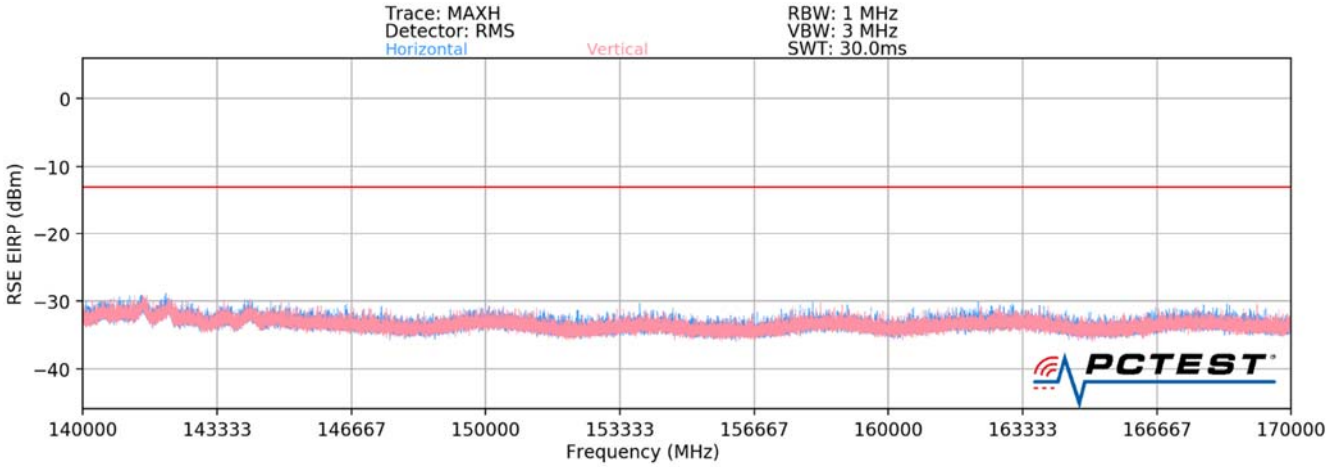
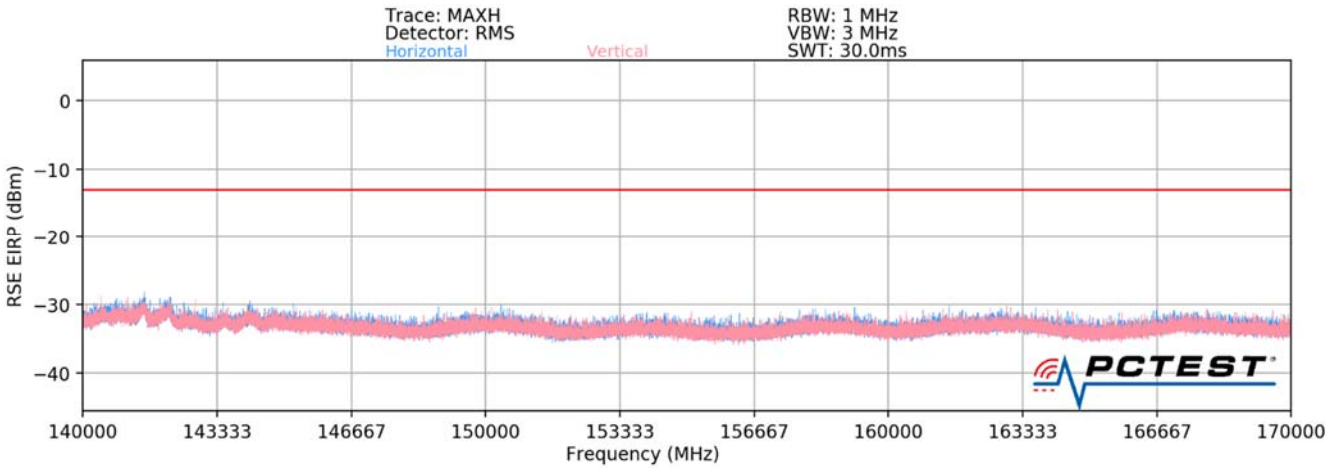


Plot 7-71. Ant1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-72. Ant1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
148106.73	Low	50	H	QPSK	H	-	-	-39.11	-13.00	-26.11
148109.28	Low	50	V	QPSK	V	-	-	-38.94	-13.00	-25.94
154003.38	Mid	50	H	QPSK	H	-	-	-38.53	-13.00	-25.53
153980.88	Mid	50	V	QPSK	V	-	-	-38.44	-13.00	-25.44
159875.58	High	50	H	QPSK	H	-	-	-38.93	-13.00	-25.93
159860.22	High	50	V	QPSK	V	-	-	-38.95	-13.00	-25.95

Table 7-73. Ant1 - SISO -Spurious Emissions Table (140GHz - 170GHz)

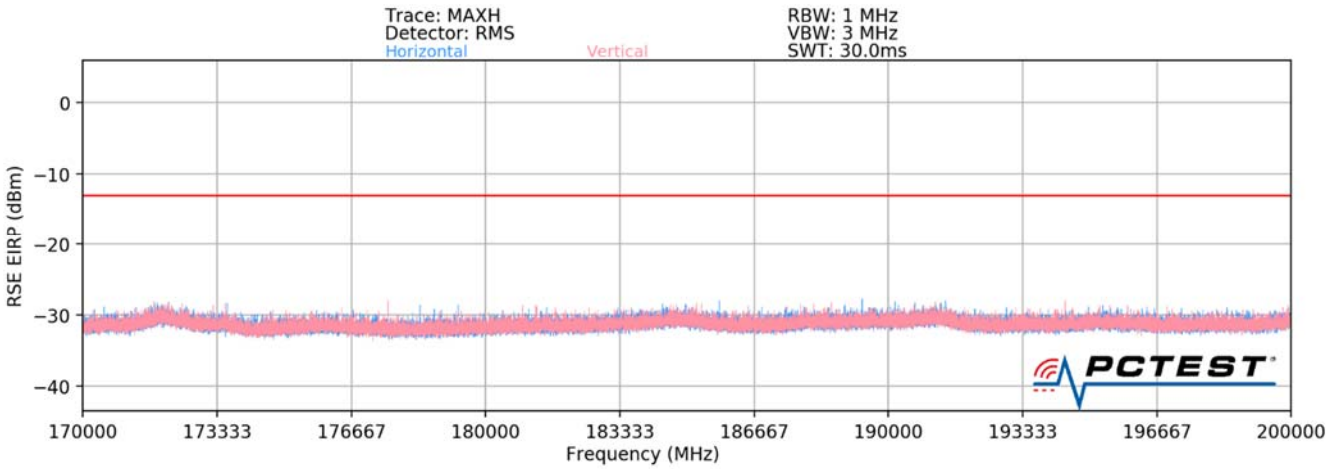
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-36.01	-13.00	-23.01
Mid	50	QPSK	-35.48	-13.00	-22.48
High	50	QPSK	-35.93	-13.00	-22.93

Table 7-74. Ant1 - MIMO -Spurious Emissions Table (140GHz - 170GHz)

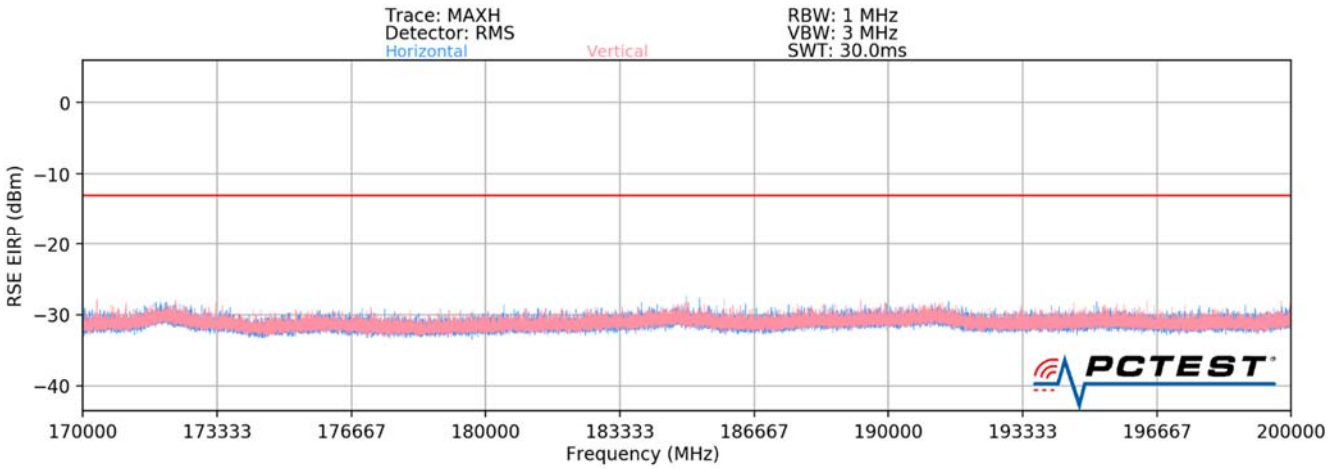
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-73. Ant1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-74. Ant1-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
185123.43	Low	50	H	QPSK	H	-	-	-37.81	-13.00	-24.81
185129.91	Low	50	V	QPSK	V	-	-	-37.61	-13.00	-24.61
192488.07	Mid	50	H	QPSK	H	-	-	-38.42	-13.00	-25.42
192485.76	Mid	50	V	QPSK	V	-	-	-38.15	-13.00	-25.15
199840.08	High	50	H	QPSK	H	-	-	-38.15	-13.00	-25.15
199830.78	High	50	V	QPSK	V	-	-	-38.13	-13.00	-25.13

Table 7-75. Ant1 - SISO -Spurious Emissions Table (170GHz - 200GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-34.70	-13.00	-21.70
Mid	50	QPSK	-35.28	-13.00	-22.28
High	50	QPSK	-35.13	-13.00	-22.13

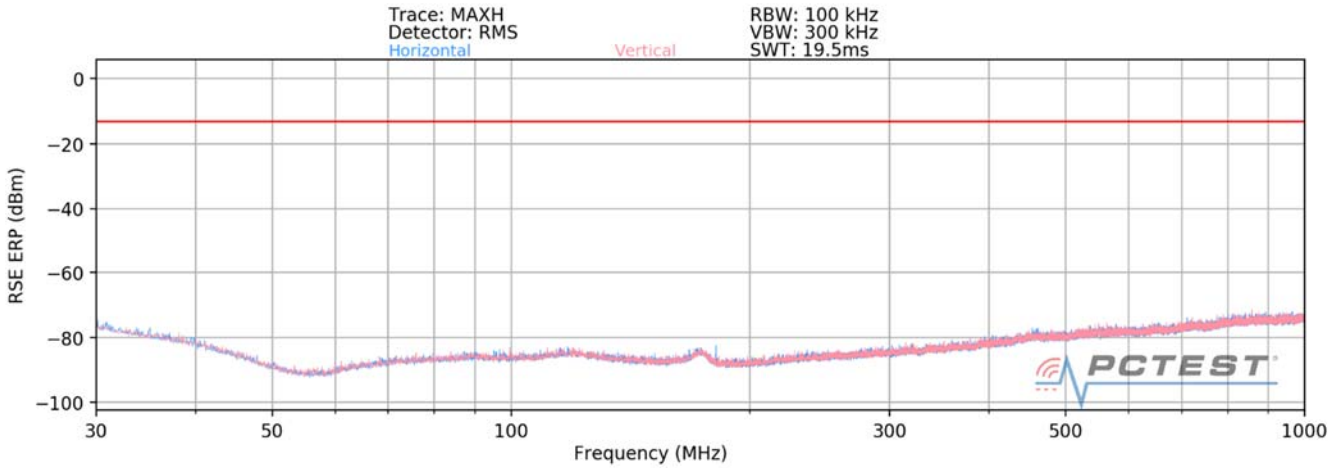
Table 7-76. Ant1 - MIMO -Spurious Emissions Table (170GHz - 200GHz)

Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

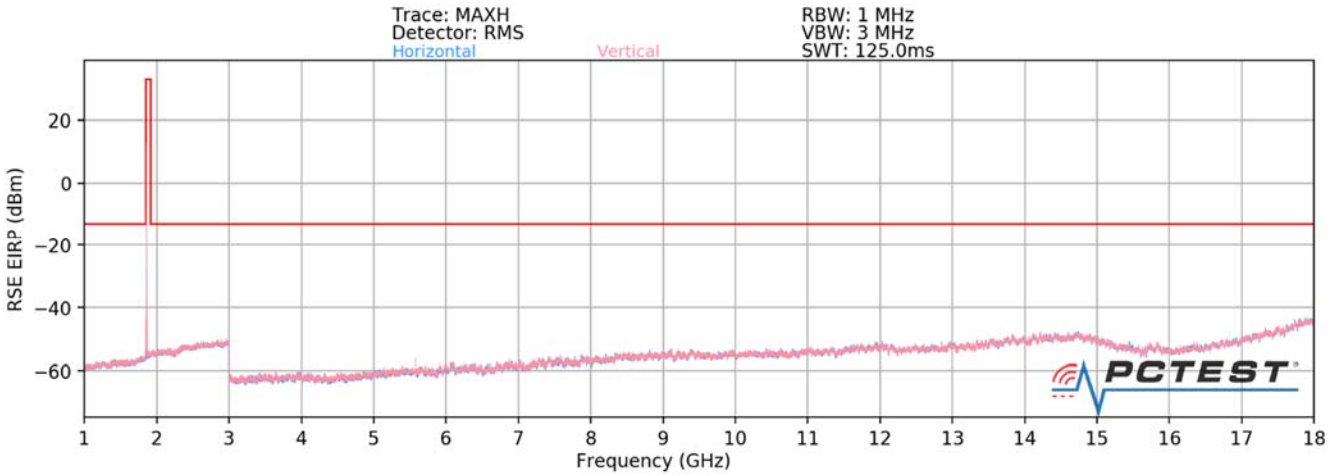
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

Band n260 – QTM#1 / Ant2
30MHz - 1GHz



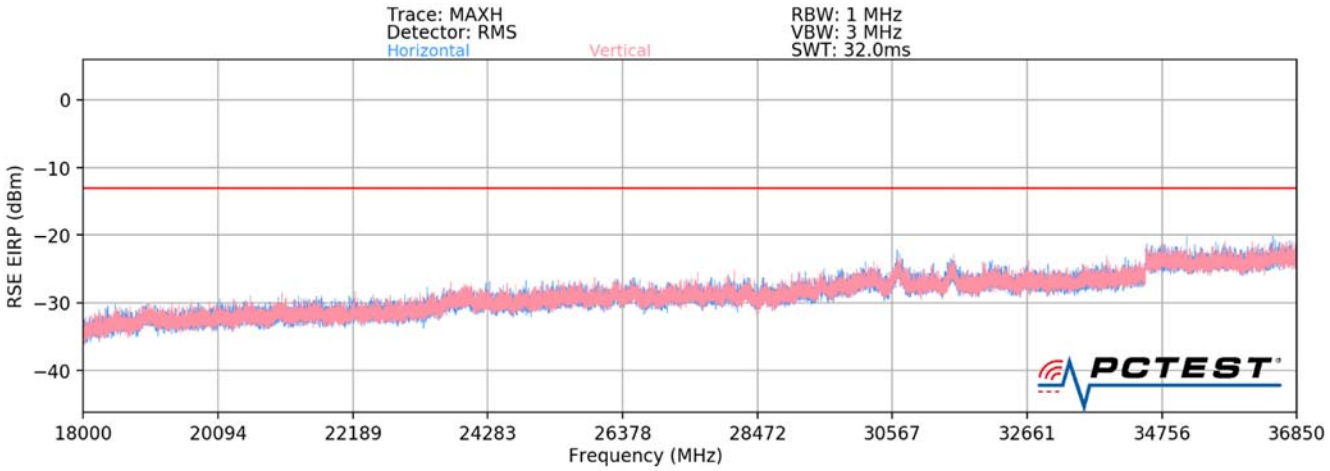
Plot 7-75. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel)

1GHz - 18GHz

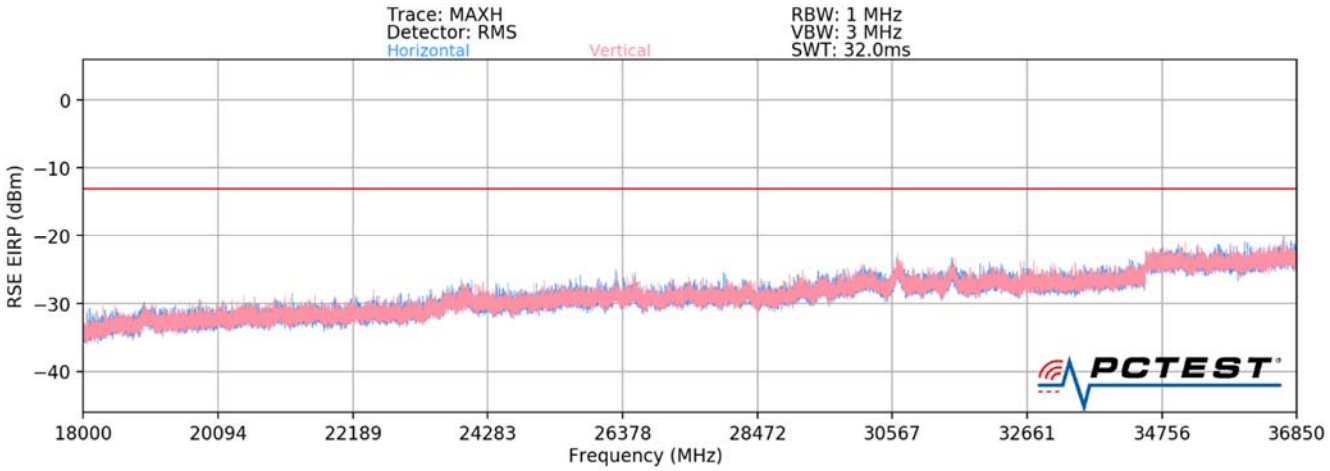


Plot 7-76. Ant2-n260 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel)

18GHz - 36.85GHz



Plot 7-77. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-78. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
35946.80	Low	50	H	QPSK	H	-	-	-22.61	-13.00	-9.61
36018.30	Low	50	V	QPSK	V	-	-	-21.86	-13.00	-8.86
36001.60	Mid	50	H	QPSK	H	-	-	-23.63	-13.00	-10.63
36009.40	Mid	50	V	QPSK	V	-	-	-21.08	-13.00	-8.08
35996.60	High	50	H	QPSK	H	-	-	-24.98	-13.00	-11.98
35989.50	High	50	V	QPSK	V	-	-	-23.60	-13.00	-10.60

Table 7-77. Ant2 - SISO -Spurious Emissions Table (18GHz - 36.85GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-19.21	-13.00	-6.21
Mid	50	QPSK	-19.16	-13.00	-6.16
High	50	QPSK	-21.23	-13.00	-8.23

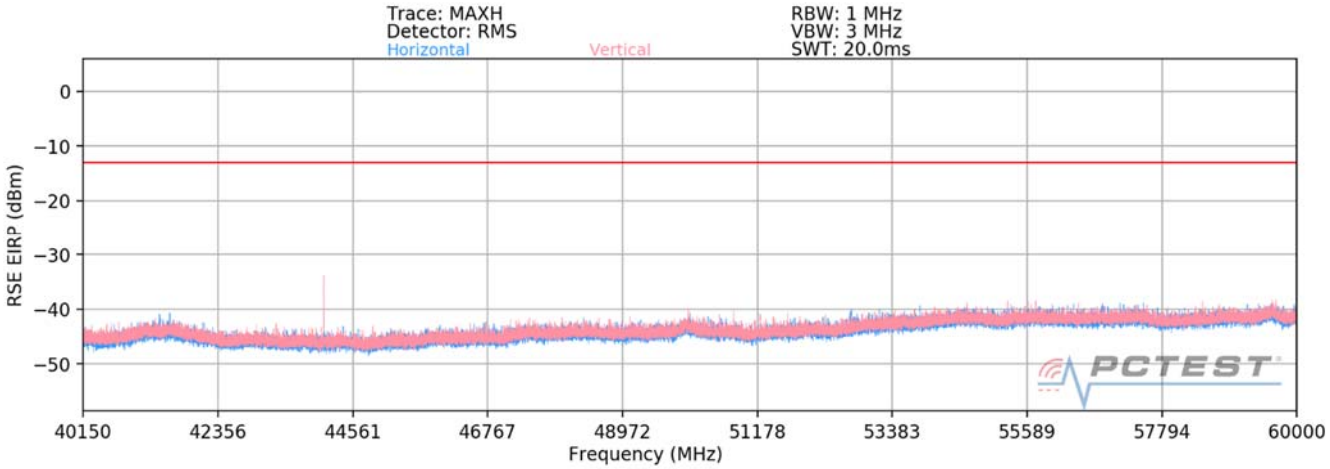
Table 7-78. Ant2 - MIMO -Spurious Emissions Table (18GHz - 36.85GHz)

Notes

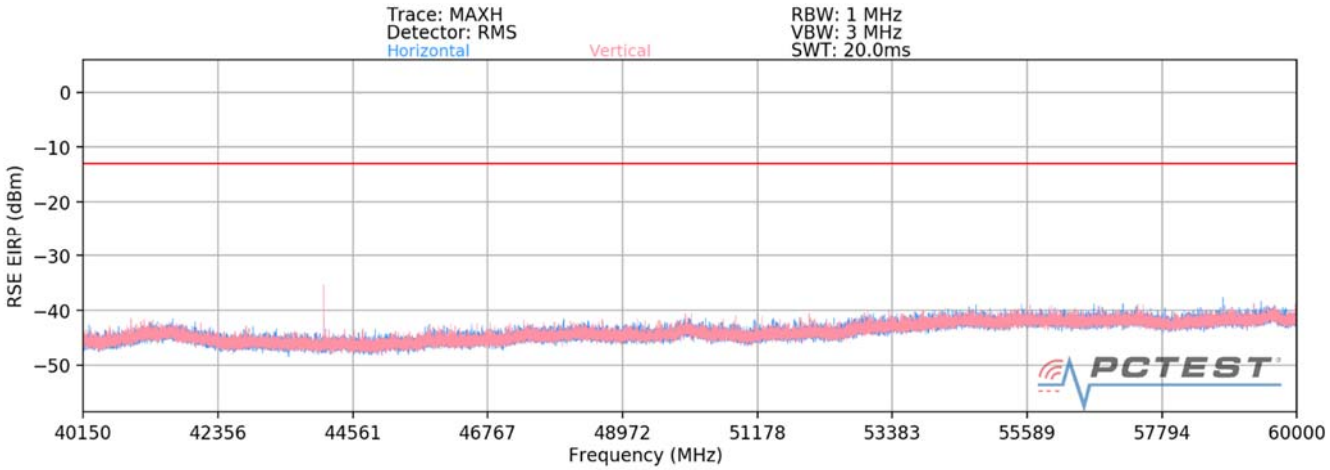
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

40.15GHz - 60GHz



Plot 7-79. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-80. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
42932.90	Low	50	H	QPSK	H	31	123	-28.64	-13.00	-15.64
42931.80	Low	50	V	QPSK	V	27	108	-29.08	-13.00	-16.08
44082.30	Mid	50	H	QPSK	H	20	134	-31.97	-13.00	-18.97
44083.10	Mid	50	V	QPSK	V	13	128	-32.17	-13.00	-19.17
46233.90	High	50	H	QPSK	H	38	139	-30.82	-13.00	-17.82
46233.10	High	50	V	QPSK	V	18	127	-28.30	-13.00	-15.30

Table 7-79. Ant2 - SISO -Spurious Emissions Table (40.15GHz - 60GHz)

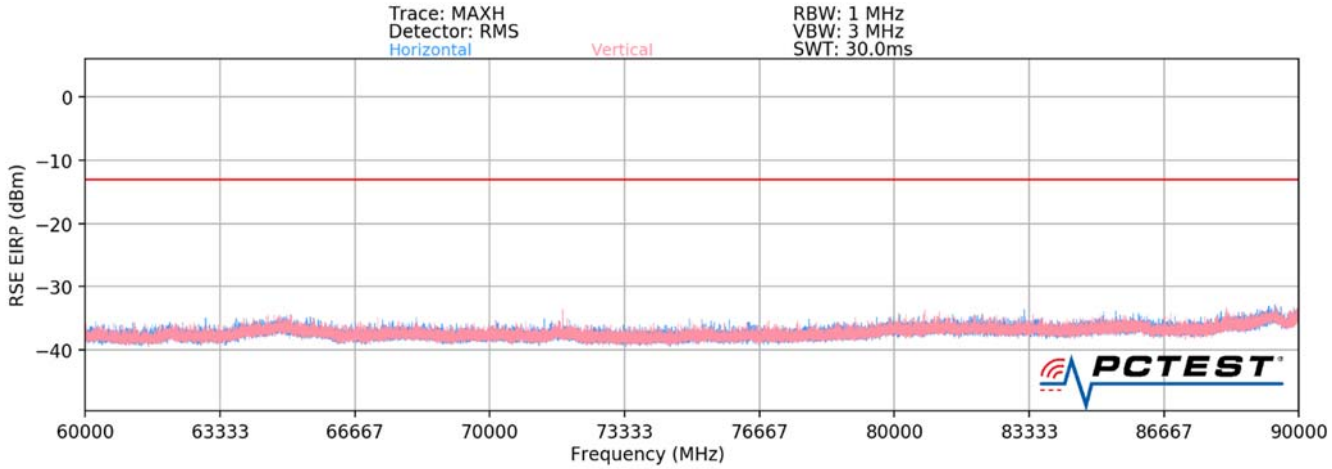
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-25.84	-13.00	-12.84
Mid	50	QPSK	-29.06	-13.00	-16.06
High	50	QPSK	-26.37	-13.00	-13.37

Table 7-80. Ant2 - MIMO -Spurious Emissions Table (40.15GHz - 60GHz)

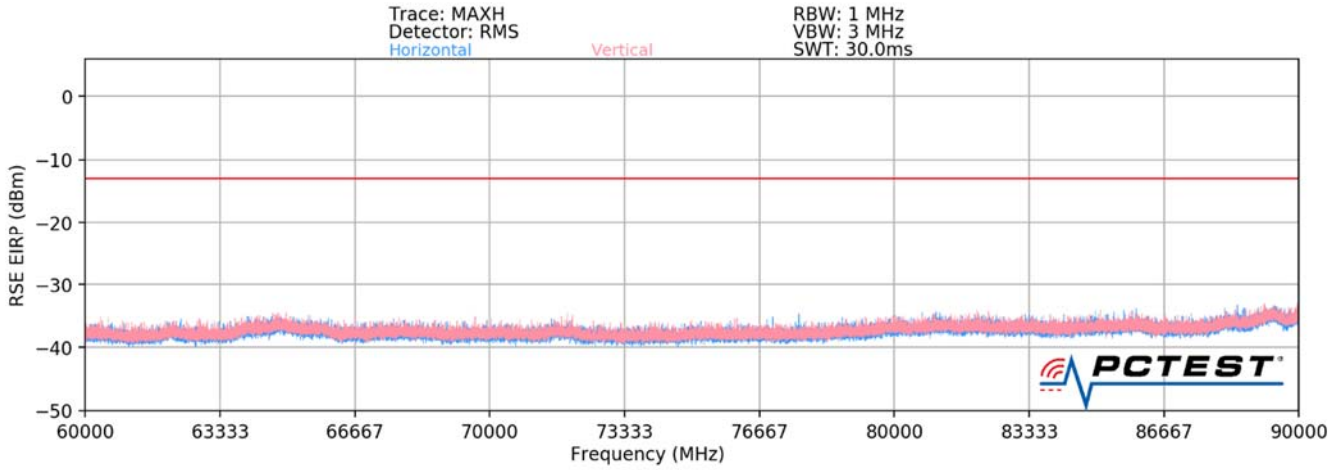
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-81. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-82. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
74055.63	Low	50	H	QPSK	H	11	123	-38.45	-13.00	-25.45
74046.03	Low	50	V	QPSK	H	54	68	-41.59	-13.00	-28.59
76995.84	Mid	50	H	QPSK	H	126	15	-43.93	-13.00	-30.93
76995.78	Mid	50	V	QPSK	H	85	353	-38.24	-13.00	-25.24
79944.09	High	50	H	QPSK	H	234	53	-42.19	-13.00	-29.19
79925.64	High	50	V	QPSK	H	197	83	-43.25	-13.00	-30.25

Table 7-81. Ant2 - SISO -Spurious Emissions Table (60GHz - 90GHz)

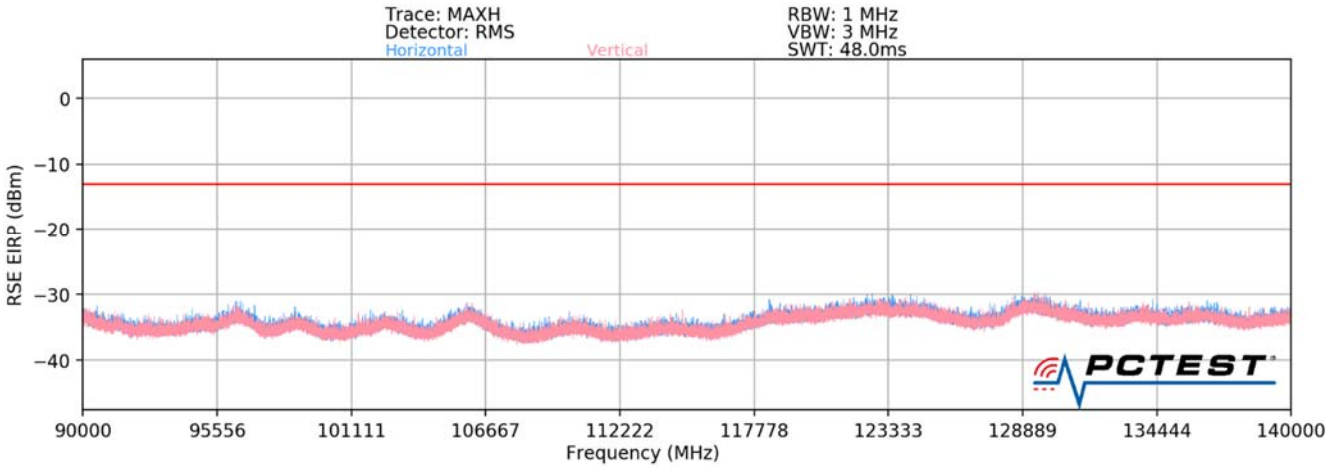
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-36.73	-13.00	-23.73
Mid	50	QPSK	-37.20	-13.00	-24.20
High	50	QPSK	-39.68	-13.00	-26.68

Table 7-82. Ant2 - MIMO -Spurious Emissions Table (60GHz - 90GHz)

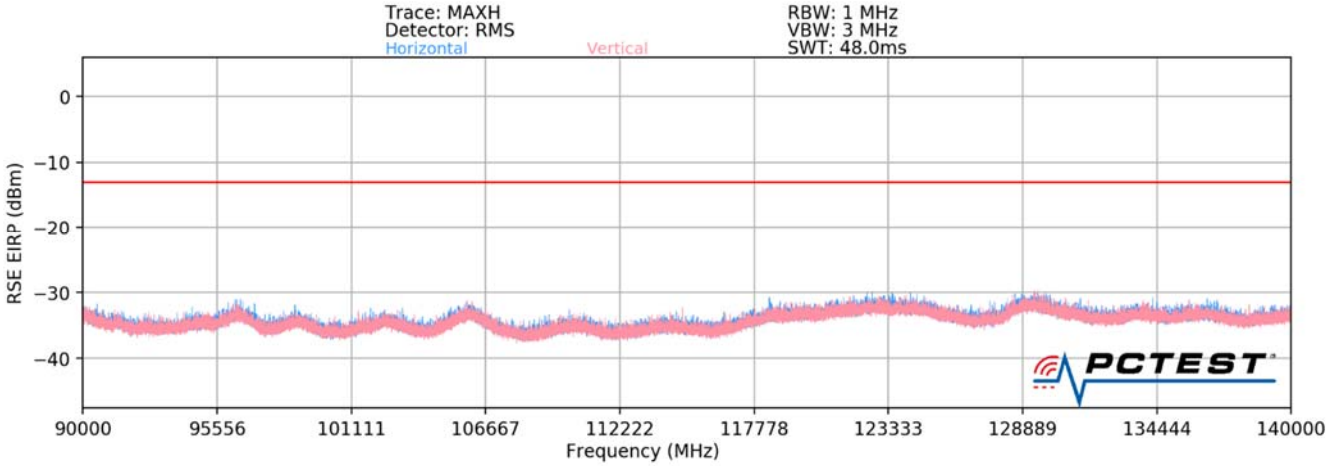
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-83. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-84. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
123398.10	Low	50	H	QPSK	H	-	-	-28.92	-13.00	-15.92
128897.40	Low	50	V	QPSK	V	-	-	-29.31	-13.00	-16.31
123363.90	Mid	50	H	QPSK	H	-	-	-28.16	-13.00	-15.16
123347.30	Mid	50	V	QPSK	V	-	-	-29.73	-13.00	-16.73
128886.10	High	50	H	QPSK	H	-	-	-30.49	-13.00	-17.49
123365.40	High	50	V	QPSK	V	-	-	-29.42	-13.00	-16.42

Table 7-83. Ant2 - SISO -Spurious Emissions Table (90GHz - 140GHz)

