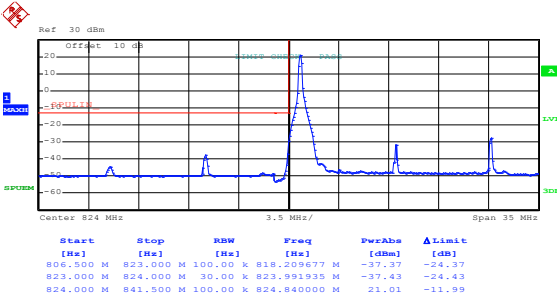
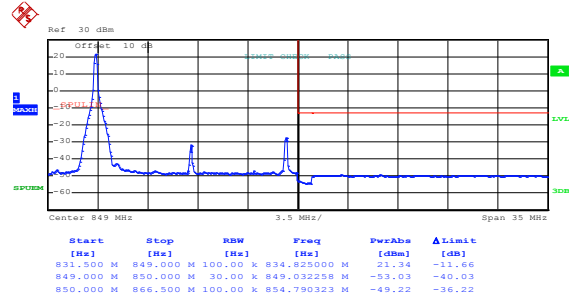


LTE Band 5&26(part 22H), BW: 15MHz QPSK & RB Size 1



Date: 23.SEP.2019 09:17:50

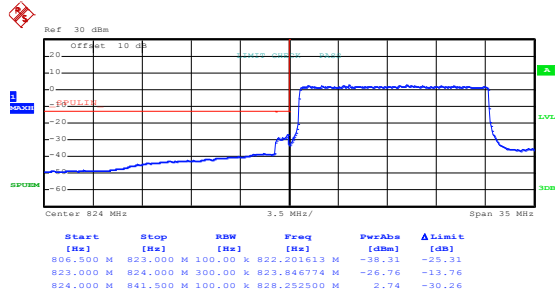
Lowest channel



Date: 23.SEP.2019 09:18:48

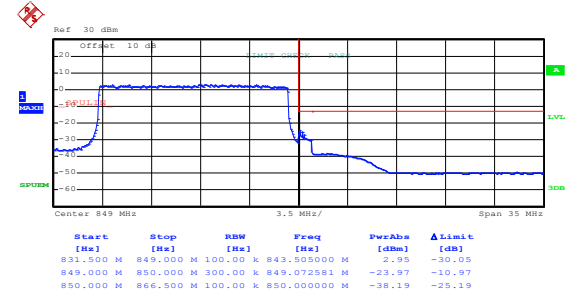
Highest channel

QPSK & RB Size 75



Date: 23.SEP.2019 09:18:09

Lowest channel

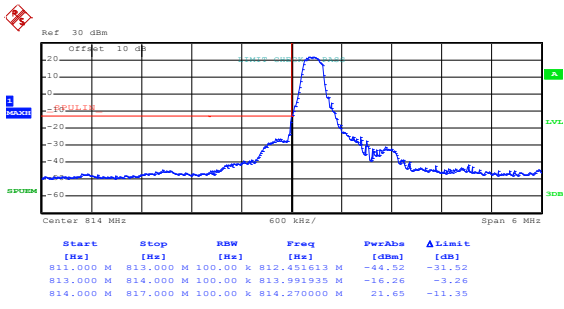


Date: 23.SEP.2019 09:18:27

Highest channel

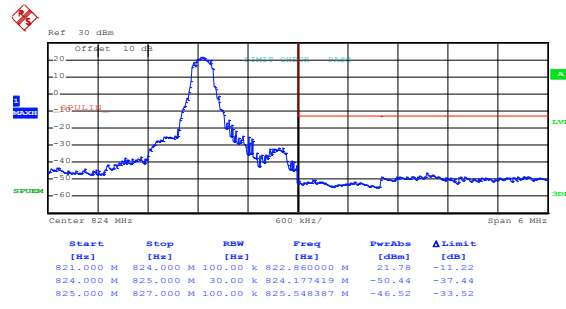
LTE Band 26(part 90S) part:

