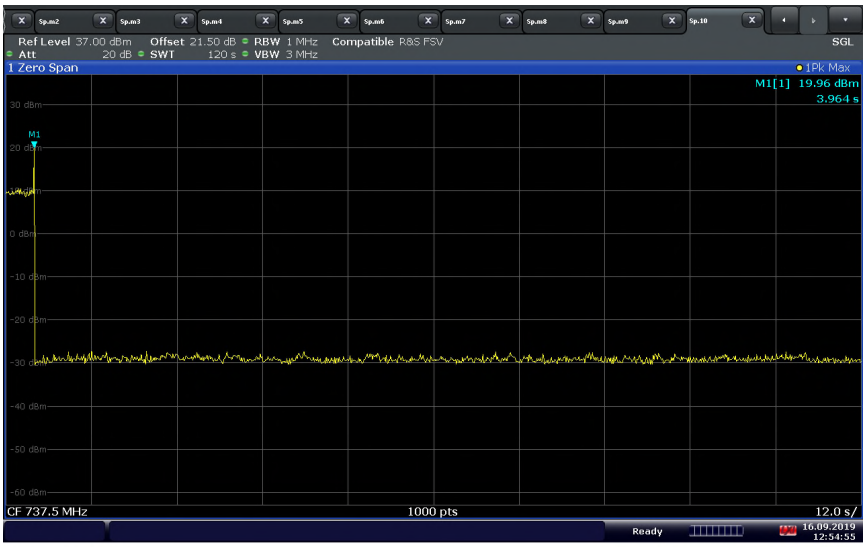
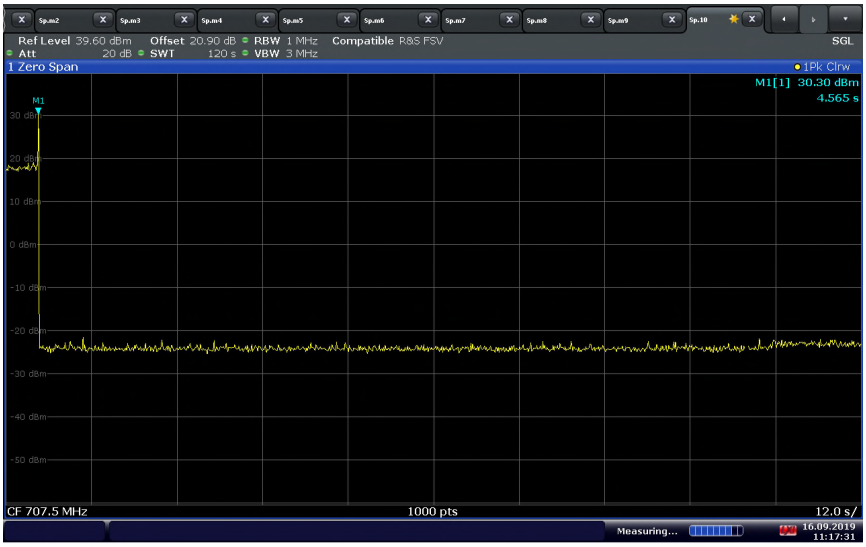
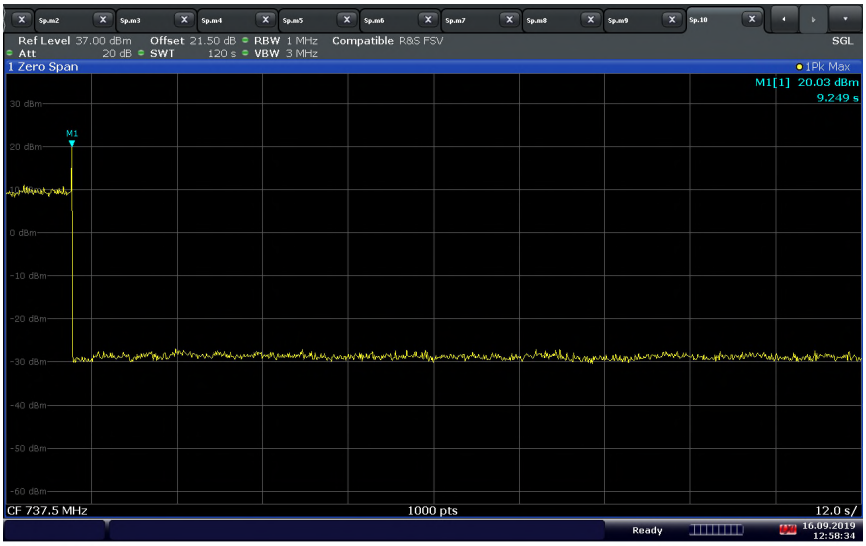
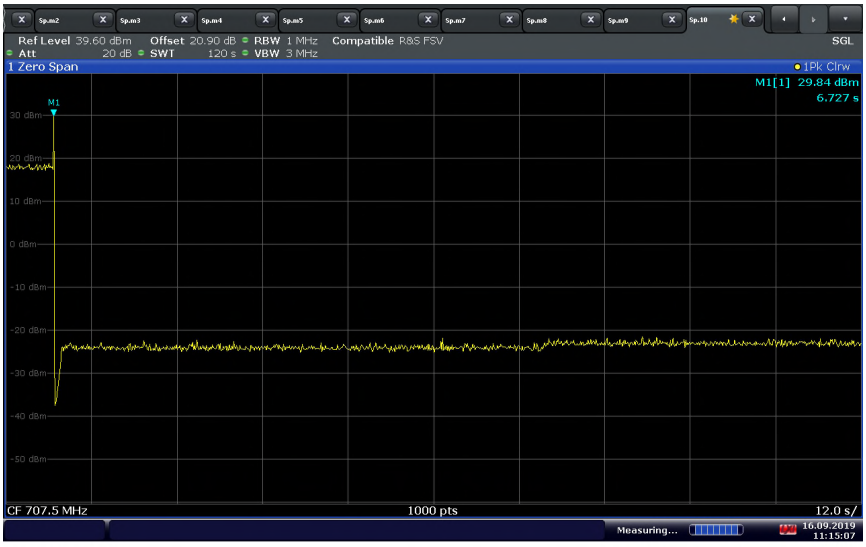
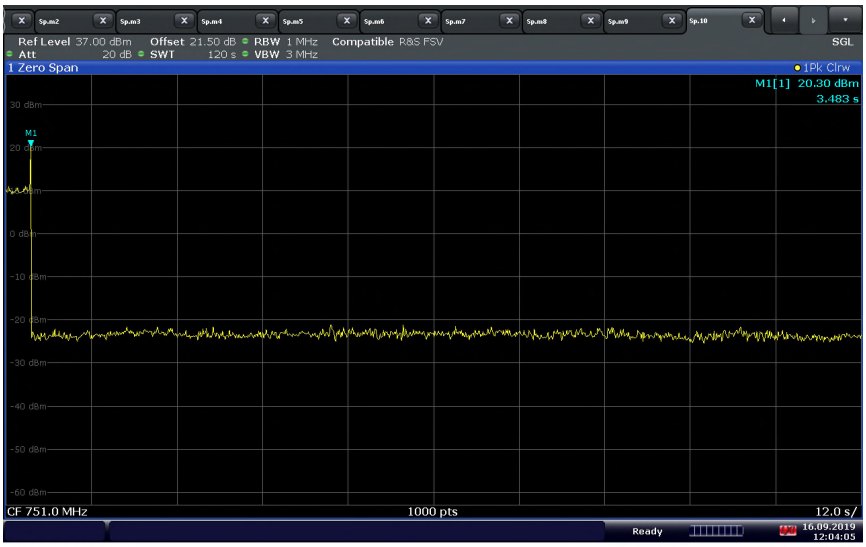
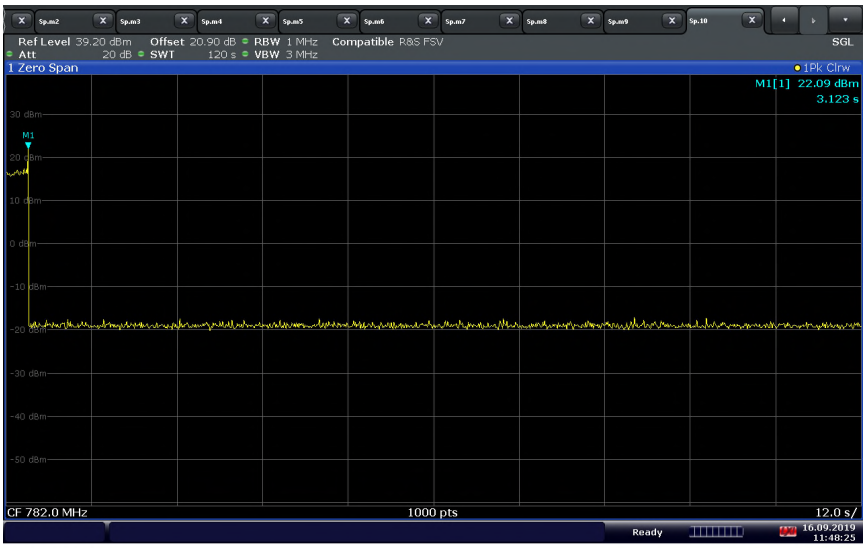
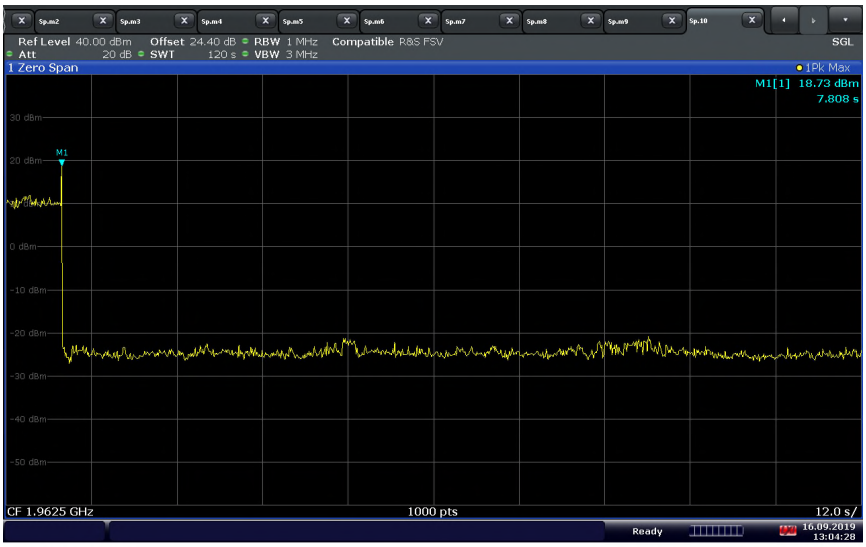
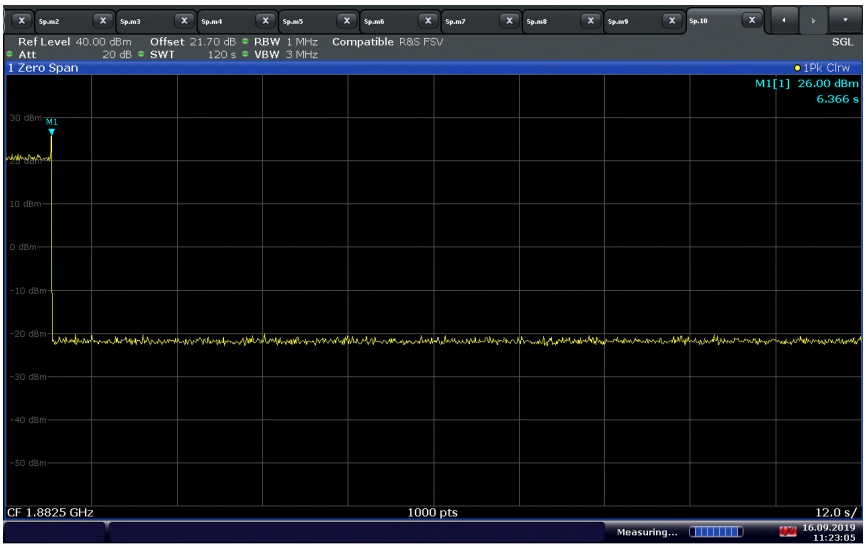
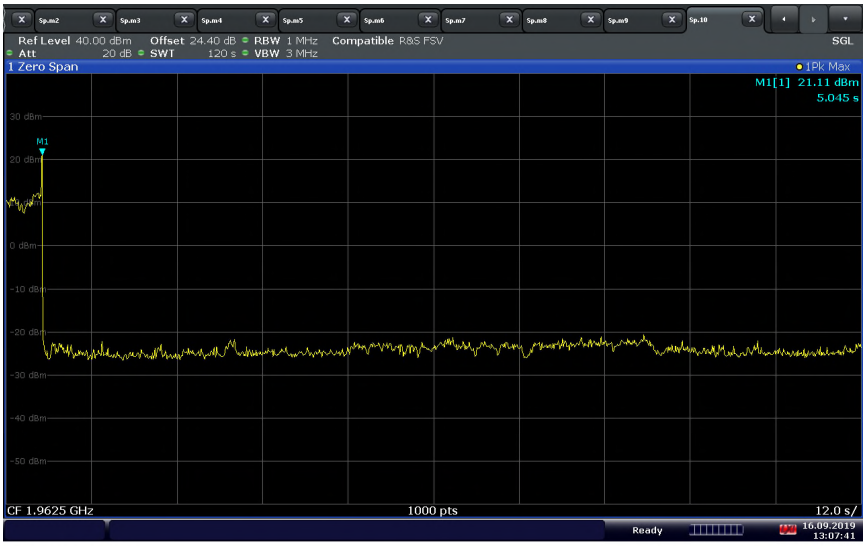
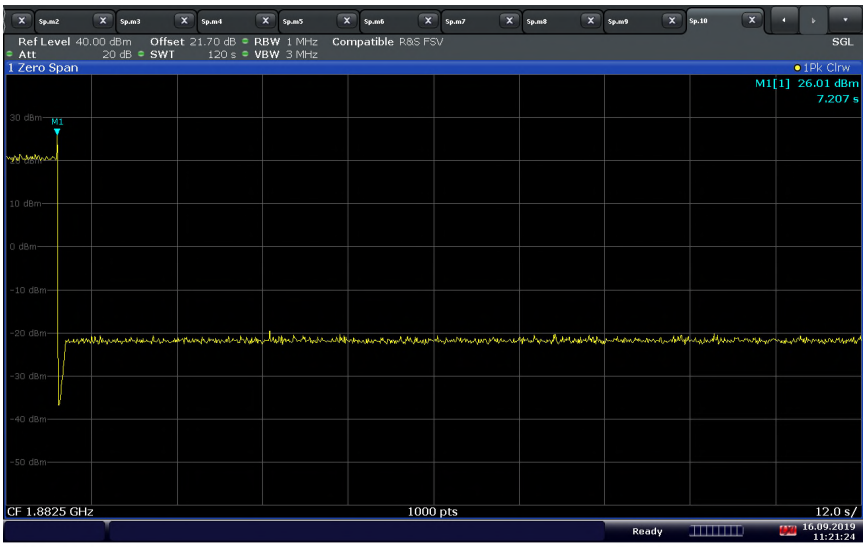
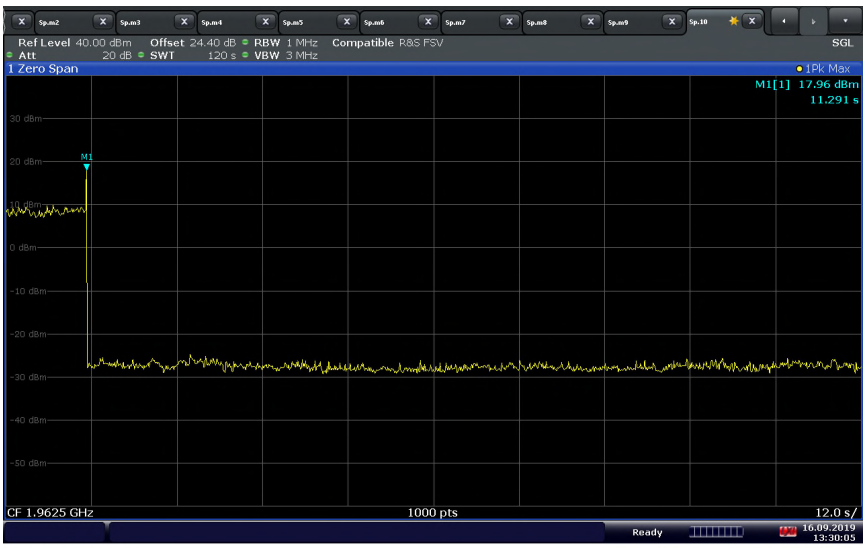
Retry Event - LTE Band 12 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port A
 12:54:56 16.09.2019
Retry Event - LTE Band 12 Uplink 5MHz Bandwidth Mid Channel - NU Port A
 11:17:31 16.09.2019