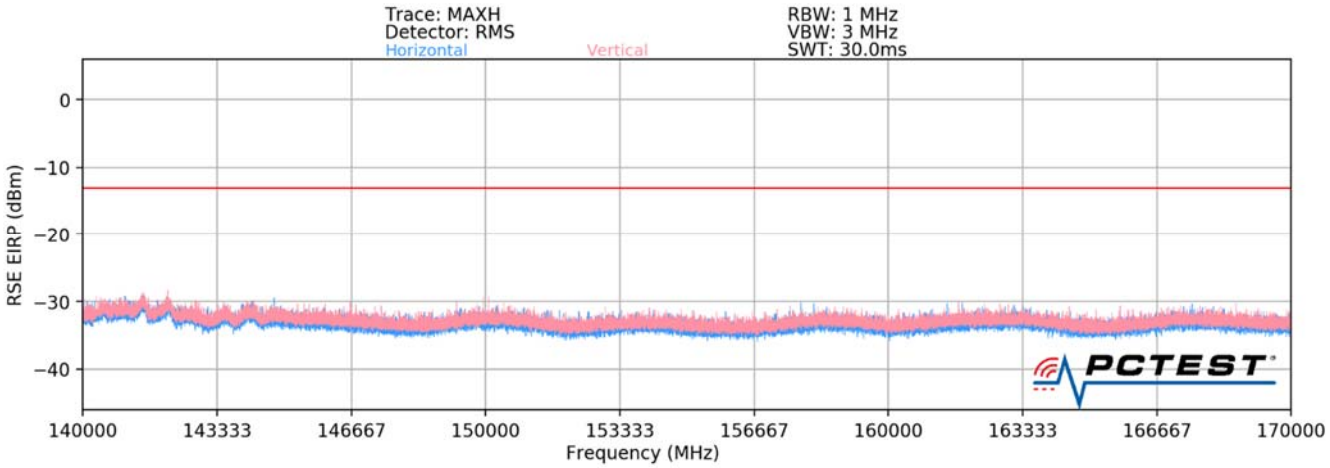
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-26.10	-13.00	-13.10
Mid	50	QPSK	-25.86	-13.00	-12.86
High	50	QPSK	-26.91	-13.00	-13.91

Table 7-84. Ant2 - MIMO -Spurious Emissions Table (90GHz - 140GHz)

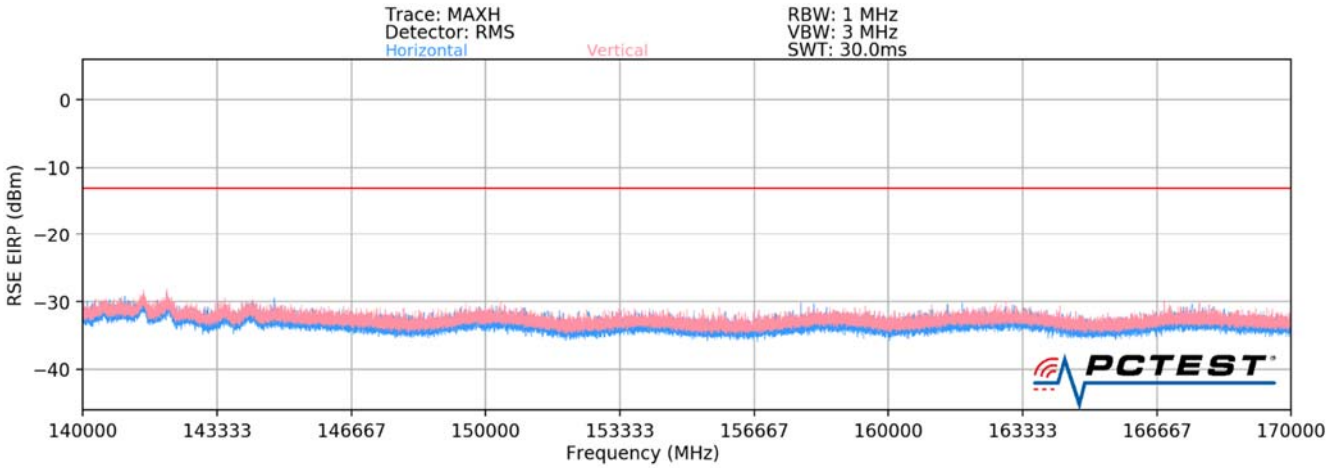
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-85. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-86. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
148118.94	Low	50	H	QPSK	H	-	-	-39.07	-13.00	-26.07
148119.12	Low	50	V	QPSK	V	-	-	-39.03	-13.00	-26.03
153911.79	Mid	50	H	QPSK	H	-	-	-38.62	-13.00	-25.62
153984.00	Mid	50	V	QPSK	V	-	-	-38.49	-13.00	-25.49
159873.78	High	50	H	QPSK	H	-	-	-39.02	-13.00	-26.02
159863.73	High	50	V	QPSK	V	-	-	-38.79	-13.00	-25.79

Table 7-85. Ant2 - SISO -Spurious Emissions Table (140GHz - 170GHz)

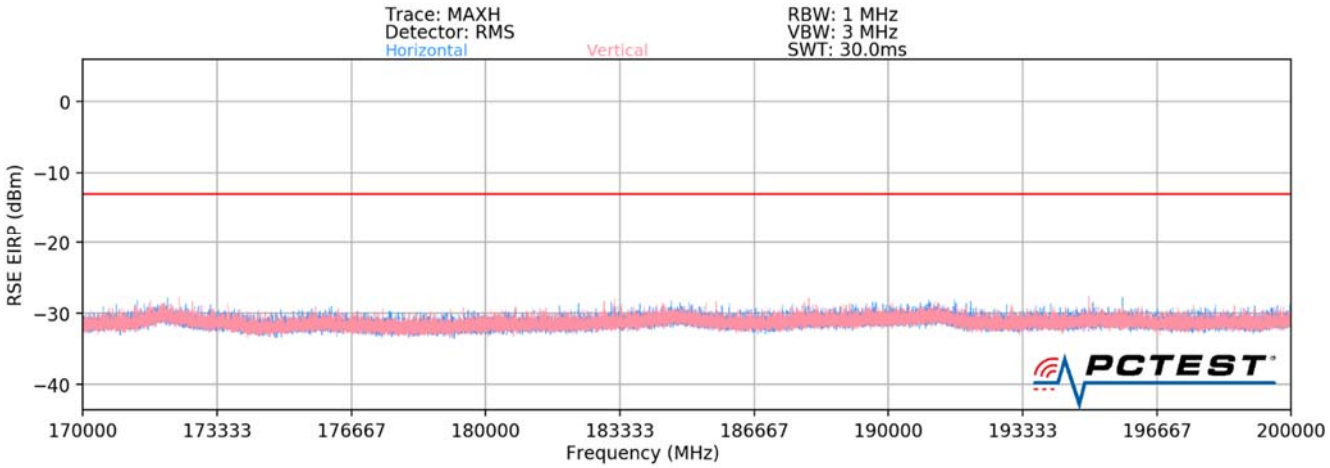
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-36.04	-13.00	-23.04
Mid	50	QPSK	-35.55	-13.00	-22.55
High	50	QPSK	-35.89	-13.00	-22.89

Table 7-86. Ant2 - MIMO -Spurious Emissions Table (140GHz - 170GHz)

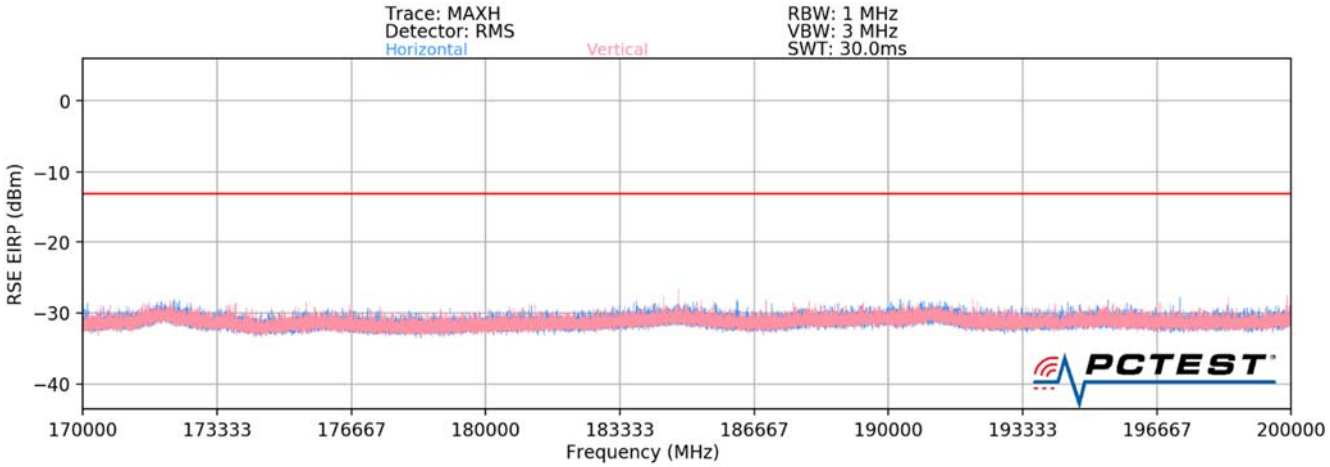
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-87. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-88. Ant2-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
185128.68	Low	50	H	QPSK	H	-	-	-37.54	-13.00	-24.54
185126.64	Low	50	V	QPSK	V	-	-	-37.80	-13.00	-24.80
192389.34	Mid	50	H	QPSK	H	-	-	-38.24	-13.00	-25.24
192492.93	Mid	50	V	QPSK	V	-	-	-38.43	-13.00	-25.43
199843.50	High	50	H	QPSK	H	-	-	-38.16	-13.00	-25.16
199842.33	High	50	V	QPSK	V	-	-	-38.22	-13.00	-25.22

Table 7-87. Ant2 - SISO -Spurious Emissions Table (170GHz - 200GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-34.65	-13.00	-21.65
Mid	50	QPSK	-35.33	-13.00	-22.33
High	50	QPSK	-35.18	-13.00	-22.18

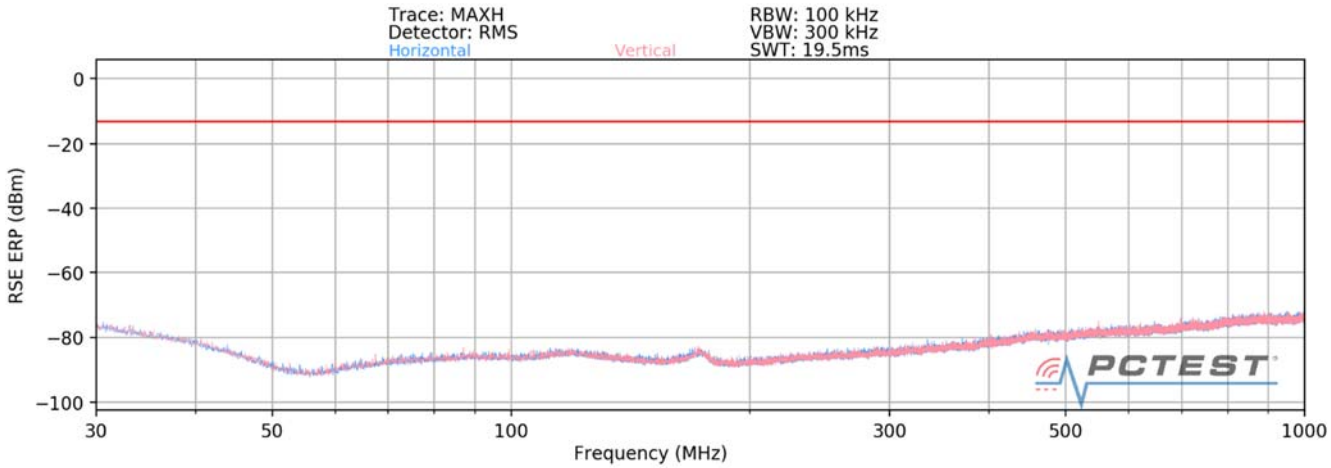
Table 7-88. Ant2 - MIMO -Spurious Emissions Table (170GHz - 200GHz)

Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

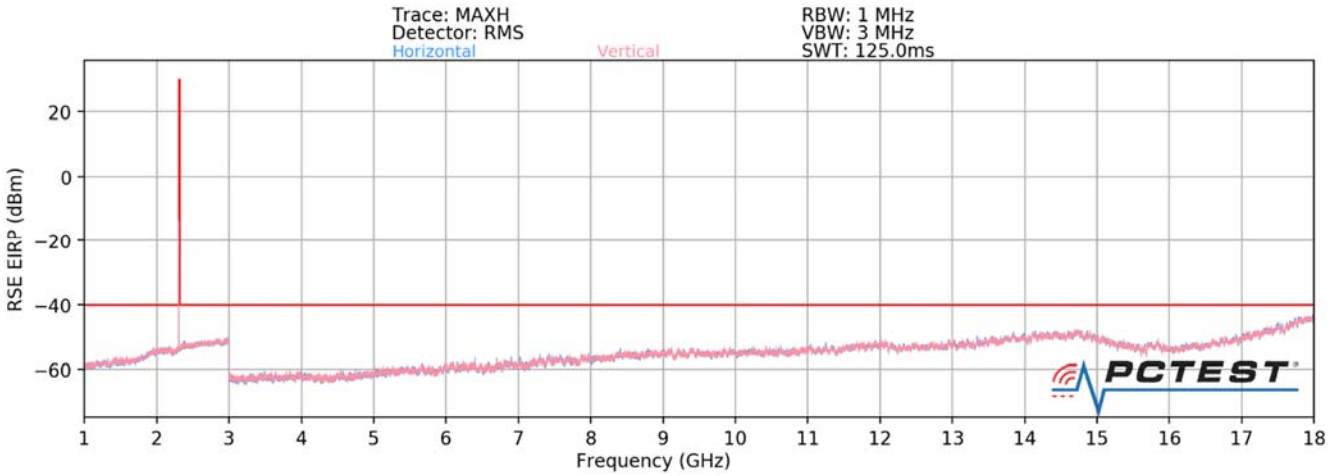
EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

Band n260 QTM#2 / Ant3
30MHz - 1GHz



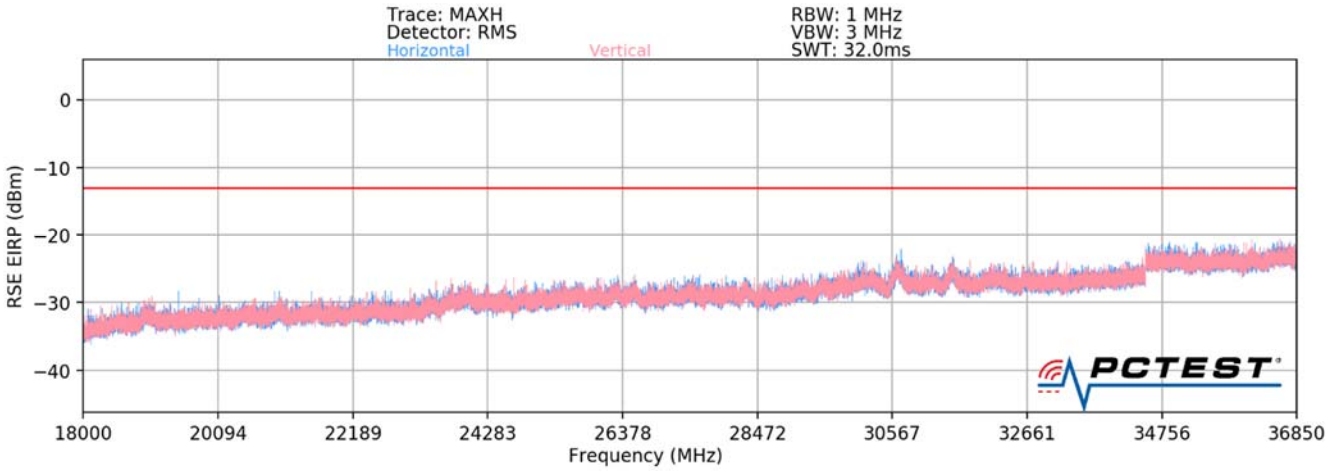
Plot 7-89. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel)

1GHz - 18GHz

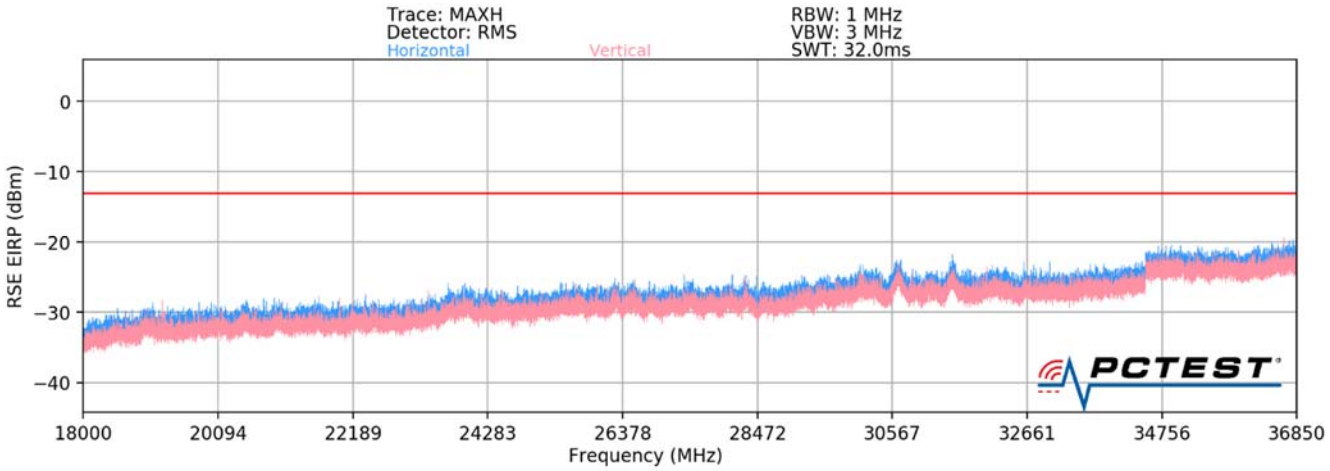


Plot 7-90. Ant3-n260 Radiated Spurious Plot 1GHz - 18GHz (1CC QPSK Mid Channel)

18GHz - 36.85GHz



Plot 7-91. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-92. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
35987.60	Low	50	H	QPSK	H	-	-	-23.39	-13.00	-10.39
34647.30	Low	50	V	QPSK	V	-	-	-22.18	-13.00	-9.18
35391.30	Mid	50	H	QPSK	H	-	-	-22.09	-13.00	-9.09
35608.40	Mid	50	V	QPSK	V	-	-	-23.57	-13.00	-10.57
36013.40	High	50	H	QPSK	H	-	-	-23.64	-13.00	-10.64
36008.50	High	50	V	QPSK	V	-	-	-22.13	-13.00	-9.13

Table 7-89. Ant3 - SISO -Spurious Emissions Table (18GHz - 36.85GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-19.73	-13.00	-6.73
Mid	50	QPSK	-19.76	-13.00	-6.76
High	50	QPSK	-19.81	-13.00	-6.81

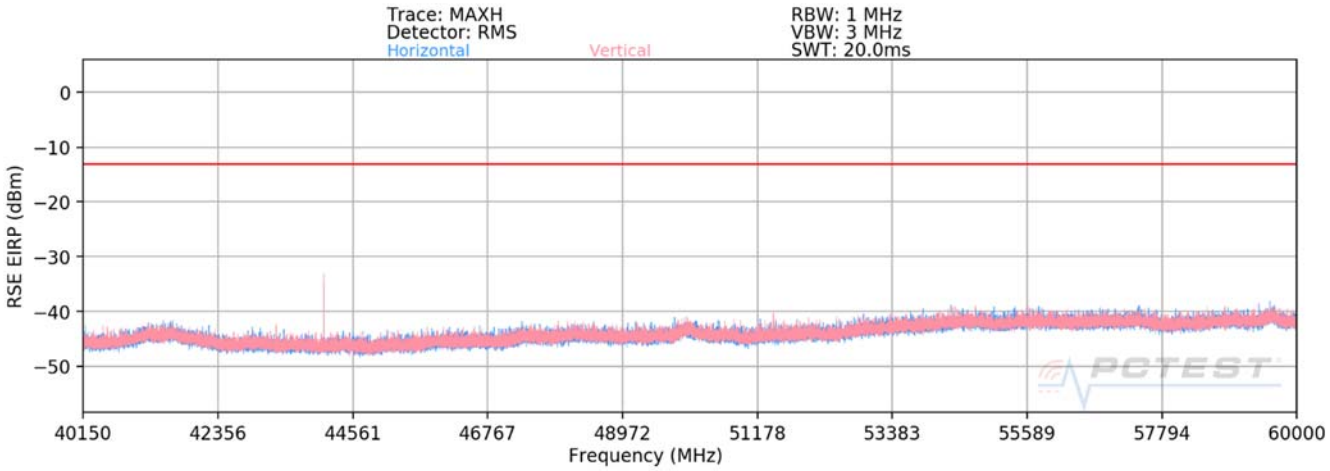
Table 7-90. Ant3 - MIMO -Spurious Emissions Table (18GHz - 36.85GHz)

Notes

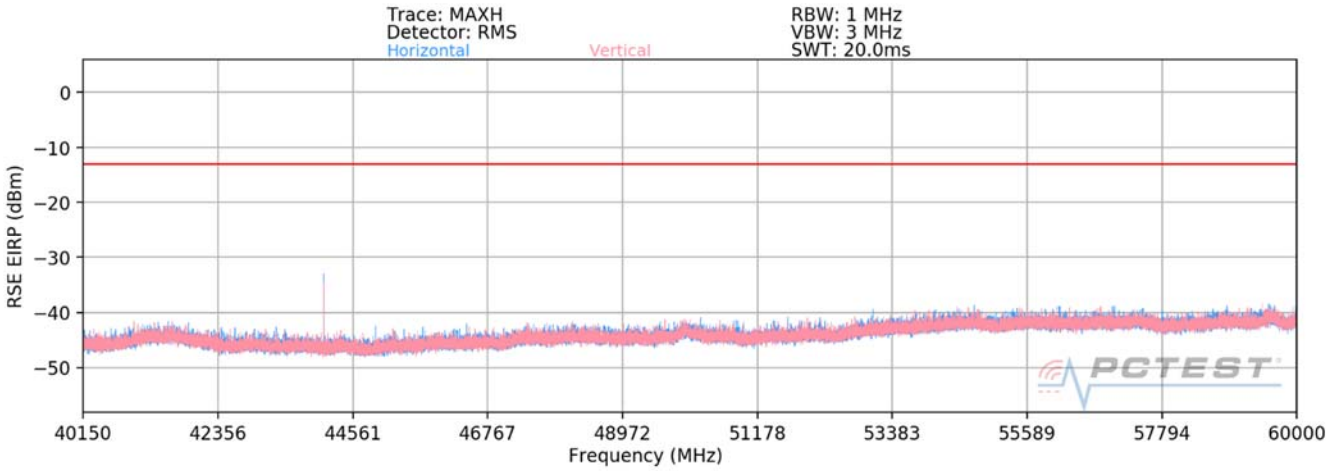
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

40.15GHz - 60GHz



Plot 7-93. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-94. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
42932.40	Low	50	H	QPSK	H	143	254	-37.61	-13.00	-24.61
42931.80	Low	50	V	QPSK	V	128	238	-38.97	-13.00	-25.97
44082.60	Mid	50	H	QPSK	H	156	207	-37.08	-13.00	-24.08
44083.10	Mid	50	V	QPSK	V	147	208	-38.67	-13.00	-25.67
46233.10	High	50	H	QPSK	H	158	231	-35.97	-13.00	-22.97
46231.80	High	50	V	QPSK	V	155	207	-38.64	-13.00	-25.64

Table 7-91. Ant3 - SISO -Spurious Emissions Table (40.15GHz - 60GHz)

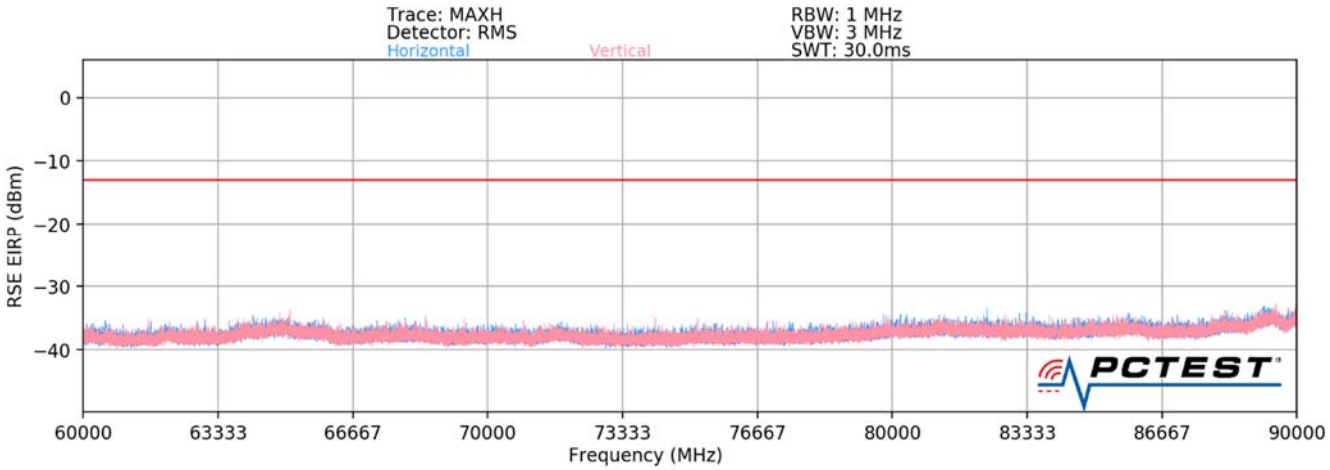
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-35.23	-13.00	-22.23
Mid	50	QPSK	-34.79	-13.00	-21.79
High	50	QPSK	-34.09	-13.00	-21.09

Table 7-92. Ant3 - MIMO -Spurious Emissions Table (40.15GHz - 60GHz)

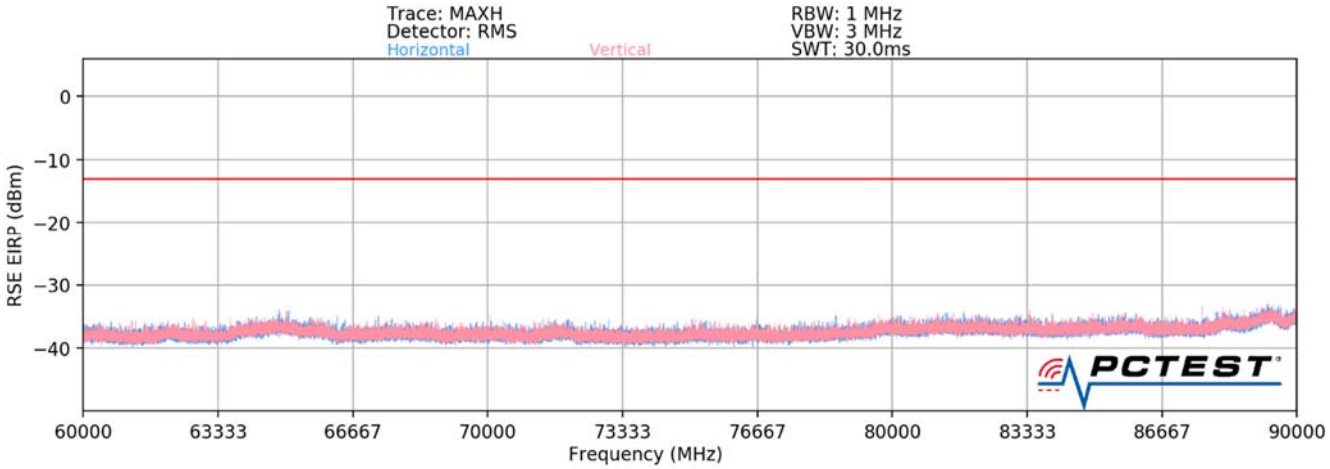
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-95. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-96. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
74055.24	Low	50	H	QPSK	V	274	338	-43.96	-13.00	-30.96
74055.66	Low	50	V	QPSK	V	197	358	-45.00	-13.00	-32.00
76995.66	Mid	50	H	QPSK	V	299	320	-44.44	-13.00	-31.44
76995.45	Mid	50	V	QPSK	V	208	105	-43.10	-13.00	-30.10
79917.75	High	50	H	QPSK	V	-	-	-45.09	-13.00	-32.09
79922.43	High	50	V	QPSK	V	-	-	-45.21	-13.00	-32.21

Table 7-93. Ant3 - SISO -Spurious Emissions Table (60GHz - 90GHz)

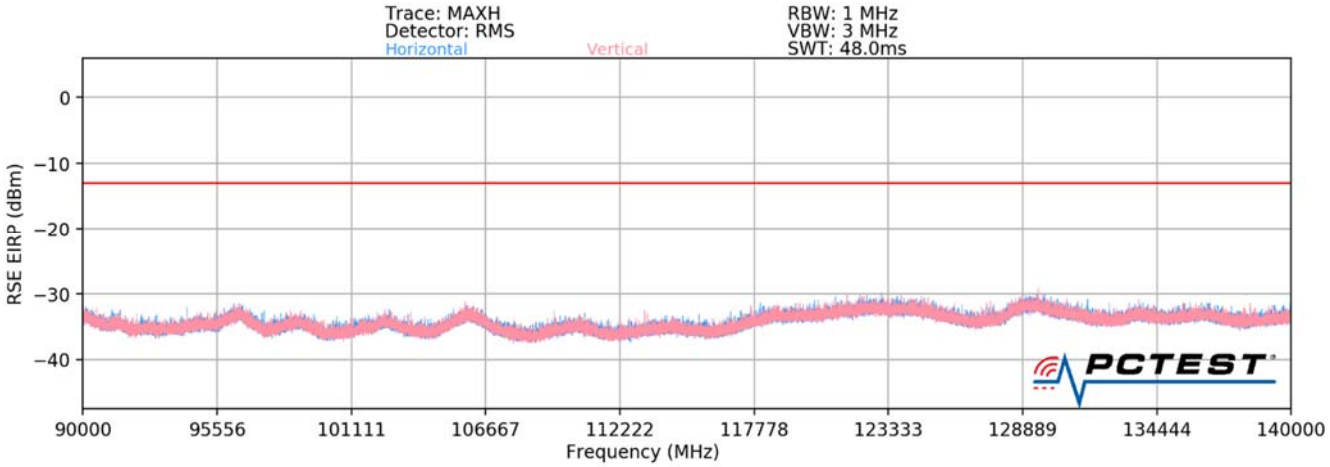
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-41.44	-13.00	-28.44
Mid	50	QPSK	-40.71	-13.00	-27.71
High	50	QPSK	-42.14	-13.00	-29.14

Table 7-94. Ant3 - MIMO -Spurious Emissions Table (60GHz - 90GHz)

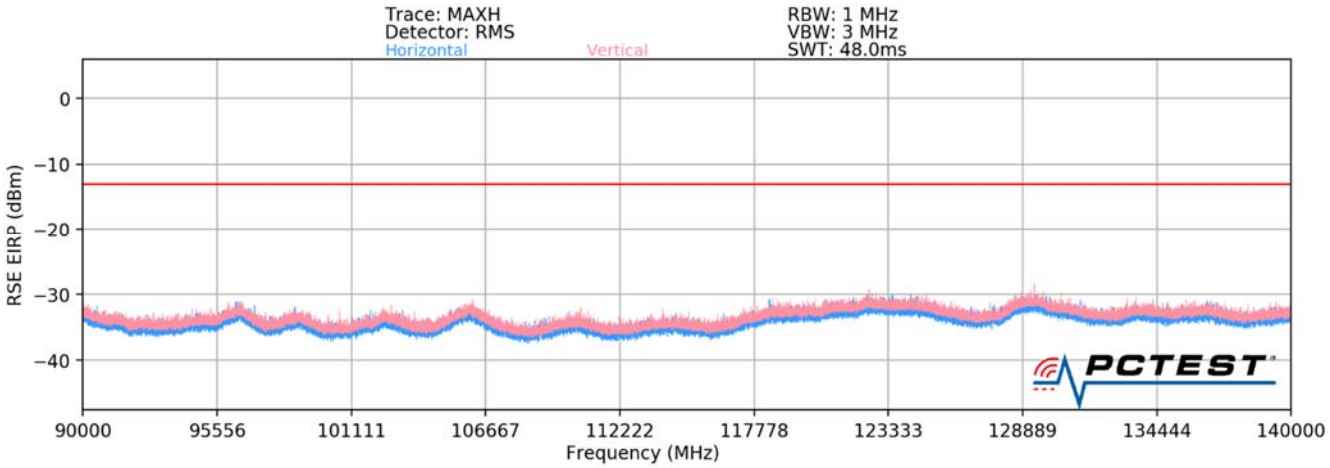
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-97. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-98. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
128896.50	Low	50	H	QPSK	H	-	-	-29.84	-13.00	-16.84
128876.30	Low	50	V	QPSK	V	-	-	-28.61	-13.00	-15.61
123387.90	Mid	50	H	QPSK	H	-	-	-29.09	-13.00	-16.09
123335.80	Mid	50	V	QPSK	V	-	-	-30.08	-13.00	-17.08
128886.10	High	50	H	QPSK	H	-	-	-29.46	-13.00	-16.46
123358.60	High	50	V	QPSK	V	-	-	-28.61	-13.00	-15.61

Table 7-95. Ant3 - SISO -Spurious Emissions Table (90GHz - 140GHz)

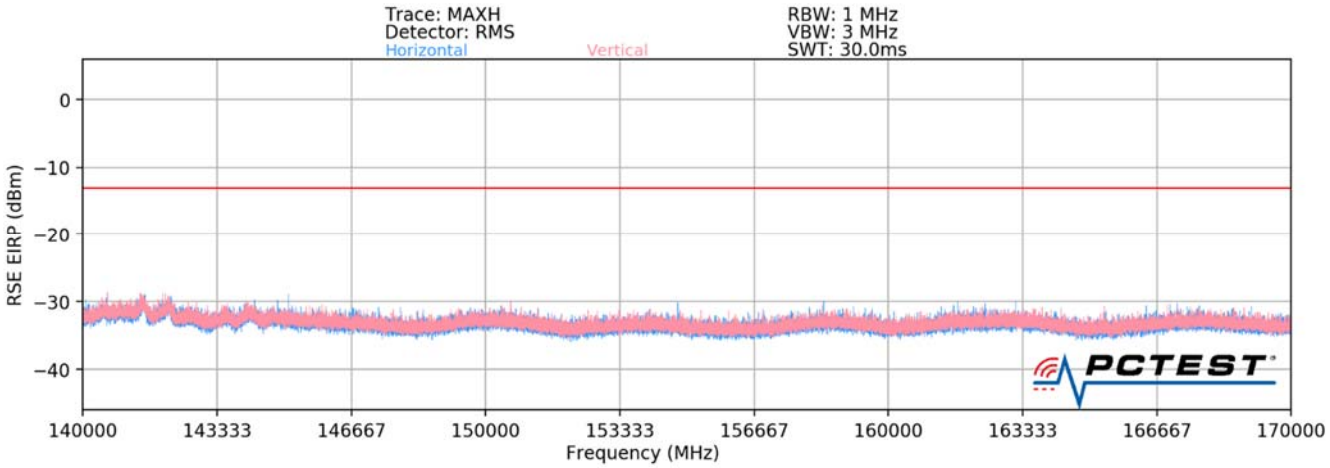
Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-26.17	-13.00	-13.17
Mid	50	QPSK	-26.55	-13.00	-13.55
High	50	QPSK	-26.00	-13.00	-13.00

