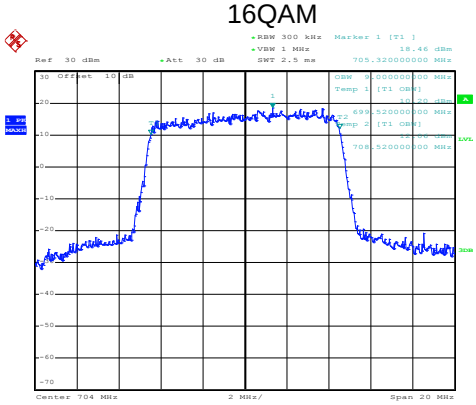
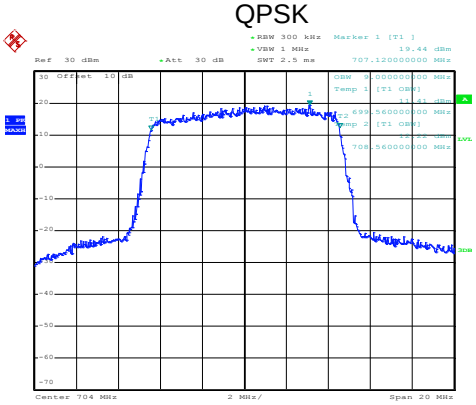
LTE Band 12: 99% Occupy bandwidth
BW: 10MHz

16QAM




Date: 14.MAY.2020 16:21:12

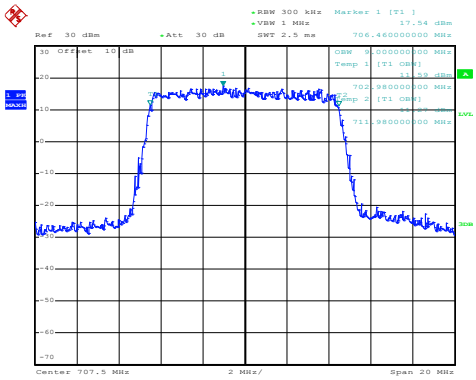
QPSK




Date: 14.MAY.2020 16:21:17

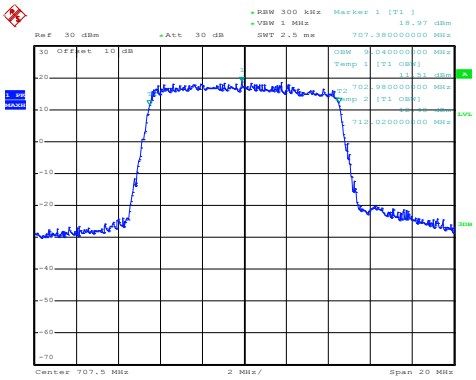
Lowest channel

16QAM




Date: 14.MAY.2020 16:21:57

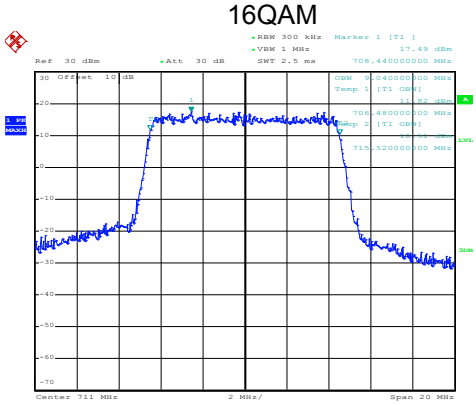
QPSK




Date: 14.MAY.2020 16:21:53

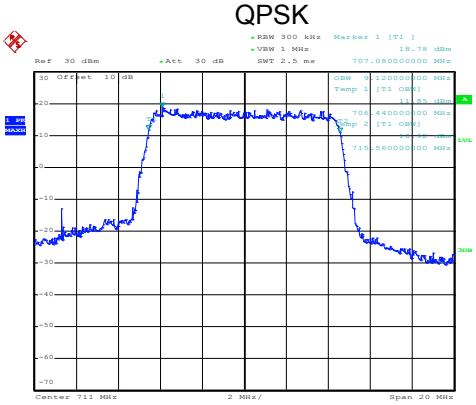
Middle channel

16QAM




Date: 14.MAY.2020 16:22:12

QPSK

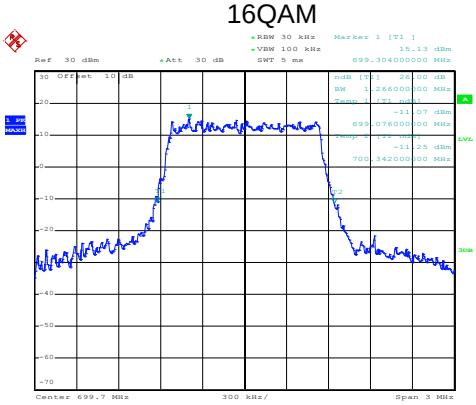



Date: 14.MAY.2020 16:22:08

Highest channel

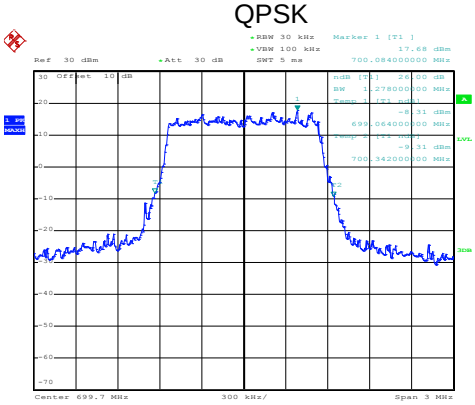
LTE Band 12: -26dBc bandwidth
BW: 1.4MHz

16QAM




Date: 14.MAY.2020 16:26:13

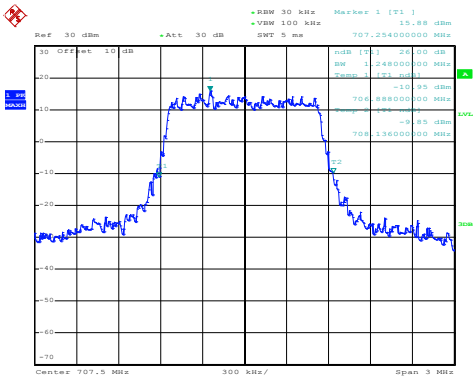
QPSK




Date: 14.MAY.2020 16:26:08

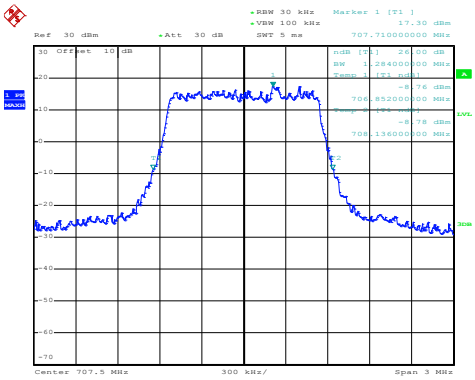
Lowest channel

16QAM




Date: 14.MAY.2020 16:27:11

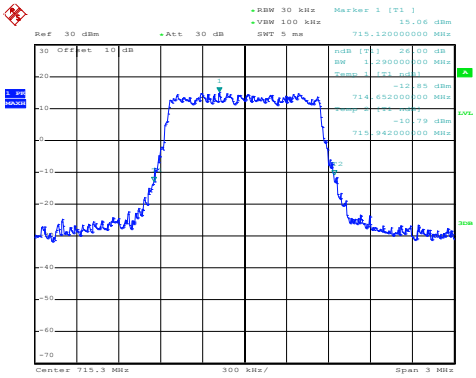
QPSK




Date: 14.MAY.2020 16:27:07

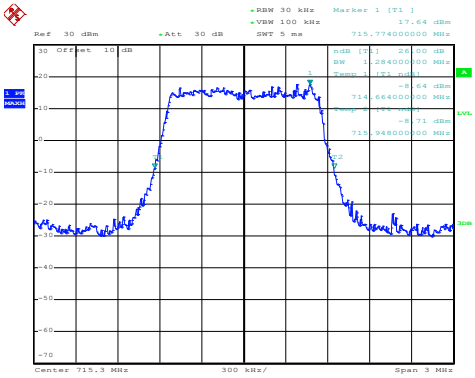
Middle channel

16QAM




Date: 14.MAY.2020 16:27:25

QPSK

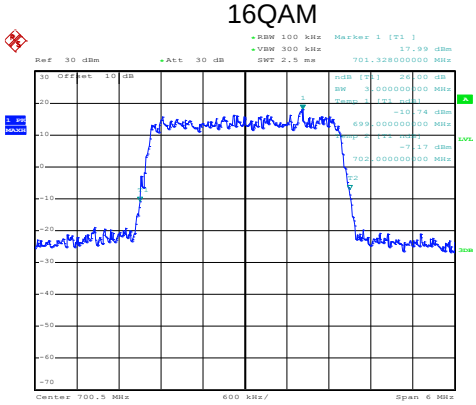



Date: 14.MAY.2020 16:27:31

Highest channel

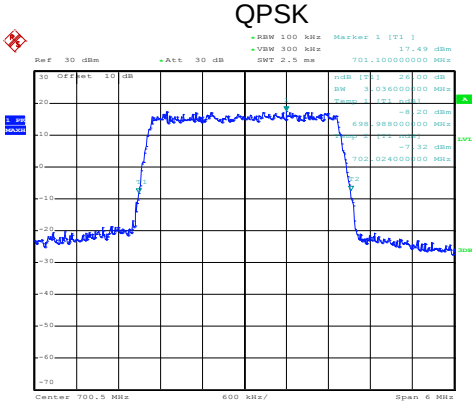
LTE Band 12: -26dBc bandwidth
BW: 3MHz

16QAM




Date: 14.MAY.2020 16:24:39

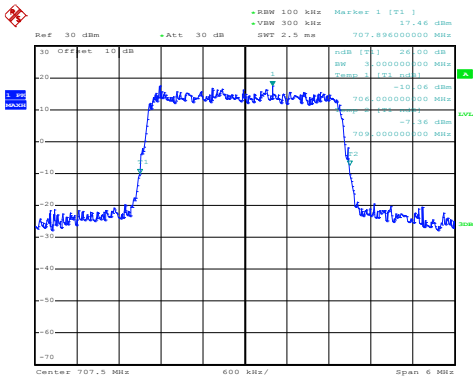
QPSK




Date: 14.MAY.2020 16:24:35

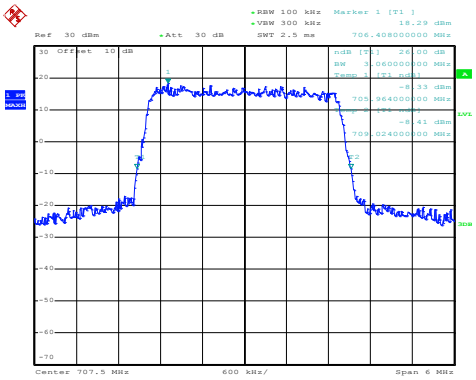
Lowest channel

16QAM




Date: 14.MAY.2020 16:24:52

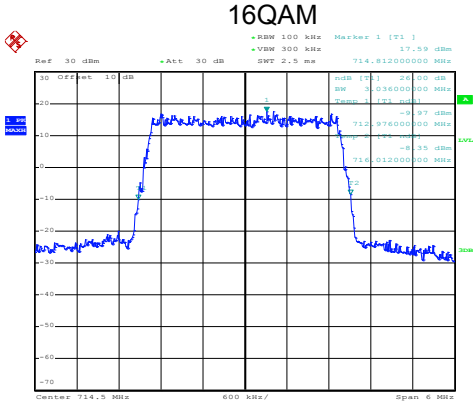
QPSK




Date: 14.MAY.2020 16:24:49

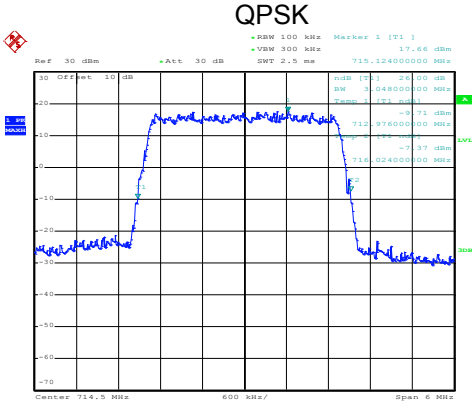
Middle channel

16QAM




Date: 14.MAY.2020 16:25:30

QPSK

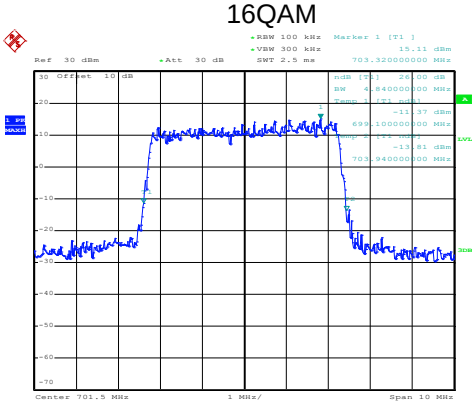



Date: 14.MAY.2020 16:25:36

Highest channel

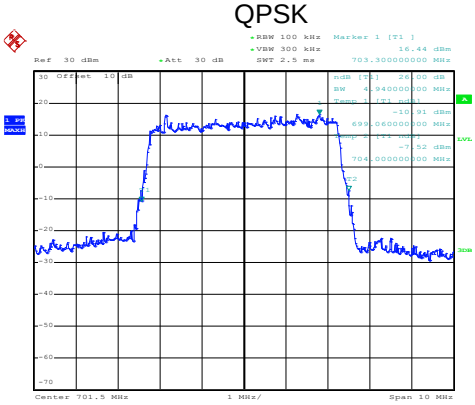
LTE Band 12: -26dBc bandwidth
BW: 5MHz

16QAM




Date: 14.MAY.2020 16:22:56

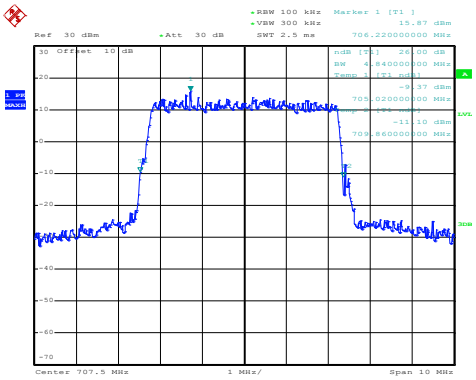
QPSK




Date: 14.MAY.2020 16:22:52

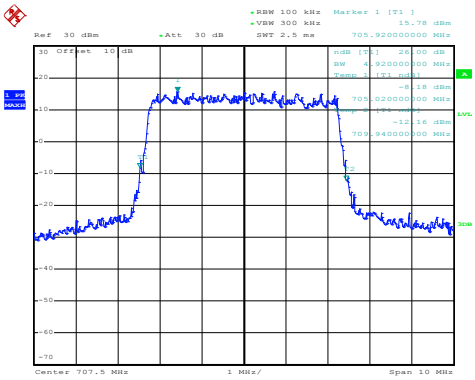
Lowest channel

16QAM




Date: 14.MAY.2020 16:23:32

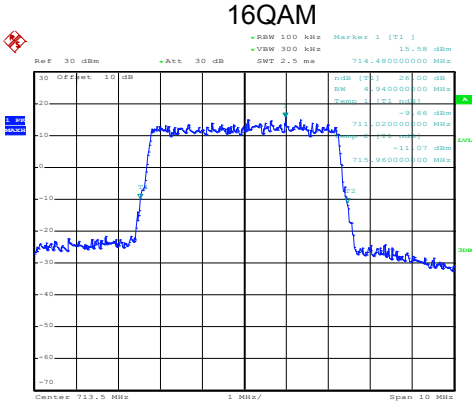
QPSK




Date: 14.MAY.2020 16:23:28

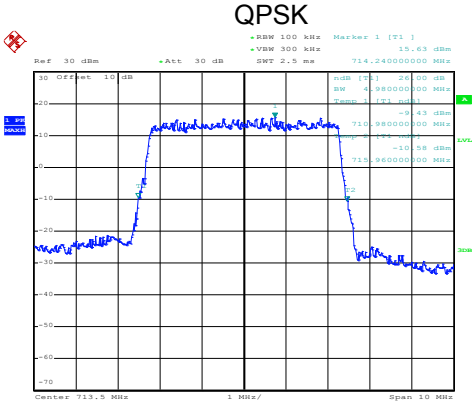
Middle channel

16QAM




Date: 14.MAY.2020 16:23:47

QPSK

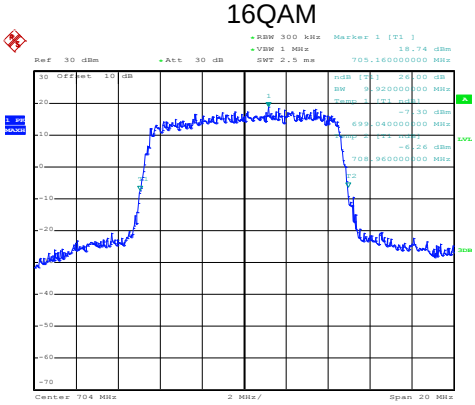



Date: 14.MAY.2020 16:23:43

Highest channel

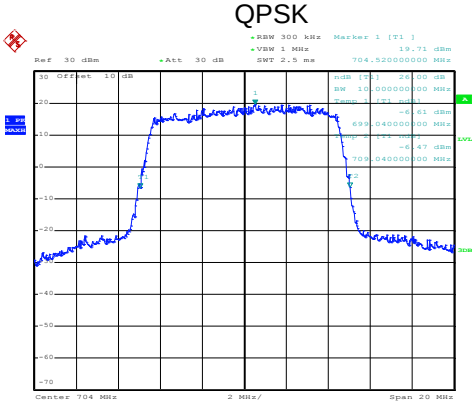
LTE Band 12: -26dBc bandwidth
BW: 10MHz

16QAM




Date: 14.MAY.2020 16:21:30

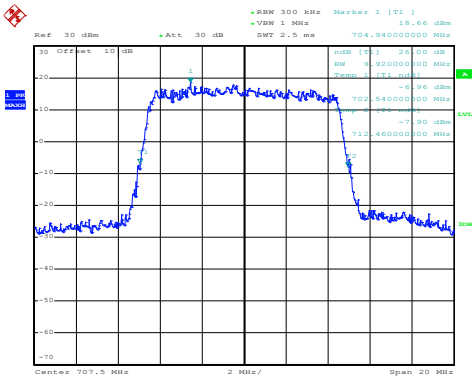
QPSK




Date: 14.MAY.2020 16:21:25

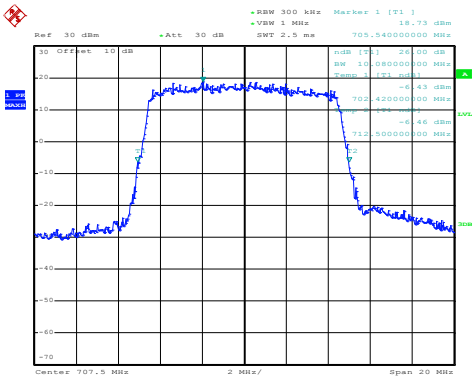
Lowest channel

16QAM




Date: 14.MAY.2020 16:21:46

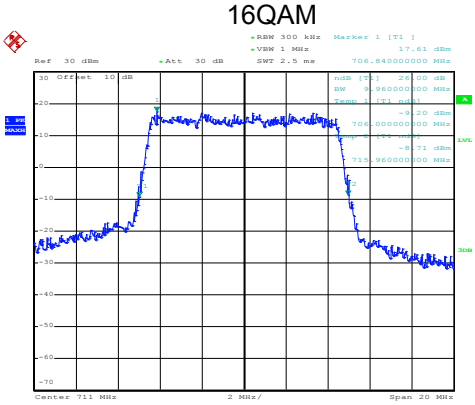
QPSK




Date: 14.MAY.2020 16:21:42

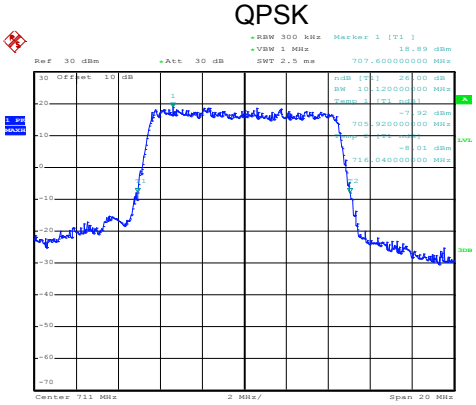
Middle channel

16QAM




Date: 14.MAY.2020 16:22:21

QPSK



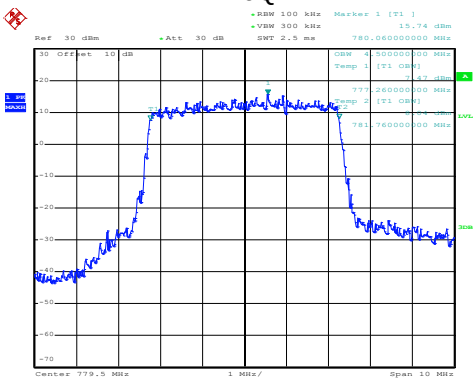

Date: 14.MAY.2020 16:22:18

Highest channel

**LTE Band 13 part:**

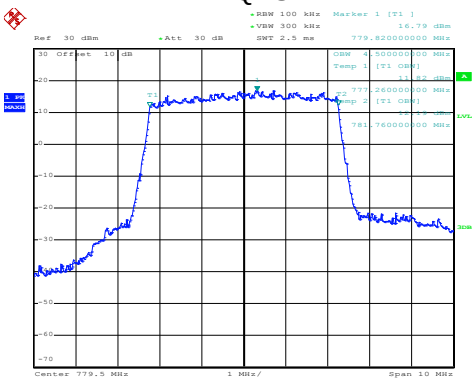
LTE Band 13: 99% Occupy bandwidth
BW: 5MHz