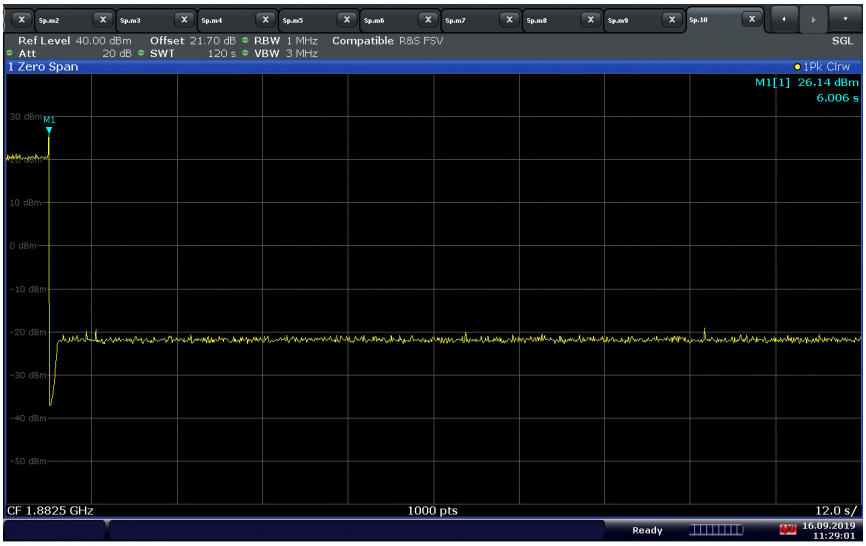
Retry Event - LTE Band 12 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port B
 12:58:35 16.09.2019
Retry Event - LTE Band 12 Uplink 5MHz Bandwidth Mid Channel - NU Port B
 11:15:07 16.09.2019

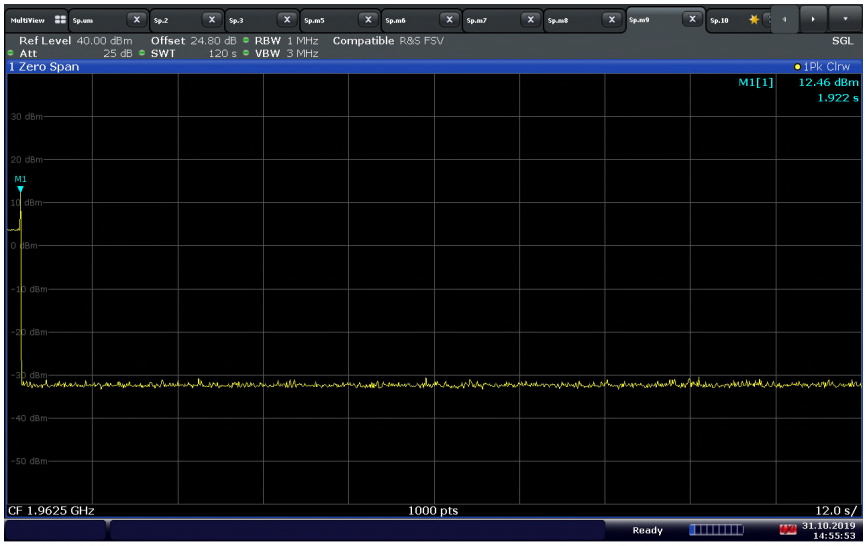
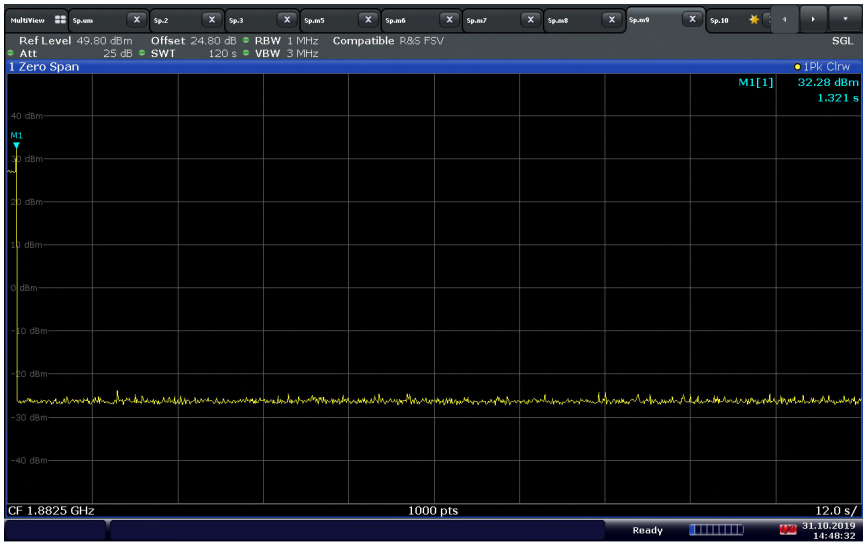
Retry Event - LTE Band 13 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port C
 12:04:06 16.09.2019
Retry Event - LTE Band 13 Uplink 5MHz Bandwidth Mid Channel - NU Port C
 11:48:26 16.09.2019

Retry Event - LTE Band 25 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port A
 13:04:29 16.09.2019
Retry Event - LTE Band 25 Uplink 5MHz Bandwidth Mid Channel - NU Port A
 11:23:06 16.09.2019

Retry Event - LTE Band 25 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port B
 13:07:42 16.09.2019
Retry Event - LTE Band 25 Uplink 5MHz Bandwidth Mid Channel - NU Port B
 11:21:24 16.09.2019

Retry Event - LTE Band 25 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port C
 13:30:05 16.09.2019

Retry Event - LTE Band 25 Uplink 5MHz Bandwidth Mid Channel - NU Port C
 11:29:02 16.09.2019

Retry Event - LTE Band 25 Downlink 5MHz Bandwidth Mid Channel - CU with NU Port D
 14:55:53 31.10.2019
Retry Event - LTE Band 25 Uplink 5MHz Bandwidth Mid Channel - NU Port D
 14:48:33 31.10.2019

2.12 Field Strength Of Spurious Radiation

2.12.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1053
FCC 47 CFR Part 22, Clause 22.917(a)
FCC 47 CFR Part 24, Clause 24.238(a)
RSS-132, Clause 5.5
RSS-133, Clause 6.5

2.12.2 Standard Applicable

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

FCC 47 CFR Part 27, Clause 27.53:
(h) 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.

(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 operation, measured in watts, in accordance with the following:
(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(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 + 10 log (P) dB;

(a) For operations in the 2305–2320 MHz band and the 2345–2360 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power P (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:
(1) For base and fixed stations' operations in the 2305–2320 MHz band and the 2345–2360 MHz band:
(i) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, and not less than 75 + 10 log (P) dB on all frequencies between 2320 and 2345 MHz;
(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 70 + 10 log (P) dB on all frequencies between 2287.5 and 2300 MHz, 72 + 10 log (P) dB on all frequencies between 2285 and 2287.5 MHz, and 75 + 10 log (P) dB below 2285 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2362.5 MHz, 55 + 10 log (P) dB on all frequencies between 2362.5 and 2365 MHz, 70 + 10 log (P) dB on all frequencies between 2365 and 2367.5 MHz, 72 + 10 log (P) dB on all frequencies between 2367.5 and 2370 MHz, and 75 + 10 log (P) dB above 2370 MHz.

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.

RSS-130:
4.7.1 General unwanted emissions limits
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-195, Clause 5.6.1:
The power of any emission outside the frequency range(s) in which the equipment operates shall be attenuated below the transmitter power, P(dBW), by the amount indicated in Table 1 and graphically represented in Figure 1, where p is the transmitter output power measured in watts.

Table 1 – Unwanted Emissions for Base Stations, Fixed Station and High-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	43 + 10 $\log_{10}$ (p)
2200 - 2285	75 + 10 $\log_{10}$ (p)
2285 – 2287.5	72 + 10 $\log_{10}$ (p)
2287.5 - 2300	70 + 10 $\log_{10}$ (p)
2300 - 2305	43 + 10 $\log_{10}$ (p)
2305 - 2320	43 + 10 $\log_{10}$ (p)[Note]
2320 -2345	75 + 10 $\log_{10}$ (p)
2345 -2360	43 + 10 $\log_{10}$ (p) [Note]
2360 – 2362.5	43 + 10 $\log_{10}$ (p)
2362.5 - 2365	55 + 10 $\log_{10}$ (p)
2365 – 2367.5	70 + 10 $\log_{10}$ (p)
2367.5 - 2370	72 + 10 $\log_{10}$ (p)
2370 - 2395	75 + 10 $\log_{10}$ (p)
>2395	43 + 10 $\log_{10}$ (p)

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 5.2 for the permitted frequency ranges for the various equipment types.

2.12.3 Equipment Under Test and Modification State

Serial No: 110222000051 and 481222000175 / Test Configuration C and D

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

November 30 to December 16, 2022 / FSC

2.12.5 Test Equipment Used

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

2.12.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Mira Mesa facility.

Ambient Temperature	25.8 - 26.4°C
Relative Humidity	31.1 - 53.7%
ATM Pressure	98.5 - 99.1kPa

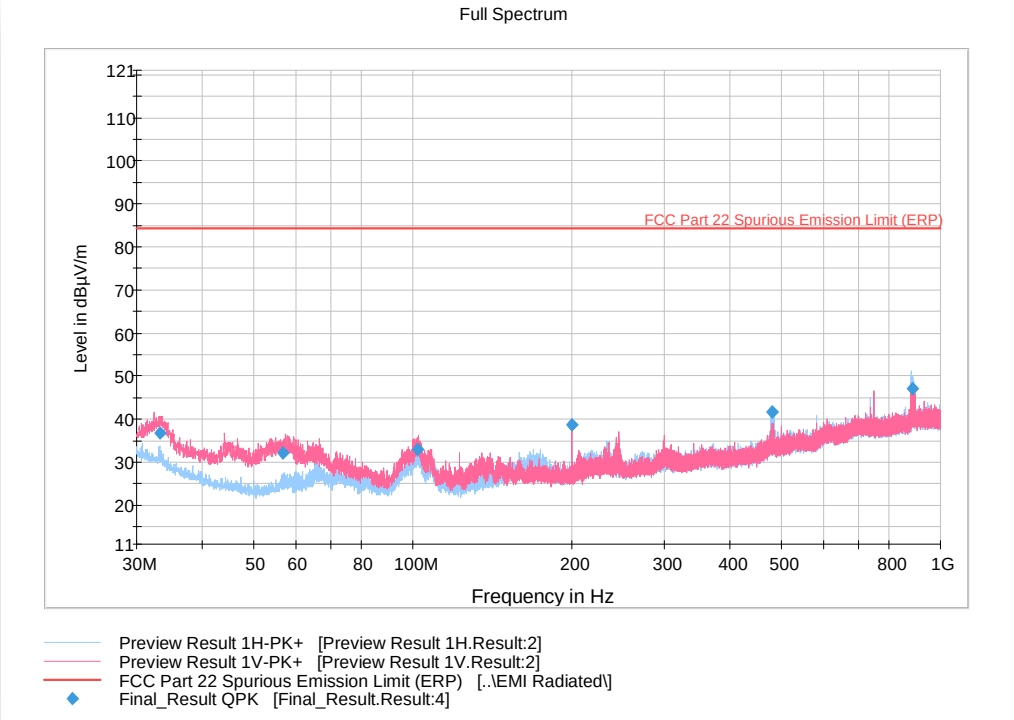
2.12.7 Additional Observations

- This is a radiated test using substitution method as per Unwanted Emissions: Radiated Spurious method of measurement of C63.26 2015.
- Only the worst case configuration presented in this test report.
- This is cabinet spurious emissions testing. Main antenna port was terminated during the test. Fundamental frequency measurement will be ignored for this test.
- There are no significant differences observed between channels and bandwidth configurations (cabinet spurious with TX antenna terminated). Only the worst-case configuration observed during verification presented in this test report.
- 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.

2.12.8 Test Results

Compliant. See attached plots.

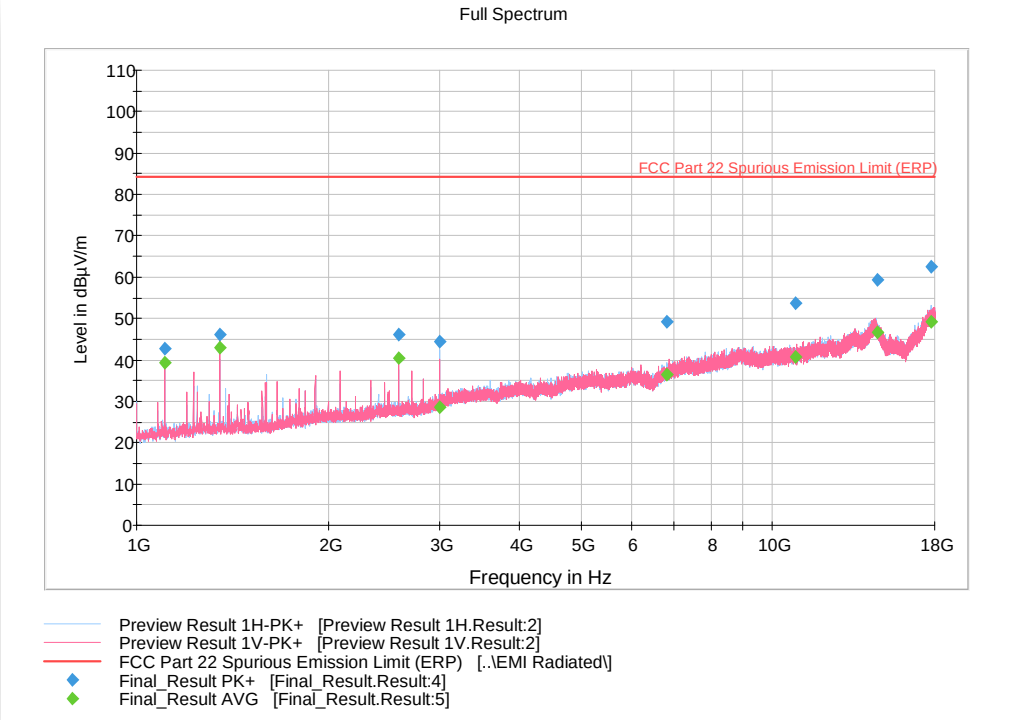
2.12.9 Test Results Below 1GHz (WCDMA Band 5 Downlink Worst Case Configuration) - 15MHz Bandwidth High Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
33.248000	36.67	84.38	47.71	1000.0	120.000	100.0	V	119.0	20
56.731000	32.25	84.38	52.13	1000.0	120.000	106.0	V	11.0	14
102.196000	33.06	84.38	51.32	1000.0	120.000	125.0	V	171.0	16
200.008667	38.66	84.38	45.72	1000.0	120.000	100.0	V	60.0	17
479.990333	41.61	84.38	42.77	1000.0	120.000	176.0	H	247.0	25
882.955333	47.01	84.38	37.37	1000.0	120.000	125.0	H	245.0	30

2.12.10 Test Results Above 1GHz (WCDMA Band 5 Downlink Worst Case Configuration) - 15MHz Bandwidth High Channel



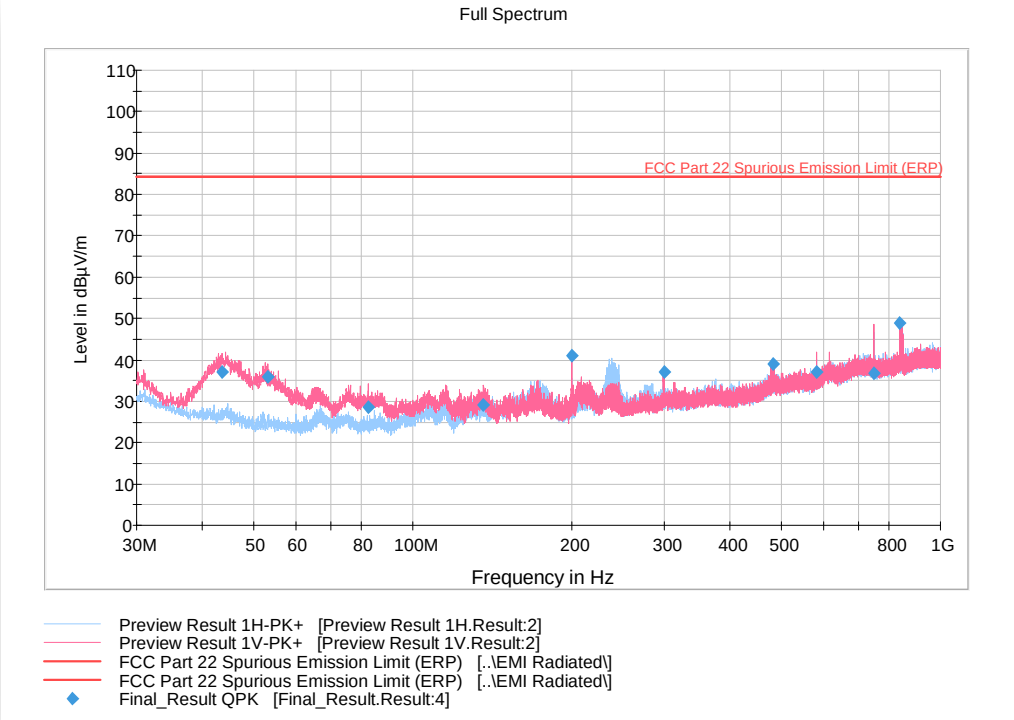
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	42.84	84.38	41.54	1000.0	1000.000	145.0	V	220.0	-9
1351.533333	46.18	84.38	38.20	1000.0	1000.000	142.0	V	216.0	-7
2580.633333	45.98	84.38	38.40	1000.0	1000.000	125.0	V	209.0	-2
2999.566667	44.53	84.38	39.85	1000.0	1000.000	358.0	H	21.0	-1
6825.533333	49.33	84.38	35.05	1000.0	1000.000	356.0	H	160.0	5
10893.233333	53.86	84.38	30.52	1000.0	1000.000	365.0	V	150.0	13
14594.466667	59.28	84.38	25.10	1000.0	1000.000	205.0	H	292.0	16
17790.500000	62.62	84.38	21.76	1000.0	1000.000	335.0	H	234.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	39.29	84.38	45.09	1000.0	1000.000	145.0	V	220.0	-9
1351.533333	42.84	84.38	41.54	1000.0	1000.000	142.0	V	216.0	-7
2580.633333	40.57	84.38	43.81	1000.0	1000.000	125.0	V	209.0	-2
2999.566667	28.58	84.38	55.80	1000.0	1000.000	358.0	H	21.0	-1
6825.533333	36.39	84.38	47.99	1000.0	1000.000	356.0	H	160.0	5
10893.233333	40.66	84.38	43.72	1000.0	1000.000	365.0	V	150.0	13
14594.466667	46.78	84.38	37.60	1000.0	1000.000	205.0	H	292.0	16
17790.500000	49.21	84.38	35.17	1000.0	1000.000	335.0	H	234.0	23