LTE Band 26(part 90S), BW: 1.4MHz
16QAM & RB Size 1



Date: 23.SEP.2019 09:31:09

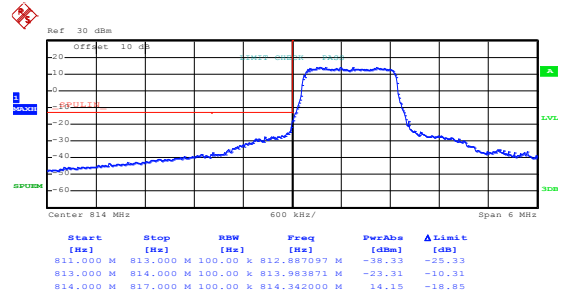
Lowest channel



Date: 23.SEP.2019 09:31:55

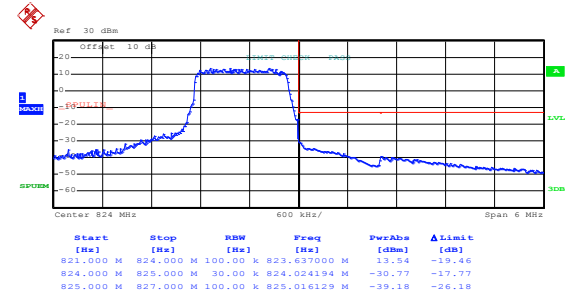
Highest channel

16QAM & RB Size 6



Date: 23.SEP.2019 09:31:27

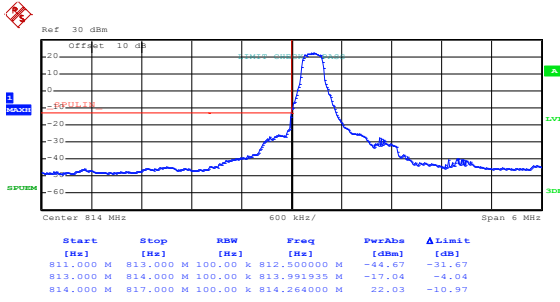
Lowest channel



Date: 23.SEP.2019 09:31:42

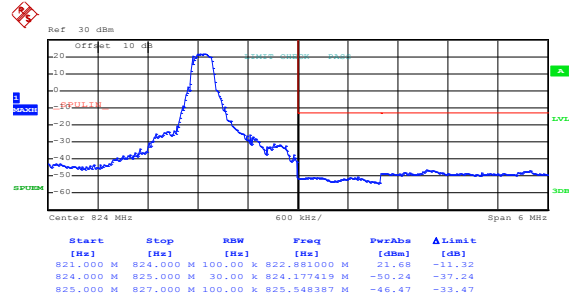
Highest channel

LTE Band 26(part 90S), BW: 1.4MHz QPSK & RB Size 1



Date: 23.SEP.2019 09:31:03

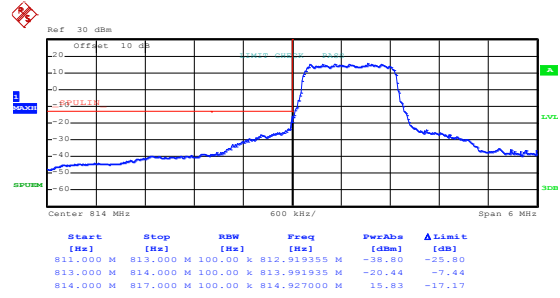
Lowest channel



Date: 23.SEP.2019 09:31:51

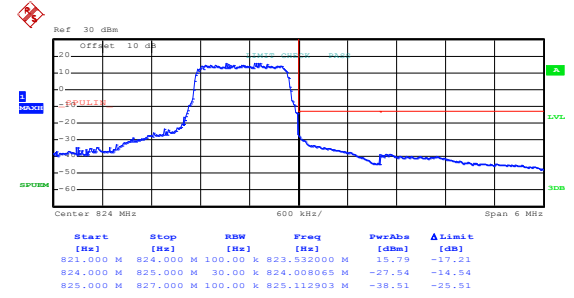
Highest channel

QPSK & RB Size 6



Date: 23.SEP.2019 09:31:19

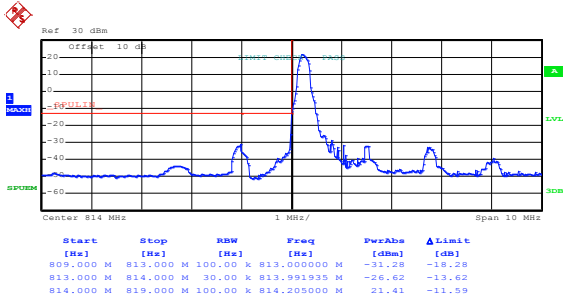
Lowest channel



Date: 23.SEP.2019 09:31:37

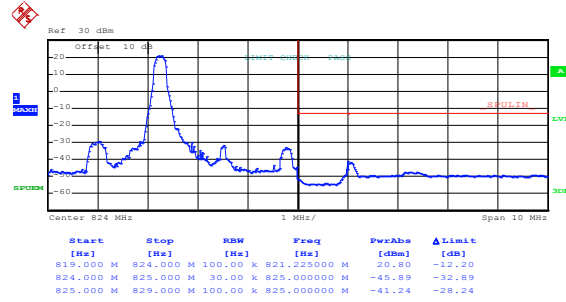
Highest channel

LTE Band 26(part 90S), BW: 3MHz 16QAM & RB Size 1



Date: 23.SEP.2019 09:33:48

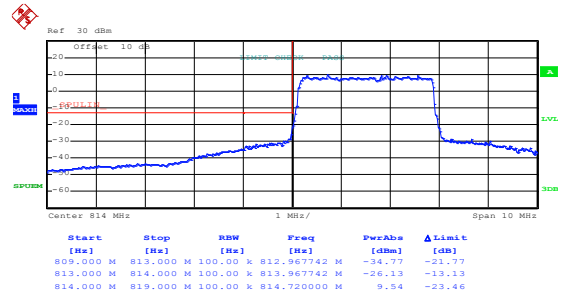
Lowest channel



Date: 23.SEP.2019 09:32:31

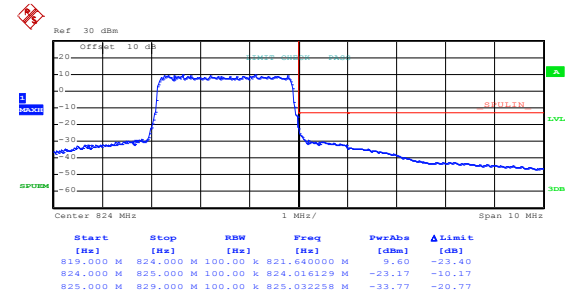
Highest channel

16QAM & RB Size 15



Date: 23.SEP.2019 09:33:24

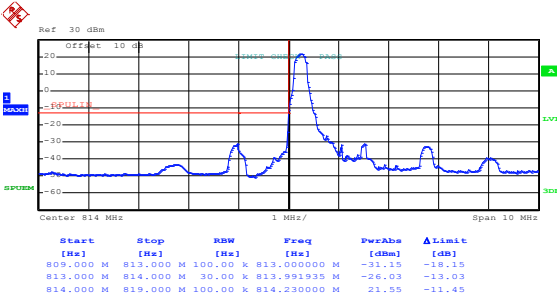
Lowest channel



Date: 23.SEP.2019 09:32:57

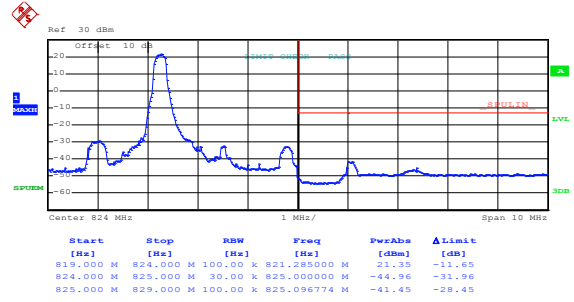
Highest channel

LTE Band 26(part 90S), BW: 3MHz QPSK & RB Size 1



Date: 23.SEP.2019 09:33:43

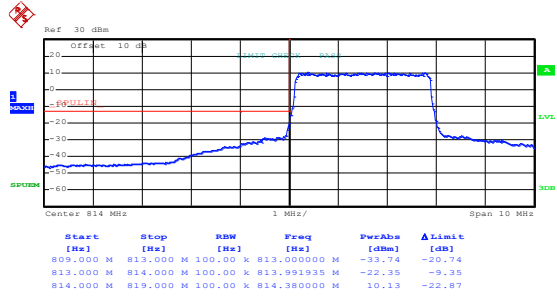
Lowest channel



Date: 23.SEP.2019 09:32:25

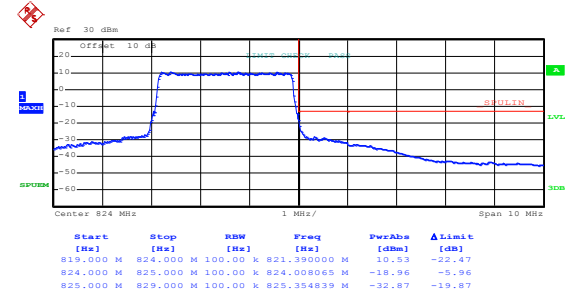
Highest channel

QPSK & RB Size 15



Date: 23.SEP.2019 09:33:18

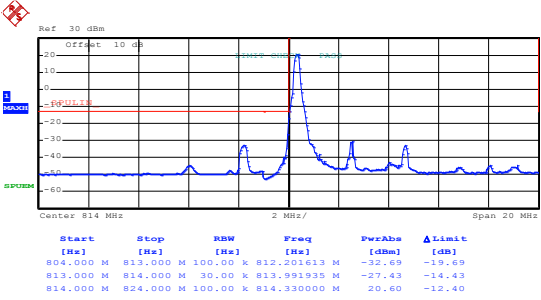
Lowest channel



Date: 23.SEP.2019 09:32:51

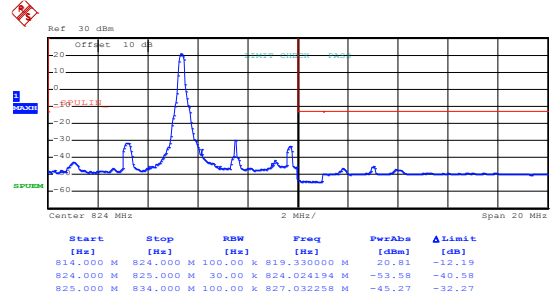
