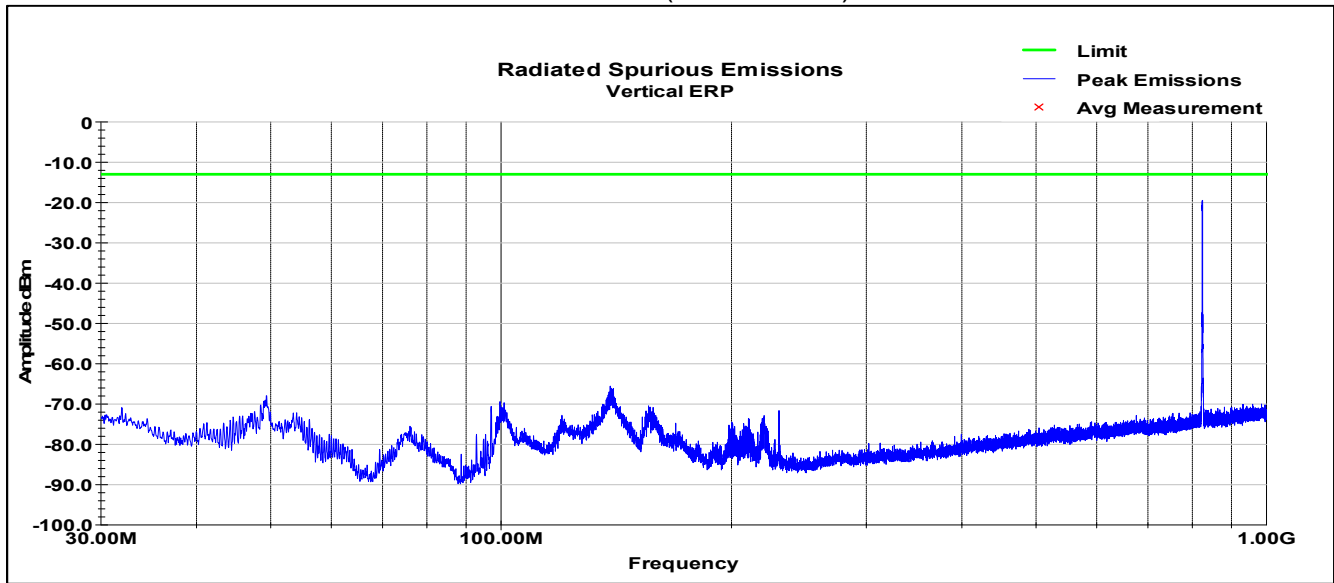


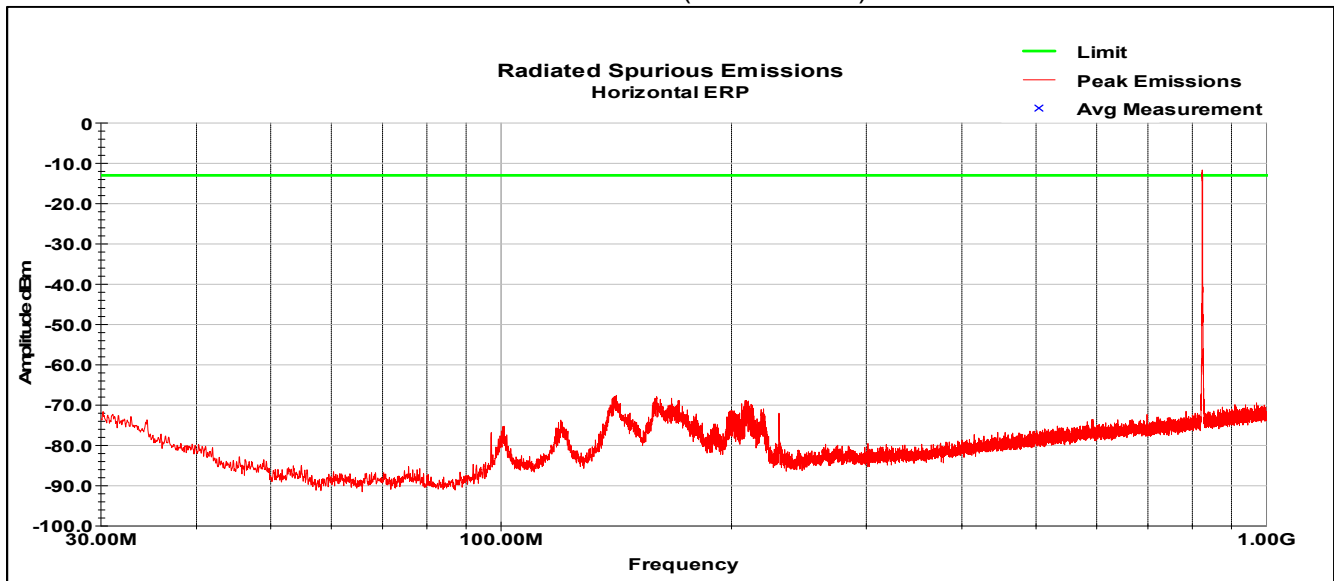
LTE Band 5, QPSK modulation, 1.4MHz

Low Channel (20407)

Vertical Data (30-1000MHz)



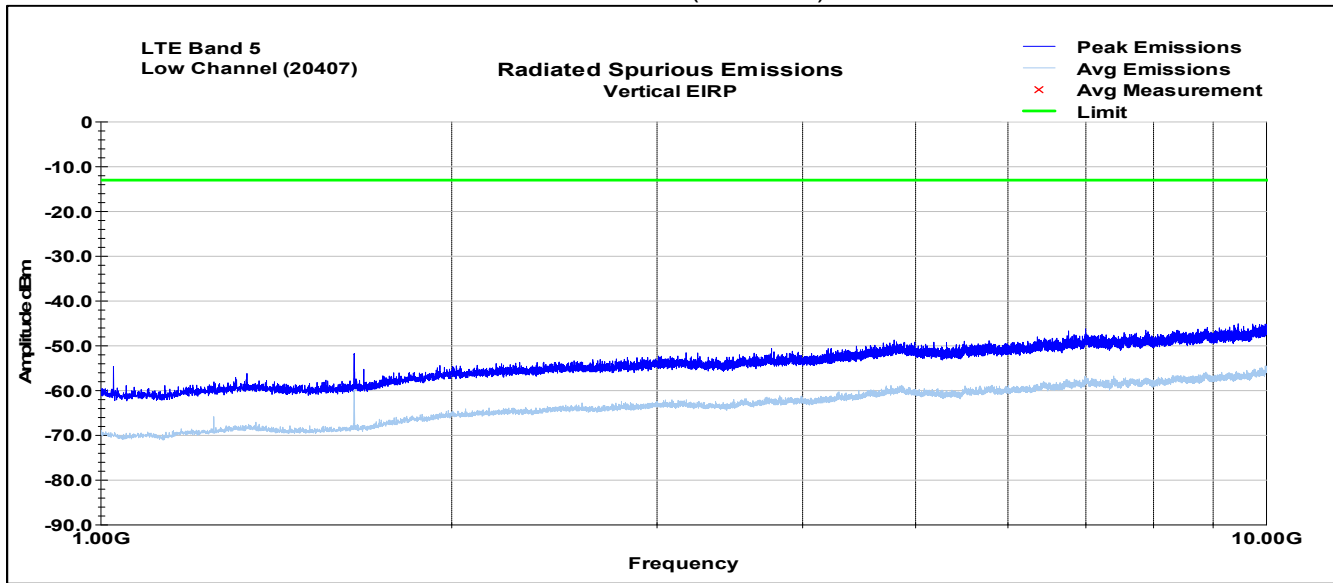
Horizontal Data (30-1000MHz)



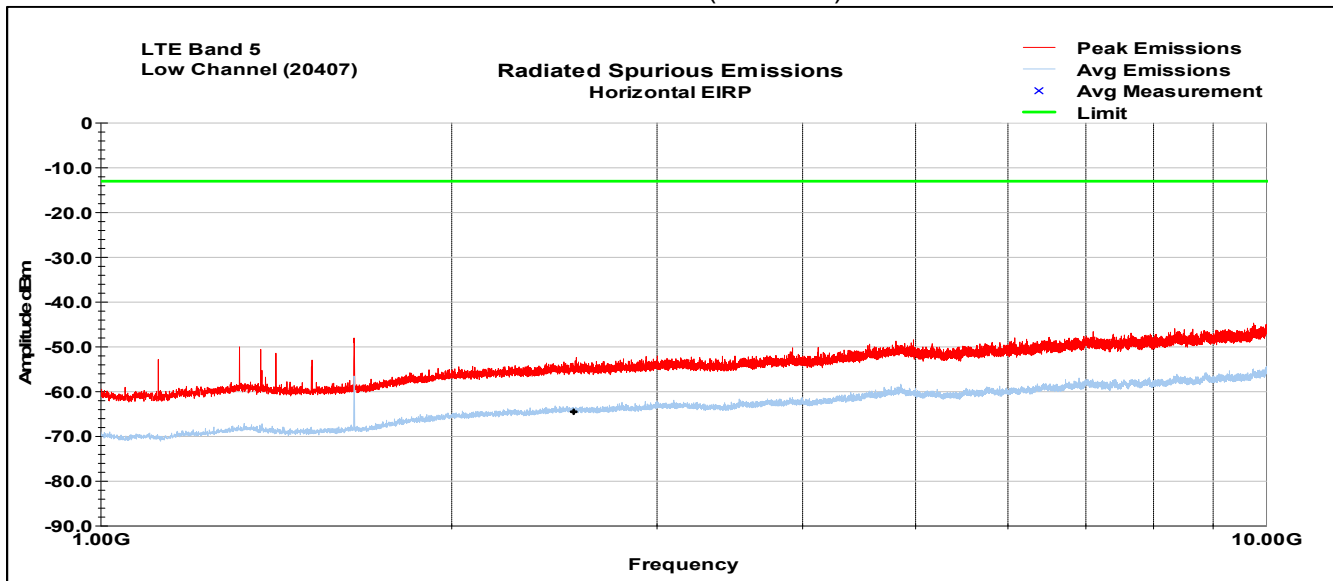
LTE Band 5, QPSK modulation, 1.4MHz

Low Channel (20407)

Vertical Data (1-10GHz)



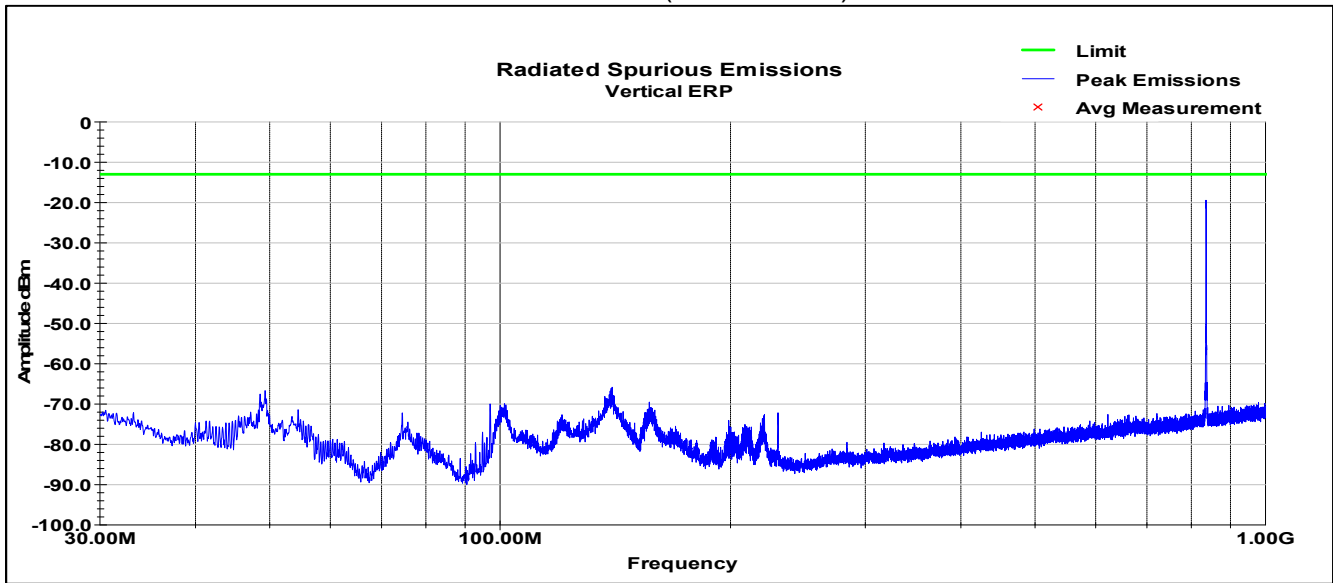
Horizontal Data (1-10GHz)



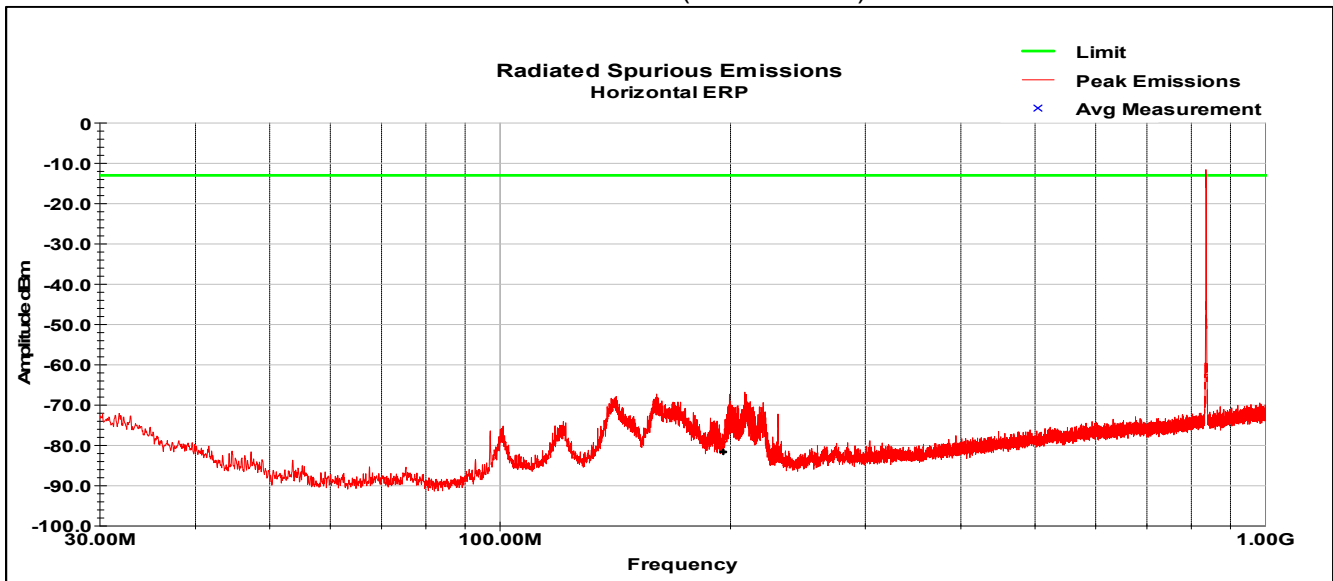
LTE Band 5, QPSK modulation, 1.4MHz

Mid Channel (20525)

Vertical Data (30-1000MHz)