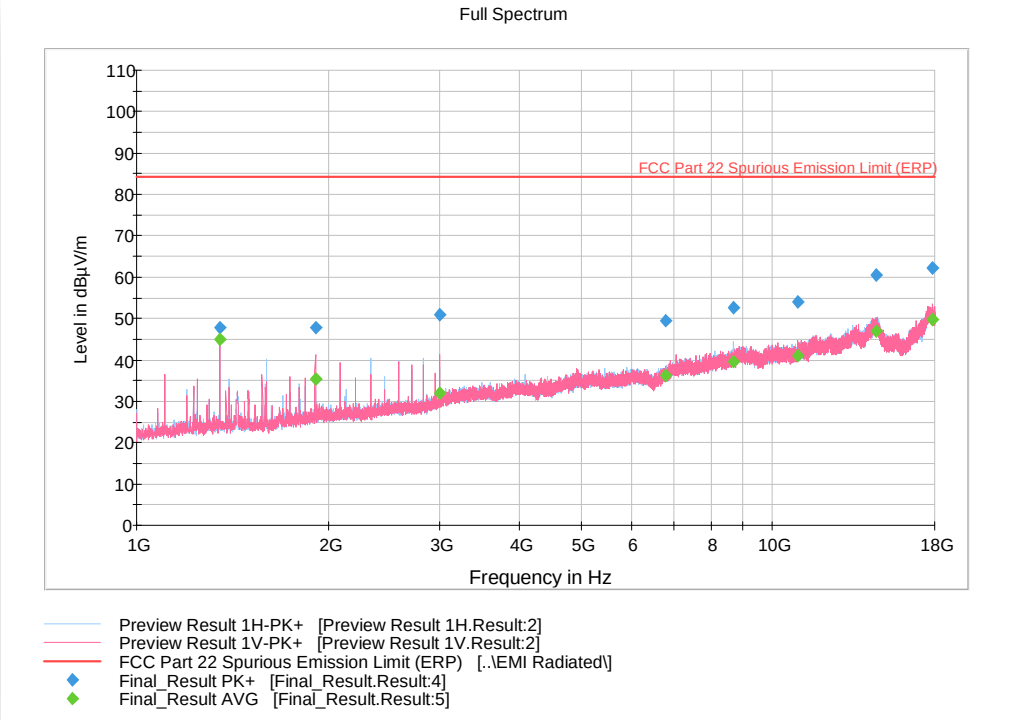
2.12.11 Test Results Below 1GHz (WCDMA Band 5 Uplink Worst Case Configuration) - 15MHz Bandwidth High Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
43.634333	37.14	84.38	47.24	1000.0	120.000	107.0	V	181.0	16
53.105667	35.91	84.38	48.47	1000.0	120.000	125.0	V	320.0	14
82.580000	28.64	84.38	55.74	1000.0	120.000	109.0	V	211.0	13
136.207333	29.24	84.38	55.14	1000.0	120.000	125.0	V	187.0	15
200.016333	40.90	84.38	43.48	1000.0	120.000	100.0	V	175.0	17
299.802333	36.96	84.38	47.42	1000.0	120.000	107.0	V	147.0	21
481.793667	39.15	84.38	45.23	1000.0	120.000	174.0	H	304.0	25
581.064667	37.08	84.38	47.30	1000.0	120.000	125.0	V	237.0	26
747.864000	36.67	84.38	47.71	1000.0	120.000	119.0	V	170.0	28
836.754000	48.95	84.38	35.43	1000.0	120.000	100.0	H	270.0	29

2.12.12 Test Results Above 1GHz (WCDMA Band 5 Uplink Worst Case Configuration) - 15MHz Bandwidth High Channel



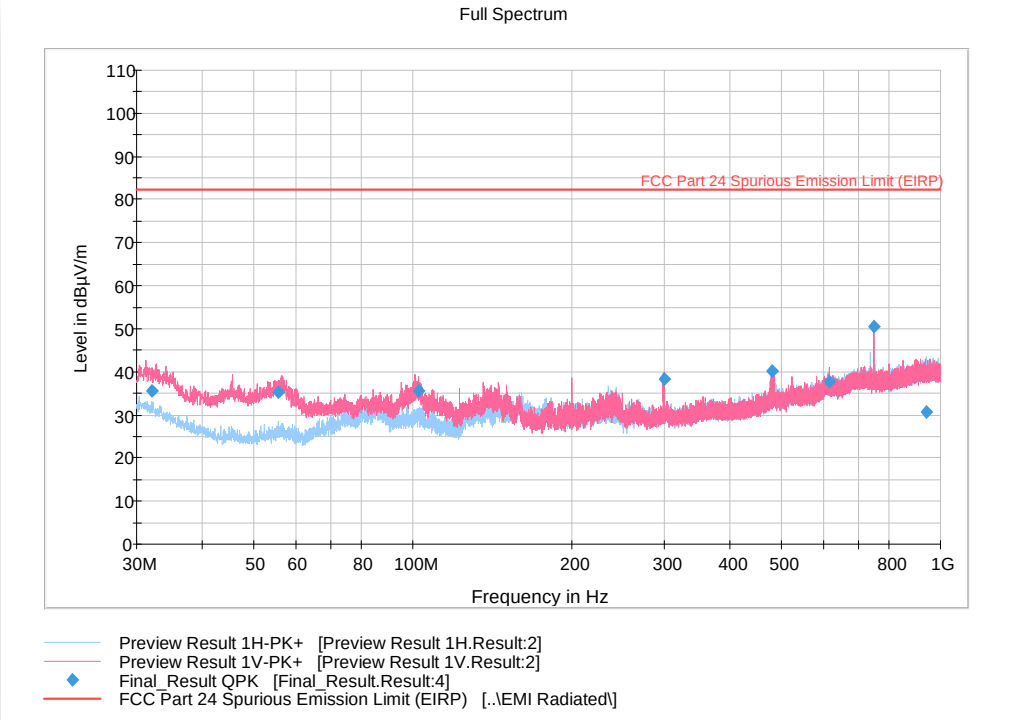
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1351.533333	47.91	84.38	36.47	1000.0	1000.000	355.0	H	91.0	-7
1909.533333	47.65	84.38	36.73	1000.0	1000.000	239.0	V	357.0	-4
2999.966667	51.02	84.38	33.36	1000.0	1000.000	125.0	V	29.0	-1
6802.666667	49.50	84.38	34.88	1000.0	1000.000	175.0	H	24.0	6
8684.900000	52.54	84.38	31.84	1000.0	1000.000	311.0	H	52.0	12
10974.133333	54.09	84.38	30.29	1000.0	1000.000	330.0	V	37.0	14
14548.400000	60.49	84.38	23.89	1000.0	1000.000	163.0	H	190.0	15
17829.900000	62.31	84.38	22.07	1000.0	1000.000	208.0	V	266.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1351.533333	45.08	84.38	39.30	1000.0	1000.000	355.0	H	91.0	-7
1909.533333	35.38	84.38	49.00	1000.0	1000.000	239.0	V	357.0	-4
2999.966667	32.05	84.38	52.33	1000.0	1000.000	125.0	V	29.0	-1
6802.666667	36.31	84.38	48.07	1000.0	1000.000	175.0	H	24.0	6
8684.900000	39.69	84.38	44.69	1000.0	1000.000	311.0	H	52.0	12
10974.133333	41.10	84.38	43.28	1000.0	1000.000	330.0	V	37.0	14
14548.400000	46.83	84.38	37.55	1000.0	1000.000	163.0	H	190.0	15
17829.900000	49.69	84.38	34.69	1000.0	1000.000	208.0	V	266.0	23

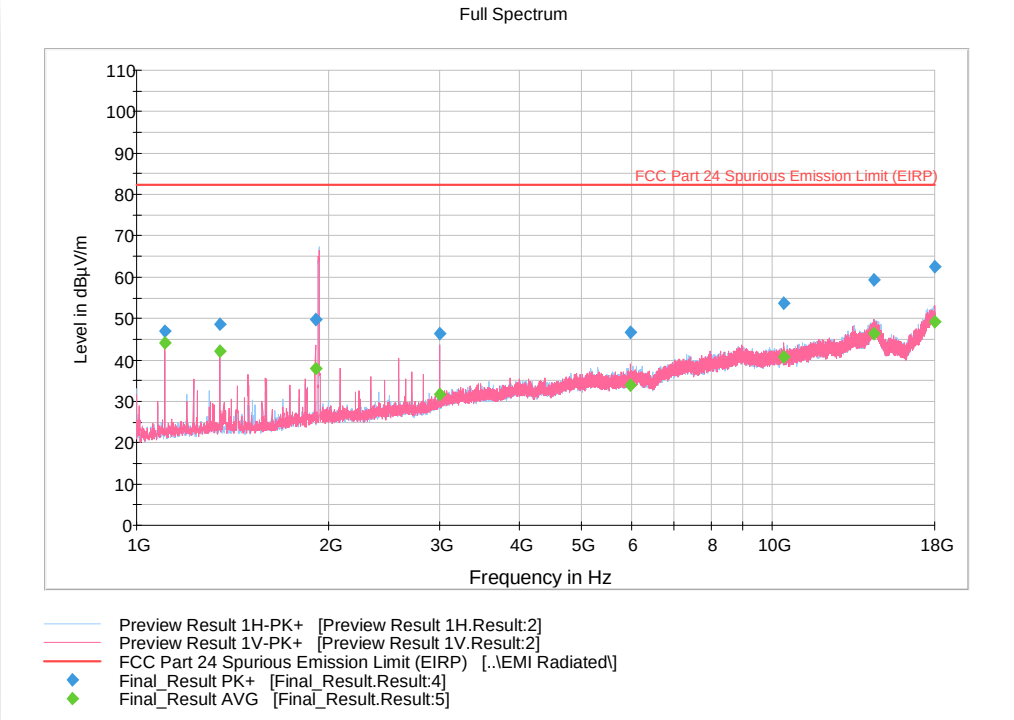
2.12.13 Test Results Below 1GHz (LTE Band 25 Downlink Worst Case Configuration) - 10MHz Bandwidth Lo Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
32.028667	35.55	82.23	46.68	1000.0	120.000	125.0	V	11.0	21
55.631667	35.31	82.23	46.92	1000.0	120.000	100.0	V	-15.0	14
102.655000	35.45	82.23	46.78	1000.0	120.000	120.0	V	111.0	16
299.829333	38.41	82.23	43.82	1000.0	120.000	107.0	V	175.0	21
480.015333	40.12	82.23	42.11	1000.0	120.000	174.0	H	244.0	25
614.385000	37.84	82.23	44.39	1000.0	120.000	100.0	V	341.0	27
747.024000	50.51	82.23	31.72	1000.0	120.000	114.0	V	201.0	28
941.721000	30.72	82.23	51.51	1000.0	120.000	285.0	H	102.0	31

2.12.14 Test Results Above 1GHz (LTE Band 25 Downlink Worst Case Configuration) - 10MHz Bandwidth Low Channel



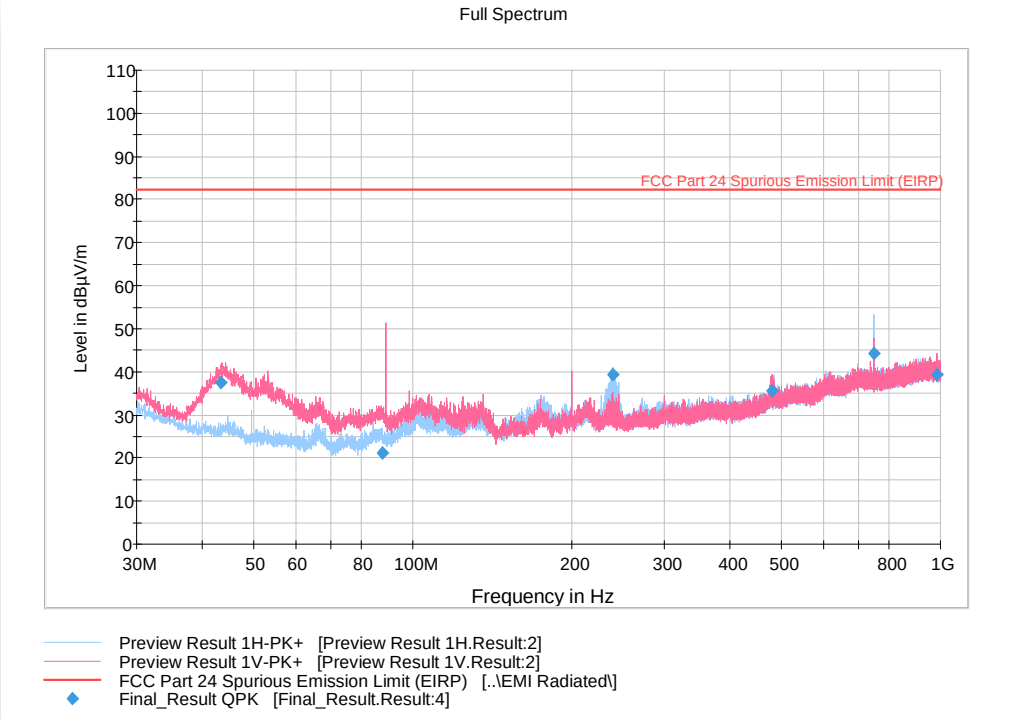
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	47.03	82.23	35.20	1000.0	1000.000	255.0	V	199.0	-9
1351.533333	48.68	82.23	33.55	1000.0	1000.000	227.0	V	197.0	-7
1909.533333	49.73	82.23	32.50	1000.0	1000.000	175.0	V	347.0	-4
2999.566667	46.51	82.23	35.72	1000.0	1000.000	289.0	H	33.0	-1
5988.233333	46.59	82.23	35.64	1000.0	1000.000	332.0	V	98.0	4
10436.600000	53.67	82.23	28.56	1000.0	1000.000	145.0	V	133.0	12
14426.133333	59.42	82.23	22.81	1000.0	1000.000	125.0	V	19.0	16
17979.200000	62.58	82.23	19.65	1000.0	1000.000	222.0	V	256.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	44.13	82.23	38.10	1000.0	1000.000	255.0	V	199.0	-9
1351.533333	42.22	82.23	40.01	1000.0	1000.000	227.0	V	197.0	-7
1909.533333	37.85	82.23	44.38	1000.0	1000.000	175.0	V	347.0	-4
2999.566667	31.66	82.23	50.57	1000.0	1000.000	289.0	H	33.0	-1
5988.233333	34.01	82.23	48.22	1000.0	1000.000	332.0	V	98.0	4
10436.600000	40.60	82.23	41.63	1000.0	1000.000	145.0	V	133.0	12
14426.133333	46.50	82.23	35.73	1000.0	1000.000	125.0	V	19.0	16
17979.200000	49.28	82.23	32.95	1000.0	1000.000	222.0	V	256.0	23

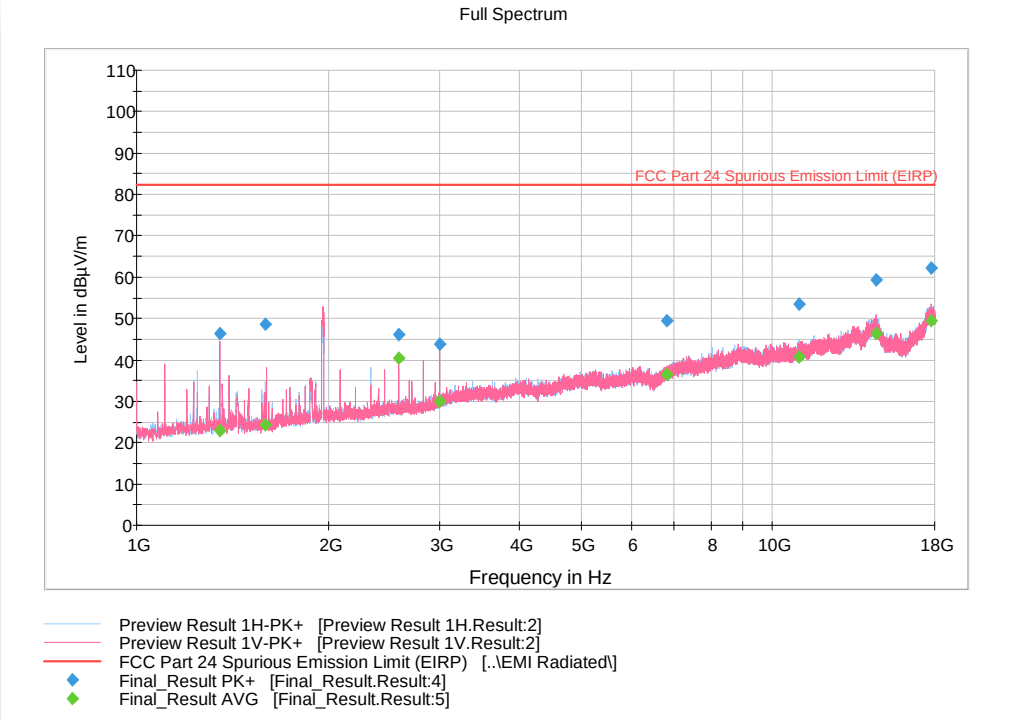
2.12.15 Test Results Below 1GHz (LTE Band 25 Uplink Worst Case Configuration) - 20MHz Bandwidth Middle Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
43.346667	37.48	82.23	44.75	1000.0	120.000	106.0	V	267.0	16
87.536000	21.17	82.23	61.06	1000.0	120.000	285.0	V	285.0	14
239.645000	39.28	82.23	42.95	1000.0	120.000	117.0	H	314.0	19
479.938667	35.62	82.23	46.61	1000.0	120.000	100.0	V	355.0	25
746.944000	44.15	82.23	38.08	1000.0	120.000	125.0	H	42.0	28
983.057333	39.46	82.23	42.77	1000.0	120.000	155.0	V	-1.0	30