Table 7-96. Ant3 - MIMO -Spurious Emissions Table (90GHz - 140GHz)

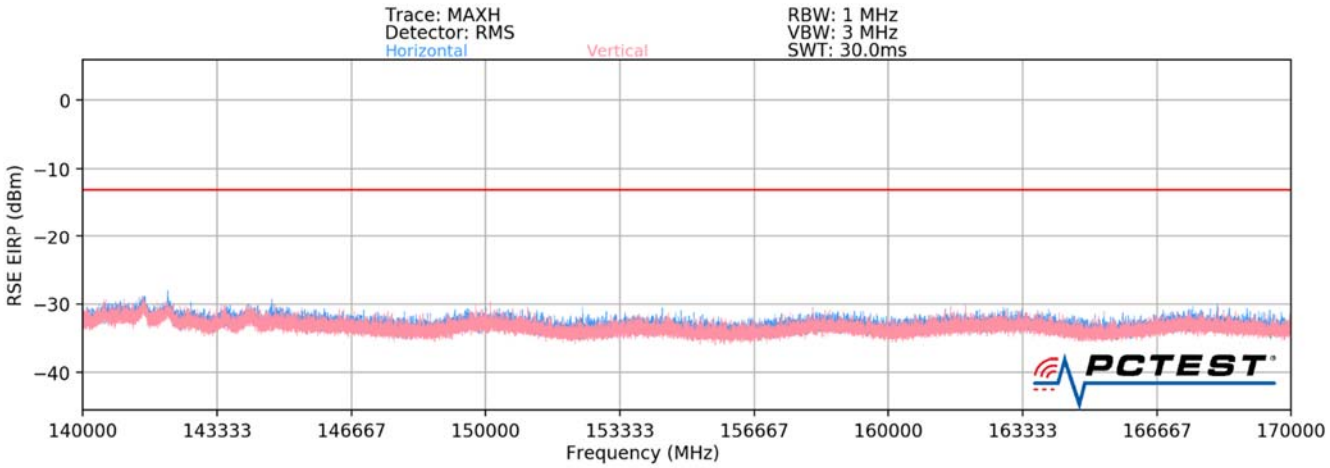
Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)



Plot 7-99. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-100. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
148110.00	Low	50	H	QPSK	V	-	-	-38.94	-13.00	-25.94
153996.30	Low	50	V	QPSK	V	-	-	-38.57	-13.00	-25.57
153975.33	Mid	50	H	QPSK	V	-	-	-38.59	-13.00	-25.59
153975.87	Mid	50	V	QPSK	V	-	-	-38.58	-13.00	-25.58
159852.90	High	50	H	QPSK	V	-	-	-38.92	-13.00	-25.92
159864.30	High	50	V	QPSK	V	-	-	-39.00	-13.00	-26.00

Table 7-97. Ant3 - SISO -Spurious Emissions Table (140GHz - 170GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-35.74	-13.00	-22.74
Mid	50	QPSK	-35.57	-13.00	-22.57
High	50	QPSK	-35.95	-13.00	-22.95

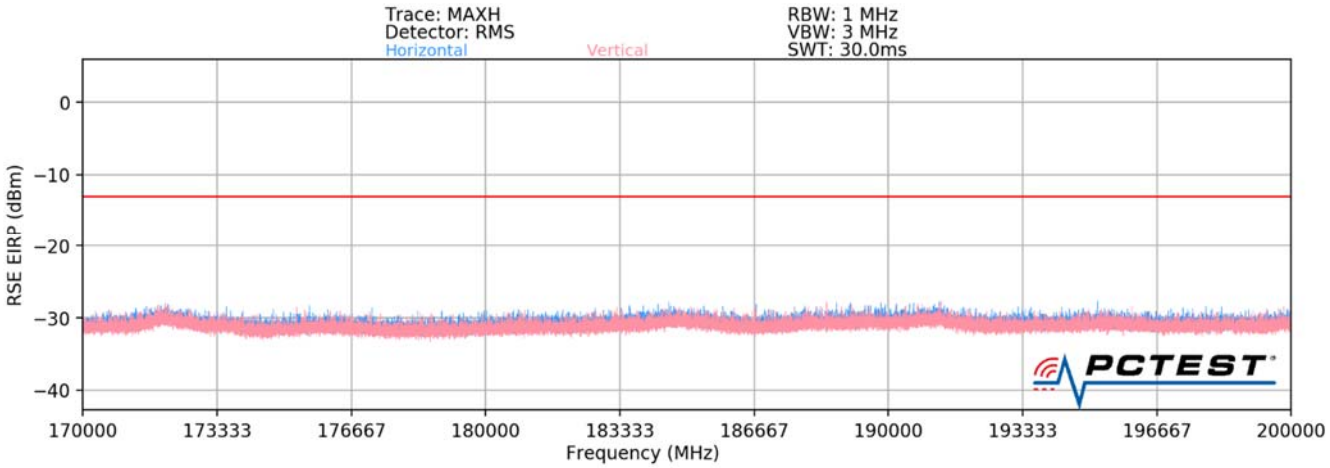
Table 7-98. Ant3 - MIMO -Spurious Emissions Table (140GHz - 170GHz)

Notes

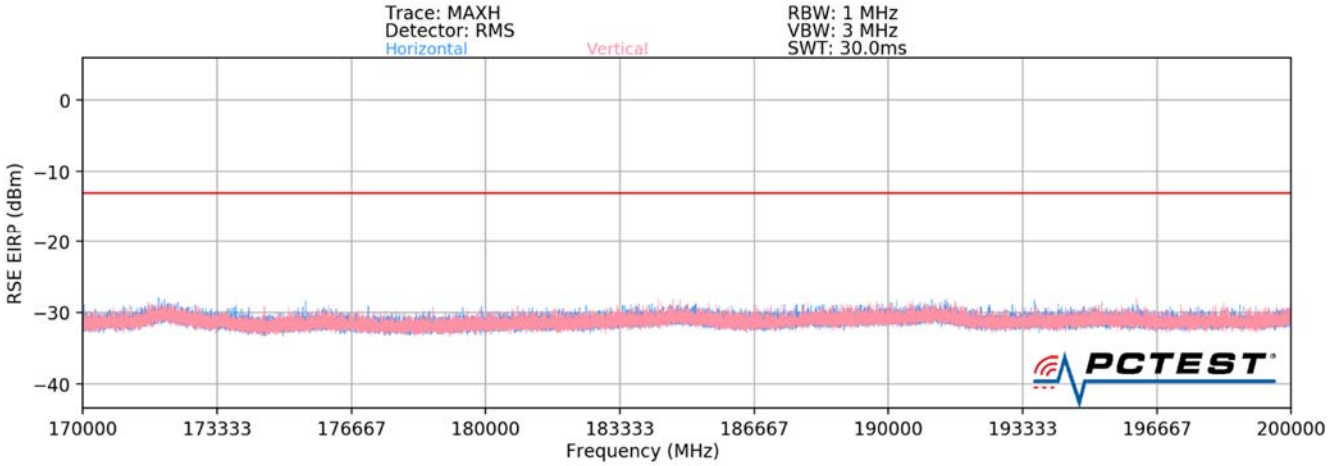
1. The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses. Measurements were performed at a distance of 1 meter.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

170GHz - 200GHz



Plot 7-101. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel H Beam)



Plot 7-102. Ant3-n260 Radiated Spurious Plot (1CC QPSK Mid Channel V Beam)

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) + Harmonic Mixer Conversion Loss[dB] + 20Log(Dm) – 104.8

Frequency [MHz]	Channnel	Bandwidth (MHz)	EUT Beam Pol.	Modulation	Antenna Polarization [H/V]	Turntable Azimuth [degrees]	Positioner Azimuth [degrees]	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
185122.32	Low	50	H	QPSK	V	-	-	-37.63	-13.00	-24.63
192500.82	Low	50	V	QPSK	V	-	-	-38.30	-13.00	-25.30
192472.86	Mid	50	H	QPSK	V	-	-	-38.33	-13.00	-25.33
192498.06	Mid	50	V	QPSK	V	-	-	-38.48	-13.00	-25.48
199821.84	High	50	H	QPSK	V	-	-	-38.13	-13.00	-25.13
199839.99	High	50	V	QPSK	V	-	-	-38.21	-13.00	-25.21

Table 7-99. Ant3 - SISO -Spurious Emissions Table (170GHz - 200GHz)

Channnel	Bandwidth (MHz)	Modulation	Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
Low	50	QPSK	-34.94	-13.00	-21.94
Mid	50	QPSK	-35.39	-13.00	-22.39
High	50	QPSK	-35.16	-13.00	-22.16

Table 7-100. Ant3 - MIMO -Spurious Emissions Table (170GHz - 200GHz)

Notes

1. 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.
2. To address compliance of MIMO RSE per KDB 662911 D01, the MIMO RSE EIRP is calculated by summing the worst case H Beam EIRP and V Beam EIRP in linear powers units then converted back to dBm:

EIRP(H Beam) + EIRP(V Beam) = EIRP(MIMO)

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 v01 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 ≥ 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x 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 measurements in this section are shown as equivalent conductive powers for direct comparison to the 30.203 limit. The condutive power at the band edge is calculated by subtracting the gain of the EUT's antenna from the measured EIRP level. Antenna Gain information is shown on the following page.
3) Band Edge emissions were measured at a 1 meter distance.
4) The spectrum analyzer for each measurement shows an offset value that was determined using the measurement antenna factor, cable loss, far field measurement distance, and EUT antenna gain. A sample calculation is shown on the following page.
5) MIMO Band Edge plots shown below are mathematically summed conductive powers between spectrum analyzer measurements on H Beam and V Beam. This MIMO bandedge plot was produced by summing the following two spectrum analyzer traces: (1) the first trace is maximized while the EUT is transmitting in H-beam and (2) the second trace is maximized while the EUT is transmitting in V-beam.
6) The MIMO Band Edges were calculated by using the "measure and sum the spectra across the outputs" technique specified in Section 6.4.3.2.2 of ANSI C63.26-2015. The spectra were summed linearly and converted to dBm for comparison with the limit.

Antenna Gain Information at the Band Edge

The following antenna gain information is provided to demonstrate the antenna performance of the 27.5 – 28.35GHz and 37 – 40GHz band. These antenna gains were subtracted from the measured EIRP levels at the lower and upper band edge frequencies to determine an equivalent conductive power that was compared directly with the §30.203 limits.

Antenna	Gain (dBi)
Ant1	9.0
Ant2	9.0
Ant3	9.0

Table 7-101. Antenna Gains at the Band Edges(n261)

Antenna	Gain (dBi)
Ant1	8.0
Ant2	8.0
Ant3	8.0

Table 7-102. Antenna Gains at the Band Edges(n260)

Sample Analyzer Offset Calculation (at 27.5GHz)

Measurement Antenna Factor = 40.70dB/m

Cable Loss = 8.26dB

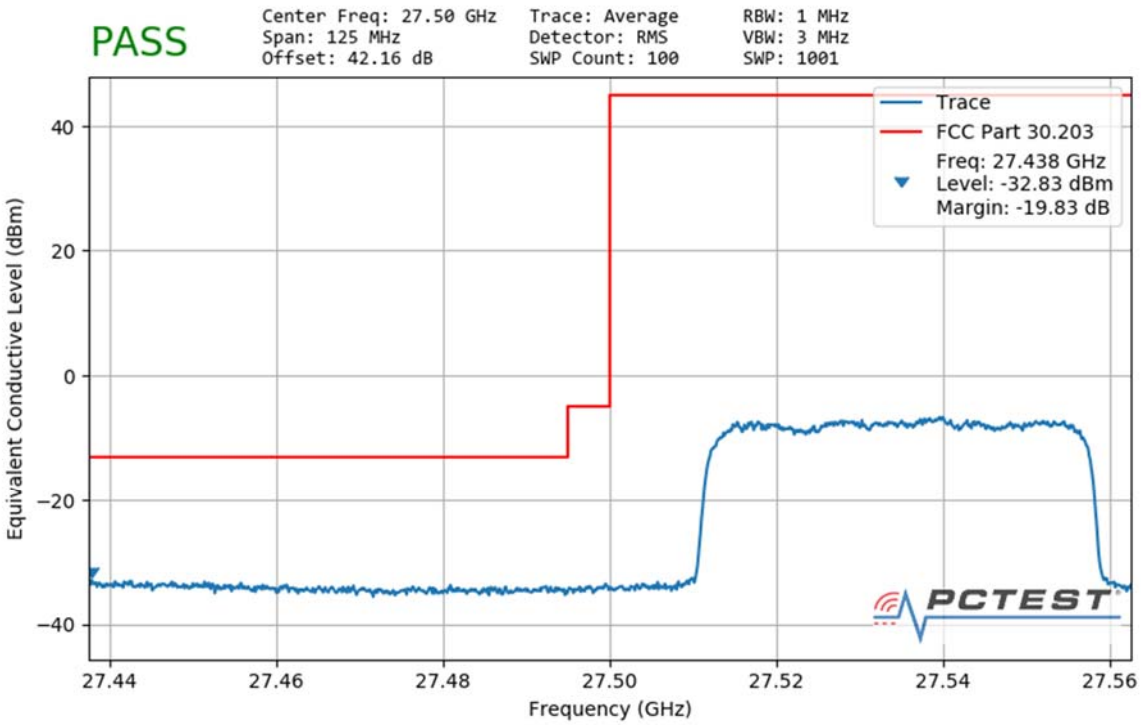
EUT Antenna Gain = 9.0dBi

Analyzer Offset (dB) = AF (dB/m) + CL (dB) + 107 + $20\log_{10}(D)$ – 104.8dB – Gain (dBi), where D = 1m

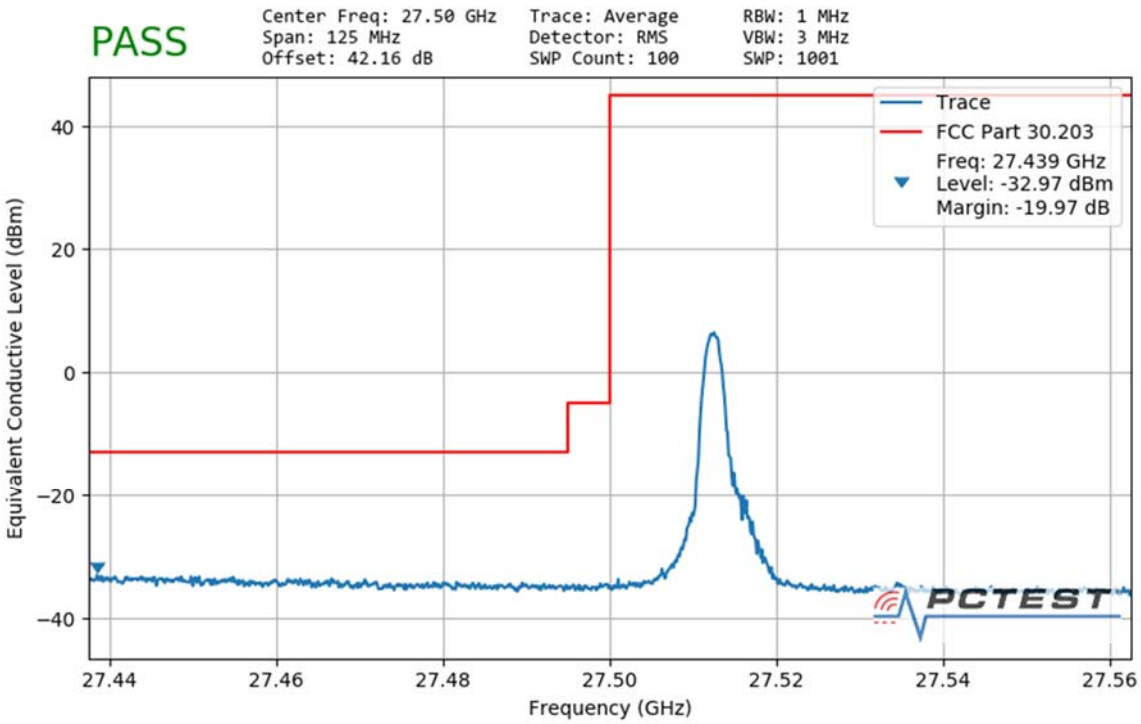
= 40.70dB/m + 8.26dB + 107 + $20\log_{10}(1m)$ – 104.8dB – 9.0dBi

= 42.16dB

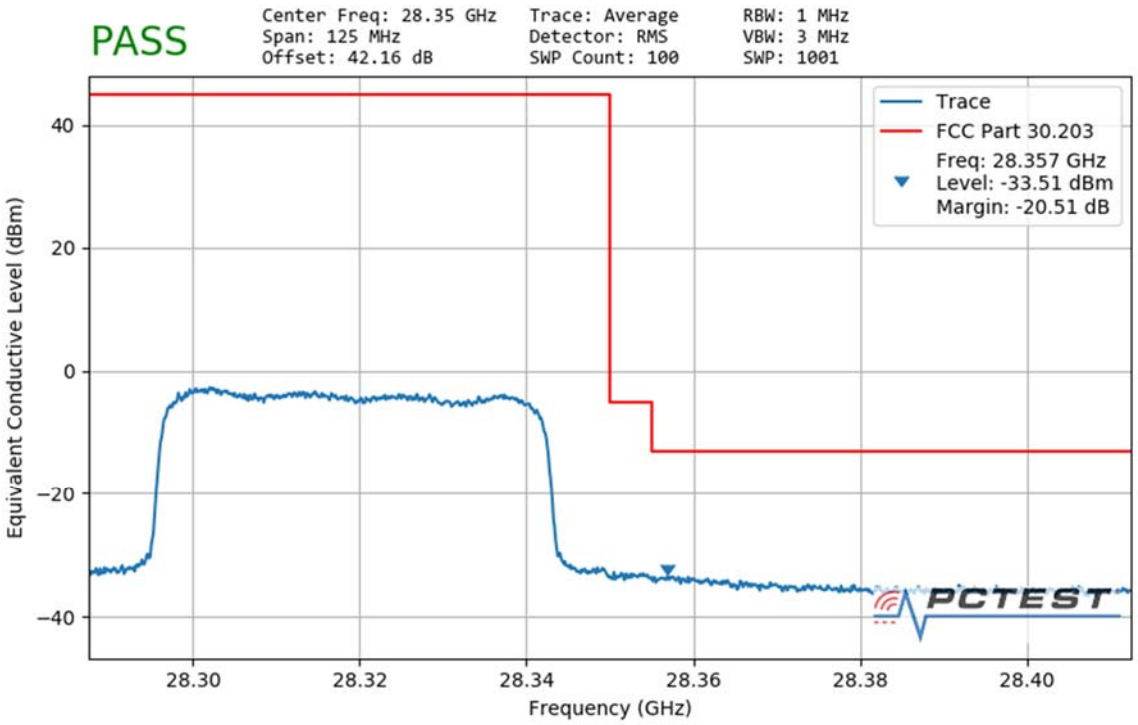
Band n261 – QTM#0 / Ant1 - MIMO



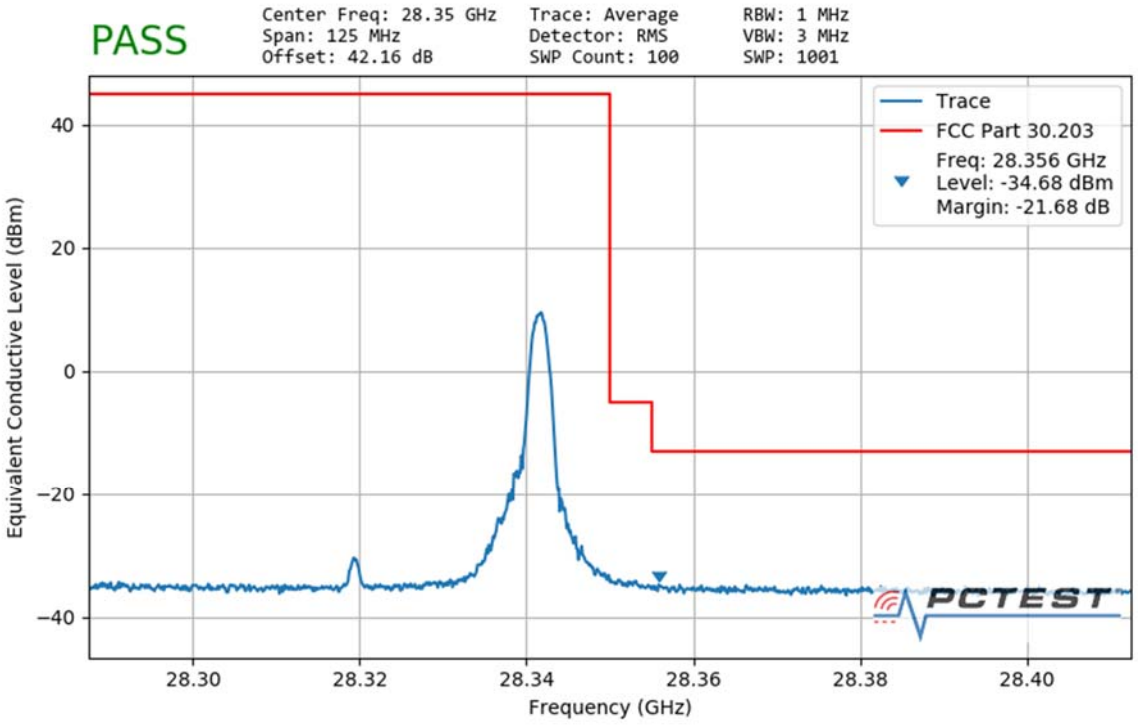
Plot 7-103. Ant1 Lower Band Edge (50MHz-1CC – QPSK Full RB)



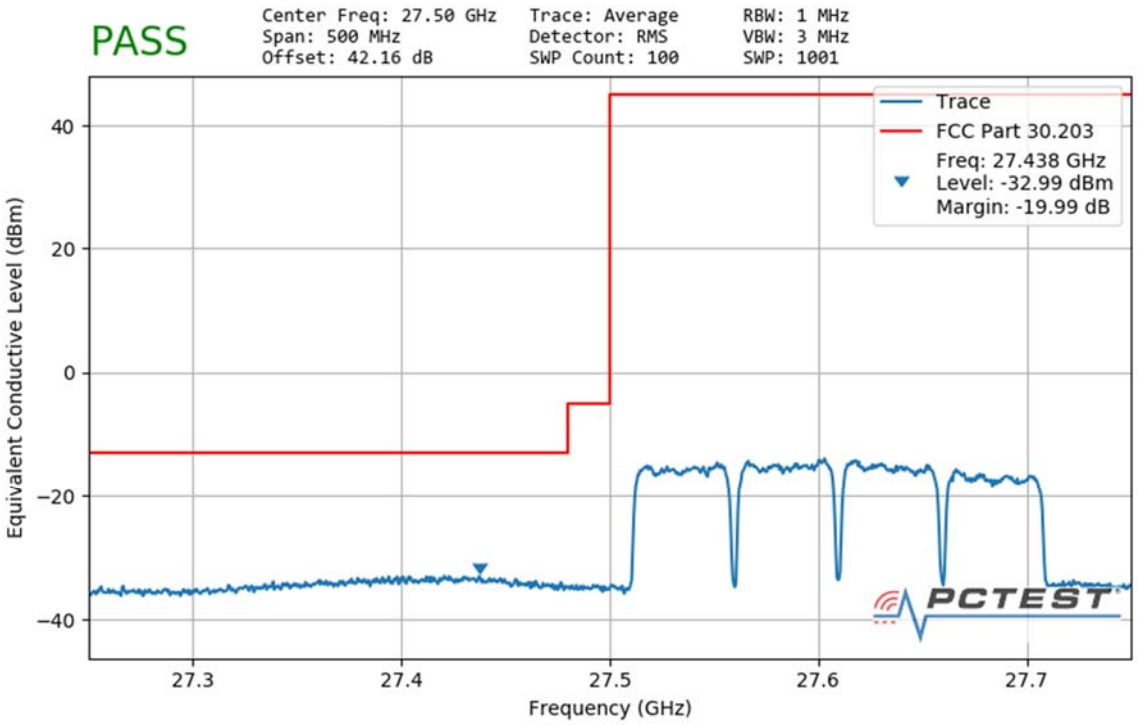
Plot 7-104. Ant1 Lower Band Edge (50MHz-1CC – QPSK 1 RB)



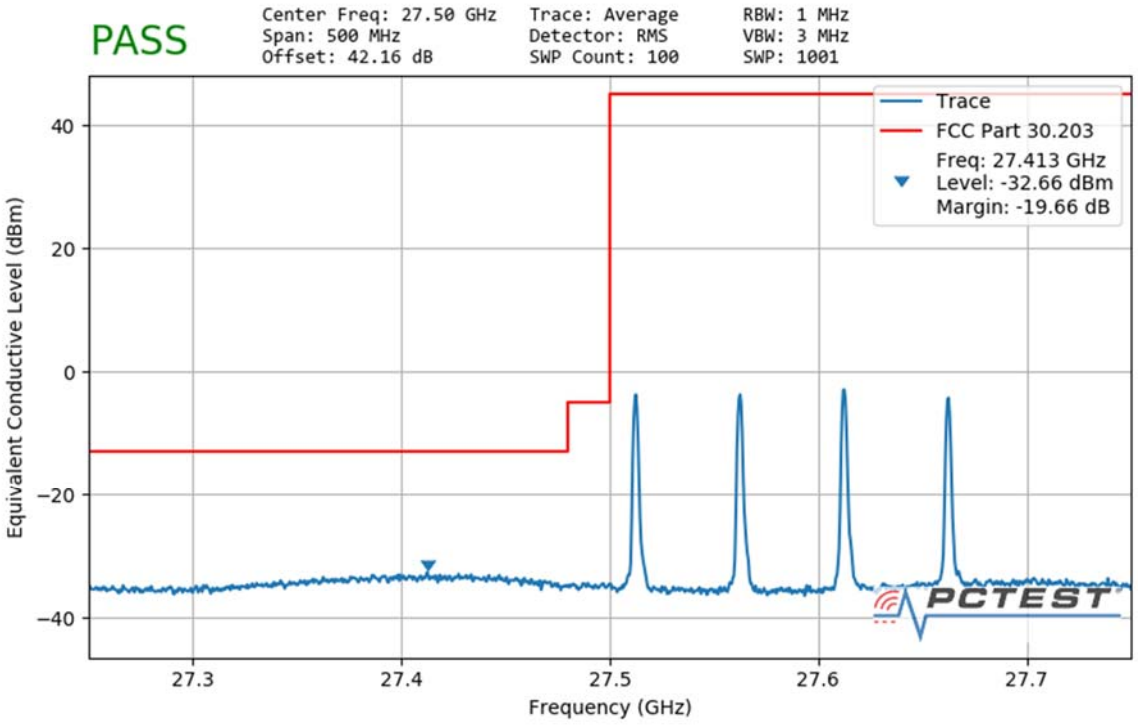
Plot 7-105. Ant1 Upper Band Edge (50MHz-1CC – QPSK Full RB)



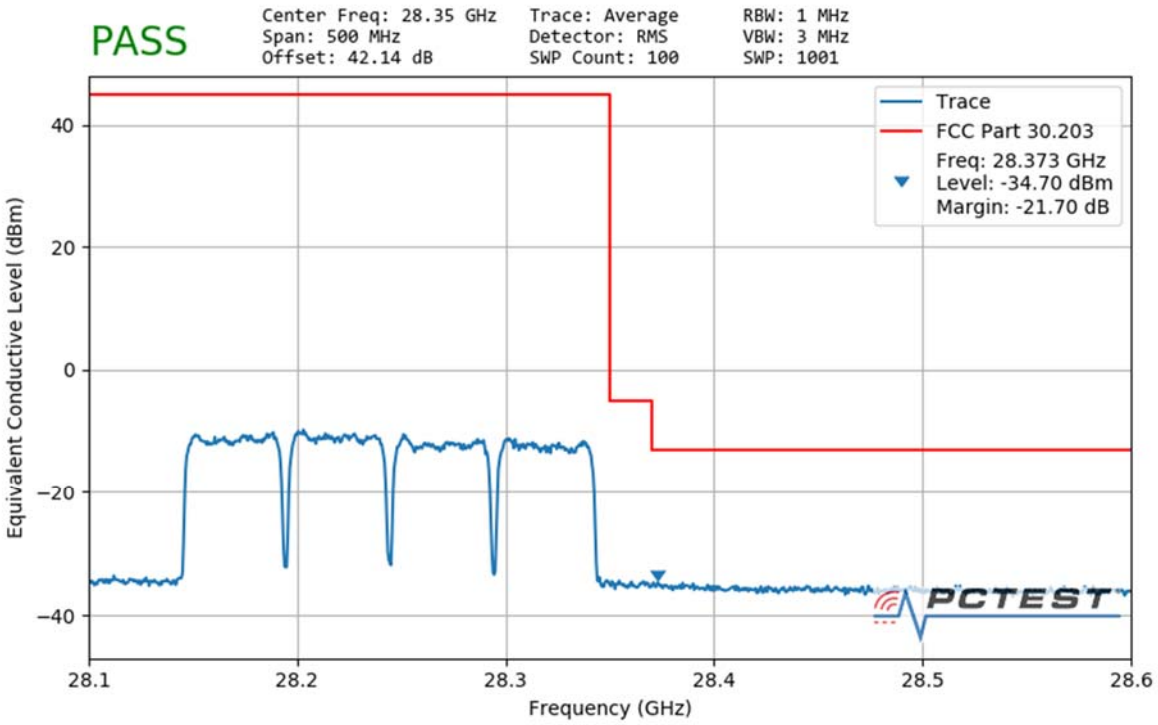
Plot 7-106. Ant1 Upper Band Edge (50MHz-1CC – QPSK 1 RB)



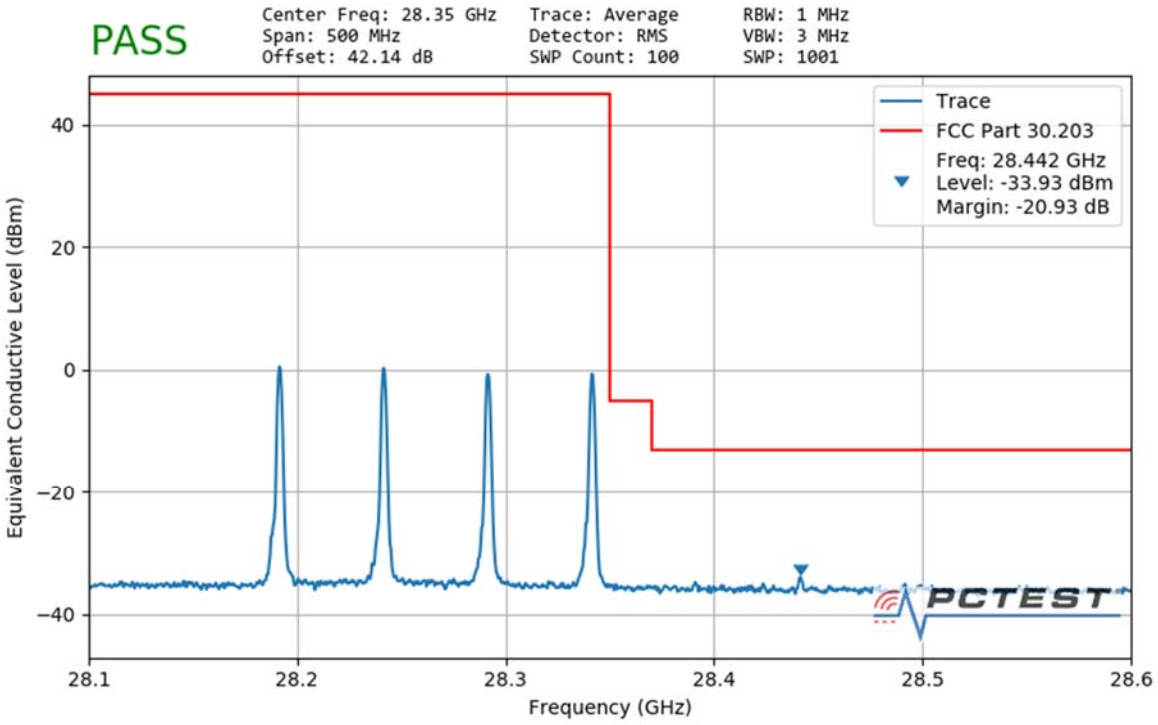
Plot 7-107. Ant1 Lower Band Edge (50MHz-4CC – QPSK Full RB)



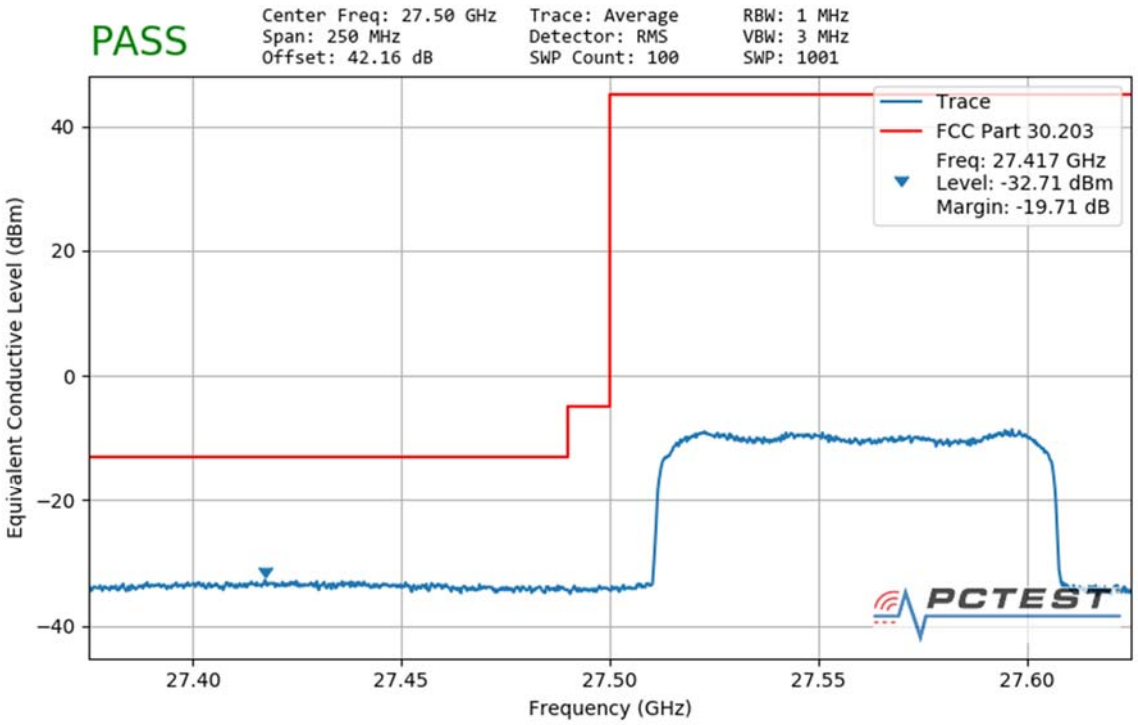
Plot 7-108. Ant1 Lower Band Edge (50MHz-4CC – QPSK 1 RB)