16QAM




Date: 14.MAY.2020 16:17:59

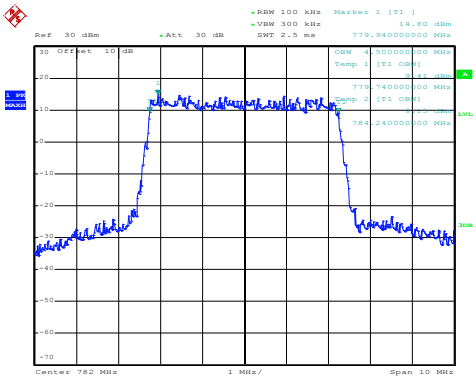
QPSK




Date: 14.MAY.2020 16:17:56

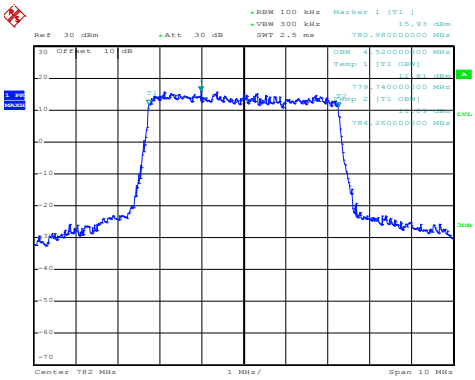
Lowest channel

16QAM




Date: 14.MAY.2020 16:18:40

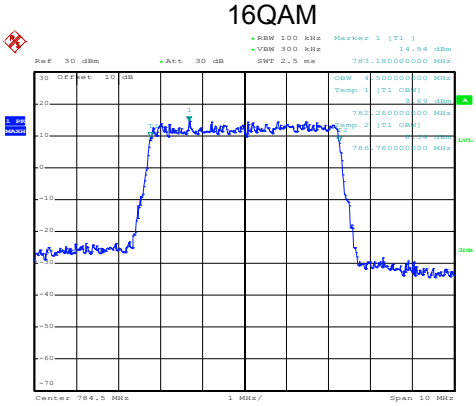
QPSK




Date: 14.MAY.2020 16:18:37

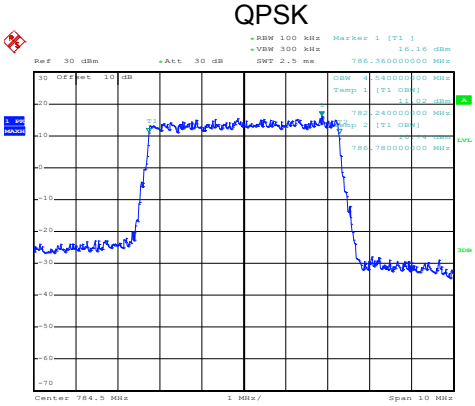
Middle channel

16QAM




Date: 14.MAY.2020 16:18:56

QPSK

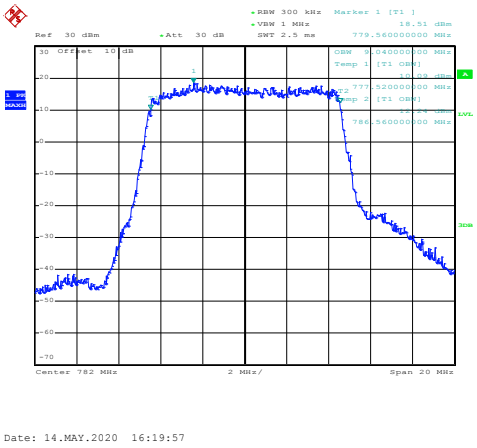



Date: 14.MAY.2020 16:18:51

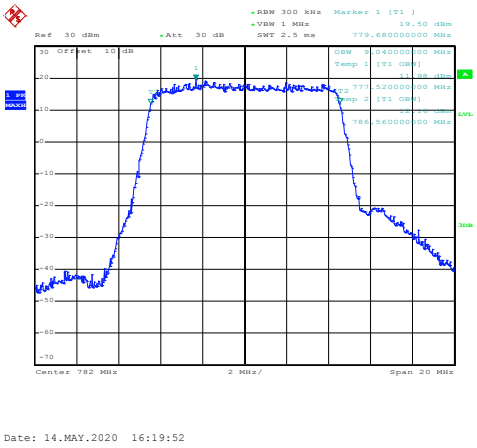
Highest channel

LTE Band 13: 99% Occupy bandwidth
BW: 10MHz

16QAM



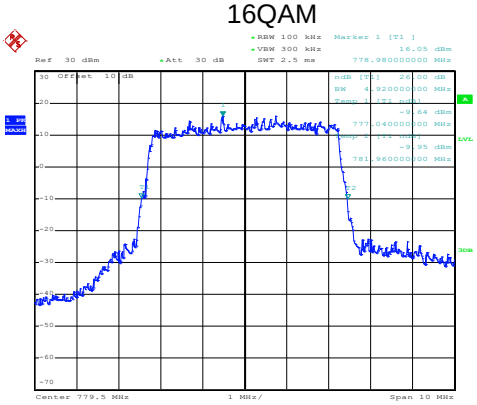

QPSK




Middle channel

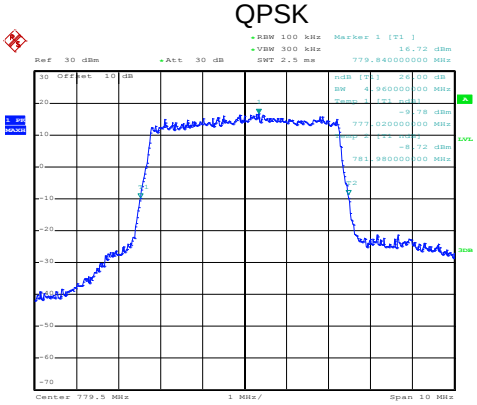
LTE Band 13: -26dBc bandwidth
BW: 5MHz

16QAM




Date: 14.MAY.2020 16:18:13

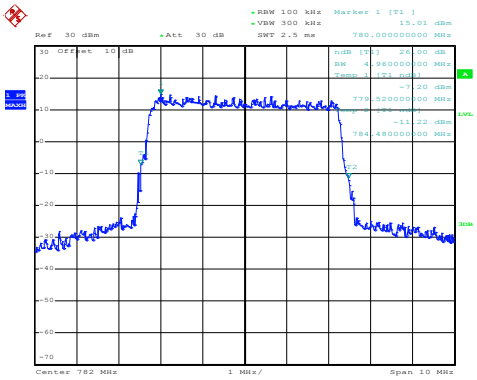
QPSK




Date: 14.MAY.2020 16:18:09

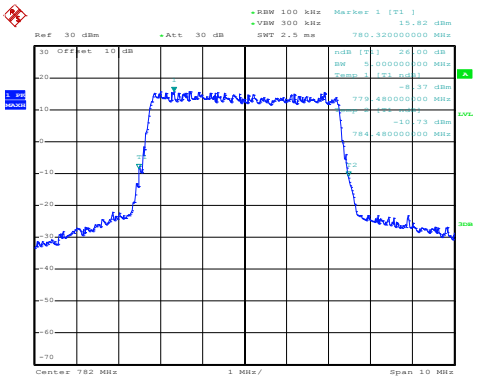
Lowest channel

16QAM




Date: 14.MAY.2020 16:18:32

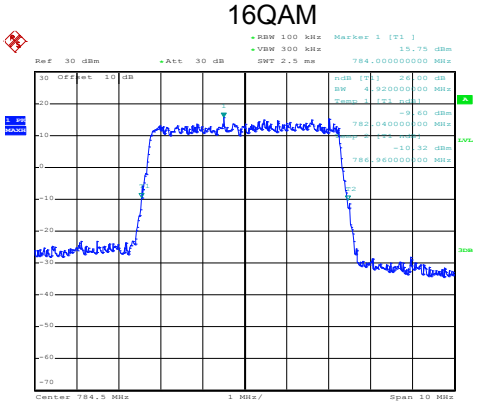
QPSK




Date: 14.MAY.2020 16:18:27

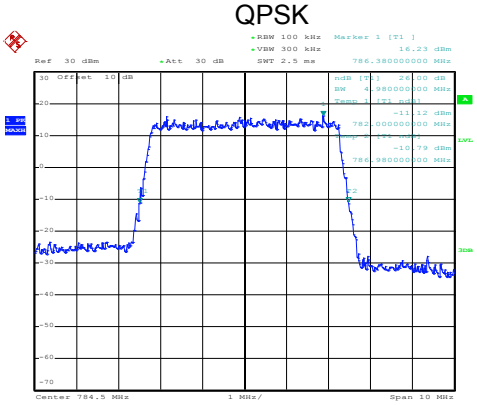
Middle channel

16QAM




Date: 14.MAY.2020 16:19:07

QPSK

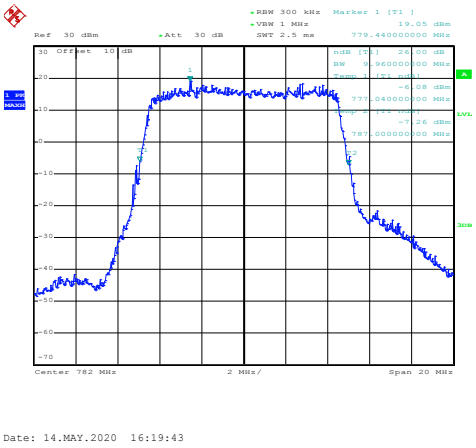



Date: 14.MAY.2020 16:19:03

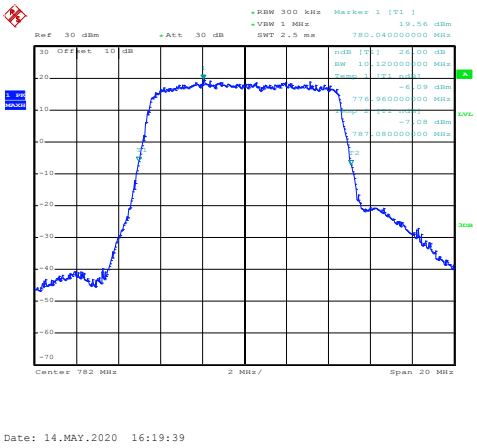
Highest channel

LTE Band 13: -26dBc bandwidth
BW: 10MHz

16QAM

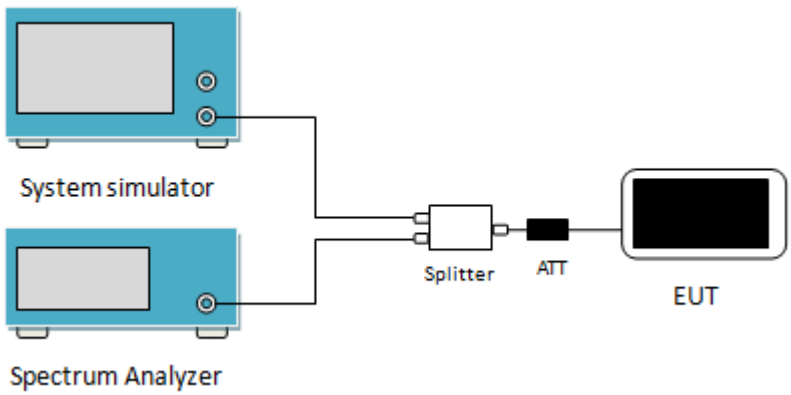



QPSK



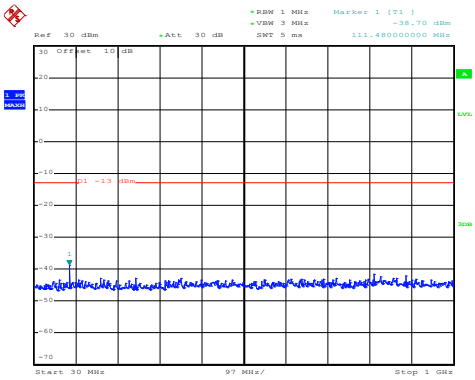

Middle channel

## 6.4 Out of band emission at antenna terminals

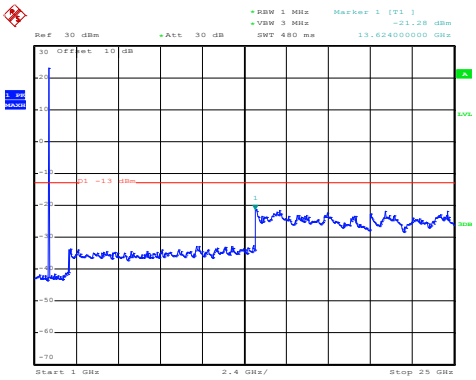
| | |
|---|---|
| Test Requirement: | Part 22.917(a), Part 24.238 (a), part 27.53(g), part 27.53(h), Part 27.53(m) |
| Limit: | LTE Band 2 & 4 & 5 & 12 & 17:<br>The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$(P) dB (-13 dBm).<br>LTE Band 7:<br>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. |
| Test Setup: |  |
| Test Procedure: | 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.<br>2 For the out of band: For Band 5 & 12 & 17 set the RBW=100 kHz, VBW=300 kHz and for Band 2 & 4 & 7 set the RBW=1 MHz, VBW=3 MHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic.<br>3 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. |
| Test Instruments: | Refer to section 5.10 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |
| Remark: | Pre-scan all RB Size and offset, and found the RB Size and offset of worst case, so the report shows only the worst case test data. |