2.12.16 Test Results Above 1GHz (LTE Band 25 Downlink Worst Case Configuration) - 20MHz Bandwidth Middle Channel



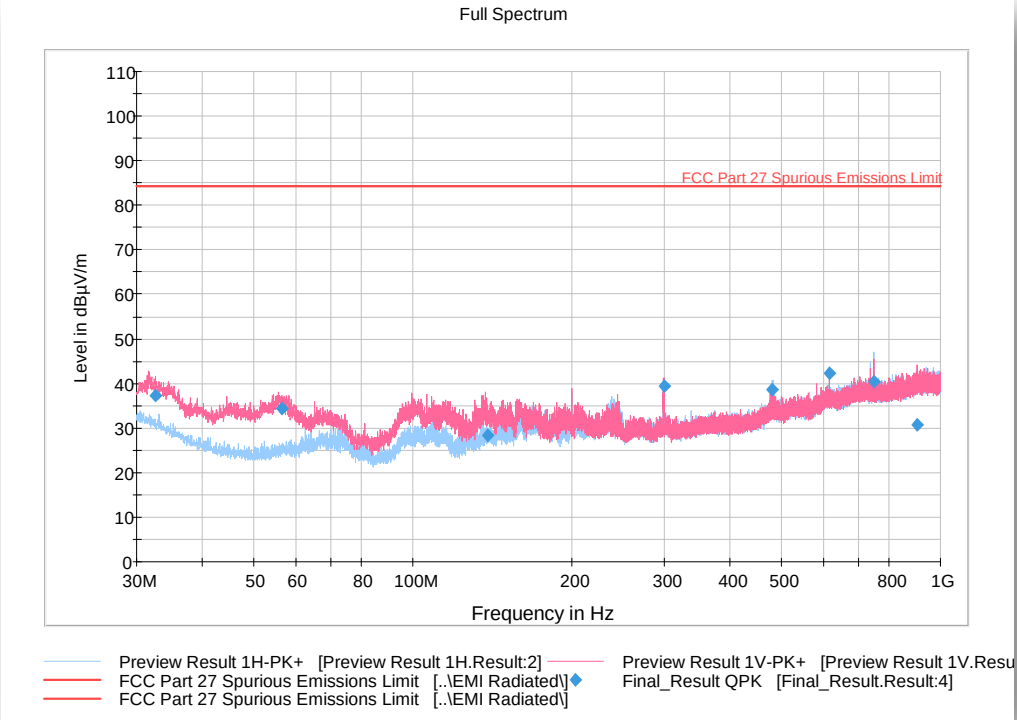
Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1349.133333	46.38	82.23	35.85	1000.0	1000.000	227.0	V	80.0	-7
1595.733333	48.60	82.23	33.63	1000.0	1000.000	175.0	V	10.0	-7
2580.633333	46.13	82.23	36.10	1000.0	1000.000	144.0	V	60.0	-2
2996.366667	43.93	82.23	38.30	1000.0	1000.000	237.0	V	330.0	-1
6811.733333	49.60	82.23	32.63	1000.0	1000.000	143.0	V	68.0	5
10991.133333	53.50	82.23	28.73	1000.0	1000.000	175.0	H	2.0	14
14584.266667	59.45	82.23	22.78	1000.0	1000.000	224.0	V	215.0	16
17768.500000	62.24	82.23	19.99	1000.0	1000.000	365.0	V	156.0	22

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1349.133333	22.94	82.23	59.29	1000.0	1000.000	227.0	V	80.0	-7
1595.733333	24.18	82.23	58.05	1000.0	1000.000	175.0	V	10.0	-7
2580.633333	40.45	82.23	41.78	1000.0	1000.000	144.0	V	60.0	-2
2996.366667	30.06	82.23	52.17	1000.0	1000.000	237.0	V	330.0	-1
6811.733333	36.46	82.23	45.77	1000.0	1000.000	143.0	V	68.0	5
10991.133333	40.61	82.23	41.62	1000.0	1000.000	175.0	H	2.0	14
14584.266667	46.35	82.23	35.88	1000.0	1000.000	224.0	V	215.0	16
17768.500000	49.46	82.23	32.77	1000.0	1000.000	365.0	V	156.0	22

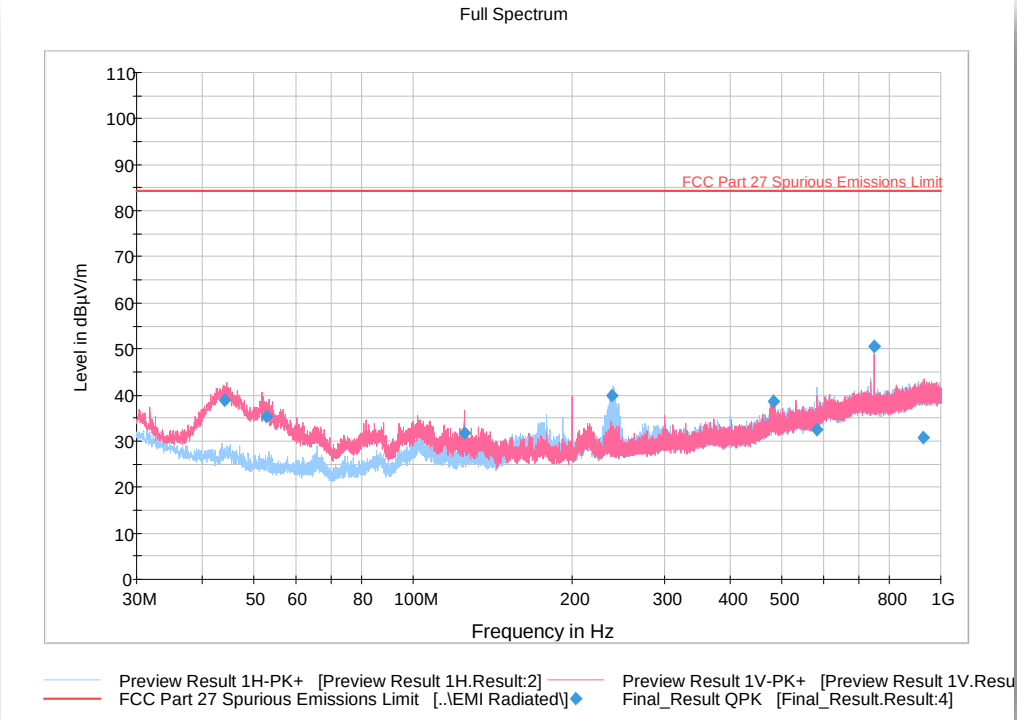
2.12.17 Test Results Below 1GHz (LTE Band 4 Downlink Worst Case Configuration) - 10MHz Bandwidth Low Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
32.536667	37.30	84.40	47.10	1000.0	120.000	125.0	V	267.0	21
56.400333	34.39	84.40	50.01	1000.0	120.000	100.0	V	318.0	14
138.666667	28.24	84.40	56.16	1000.0	120.000	107.0	V	207.0	15
299.814000	39.49	84.40	44.91	1000.0	120.000	100.0	V	158.0	21
479.974333	38.52	84.40	45.88	1000.0	120.000	171.0	H	266.0	25
614.385000	42.38	84.40	42.02	1000.0	120.000	100.0	H	155.0	27
746.984000	40.35	84.40	44.05	1000.0	120.000	125.0	H	197.0	28
903.667000	30.60	84.40	53.80	1000.0	120.000	109.0	V	20.0	31

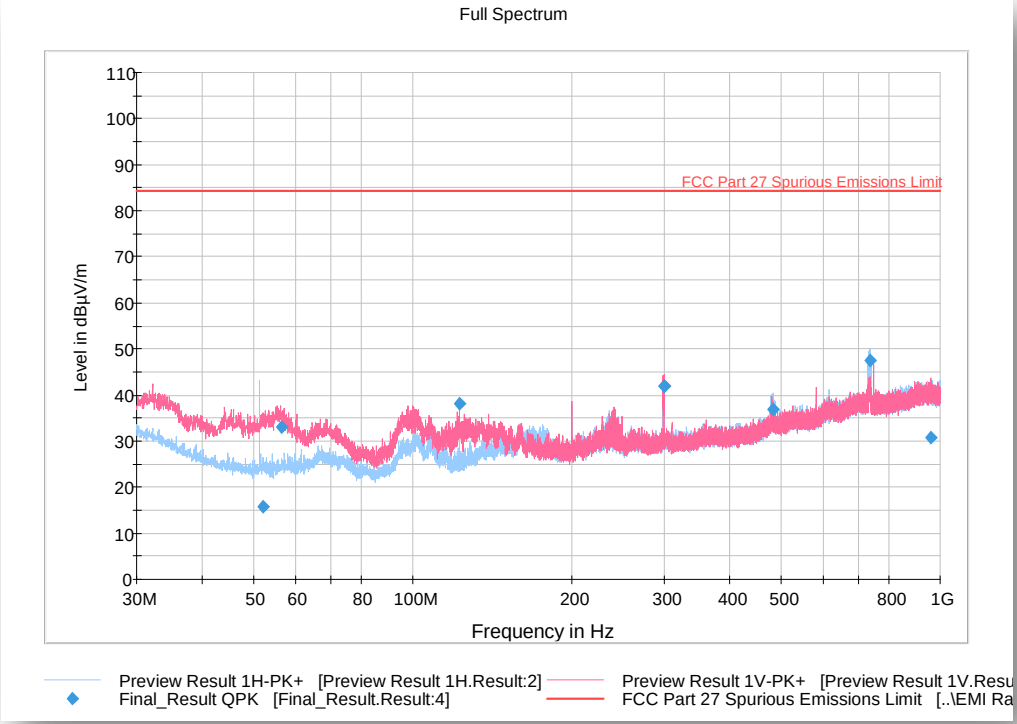
2.12.18 Test Results Below 1GHz (LTE Band 4 Uplink Worst Case Configuration) - 10MHz Bandwidth Middle Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
44.093000	38.82	84.40	45.58	1000.0	120.000	107.0	V	339.0	16
52.785333	35.42	84.40	48.98	1000.0	120.000	125.0	V	272.0	14
125.035333	31.86	84.40	52.54	1000.0	120.000	125.0	V	180.0	14
238.177000	39.81	84.40	44.59	1000.0	120.000	100.0	H	322.0	19
481.793667	38.52	84.40	45.88	1000.0	120.000	172.0	H	287.0	25
580.944667	32.50	84.40	51.90	1000.0	120.000	186.0	H	37.0	26
747.024000	50.66	84.40	33.74	1000.0	120.000	113.0	H	20.0	28
925.363333	30.85	84.40	53.55	1000.0	120.000	355.0	H	35.0	31

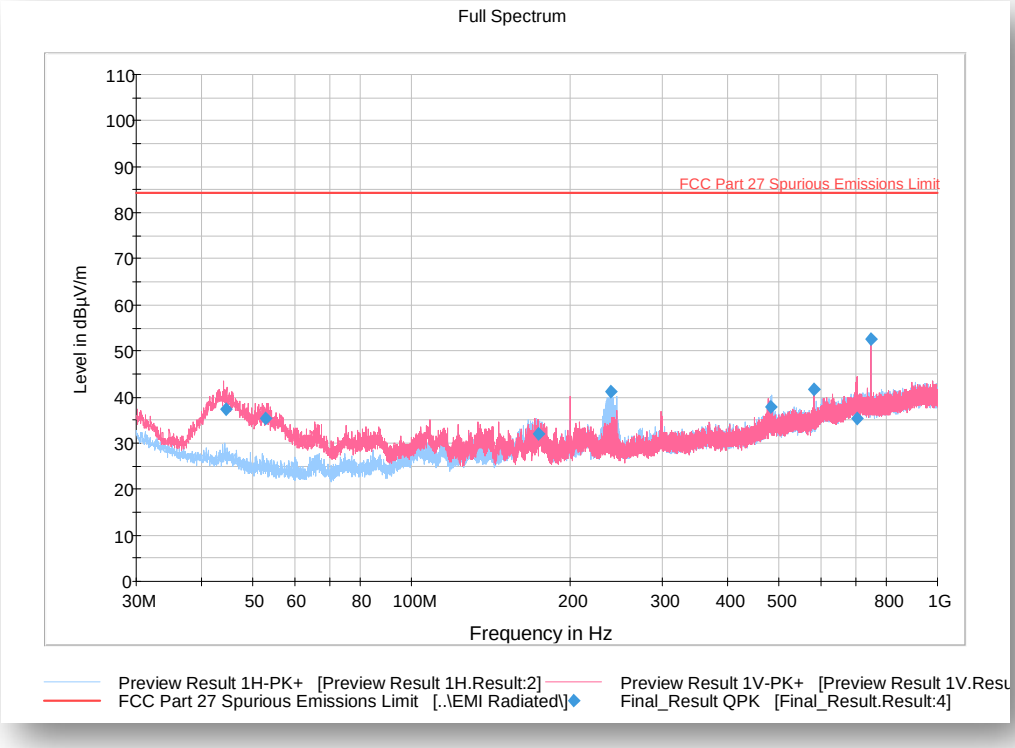
2.12.19 Test Results Below 1GHz (LTE Band 12 Downlink Worst Case Configuration) - 5MHz Bandwidth High Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
52.178333	15.76	84.40	68.64	1000.0	120.000	400.0	H	330.0	14
56.382333	32.95	84.40	51.45	1000.0	120.000	107.0	V	6.0	14
122.861333	38.20	84.40	46.20	1000.0	120.000	109.0	V	142.0	14
299.797000	41.90	84.40	42.50	1000.0	120.000	100.0	V	166.0	21
299.802333	41.91	84.40	42.49	1000.0	120.000	100.0	V	164.0	21
481.854000	36.79	84.40	47.61	1000.0	120.000	162.0	H	260.0	25
735.017333	47.46	84.40	36.94	1000.0	120.000	106.0	H	310.0	29
958.325667	30.82	84.40	53.58	1000.0	120.000	346.0	V	1.0	31

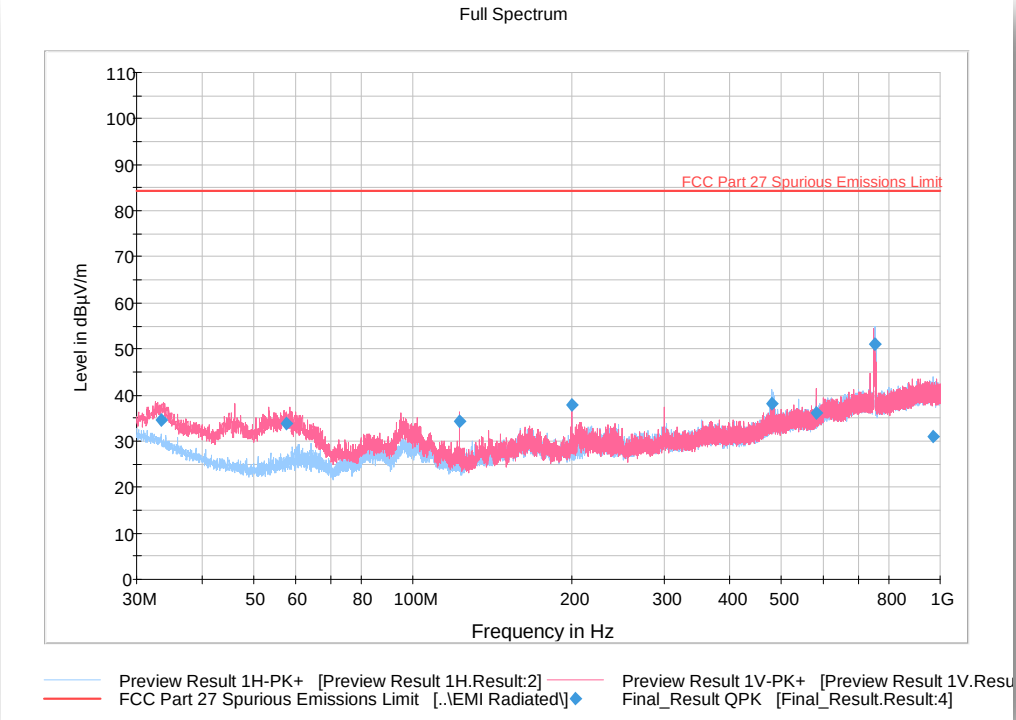
2.12.1 Test Results Below 1GHz (LTE Band 12 Uplink Worst Case Configuration) - 5MHz Bandwidth Middle Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
44.368000	37.28	84.38	47.10	1000.0	120.000	119.0	V	271.0	16
52.774333	35.34	84.38	49.04	1000.0	120.000	125.0	V	286.0	14
174.252000	32.01	84.38	52.37	1000.0	120.000	186.0	H	135.0	17
238.905667	41.04	84.38	43.34	1000.0	120.000	112.0	H	317.0	19
482.168667	37.96	84.38	46.42	1000.0	120.000	180.0	H	308.0	25
581.024667	41.64	84.38	42.74	1000.0	120.000	108.0	V	181.0	26
702.837333	35.29	84.38	49.09	1000.0	120.000	393.0	V	136.0	29
747.024000	52.49	84.38	31.89	1000.0	120.000	108.0	H	20.0	28

