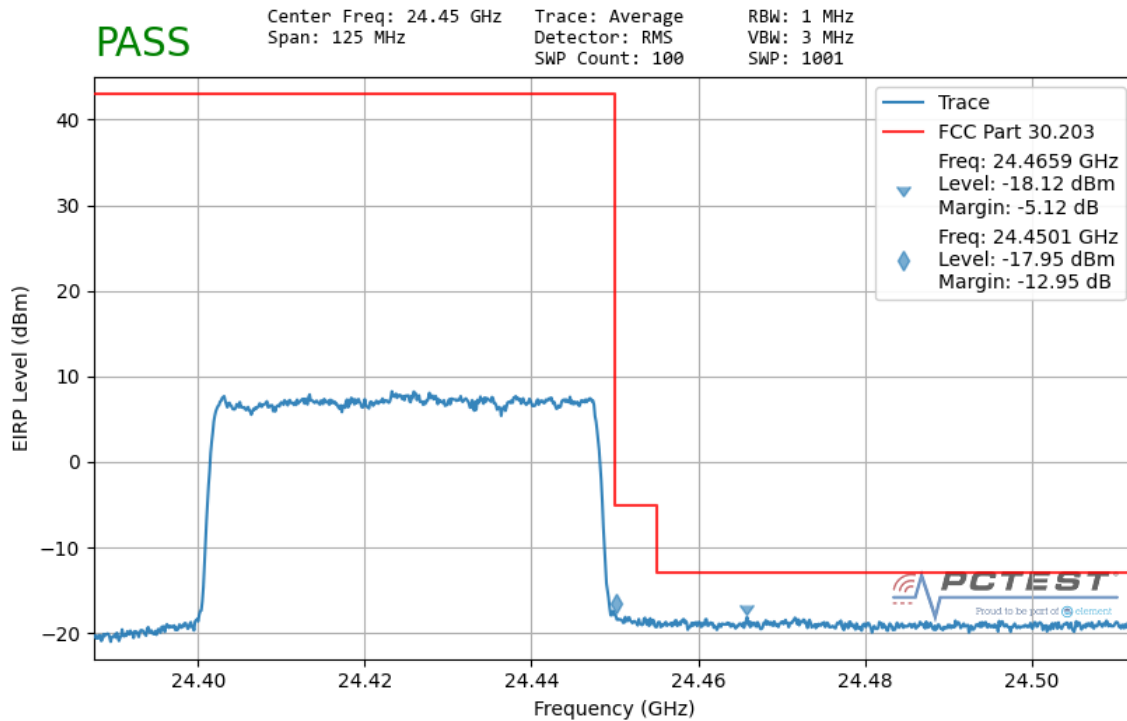


Plot 7-63. Ant 1 Lower Band Edge – TRP (50MHz-1CC – pi/2-BPSK Full RB)

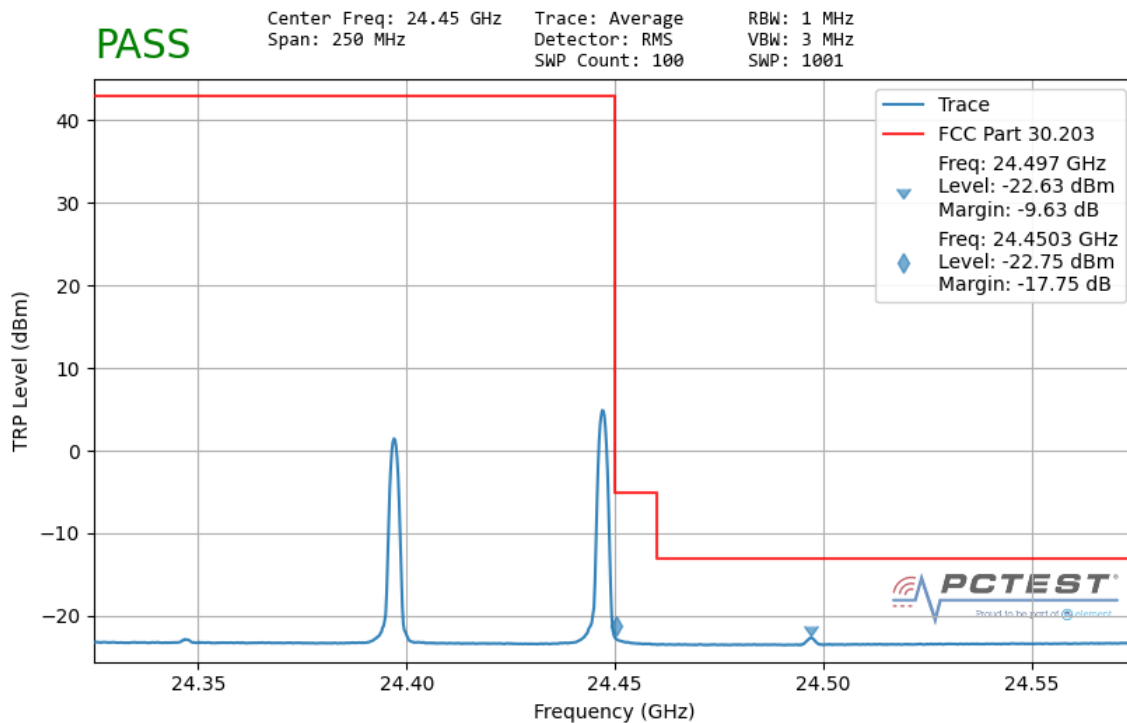


Plot 7-64. Ant 1 Lower Band Edge – TRP (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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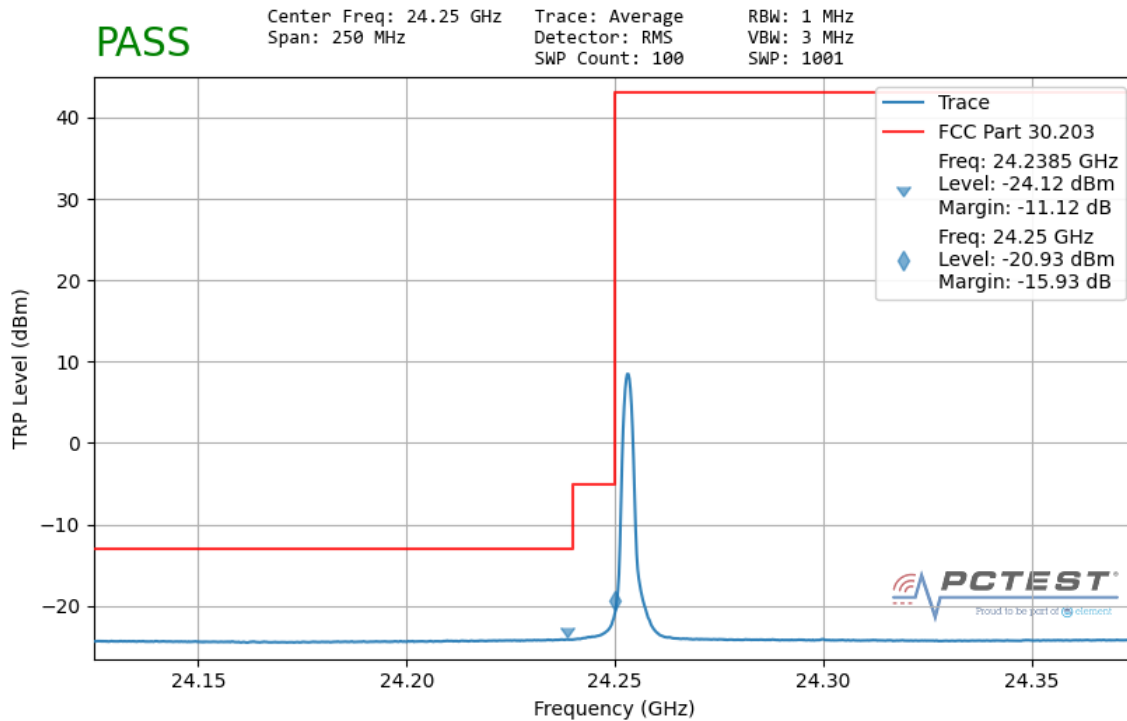


Plot 7-65. Ant 1 Upper Band Edge (50MHz-1CC – pi/2-BPSK Full RB)

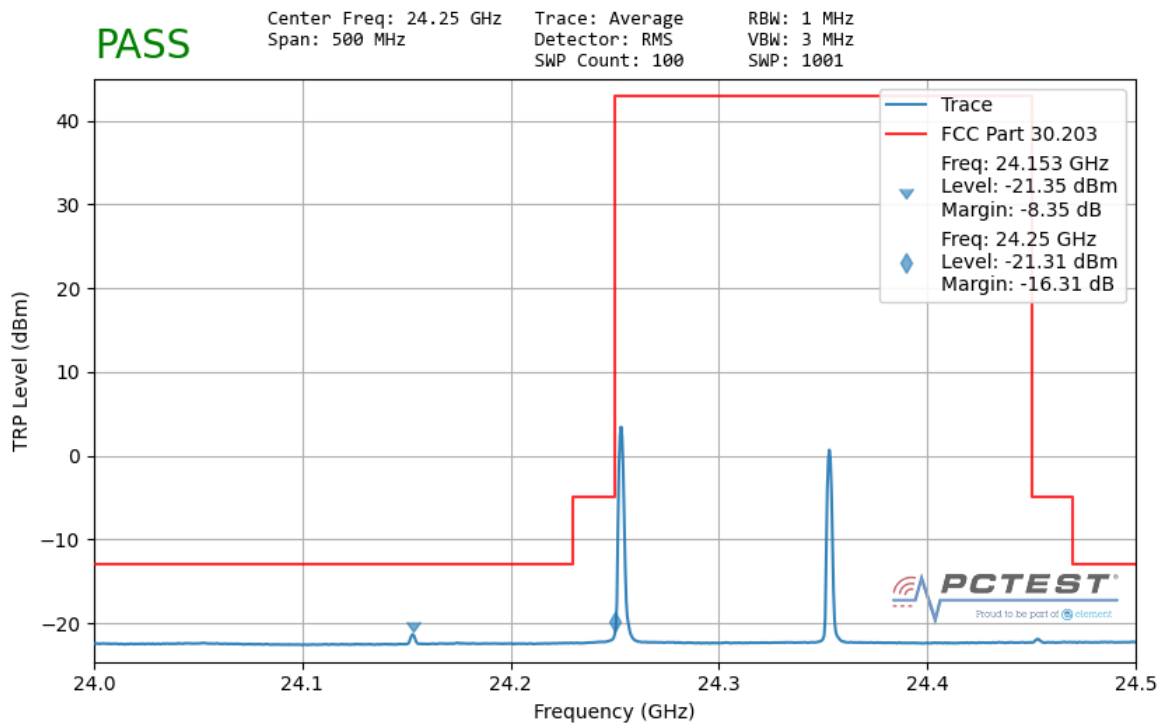


Plot 7-66. Ant 1 Upper Band Edge -TRP(50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 129 of 186

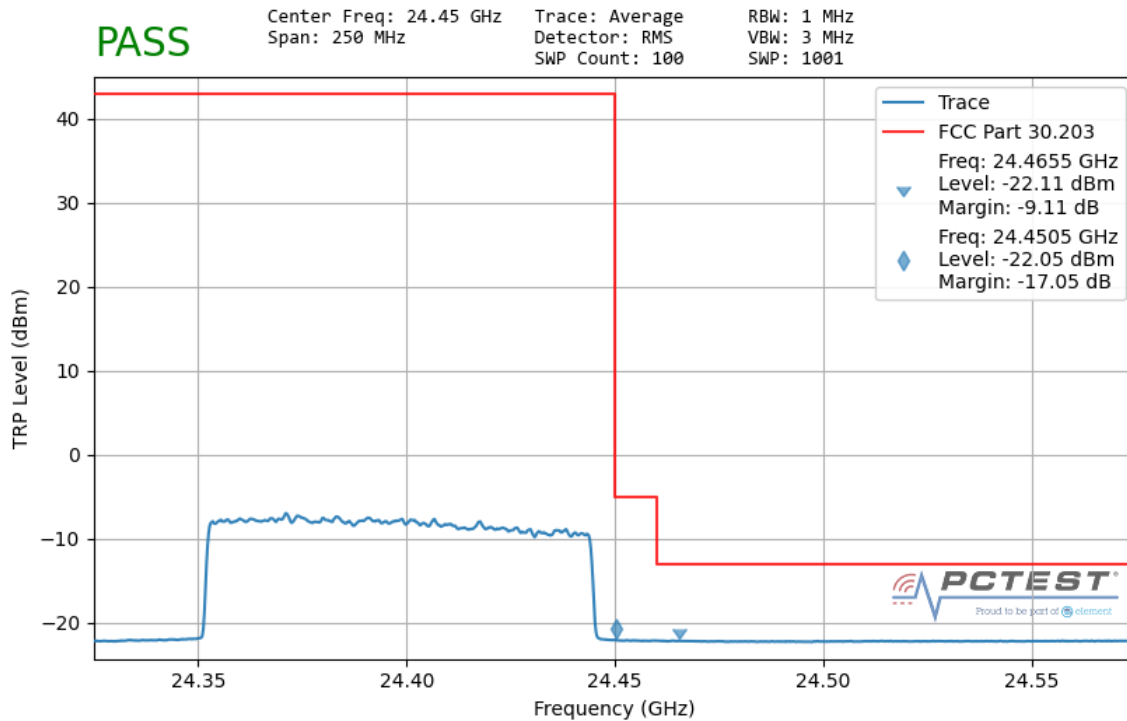


Plot 7-67. Ant 1 Lower Band Edge- TRP (100MHz-1CC – pi/2-BPSK 1 RB)

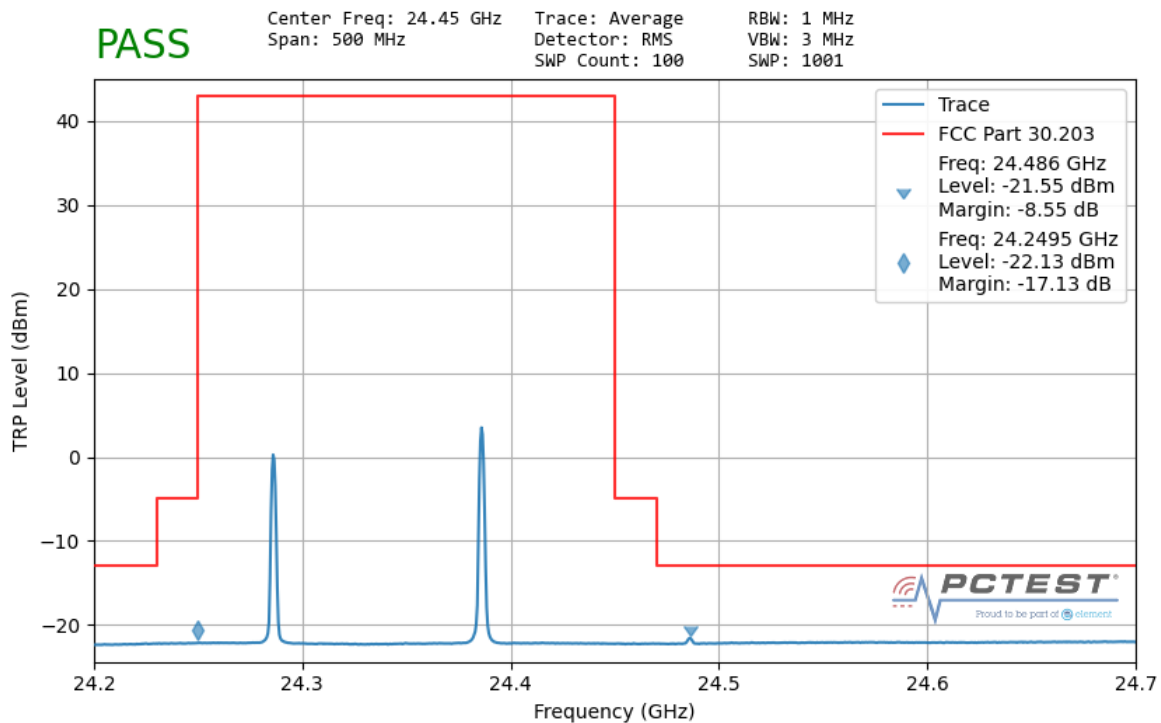


Plot 7-68. Ant 1 Lower Band Edge- TRP (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 130 of 186

