2.8 FIELD STRENGTH OF SPURIOUS RADIATION

2.8.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1053
FCC 47 CFR Part 27, Clause 27.53(h)(1)
FCC 47 CFR Part 27, Clause 27.53(g)
FCC 47 CFR Part 27, Clause 27.53(m)(4)
FCC 47 CFR Part 27, Clause 27.53(c)(2)
RSS-139, Clause 6.6
RSS-130, Clause 4.7.1
RSS-199, Clause 4.5

2.8.2 Standard Applicable

FCC 47 CFR Part 27.53

(h)(1) AWS emission limits – (1) General protection levels. Except as otherwise specified below, for operatios in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

(g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log(P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

(c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band)s) of operatio, measured in watts, in accordance with the following:
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 1010 log10 (P) dB.

RSS-139, Clause 6.6:
(i) In the first 1.0 MHz bands immediatel outside and adjacent to the equipment's smallest opreating frequency block, which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (dBW), by at least 43 + 10 $\log_{10}$ p (watts) dB.

(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output ower P (dBW), by at least 43 + 10 $\log_{10}$ p (watts) dB.

RSS-130:
4.7.1 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

RSS-199, Clause 4.5:
In the 1 MHz band immediatel outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used.
(b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:
(i) 40 + 10 $\log_{10}$ p from the channel edges to 5 MHz away.
(ii) 43 + 10 $\log_{10}$ p between 5 MHz and X MHz from the channel edges, and
(iii) 55 + 10 $\log_{10}$ p at X MHz and beyond from the channel edges

2.8.3 Equipment Under Test and Modification State

Serial No: AT071218B00062 (MIFI8000), AZ280418A00044 (MIFI8800L) / Test Configuration B

2.8.4 Date of Test/Initial of test personnel who performed the test

March 25, 29, April 02, 17 and 19, May 12, 2019 / XYZ
July 14, 18 and 27, 2018 / XYZ

2.8.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.8.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	24.7 - 25.9 °C
Relative Humidity	49.7 - 57.2 %
ATM Pressure	98.7 - 99.1 kPa

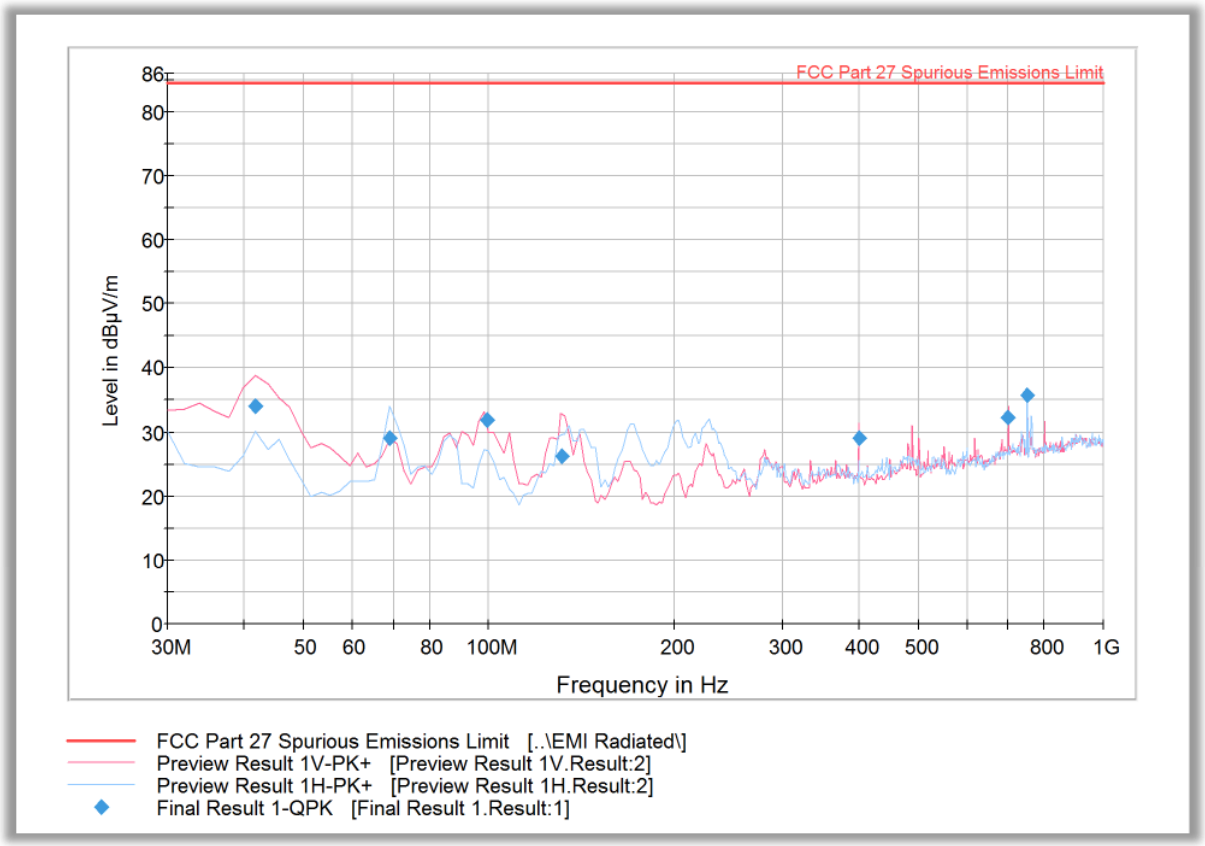
2.8.7 Additional Observations

- This is a radiated test using substitution method as per Unwanted Emissions: Radiated Spurious method of measurement of ANSI/TIA/EIA-603-C 2004, August 17, 2004.
- This is cabinet spurious emissions testing. Main antenna port was terminated during the test. Fundamental frequency measurement will be ignored for this test.
- Emissions within 6dB of the limit will be proven by substitution method.
- Only the worst case configuration presented in this test report.
- Only noise floor measurements observed above 18GHz.
- Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only.

2.8.8 Test Results

Compliant. See attached plots.

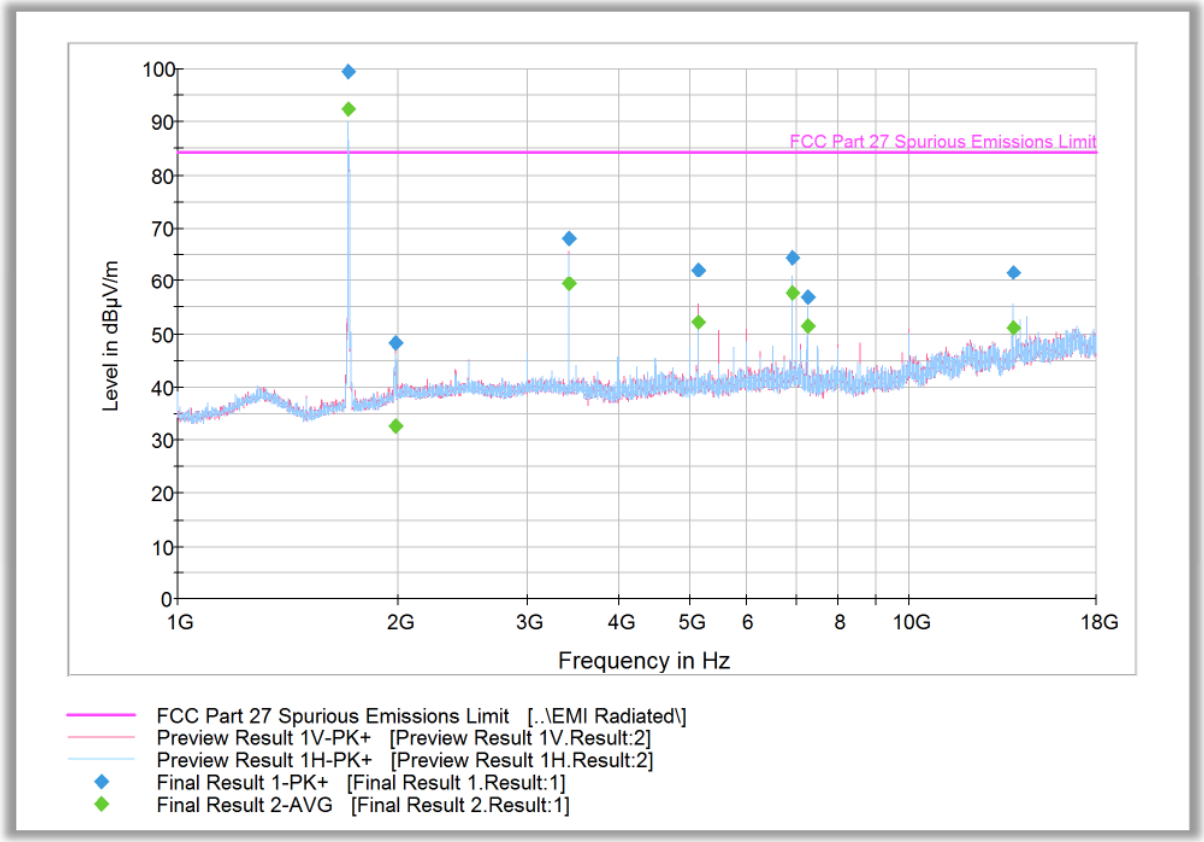
2.8.9 Radiated Emission Test Results Below 1GHz – Worst Case WCDMA Band 4_High Channel 1752.6 MHz



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
41.743327	34.0	1000.0	120.000	115.0	V	206.0	-12.5	50.4	84.4
68.997756	28.9	1000.0	120.000	264.0	H	-15.0	-16.8	55.5	84.4
99.276072	31.9	1000.0	120.000	116.0	V	98.0	-13.3	52.5	84.4
131.282164	26.2	1000.0	120.000	100.0	V	259.0	-14.2	58.2	84.4
400.018677	29.0	1000.0	120.000	100.0	V	219.0	-4.4	55.4	84.4
700.001283	32.4	1000.0	120.000	145.0	V	31.0	2.7	52.0	84.4
749.982365	35.7	1000.0	120.000	100.0	V	317.0	2.8	48.7	84.4

2.8.10 Radiated Emission Test Results Above 1GHz – WCDMA Band 4_Low Channel 1712.4 MHz



Peak Data

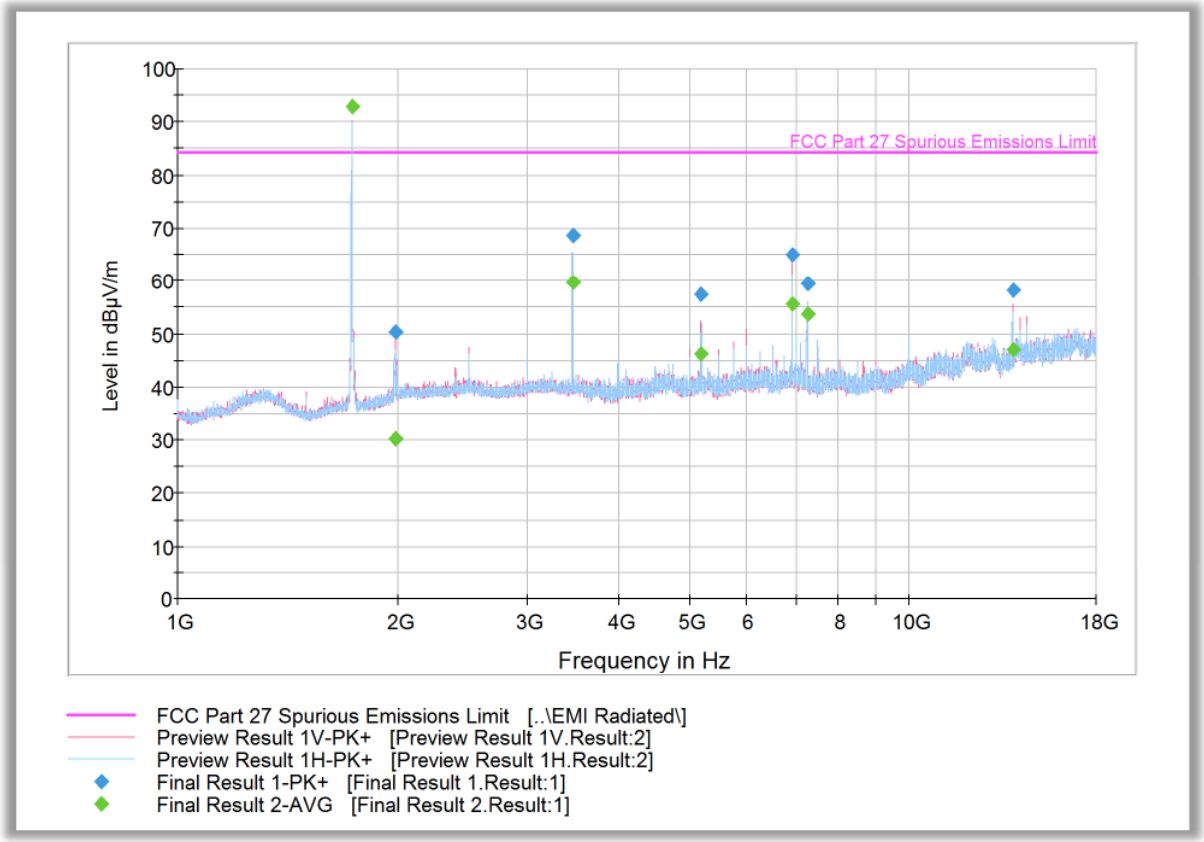
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1713.266667	99.4	1000.0	1000.000	128.7	V	302.0	-4.8	Fundamental Carrier*	
1986.000000	48.3	1000.0	1000.000	103.7	V	19.0	-2.3	36.1	84.4
3426.866667	68.0	1000.0	1000.000	124.7	V	322.0	0.9	16.4	84.4
5140.466667	62.1	1000.0	1000.000	237.4	V	183.0	4.1	22.3	84.4
6913.000000	64.4	1000.0	1000.000	301.2	H	202.0	6.7	20.0	84.4
7245.033333	57.0	1000.0	1000.000	240.4	V	94.0	7.0	27.4	84.4
13825.000000	61.5	1000.0	1000.000	301.2	H	45.0	14.1	22.9	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1713.266667	92.4	1000.0	1000.000	128.7	V	302.0	-4.8	Fundamental Carrier*	
1986.000000	32.5	1000.0	1000.000	103.7	V	19.0	-2.3	51.9	84.4
3426.866667	59.5	1000.0	1000.000	124.7	V	322.0	0.9	24.9	84.4
5140.466667	52.3	1000.0	1000.000	237.4	V	183.0	4.1	32.1	84.4
6913.000000	57.8	1000.0	1000.000	301.2	H	202.0	6.7	26.6	84.4
7245.033333	51.6	1000.0	1000.000	240.4	V	94.0	7.0	32.8	84.4
13825.000000	51.1	1000.0	1000.000	301.2	H	45.0	14.1	33.3	84.4

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.11 Radiated Emission Test Results Above 1GHz – WCDMA Band 4_Middle Channel 1732.6 MHz



Peak Data

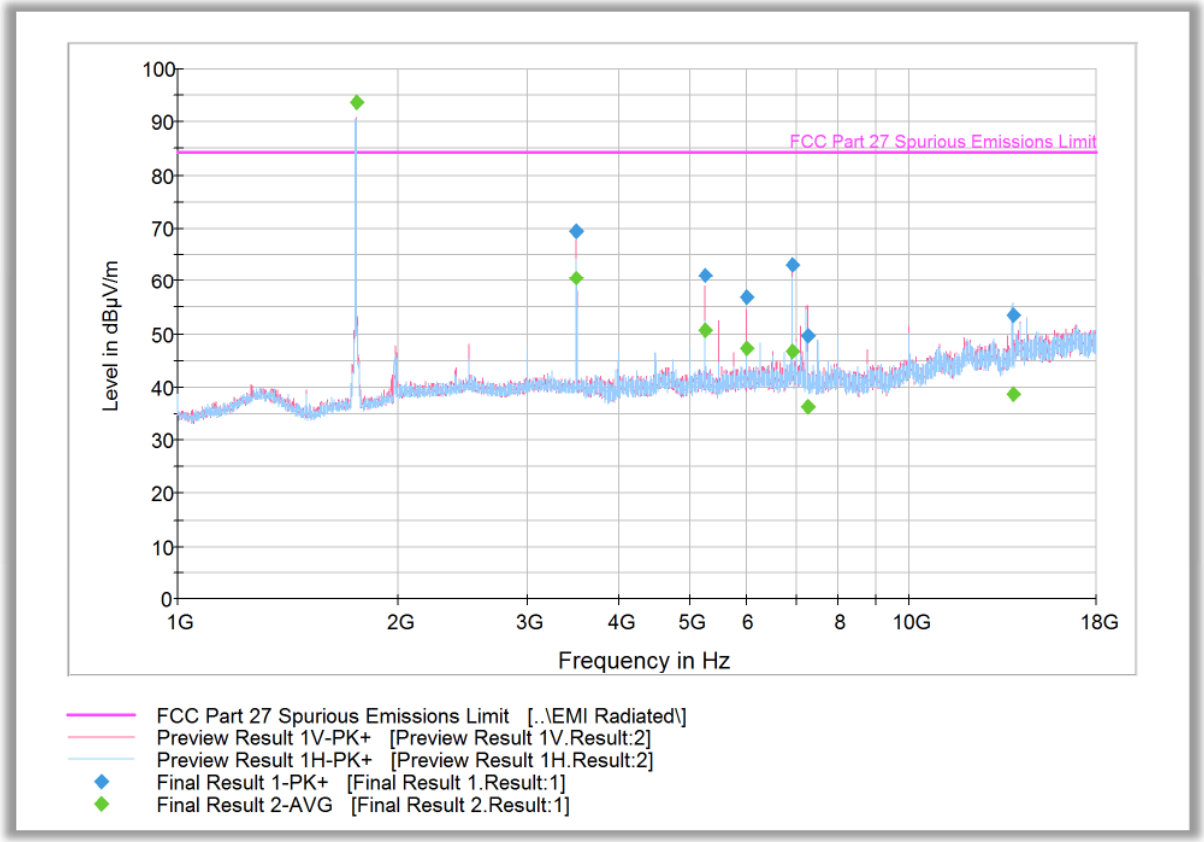
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1733.666667	100.0	1000.0	1000.000	120.7	V	304.0	-4.6	Fundamental Carrier*	
1986.400000	50.3	1000.0	1000.000	103.7	V	151.0	-2.3	34.1	84.4
3463.133333	68.6	1000.0	1000.000	200.5	H	317.0	1.1	15.8	84.4
5194.833333	57.4	1000.0	1000.000	152.2	V	179.0	4.3	27.0	84.4
6912.066667	65.0	1000.0	1000.000	290.2	V	255.0	6.7	19.4	84.4
7244.666667	59.6	1000.0	1000.000	301.2	H	14.0	7.0	24.8	84.4
13825.200000	58.3	1000.0	1000.000	275.3	V	140.0	14.1	26.1	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1733.666667	92.8	1000.0	1000.000	120.7	V	304.0	-4.6	Fundamental Carrier*	
1986.400000	30.2	1000.0	1000.000	103.7	V	151.0	-2.3	54.2	84.4
3463.133333	59.8	1000.0	1000.000	200.5	H	317.0	1.1	24.6	84.4
5194.833333	46.3	1000.0	1000.000	152.2	V	179.0	4.3	38.1	84.4
6912.066667	55.7	1000.0	1000.000	290.2	V	255.0	6.7	28.7	84.4
7244.666667	53.7	1000.0	1000.000	301.2	H	14.0	7.0	30.7	84.4
13825.200000	47.0	1000.0	1000.000	275.3	V	140.0	14.1	37.4	84.4

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.12 Radiated Emission Test Results Above 1GHz – WCDMA Band 4_High Channel 1752.6 MHz



Peak Data

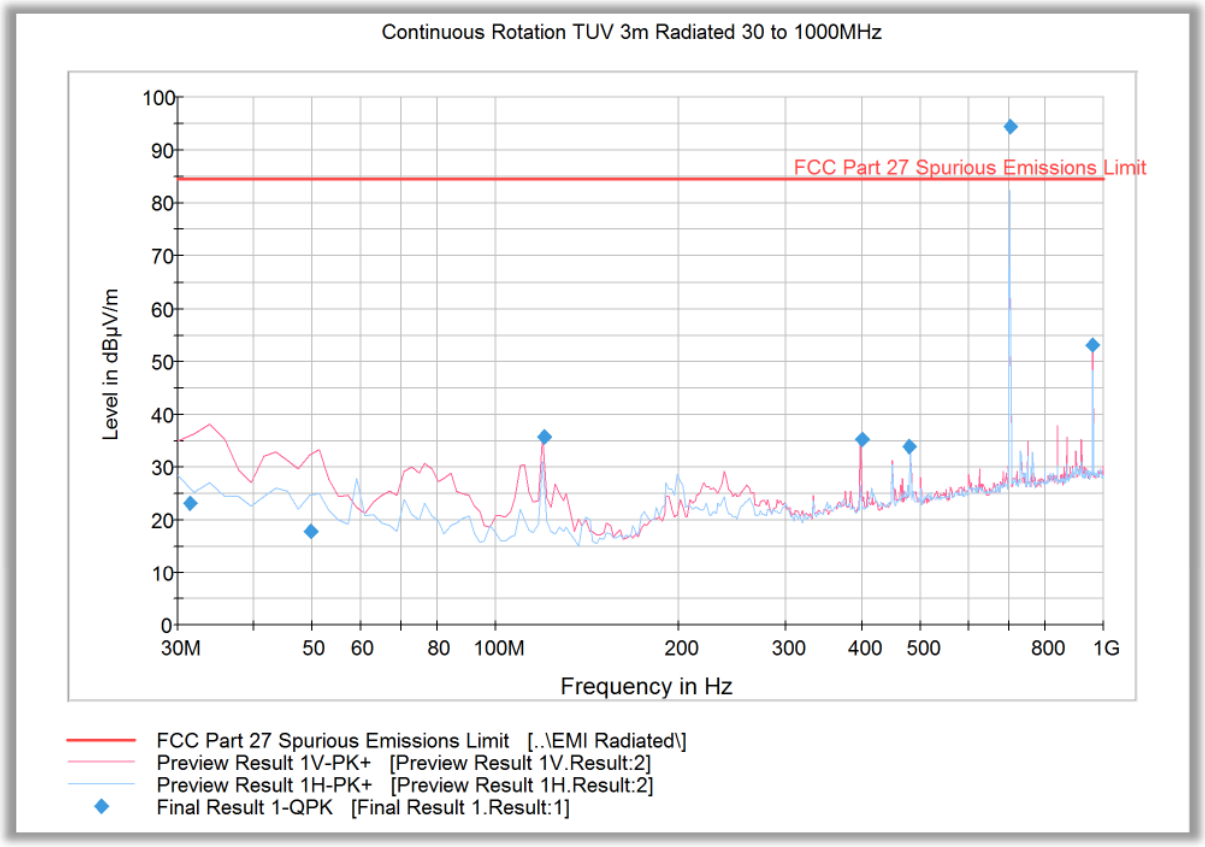
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1753.500000	100.7	1000.0	1000.000	235.4	V	293.0	-4.2	Fundamental Carrier*	
3507.333333	69.4	1000.0	1000.000	116.7	V	315.0	1.2	15.0	84.4
5254.500000	61.2	1000.0	1000.000	317.2	V	173.0	4.4	23.2	84.4
5999.900000	57.0	1000.0	1000.000	285.3	V	204.0	5.7	27.4	84.4
6911.033333	63.2	1000.0	1000.000	270.3	V	127.0	6.7	21.2	84.4
7244.133333	49.5	1000.0	1000.000	352.7	V	118.0	7.0	34.9	84.4
13823.900000	53.4	1000.0	1000.000	312.2	H	337.0	14.1	31.0	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1753.500000	93.7	1000.0	1000.000	235.4	V	293.0	-4.2	Fundamental Carrier*	
3507.333333	60.7	1000.0	1000.000	116.7	V	315.0	1.2	23.7	84.4
5254.500000	50.6	1000.0	1000.000	317.2	V	173.0	4.4	33.8	84.4
5999.900000	47.1	1000.0	1000.000	285.3	V	204.0	5.7	37.3	84.4
6911.033333	46.7	1000.0	1000.000	270.3	V	127.0	6.7	37.7	84.4
7244.133333	36.3	1000.0	1000.000	352.7	V	118.0	7.0	48.1	84.4
13823.900000	38.6	1000.0	1000.000	312.2	H	337.0	14.1	45.8	84.4

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.13 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 12_5MHz Bandwidth_Low Channel 701.5 MHz _1 RB 12 offset_QPSK

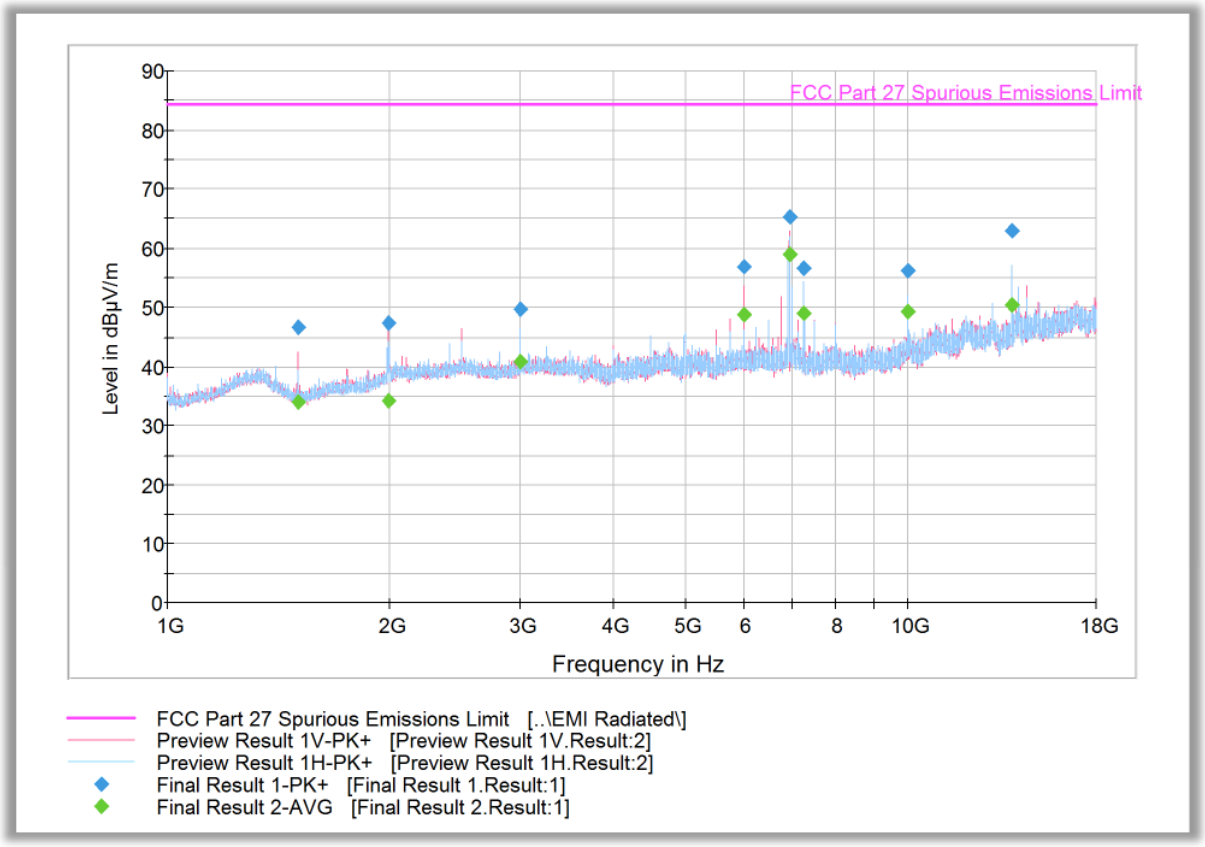


Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
31.407776	23.2	1000.0	120.000	110.0	V	288.0	-8.3	61.2	84.4
49.742766	18.0	1000.0	120.000	133.0	V	44.0	-15.1	66.4	84.4
120.018838	35.8	1000.0	120.000	100.0	V	270.0	-14.8	48.6	84.4
400.018677	35.2	1000.0	120.000	100.0	V	204.0	-4.4	49.2	84.4
480.021964	33.9	1000.0	120.000	100.0	H	247.0	-1.6	50.5	84.4
701.745170	94.4	1000.0	120.000	250.0	H	1.0	2.7	Fundamental Carrier*	
960.082244	53.3	1000.0	120.000	100.0	V	121.0	5.8	31.1	84.4