**Test plots as follows (Conducted spurious emission) (worst case):**
**LTE Band 2 part:**

LTE Band 2: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel

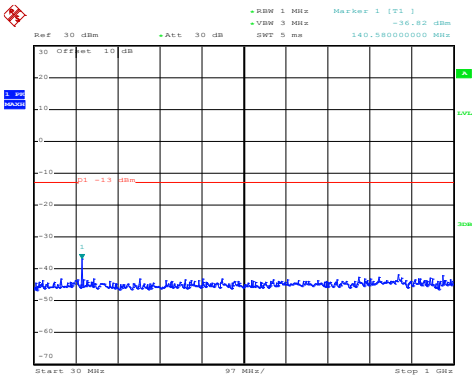



30MHz~1GHz

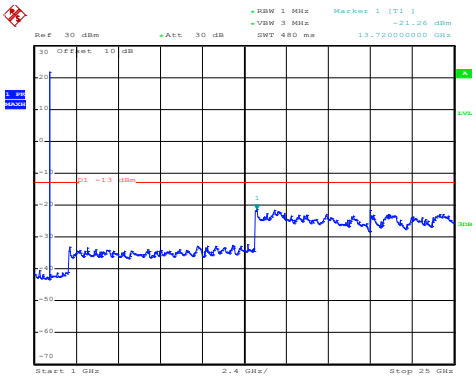



1GHz~25GHz

Middle channel

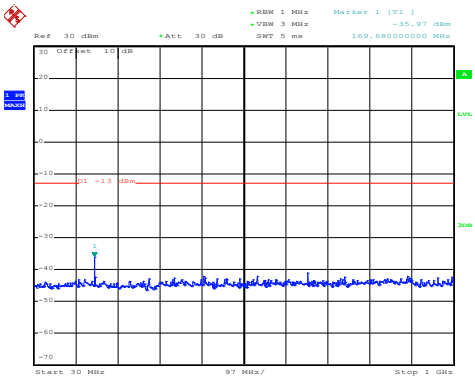



30MHz~1GHz

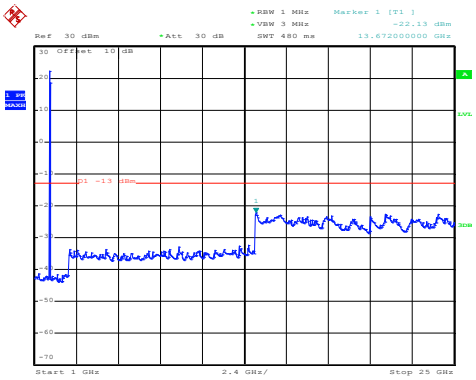



1GHz~25GHz

High channel

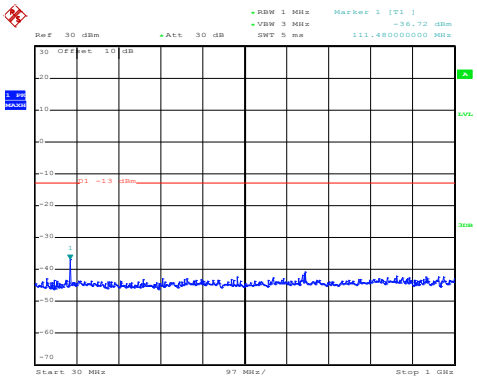



30MHz~1GHz

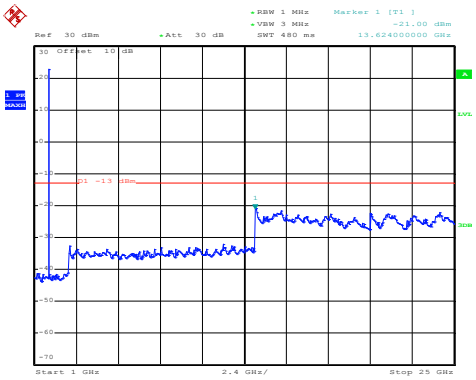



1GHz~25GHz

LTE Band 2: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel

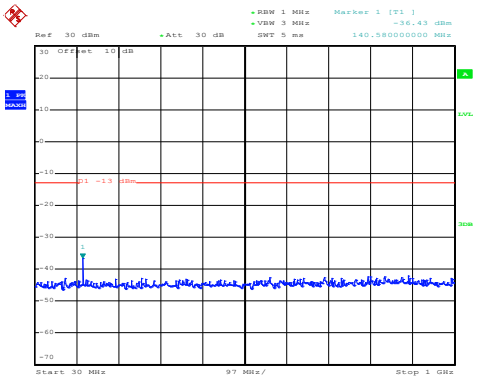



30MHz~1GHz

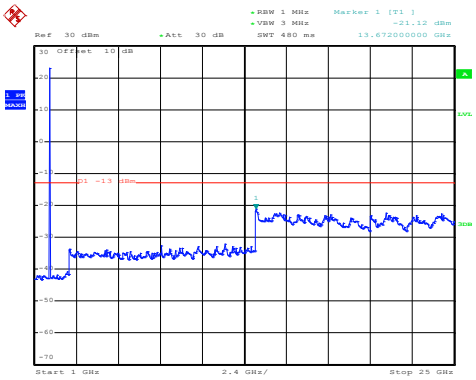



1GHz~25GHz

Middle channel

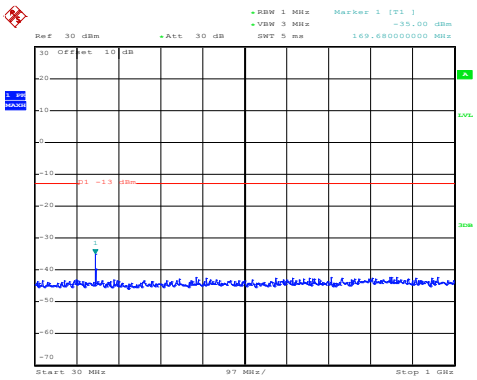



30MHz~1GHz

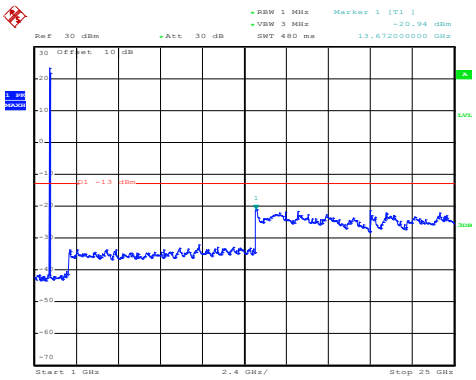



1GHz~25GHz

High channel

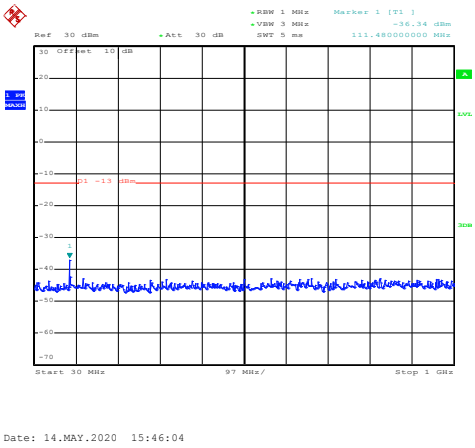



30MHz~1GHz

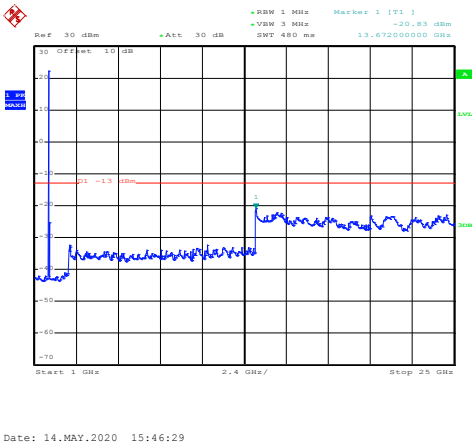



1GHz~25GHz

LTE Band 2: 16 QAM & RB Size 1
BW: 20MHz
Lowest channel

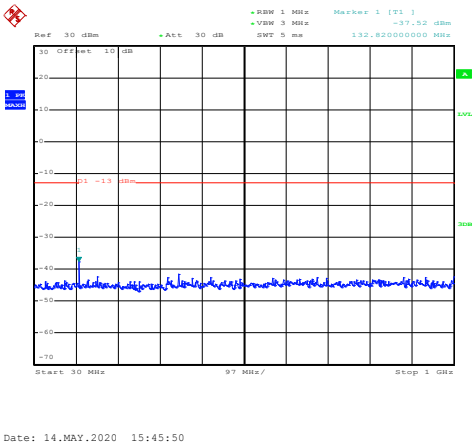



30MHz~1GHz

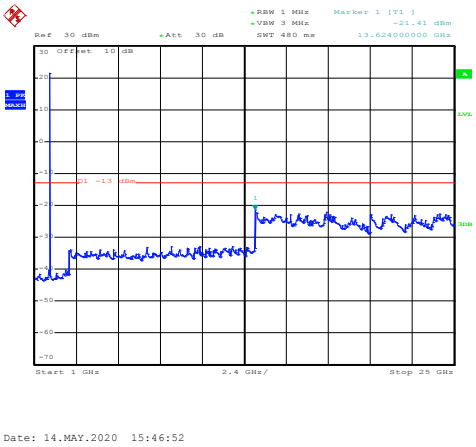



1GHz~25GHz

Middle channel

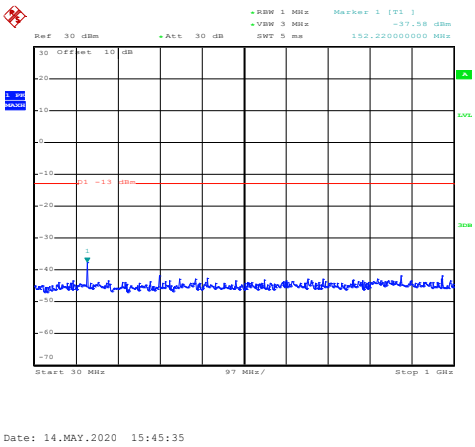



30MHz~1GHz

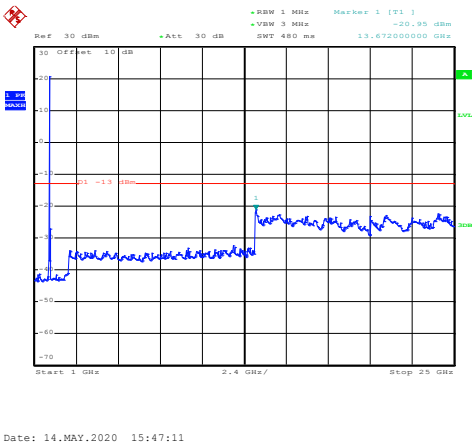



1GHz~25GHz

High channel

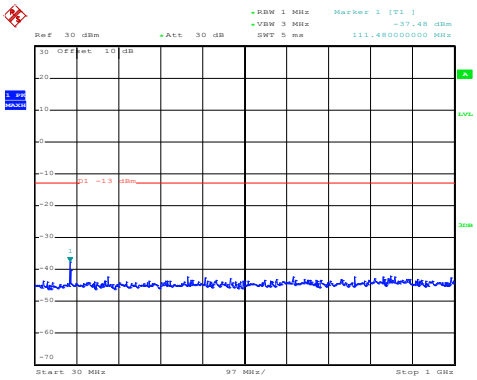



30MHz~1GHz



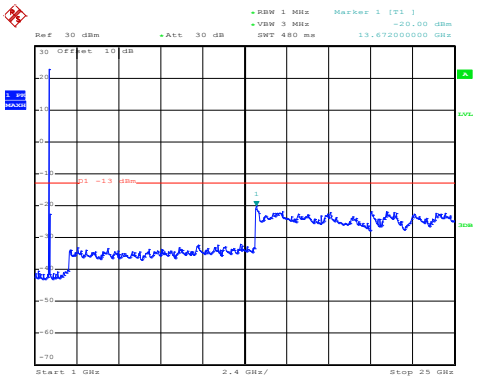

1GHz~25GHz

LTE Band 2: QPSK & RB Size 1
BW: 20MHz
Lowest channel




Date: 14.MAY.2020 15:46:00

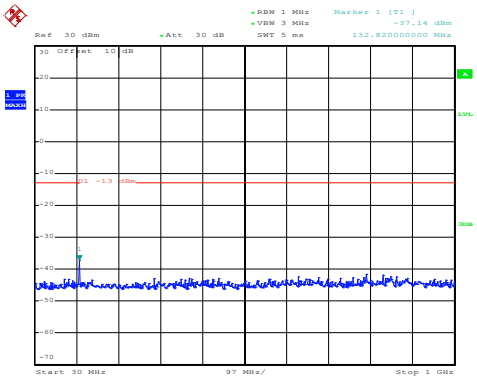
30MHz~1GHz




Date: 14.MAY.2020 15:46:23

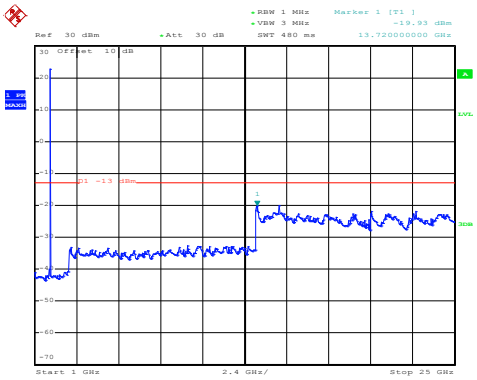
1GHz~25GHz

Middle channel




Date: 14.MAY.2020 15:45:44

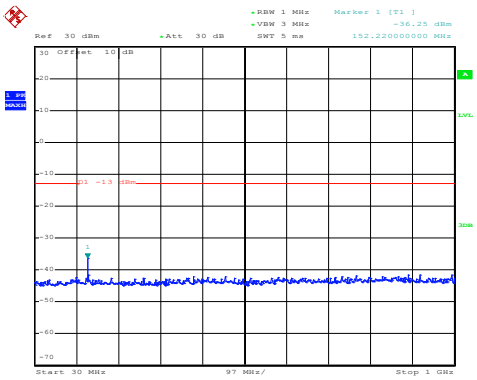
30MHz~1GHz




Date: 14.MAY.2020 15:46:44

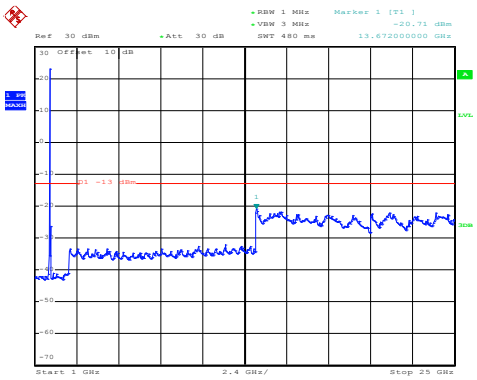
1GHz~25GHz

High channel




Date: 14.MAY.2020 15:45:28

30MHz~1GHz

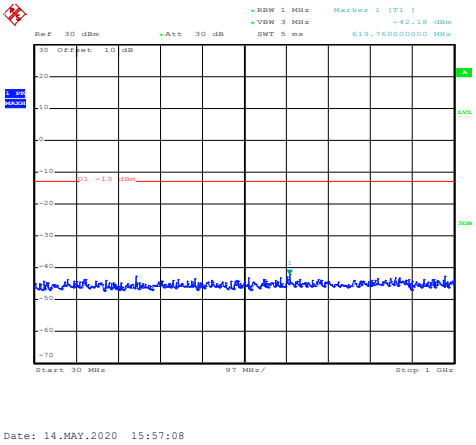



Date: 14.MAY.2020 15:47:06

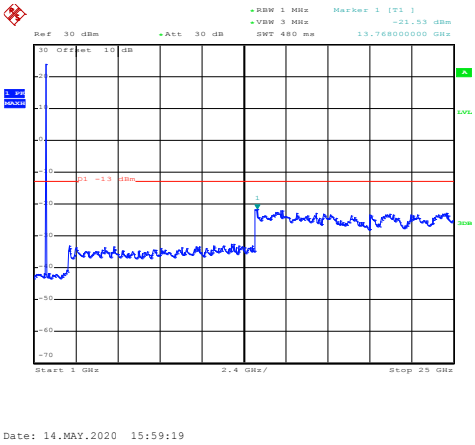
1GHz~25GHz

**LTE Band 4 part:**

LTE Band 4: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel

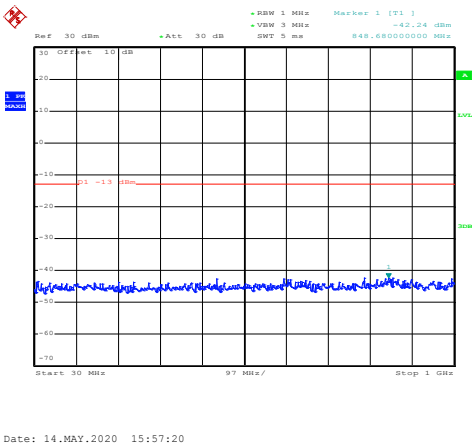



30MHz~1GHz

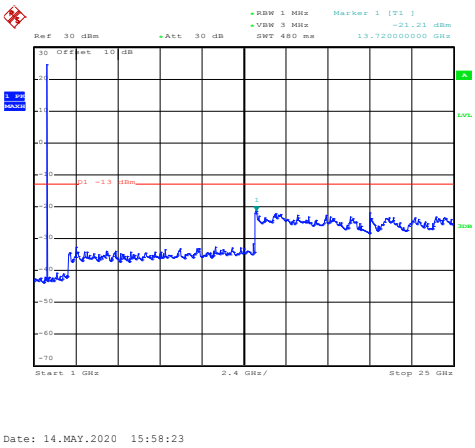



1GHz~25GHz

Middle channel

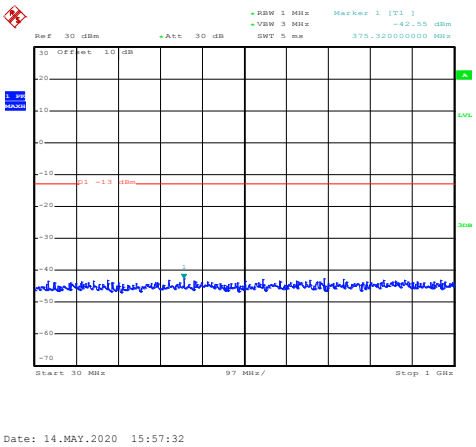



30MHz~1GHz

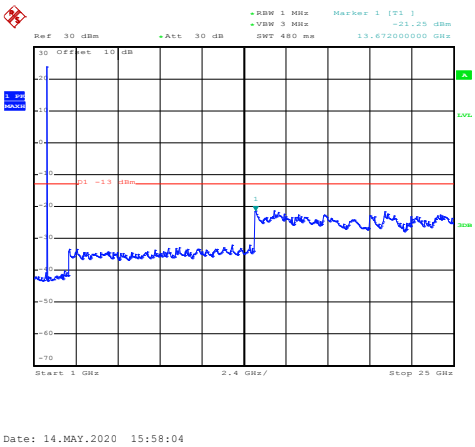



1GHz~25GHz

High channel

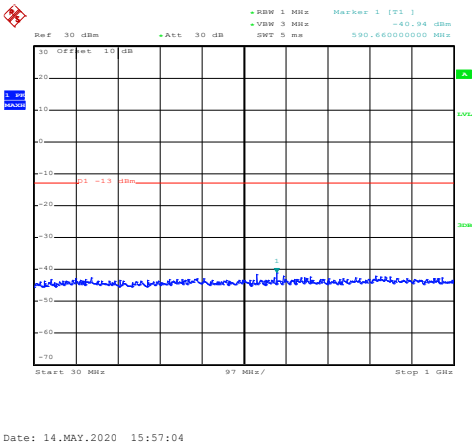



30MHz~1GHz

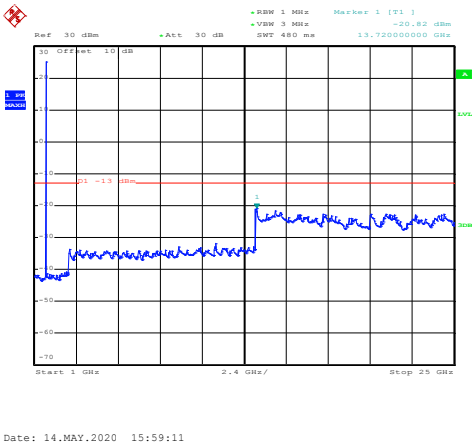



1GHz~25GHz

LTE Band 4: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel

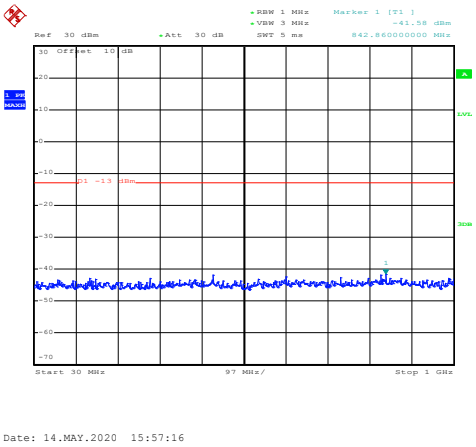



30MHz~1GHz

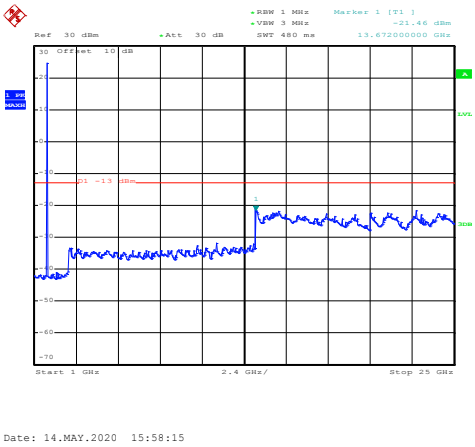



1GHz~25GHz

Middle channel

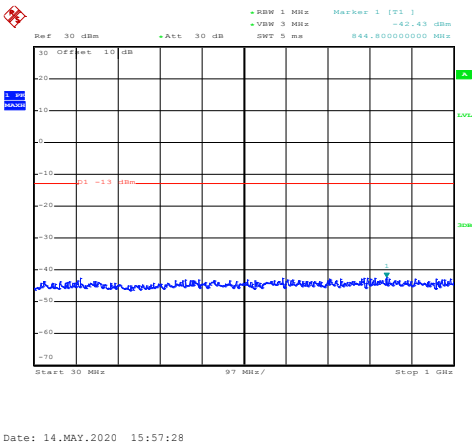



30MHz~1GHz

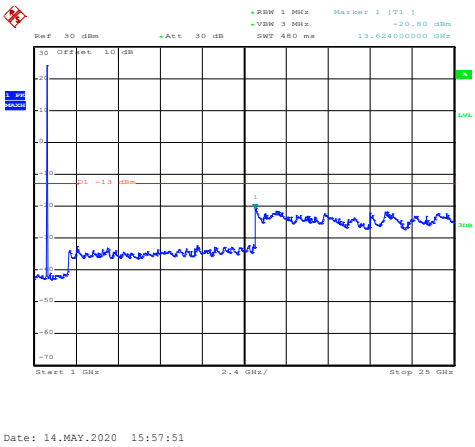



1GHz~25GHz

High channel

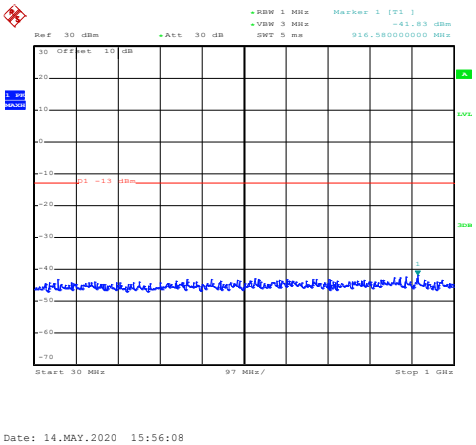



30MHz~1GHz

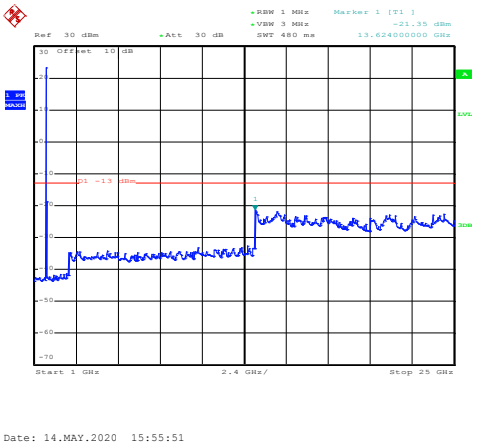



1GHz~25GHz

LTE Band 4: 16 QAM & RB Size 1
BW: 20MHz
Lowest channel

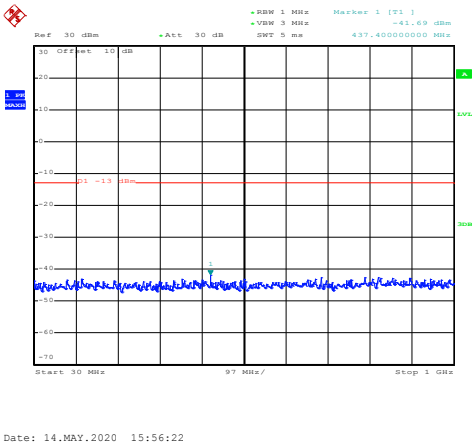



30MHz~1GHz

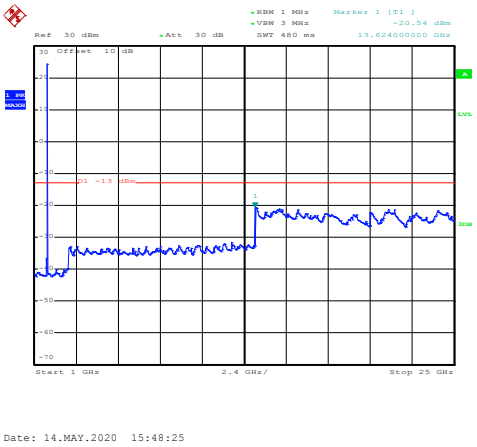



1GHz~25GHz

Middle channel

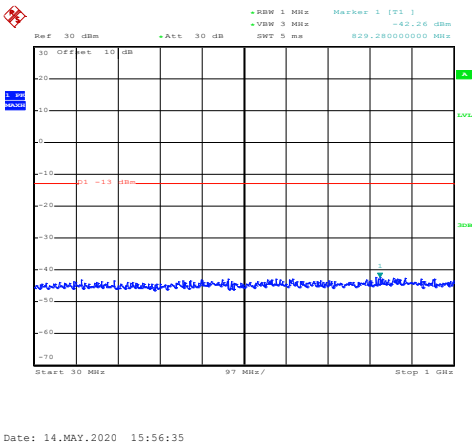



30MHz~1GHz

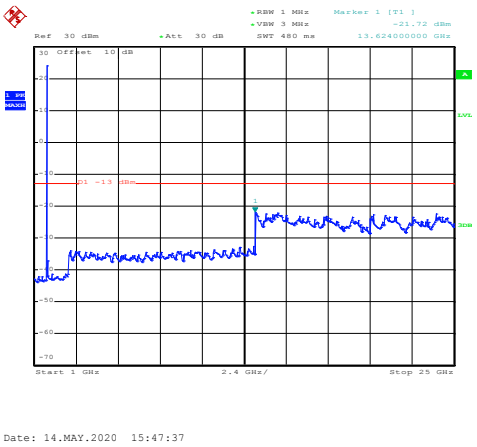



1GHz~25GHz

High channel

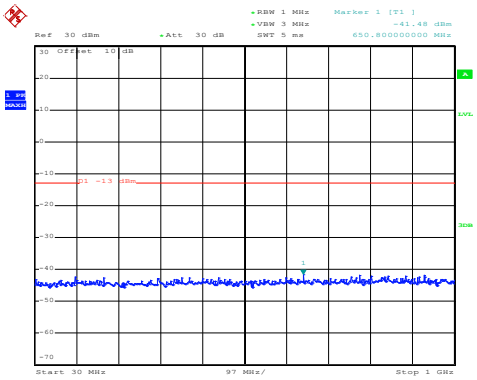



30MHz~1GHz



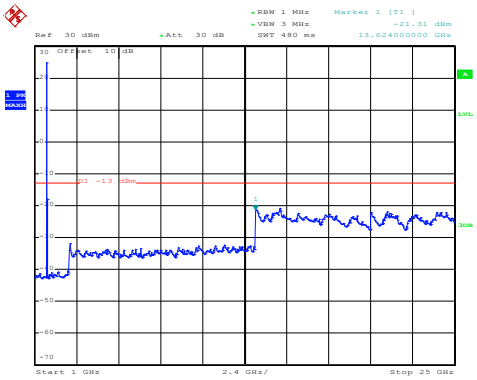

1GHz~25GHz

LTE Band 4: QPSK & RB Size 1
BW: 20MHz
Lowest channel




Date: 14.MAY.2020 15:56:04

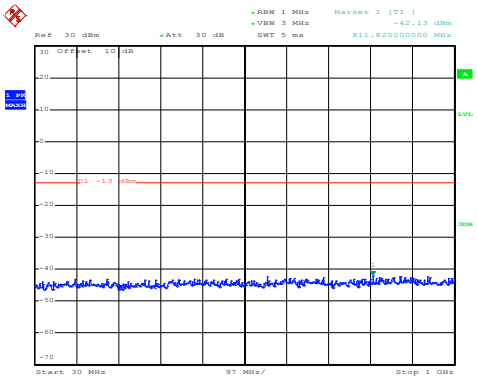
30MHz~1GHz




Date: 14.MAY.2020 15:55:44

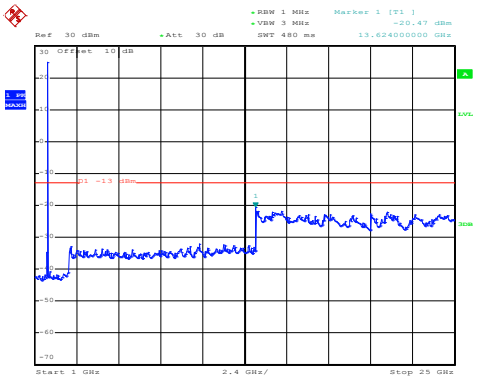
1GHz~25GHz

Middle channel




Date: 14.MAY.2020 15:56:18

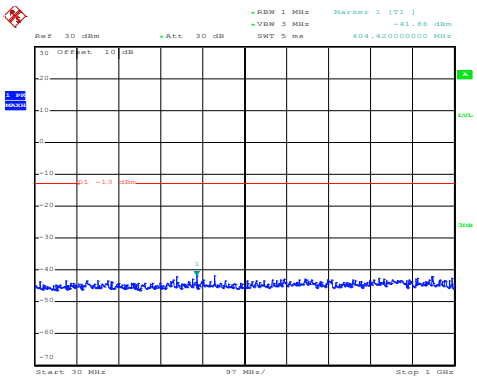
30MHz~1GHz




Date: 14.MAY.2020 15:47:48

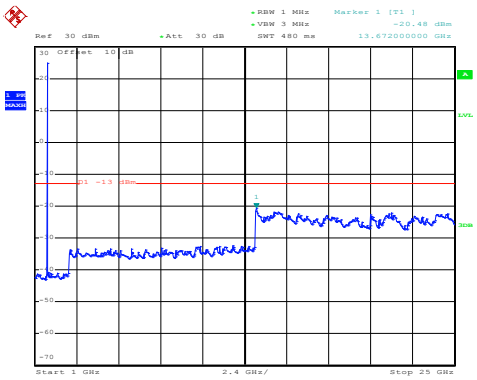
1GHz~25GHz

High channel




Date: 14.MAY.2020 15:56:30

30MHz~1GHz

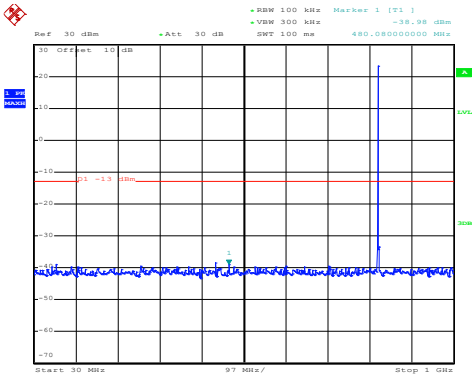



Date: 14.MAY.2020 15:47:32

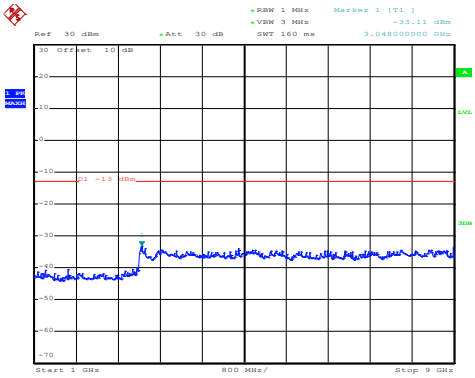
1GHz~25GHz

**LTE Band 5 part:**

LTE Band 5: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel

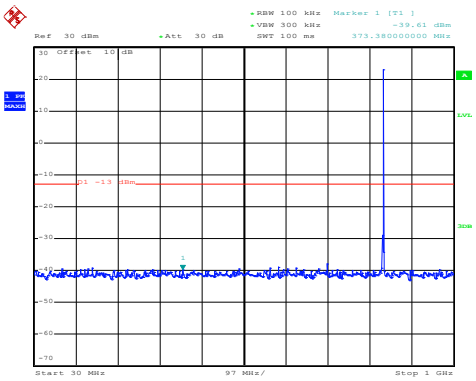



30MHz~1GHz

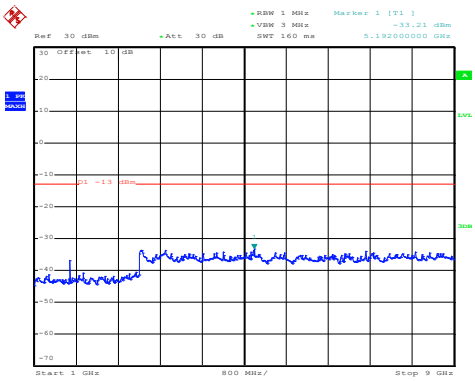



1GHz~9GHz

Middle channel

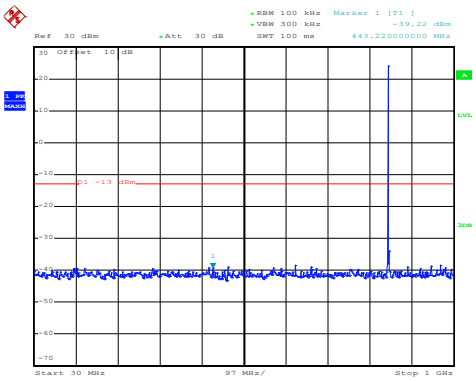



30MHz~1GHz

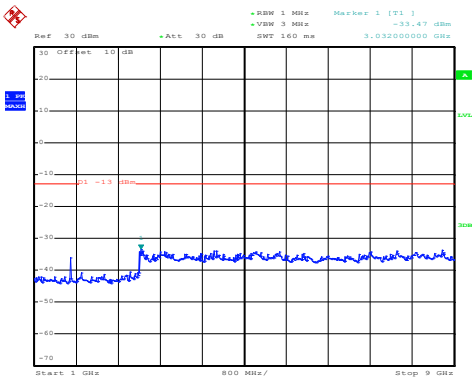



1GHz~9GHz

High channel

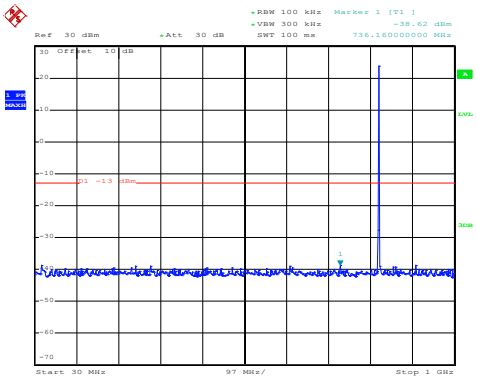



30MHz~1GHz



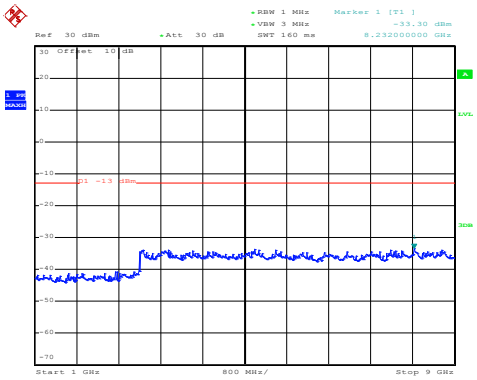

1GHz~9GHz

LTE Band 5: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel




Date: 14.MAY.2020 16:01:42

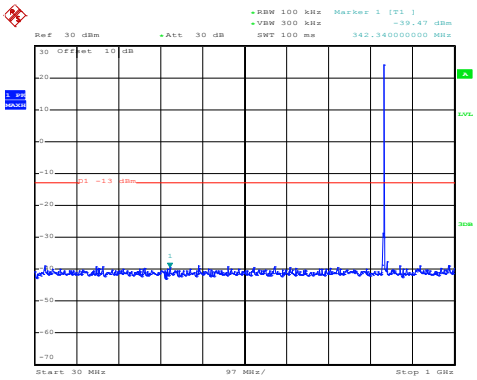
30MHz~1GHz




Date: 14.MAY.2020 16:03:24

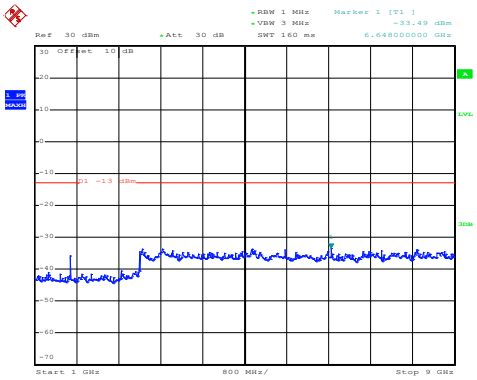
1GHz~9GHz

Middle channel




Date: 14.MAY.2020 16:02:02

30MHz~1GHz

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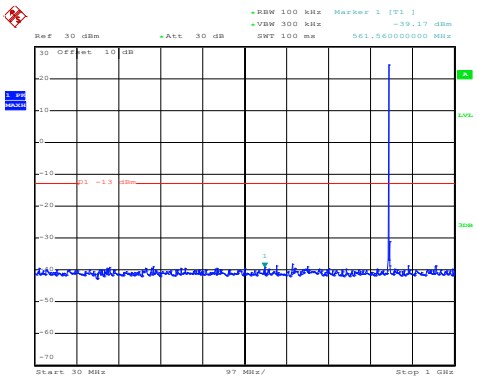
1GHz~9GHz

High channel

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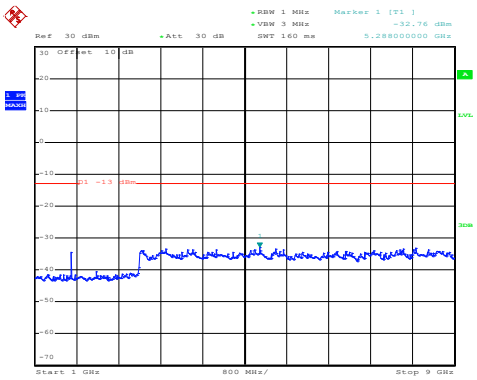
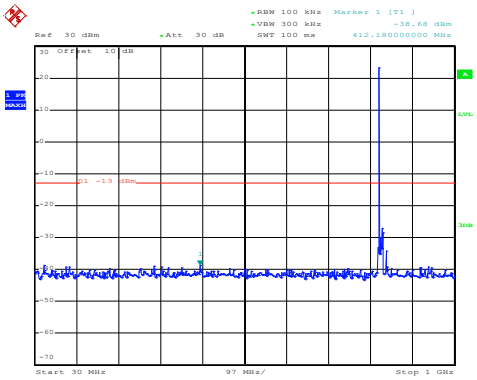
30MHz~1GHz