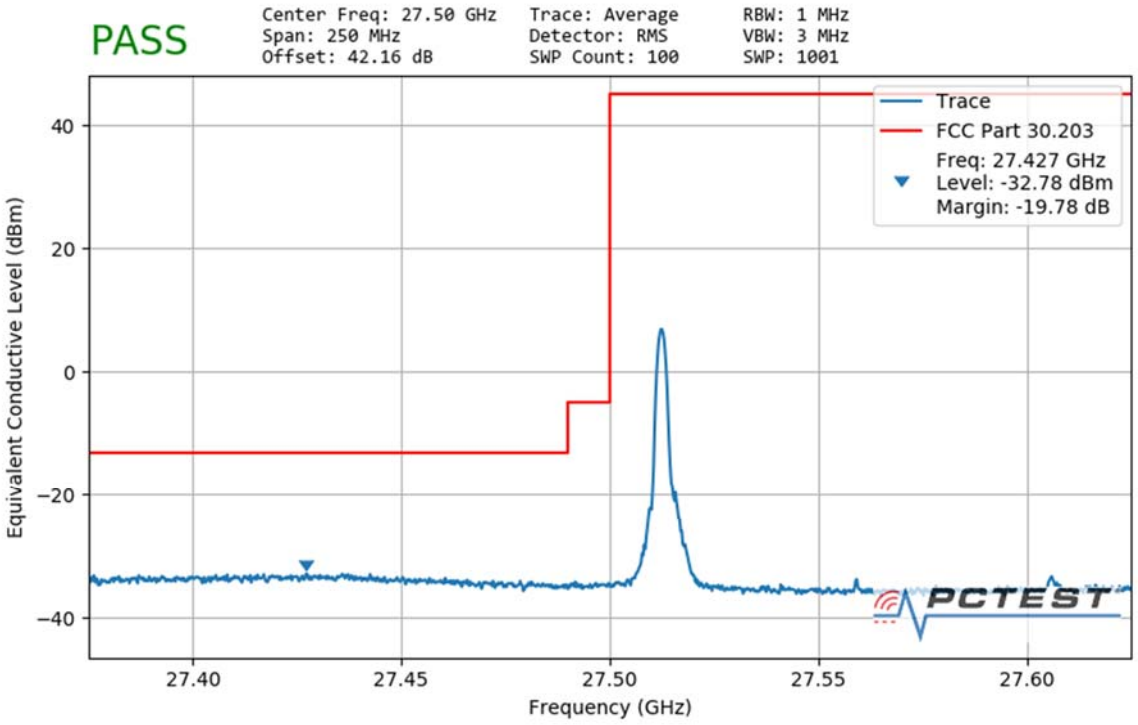
Plot 7-109. Ant1 Upper Band Edge (50MHz-4CC – QPSK Full RB)



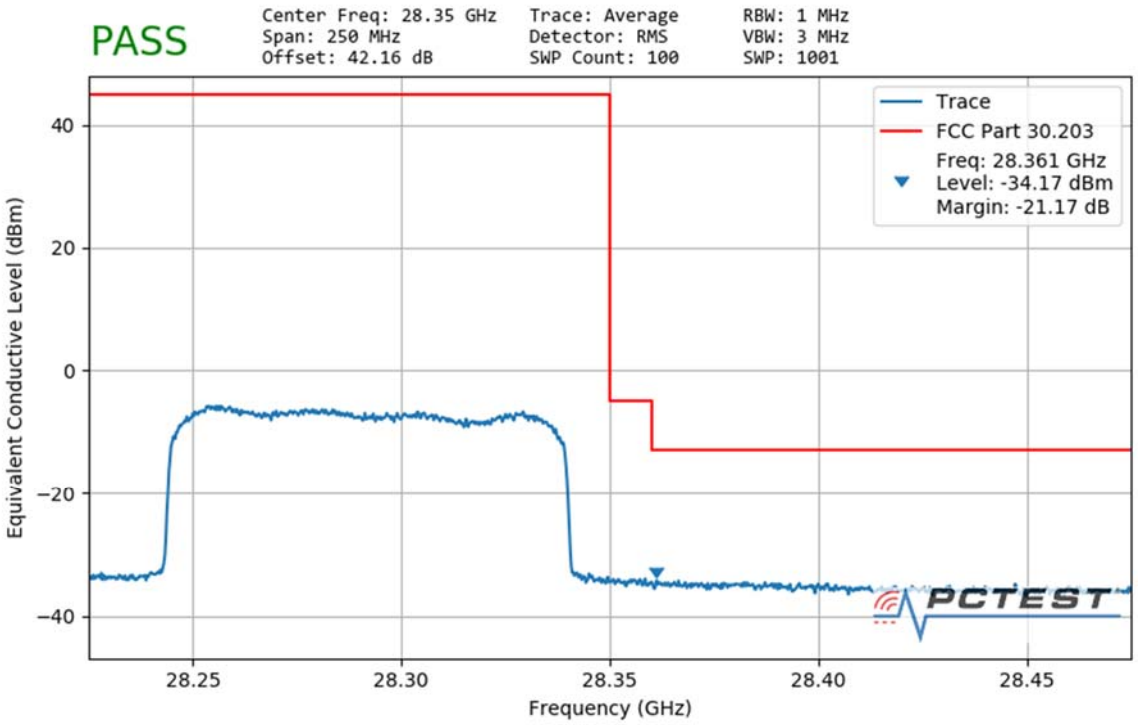
Plot 7-110. Ant1 Upper Band Edge (50MHz-4CC – QPSK 1 RB)



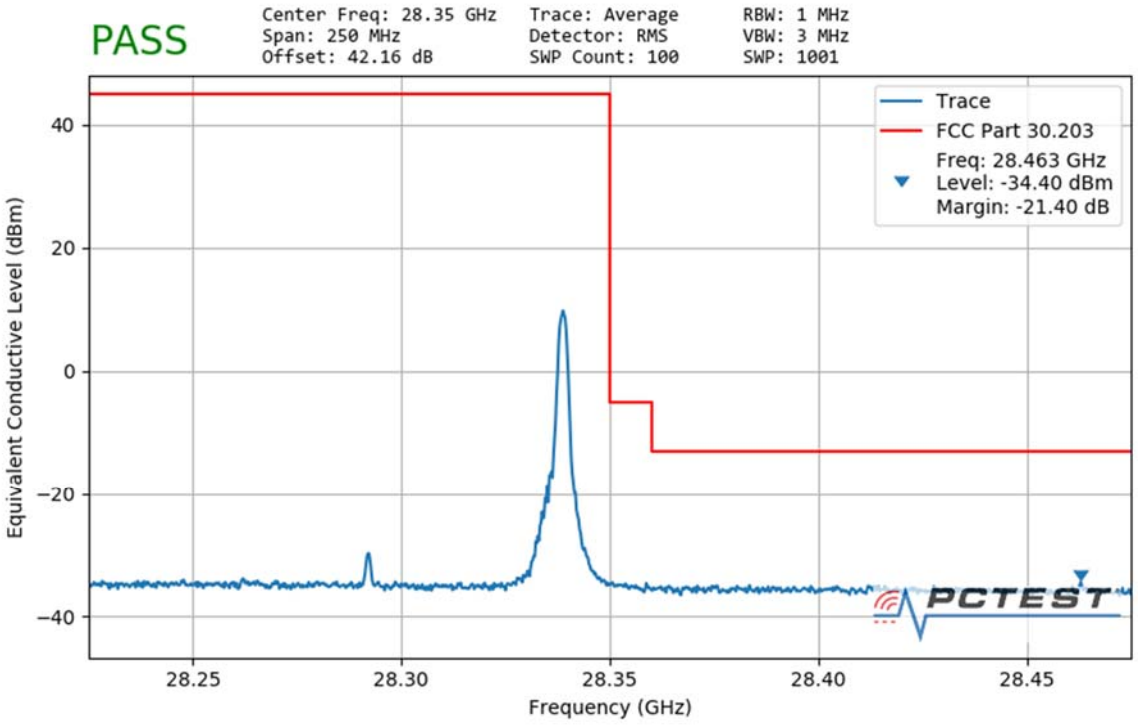
Plot 7-111. Ant1 Lower Band Edge (100MHz-1CC – QPSK Full RB)



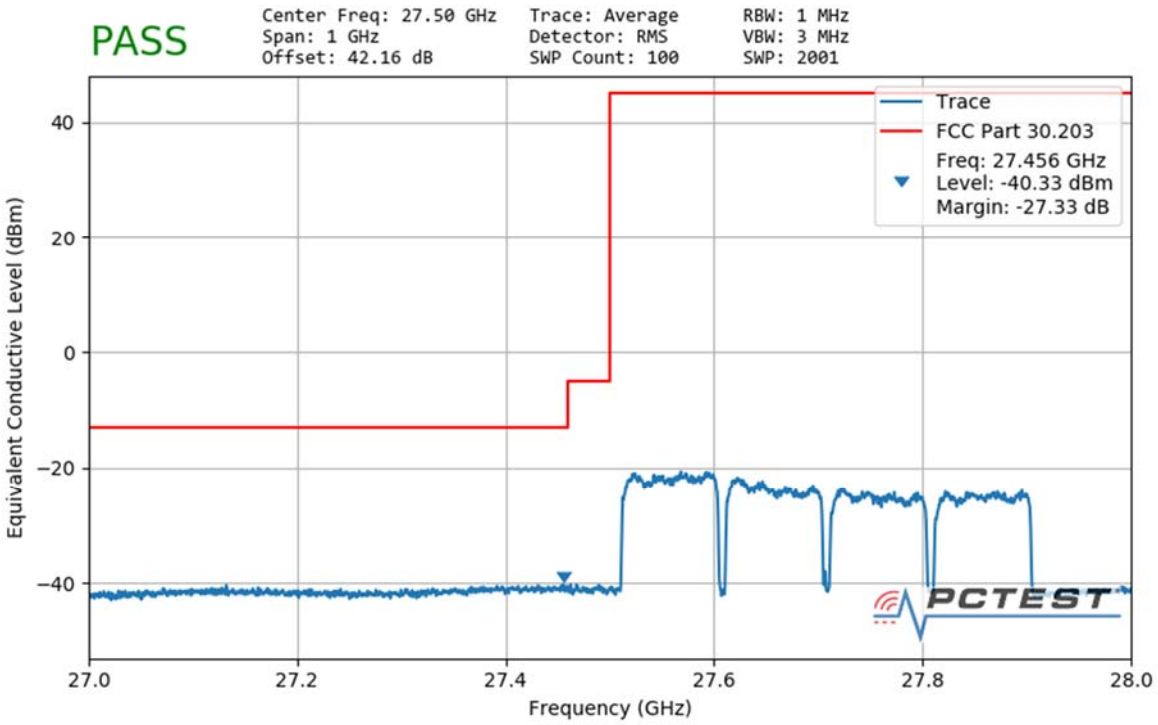
Plot 7-112. Ant1 Lower Band Edge (100MHz-1CC – QPSK 1 RB)



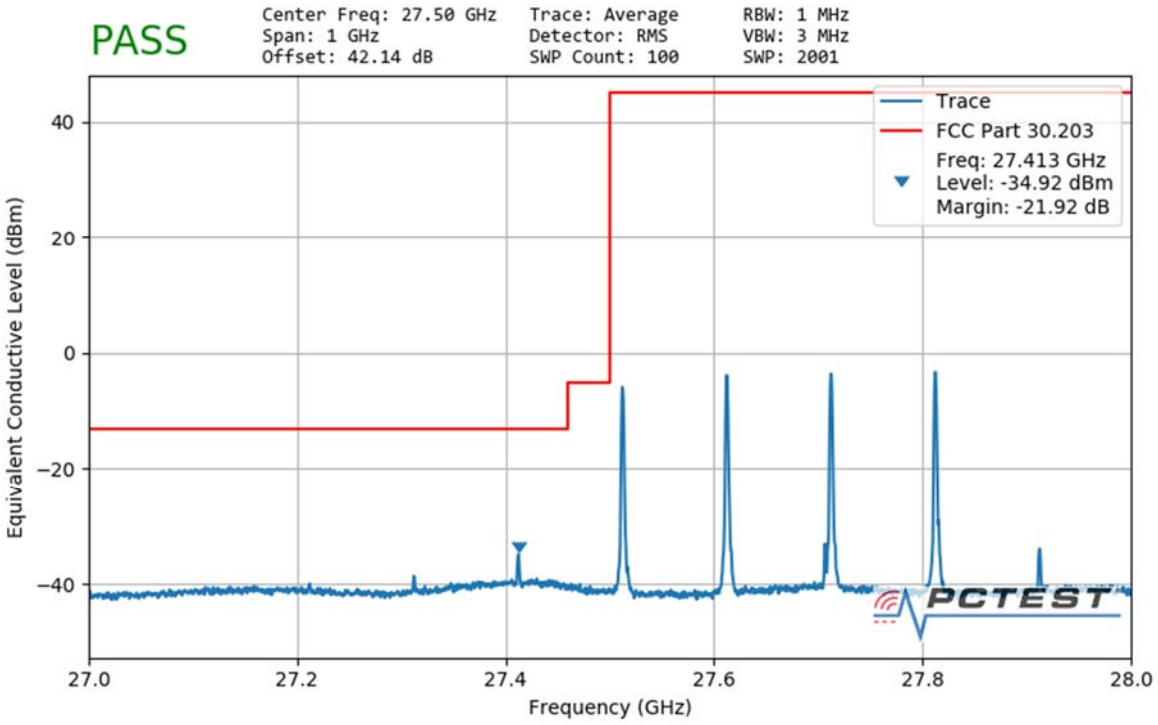
Plot 7-113. Ant1 Upper Band Edge (100MHz-1CC – QPSK Full RB)



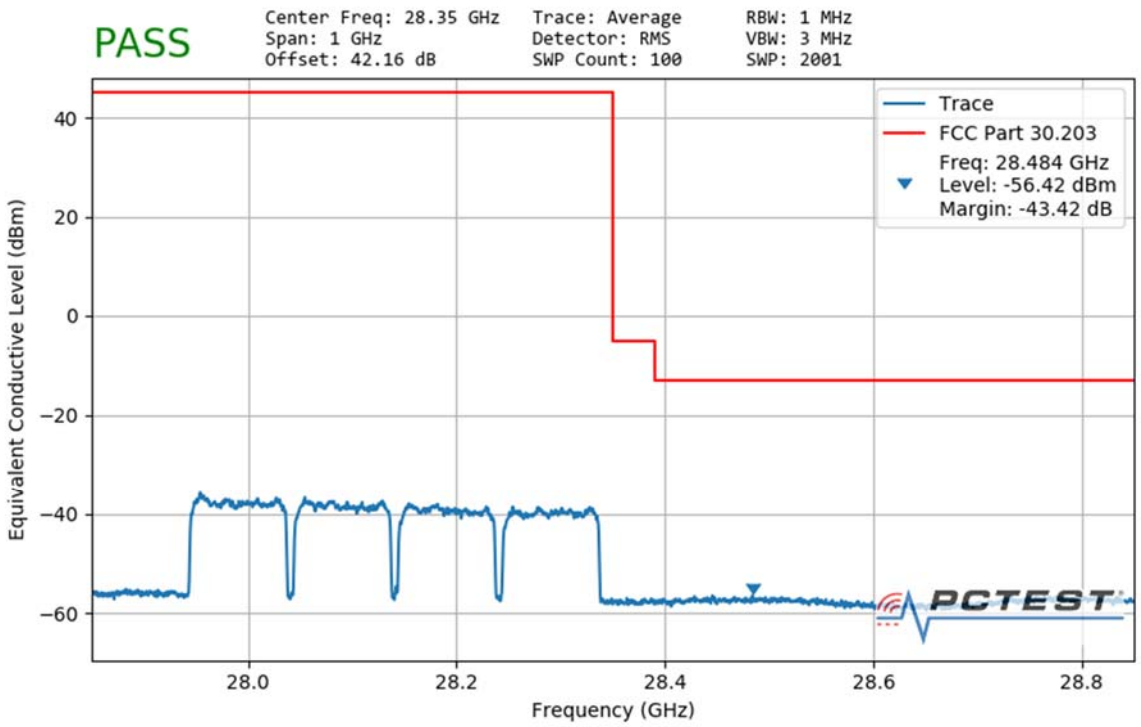
Plot 7-114. Ant1 Upper Band Edge (100MHz-1CC – QPSK 1 RB)



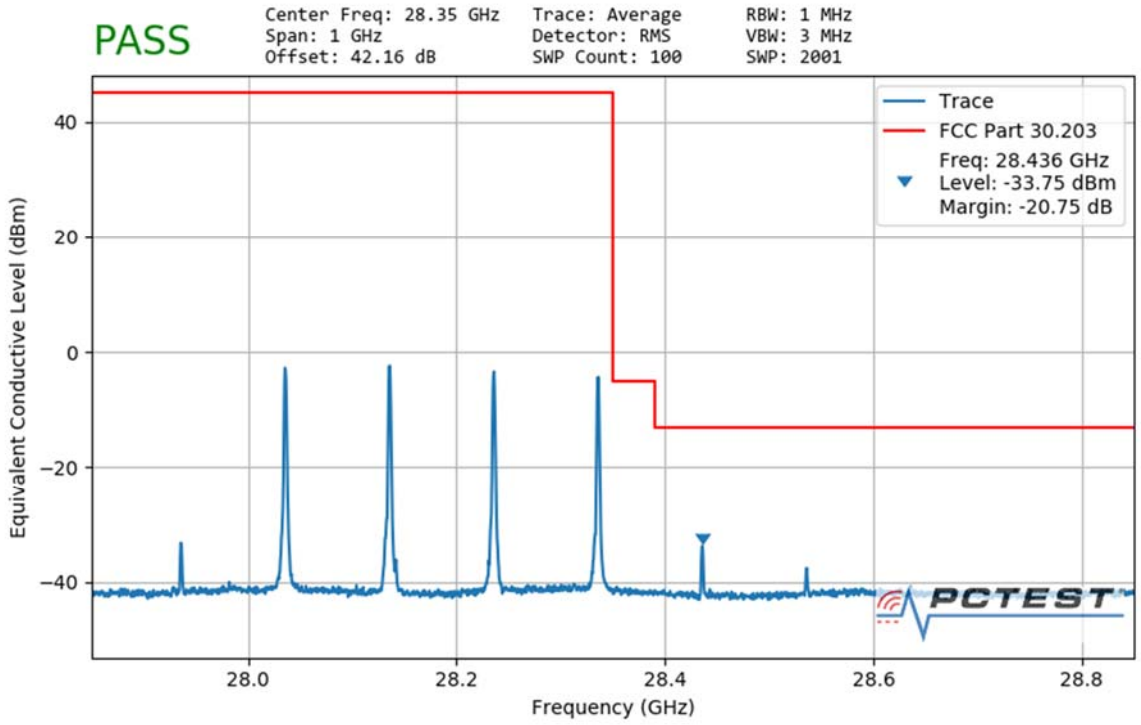
Plot 7-115. Ant1 Lower Band Edge (100MHz-4CC – QPSK Full RB)



Plot 7-116. Ant1 Lower Band Edge (100MHz-4CC – QPSK 1 RB)

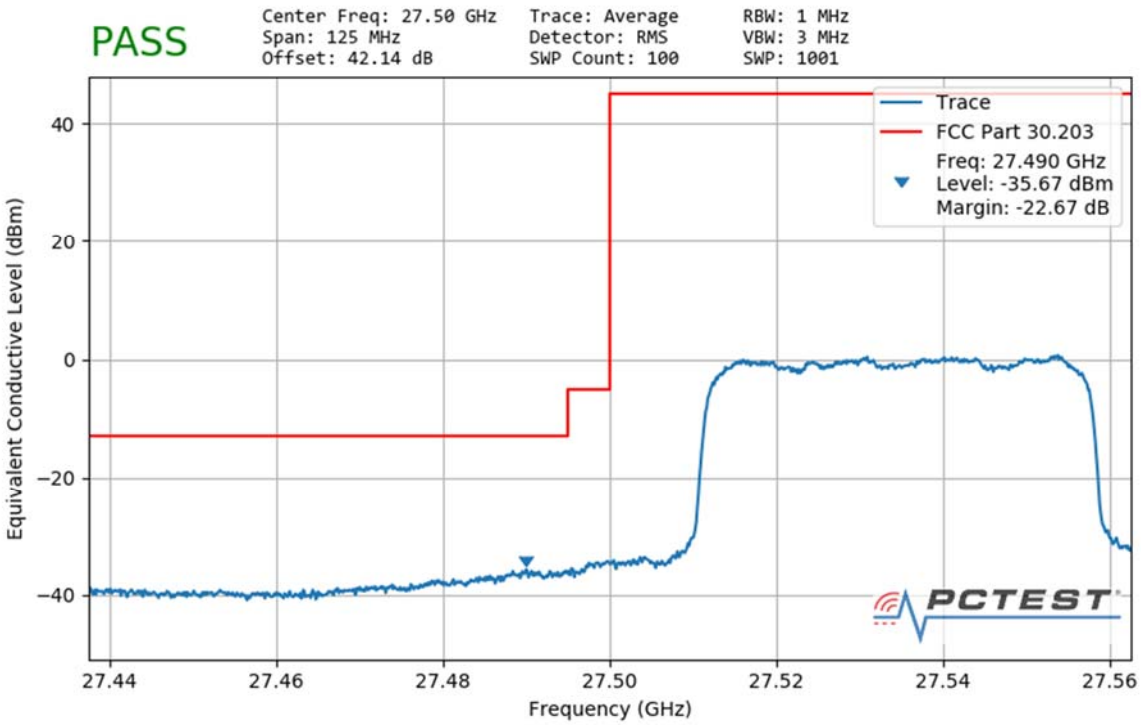


Plot 7-117. Ant1 Upper Band Edge (100MHz-4CC – QPSK Full RB)

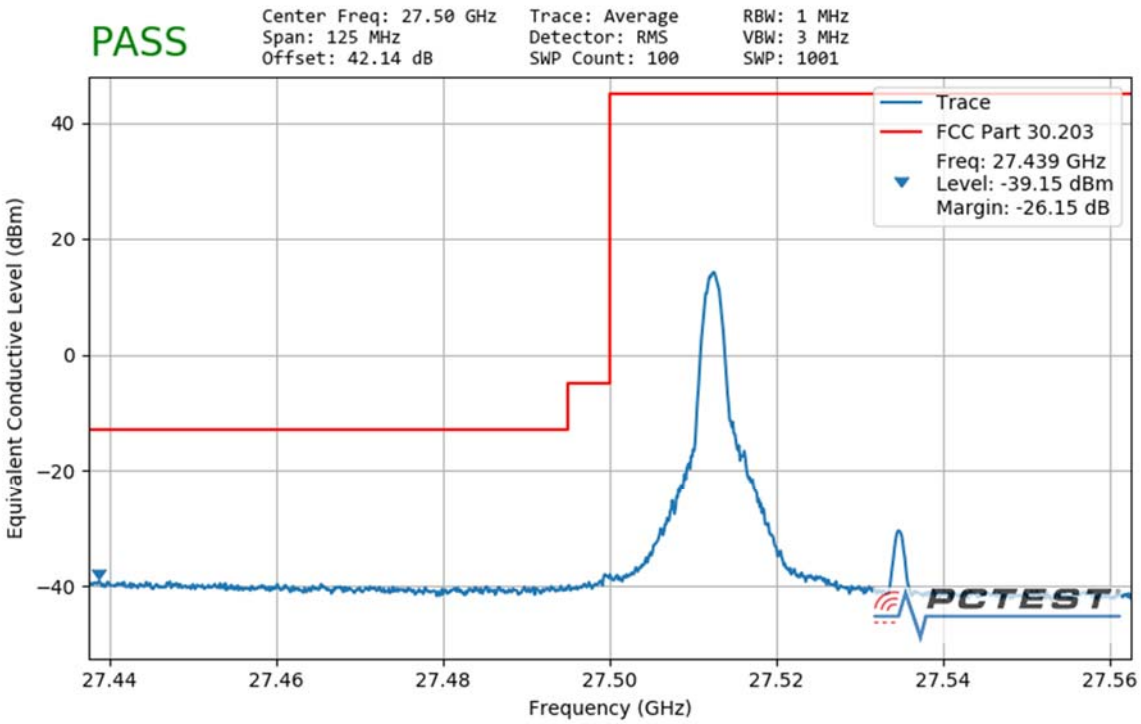


Plot 7-118. Ant1 Upper Band Edge (100MHz-4CC – QPSK 1 RB)

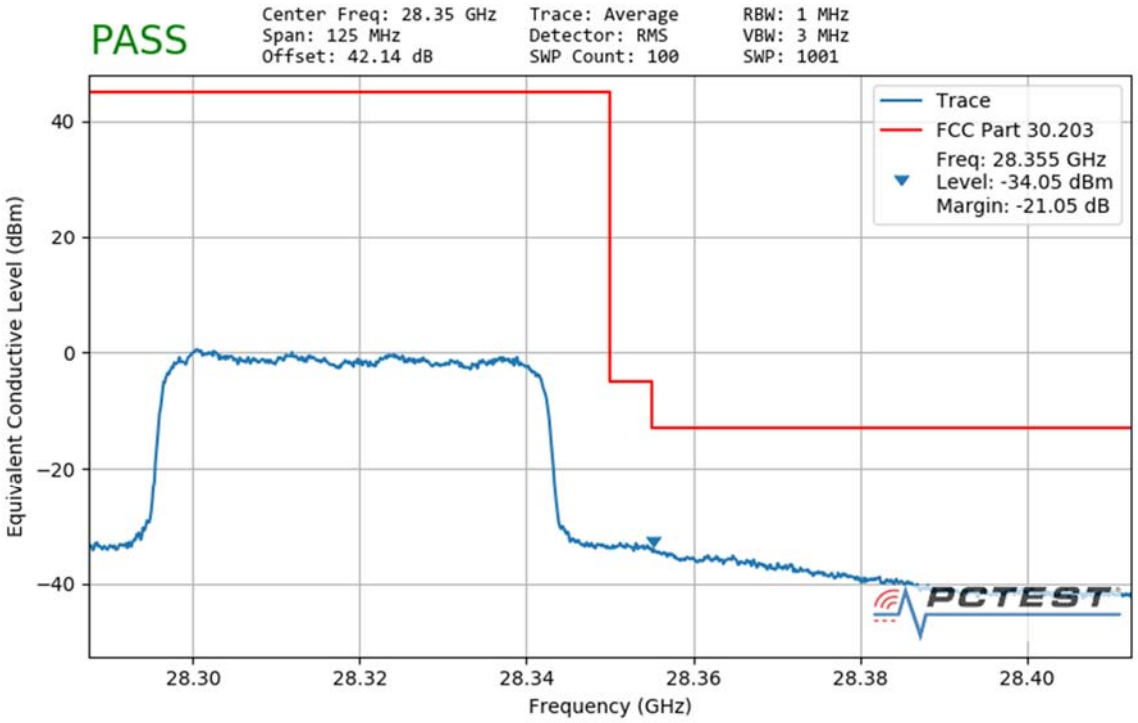
Band n261 – QTM#1 / Ant2 - MIMO



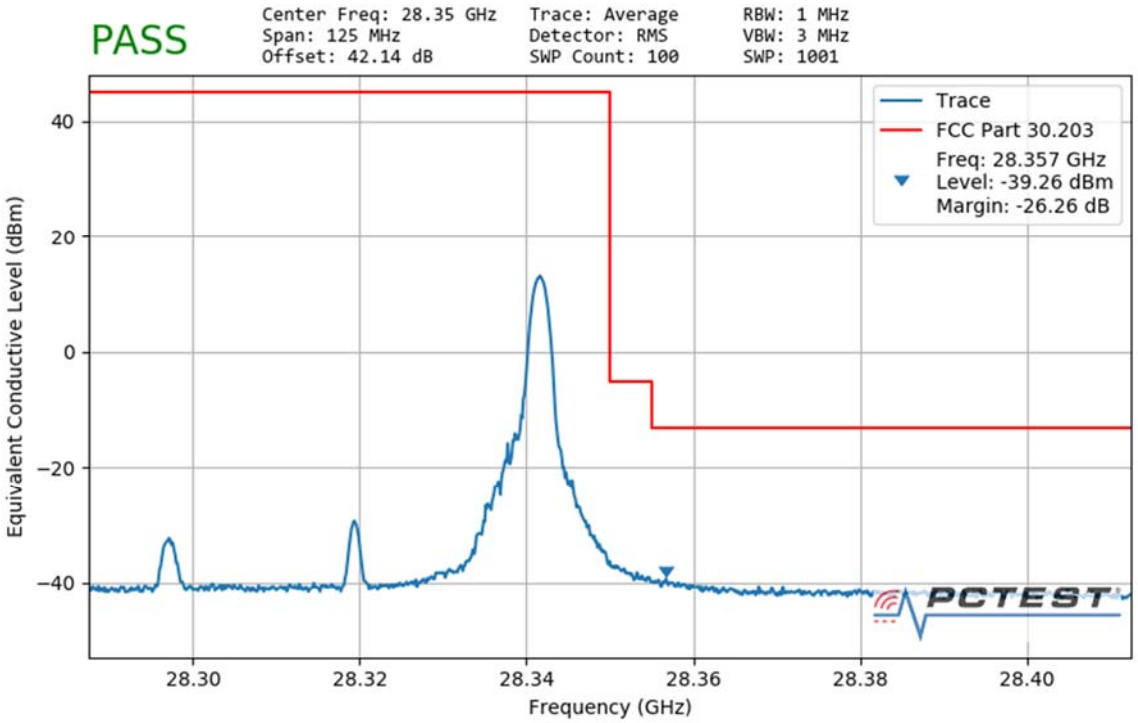
Plot 7-119. Ant2 Lower Band Edge (50MHz-1CC – QPSK Full RB)



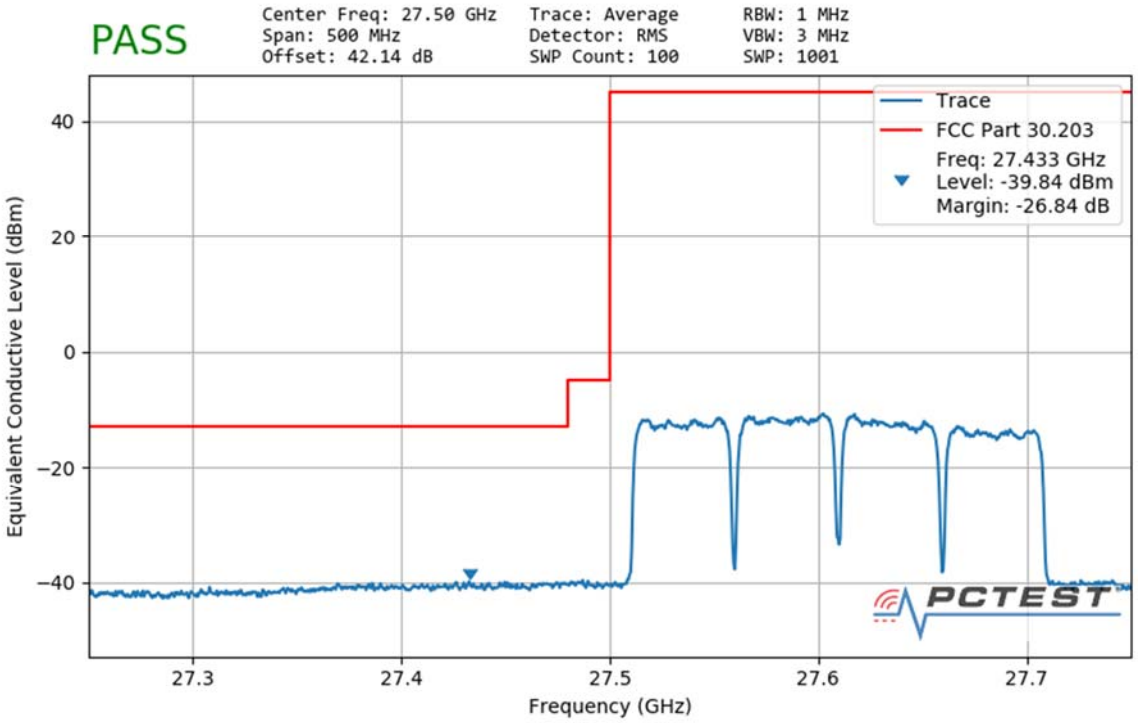
Plot 7-120. Ant2 Lower Band Edge (50MHz-1CC – QPSK 1 RB)