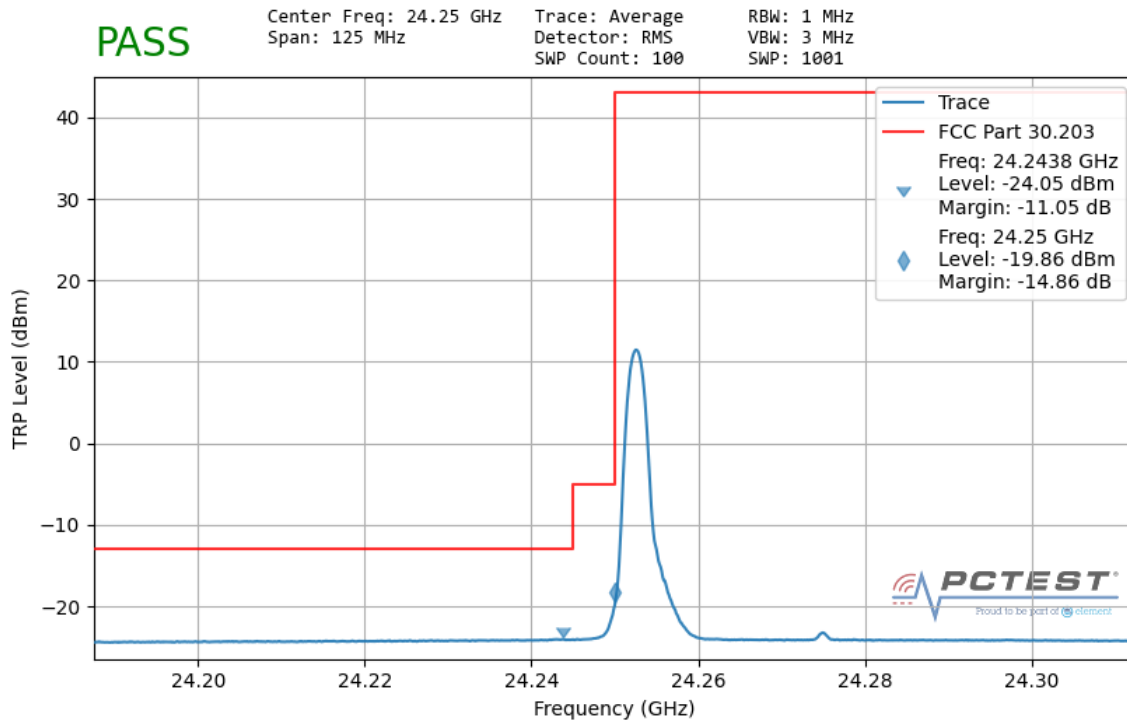


Plot 7-69. Ant 1 Upper Band Edge-TRP (100MHz-1CC – QPSK Full RB)

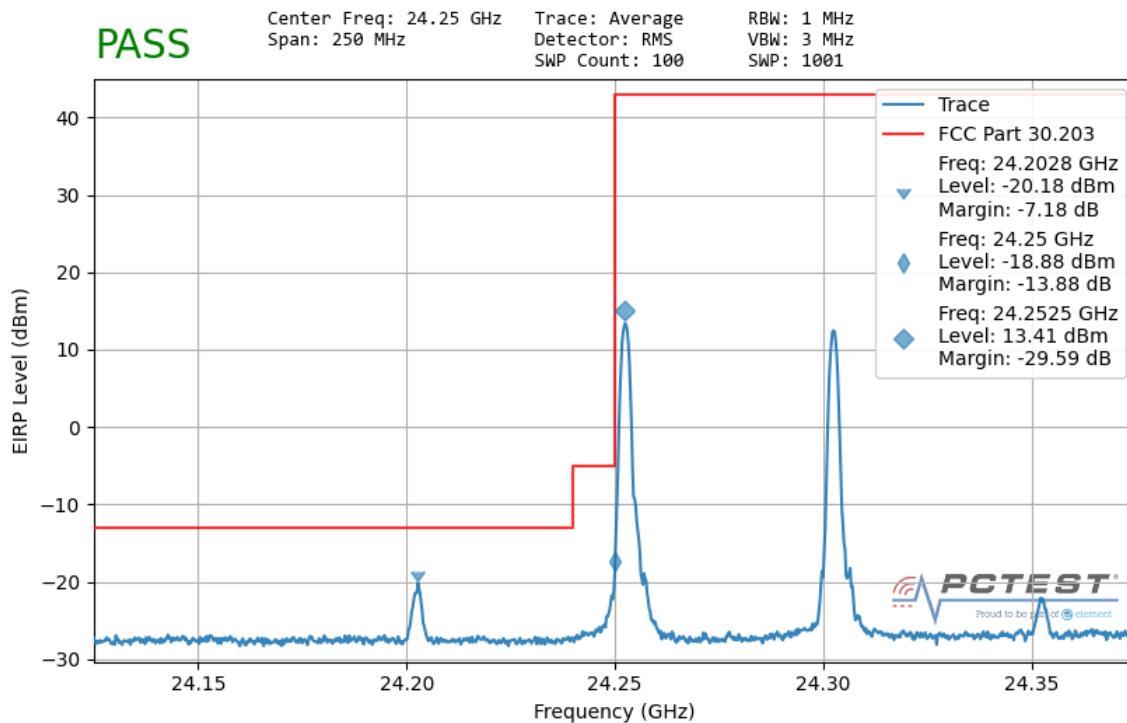


Plot 7-70. Ant 1 Upper Band Edge- TRP (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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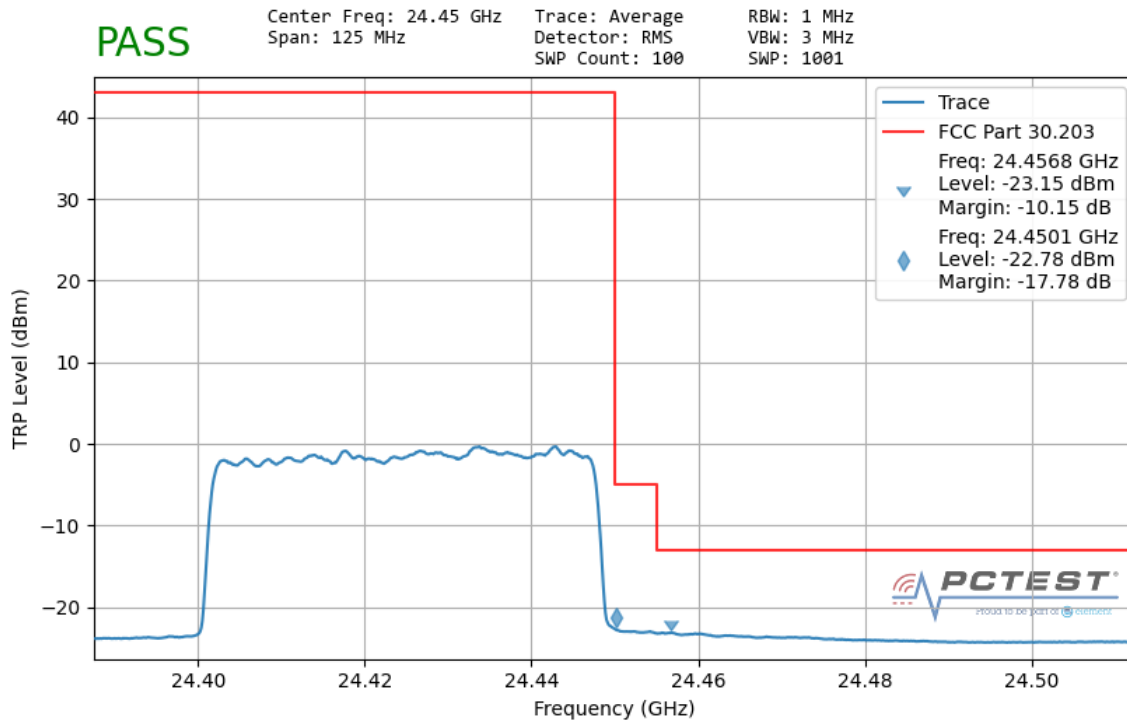


Plot 7-71. Ant 2 Lower Band Edge- TRP (50MHz-1CC – QPSK 1 RB)

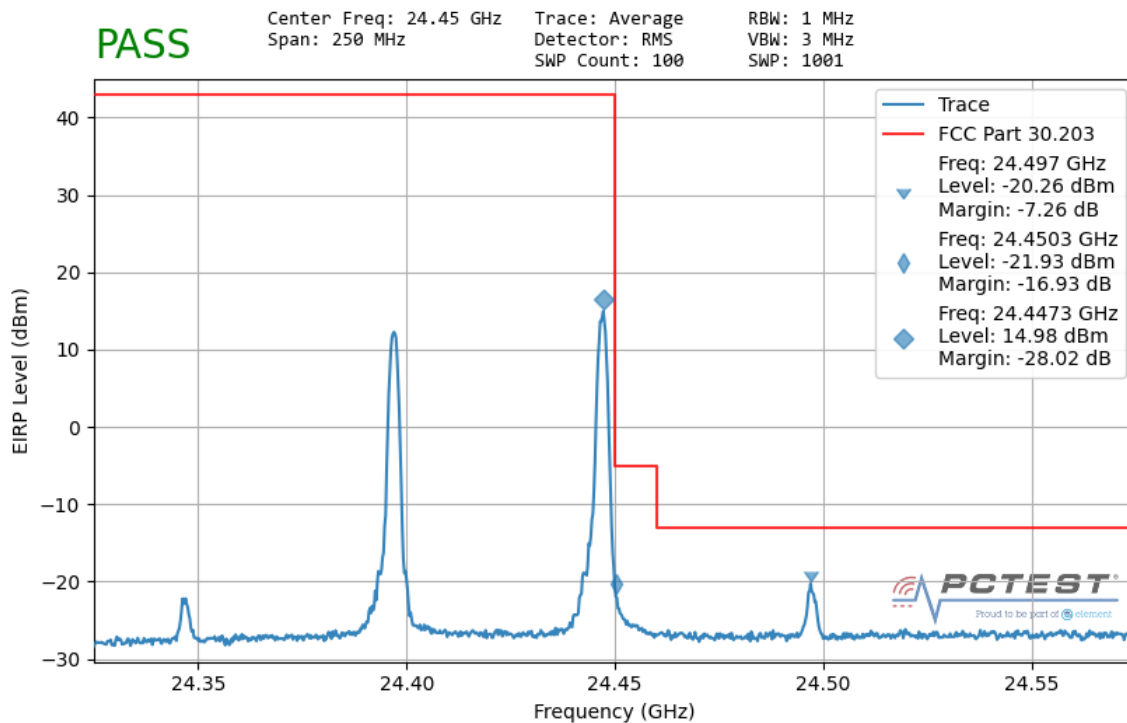


Plot 7-72. Ant 2 Lower Band Edge – (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 132 of 186

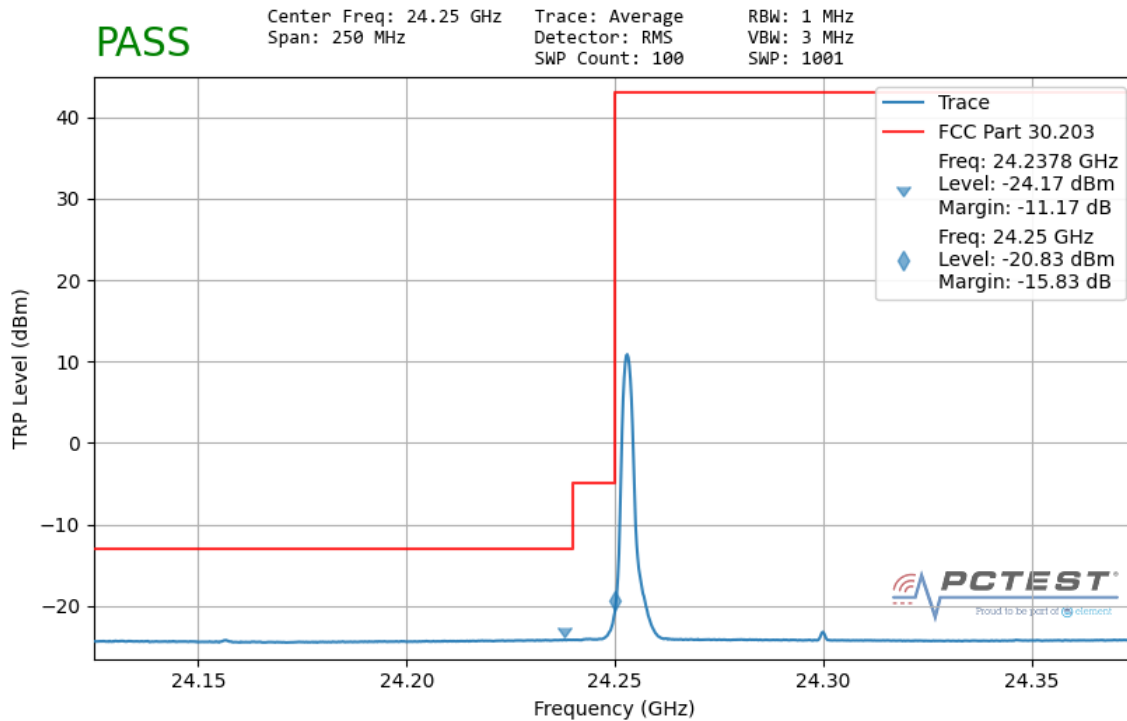


Plot 7-73. Ant 2 Upper Band Edge- TRP (50MHz-1CC – QPSK Full RB)

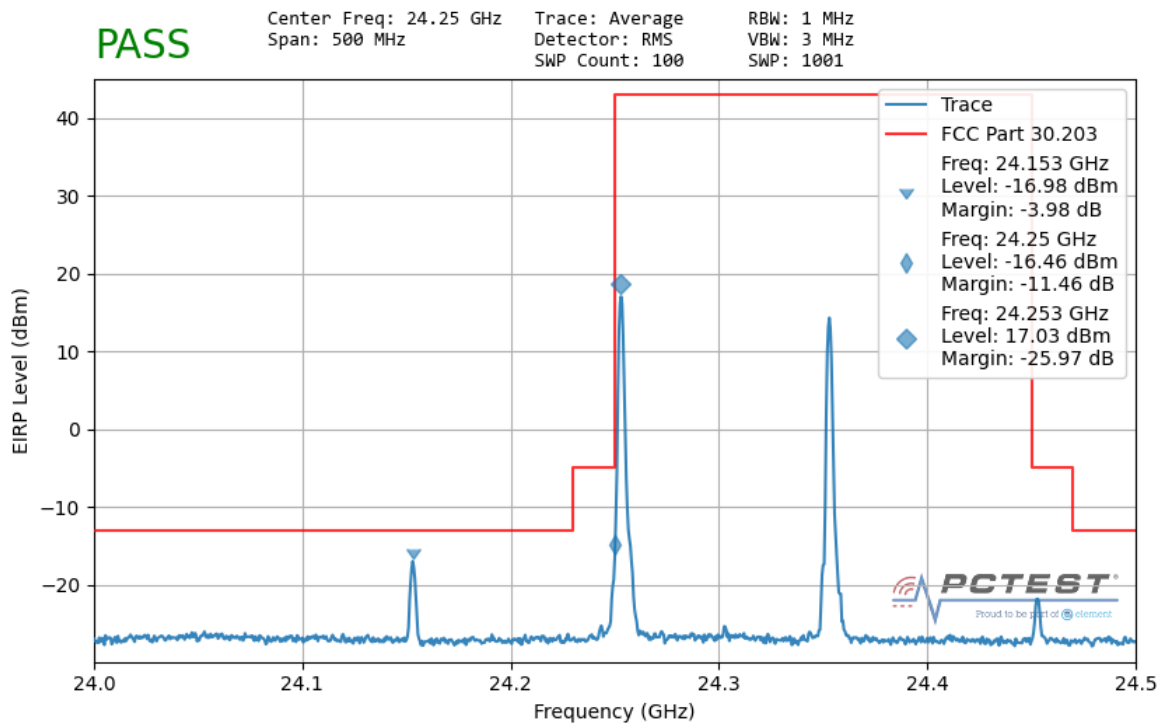


Plot 7-74. Ant 2 Upper Band Edge – (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 133 of 186