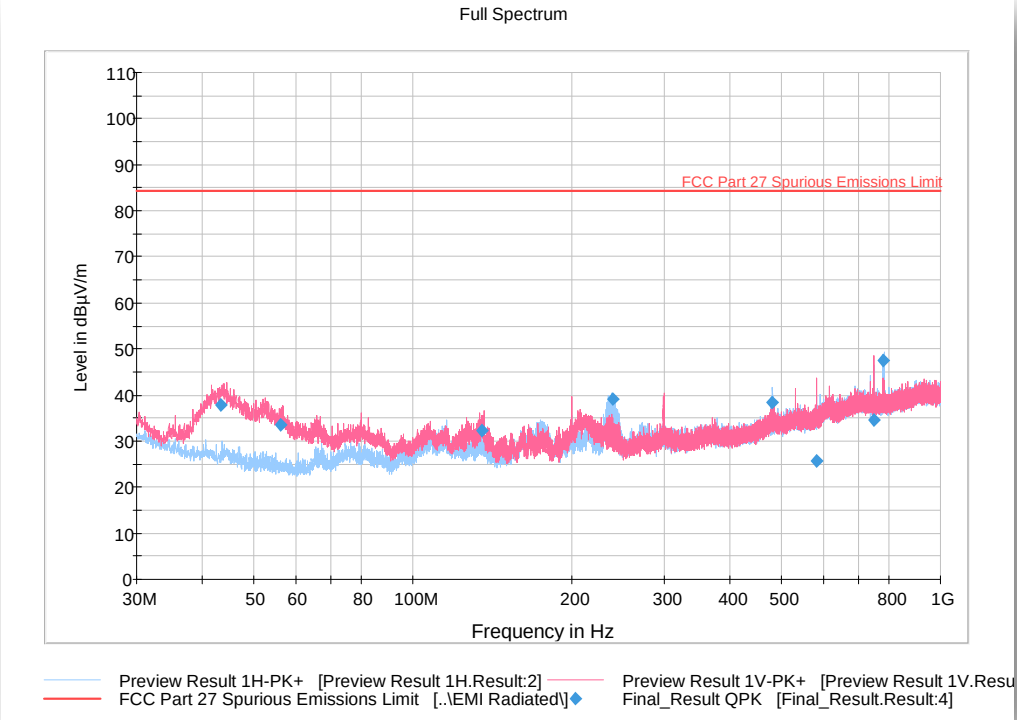
2.12.1 Test Results Below 1GHz (LTE Band 13 Downlink Worst Case Configuration) - 5MHz Bandwidth Mid Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.449667	34.60	84.40	49.80	1000.0	120.000	107.0	V	291.0	20
57.798000	33.69	84.40	50.71	1000.0	120.000	111.0	V	352.0	14
122.901333	34.26	84.40	50.14	1000.0	120.000	100.0	V	196.0	14
200.008667	37.93	84.40	46.47	1000.0	120.000	107.0	V	48.0	17
480.000333	38.17	84.40	46.23	1000.0	120.000	165.0	H	259.0	25
580.984667	36.13	84.40	48.27	1000.0	120.000	116.0	V	-10.0	26
750.564333	51.02	84.40	33.38	1000.0	120.000	107.0	H	90.0	28
967.581333	30.97	84.40	53.43	1000.0	120.000	253.0	H	257.0	31

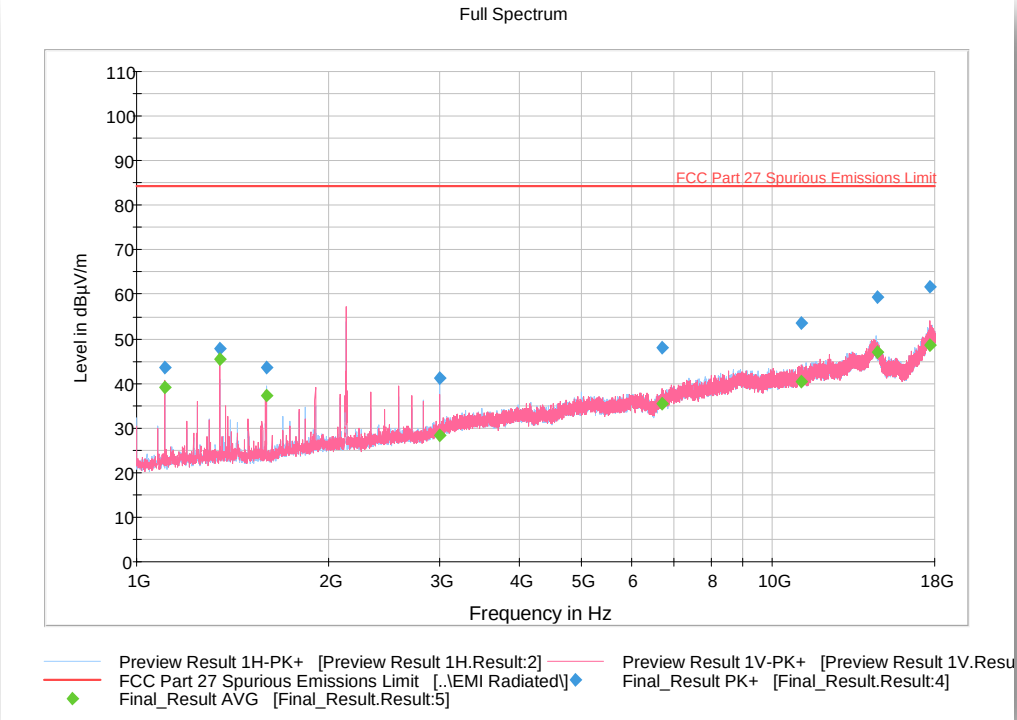
2.12.1 Test Results Below 1GHz (LTE Band 13 Uplink Worst Case Configuration) - 5MHz Bandwidth Middle Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
43.380667	37.85	84.40	46.55	1000.0	120.000	111.0	V	1.0	16
56.309000	33.43	84.40	50.97	1000.0	120.000	107.0	V	303.0	14
135.170667	32.30	84.40	52.10	1000.0	120.000	111.0	V	201.0	14
239.270000	39.19	84.40	45.21	1000.0	120.000	100.0	H	337.0	19
480.014333	38.37	84.40	46.03	1000.0	120.000	190.0	H	298.0	25
581.584667	25.62	84.40	58.78	1000.0	120.000	109.0	V	236.0	26
746.624000	34.60	84.40	49.80	1000.0	120.000	125.0	V	59.0	28
780.612333	47.41	84.40	36.99	1000.0	120.000	100.0	H	280.0	29

2.12.1 Test Results Above 1GHz (LTE Band 4 Downlink Worst Case Configuration) - 10MHz Bandwidth Low Channel



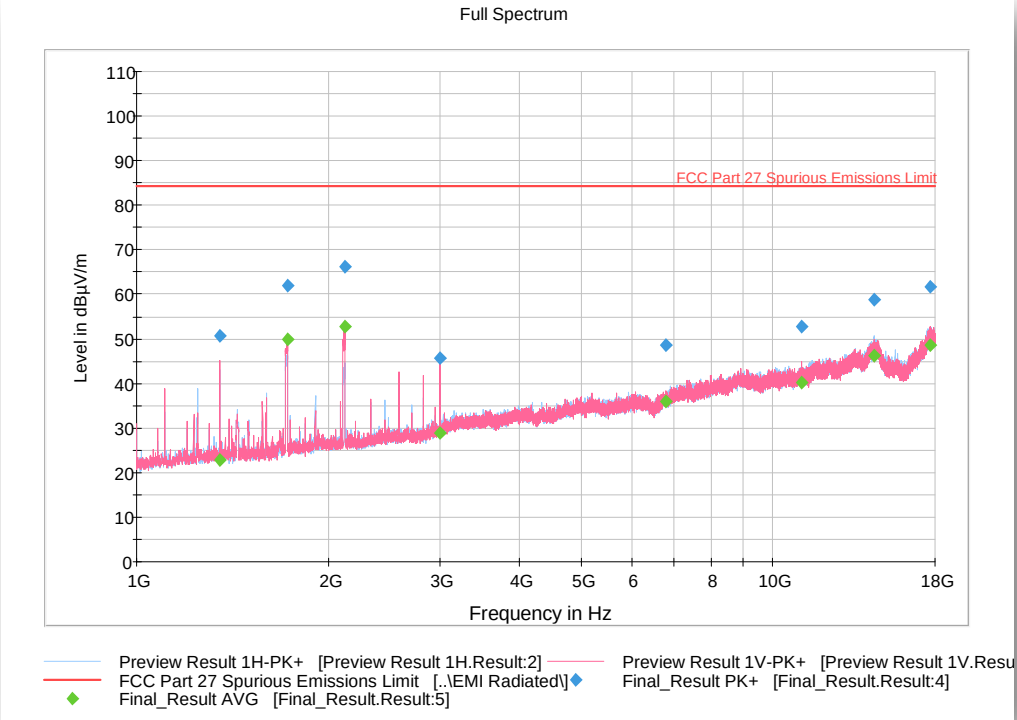
Peak Data

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	43.55	84.40	40.85	1000.0	1000.000	227.0	H	282.0	-9
1351.533333	47.76	84.40	36.64	1000.0	1000.000	141.0	V	210.0	-7
1600.133333	43.70	84.40	40.70	1000.0	1000.000	255.0	H	28.0	-7
2996.366667	41.13	84.40	43.27	1000.0	1000.000	125.0	H	350.0	-1
6692.400000	48.11	84.40	36.29	1000.0	1000.000	175.0	V	247.0	5
11105.26666	53.62	84.40	30.78	1000.0	1000.000	238.0	V	353.0	14
14595.76666	59.45	84.40	24.95	1000.0	1000.000	310.0	H	124.0	16
17719.40000	61.82	84.40	22.58	1000.0	1000.000	350.0	V	50.0	22

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	39.09	84.40	45.31	1000.0	1000.000	227.0	H	282.0	-9
1351.533333	45.36	84.40	39.04	1000.0	1000.000	141.0	V	210.0	-7
1600.133333	37.37	84.40	47.03	1000.0	1000.000	255.0	H	28.0	-7
2996.366667	28.32	84.40	56.08	1000.0	1000.000	125.0	H	350.0	-1
6692.400000	35.39	84.40	49.01	1000.0	1000.000	175.0	V	247.0	5
11105.26666	40.47	84.40	43.93	1000.0	1000.000	238.0	V	353.0	14
14595.76666	46.89	84.40	37.51	1000.0	1000.000	310.0	H	124.0	16
17719.40000	48.48	84.40	35.92	1000.0	1000.000	350.0	V	50.0	22

2.12.1 Test Results Above 1GHz (LTE Band 4 Uplink Worst Case Configuration) - 10MHz Bandwidth Middle Channel



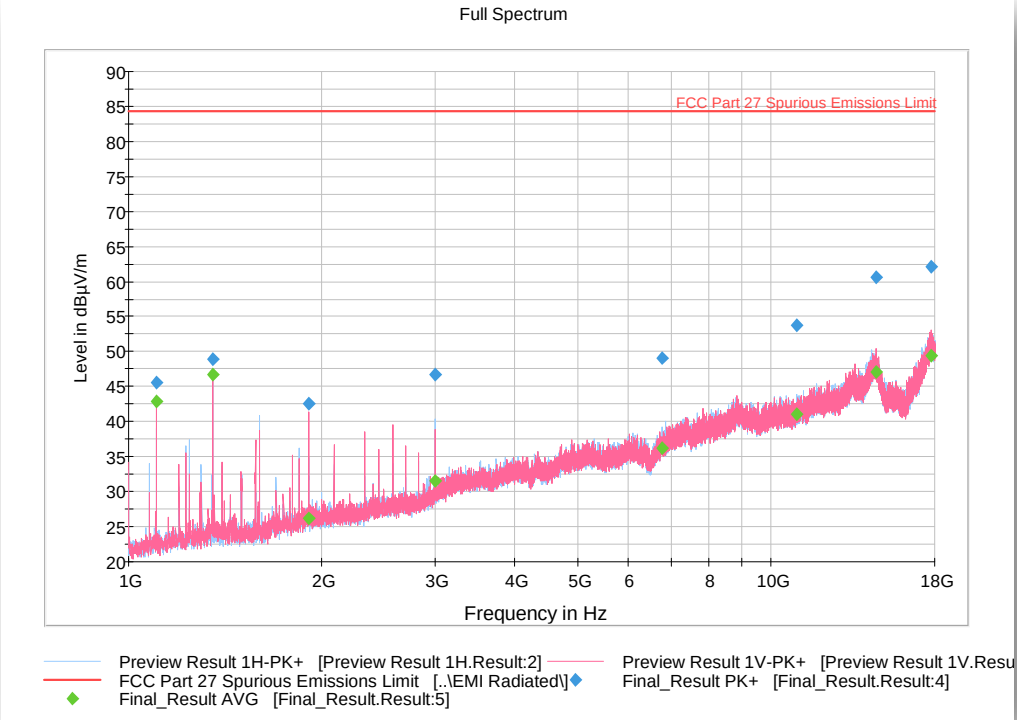
Peak Data

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1353.933333	50.71	84.40	33.69	1000.0	1000.000	175.0	V	32.0	-7
1726.533333	62.05	84.40	22.35	1000.0	1000.000	332.0	V	10.0	-5
2126.866667	66.07	84.40	18.33	1000.0	1000.000	332.0	V	96.0	-3
2999.566667	45.68	84.40	38.73	1000.0	1000.000	161.0	V	35.0	-1
6786.100000	48.70	84.40	35.70	1000.0	1000.000	306.0	V	185.0	5
11092.80000	52.79	84.40	31.61	1000.0	1000.000	309.0	V	313.0	14
14413.13333	58.71	84.40	25.69	1000.0	1000.000	359.0	H	256.0	15
17713.10000	61.71	84.40	22.69	1000.0	1000.000	365.0	V	244.0	22

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1353.933333	22.90	84.40	61.50	1000.0	1000.000	175.0	V	32.0	-7
1726.533333	49.86	84.40	34.54	1000.0	1000.000	332.0	V	10.0	-5
2126.866667	52.74	84.40	31.66	1000.0	1000.000	332.0	V	96.0	-3
2999.566667	28.79	84.40	55.61	1000.0	1000.000	161.0	V	35.0	-1
6786.100000	36.05	84.40	48.35	1000.0	1000.000	306.0	V	185.0	5
11092.80000	40.16	84.40	44.24	1000.0	1000.000	309.0	V	313.0	14
14413.13333	46.33	84.40	38.07	1000.0	1000.000	359.0	H	256.0	15
17713.10000	48.56	84.40	35.84	1000.0	1000.000	365.0	V	244.0	22

2.12.1 Test Results Above 1GHz (LTE Band 12 Downlink Worst Case Configuration) - 5MHz Bandwidth High Channel



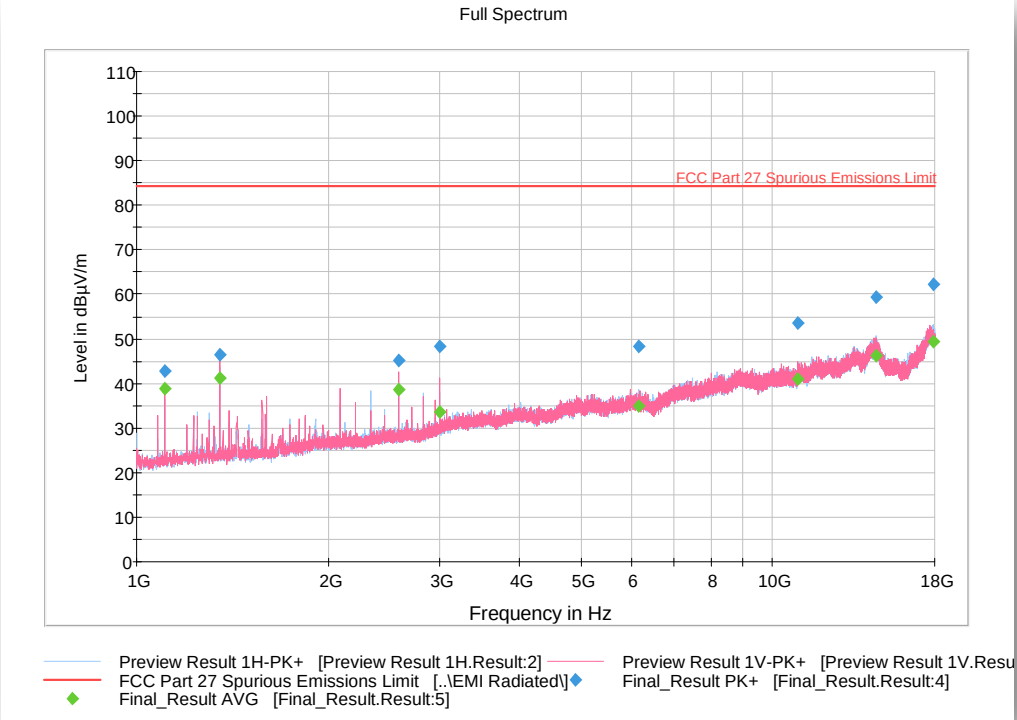
Peak Data

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	45.51	84.40	38.89	1000.0	1000.000	245.0	V	200.0	-9
1351.533333	48.85	84.40	35.55	1000.0	1000.000	238.0	V	203.0	-7
1909.133333	42.52	84.40	41.88	1000.0	1000.000	208.0	V	0.0	-4
2999.966667	46.80	84.40	37.60	1000.0	1000.000	231.0	H	80.0	-1
6780.166667	49.07	84.40	35.33	1000.0	1000.000	356.0	H	298.0	5
10962.63333	53.70	84.40	30.70	1000.0	1000.000	301.0	H	293.0	14
14575.83333	60.60	84.40	23.80	1000.0	1000.000	221.0	V	332.0	16
17796.93333	62.13	84.40	22.27	1000.0	1000.000	142.0	V	141.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	42.92	84.40	41.48	1000.0	1000.000	245.0	V	200.0	-9
1351.533333	46.75	84.40	37.65	1000.0	1000.000	238.0	V	203.0	-7
1909.133333	26.21	84.40	58.19	1000.0	1000.000	208.0	V	0.0	-4
2999.966667	31.59	84.40	52.81	1000.0	1000.000	231.0	H	80.0	-1
6780.166667	36.12	84.40	48.28	1000.0	1000.000	356.0	H	298.0	5
10962.63333	41.05	84.40	43.35	1000.0	1000.000	301.0	H	293.0	14
14575.83333	47.10	84.40	37.30	1000.0	1000.000	221.0	V	332.0	16
17796.93333	49.38	84.40	35.02	1000.0	1000.000	142.0	V	141.0	23