Highest channel

LTE Band 26(part 90S), BW: 5MHz 16QAM & RB Size 1



Date: 23.SEP.2019 09:34:27

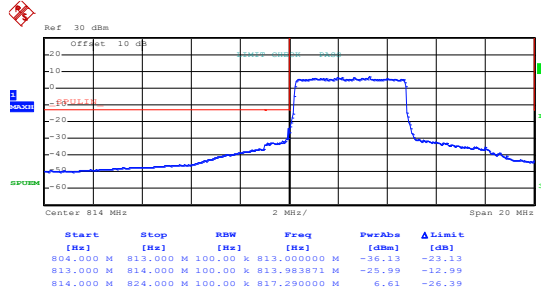
Lowest channel



Date: 23.SEP.2019 09:35:55

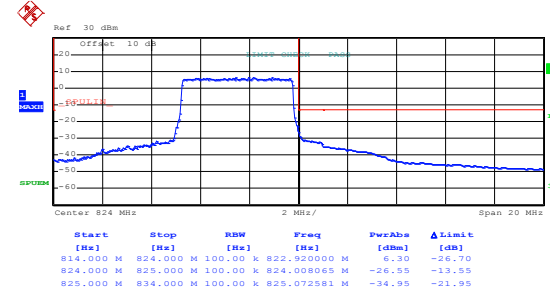
Highest channel

16QAM & RB Size 25



Date: 23.SEP.2019 09:35:00

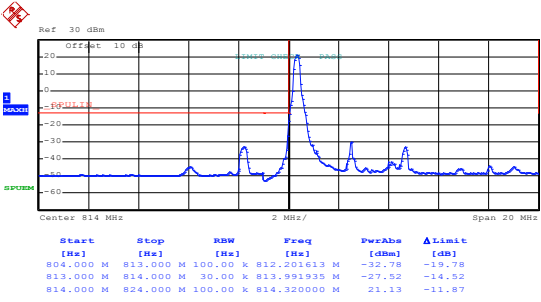
Lowest channel



Date: 23.SEP.2019 09:35:29

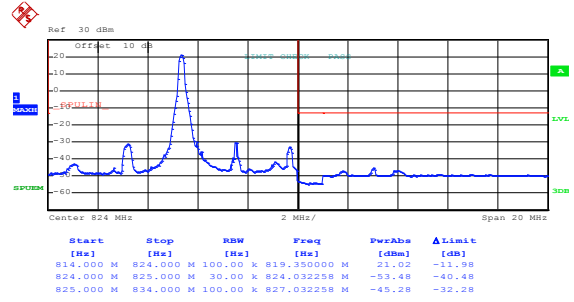
Highest channel

LTE Band 26(part 90S), BW: 5MHz QPSK & RB Size 1



Date: 23.SEP.2019 09:34:18

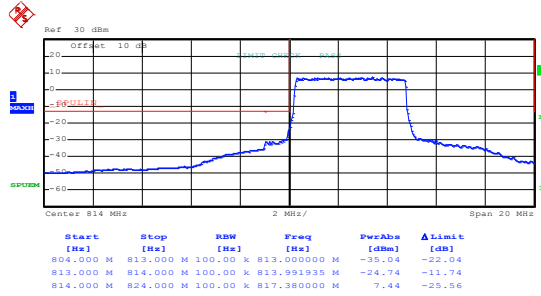
Lowest channel



Date: 23.SEP.2019 09:35:45

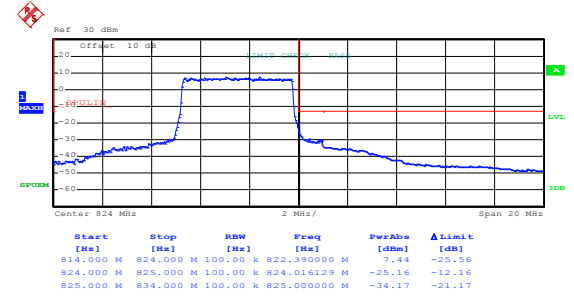
Highest channel

QPSK & RB Size 25



Date: 23.SEP.2019 09:34:49

Lowest channel

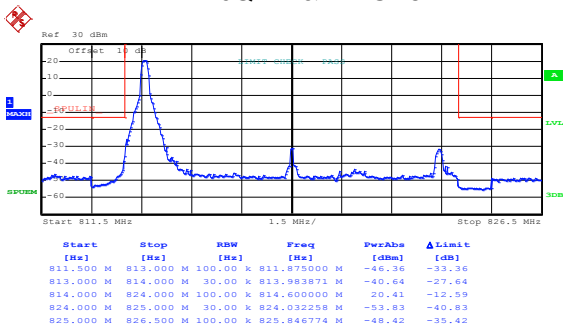


Date: 23.SEP.2019 09:35:16

Highest channel

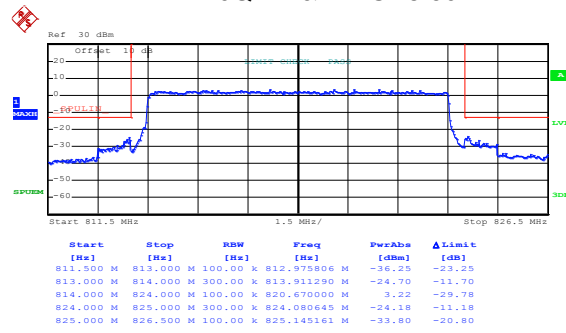
LTE Band 26(part 90S), BW: 10MHz

16QAM & RB Size 1



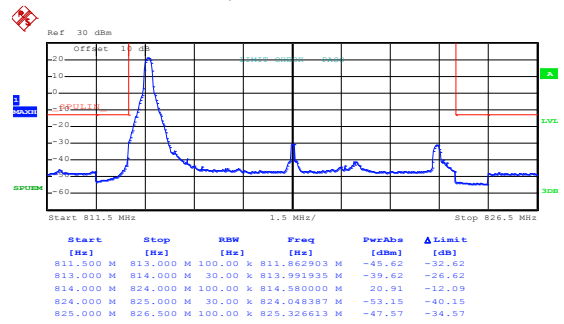
Date: 23.SEP.2019 09:25:01

16QAM & RB Size 50



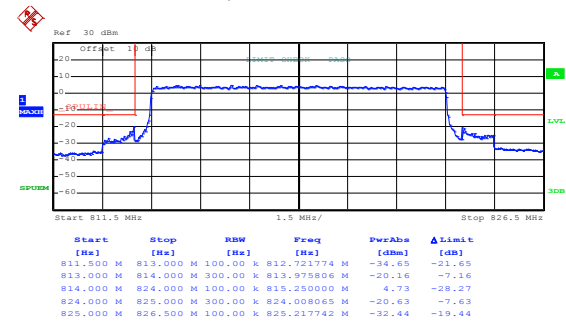
Date: 23.SEP.2019 09:25:33

QPSK & RB Size 1



Date: 23.SEP.2019 09:24:54

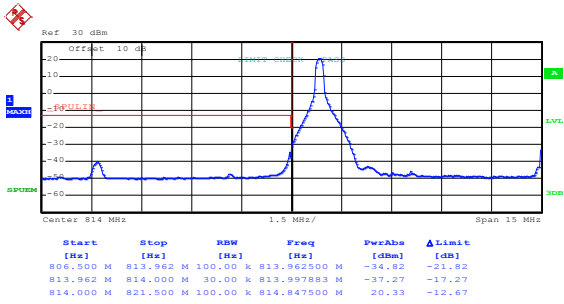
QPSK & RB Size 50



Date: 23.SEP.2019 09:25:28

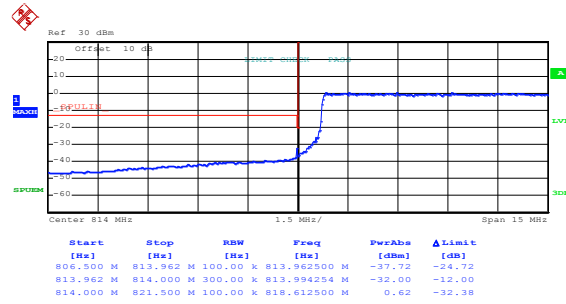
LTE Band 26(part 90S), BW: 15MHz

16QAM & RB Size 1



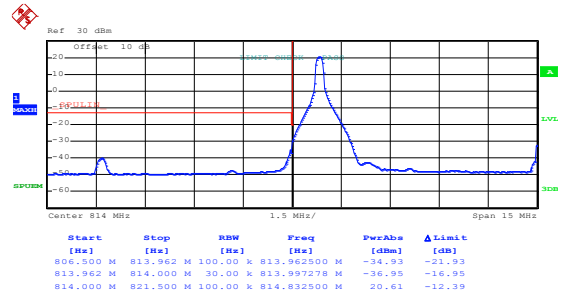
Date: 23.SEP.2019 09:23:24

16QAM & RB Size 75



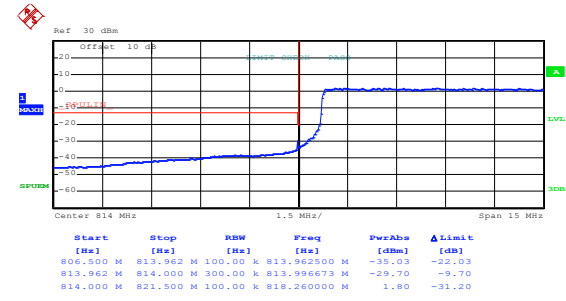
Date: 23.SEP.2019 09:23:55

QPSK & RB Size 1



Date: 23.SEP.2019 09:23:17

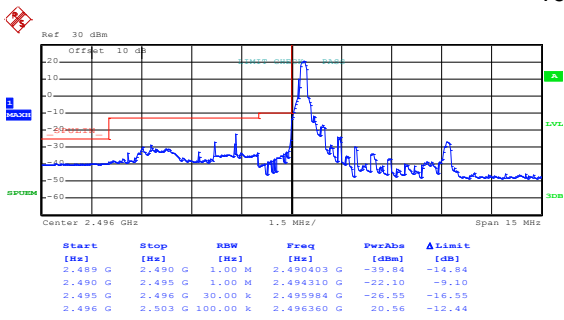
QPSK & RB Size 75



Date: 23.SEP.2019 09:23:50

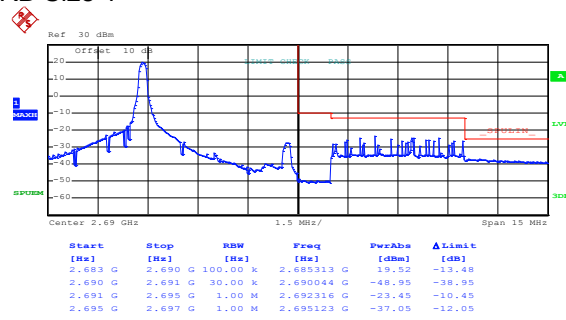
LTE Band 41 part:

LTE Band 41, BW: 5MHz
16QAM & RB Size 1



Date: 22.SEP.2019 17:42:38

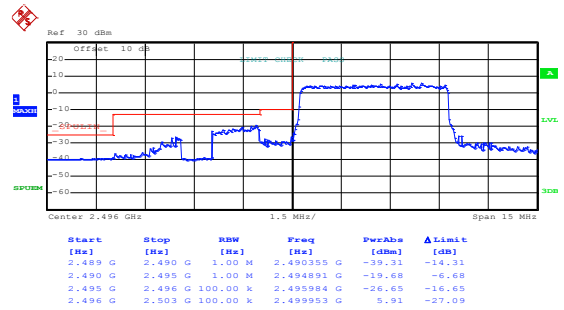
Lowest channel



Date: 22.SEP.2019 17:45:03

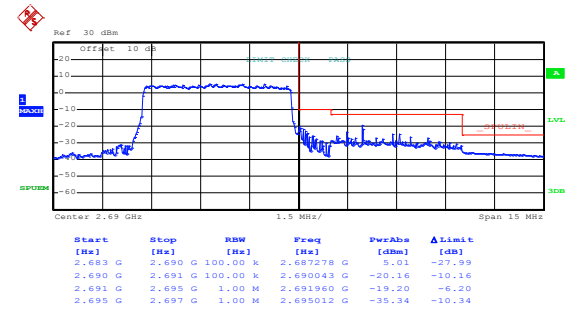
Highest channel

16QAM & RB Size 25



Date: 22.SEP.2019 17:43:08

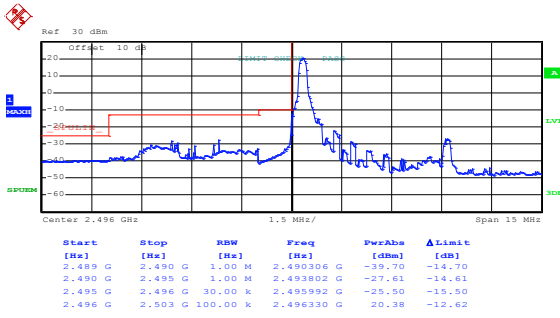
Lowest channel



Date: 22.SEP.2019 17:43:57

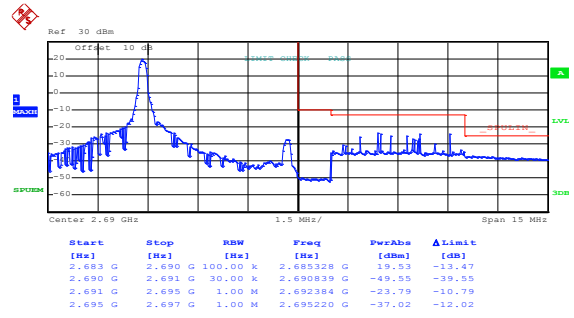
Highest channel

LTE Band 41, BW: 5MHz QPSK & RB Size 1



Date: 22.SEP.2019 17:42:14

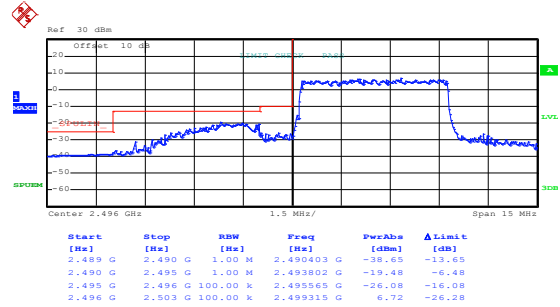
Lowest channel



Date: 22.SEP.2019 17:44:23

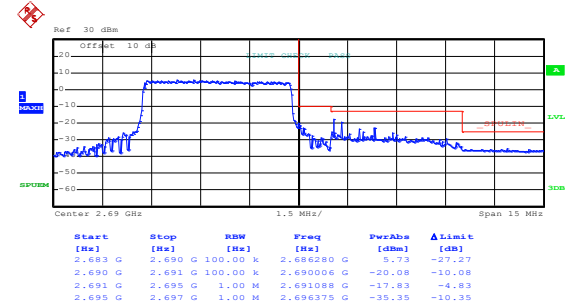
Highest channel

QPSK & RB Size 25



Date: 22.SEP.2019 17:43:01

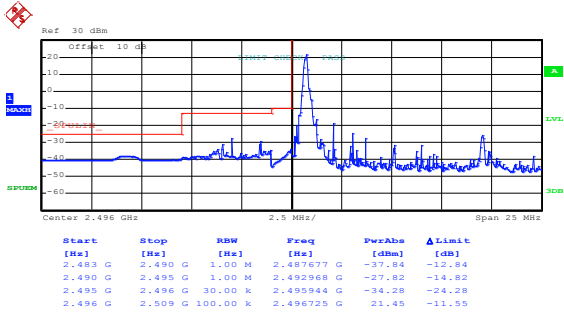
Lowest channel



Date: 22.SEP.2019 17:43:46

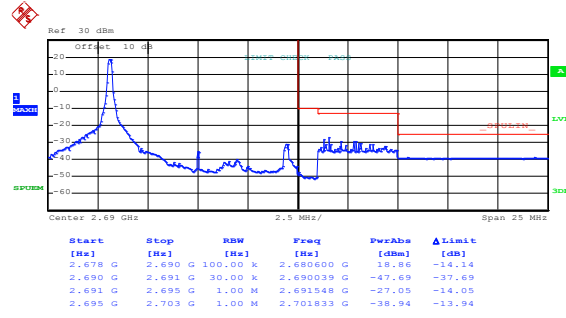
Highest channel

LTE Band 41, BW: 10MHz 16QAM & RB Size 1



Date: 22.SEP.2019 17:49:51

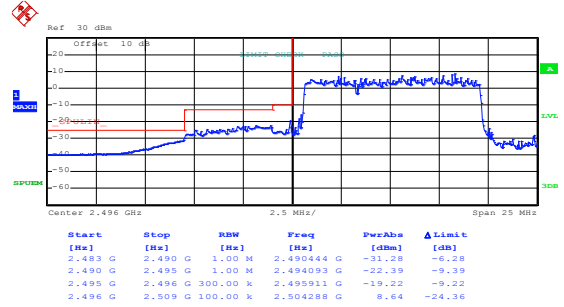
Lowest channel



Date: 22.SEP.2019 17:47:46

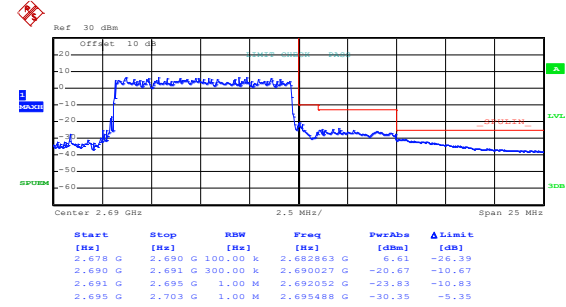
Highest channel

16QAM & RB Size 50



Date: 22.SEP.2019 17:49:20

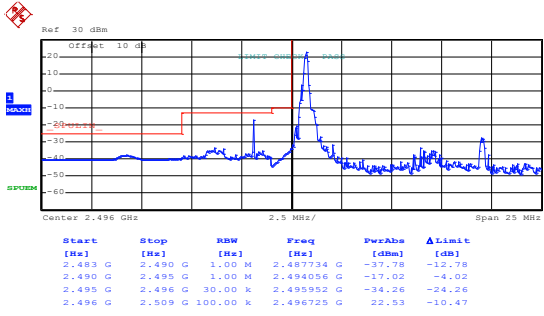
Lowest channel



Date: 22.SEP.2019 17:48:24

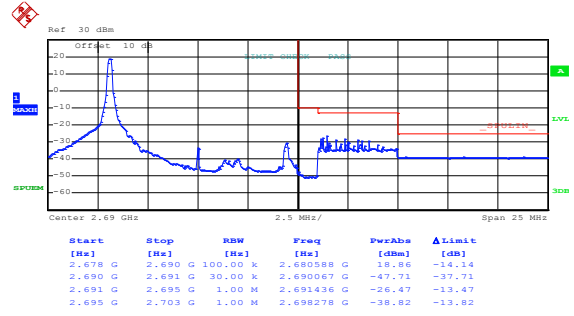
Highest channel

LTE Band 41, BW: 10MHz QPSK & RB Size 1



Date: 22.SEP.2019 17:49:42

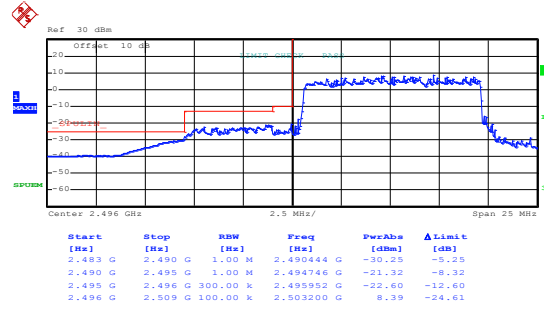
Lowest channel



Date: 22.SEP.2019 17:47:03

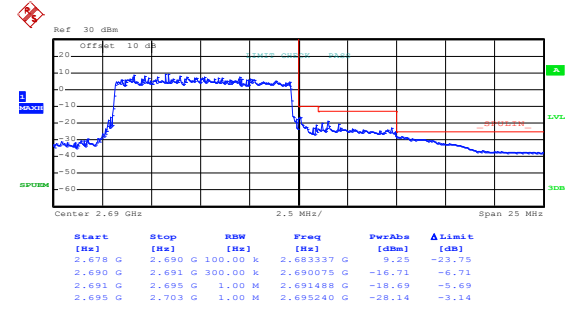
Highest channel

QPSK & RB Size 50



Date: 22.SEP.2019 17:49:09

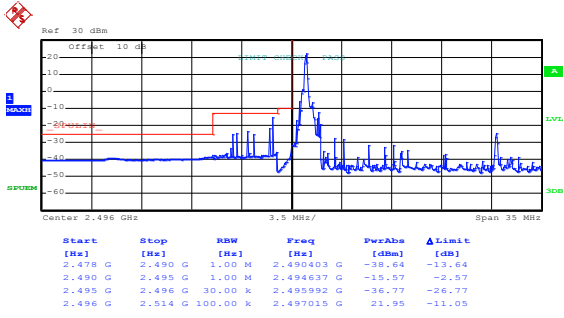
Lowest channel



Date: 22.SEP.2019 17:48:17

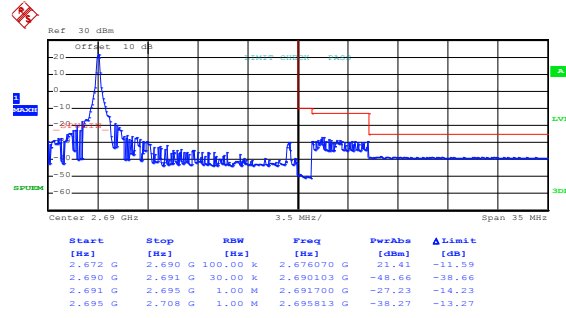
Highest channel

LTE Band 41, BW: 15MHz 16QAM & RB Size 1



Date: 22.SEP.2019 17:50:32

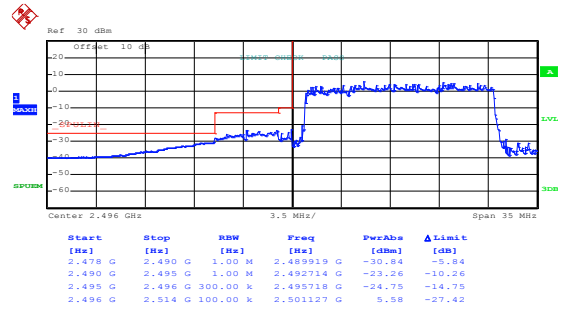
Lowest channel



Date: 22.SEP.2019 17:52:21

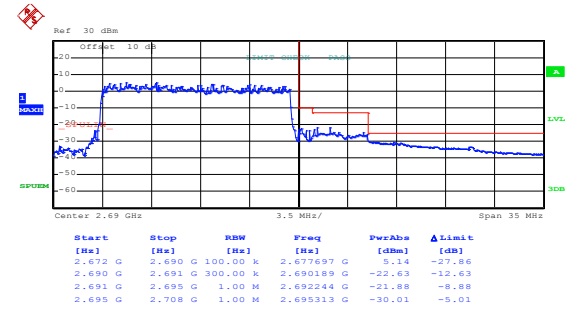
Highest channel

16QAM & RB Size 75



Date: 22.SEP.2019 17:50:55

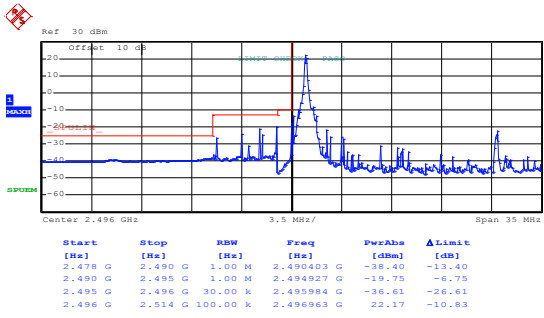
Lowest channel



Date: 22.SEP.2019 17:51:21

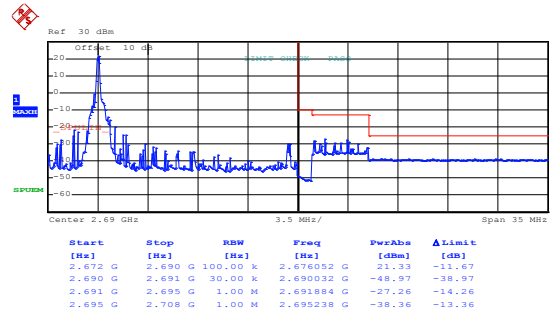
Highest channel

LTE Band 41, BW: 15MHz QPSK & RB Size 1



Date: 22.SEP.2019 17:50:23

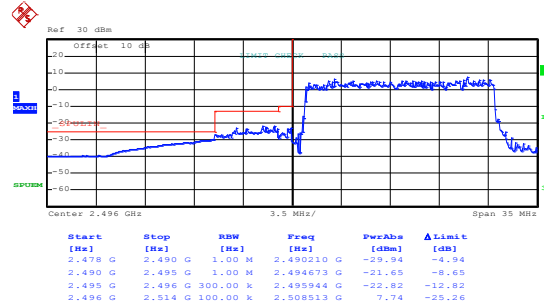
Lowest channel



Date: 22.SEP.2019 17:51:40

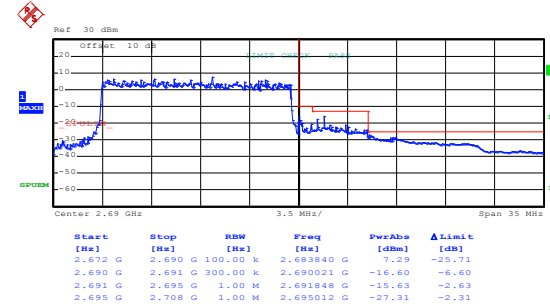
Highest channel

QPSK & RB Size 75



Date: 22.SEP.2019 17:50:48

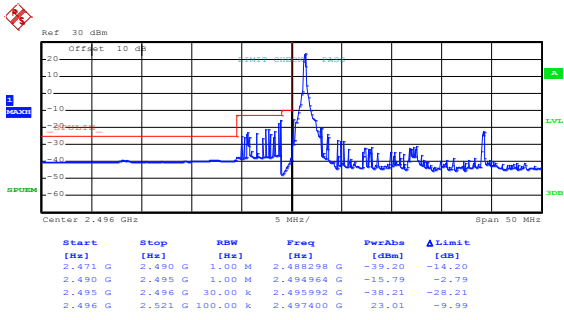
Lowest channel



Date: 22.SEP.2019 17:51:14

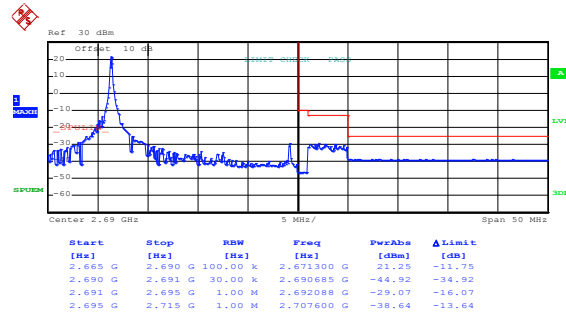
Highest channel

LTE Band 41, BW: 20MHz 16QAM & RB Size 1



Date: 22.SEP.2019 17:55:14

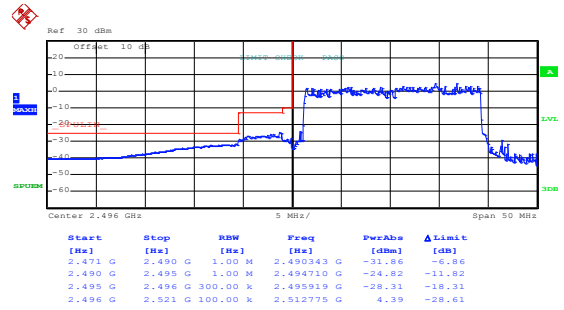
Lowest channel



Date: 22.SEP.2019 17:53:57

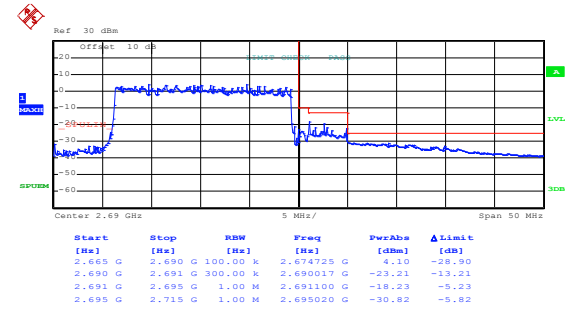
Highest channel

16QAM & RB Size 100



Date: 22.SEP.2019 17:54:47

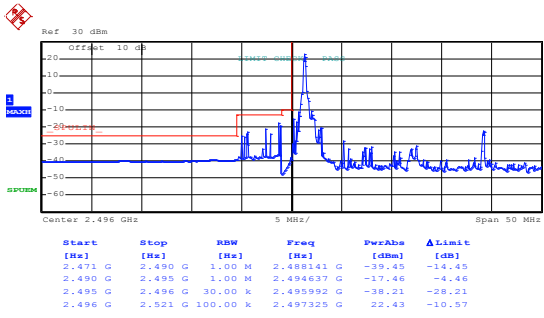
Lowest channel



Date: 22.SEP.2019 17:54:22

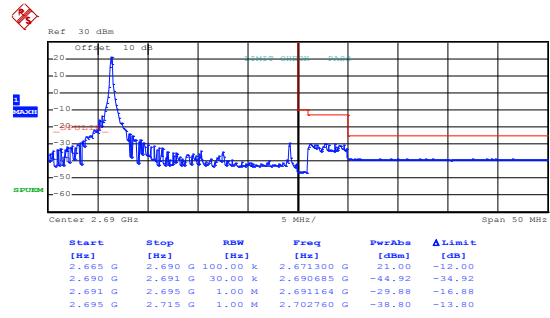
Highest channel

LTE Band 41, BW: 20MHz QPSK & RB Size 1



Date: 22.SEP.2019 17:55:07

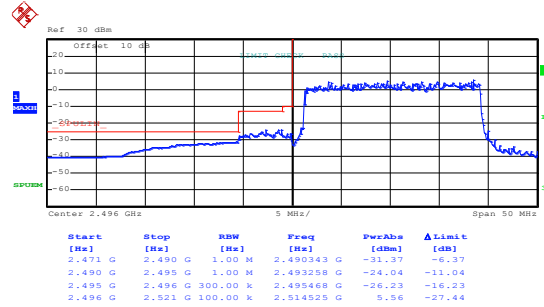
Lowest channel