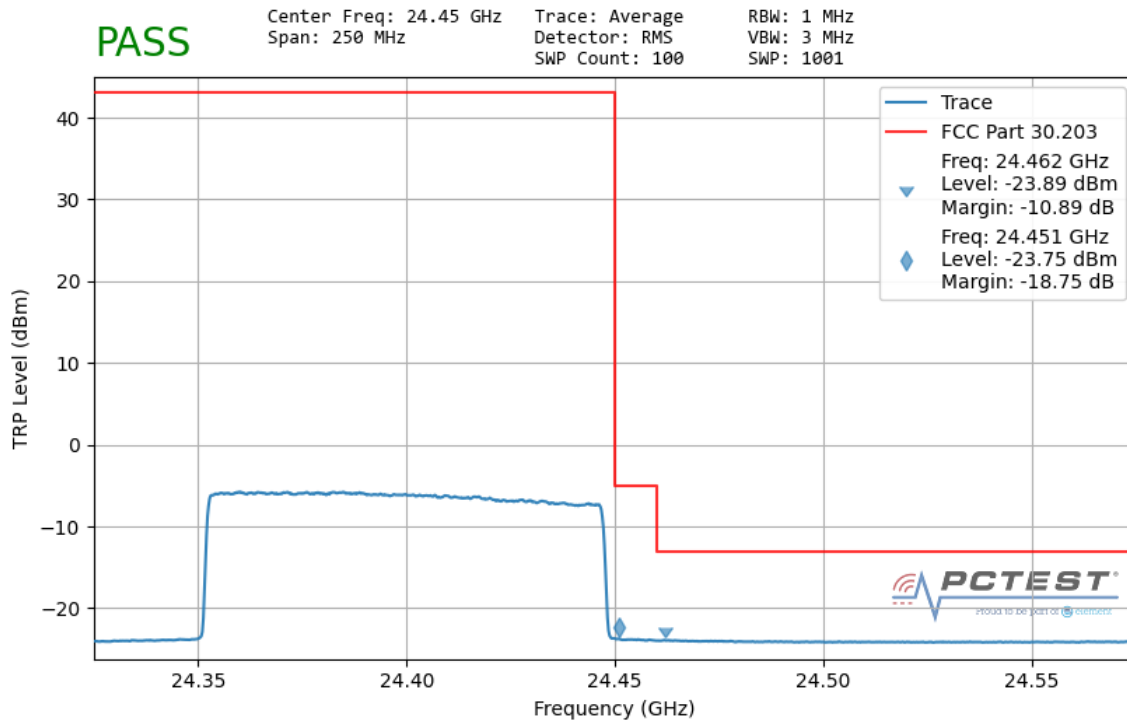


Plot 7-75. Ant 2 Lower Band Edge- TRP (100MHz-1CC – QPSK 1 RB)

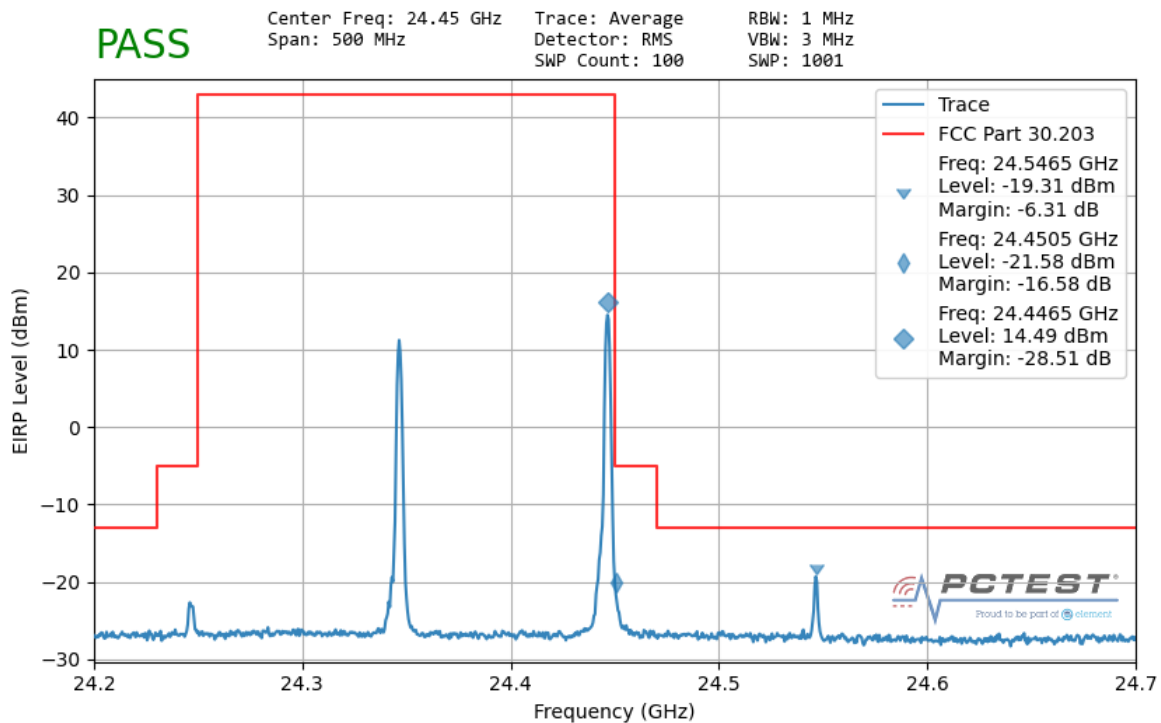


Plot 7-76. Ant 2 Lower Band Edge – (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 134 of 186



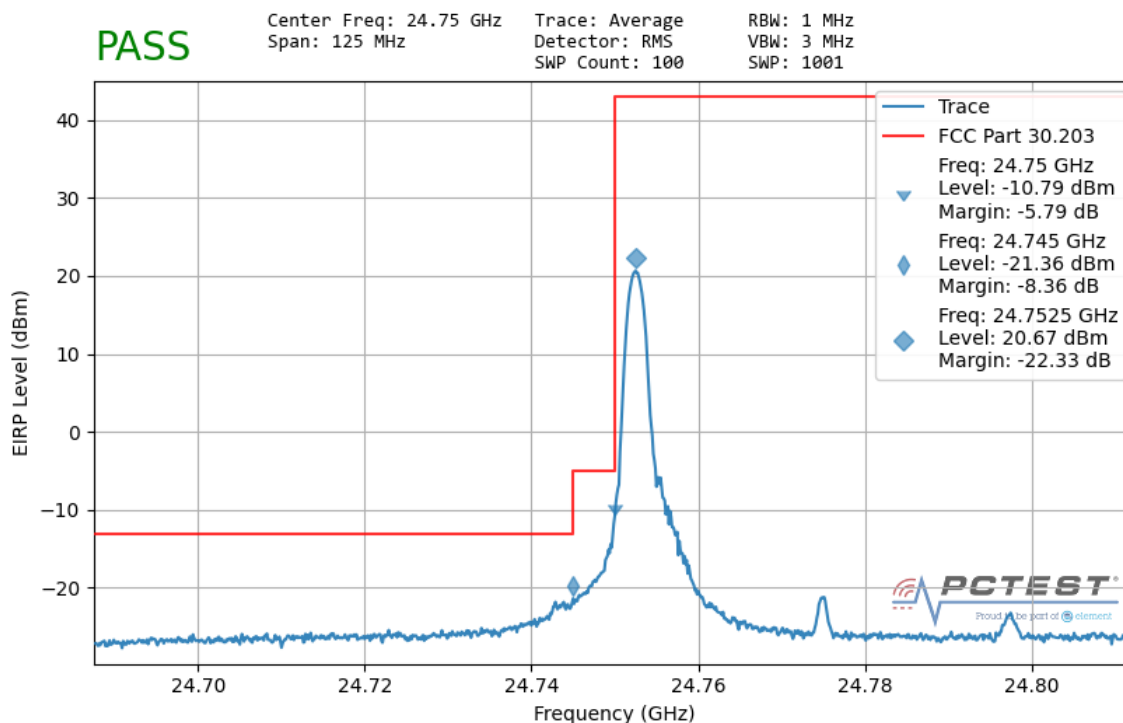
Plot 7-77. Ant 2 Upper Band Edge- TRP (100MHz-1CC – QPSK Full RB)



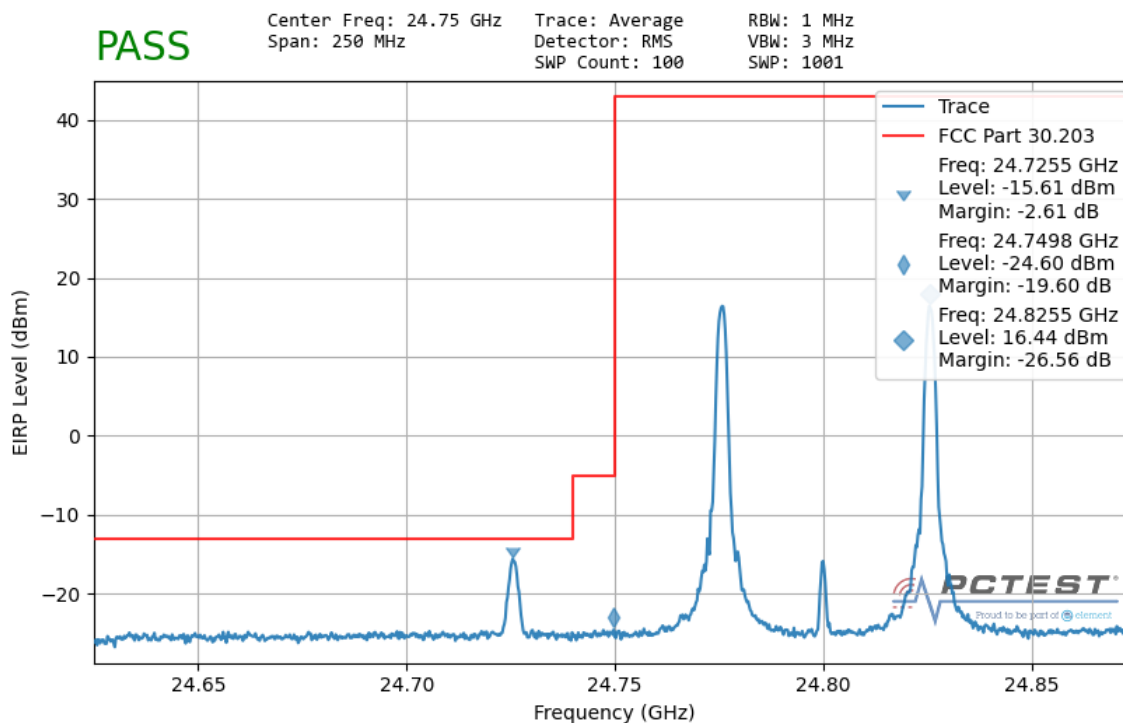
Plot 7-78. Ant 2 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 135 of 186

Band n258-R2 – Worst Case

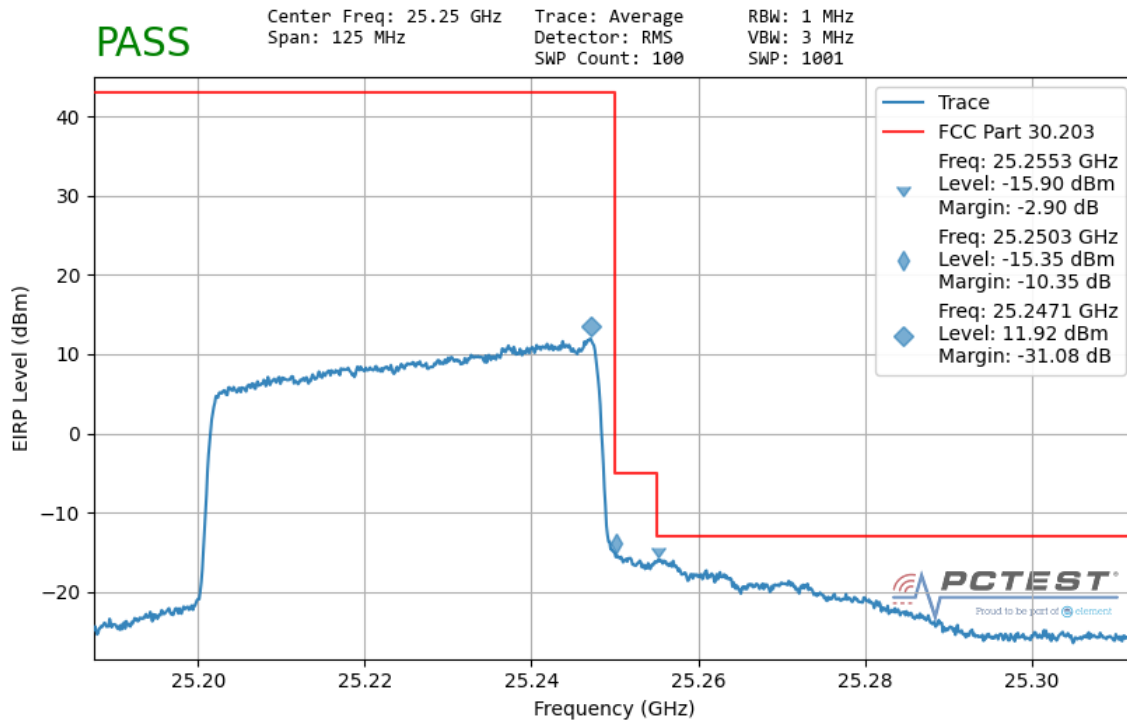


Plot 7-63. Ant 1 Lower Band Edge – (50MHz-1CC – QPSK 1 RB)

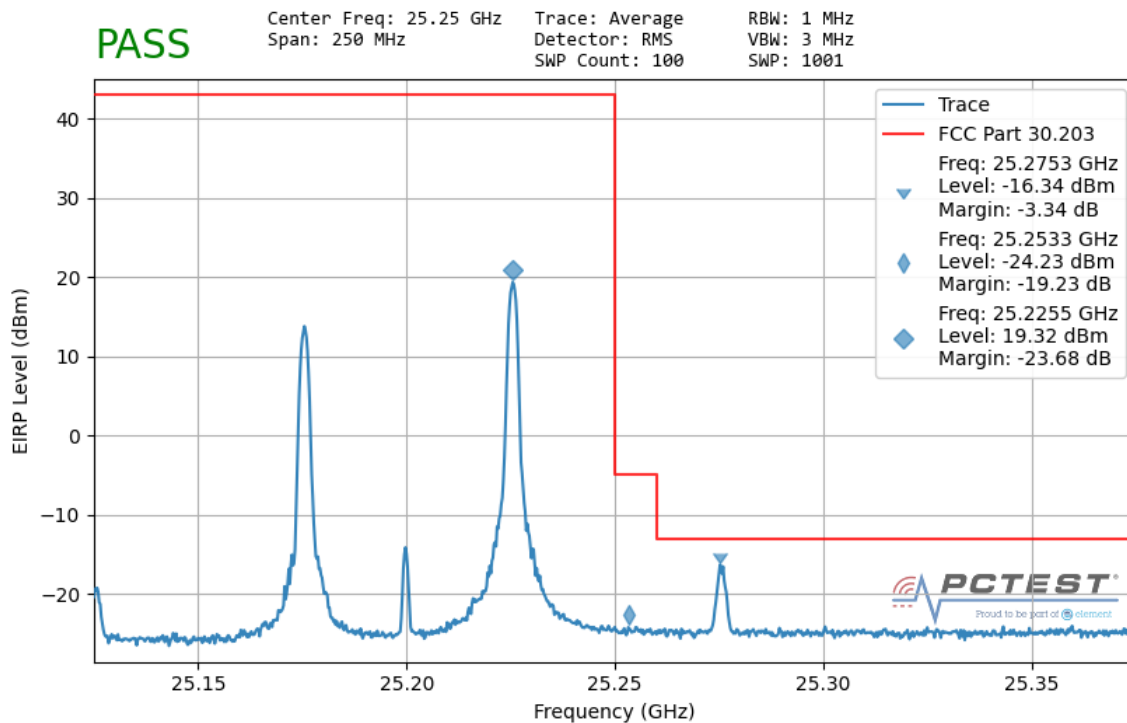


Plot 7-64. Ant 1 Lower Band Edge – (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 136 of 186