2.12.1 Test Results Above 1GHz (LTE Band 12 Uplink Worst Case Configuration) - 5MHz Bandwidth Mid Channel



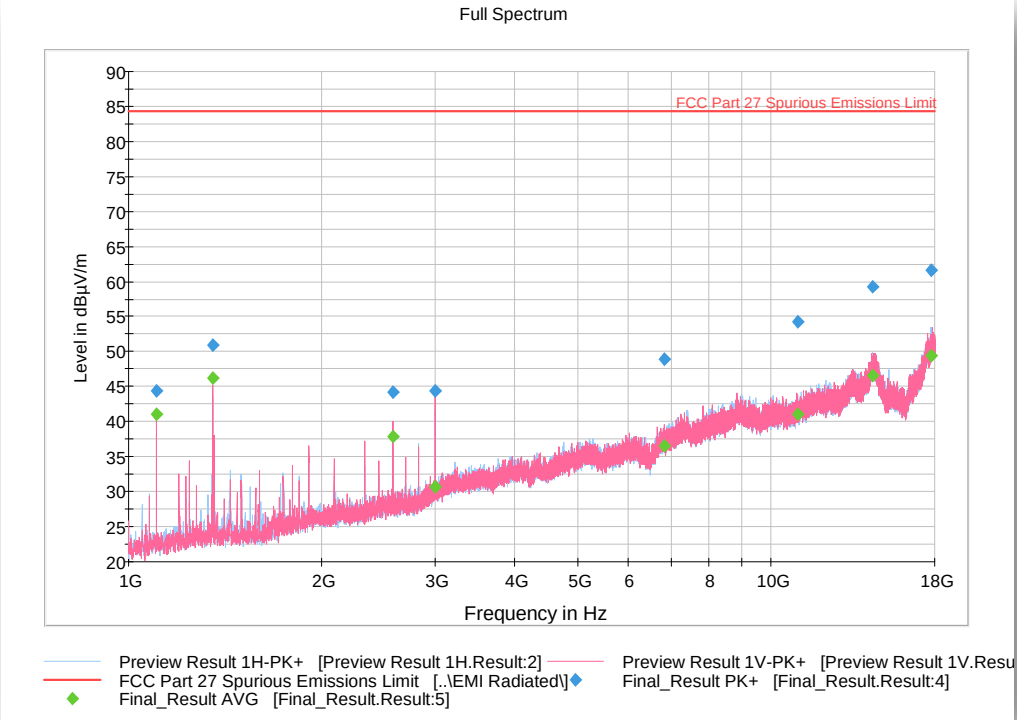
Peak Data

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	42.79	84.40	41.61	1000.0	1000.000	205.0	V	35.0	-9
1351.933333	46.52	84.40	37.88	1000.0	1000.000	146.0	V	73.0	-7
2580.633333	45.22	84.40	39.18	1000.0	1000.000	127.0	V	60.0	-2
2999.966667	48.40	84.40	36.00	1000.0	1000.000	175.0	V	305.0	-1
6155.833333	48.25	84.40	36.15	1000.0	1000.000	175.0	H	52.0	4
10957.20000	53.62	84.40	30.78	1000.0	1000.000	285.0	V	211.0	14
14570.66666	59.33	84.40	25.07	1000.0	1000.000	125.0	H	303.0	16
17950.43333	62.15	84.40	22.25	1000.0	1000.000	125.0	H	15.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	38.90	84.40	45.50	1000.0	1000.000	205.0	V	35.0	-9
1351.933333	41.11	84.40	43.29	1000.0	1000.000	146.0	V	73.0	-7
2580.633333	38.53	84.40	45.87	1000.0	1000.000	127.0	V	60.0	-2
2999.966667	33.68	84.40	50.72	1000.0	1000.000	175.0	V	305.0	-1
6155.833333	35.00	84.40	49.40	1000.0	1000.000	175.0	H	52.0	4
10957.20000	40.88	84.40	43.52	1000.0	1000.000	285.0	V	211.0	14
14570.66666	46.12	84.40	38.28	1000.0	1000.000	125.0	H	303.0	16
17950.43333	49.28	84.40	35.12	1000.0	1000.000	125.0	H	15.0	23

2.12.1 Test Results Above 1GHz (LTE Band 13 Downlink Worst Case Configuration) - 5MHz Bandwidth Mid Channel



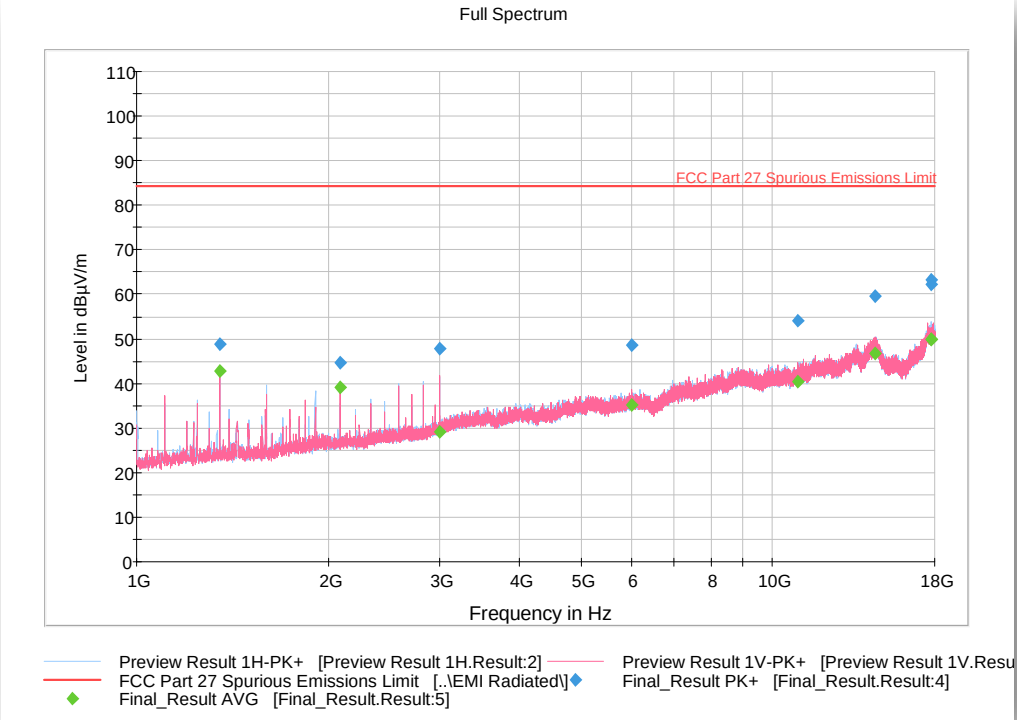
Peak Data

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	44.43	84.40	39.97	1000.0	1000.000	222.0	V	209.0	-9
1351.533333	50.95	84.40	33.45	1000.0	1000.000	164.0	V	204.0	-7
2580.633333	44.27	84.40	40.13	1000.0	1000.000	175.0	V	212.0	-2
2999.566667	44.42	84.40	39.98	1000.0	1000.000	320.0	V	27.0	-1
6822.233333	48.88	84.40	35.52	1000.0	1000.000	141.0	V	88.0	5
10996.20000	54.17	84.40	30.23	1000.0	1000.000	175.0	V	136.0	14
14420.06666	59.27	84.40	25.13	1000.0	1000.000	125.0	H	130.0	15
17786.03333	61.68	84.40	22.72	1000.0	1000.000	352.0	H	247.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	41.07	84.40	43.33	1000.0	1000.000	222.0	V	209.0	-9
1351.533333	46.21	84.40	38.19	1000.0	1000.000	164.0	V	204.0	-7
2580.633333	37.90	84.40	46.50	1000.0	1000.000	175.0	V	212.0	-2
2999.566667	30.74	84.40	53.66	1000.0	1000.000	320.0	V	27.0	-1
6822.233333	36.54	84.40	47.86	1000.0	1000.000	141.0	V	88.0	5
10996.20000	41.12	84.40	43.28	1000.0	1000.000	175.0	V	136.0	14
14420.06666	46.52	84.40	37.88	1000.0	1000.000	125.0	H	130.0	15
17786.03333	49.33	84.40	35.07	1000.0	1000.000	352.0	H	247.0	23

2.12.1 Test Results Above 1GHz (LTE Band 13 Uplink Worst Case Configuration) - 10MHz Bandwidth Mid Channel



Peak Data

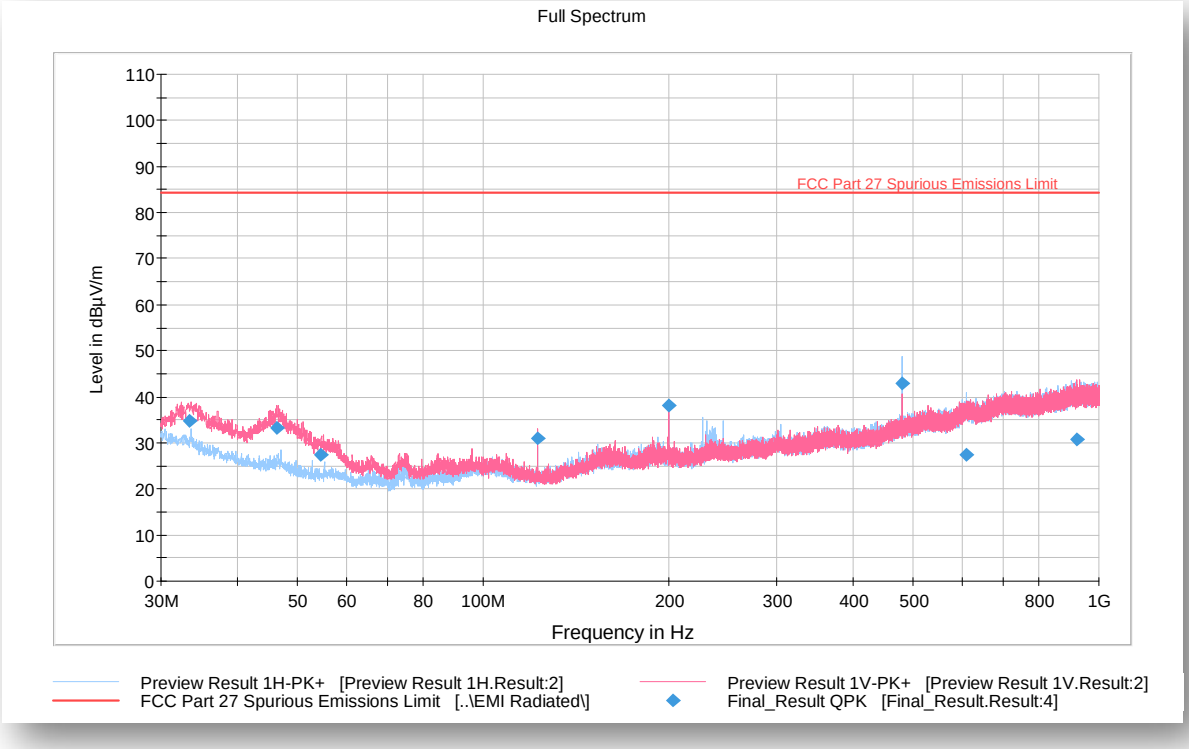
Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1351.533333	48.86	84.40	35.54	1000.0	1000.000	175.0	V	86.0	-7
2089.166667	44.73	84.40	39.67	1000.0	1000.000	175.0	V	53.0	-4
2999.966667	47.71	84.40	36.69	1000.0	1000.000	302.0	V	356.0	-1
6004.866667	48.44	84.40	35.96	1000.0	1000.000	365.0	V	158.0	4
10943.16666	54.15	84.40	30.25	1000.0	1000.000	365.0	V	270.0	14
14527.03333	59.49	84.40	24.91	1000.0	1000.000	255.0	H	17.0	16
17807.86666	62.32	84.40	22.08	1000.0	1000.000	365.0	H	62.0	23
17809.86666	63.25	84.40	21.15	1000.0	1000.000	319.0	H	80.0	23

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1351.533333	42.84	84.40	41.56	1000.0	1000.000	175.0	V	86.0	-7
2089.166667	39.13	84.40	45.27	1000.0	1000.000	175.0	V	53.0	-4
2999.966667	29.27	84.40	55.13	1000.0	1000.000	302.0	V	356.0	-1
6004.866667	35.23	84.40	49.17	1000.0	1000.000	365.0	V	158.0	4
10943.16666	40.48	84.40	43.92	1000.0	1000.000	365.0	V	270.0	14
14527.03333	46.83	84.40	37.57	1000.0	1000.000	255.0	H	17.0	16
17807.86666	49.88	84.40	34.52	1000.0	1000.000	365.0	H	62.0	23
17809.86666	49.87	84.40	34.53	1000.0	1000.000	319.0	H	80.0	23

2.12.2 Intermodulation Test Results Below 1GHz (2 Bands per port on 4 NU ports Uplink Worst Case Configuration)

WCDMA Band 5 5MHz BW Mid Ch & LTE Band 12 5MHz BW Mid Ch transmit on NU port A
LTE Band 25 10MHz BW Low Ch & LTE Band 71 10MHz BW High Ch transmit on NU Port B
LTE Band 25 10MHz BW Low Ch & LTE Band 4 10MHz BW Mid Ch transmit on NU Port C
LTE Band 48 on NU Port D
LTE Modem transmit LTE Band 2 Middle Channel

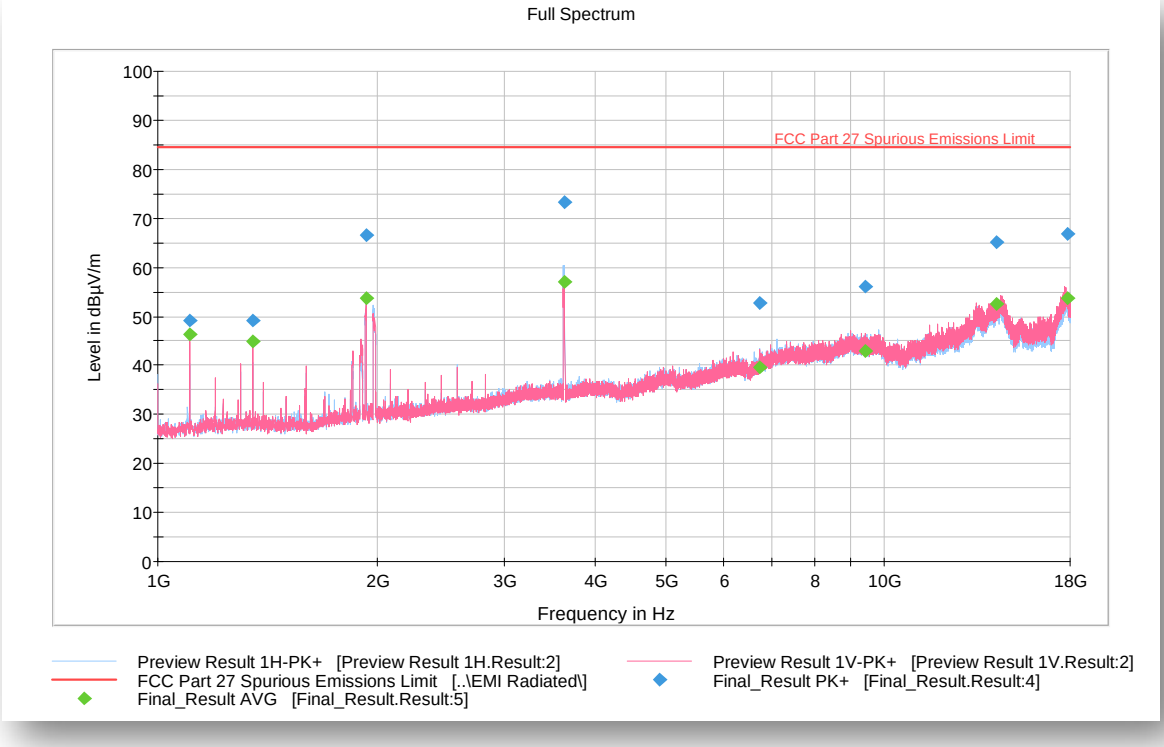


Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.356667	34.71	84.40	49.69	1000.0	120.000	107.0	V	285.0	20
46.191333	33.37	84.40	51.03	1000.0	120.000	111.0	V	178.0	15
54.546000	27.53	84.40	56.87	1000.0	120.000	125.0	V	-20.0	14
122.861333	31.07	84.40	53.33	1000.0	120.000	100.0	V	179.0	14
200.008667	38.19	84.40	46.21	1000.0	120.000	100.0	V	198.0	17
479.983000	42.95	84.40	41.45	1000.0	120.000	205.0	H	296.0	25
609.659333	27.54	84.40	56.86	1000.0	120.000	354.0	H	348.0	27
921.007333	30.82	84.40	53.58	1000.0	120.000	246.0	V	98.0	31