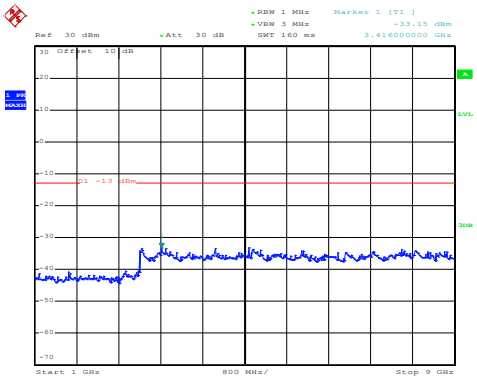

Date: 14.MAY.2020 16:02:52

1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 1
BW: 10MHz
Lowest channel

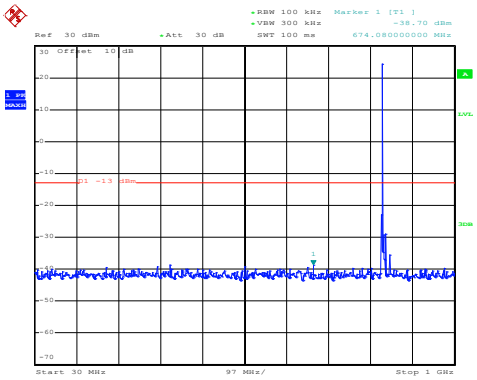



30MHz~1GHz

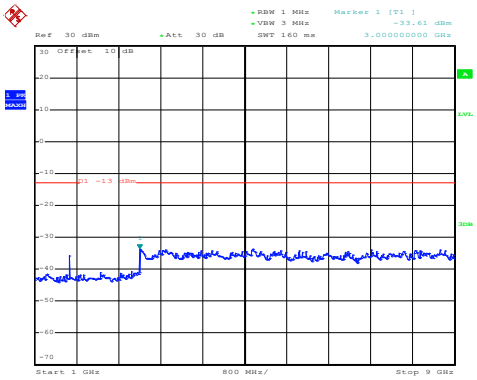



1GHz~9GHz

Middle channel

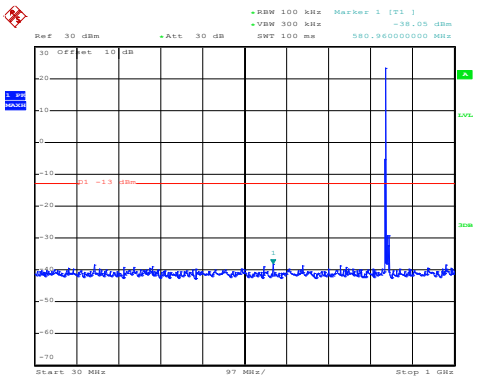



30MHz~1GHz

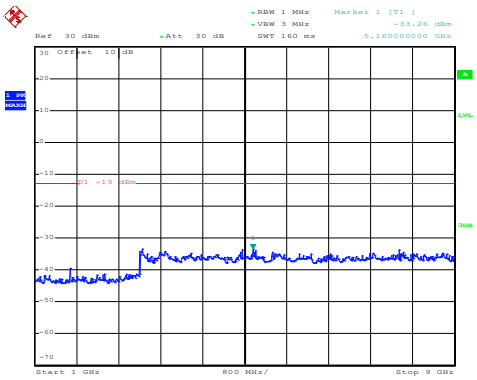



1GHz~9GHz

High channel

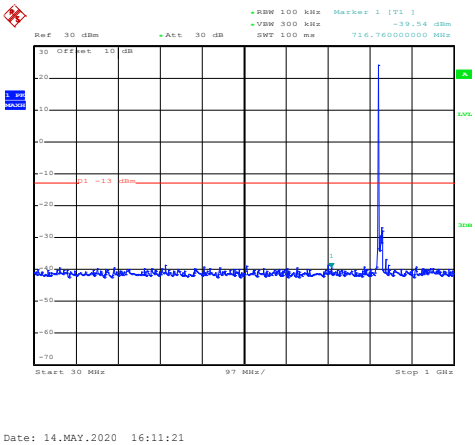



30MHz~1GHz

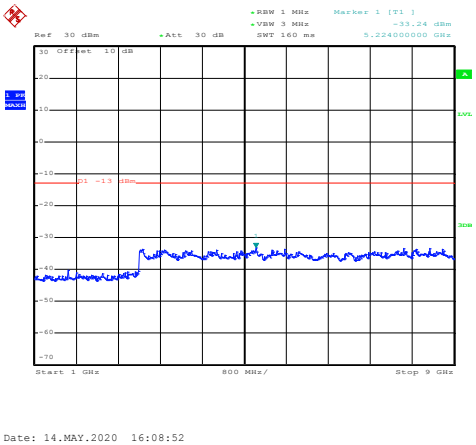



1GHz~9GHz

LTE Band 5: QPSK & RB Size 1
BW: 10MHz
Lowest channel

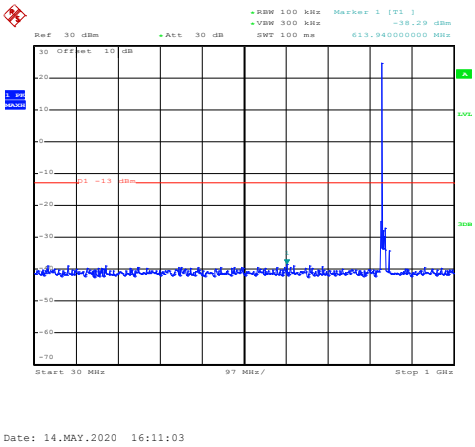



30MHz~1GHz

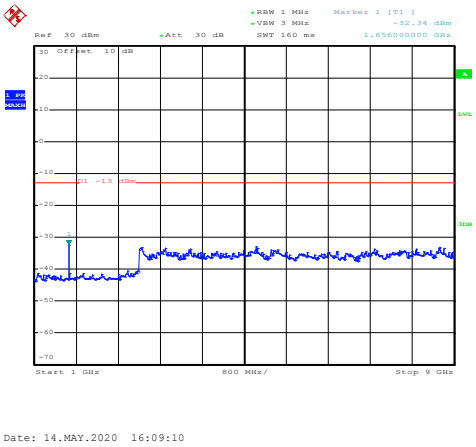



1GHz~9GHz

Middle channel

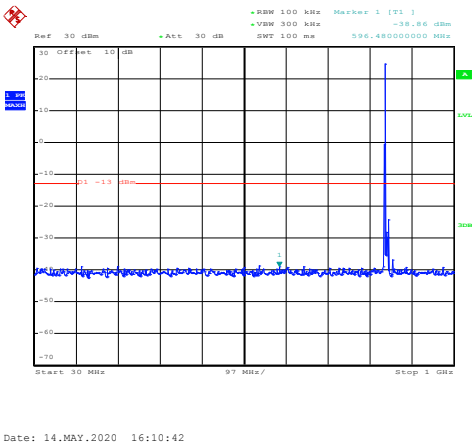



30MHz~1GHz

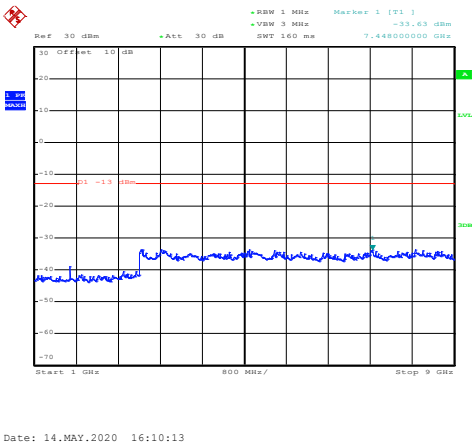



1GHz~9GHz

High channel



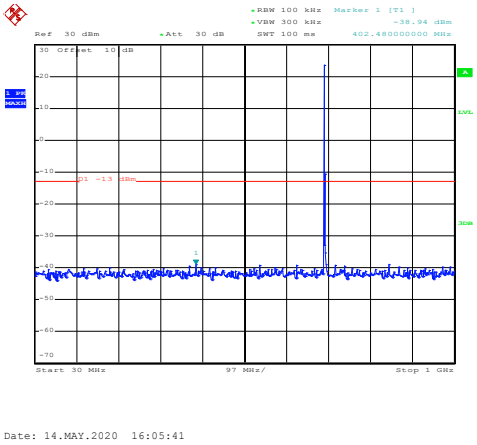

30MHz~1GHz



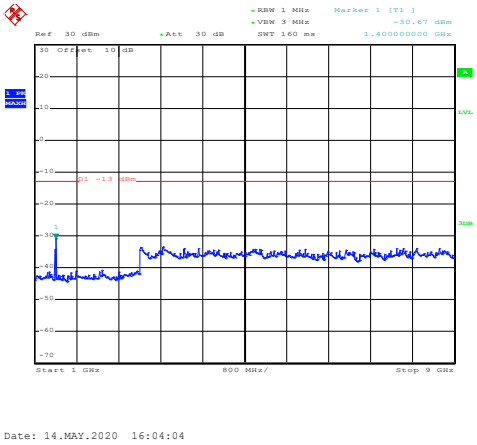

1GHz~9GHz

**LTE Band 12 part:**

LTE Band 12: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel

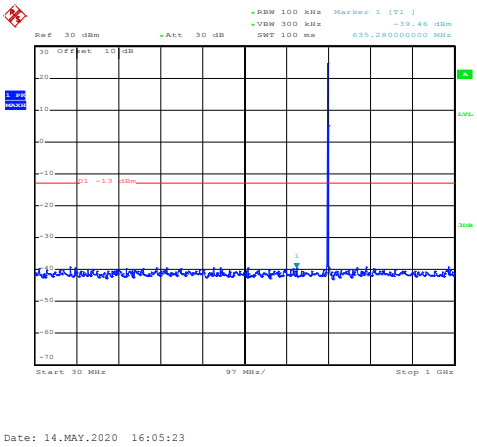



30MHz~1GHz

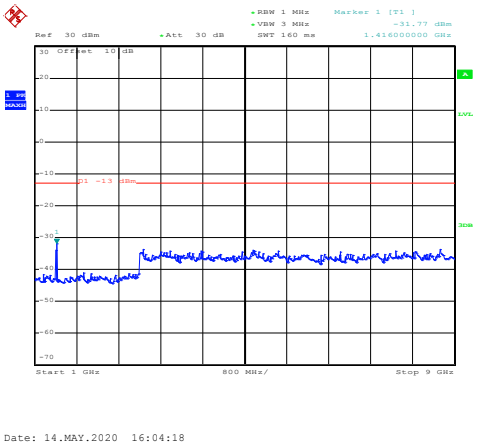



1GHz~9GHz

Middle channel

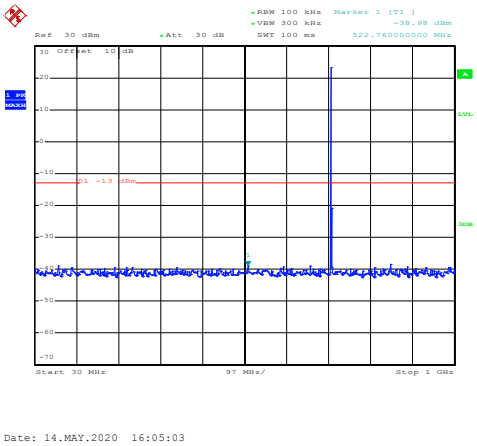



30MHz~1GHz

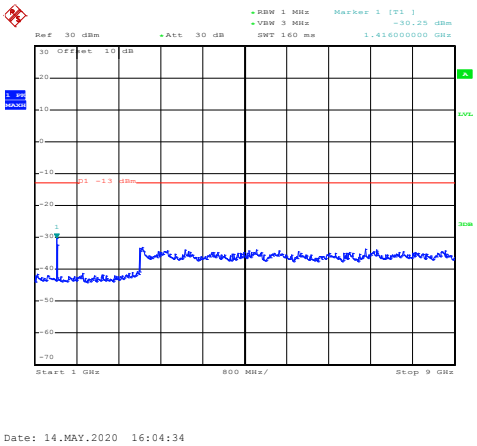



1GHz~9GHz

High channel

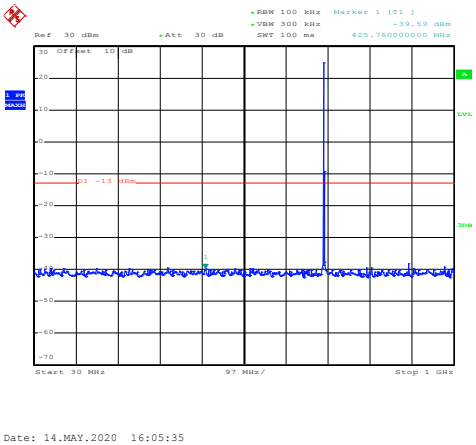



30MHz~1GHz

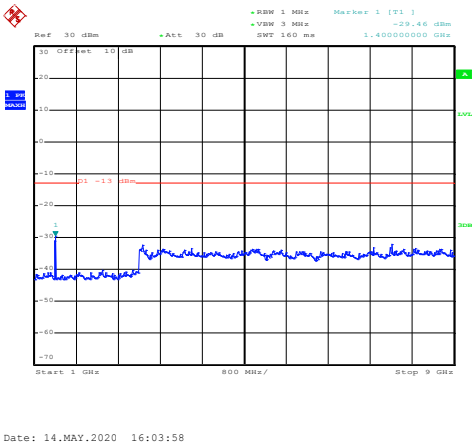



1GHz~9GHz

LTE Band 12: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel

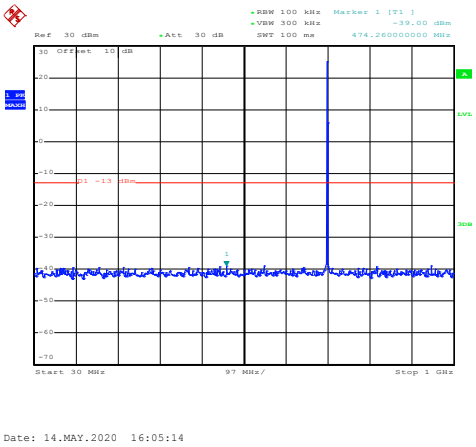



30MHz~1GHz

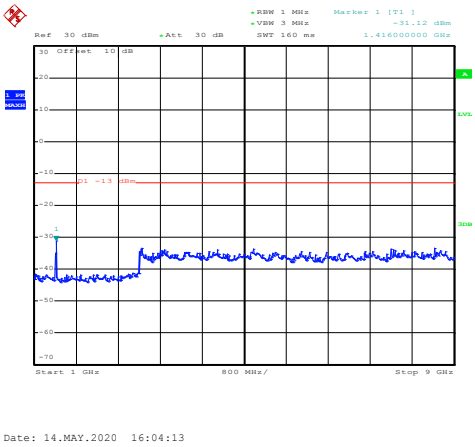



1GHz~9GHz

Middle channel

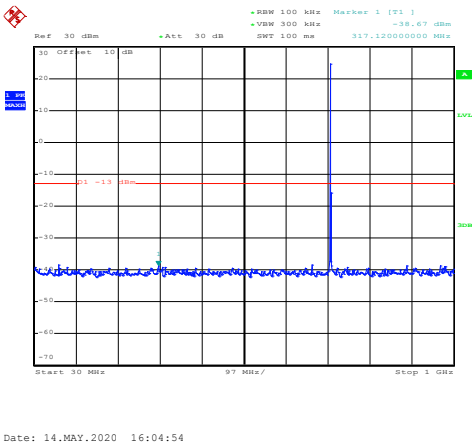



30MHz~1GHz

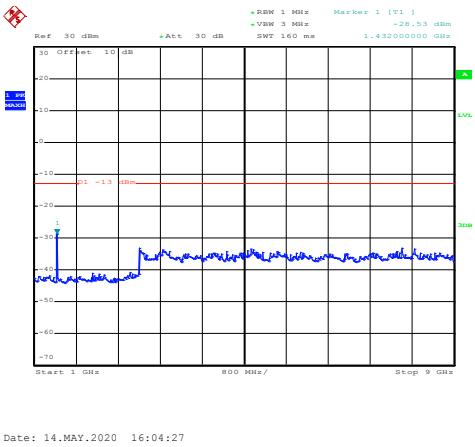



1GHz~9GHz

High channel

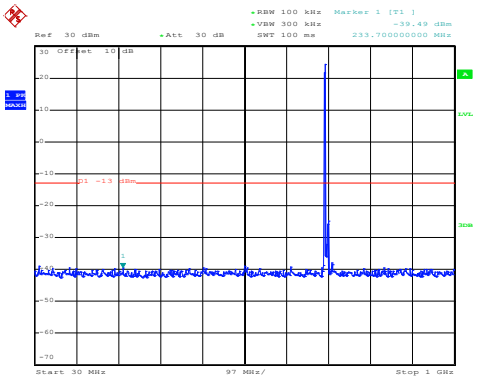



30MHz~1GHz



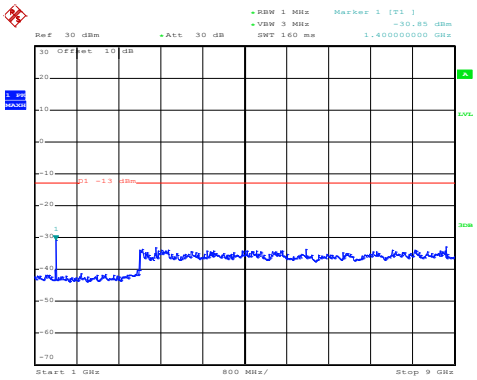

1GHz~9GHz

LTE Band 12: 16 QAM & RB Size 1
BW: 10MHz
Lowest channel




Date: 14.MAY.2020 16:06:34

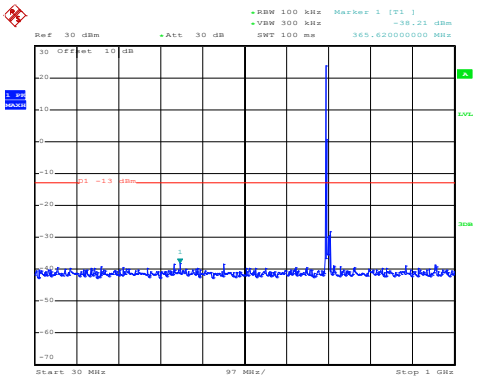
30MHz~1GHz




Date: 14.MAY.2020 16:08:20

1GHz~9GHz

Middle channel

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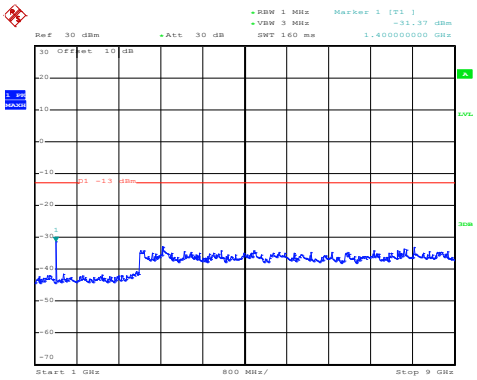
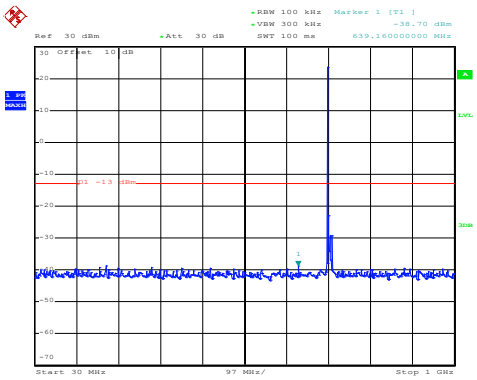
30MHz~1GHz




