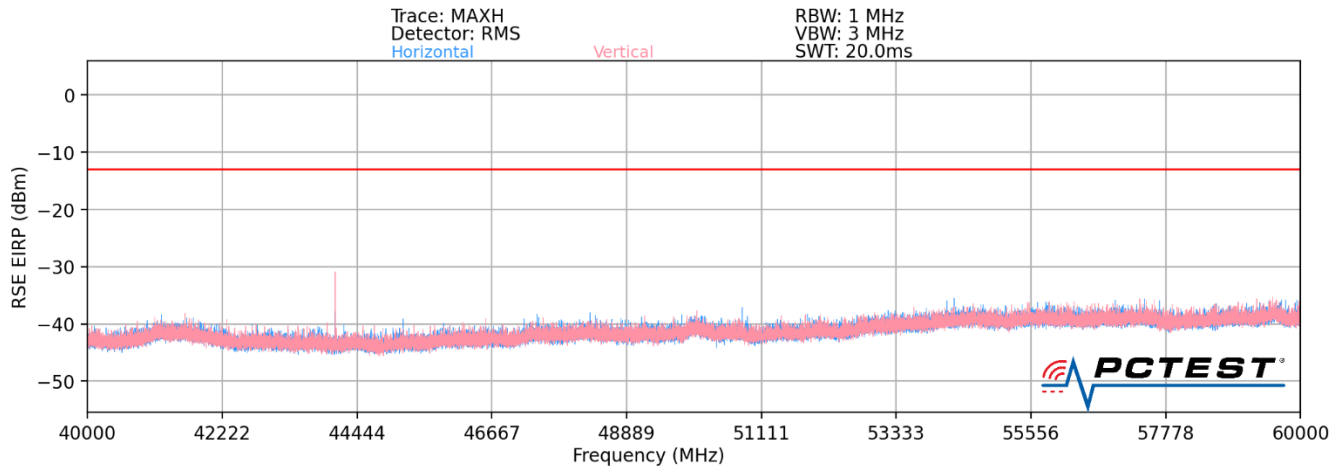


40GHz - 60GHz



Plot 7-58. ANT 4-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – 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.

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]
42931.06	Low	50	V	QPSK	V	269	334	-29.20	-13.00	-16.20
44082.04	Mid	50	V	QPSK	V	269	325	-32.98	-13.00	-19.98
46233.48	High	50	V	QPSK	V	269	314	-36.31	-13.00	-23.31

Table 7-58. ANT 4 - SISO -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, and harmonic mixer conversion losses. Measurements were performed at a distance of 1.5 meter.

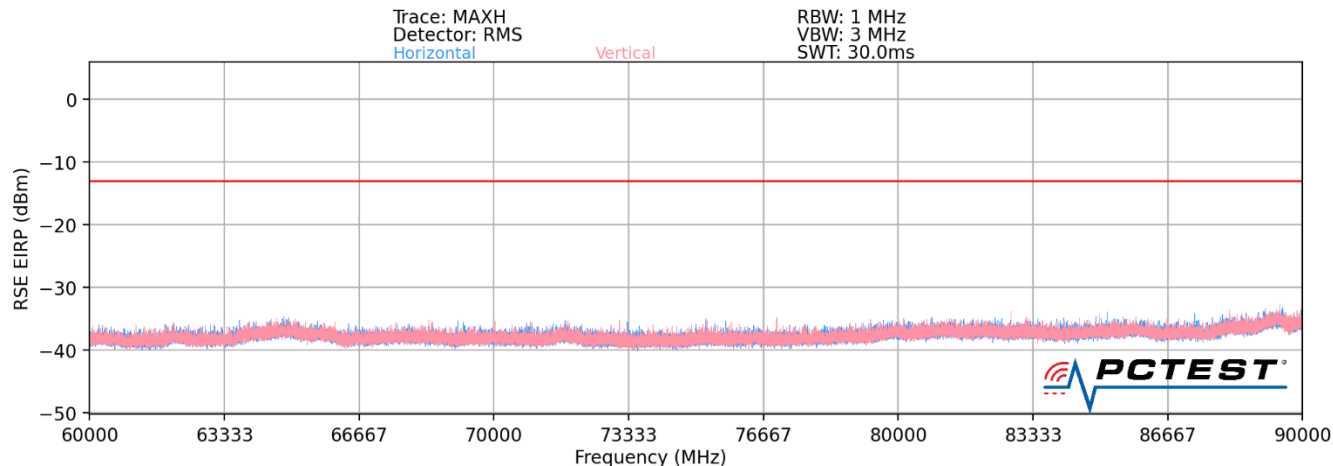
FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 106 of 152

© 2020 PCTEST

V1.0

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

60GHz - 90GHz



Plot 7-59. ANT 4-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – 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]
74101.33	Low	50	V	QPSK	V	-	-	-33.62	-13.00	-20.62
77001.30	Mid	50	V	QPSK	V	325	47	-32.97	-13.00	-19.97
79899.66	High	50	V	QPSK	V	325	51	-32.69	-13.00	-19.69

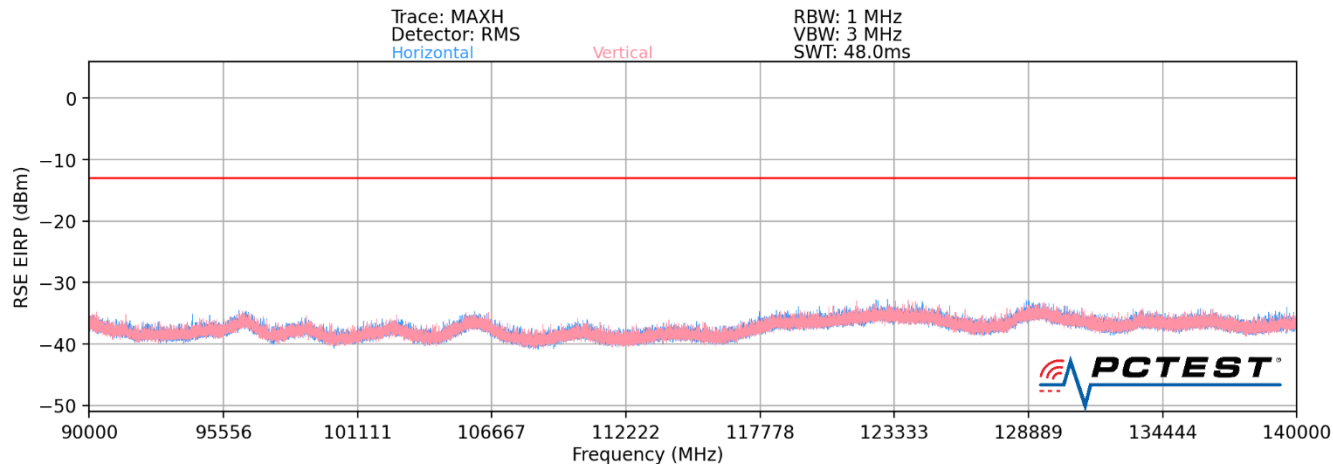
Table 7-59. ANT 4 - SISO -Spurious Emissions Table (60GHz - 90GHz)

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.

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 107 of 152

90GHz - 140GHz



Plot 7-60. ANT 4-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – 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]
111076.62	Low	50	V	QPSK	V	-	-	-42.76	-13.00	-29.76
115501.19	Mid	50	V	QPSK	V	329	287	-35.65	-13.00	-22.65
119926.89	High	50	V	QPSK	V	324	336	-34.90	-13.00	-21.90

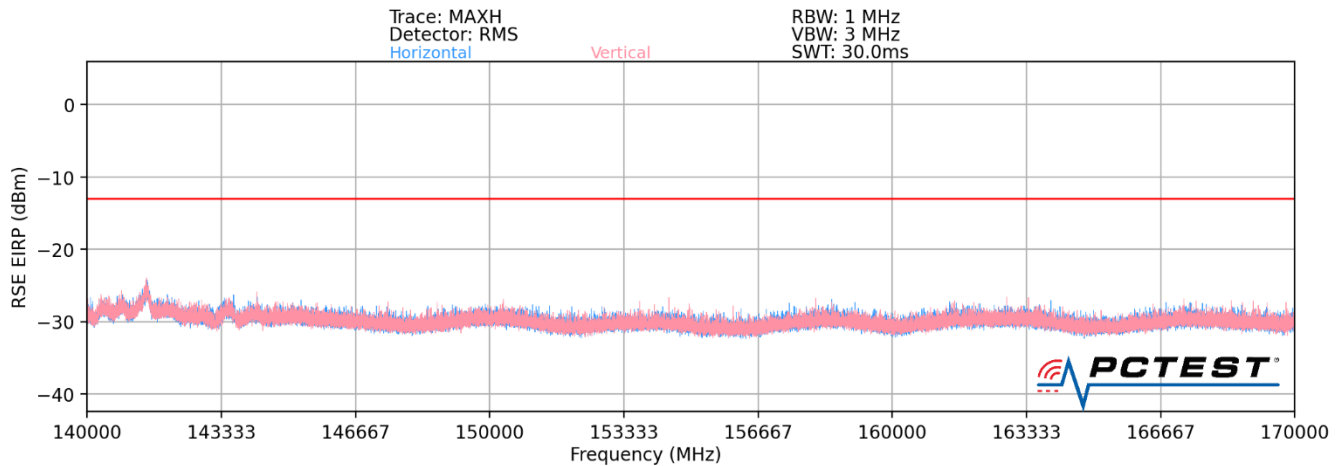
Table 7-60. Ant3 - SISO -Spurious Emissions Table (90GHz - 140GHz)

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.

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 108 of 152

140GHz - 170GHz



Plot 7-61. ANT 4-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – 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]
149102.57	Low	50	V	QPSK	V	-	-	-36.80	-13.00	-23.80
154013.00	Mid	50	V	QPSK	V	-	-	-36.59	-13.00	-23.59
159903.14	High	50	V	QPSK	V	-	-	-37.12	-13.00	-24.12

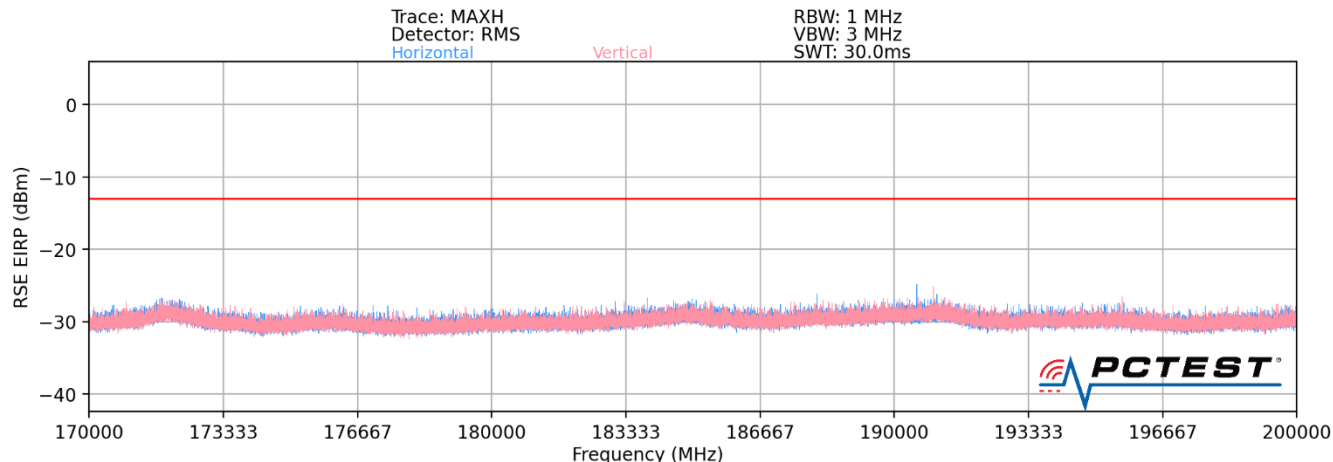
Table 7-61. ANT 4 - SISO -Spurious Emissions Table (140GHz - 170GHz)

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.

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 109 of 152

170GHz - 200GHz



Plot 7-62. ANT 4-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam – 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]
185128.56	Low	50	V	QPSK	V	-	-	-35.80	-13.00	-22.80
192504.77	Mid	50	V	QPSK	V	-	-	-36.25	-13.00	-23.25
199878.69	High	50	V	QPSK	V	-	-	-36.10	-13.00	-23.10

Table 7-62. ANT 4 - SISO -Spurious Emissions Table (170GHz - 200GHz)

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.

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 110 of 152

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 v01r01 Section 4.4.2.5

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.
- 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.

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 111 of 152

Sample Analyzer Offset Calculation (at 27.5GHz)

Measurement Antenna Factor = 40.70dB/m

Cable Loss = 8.82dB

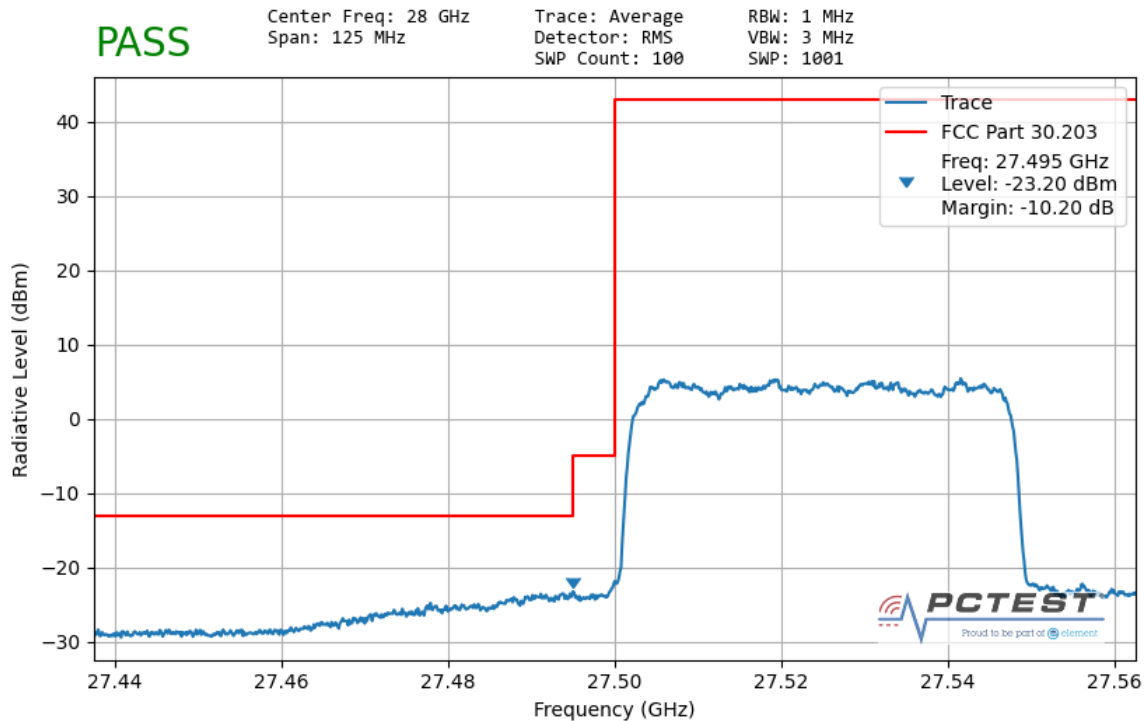
$$\begin{aligned}
 \text{Analyzer Offset (dB)} &= \text{AF (dB/m)} + \text{CL (dB)} + 107 + 20\log_{10}(D) - 104.8\text{dB, where } D = 1\text{m} \\
 &= 40.70\text{dB/m} + 8.82\text{dB} + 107 + 20\log_{10}(1\text{m}) - 104.8\text{dB} \\
 &= 51.72\text{dB}
 \end{aligned}$$

Note:

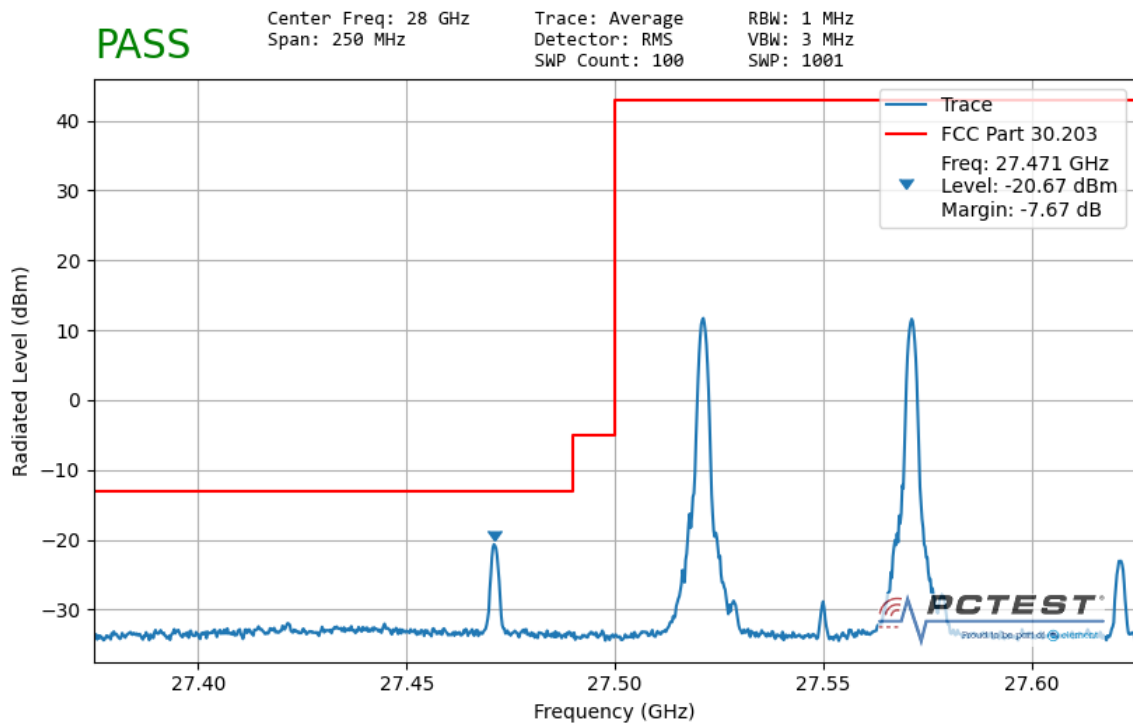
While it is allowed to use the antenna gain subtraction method in the band edge as it is defined in Part 30, the device meets the requirements via early exit condition as specified in KDB publication 842590 D01.

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 112 of 152

Band n261 – Worst-Case

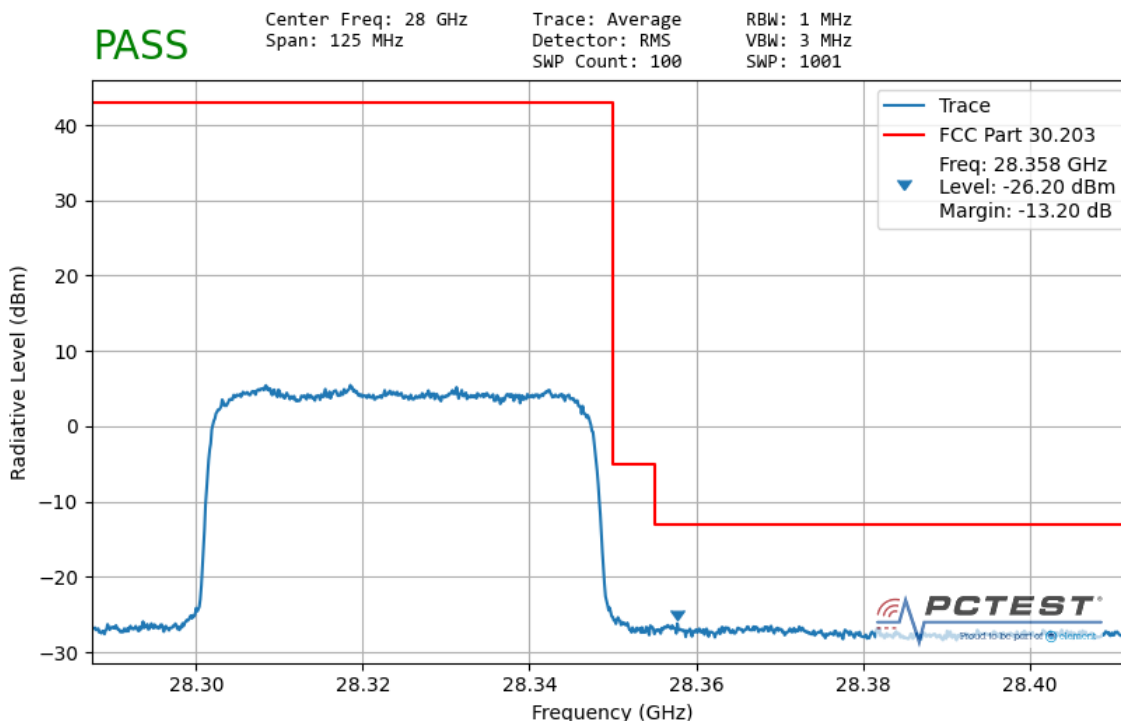


Plot 7-63. Ant 1 Lower Band Edge (50MHz-1CC – QPSK Full RB)

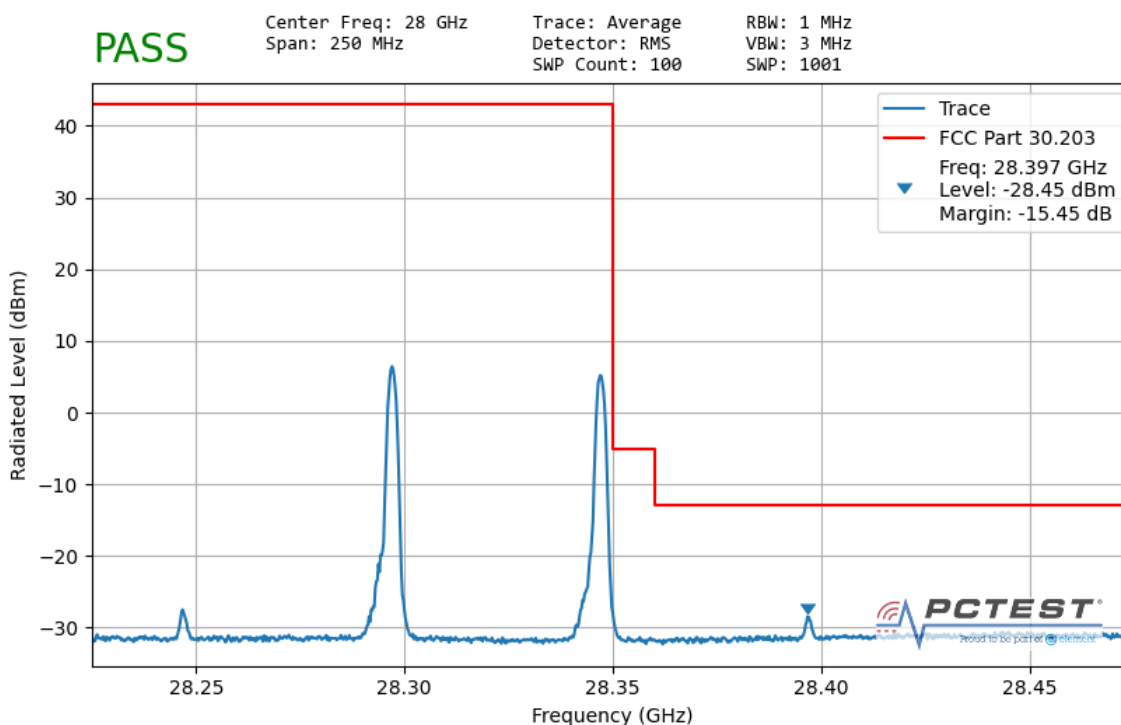


Plot 7-64. Ant 1 Lower Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 113 of 152