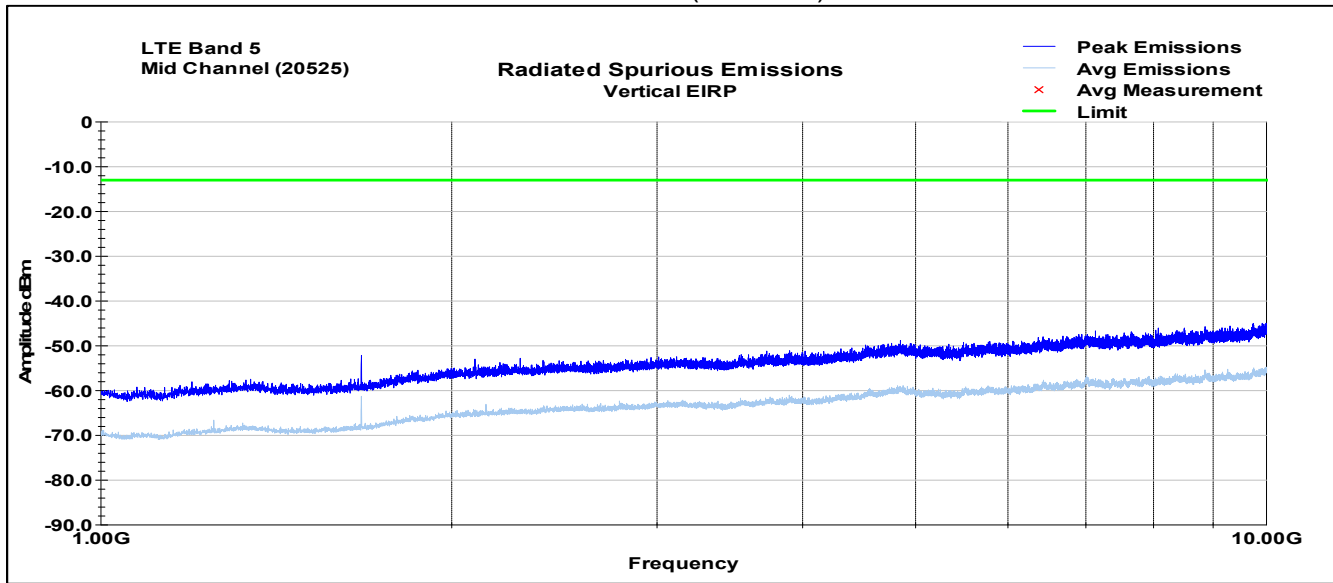
Horizontal Data (30-1000MHz)



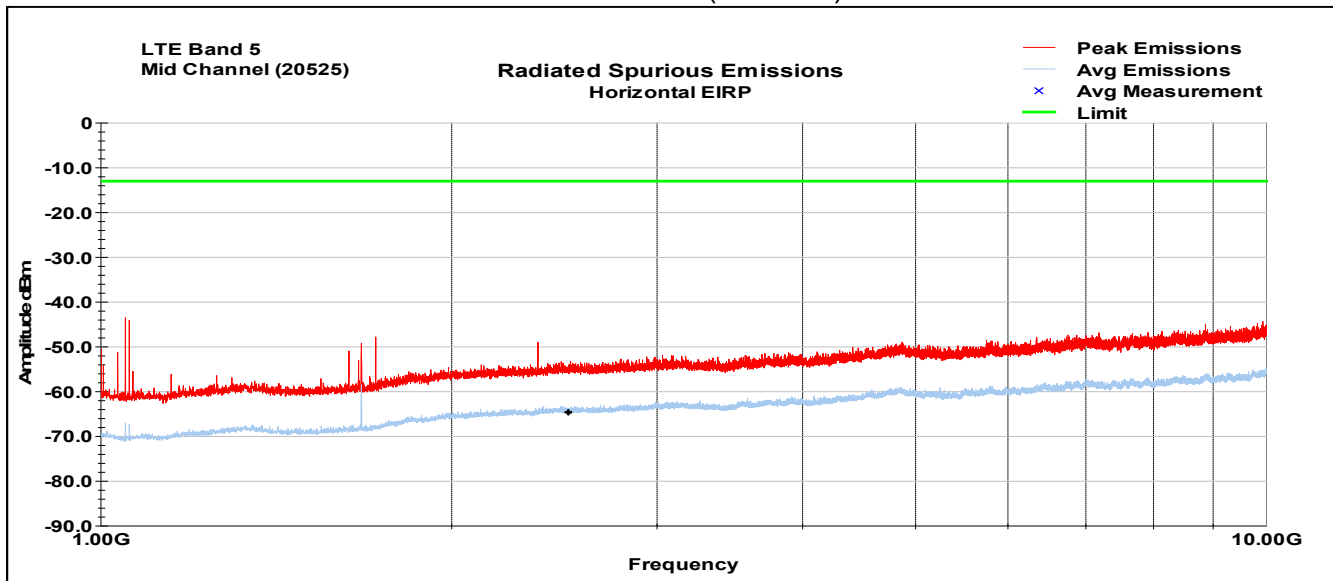
LTE Band 5, QPSK modulation, 1.4MHz

Mid Channel (20525)

Vertical Data (1-10GHz)



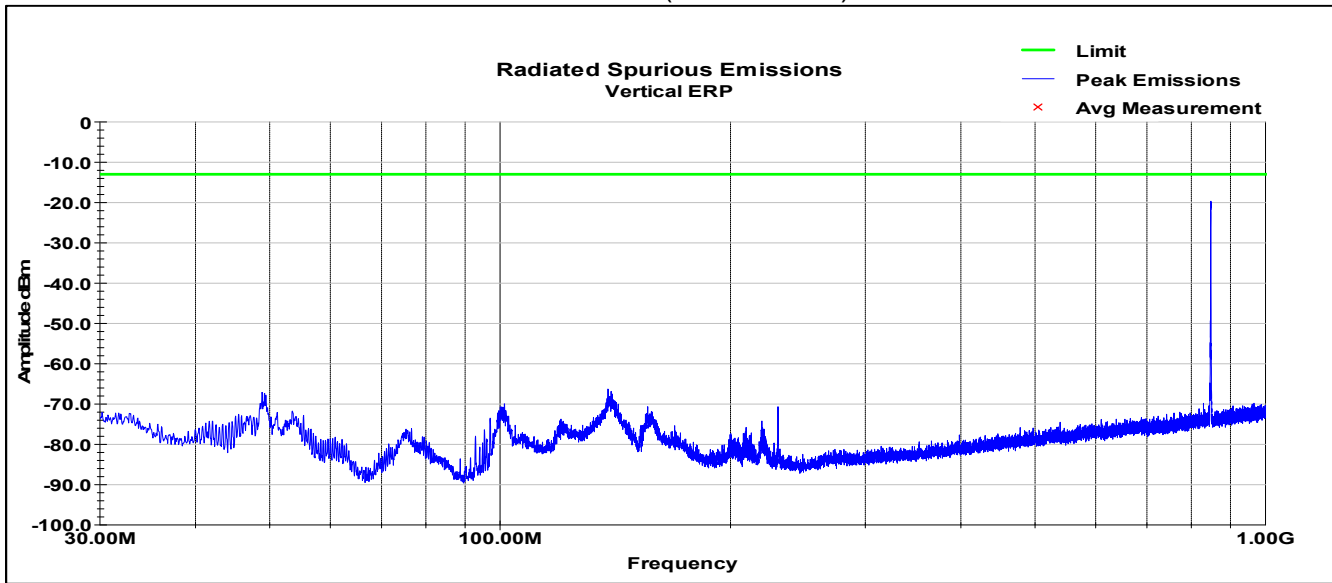
Horizontal Data (1-10GHz)



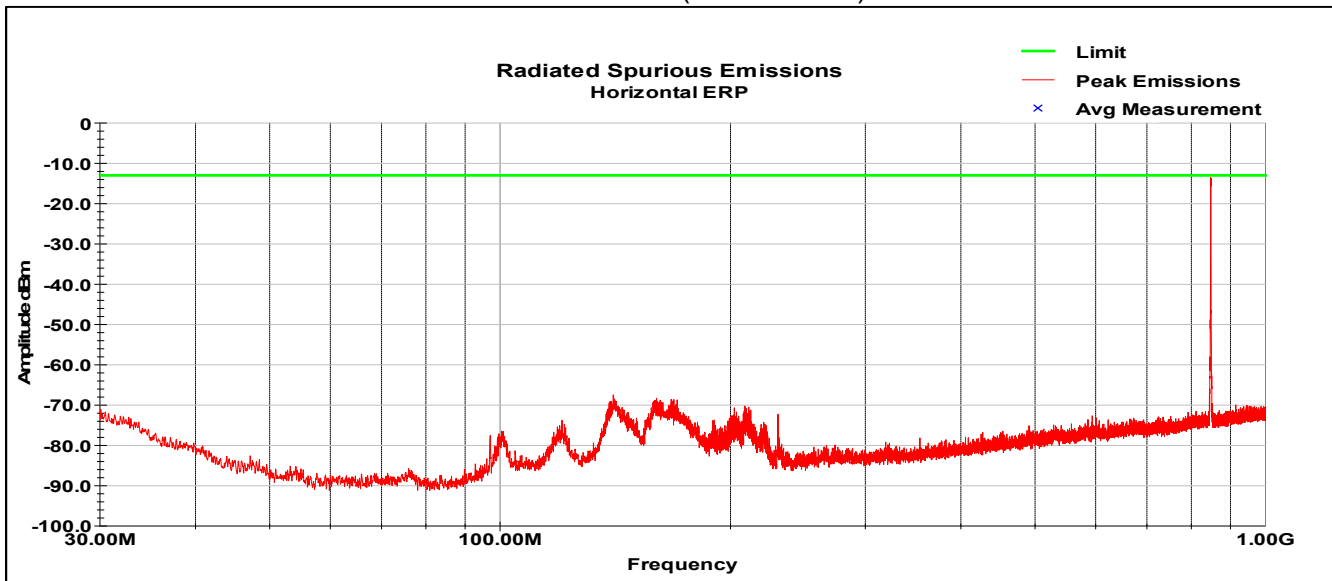
LTE Band 5, QPSK modulation, 1.4MHz

High Channel (20643)

Vertical Data (30-1000MHz)



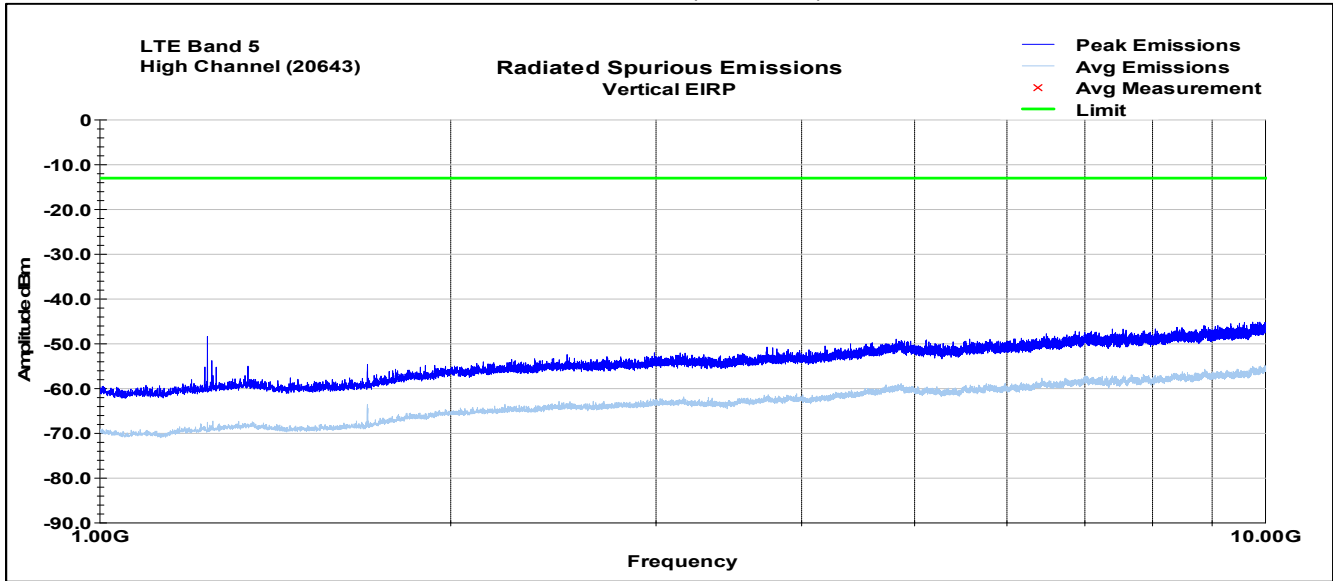
Horizontal Data (30-1000MHz)



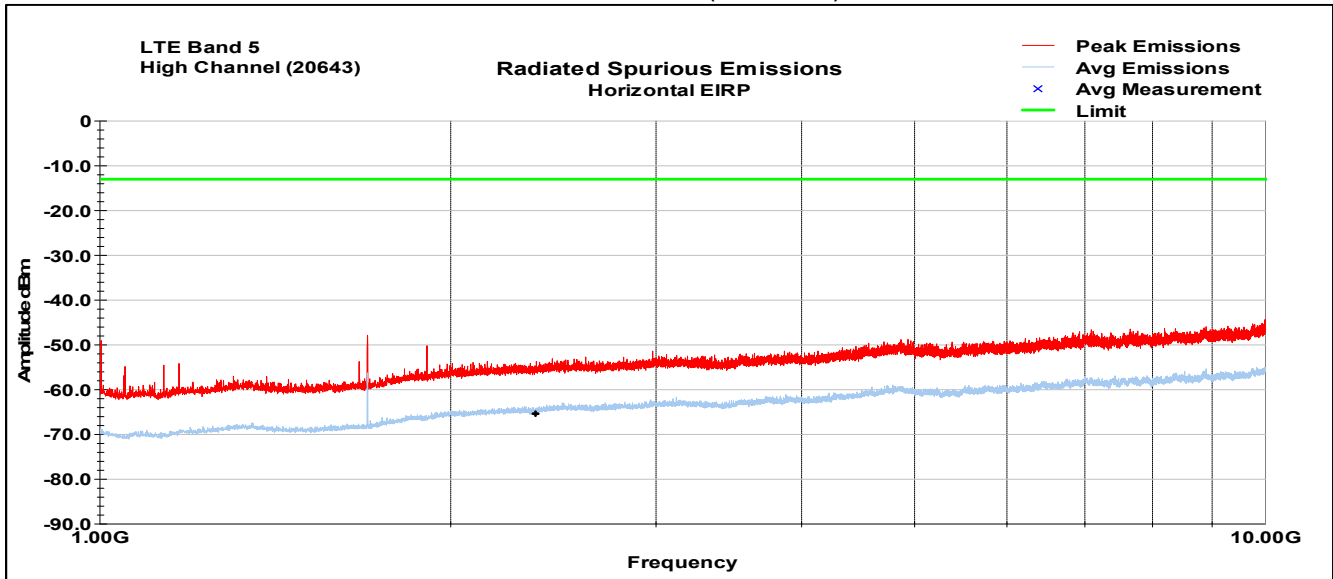
LTE Band 5, QPSK modulation, 1.4MHz

High Channel (20643)

Vertical Data (1-10GHz)



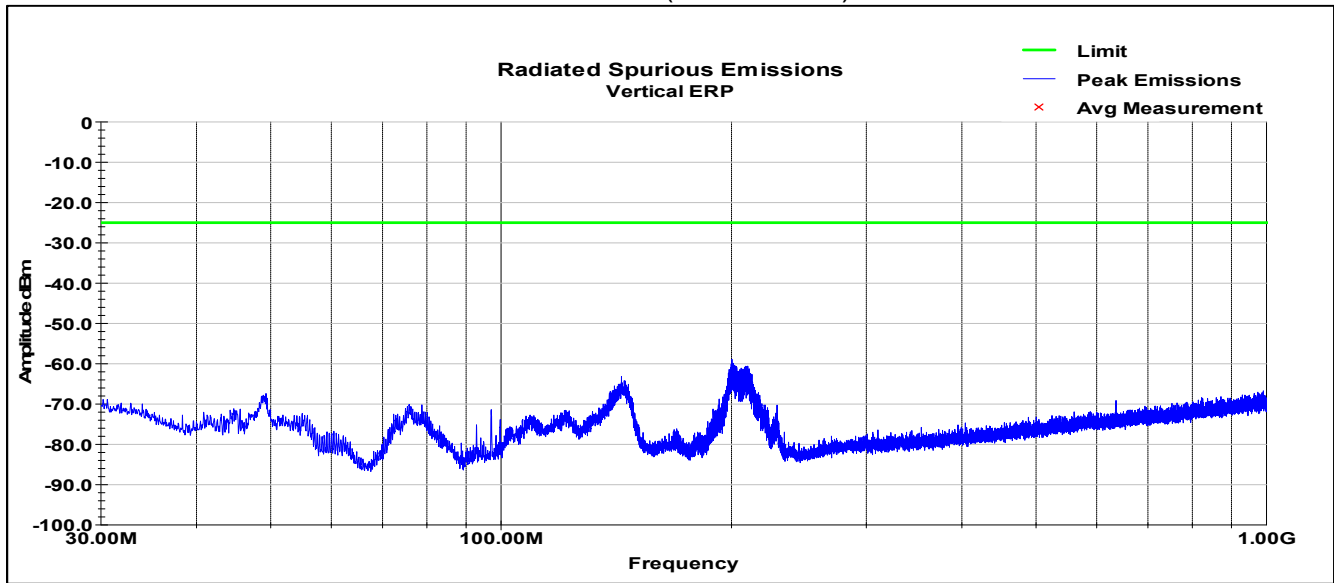
Horizontal Data (1-10GHz)