Date: 22.SEP.2019 17:53:39

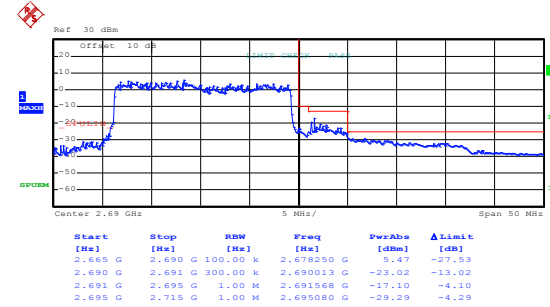
Highest channel

QPSK & RB Size 100



Date: 22.SEP.2019 17:54:39

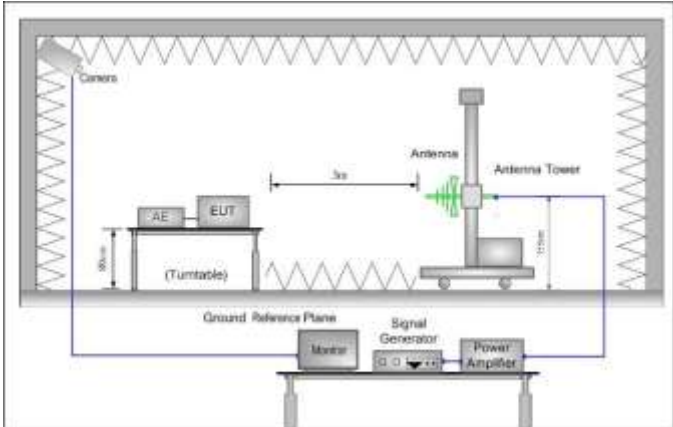
Lowest channel

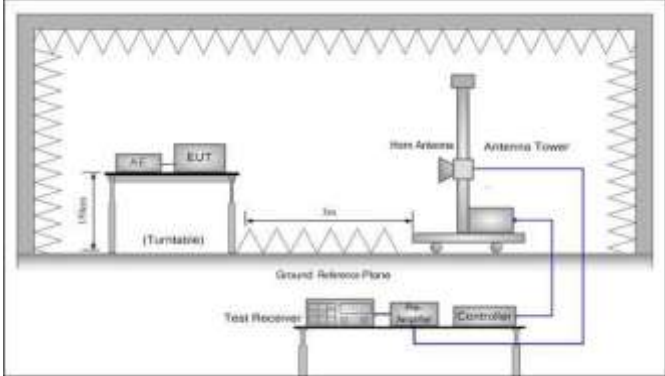


Date: 22.SEP.2019 17:54:13

Highest channel

6.5 Field strength of spurious radiation measurement

<p>Test Requirement:</p>	<p>Part 22.917(b), Part 24.238 (a), part 27.53(c), part 27.53(g), Part 27.53(h),Part 27.53(m), Part 90.543(e), Part 90.691(a)</p>
<p>Limit:</p>	<p>LTE Band 4&12&25&26: The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm).</p> <p>LTE Band 13: The power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB(-13 dBm). On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.</p> <p>LTE Band 14: On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.</p> <p>Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.</p> <p>Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.</p> <p>LTE Band 7&41: 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. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz.</p>
<p>Test setup:</p>	<p>Below 1GHz</p>  <p>Above 1GHz</p>

	
<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
<p>Test Instruments:</p>	<p>Refer to section 5.10 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details.</p>
<p>Test results:</p>	<p>Passed</p>

Measurement Data:

LTE Band 4 part:

LTE Band 4, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3421.40	Vertical	-39.96	-13.00	Pass
5132.10	V	-45.11		
6842.80	V	-38.69		
3421.40	Horizontal	-40.92		
5132.10	H	-45.05		
6842.80	H	-39.57		
Middle Channel				
3465.00	Vertical	-39.87	-13.00	Pass
5197.50	V	-45.16		
6930.00	V	-38.74		
3465.00	Horizontal	-40.89		
5197.50	H	-45.06		
6930.00	H	-39.67		
Highest Channel				
3508.60	Vertical	-39.89	-13.00	Pass
5262.90	V	-45.21		
7017.20	V	-38.73		
3508.60	Horizontal	-40.98		
5262.90	H	-45.11		
7017.20	H	-39.62		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 4, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3440.00	Vertical	-39.87	-13.00	Pass
5160.00	V	-45.23		
6880.00	V	-38.95		
3440.00	Horizontal	-40.89		
5160.00	H	-45.07		
6880.00	H	-39.62		
Middle Channel				
3465.00	Vertical	-39.83	-13.00	Pass
5197.50	V	-45.21		
6930.00	V	-38.78		
3465.00	Horizontal	-40.96		
5197.50	H	-45.07		
6930.00	H	-39.89		
Highest Channel				
3490.00	Vertical	-39.64	-13.00	Pass
5235.00	V	-45.28		
6980.00	V	-38.62		
3490.00	Horizontal	-40.86		
5235.00	H	-45.24		
6980.00	H	-39.68		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 7 part:

LTE Band 7, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
5005.00	Vertical	-41.21	-25.00	Pass
7507.50	V	-38.77		
10010.00	V	-35.18		
5005.00	Horizontal	-45.07		
7507.50	H	-38.62		
10010.00	H	-35.21		
Middle Channel				
5070.00	Vertical	-41.29	-25.00	Pass
7605.00	V	-38.76		
10140.00	V	-35.17		
5070.00	Horizontal	-45.09		
7605.00	H	-38.65		
10140.00	H	-35.26		
Highest Channel				
5135.00	Vertical	-41.29	-25.00	Pass
7702.50	V	-38.79		
10270.00	V	-35.26		
5135.00	Horizontal	-45.12		