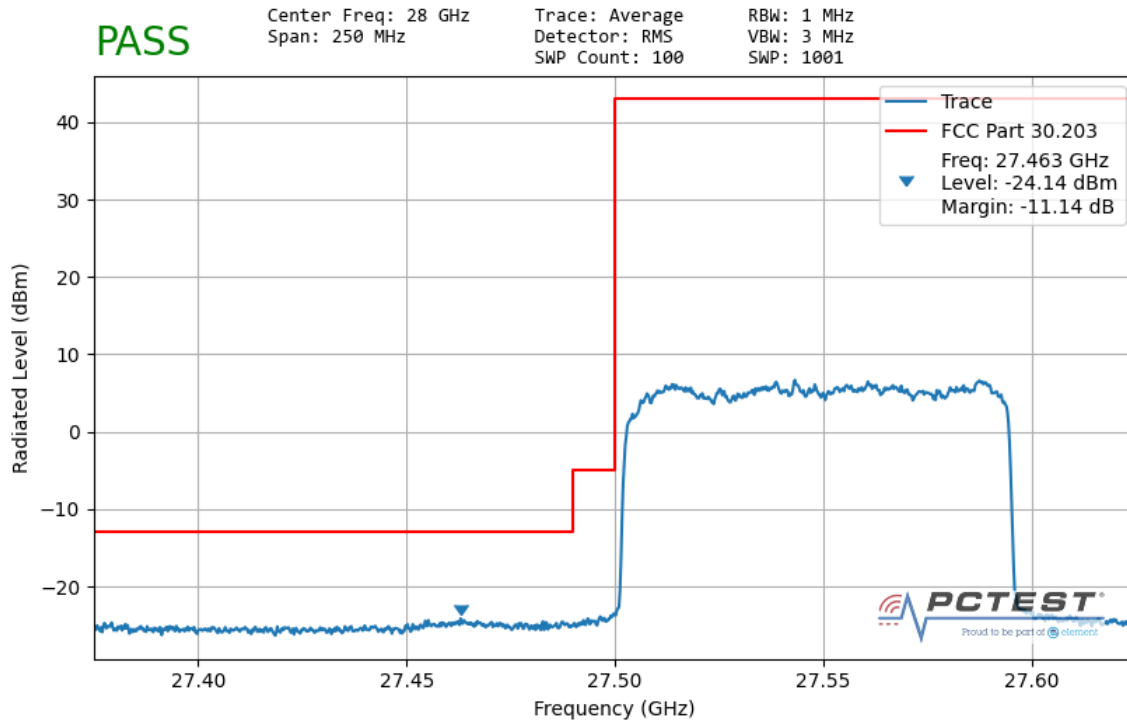


Plot 7-65. Ant 1 Upper Band Edge (50MHz-1CC – QPSK Full RB)

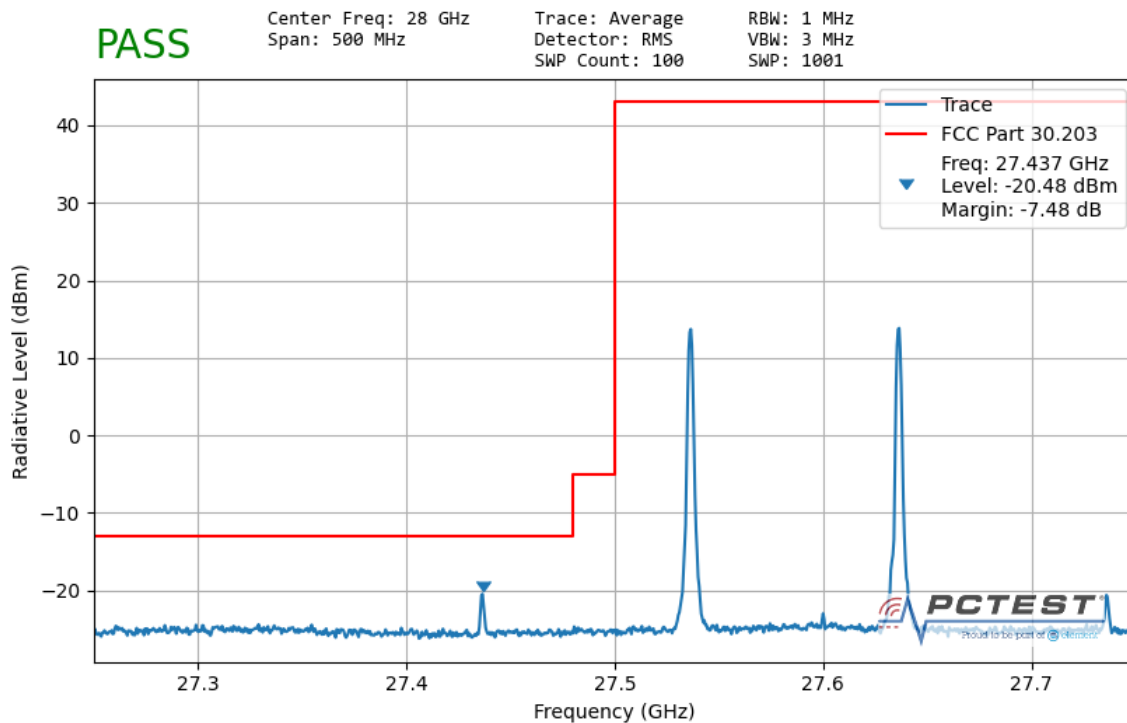


Plot 7-66. Ant 1 Upper Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 114 of 152

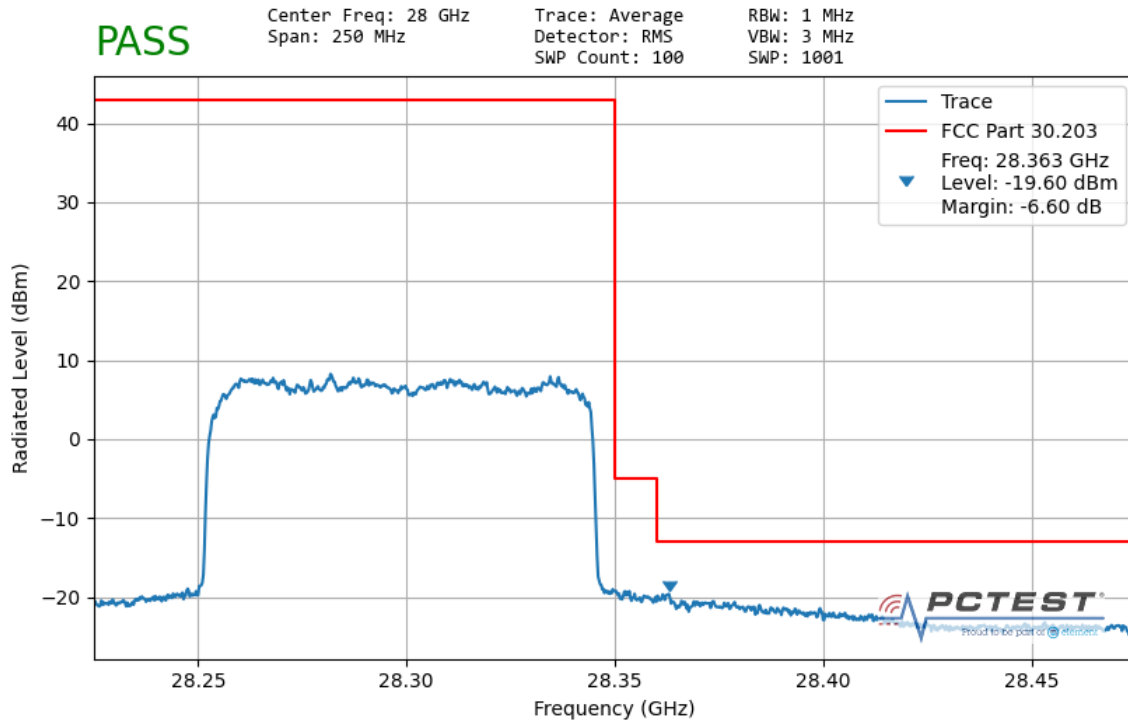


Plot 7-67. Ant 1 Lower Band Edge (100MHz-1CC – QPSK Full RB)

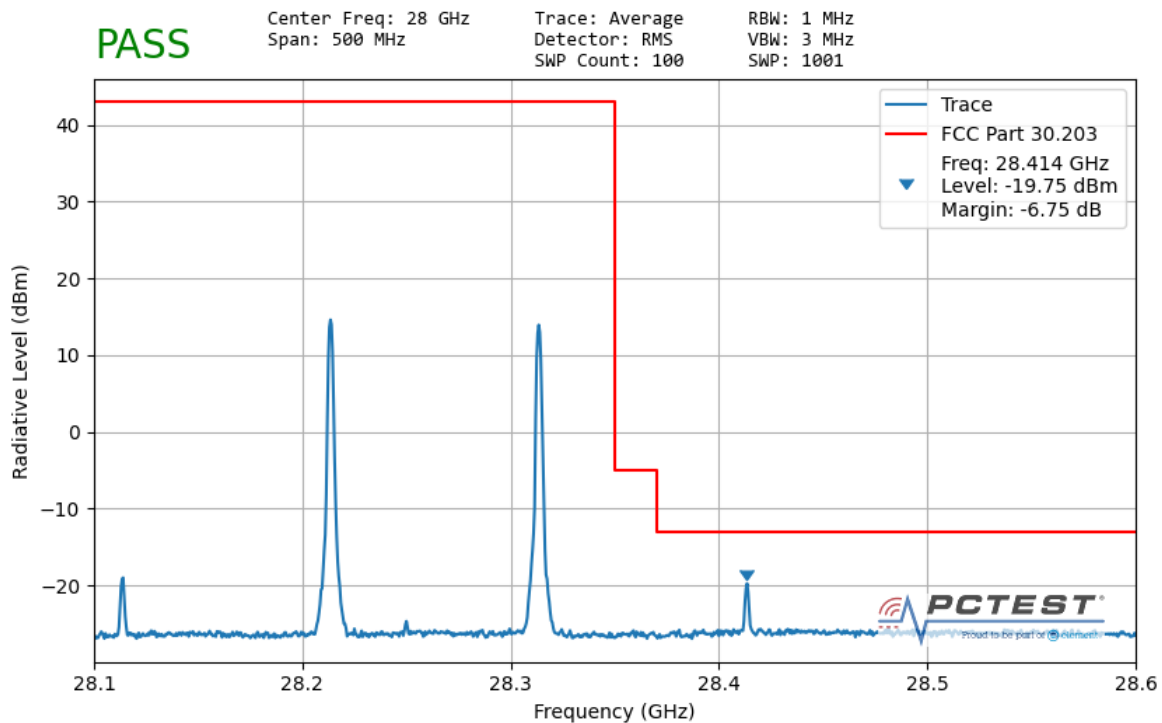


Plot 7-68. Ant 1 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 115 of 152

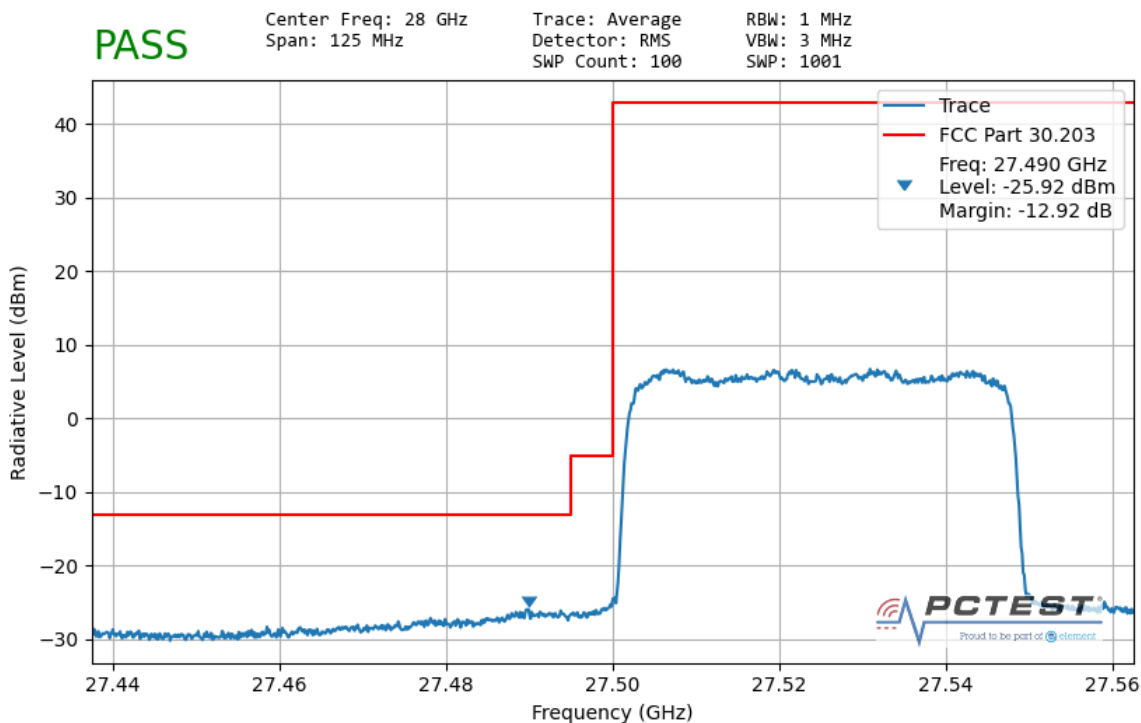


Plot 7-69. Ant 1 Upper Band Edge (100MHz-1CC – QPSK Full RB)

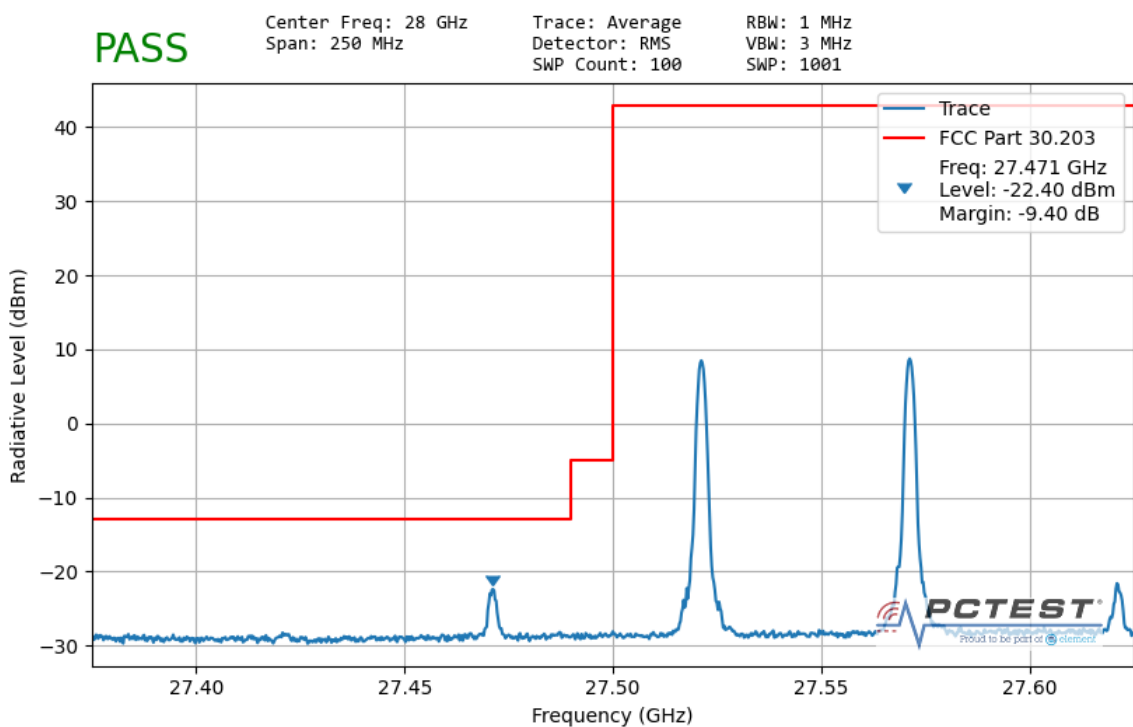


Plot 7-70. Ant 1 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 116 of 152

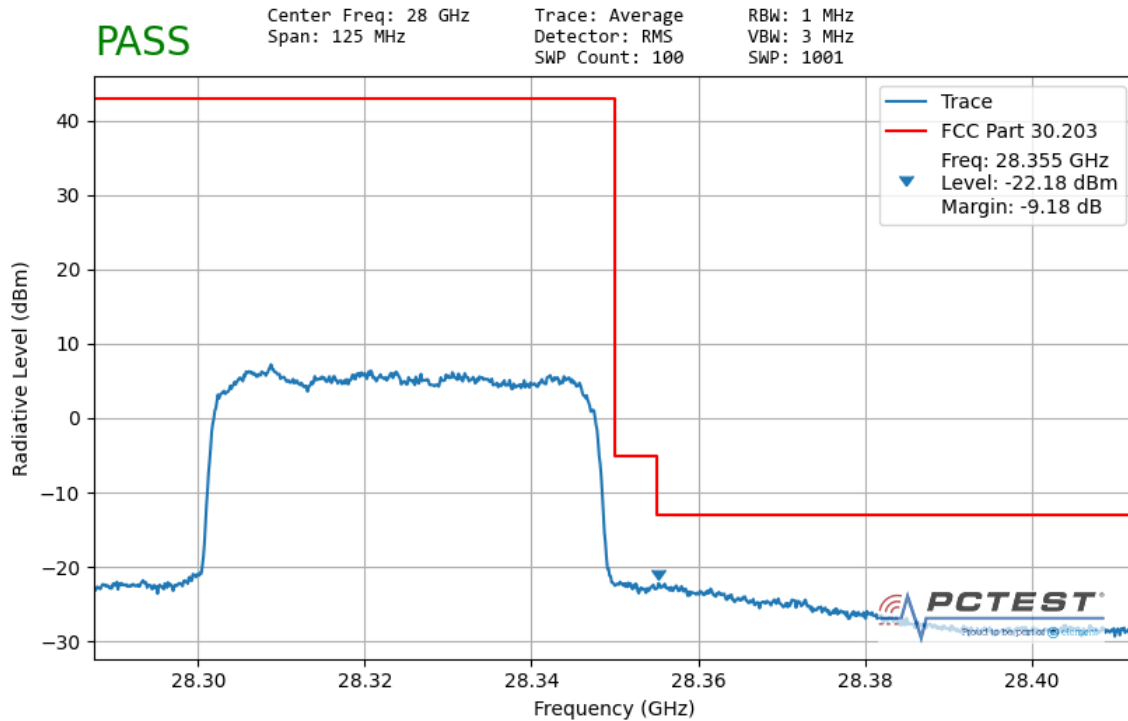


Plot 7-71. Ant 2 Lower Band Edge (50MHz-1CC – QPSK Full RB)

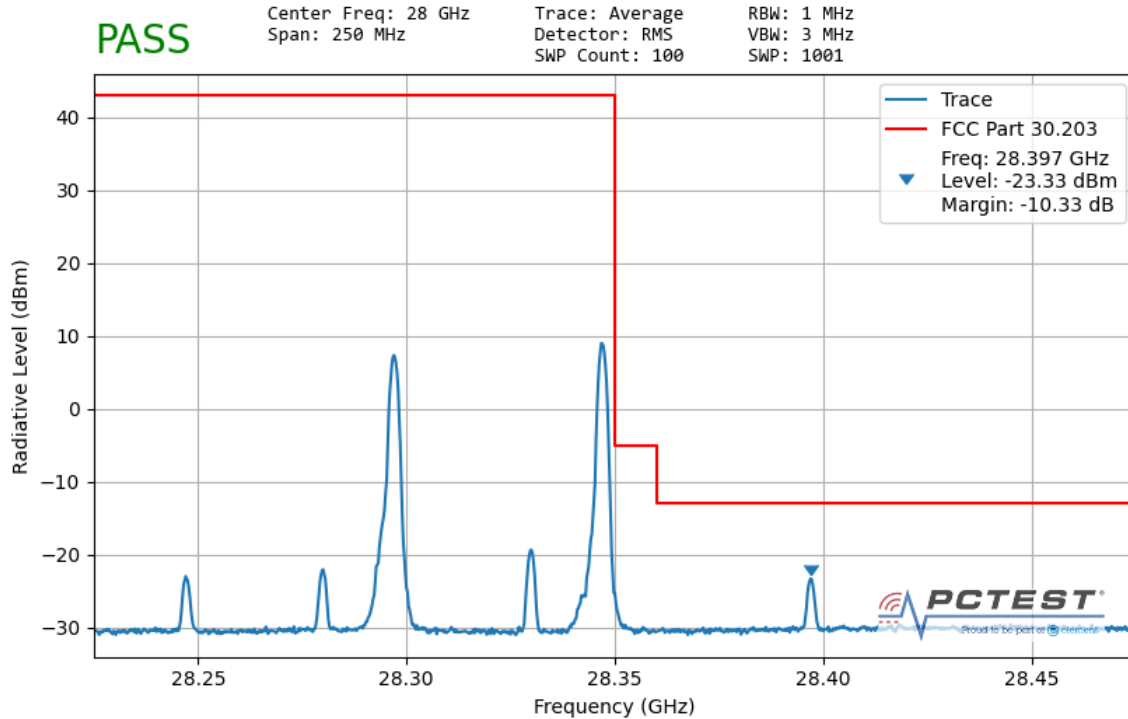


Plot 7-72. Ant 2 Lower Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 117 of 152

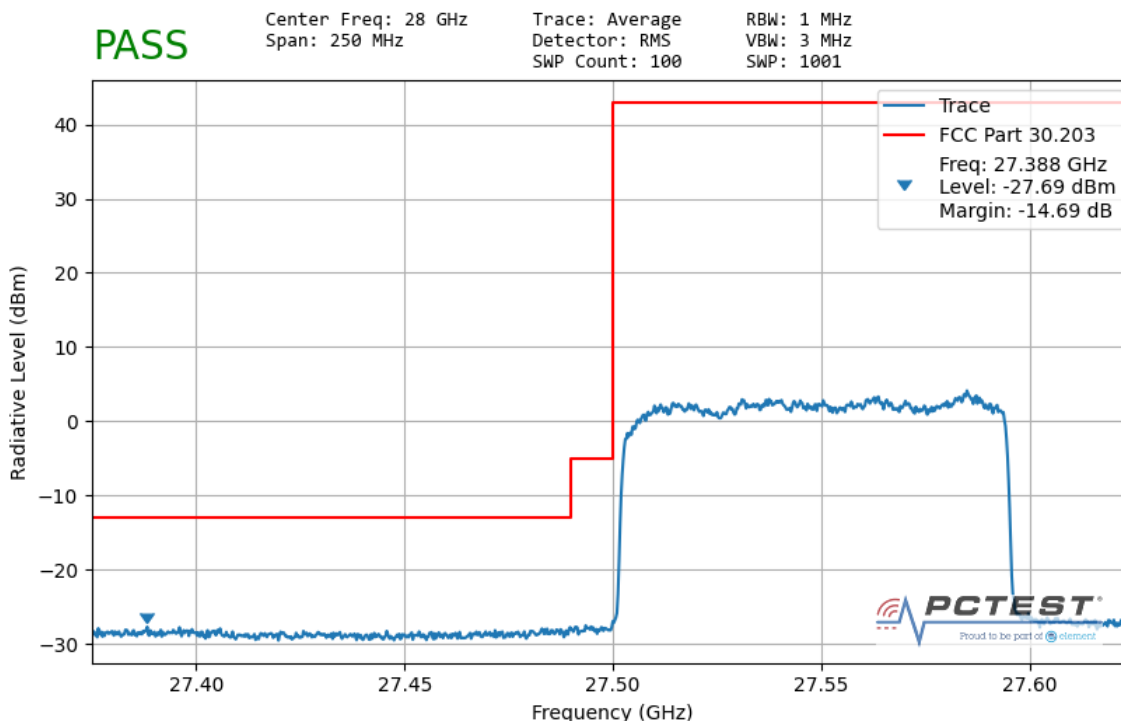


Plot 7-73. Ant 2 Upper Band Edge (50MHz-1CC – QPSK Full RB)