Date: 14.MAY.2020 16:08:01

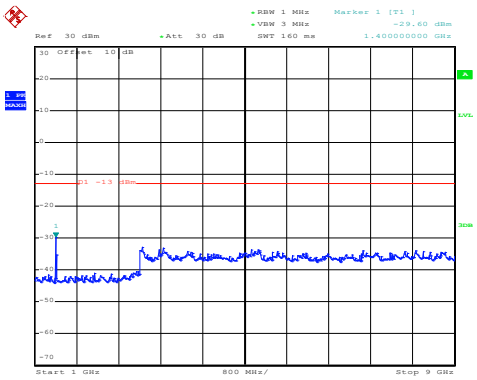
1GHz~9GHz

High channel




Date: 14.MAY.2020 16:07:15

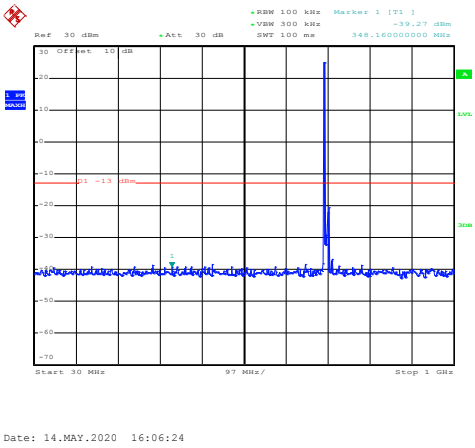
30MHz~1GHz



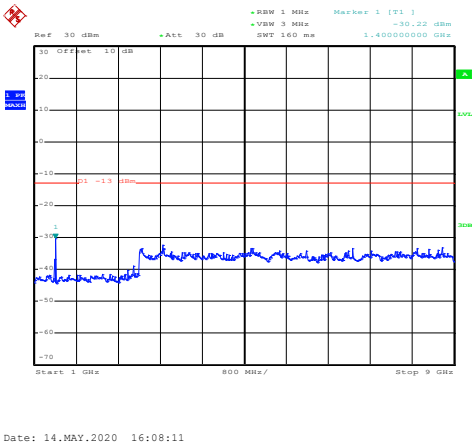

Date: 14.MAY.2020 16:07:47

1GHz~9GHz

LTE Band 12: QPSK & RB Size 1
BW: 10MHz
Lowest channel

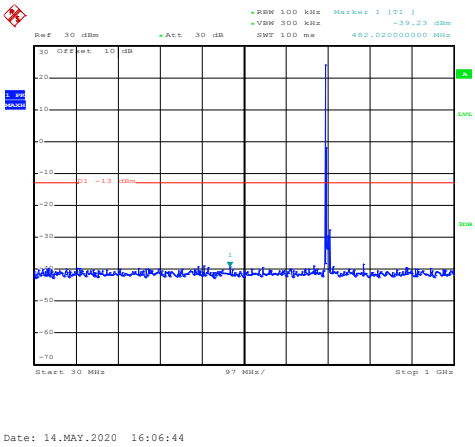



30MHz~1GHz

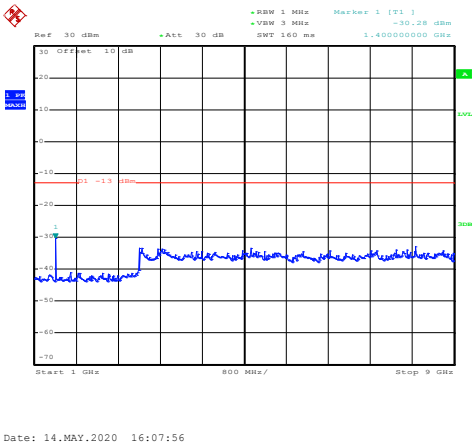



1GHz~9GHz

Middle channel

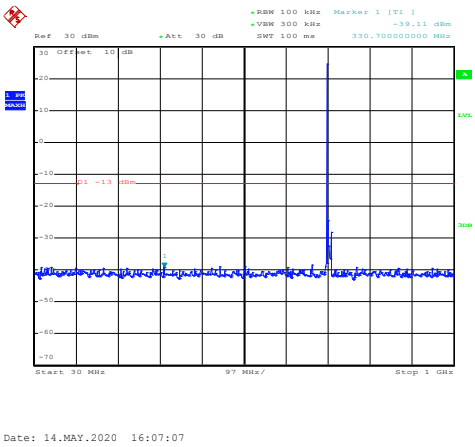



30MHz~1GHz

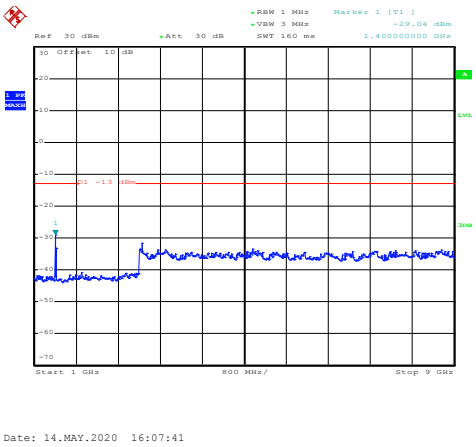



1GHz~9GHz

High channel



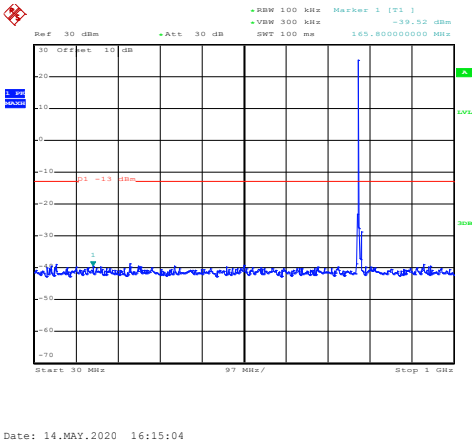

30MHz~1GHz



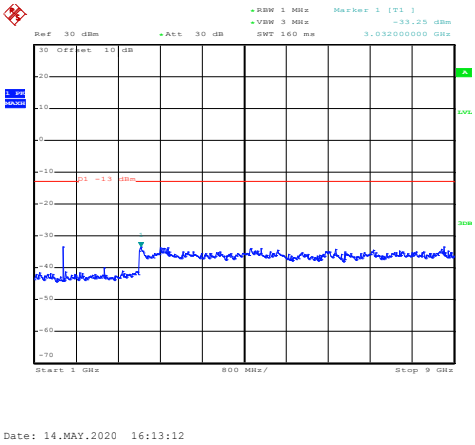

1GHz~9GHz

**LTE Band 13 part:**

LTE Band 13: 16 QAM & RB Size 1
BW: 5MHz
Lowest channel

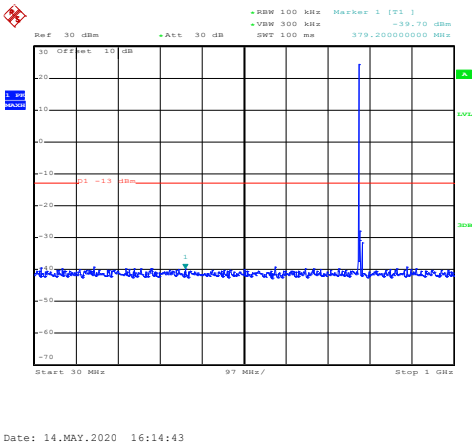



30MHz~1GHz

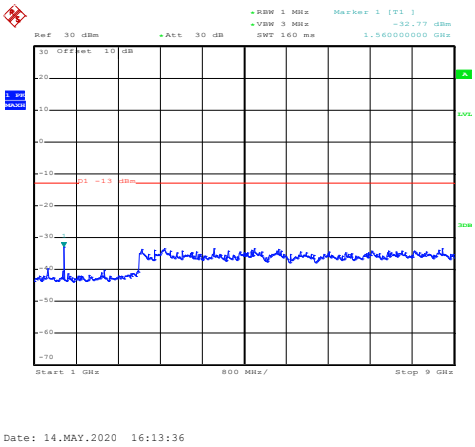



1GHz~9GHz

Middle channel

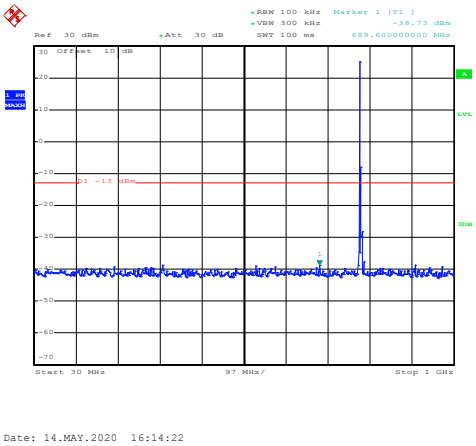



30MHz~1GHz

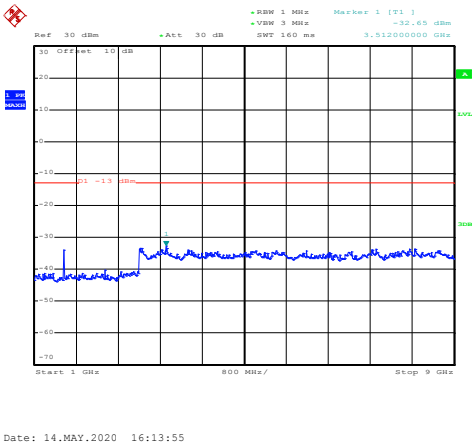



1GHz~9GHz

High channel

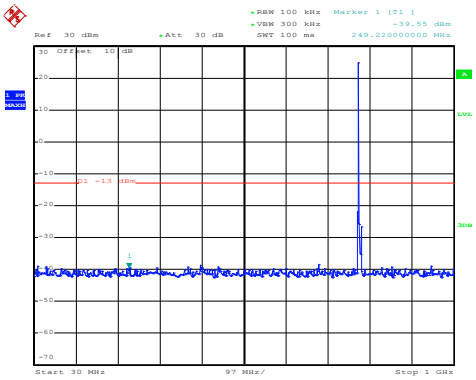



30MHz~1GHz



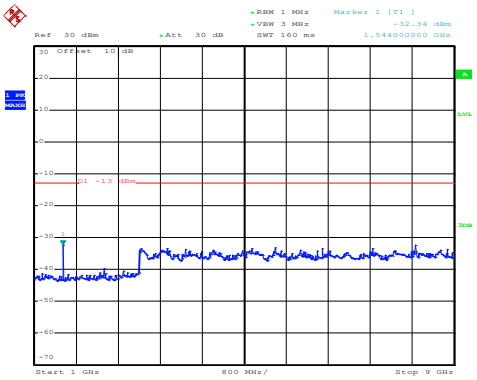

1GHz~9GHz

LTE Band 13: QPSK & RB Size 1
BW: 5MHz
Lowest channel




Date: 14.MAY.2020 16:14:55

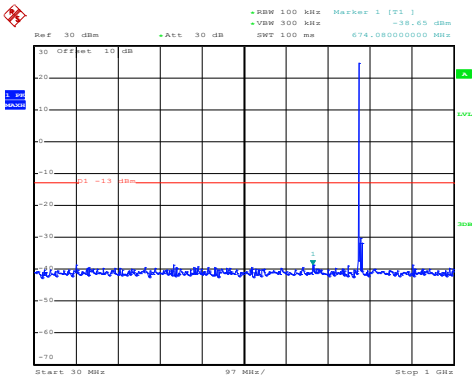
30MHz~1GHz




Date: 14.MAY.2020 16:13:06

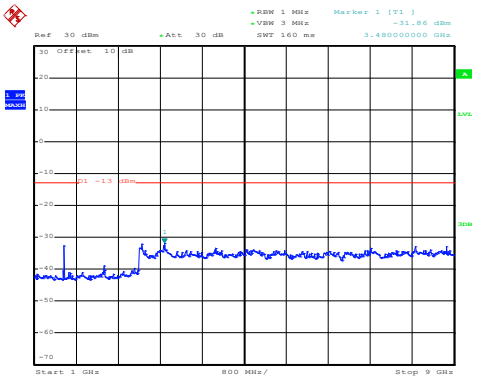
1GHz~9GHz

Middle channel




Date: 14.MAY.2020 16:14:34

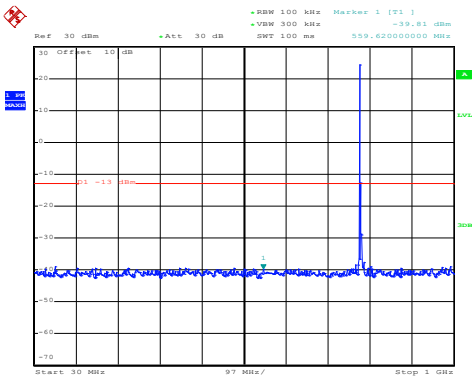
30MHz~1GHz




Date: 14.MAY.2020 16:13:28

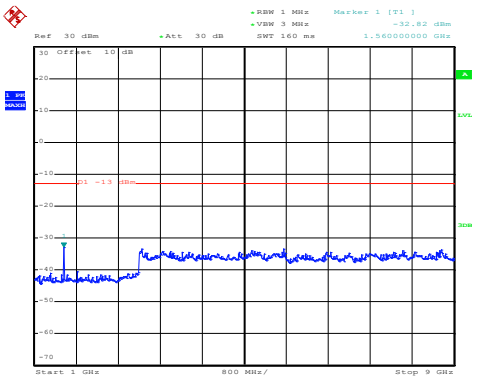
1GHz~9GHz

High channel




Date: 14.MAY.2020 16:14:11

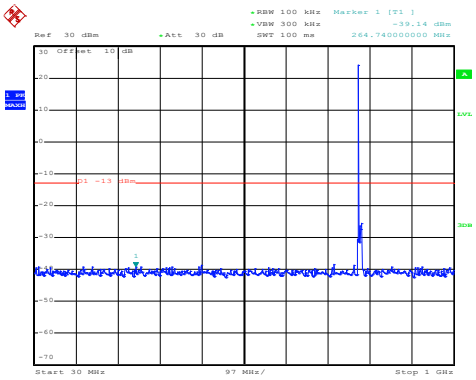
30MHz~1GHz




Date: 14.MAY.2020 16:13:45

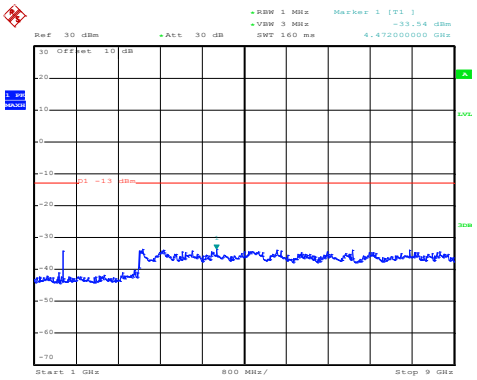
1GHz~9GHz

LTE Band 13: 16 QAM & RB Size 1
BW: 10MHz
Middle channel




Date: 14.MAY.2020 16:12:15

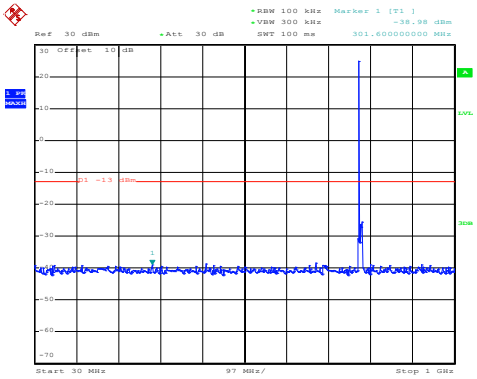
30MHz~1GHz




Date: 14.MAY.2020 16:12:42

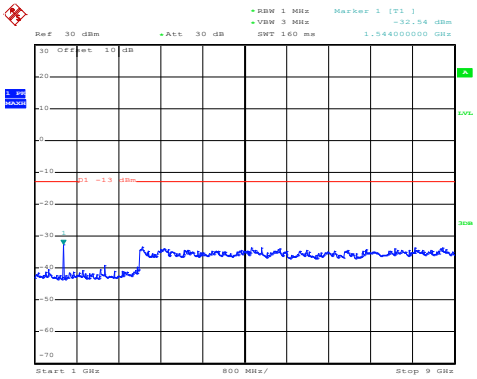
1GHz~9GHz

LTE Band 13: QPSK & RB Size 1
BW: 10MHz
Middle channel




Date: 14.MAY.2020 16:12:02

30MHz~1GHz



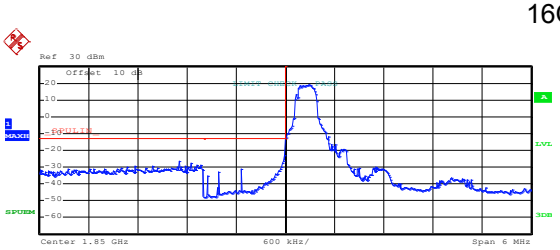

Date: 14.MAY.2020 16:12:36

1GHz~9GHz

**Band edge emission:**

**LTE Band 2 part:**

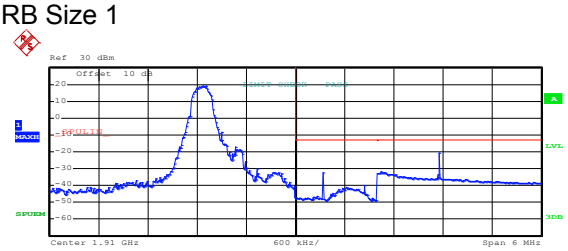
LTE Band 2, BW: 1.4MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.847 G | 1.849 G | 1.00 M | 1.848708 G | -26.35 | -13.35 |
| 1.849 G | 1.850 G | 30.00 k | 1.849990 G | -23.06 | -10.06 |
| 1.850 G | 1.853 G | 100.00 k | 1.850288 G | 19.06 | -13.94 |

Date: 14.MAY.2020 15:16:56

Lowest channel

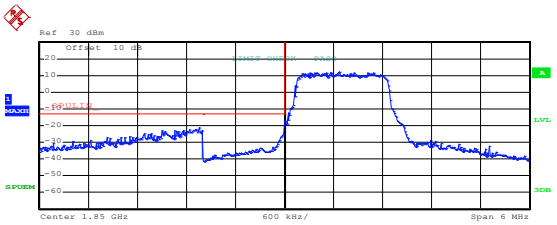



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.907 G | 1.910 G | 100.00 k | 1.908869 G | 18.96 | -14.04 |
| 1.910 G | 1.911 G | 30.00 k | 1.910340 G | -32.16 | -19.16 |
| 1.911 G | 1.913 G | 1.00 M | 1.911746 G | -20.30 | -7.30 |

Date: 14.MAY.2020 15:18:34

Highest channel

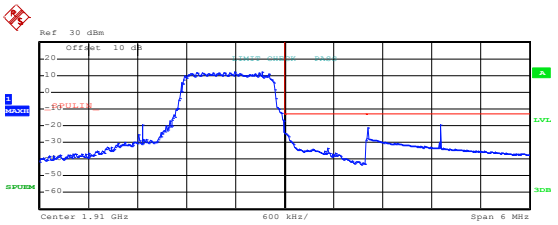
16QAM & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.847 G | 1.849 G | 1.00 M | 1.848958 G | -20.99 | -7.99 |
| 1.849 G | 1.850 G | 30.00 k | 1.849996 G | -25.05 | -12.05 |
| 1.850 G | 1.853 G | 100.00 k | 1.850672 G | 12.02 | -20.98 |

Date: 14.MAY.2020 15:17:57

Lowest channel



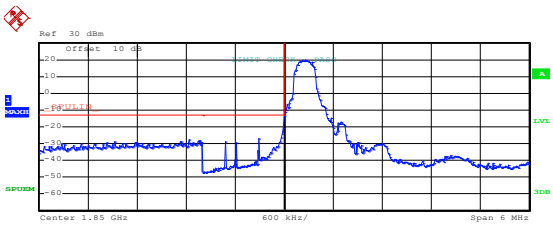

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.907 G | 1.910 G | 100.00 k | 1.909382 G | 12.27 | -20.73 |
| 1.910 G | 1.911 G | 30.00 k | 1.910023 G | -24.25 | -11.25 |
| 1.911 G | 1.913 G | 1.00 M | 1.911906 G | -19.32 | -6.32 |

Date: 14.MAY.2020 15:18:20

Highest channel

LTE Band 2, BW: 1.4MHz

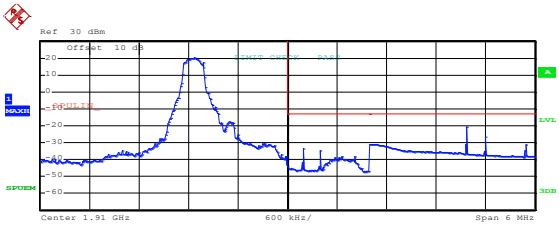
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.847 G | 1.849 G | 1.00 M | 1.848838 G | -27.46 | -14.46 |
| 1.849 G | 1.850 G | 30.00 k | 1.849993 G | -20.79 | -7.79 |
| 1.850 G | 1.853 G | 100.00 k | 1.850267 G | 20.00 | -13.00 |

Date: 14.MAY.2020 15:16:44

Lowest channel

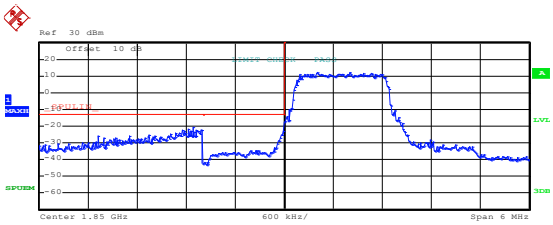



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.907 G | 1.910 G | 100.00 k | 1.908866 G | 20.18 | -12.82 |
| 1.910 G | 1.911 G | 30.00 k | 1.910186 G | -33.56 | -20.56 |
| 1.911 G | 1.913 G | 1.00 M | 1.912176 G | -20.67 | -7.67 |

Date: 14.MAY.2020 15:18:29

Highest channel

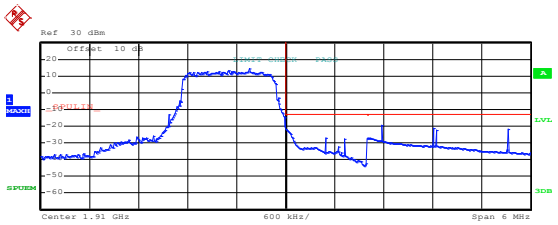
QPSK & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.847 G | 1.849 G | 1.00 M | 1.848878 G | -20.70 | -7.70 |
| 1.849 G | 1.850 G | 30.00 k | 1.849999 G | -22.88 | -9.88 |
| 1.850 G | 1.853 G | 100.00 k | 1.850798 G | 12.26 | -20.74 |

Date: 14.MAY.2020 15:17:50

Lowest channel

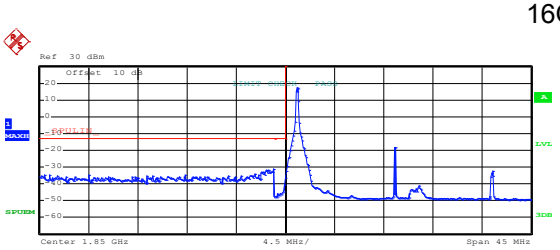



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.907 G | 1.910 G | 100.00 k | 1.909559 G | 14.23 | -18.77 |
| 1.910 G | 1.911 G | 30.00 k | 1.910004 G | -21.44 | -8.44 |
| 1.911 G | 1.913 G | 1.00 M | 1.911178 G | -19.25 | -6.25 |

Date: 14.MAY.2020 15:18:14

Highest channel

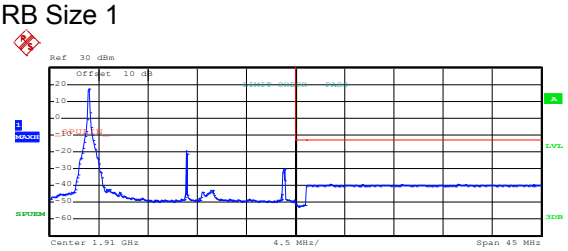
LTE Band 2, BW: 20MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.827 G | 1.849 G | 1.00 M | 1.849000 G | -30.97 | -17.97 |
| 1.849 G | 1.850 G | 30.00 k | 1.849998 G | -40.46 | -27.46 |
| 1.850 G | 1.873 G | 100.00 k | 1.851058 G | 17.57 | -15.43 |

Date: 14.MAY.2020 15:38:37

Lowest channel

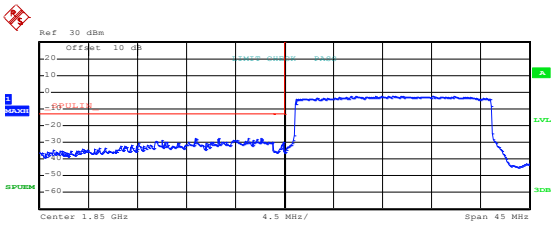



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.888 G | 1.910 G | 100.00 k | 1.891055 G | 17.18 | -15.82 |
| 1.910 G | 1.911 G | 30.00 k | 1.910021 G | -51.16 | -38.16 |
| 1.911 G | 1.933 G | 1.00 M | 1.919686 G | -39.26 | -26.26 |

Date: 14.MAY.2020 15:39:20

Highest channel

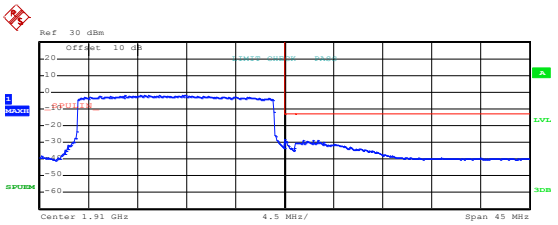
16QAM & RB Size 100




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.827 G | 1.849 G | 1.00 M | 1.843948 G | -27.63 | -14.63 |
| 1.849 G | 1.850 G | 300.00 k | 1.849968 G | -29.74 | -16.74 |
| 1.850 G | 1.873 G | 100.00 k | 1.860913 G | -2.44 | -35.44 |

Date: 14.MAY.2020 15:39:02

Lowest channel



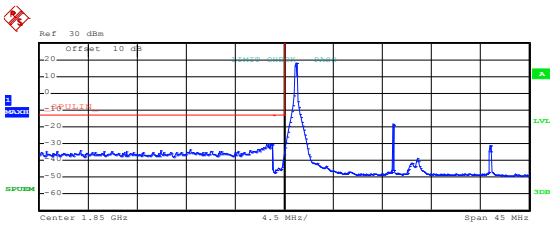

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.888 G | 1.910 G | 100.00 k | 1.898435 G | -1.75 | -34.75 |
| 1.910 G | 1.911 G | 300.00 k | 1.910024 G | -28.36 | -15.36 |
| 1.911 G | 1.933 G | 1.00 M | 1.913000 G | -28.58 | -15.58 |

Date: 14.MAY.2020 15:42:22

Highest channel

LTE Band 2, BW: 20MHz

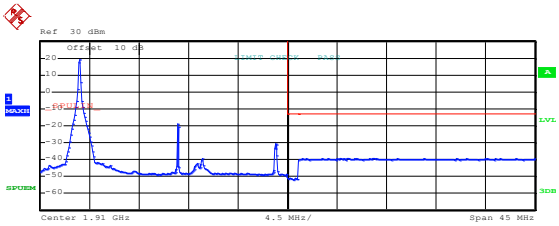
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.827 G | 1.849 G | 1.00 M | 1.848548 G | -29.92 | -16.92 |
| 1.849 G | 1.850 G | 30.00 k | 1.849960 G | -39.86 | -26.86 |
| 1.850 G | 1.873 G | 100.00 k | 1.851103 G | 18.27 | -14.73 |

Date: 14.MAY.2020 15:38:29

Lowest channel

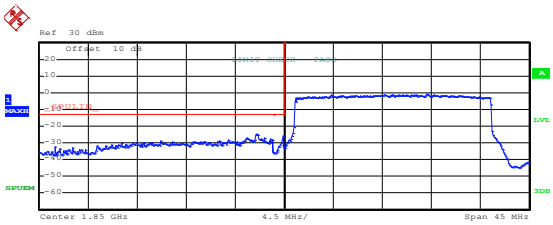



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.888 G | 1.910 G | 100.00 k | 1.891100 G | 18.97 | -14.03 |
| 1.910 G | 1.911 G | 30.00 k | 1.910743 G | -50.86 | -37.86 |
| 1.911 G | 1.933 G | 1.00 M | 1.917730 G | -39.22 | -26.22 |

Date: 14.MAY.2020 15:39:15

Highest channel

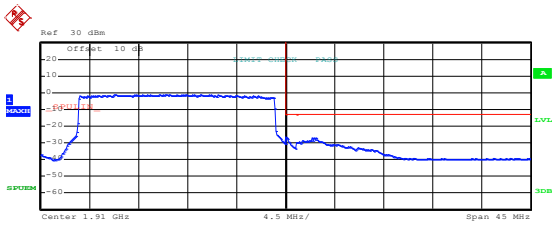
QPSK & RB Size 100




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.827 G | 1.849 G | 1.00 M | 1.847474 G | -24.95 | -11.95 |
| 1.849 G | 1.850 G | 300.00 k | 1.849935 G | -27.34 | -14.34 |
| 1.850 G | 1.873 G | 100.00 k | 1.863163 G | -0.92 | -33.92 |

Date: 14.MAY.2020 15:38:57

Lowest channel



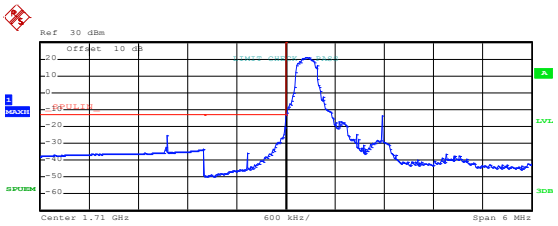

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.888 G | 1.910 G | 100.00 k | 1.894273 G | -1.04 | -34.04 |
| 1.910 G | 1.911 G | 300.00 k | 1.910016 G | -26.24 | -13.24 |
| 1.911 G | 1.933 G | 1.00 M | 1.912548 G | -26.77 | -13.77 |

Date: 14.MAY.2020 15:39:34

Highest channel

**LTE Band 4 part:**

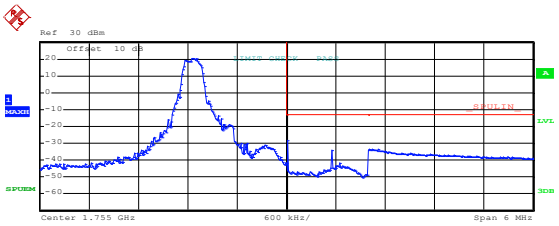
LTE Band 4, BW: 1.4MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.707 G | 1.709 G | 1.00 M | 1.708548 G | -25.08 | -12.08 |
| 1.709 G | 1.710 G | 30.00 k | 1.709992 G | -22.84 | -9.84 |
| 1.710 G | 1.713 G | 100.00 k | 1.710285 G | 21.23 | -11.77 |