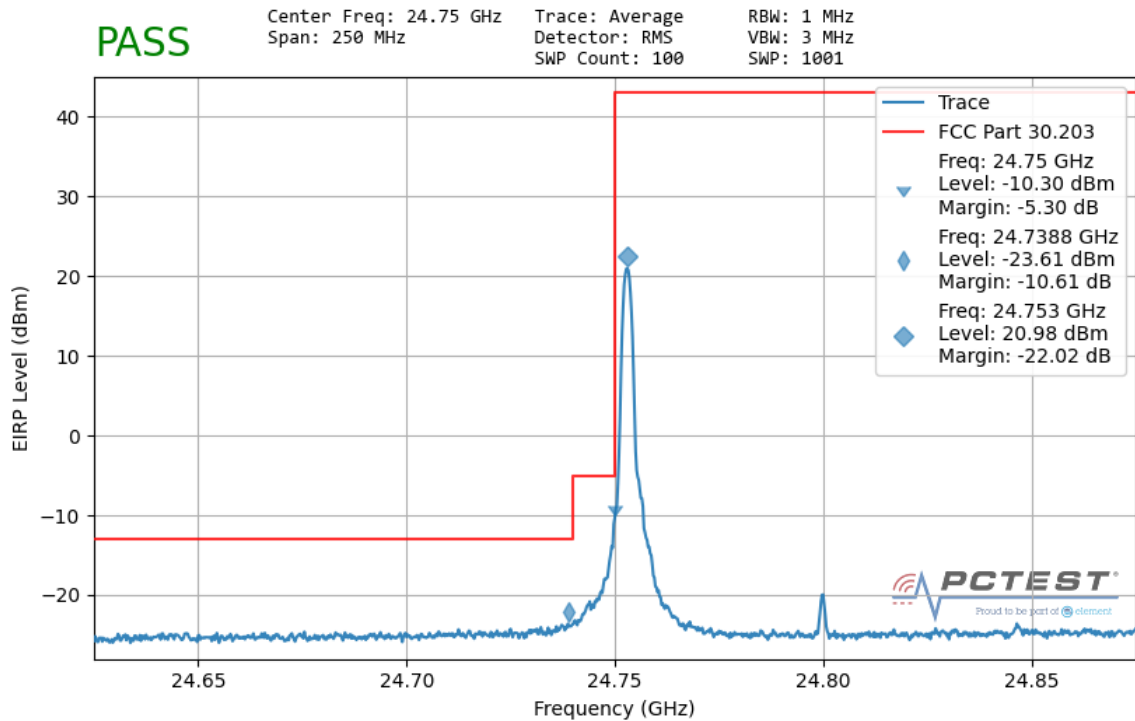


Plot 7-65. Ant 1 Upper Band Edge (50MHz-1CC – QPSK Full RB)

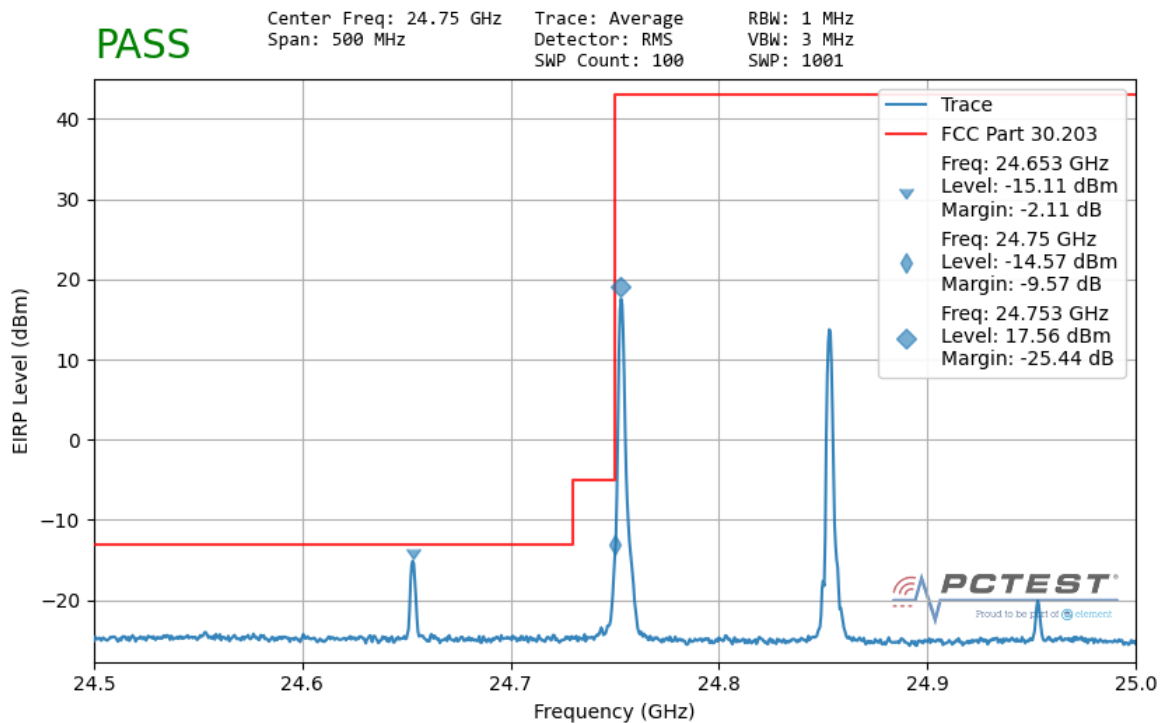


Plot 7-66. Ant 1 Upper Band Edge -(50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 137 of 186

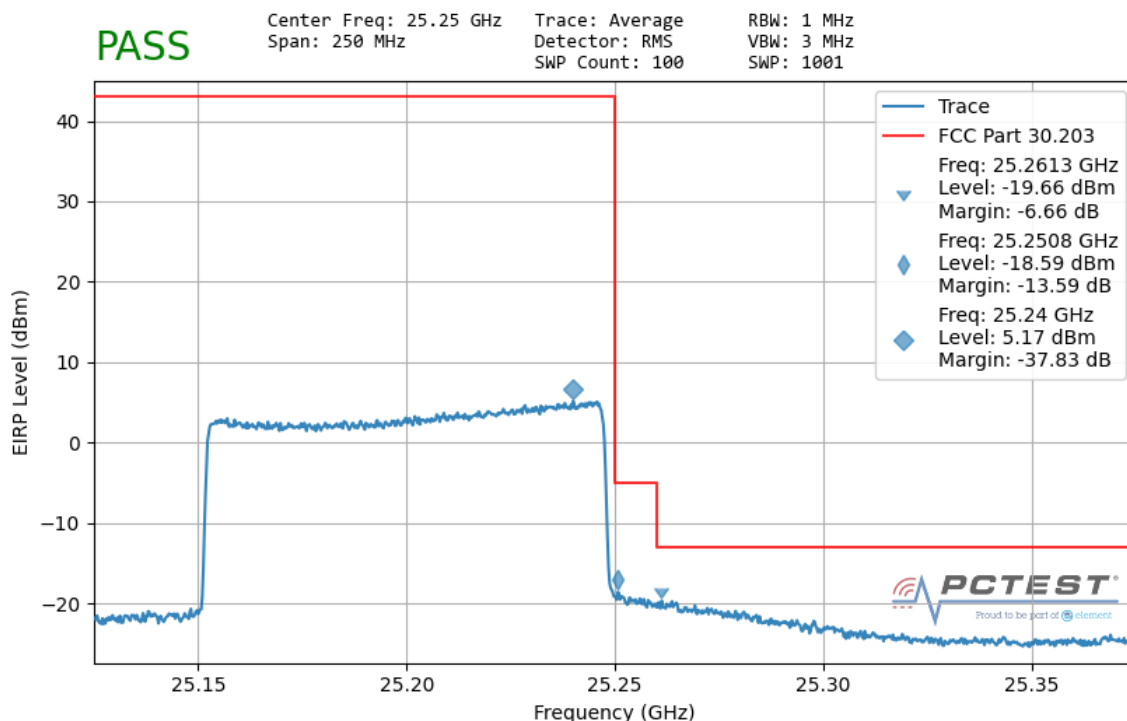


Plot 7-67. Ant 1 Lower Band Edge- (100MHz-1CC – pi/2-BPSK 1 RB)

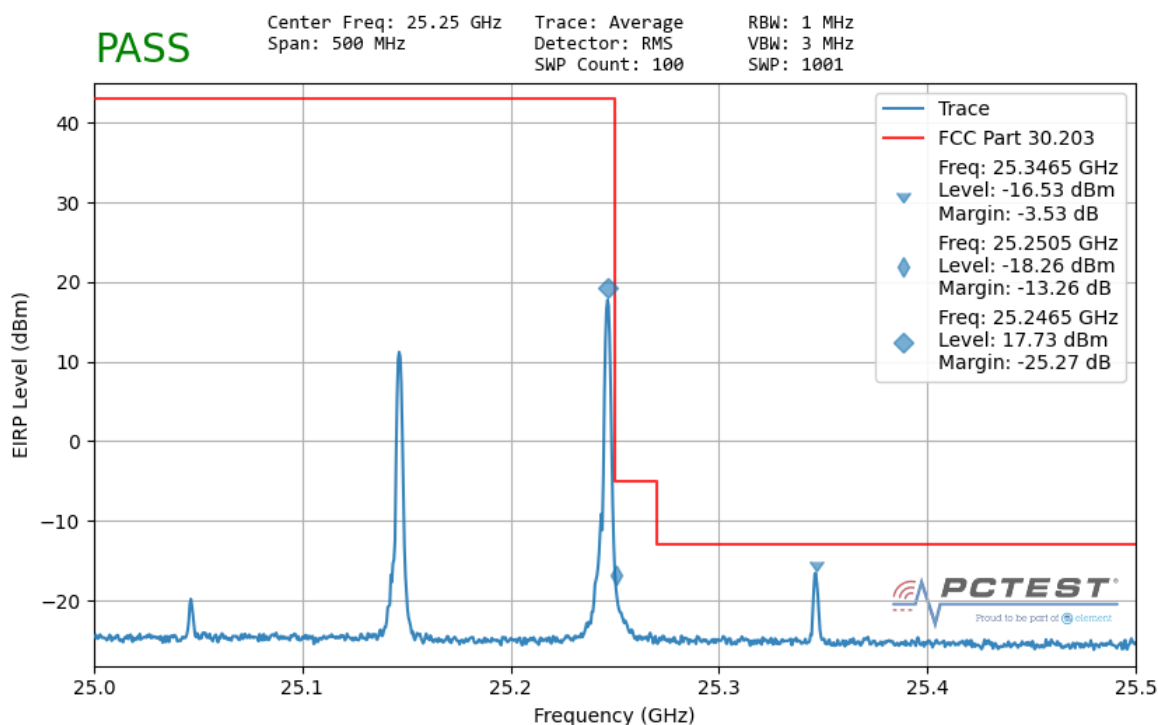


Plot 7-68. Ant 1 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 138 of 186

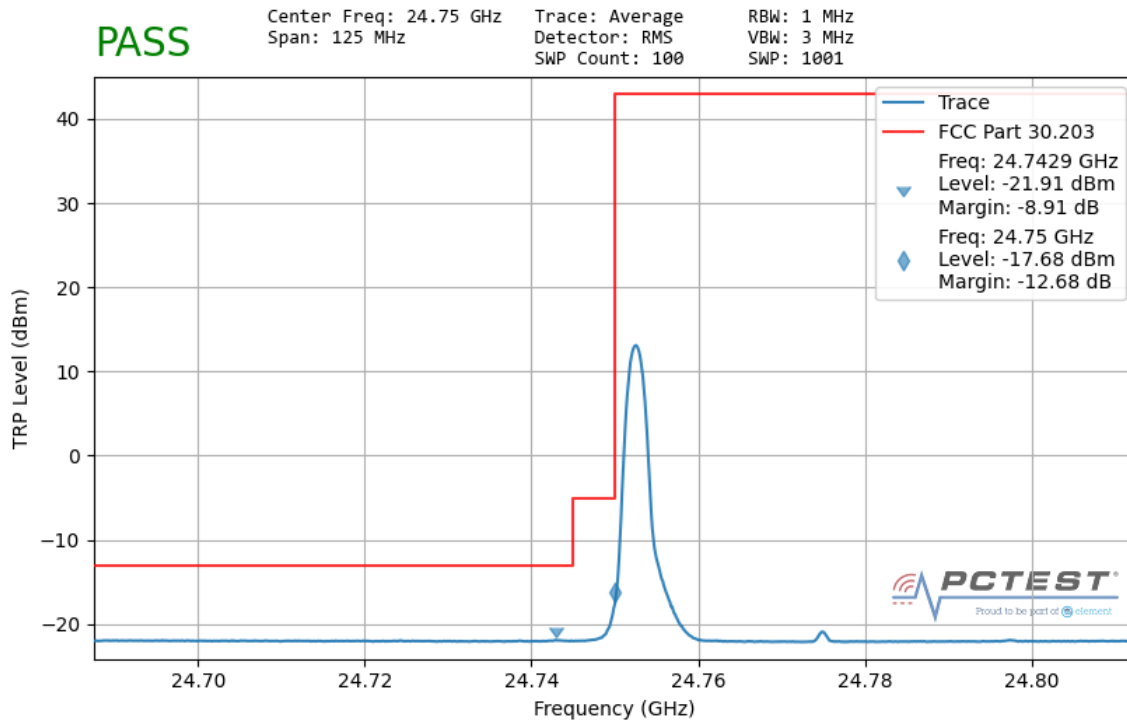


Plot 7-69. Ant 1 Upper Band Edge (100MHz-1CC – QPSK Full RB)

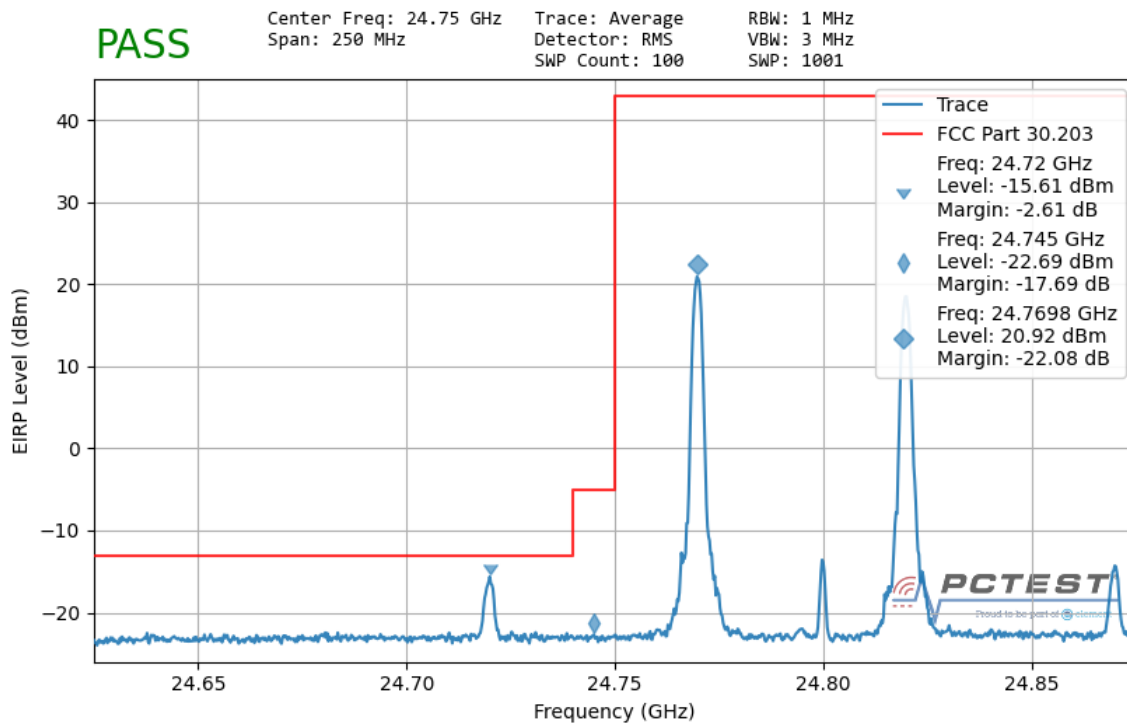


Plot 7-70. Ant 1 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 139 of 186