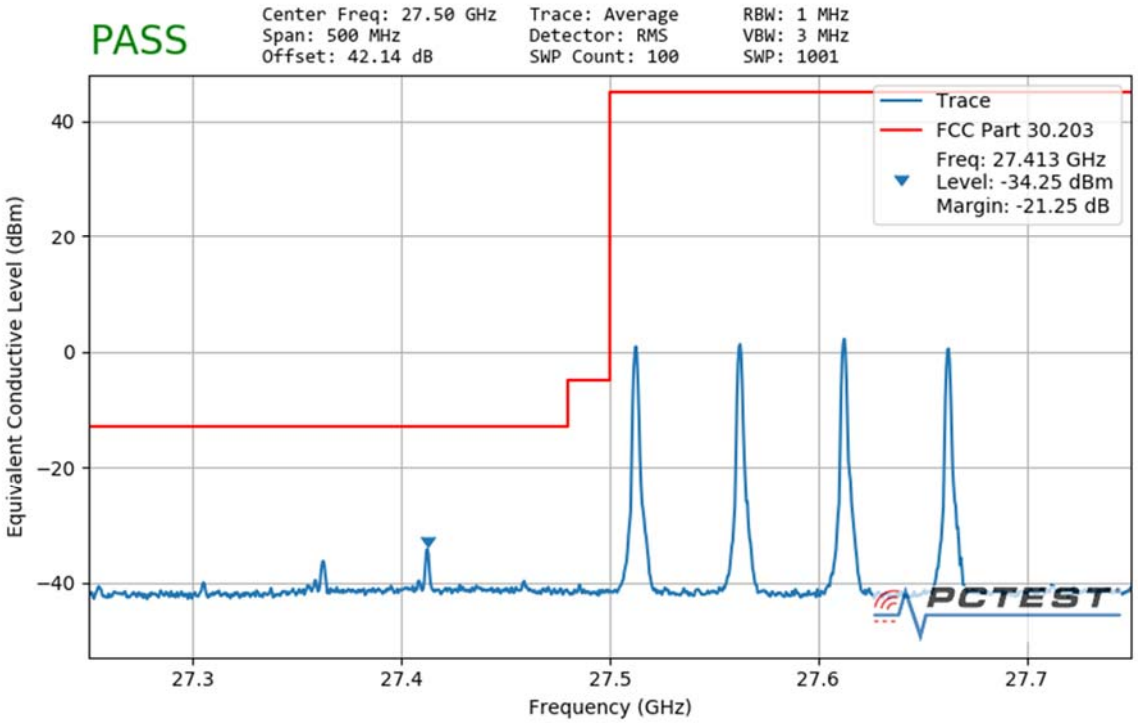
Plot 7-121. Ant2 Upper Band Edge (50MHz-1CC – QPSK Full RB)



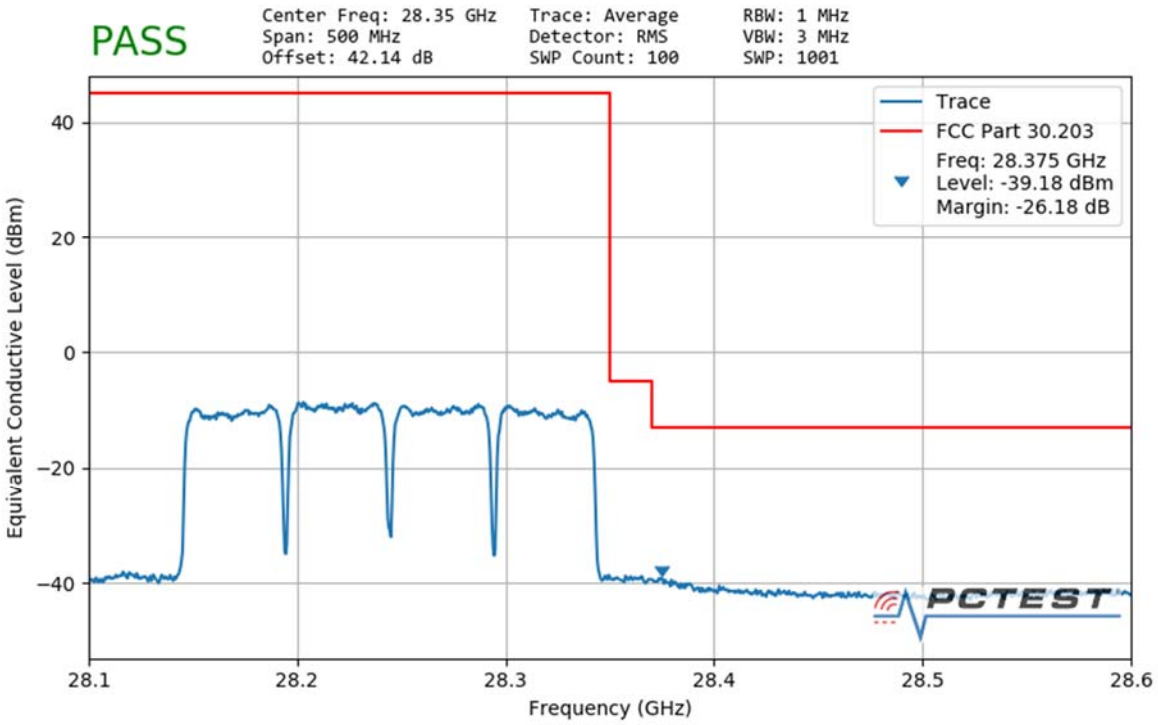
Plot 7-122. Ant2 Upper Band Edge (50MHz-1CC – QPSK 1 RB)



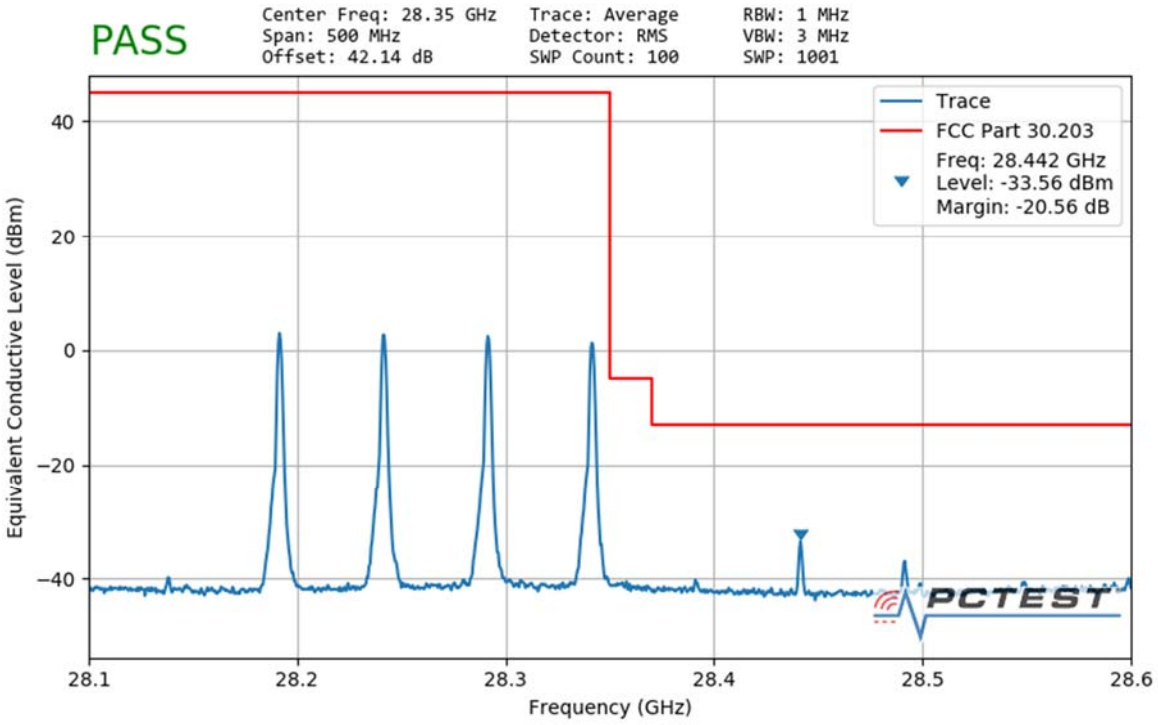
Plot 7-123. Ant2 Lower Band Edge (50MHz-4CC – QPSK Full RB)



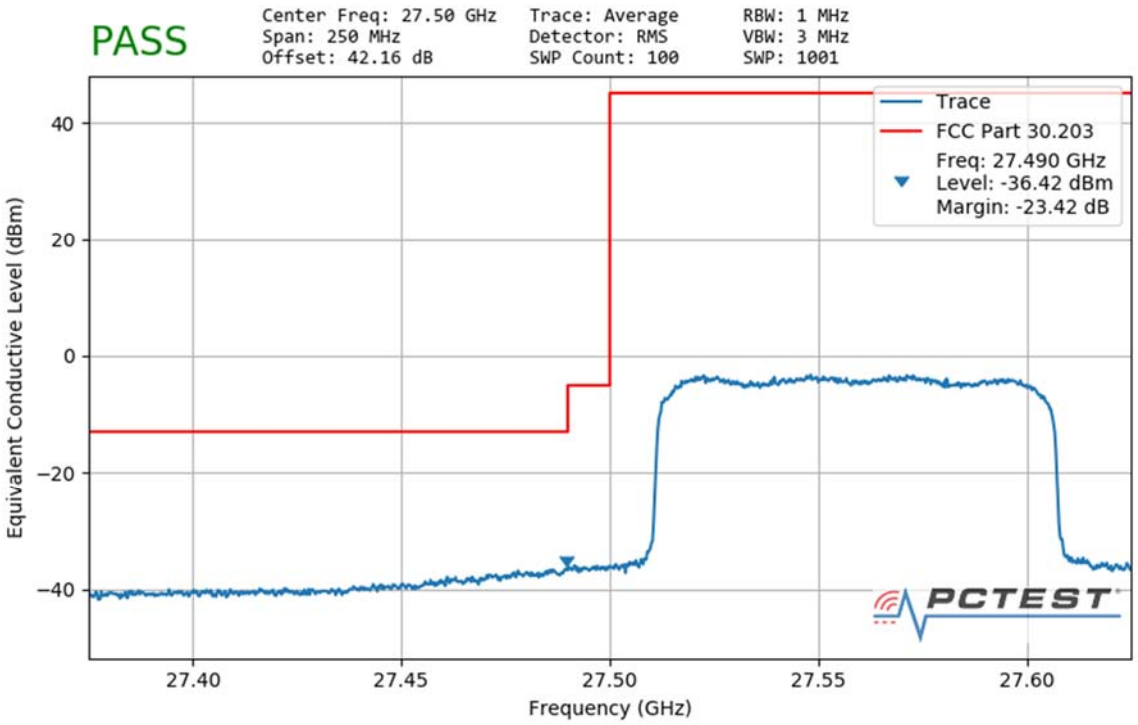
Plot 7-124. Ant2 Lower Band Edge (50MHz-4CC – QPSK 1 RB)



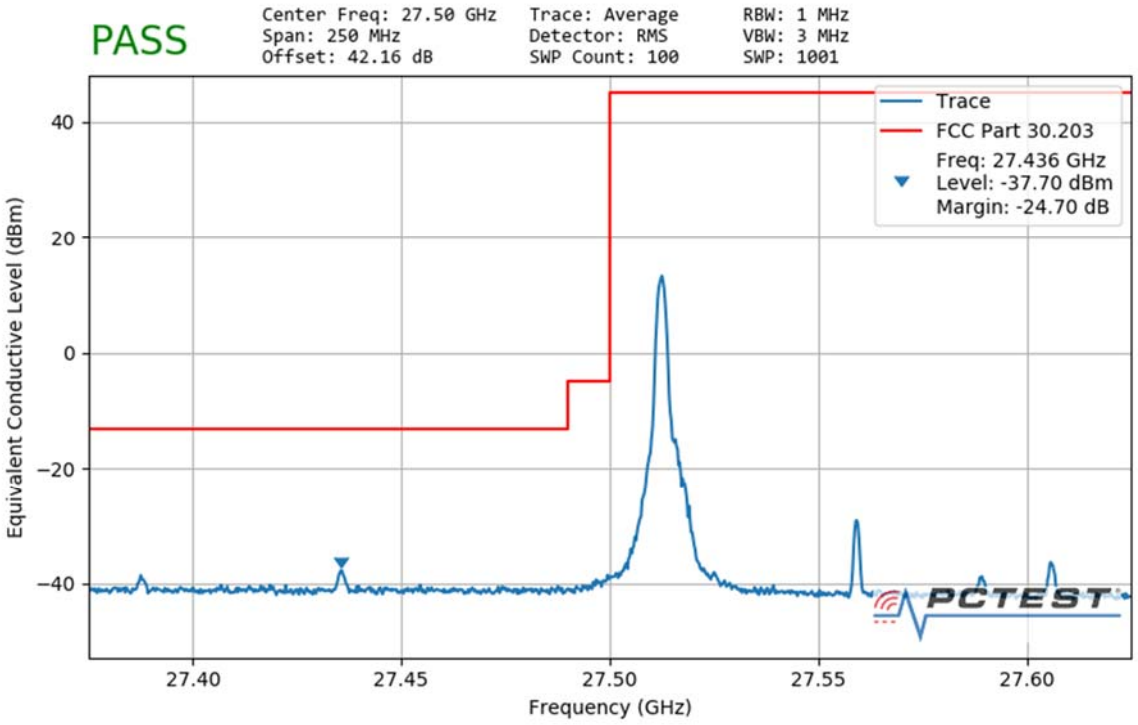
Plot 7-125. Ant2 Upper Band Edge (50MHz-4CC – QPSK Full RB)



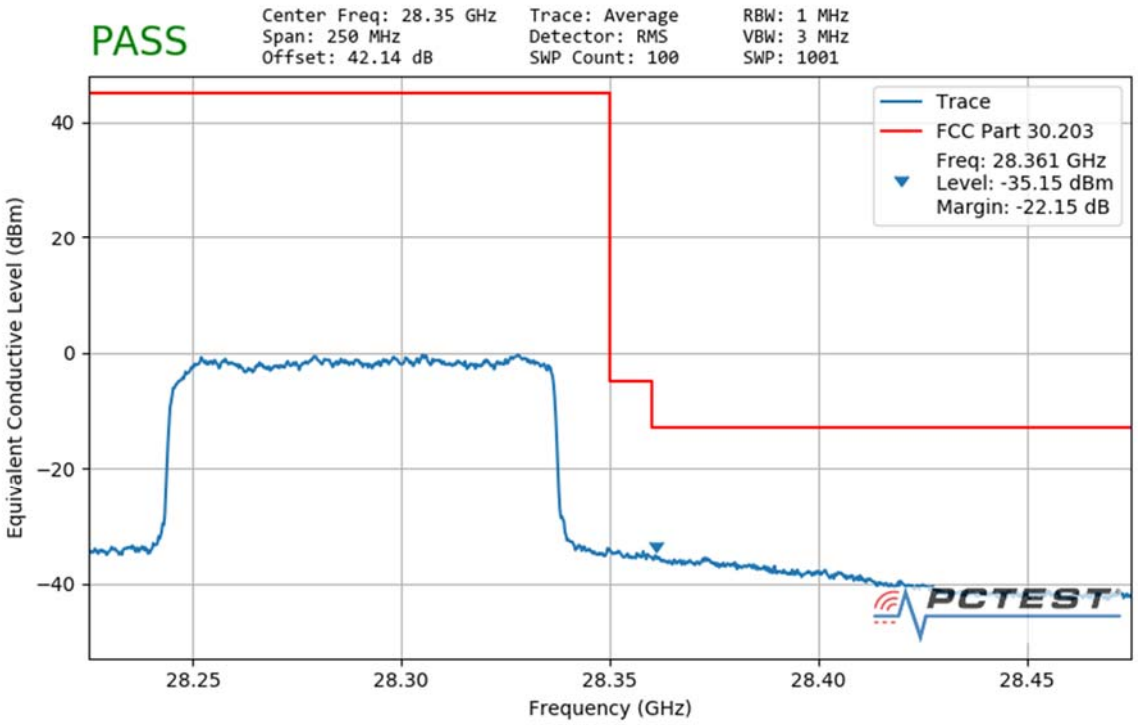
Plot 7-126. Ant2 Upper Band Edge (50MHz-4CC – QPSK 1 RB)



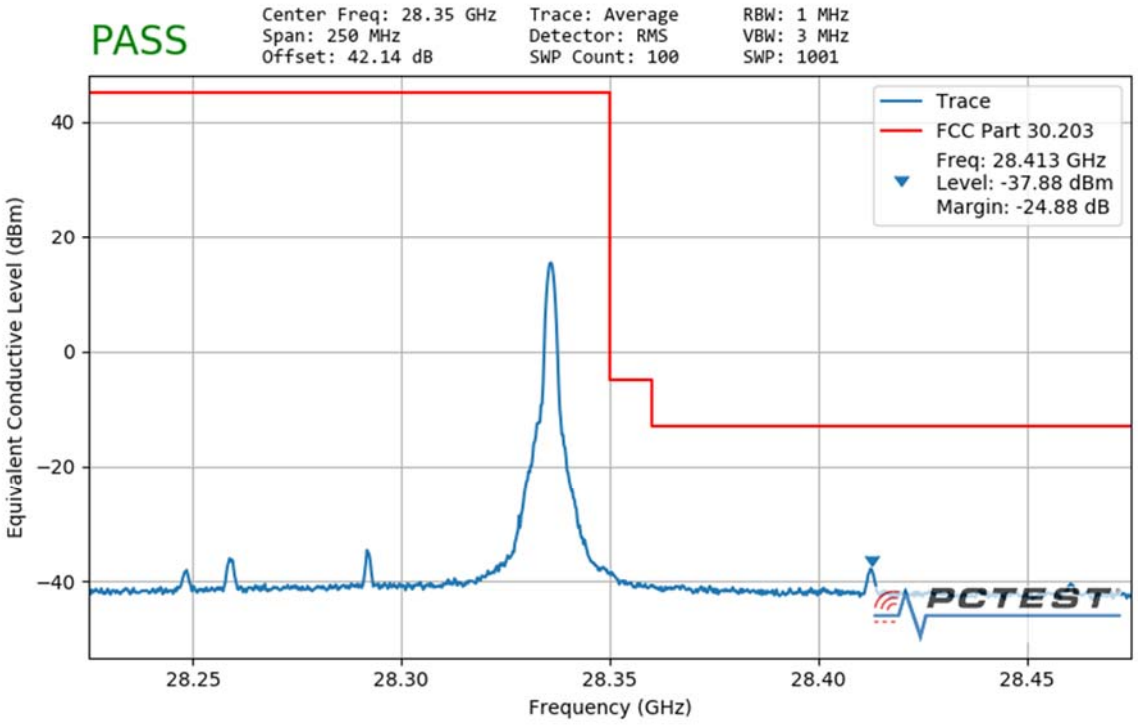
Plot 7-127. Ant2 Lower Band Edge (100MHz-1CC – QPSK Full RB)



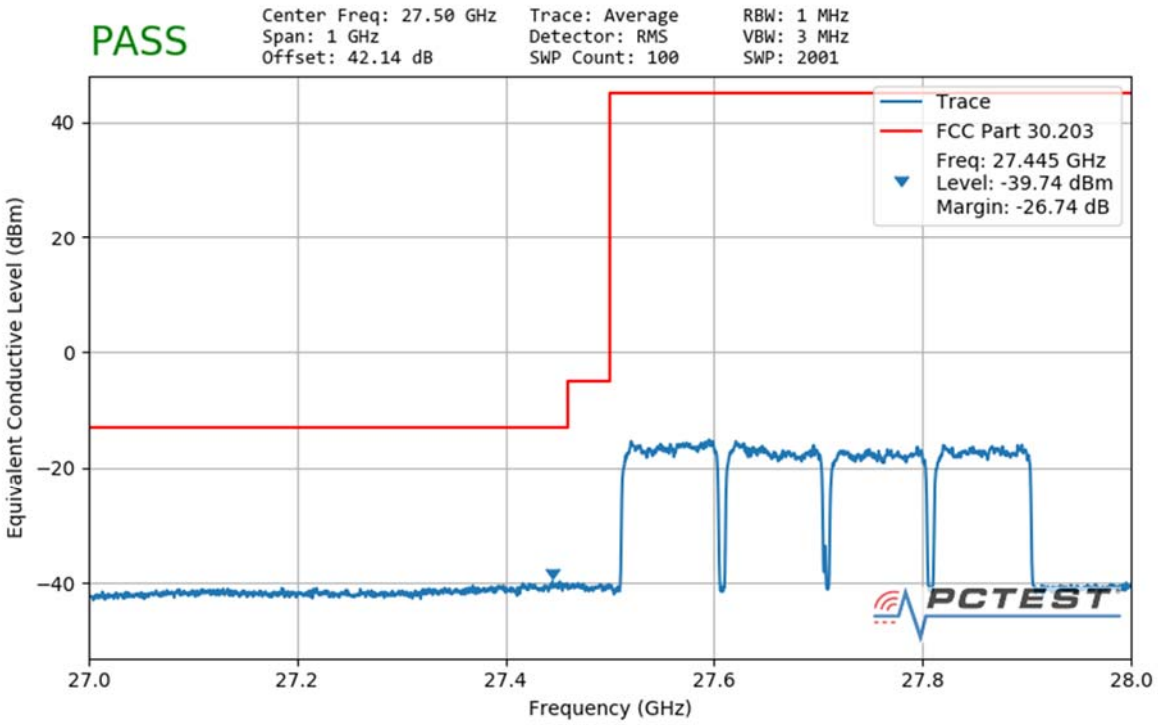
Plot 7-128. Ant2 Lower Band Edge (100MHz-1CC – QPSK 1 RB)



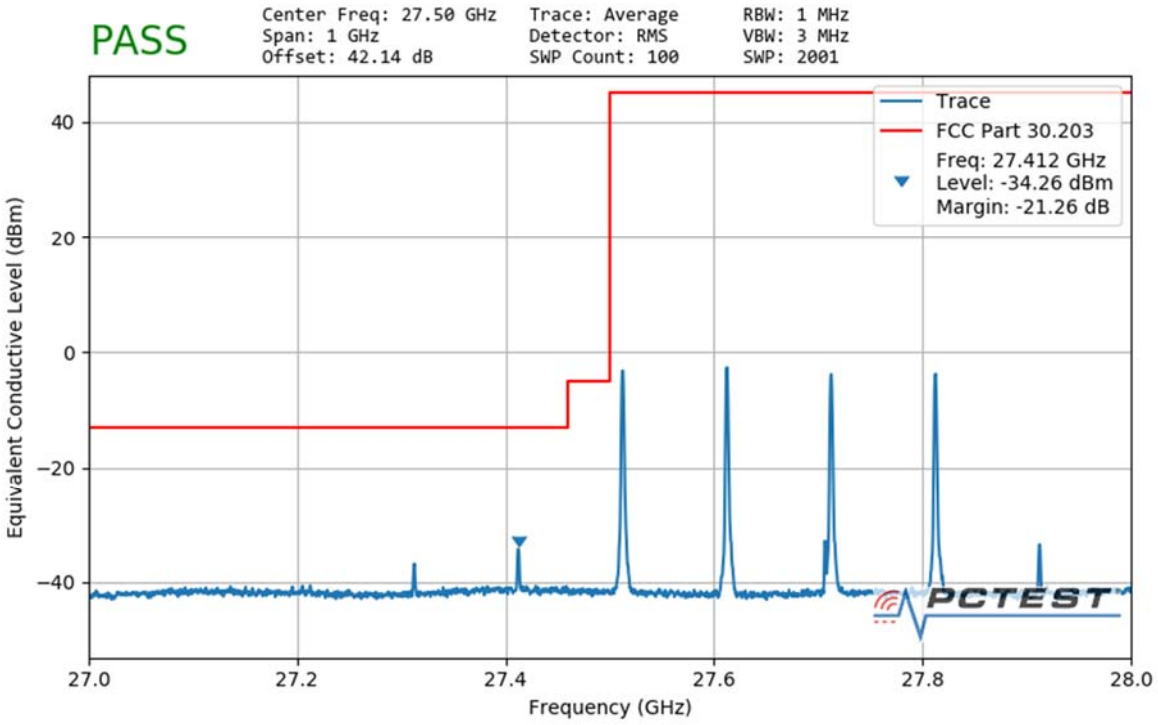
Plot 7-129. Ant2 Upper Band Edge (100MHz-1CC – QPSK Full RB)



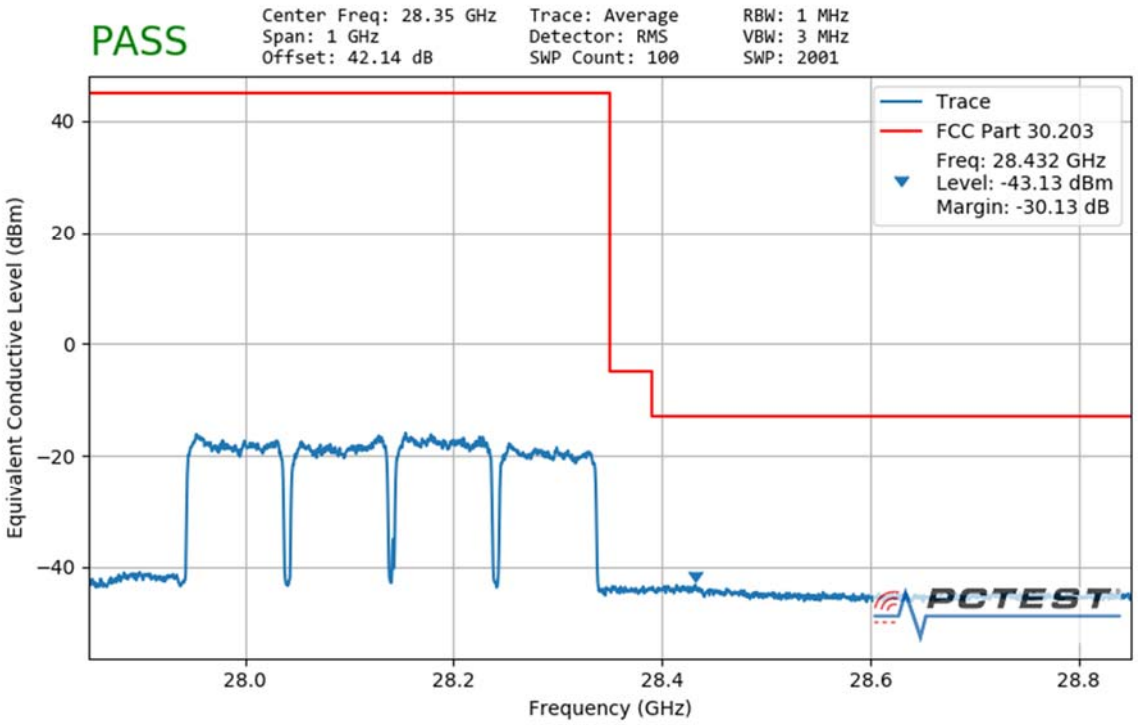
Plot 7-130. Ant2 Upper Band Edge (100MHz-1CC – QPSK 1 RB)



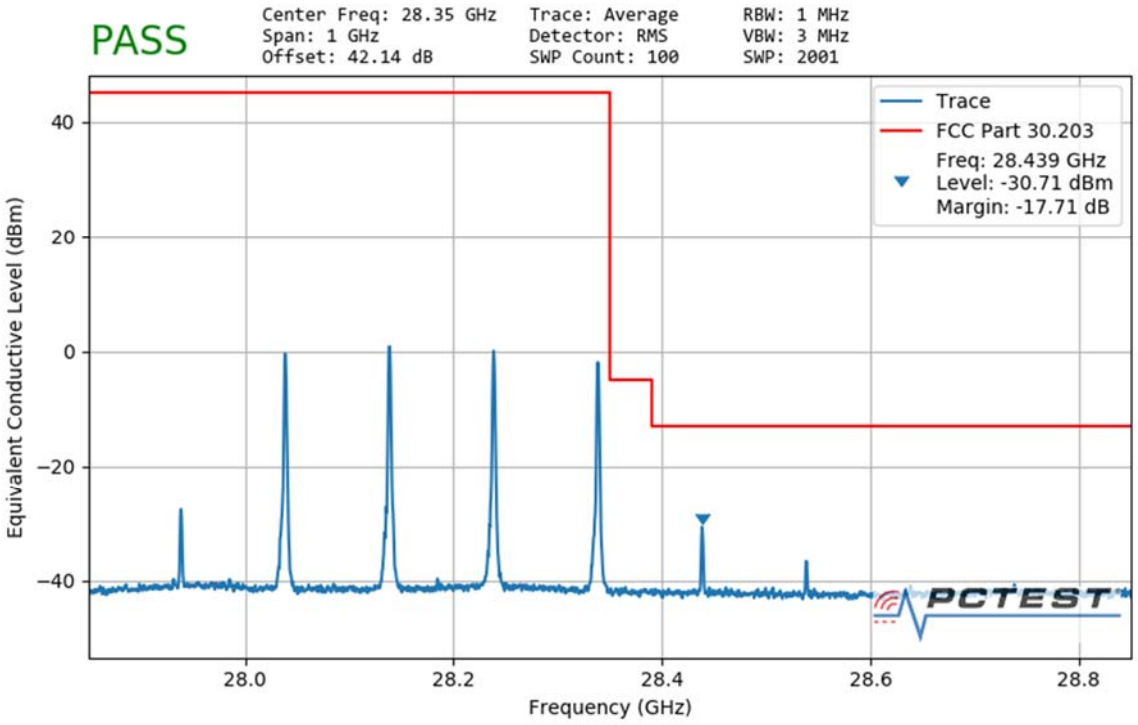
Plot 7-131. Ant2 Lower Band Edge (100MHz-4CC – QPSK Full RB)



Plot 7-132. Ant2 Lower Band Edge (100MHz-4CC – QPSK 1 RB)

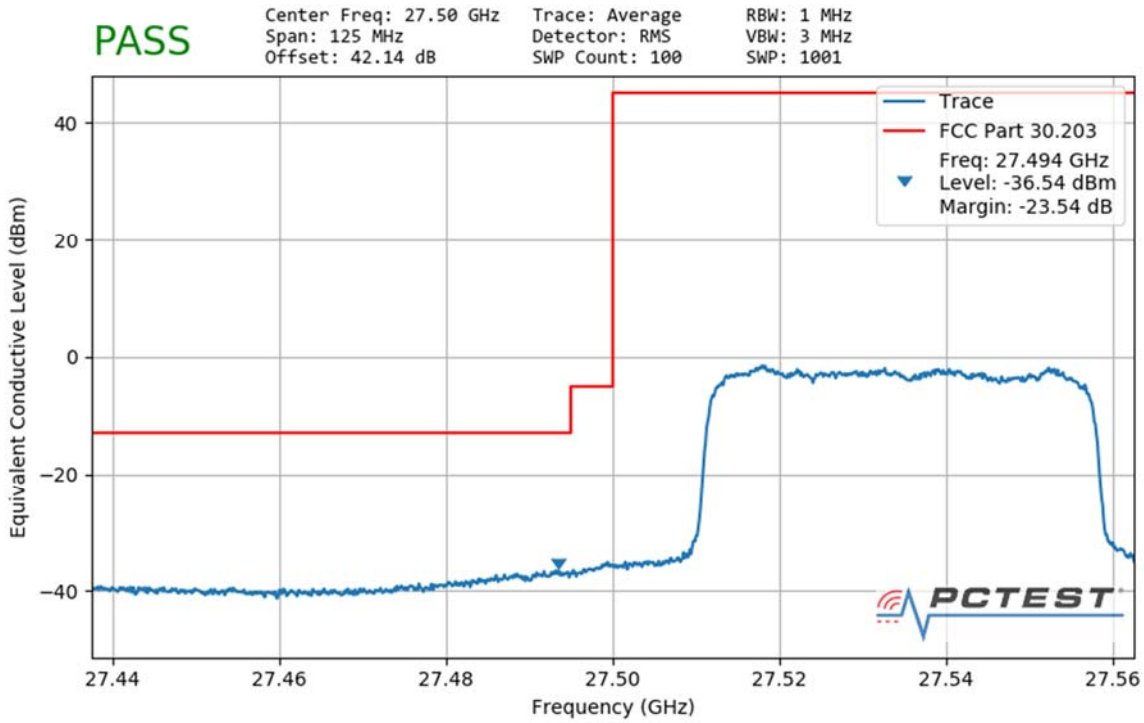


Plot 7-133. Ant2 Upper Band Edge (100MHz-4CC – QPSK Full RB)

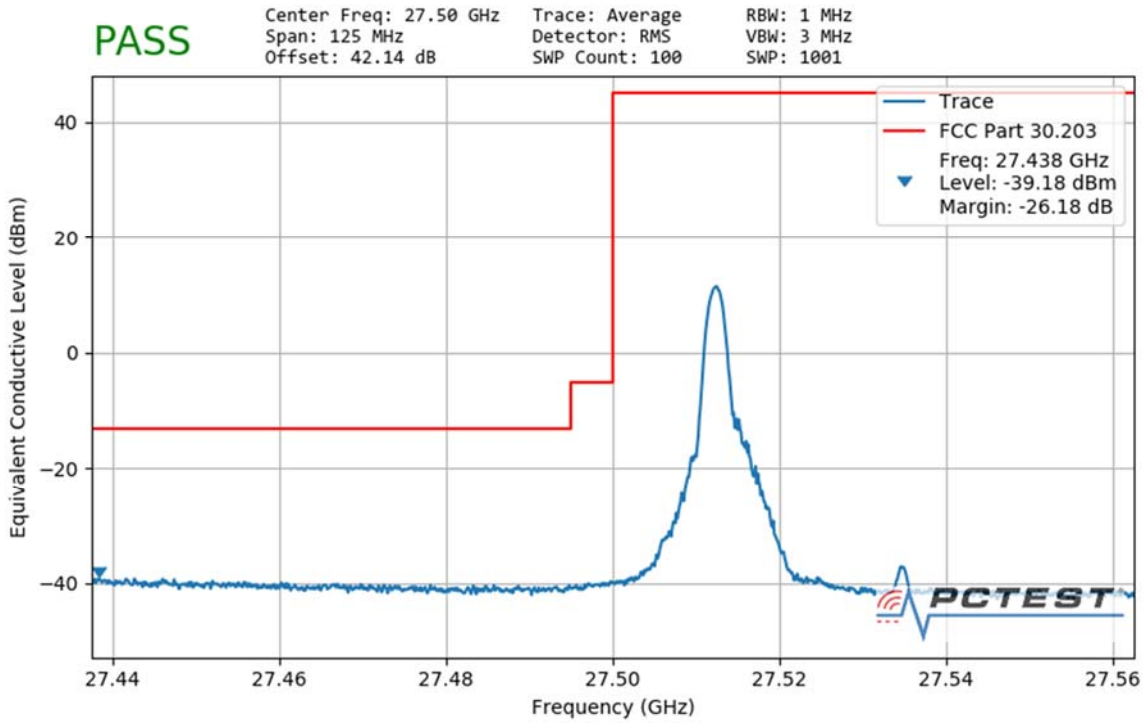


Plot 7-134. Ant2 Upper Band Edge (100MHz-4CC – QPSK 1 RB)