7702.50	H	-38.69		
10270.00	H	-35.37		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 7, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
5020.00	Vertical	-41.29	-25.00	Pass
7530.00	V	-38.67		
10040.00	V	-38.56		
5020.00	Horizontal	-45.13		
7530.00	H	-38.69		
10040.00	H	-35.26		
Middle Channel				
5070.00	Vertical	-41.34	-25.00	Pass
7605.00	V	-38.89		
10140.00	V	-35.26		
5070.00	Horizontal	-45.07		
7605.00	H	-38.59		
10140.00	H	-35.37		
Highest Channel				
5120.00	Vertical	-41.32	-25.00	Pass
7680.00	V	-38.86		
10240.00	V	-35.34		
5120.00	Horizontal	-45.26		
7680.00	H	-38.73		
10240.00	H	-35.67		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 12 part:

LTE Band 12, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1399.40	Vertical	-59.26	-13.00	Pass
2099.10	V	-55.22		
2798.80	V	-52.93		
1399.40	Horizontal	-58.58		
2099.10	H	-54.05		
2798.80	H	-52.49		
Middle Channel				
1415.00	Vertical	-59.28	-13.00	Pass
2122.50	V	-55.37		
2830.00	V	-52.86		
1415.00	Horizontal	-58.67		
2122.50	H	-54.09		
2830.00	H	-52.38		
Highest Channel				
1430.60	Vertical	-58.46	-13.00	Pass
2145.90	V	-54.09		
2861.20	V	-52.37		
1430.60	Horizontal	-59.39		
2145.90	H	-55.48		
2861.20	H	-52.51		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 12, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1408.00	Vertical	-59.38	-13.00	Pass
2112.00	V	-55.43		
2816.00	V	-52.96		
1408.00	Horizontal	-58.62		
2112.00	H	-54.07		
2816.00	H	-54.53		
Middle Channel				
1415.00	Vertical	-59.43	-13.00	Pass
2122.50	V	-55.39		
2830.00	V	-52.87		
1415.00	Horizontal	-58.49		
2122.50	H	-54.13		
2830.00	H	-52.86		
Highest Channel				
1422.00	Vertical	-59.58	-13.00	Pass
2133.00	V	-55.68		
2844.00	V	-52.94		
1422.00	Horizontal	-58.47		
2133.00	H	-54.23		
2844.00	H	-52.96		
<i>Note:</i>				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 13 part:

LTE Band 13, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1559.00	Vertical	-56.78	-13.00	Pass
2338.50	V	-56.66		
3118.00	V	-51.01		
1559.00	Horizontal	-57.89		
2338.50	H	-52.95		
3118.00	H	-49.91		
Middle Channel				
1564.00	Vertical	-56.83	-13.00	Pass
2346.00	V	-56.68		
3128.00	V	-51.09		
1564.00	Horizontal	-57.96		
2346.00	H	-52.89		
3128.00	H	-49.38		
Highest Channel				
1569.00	Vertical	-56.94	-13.00	Pass
2353.50	V	-56.73		
3138.00	V	-51.24		
1569.00	Horizontal	-57.89		
2353.50	H	-52.64		
3138.00	H	-49.46		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 13, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1564.00	Vertical	-56.97	-13.00	Pass
2346.00	V	-56.64		
3128.00	V	-51.07		
1564.00	Horizontal	-57.89		
2346.00	H	-52.68		
3128.00	H	-49.86		
Middle Channel				
1564.00	Vertical	-56.79	-13.00	Pass
2346.00	V	-56.38		
3128.00	V	-51.13		
1564.00	Horizontal	-57.92		
2346.00	H	-52.76		
3128.00	H	-49.33		
Highest Channel				
1564.00	Vertical	-56.89	-13.00	Pass
2346.00	V	-56.67		
3128.00	V	-51.29		
1564.00	Horizontal	-57.84		
2346.00	H	-52.79		
3128.00	H	-49.38		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 14 part:

LTE Band 14, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1581.00	Vertical	-58.74	-13.00	Pass
2371.50	V	-56.68		
3162.00	V	-51.71		
1581.00	Horizontal	-58.65		
2371.50	H	-56.48		
3162.00	H	-51.09		
Middle Channel				
1586.00	Vertical	-58.73	-13.00	Pass
2379.00	V	-56.92		
3172.00	V	-51.38		
1586.00	Horizontal	-58.46		
2379.00	H	-56.64		
3172.00	H	-51.23		
Highest Channel				
1591.00	Vertical	-58.69	-13.00	Pass
2386.50	V	-56.87		
3182.00	V	-51.46		
1591.00	Horizontal	-58.52		
2386.50	H	-56.73		
3182.00	H	-51.38		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 14, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Middle Channel				
1586.00	Vertical	-58.94	-13.00	Pass
2379.00	V	-56.89		
3172.00	V	-51.34		
1586.00	Horizontal	-58.51		
2379.00	H	-56.97		
3172.00	H	-51.34		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 25 part:

LTE Band 25, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3701.40	Vertical	-48.22	-13.00	Pass
5552.10	V	-44.15		
7402.80	V	-39.02		
3701.40	Horizontal	-47.31		
5552.10	H	-43.98		
7402.80	H	-38.92		
Middle Channel				
3765.00	Vertical	-48.29	-13.00	Pass
5647.50	V	-44.18		
7530.00	V	-39.34		
3765.00	Horizontal	-47.29		
5647.50	H	-43.87		
7530.00	H	-38.96		
Highest Channel				
3828.60	Vertical	-48.37	-13.00	Pass
5742.90	V	-44.16		
7657.20	V	-39.07		
3828.60	Horizontal	-47.28		
5742.90	H	-43.59		
7657.20	H	-38.94		
Note: 1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. 2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 25, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3720.00	Vertical	-48.26	-13.00	Pass
5580.00	V	-44.37		
7440.00	V	-39.08		
3720.00	Horizontal	-47.18		
5580.00	H	-43.97		
7440.00	H	-38.56		
Middle Channel				
3765.00	Vertical	-48.49	-13.00	Pass
5647.50	V	-44.24		
7530.00	V	-39.78		
3765.00	Horizontal	-47.26		
5647.50	H	-43.94		
7530.00	H	-38.59		
Highest Channel				
3810.00	Vertical	-48.53	-13.00	Pass
5715.00	V	-44.27		
7620.00	V	-39.18		
3810.00	Horizontal	-47.38		
5715.00	H	-43.62		
7620.00	H	-38.89		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 5&26(part 22H):

LTE Band 5&26(part 22H), WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1649.40	Vertical	-59.03	-13.00	Pass
2474.10	V	-55.63		
3298.80	V	-50.75		
1649.40	Horizontal	-59.39		
2474.10	H	-55.68		
3298.80	H	-50.88		
Middle Channel				
1673.00	Vertical	-59.07	-13.00	Pass
2509.50	V	-55.74		
3346.00	V	-50.83		
1673.00	Horizontal	-59.42		
2509.50	H	-55.69		
3346.00	H	-50.84		
Highest Channel				
1696.60	Vertical	-59.11	-13.00	Pass
2544.90	V	-55.82		
3393.20	V	-50.89		
1696.60	Horizontal	-59.64		
2544.90	H	-55.72		
3393.20	H	-50.89		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 5&26(part 22H), WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1658.00	Vertical	-59.07	-13.00	Pass
2487.00	V	-55.72		
3316.00	V	-50.87		
1658.00	Horizontal	-59.38		
2487.00	H	-55.76		
3316.00	H	-50.91		
Middle Channel				
1673.00	Vertical	-59.24	-13.00	Pass
2509.50	V	-55.89		
3346.00	V	-50.67		
1673.00	Horizontal	-59.48		
2509.50	H	-55.92		
3346.00	H	-50.86		
Highest Channel				
1688.00	Vertical	-59.16	-13.00	Pass
2532.00	V	-55.94		
3376.00	V	-50.86		
1688.00	Horizontal	-59.67		
2532.00	H	-55.73		
3376.00	H	-50.92		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 26(part 22H), WB: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1663.00	Vertical	-59.12	-13.00	Pass
2494.50	V	-55.64		
3326.00	V	-50.89		
1663.00	Horizontal	-59.41		
2494.50	H	-55.73		
3326.00	H	-50.87		
Middle Channel				
1673.00	Vertical	-59.32	-13.00	Pass
2509.50	V	-55.74		
3346.00	V	-50.83		
1673.00	Horizontal	-59.36		
2509.50	H	-55.91		
3346.00	H	-50.89		
Highest Channel				
1683.00	Vertical	-59.37	-13.00	Pass
2524.50	V	-55.16		
3366.00	V	-50.94		
1683.00	Horizontal	-59.46		
2524.50	H	-55.89		
3366.00	H	-50.47		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

LTE Band 26(part 90S):

LTE Band 26(part 90S) WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1629.40	Vertical	-59.20	-13.00	Pass
2444.10	V	-55.70		
3258.80	V	-51.50		
1629.40	Horizontal	-58.13		
2444.10	H	-52.90		
3258.80	H	-49.54		
Middle Channel				
1663.00	Vertical	-59.27	-13.00	Pass
2494.50	V	-55.86		
3326.00	V	-51.64		
1663.00	Horizontal	-58.19		
2494.50	H	-52.67		
3326.00	H	-49.48		
Highest Channel				
1696.60	Vertical	-59.21	-13.00	Pass
2544.90	V	-55.74		
3393.20	V	-51.59		
1696.60	Horizontal	-58.17		
2544.90	H	-52.87		
3393.20	H	-49.58		
<p>Note:</p> <p>3. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</p> <p>4. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</p>				

LTE Band 26(part 90S), WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Middle Channel				
1638.00	Vertical	-59.34	-13.00	Pass
2457.00	V	-55.89		
3276.00	V	-51.67		
1638.00	Horizontal	-58.26		
2457.00	H	-52.97		
3276.00	H	-49.68		
<i>Note:</i> 1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. 2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 26(part 90S), WB: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1643.00	Vertical	-59.37	-13.00	Pass
2464.50	V	-55.89		
3286.00	V	-51.64		
1643.00	Horizontal	-58.26		
2464.50	H	-52.71		
3286.00	H	-49.53		
<i>Note:</i> 1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. 2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 41 part:

LTE Band 41, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
4997.00	Vertical	-41.90	-25.00	Pass
7495.50	V	-38.14		
9994.00	V	-34.65		
4997.00	Horizontal	-45.01		
7495.50	H	-37.10		
9994.00	H	-35.71		
Middle Channel				
5186.00	Vertical	-41.86	-25.00	Pass
7779.00	V	-38.37		
10372.00	V	-34.79		
5186.00	Horizontal	-45.06		
7779.00	H	-37.26		
10372.00	H	-35.86		
Highest Channel				
5375.00	Vertical	-41.84	-25.00	Pass
8062.50	V	-38.25		
10750.00	V	-34.78		
5375.00	Horizontal	-45.09		
8062.50	H	-37.64		
10750.00	H	-35.78		
<p>Note:</p> <ol style="list-style-type: none"> The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. For above 1 GHz, all test modes were performed, and just the worst case shown in the report. 				

LTE Band 41, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
5012.00	Vertical	-41.68	-25.00	Pass
7518.00	V	-38.53		
10024.00	V	-34.74		
5012.00	Horizontal	-45.09		
7518.00	H	-37.35		
10024.00	H	-35.89		
Middle Channel				
5186.00	Vertical	-41.92	-25.00	Pass
7779.00	V	-38.29		
10372.00	V	-37.67		
5186.00	Horizontal	-45.13		
7779.00	H	-37.48		
10372.00	H	-35.89		
Highest Channel				
5360.00	Vertical	-41.65	-25.00	Pass
8040.00	V	-38.29		
10720.00	V	-34.84		
5360.00	Horizontal	-45.23		
8040.00	H	-37.89		
10720.00	H	-35.68		
<p><i>Note:</i></p> <ol style="list-style-type: none"> <i>The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.</i> <i>For above 1 GHz, all test modes were performed, and just the worst case shown in the report.</i> 				

6.6 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 90.213(a), Part 90.539 (e), Part 2.1055(a)(1)(b)
Limit:	±2.5ppm for LTE Band 5&26 Within authorized band for LTE Band 4&7&12&13&41 ±1.25ppm for LTE Band 14
Test setup:	
Test procedure:	<ol style="list-style-type: none"> 1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 4 part:

Reference Frequency: LTE Band 4 (10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	174	0.100433	Within authorized band for Band 4	Pass
	-20	125	0.072150		
	-10	136	0.078499		
	0	130	0.075036		
	10	110	0.063492		
	20	111	0.064069		
	30	123	0.070996		
	40	145	0.083694		
	50	163	0.094084		
16QAM					
3.85	-30	158	0.091198	Within authorized band for Band 4	Pass
	-20	142	0.081962		
	-10	134	0.077345		
	0	140	0.080808		
	10	155	0.089466		
	20	102	0.058874		
	30	109	0.062915		
	40	107	0.061760		
	50	122	0.070418		
<i>Note: Only the worst case shown in the report.</i>					

LTE Band 7 part:

Reference Frequency: LTE Band 7 (10MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	155	0.061144	Within authorized band for Band 7	Pass
	-20	144	0.056805		
	-10	126	0.049704		
	0	104	0.041026		
	10	115	0.045365		
	20	142	0.056016		
	30	137	0.054043		
	40	149	0.058777		
	50	122	0.048126		
16QAM					
3.85	-30	170	0.067061	Within authorized band for Band 7	Pass
	-20	148	0.058383		
	-10	136	0.053649		
	0	157	0.061933		
	10	160	0.063116		
	20	120	0.047337		
	30	117	0.046154		
	40	140	0.055227		
	50	118	0.046548		
<i>Note: Only the worst case shown in the report.</i>					

LTE Band 12 part:

Reference Frequency: LTE Band 12 (10MHz) Middle channel=23095 channel=707.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	147	0.207774	Within authorized band for Band 12	Pass
	-20	120	0.169611		
	-10	130	0.183746		
	0	108	0.152650		
	10	105	0.148410		
	20	146	0.206360		
	30	144	0.203534		
	40	125	0.176678		
	50	108	0.152650		
16QAM					
3.85	-30	184	0.260071	Within authorized band for Band 12	Pass
	-20	148	0.209187		
	-10	136	0.192226		
	0	125	0.176678		
	10	157	0.221908		
	20	149	0.210601		
	30	108	0.152650		
	40	131	0.185159		
	50	121	0.171025		

Note: Only the worst case shown in the report.