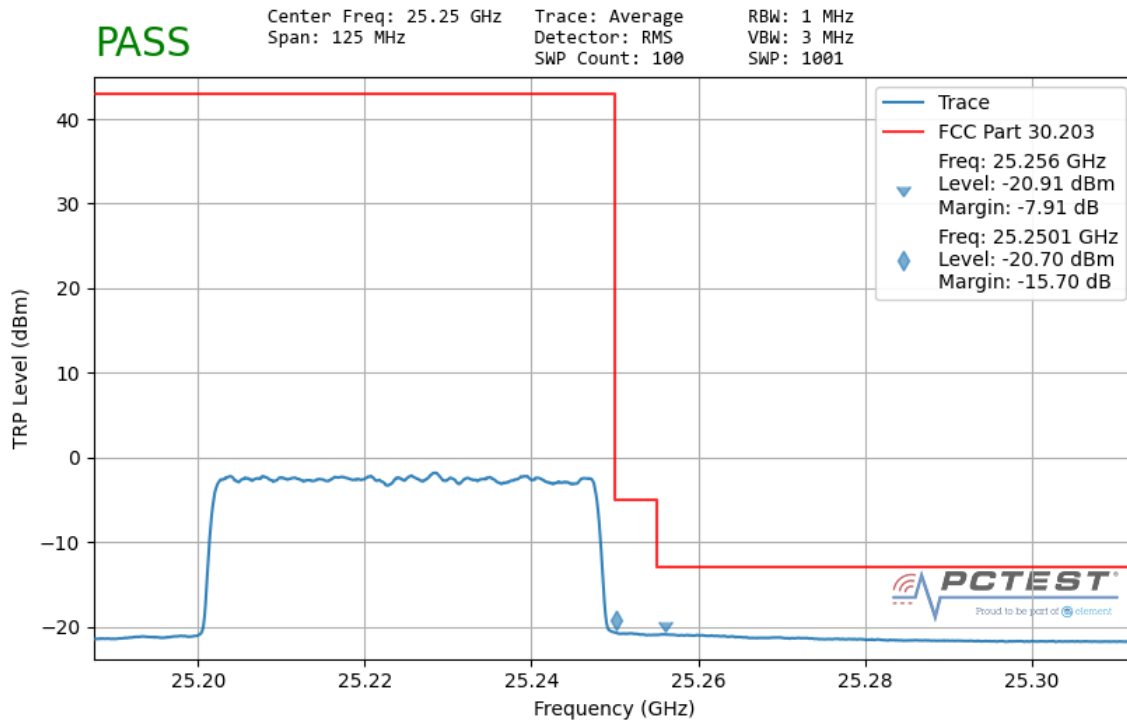


Plot 7-71. Ant 2 Lower Band Edge- TRP (50MHz-1CC – QPSK 1 RB)

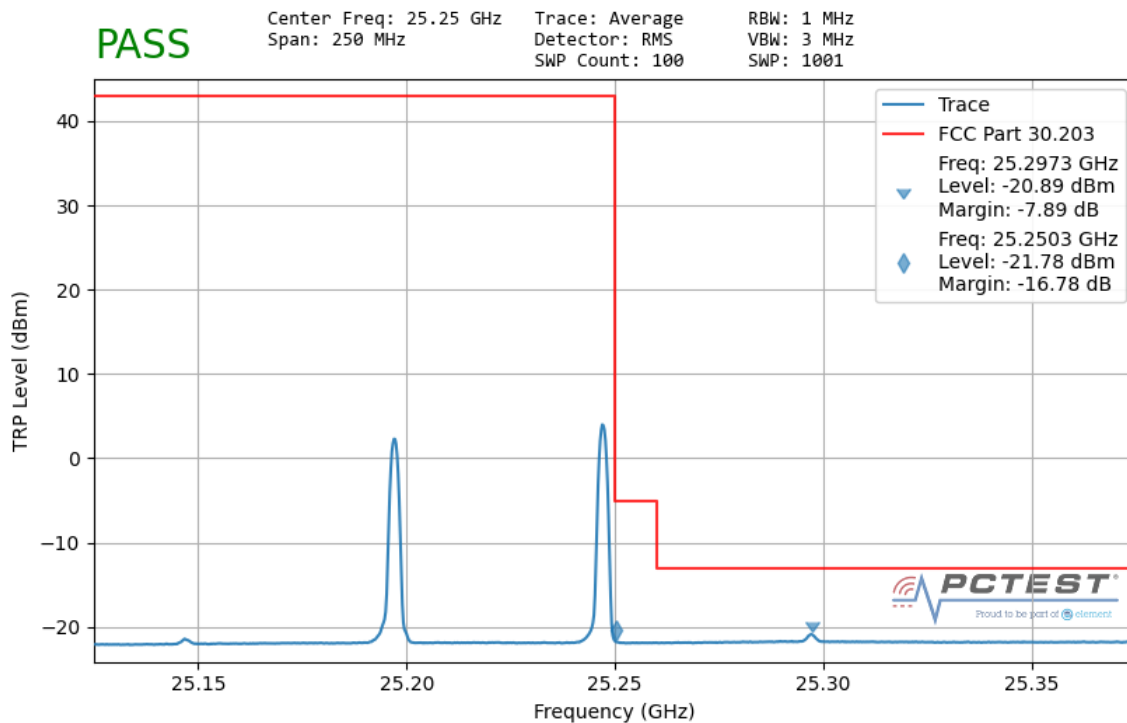


Plot 7-72. Ant 2 Lower Band Edge – (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 140 of 186

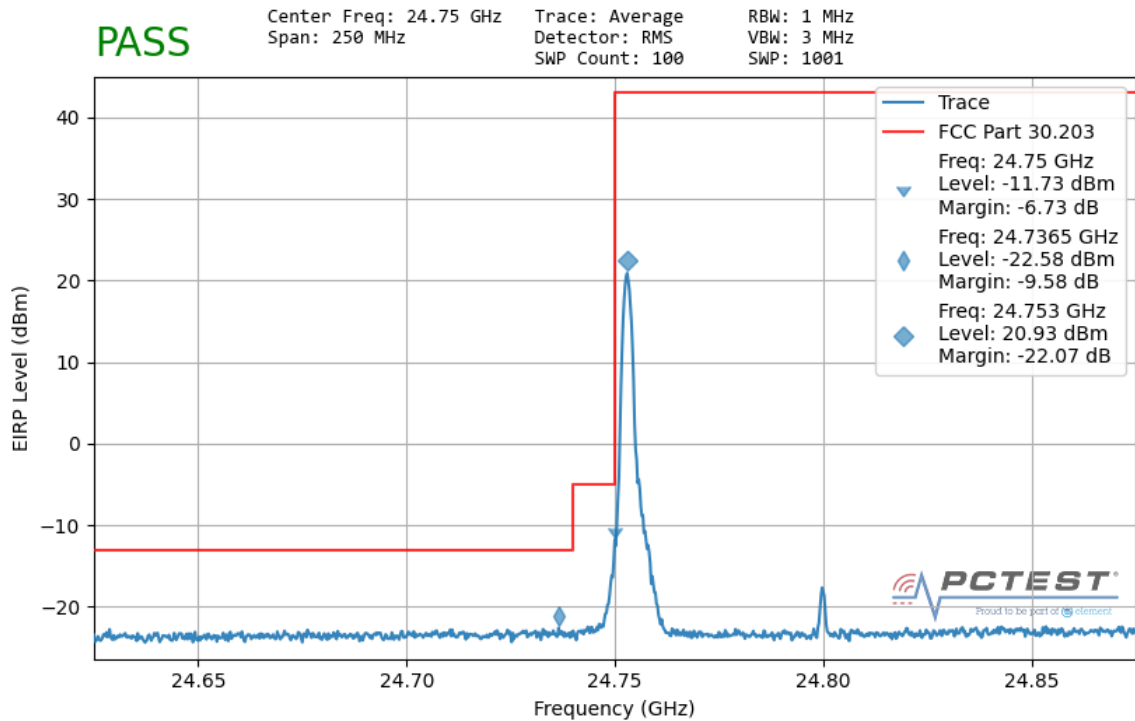


Plot 7-73. Ant 2 Upper Band Edge- TRP (50MHz-1CC – QPSK Full RB)

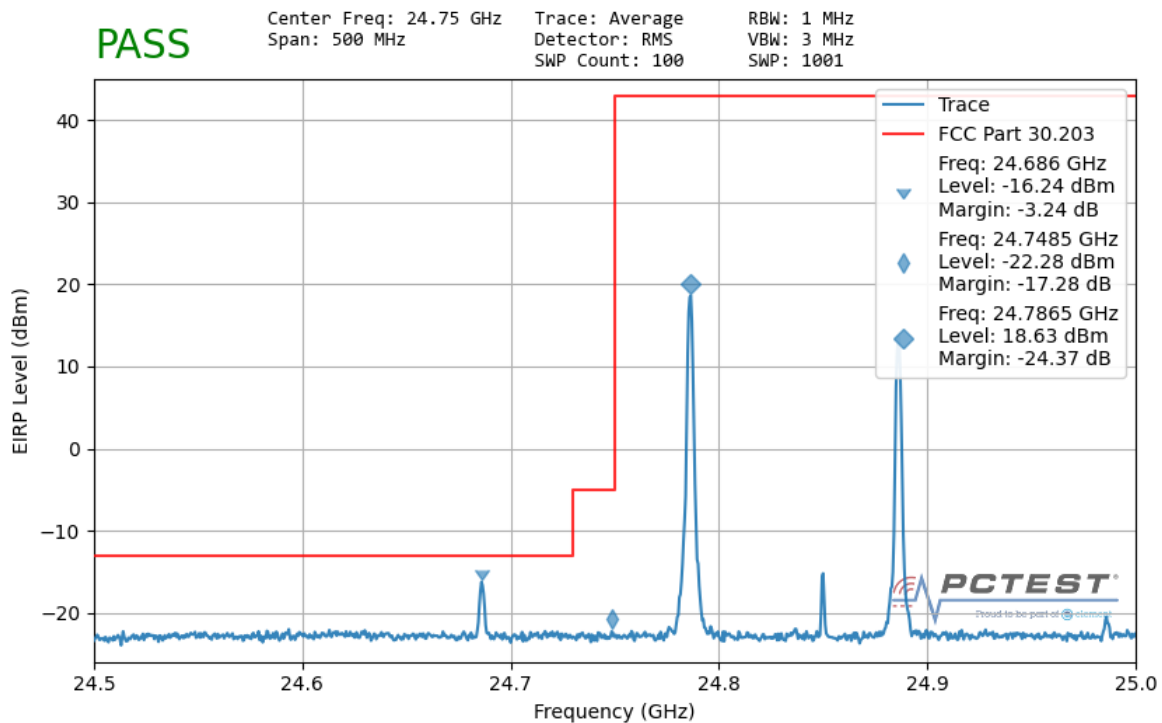


Plot 7-74. Ant 2 Upper Band Edge – TRP (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 141 of 186

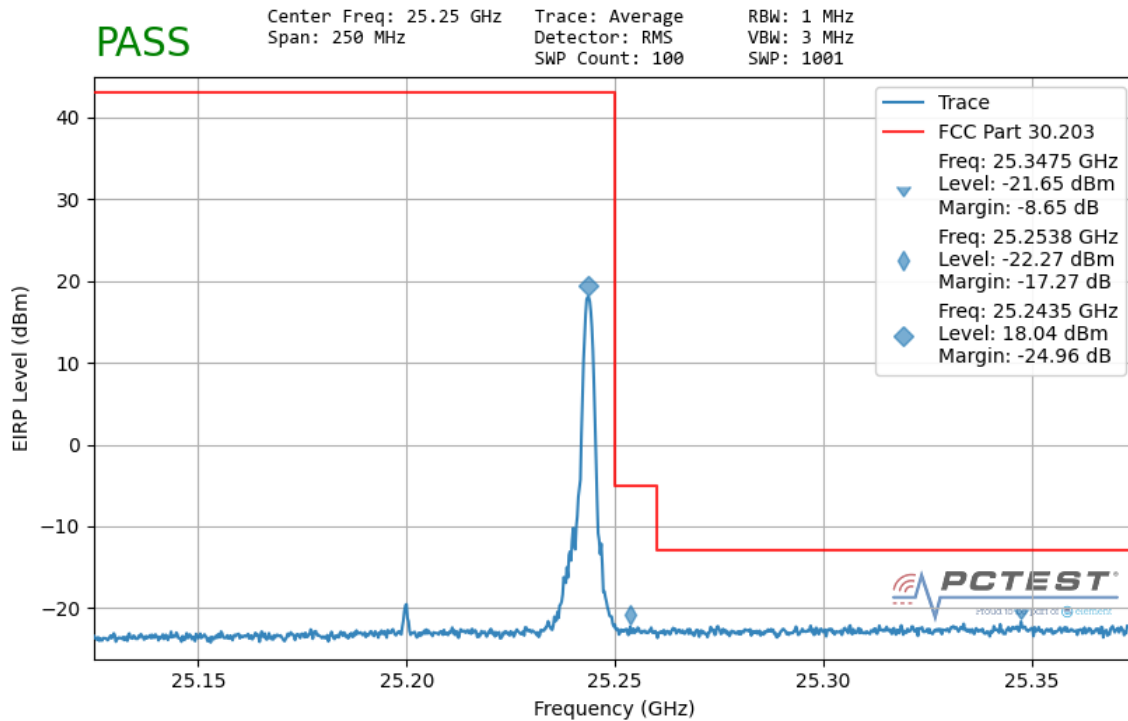


Plot 7-75. Ant 2 Lower Band Edge (100MHz-1CC – QPSK 1 RB)

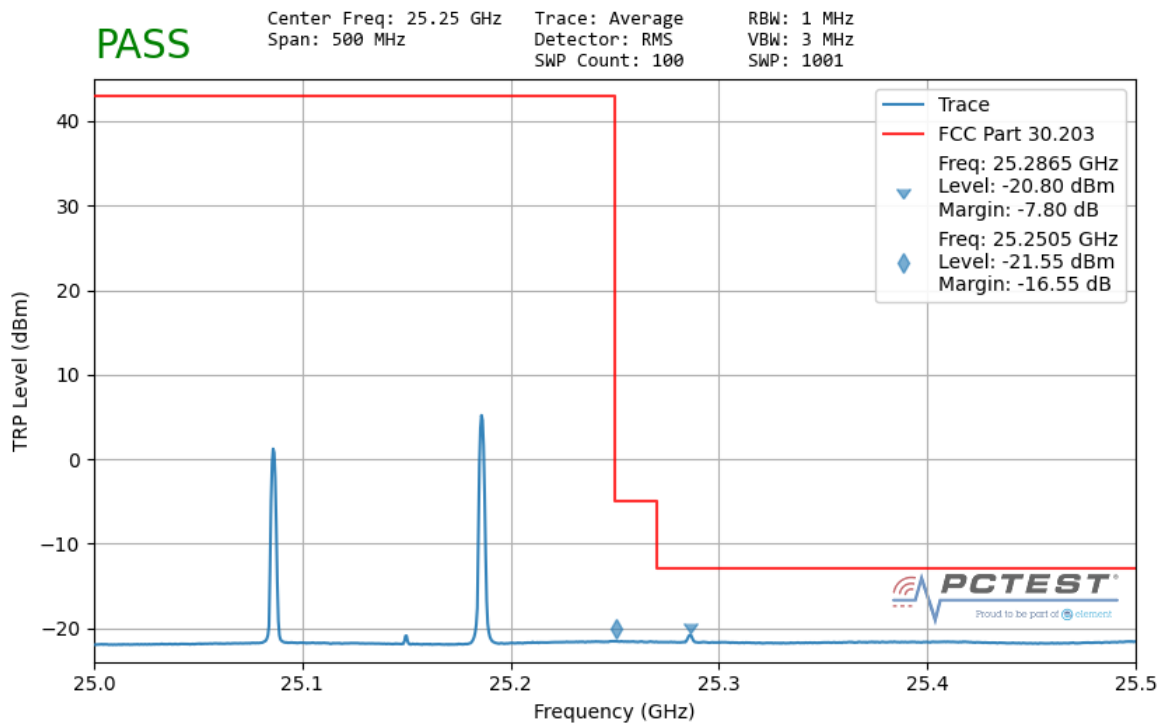


Plot 7-76. Ant 2 Lower Band Edge – (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 142 of 186