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.14 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 12_5MHz Bandwidth_Low Channel 701.5 MHz _1 RB 12 offset_QPSK



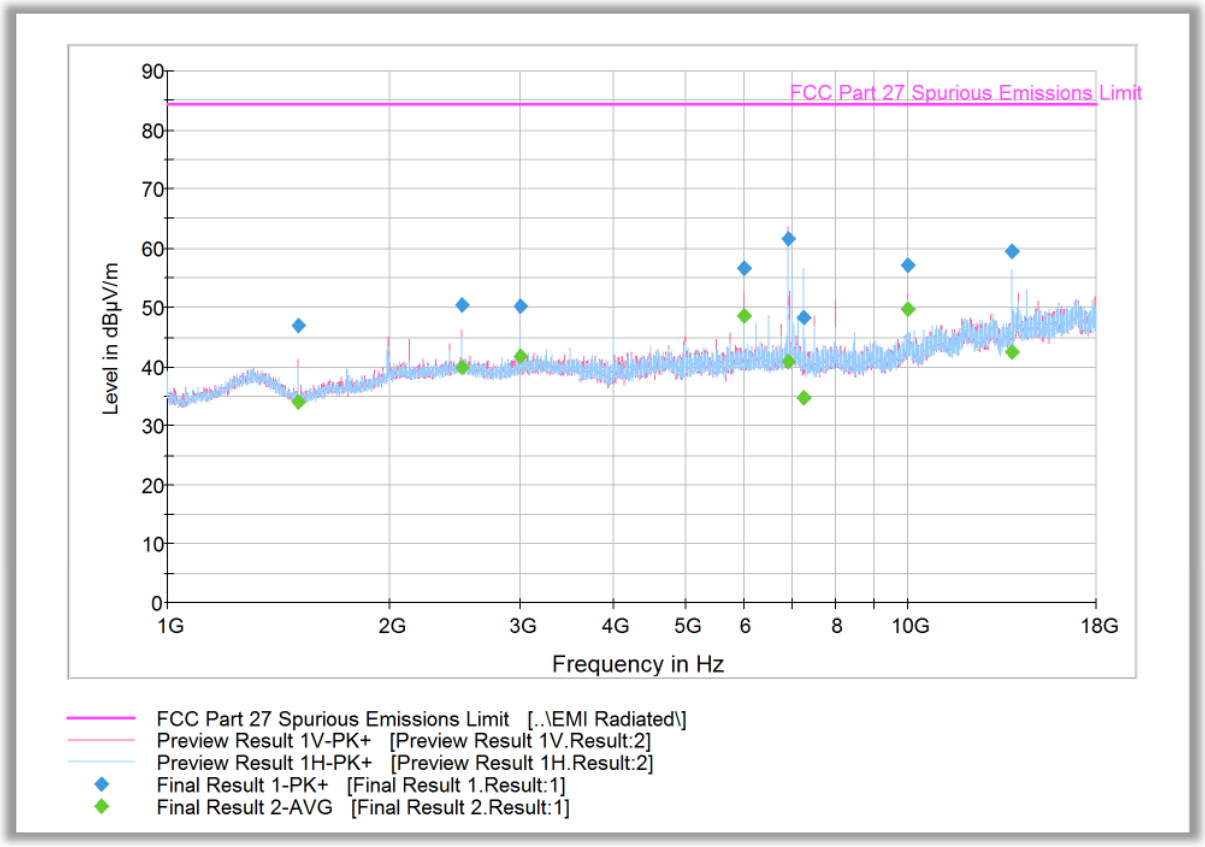
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1499.800000	46.6	1000.0	1000.000	286.2	V	344.0	-6.1	37.8	84.4
1986.966667	47.5	1000.0	1000.000	135.7	V	230.0	-2.3	36.9	84.4
2999.966667	49.7	1000.0	1000.000	306.2	H	56.0	0.9	34.7	84.4
5999.900000	56.8	1000.0	1000.000	280.2	V	206.0	5.7	27.6	84.4
6914.533333	65.3	1000.0	1000.000	306.2	V	223.0	6.7	19.1	84.4
7246.766667	56.7	1000.0	1000.000	302.2	H	11.0	7.0	27.7	84.4
10000.000000	56.3	1000.0	1000.000	182.6	V	122.0	9.6	28.1	84.4
13828.066667	62.9	1000.0	1000.000	328.2	H	336.0	14.1	21.5	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1499.800000	34.1	1000.0	1000.000	286.2	V	344.0	-6.1	50.3	84.4
1986.966667	34.2	1000.0	1000.000	135.7	V	230.0	-2.3	50.2	84.4
2999.966667	40.9	1000.0	1000.000	306.2	H	56.0	0.9	43.5	84.4
5999.900000	49.0	1000.0	1000.000	280.2	V	206.0	5.7	35.4	84.4
6914.533333	59.0	1000.0	1000.000	306.2	V	223.0	6.7	25.4	84.4
7246.766667	49.1	1000.0	1000.000	302.2	H	11.0	7.0	35.3	84.4
10000.000000	49.2	1000.0	1000.000	182.6	V	122.0	9.6	35.2	84.4
13828.066667	50.6	1000.0	1000.000	328.2	H	336.0	14.1	33.8	84.4

2.8.15 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 12_5MHz Bandwidth_Middle Channel 707.5 MHz _1 RB 12 offset_QPSK



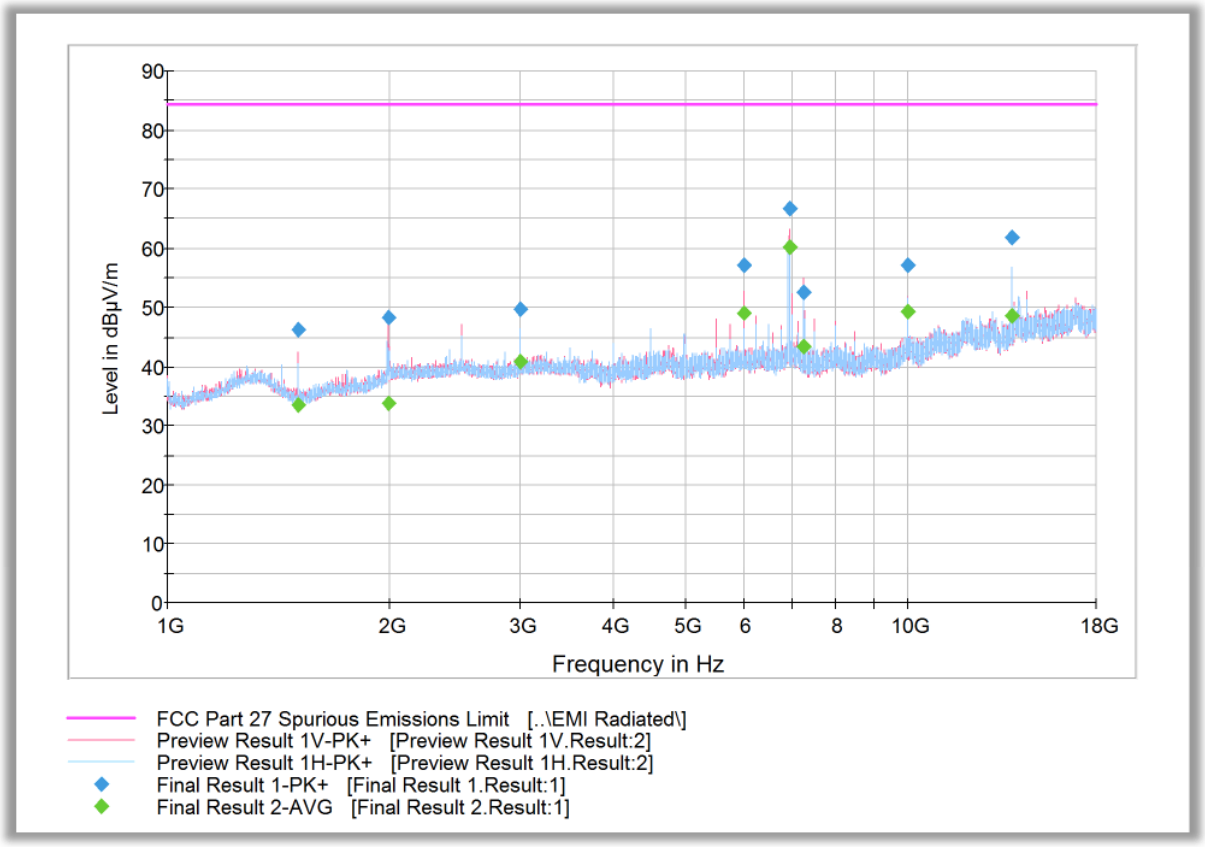
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	46.9	1000.0	1000.000	301.2	V	-7.0	-6.1	37.5	84.4
2500.166667	50.6	1000.0	1000.000	139.7	V	165.0	-0.3	33.8	84.4
2999.966667	50.3	1000.0	1000.000	322.2	H	55.0	0.9	34.1	84.4
5999.900000	56.6	1000.0	1000.000	291.2	V	205.0	5.7	27.8	84.4
6909.433333	61.7	1000.0	1000.000	285.3	V	251.0	6.7	22.7	84.4
7241.866667	48.5	1000.0	1000.000	352.7	H	12.0	7.0	35.9	84.4
10000.000000	57.2	1000.0	1000.000	183.5	V	122.0	9.6	27.2	84.4
13820.133333	59.4	1000.0	1000.000	317.2	H	349.0	14.1	25.0	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	34.2	1000.0	1000.000	301.2	V	-7.0	-6.1	50.2	84.4
2500.166667	39.9	1000.0	1000.000	139.7	V	165.0	-0.3	44.5	84.4
2999.966667	41.8	1000.0	1000.000	322.2	H	55.0	0.9	42.6	84.4
5999.900000	48.6	1000.0	1000.000	291.2	V	205.0	5.7	35.8	84.4
6909.433333	40.8	1000.0	1000.000	285.3	V	251.0	6.7	43.6	84.4
7241.866667	34.8	1000.0	1000.000	352.7	H	12.0	7.0	49.6	84.4
10000.000000	49.8	1000.0	1000.000	183.5	V	122.0	9.6	34.6	84.4
13820.133333	42.5	1000.0	1000.000	317.2	H	349.0	14.1	41.9	84.4

2.8.16 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 12_5MHz Bandwidth_High Channel 713.5 MHz _1 RB 12 offset_QPSK



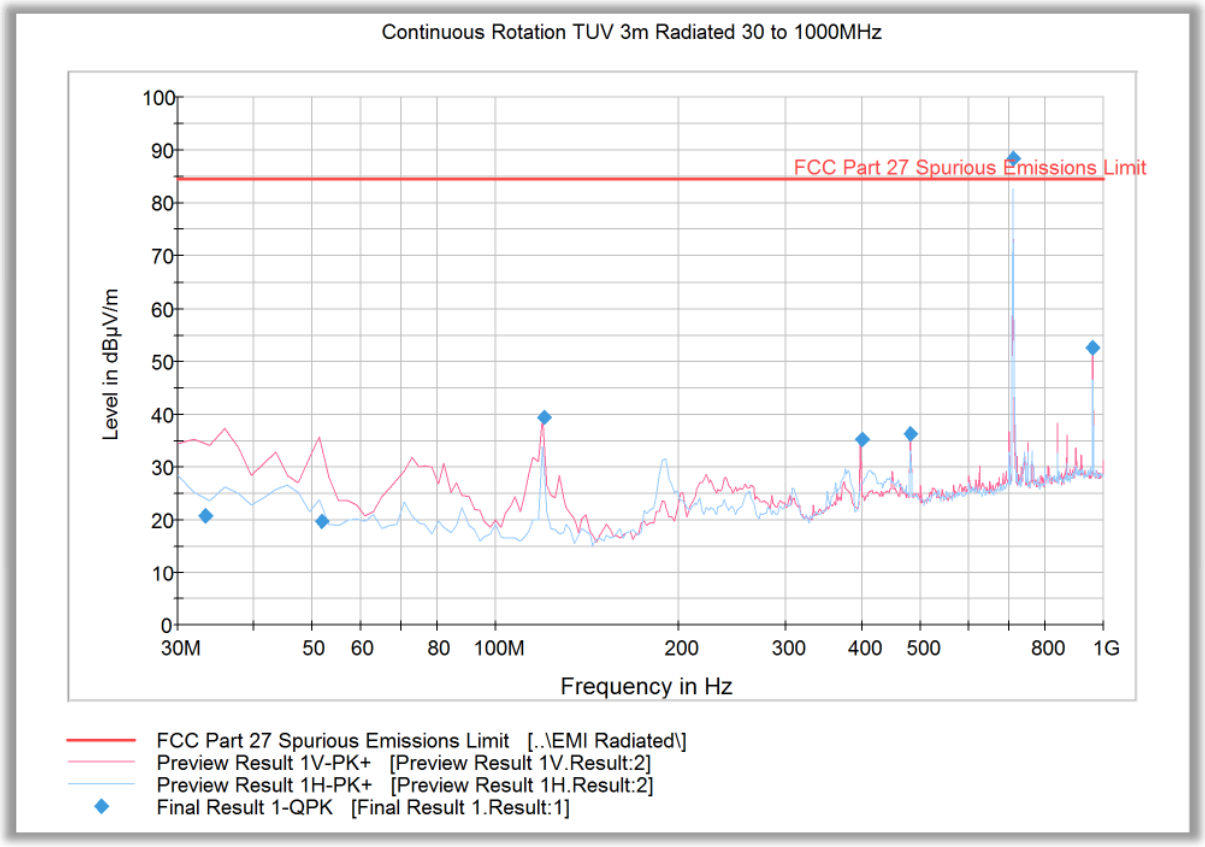
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	46.4	1000.0	1000.000	352.7	V	348.0	-6.1	38.0	84.4
1986.766667	48.4	1000.0	1000.000	103.7	V	299.0	-2.3	36.1	84.4
2999.966667	49.8	1000.0	1000.000	324.1	H	58.0	0.9	34.6	84.4
5999.900000	57.2	1000.0	1000.000	275.3	V	207.0	5.7	27.2	84.4
6915.100000	66.7	1000.0	1000.000	286.2	V	125.0	6.7	17.7	84.4
7246.933333	52.6	1000.0	1000.000	334.1	V	206.0	7.0	31.8	84.4
9999.766667	57.2	1000.0	1000.000	302.2	V	96.0	9.6	27.2	84.4
13827.833333	61.9	1000.0	1000.000	329.2	H	337.0	14.1	22.5	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	33.5	1000.0	1000.000	352.7	V	348.0	-6.1	50.9	84.4
1986.766667	33.8	1000.0	1000.000	103.7	V	299.0	-2.3	50.6	84.4
2999.966667	40.8	1000.0	1000.000	324.1	H	58.0	0.9	43.6	84.4
5999.900000	49.0	1000.0	1000.000	275.3	V	207.0	5.7	35.4	84.4
6915.100000	60.1	1000.0	1000.000	286.2	V	125.0	6.7	24.3	84.4
7246.933333	43.5	1000.0	1000.000	334.1	V	206.0	7.0	40.9	84.4
9999.766667	49.3	1000.0	1000.000	302.2	V	96.0	9.6	35.1	84.4
13827.833333	48.6	1000.0	1000.000	329.2	H	337.0	14.1	35.8	84.4

2.8.17 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 17_5MHz Bandwidth_Middle Channel 710 MHz _1 RB 12 offset_QPSK

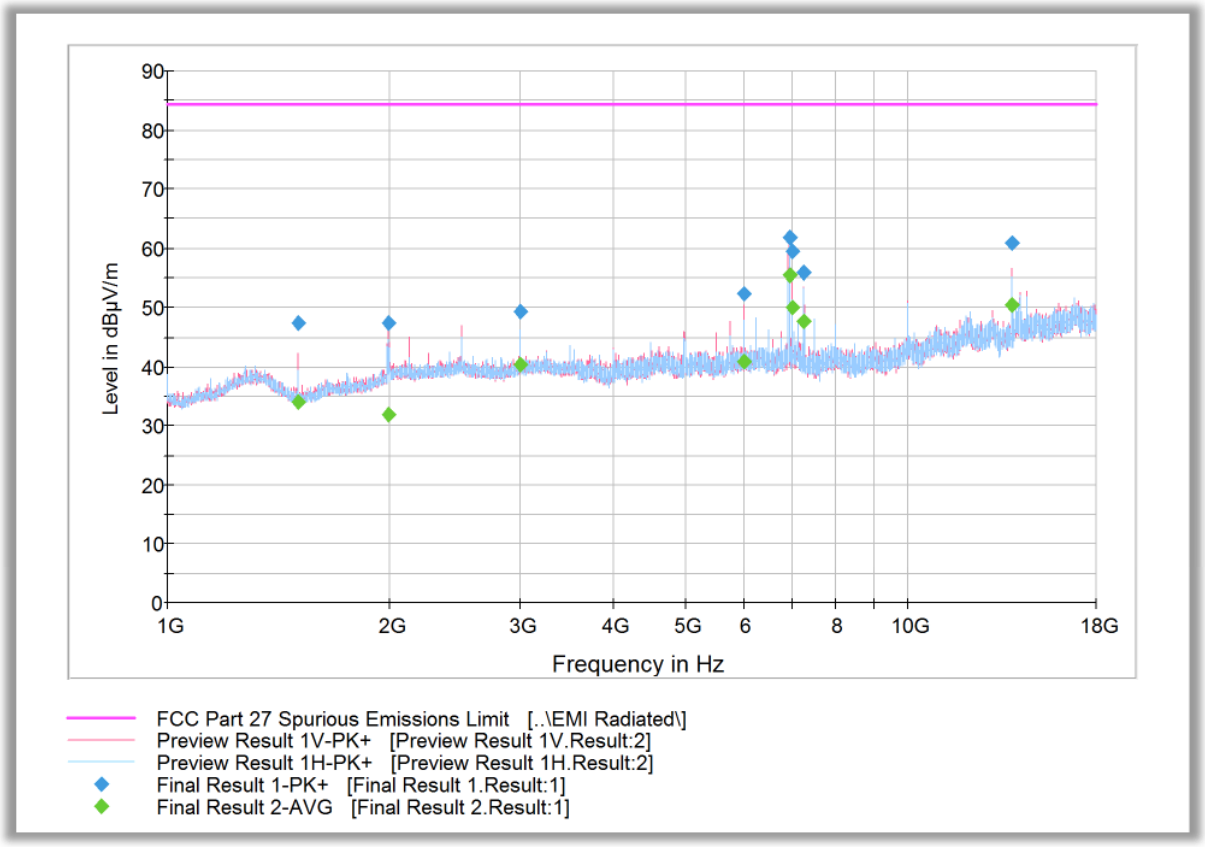


Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
33.391663	20.7	1000.0	120.000	110.0	V	174.0	-9.2	63.7	84.4
51.702766	19.7	1000.0	120.000	100.0	V	10.0	-15.4	64.7	84.4
120.018838	39.4	1000.0	120.000	100.0	V	260.0	-14.8	45.0	84.4
400.018677	35.4	1000.0	120.000	100.0	V	209.0	-4.4	49.0	84.4
480.981283	36.3	1000.0	120.000	155.0	V	3.0	2.6	48.1	84.4
710.200721	88.3	1000.0	120.000	195.0	H	222.0	3.0	Fundamental Carrier*	
960.082244	52.7	1000.0	120.000	100.0	V	121.0	5.8	31.7	84.4

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.18 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 17_5MHz Bandwidth_Low Channel 706.5 MHz _1 RB 12 offset_QPSK



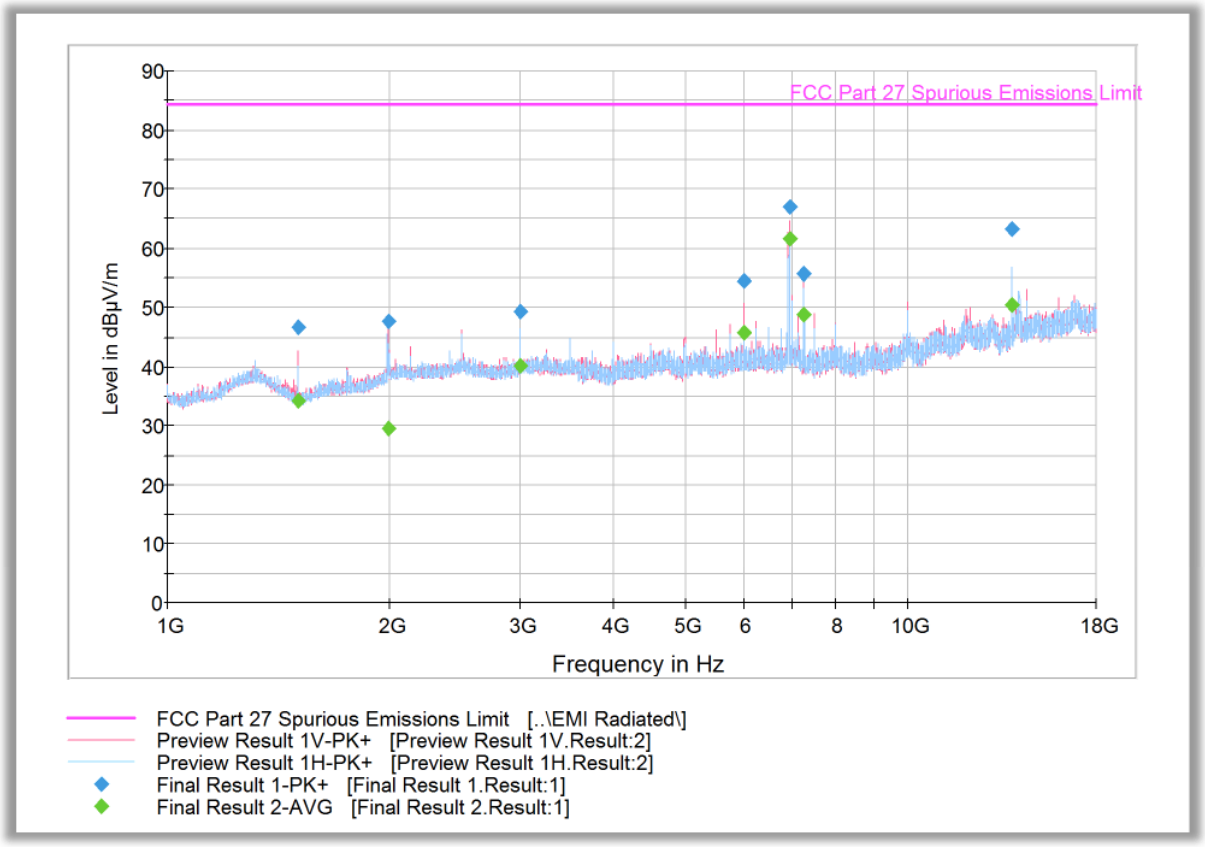
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	47.5	1000.0	1000.000	230.4	V	-14.0	-6.1	36.9	84.4
1986.400000	47.4	1000.0	1000.000	103.7	V	59.0	-2.3	37.0	84.4
2999.966667	49.4	1000.0	1000.000	352.7	H	57.0	0.9	35.0	84.4
5999.900000	52.4	1000.0	1000.000	208.5	V	326.0	5.7	32.0	84.4
6914.700000	61.8	1000.0	1000.000	322.2	V	198.0	6.7	22.6	84.4
7000.066667	59.5	1000.0	1000.000	271.3	V	260.0	6.7	24.9	84.4
7247.733333	55.8	1000.0	1000.000	275.3	V	327.0	7.0	28.6	84.4
13829.866667	61.0	1000.0	1000.000	265.3	V	144.0	14.1	23.4	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	34.1	1000.0	1000.000	230.4	V	-14.0	-6.1	50.3	84.4
1986.400000	31.8	1000.0	1000.000	103.7	V	59.0	-2.3	52.6	84.4
2999.966667	40.5	1000.0	1000.000	352.7	H	57.0	0.9	43.9	84.4
5999.900000	41.0	1000.0	1000.000	208.5	V	326.0	5.7	43.4	84.4
6914.700000	55.5	1000.0	1000.000	322.2	V	198.0	6.7	28.9	84.4
7000.066667	50.1	1000.0	1000.000	271.3	V	260.0	6.7	34.3	84.4
7247.733333	47.8	1000.0	1000.000	275.3	V	327.0	7.0	36.6	84.4
13829.866667	50.5	1000.0	1000.000	265.3	V	144.0	14.1	33.9	84.4

2.8.19 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 17_5MHz Bandwidth_Middle Channel 710 MHz _1 RB 12 offset_QPSK



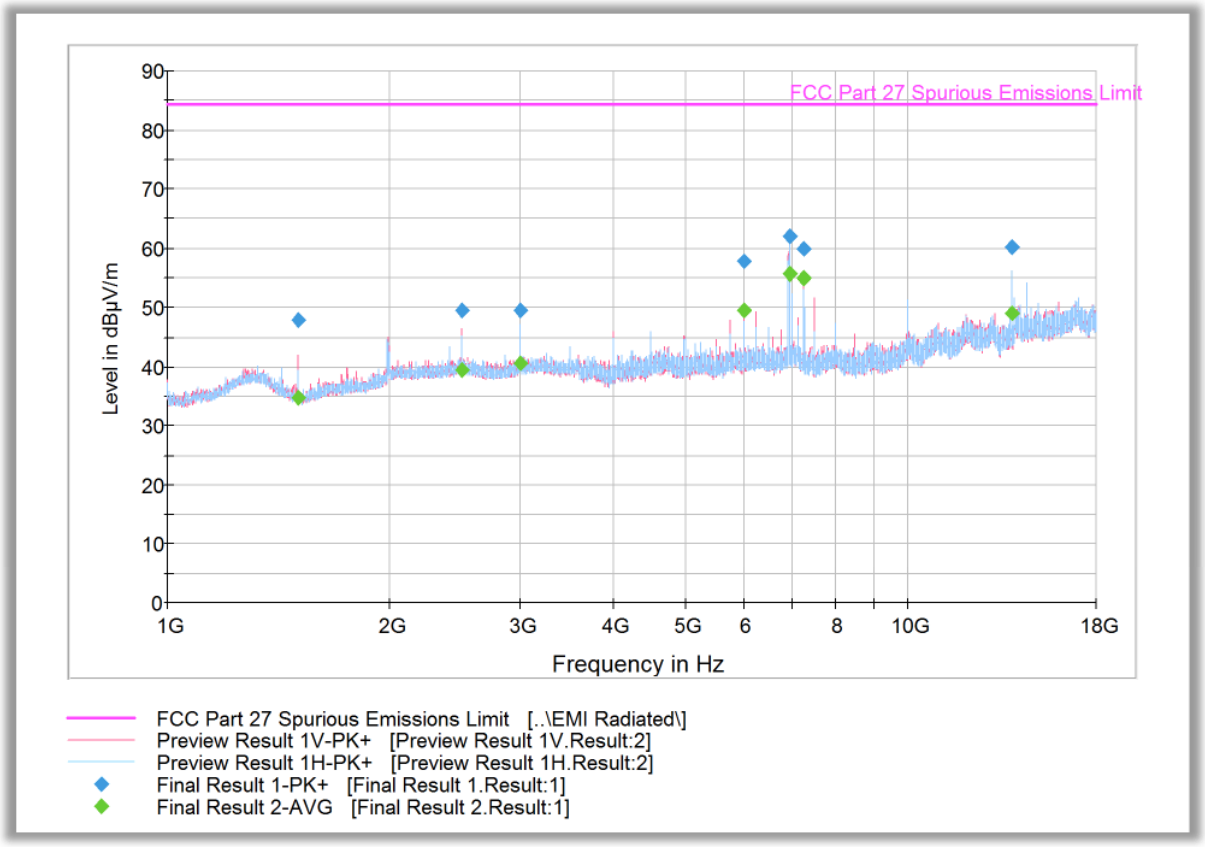
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	46.8	1000.0	1000.000	296.2	V	-13.0	-6.1	37.6	84.4
1986.400000	47.7	1000.0	1000.000	103.7	V	269.0	-2.3	36.7	84.4
2999.966667	49.2	1000.0	1000.000	339.1	H	58.0	0.9	35.2	84.4
5999.900000	54.6	1000.0	1000.000	318.2	V	162.0	5.7	29.8	84.4
6914.700000	66.9	1000.0	1000.000	286.2	V	126.0	6.7	17.5	84.4
7247.300000	55.8	1000.0	1000.000	286.2	H	12.0	7.0	28.6	84.4
13828.433333	63.3	1000.0	1000.000	329.2	H	336.0	14.1	21.1	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	34.3	1000.0	1000.000	296.2	V	-13.0	-6.1	50.1	84.4
1986.400000	29.7	1000.0	1000.000	103.7	V	269.0	-2.3	54.7	84.4
2999.966667	40.2	1000.0	1000.000	339.1	H	58.0	0.9	44.2	84.4
5999.900000	45.7	1000.0	1000.000	318.2	V	162.0	5.7	38.7	84.4
6914.700000	61.6	1000.0	1000.000	286.2	V	126.0	6.7	22.8	84.4
7247.300000	48.9	1000.0	1000.000	286.2	H	12.0	7.0	35.5	84.4
13828.433333	50.6	1000.0	1000.000	329.2	H	336.0	14.1	33.8	84.4