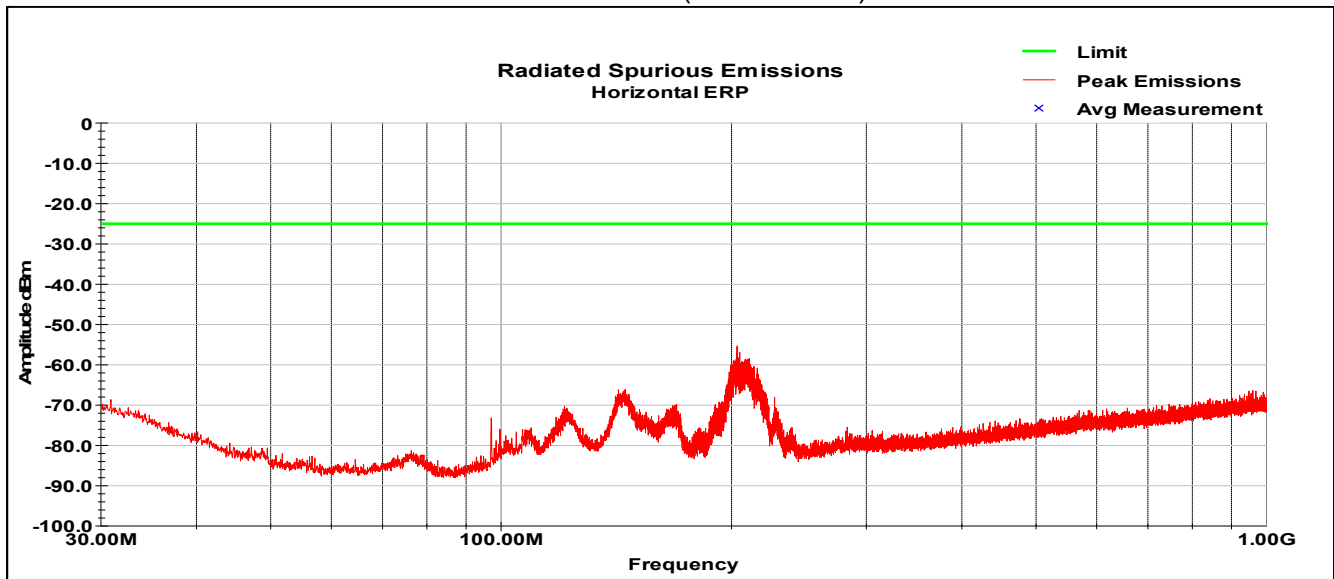
LTE Band 7, QPSK modulation, 5MHz

Low Channel (20775)

Vertical Data (30-1000MHz)



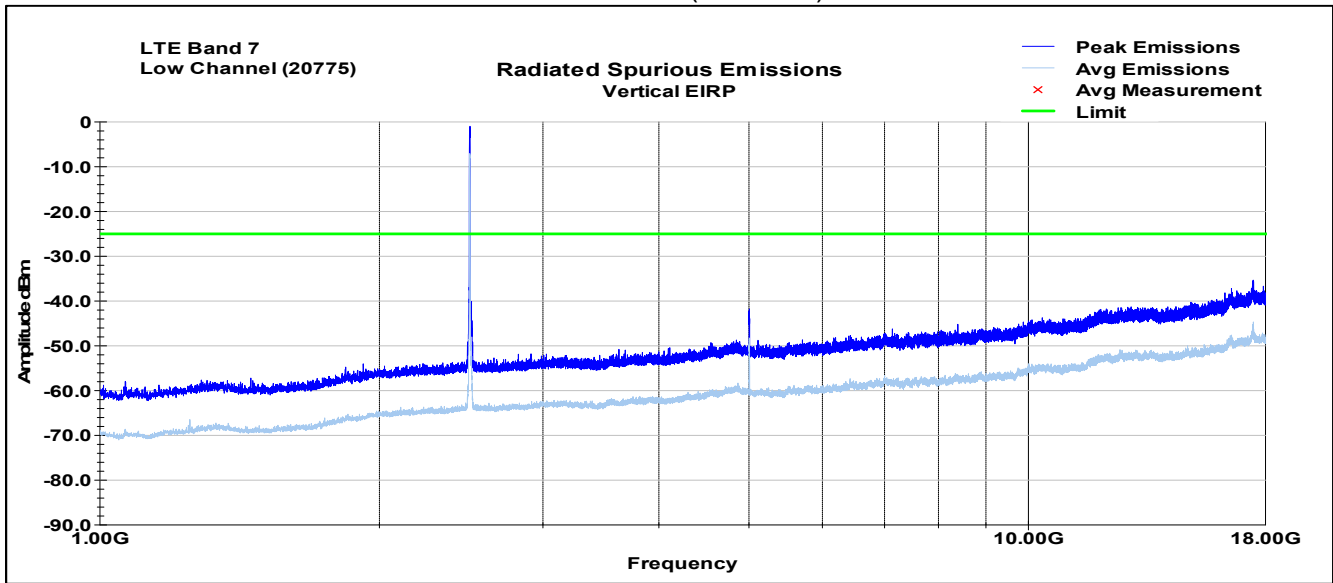
Horizontal Data (30-1000MHz)



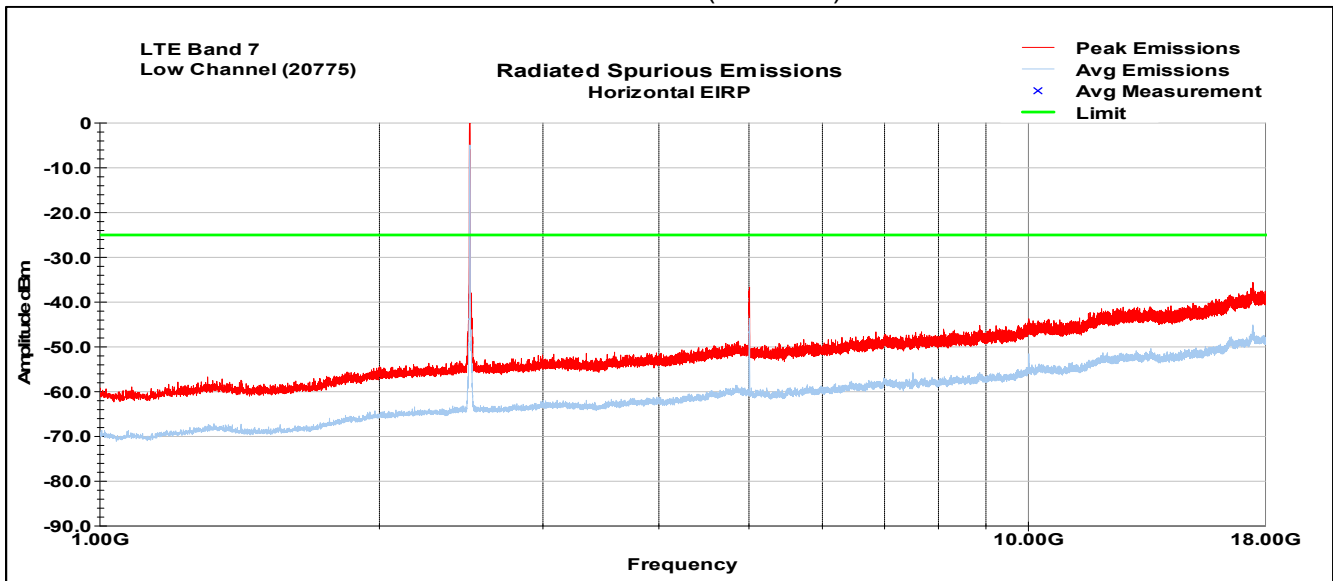
LTE Band 7, QPSK modulation, 5MHz

Low Channel (20775)

Vertical Data (1-18GHz)



Horizontal Data (1-18GHz)

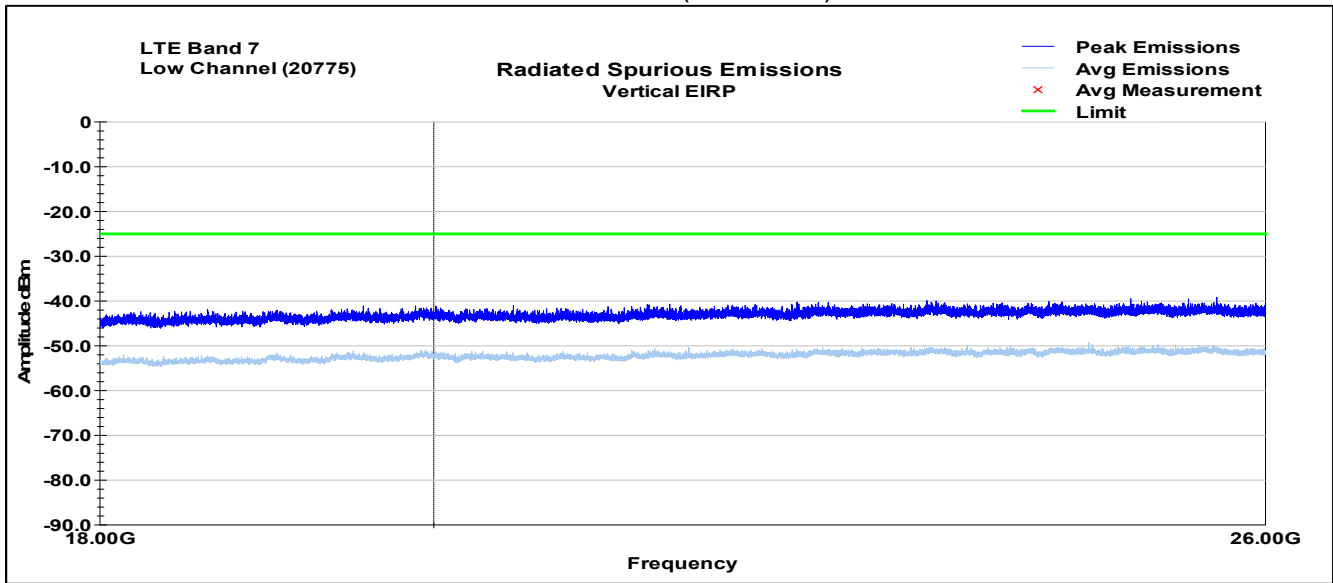




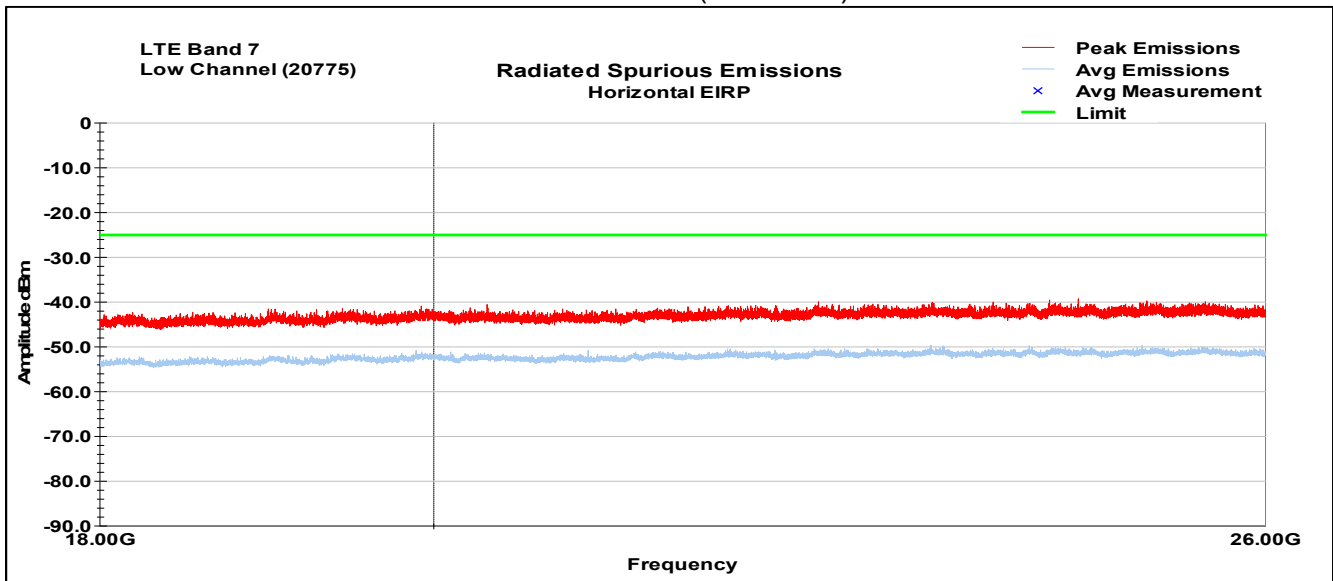
LTE Band 7, QPSK modulation, 5MHz

Low Channel (20775)

Vertical Data (18-26GHz)



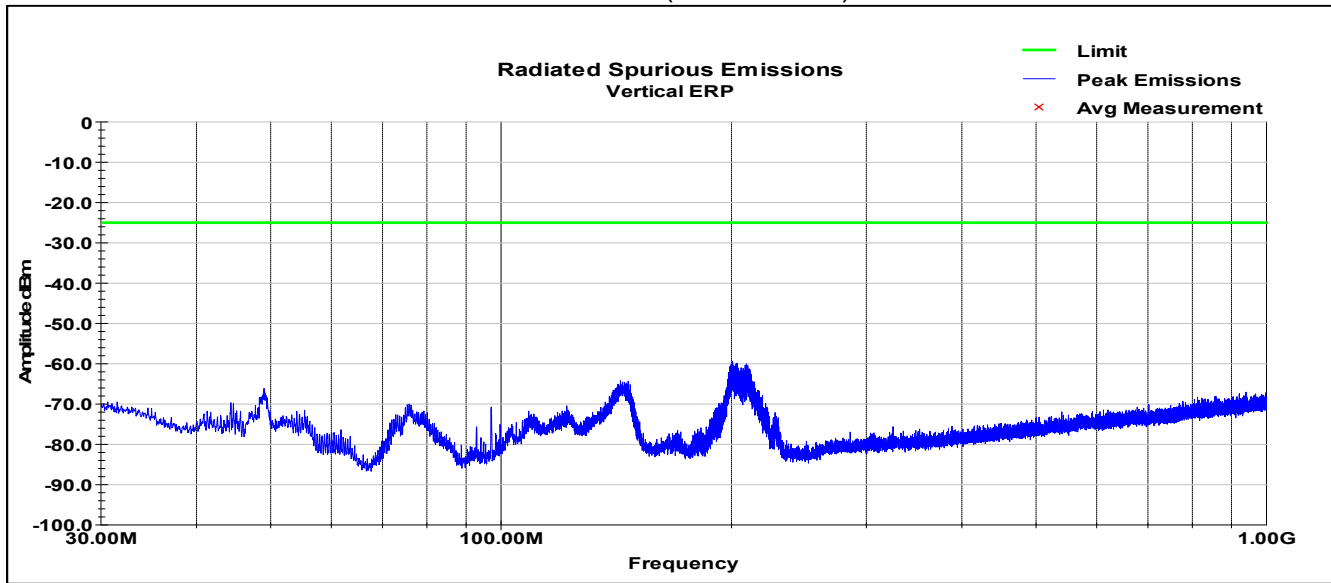
Horizontal Data (18-26GHz)