2.12.3 Intermodulation Test Results Above 1GHz (2 Bands per port on 4 NU ports Uplink Worst Case Configuration)

WCDMA Band 5 5MHz BW Mid Ch & LTE Band 12 5MHz BW Mid Ch transmit on NU port A
LTE Band 25 10MHz BW Low Ch & LTE Band 71 10MHz BW High Ch transmit on NU Port B
LTE Band 25 10MHz BW Low Ch & LTE Band 4 10MHz BW Mid Ch transmit on NU Port C
LTE Band 48 on NU Port D
LTE Modem transmit LTE Band 2 Middle Channel



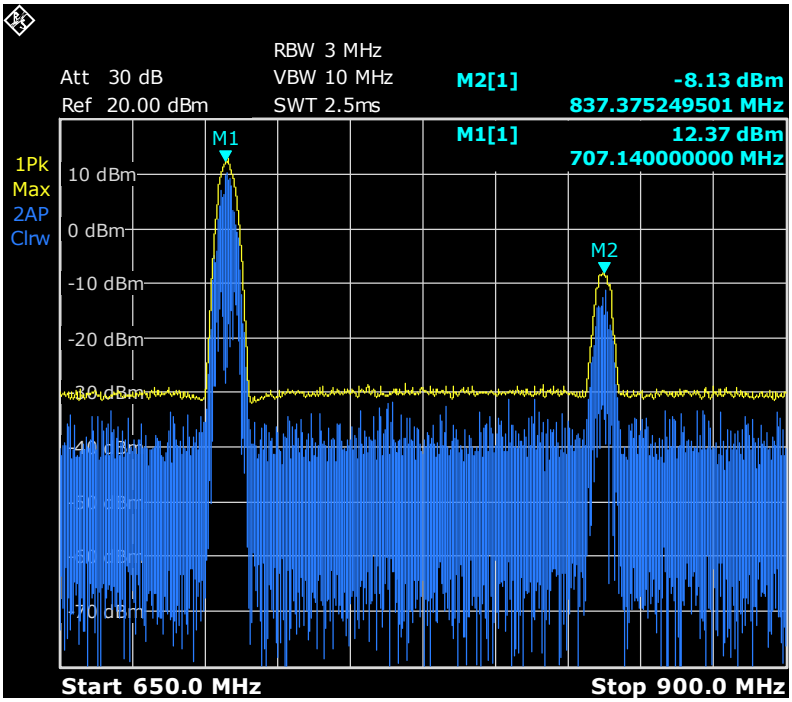
Peak Data

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	49.14	84.40	35.26	1000.0	1000.000	255.0	V	62.0	-4
1351.533333	49.06	84.40	35.34	1000.0	1000.000	340.0	V	45.0	-3
1936.633333	66.47	84.40	17.93	1000.0	1000.000	340.0	H	355.0	0
3630.000000	73.28	84.40	11.12	1000.0	1000.000	303.0	H	38.0	4
6739.066667	52.67	84.40	31.73	1000.0	1000.000	335.0	H	330.0	9
9425.333333	56.14	84.40	28.26	1000.0	1000.000	335.0	V	10.0	13
14248.00000	65.15	84.40	19.25	1000.0	1000.000	240.0	V	292.0	21
17835.63333	66.74	84.40	17.66	1000.0	1000.000	172.0	V	14.0	27

Average Data

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1106.000000	46.40	84.40	38.00	1000.0	1000.000	255.0	V	62.0	-4
1351.533333	44.94	84.40	39.46	1000.0	1000.000	340.0	V	45.0	-3
1936.633333	53.62	84.40	30.78	1000.0	1000.000	340.0	H	355.0	0
3630.000000	56.96	84.40	27.44	1000.0	1000.000	303.0	H	38.0	4
6739.066667	39.69	84.40	44.71	1000.0	1000.000	335.0	H	330.0	9
9425.333333	43.04	84.40	41.36	1000.0	1000.000	335.0	V	10.0	13
14248.00000	52.39	84.40	32.01	1000.0	1000.000	240.0	V	292.0	21
17835.63333	53.73	84.40	30.67	1000.0	1000.000	172.0	V	14.0	27

2.12.4 Intermodulation verification plots (antenna port measurements)



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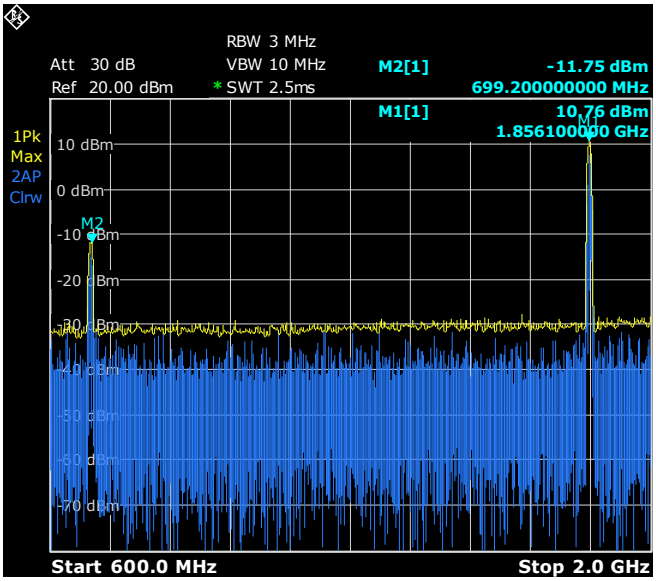
NU Port A



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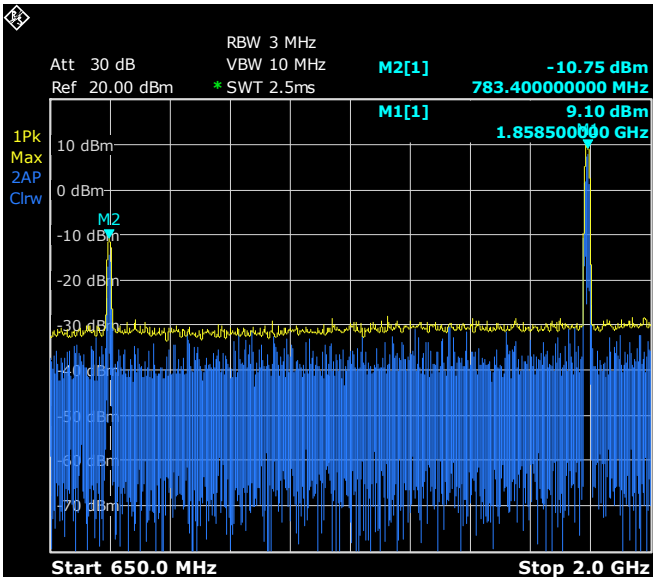
NU Port B



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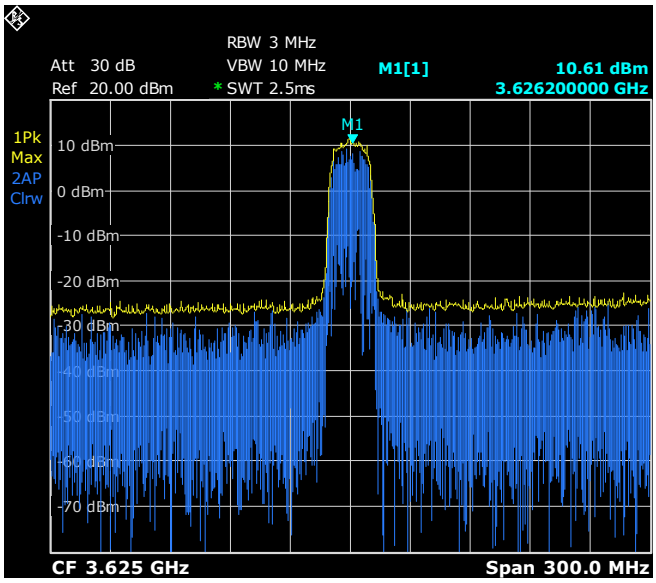
NU Port C



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NU Port D

2.13 Out Of Band Gain Limit

2.13.1 Specification Reference

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(E)
KDB935210 D04, Clause 7.15

2.13.2 Standard Applicable

FCC 47 CFR Part 20. Clause 20.21(e)(9)(i)(E) Out of Band Gain Limits:

(1) A frequency selective booster shall have the following minimum attenuation referenced to the gain in the center of the pass band of the booster:

(i) -20 dB at the band edge, where band edge is the end of the licensee's allocated spectrum,
(ii) -30 dB at 1 MHz offset from band edge,
(iii) -40 dB at 5 MHz offset from band edge.

(2) A frequency selective booster having maximum gain greater than 80 dB (referenced to the center of the pass band) shall limit the out of band gain to 60 dB at 0.2 MHz offset from the band edge, and 45 dB at 1 MHz offset from the band edge, where band edge is the end of the licensee's allocated spectrum.

2.13.3 Equipment Under Test and Modification State

Serial No: 370920000139 (NU)and 371929000156 (CU) / Test Configuration C and D

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

August 14 to September 06, and October 27, 2019/XYZ

2.13.5 Test Equipment Used

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

2.13.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Mira Mesa facility.

Ambient Temperature	25.8 - 26.4°C
Relative Humidity	31.1 - 53.7%
ATM Pressure	98.5 - 99.1kPa

2.13.7 Additional Observations

- This is conducted Test. Test procedure is per Section 7.15 of KDB935210 (D04 Provider Specific Booster Measurements v02r03). Appropriate offset (line losses) applied.
- Downlink was tested according to 7.15.1 of KDB935210. The signal generator was set to transmit a CW signal with output power level set to that as determined in clause 7.2.2 of KDB935210.

- Uplink which has narrowband protection function was tested according to 7.15.2 of KDB93521. One signal generator produced a band-limited AWGN signal with an OBW (99%) of 4.1 MHz with output power level set to that as determined in clause 7.2.2 of KDB935210. A second signal generator produced a band-limited AWGN signal with an OBW (99%) of 200 kHz with output power level set to a level that is 20 dB higher than the level determined from 7.2.2 of KDB935210.
- The EUT operated in Test Mode with the gain set to the maximum gain and a minimum bandwidth setting (5MHz).
- Setup the EUT according to Figure 2 or 3 of Section 6.3.3 of KDB935210 D04 as appropriate.
- Evaluations are conducted at CU and NU antenna ports.
- Operational uplink and downlink bands for WCDMA Band 5 and LTE Band 4, 12, 13, 25 were tested.

2.13.8 Test Results

Out of Band Gain Limit – WCDMA Band 5 Downlink (869 – 894 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-82.16	10.45	92.61	-
0 (Low Band Edge)	-82.40	-65.03	17.37	72.61
-0.2	-82.52	-64.58	17.94	60
-1	-82.11	-64.27	17.84	45
-5	-82.25	-62.98	19.27	52.61
0 (High Band Edge)	-82.47	-65.53	16.94	72.61
+0.2	-82.04	-64.68	17.36	60
+1	-82.39	-64.32	18.07	45
+5	-82.17	-65.48	16.69	52.61

Out of Band Gain Limit - WCDMA Band 5 Uplink (824 – 849 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-76.69	17.01	93.70	-
0 (Low Band Edge)	-72.16	-64.02	8.14	73.70
-0.2	-71.52	-64.66	6.86	60
-1	-70.76	-66.21	4.55	45
-5	-71.93	-64.56	7.37	53.70
0 (High Band Edge)	-70.62	-65.73	4.89	73.70
+0.2	-70.92	-65.80	5.12	60
+1	-70.59	-65.04	5.55	45
+5	-69.37	-63.25	6.12	53.70

Out of Band Gain Limit – LTE Band 4 Downlink (2110 – 2155 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-85.30	10.87	96.17	-
0 (Low Band Edge)	-85.71	-46.81	38.90	76.17
-0.2	-84.72	-72.23	12.49	60
-1	-85.24	-70.78	14.46	45
-5	-85.74	-70.71	15.03	56.17
0 (High Band Edge)	-85.78	-70.13	15.65	76.17
+0.2	-85.62	-71.91	13.71	60
+1	-86.16	-71.81	14.35	45
+5	-85.39	-71.15	14.24	56.17

Out of Band Gain Limit - LTE Band 4 Uplink (1710 – 1755 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-75.09	19.04	94.13	-
0 (Low Band Edge)	-69.63	-65.17	4.46	74.13
-0.2	-69.22	-65.53	3.69	60
-1	-69.88	-63.44	6.44	45
-5	-68.76	-65.53	3.23	54.13
0 (High Band Edge)	-69.24	-64.95	4.29	74.13
+0.2	-69.54	-65.35	4.19	60
+1	-69.23	-64.61	4.62	45
+5	-68.36	-64.01	4.35	74.13

Out of Band Gain Limit – LTE Band 12 Downlink (729 – 746MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-82.47	7.56	90.03	-
0 (Low Band Edge)	-82.75	-69.45	13.30	70.03
-0.2	-82.27	-68.46	13.81	60
-1	-82.66	-69.35	13.31	45
-5	-83.26	-69.58	13.68	50.03
0 (High Band Edge)	-82.91	-68.27	14.64	70.03
+0.2	-83.22	-69.79	13.43	60
+1	-82.77	-60.55	22.22	45
+5	-82.66	-60.34	22.32	50.03

Out of Band Gain Limit - LTE Band 12 Uplink (699 – 716MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-74.81	19.38	90.98	-
0 (Low Band Edge)	-72.37	-70.58	7.2	70.98
-0.2	-72.41	-68.72	6.88	60
-1	-72.15	-70.25	8.71	45
-5	-71.86	-70.46	6.33	50.98
0 (High Band Edge)	-72.89	-70.23	7.94	70.98
+0.2	-72.52	-70.50	7.17	60
+1	-72.10	-70.36	7.49	45
+5	-72.11	-69.87	8.1	50.98

Out of Band Gain Limit – LTE Band 13 Downlink (746 – 756MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-82.20	10.28	92.48	-
0 (Low Band Edge)	-82.47	-55.59	26.88	72.48
-0.2	-82.23	-57.36	24.87	60
-1	-82.19	-60.32	21.87	45
-5	-82.01	-71.79	10.22	52.48
0 (High Band Edge)	-81.95	-59.67	22.28	72.48
+0.2	-82.34	-58.89	23.45	60
+1	-82.78	-62.81	19.97	45
+5	-82.25	-74.60	7.65	52.48

Out of Band Gain Limit – LTE Band 13 Uplink (777 – 787 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-73.65	13.61	87.26	-
0 (Low Band Edge)	-71.27	-65.59	5.68	67.26
-0.2	-69.64	-64.42	5.22	60
-1	-70.03	-66.67	3.36	45
-5	-71.08	-65.53	5.55	47.26
0 (High Band Edge)	-70.59	-65.50	5.09	67.26
+0.2	-69.89	-64.72	5.17	60
+1	-70.17	-64.96	5.21	45
+5	-70.95	-65.12	5.83	47.26

Out of Band Gain Limit – LTE Band 25 Downlink (1930 – 1995 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-86.59	7.62	94.21	-
0 (Low Band Edge)	-86.69	-64.25	22.44	74.21
-0.2	-86.48	-63.40	23.08	60
-1	-86.61	-63.30	23.31	45
-5	-86.65	-64.52	22.13	54.21
0 (High Band Edge)	-87.02	-64.61	22.41	74.21
+0.2	-86.96	-62.46	24.50	60
+1	-87.28	-63.93	23.35	45
+5	-87.06	-64.18	22.88	54.21

Out of Band Gain Limit - LTE Band 25 Uplink (1850 – 1915 MHz)				
Offset (MHz)	**Input Power (dBm)**	**Output Power (dBm)**	**Gain (dB)**	**Gain Limit (dB)**
Centre Frequency	-71.38	19.08	90.46	-
0 (Low Band Edge)	-69.36	-65.33	4.03	70.46
-0.2	-69.13	-62.43	6.7	60
-1	-69.89	-63.39	6.5	45
-5	-69.12	-63.05	6.07	50.46
0 (High Band Edge)	-69.22	-65.58	3.64	70.46
+0.2	-69.94	-64.37	5.57	60
+1	-70.15	-65.32	4.83	45
+5	-69.93	-64.96	4.97	50.46

2.14 Frequency Stability

2.14.1 Specification Reference

FCC 47 CFR Part 2, Clause 2.1055
FCC 47 CFR Part 22, Clause 22.355
FCC 47 CFR Part 24, Clause 24.235
RSS-132, Clause 5.3
RSS-133, Clause 6.3
FCC 47 CFR Part 27, Clause 27.54
RSS-139, Clause 6.4
RSS-130, Clause 4.5
RSS-195, Clause 5.4

2.14.2 Standard Applicable

FCC Part 22.355:
The carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C–1 of this section.