2.8.20 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 17_5MHz Bandwidth_High Channel 713.5 MHz _1 RB 12 offset_QPSK



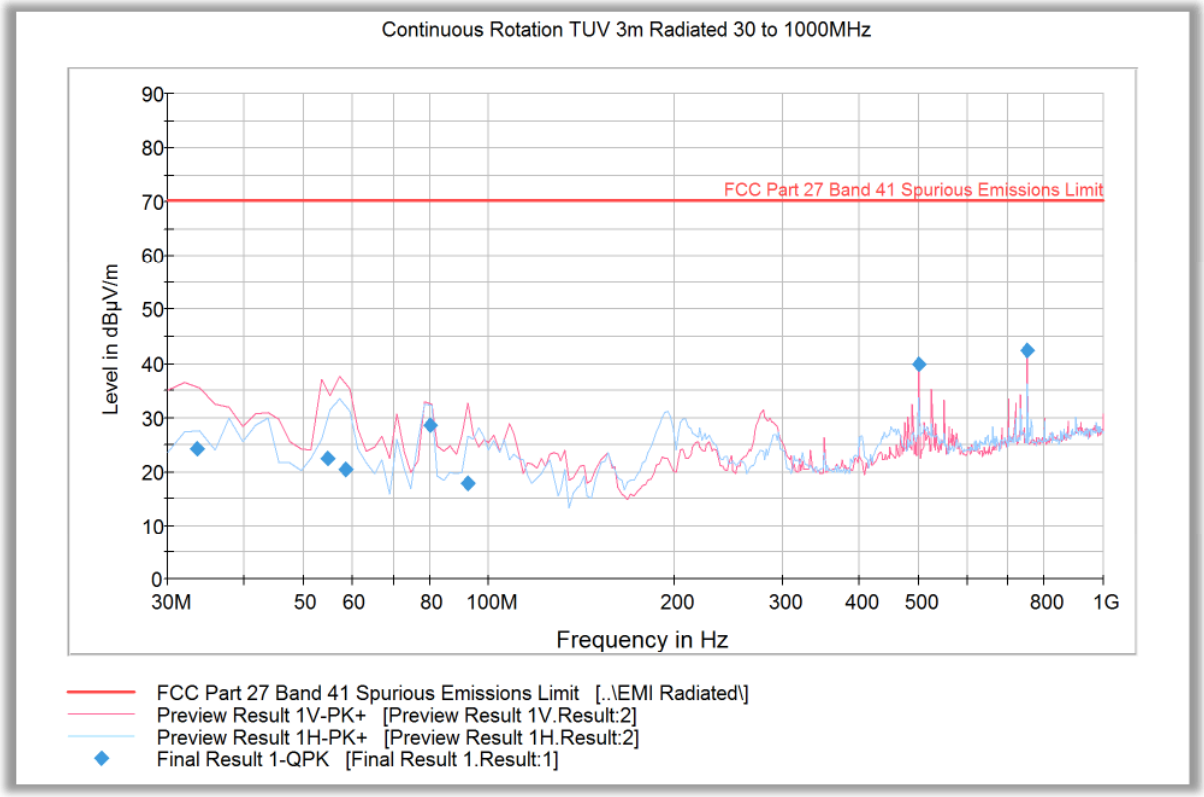
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	48.0	1000.0	1000.000	232.4	V	-7.0	-6.1	36.4	84.4
2500.166667	49.6	1000.0	1000.000	99.7	V	177.0	-0.3	34.8	84.4
2999.966667	49.6	1000.0	1000.000	334.1	H	57.0	0.9	34.8	84.4
5999.900000	57.9	1000.0	1000.000	302.2	V	210.0	5.7	26.5	84.4
6914.700000	61.9	1000.0	1000.000	286.2	V	121.0	6.7	22.5	84.4
7247.700000	59.9	1000.0	1000.000	291.2	V	68.0	7.0	24.5	84.4
13829.900000	60.2	1000.0	1000.000	307.2	H	50.0	14.1	24.2	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	34.8	1000.0	1000.000	232.4	V	-7.0	-6.1	49.6	84.4
2500.166667	39.5	1000.0	1000.000	99.7	V	177.0	-0.3	44.9	84.4
2999.966667	40.7	1000.0	1000.000	334.1	H	57.0	0.9	43.7	84.4
5999.900000	49.6	1000.0	1000.000	302.2	V	210.0	5.7	34.8	84.4
6914.700000	55.7	1000.0	1000.000	286.2	V	121.0	6.7	28.7	84.4
7247.700000	54.9	1000.0	1000.000	291.2	V	68.0	7.0	29.5	84.4
13829.900000	49.2	1000.0	1000.000	307.2	H	50.0	14.1	35.2	84.4

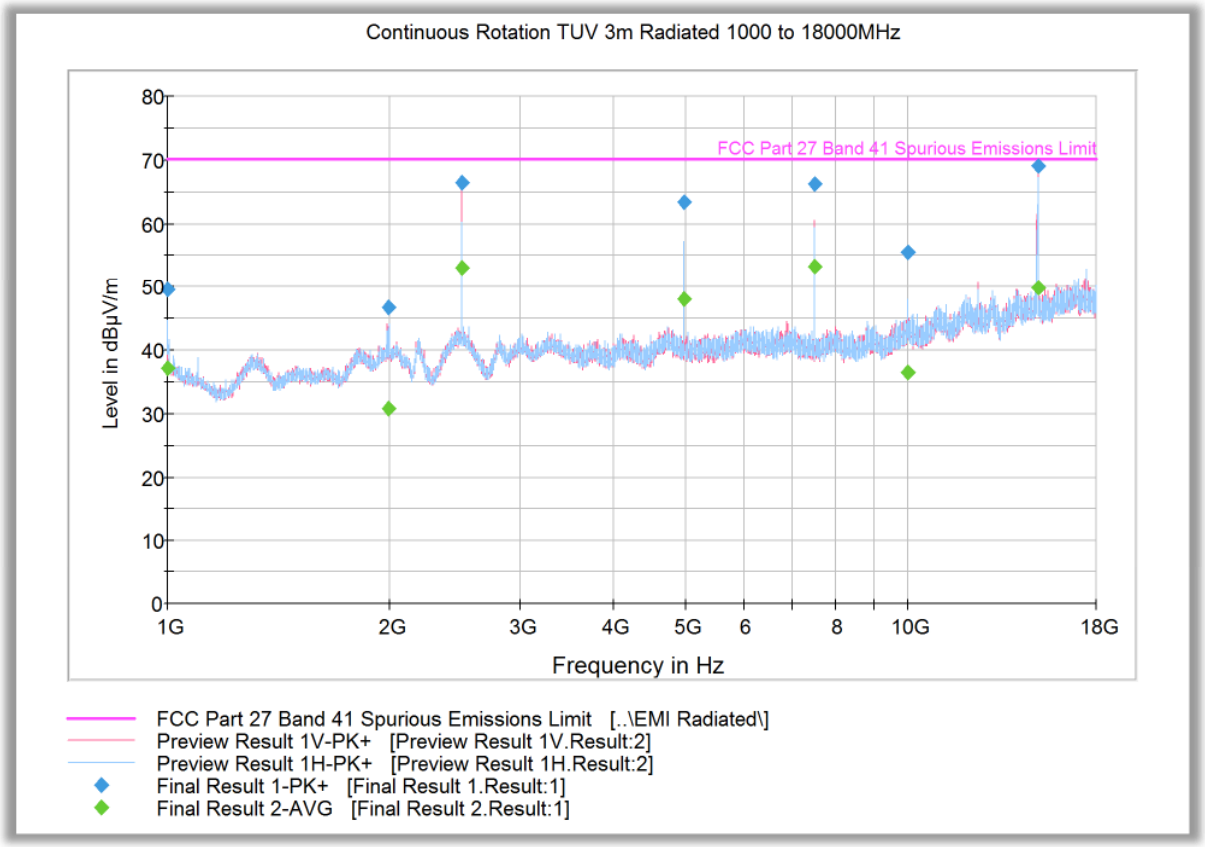
2.8.21 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 41_15MHz Bandwidth_High Channel 2682.5 MHz _1 RB 0 offset_QPSK



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
33.480000	24.3	1000.0	120.000	128.0	V	66.0	-9.3	45.9	70.2
54.686653	22.5	1000.0	120.000	100.0	V	301.0	-15.8	47.7	70.2
58.454429	20.4	1000.0	120.000	259.0	V	134.0	-16.5	49.8	70.2
79.997194	28.6	1000.0	120.000	350.0	V	237.0	-17.1	41.6	70.2
92.244409	18.0	1000.0	120.000	109.0	V	192.0	-14.4	52.2	70.2
500.020842	39.9	1000.0	120.000	100.0	V	158.0	-2.2	30.3	70.2
749.982365	42.5	1000.0	120.000	100.0	V	223.0	2.4	27.7	70.2

2.8.22 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 41_15MHz Bandwidth_Low Channel 2503.5 MHz _1 RB 0 offset_QPSK



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	49.6	1000.0	1000.000	152.6	H	284.0	-6.9	20.6	70.2
1989.066667	46.8	1000.0	1000.000	223.4	V	140.0	-2.3	23.4	70.2
2496.766667	66.5	1000.0	1000.000	201.5	V	194.0	-0.3	Fundamental Carrier*	
4993.700000	63.4	1000.0	1000.000	201.5	H	327.0	3.8	6.8	70.2
7490.400000	66.2	1000.0	1000.000	162.6	V	8.0	6.7	4.0	70.2
9987.533333	55.5	1000.0	1000.000	111.7	H	172.0	9.6	14.7	70.2
14981.166667	69.0	1000.0	1000.000	228.4	V	352.0	15.5	1.2	70.2

Average Data

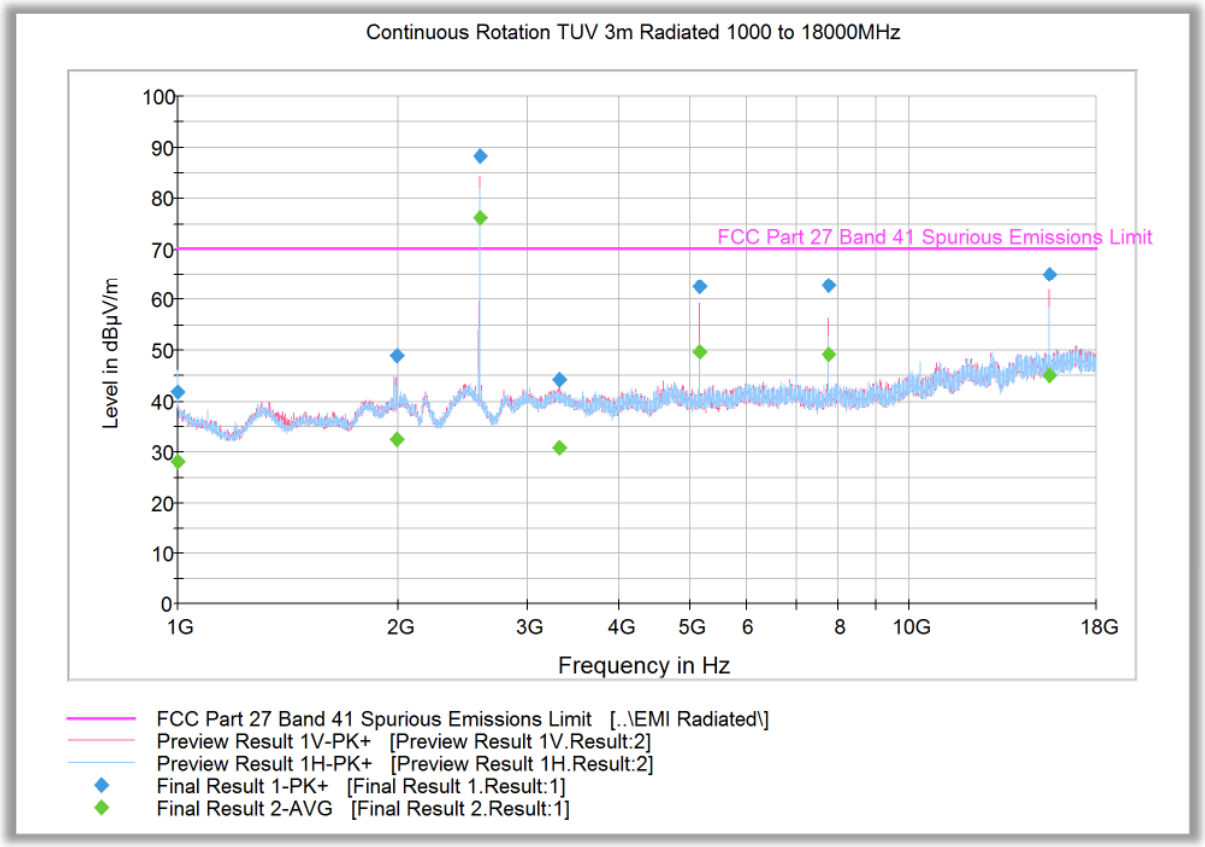
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	37.1	1000.0	1000.000	152.6	H	284.0	-6.9	33.1	70.2
1989.066667	30.7	1000.0	1000.000	223.4	V	140.0	-2.3	39.5	70.2
2496.766667	53.2	1000.0	1000.000	201.5	V	194.0	-0.3	Fundamental Carrier*	
4993.700000	48.2	1000.0	1000.000	201.5	H	327.0	3.8	22.0	70.2
7490.400000	53.3	1000.0	1000.000	162.6	V	8.0	6.7	16.9	70.2
9987.533333	36.4	1000.0	1000.000	111.7	H	172.0	9.6	33.8	70.2
14981.166667	49.9	1000.0	1000.000	228.4	V	352.0	15.5	20.3	70.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only. 2.5 - 2.7GHz Notch filter used when testing.

Substitution Data

Frequency (MHz)	Field Strength @ 3 meters (dbµV/m)	Cable Loss (dB)	Substitution Antenna Gain (dBi)	Signal Generator Level (dBm)	Substitution Data SGL+AG-CL (dBm)	Limit (dBm)	Compliance
7490.400000	66.2	7.2	11.1	-32.6	-28.7	-25	Yes
14981.166667	69.0	12.9	13.0	-26.0	-25.9	-25	Yes

2.8.23 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 41_15MHz Bandwidth_Middle Channel 2593 MHz _1 RB 0 offset_QPSK



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	41.8	1000.0	1000.000	232.4	H	199.0	-6.9	28.4	70.2
1992.100000	49.0	1000.0	1000.000	403.0	H	351.0	-2.2	21.2	70.2
2586.300000	88.3	1000.0	1000.000	195.5	V	299.0	-0.3	Fundamental Carrier*	
3329.366667	44.4	1000.0	1000.000	227.4	V	92.0	1.0	25.8	70.2
5172.566667	62.6	1000.0	1000.000	196.5	V	-1.0	4.2	7.6	70.2
7759.200000	62.9	1000.0	1000.000	132.7	V	14.0	7.1	7.3	70.2
15517.800000	64.9	1000.0	1000.000	103.7	V	-19.0	16.1	5.3	70.2

Average Data

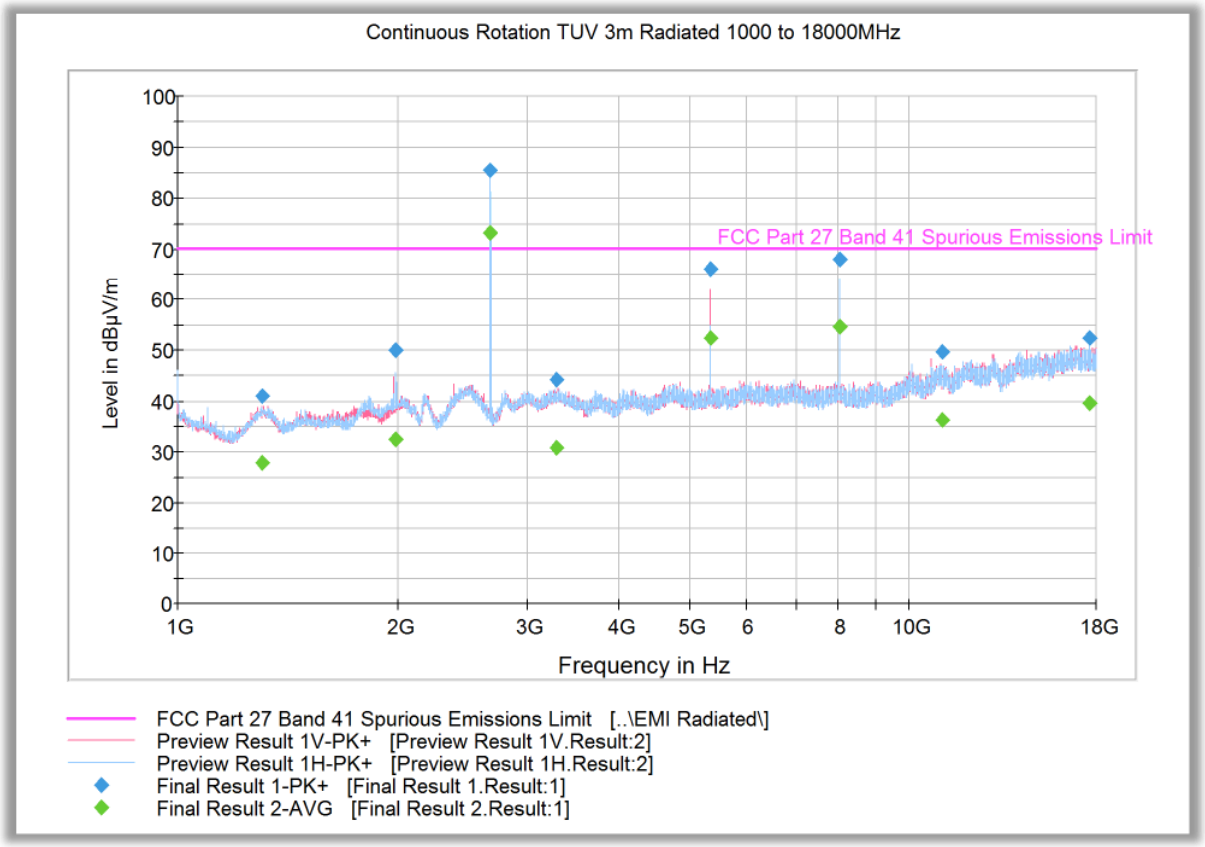
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	28.3	1000.0	1000.000	232.4	H	199.0	-6.9	41.9	70.2
1992.100000	32.4	1000.0	1000.000	403.0	H	351.0	-2.2	37.8	70.2
2586.300000	76.3	1000.0	1000.000	195.5	V	299.0	-0.3	Fundamental Carrier*	
3329.366667	30.9	1000.0	1000.000	227.4	V	92.0	1.0	39.3	70.2
5172.566667	49.9	1000.0	1000.000	196.5	V	-1.0	4.2	20.3	70.2
7759.200000	49.0	1000.0	1000.000	132.7	V	14.0	7.1	21.2	70.2
15517.800000	45.2	1000.0	1000.000	103.7	V	-19.0	16.1	25.0	70.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only. 2.5 - 2.7GHz Notch filter used when testing.

Substitution Data

Frequency (MHz)	Field Strength @ 3 meters (dbµV/m)	Cable Loss (dB)	Substitution Antenna Gain (dBi)	Signal Generator Level (dBm)	Substitution Data SGL+AG-CL (dBm)	Limit (dBm)	Compliance
15517.800000	64.9	13.8	16.2	-31.2	-28.8	-25	Yes

2.8.24 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 41_15MHz Bandwidth_High Channel 2682.5 MHz _1 RB 0 offset_QPSK



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1306.933333	41.0	1000.0	1000.000	147.7	V	4.0	-5.1	29.2	70.2
1987.133333	50.0	1000.0	1000.000	404.1	H	151.0	-2.3	20.2	70.2
2675.833333	85.5	1000.0	1000.000	103.7	H	167.0	-0.2	Fundamental Carrier*	
3287.033333	44.4	1000.0	1000.000	307.2	V	294.0	1.0	25.8	70.2
5351.633333	66.1	1000.0	1000.000	270.3	V	180.0	4.8	4.1	70.2
8027.433333	68.1	1000.0	1000.000	278.3	H	314.0	6.8	2.1	70.2
11100.833333	49.8	1000.0	1000.000	103.7	V	281.0	12.2	20.4	70.2
17646.600000	52.4	1000.0	1000.000	384.0	H	196.0	17.9	17.8	70.2

Average Data

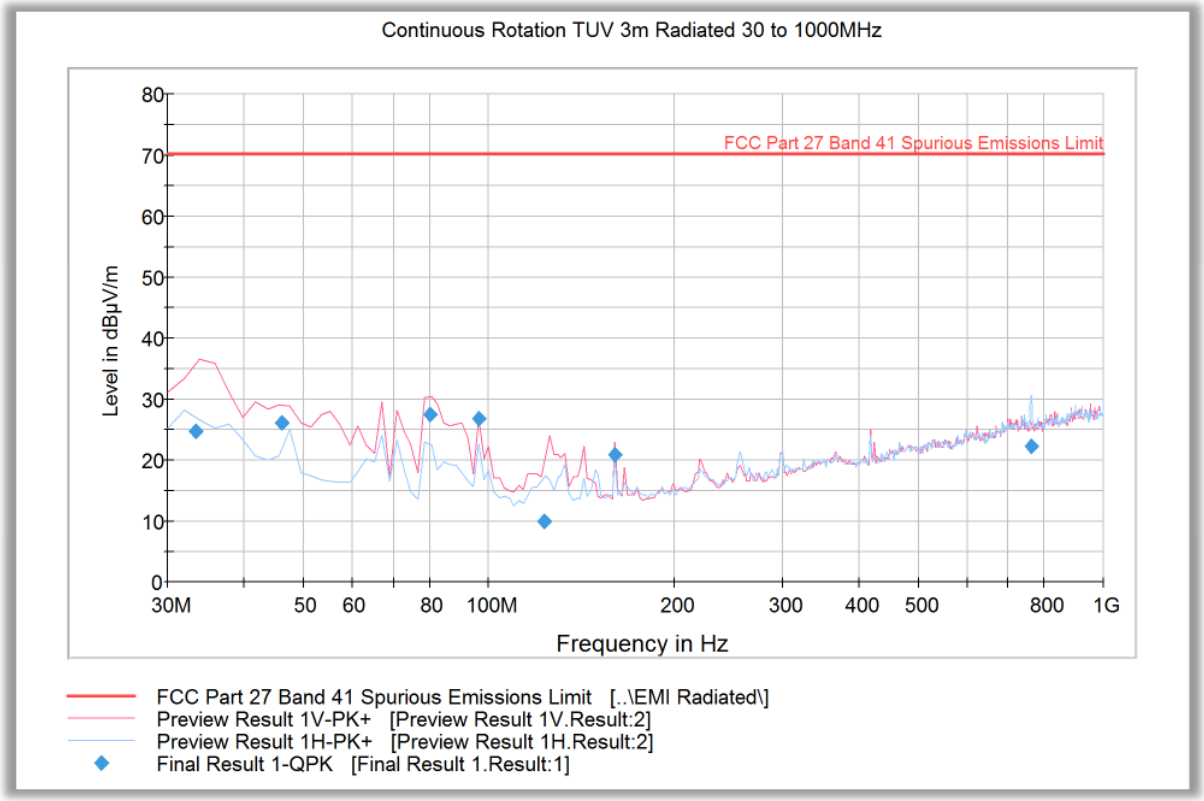
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1306.933333	28.0	1000.0	1000.000	147.7	V	4.0	-5.1	42.2	70.2
1987.133333	32.4	1000.0	1000.000	404.1	H	151.0	-2.3	37.8	70.2
2675.833333	73.3	1000.0	1000.000	103.7	H	167.0	-0.2	Fundamental Carrier*	
3287.033333	31.0	1000.0	1000.000	307.2	V	294.0	1.0	39.2	70.2
5351.633333	52.5	1000.0	1000.000	270.3	V	180.0	4.8	17.7	70.2
8027.433333	54.5	1000.0	1000.000	278.3	H	314.0	6.8	15.7	70.2
11100.833333	36.4	1000.0	1000.000	103.7	V	281.0	12.2	33.8	70.2
17646.600000	39.6	1000.0	1000.000	384.0	H	196.0	17.9	30.6	70.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only. 2.5 - 2.7GHz Notch filter used when testing.