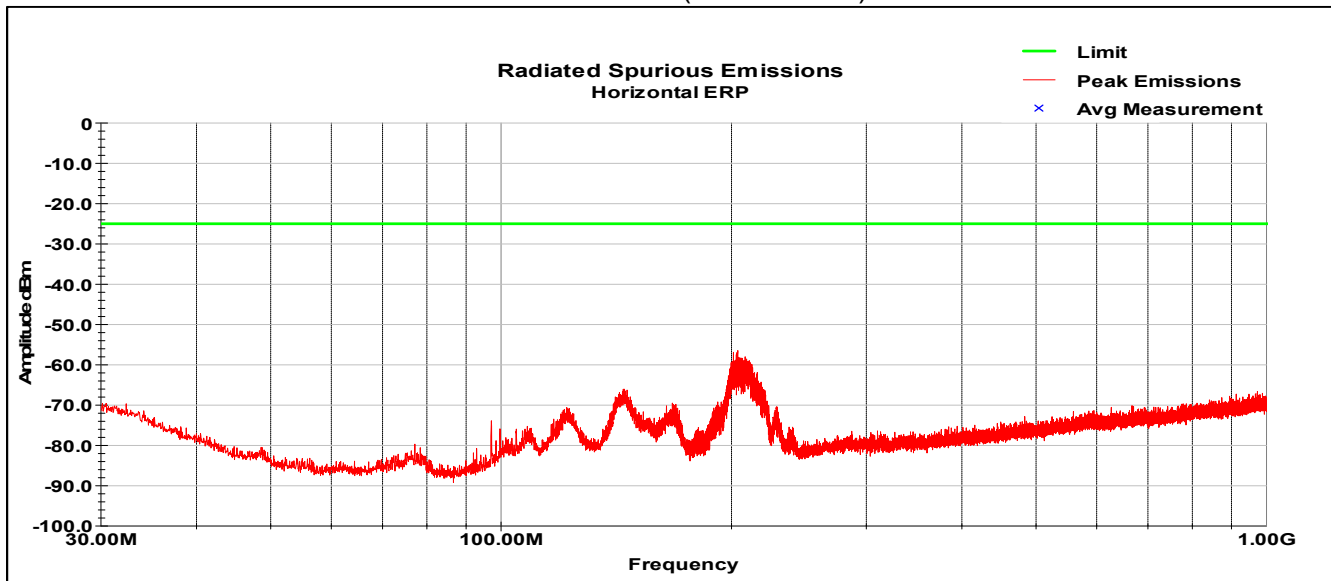
LTE Band 7, QPSK modulation, 5MHz

Mid Channel (21100)

Vertical Data (30-1000MHz)



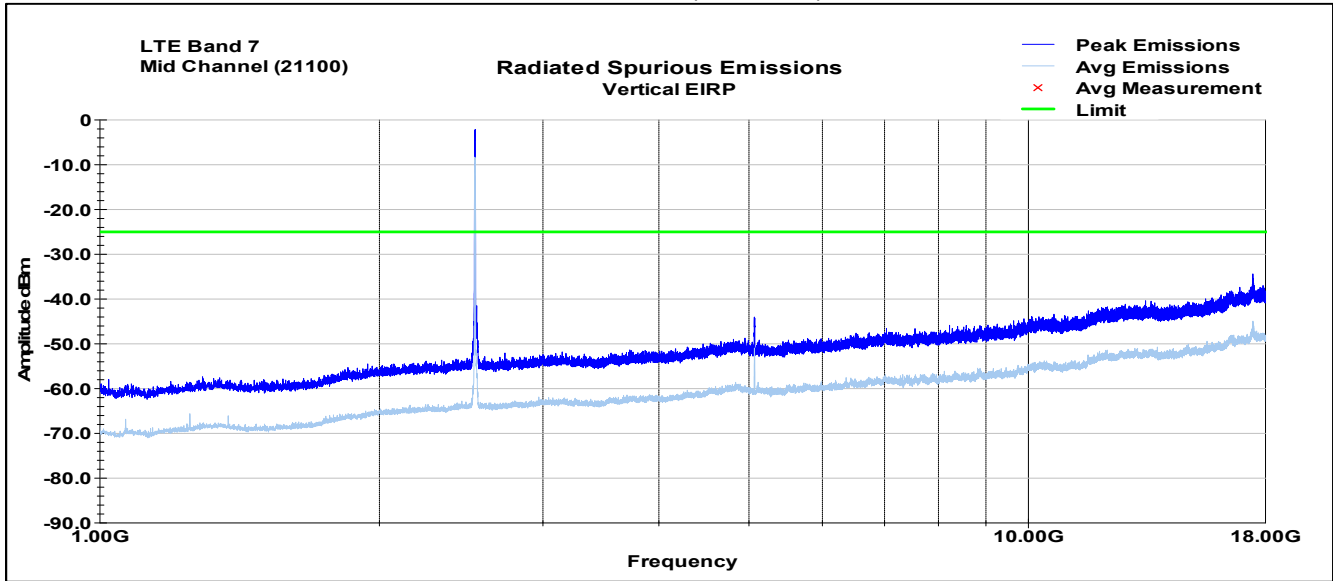
Horizontal Data (30-1000MHz)



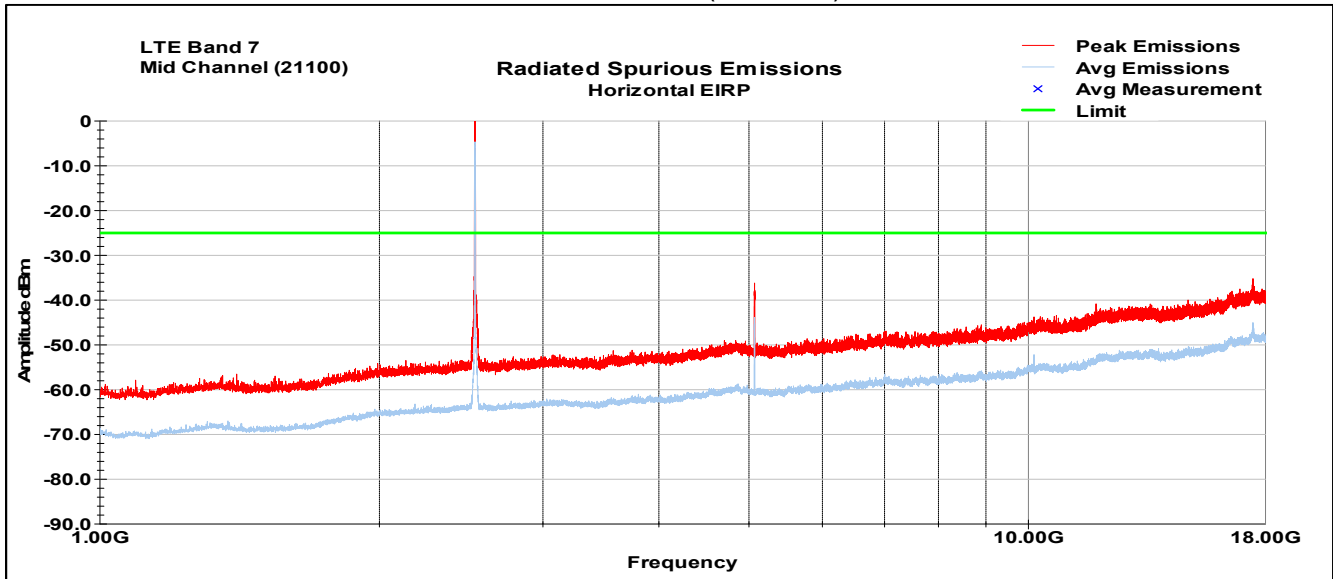
LTE Band 7, QPSK modulation, 5MHz

Mid Channel (21100)

Vertical Data (1-18GHz)



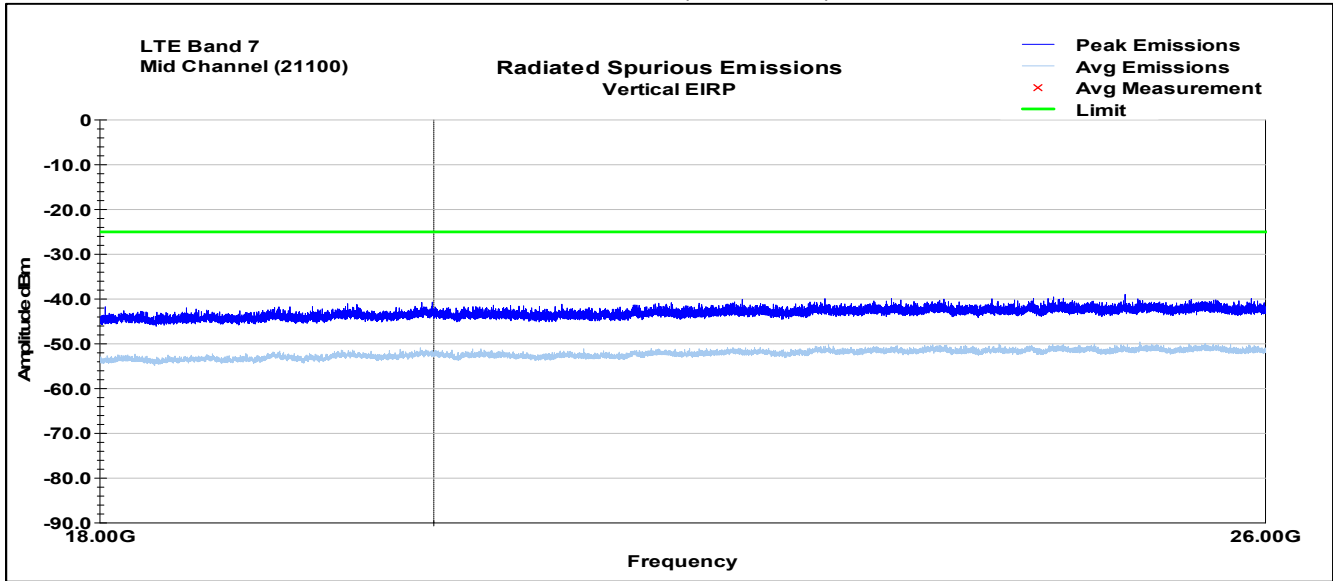
Horizontal Data (1-18GHz)



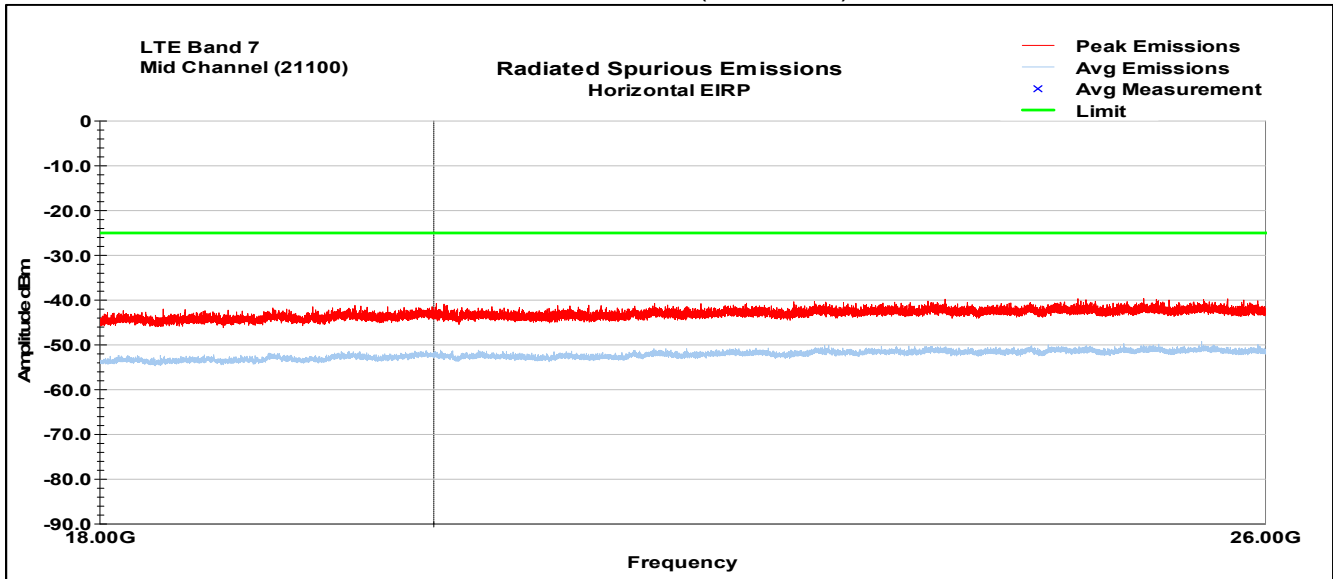
LTE Band 7, QPSK modulation, 5MHz

Mid Channel (21100)

Vertical Data (18-26GHz)



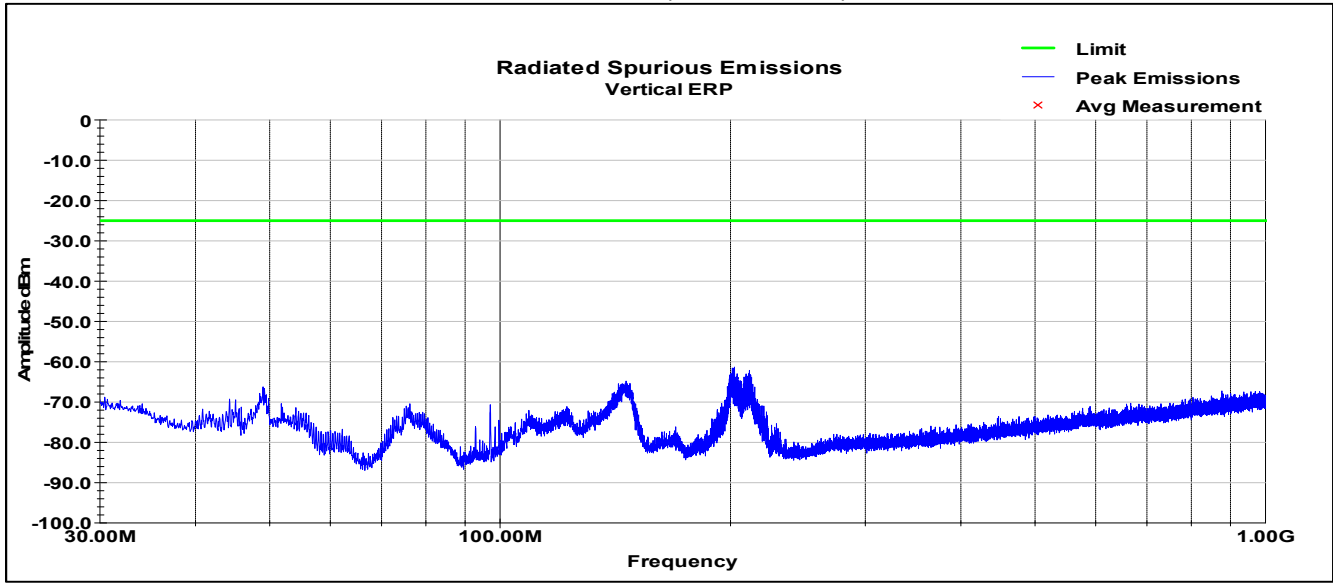
Horizontal Data (18-26GHz)