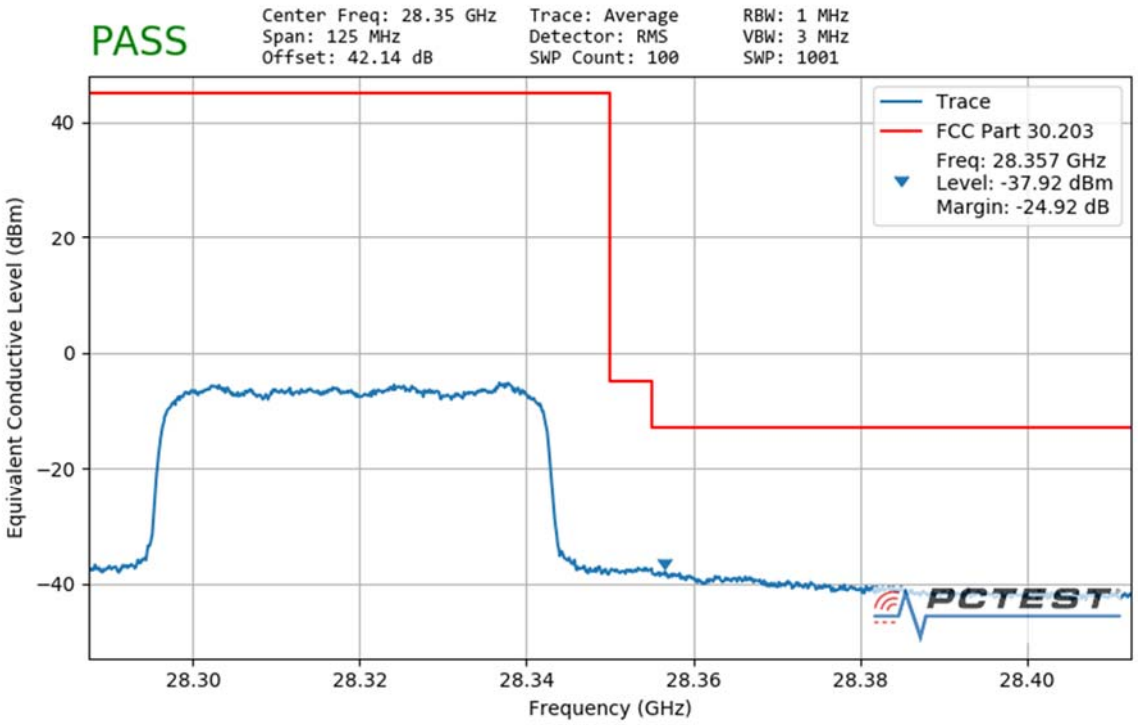
Band n261 – QTM#2 / Ant3 - MIMO



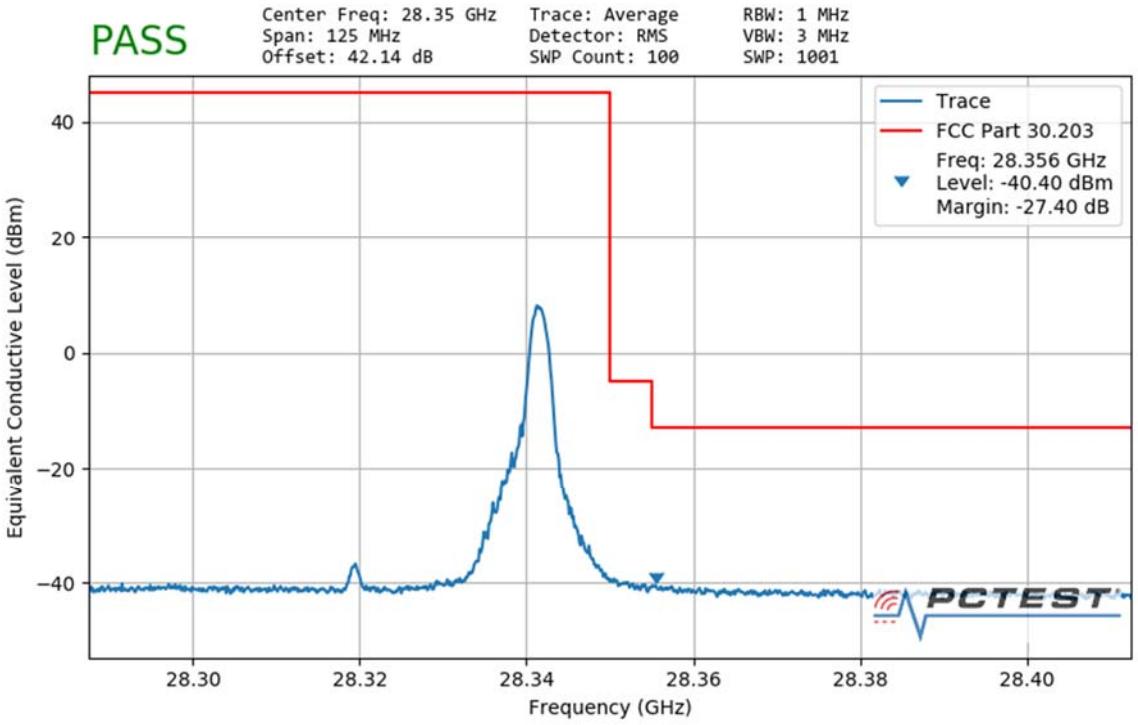
Plot 7-135. Ant3 Lower Band Edge (50MHz-1CC – QPSK Full RB)



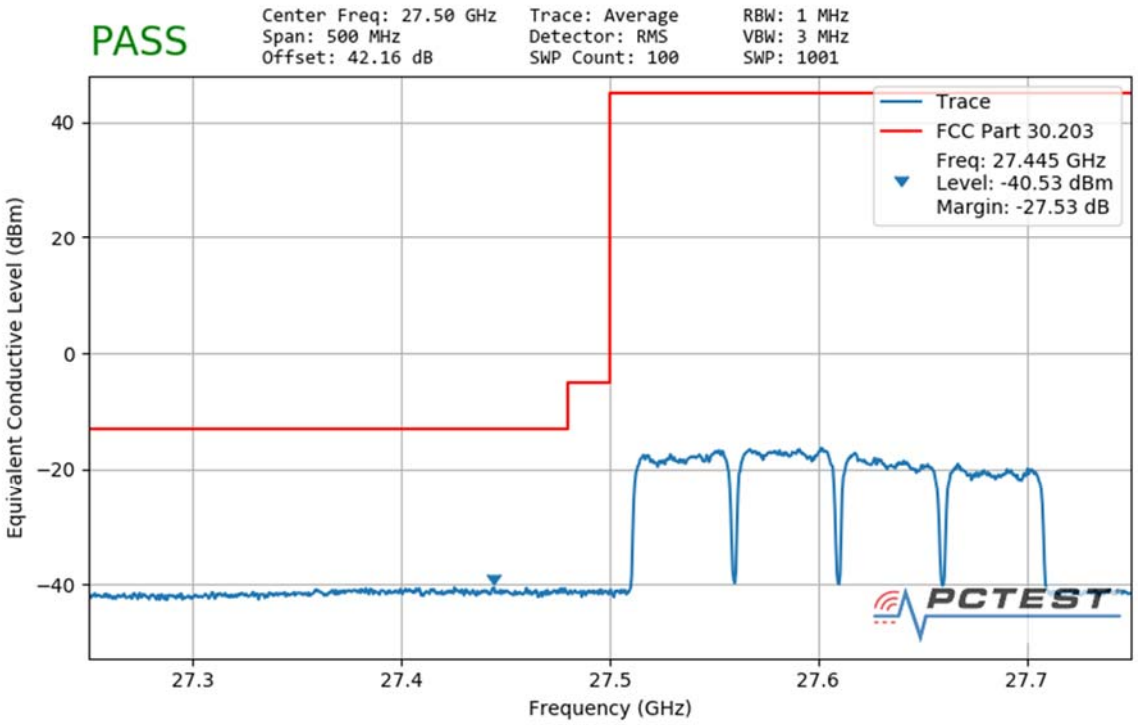
Plot 7-136. Ant3 Lower Band Edge (50MHz-1CC – QPSK 1 RB)



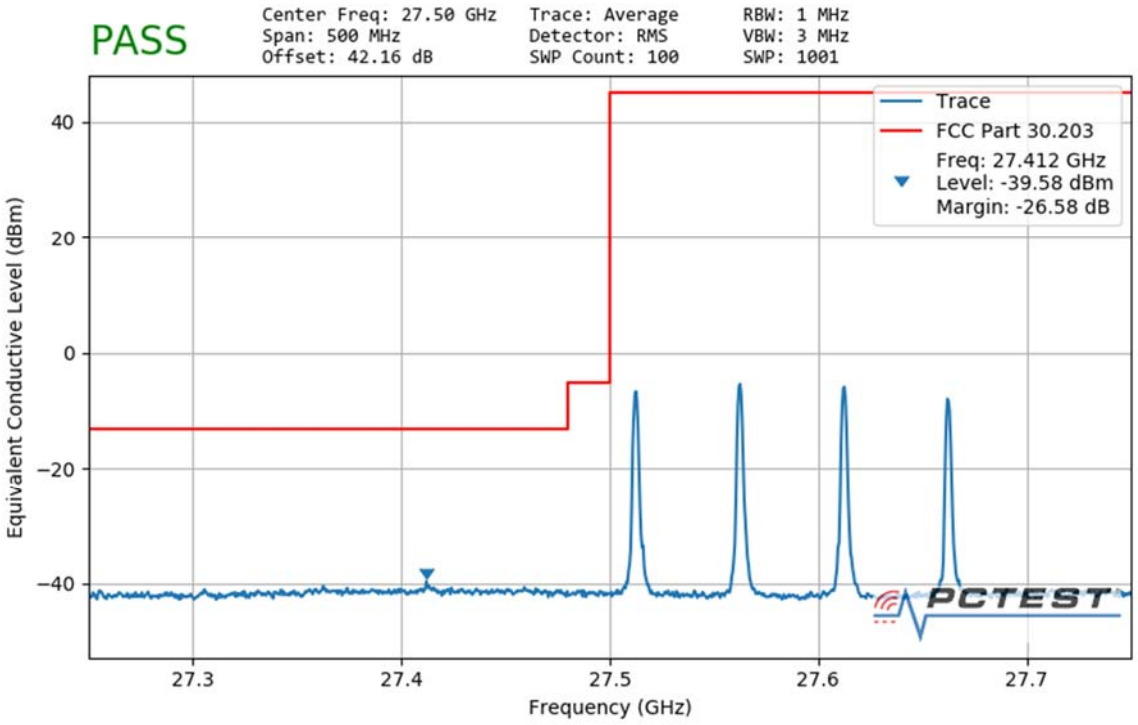
Plot 7-137. Ant3 Upper Band Edge (50MHz-1CC – QPSK Full RB)



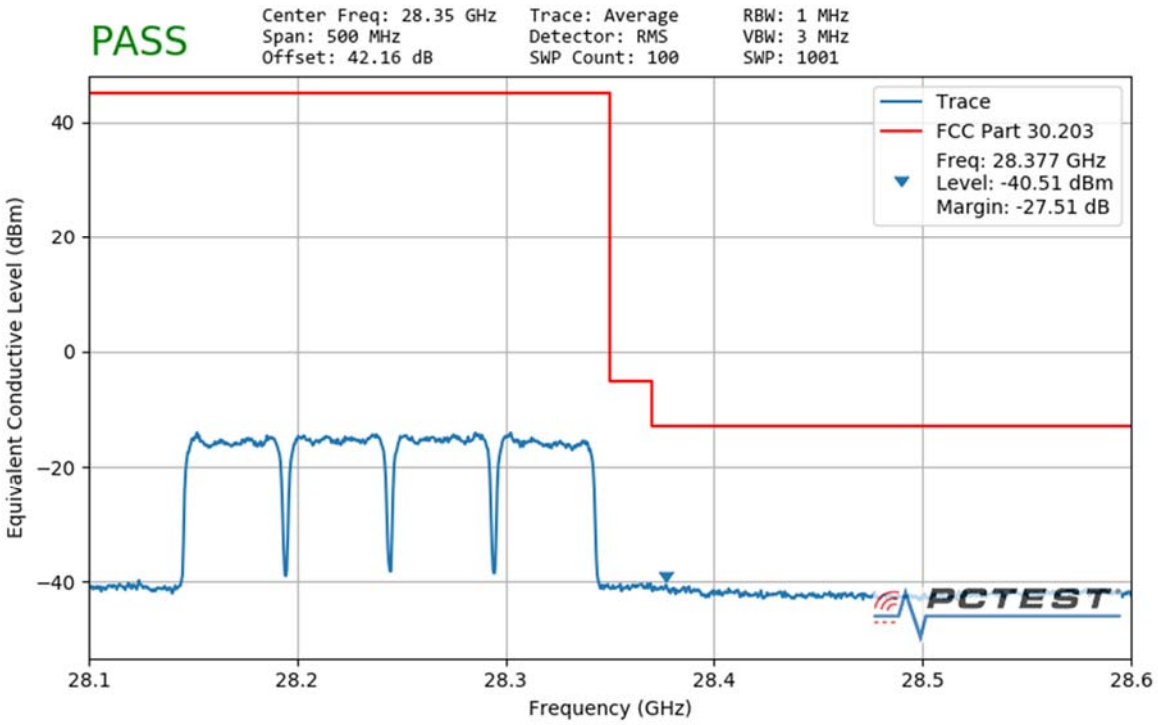
Plot 7-138. Ant3 Upper Band Edge (50MHz-1CC – QPSK 1 RB)



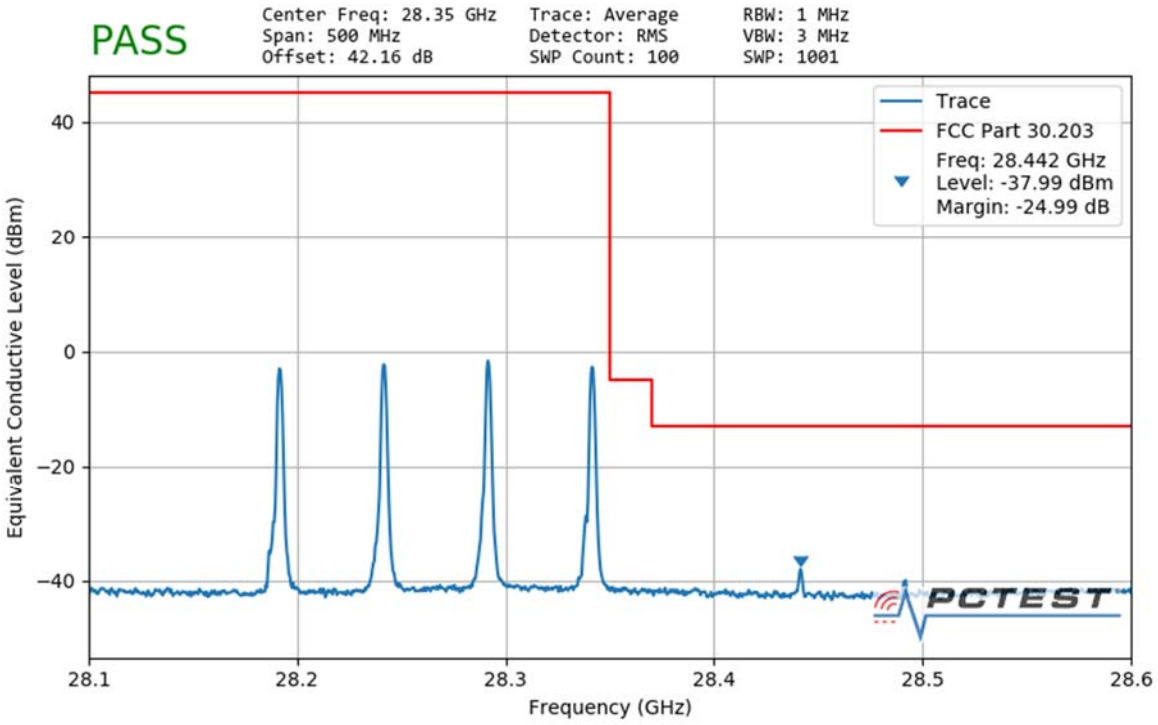
Plot 7-139. Ant3 Lower Band Edge (50MHz-4CC – QPSK Full RB)



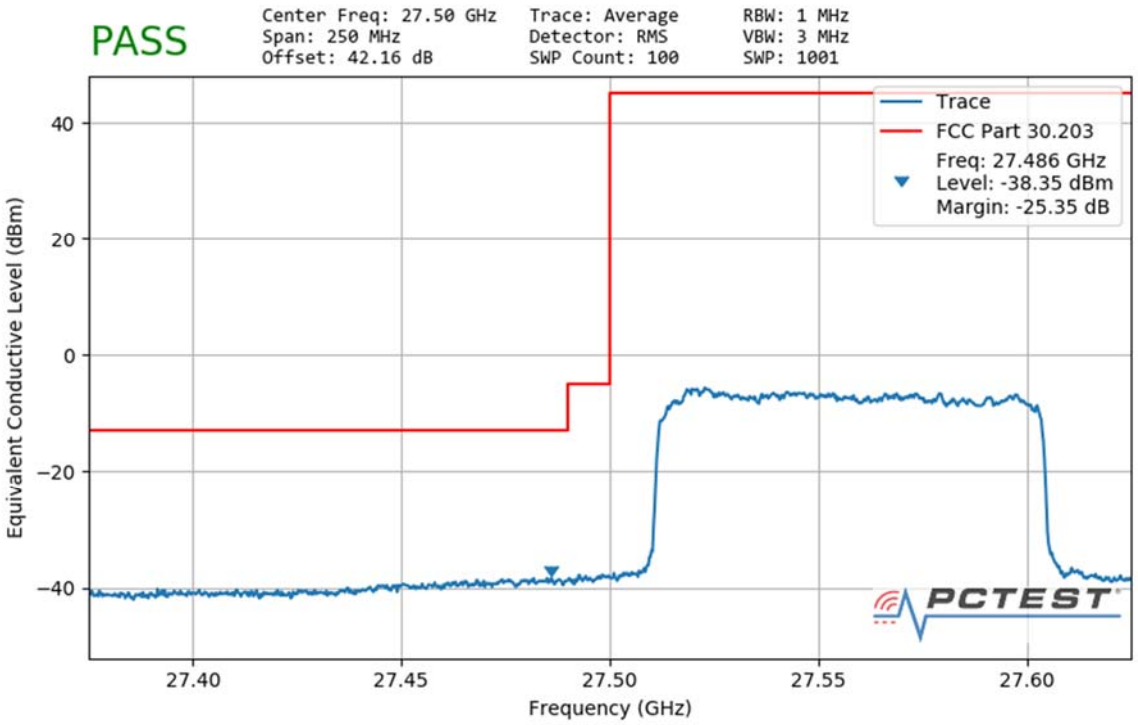
Plot 7-140. Ant3 Lower Band Edge (50MHz-4CC – QPSK 1 RB)



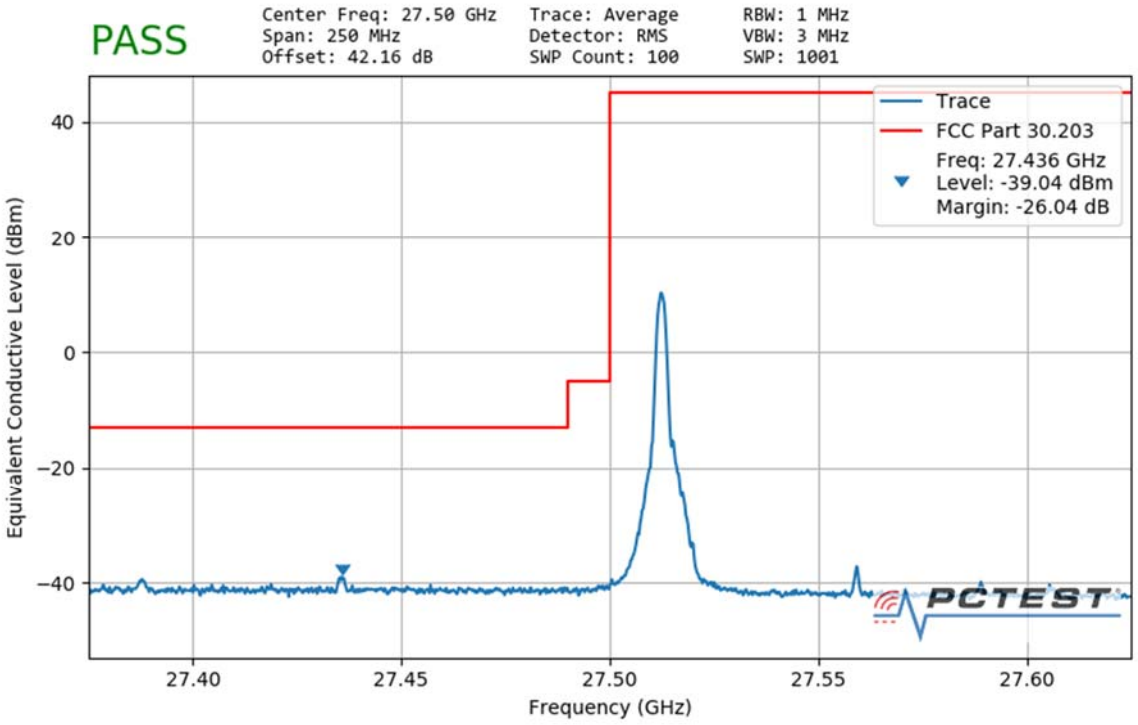
Plot 7-141. Ant3 Upper Band Edge (50MHz-4CC – QPSK Full RB)



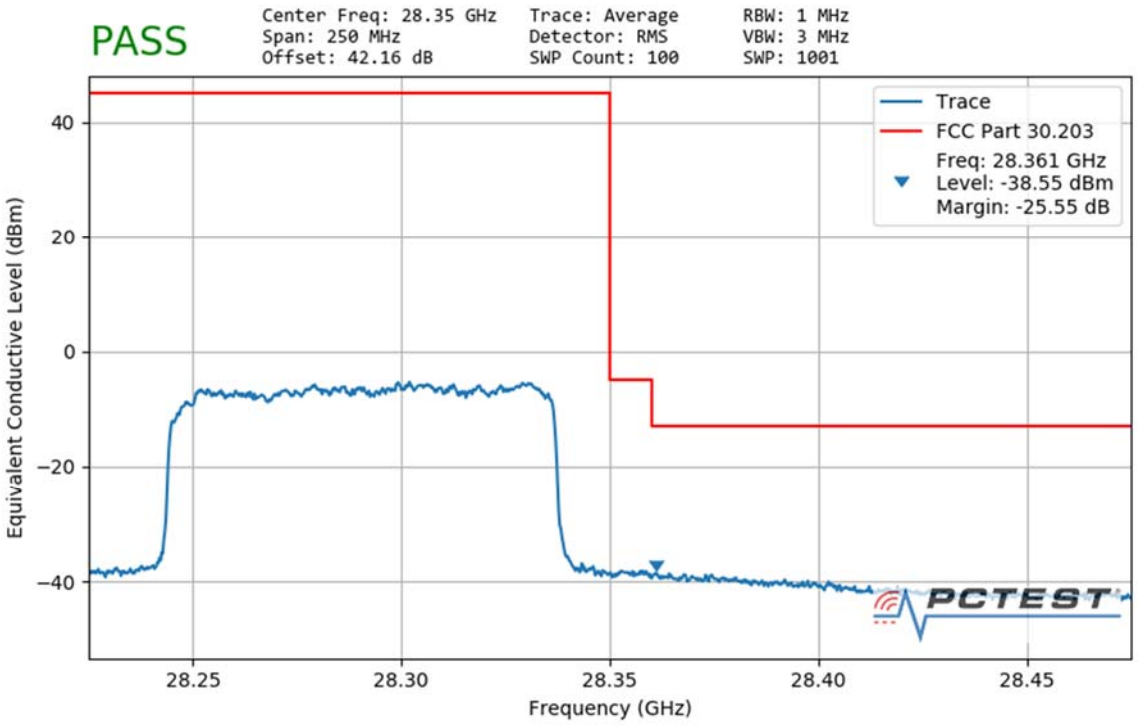
Plot 7-142. Ant3 Upper Band Edge (50MHz-4CC – QPSK 1 RB)



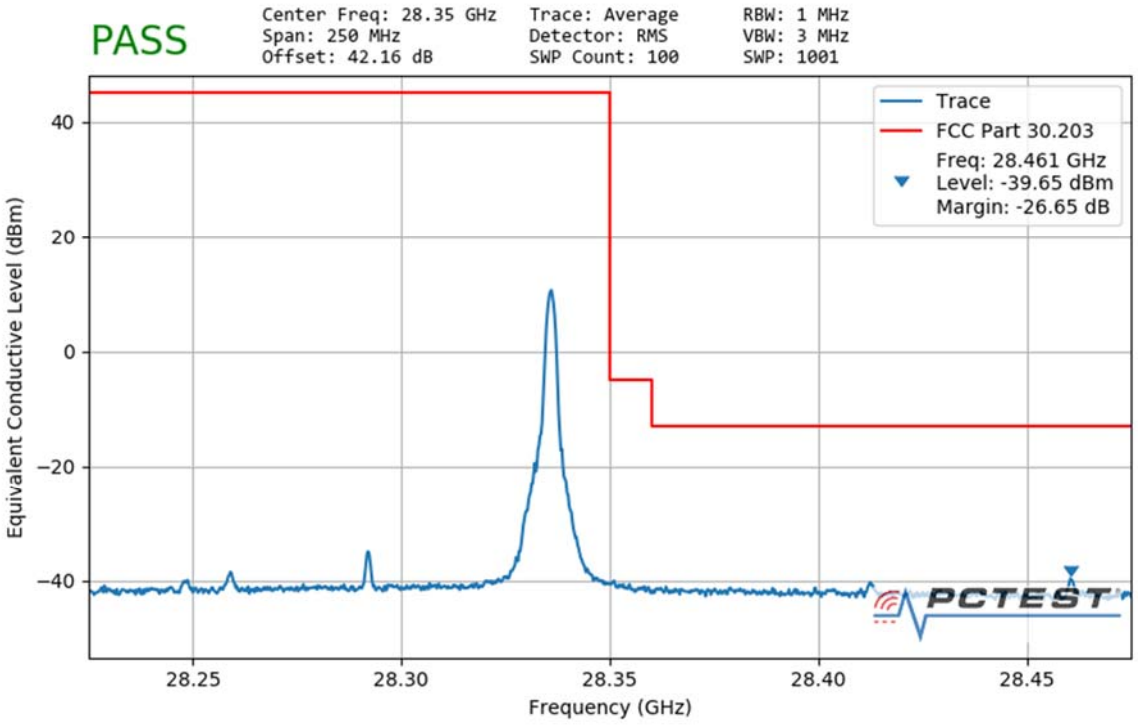
Plot 7-143. Ant3 Lower Band Edge (100MHz-1CC – QPSK Full RB)



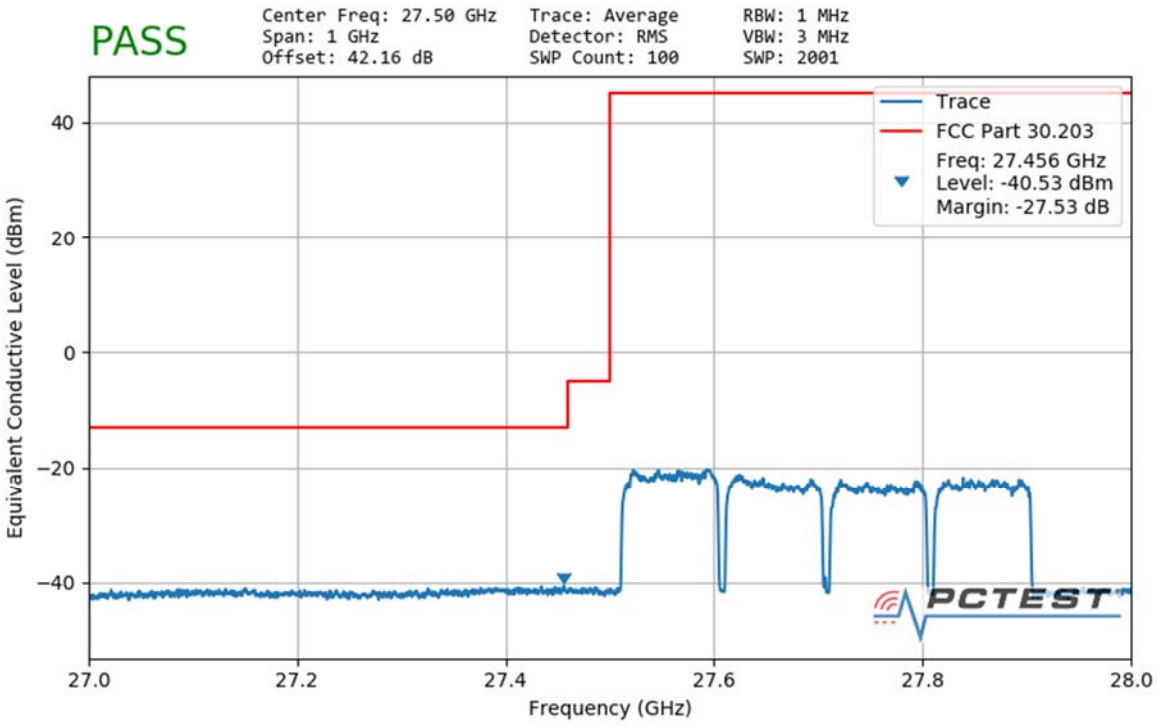
Plot 7-144. Ant3 Lower Band Edge (100MHz-1CC – QPSK 1 RB)



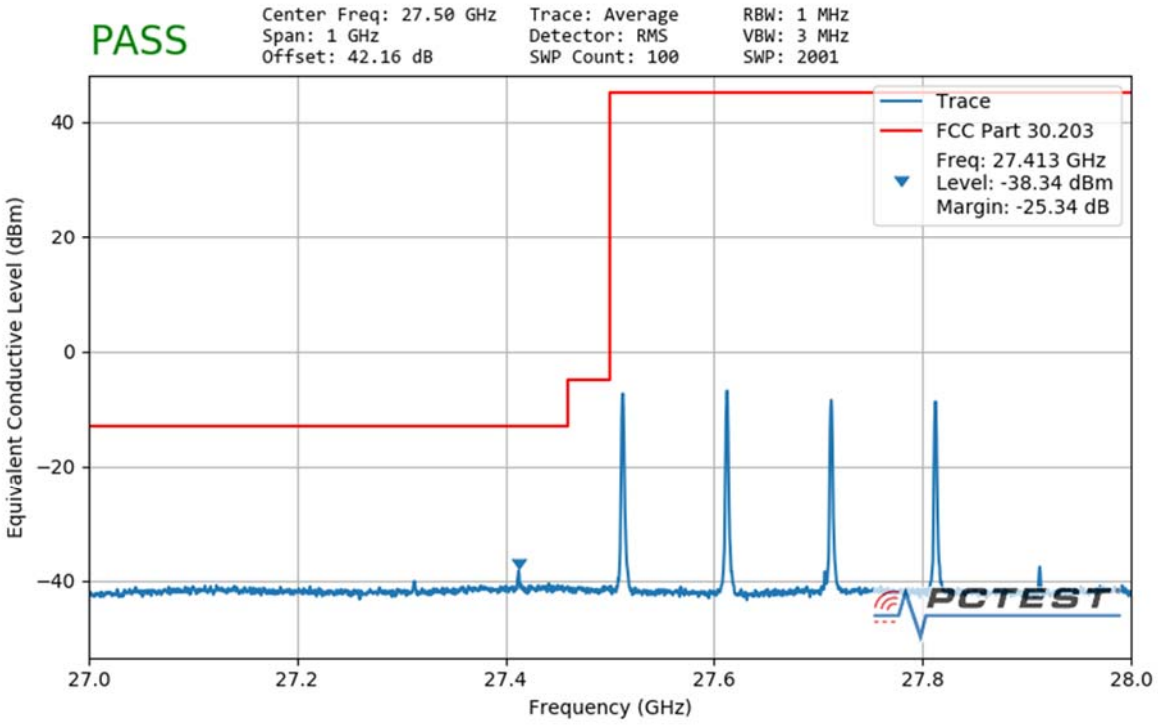
Plot 7-145. Ant3 Upper Band Edge (100MHz-1CC – QPSK Full RB)



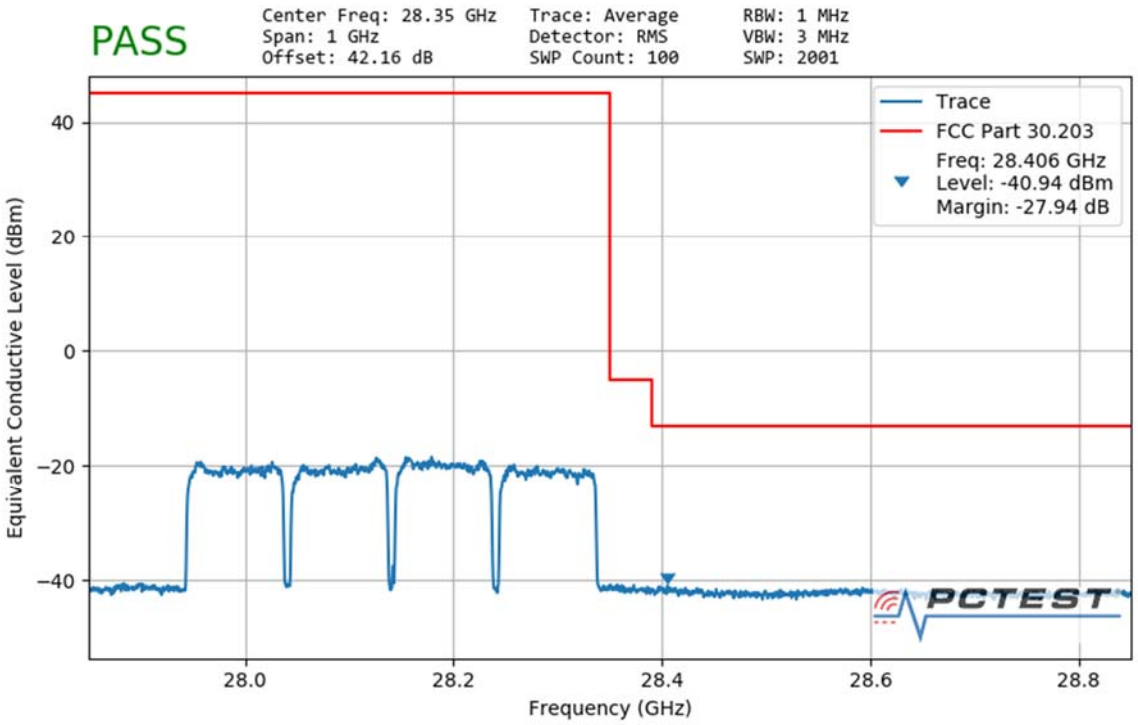
Plot 7-146. Ant3 Upper Band Edge (100MHz-1CC – QPSK 1 RB)