Substitution Data

Frequency (MHz)	Field Strength @ 3 meters (dbµV/m)	Cable Loss (dB)	Substitution Antenna Gain (dBi)	Signal Generator Level (dBm)	Substitution Data SGL+AG-CL (dBm)	Limit (dBm)	Compliance
5351.633333	66.1	5.5	10.92	-32.5	-27.1	-25	Yes
8027.433333	68.1	7.8	11.5	-30.4	-26.7	-25	Yes

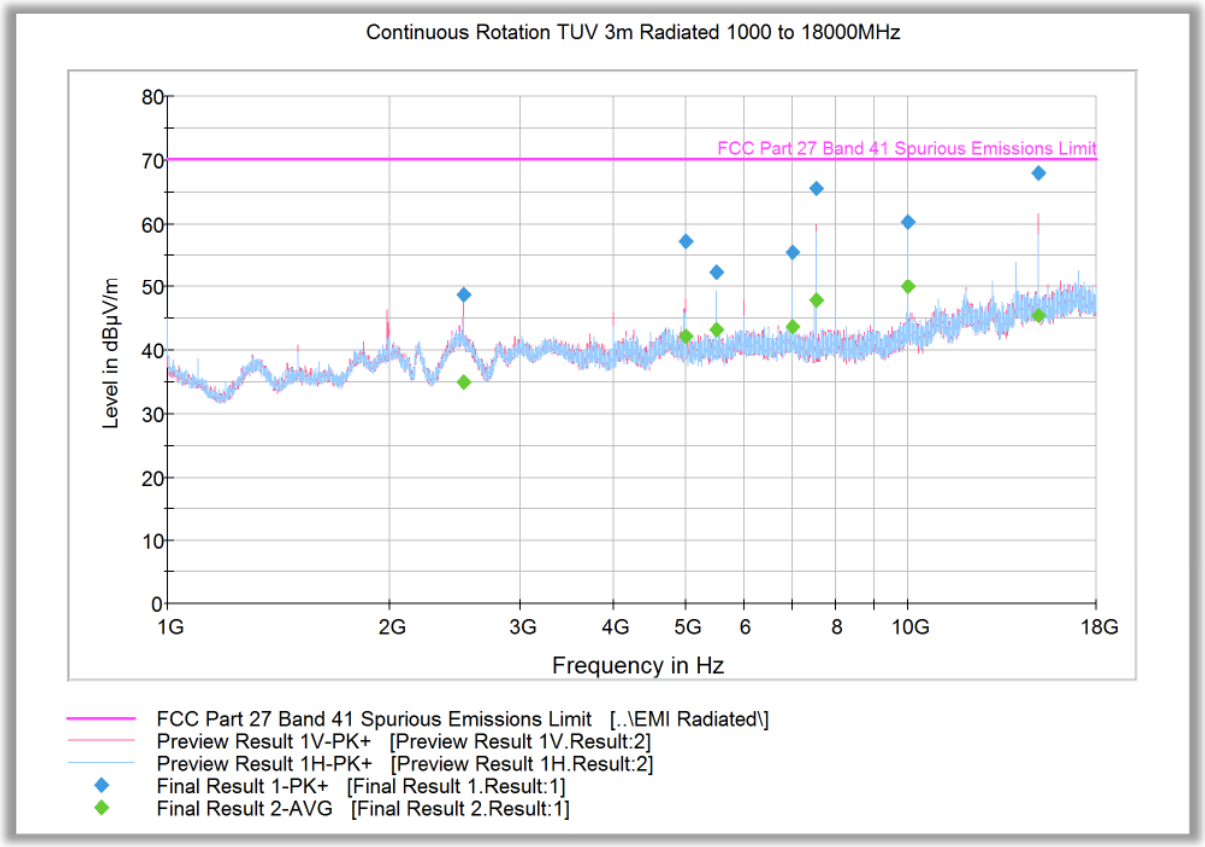
2.8.25 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 41C_10MHz Bandwidth_2501.3 MHz 1RB 49 offset and 15M Bandwdith_2513.3 MHz 1RB 0 offset_QPSK



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
33.287776	24.8	1000.0	120.000	134.0	V	175.0	-9.2	45.4	70.2
46.031102	26.2	1000.0	120.000	100.0	V	157.0	-13.8	44.0	70.2
80.021082	27.6	1000.0	120.000	105.0	V	204.0	-17.1	42.6	70.2
96.012184	26.9	1000.0	120.000	110.0	V	125.0	-13.6	43.3	70.2
122.650501	10.1	1000.0	120.000	100.0	V	18.0	-14.5	60.1	70.2
160.000481	20.9	1000.0	120.000	100.0	V	161.0	-12.0	49.3	70.2
763.949579	22.2	1000.0	120.000	190.0	H	167.0	2.7	48.0	70.2

2.8.26 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 41C_10MHz Bandwidth_2501.3 MHz 1RB 49 offset and 15M Bandwdith_2513.3 MHz 1RB 0 offset_QPSK



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2506.233333	48.8	1000.0	1000.000	120.7	V	68.0	-0.2	21.4	70.2
5011.833333	57.3	1000.0	1000.000	161.6	V	351.0	3.9	12.9	70.2
5500.100000	52.6	1000.0	1000.000	130.7	H	108.0	5.0	17.6	70.2
7000.066667	55.5	1000.0	1000.000	119.7	H	212.0	6.7	14.7	70.2
7517.200000	65.7	1000.0	1000.000	151.6	V	5.0	6.9	4.5	70.2
10000.166667	60.4	1000.0	1000.000	152.6	H	279.0	9.6	9.8	70.2
15035.800000	67.9	1000.0	1000.000	103.7	V	-21.0	15.4	2.3	70.2

Average Data

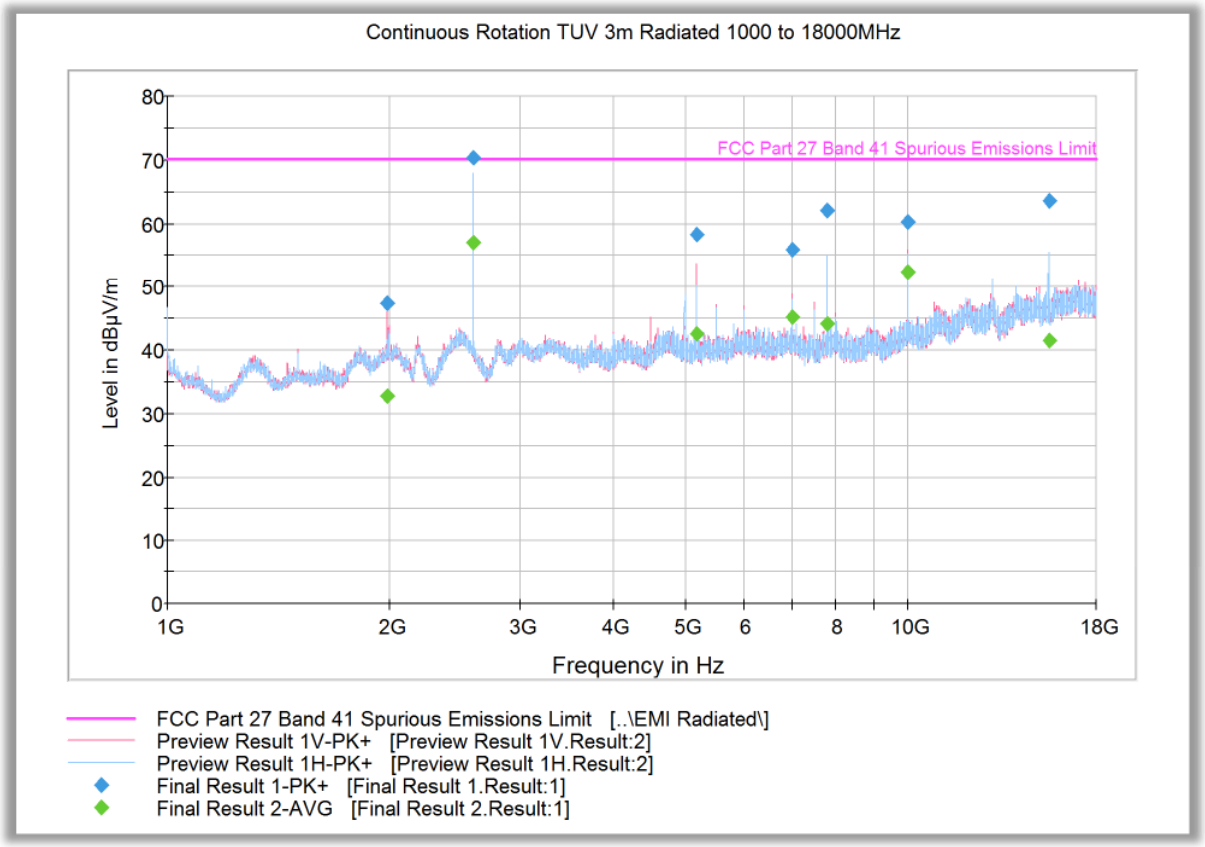
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2506.233333	35.0	1000.0	1000.000	120.7	V	68.0	-0.2	35.2	70.2
5011.833333	42.1	1000.0	1000.000	161.6	V	351.0	3.9	28.1	70.2
5500.100000	43.2	1000.0	1000.000	130.7	H	108.0	5.0	27.0	70.2
7000.066667	43.7	1000.0	1000.000	119.7	H	212.0	6.7	26.6	70.2
7517.200000	48.0	1000.0	1000.000	151.6	V	5.0	6.9	22.2	70.2
10000.166667	50.1	1000.0	1000.000	152.6	H	279.0	9.6	20.1	70.2
15035.800000	45.4	1000.0	1000.000	103.7	V	-21.0	15.4	24.8	70.2

* 2.5 - 2.7GHz Notch filter used when testing.

Substitution Data

Frequency (MHz)	Field Strength @ 3 meters (dbµV/m)	Cable Loss (dB)	Substitution Antenna Gain (dBi)	Signal Generator Level (dBm)	Substitution Data SGL+AG-CL (dBm)	Limit (dBm)	Compliance
7517.200000	65.7	7.2	11.2	-32.4	-28.4	-25	Yes
15035.800000	67.9	12.9	13.4	-27.1	-26.6	-25	Yes

2.8.27 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 41C_10MHz Bandwidth_2585.9 MHz 1RB 49 offset and 15M Bandwdith_2597.9 MHz 1RB 0 offset_QPSK



Peak Data

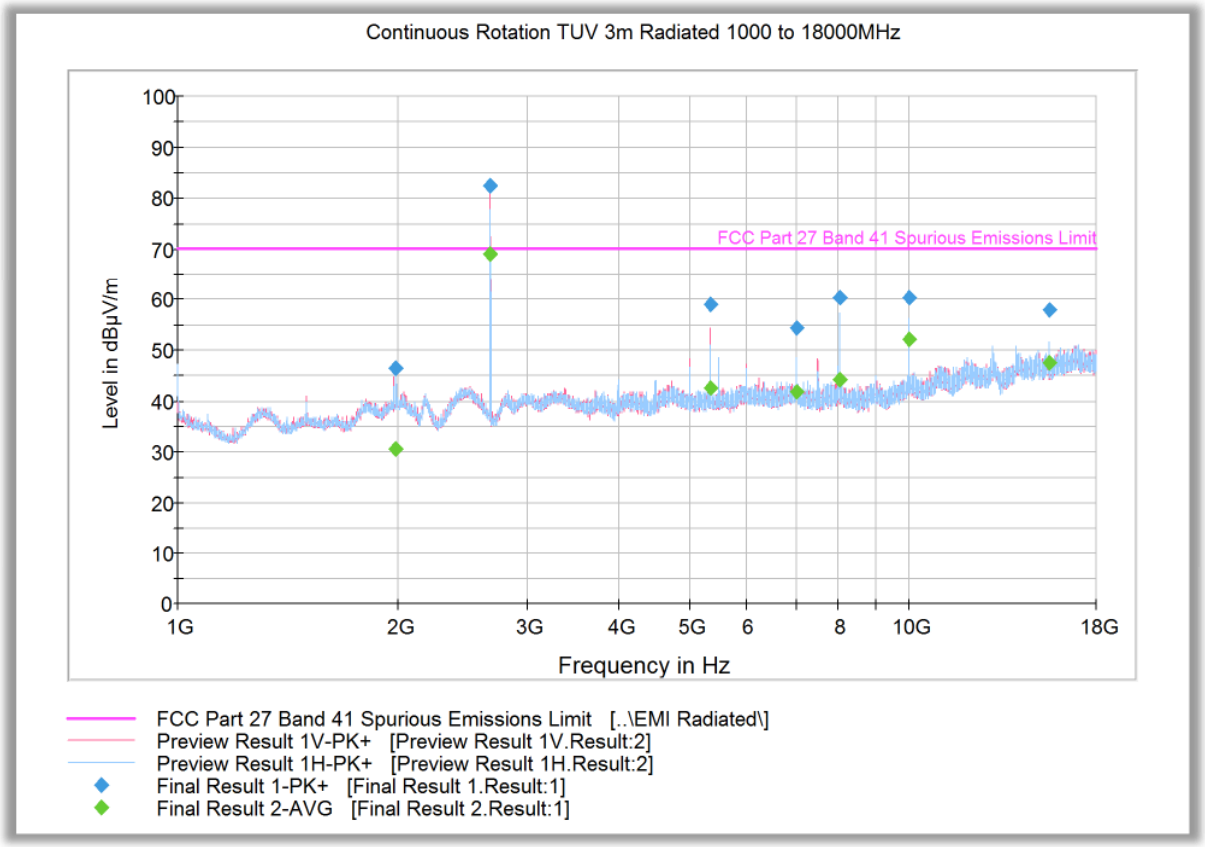
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1975.800000	47.5	1000.0	1000.000	291.2	V	261.0	-2.3	22.7	70.2
2590.266667	70.4	1000.0	1000.000	102.7	H	89.0	-0.3	Fundamental Carrier*	
5181.066667	58.4	1000.0	1000.000	270.3	V	15.0	4.3	11.8	70.2
7000.066667	56.0	1000.0	1000.000	120.7	V	241.0	6.7	14.2	70.2
7770.933333	62.1	1000.0	1000.000	280.2	H	332.0	7.1	8.1	70.2
9999.800000	60.3	1000.0	1000.000	151.6	V	204.0	9.6	9.9	70.2
15543.300000	63.6	1000.0	1000.000	195.5	H	248.0	16.2	6.6	70.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1975.800000	32.8	1000.0	1000.000	291.2	V	261.0	-2.3	37.4	70.2
2590.266667	57.0	1000.0	1000.000	102.7	H	89.0	-0.3	Fundamental Carrier*	
5181.066667	42.7	1000.0	1000.000	270.3	V	15.0	4.3	27.5	70.2
7000.066667	45.2	1000.0	1000.000	120.7	V	241.0	6.7	25.0	70.2
7770.933333	44.2	1000.0	1000.000	280.2	H	332.0	7.1	26.0	70.2
9999.800000	52.5	1000.0	1000.000	151.6	V	204.0	9.6	17.7	70.2
15543.300000	41.6	1000.0	1000.000	195.5	H	248.0	16.2	28.6	70.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only. 2.5 - 2.7GHz Notch filter used when testing.

2.8.28 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 41C_10MHz Bandwidth_2670.5 MHz 1RB 49 offset and 15M Bandwdith_2682.5 MHz 1RB 0 offset_QPSK



Peak Data

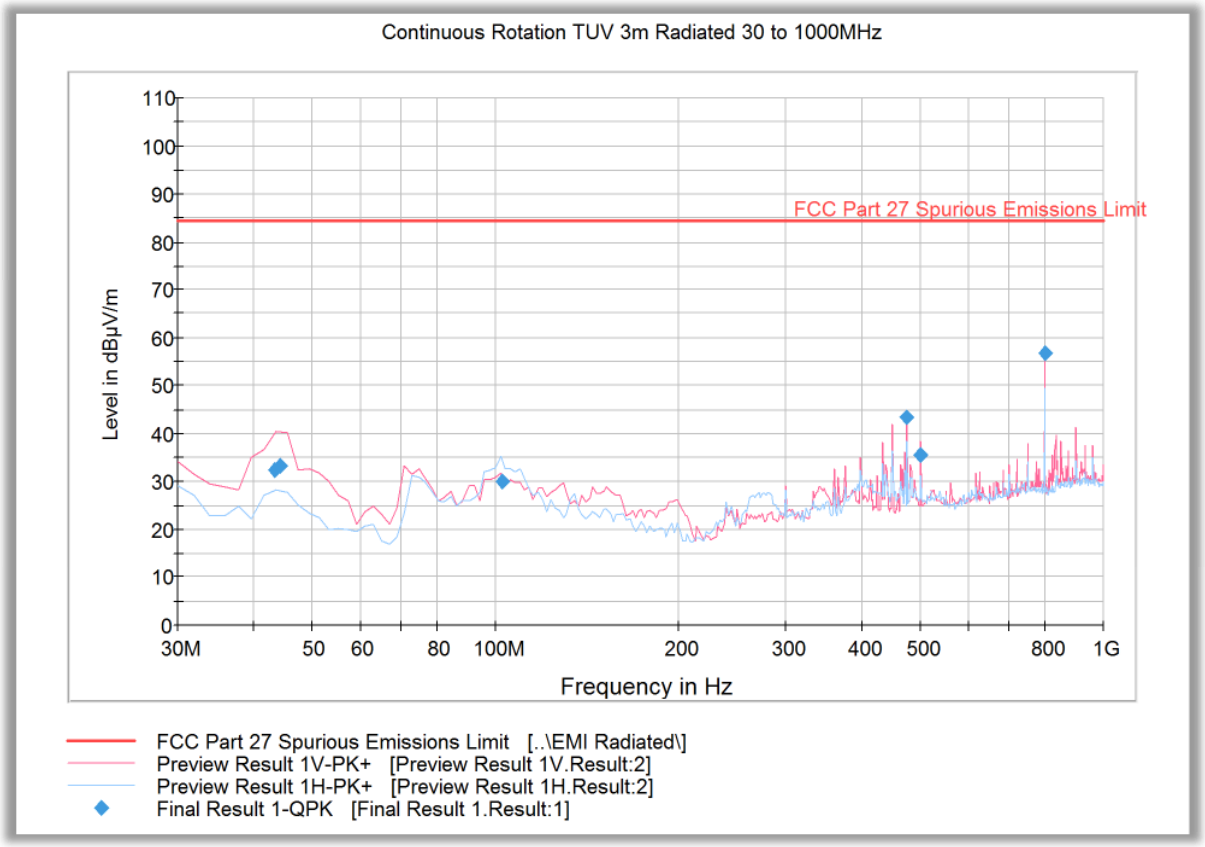
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1986.600000	46.5	1000.0	1000.000	161.6	H	228.0	-2.3	23.7	70.2
2674.900000	82.4	1000.0	1000.000	124.7	V	69.0	-0.2	Fundamental Carrier*	
5350.333333	58.9	1000.0	1000.000	302.2	V	315.0	4.8	11.3	70.2
6999.833333	54.3	1000.0	1000.000	151.2	H	209.0	6.7	15.9	70.2
8025.566667	60.4	1000.0	1000.000	281.3	H	321.0	6.8	9.8	70.2
10000.000000	60.3	1000.0	1000.000	139.7	H	247.0	9.6	9.9	70.2
15499.833333	57.8	1000.0	1000.000	151.6	H	250.0	16.1	12.4	70.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1986.600000	30.7	1000.0	1000.000	161.6	H	228.0	-2.3	39.5	70.2
2674.900000	69.1	1000.0	1000.000	124.7	V	69.0	-0.2	Fundamental Carrier*	
5350.333333	42.6	1000.0	1000.000	302.2	V	315.0	4.8	27.6	70.2
6999.833333	41.9	1000.0	1000.000	151.2	H	209.0	6.7	28.3	70.2
8025.566667	44.4	1000.0	1000.000	281.3	H	321.0	6.8	25.8	70.2
10000.000000	52.2	1000.0	1000.000	139.7	H	247.0	9.6	18.0	70.2
15499.833333	47.6	1000.0	1000.000	151.6	H	250.0	16.1	22.6	70.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only. 2.5 - 2.7GHz Notch filter used when testing.

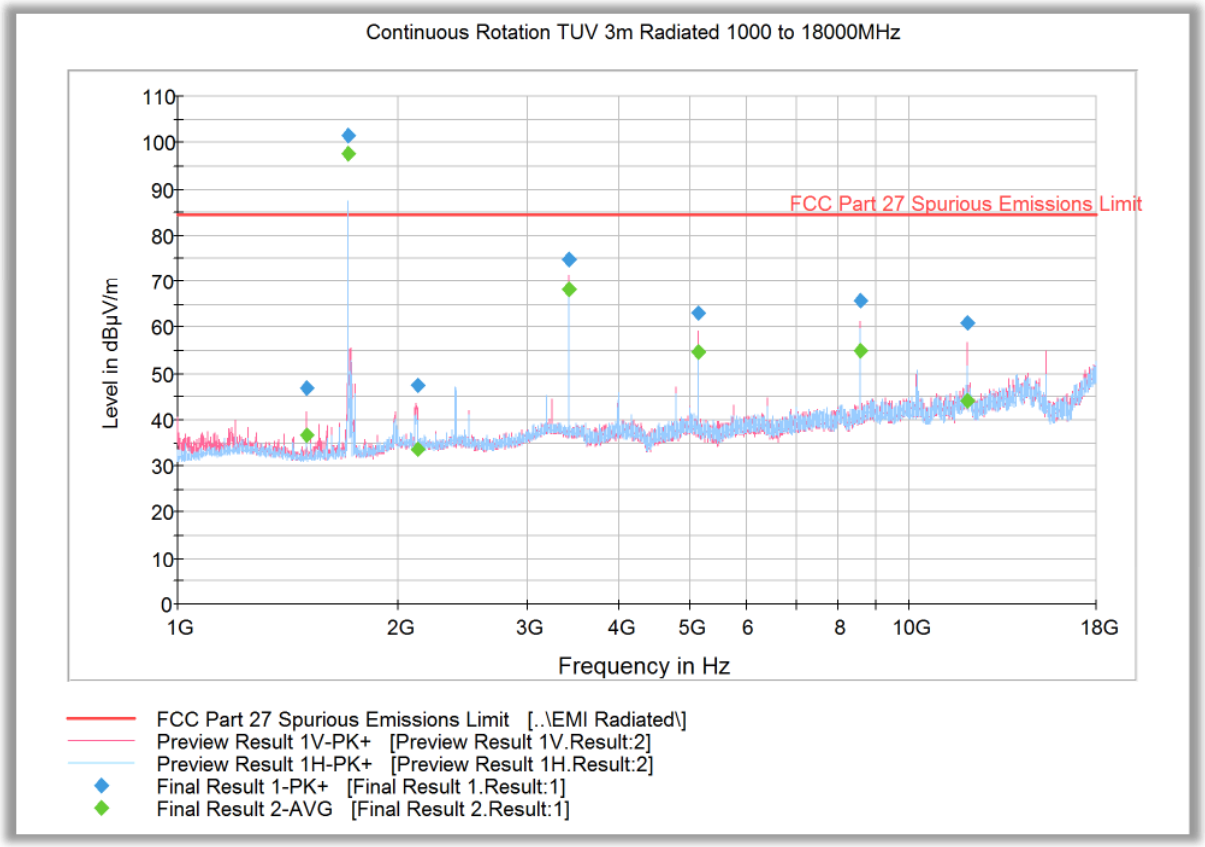
2.8.29 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 4_20MHz Bandwidth_Low Channel 1720 MHz _1 RB 0 offset_QPSK



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
43.247214	32.5	1000.0	120.000	105.0	V	207.0	-13.6	51.9	84.4
44.263327	33.2	1000.0	120.000	100.0	V	105.0	-13.8	51.2	84.4
102.763848	30.1	1000.0	120.000	336.0	H	-14.0	-14.9	54.3	84.4
474.990301	43.5	1000.0	120.000	195.0	V	112.0	-1.4	40.9	84.4
499.980842	35.6	1000.0	120.000	170.0	V	131.0	-1.6	48.8	84.4
800.003447	56.8	1000.0	120.000	105.0	V	183.0	4.1	27.6	84.4

2.8.30 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 4_20MHz Bandwidth_Low Channel 1720 MHz_1 RB 0 offset_QPSK



Peak Data

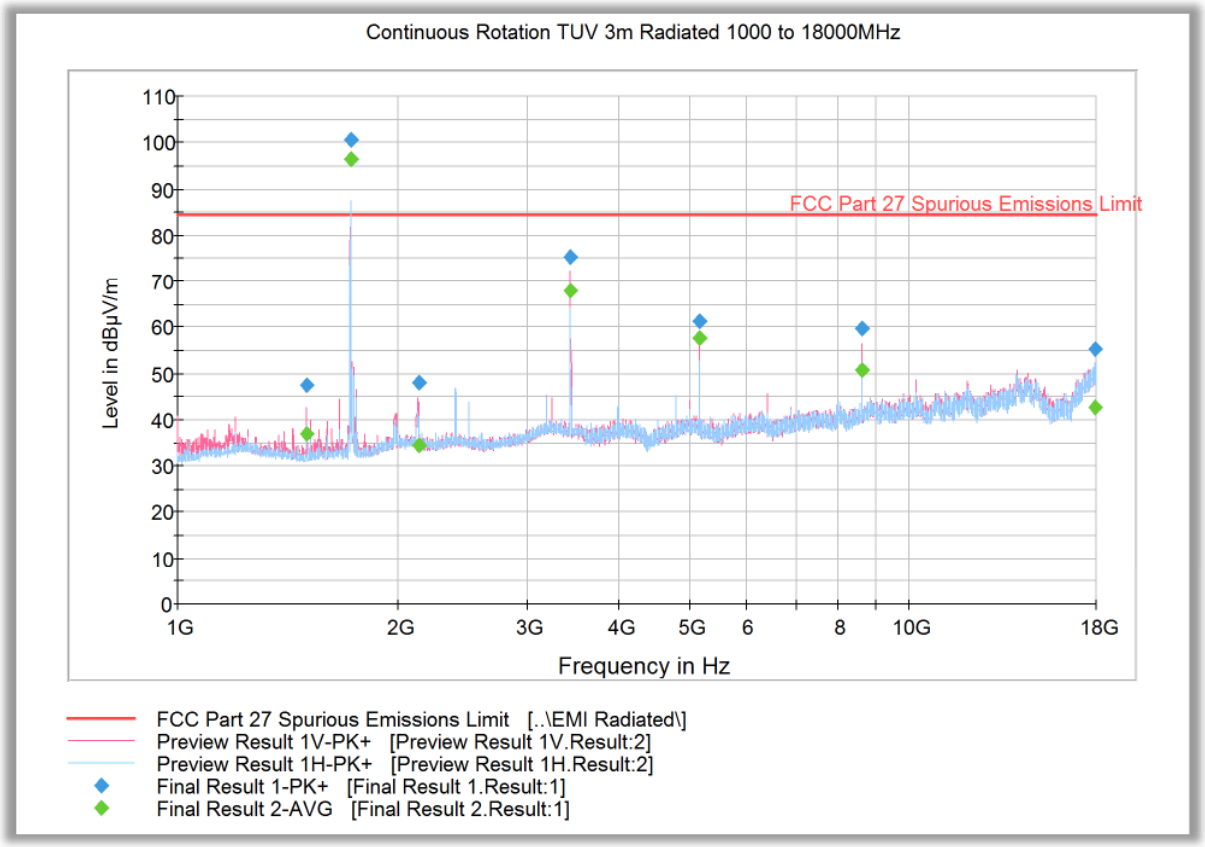
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	46.9	1000.0	1000.000	252.3	V	203.0	-9.0	35.3	82.2
1711.000000	101.6	1000.0	1000.000	146.7	H	-19.0	-7.7	Fundamental Carrier*	
2124.833333	47.4	1000.0	1000.000	102.8	V	-1.0	-5.6	34.8	82.2
3422.133333	74.9	1000.0	1000.000	208.5	V	273.0	-0.8	7.3	82.2
5133.466667	63.1	1000.0	1000.000	200.5	V	243.0	3.1	19.2	82.2
8555.566667	65.9	1000.0	1000.000	270.3	V	202.0	8.6	16.3	82.2
11977.433333	60.9	1000.0	1000.000	235.4	V	202.0	13.3	21.3	82.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	36.7	1000.0	1000.000	252.3	V	203.0	-9.0	45.5	82.2
1711.000000	97.8	1000.0	1000.000	146.7	H	-19.0	-7.7	Fundamental Carrier*	
2124.833333	33.8	1000.0	1000.000	102.8	V	-1.0	-5.6	48.4	82.2
3422.133333	68.4	1000.0	1000.000	208.5	V	273.0	-0.8	13.9	82.2
5133.466667	54.6	1000.0	1000.000	200.5	V	243.0	3.1	27.6	82.2
8555.566667	55.0	1000.0	1000.000	270.3	V	202.0	8.6	27.2	82.2
11977.433333	44.2	1000.0	1000.000	235.4	V	202.0	13.3	38.1	82.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.31 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 4_20MHz Bandwidth _Middle Channel 1732.5 MHz_1 RB 0 offset_QPSK