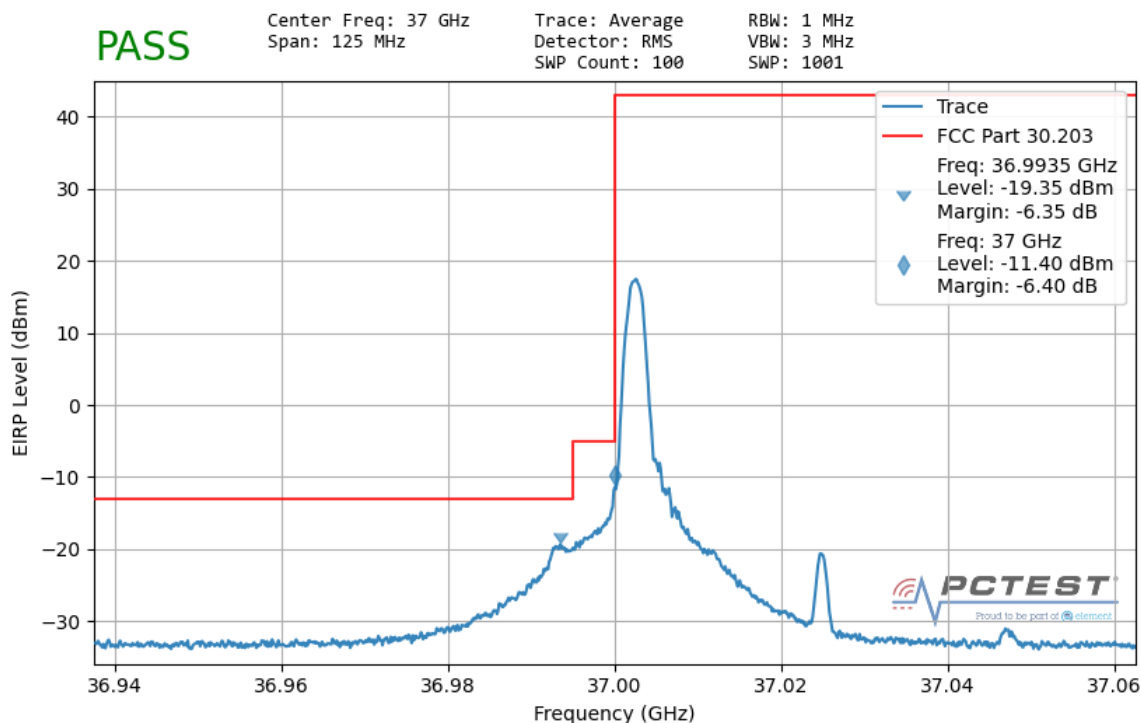
Plot 7-77. Ant 2 Upper Band Edge- (100MHz-1CC – pi/2-BPSK 1 RB)



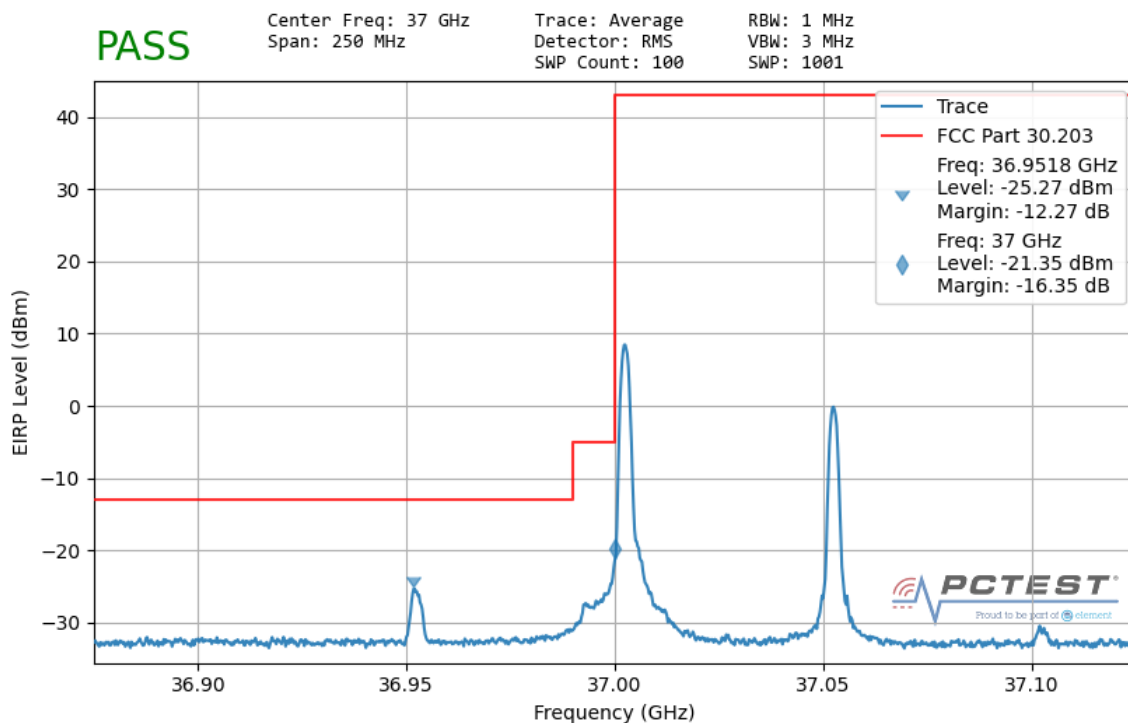
Plot 7-78. Ant 2 Upper Band Edge-TRP (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 143 of 186

Band n260 – Worst Case

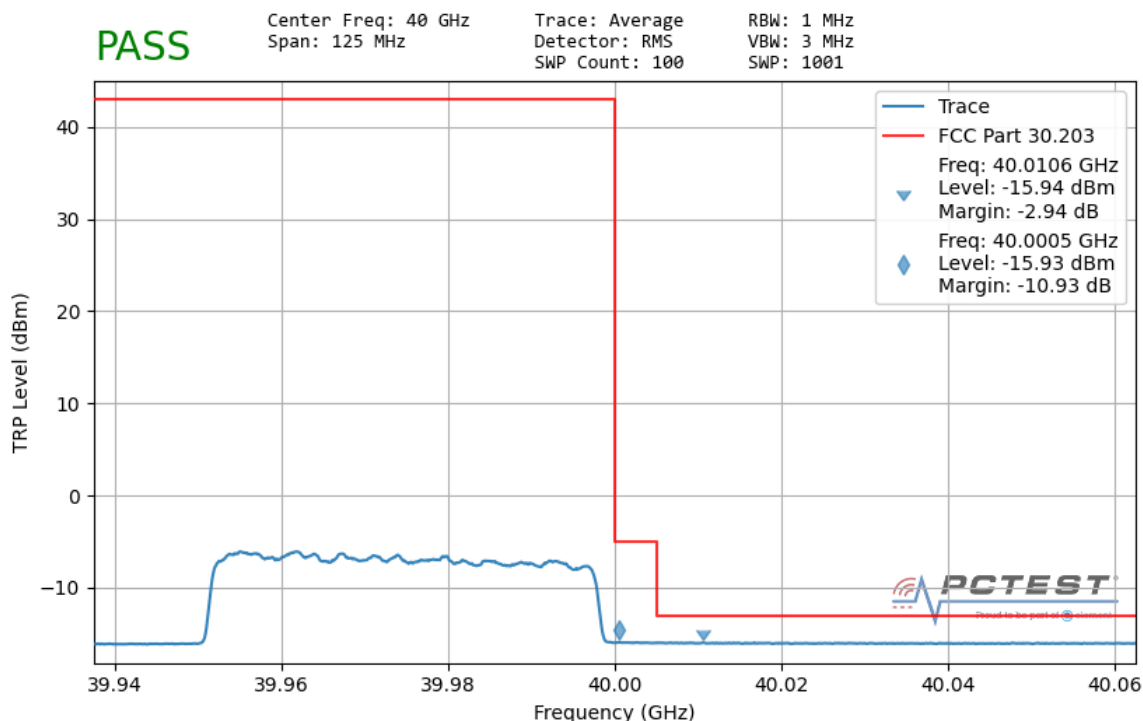


Plot 7-79. Ant 1 Lower Band Edge (50MHz-1CC – pi/2-BPSK 1 RB)

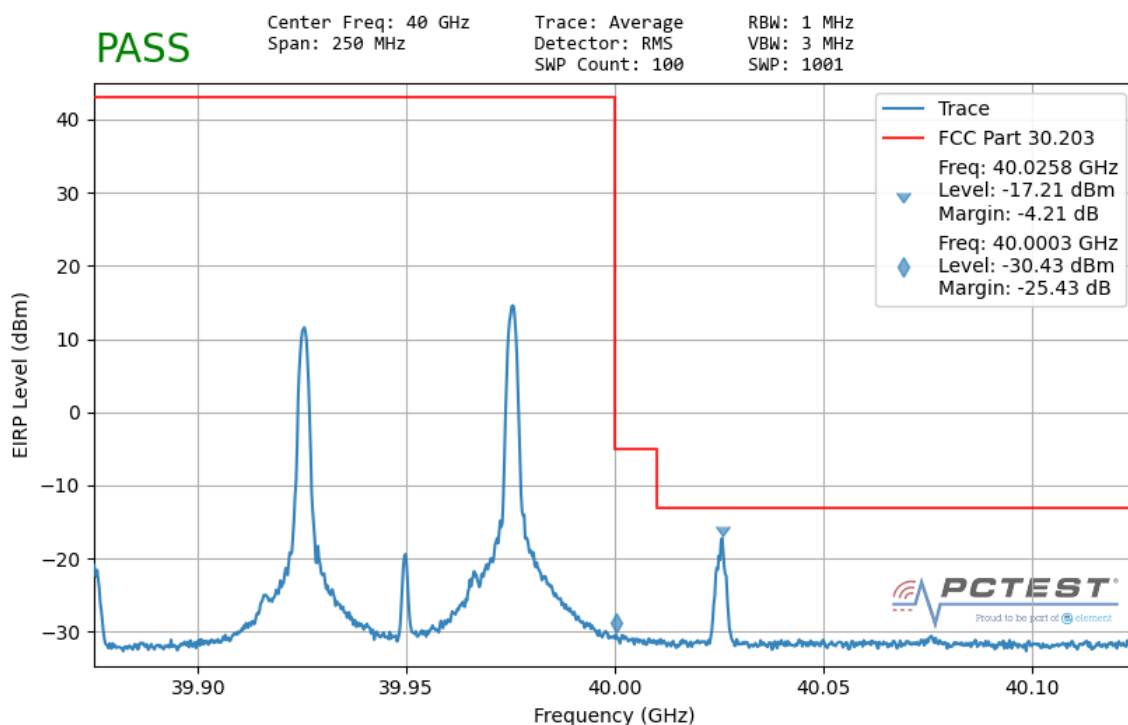


Plot 7-80. Ant 1 Lower Band Edge – TRP (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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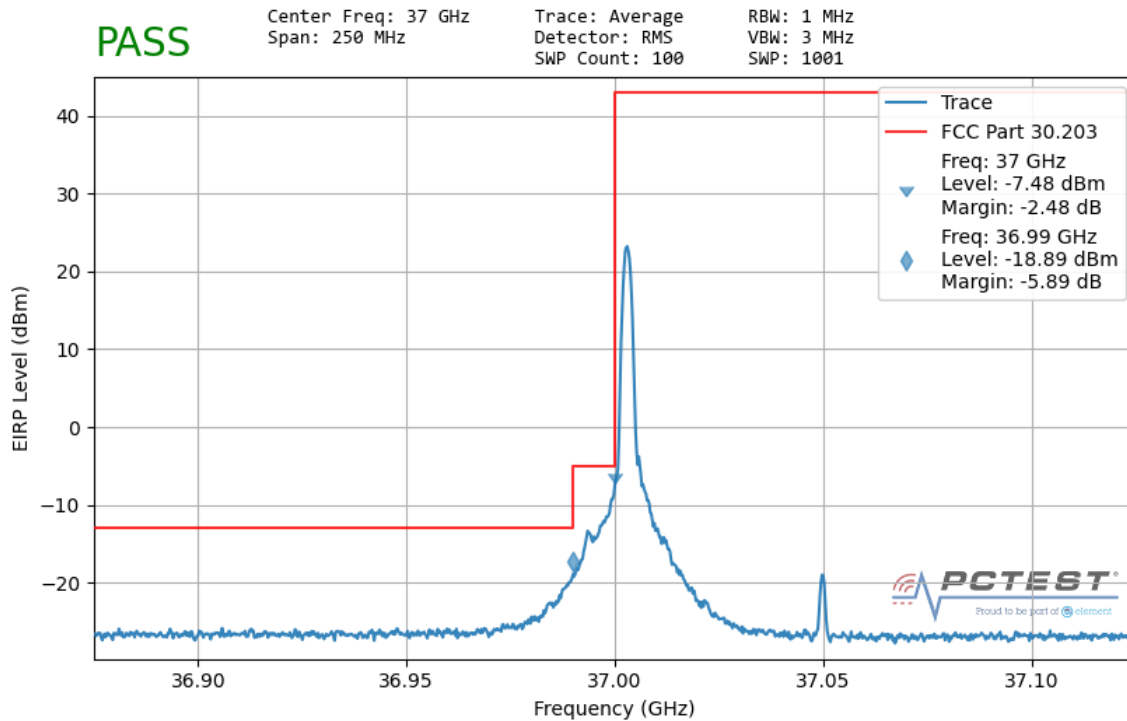


Plot 7-81. Ant 1 Upper Band Edge- TRP (50MHz-1CC – QPSK Full RB)

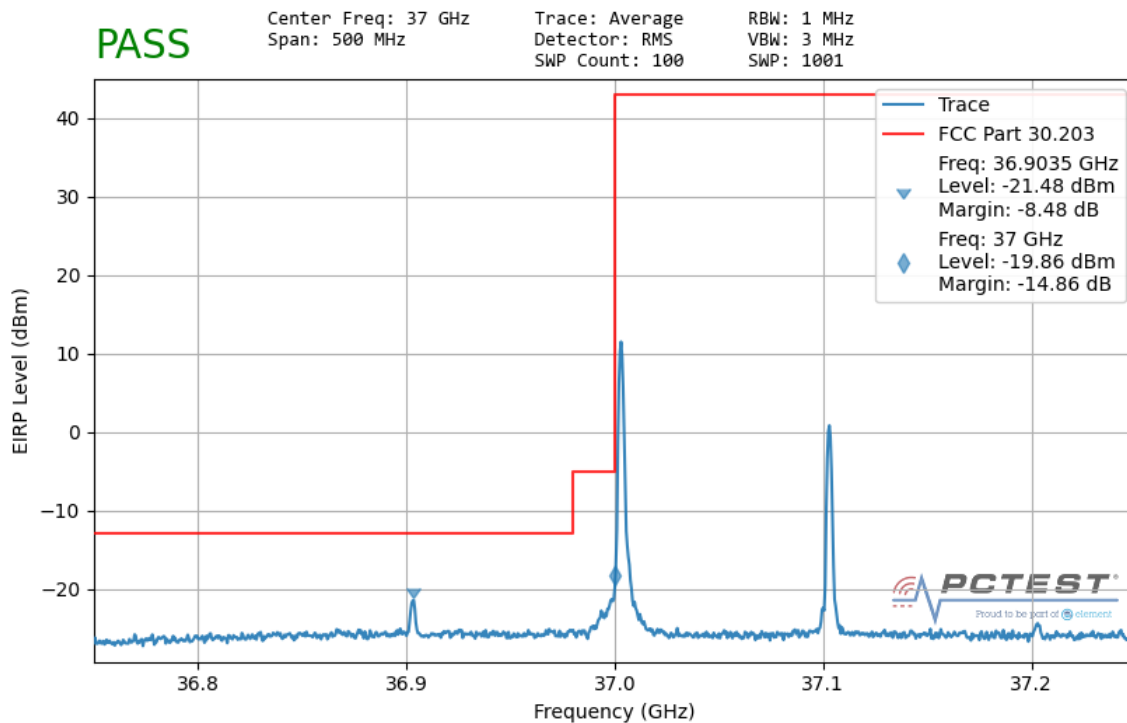


Plot 7-82. Ant 1 Upper Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 145 of 186