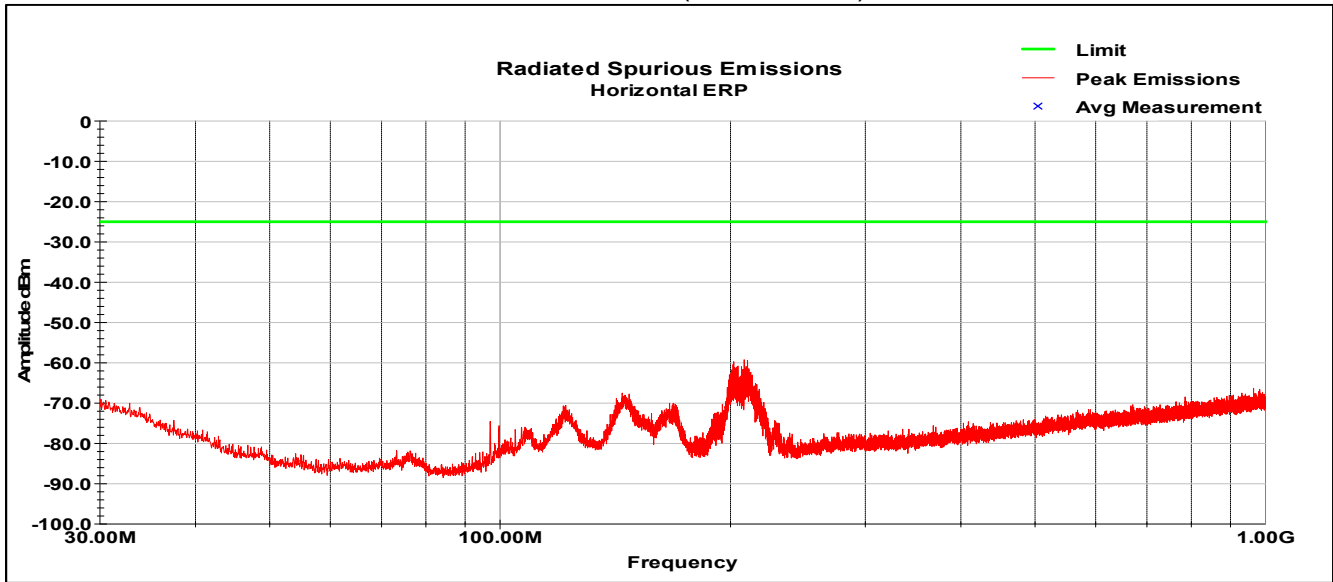
LTE Band 7, QPSK modulation, 5MHz

High Channel (21425)

Vertical Data (30-1000MHz)



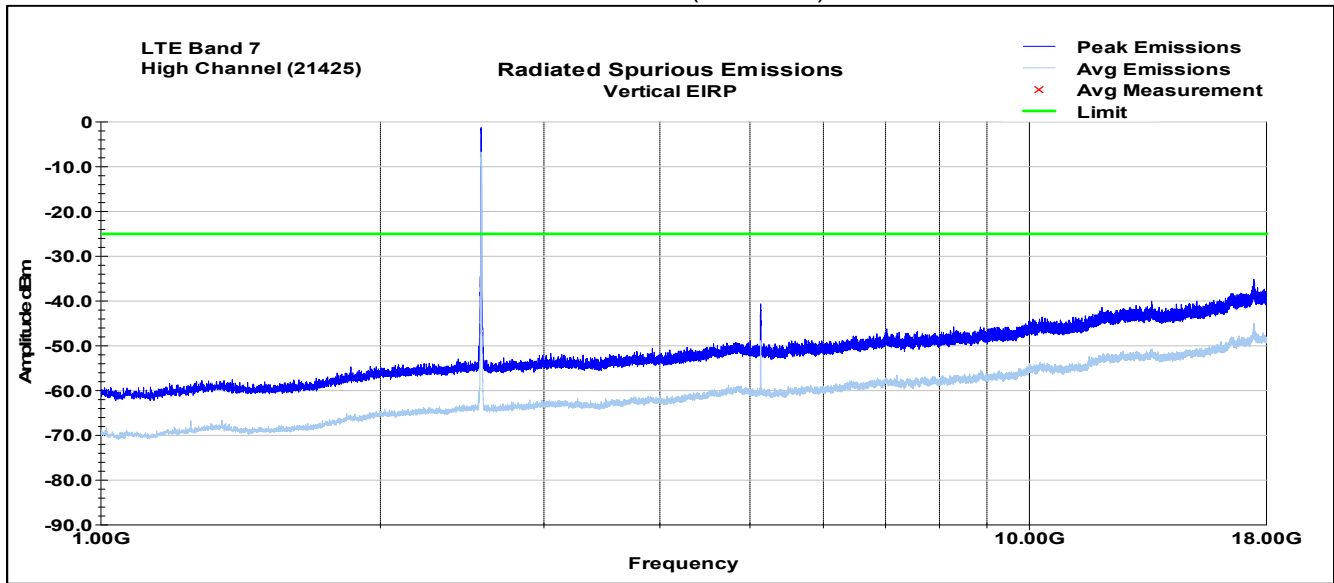
Horizontal Data (30-1000MHz)



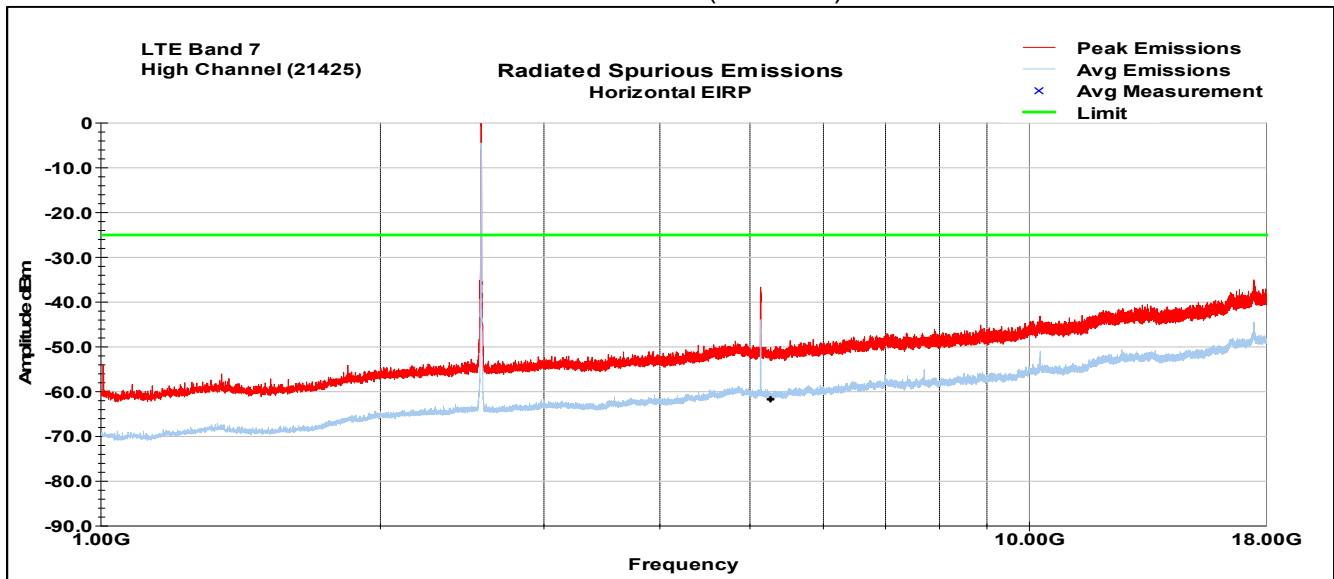
LTE Band 7, QPSK modulation, 5MHz

High Channel (21425)

Vertical Data (1-18GHz)



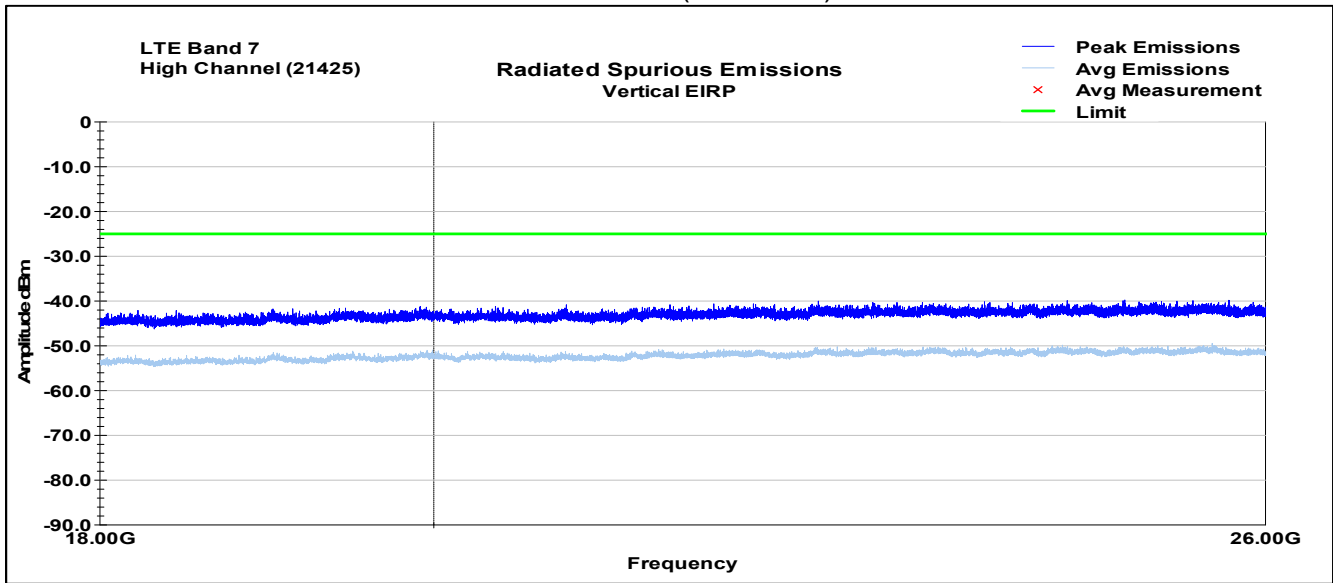
Horizontal Data (1-18GHz)



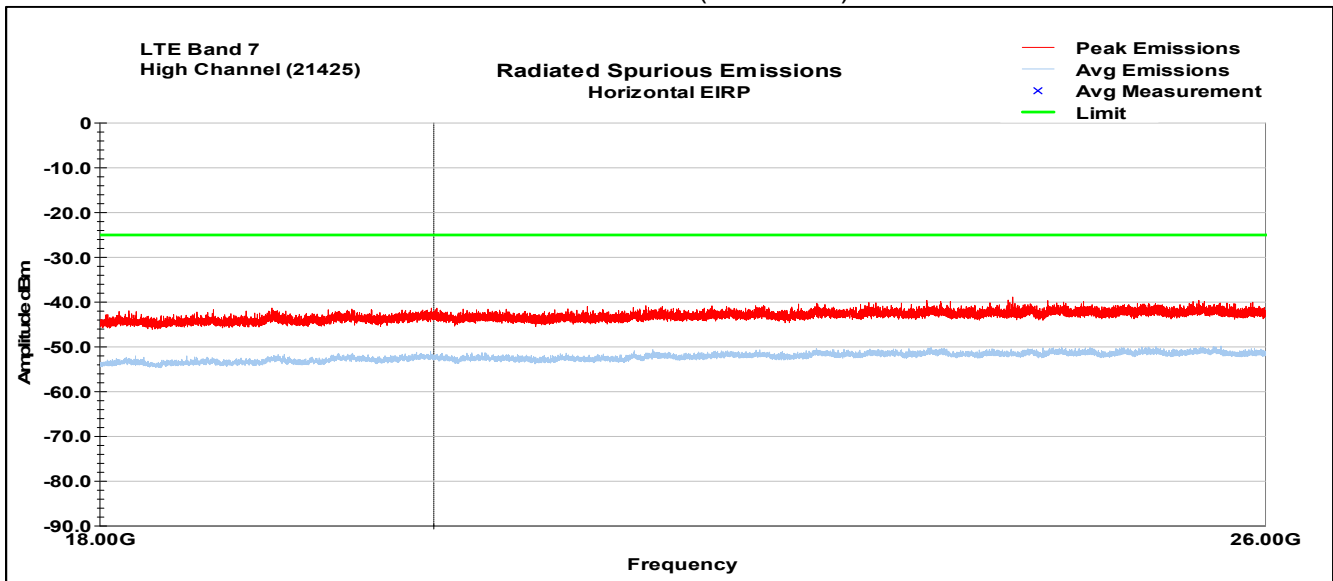
LTE Band 7, QPSK modulation, 5MHz

High Channel (21425)

Vertical Data (18-26GHz)



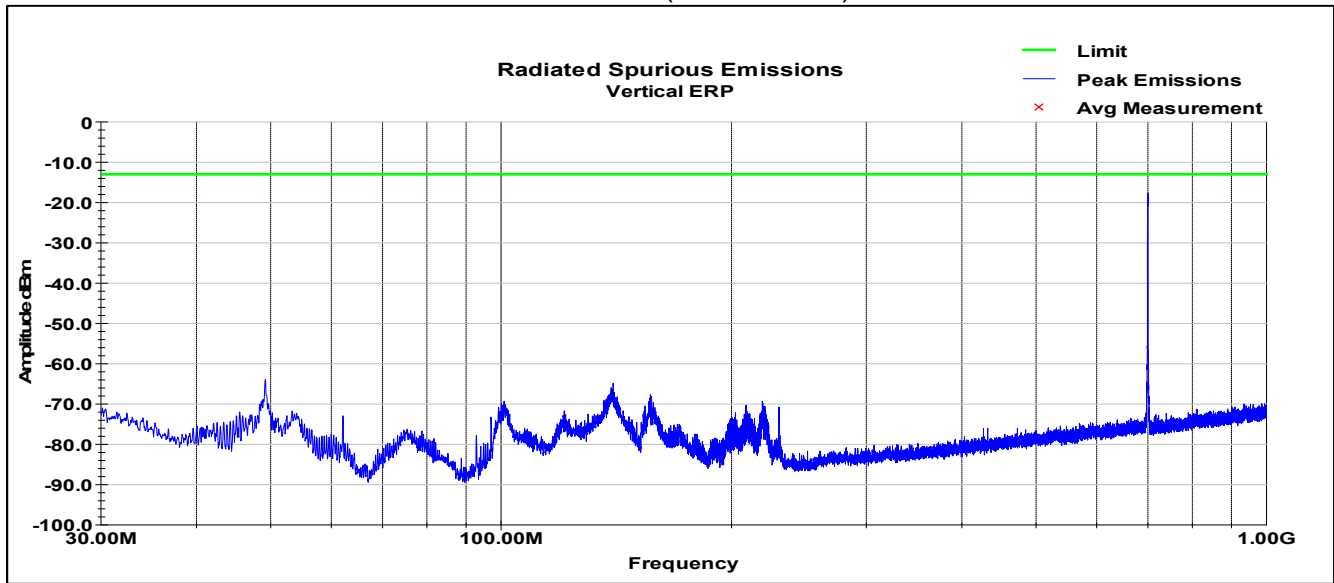
Horizontal Data (18-26GHz)