Peak Data

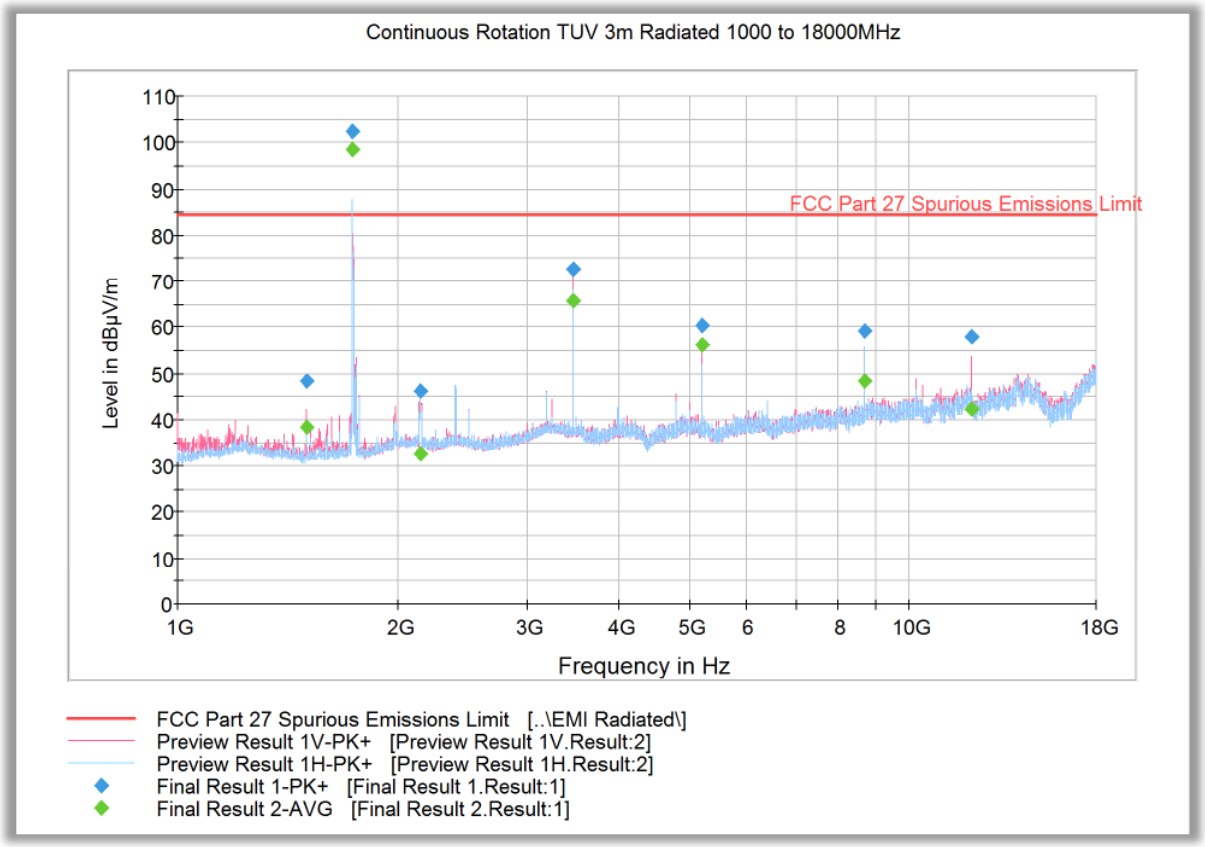
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	47.4	1000.0	1000.000	250.5	V	182.0	-9.0	34.8	82.2
1723.433333	100.7	1000.0	1000.000	139.7	V	243.0	-7.5	Fundamental Carrier*	
2133.133333	48.0	1000.0	1000.000	115.7	V	6.0	-5.6	34.3	82.2
3447.066667	75.5	1000.0	1000.000	207.5	V	273.0	-0.8	6.7	82.2
5170.866667	61.4	1000.0	1000.000	204.5	V	188.0	3.3	20.9	82.2
8617.900000	59.8	1000.0	1000.000	177.6	V	193.0	8.8	22.4	82.2
17926.333333	55.4	1000.0	1000.000	142.7	H	20.0	21.3	26.8	82.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	36.9	1000.0	1000.000	250.5	V	182.0	-9.0	45.4	82.2
1723.433333	96.5	1000.0	1000.000	139.7	V	243.0	-7.5	Fundamental Carrier*	
2133.133333	34.7	1000.0	1000.000	115.7	V	6.0	-5.6	47.6	82.2
3447.066667	67.8	1000.0	1000.000	207.5	V	273.0	-0.8	14.4	82.2
5170.866667	57.7	1000.0	1000.000	204.5	V	188.0	3.3	24.6	82.2
8617.900000	50.7	1000.0	1000.000	177.6	V	193.0	8.8	31.5	82.2
17926.333333	42.6	1000.0	1000.000	142.7	H	20.0	21.3	39.7	82.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.32 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 4_20MHz Bandwidth_High Channel 1745 MHz_1 RB 0 offset_QPSK



Peak Data

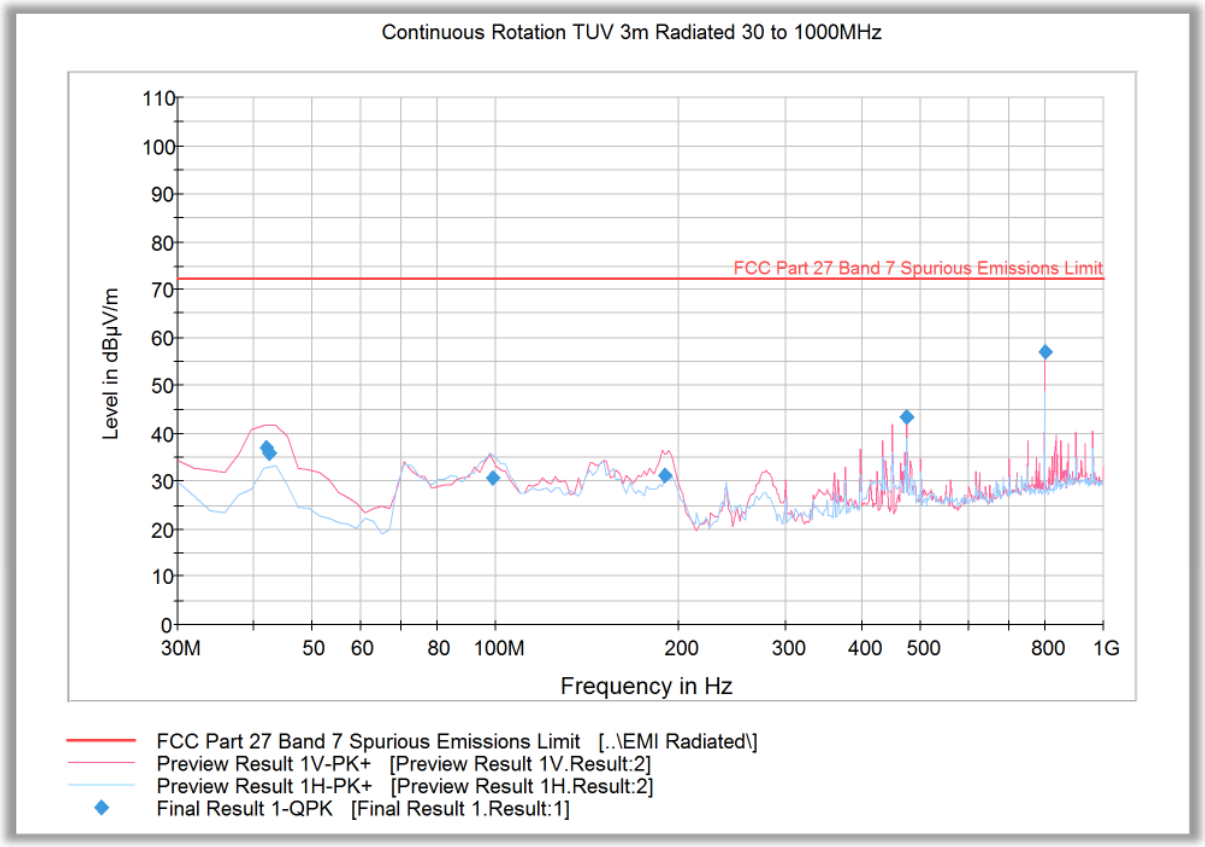
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	48.4	1000.0	1000.000	250.5	V	196.0	-9.0	33.8	82.2
1735.900000	102.6	1000.0	1000.000	252.3	V	287.0	-7.2	Fundamental Carrier*	
2151.266667	46.2	1000.0	1000.000	352.7	H	-19.0	-5.6	36.0	82.2
3472.000000	72.6	1000.0	1000.000	204.5	V	259.0	-0.8	9.6	82.2
5208.266667	60.5	1000.0	1000.000	140.7	V	204.0	3.4	21.8	82.2
8680.433333	59.2	1000.0	1000.000	191.5	H	-2.0	8.9	23.0	82.2
12152.533333	58.0	1000.0	1000.000	231.4	V	209.0	13.0	24.2	82.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	38.4	1000.0	1000.000	250.5	V	196.0	-9.0	43.8	82.2
1735.900000	98.7	1000.0	1000.000	252.3	V	287.0	-7.2	Fundamental Carrier*	
2151.266667	32.7	1000.0	1000.000	352.7	H	-19.0	-5.6	49.5	82.2
3472.000000	65.7	1000.0	1000.000	204.5	V	259.0	-0.8	16.5	82.2
5208.266667	56.1	1000.0	1000.000	140.7	V	204.0	3.4	26.2	82.2
8680.433333	48.5	1000.0	1000.000	191.5	H	-2.0	8.9	33.8	82.2
12152.533333	42.2	1000.0	1000.000	231.4	V	209.0	13.0	40.0	82.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

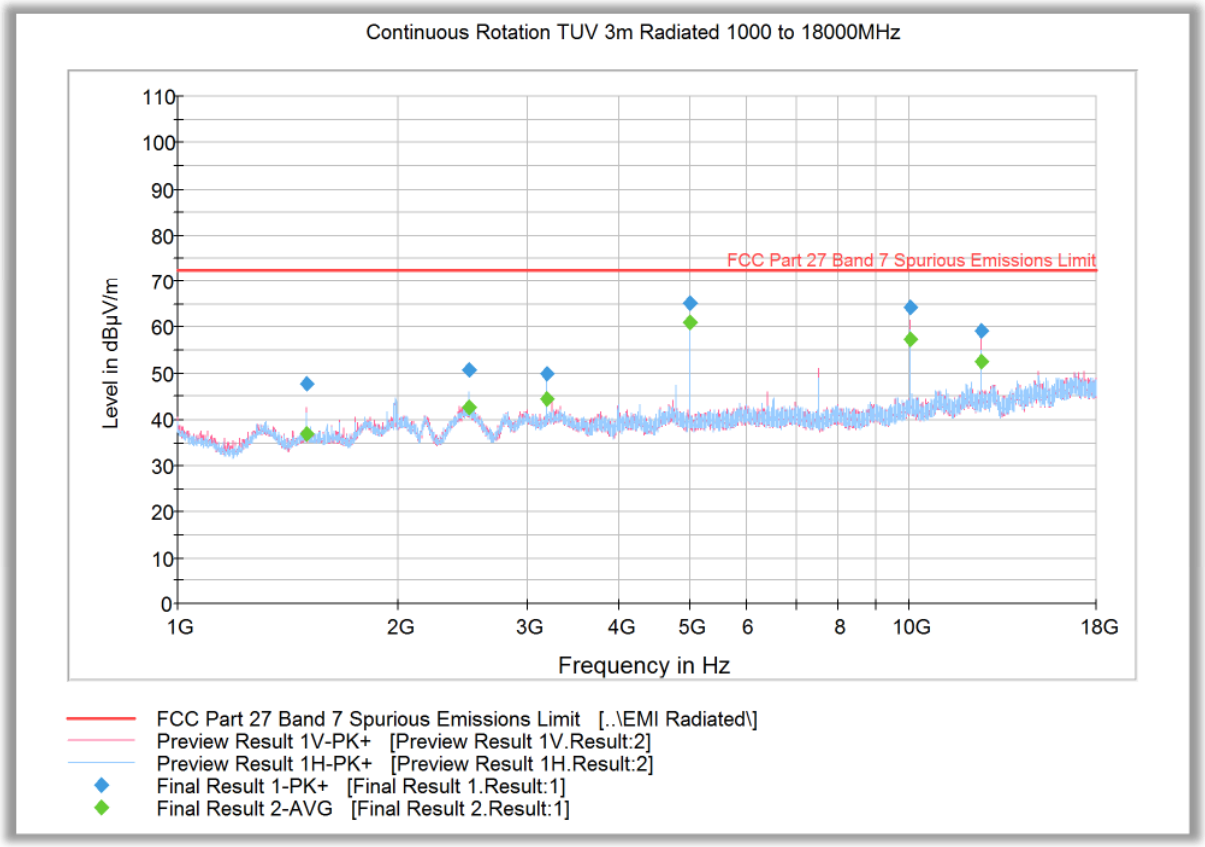
2.8.33 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 7_5MHz Bandwidth_Middle Channel 2535MHz_1 RB 13 offset_QPSK



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
43.247214	32.5	1000.0	120.000	105.0	V	207.0	-13.6	35.4	72.4
44.263327	33.2	1000.0	120.000	100.0	V	105.0	-13.8	36.6	72.4
102.763848	30.1	1000.0	120.000	336.0	H	-14.0	-14.9	41.8	72.4
474.990301	43.5	1000.0	120.000	195.0	V	112.0	-1.4	41.0	72.4
499.980842	35.6	1000.0	120.000	170.0	V	131.0	-1.6	29.1	72.4
800.003447	56.8	1000.0	120.000	105.0	V	183.0	4.1	15.3	72.4

2.8.34 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 7_5MHz Bandwidth_Low Channel 2502.5 MHz_1 RB 13 offset_QPSK



Peak Data

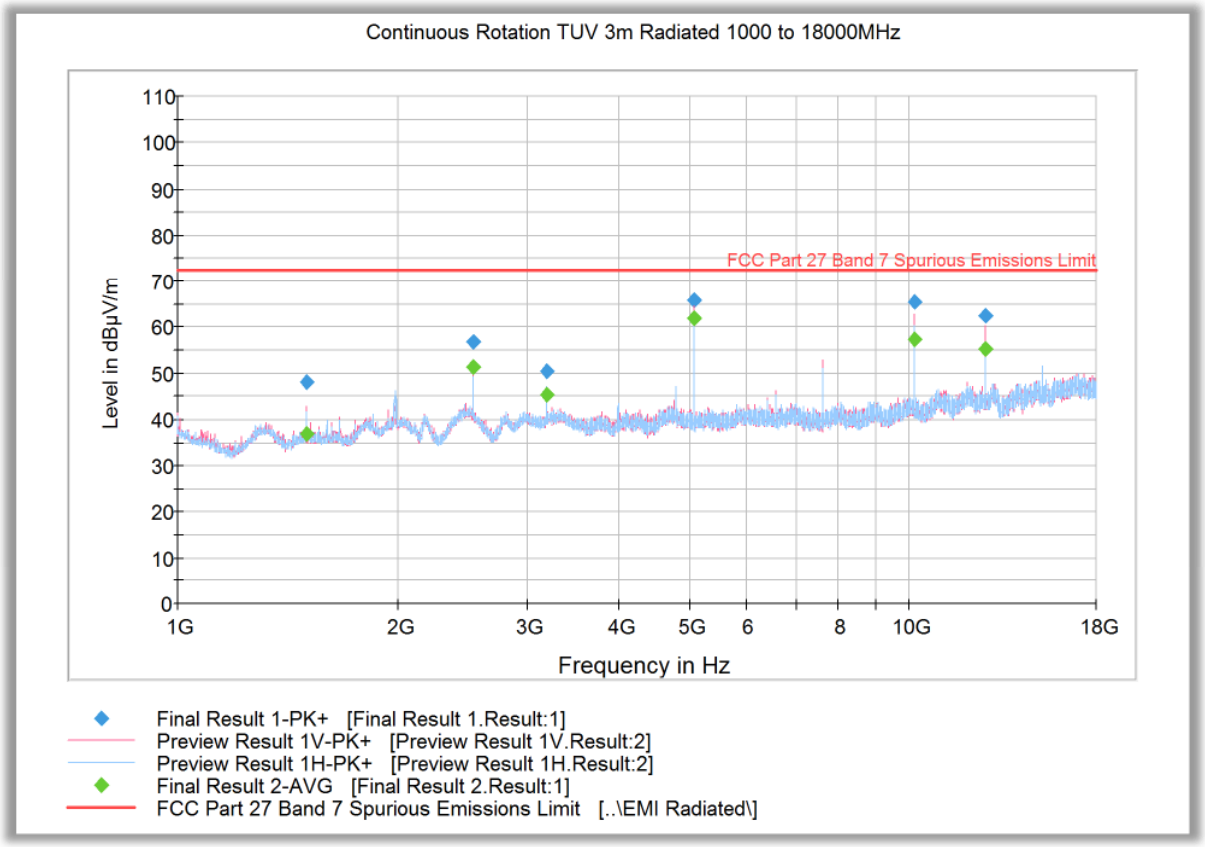
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	47.7	1000.0	1000.000	232.4	V	207.0	-6.1	24.7	72.4
2502.633333	50.7	1000.0	1000.000	169.6	H	279.0	-0.4	21.7	72.4
3200.000000	49.8	1000.0	1000.000	102.7	H	34.0	1.0	22.6	72.4
5005.400000	65.3	1000.0	1000.000	112.7	V	192.0	3.7	7.1	72.4
10010.766667	64.5	1000.0	1000.000	290.2	V	180.0	9.5	8.0	72.4
12513.333333	59.3	1000.0	1000.000	209.4	V	153.0	13.2	13.1	72.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	37.0	1000.0	1000.000	232.4	V	207.0	-6.1	35.4	72.4
2502.633333	42.6	1000.0	1000.000	169.6	H	279.0	-0.4	29.8	72.4
3200.000000	44.4	1000.0	1000.000	102.7	H	34.0	1.0	28.0	72.4
5005.400000	61.0	1000.0	1000.000	112.7	V	192.0	3.7	11.4	72.4
10010.766667	57.3	1000.0	1000.000	290.2	V	180.0	9.5	15.1	72.4
12513.333333	52.7	1000.0	1000.000	209.4	V	153.0	13.2	19.7	72.4

Test Note: 2.5 - 2.7GHz Notch filter used when testing.

2.8.35 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 7_5MHz Bandwidth_Middle Channel 2535 MHz_1 RB 13 offset_QPSK



Peak Data

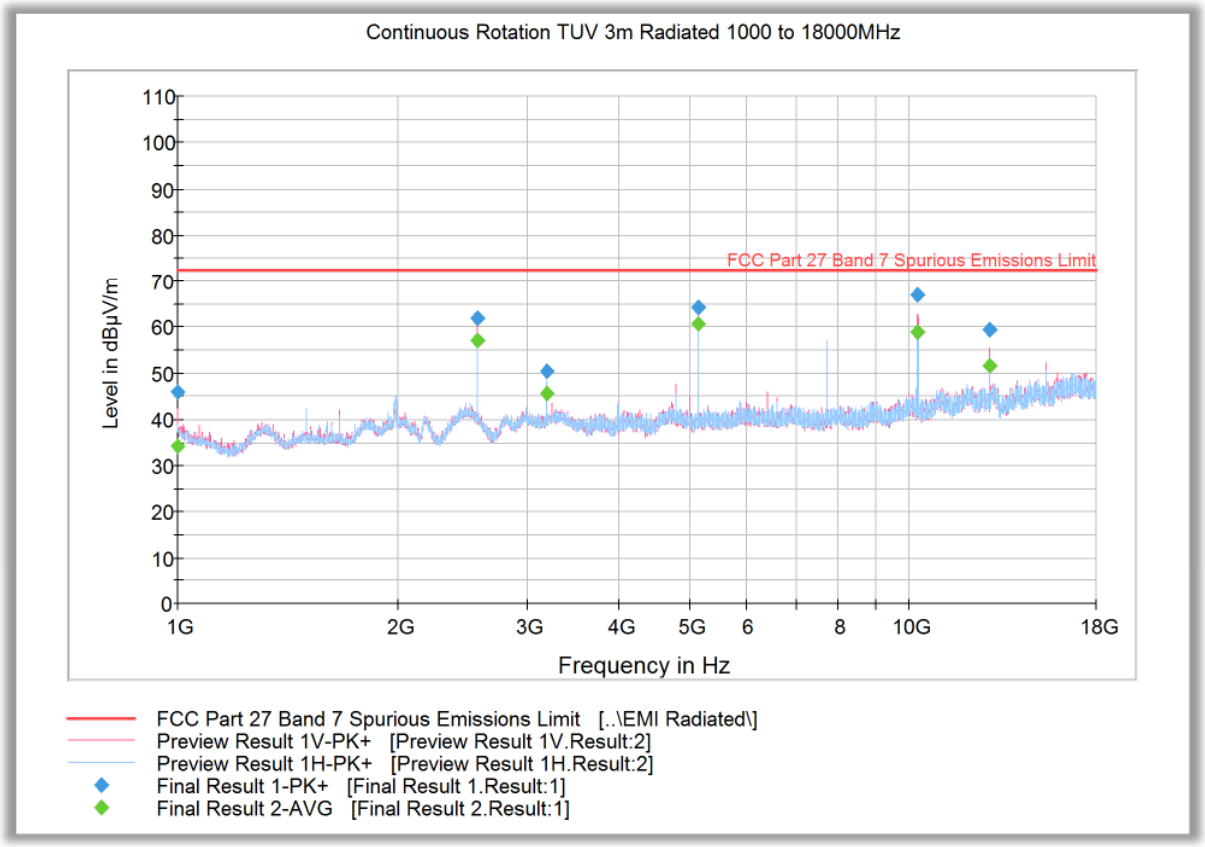
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	48.0	1000.0	1000.000	252.3	V	201.0	-6.1	24.4	72.4
2535.300000	56.9	1000.0	1000.000	120.7	V	96.0	-0.5	15.5	72.4
3200.000000	50.5	1000.0	1000.000	102.8	H	40.0	1.0	21.9	72.4
5070.166667	65.9	1000.0	1000.000	116.7	V	183.0	3.8	6.5	72.4
10140.700000	65.5	1000.0	1000.000	216.5	V	168.0	9.8	6.9	72.4
12676.000000	62.4	1000.0	1000.000	165.6	V	201.0	13.2	10.0	72.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	36.8	1000.0	1000.000	252.3	V	201.0	-6.1	35.6	72.4
2535.300000	51.4	1000.0	1000.000	120.7	V	96.0	-0.5	21.0	72.4
3200.000000	45.4	1000.0	1000.000	102.8	H	40.0	1.0	27.0	72.4
5070.166667	62.0	1000.0	1000.000	116.7	V	183.0	3.8	10.4	72.4
10140.700000	57.4	1000.0	1000.000	216.5	V	168.0	9.8	15.0	72.4
12676.000000	55.2	1000.0	1000.000	165.6	V	201.0	13.2	17.2	72.4

Test Note: 2.5 - 2.7GHz Notch filter used when testing.

2.8.36 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 7_5MHz Bandwidth_High Channel 2567.5 MHz_1 RB 13 offset_QPSK



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	46.0	1000.0	1000.000	195.5	V	183.0	-7.0	26.4	72.4
2567.600000	61.9	1000.0	1000.000	120.7	V	95.0	-0.5	10.5	72.4
3200.000000	50.5	1000.0	1000.000	102.7	H	35.0	1.0	21.9	72.4
5135.166667	64.2	1000.0	1000.000	103.7	V	180.0	4.0	8.2	72.4
10270.866667	66.9	1000.0	1000.000	225.4	V	159.0	10.0	5.5	72.4
12838.233333	59.6	1000.0	1000.000	112.7	V	101.0	13.3	12.9	72.4

Average Data

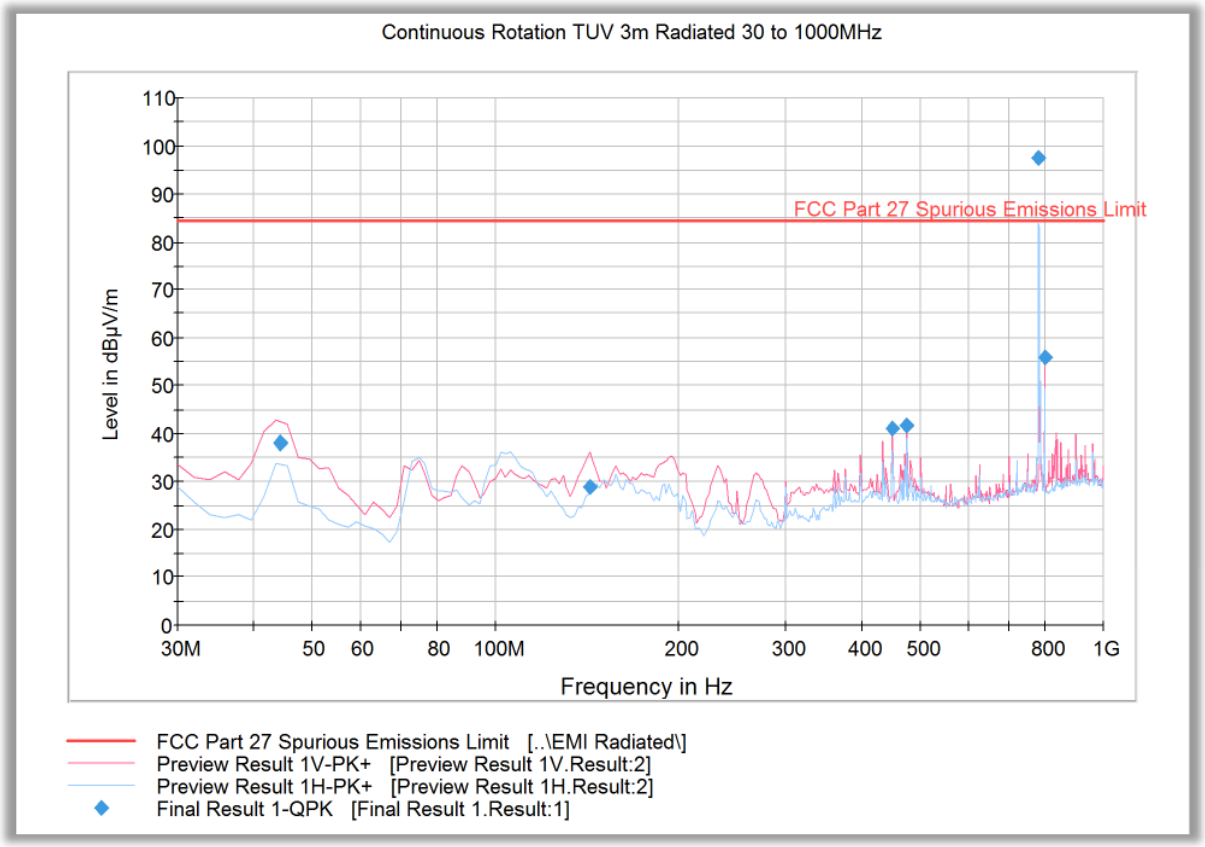
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	34.3	1000.0	1000.000	195.5	V	183.0	-7.0	38.1	72.4
2567.600000	57.0	1000.0	1000.000	120.7	V	95.0	-0.5	15.4	72.4
3200.000000	45.6	1000.0	1000.000	102.7	H	35.0	1.0	26.8	72.4
5135.166667	60.6	1000.0	1000.000	103.7	V	180.0	4.0	11.8	72.4
10270.866667	58.8	1000.0	1000.000	225.4	V	159.0	10.0	13.6	72.4
12838.233333	51.8	1000.0	1000.000	112.7	V	101.0	13.3	20.6	72.4

Test Note: 2.5 - 2.7GHz Notch filter used when testing.