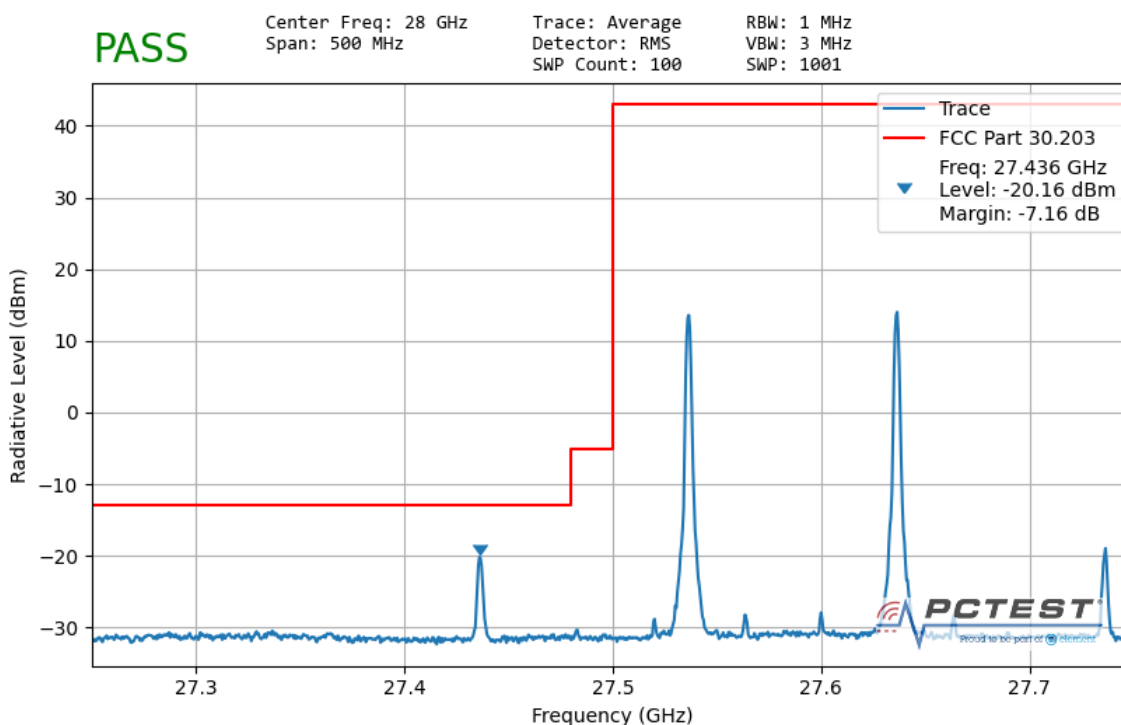


Plot 7-74. Ant 2 Upper Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 118 of 152

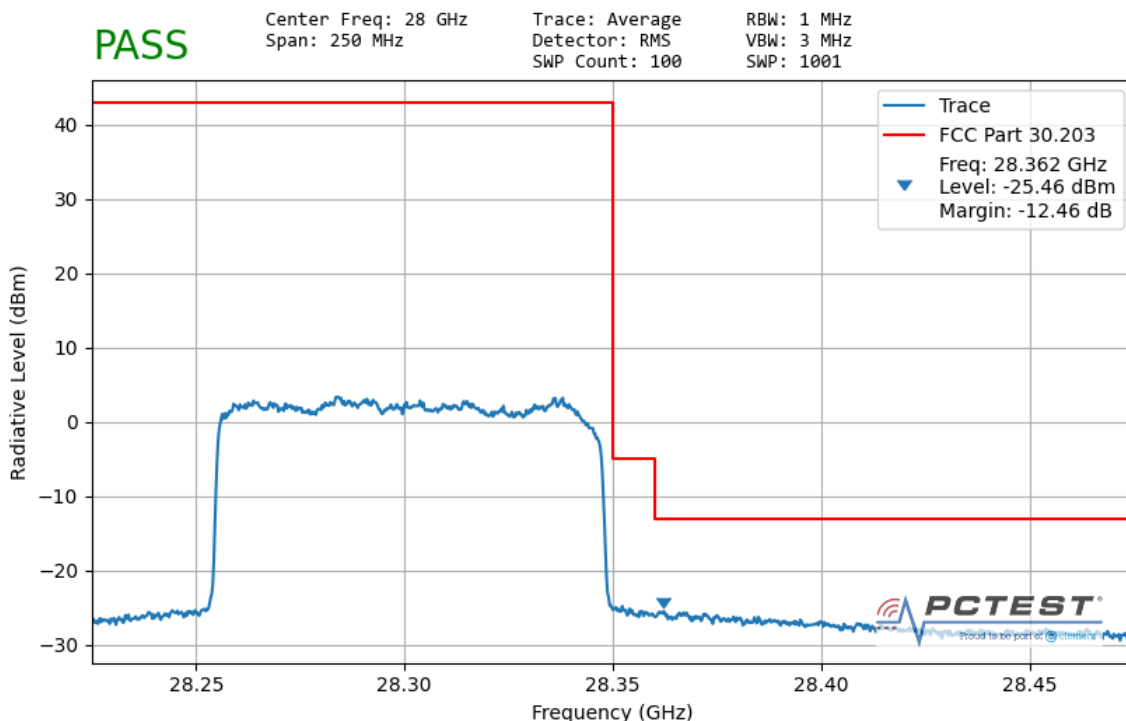


Plot 7-75. Ant 2 Lower Band Edge (100MHz-1CC – QPSK Full RB)

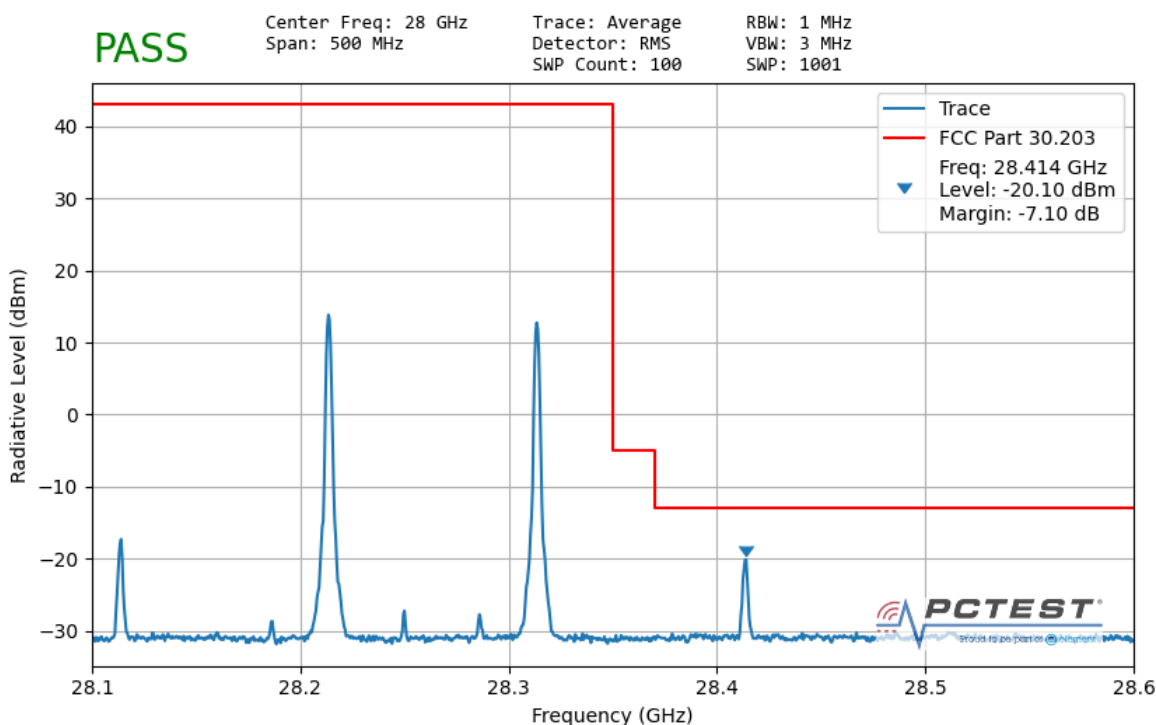


Plot 7-76. Ant 2 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 119 of 152

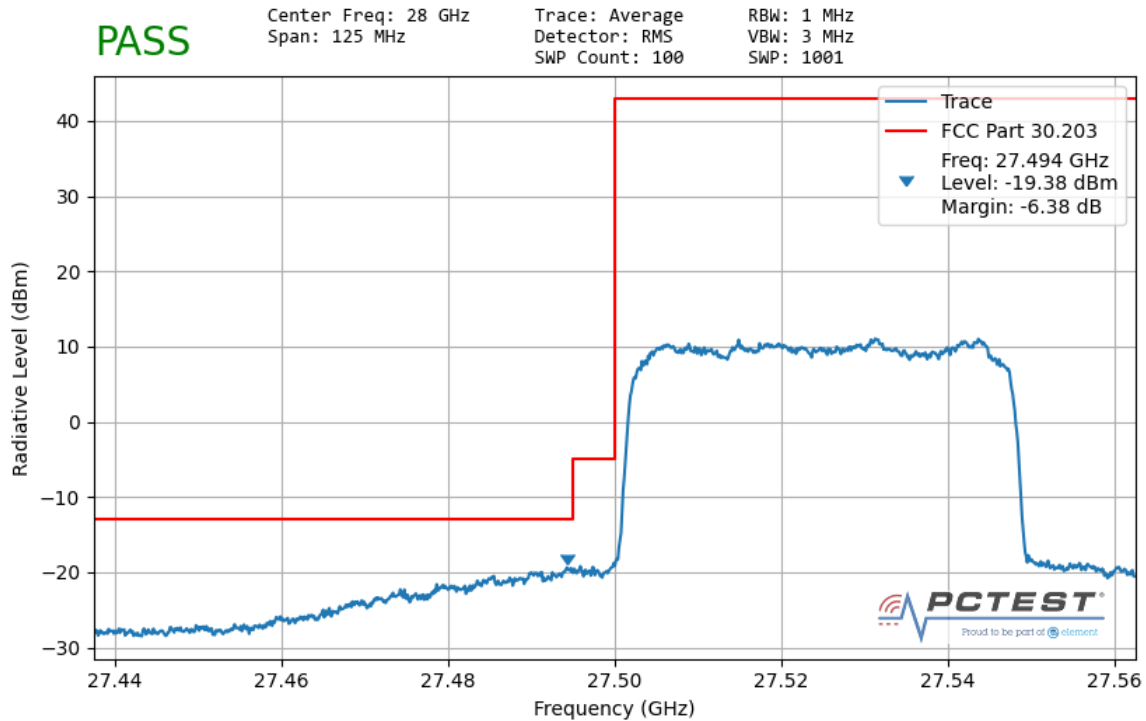


Plot 7-77. Ant 2 Upper Band Edge (100MHz-1CC – QPSK Full RB)

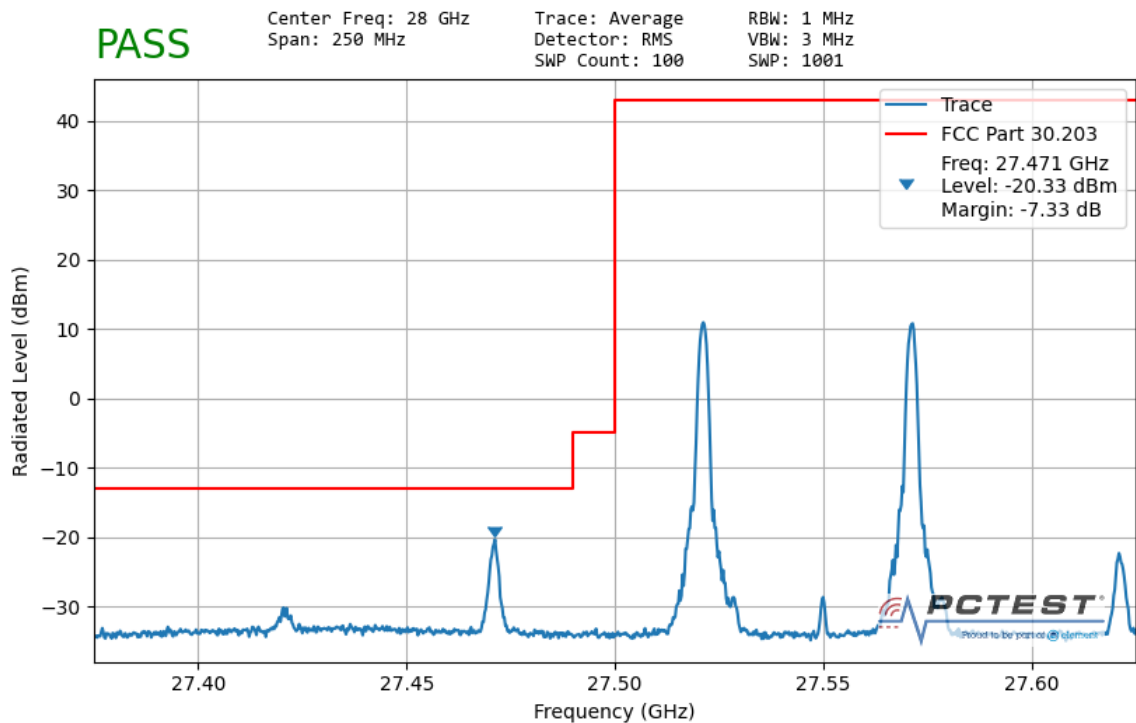


Plot 7-78. Ant 2 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 120 of 152

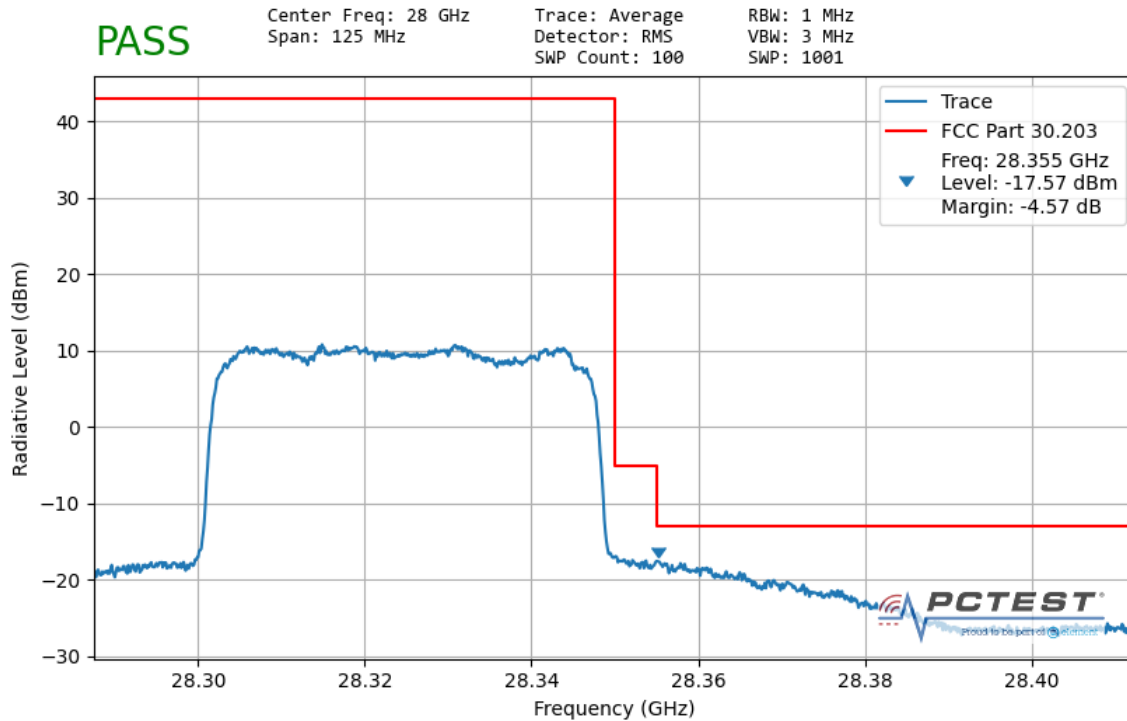


Plot 7-79. Ant 3 Lower Band Edge (50MHz-1CC – QPSK Full RB)

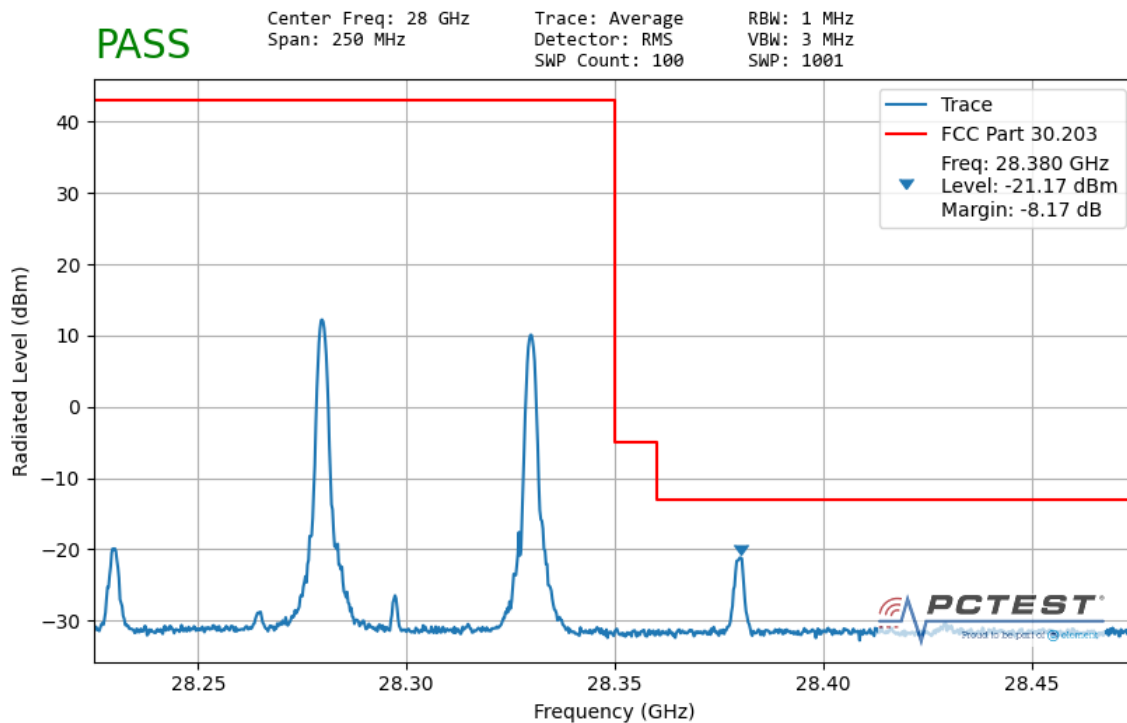


Plot 7-80. Ant 3 Lower Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 121 of 152

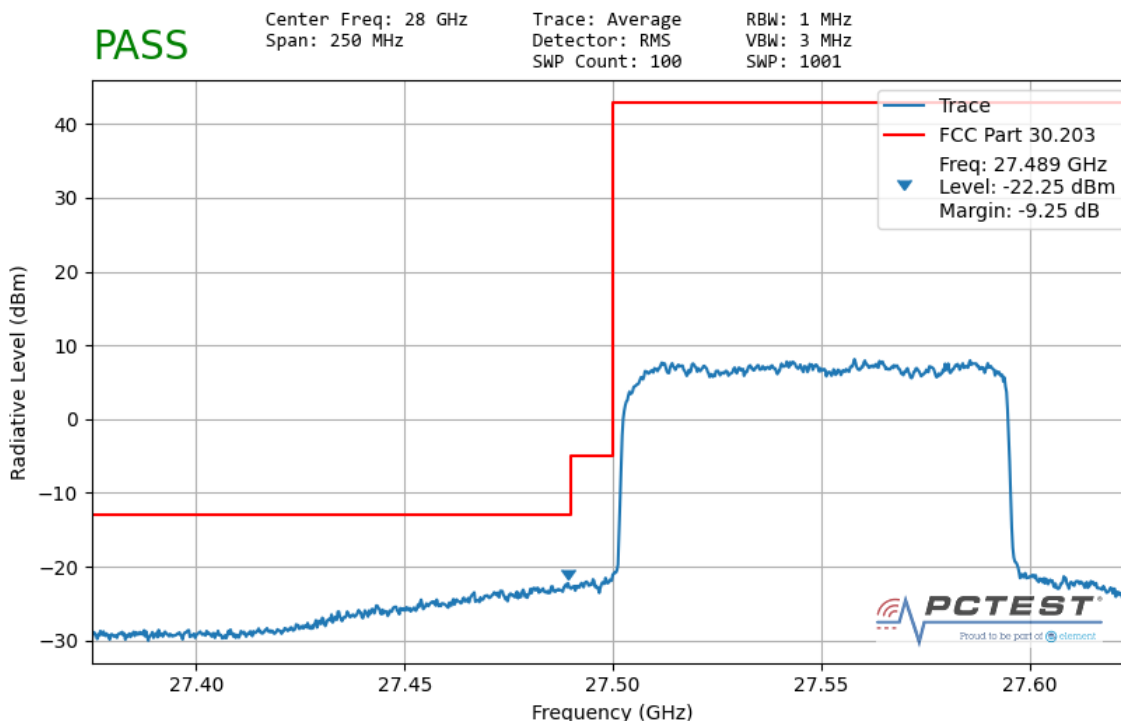


Plot 7-81. Ant 3 Upper Band Edge (50MHz-1CC – QPSK Full RB)

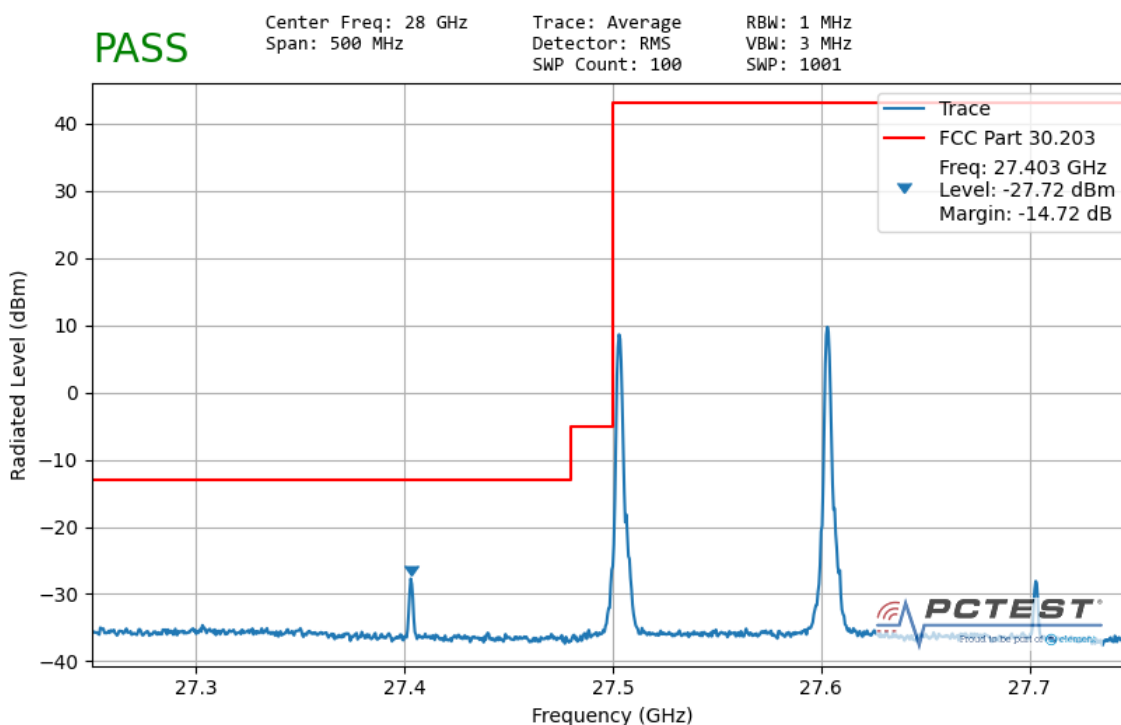


Plot 7-82. Ant 3 Upper Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 122 of 152