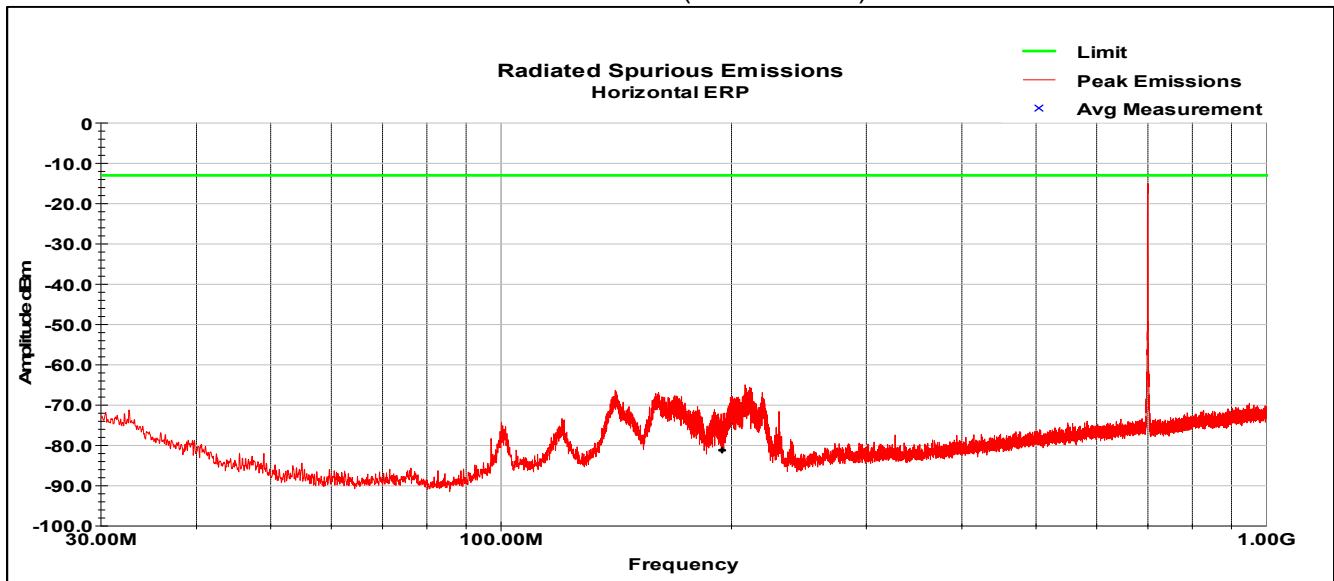
LTE Band 12, QPSK modulation, 1.4MHz

Low Channel (23017)

Vertical Data (30-1000MHz)



Horizontal Data (30-1000MHz)

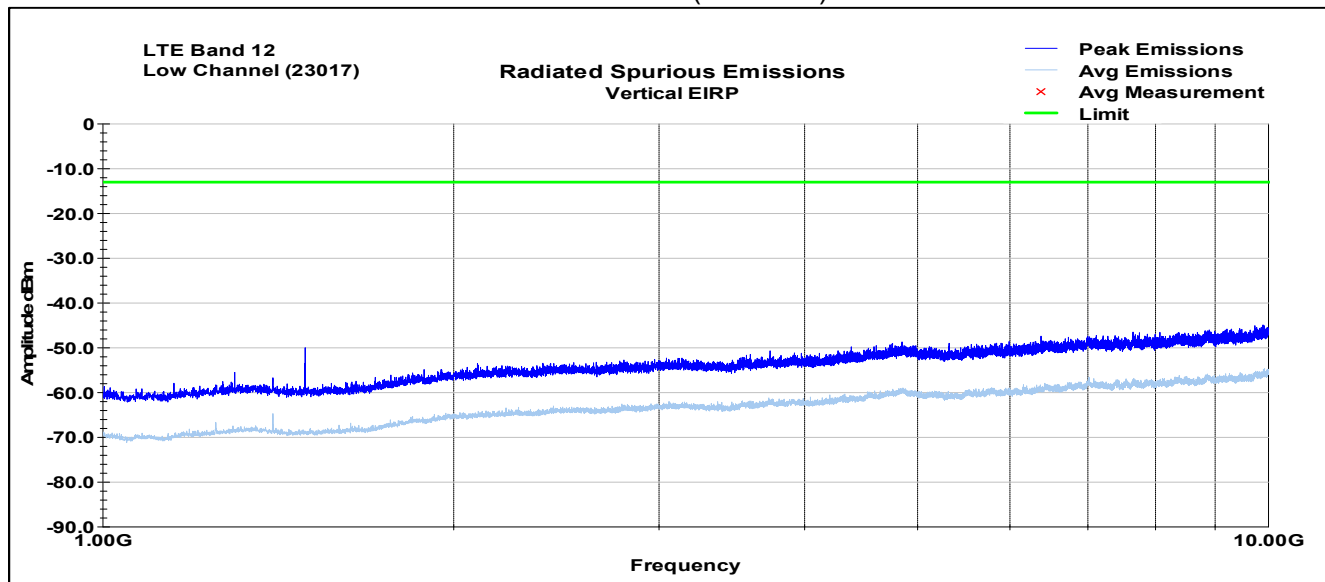




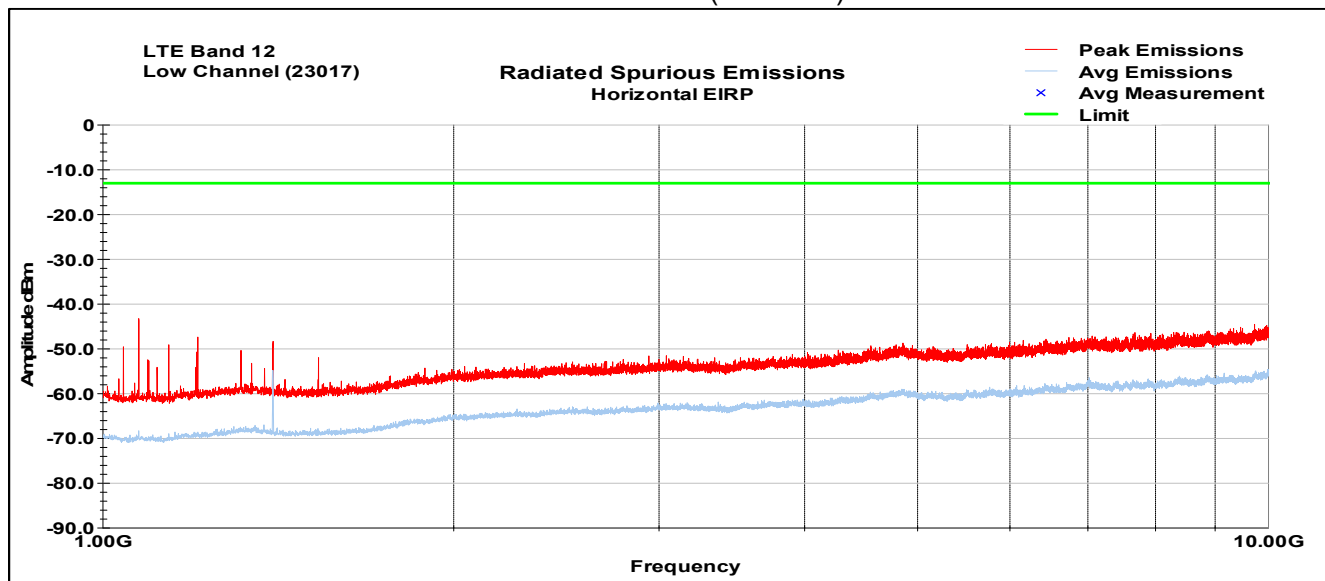
LTE Band 12, QPSK modulation, 1.4MHz

Low Channel (23017)

Vertical Data (1-10GHz)



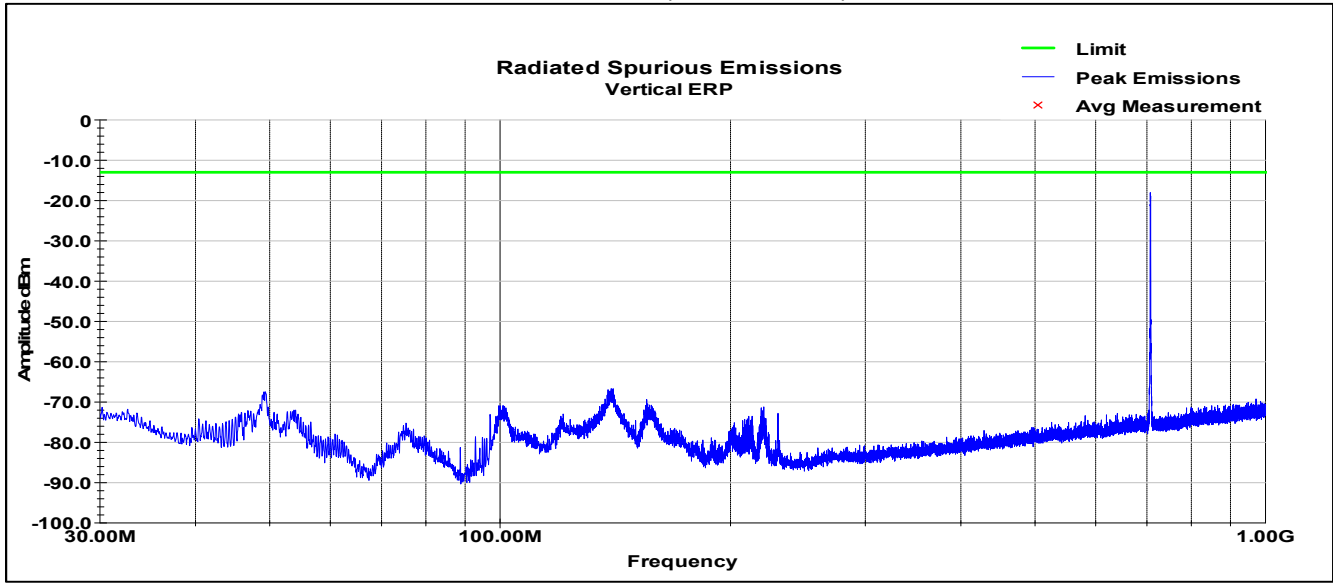
Horizontal Data (1-10GHz)



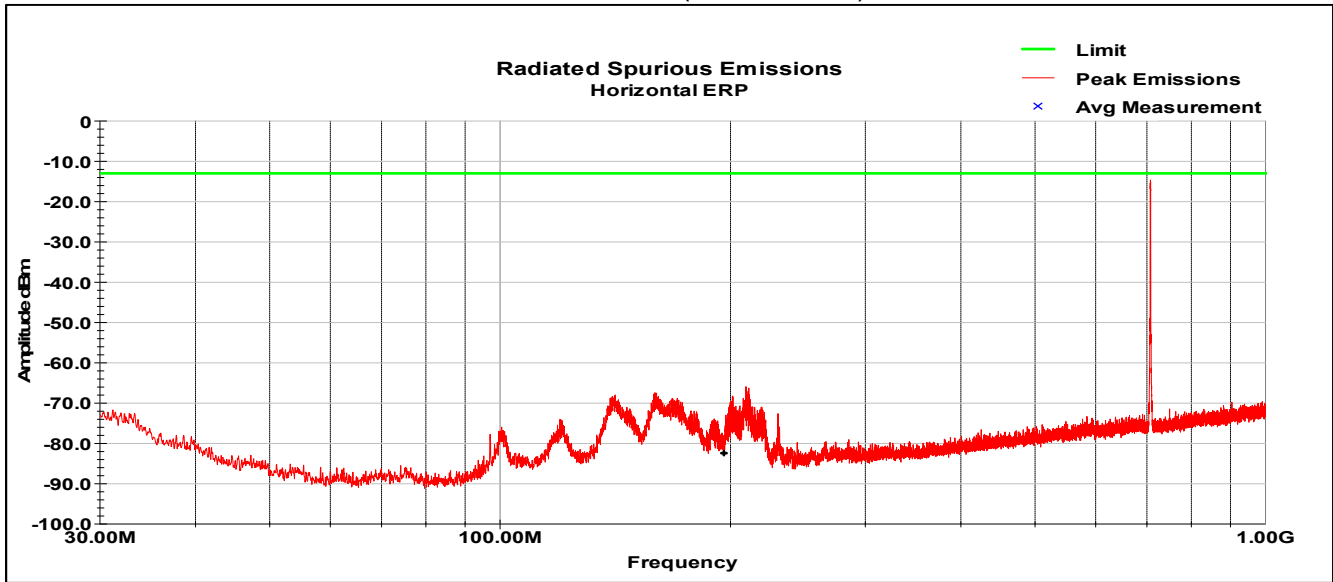
LTE Band 12, QPSK modulation, 1.4MHz

Mid Channel (23095)

Vertical Data (30-1000MHz)



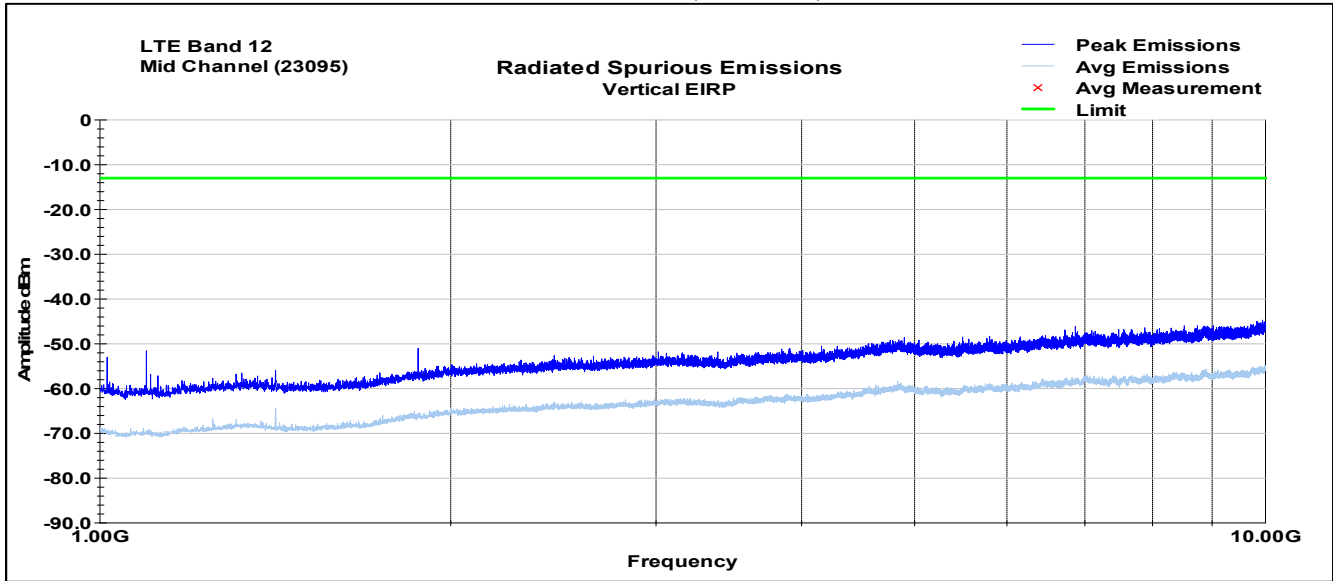
Horizontal Data (30-1000MHz)



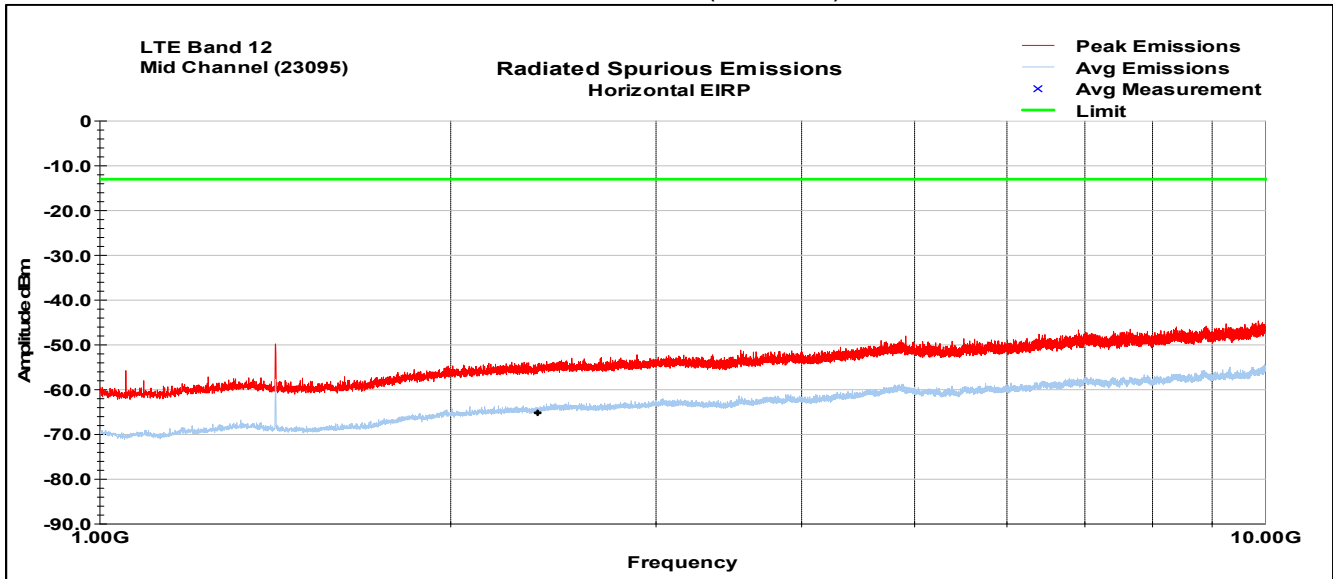
LTE Band 12, QPSK modulation, 1.4MHz

Mid Channel (23095)