Substitution Data

Frequency (MHz)	Field Strength @ 3 meters (dbµV/m)	Cable Loss (dB)	Substitution Antenna Gain (dBi)	Signal Generator Level (dBm)	Substitution Data SGL+AG-CL (dBm)	Limit (dBm)	Compliance
10270.866667	66.9	9.3	12.1	-31.2	-28.4	-25	Yes

2.8.37 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 13_5MHz Bandwidth_High Channel 784.5 MHz_1 RB 0 offset_QPSK

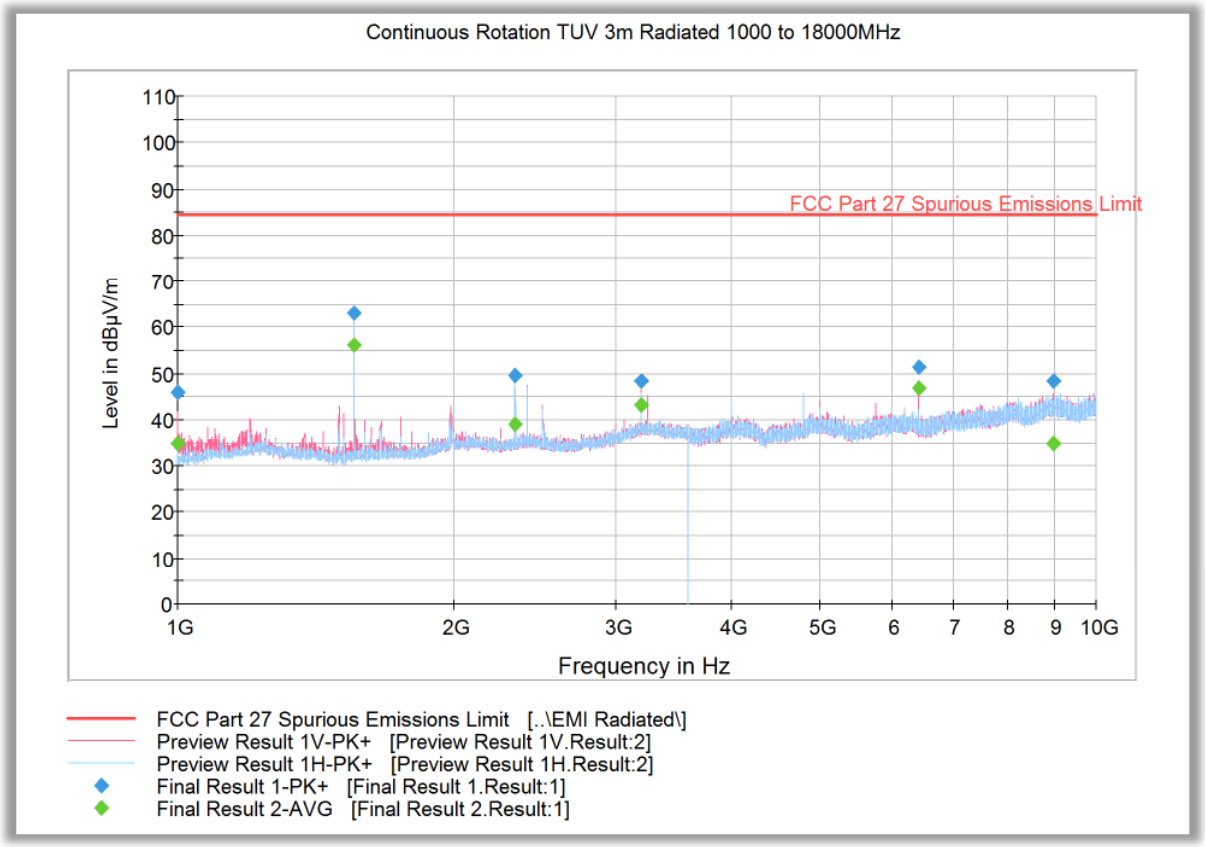


Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
44.207214	38.1	1000.0	120.000	100.0	V	175.0	-13.8	46.3	84.4
44.263327	38.1	1000.0	120.000	100.0	V	159.0	-13.8	46.3	84.4
142.785491	28.9	1000.0	120.000	100.0	V	328.0	-14.9	55.5	84.4
449.999760	41.0	1000.0	120.000	188.0	V	92.0	-3.1	43.4	84.4
474.990301	41.7	1000.0	120.000	207.0	V	120.0	-1.4	42.7	84.4
782.404569	97.5	1000.0	120.000	100.0	H	329.0	4.4	Fundamental Carrier*	
800.003447	55.9	1000.0	120.000	106.0	V	181.0	4.1	28.5	84.4

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.38 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 13_5MHz Bandwidth_Low Channel 779.5 MHz_1 RB 0 offset_QPSK



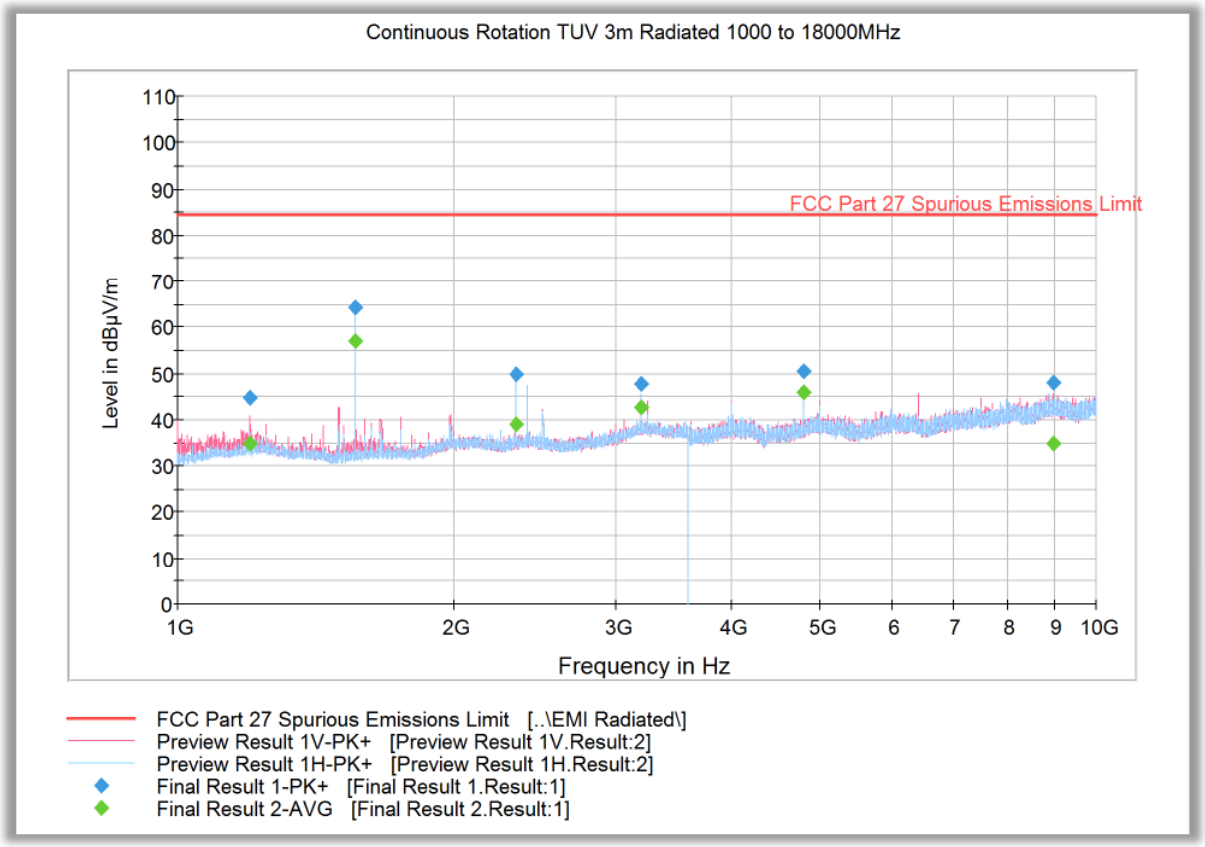
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	46.0	1000.0	1000.000	208.5	V	195.0	-10.7	38.3	84.4
1554.500000	63.0	1000.0	1000.000	200.5	H	190.0	-8.6	21.4	84.4
2331.800000	49.6	1000.0	1000.000	195.5	H	186.0	-5.3	34.7	84.4
3200.100000	48.4	1000.0	1000.000	195.5	V	256.0	-1.1	36.0	84.4
6399.800000	51.3	1000.0	1000.000	302.2	V	234.0	4.6	33.1	84.4
8974.500000	48.4	1000.0	1000.000	280.2	V	116.0	9.4	36.0	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	34.9	1000.0	1000.000	208.5	V	195.0	-10.7	49.4	84.4
1554.500000	56.2	1000.0	1000.000	200.5	H	190.0	-8.6	28.2	84.4
2331.800000	39.2	1000.0	1000.000	195.5	H	186.0	-5.3	45.2	84.4
3200.100000	43.2	1000.0	1000.000	195.5	V	256.0	-1.1	41.1	84.4
6399.800000	46.8	1000.0	1000.000	302.2	V	234.0	4.6	37.5	84.4
8974.500000	34.8	1000.0	1000.000	280.2	V	116.0	9.4	49.6	84.4

2.8.39 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 13_5MHz Bandwidth_Middle Channel 782 MHz_1 RB 0 offset_QPSK



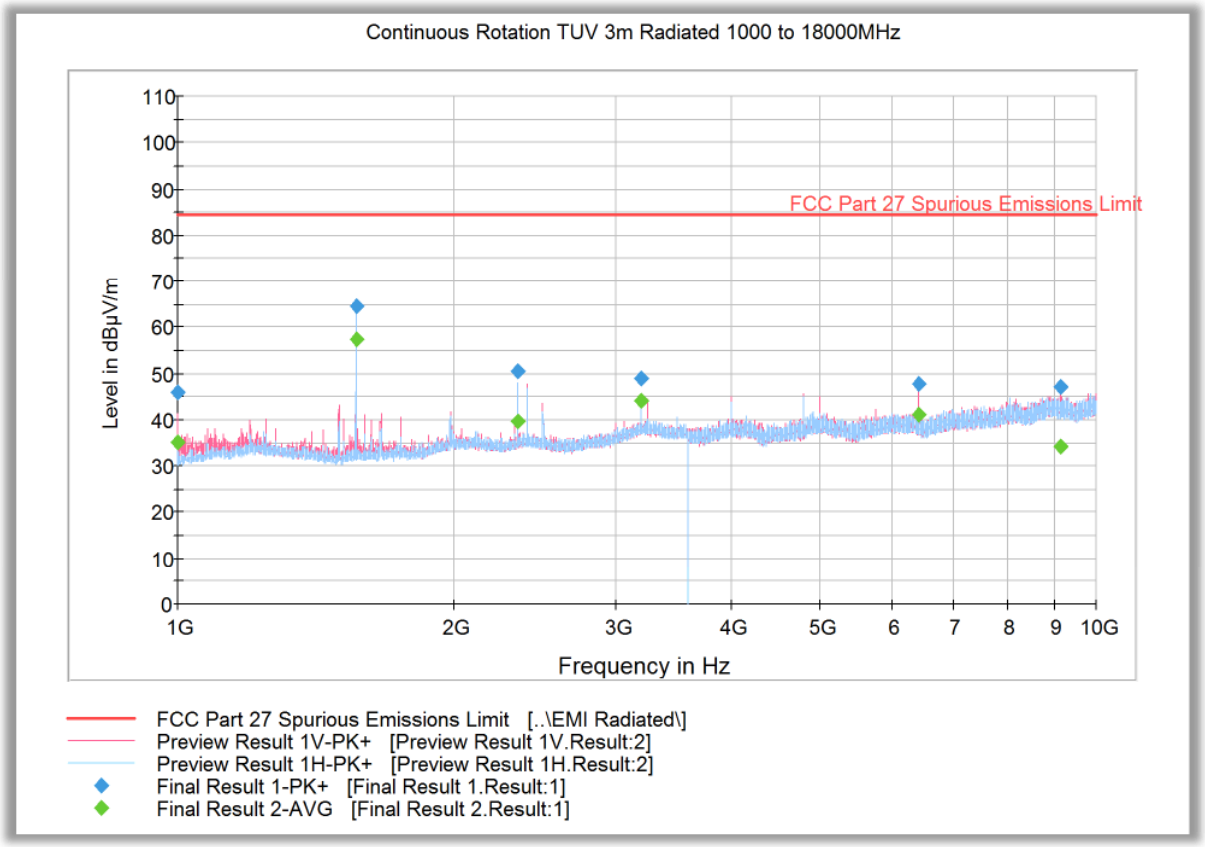
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1200.000000	44.8	1000.0	1000.000	151.6	V	196.0	-9.4	39.6	84.4
1559.700000	64.4	1000.0	1000.000	195.5	H	186.0	-8.5	20.0	84.4
2339.700000	50.0	1000.0	1000.000	200.5	H	190.0	-5.2	34.4	84.4
3199.700000	47.9	1000.0	1000.000	212.4	V	256.0	-1.1	36.5	84.4
4799.900000	50.5	1000.0	1000.000	311.2	V	154.0	2.2	33.9	84.4
8986.300000	48.2	1000.0	1000.000	250.5	V	149.0	9.4	36.2	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1200.000000	35.0	1000.0	1000.000	151.6	V	196.0	-9.4	49.4	84.4
1559.700000	57.1	1000.0	1000.000	195.5	H	186.0	-8.5	27.3	84.4
2339.700000	39.1	1000.0	1000.000	200.5	H	190.0	-5.2	45.3	84.4
3199.700000	42.7	1000.0	1000.000	212.4	V	256.0	-1.1	41.7	84.4
4799.900000	46.1	1000.0	1000.000	311.2	V	154.0	2.2	38.3	84.4
8986.300000	34.9	1000.0	1000.000	250.5	V	149.0	9.4	49.5	84.4

2.8.40 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 13_5MHz Bandwidth_High Channel 784.5 MHz_1 RB 0 offset_QPSK



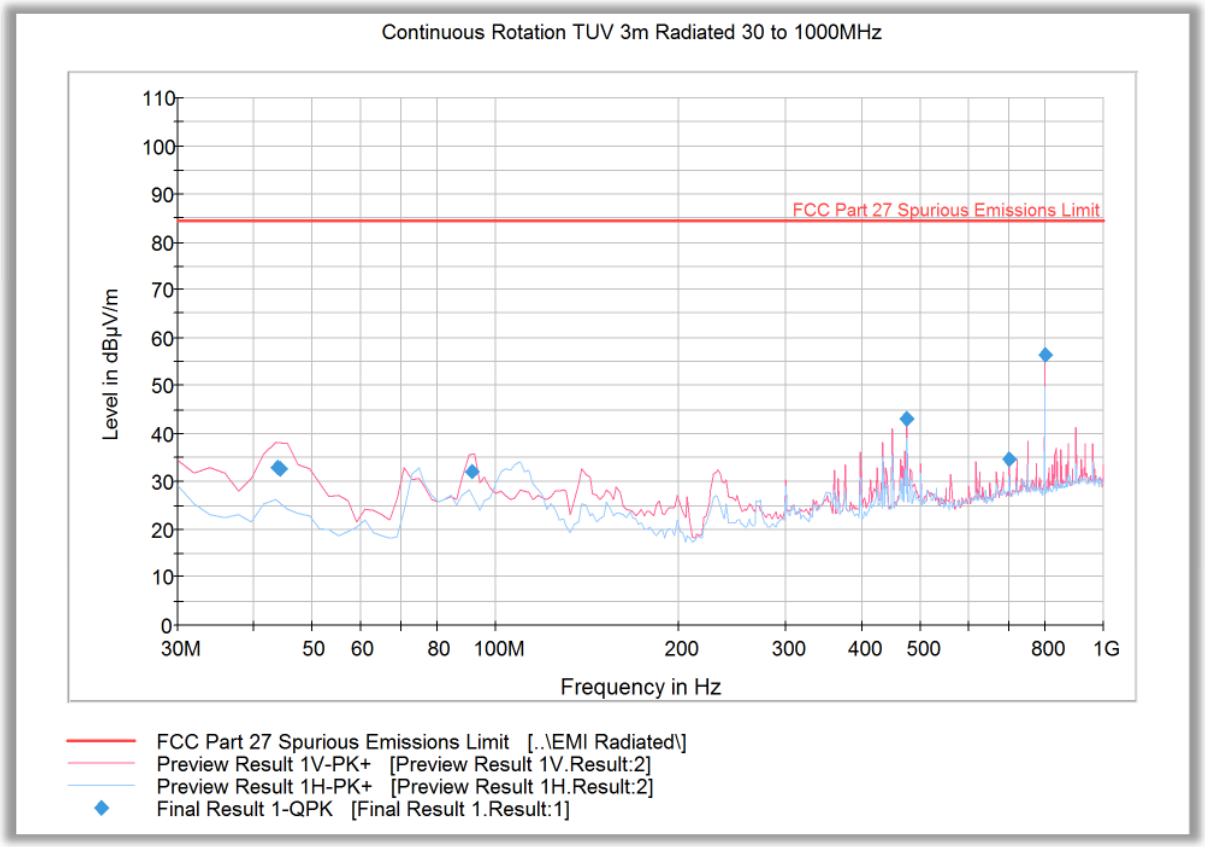
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	45.9	1000.0	1000.000	200.5	V	193.0	-10.7	38.5	84.4
1564.800000	64.6	1000.0	1000.000	195.5	H	189.0	-8.5	19.8	84.4
2347.200000	50.6	1000.0	1000.000	196.5	H	184.0	-5.1	33.8	84.4
3200.000000	49.1	1000.0	1000.000	205.5	V	257.0	-1.1	35.3	84.4
6400.100000	47.7	1000.0	1000.000	307.2	V	229.0	4.6	36.7	84.4
9131.200000	47.2	1000.0	1000.000	103.7	V	209.0	9.4	37.2	84.4

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1000.000000	35.0	1000.0	1000.000	200.5	V	193.0	-10.7	49.3	84.4
1564.800000	57.3	1000.0	1000.000	195.5	H	189.0	-8.5	27.1	84.4
2347.200000	39.6	1000.0	1000.000	196.5	H	184.0	-5.1	44.8	84.4
3200.000000	44.1	1000.0	1000.000	205.5	V	257.0	-1.1	40.3	84.4
6400.100000	41.3	1000.0	1000.000	307.2	V	229.0	4.6	43.1	84.4
9131.200000	34.3	1000.0	1000.000	103.7	V	209.0	9.4	50.1	84.4

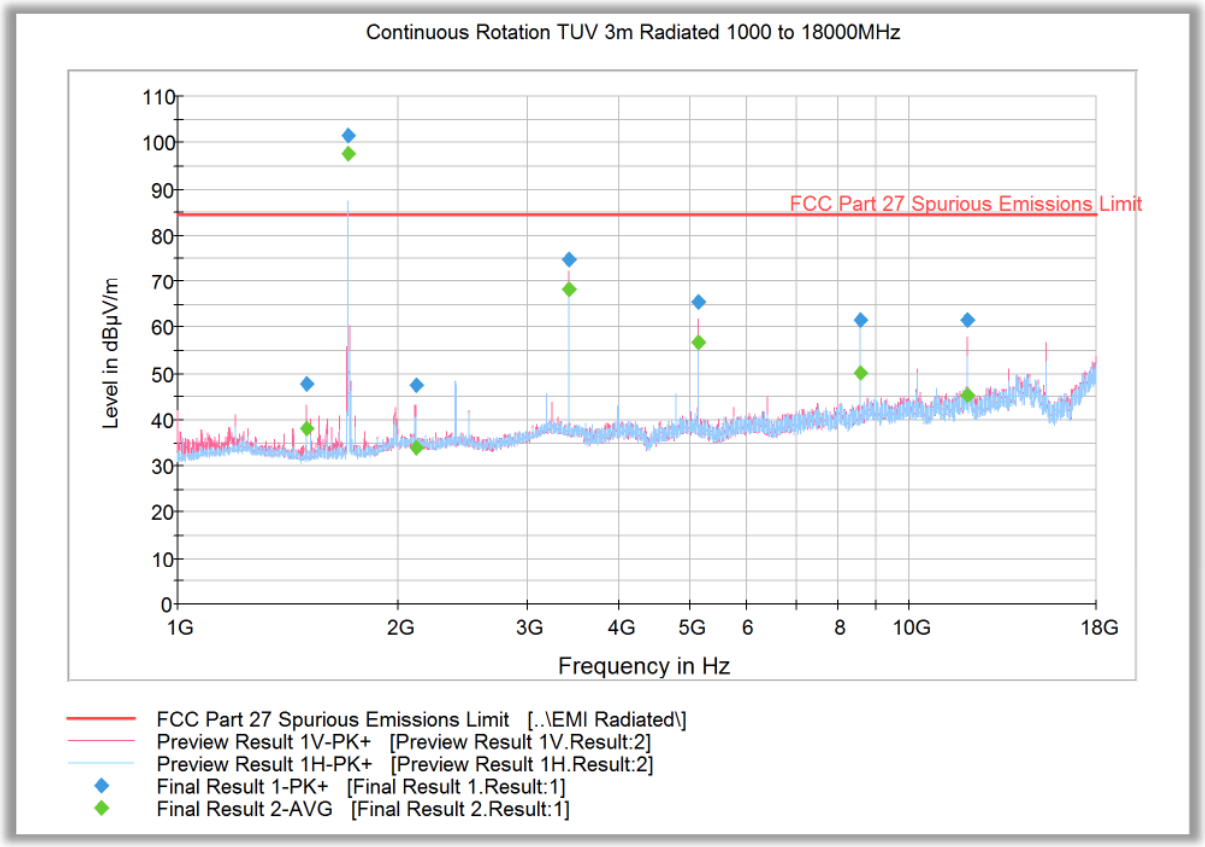
2.8.41 Radiated Emission Test Results Below 1GHz – Worst Case LTE Band 66_10MHz Bandwidth_Low Channel 1715 MHz_1 RB 0 offset_QPSK



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
43.743327	33.1	1000.0	120.000	100.0	V	163.0	-13.7	51.3	84.4
44.327214	32.9	1000.0	120.000	105.0	V	216.0	-13.8	51.5	84.4
91.284409	32.1	1000.0	120.000	100.0	V	121.0	-15.9	52.3	84.4
474.990301	43.1	1000.0	120.000	214.0	V	116.0	-1.4	41.3	84.4
699.961283	34.7	1000.0	120.000	116.0	V	213.0	2.9	49.7	84.4
800.003447	56.3	1000.0	120.000	100.0	V	183.0	4.1	28.1	84.4

2.8.42 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 66_10MHz Bandwidth_Low Channel 1715 MHz_1 RB 0 offset_QPSK



Peak Data

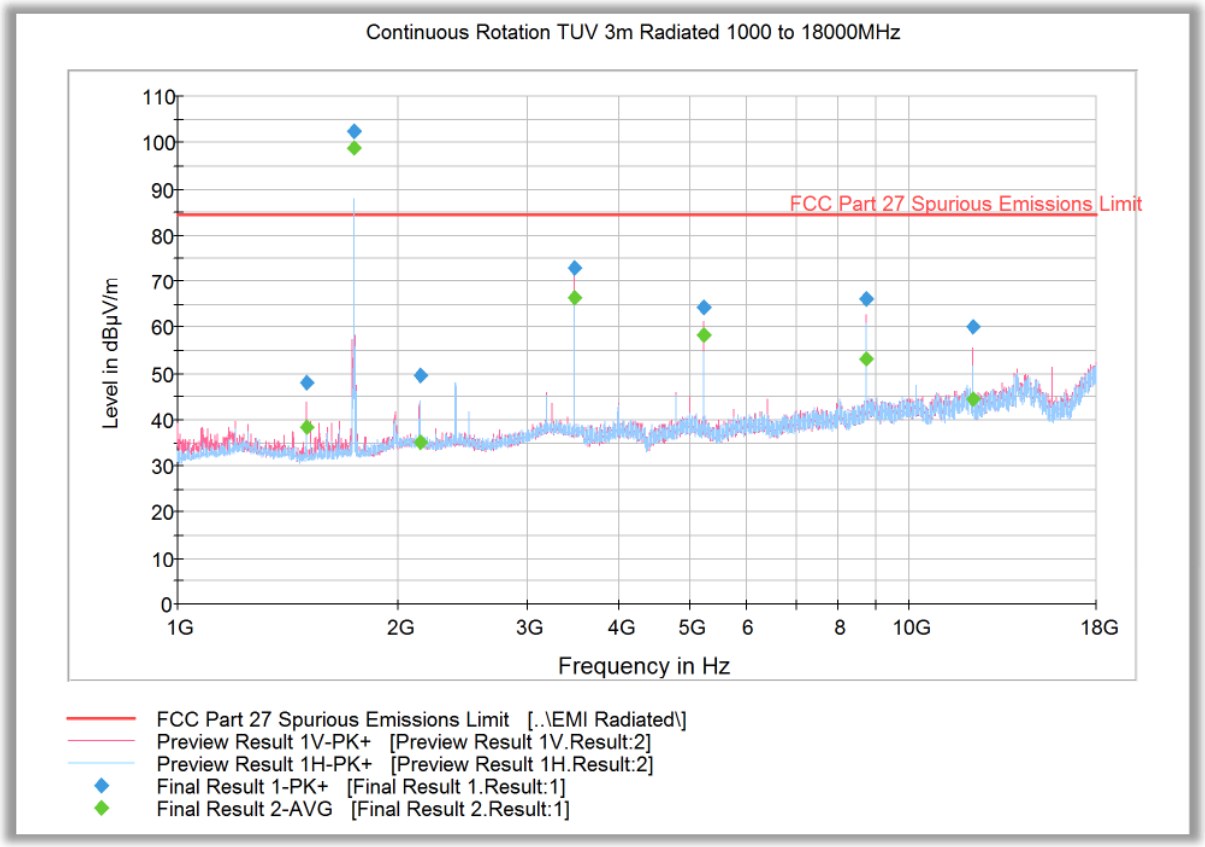
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	47.7	1000.0	1000.000	252.3	V	203.0	-9.0	34.5	82.2
1710.400000	101.5	1000.0	1000.000	252.3	V	289.0	-7.7	Fundamental Carrier*	
2117.500000	47.6	1000.0	1000.000	103.7	V	-5.0	-5.7	34.6	82.2
3421.000000	74.7	1000.0	1000.000	209.4	V	272.0	-0.8	7.5	82.2
5131.766667	65.6	1000.0	1000.000	205.5	V	271.0	3.1	16.6	82.2
8552.900000	61.6	1000.0	1000.000	204.5	H	-7.0	8.6	20.6	82.2
11974.266667	61.7	1000.0	1000.000	252.3	V	212.0	13.3	20.6	82.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	38.2	1000.0	1000.000	252.3	V	203.0	-9.0	44.1	82.2
1710.400000	97.7	1000.0	1000.000	252.3	V	289.0	-7.7	Fundamental Carrier*	
2117.500000	33.9	1000.0	1000.000	103.7	V	-5.0	-5.7	48.3	82.2
3421.000000	68.1	1000.0	1000.000	209.4	V	272.0	-0.8	14.1	82.2
5131.766667	56.7	1000.0	1000.000	205.5	V	271.0	3.1	25.6	82.2
8552.900000	50.2	1000.0	1000.000	204.5	H	-7.0	8.6	32.0	82.2
11974.266667	45.5	1000.0	1000.000	252.3	V	212.0	13.3	36.7	82.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.43 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 66_10MHz Bandwidth_Middle Channel 1745 MHz_1 RB 0 offset_QPSK



Peak Data

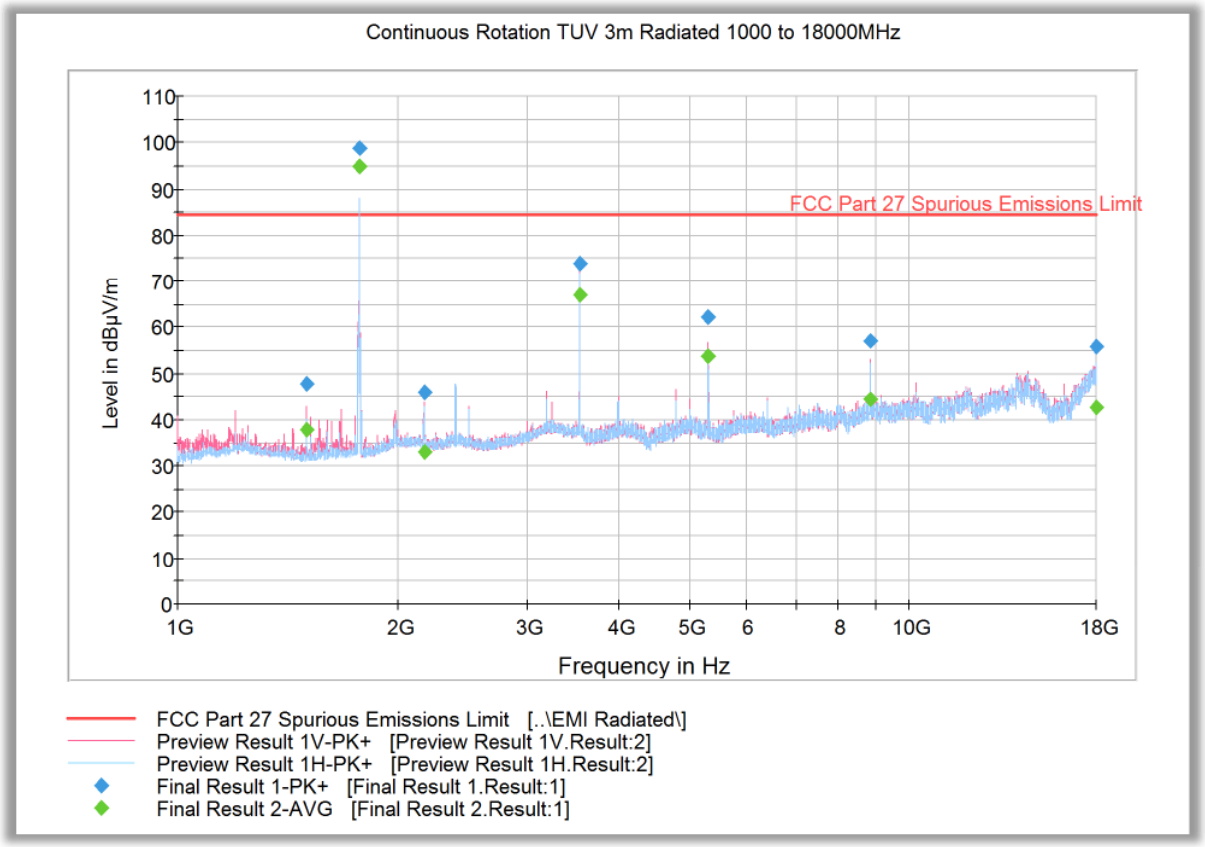
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	48.1	1000.0	1000.000	232.4	V	199.0	-9.0	34.1	82.2
1740.433333	102.6	1000.0	1000.000	139.7	H	-12.0	-7.1	Fundamental Carrier*	
2146.000000	49.6	1000.0	1000.000	130.7	V	4.0	-5.6	32.7	82.2
3481.066667	73.0	1000.0	1000.000	200.5	V	258.0	-0.7	9.2	82.2
5221.866667	64.2	1000.0	1000.000	195.5	V	190.0	3.4	18.0	82.2
8702.900000	66.1	1000.0	1000.000	200.5	V	358.0	9.0	16.1	82.2
12184.100000	60.1	1000.0	1000.000	296.2	V	206.0	12.9	22.1	82.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	38.4	1000.0	1000.000	232.4	V	199.0	-9.0	43.8	82.2
1740.433333	98.9	1000.0	1000.000	139.7	H	-12.0	-7.1	Fundamental Carrier*	
2146.000000	35.0	1000.0	1000.000	130.7	V	4.0	-5.6	47.2	82.2
3481.066667	66.6	1000.0	1000.000	200.5	V	258.0	-0.7	15.7	82.2
5221.866667	58.2	1000.0	1000.000	195.5	V	190.0	3.4	24.0	82.2
8702.900000	53.0	1000.0	1000.000	200.5	V	358.0	9.0	29.2	82.2
12184.100000	44.4	1000.0	1000.000	296.2	V	206.0	12.9	37.9	82.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.8.44 Radiated Emission Test Results Above 1GHz – Worst Case LTE Band 66_10MHz Bandwidth_High Channel 1775 MHz_1 RB 0 offset_QPSK



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	47.7	1000.0	1000.000	250.5	V	185.0	-9.0	34.6	82.2
1770.500000	99.0	1000.0	1000.000	205.5	V	147.0	-6.9	Fundamental Carrier*	
2177.566667	45.9	1000.0	1000.000	252.3	H	-19.0	-5.7	36.3	82.2
3541.133333	74.0	1000.0	1000.000	296.2	V	236.0	-0.6	8.3	82.2
5311.600000	62.2	1000.0	1000.000	290.2	V	236.0	3.6	20.1	82.2
8853.066667	57.1	1000.0	1000.000	270.3	V	203.0	9.4	25.1	82.2
17994.466667	55.9	1000.0	1000.000	252.3	H	71.0	21.4	26.3	82.2

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1500.000000	37.8	1000.0	1000.000	250.5	V	185.0	-9.0	44.4	82.2
1770.500000	95.1	1000.0	1000.000	205.5	V	147.0	-6.9	Fundamental Carrier*	
2177.566667	32.9	1000.0	1000.000	252.3	H	-19.0	-5.7	49.3	82.2
3541.133333	67.0	1000.0	1000.000	296.2	V	236.0	-0.6	15.3	82.2
5311.600000	53.9	1000.0	1000.000	290.2	V	236.0	3.6	28.3	82.2
8853.066667	44.4	1000.0	1000.000	270.3	V	203.0	9.4	37.8	82.2
17994.466667	42.8	1000.0	1000.000	252.3	H	71.0	21.4	39.5	82.2

***** This is the fundamental frequency not part of spurious emission evaluation. Data provided for information purpose only.