Date: 14.MAY.2020 15:19:19

Lowest channel

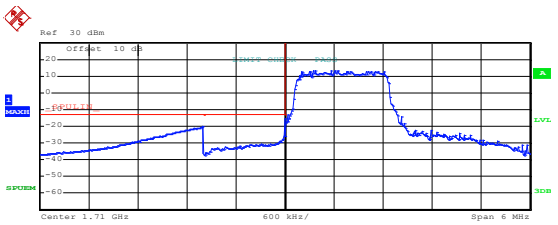



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.752 G | 1.755 G | 100.00 k | 1.753842 G | 20.35 | -12.65 |
| 1.755 G | 1.756 G | 30.00 k | 1.755006 G | -28.35 | -15.35 |
| 1.756 G | 1.758 G | 1.00 M | 1.756048 G | -33.50 | -20.50 |

Date: 14.MAY.2020 15:20:05

Highest channel

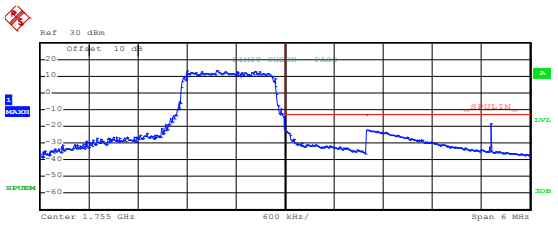
16QAM & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.707 G | 1.709 G | 1.00 M | 1.709000 G | -20.29 | -7.29 |
| 1.709 G | 1.710 G | 30.00 k | 1.709976 G | -26.51 | -13.51 |
| 1.710 G | 1.713 G | 100.00 k | 1.710651 G | 13.51 | -19.49 |

Date: 14.MAY.2020 15:19:30

Lowest channel



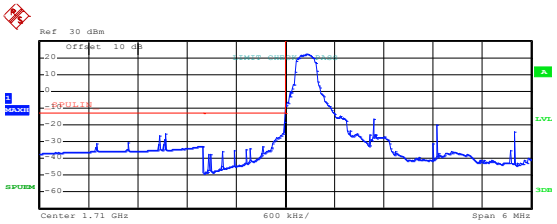

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.752 G | 1.755 G | 100.00 k | 1.754172 G | 13.23 | -19.77 |
| 1.755 G | 1.756 G | 30.00 k | 1.755008 G | -22.08 | -9.08 |
| 1.756 G | 1.758 G | 1.00 M | 1.757514 G | -18.18 | -5.18 |

Date: 14.MAY.2020 15:19:52

Highest channel

LTE Band 4, BW: 1.4MHz

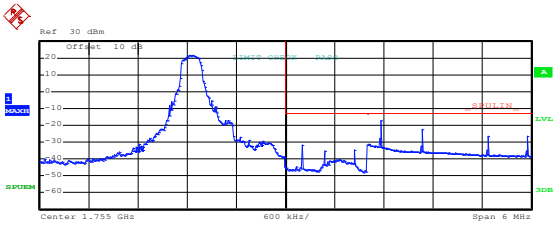
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.707 G | 1.709 G | 1.00 M | 1.708532 G | -25.53 | -12.53 |
| 1.709 G | 1.710 G | 30.00 k | 1.709992 G | -19.09 | -6.09 |
| 1.710 G | 1.713 G | 100.00 k | 1.710273 G | 21.99 | -11.01 |

Date: 14.MAY.2020 15:19:11

Lowest channel

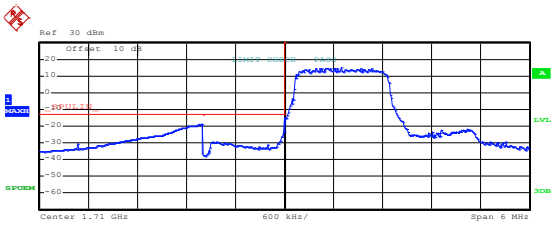



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.752 G | 1.755 G | 100.00 k | 1.753869 G | 21.38 | -11.62 |
| 1.755 G | 1.756 G | 30.00 k | 1.755206 G | -31.65 | -18.65 |
| 1.756 G | 1.758 G | 1.00 M | 1.756158 G | -17.14 | -4.14 |

Date: 14.MAY.2020 15:20:00

Highest channel

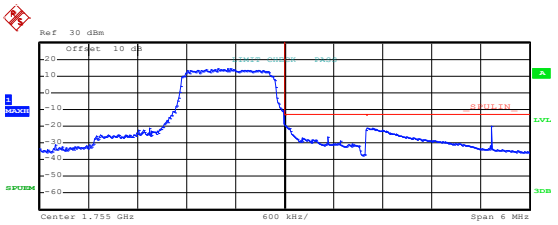
QPSK & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.707 G | 1.709 G | 1.00 M | 1.708984 G | -18.97 | -5.97 |
| 1.709 G | 1.710 G | 30.00 k | 1.709992 G | -24.71 | -11.71 |
| 1.710 G | 1.713 G | 100.00 k | 1.710690 G | 14.99 | -18.01 |

Date: 14.MAY.2020 15:19:26

Lowest channel

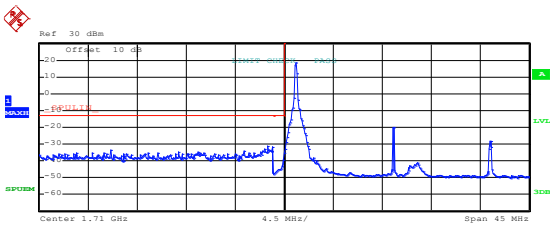



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 1.752 G | 1.755 G | 100.00 k | 1.754340 G | 14.44 | -18.56 |
| 1.755 G | 1.756 G | 30.00 k | 1.755024 G | -19.03 | -6.03 |
| 1.756 G | 1.758 G | 1.00 M | 1.757528 G | -20.24 | -7.24 |

Date: 14.MAY.2020 15:19:48

Highest channel

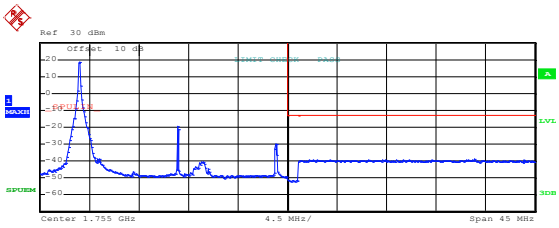
LTE Band 4, BW: 20MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.688 G | 1.709 G | 1.00 M | 1.708420 G | -30.83 | -17.83 |
| 1.709 G | 1.710 G | 30.00 k | 1.709999 G | -39.45 | -26.45 |
| 1.710 G | 1.732 G | 100.00 k | 1.711057 G | 18.52 | -14.48 |

Date: 14.MAY.2020 15:35:49

Lowest channel

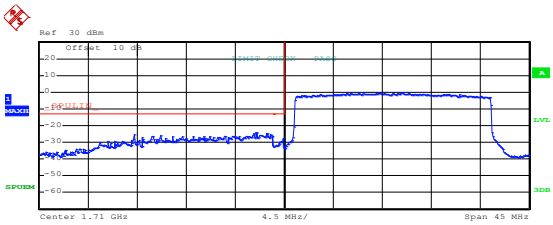



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.732 G | 1.755 G | 100.00 k | 1.736055 G | 18.35 | -14.65 |
| 1.755 G | 1.756 G | 30.00 k | 1.755143 G | -50.98 | -37.98 |
| 1.756 G | 1.778 G | 1.00 M | 1.772018 G | -38.87 | -25.87 |

Date: 14.MAY.2020 15:36:29

Highest channel

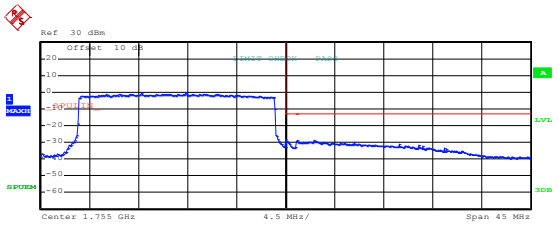
16QAM & RB Size 100




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.688 G | 1.709 G | 1.00 M | 1.707345 G | -24.06 | -11.06 |
| 1.709 G | 1.710 G | 300.00 k | 1.709968 G | -27.55 | -14.55 |
| 1.710 G | 1.732 G | 100.00 k | 1.720800 G | -0.38 | -33.38 |

Date: 14.MAY.2020 15:36:09

Lowest channel

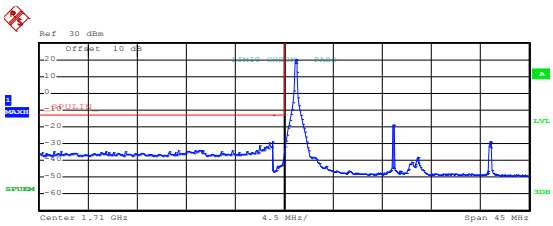



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.732 G | 1.755 G | 100.00 k | 1.745797 G | -0.36 | -33.36 |
| 1.755 G | 1.756 G | 300.00 k | 1.755016 G | -28.16 | -15.16 |
| 1.756 G | 1.778 G | 1.00 M | 1.757548 G | -28.56 | -15.56 |

Date: 14.MAY.2020 15:36:48

Highest channel

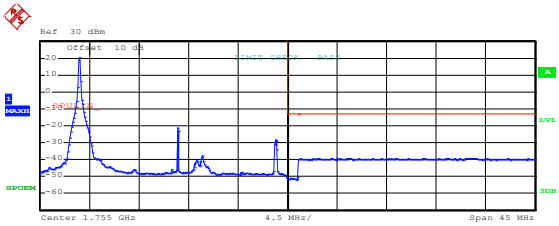
LTE Band 4, BW: 20MHz
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.688 G | 1.709 G | 1.00 M | 1.708935 G | -28.82 | -15.82 |
| 1.709 G | 1.710 G | 30.00 k | 1.709985 G | -40.55 | -27.55 |
| 1.710 G | 1.732 G | 100.00 k | 1.711080 G | 20.47 | -12.53 |

Date: 14.MAY.2020 15:35:44

Lowest channel

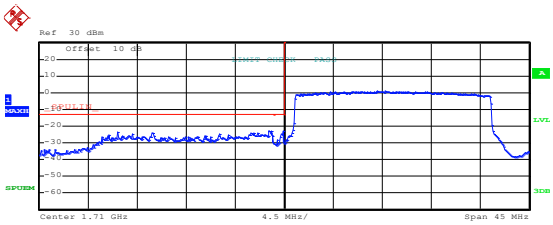



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.732 G | 1.755 G | 100.00 k | 1.736100 G | 20.14 | -12.86 |
| 1.755 G | 1.756 G | 30.00 k | 1.755570 G | -50.42 | -37.42 |
| 1.756 G | 1.778 G | 1.00 M | 1.771867 G | -39.13 | -26.13 |

Date: 14.MAY.2020 15:36:24

Highest channel

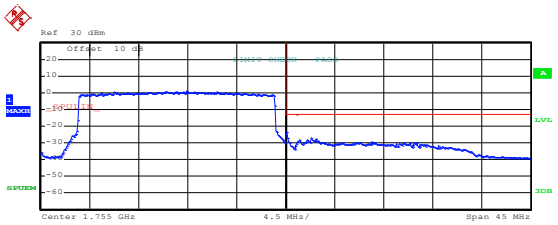
QPSK & RB Size 100




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.688 G | 1.709 G | 1.00 M | 1.708785 G | -22.97 | -9.97 |
| 1.709 G | 1.710 G | 300.00 k | 1.709968 G | -22.72 | -9.72 |
| 1.710 G | 1.732 G | 100.00 k | 1.718573 G | 0.95 | -32.05 |

Date: 14.MAY.2020 15:36:04

Lowest channel



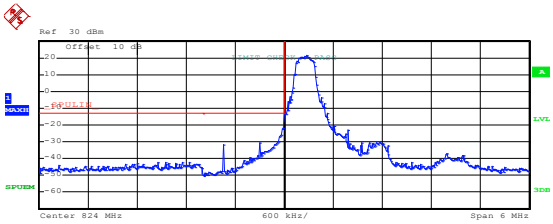

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 1.732 G | 1.755 G | 100.00 k | 1.745933 G | 1.23 | -31.77 |
| 1.755 G | 1.756 G | 300.00 k | 1.755048 G | -23.50 | -10.50 |
| 1.756 G | 1.778 G | 1.00 M | 1.757311 G | -26.84 | -13.84 |

Date: 14.MAY.2020 15:36:44

Highest channel

**LTE Band 5 part:**

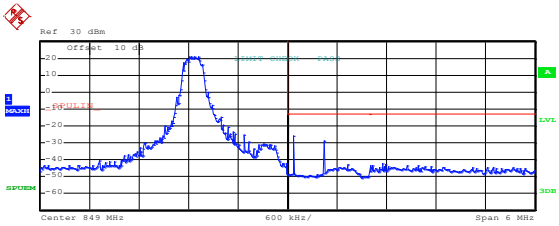
LTE Band 5, BW: 1.4MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 821.000 M | 823.000 M | 100.00 k | 822.750000 M | -42.02 | -29.02 |
| 823.000 M | 824.000 M | 30.00 k | 823.995000 M | -21.77 | -8.77 |
| 824.000 M | 827.000 M | 100.00 k | 824.276000 M | 21.32 | -11.68 |

Date: 14.MAY.2020 15:20:41

Lowest channel

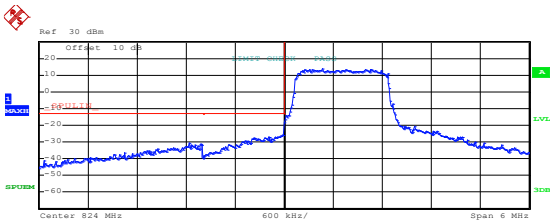



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 846.000 M | 849.000 M | 100.00 k | 847.920000 M | 20.99 | -12.01 |
| 849.000 M | 850.000 M | 30.00 k | 849.070000 M | -26.03 | -13.03 |
| 850.000 M | 852.000 M | 100.00 k | 850.154000 M | -42.06 | -29.06 |

Date: 14.MAY.2020 15:21:25

Highest channel

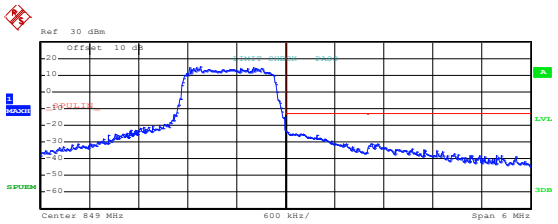
16QAM & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 821.000 M | 823.000 M | 100.00 k | 822.832000 M | -30.53 | -17.53 |
| 823.000 M | 824.000 M | 30.00 k | 823.981000 M | -25.61 | -12.61 |
| 824.000 M | 827.000 M | 100.00 k | 824.465000 M | 14.04 | -18.96 |

Date: 14.MAY.2020 15:20:52

Lowest channel



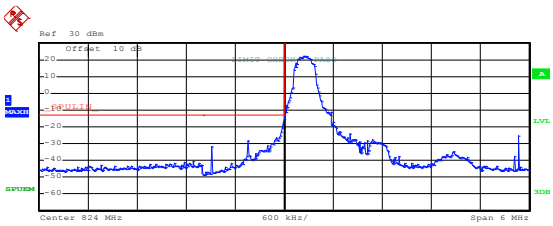

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 846.000 M | 849.000 M | 100.00 k | 847.950000 M | 15.04 | -17.96 |
| 849.000 M | 850.000 M | 30.00 k | 849.019000 M | -22.85 | -9.85 |
| 850.000 M | 852.000 M | 100.00 k | 850.124000 M | -30.95 | -17.95 |

Date: 14.MAY.2020 15:21:07

Highest channel

LTE Band 5, BW: 1.4MHz

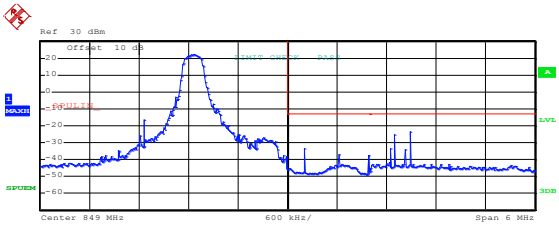
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 821.000 M | 823.000 M | 100.00 k | 822.878000 M | -40.75 | -27.75 |
| 823.000 M | 824.000 M | 30.00 k | 823.989000 M | -17.83 | -4.83 |
| 824.000 M | 827.000 M | 100.00 k | 824.234000 M | 22.02 | -10.98 |

Date: 14.MAY.2020 15:20:36

Lowest channel

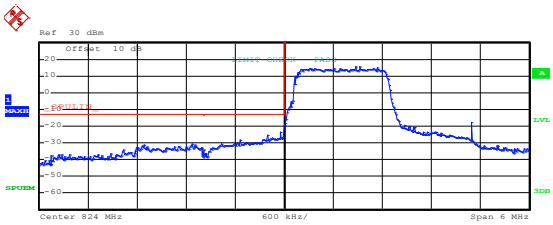



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 846.000 M | 849.000 M | 100.00 k | 847.839000 M | 22.06 | -10.94 |
| 849.000 M | 850.000 M | 30.00 k | 849.207000 M | -33.45 | -20.45 |
| 850.000 M | 852.000 M | 100.00 k | 850.482000 M | -23.58 | -10.58 |

Date: 14.MAY.2020 15:21:14

Highest channel

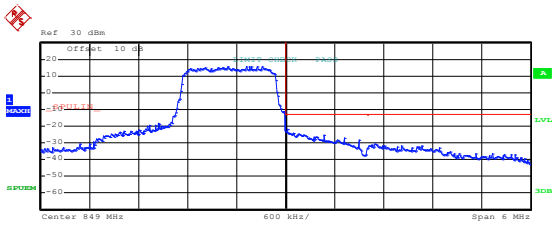
QPSK & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 821.000 M | 823.000 M | 100.00 k | 822.866000 M | -30.65 | -17.65 |
| 823.000 M | 824.000 M | 30.00 k | 823.955000 M | -23.56 | -10.56 |
| 824.000 M | 827.000 M | 100.00 k | 824.927000 M | 15.40 | -17.60 |

Date: 14.MAY.2020 15:20:48

Lowest channel

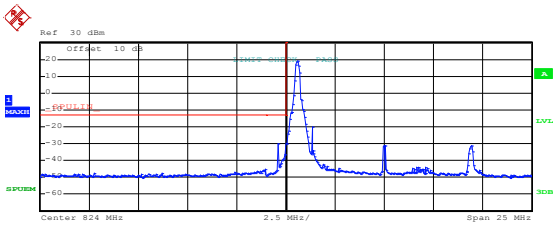



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 846.000 M | 849.000 M | 100.00 k | 848.559000 M | 15.81 | -17.19 |
| 849.000 M | 850.000 M | 30.00 k | 849.026000 M | -21.99 | -8.99 |
| 850.000 M | 852.000 M | 100.00 k | 850.096000 M | -30.24 | -17.24 |

Date: 14.MAY.2020 15:21:03

Highest channel

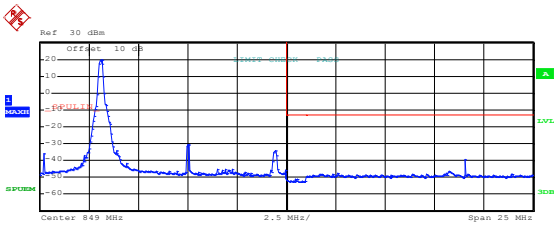
LTE Band 5, BW: 10MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 811.500 M | 823.000 M | 100.00 k | 822.988500 M | -44.93 | -31.93 |
| 823.000 M | 824.000 M | 30.00 k | 823.589000 M | -29.76 | -16.76 |
| 824.000 M | 836.500 M | 100.00 k | 824.587500 M | 19.23 | -13.77 |

Date: 14.MAY.2020 15:33:54

Lowest channel

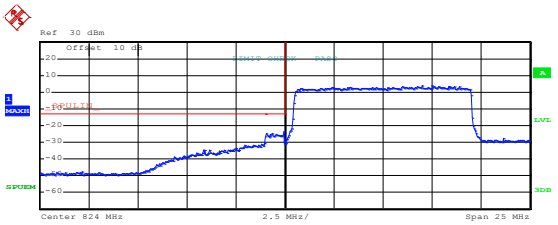



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 836.500 M | 849.000 M | 100.00 k | 839.625000 M | 19.77 | -13.23 |
| 849.000 M | 850.000 M | 30.00 k | 849.119000 M | -50.89 | -37.89 |
| 850.000 M | 861.500 M | 100.00 k | 858.038500 M | -39.37 | -26.37 |

Date: 14.MAY.2020 15:34:39

Highest channel

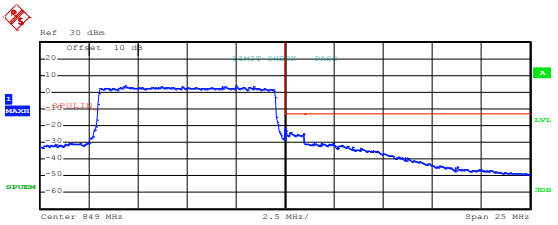
16QAM & RB Size 50




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 811.500 M | 823.000 M | 100.00 k | 822.988500 M | -30.51 | -17.51 |
| 823.000 M | 824.000 M | 300.00 k | 823.991935 M | -23.73 | -10.73 |
| 824.000 M | 836.500 M | 100.00 k | 831.500000 M | 4.02 | -28.98 |

Date: 14.MAY.2020 15:34:19

Lowest channel



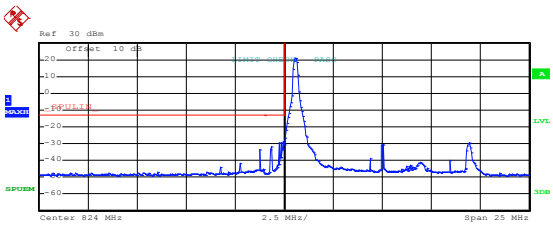

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 836.500 M | 849.000 M | 100.00 k | 846.475000 M | 3.80 | -29.20 |
| 849.000 M | 850.000 M | 300.00 k | 849.016129 M | -21.85 | -8.85 |
| 850.000 M | 861.500 M | 100.00 k | 850.471500 M | -30.05 | -17.05 |

Date: 14.MAY.2020 15:34:58

Highest channel

LTE Band 5, BW: 10MHz

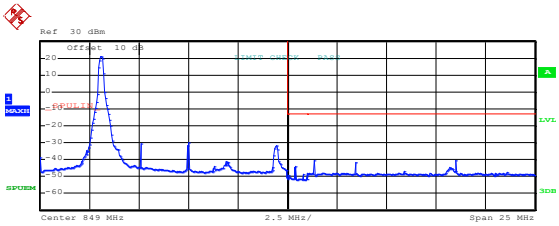
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 811.500 M | 823.000 M | 100.00 k | 822.747000 M | -33.73 | -20.73 |
| 823.000 M | 824.000 M | 30.00 k | 823.948000 M | -28.82 | -15.82 |
| 824.000 M | 836.500 M | 100.00 k | 824.587500 M | 20.95 | -12.05 |

Date: 14.MAY.2020 15:33:48

Lowest channel

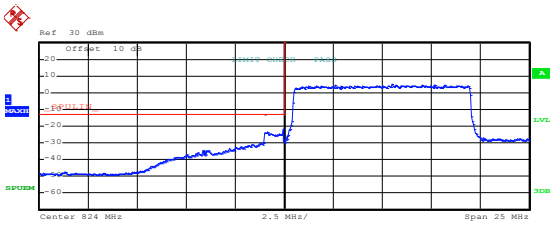



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 836.500 M | 849.000 M | 100.00 k | 839.562500 M | 21.21 | -11.79 |
| 849.000 M | 850.000 M | 30.00 k | 849.418000 M | -44.15 | -31.15 |
| 850.000 M | 861.500 M | 100.00 k | 850.345000 M | -40.55 | -27.55 |

Date: 14.MAY.2020 15:34:34

Highest channel

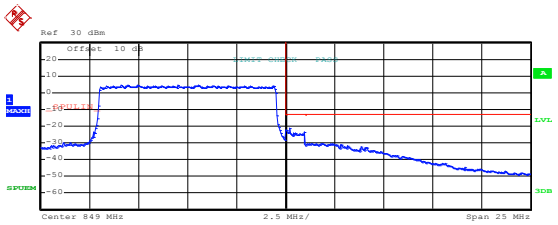
QPSK & RB Size 50




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 811.500 M | 823.000 M | 100.00 k | 822.965500 M | -30.20 | -17.20 |
| 823.000 M | 824.000 M | 300.00 k | 823.919355 M | -21.96 | -8.96 |
| 824.000 M | 836.500 M | 100.00 k | 829.512500 M | 5.11 | -27.89 |