Vertical Data (1-10GHz)



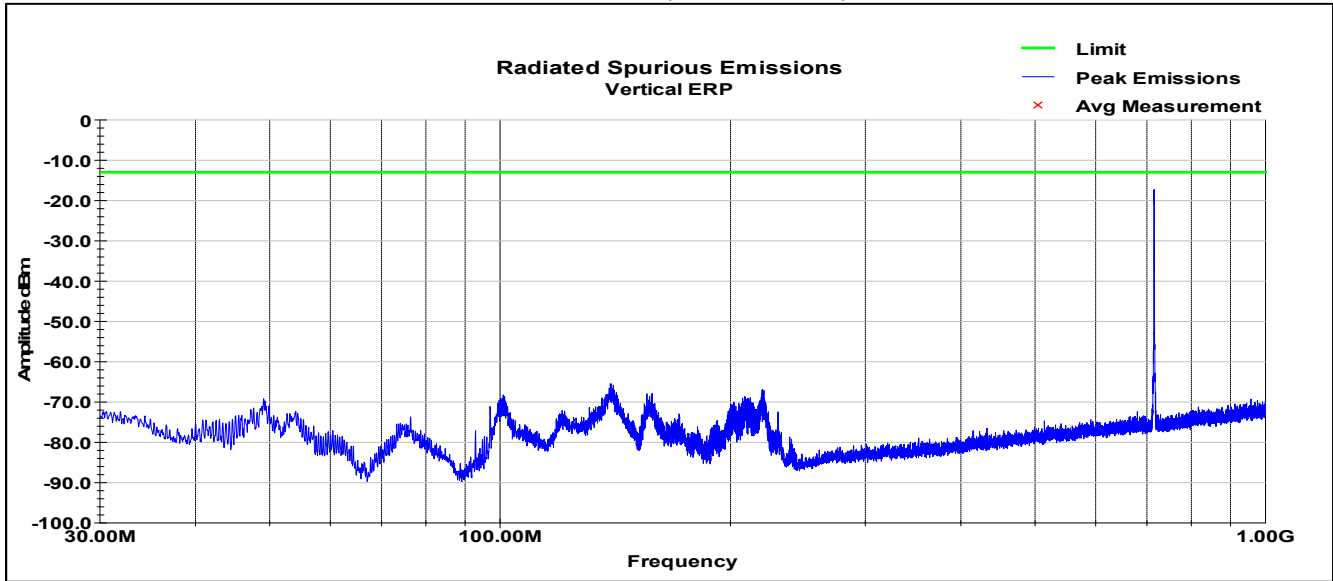
Horizontal Data (1-10GHz)



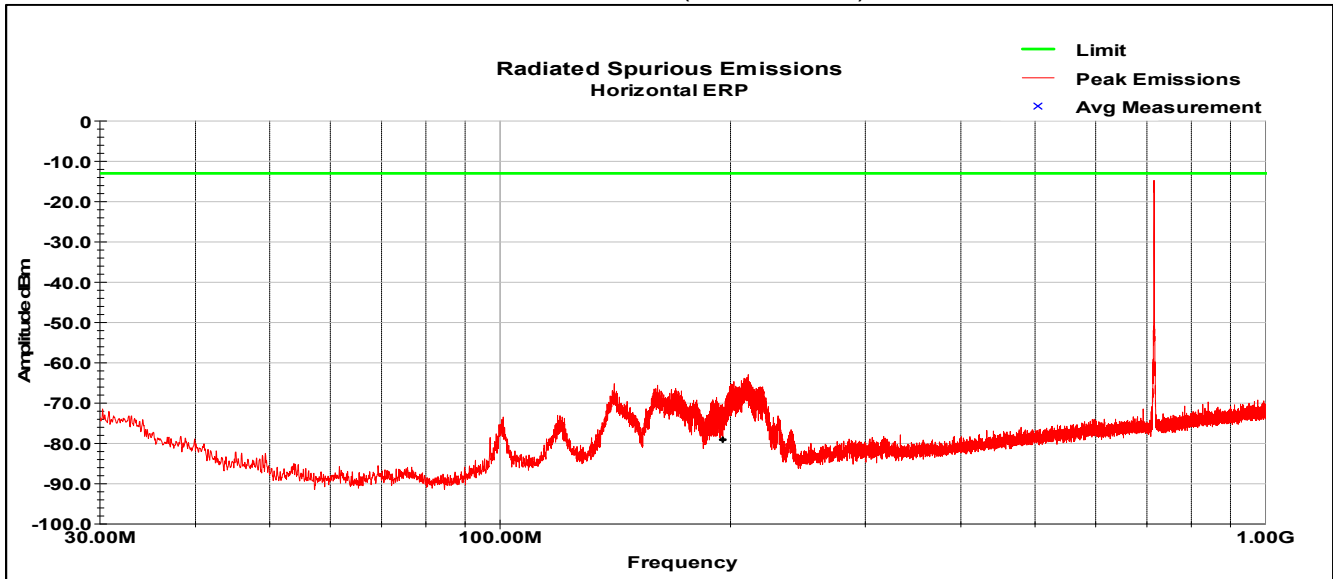
LTE Band 12, QPSK modulation, 1.4MHz

High Channel (23173)

Vertical Data (30-1000MHz)



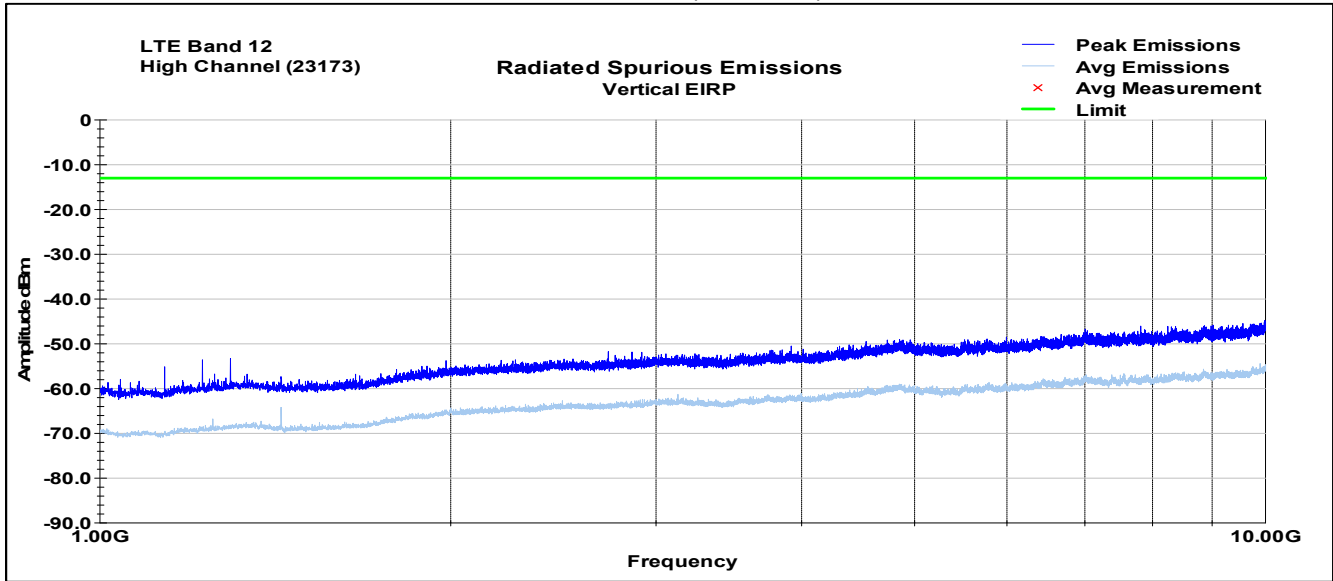
Horizontal Data (30-1000MHz)



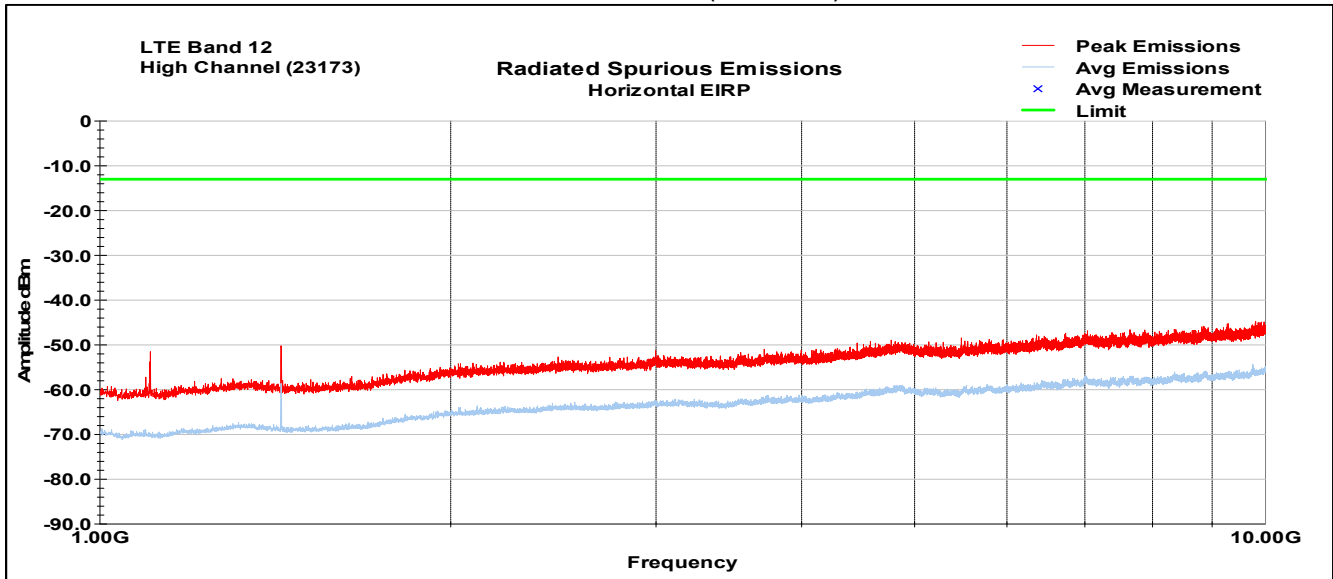
LTE Band 12, QPSK modulation, 1.4MHz

High Channel (23173)

Vertical Data (1-10GHz)



Horizontal Data (1-10GHz)



## 9 Frequency Stability

### 9.1 Test Result

Test Description	Basic Standards		Test Result
Frequency Stability	FCC 2.1055 FCC 24.235 FCC 27.54	RSS-GEN (6.11) RSS-130 (4.3) RSS-132 (5.3) RSS-133 (6.3) RSS-139 (6.4) RSS-199 (4.3)	Pass

### 9.2 Test Method

The EUT was placed inside the Environmental Chamber and was allowed to stabilize to set temperature for a minimum of thirty minutes before any measurements were made. The EUT antenna port was connected to the CMW 500 and the frequency was measured using the CMW internal measurement functions. The EUT was tested at the middle channel of each band.

### 9.3 Test Site

SGS EMC Laboratory, Suwanee, GA

### 9.4 Test Equipment

Test End Date: 14-Aug-2018

Tester: MT

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B094874	25-Jan-2020
ENVIRONMENTAL TEST CHAMBER	T2RC	TENNEY ENVIRONMENTAL	B094877	CNR
MULTIMETER	87V	FLUKE	B079677	27-Jul-2019

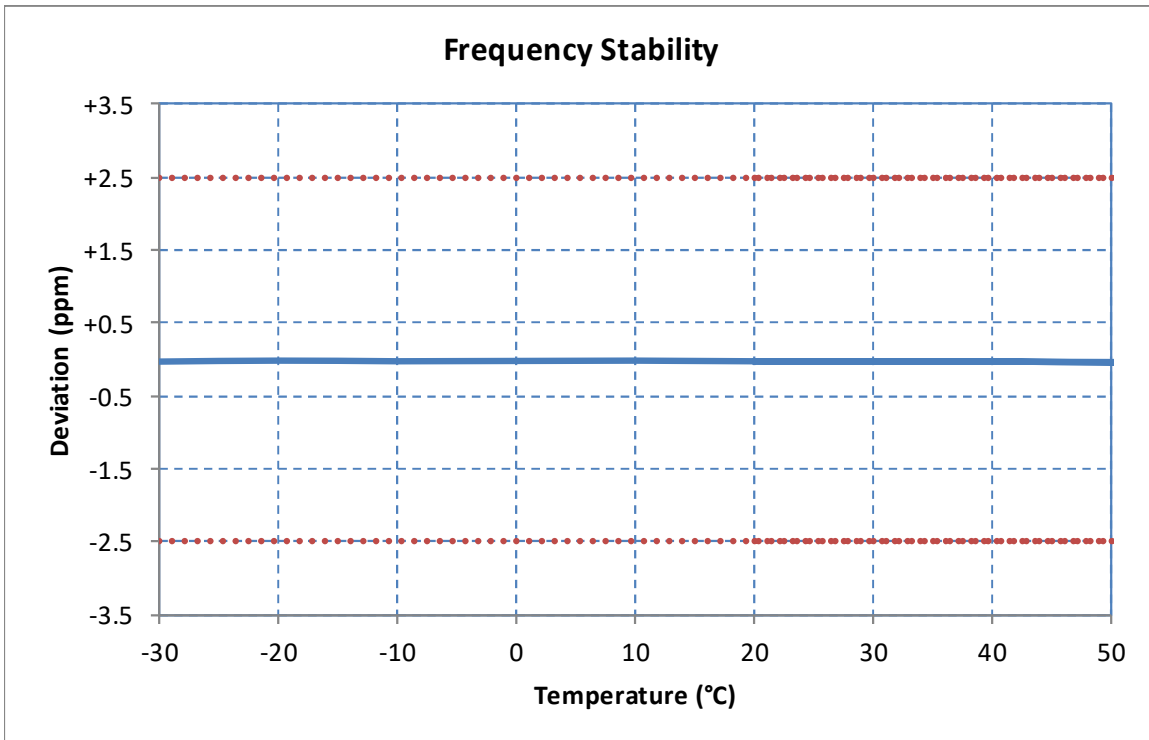
- Unless otherwise noted, equipment is on a 1-year calibration cycle.
- Based on manufacturer's specifications, the CMW 500 is on a 2-year calibration cycle.

### 9.5 Test Data

The carrier frequency shall not depart from the reference frequency by more than  $\pm 2.5$  ppm.