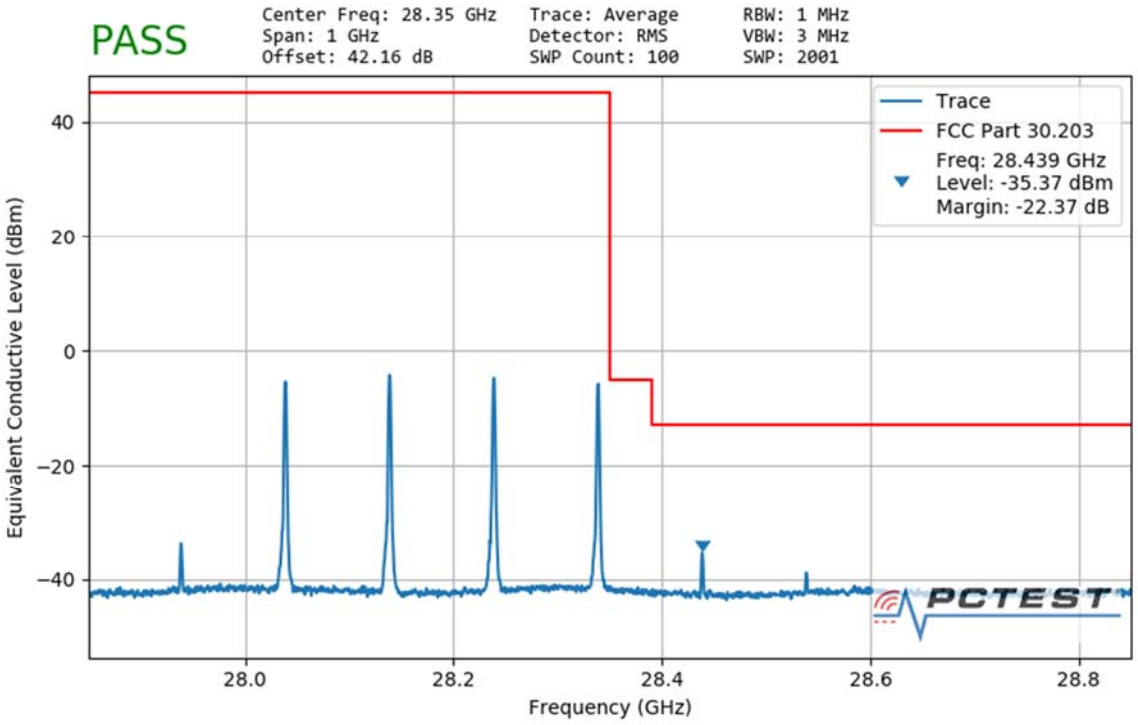
Plot 7-147. Ant3 Lower Band Edge (100MHz-4CC – QPSK Full RB)



Plot 7-148. Ant3 Lower Band Edge (100MHz-4CC – QPSK 1 RB)

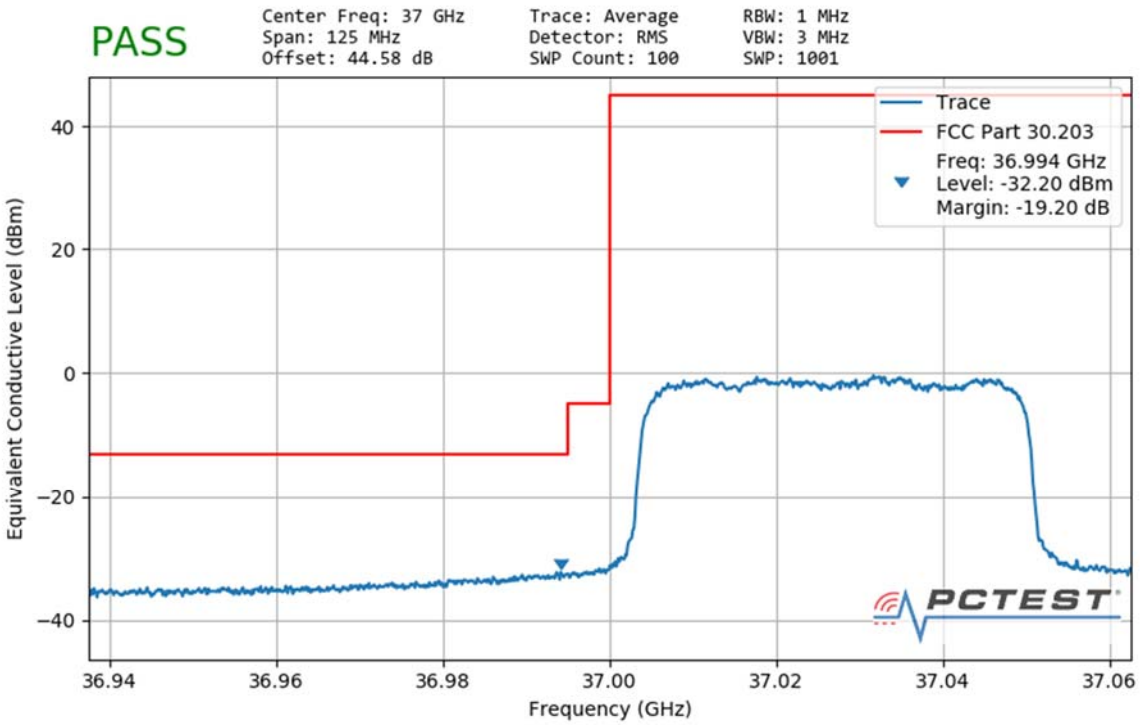


Plot 7-149. Ant3 Upper Band Edge (100MHz-4CC – QPSK Full RB)

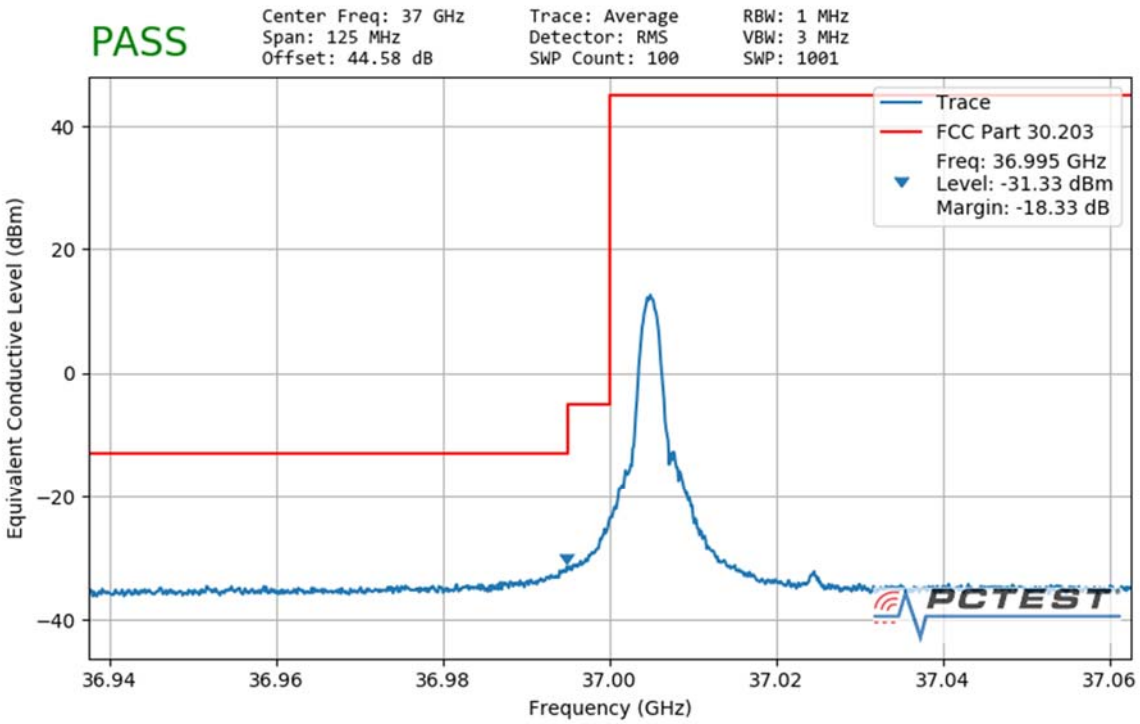


Plot 7-150. Ant3 Upper Band Edge (100MHz-4CC – QPSK 1 RB)

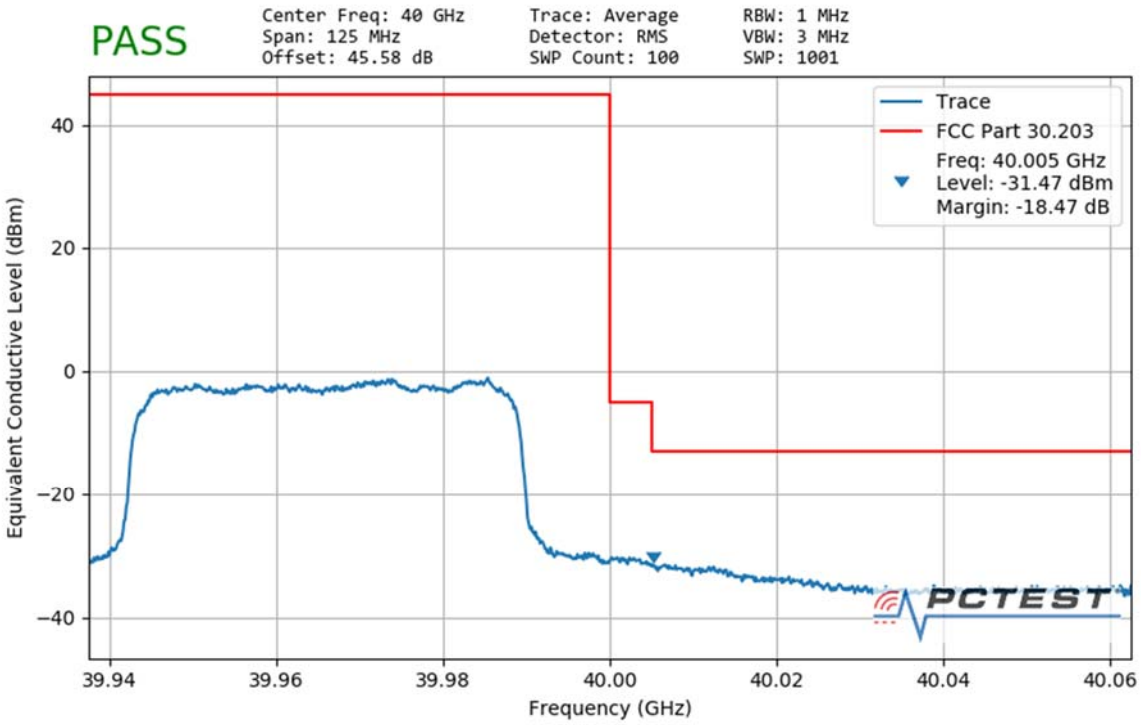
Band n260 - QTM#0 / Ant1 - MIMO



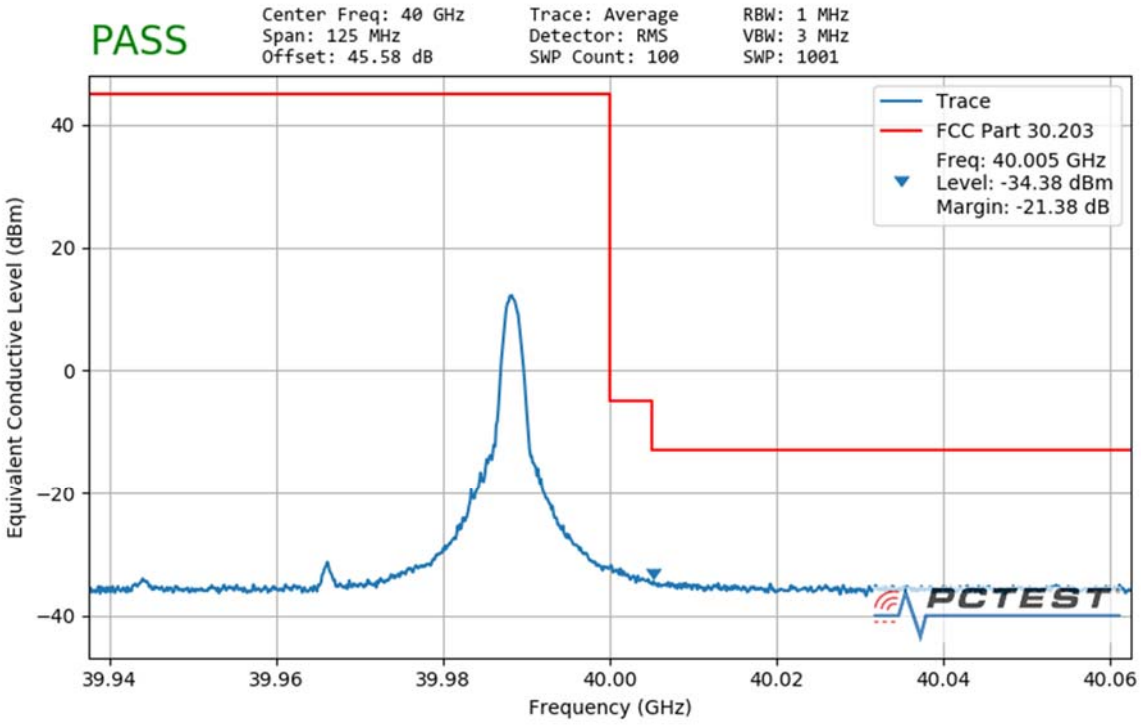
Plot 7-151. Ant1 Lower Band Edge (50MHz-1CC – QPSK Full RB)



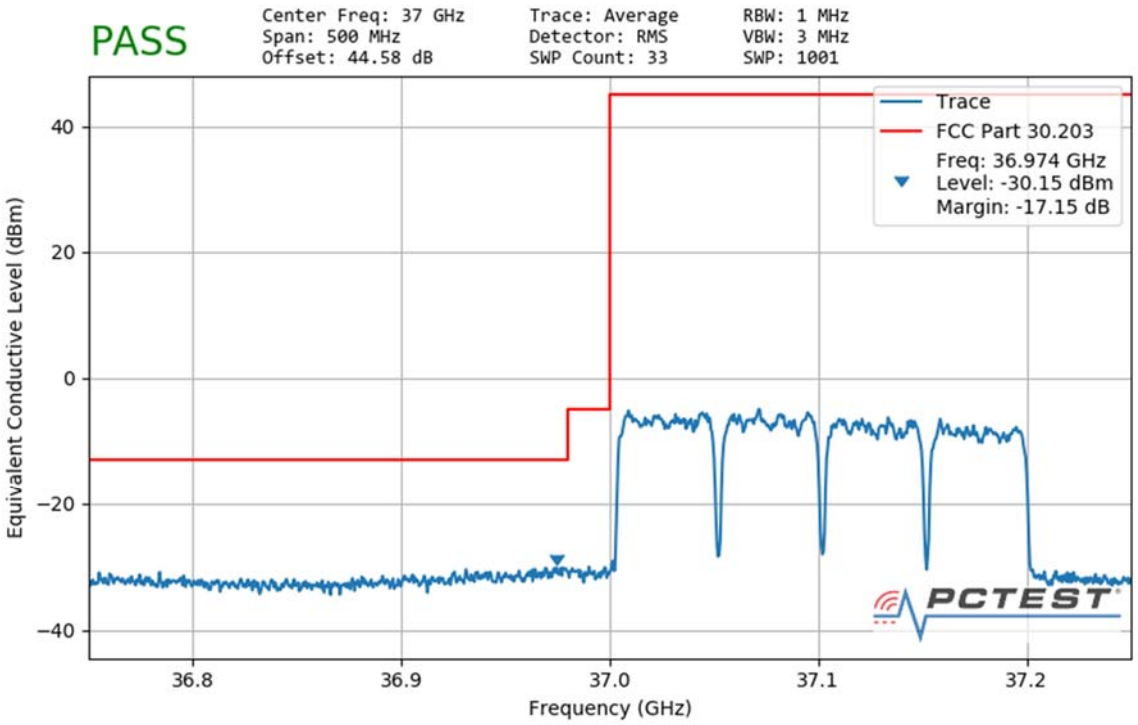
Plot 7-152. Ant1 Lower Band Edge (50MHz-1CC – QPSK 1 RB)



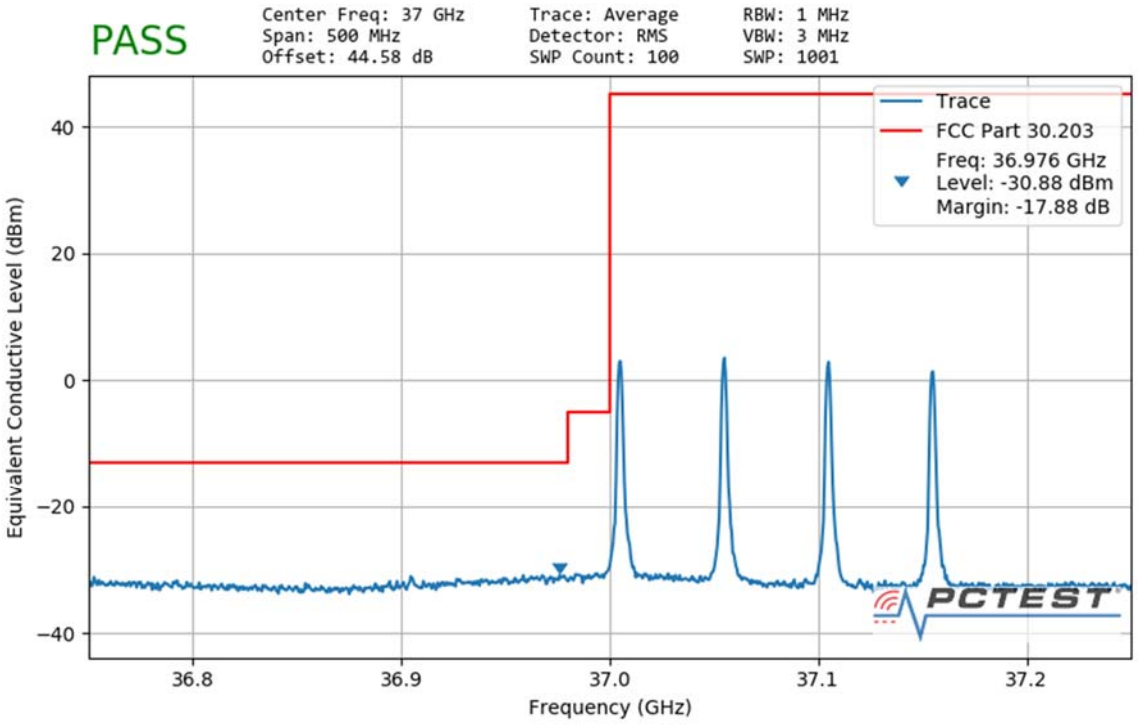
Plot 7-153. Ant1 Upper Band Edge (50MHz-1CC – QPSK Full RB)



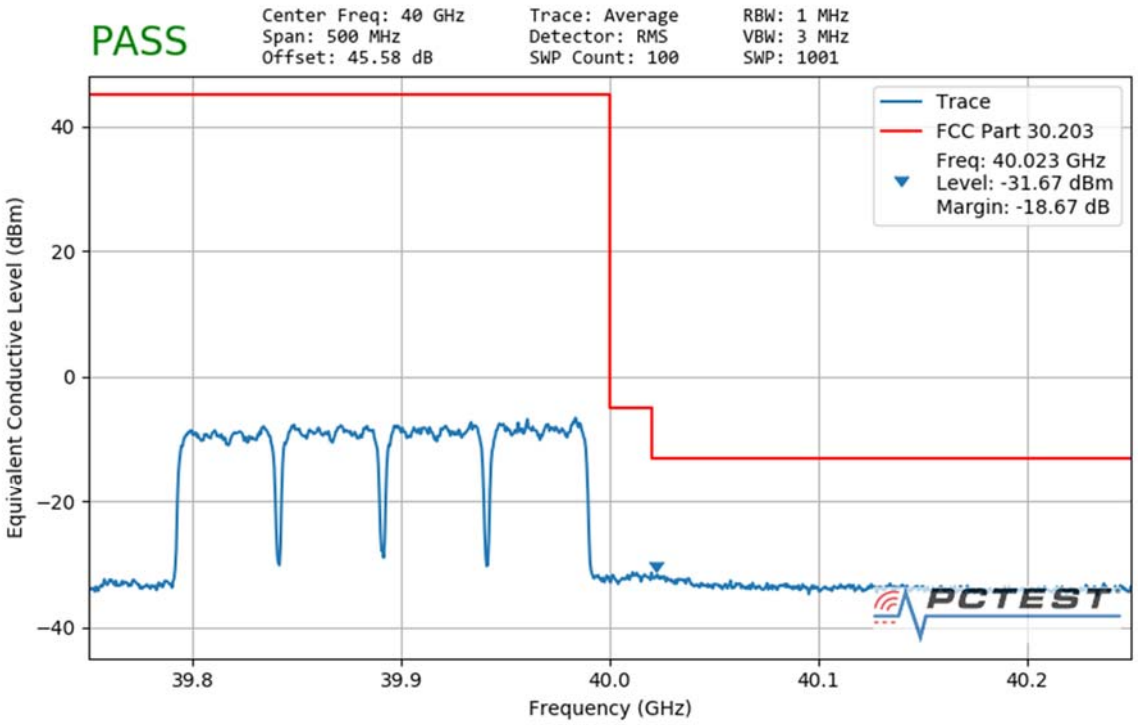
Plot 7-154. Ant1 Upper Band Edge (50MHz-1CC – QPSK 1 RB)



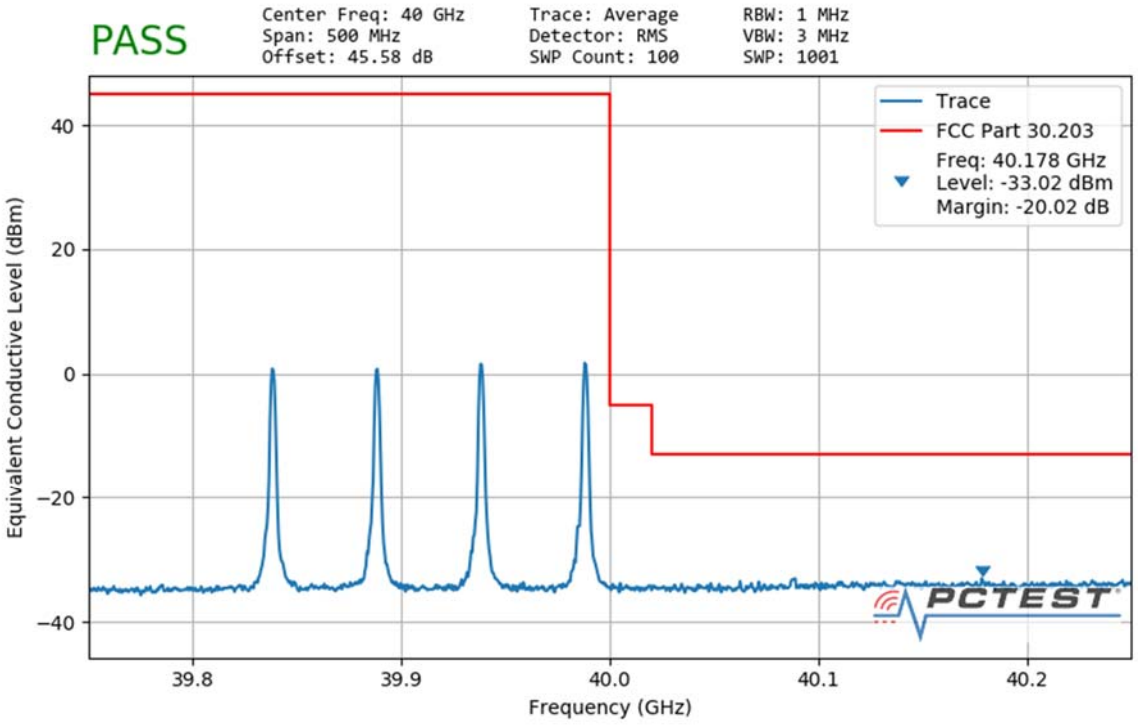
Plot 7-155. Ant1 Lower Band Edge (50MHz-4CC – QPSK Full RB)



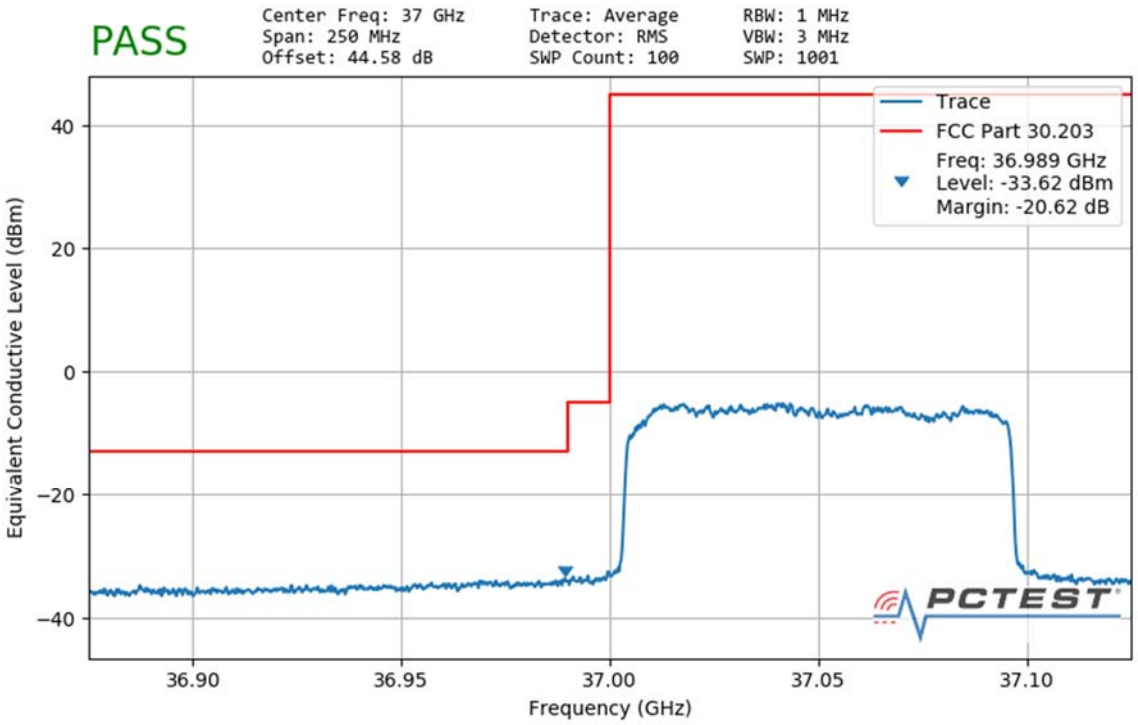
Plot 7-156. Ant1 Lower Band Edge (50MHz-4CC – QPSK 1 RB)



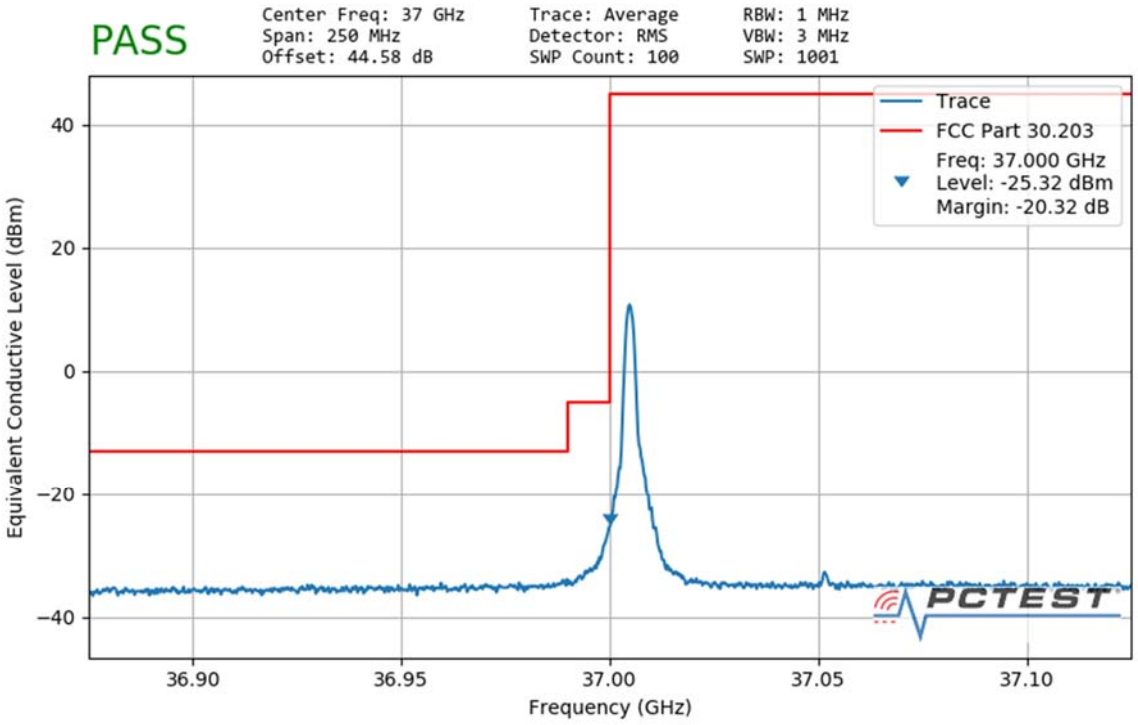
Plot 7-157. Ant1 Upper Band Edge (50MHz-4CC – QPSK Full RB)



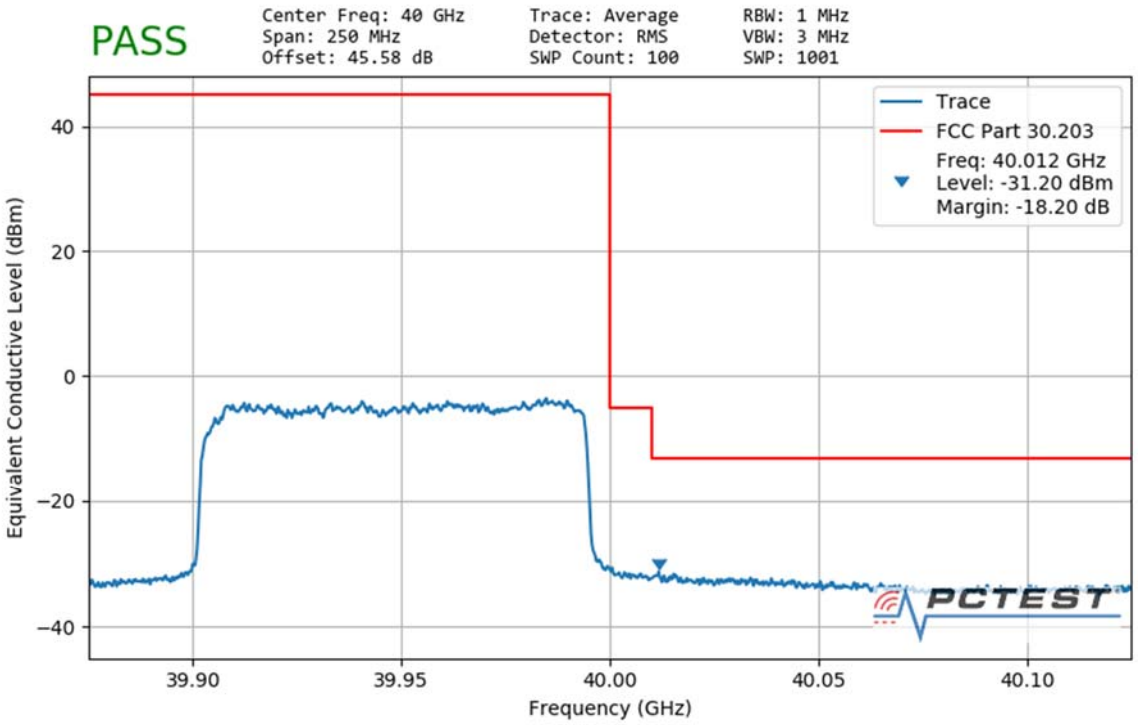
Plot 7-158. Ant1 Upper Band Edge (50MHz-4CC – QPSK 1 RB)