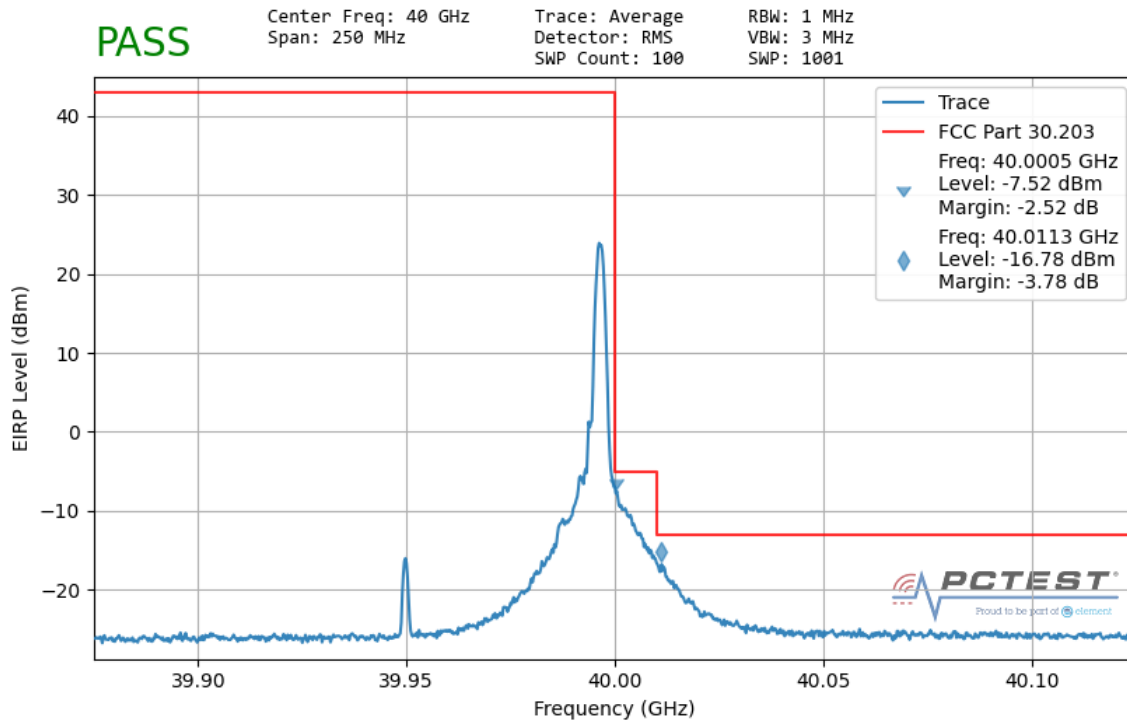


Plot 7-83. Ant 1 Lower Band Edge (100MHz-1CC – pi/2-BPSK 1 RB)

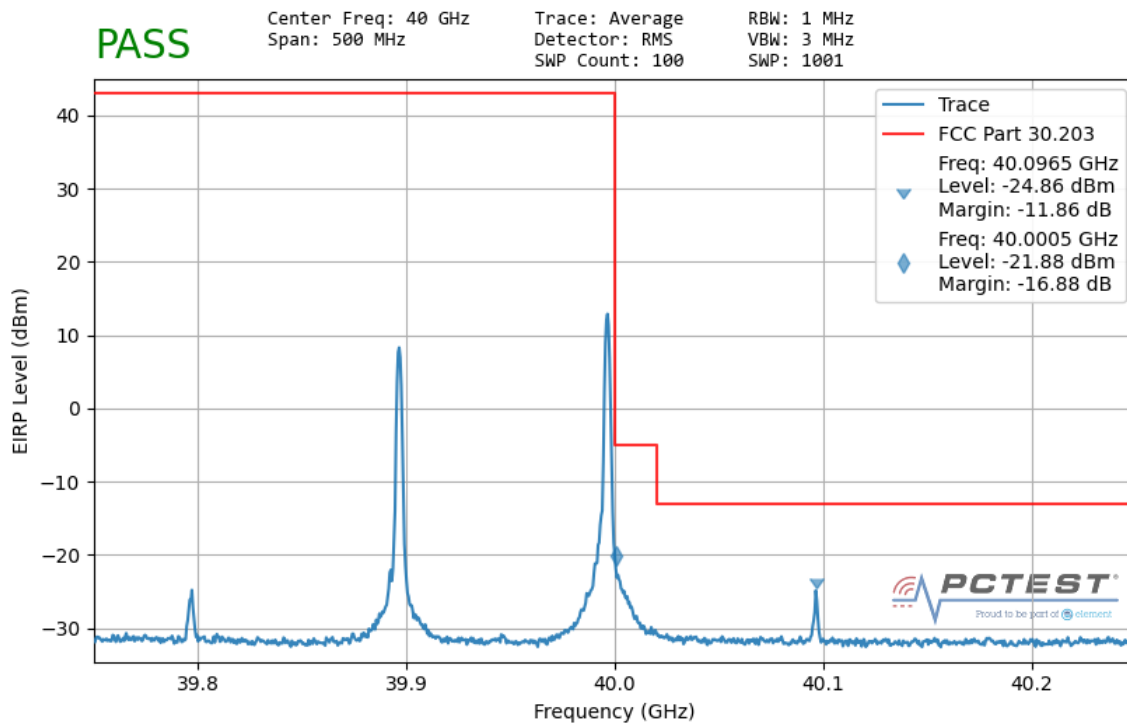


Plot 7-84. Ant 1 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 146 of 186

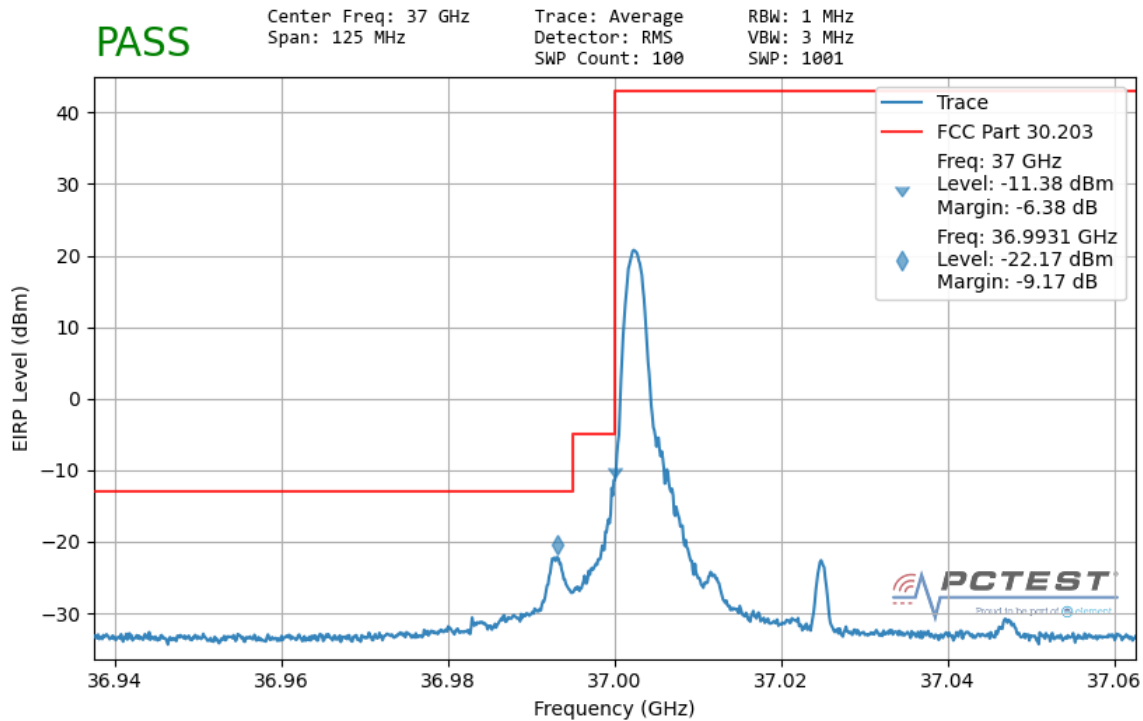


Plot 7-85. Ant 1 Upper Band Edge (100MHz-1CC – QPSK 1 RB)

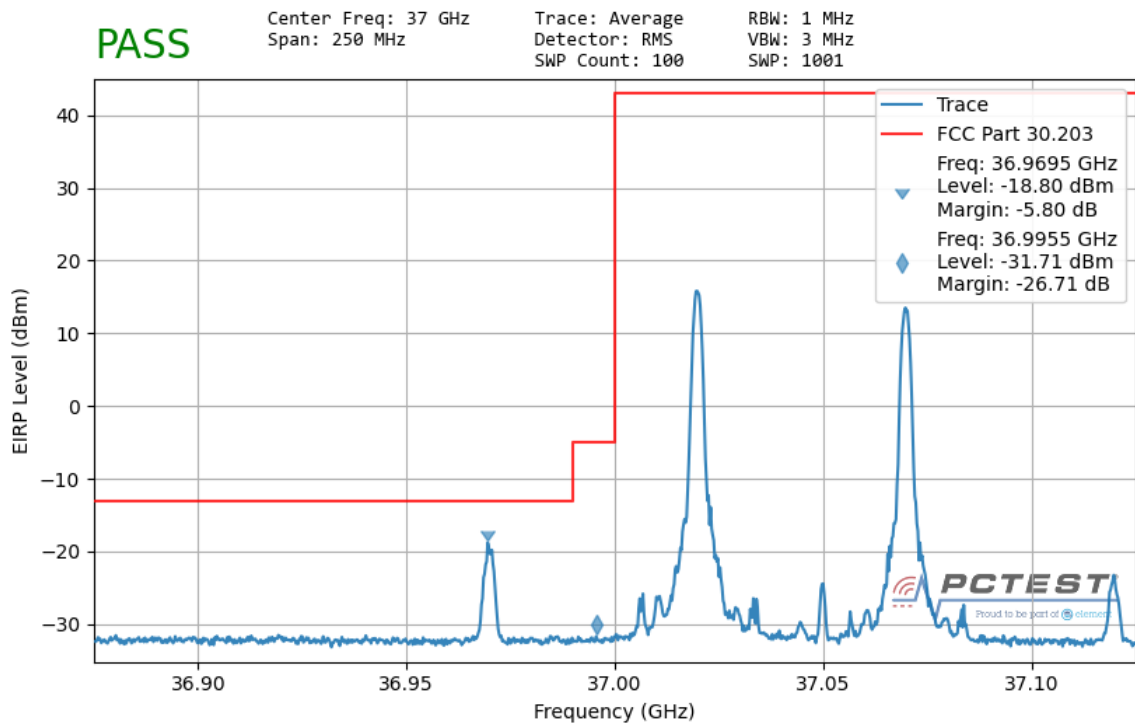


Plot 7-86. Ant 1 Upper Band Edge – (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 147 of 186

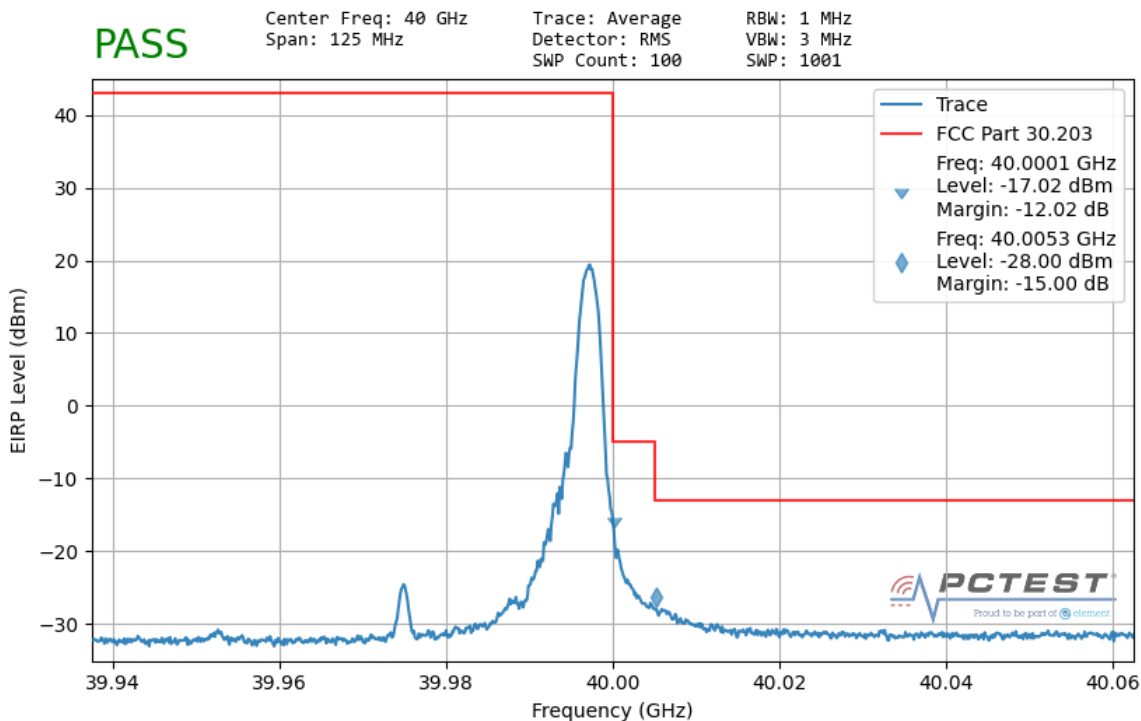


Plot 7-87. Ant 2 Lower Band Edge (50MHz-1CC – QPSK Full RB)

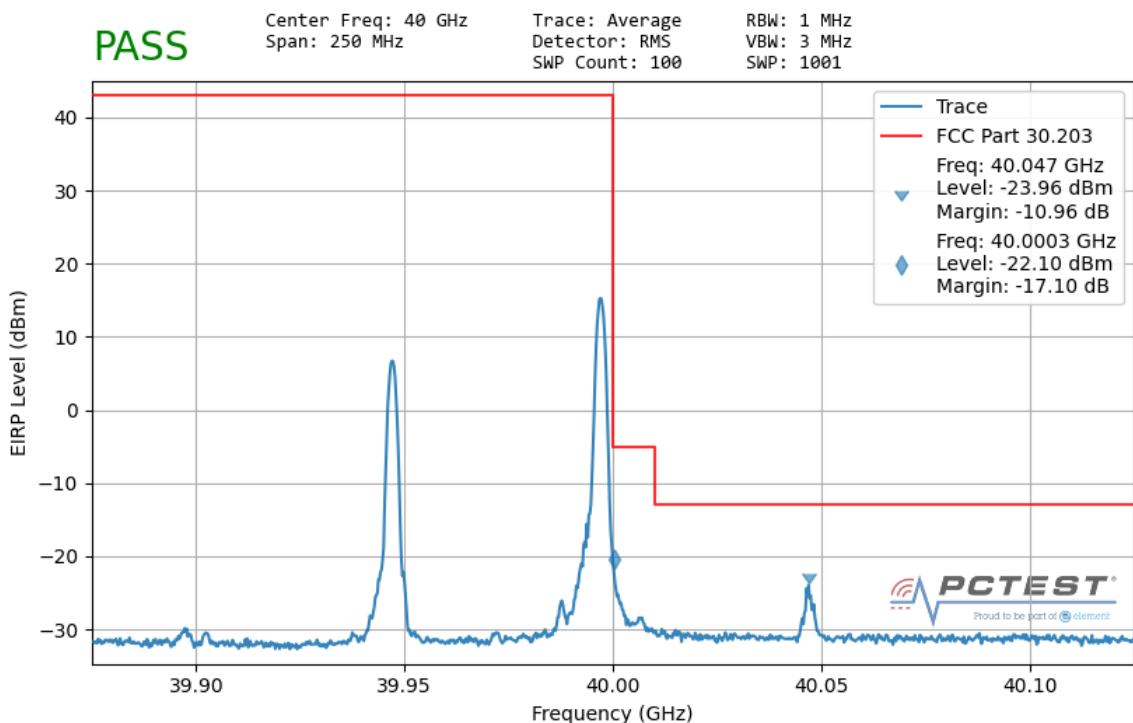


Plot 7-88. Ant 2 Lower Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 148 of 186