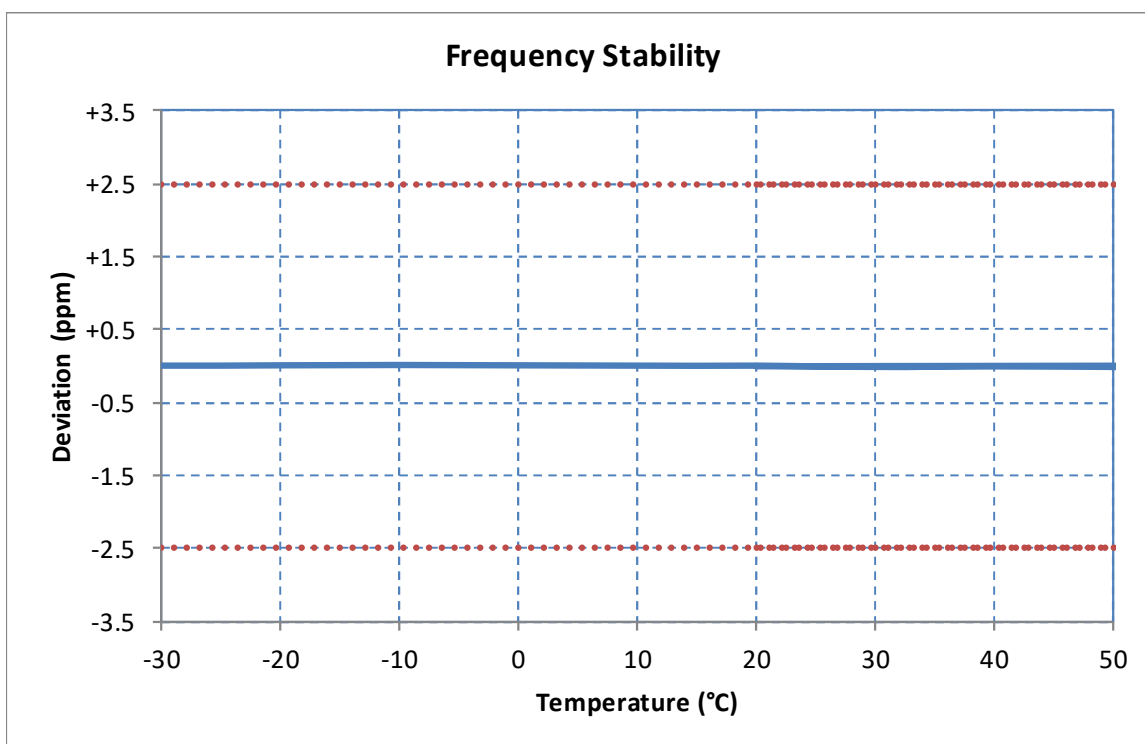
Band 2, Channel 18900

Voltage %	Power $V_{DC}$	Temp °C	Frequency Hz	Freq Dev	Freq Dev ppm	Deviation %
100%	12.00	+20 (Ref)	1,879,999,998	-2	-0.00	-0.000000
100%	12.00	-30	1,879,999,997	-3	-0.00	-0.000000
100%	12.00	-20	1,879,999,999	-1	-0.00	-0.000000
100%	12.00	-10	1,879,999,998	-2	-0.00	-0.000000
100%	12.00	0	1,879,999,998	-2	-0.00	-0.000000
100%	12.00	+10	1,879,999,998	-2	-0.00	-0.000000
100%	12.00	+20	1,879,999,998	-2	-0.00	-0.000000
100%	12.00	+30	1,879,999,997	-3	-0.00	-0.000000
100%	12.00	+40	1,879,999,998	-2	-0.00	-0.000000
100%	12.00	+50	1,879,999,996	-4	-0.00	-0.000000
100%	12.00	+55	1,879,999,996	-4	-0.00	-0.000000
115%	13.80	+20	1,879,999,998	-2	-0.00	-0.000000
85%	10.20	+20	1,879,999,997	-3	-0.00	-0.000000



Band 4, Channel 20175

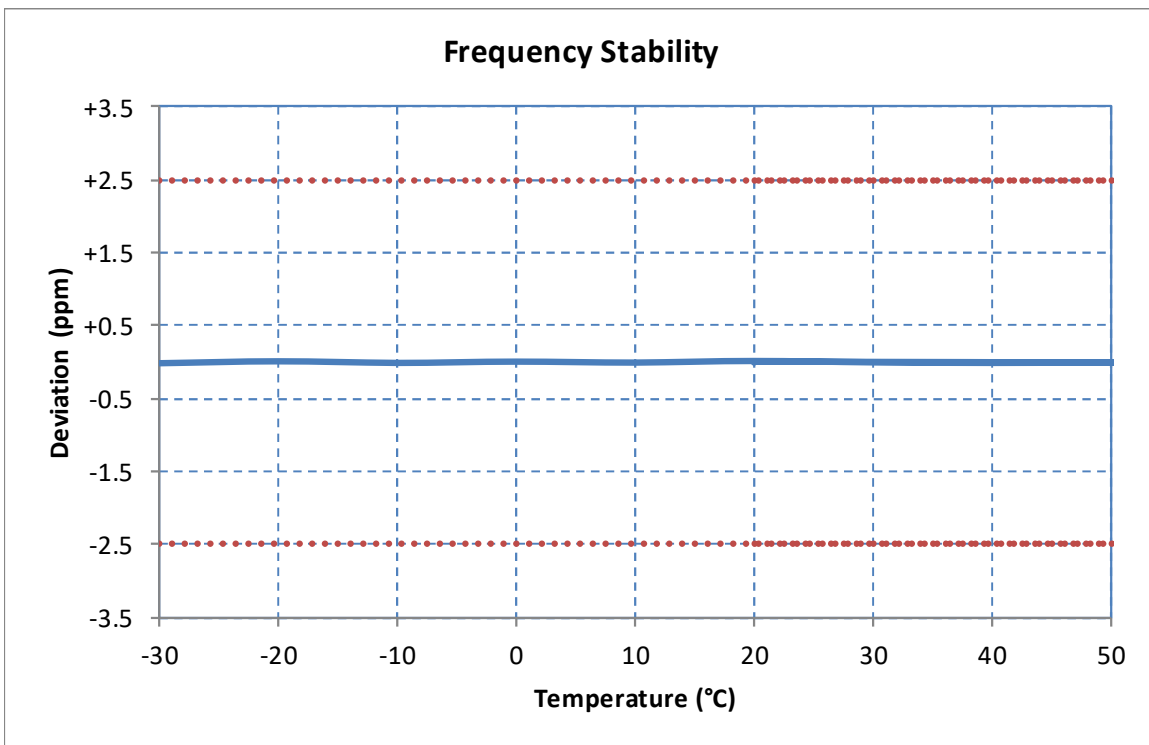
Voltage %	Power V <sub>DC</sub>	Temp °C	Frequency Hz	Freq Dev	Freq Dev ppm	Deviation %
100%	12.00	+20 (Ref)	1,732,500,001	+1	+0.00	+0.000000
100%	12.00	-30	1,732,500,001	+1	+0.00	+0.000000
100%	12.00	-20	1,732,500,002	+2	+0.00	+0.000000
100%	12.00	-10	1,732,500,002	+2	+0.00	+0.000000
100%	12.00	0	1,732,500,002	+2	+0.00	+0.000000
100%	12.00	+10	1,732,500,001	+1	+0.00	+0.000000
100%	12.00	+20	1,732,500,001	+1	+0.00	+0.000000
100%	12.00	+30	1,732,500,000	-0	-0.00	-0.000000
100%	12.00	+40	1,732,500,001	+1	+0.00	+0.000000
100%	12.00	+50	1,732,500,000	-0	-0.00	-0.000000
100%	12.00	+55	1,732,500,001	+1	+0.00	+0.000000
115%	13.80	+20	1,732,500,001	+1	+0.00	+0.000000
85%	10.20	+20	1,732,500,001	+1	+0.00	+0.000000





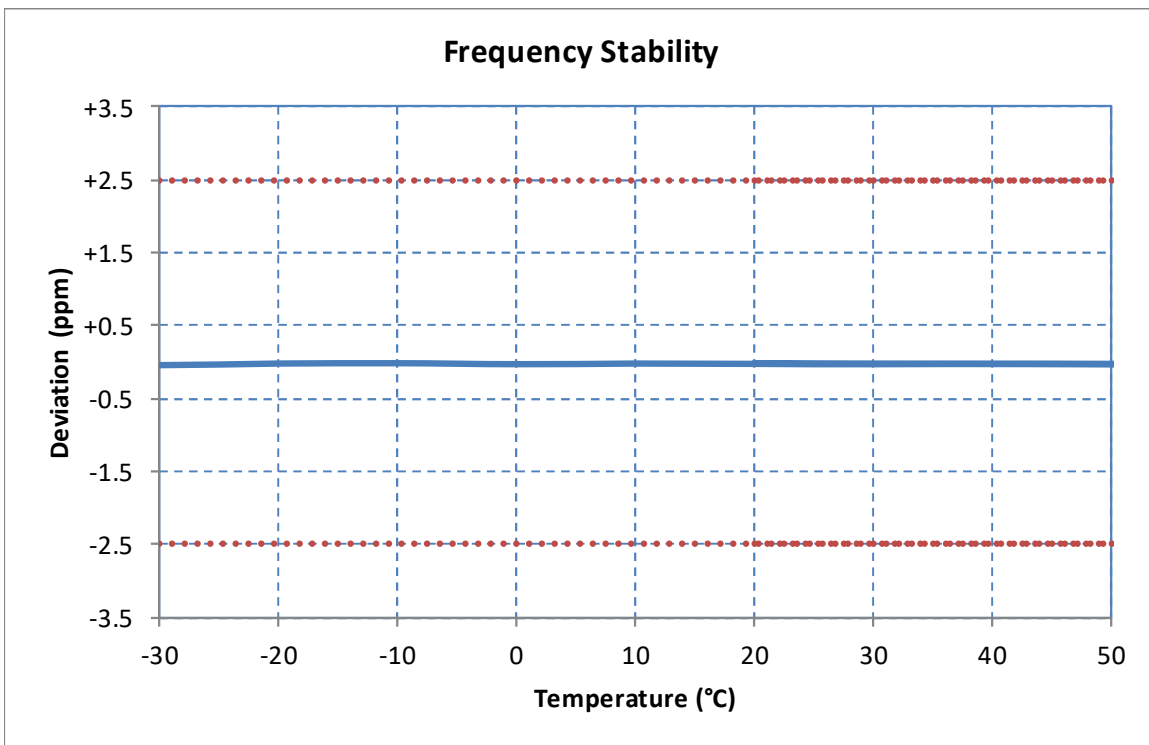
Band 5, Channel 20525

Voltage %	Power V <sub>DC</sub>	Temp °C	Frequency Hz	Freq Dev Hz	Freq Dev ppm	Deviation %
100%	12.00	+20 (Ref)	836,500,001	+1	+0.00	+0.000000
100%	12.00	-30	836,499,999	-1	-0.00	-0.000000
100%	12.00	-20	836,500,001	+1	+0.00	+0.000000
100%	12.00	-10	836,499,999	-1	-0.00	-0.000000
100%	12.00	0	836,500,001	+1	+0.00	+0.000000
100%	12.00	+10	836,500,000	-1	-0.00	-0.000000
100%	12.00	+20	836,500,001	+1	+0.00	+0.000000
100%	12.00	+30	836,500,000	-0	-0.00	-0.000000
100%	12.00	+40	836,499,999	-1	-0.00	-0.000000
100%	12.00	+50	836,499,999	-1	-0.00	-0.000000
100%	12.00	+55	836,499,999	-1	-0.00	-0.000000
115%	13.80	+20	836,500,001	+1	+0.00	+0.000000
85%	10.20	+20	836,499,999	-1	-0.00	-0.000000



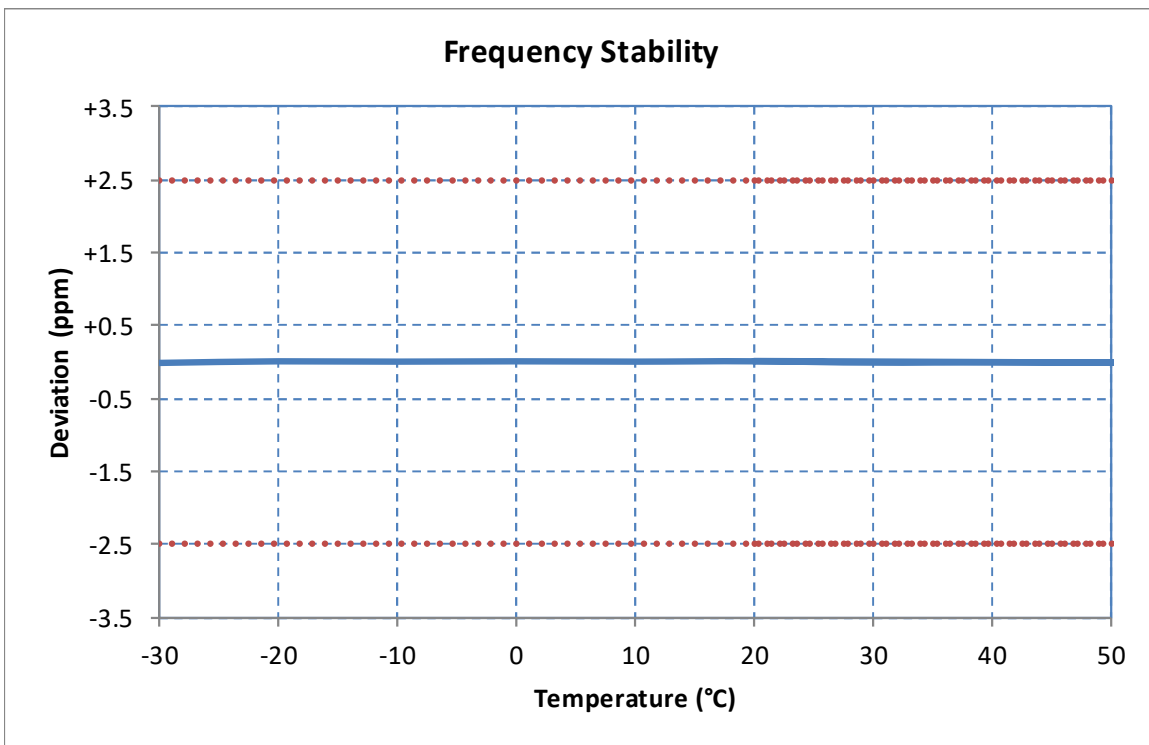
Band 7, Channel 21100

Voltage %	Power V <sub>DC</sub>	Temp °C	Frequency Hz	Freq Dev Hz	Freq Dev ppm	Deviation %
100%	12.00	+20 (Ref)	2,534,999,997	-3	-0.00	-0.000000
100%	12.00	-30	2,534,999,994	-6	-0.00	-0.000000
100%	12.00	-20	2,534,999,997	-3	-0.00	-0.000000
100%	12.00	-10	2,534,999,998	-2	-0.00	-0.000000
100%	12.00	0	2,534,999,996	-4	-0.00	-0.000000
100%	12.00	+10	2,534,999,997	-3	-0.00	-0.000000
100%	12.00	+20	2,534,999,997	-3	-0.00	-0.000000
100%	12.00	+30	2,534,999,996	-4	-0.00	-0.000000
100%	12.00	+40	2,534,999,997	-3	-0.00	-0.000000
100%	12.00	+50	2,534,999,997	-3	-0.00	-0.000000
100%	12.00	+55	2,534,999,996	-4	-0.00	-0.000000
115%	13.80	+20	2,534,999,998	-2	-0.00	-0.000000
85%	10.20	+20	2,534,999,998	-2	-0.00	-0.000000



Band 12, Channel 23095

Voltage %	Power V <sub>DC</sub>	Temp °C	Frequency Hz	Freq Dev Hz	Freq Dev ppm	Deviation %
100%	12.00	+20 (Ref)	707,500,001	+1	+0.00	+0.000000
100%	12.00	-30	707,499,999	-1	-0.00	-0.000000
100%	12.00	-20	707,500,000	+0	+0.00	+0.000000
100%	12.00	-10	707,500,000	+0	+0.00	+0.000000
100%	12.00	0	707,500,001	+1	+0.00	+0.000000
100%	12.00	+10	707,500,000	+0	+0.00	+0.000000
100%	12.00	+20	707,500,001	+1	+0.00	+0.000000
100%	12.00	+30	707,499,999	-1	-0.00	-0.000000
100%	12.00	+40	707,500,000	-1	-0.00	-0.000000
100%	12.00	+50	707,499,999	-1	-0.00	-0.000000
100%	12.00	+55	707,499,999	-1	-0.00	-0.000000
115%	13.80	+20	707,500,001	+1	+0.00	+0.000000
85%	10.20	+20	707,500,000	+0	+0.00	+0.000000



## 10 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	04 September 2018