2.9 FREQUENCY STABILITY

2.9.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1055
FCC 47 CFR Part 27, Clause 27.54
RSS-139, Clause 6.4
RSS-130, Clause 4.5
RSS-199, Clause 4.3

2.9.2 Standard Applicable

FCC Part 27, Clause 27.54:
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

RSS-139, Clause 6.4:
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

RSS-130, Clasue 4.5:

The frequency stability shall be sufficient to ensure that the occupied bandwidth remains within each frequency block range when tested at the temperature and supply voltage variations specified in RSS-Gen.

RSS-199, Clause 4.3:
The transmitter frequency stability limit shall be determined as follows:
(a) The frequency offset shall be measured according to the procedure described in RSS-Gen and recorded;
(b) Using a resolution bandwidth equal to that permitted within the 1 MHz band immediately outside the channel edge, as found in section 4.5, reference points will be selected at the unwanted emission limits, which comply with the attenuatio specified in section 4.5 for the type of device under test, on the emission mask of the lowerest and highest channels. The frquency points shall be recorded as f_L and f_H respectively.
The applicant shall ensure compliance with frequency stability requirements by showing that f_L minus the frequency offset and f_H plus the frequency offset is within the frequency range in which the equipment is designed to operate.

2.9.3 Equipment Under Test and Modification State

Serial No: AT071218B00062 (MIFI8000), AZ280418A00044 (MIFI8800L) / Test Configuration A

2.9.4 Date of Test/Initial of test personnel who performed the test

April 19 and 22, 2019 / XYZ
July 3, 10 and 11, 2018 / XYZ

2.9.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.9.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.5 - 25.6°C	25.7 - 26.8°C
Relative Humidity	40.6 - 47.6%	44.4 - 54.1%
ATM Pressure	98.9 - 99.1 kPa	98.7 - 99.0 kPa

2.9.7 Additional Observations

- This is a conducted test. The EUT was operated at 3.7VDC nominal voltage and was placed in the temperature chamber for this evaluation. The EUT was controlled by a CMW500 and utilizing a spectrum analyzer for measurement.
- Test performed in 5 MHz Bandwidth Middle channel as the representative configuration.
- Measurement was done using the CMW 500 measurement function.
- The EUT was tested over the temperature -30°C to +50°C in 10°C steps and allowed to sit for 1 hour to allow the equipment and chamber temperature to stabilize. The measurements were then performed.
- Voltage variation was also performed at voltage 3.3VDC and higher 4.3VDC of the nominal voltage at 20°C.

2.9.8 Test Results

WCDMA Band 4 – QPSK-Middle Channel 1732.6 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	-10.79	-0.006	± 0.1
	-20	-8.26	-0.005	± 0.1
	-10	-10.01	-0.006	± 0.1
	0	-6.84	-0.004	± 0.1
	+10	-10.56	-0.006	± 0.1
	+20	8.89	0.005	± 0.1
	+30	-8.37	-0.005	± 0.1
	+40	-9.34	-0.005	± 0.1
	+50	-5.69	-0.003	± 0.1
3.3	20	-5.26	-0.003	± 0.1
4.3		-4.84	-0.003	± 0.1

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

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LTE Band 12 – QPSK 5 MHz BW-Middle Channel 707.5 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	-8.45	-0.012	± 0.1
	-20	-7.93	-0.011	± 0.1
	-10	-8.14	-0.012	± 0.1
	0	-7.65	-0.011	± 0.1
	+10	-8.34	-0.012	± 0.1
	+20	-9.18	-0.013	± 0.1
	+30	-8.31	-0.012	± 0.1
	+40	-9.03	-0.013	± 0.1
	+50	-10.16	-0.014	± 0.1
3.3	20	-9.70	-0.014	± 0.1
4.3		-9.38	-0.013	± 0.1

*Limit according to 3GPP TS 36 101 V14.4.0

LTE Band 12 – QPSK 5 MHz BW-Middle Channel 707.5 MHz						
Voltage (VDC)	**Temperature (°C)**	**F_L (MHz)****	**F_L – Freq Error (MHz)**	**F_H (MHz)****	**F_L + Freq Error (MHz)**	**Compliance**
3.7	-30	703.73263	703.73262	715.73704	715.73705	Yes
	+20	703.73071	703.73070	715.73599	715.736	Yes
	+50	703.73168	703.73167	715.737	715.73701	Yes
3.3	20	703.73042	703.73041	715.73705	715.73706	Yes
4.3		703.73071	703.73070	715.73581	715.73582	Yes

** F_L and F_H were confirmed by T1 of Low Channel Occupied Bandwidth and T2 of High Channel Occupied Bandwidth.

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 17 – QPSK 5 MHz BW-Middle Channel 710 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	11.80	0.017	± 0.1
	-20	11.44	0.016	± 0.1
	-10	12.85	0.018	± 0.1
	0	13.03	0.018	± 0.1
	+10	12.80	0.018	± 0.1
	+20	11.70	0.016	± 0.1
	+30	11.69	0.016	± 0.1
	+40	11.04	0.016	± 0.1
	+50	11.56	0.016	± 0.1
3.3	20	12.36	0.017	± 0.1
4.3		11.12	0.016	± 0.1

LTE Band 17 – QPSK 5 MHz BW-Middle Channel 710 MHz						
Voltage (VDC)	**Temperature (°C)**	**F_L (MHz)**	**F_L – Freq Error (MHz)**	**F_H (MHz)**	**F_L + Freq Error (MHz)**	**Compliance**
3.7	-30	704.25859	704.25858	715.72886	715.72887	Yes
	+20	704.25877	704.25876	715.73013	715.73014	Yes
	+50	704.25868	704.25867	715.72974	715.72975	Yes
3.3	20	704.25666	704.25665	715.72963	715.72964	Yes
4.3		704.26031	704.26030	715.73822	715.73823	Yes

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 41 – QPSK 5 MHz BW-Middle Channel 2593 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	21.97	0.008	± 0.1
	-20	19.87	0.008	± 0.1
	-10	21.93	0.008	± 0.1
	0	22.79	0.009	± 0.1
	+10	21.37	0.008	± 0.1
	+20	19.78	0.008	± 0.1
	+30	18.20	0.007	± 0.1
	+40	16.48	0.006	± 0.1
	+50	16.62	0.006	± 0.1
3.3	20	17.63	0.007	± 0.1
4.3		19.54	0.008	± 0.1

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

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LTE Band 4 – QPSK 5 MHz BW-Middle Channel 1732.5 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	-14.05	-0.0081	± 0.1
	-20	-15.68	-0.0091	± 0.1
	-10	-12.76	-0.0074	± 0.1
	0	-11.34	-0.0066	± 0.1
	+10	-12.8	-0.0074	± 0.1
	+20	15.15	0.0087	± 0.1
	+30	-12.06	-0.0070	± 0.1
	+40	-15.15	-0.0087	± 0.1
	+50	-14.9	-0.0086	± 0.1
3.3	20	15.55	0.0090	± 0.1
4.3		14.33	0.0083	± 0.1

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 7 – QPSK 5 MHz BW-Middle Channel 2535 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	-15.48	-0.0061	± 0.1
	-20	15.05	0.0059	± 0.1
	-10	15.29	0.0060	± 0.1
	0	16.11	0.0064	± 0.1
	+10	15.65	0.0062	± 0.1
	+20	16.52	0.0065	± 0.1
	+30	15.05	0.0059	± 0.1
	+40	15.01	0.0059	± 0.1
	+50	15.56	0.0061	± 0.1
3.3	20	17.28	0.0068	± 0.1
4.3		15.65	0.0062	± 0.1

LTE Band 7 – QPSK 5 MHz BW						
Voltage (VDC)	**Temperature (°C)**	**F_L (MHz)**	**F_L – Freq Error (MHz)**	**F_H (MHz)**	**F_L + Freq Error (MHz)**	**Compliance**
3.7	-30	2500.0928	2500.0928	2569.9203	2569.9203	Yes
	+20	2500.0699	2500.0699	2569.9138	2569.9138	Yes
	+50	2500.0970	2500.0970	2569.9306	2569.9306	Yes
3.3	20	2500.0919	2500.0919	2569.9182	2569.9182	Yes
4.3		2500.0713	2500.0713	2569.9299	2569.9299	Yes

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 13 – QPSK 5 MHz BW-Middle Channel 782 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	10.44	0.013	± 0.1
	-20	15.46	0.020	± 0.1
	-10	14.19	0.018	± 0.1
	0	14.05	0.018	± 0.1
	+10	-13.33	-0.017	± 0.1
	+20	-7.82	-0.010	± 0.1
	+30	13.86	0.018	± 0.1
	+40	13.8	0.018	± 0.1
	+50	14.75	0.019	± 0.1
3.3	20	-12.14	-0.016	± 0.1
4.3		-10.71	-0.014	± 0.1

LTE Band 13 – QPSK 5 MHz BW						
Voltage (VDC)	**Temperature (°C)**	**F_L (MHz)**	**F_L – Freq Error (MHz)**	**F_H (MHz)**	**F_L + Freq Error (MHz)**	**Compliance**
3.7	-30	777.0719	777.0719	786.9318	786.9318	Yes
	+20	777.0968	777.0968	786.9337	786.9337	Yes
	+50	777.0823	777.0823	786.8882	786.8882	Yes
3.3	20	777.0959	777.0959	786.9168	786.9168	Yes
4.3		777.0912	777.0912	786.9496	786.9496	Yes

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

LTE Band 66 – QPSK 5 MHz BW-Middle Channel 1745 MHz				
Voltage (VDC)	**Temperature (°C)**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)***
3.7	-30	13.66	0.0078	± 0.1
	-20	15.01	0.0086	± 0.1
	-10	13.92	0.0080	± 0.1
	0	15.66	0.0090	± 0.1
	+10	12.47	0.0071	± 0.1
	+20	10.59	0.0061	± 0.1
	+30	15.86	0.0091	± 0.1
	+40	13.12	0.0075	± 0.1
	+50	12.86	0.0074	± 0.1
3.3	20	10.63	0.0061	± 0.1
4.3		10.84	0.0062	± 0.1

*Limit according to 3GPP TS 36 101 V14.4.0

The frequency stability of the EUT is sufficient to keep it within the authorised frequency ranges at any temperature interval and voltage variations across the measured range.

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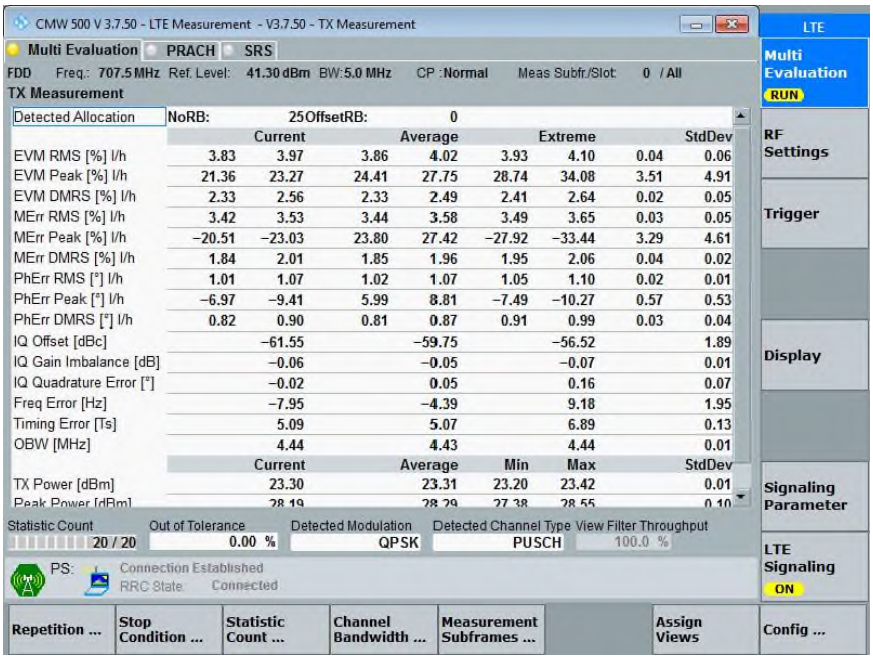
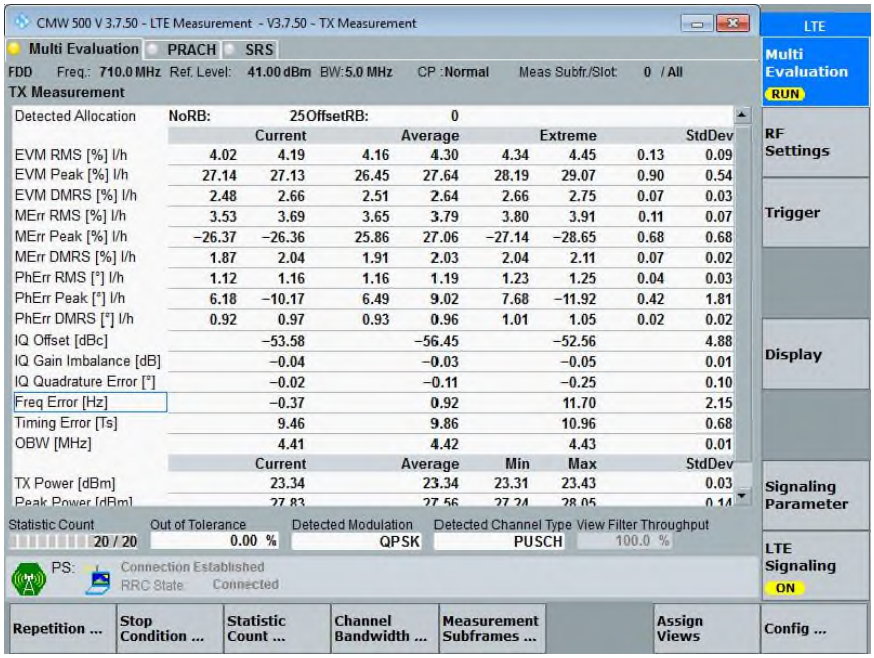
2.9.9 Sample Test plot

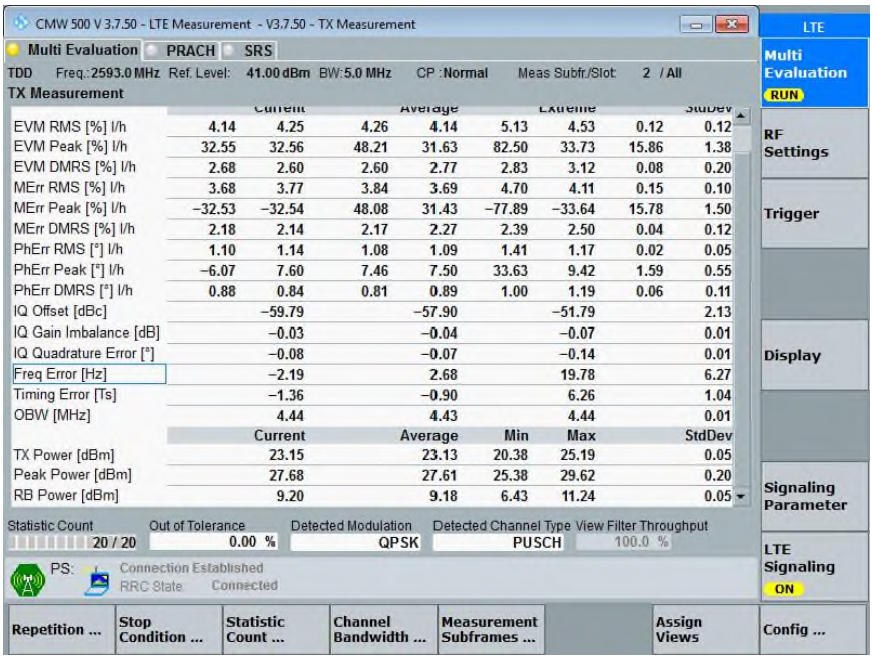
WCDMA Band 4_Middle Channel @20°C



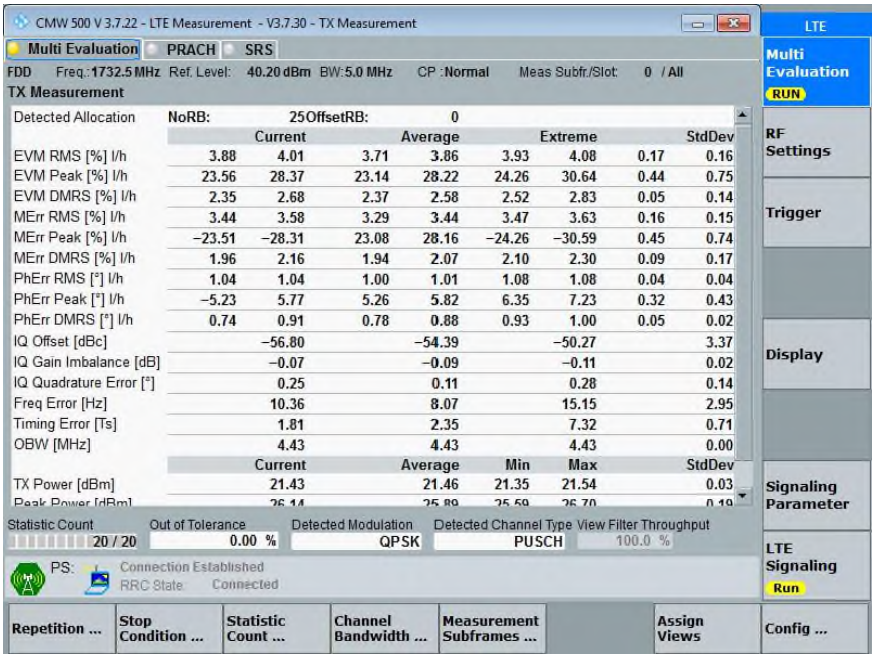
LTE Band 12_5 MHz Bandwidth_Middle Channel @20°C



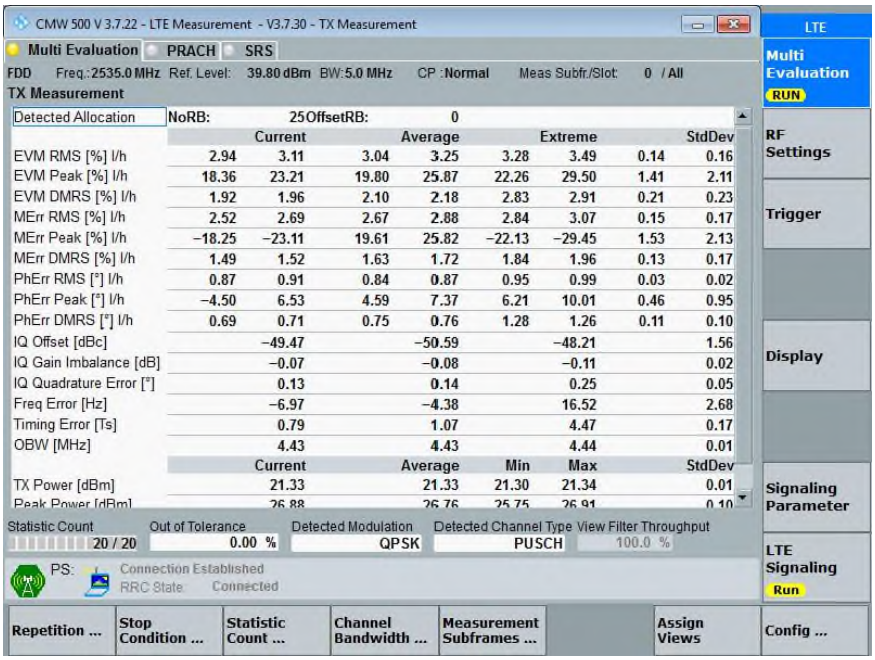
LTE Band 17_5 MHz Bandwidth_Middle Channel @20°C



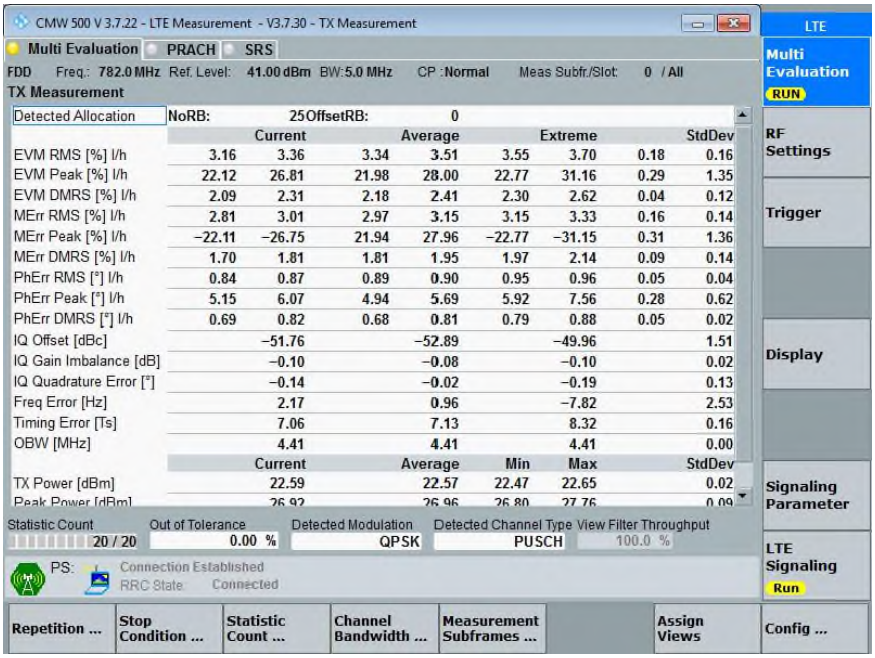
LTE Band 41_5 MHz Bandwidth_Middle Channel @20°C



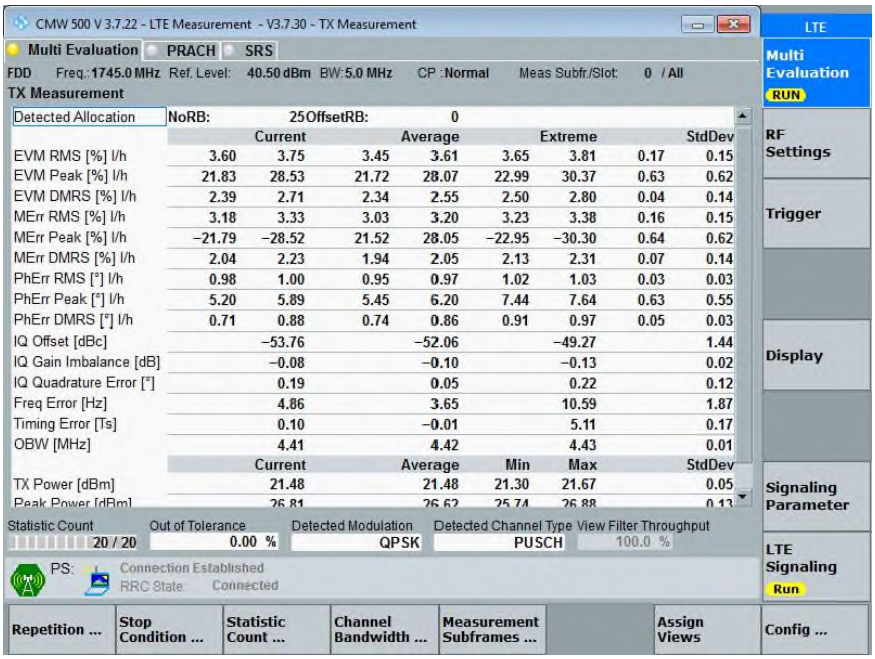
LTE Band 4_5 MHz Bandwidth_Middle Channel @20°C



LTE Band 7_5 MHz Bandwidth_Middle Channel @20°C



LTE Band 13_5 MHz Bandwidth_Middle Channel @20°C



LTE Band 66_5 MHz Bandwidth_Middle Channel @20°C

2.10 CONDUCTED EMISSIONS

2.10.1 Specification Reference

FCC CFR 47 Part 15, Clause 15.207(a)
RSS-Gen, Section 8.8

2.10.2 Standard Applicable

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

**Decreases with the logarithm of the frequency.*

2.10.3 Equipment Under Test and Modification State

Serial No: AZ280418A00044 (MIFI8800L) / Test Configuration B

2.10.4 Date of Test/Initial of test personnel who performed the test

April 26, 2019 / XYZ

2.10.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.10.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.1 °C
Relative Humidity	53.6 %
ATM Pressure	99.1 kPa

2.10.7 Additional Observations

Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.1.8 for sample computation.