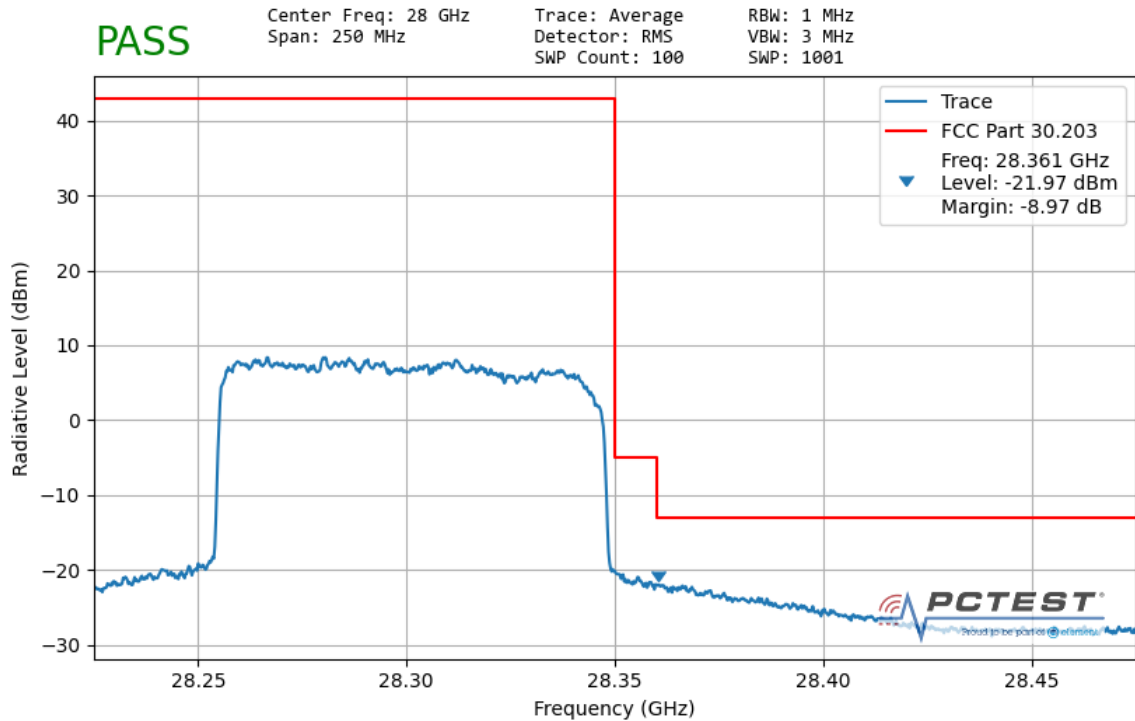


Plot 7-83. Ant 3 Lower Band Edge (100MHz-1CC – QPSK Full RB)

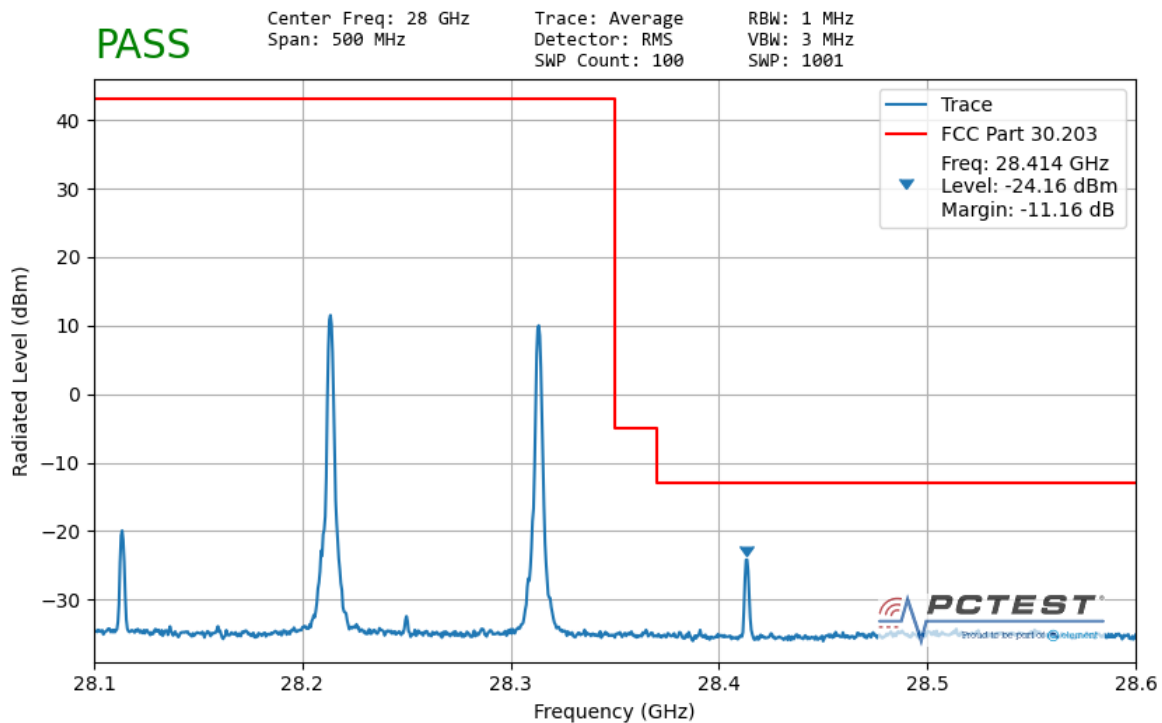


Plot 7-84. Ant 3 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 123 of 152

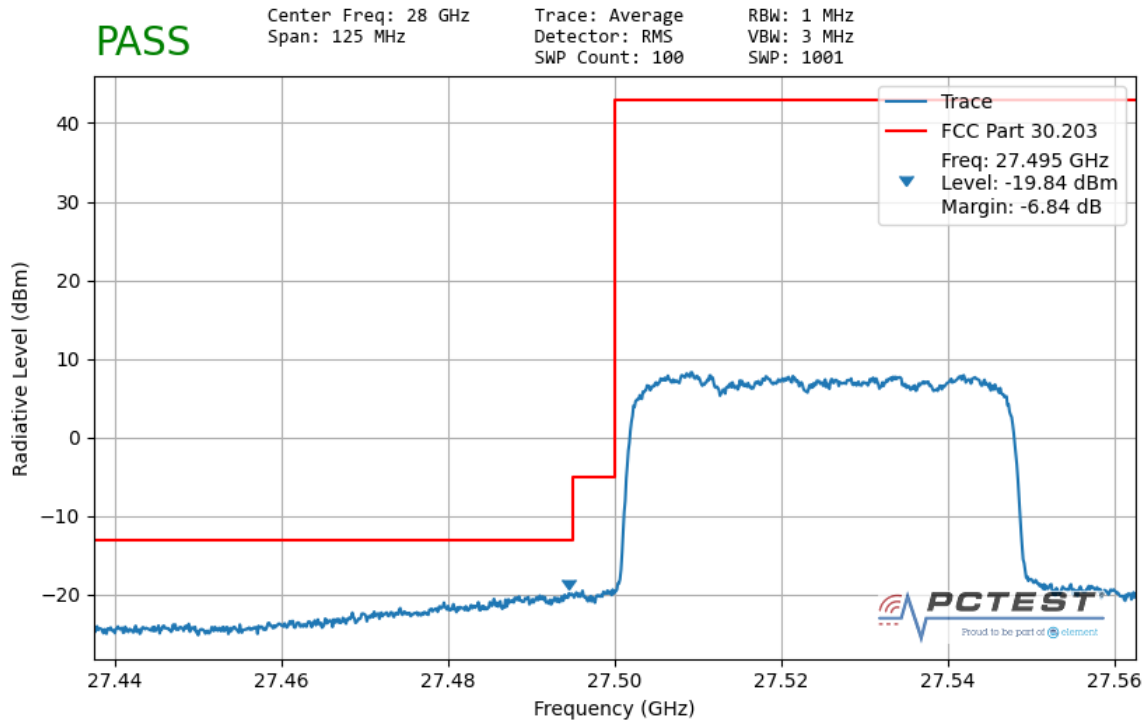


Plot 7-85. Ant 3 Upper Band Edge (100MHz-1CC – QPSK Full RB)

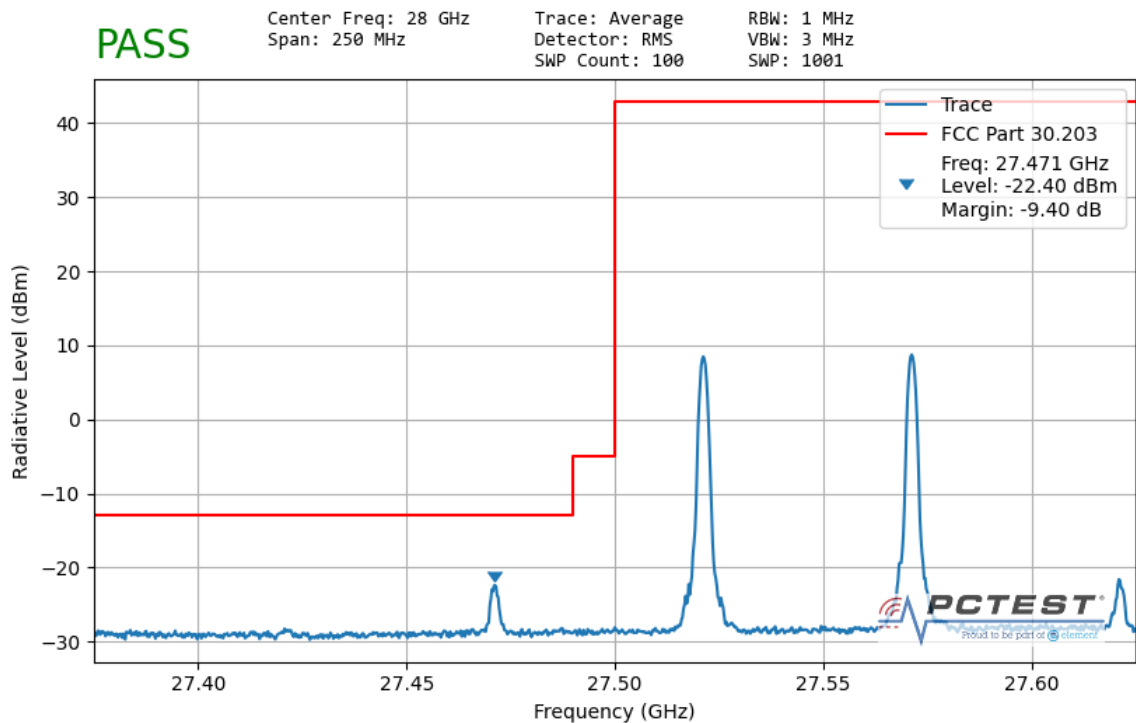


Plot 7-86. Ant 3 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 124 of 152

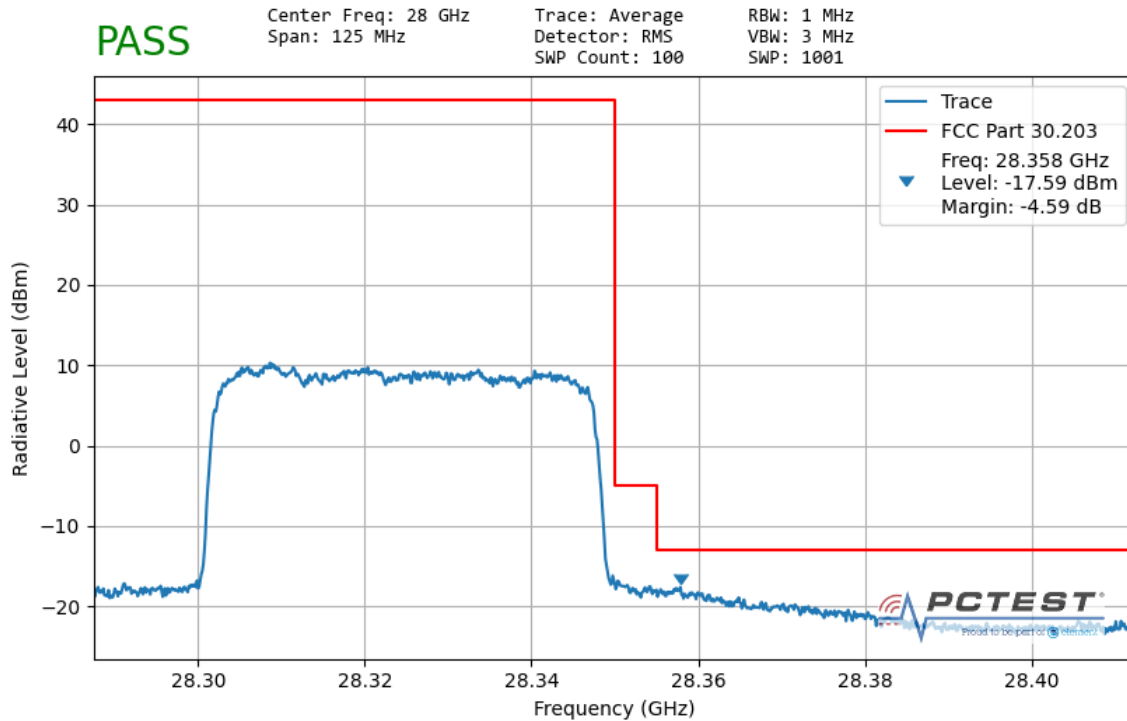


Plot 7-87. Ant 4 Lower Band Edge (50MHz-1CC – QPSK Full RB)

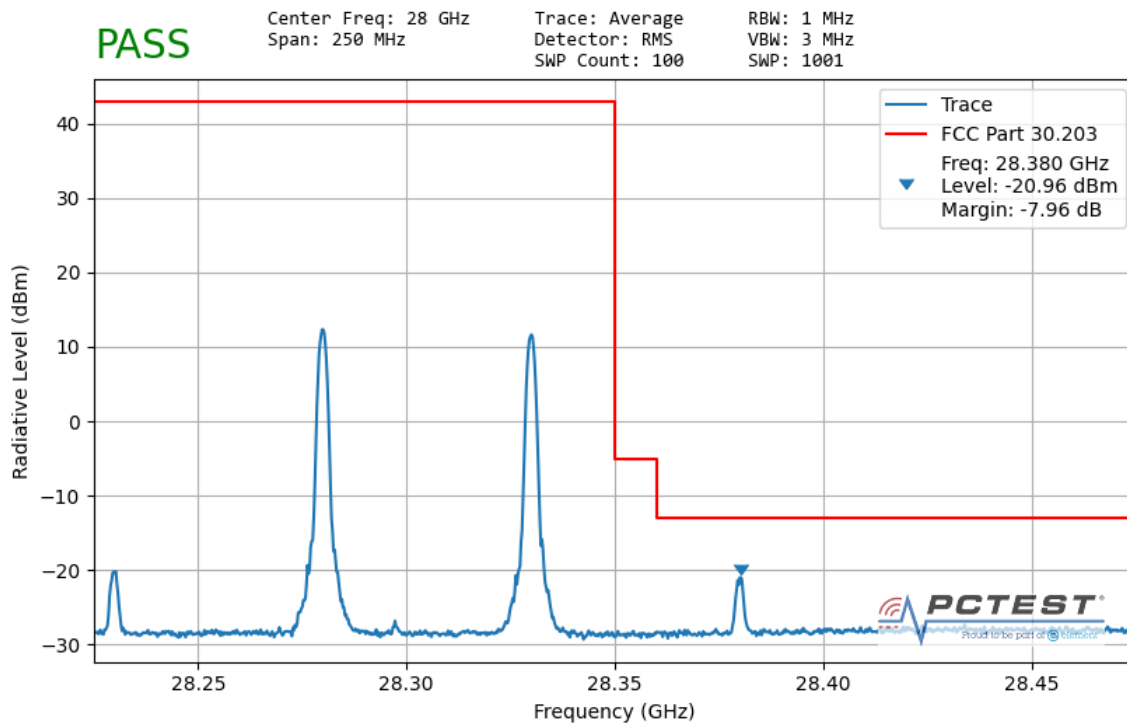


Plot 7-88. Ant 4 Lower Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 125 of 152

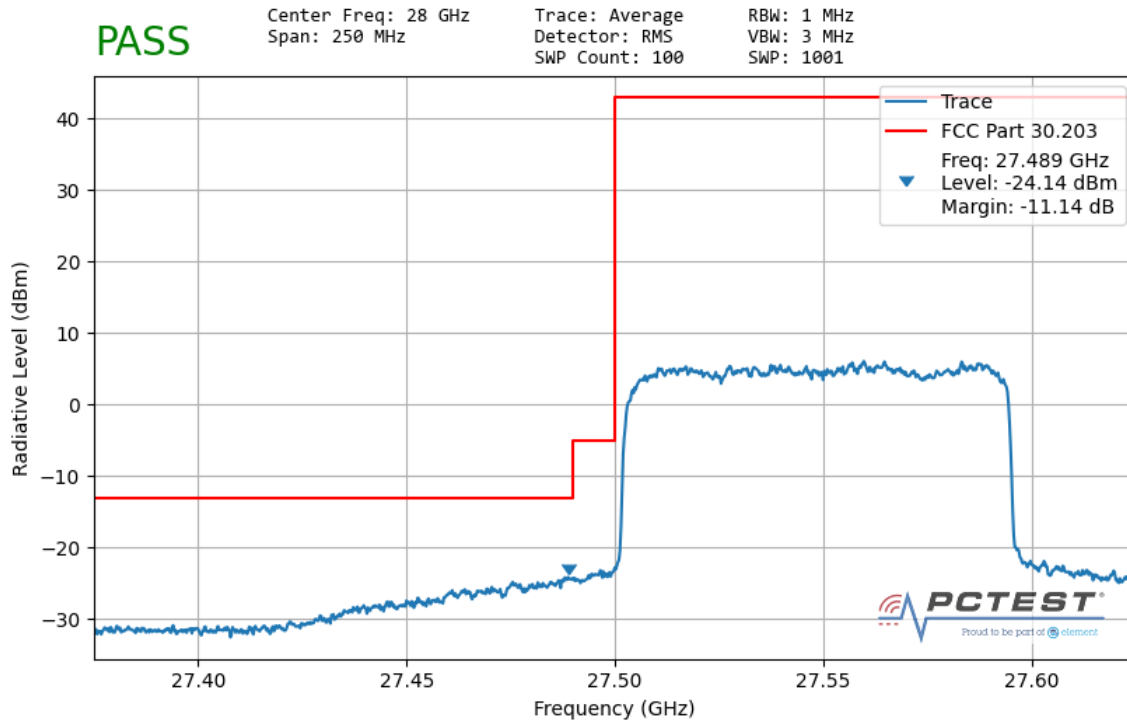


Plot 7-89. Ant 4 Upper Band Edge (50MHz-1CC – QPSK Full RB)

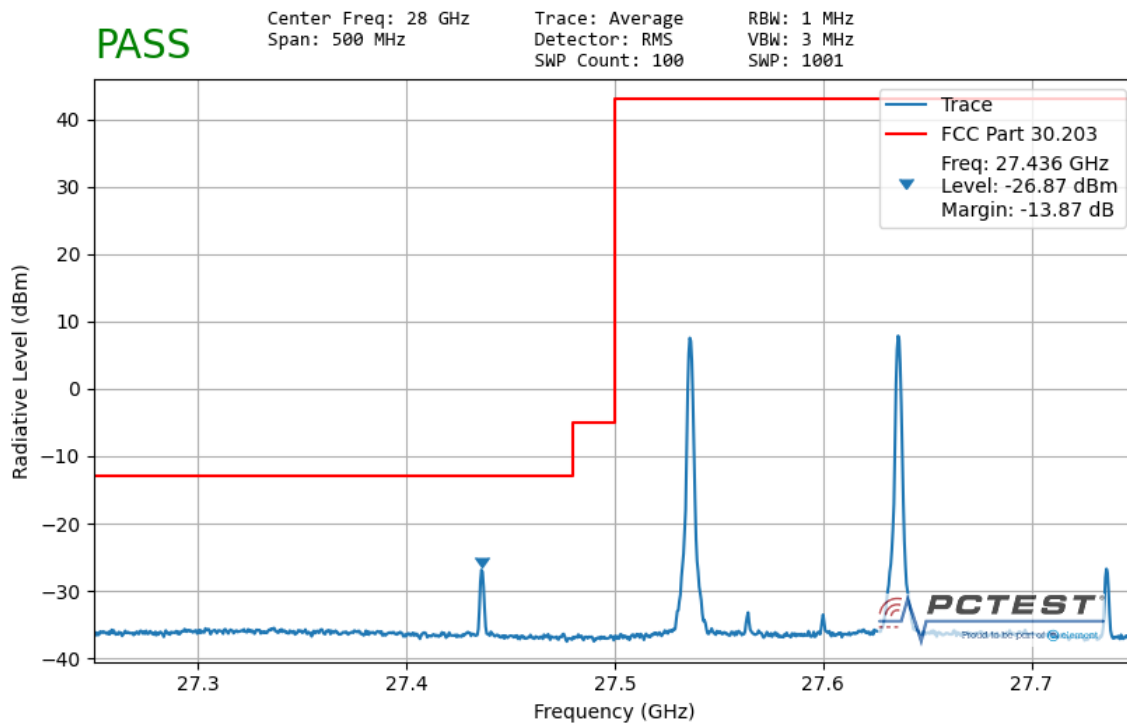


Plot 7-90. Ant 4 Upper Band Edge (50MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 126 of 152

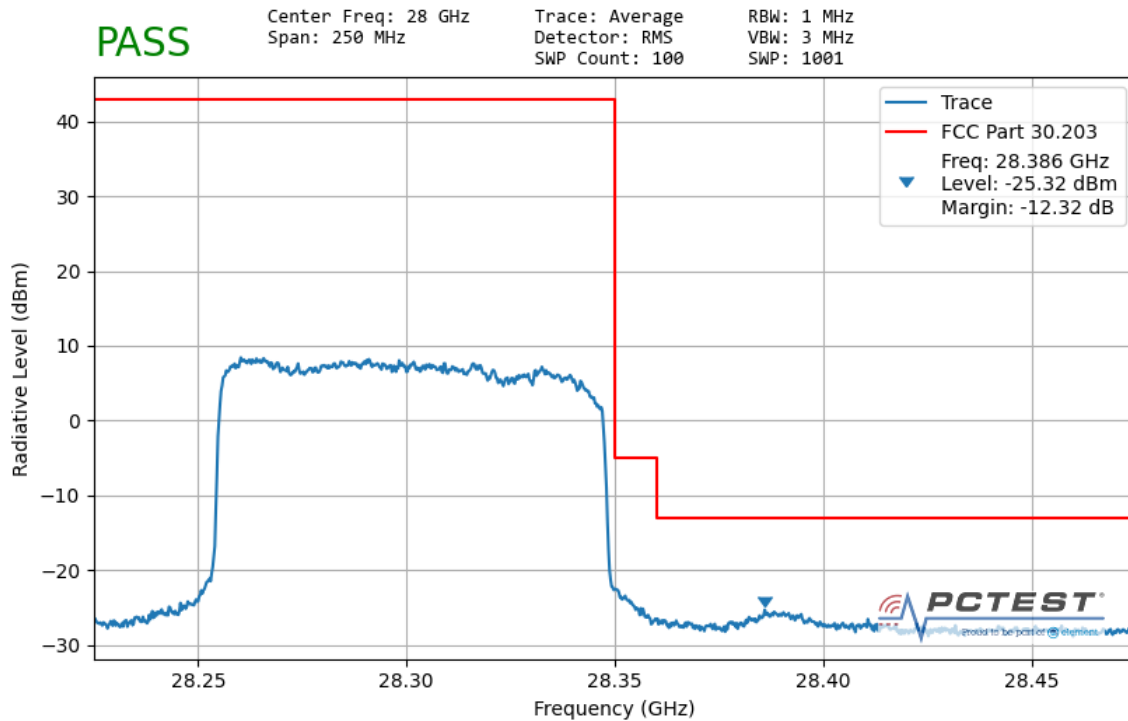


Plot 7-91. Ant 4 Lower Band Edge (100MHz-1CC – QPSK Full RB)