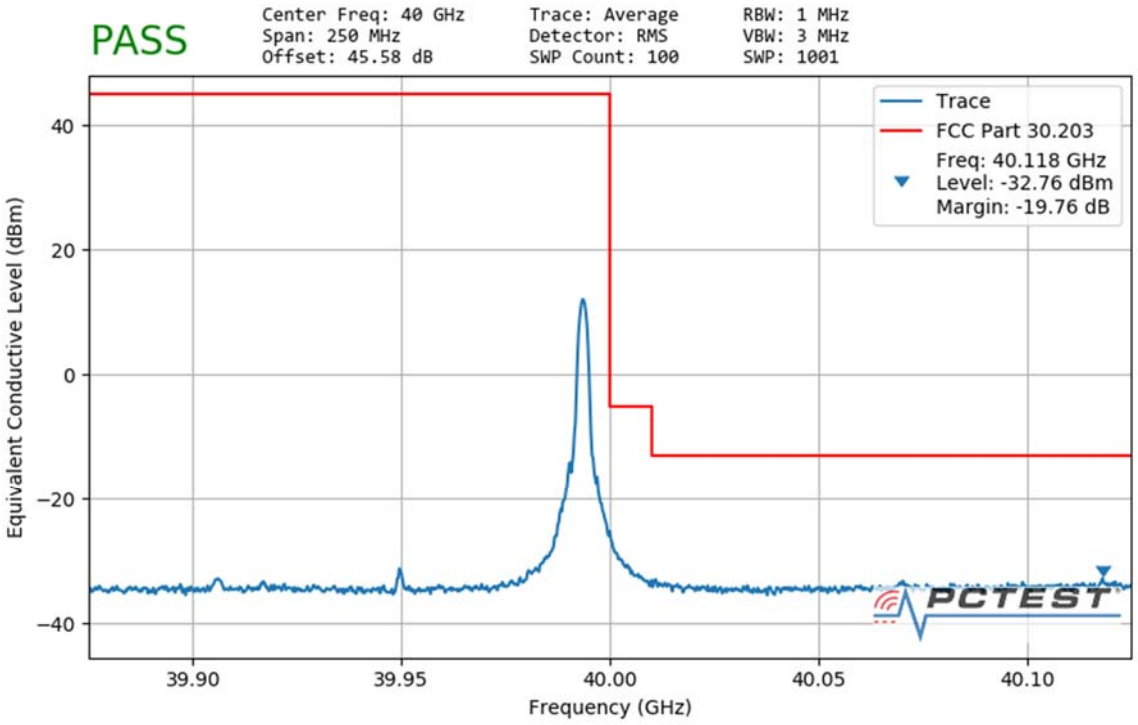
Plot 7-159. Ant1 Lower Band Edge (100MHz-1CC – QPSK Full RB)



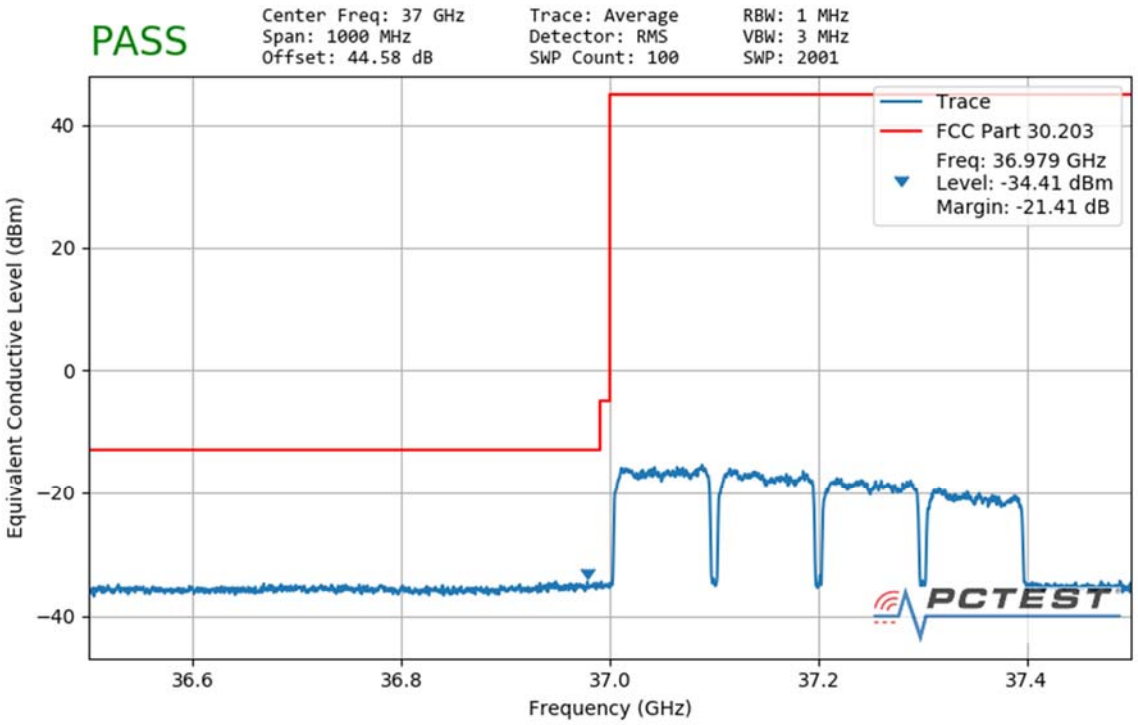
Plot 7-160. Ant1 Lower Band Edge (100MHz-1CC – QPSK 1 RB)



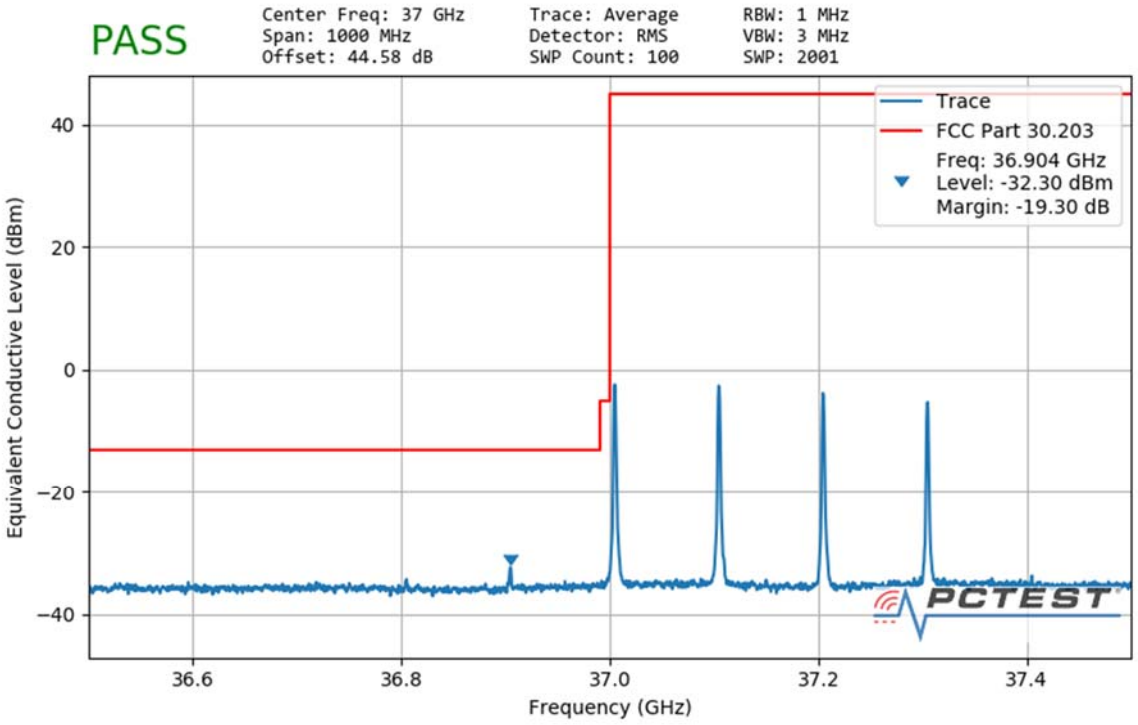
Plot 7-161. Ant1 Upper Band Edge (100MHz-1CC – QPSK Full RB)



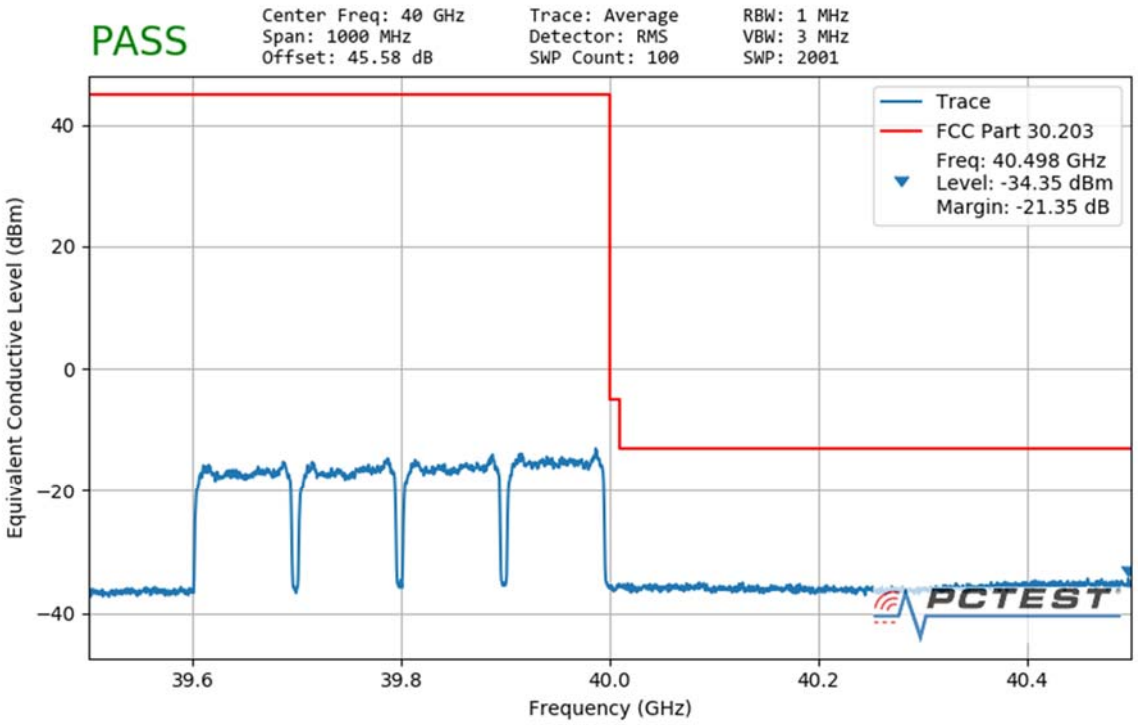
Plot 7-162. Ant1 Upper Band Edge (100MHz-1CC – QPSK 1 RB)



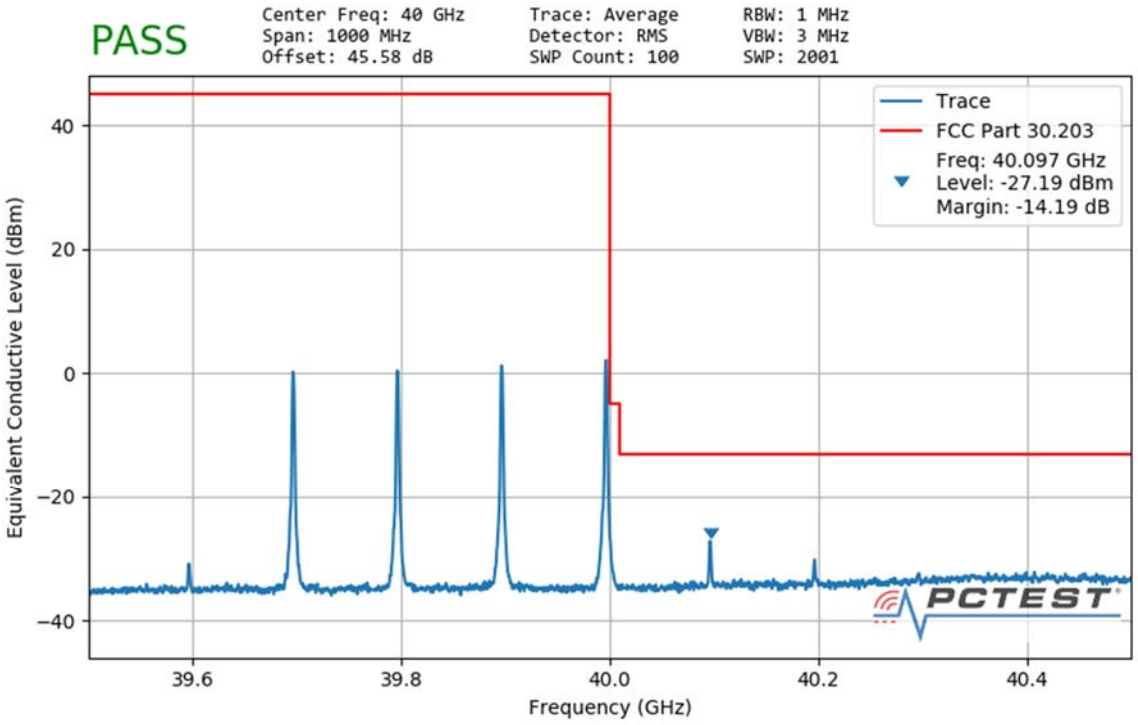
Plot 7-163. Ant1 Lower Band Edge (100MHz-4CC – QPSK Full RB)



Plot 7-164. Ant1 Lower Band Edge (100MHz-4CC – QPSK 1 RB)

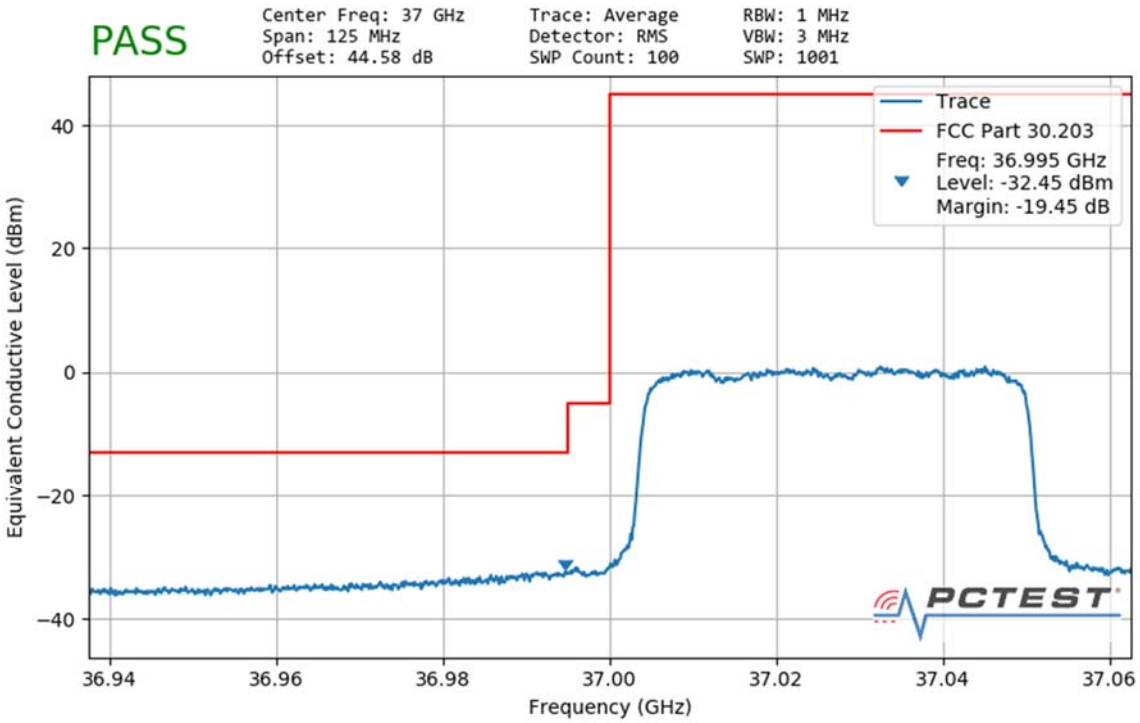


Plot 7-165. Ant1 Upper Band Edge (100MHz-4CC – QPSK Full RB)

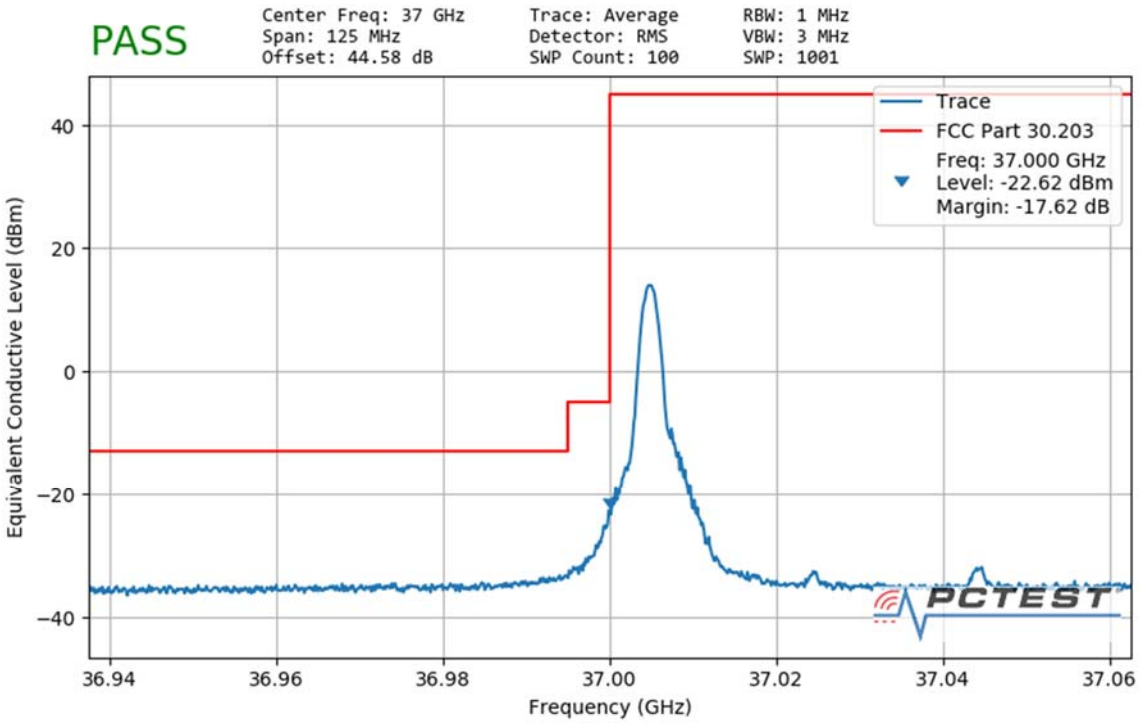


Plot 7-166. Ant1 Upper Band Edge (100MHz-4CC – QPSK 1 RB)

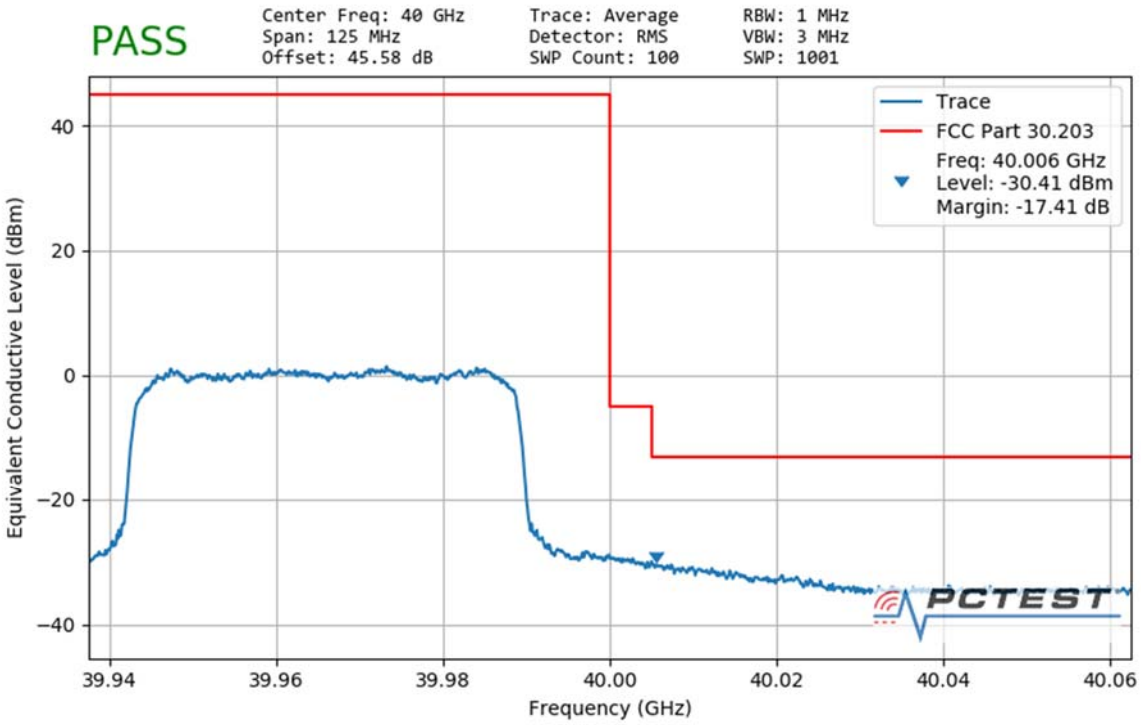
Band n260 - QTM#1 / Ant2 - MIMO



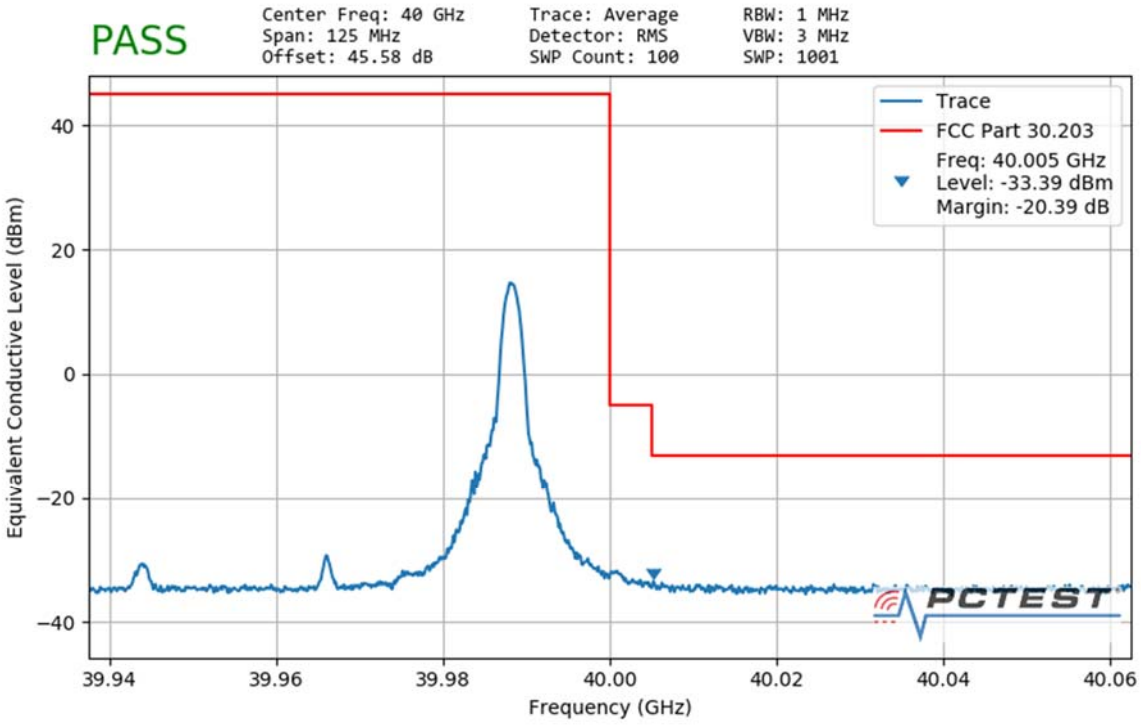
Plot 7-167. Ant2 Lower Band Edge (50MHz-1CC – QPSK Full RB)



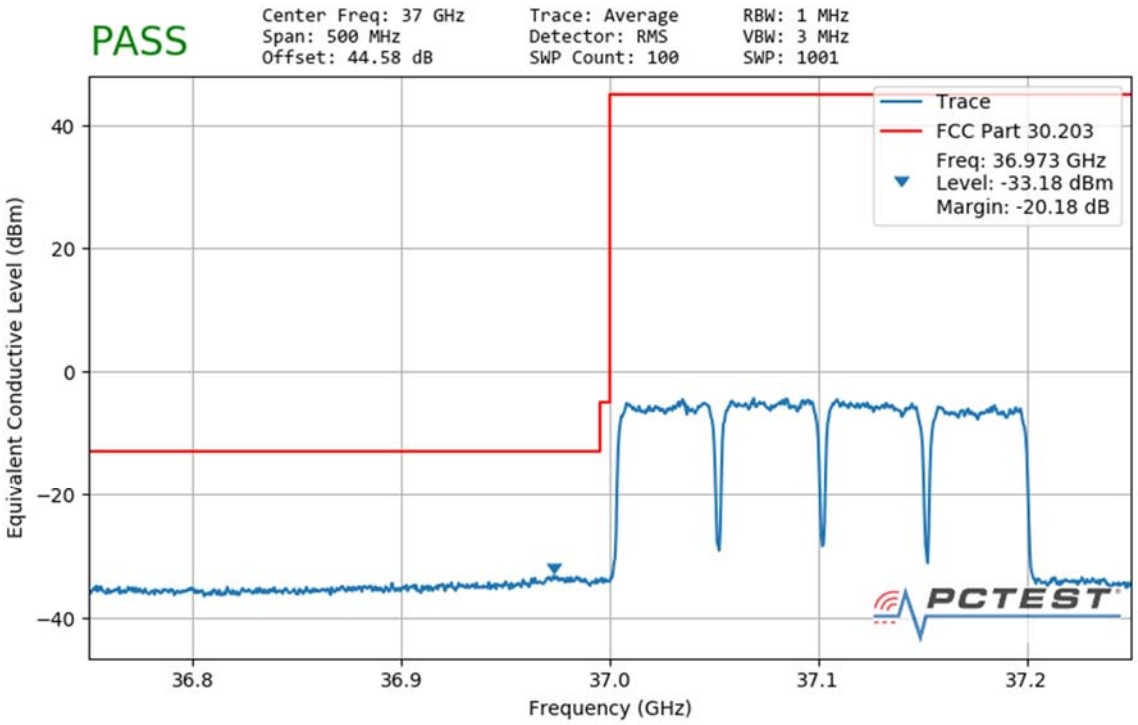
Plot 7-168. Ant2 Lower Band Edge (50MHz-1CC – QPSK 1 RB)



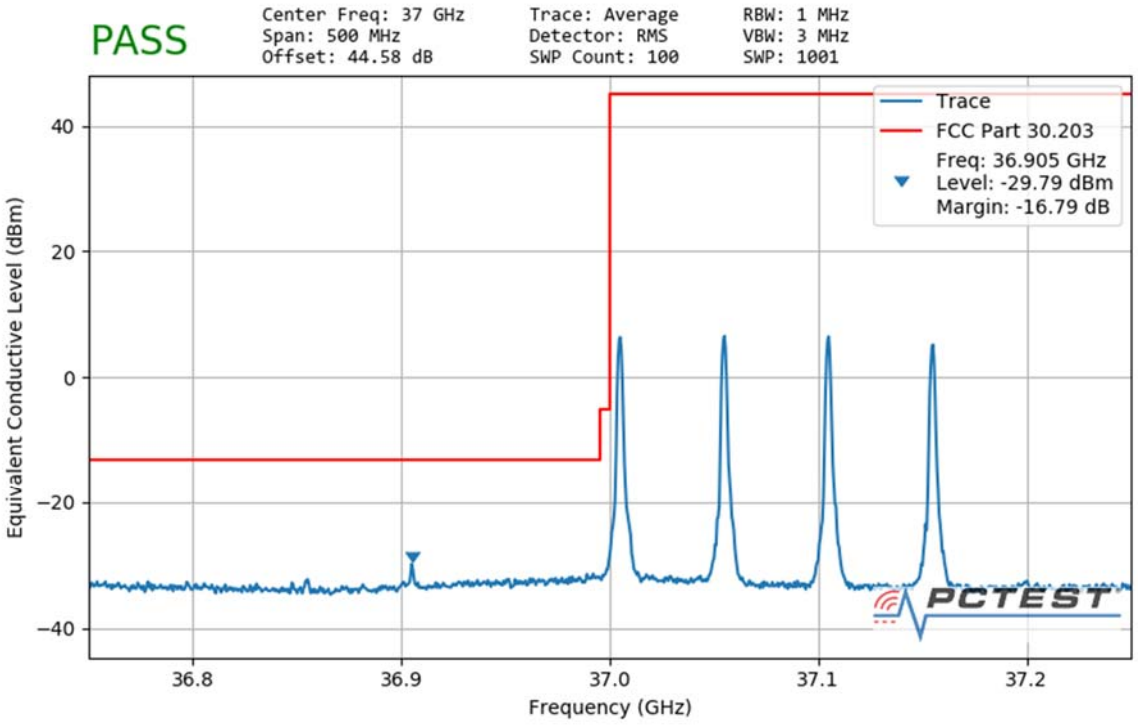
Plot 7-169. Ant2 Upper Band Edge (50MHz-1CC – QPSK Full RB)



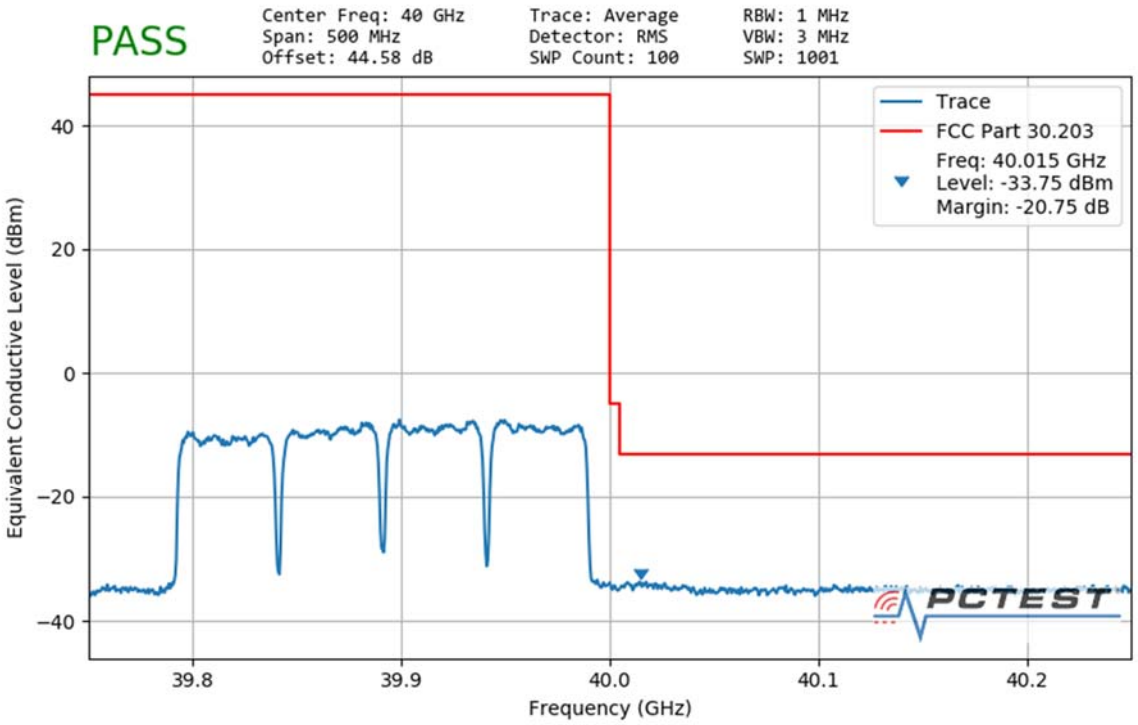
Plot 7-170. Ant2 Upper Band Edge (50MHz-1CC – QPSK 1 RB)



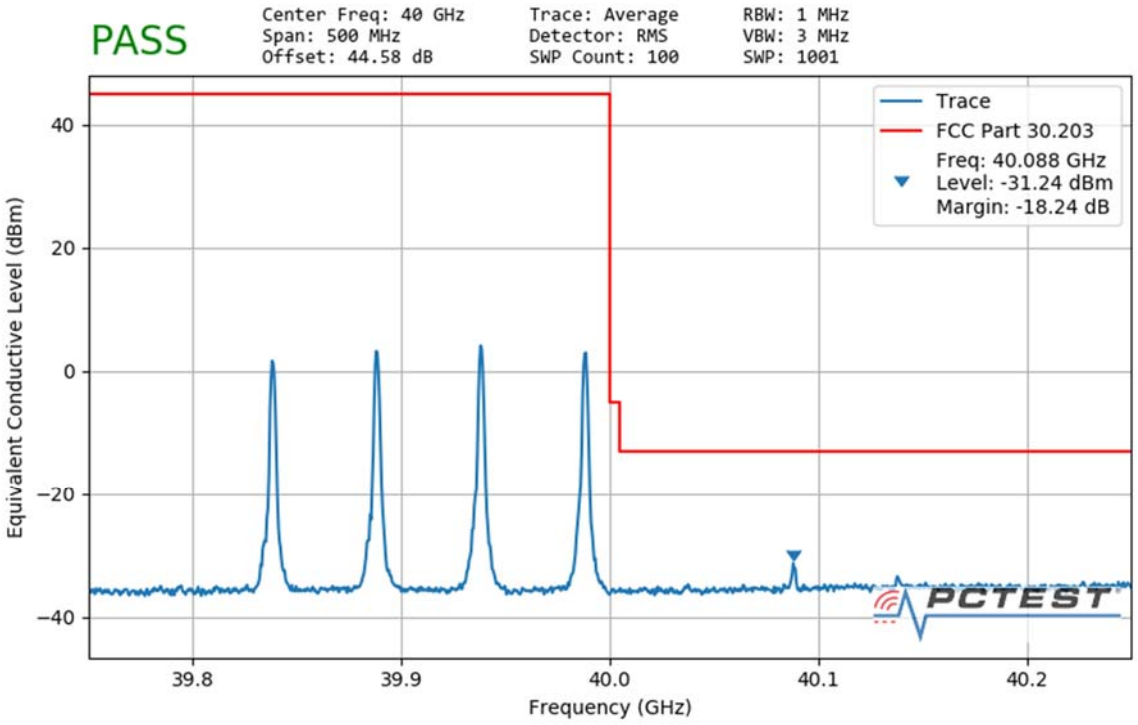
Plot 7-171. Ant2 Lower Band Edge (50MHz-4CC – QPSK Full RB)



Plot 7-172. Ant2 Lower Band Edge (50MHz-4CC – QPSK 1 RB)



Plot 7-173. Ant2 Upper Band Edge (50MHz-4CC – QPSK Full RB)



Plot 7-174. Ant2 Upper Band Edge (50MHz-4CC – QPSK 1 RB)