LTE Band 13 part:

Reference Frequency: LTE Band 13 (10MHz) Middle channel=23230 channel=782.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	170	0.217391	Within authorized band for Band 13	Pass
	-20	147	0.187980		
	-10	154	0.196931		
	0	163	0.208440		
	10	152	0.194373		
	20	149	0.190537		
	30	150	0.191816		
	40	152	0.194373		
	50	144	0.184143		
16QAM					
3.85	-30	187	0.239130	Within authorized band for Band 13	Pass
	-20	144	0.184143		
	-10	120	0.153453		
	0	155	0.198210		
	10	106	0.135550		
	20	133	0.170077		
	30	107	0.136829		
	40	183	0.234015		
	50	166	0.212276		
<i>Note: Only the worst case shown in the report.</i>					

LTE Band 14 part:

Reference Frequency: LTE Band 14 (10MHz) Middle channel=23330 channel=793.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	176	0.221942	±1.25	Pass
	-20	152	0.191677		
	-10	144	0.181589		
	0	122	0.153846		
	10	108	0.136192		
	20	106	0.133670		
	30	136	0.171501		
	40	166	0.209332		
	50	147	0.185372		
16QAM					
3.85	-30	178	0.224464	±1.25	Pass
	-20	154	0.194199		
	-10	163	0.205549		
	0	120	0.151324		
	10	110	0.138714		
	20	145	0.182850		
	30	162	0.204288		
	40	120	0.151324		
	50	138	0.174023		
<i>Note: Only the worst case shown in the report.</i>					

LTE Band 25 part:

Reference Frequency: LTE Band 25 (10MHz) Middle channel=26365 channel=1882.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	179	0.095086	Within authorized band for Band 25	Pass
	-20	136	0.072244		
	-10	156	0.082869		
	0	154	0.081806		
	10	144	0.076494		
	20	102	0.054183		
	30	117	0.062151		
	40	128	0.067995		
	50	135	0.071713		
16QAM					
3.85	-30	190	0.100930	Within authorized band for Band 25	Pass
	-20	136	0.072244		
	-10	147	0.078088		
	0	156	0.082869		
	10	124	0.065870		
	20	145	0.077025		
	30	120	0.063745		
	40	110	0.058433		
	50	146	0.077556		

Note: Only the worst case shown in the report.

LTE Band 5&26(part 22H):

Reference Frequency: LTE Band 5&26(part 22H) (10MHz) Middle channel=26915 channel=836.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	179	0.213987	±2.5	Pass
	-20	156	0.186491		
	-10	144	0.172146		
	0	125	0.149432		
	10	121	0.144650		
	20	135	0.161387		
	30	146	0.174537		
	40	158	0.188882		
	50	170	0.203228		
16QAM					
3.85	-30	180	0.215182	±2.5	Pass
	-20	124	0.148237		
	-10	156	0.186491		
	0	123	0.147041		
	10	174	0.208010		
	20	114	0.136282		
	30	122	0.145846		
	40	156	0.186491		
	50	136	0.162582		

Note: Only the worst case shown in the report.

LTE Band 26(part 90S):

Reference Frequency: LTE Band 26(part 90S (10MHz) Middle channel=26740 channel=819.0MHz)					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	147	0.179487	±2.5	Pass
	-20	123	0.150183		
	-10	140	0.170940		
	0	132	0.161172		
	10	104	0.126984		
	20	118	0.144078		
	30	124	0.151404		
	40	110	0.134310		
	50	136	0.166056		
16QAM					
3.85	-30	165	0.201465	±2.5	Pass
	-20	154	0.188034		
	-10	145	0.177045		
	0	125	0.152625		
	10	160	0.195360		
	20	147	0.179487		
	30	163	0.199023		
	40	156	0.190476		
	50	158	0.192918		

Note: Only the worst case shown in the report.

LTE Band 41:

Reference Frequency: LTE Band 41 (5MHz)Middle channel=40620 channel=2593.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	179	0.069032	Within authorized band for Band 41	Pass
	-20	126	0.048592		
	-10	120	0.046278		
	0	147	0.056691		
	10	127	0.048978		
	20	145	0.055920		
	30	168	0.064790		
	40	148	0.057077		
	50	120	0.046278		
16QAM					
3.85	-30	184	0.070960	Within authorized band for Band 41	Pass
	-20	174	0.067104		
	-10	159	0.061319		
	0	126	0.048592		
	10	120	0.046278		
	20	147	0.056691		
	30	156	0.060162		
	40	157	0.060548		
	50	125	0.048207		

Note: Only the worst case shown in the report.

6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 90.213(a), Part 90.539 (e), Part 2.1055(a)(1)(b)
Limit:	±2.5ppm for LTE Band 5&26 Within authorized band for LTE Band 4&7&12&13&41 ±1.25ppm for LTE Band 14
Test setup:	
Test procedure:	<ol style="list-style-type: none"> 1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	96	0.055411	Within authorized band for Band 4	Pass
	3.85	58	0.033478		
	3.50	47	0.027128		
16QAM					
25	4.35	74	0.042713	Within authorized band for Band 4	Pass
	3.85	63	0.036364		
	3.50	23	0.013276		

Note: Only the worst case shown in the report.

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	77	0.030375	Within authorized band for Band 7	Pass
	3.85	65	0.025641		
	3.50	48	0.018935		
16QAM					
25	4.35	90	0.035503	Within authorized band for Band 7	Pass
	3.85	52	0.020513		
	3.50	84	0.033136		

Note: Only the worst case shown in the report.

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 channel=707.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	80	0.113074	Within authorized band for Band 12	Pass
	3.85	56	0.079152		
	3.50	37	0.052297		
16QAM					
25	4.35	70	0.098940	Within authorized band for Band 12	Pass
	3.85	68	0.096113		
	3.50	45	0.063604		

Note: Only the worst case shown in the report.

LTE Band 13 part:

Reference Frequency: LTE Band 13(10MHz) Middle channel=23230 channel=782.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	96	0.135211	Within authorized band for Band 13	Pass
	3.85	68	0.095775		
	3.50	88	0.123944		
16QAM					
25	4.35	74	0.104225	Within authorized band for Band 13	Pass
	3.85	15	0.021127		
	3.50	67	0.094366		

Note: Only the worst case shown in the report.

LTE Band 14 part:

Reference Frequency: LTE Band 14(10MHz) Middle channel=23330 channel=793.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	84	0.105927	±1.25	Pass
	3.85	65	0.081967		
	3.50	23	0.029004		
16QAM					
25	4.35	70	0.088272	±1.25	Pass
	3.85	54	0.068096		
	3.50	68	0.085750		

Note: Only the worst case shown in the report.

LTE Band 25 part:

Reference Frequency: LTE Band 25(10MHz) Middle channel=26365 channel=1882.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	96	0.050996	Within authorized band for Band 25	Pass
	3.85	84	0.044622		
	3.50	47	0.024967		
16QAM					
25	4.35	76	0.040372	Within authorized band for Band 25	Pass
	3.85	54	0.028685		
	3.50	63	0.033466		

Note: Only the worst case shown in the report.

LTE Band 5&26(part 22H):

Reference Frequency: LTE Band 5&26(part 22H) (10MHz) Middle channel=26915 channel=836.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	77	0.092050	±2.5	Pass
	3.85	56	0.066946		
	3.50	62	0.074118		
16QAM					
25	4.35	84	0.100418	±2.5	Pass
	3.85	52	0.062164		
	3.50	69	0.082487		

Note: Only the worst case shown in the report.

LTE Band 26(part 90S):

Reference Frequency: LTE Band 26(part 90S) (10MHz) Middle channel=26740 channel=819.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	97	0.118437	±2.5	Pass
	3.85	56	0.068376		
	3.50	32	0.039072		
16QAM					
25	4.35	54	0.065934	±2.5	Pass
	3.85	62	0.075702		
	3.50	32	0.039072		

Note: Only the worst case shown in the report.

LTE Band 41:

Reference Frequency: LTE Band 41 (10MHz) Middle channel=40620channel=2593.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.20	79	0.030467	Within authorized band for Band 41	Pass
	3.70	52	0.020054		
	3.50	68	0.026224		
16QAM					
25	4.20	70	0.026996	Within authorized band for Band 41	Pass
	3.70	49	0.018897		
	3.50	58	0.022368		

Note: Only the worst case shown in the report.