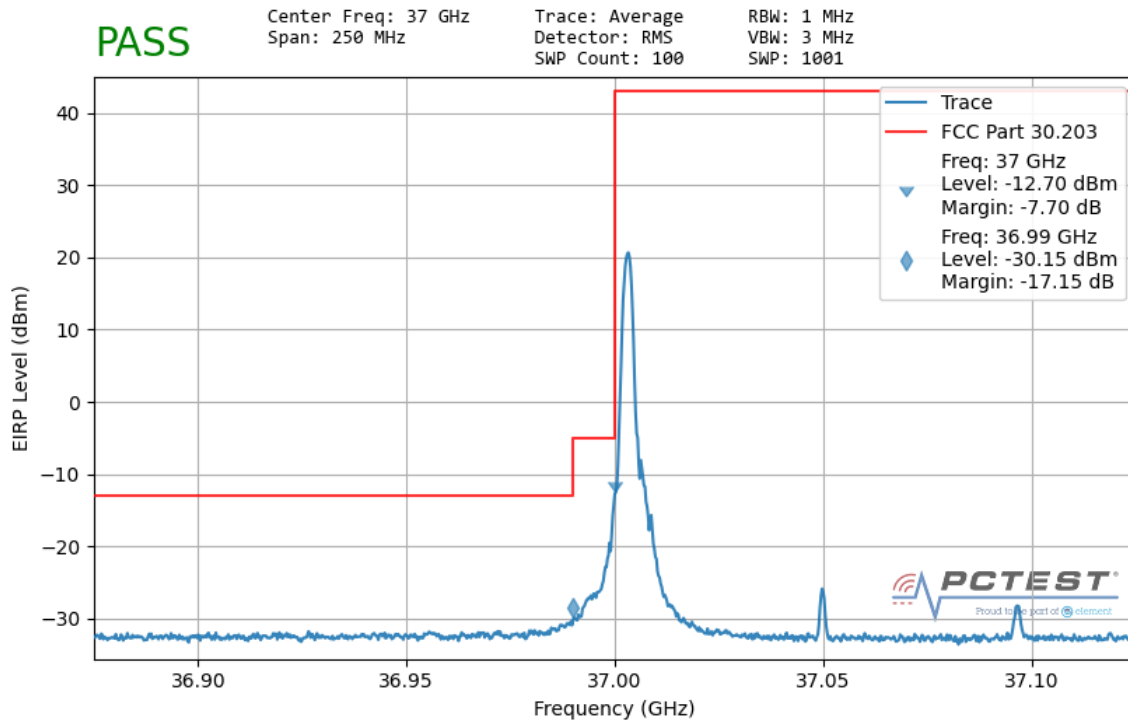


Plot 7-89. Ant 2 Upper Band Edge (50MHz-1CC – QPSK 1 RB)

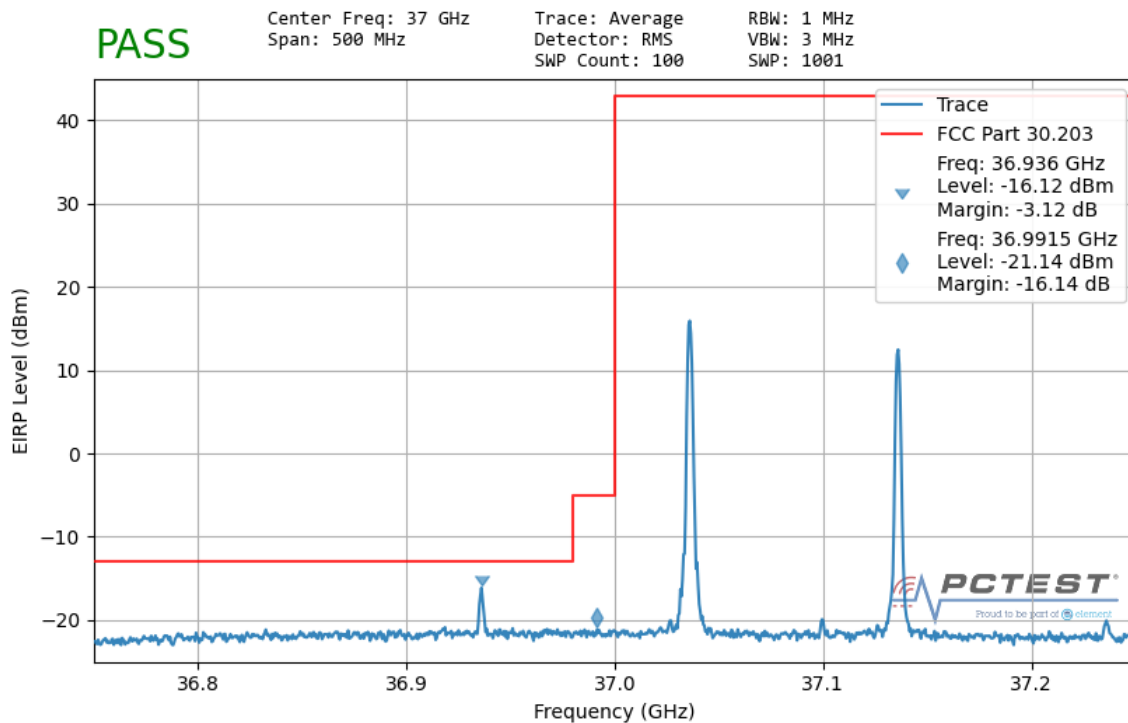


Plot 7-90. Ant 2 Upper Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 149 of 186

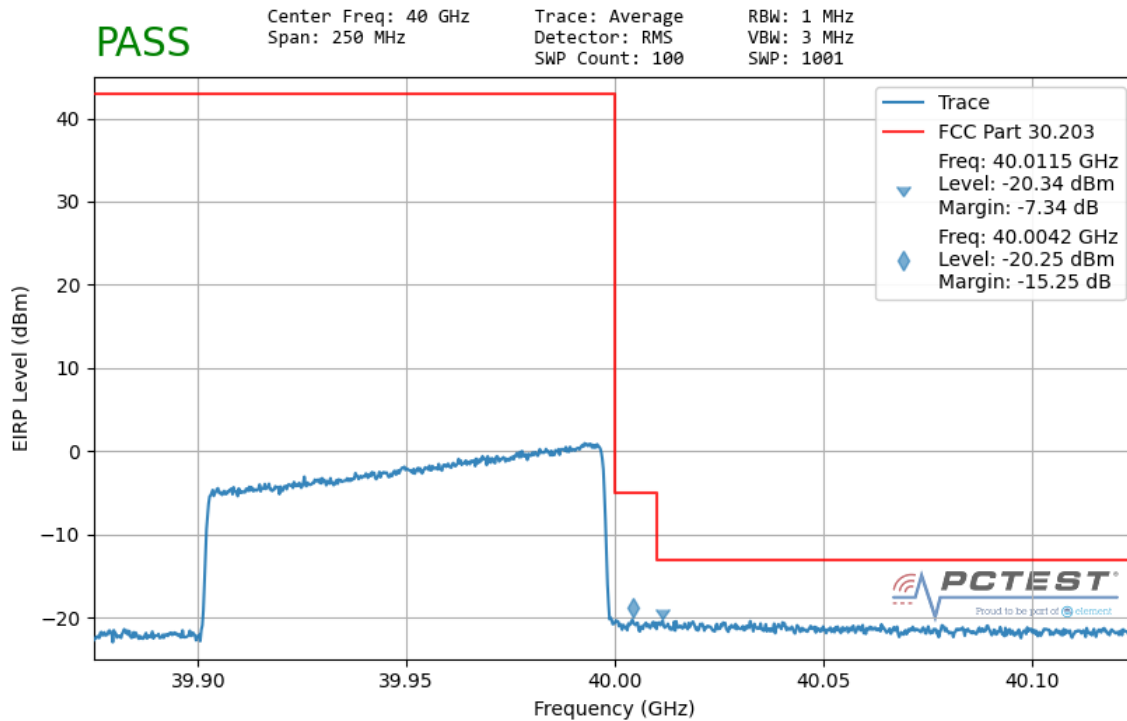


Plot 7-91. Ant 2 Lower Band Edge (100MHz-1CC – QPSK 1 RB)

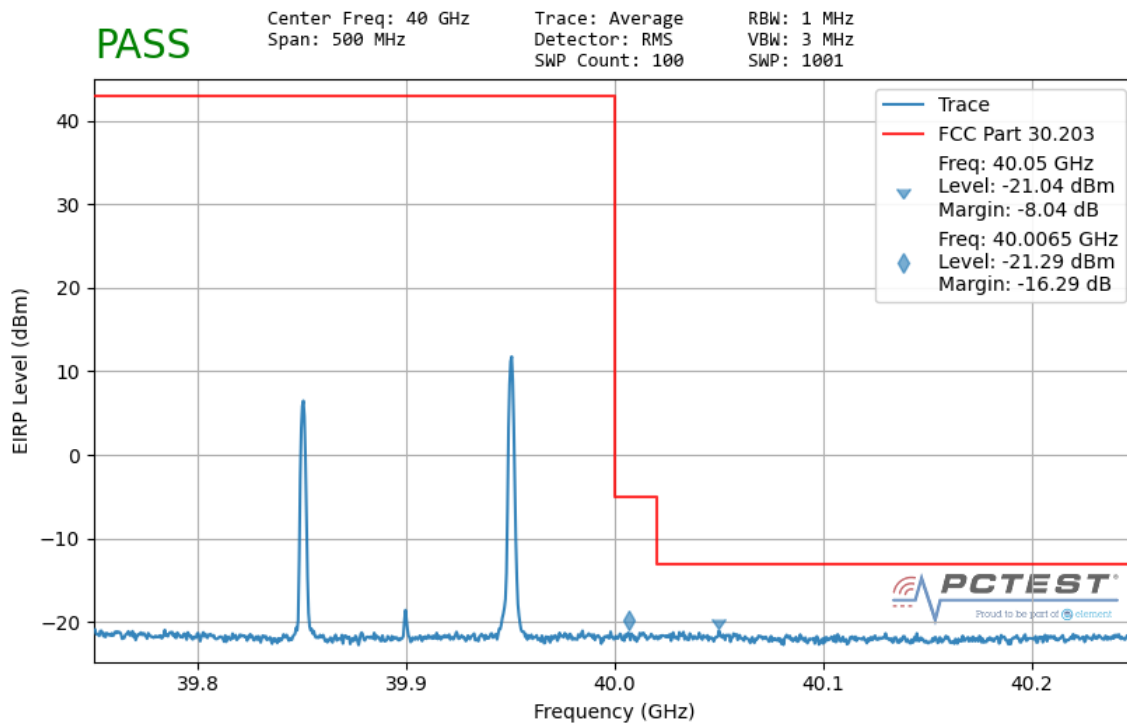


Plot 7-92. Ant 2 Lower Band Edge – (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 150 of 186



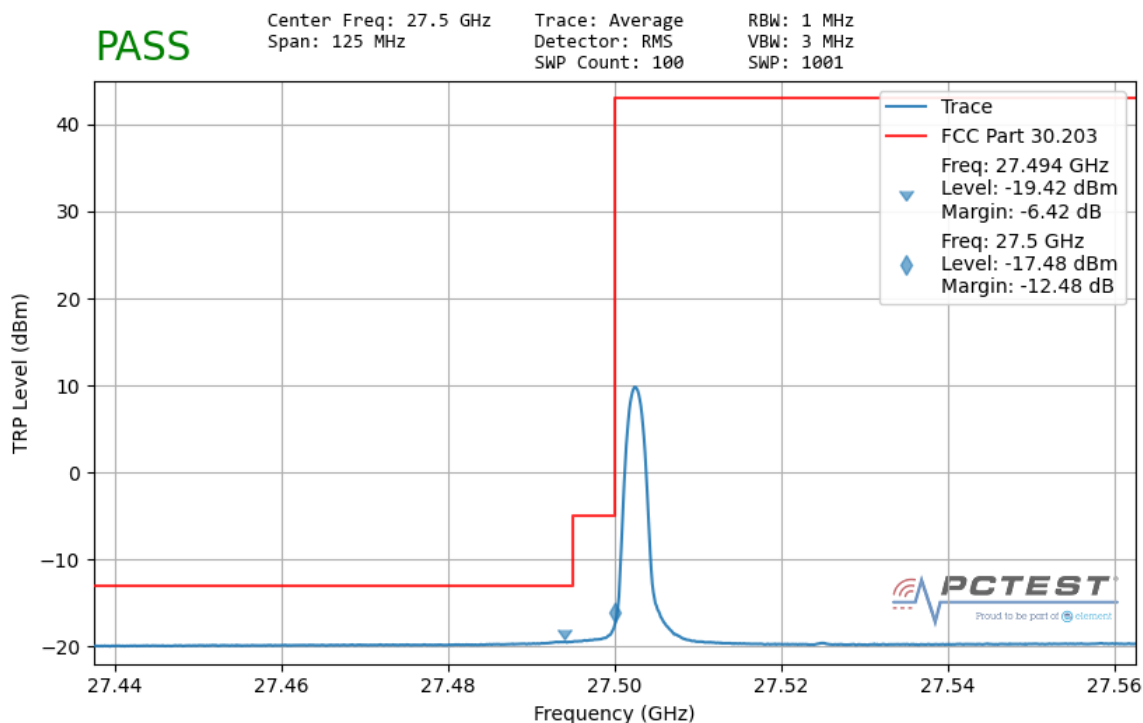
Plot 7-93. Ant 2 Upper Band Edge (100MHz-1CC – QPSK Full RB)



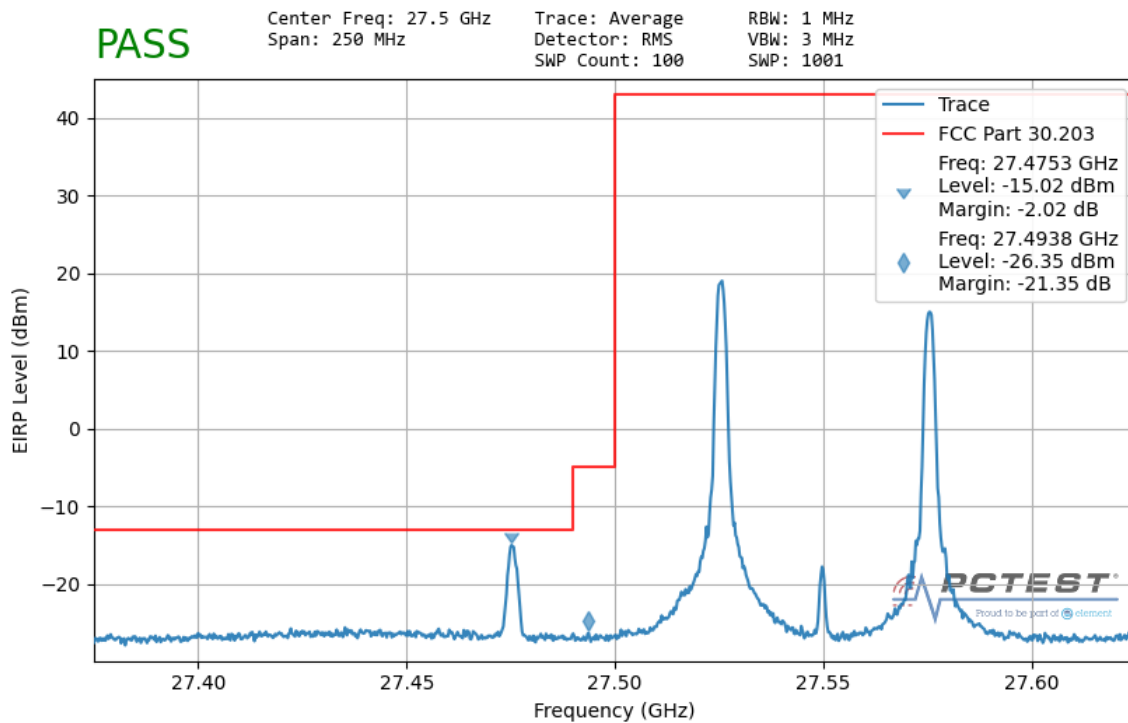
Plot 7-94. Ant 2 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 151 of 186

Band n261 – Worst Case



Plot 7-87. Ant 1 Lower Band Edge- TRP (50MHz-1CC – QPSK 1 RB)



Plot 7-88. Ant 1 Lower Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-06.A3L	Test Dates: 09/15/2021-11/08/2021	EUT Type: Portable Handset		Page 152 of 186