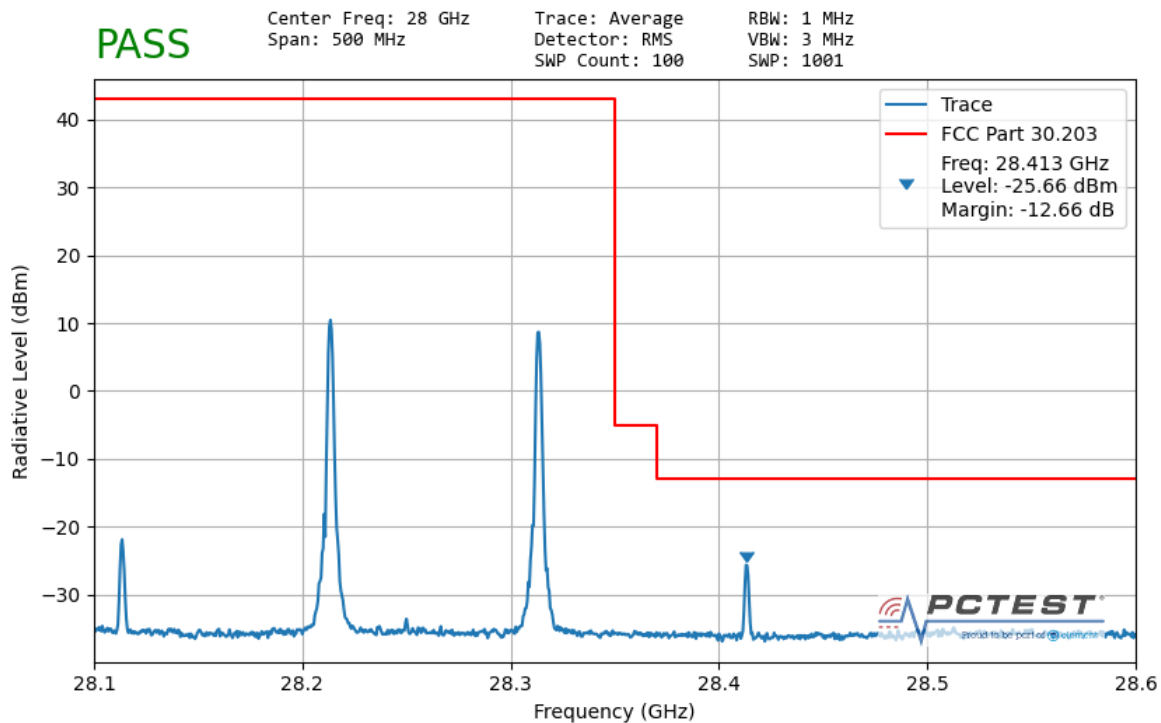


Plot 7-92. Ant 4 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 127 of 152



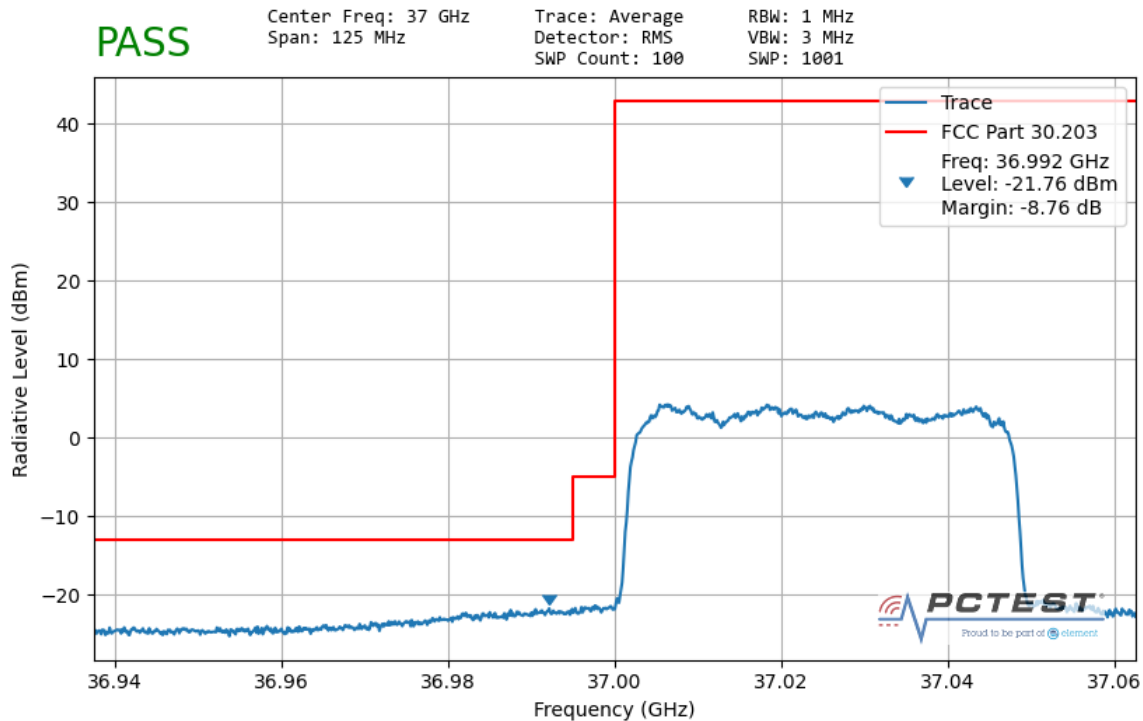
Plot 7-93. Ant 4 Upper Band Edge (100MHz-1CC – QPSK Full RB)



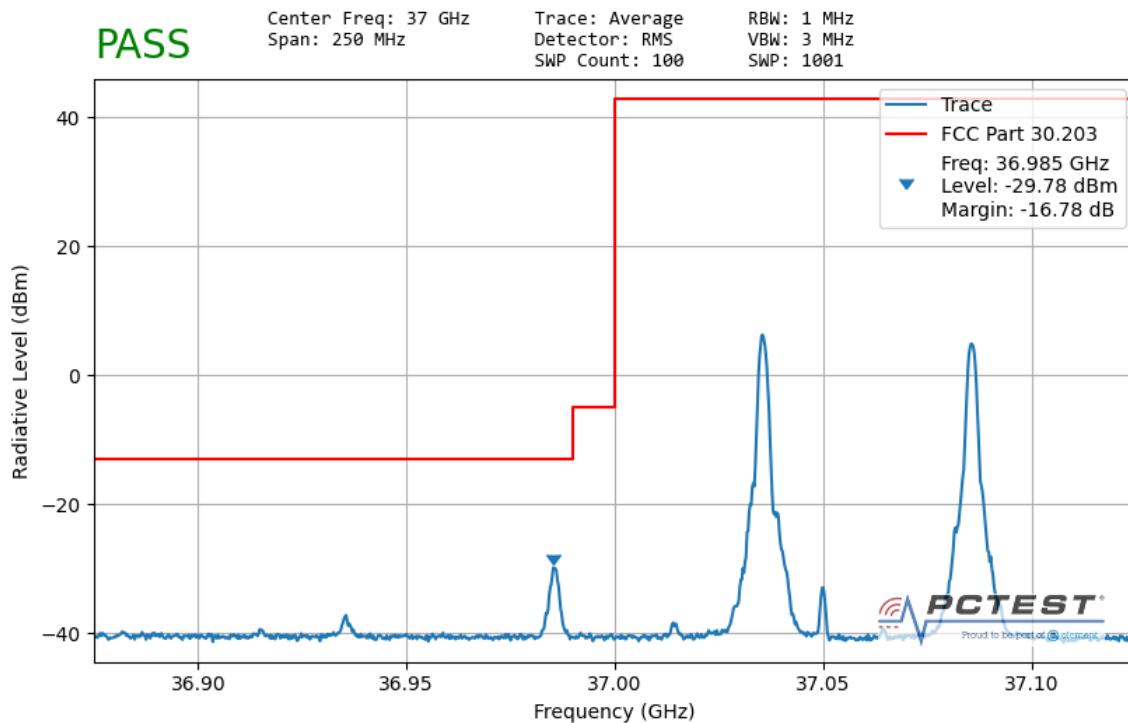
Plot 7-94. Ant 4 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 128 of 152

Band n260 – Worst Case

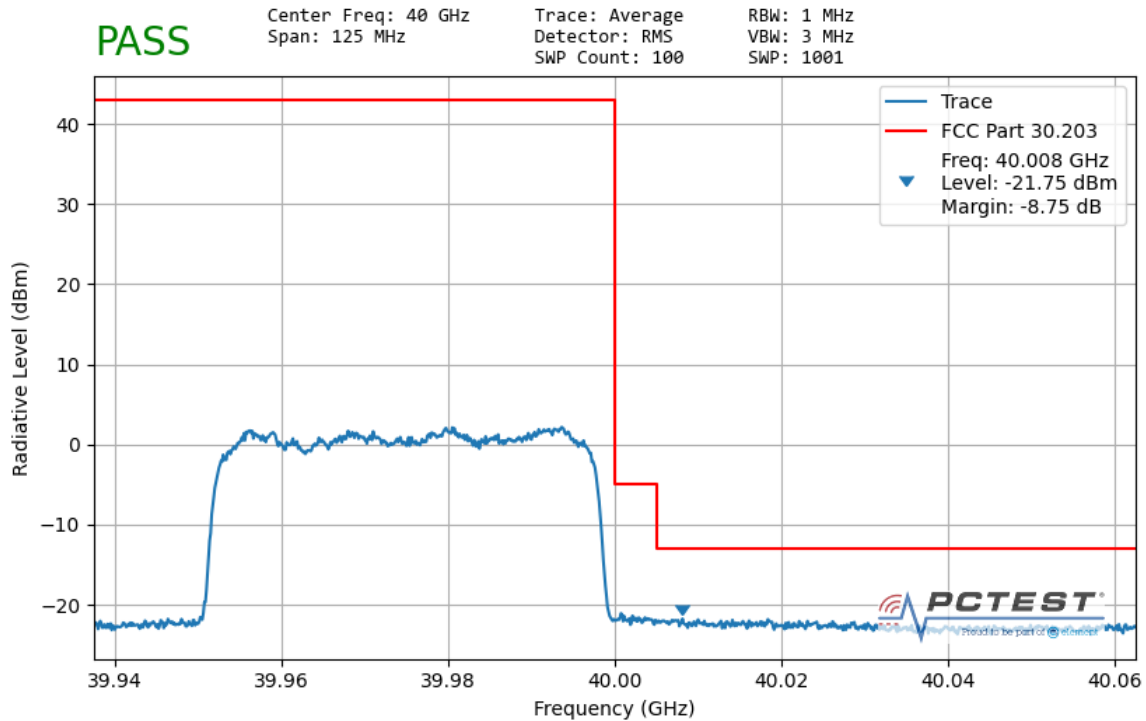


Plot 7-95. Ant 1 Lower Band Edge (50MHz-1CC – QPSK Full RB)

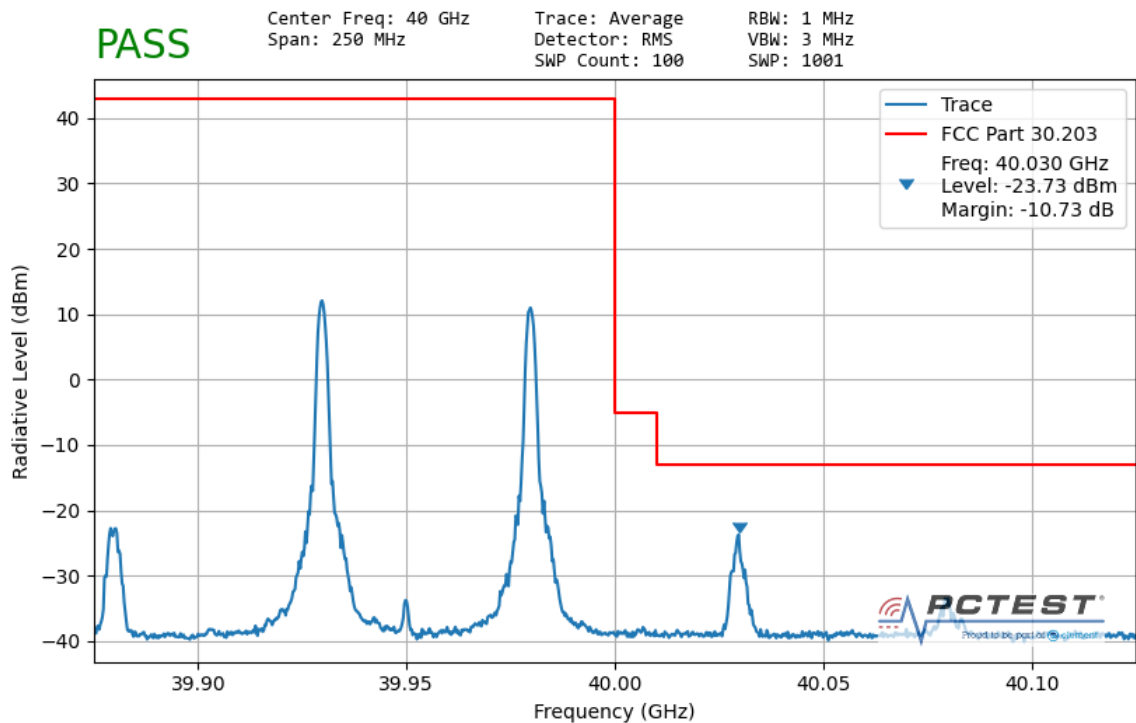


Plot 7-96. Ant 1 Lower Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 129 of 152

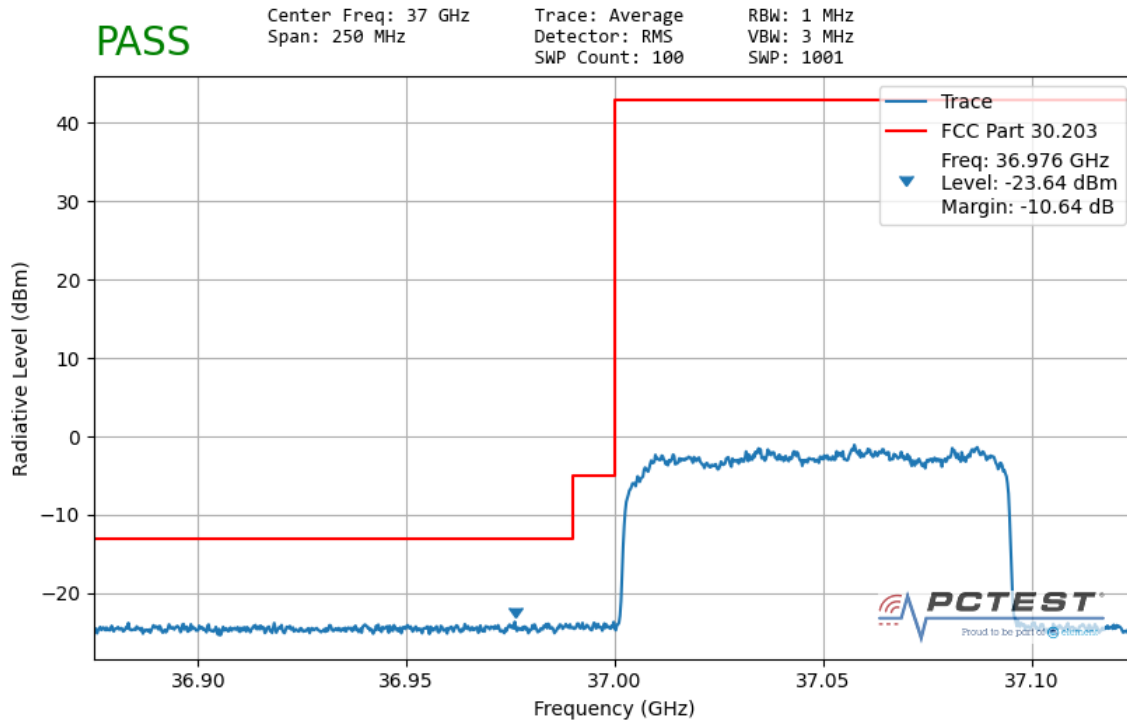


Plot 7-97. Ant 1 Upper Band Edge (50MHz-1CC – QPSK Full RB)

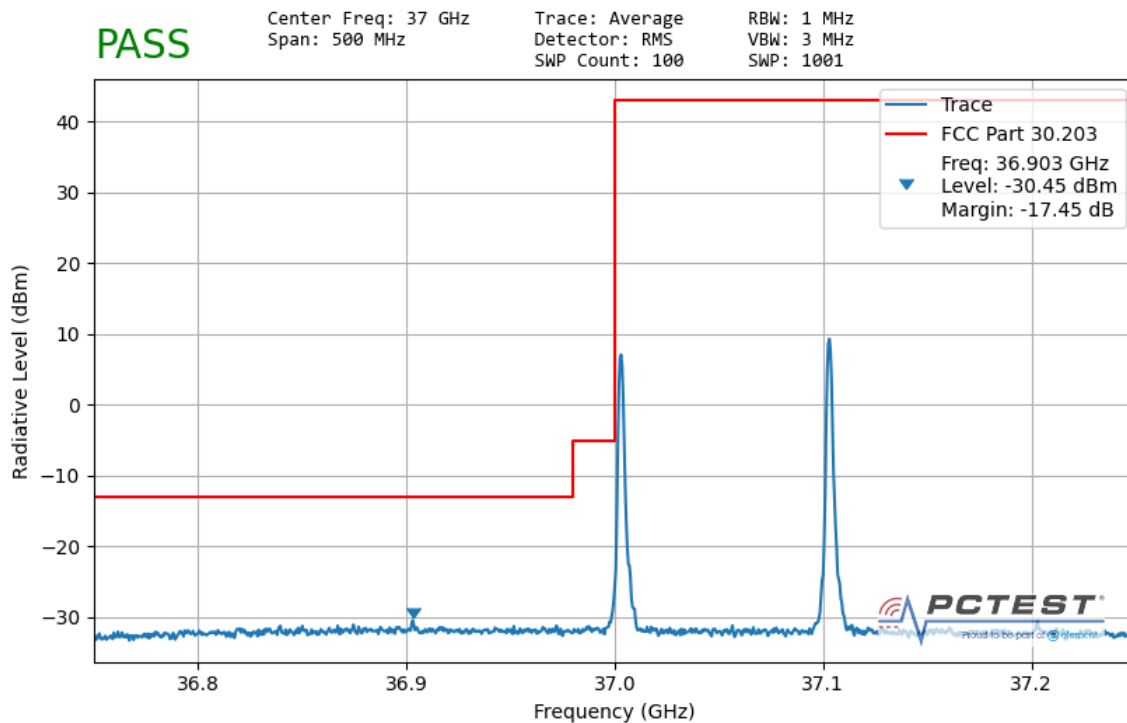


Plot 7-98. Ant 1 Upper Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 130 of 152

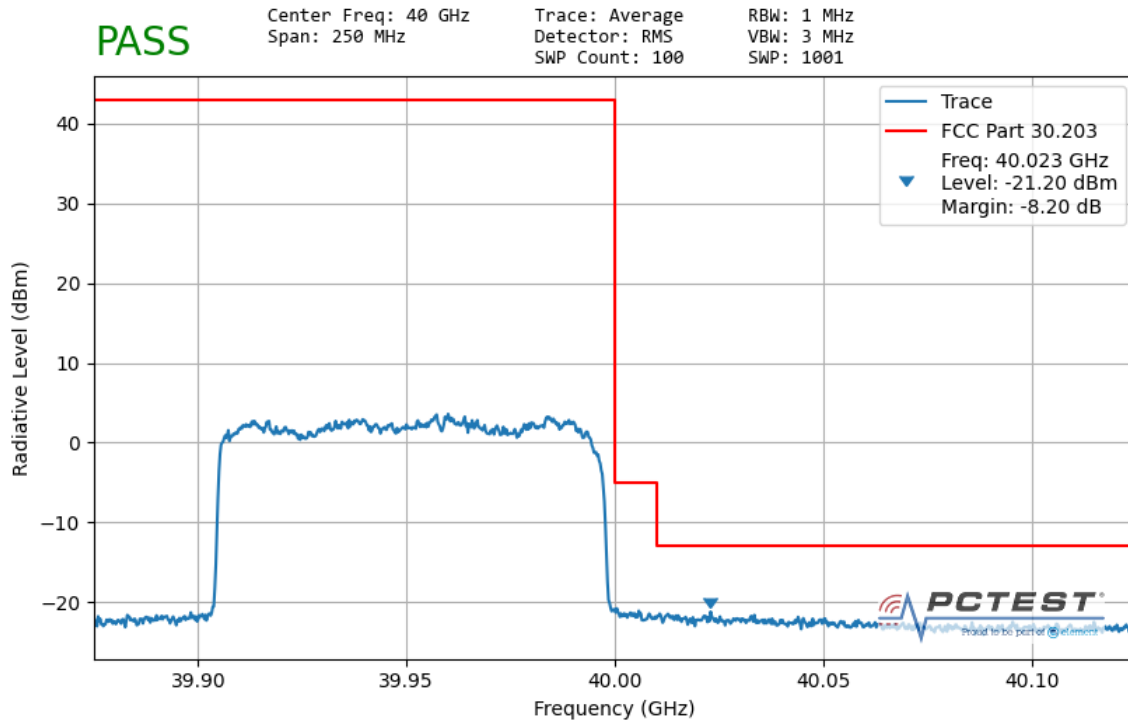


Plot 7-99. Ant 1 Lower Band Edge (100MHz-1CC – QPSK Full RB)

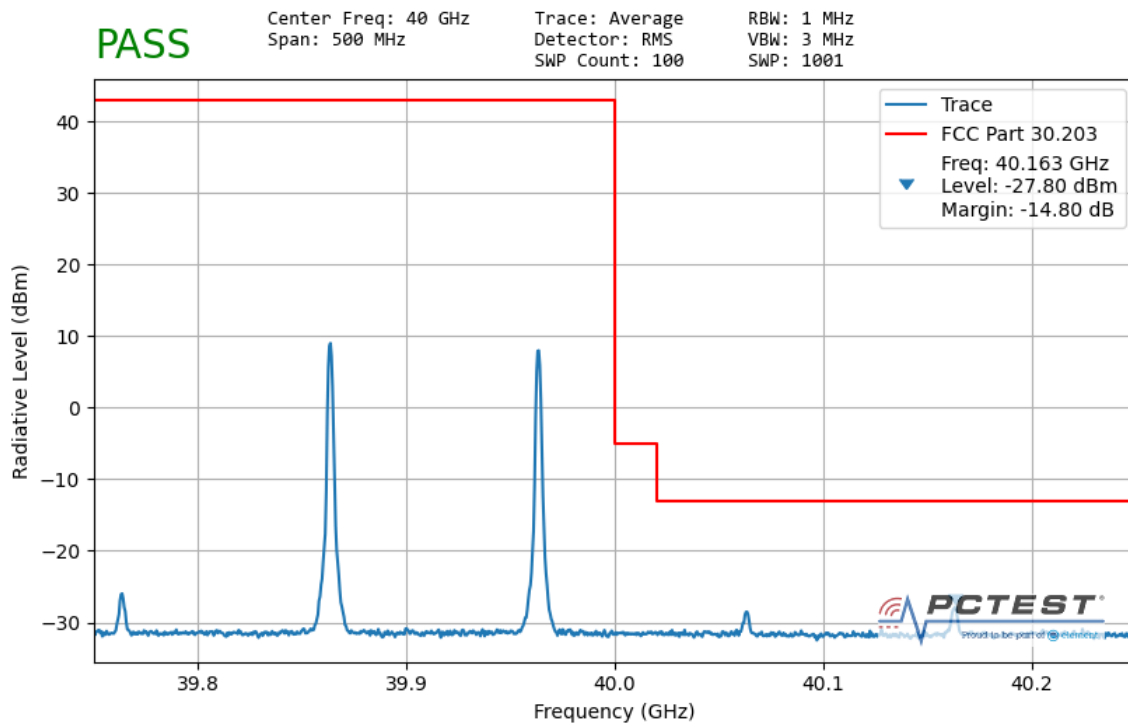


Plot 7-100. Ant 1 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 131 of 152