Date: 14.MAY.2020 15:34:14

Lowest channel



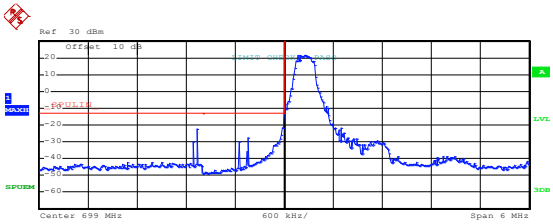

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | Δ Limit [dB] |
|---|---|---|---|---|---|
| 836.500 M | 849.000 M | 100.00 k | 844.550000 M | 4.51 | -28.49 |
| 849.000 M | 850.000 M | 300.00 k | 849.209677 M | -20.95 | -7.95 |
| 850.000 M | 861.500 M | 100.00 k | 850.598000 M | -30.14 | -17.14 |

Date: 14.MAY.2020 15:34:54

Highest channel

**LTE band 12 part:**

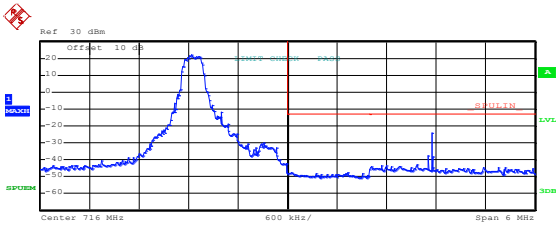
LTE Band 12, BW: 1.4MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 696.000 M | 698.000 M | 100.00 k | 697.934000 M | -22.18 | -9.18 |
| 698.000 M | 699.000 M | 30.00 k | 698.998000 M | -21.88 | -8.88 |
| 699.000 M | 702.000 M | 100.00 k | 699.168000 M | 21.73 | -11.27 |

Date: 14.MAY.2020 15:22:13

Lowest channel

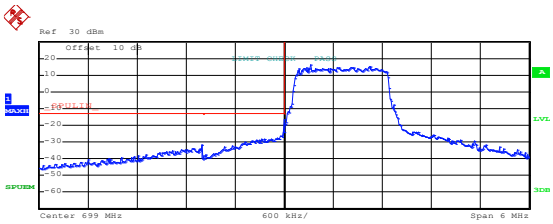



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 713.000 M | 716.000 M | 100.00 k | 714.839000 M | 22.13 | -10.87 |
| 716.000 M | 717.000 M | 30.00 k | 716.052000 M | -47.35 | -34.35 |
| 717.000 M | 719.000 M | 100.00 k | 717.756000 M | -24.12 | -11.12 |

Date: 14.MAY.2020 15:22:58

Highest channel

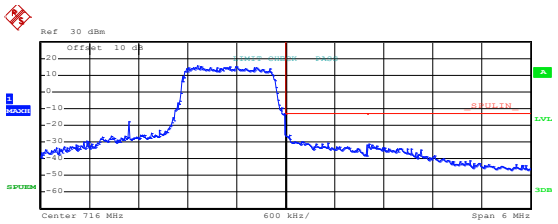
16QAM & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 696.000 M | 698.000 M | 100.00 k | 697.994000 M | -31.93 | -18.93 |
| 698.000 M | 699.000 M | 30.00 k | 698.999000 M | -25.10 | -12.10 |
| 699.000 M | 702.000 M | 100.00 k | 699.318000 M | 16.53 | -16.47 |

Date: 14.MAY.2020 15:22:24

Lowest channel



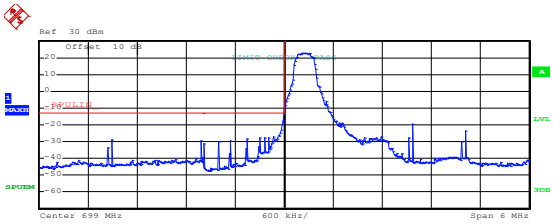

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 713.000 M | 716.000 M | 100.00 k | 714.917000 M | 15.56 | -17.44 |
| 716.000 M | 717.000 M | 30.00 k | 716.048000 M | -25.96 | -12.96 |
| 717.000 M | 719.000 M | 100.00 k | 717.020000 M | -31.05 | -18.05 |

Date: 14.MAY.2020 15:22:43

Highest channel

LTE Band 12, BW: 1.4MHz

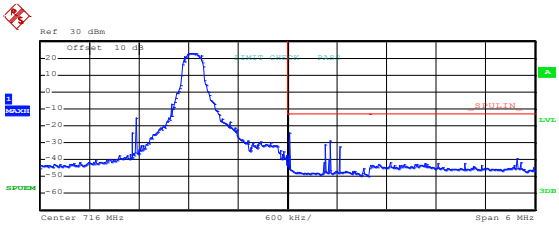
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 696.000 M | 698.000 M | 100.00 k | 696.884000 M | -28.91 | -15.91 |
| 698.000 M | 699.000 M | 30.00 k | 698.997000 M | -17.03 | -4.03 |
| 699.000 M | 702.000 M | 100.00 k | 699.279000 M | 22.92 | -10.08 |

Date: 14.MAY.2020 15:22:07

Lowest channel

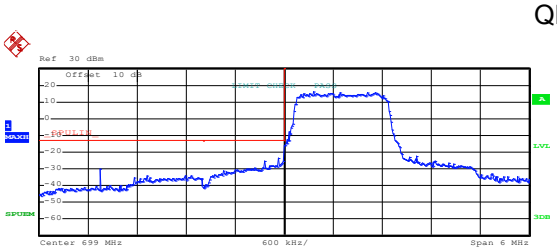



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 713.000 M | 716.000 M | 100.00 k | 714.830000 M | 22.85 | -10.15 |
| 716.000 M | 717.000 M | 30.00 k | 716.021000 M | -24.16 | -11.16 |
| 717.000 M | 719.000 M | 100.00 k | 718.780000 M | -39.35 | -26.35 |

Date: 14.MAY.2020 15:22:52

Highest channel

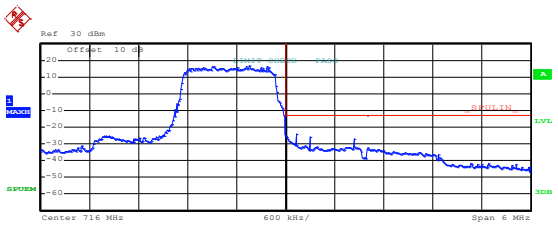
QPSK & RB Size 6




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 696.000 M | 698.000 M | 100.00 k | 696.748000 M | -29.99 | -16.99 |
| 698.000 M | 699.000 M | 30.00 k | 698.932000 M | -23.62 | -10.62 |
| 699.000 M | 702.000 M | 100.00 k | 699.354000 M | 16.51 | -16.49 |

Date: 14.MAY.2020 15:22:20

Lowest channel

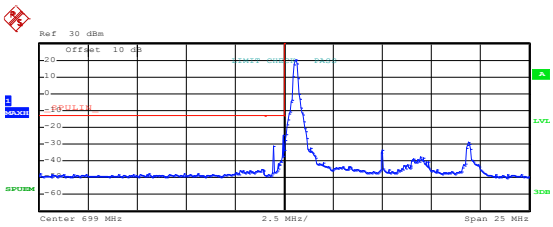



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 713.000 M | 716.000 M | 100.00 k | 715.550000 M | 16.74 | -16.26 |
| 716.000 M | 717.000 M | 30.00 k | 716.134000 M | -24.03 | -11.03 |
| 717.000 M | 719.000 M | 100.00 k | 717.004000 M | -32.14 | -19.14 |

Date: 14.MAY.2020 15:22:39

Highest channel

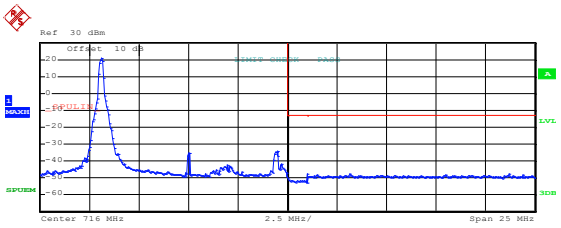
LTE Band 12, BW: 10MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 686.500 M | 698.000 M | 100.00 k | 697.896500 M | -45.14 | -32.14 |
| 698.000 M | 699.000 M | 30.00 k | 698.999000 M | -24.77 | -11.77 |
| 699.000 M | 711.500 M | 100.00 k | 699.575000 M | 20.30 | -12.70 |

Date: 14.MAY.2020 15:28:03

Lowest channel

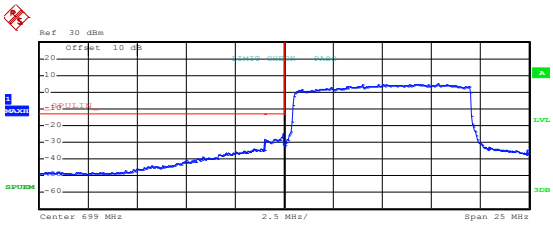



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 703.500 M | 716.000 M | 100.00 k | 706.600000 M | 20.76 | -12.24 |
| 716.000 M | 717.000 M | 30.00 k | 716.017000 M | -49.82 | -36.82 |
| 717.000 M | 728.500 M | 100.00 k | 719.116000 M | -47.37 | -34.37 |

Date: 14.MAY.2020 15:26:38

Highest channel

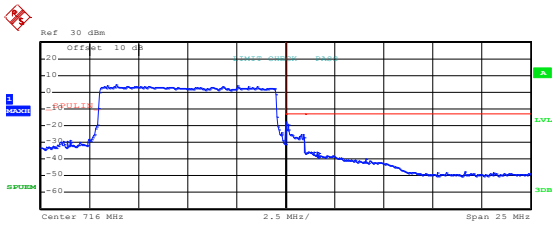
16QAM & RB Size 50




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 686.500 M | 698.000 M | 100.00 k | 697.425000 M | -34.08 | -21.08 |
| 698.000 M | 699.000 M | 300.00 k | 698.935484 M | -24.68 | -11.68 |
| 699.000 M | 711.500 M | 100.00 k | 706.825000 M | 5.39 | -27.61 |

Date: 14.MAY.2020 15:28:29

Lowest channel



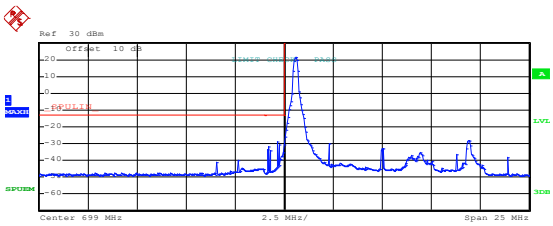

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 703.500 M | 716.000 M | 100.00 k | 707.337500 M | 4.33 | -28.67 |
| 716.000 M | 717.000 M | 300.00 k | 716.005000 M | -17.57 | -4.57 |
| 717.000 M | 728.500 M | 100.00 k | 717.345000 M | -35.06 | -22.06 |

Date: 14.MAY.2020 15:27:31

Highest channel

LTE Band 12, BW: 10MHz

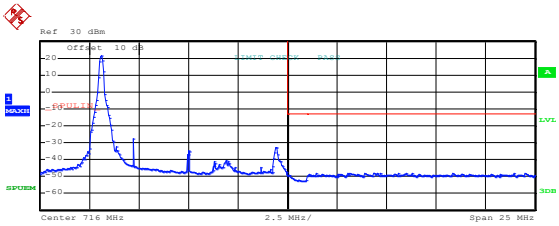
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 686.500 M | 698.000 M | 100.00 k | 696.654500 M | -40.14 | -27.14 |
| 698.000 M | 699.000 M | 30.00 k | 698.655000 M | -29.00 | -16.00 |
| 699.000 M | 711.500 M | 100.00 k | 699.600000 M | 21.32 | -11.68 |

Date: 14.MAY.2020 15:27:54

Lowest channel

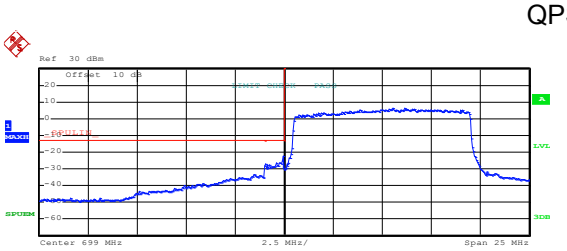



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 703.500 M | 716.000 M | 100.00 k | 706.600000 M | 21.44 | -11.56 |
| 716.000 M | 717.000 M | 30.00 k | 716.099000 M | -49.33 | -36.33 |
| 717.000 M | 728.500 M | 100.00 k | 720.381000 M | -47.90 | -34.90 |

Date: 14.MAY.2020 15:26:32

Highest channel

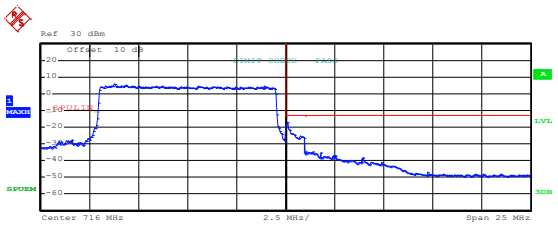
QPSK & RB Size 50




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 686.500 M | 698.000 M | 100.00 k | 697.459500 M | -33.61 | -20.61 |
| 698.000 M | 699.000 M | 300.00 k | 698.959677 M | -23.94 | -10.94 |
| 699.000 M | 711.500 M | 100.00 k | 705.137500 M | 6.23 | -26.77 |

Date: 14.MAY.2020 15:28:22

Lowest channel



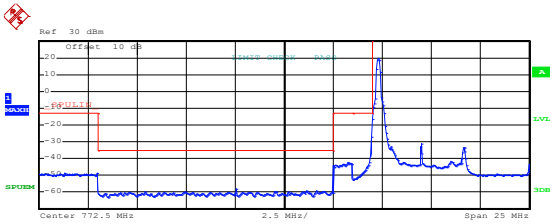

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 703.500 M | 716.000 M | 100.00 k | 707.287500 M | 5.63 | -27.37 |
| 716.000 M | 717.000 M | 300.00 k | 716.118000 M | -17.34 | -4.34 |
| 717.000 M | 728.500 M | 100.00 k | 717.391000 M | -34.87 | -21.87 |

Date: 14.MAY.2020 15:27:26

Highest channel

**LTE Band 13 part:**

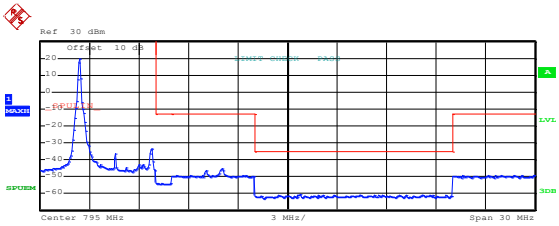
LTE Band 13, BW: 5MHz
16QAM & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 760.000 M | 763.000 M | 100.00 k | 763.000000 M | -48.72 | -35.72 |
| 763.000 M | 775.000 M | 8.50 k | 770.064516 M | -58.15 | -23.15 |
| 775.000 M | 776.000 M | 100.00 k | 775.735000 M | -42.21 | -29.21 |
| 776.000 M | 777.000 M | 30.00 k | 776.991935 M | -26.82 | -13.82 |
| 777.000 M | 785.000 M | 100.00 k | 777.322581 M | 19.57 | -13.43 |

Date: 14.MAY.2020 15:31:07

Lowest channel

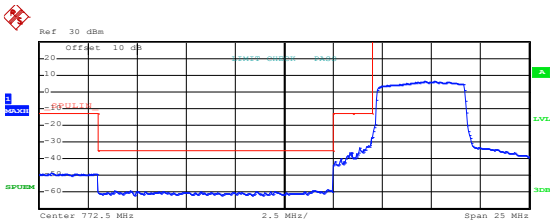



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 780.000 M | 787.000 M | 100.00 k | 782.314516 M | 19.48 | -13.52 |
| 787.000 M | 788.000 M | 30.00 k | 787.032258 M | -53.64 | -40.64 |
| 788.000 M | 793.000 M | 100.00 k | 790.983871 M | -45.21 | -32.21 |
| 793.000 M | 805.000 M | 8.50 k | 795.806452 M | -60.62 | -25.62 |
| 805.000 M | 810.000 M | 100.00 k | 807.580645 M | -49.11 | -36.11 |

Date: 14.MAY.2020 15:32:11

Highest channel

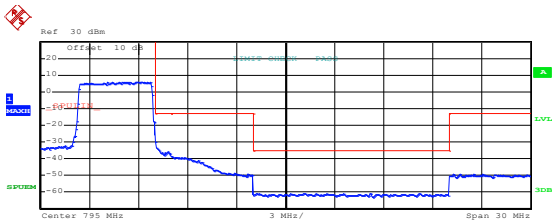
16QAM & RB Size 25




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 760.000 M | 763.000 M | 100.00 k | 760.604839 M | -48.91 | -35.91 |
| 763.000 M | 775.000 M | 8.50 k | 774.709677 M | -58.72 | -23.72 |
| 775.000 M | 776.000 M | 100.00 k | 775.999000 M | -36.18 | -23.18 |
| 776.000 M | 777.000 M | 100.00 k | 776.975806 M | -27.83 | -14.83 |
| 777.000 M | 785.000 M | 100.00 k | 779.645161 M | 6.35 | -26.65 |

Date: 14.MAY.2020 15:31:35

Lowest channel



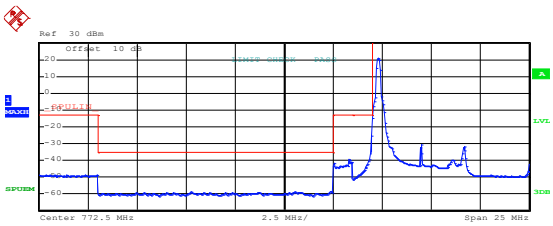

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 780.000 M | 787.000 M | 100.00 k | 784.346774 M | 5.84 | -27.16 |
| 787.000 M | 788.000 M | 100.00 k | 787.008065 M | -27.48 | -14.48 |
| 788.000 M | 793.000 M | 100.00 k | 788.040323 M | -38.66 | -25.66 |
| 793.000 M | 805.000 M | 8.50 k | 800.161290 M | -60.64 | -25.64 |
| 805.000 M | 810.000 M | 100.00 k | 807.016129 M | -49.19 | -36.19 |

Date: 14.MAY.2020 15:32:44

Highest channel

LTE Band 13, BW: 5MHz

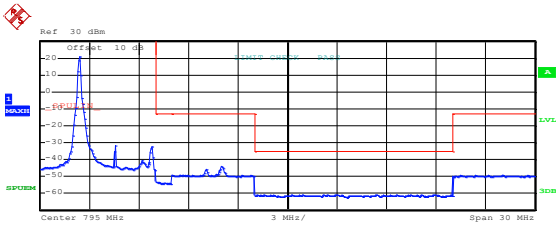
QPSK & RB Size 1




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 760.000 M | 763.000 M | 100.00 k | 762.346774 M | -48.46 | -35.46 |
| 763.000 M | 775.000 M | 8.50 k | 773.064516 M | -58.49 | -23.49 |
| 775.000 M | 776.000 M | 100.00 k | 775.792000 M | -39.46 | -26.46 |
| 776.000 M | 777.000 M | 30.00 k | 776.991935 M | -25.85 | -12.85 |
| 777.000 M | 785.000 M | 100.00 k | 777.322581 M | 21.00 | -12.00 |

Date: 14.MAY.2020 15:31:01

Lowest channel

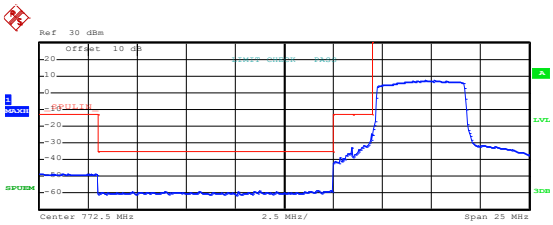



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 780.000 M | 787.000 M | 100.00 k | 782.314516 M | 21.01 | -11.99 |
| 787.000 M | 788.000 M | 30.00 k | 787.008065 M | -53.37 | -40.37 |
| 788.000 M | 793.000 M | 100.00 k | 790.943548 M | -44.25 | -31.25 |
| 793.000 M | 805.000 M | 8.50 k | 802.483871 M | -60.60 | -25.60 |
| 805.000 M | 810.000 M | 100.00 k | 805.483871 M | -49.07 | -36.07 |

Date: 14.MAY.2020 15:32:03

Highest channel

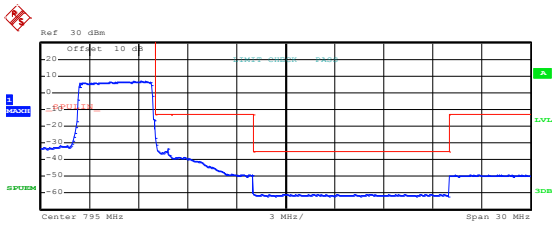
QPSK & RB Size 25




| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 760.000 M | 763.000 M | 100.00 k | 761.161290 M | -48.38 | -35.38 |
| 763.000 M | 775.000 M | 8.50 k | 771.225806 M | -58.37 | -23.37 |
| 775.000 M | 776.000 M | 100.00 k | 775.955000 M | -32.61 | -19.61 |
| 776.000 M | 777.000 M | 100.00 k | 776.991935 M | -24.93 | -11.93 |
| 777.000 M | 785.000 M | 100.00 k | 779.709677 M | 7.24 | -25.76 |

Date: 14.MAY.2020 15:31:29

Lowest channel



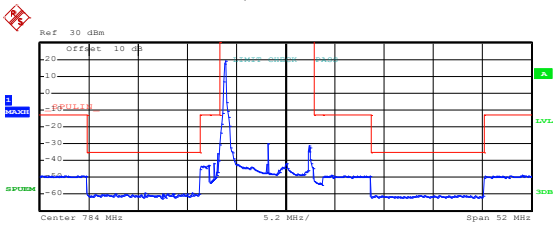

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 780.000 M | 787.000 M | 100.00 k | 786.153226 M | 6.78 | -26.22 |
| 787.000 M | 788.000 M | 100.00 k | 787.008065 M | -22.22 | -9.22 |
| 788.000 M | 793.000 M | 100.00 k | 788.362903 M | -38.33 | -25.33 |
| 793.000 M | 805.000 M | 8.50 k | 798.129032 M | -60.23 | -25.23 |
| 805.000 M | 810.000 M | 100.00 k | 809.435484 M | -49.18 | -36.18 |

Date: 14.MAY.2020 15:32:38

Highest channel

LTE Band 13, BW: 10MHz

16QAM & RB Size 1

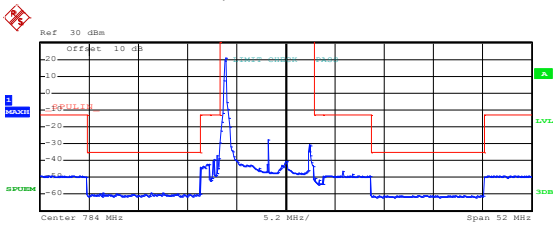



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 758.000 M | 763.000 M | 100.00 k | 760.056452 M | -49.17 | -36.17 |
| 763.000 M | 775.000 M | 8.50 k | 769.000000 M | -59.28 | -24.28 |
| 775.000 M | 776.000 M | 100.00 k | 775.967000 M | -42.72 | -29.72 |
| 776.000 M | 777.000 M | 30.00 k | 776.774194 M | -35.54 | -22.54 |
| 777.000 M | 787.000 M | 100.00 k | 777.564516 M | 19.36 | -13.64 |
| 787.000 M | 788.000 M | 30.00 k | 787.016129 M | -51.60 | -38.60 |
| 788.000 M | 793.000 M | 100.00 k | 788.806452 M | -48.80 | -35.80 |
| 793.000 M | 805.000 M | 8.50 k | 795.806452 M | -60.65 | -25.65 |
| 805.000 M | 810.000 M | 100.00 k | 808.991935 M | -48.93 | -35.93 |

Date: 14.MAY.2020 15:29:36

Middle channel

QPSK & RB Size 1

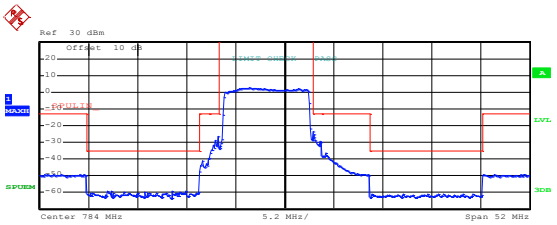



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 758.000 M | 763.000 M | 100.00 k | 761.104839 M | -48.96 | -35.96 |
| 763.000 M | 775.000 M | 8.50 k | 769.677419 M | -59.10 | -24.10 |
| 775.000 M | 776.000 M | 100.00 k | 775.932000 M | -42.15 | -29.15 |
| 776.000 M | 777.000 M | 30.00 k | 776.717742 M | -36.96 | -23.96 |
| 777.000 M | 787.000 M | 100.00 k | 777.564516 M | 21.04 | -11.96 |
| 787.000 M | 788.000 M | 30.00 k | 787.096774 M | -50.49 | -37.49 |
| 788.000 M | 793.000 M | 100.00 k | 790.016129 M | -46.56 | -33.56 |
| 793.000 M | 805.000 M | 8.50 k | 793.193548 M | -60.47 | -25.47 |
| 805.000 M | 810.000 M | 100.00 k | 809.435484 M | -48.95 | -35.95 |