Table C-1 Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile >3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	N/A	N/A
929 to 960	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

FCC Part 24.235:
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

RSS-132:
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.5 ppm for base stations.

RSS-133
The carrier frequency shall not depart from the reference frequency, in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.

FCC 47 CFR 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, RSS-130, Clause 4.5 and RSS-195, Clause 5.4:
The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

2.14.3 Equipment Under Test and Modification State

Serial No: 110222000051 and 481222000175 / Test Configuration A and B

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

December 03 and December 04, 2022 / FSC

2.14.5 Test Equipment Used

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

2.14.6 Environmental Conditions

Test performed at TÜV SÜD America Inc. Mira Mesa facility.

Ambient Temperature	22.4 °C	22.5 °C
Relative Humidity	42.7 %	44.2 %
ATM Pressure	100.7 kPa	100.8 kPa

2.14.7 Additional Observations

- This is a conducted test.
- The EUT was operated at 120 VAC nominal voltage and was placed in the temperature chamber for the series of temperature variation evaluations performed starting at ambient (20°C) temperature. Voltage variation is performed at 85% and 115% of the nominal voltage at 20 °C only.
- The Temperature is then set to 50°C and allowed to sit for 1 hour to allow the equipment and chamber temperature to stabilize. The measurements on both downlink and uplink were then performed. The temperature was then decreased by 10°C steps and allowed to settle before taking the next set of measurements.
- EUT was injected a CW signal from a Signal Generator and maximum frequency error was monitored using the spectrum analyser.
- 5MHz bandwidth Middle Channel was tested as the representative configuration.

2.14.8 Test Results Summary

WCDMA Band 5 Downlink			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	1.5
	-20	-0.01	1.5
	-10	-0.01	1.5
	0	-0.01	1.5
	+10	-0.01	1.5
	+20	-0.01	1.5
	+30	-0.01	1.5
	+40	-0.01	1.5
	+50	-0.01	1.5

WCDMA Band 5 Downlink			
Temperature (°C)	***Voltage (VAC)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
20	102	-0.01	1.5
	138	-0.01	1.5

WCDMA Band 5 Uplink			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	1.5
	-20	-0.01	1.5
	-10	-0.01	1.5
	0	-0.01	1.5
	+10	-0.01	1.5
	+20	-0.01	1.5
	+30	-0.01	1.5
	+40	-0.01	1.5
	+50	-0.01	1.5

WCDMA Band 5 Uplink			
Temperature (°C)	***Voltage (VAC)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
20	102	-0.01	1.5
	138	-0.01	1.5

LTE Band 25 Downlink			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	1.0
	-20	-0.01	1.0
	-10	-0.01	1.0
	0	-0.01	1.0
	+10	-0.01	1.0
	+20	-0.01	1.0
	+30	-0.01	1.0
	+40	-0.01	1.0
	+50	-0.01	1.0

LTE Band 25 Downlink			
Temperature (°C)	***Voltage (VAC)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
20	102	-0.01	1.0
	138	-0.01	1.0

LTE Band 25 Uplink			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	1.0
	-20	-0.01	1.0
	-10	-0.01	1.0
	0	-0.01	1.0
	+10	-0.01	1.0
	+20	-0.01	1.0
	+30	-0.01	1.0
	+40	-0.01	1.0
	+50	-0.01	1.0

LTE Band 25 Uplink			
Temperature (°C)	***Voltage (VAC)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
20	102	-0.01	1.0
	138	-0.01	1.0

LTE B4 Downlink – 5 MHz BW Middle Channel 2132.5 MHz			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	-
	-20	-0.01	-
	-10	-0.01	-
	0	-0.01	-
	+10	-0.01	-
	+20	-0.01	-
	+30	-0.01	-
	+40	-0.01	-
	+50	-0.01	-
102	+20	-0.01	-
138		-0.01	-

LTE B4 Downlink Frequency Range – 5 MHz BW					
Channel	***Temperature (°C)***	***Voltage (VAC)***	***F_L (MHz)***	***F_H (MHz)***	***Limit (MHz)***
Low Channel	-30	120	2110.1880	-	>2110
	+20	102	2110.1872	-	
		120	2110.1874	-	
		138	2110.1874	-	
	+50	120	2110.1872	-	
High Channel	-30	120	-	2154.8158	<2155
	+20	102	-	2154.8150	
		120	-	2154.8152	
		138	-	2154.8150	
	+50	120	-	2154.8152	

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

LTE B4 Uplink – 5 MHz BW Middle Channel 1732.5 MHz			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	-
	-20	-0.01	-
	-10	-0.01	-
	0	-0.01	-
	+10	-0.01	-
	+20	-0.01	-
	+30	-0.01	-
	+40	-0.01	-
	+50	-0.01	-
102	+20	-0.01	-
138		-0.01	-

LTE B4 Uplink Frequency Range – 5 MHz BW					
Channel	***Temperature (°C)***	***Voltage (VAC)***	***F_L (MHz)***	***F_H (MHz)***	***Limit (MHz)***
Low Channel	-30	120	1710.1855	-	>1710
	+20	102	1710.1852	-	
		120	1710.1850	-	
		138	1710.1855	-	
	+50	120	1710.1852	-	
High Channel	-30	120	-	1754.8084	<1755
	+20	102	-	1754.8087	
		120	-	1754.8087	
		138	-	1754.8085	
	+50	120	-	1754.8085	

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

LTE B12 Downlink – 5 MHz BW Middle Channel 737.5 MHz			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	-
	-20	-0.01	-
	-10	-0.01	-
	0	-0.01	-
	+10	-0.01	-
	+20	-0.01	-
	+30	-0.01	-
	+40	-0.01	-
	+50	-0.01	-
102	+20	-0.01	-
138		-0.01	-

LTE B12 Downlink Frequency Range – 5 MHz BW					
Channel	***Temperature (°C)***	***Voltage (VAC)***	***F_L (MHz)***	***F_H (MHz)***	***Limit (MHz)***
Low Channel	-30	120	729.2050	-	>729
	+20	102	729.2047	-	
		120	729.2046	-	
		138	729.2046	-	
	+50	120	729.2048	-	
High Channel	-30	120	-	745.8251	<746
	+20	102	-	745.8245	
		120	-	745.8245	
		138	-	745.8245	
	+50	120	-	745.8247	

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

LTE B12 Uplink – 5 MHz BW Middle Channel 707.5 MHz			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	-
	-20	-0.01	-
	-10	-0.01	-
	0	-0.01	-
	+10	-0.01	-
	+20	-0.01	-
	+30	-0.01	-
	+40	-0.01	-
	+50	-0.01	-
102	+20	-0.01	-
138		-0.01	-

LTE B12 Uplink Frequency Range – 5 MHz BW					
Channel	***Temperature (°C)***	***Voltage (VAC)***	***F_L (MHz)***	***F_H (MHz)***	***Limit (MHz)***
Low Channel	-30	120	699.1944	-	>699
	+20	102	699.1944	-	
		120	699.1943	-	
		138	699.1943	-	
	+50	120	699.1945	-	
High Channel	-30	120	-	715.8148	<716
	+20	102	-	715.8153	
		120	-	715.8153	
		138	-	715.8153	
	+50	120	-	715.8155	

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

LTE B13 Downlink – 5 MHz BW Middle Channel 751 MHz			
Voltage (VAC)	***Temperature (°C)***	***Frequency Deviation (ppm)***	***Limit (ppm)***
120	-30	-0.01	-
	-20	-0.01	-
	-10	-0.01	-
	0	-0.01	-
	+10	-0.01	-
	+20	-0.01	-
	+30	-0.01	-
	+40	-0.01	-
	+50	-0.01	-
102	+20	-0.01	-
138		-0.01	-

LTE B13 Downlink Frequency Range – 5 MHz BW					
Channel	***Temperature (°C)***	***Voltage (VAC)***	***F_L (MHz)***	***F_H (MHz)***	***Limit (MHz)***
Low Channel	-30	120	746.1542	-	>746
	+20	102	746.1545	-	
		120	746.1544	-	
		138	746.1545	-	
	+50	120	746.1543	-	
High Channel	-30	120	-	755.8480	<756
	+20	102	-	755.8482	
		120	-	755.8482	
		138	-	755.8480	
	+50	120	-	755.8483	

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

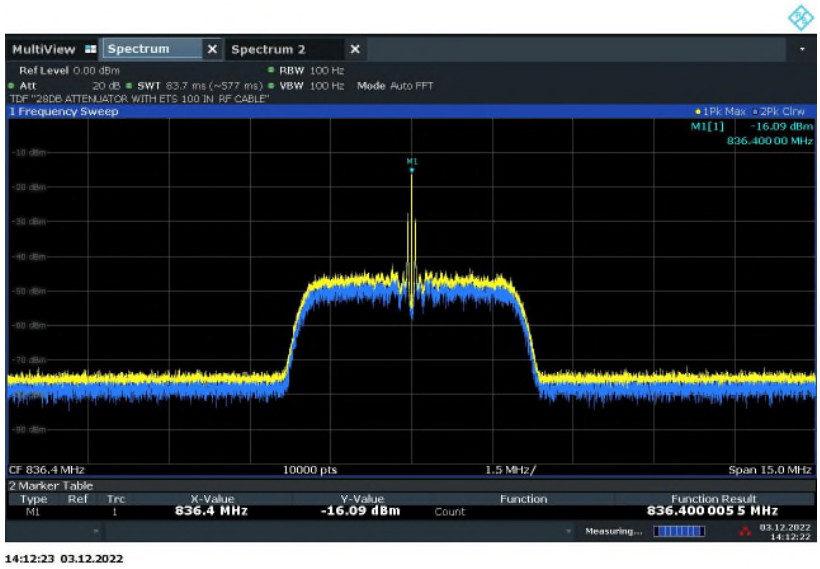
LTE B13 Uplink – 5 MHz BW Middle Channel 782 MHz				
Voltage (VAC)	***Temperature (°C)***	***Frequency Error (Hz)***	***Frequency Error (ppm)***	***Limit (ppm)***
120	-30	4.8	-0.01	-
	-20	4.8	-0.01	-
	-10	4.7	-0.01	-
	0	5.0	-0.01	-
	+10	5.0	-0.01	-
	+20	5.0	-0.01	-
	+30	5.0	-0.01	-
	+40	7.0	-0.01	-
	+50	4.0	-0.01	-
102	+20	5.0	-0.01	-
138		5.2	-0.01	-

LTE B13 Uplink Frequency Range – 5 MHz BW					
Channel	***Temperature (°C)***	***Voltage (VAC)***	***F_L (MHz)***	***F_H (MHz)***	***Limit (MHz)***
Low Channel	-30	120	777.1902	-	>777
	+20	102	777.1904	-	
		120	777.1905	-	
		138	777.1906	-	
	+50	120	777.1903	-	
High Channel	-30	120	-	786.8164	<787
	+20	102	-	786.8172	
		120	-	786.8162	
		138	-	786.8160	
	+50	120	-	786.8168	

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

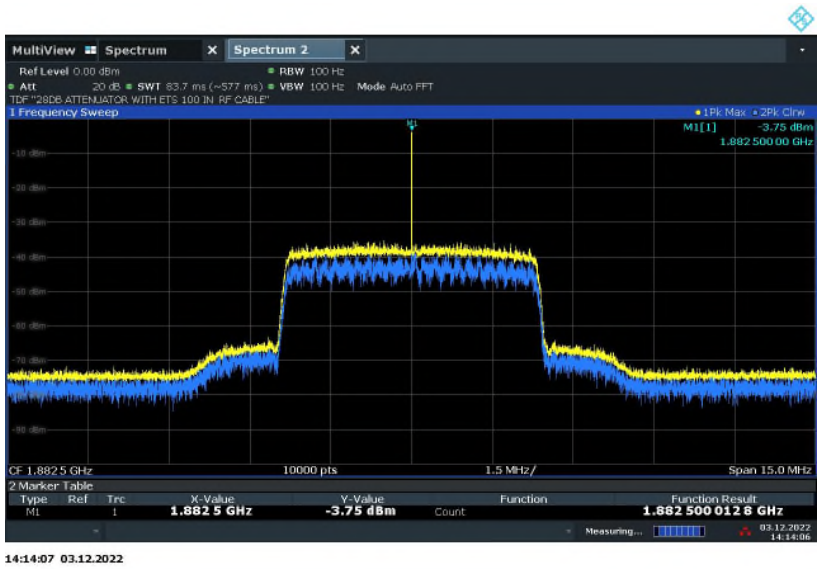
2.14.9 Sample Test Plots

WCDMA B5 Downlink Middle Channel 120VAC @ 20°C

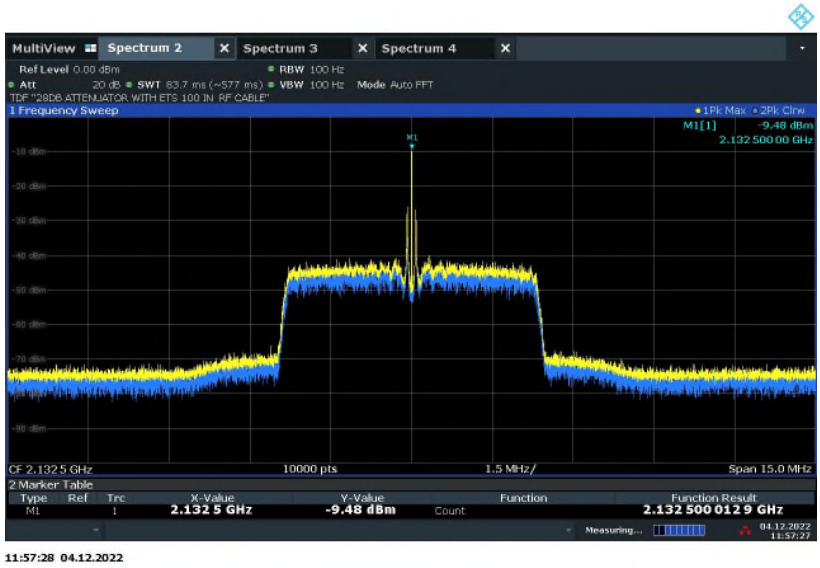


WCDMA B5 Uplink Middle Channel 120VAC @ -30°C

LTE B25 Downlink Middle Channel 120VAC @ 20°C



LTE B25 Uplink Middle Channel 120VAC @ -30°C



11:57:28 04.12.2022

LTE Band 4 Downlink Middle Channel 120VAC @ 30°C

06:37:28 04.12.2022

LTE Band 4 Uplink Middle Channel OBW 120VAC @ 20°C

LTE B13 Downlink Low Channel OBW @ 30°C Nominal Voltage

LTE B12 Uplink High Channel OBW @ 20°C Nominal Voltage

3 Test Equipment Used

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

Test Equipment List (Leveraged data)

Asset ID Number	Test Equipment	Type	Serial Number	Manufacturer	Cal Due Date
Antenna Conducted Port Setup					
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	10/10/21
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	01/07/20
7562	Wideband Radio Communication Tester	CMW 500	1201.0002k50/ 103829	Rhode & Schwarz	For Signalling
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
Miscellaneous					
43003	True RMS Multimeter	85 III	96880143	Fluke	10/07/20
7619	Temp & Humidity Sensor	iBTHX-W	15050268	Omega	06/18/20

Asset ID Number	Test Equipment	Type	Serial Number	Manufacturer	Cal Due Date
Antenna Conducted Port Setup					
0618	ESG Vector Signal Generator	E4438C	MY49070886	Agilent	06/22/24
7611	Signal & Spectrum Analyzer	FSW26	102017	Rohde & Schwarz	02/09/23
6891	P-Series Power Meter	N1911A	MY45100905	Agilent	04/07/23
6892	50MHz Wideband Power Sensor	N1921A	SG45240281	Agilent	04/08/23
41493	4ft True Blue coax cable	R90-077-060	16-07-201	Teledyne	Verified by 0618 and 7611
8825	20dB Attenuator	46-20-34	BK5773	Weinschel Corp.	Verified by 0618 and 7611
Radiated Test Setup					
1002	Bilog Antenna	3142C	00058717	ETS-Lindgren	10/21/23
1051	Double-ridged waveguide horn antenna	3115	9408-4329	EMCO	09/12/24
7611	Signal & Spectrum Analyzer	FSW26	102017	Rohde & Schwarz	02/09/23
1049	EMI Test Receiver	ESU40	100133	Rohde & Schwarz	09/21/23
46797	Preamplifier	PS-122	181925	Com Power	12/03/24
7619	Barometer/ Temperature/Humidity Transmitter	iBTHX-W	15250268	Omega	05/27/23
Conducted Emissions					
SDRB1049	EMI Test Receiver	ESU40	100133	Rohde & Schwarz	09/21/23
SDGE07567	LISN	FCC-LISN-50-25-2-10	120304	Fischer Custom Comm.	03/28/23
SDGE08870	Bi-Directional Attenuator	34-20-34	BP8030	MCE / Weinschel	02/28/23
Miscellaneous					
47045	True RMS Multimeter	87V	18290478	Fluke	03/29/23
6610	Environmental Chamber	SH27	09963481-S	Envirotronics	01/12/23
SDGE07619	Barometer/ Temperature/Humidity Transmitter	iBTHX-W	15250268	Omega	05/27/23
	Test Software	EMC32	V10.60.20	Rhode & Schwarz	N/A

4 Measurement Uncertainty

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

4.1 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**	

5 Accreditation, Disclaimers and Copyright

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