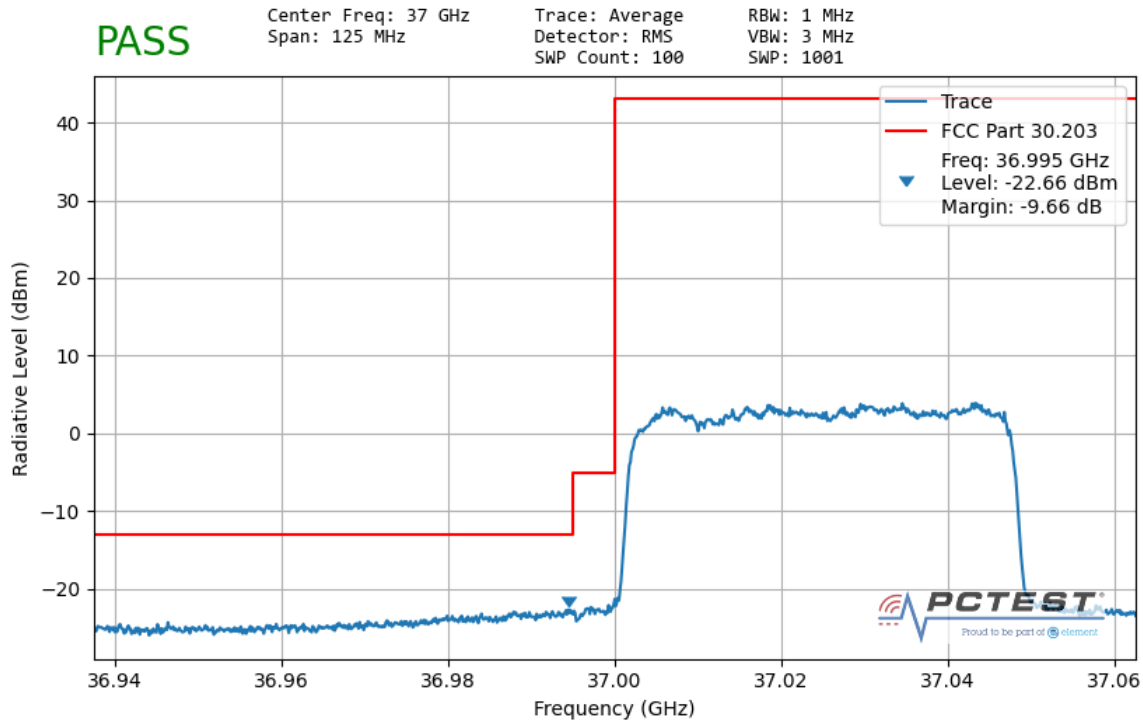


Plot 7-101. Ant 1 Upper Band Edge (100MHz-1CC – QPSK Full RB)

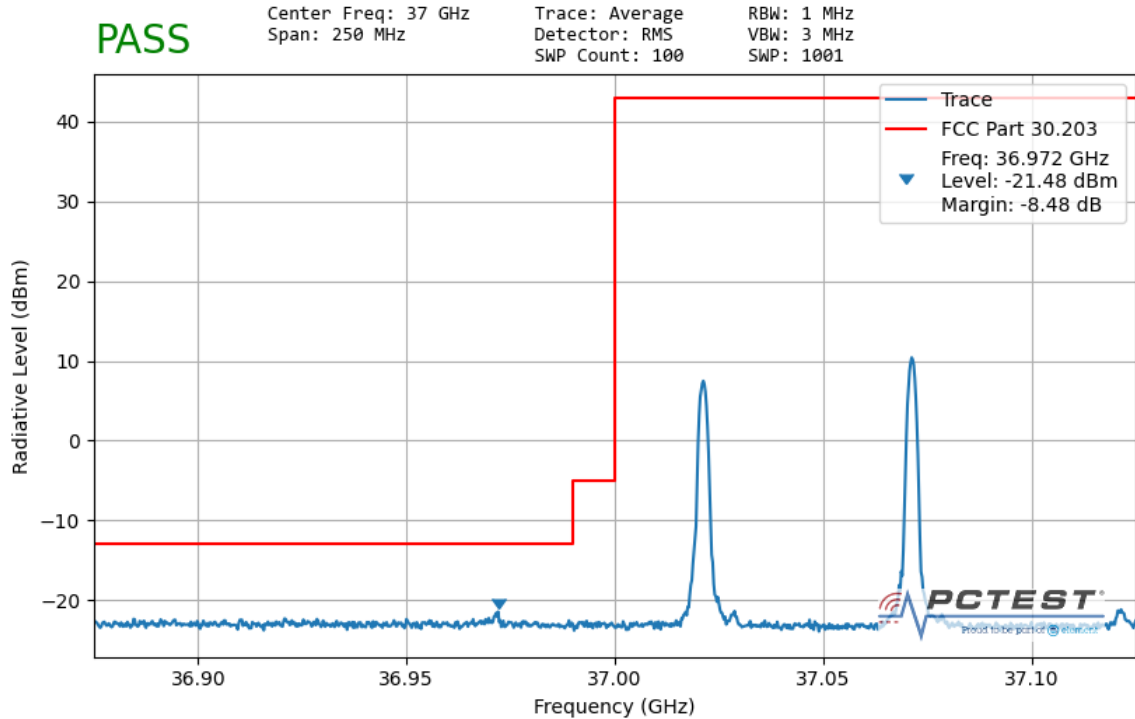


Plot 7-102. Ant 1 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 132 of 152

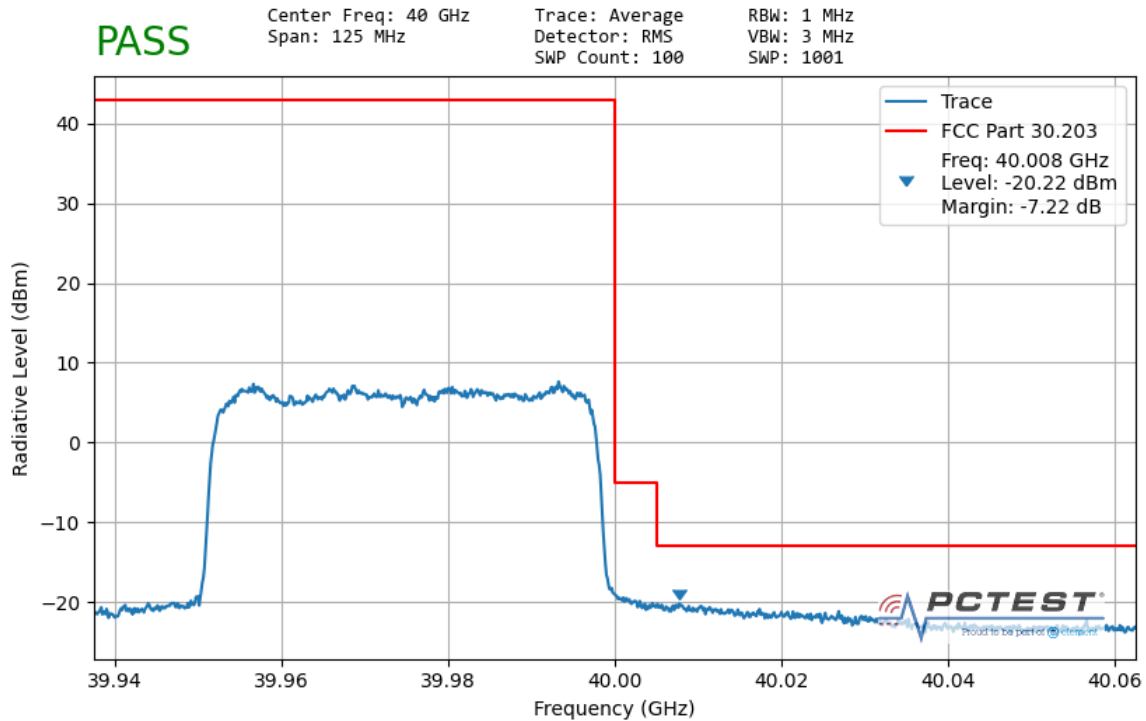


Plot 7-103. Ant 2 Lower Band Edge (50MHz-1CC – QPSK Full RB)

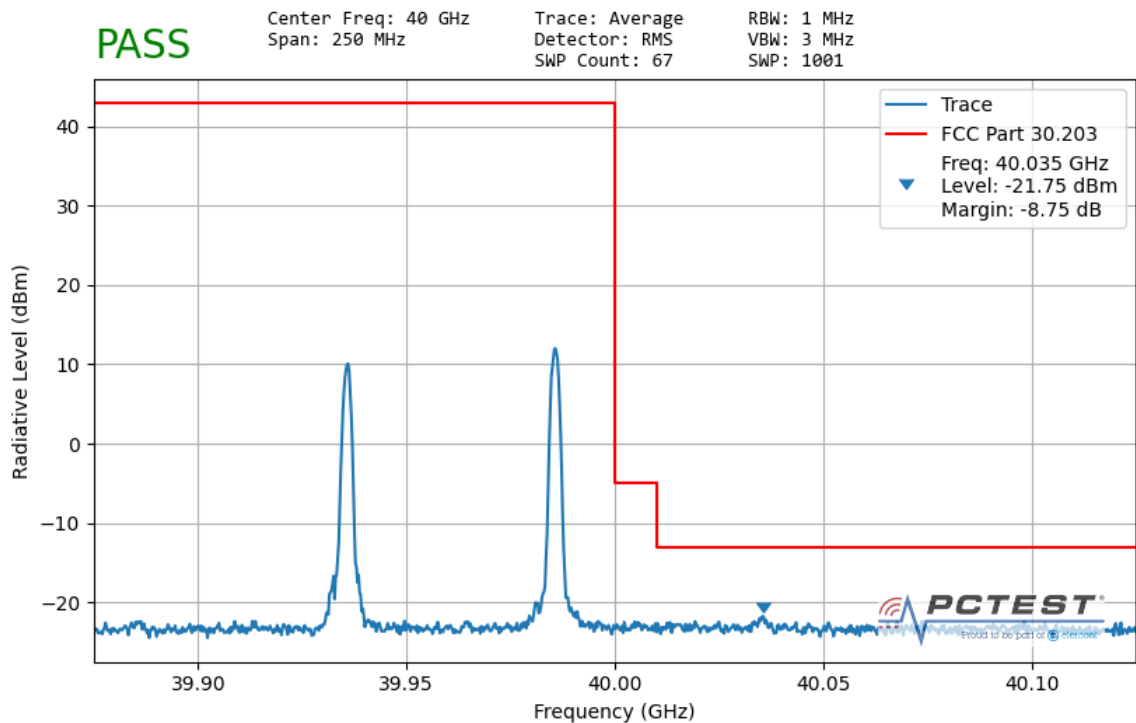


Plot 7-104. Ant 2 Lower Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 133 of 152

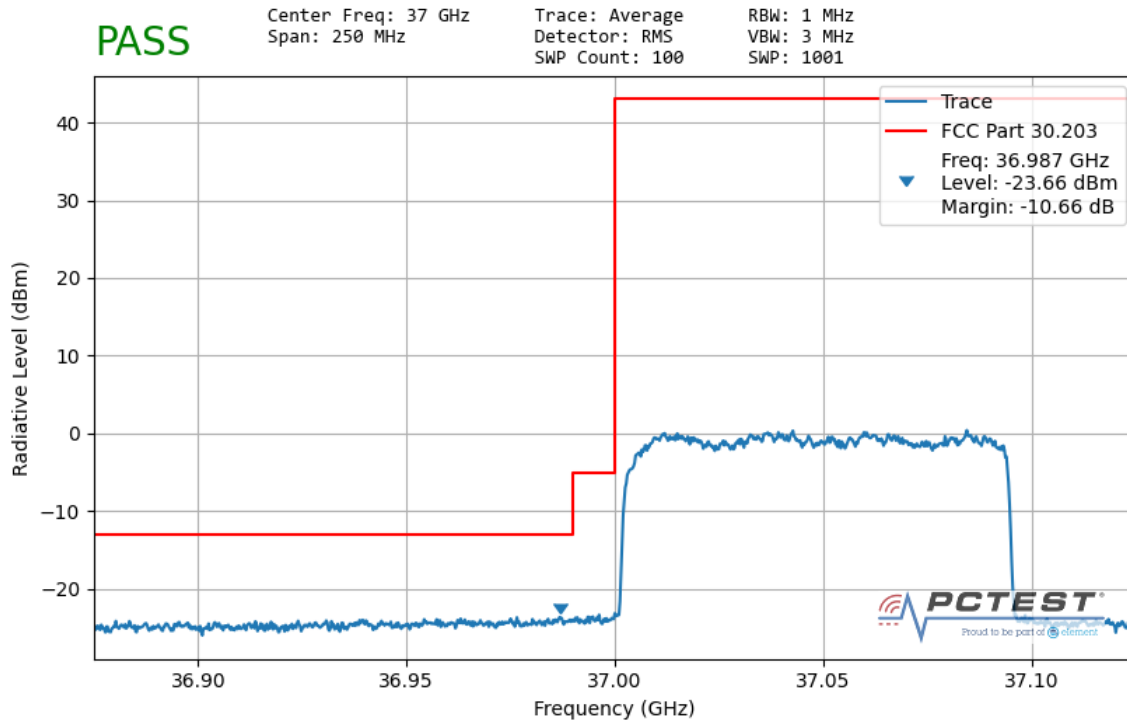


Plot 7-105. Ant 2 Upper Band Edge (50MHz-1CC – QPSK Full RB)

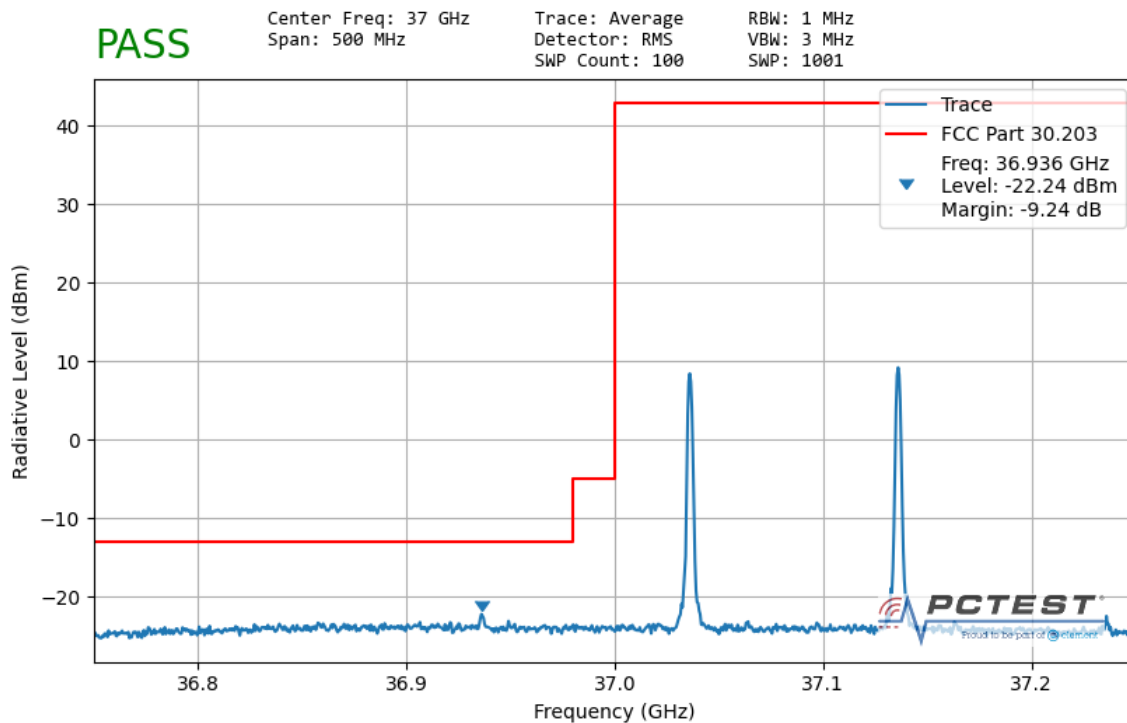


Plot 7-106. Ant 2 Upper Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 134 of 152

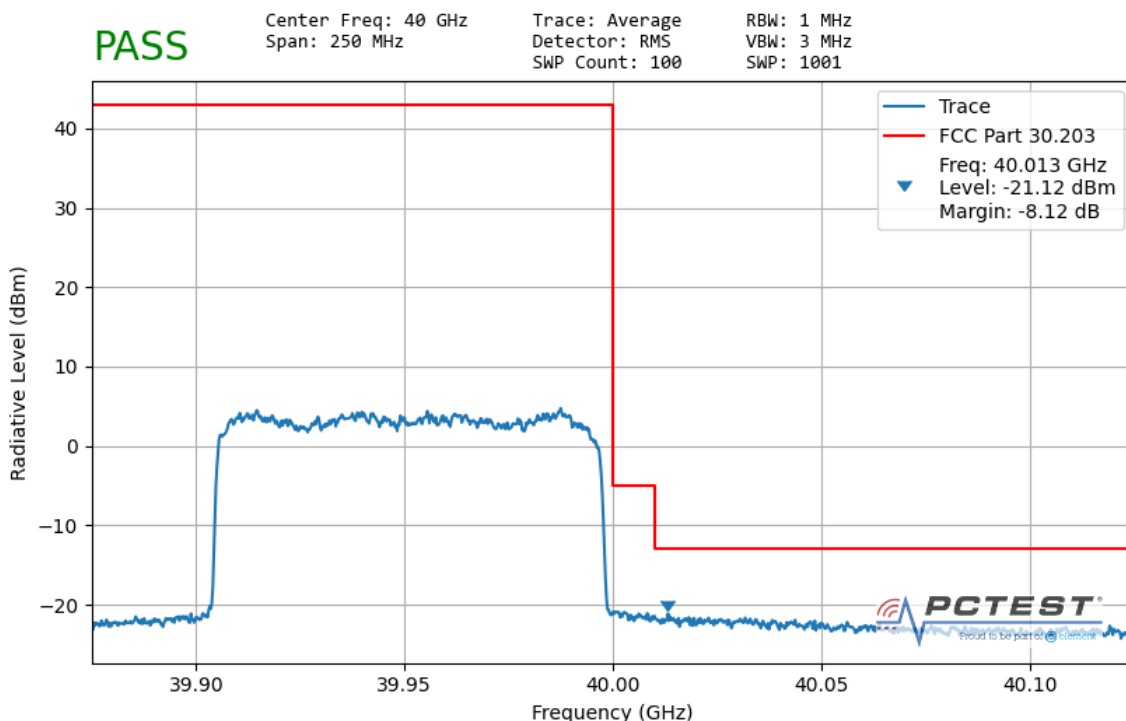


Plot 7-107. Ant 2 Lower Band Edge (100MHz-1CC – QPSK Full RB)

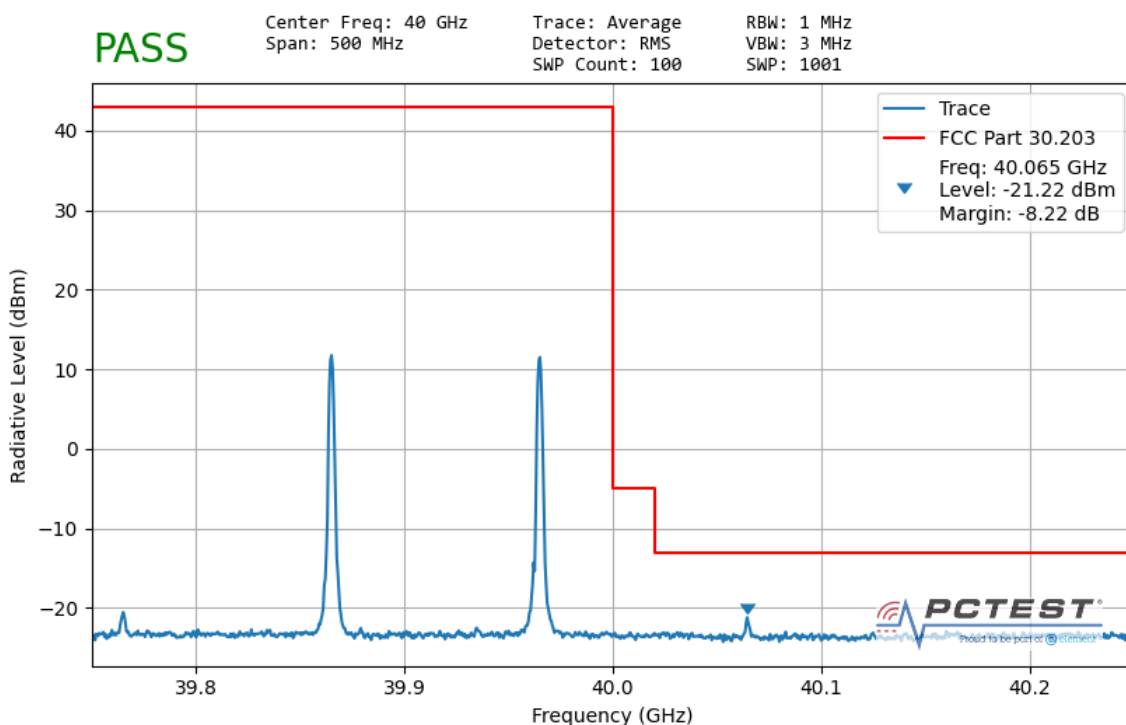


Plot 7-108. Ant 2 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 135 of 152

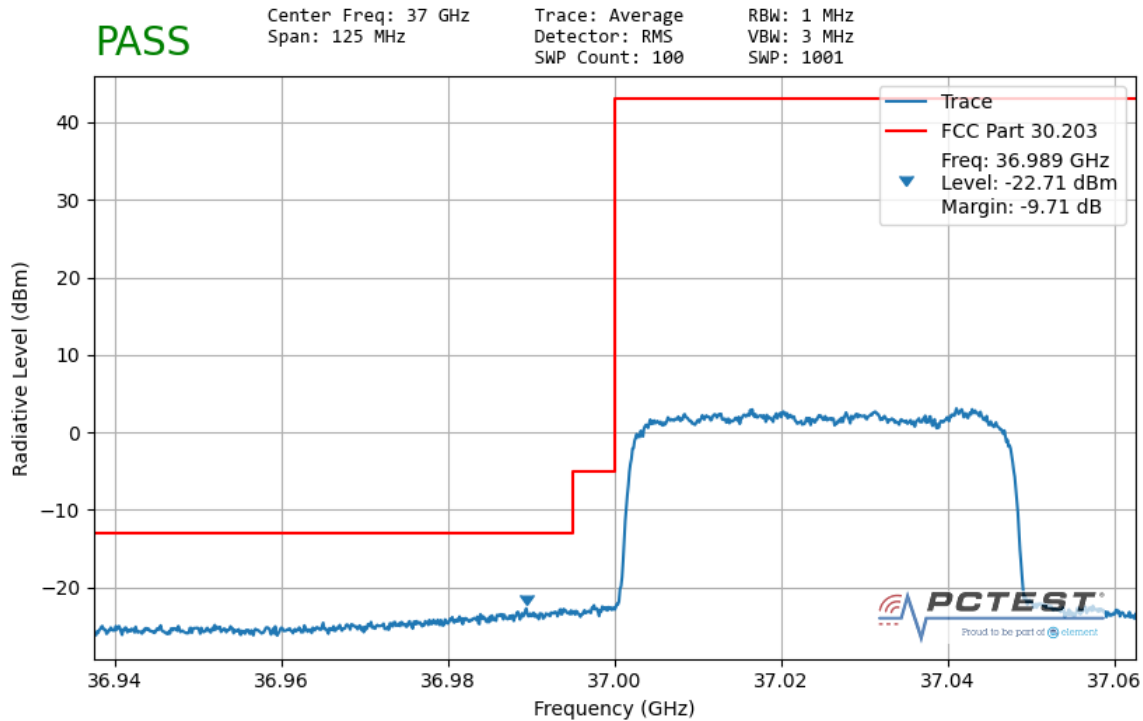


Plot 7-109. Ant 2 Upper Band Edge (100MHz-1CC – QPSK Full RB)