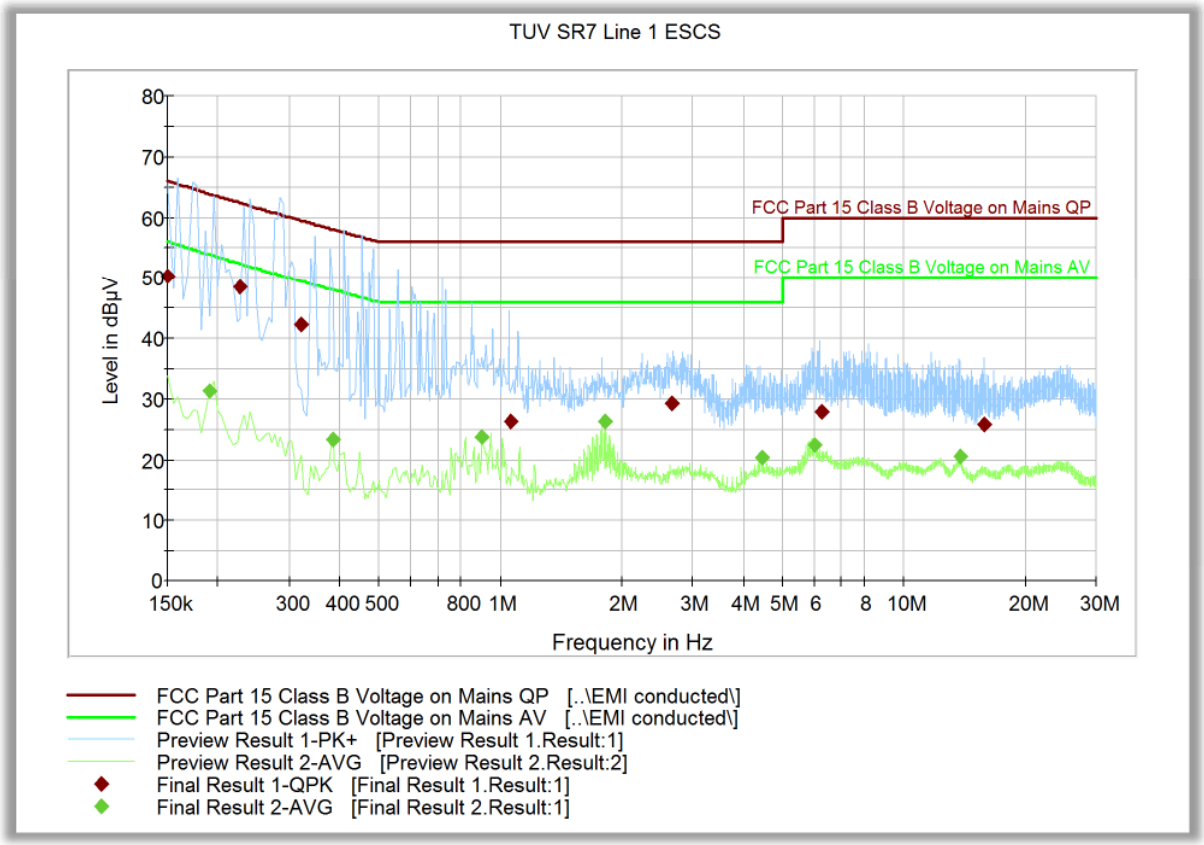
2.10.8 Sample Computation (Conducted Emission – Quasi Peak)

Measuring equipment raw measurement (dbµV) @ 150kHz			5.5
Correction Factor (dB)	Asset# 8607 (20 dB attenuator)	19.9	20.7
	Asset# 1177 (cable)	0.15	
	Asset# 1176 (cable)	0.35	
	Asset# 7568 (LISN)	0.30	
Reported QuasiPeak Final Measurement (dbµV) @ 150kHz			**26.2**

2.10.9 Test Results

Compliant. See attached plots and tables.

2.10.10 MIFI8000 120VAC 60Hz (Line 1)



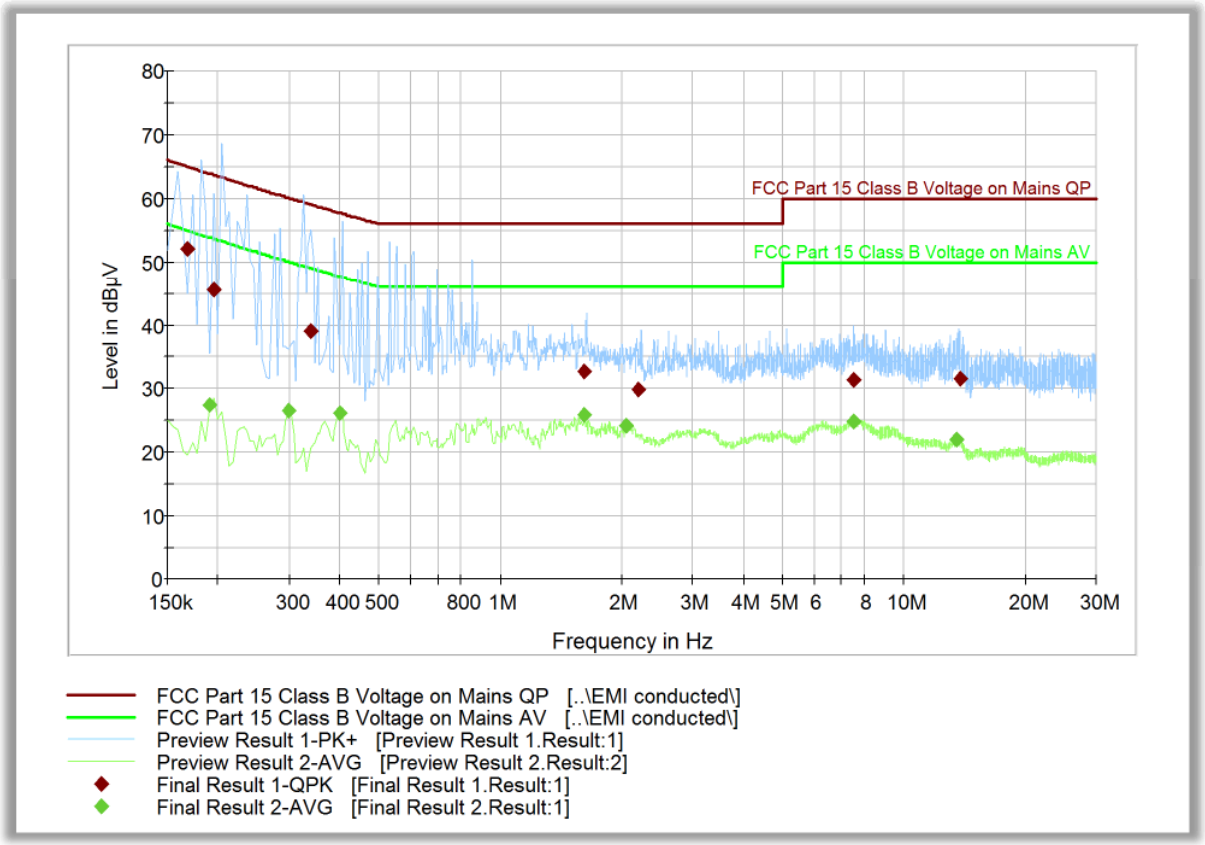
Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV)
0.150000	50.4	1000.0	9.000	Off	L1	20.3	15.6	66.0
0.226500	48.5	1000.0	9.000	Off	L1	20.2	13.9	62.4
0.321000	42.4	1000.0	9.000	Off	L1	20.2	17.1	59.5
1.059000	26.4	1000.0	9.000	Off	L1	20.1	29.6	56.0
2.656500	29.3	1000.0	9.000	Off	L1	20.4	26.7	56.0
6.247500	27.8	1000.0	9.000	Off	L1	20.4	32.2	60.0
15.819000	25.9	1000.0	9.000	Off	L1	20.7	34.1	60.0

Average

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - Ave (dB)	Limit - Ave (dBµV)
0.190500	31.4	1000.0	9.000	Off	L1	20.3	22.5	53.9
0.384000	23.3	1000.0	9.000	Off	L1	20.3	24.8	48.0
0.901500	23.8	1000.0	9.000	Off	L1	20.2	22.2	46.0
1.824000	26.4	1000.0	9.000	Off	L1	20.0	19.6	46.0
4.465500	20.3	1000.0	9.000	Off	L1	20.4	25.7	46.0
5.991000	22.4	1000.0	9.000	Off	L1	20.4	27.6	50.0
13.762500	20.6	1000.0	9.000	Off	L1	20.7	29.4	50.0

2.10.11 MIFI8000 120VAC 60Hz (Line 2)



Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV)
0.168000	52.1	1000.0	9.000	Off	N	20.2	12.9	65.0
0.195000	45.5	1000.0	9.000	Off	N	20.2	18.2	63.7
0.339000	39.0	1000.0	9.000	Off	N	20.2	20.0	59.0
1.608000	32.7	1000.0	9.000	Off	N	20.1	23.3	56.0
2.197500	29.8	1000.0	9.000	Off	N	20.4	26.2	56.0
7.498500	31.3	1000.0	9.000	Off	N	20.5	28.7	60.0
13.834500	31.6	1000.0	9.000	Off	N	20.7	28.4	60.0

Average

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin - Ave (dB)	Limit - Ave (dBµV)
0.190500	27.5	1000.0	9.000	Off	N	20.1	26.3	53.9
0.298500	26.7	1000.0	9.000	Off	N	20.1	23.3	50.0
0.402000	26.1	1000.0	9.000	Off	N	20.1	21.6	47.7
1.612500	26.0	1000.0	9.000	Off	N	20.1	20.0	46.0
2.053500	24.2	1000.0	9.000	Off	N	20.2	21.8	46.0
7.530000	24.9	1000.0	9.000	Off	N	20.5	25.1	50.0
13.483500	22.1	1000.0	9.000	Off	N	20.7	27.9	50.0

SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
Antenna Conducted Port Setup						
7662	P-Series Power Meter	N1911A	MY45100951	Agilent	06/15/18	06/15/19
7661	50MHz-18GHz Wideband Power Sensor	N1921A	MY45241383	Agilent	06/15/18	06/15/19
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	09/19/17	09/19/19
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	01/07/19	01/07/20
-	Wideband Radio Communication Tester	CMW 500	165085	Rhode & Schwarz	07/17/18	07/17/19
8825	20dB Attenuator	46-20-34	BK5773	Weinschel Corp.	Verified by 7608 and 7582	
-	10dB Attenuator	VAT-10W2+2W	N/A	MCL	Verified by 7608 and 7582	
AC Conducted Emissions Test Setup						
1024	EMI Test Receiver	ESCS 30	847793/001	Rhode & Schwarz	09/19/18	09/19/19
7567	LISN	FCC-LISN-50-25-2	120304	Fischer Custom Comm.	12/14/17	12/14/19
8822	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	Verified by 7608 and 7582	
8824	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	Verified by 7608 and 7582	
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	09/19/17	09/19/19
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	01/07/19	01/07/20
-	Wideband Radio Communication Tester	CMW 500	165085	Rhode & Schwarz	07/17/18	07/17/19
Radiated Test Setup						
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	01/07/19	01/07/20
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	09/19/17	09/19/19
1002	Bilog Antenna	3142C	00058717	ETS-Lindgren	11/20/17	11/20/19
7575	Double-ridged waveguide horn antenna	3117	00155511	EMCO	06/16/18	06/16/20
1016	Pre-amplifier	PAM-0202	187	A.H. Systems, Inc.	03/08/19	03/08/20
8921	High-frequency cable	SucoFlex 100 SX	N/A	Suhner	Verified by 7608 and 7582	
8923	High-frequency cable	Micropore 19057793	N/A	United Microwave Products	Verified by 7608 and 7582	
1040	EMI Test Receiver	ESIB40	100292	Rhode & Schwarz	10/15/18	10/15/19
1049	EMI Test Receiver	ESU	100133	Rhode & Schwarz	07/13/18	07/13/19
8628	Pre-amplifier	QLI-01182835-JO	8986002	Quinstar	03/07/19	03/07/20
-	Wideband Radio Communication Tester	CMW 500	165085	Rhode & Schwarz	07/17/18	07/17/19

Miscellaneous						
6708	Multimeter	34401A	US36086974	Hewlett Packard	07/18/18	07/18/19
7579	Temperature Chamber	115	151617	TestQuity	08/24/18	08/24/19
7554	Barometer/Temperature /Humidity Transmitter	iBTHX-W	0400706	Omega	05/25/18	05/25/19
	Test Software	EMC32	V8.53	Rhode & Schwarz	N/A	

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

3.2.1 Conducted Antenna Port Measurement

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	Cable attenuation	1.00	dB	Normal, k=2	2.000	0.50	0.25
3	Receiver sinewave accuracy	0.08	dB	Normal, k=2	2.000	0.04	0.00
4	Receiver pulse amplitude	0.00	dB	Rectangular	1.732	0.00	0.00
5	Receiver pulse repetition rate	0.00	dB	Rectangular	1.732	0.00	0.00
6	Noise floor proximity	0.00	dB	Rectangular	1.732	0.00	0.00
7	Frequency interpolation	0.10	dB	Rectangular	1.732	0.06	0.00
8	Mismatch	0.07	dB	U-shaped	1.414	0.05	0.00
	Combined standard uncertainty			Normal		0.52	dB
	Expanded uncertainty			Normal, k=2		**1.03**	**dB**

3.2.2 Radiated Emission Measurements (Below 1GHz)

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20	dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.75	dB	Normal, k=2	2.000	0.38	0.14
4	Receiver sinewave accuracy	0.45	dB	Normal, k=2	2.000	0.23	0.05
5	Receiver pulse amplitude	1.50	dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50	dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50	dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95	dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30	dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10	dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12	dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00	dB	Rectangular	1.732	0.58	0.33
13	Cross-polarisation	0.90	dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00	dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.76	dB	Triangular	2.449	1.54	2.36
16	Separation distance at 3 m	0.30	dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.77	dB	Rectangular	1.732	0.44	0.20
18	Table height at 3 m	0.10	dB	Normal, k=2	2.000	0.05	0.00
19	Near-field effects	0.00	dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00	dB				0.00
	Combined standard uncertainty			Normal		2.95	dB
	Expanded uncertainty			Normal, k=2		**5.90**	**dB**

3.2.3 Radiated Emission Measurements (Above 1GHz)

	Input Quantity (Contribution) X_i	Value	Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10 dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20 dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.75 dB	Normal, k=2	2.000	0.38	0.14
4	Receiver sinewave accuracy	0.45 dB	Normal, k=2	2.000	0.23	0.05
5	Receiver pulse amplitude	1.50 dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50 dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50 dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95 dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30 dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10 dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12 dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00 dB	Rectangular	1.732	0.58	0.33
13	Cross-polarisation	0.90 dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00 dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.25 dB	Triangular	2.449	1.33	1.76
16	Separation distance at 3 m	0.30 dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.77 dB	Rectangular	1.732	0.44	0.20
18	Table height at 3 m	0.10 dB	Normal, k=2	2.000	0.05	0.00
19	Near-field effects	0.00 dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00 dB				0.00
	Combined standard uncertainty		Normal	2.85 dB		
	Expanded uncertainty		Normal, k=2	**5.70 dB**		

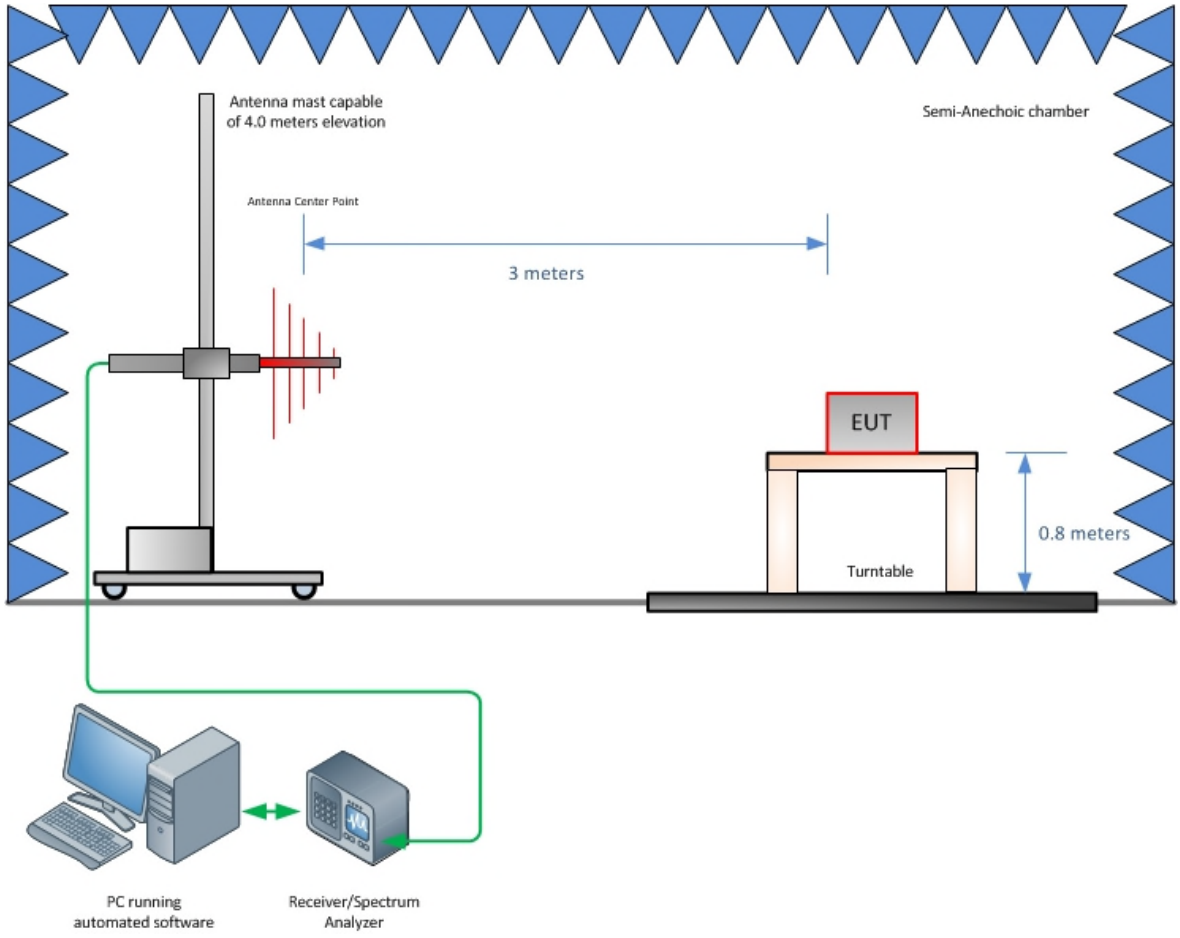
3.2.4 Conducted Measurements

	Input Quantity (Contribution) X_i	Value	Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10 dB	Normal, k=1	1.000	0.10	0.01
2	LISN-receiver attenuation	0.10 dB	Normal, k=2	2.000	0.05	0.00
3	LISN voltage division factor	0.30 dB	Normal, k=2	2.000	0.15	0.02
4	Receiver sinewave accuracy	0.36 dB	Normal, k=2	2.000	0.18	0.03
5	Receiver pulse amplitude	1.50 dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50 dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.00 dB	Rectangular	1.732	0.00	0.00
8	AMN VDF frequency interpolation	0.10 dB	Rectangular	1.732	0.06	0.00
9	Mismatch	0.07 dB	U-shaped	1.414	0.05	0.00
10	LISN impedance	2.65 dB	Triangular	2.449	1.08	1.17
11	Effect of mains disturbance	0.00 dB			0.00	0.00
12	Effect of the environment					
	Combined standard uncertainty		Normal	1.66 dB		
	Expanded uncertainty		**Normal, k=2**	**3.31 dB**		

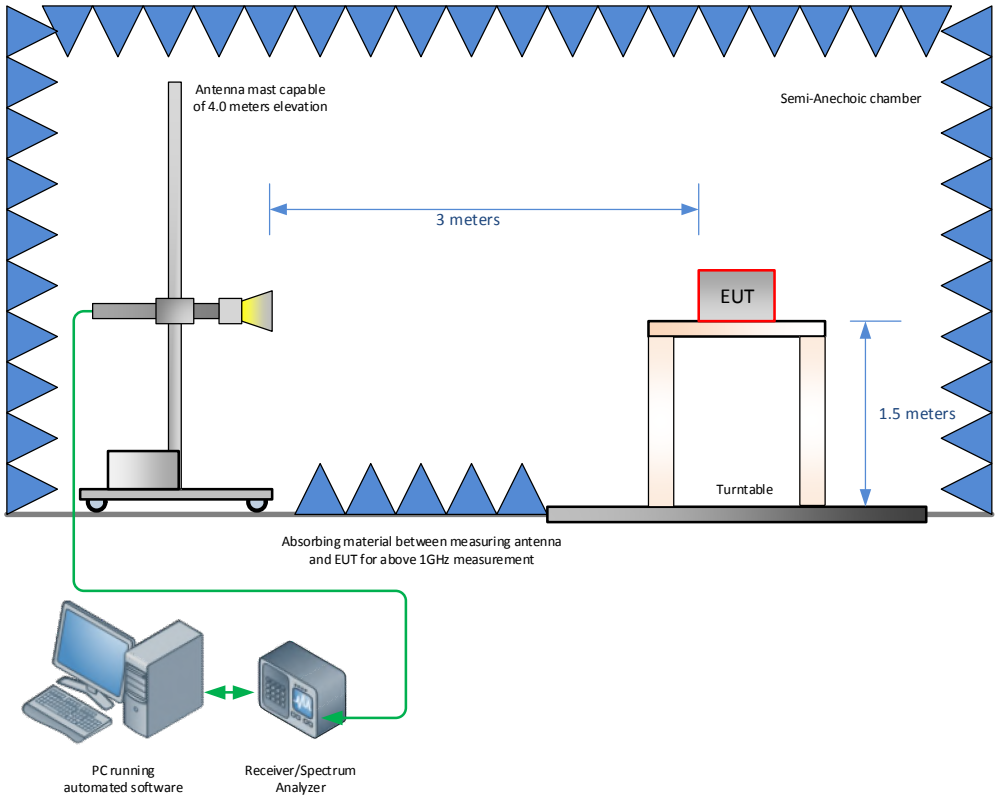
SECTION 4

DIAGRAM OF TEST SETUP

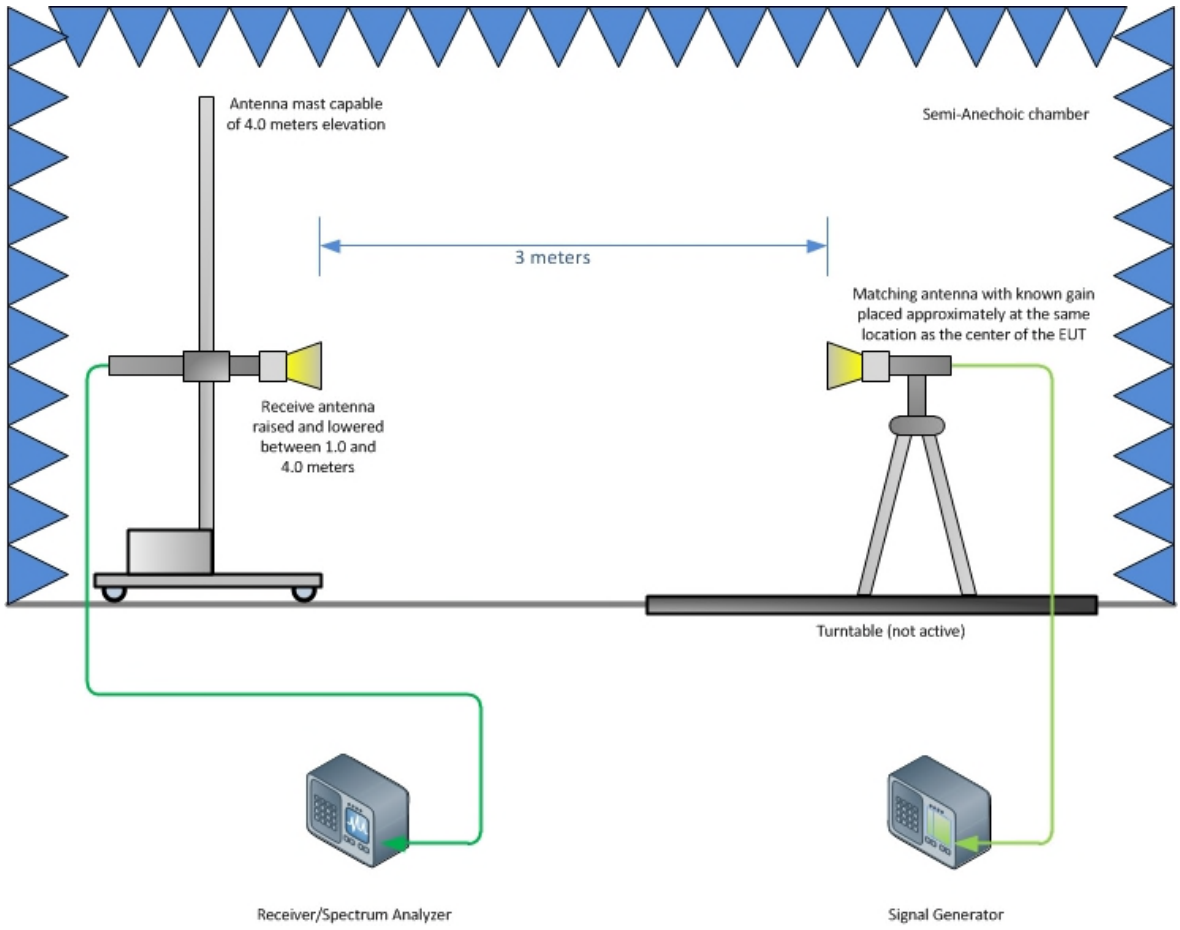
4.1 TEST SETUP DIAGRAM



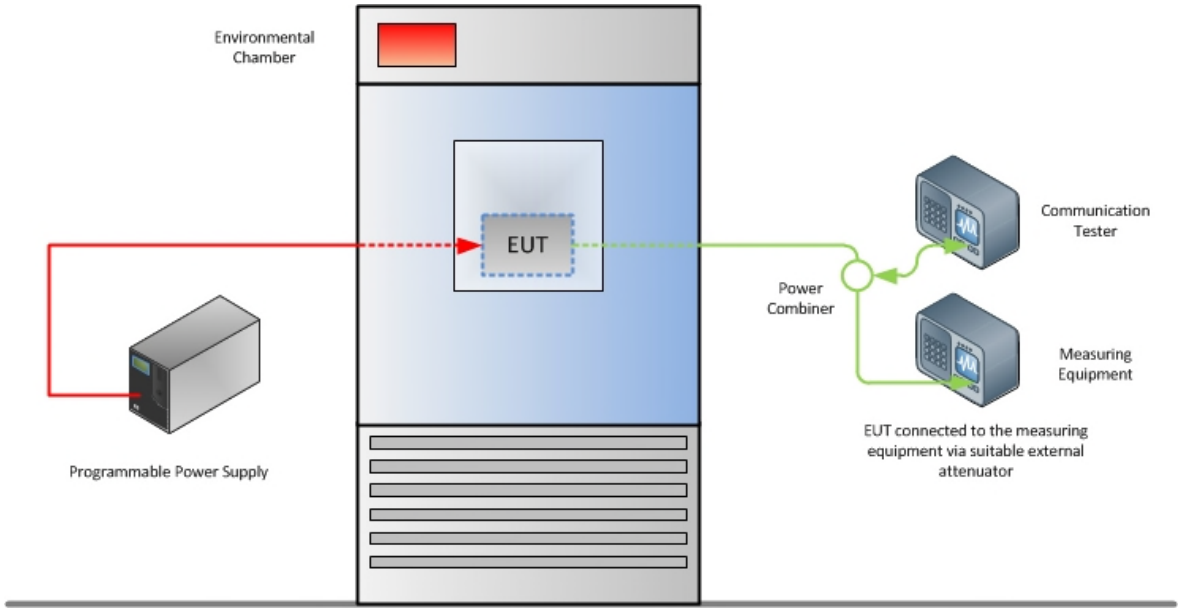
Radiated Emission Test Setup (Below 1GHz)



Radiated Emission Test Setup (Above 1GHz)



Substitution Test Method (Above 1GHz)



Frequency Stability Test Comfiguration

SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

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