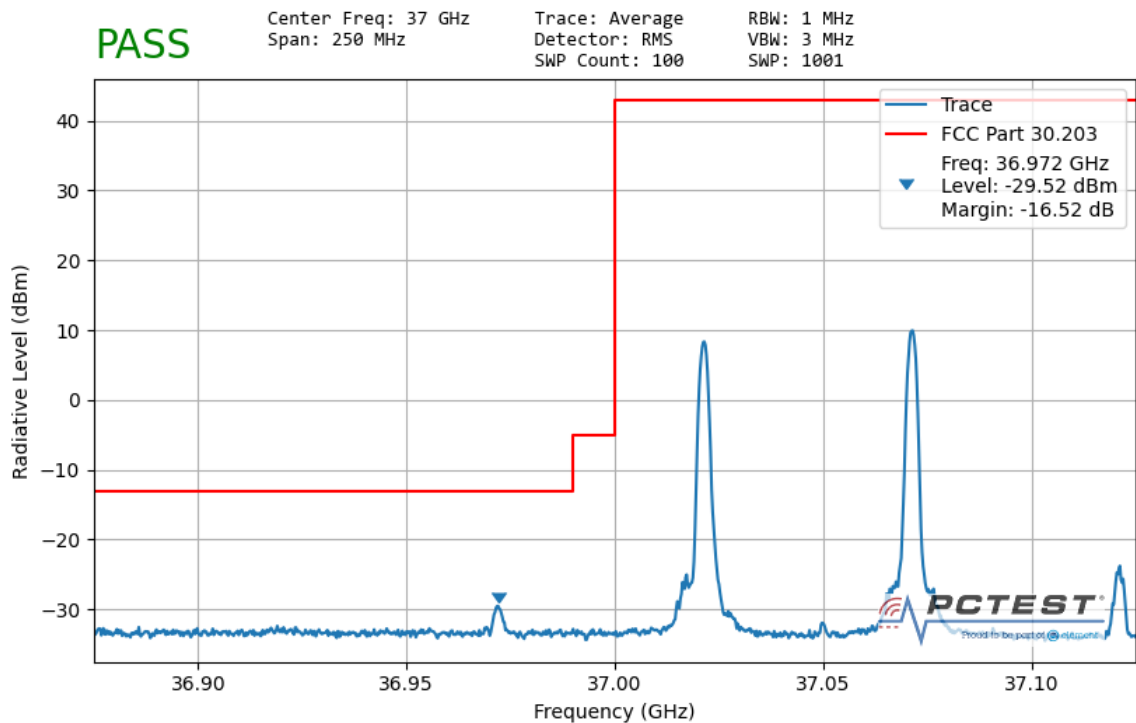


Plot 7-110. Ant 2 Upper Band Edge (100MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 136 of 152

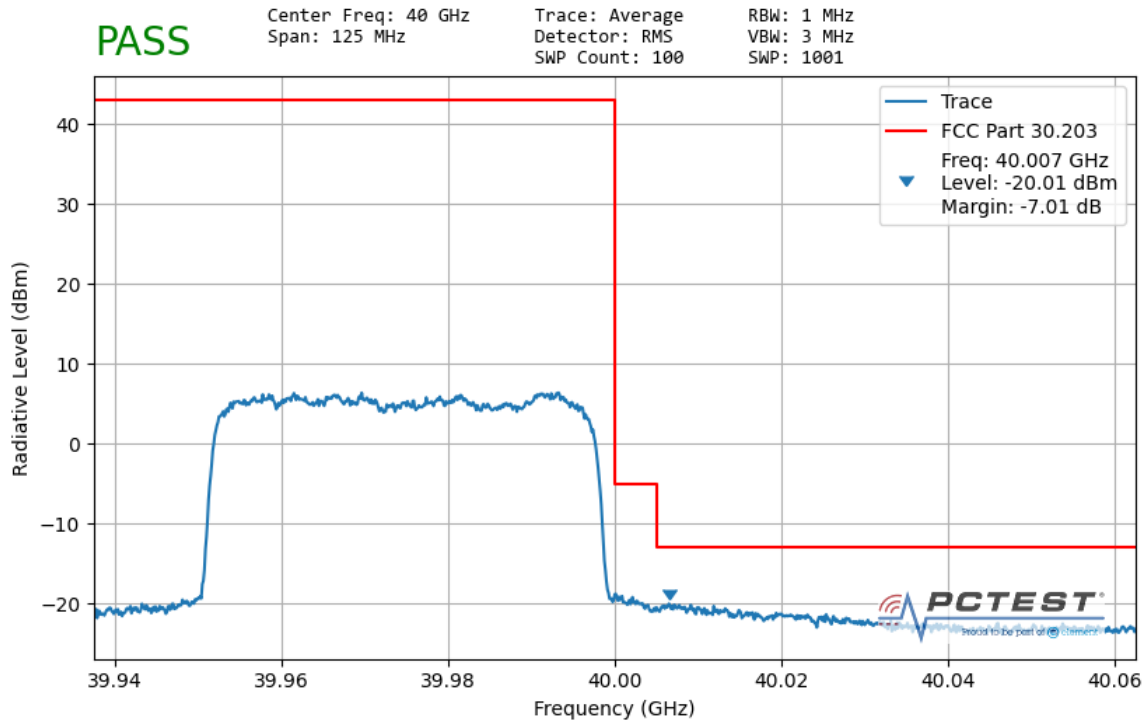


Plot 7-111. Ant 3 Lower Band Edge (50MHz-1CC – QPSK Full RB)

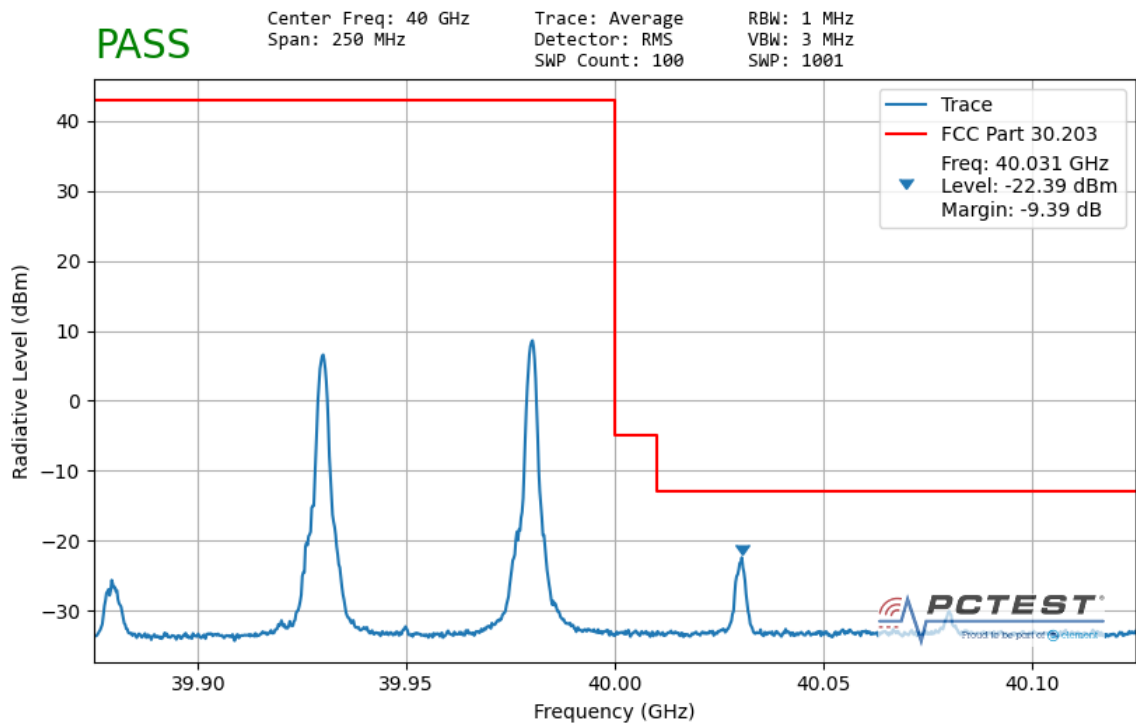


Plot 7-112. Ant 3 Lower Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 137 of 152

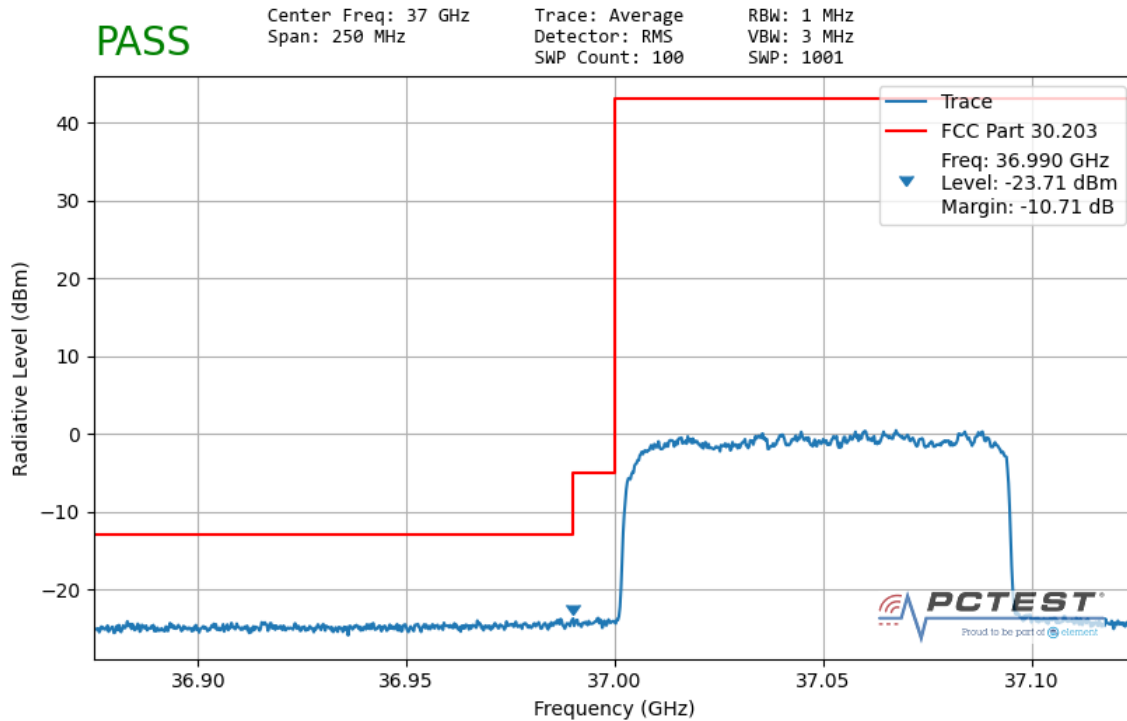


Plot 7-113. Ant 3 Upper Band Edge (50MHz-1CC – QPSK Full RB)

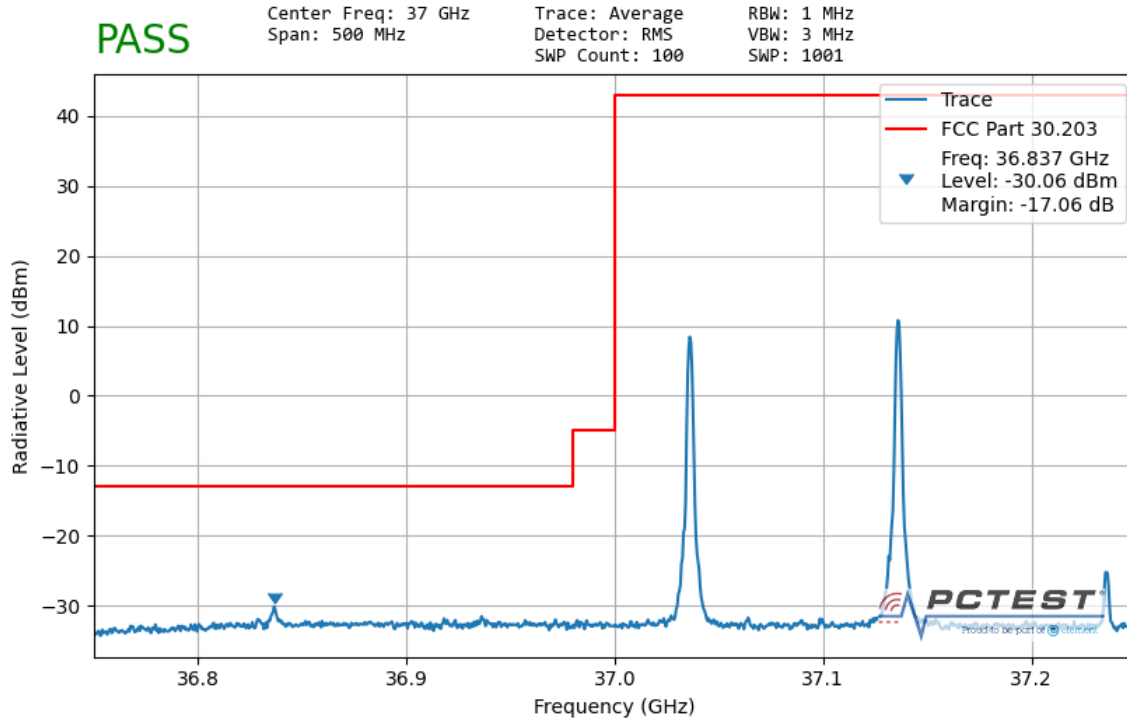


Plot 7-114. Ant 3 Upper Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 138 of 152

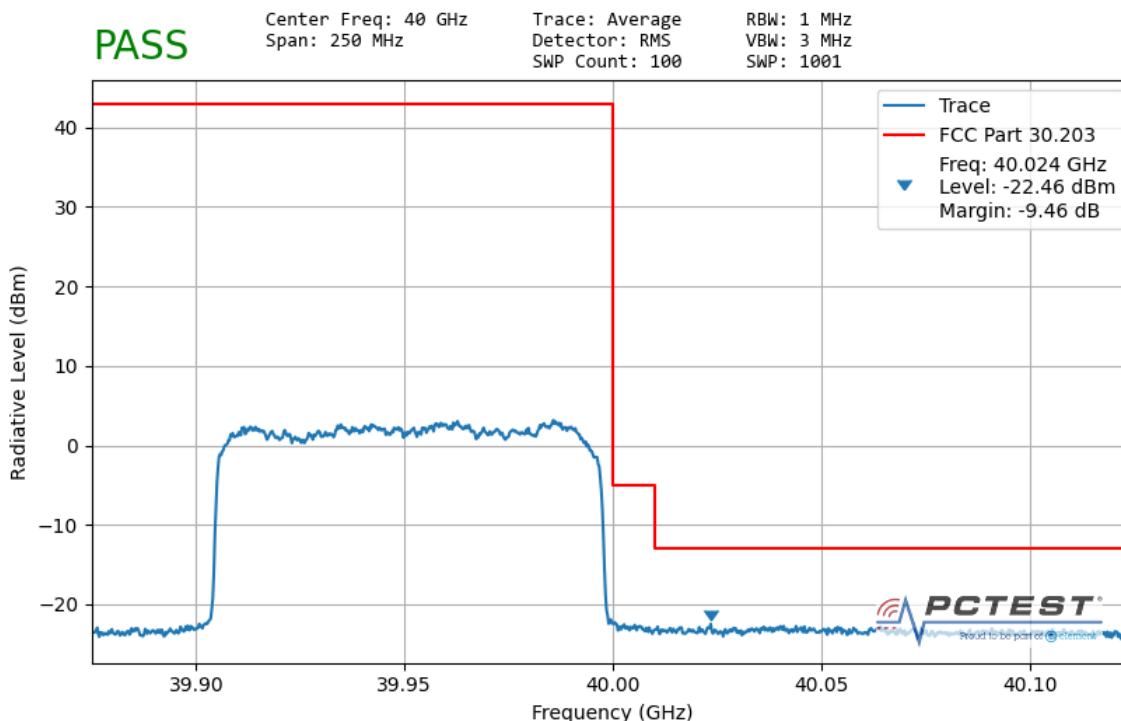


Plot 7-115. Ant 3 Lower Band Edge (100MHz-1CC – QPSK Full RB)

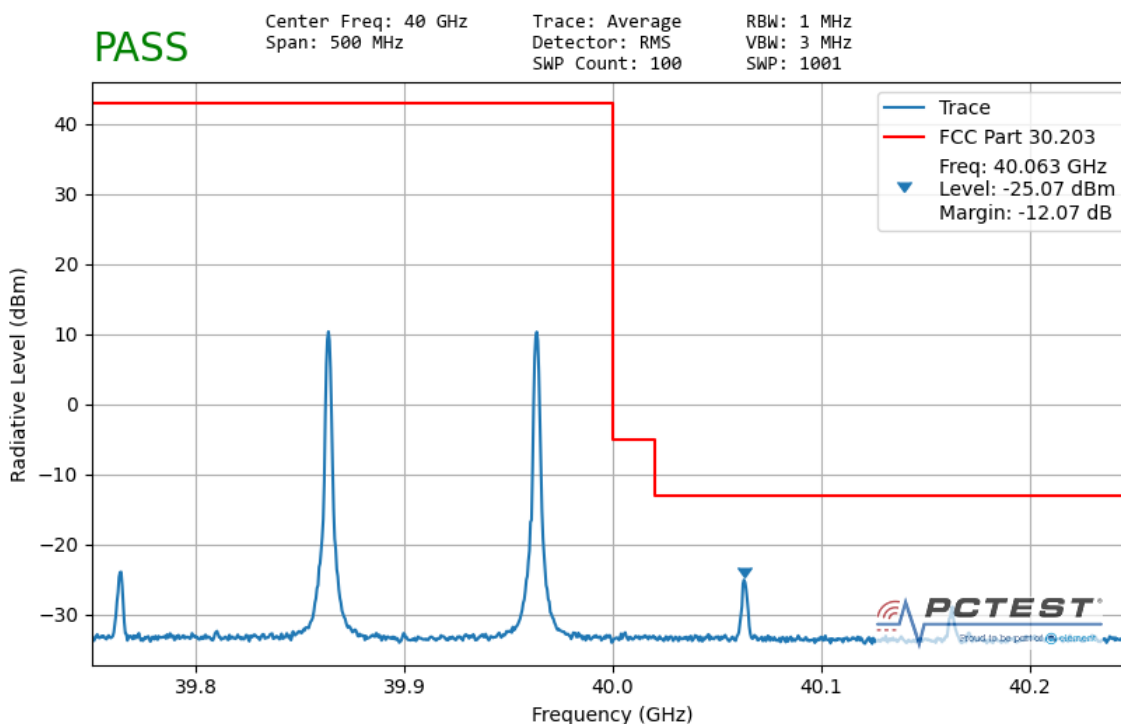


Plot 7-116. Ant 3 Lower Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 139 of 152

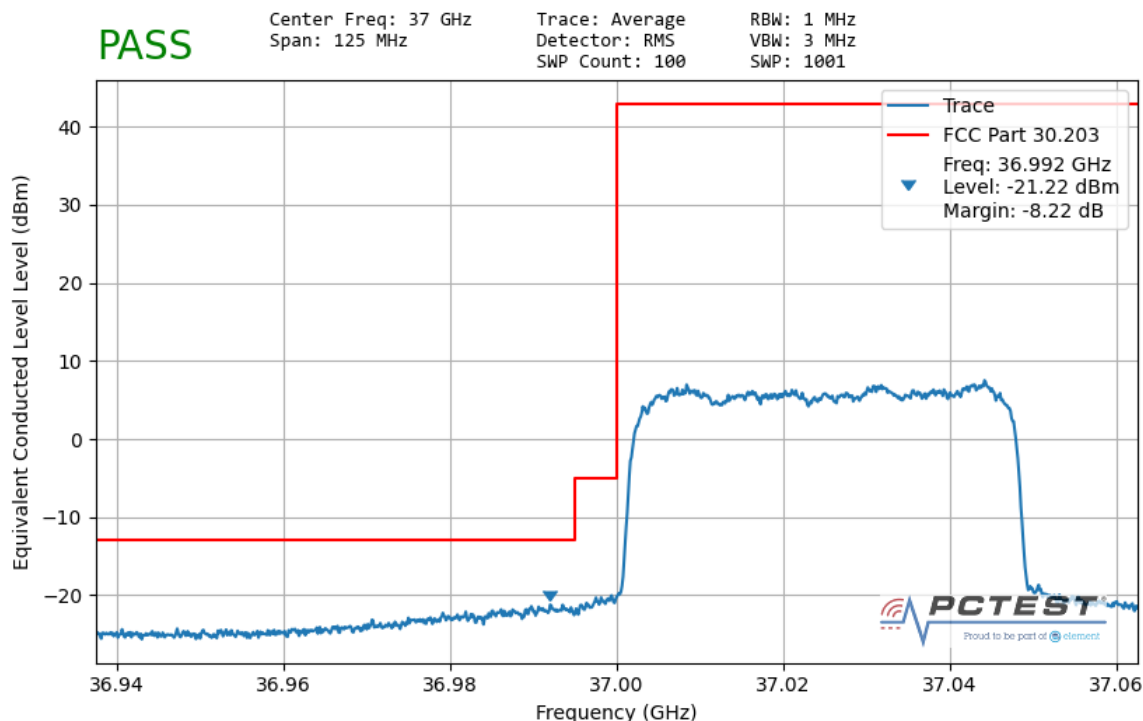


Plot 7-117. Ant 3 Upper Band Edge (100MHz-1CC – QPSK Full RB)

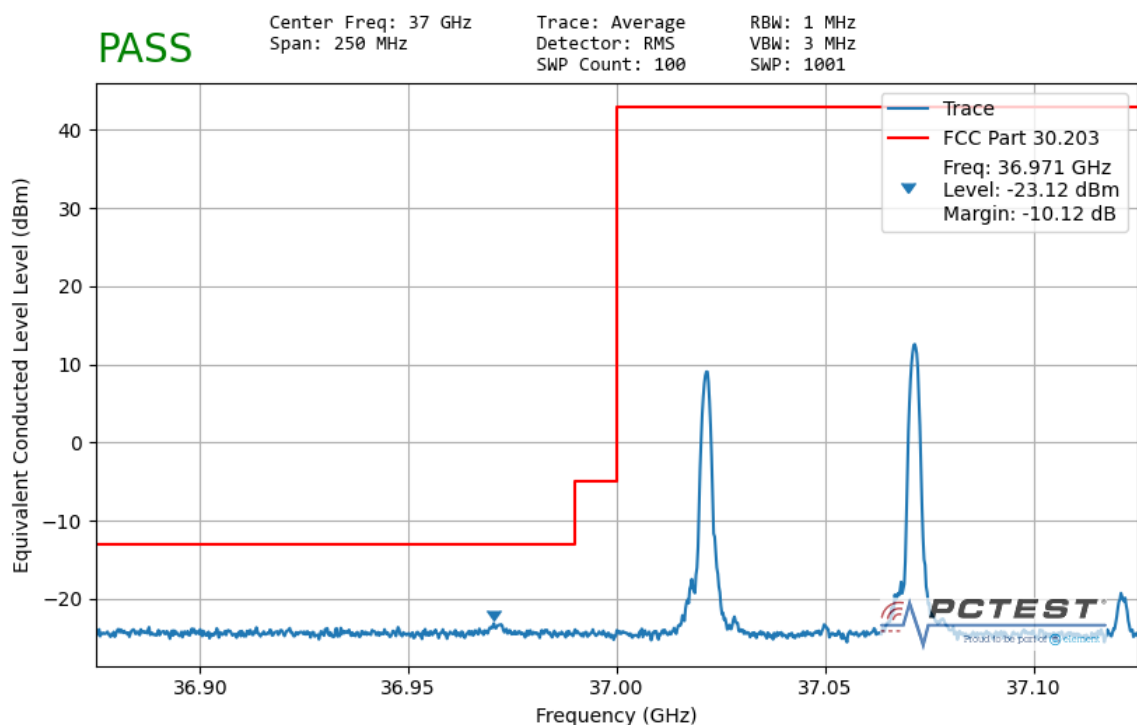


Plot 7-118. Ant 3 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 140 of 152

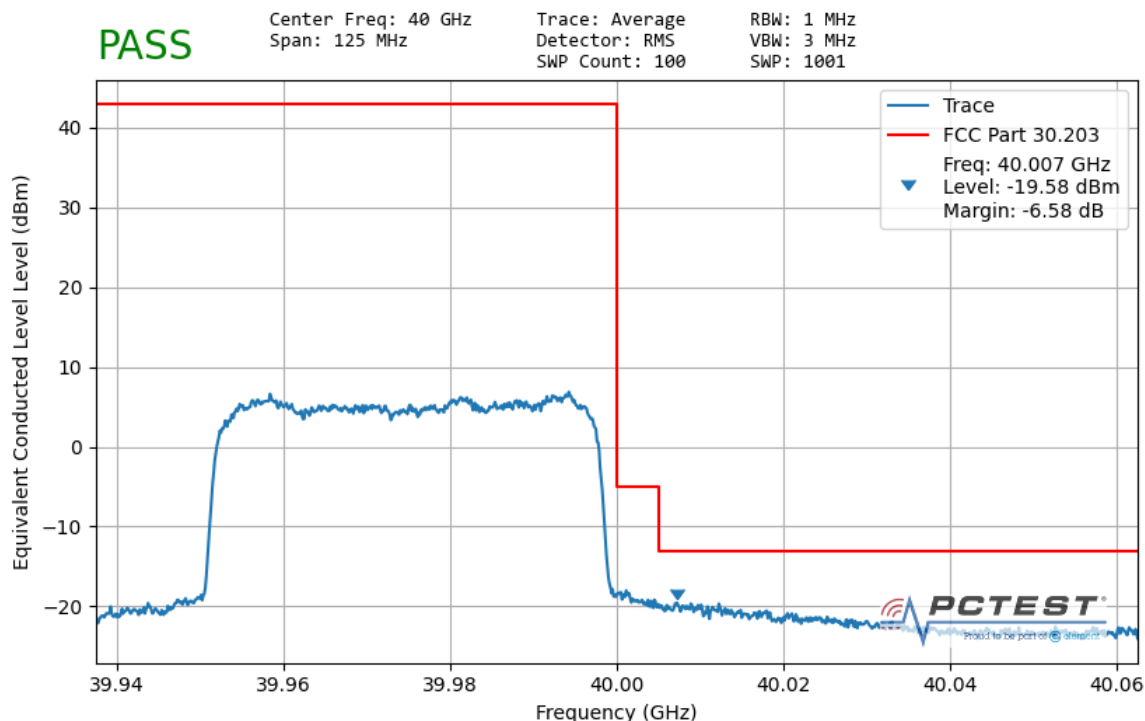


Plot 7-119. Ant 4 Lower Band Edge (50MHz-1CC – QPSK Full RB)

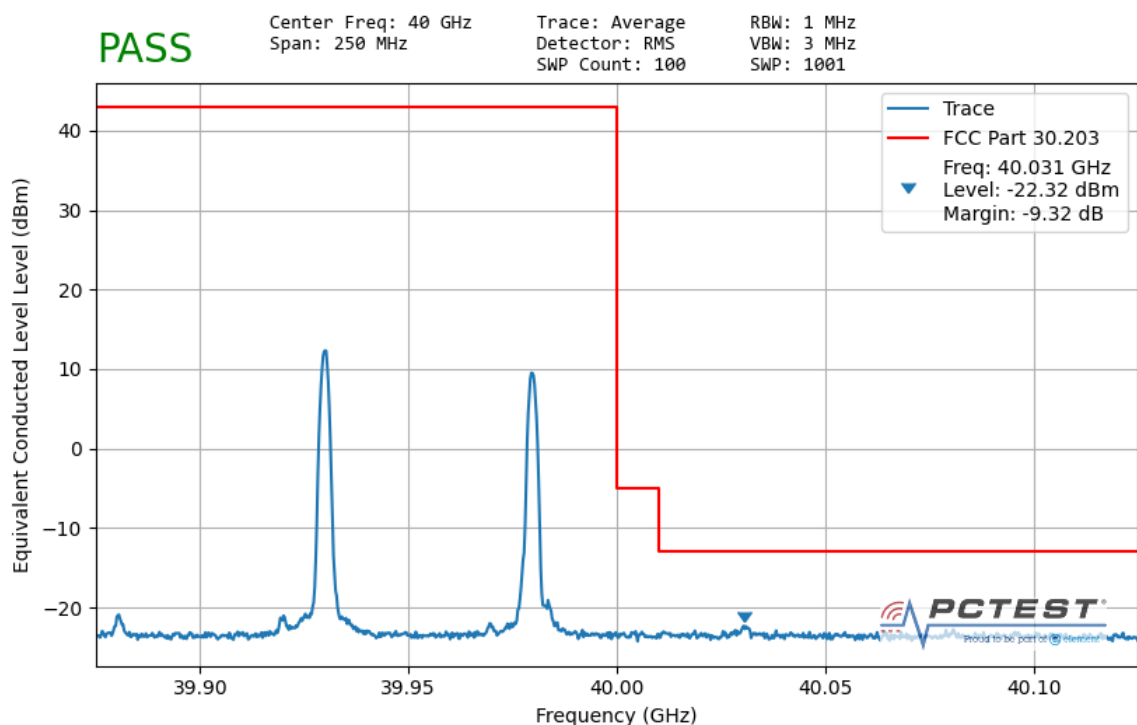


Plot 7-120. Ant 4 Lower Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 141 of 152

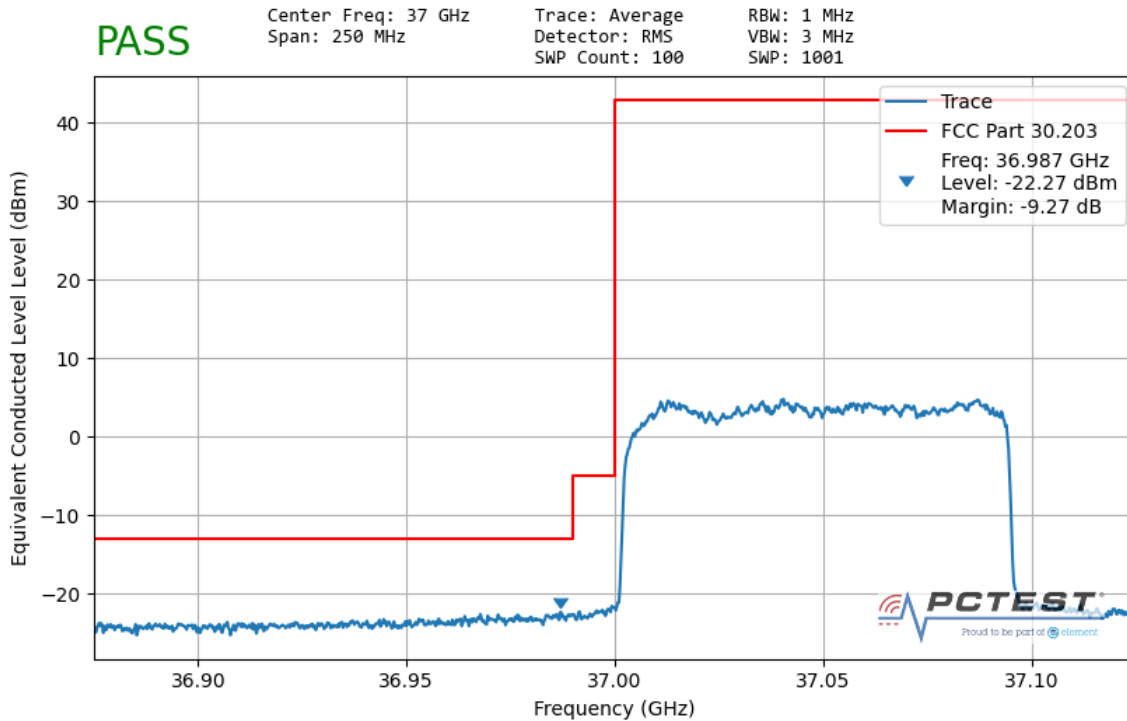


Plot 7-121. Ant 4 Upper Band Edge (50MHz-1CC – QPSK Full RB)

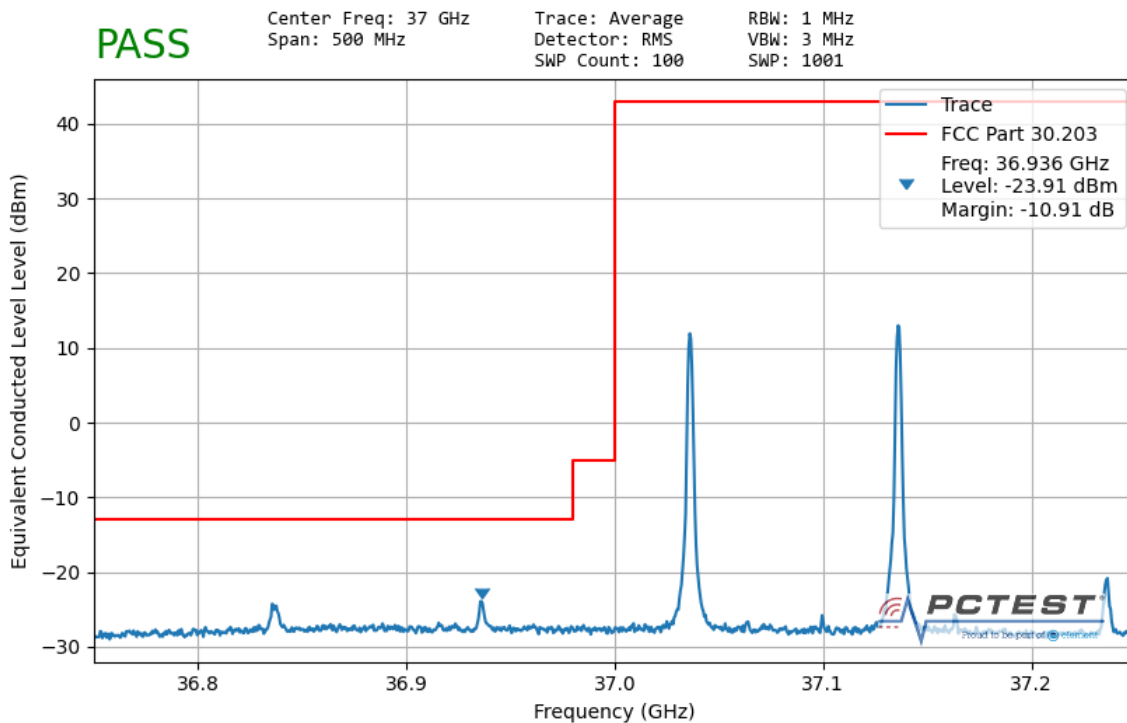


Plot 7-122. Ant 4 Upper Band Edge (50MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 142 of 152

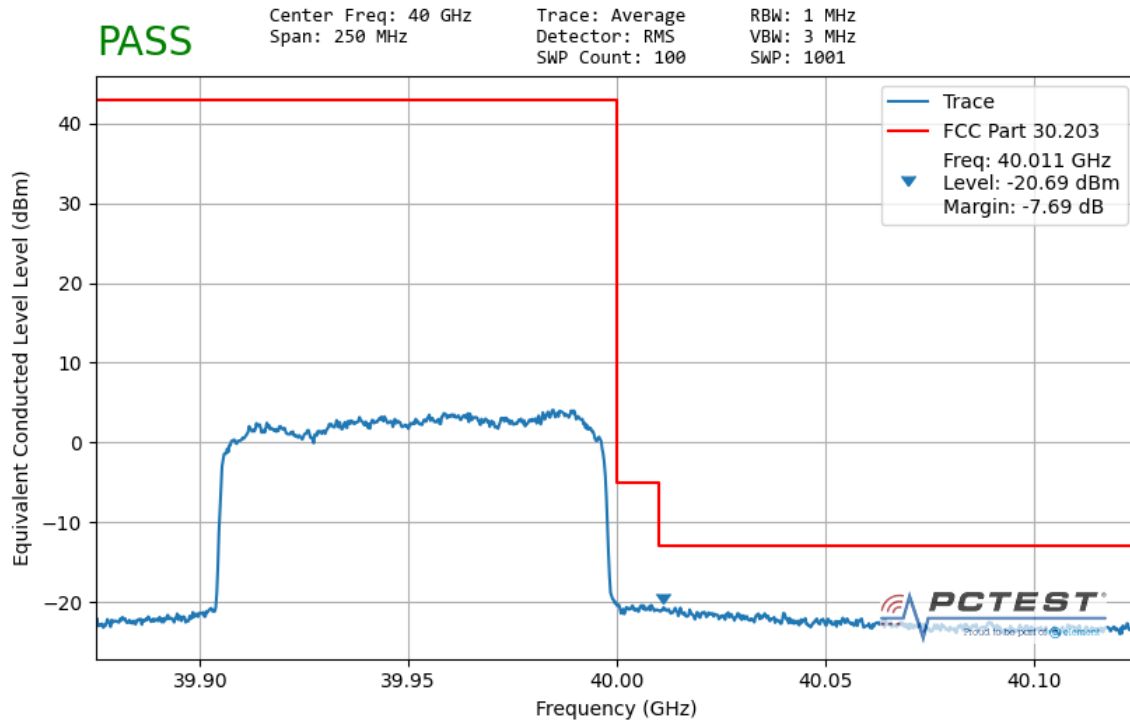


Plot 7-123. Ant 4 Lower Band Edge (100MHz-1CC – QPSK Full RB)

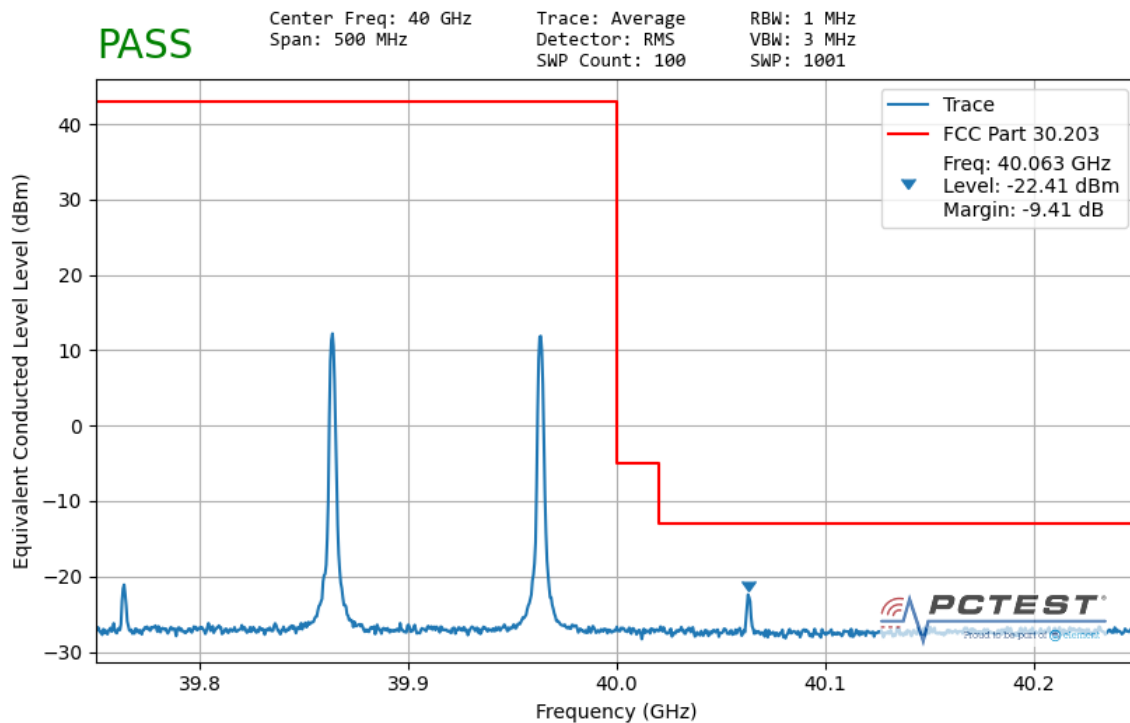


Plot 7-124. Ant 4 Lower Band Edge (100MHz-2CC – BPSK 1 RB)

FCC ID: PY7-57441Y	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 143 of 152



Plot 7-125. Ant 4 Upper Band Edge (100MHz-1CC – QPSK Full RB)



Plot 7-126. Ant 4 Upper Band Edge (100MHz-2CC – QPSK 1 RB)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 144 of 152

7.6 Frequency Stability / Temperature Variation

§2.1055

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Test Procedure Used

ANSI C63.5-2015 Section 5.6
KDB 842590 D01 v01r01 Section 4.5

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was measured using horn antenna connected to a spectrum analyzer. The EUT was placed inside an environmental chamber. Using a foam plug, the horn antenna measured the frequency of the fundamental signal.

Test Notes

The Frequency Deviation column in the table below is the amount of deviation measured from the center frequency of the Reference measurement (first row).

FCC ID: PY7-57441Y	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset	Page 145 of 152

Frequency Stability Measurements (Band n261)

\$2.1055

OPERATING FREQUENCY: 27,922,080,000 Hz
 CHANNEL: 2254091
 REFERENCE VOLTAGE: 4.18 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.18	+ 20 (Ref)	27,924,955,000	0	0.0000000
100 %		- 30	27,923,362,000	1,593,000	0.0057052
100 %		- 20	27,923,861,000	1,094,000	0.0039180
100 %		- 10	27,922,984,400	1,970,600	0.0070575
100 %		0	27,921,546,000	3,409,000	0.0122090
100 %		+ 10	27,925,044,000	-89,000	-0.0003187
100 %		+ 20	27,920,358,900	4,596,100	0.0164604
100 %		+ 30	27,920,356,000	4,599,000	0.0164708
100 %		+ 40	27,930,872,000	-5,917,000	-0.0211911
100 %		+ 50	27,922,654,000	2,301,000	0.0082408
BATT. ENDPOINT	3.21	+ 20	27,921,691,000	3,264,000	0.0116897

Table 7-63. Frequency Stability Data (n261)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 146 of 152

Frequency Stability Measurements (Band n261)

§2.1055

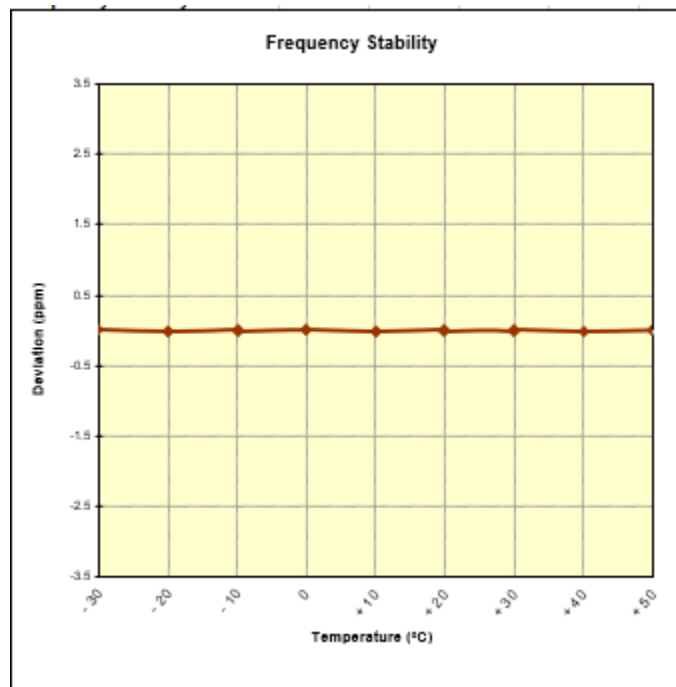


Figure 7-1. Frequency Stability Graph (n261)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 147 of 152

Frequency Stability Measurements (Band n260)

\$2.1055

OPERATING FREQUENCY: 38,495,520,000 Hz
CHANNEL: 2254091
REFERENCE VOLTAGE: 4.18 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.18	+ 20 (Ref)	384,999,720,000	0	0.0000000
100 %		- 30	384,875,170,000	124,550,000	0.3235441
100 %		- 20	384,965,320,000	34,400,000	0.0893610
100 %		- 10	384,999,450,000	270,000	0.0007014
100 %		0	384,999,420,000	300,000	0.0007793
100 %		+ 10	384,925,310,000	74,410,000	0.1932952
100 %		+ 20	385,072,640,000	-72,920,000	-0.1894246
100 %		+ 30	385,072,640,000	-72,920,000	-0.1894246
100 %		+ 40	385,120,360,000	-120,640,000	-0.3133871
100 %		+ 50	384,989,800,000	9,920,000	0.0257692
BATT. ENDPOINT		+ 20	385,072,640,000	-72,920,000	-0.1894246

Table 7-64. Frequency Stability Data (n260)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 148 of 152

Frequency Stability Measurements (Band n260)

§2.1055

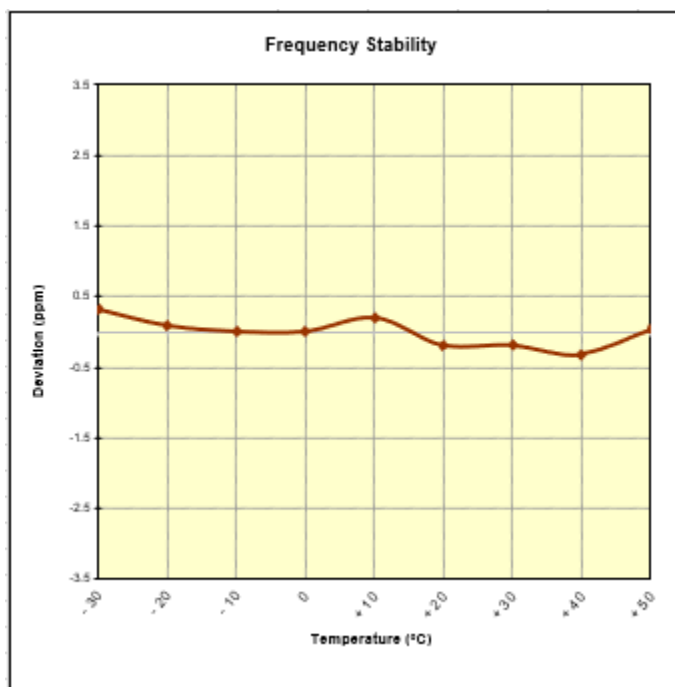


Figure 7-2. Frequency Stability Graph (n260)

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 149 of 152

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **SONY Portable Handset FCC ID: PY7-57441Y** complies with all the requirements of Part 30.

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 150 of 152

9.0 APPENDIX A

9.1 VDI Mixer Verification Certificate



Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902
Phone: 434-297-3257
Fax: 434-297-3258

Certificate of Conformance

To: PCTEST Engineering Laboratory
7185 Oakland Mills Road
Columbia, MD 21046
United States

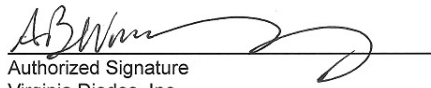
From: Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902

Packing List No: 193065

Today's Date: 10/02/19

Quantity	Shipped	Unit	Description	Order-Job Number
1		EA	VDIWR19.0SAX WR19SAX / SN: SAX 411	19329-01

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).


Authorized Signature
Virginia Diodes, Inc

Page 1 of 1

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 151 of 152



Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902
Phone: 434-297-3257
Fax: 434-297-3258

Certificate of Conformance

To: PCTEST Engineering Laboratory
7185 Oakland Mills Road
Columbia, MD 21046
United States

From: Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902

Packing List No: 193037
Shipping Date: 09/30/19

Today's Date: 09/30/19
PO Number: 190719.DP1R

Quantity			Order-Job
Shipped	Unit	Description	Number
1	EA	SAX RETEST-WR12SAX WR12SAX / SN: SAX 252	19408-01
1	EA	SAX RETEST-WR8.0SAX WR8.0SAX / SN: SAX 253	19408-02
1	EA	SAX RETEST-WR5.1SAX WR5.1SAX / SN: SAX 254	19408-03

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).

Authorized Signature
Virginia Diodes, Inc



Page 1 of 1

FCC ID: PY7-57441Y		MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Quality Manager
Test Report S/N: 1M2007070106-18-R2.PY7	Test Dates: 7/29 - 9/19/2020	EUT Type: Portable Handset		Page 152 of 152