Date: 14.MAY.2020 15:29:14

Middle channel

16QAM & RB Size 50

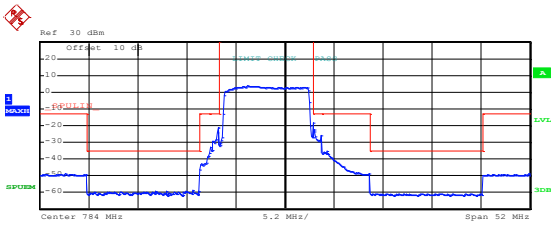



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 758.000 M | 763.000 M | 100.00 k | 762.677419 M | -49.31 | -36.31 |
| 763.000 M | 775.000 M | 8.50 k | 765.516129 M | -59.02 | -24.02 |
| 775.000 M | 776.000 M | 100.00 k | 775.977000 M | -40.13 | -27.13 |
| 776.000 M | 777.000 M | 300.00 k | 776.967742 M | -26.18 | -13.18 |
| 777.000 M | 787.000 M | 100.00 k | 780.225806 M | 2.63 | -30.37 |
| 787.000 M | 788.000 M | 300.00 k | 787.048387 M | -23.43 | -10.43 |
| 788.000 M | 793.000 M | 100.00 k | 788.322581 M | -36.59 | -23.59 |
| 793.000 M | 805.000 M | 8.50 k | 802.870968 M | -60.66 | -25.66 |
| 805.000 M | 810.000 M | 100.00 k | 805.040323 M | -49.26 | -36.26 |

Date: 15.MAY.2020 10:31:37

Middle channel

QPSK & RB Size 50

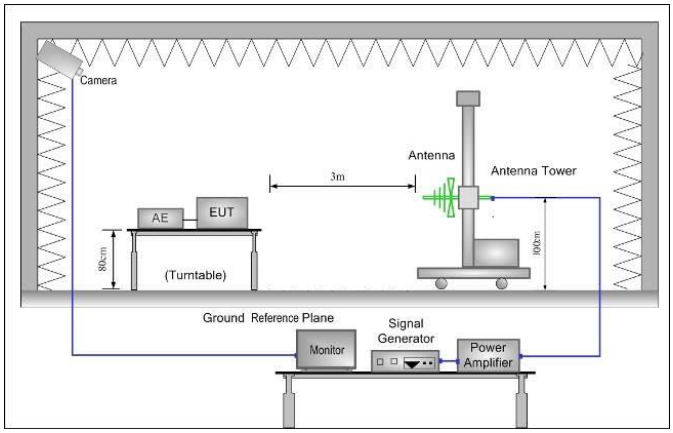
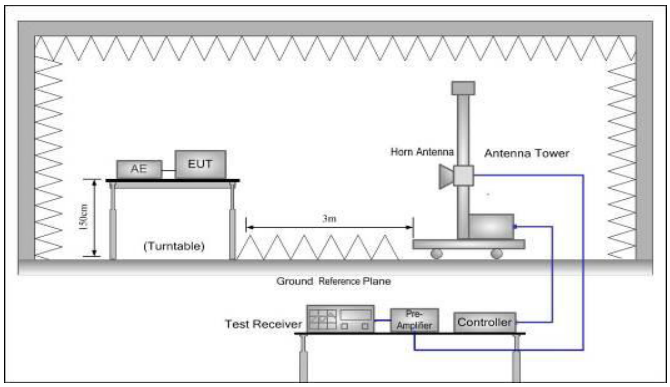



| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz] | PwrAbs [dBm] | ΔLimit [dB] |
|---|---|---|---|---|---|
| 758.000 M | 763.000 M | 100.00 k | 760.620968 M | -48.93 | -35.93 |
| 763.000 M | 775.000 M | 8.50 k | 774.129032 M | -58.46 | -23.46 |
| 775.000 M | 776.000 M | 100.00 k | 775.941000 M | -37.98 | -24.98 |
| 776.000 M | 777.000 M | 300.00 k | 776.951613 M | -21.30 | -8.30 |
| 777.000 M | 787.000 M | 100.00 k | 779.983871 M | 3.74 | -29.26 |
| 787.000 M | 788.000 M | 300.00 k | 787.048387 M | -18.37 | -5.37 |
| 788.000 M | 793.000 M | 100.00 k | 788.201613 M | -35.26 | -22.26 |
| 793.000 M | 805.000 M | 8.50 k | 799.096774 M | -60.48 | -25.48 |
| 805.000 M | 810.000 M | 100.00 k | 809.879032 M | -48.94 | -35.94 |

Date: 15.MAY.2020 10:31:30

Middle channel

## 6.5 Field strength of spurious radiation measurement

| | |
|---|---|
| Test Requirement: | Part 22.917(a), Part 24.238 (a), Part 27.53(g), Part 27.53(m), Part 27.53(h) |
| Limit: | LTE Band 2 & 4 & 5 & 12 & 17:<br>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).<br>LTE Band 7:<br>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. |
| Test setup: | Below 1GHz<br>  <br><br>Above 1GHz<br>  <br> |
| Test Procedure: | 1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.<br>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.<br>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.<br>4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.<br>ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) – Cable Loss (dB) |
| Test Instruments: | Refer to section 5.10 for details |
| Test mode: | Refer to section 5.3 for details. |
| Test results: | Passed |

**Measurement Data:**

**LTE Band 2 part:**

| Band 2 (1.4MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3701.40 | -60.12 | 12.26 | 0.75 | -48.61 | -13.00 | -35.61 | Vertical |
| 5552.10 | -55.24 | 12.47 | 1.13 | -43.90 | -13.00 | -30.90 | Vertical |
| 7402.00 | -48.62 | 11.26 | 1.63 | -38.99 | -13.00 | -25.99 | Vertical |
| 3701.40 | -61.81 | 12.26 | 0.75 | -50.30 | -13.00 | -37.30 | Horizontal |
| 5552.10 | -55.24 | 12.47 | 1.13 | -43.90 | -13.00 | -30.90 | Horizontal |
| 7402.00 | -48.46 | 11.26 | 1.63 | -38.83 | -13.00 | -25.83 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3760.00 | -59.81 | 12.19 | 0.79 | -48.41 | -13.00 | -35.41 | Vertical |
| 5640.00 | -55.84 | 12.60 | 1.15 | -44.39 | -13.00 | -31.39 | Vertical |
| 7520.00 | -48.49 | 11.18 | 1.66 | -38.97 | -13.00 | -25.97 | Vertical |
| 3760.00 | -62.03 | 12.19 | 0.79 | -50.63 | -13.00 | -37.63 | Horizontal |
| 5640.00 | -54.87 | 12.60 | 1.15 | -43.42 | -13.00 | -30.42 | Horizontal |
| 7520.00 | -48.05 | 11.18 | 1.66 | -38.53 | -13.00 | -25.53 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3816.60 | -59.83 | 12.12 | 0.81 | -48.52 | -13.00 | -35.52 | Vertical |
| 5724.90 | -55.74 | 12.71 | 1.19 | -44.22 | -13.00 | -31.22 | Vertical |
| 7633.20 | -47.95 | 11.09 | 1.71 | -38.57 | -13.00 | -25.57 | Vertical |
| 3816.60 | -61.14 | 12.12 | 0.81 | -49.83 | -13.00 | -36.83 | Horizontal |
| 5724.90 | -55.57 | 12.71 | 1.19 | -44.05 | -13.00 | -31.05 | Horizontal |
| 7633.20 | -48.40 | 11.09 | 1.71 | -39.02 | -13.00 | -26.02 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

| Band 2 (20MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3720.00 | -60.24 | 12.24 | 0.77 | -48.77 | -13.00 | -35.77 | Vertical |
| 5580.00 | -55.71 | 12.51 | 1.15 | -44.35 | -13.00 | -31.35 | Vertical |
| 7440.00 | -48.15 | 11.24 | 1.64 | -38.55 | -13.00 | -25.55 | Vertical |
| 3720.00 | -61.77 | 12.24 | 0.77 | -50.30 | -13.00 | -37.30 | Horizontal |
| 5580.00 | -55.17 | 12.51 | 1.15 | -43.81 | -13.00 | -30.81 | Horizontal |
| 7440.00 | -48.28 | 11.24 | 1.64 | -38.68 | -13.00 | -25.68 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3760.00 | -60.23 | 12.19 | 0.79 | -48.83 | -13.00 | -35.83 | Vertical |
| 5640.00 | -55.41 | 12.60 | 1.15 | -43.96 | -13.00 | -30.96 | Vertical |
| 7520.00 | -48.42 | 11.18 | 1.66 | -38.90 | -13.00 | -25.90 | Vertical |
| 3760.00 | -61.56 | 12.19 | 0.79 | -50.16 | -13.00 | -37.16 | Horizontal |
| 5640.00 | -54.87 | 12.60 | 1.15 | -43.42 | -13.00 | -30.42 | Horizontal |
| 7520.00 | -48.35 | 11.18 | 1.66 | -38.83 | -13.00 | -25.83 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3800.00 | -59.84 | 12.14 | 0.79 | -48.49 | -13.00 | -35.49 | Vertical |
| 5700.00 | -55.83 | 12.68 | 1.18 | -44.33 | -13.00 | -31.33 | Vertical |
| 7600.00 | -48.41 | 11.12 | 1.69 | -38.98 | -13.00 | -25.98 | Vertical |
| 3800.00 | -61.97 | 12.14 | 0.79 | -50.62 | -13.00 | -37.62 | Horizontal |
| 5700.00 | -55.03 | 12.68 | 1.18 | -43.53 | -13.00 | -30.53 | Horizontal |
| 7600.00 | -48.44 | 11.12 | 1.69 | -39.01 | -13.00 | -26.01 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

**LTE Band 4 part:**

| Band 4 (1.4MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3421.40 | -61.86 | 12.30 | 0.70 | -50.26 | -13.00 | -37.26 | Vertical |
| 5132.10 | -55.45 | 12.69 | 1.01 | -43.77 | -13.00 | -30.77 | Vertical |
| 6842.80 | -48.43 | 11.56 | 1.53 | -38.40 | -13.00 | -25.40 | Vertical |
| 3421.40 | -61.91 | 12.30 | 0.70 | -50.31 | -13.00 | -37.31 | Horizontal |
| 5132.10 | -55.72 | 12.69 | 1.01 | -44.04 | -13.00 | -31.04 | Horizontal |
| 6842.80 | -48.91 | 11.56 | 1.53 | -38.88 | -13.00 | -25.88 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3465.00 | -62.31 | 12.41 | 0.72 | -50.62 | -13.00 | -37.62 | Vertical |
| 5197.50 | -55.00 | 12.64 | 1.04 | -43.40 | -13.00 | -30.40 | Vertical |
| 6930.00 | -47.91 | 11.53 | 1.56 | -37.94 | -13.00 | -24.94 | Vertical |
| 3465.00 | -61.57 | 12.41 | 0.72 | -49.88 | -13.00 | -36.88 | Horizontal |
| 5197.50 | -56.06 | 12.64 | 1.04 | -44.46 | -13.00 | -31.46 | Horizontal |
| 6930.00 | -48.64 | 11.53 | 1.56 | -38.67 | -13.00 | -25.67 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3508.60 | -62.05 | 12.49 | 0.74 | -50.30 | -13.00 | -37.30 | Vertical |
| 5262.90 | -55.68 | 12.59 | 1.07 | -44.16 | -13.00 | -31.16 | Vertical |
| 7017.20 | -48.20 | 11.49 | 1.58 | -38.29 | -13.00 | -25.29 | Vertical |
| 3508.60 | -62.38 | 12.49 | 0.74 | -50.63 | -13.00 | -37.63 | Horizontal |
| 5262.90 | -55.55 | 12.59 | 1.07 | -44.03 | -13.00 | -31.03 | Horizontal |
| 7017.20 | -48.74 | 11.49 | 1.58 | -38.83 | -13.00 | -25.83 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

| Band 4 (20MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3440.00 | -61.94 | 12.34 | 0.71 | -50.31 | -13.00 | -37.31 | Vertical |
| 5160.00 | -55.08 | 12.67 | 1.03 | -43.44 | -13.00 | -30.44 | Vertical |
| 6880.00 | -48.77 | 11.55 | 1.54 | -38.76 | -13.00 | -25.76 | Vertical |
| 3440.00 | -62.06 | 12.34 | 0.71 | -50.43 | -13.00 | -37.43 | Horizontal |
| 5160.00 | -55.53 | 12.67 | 1.03 | -43.89 | -13.00 | -30.89 | Horizontal |
| 6880.00 | -49.28 | 11.55 | 1.54 | -39.27 | -13.00 | -26.27 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3465.00 | -61.66 | 12.41 | 0.72 | -49.97 | -13.00 | -36.97 | Vertical |
| 5197.50 | -55.18 | 12.64 | 1.04 | -43.58 | -13.00 | -30.58 | Vertical |
| 6930.00 | -48.99 | 11.53 | 1.56 | -39.02 | -13.00 | -26.02 | Vertical |
| 3465.00 | -61.78 | 12.41 | 0.72 | -50.09 | -13.00 | -37.09 | Horizontal |
| 5197.50 | -55.15 | 12.64 | 1.04 | -43.55 | -13.00 | -30.55 | Horizontal |
| 6930.00 | -49.55 | 11.53 | 1.56 | -39.58 | -13.00 | -26.58 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 3490.00 | -61.71 | 12.49 | 0.73 | -49.95 | -13.00 | -36.95 | Vertical |
| 5235.00 | -55.12 | 12.61 | 1.06 | -43.57 | -13.00 | -30.57 | Vertical |
| 6980.00 | -48.63 | 11.51 | 1.57 | -38.69 | -13.00 | -25.69 | Vertical |
| 3490.00 | -62.47 | 12.49 | 0.73 | -50.71 | -13.00 | -37.71 | Horizontal |
| 5235.00 | -54.97 | 12.61 | 1.06 | -43.42 | -13.00 | -30.42 | Horizontal |
| 6980.00 | -49.05 | 11.51 | 1.57 | -39.11 | -13.00 | -26.11 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

| Band 5 (1.4MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1649.40 | -60.85 | 9.58 | 0.20 | -51.47 | -13.00 | -38.47 | Vertical |
| 2474.10 | -66.26 | 10.79 | 0.43 | -55.90 | -13.00 | -42.90 | Vertical |
| 3298.80 | -61.58 | 12.14 | 0.64 | -50.08 | -13.00 | -37.08 | Vertical |
| 1649.40 | -63.70 | 9.58 | 0.20 | -54.32 | -13.00 | -41.32 | Horizontal |
| 2474.10 | -66.16 | 10.79 | 0.43 | -55.80 | -13.00 | -42.80 | Horizontal |
| 3298.80 | -62.54 | 12.14 | 0.64 | -51.04 | -13.00 | -38.04 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1673.30 | -60.80 | 9.62 | 0.22 | -51.40 | -13.00 | -38.40 | Vertical |
| 2509.50 | -66.28 | 10.83 | 0.46 | -55.91 | -13.00 | -42.91 | Vertical |
| 3346.00 | -61.89 | 12.23 | 0.66 | -50.32 | -13.00 | -37.32 | Vertical |
| 1673.30 | -63.54 | 9.62 | 0.22 | -54.14 | -13.00 | -41.14 | Horizontal |
| 2509.50 | -66.18 | 10.83 | 0.46 | -55.81 | -13.00 | -42.81 | Horizontal |
| 3346.00 | -62.80 | 12.23 | 0.66 | -51.23 | -13.00 | -38.23 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1696.60 | -60.98 | 9.66 | 0.23 | -51.55 | -13.00 | -38.55 | Vertical |
| 2544.90 | -66.17 | 10.88 | 0.49 | -55.78 | -13.00 | -42.78 | Vertical |
| 3393.20 | -61.93 | 12.32 | 0.68 | -50.29 | -13.00 | -37.29 | Vertical |
| 1696.60 | -63.97 | 9.66 | 0.23 | -54.54 | -13.00 | -41.54 | Horizontal |
| 2544.90 | -66.64 | 10.88 | 0.49 | -56.25 | -13.00 | -43.25 | Horizontal |
| 3393.20 | -62.39 | 12.32 | 0.68 | -50.75 | -13.00 | -37.75 | Horizontal |
| *Remark:*<br>*The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

| Band 5 (10MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1658.00 | -61.30 | 9.58 | 0.21 | -51.93 | -13.00 | -38.93 | Vertical |
| 2487.00 | -65.79 | 10.79 | 0.45 | -55.45 | -13.00 | -42.45 | Vertical |
| 3316.00 | -61.34 | 12.14 | 0.65 | -49.85 | -13.00 | -36.85 | Vertical |
| 1658.00 | -64.04 | 9.58 | 0.21 | -54.67 | -13.00 | -41.67 | Horizontal |
| 2487.00 | -65.68 | 10.79 | 0.45 | -55.34 | -13.00 | -42.34 | Horizontal |
| 3316.00 | -62.25 | 12.14 | 0.65 | -50.76 | -13.00 | -37.76 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1673.30 | -61.83 | 9.62 | 0.21 | -52.42 | -13.00 | -39.42 | Vertical |
| 2509.50 | -66.04 | 10.83 | 0.46 | -55.67 | -13.00 | -42.67 | Vertical |
| 3346.00 | -60.98 | 12.23 | 0.66 | -49.41 | -13.00 | -36.41 | Vertical |
| 1673.30 | -63.65 | 9.62 | 0.21 | -54.24 | -13.00 | -41.24 | Horizontal |
| 2509.50 | -65.79 | 10.83 | 0.46 | -55.42 | -13.00 | -42.42 | Horizontal |
| 3346.00 | -61.86 | 12.23 | 0.66 | -50.29 | -13.00 | -37.29 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1688.00 | -61.86 | 9.66 | 0.23 | -52.43 | -13.00 | -39.43 | Vertical |
| 2532.00 | -66.00 | 10.88 | 0.48 | -55.60 | -13.00 | -42.60 | Vertical |
| 3376.00 | -61.50 | 12.32 | 0.67 | -49.85 | -13.00 | -36.85 | Vertical |
| 1688.00 | -63.32 | 9.66 | 0.23 | -53.89 | -13.00 | -40.89 | Horizontal |
| 2532.00 | -65.52 | 10.88 | 0.48 | -55.12 | -13.00 | -42.12 | Horizontal |
| 3376.00 | -61.76 | 12.32 | 0.67 | -50.11 | -13.00 | -37.11 | Horizontal |
| *Remark:*<br>*The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

**LTE Band 12 part:**

| Band 12 (1.4MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1399.40 | -66.37 | 8.30 | 0.11 | -58.18 | -13.00 | -45.18 | Vertical |
| 2099.10 | -66.56 | 10.48 | 0.29 | -56.37 | -13.00 | -43.37 | Vertical |
| 2798.80 | -63.43 | 11.04 | 0.53 | -52.92 | -13.00 | -39.92 | Vertical |
| 1399.40 | -67.19 | 8.30 | 0.11 | -59.00 | -13.00 | -46.00 | Horizontal |
| 2099.10 | -67.86 | 10.48 | 0.29 | -57.67 | -13.00 | -44.67 | Horizontal |
| 2798.80 | -63.48 | 11.04 | 0.53 | -52.97 | -13.00 | -39.97 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1415.00 | -66.26 | 8.35 | 0.13 | -58.04 | -13.00 | -45.04 | Vertical |
| 2122.50 | -66.29 | 10.50 | 0.32 | -56.11 | -13.00 | -43.11 | Vertical |
| 2830.00 | -63.40 | 11.06 | 0.55 | -52.89 | -13.00 | -39.89 | Vertical |
| 1415.00 | -67.00 | 8.35 | 0.13 | -58.78 | -13.00 | -45.78 | Horizontal |
| 2122.50 | -67.79 | 10.50 | 0.32 | -57.61 | -13.00 | -44.61 | Horizontal |
| 2830.00 | -63.40 | 11.06 | 0.55 | -52.89 | -13.00 | -39.89 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1430.60 | -66.73 | 8.39 | 0.16 | -58.50 | -13.00 | -45.50 | Vertical |
| 2145.90 | -66.31 | 10.52 | 0.35 | -56.14 | -13.00 | -43.14 | Vertical |
| 2861.20 | -63.20 | 11.09 | 0.58 | -52.69 | -13.00 | -39.69 | Vertical |
| 1430.60 | -66.74 | 8.39 | 0.16 | -58.51 | -13.00 | -45.51 | Horizontal |
| 2145.90 | -67.84 | 10.52 | 0.35 | -57.67 | -13.00 | -44.67 | Horizontal |
| 2861.20 | -63.13 | 11.09 | 0.58 | -52.62 | -13.00 | -39.62 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

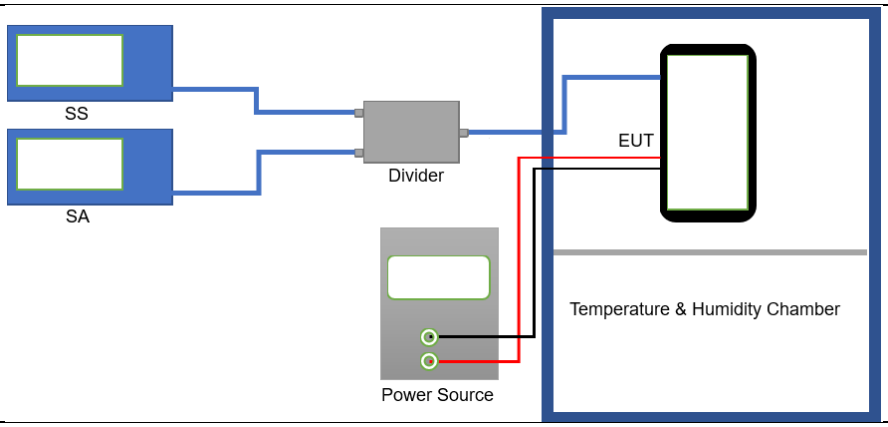
| Band 12 (10MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1408.00 | -66.22 | 8.32 | 0.12 | -58.02 | -13.00 | -45.02 | Vertical |
| 2112.00 | -66.53 | 10.49 | 0.30 | -56.34 | -13.00 | -43.34 | Vertical |
| 2816.00 | -63.88 | 11.05 | 0.54 | -53.37 | -13.00 | -40.37 | Vertical |
| 1408.00 | -66.88 | 8.32 | 0.12 | -58.68 | -13.00 | -45.68 | Horizontal |
| 2112.00 | -67.59 | 10.49 | 0.30 | -57.40 | -13.00 | -44.40 | Horizontal |
| 2816.00 | -63.33 | 11.05 | 0.54 | -52.82 | -13.00 | -39.82 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1415.00 | -65.88 | 8.35 | 0.13 | -57.66 | -13.00 | -44.66 | Vertical |
| 2122.50 | -66.22 | 10.50 | 0.32 | -56.04 | -13.00 | -43.04 | Vertical |
| 2830.00 | -64.14 | 11.06 | 0.55 | -53.63 | -13.00 | -40.63 | Vertical |
| 1415.00 | -66.91 | 8.35 | 0.13 | -58.69 | -13.00 | -45.69 | Horizontal |
| 2122.50 | -67.12 | 10.50 | 0.32 | -56.94 | -13.00 | -43.94 | Horizontal |
| 2830.00 | -68.14 | 11.06 | 0.55 | -57.63 | -13.00 | -44.63 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1422.00 | -65.98 | 8.37 | 0.15 | -57.76 | -13.00 | -44.76 | Vertical |
| 2133.00 | -66.02 | 10.51 | 0.34 | -55.85 | -13.00 | -42.85 | Vertical |
| 2844.00 | -64.34 | 11.08 | 0.57 | -53.83 | -13.00 | -40.83 | Vertical |
| 1422.00 | -67.07 | 8.37 | 0.15 | -58.85 | -13.00 | -45.85 | Horizontal |
| 2133.00 | -67.31 | 10.51 | 0.34 | -57.14 | -13.00 | -44.14 | Horizontal |
| 2844.00 | -63.05 | 11.08 | 0.57 | -52.54 | -13.00 | -39.54 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

**LTE Band 13 part:**

| Band 13 (5MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1559.00 | -68.08 | 8.78 | 0.17 | -59.47 | -13.00 | -46.47 | Vertical |
| 2338.50 | -67.06 | 10.67 | 0.40 | -56.79 | -13.00 | -43.79 | Vertical |
| 3118.00 | -62.06 | 11.51 | 0.59 | -51.14 | -13.00 | -38.14 | Vertical |
| 1559.00 | -67.86 | 8.78 | 0.17 | -59.25 | -13.00 | -46.25 | Horizontal |
| 2338.50 | -67.37 | 10.67 | 0.40 | -57.10 | -13.00 | -44.10 | Horizontal |
| 3118.00 | -61.23 | 11.51 | 0.59 | -50.31 | -13.00 | -37.31 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1564.00 | -67.64 | 8.79 | 0.18 | -59.03 | -13.00 | -46.03 | Vertical |
| 2346.00 | -66.71 | 10.68 | 0.40 | -56.43 | -13.00 | -43.43 | Vertical |
| 3128.00 | -61.94 | 11.53 | 0.60 | -51.01 | -13.00 | -38.01 | Vertical |
| 1564.00 | -68.23 | 8.79 | 0.18 | -59.62 | -13.00 | -46.62 | Horizontal |
| 2346.00 | -67.21 | 10.68 | 0.40 | -56.93 | -13.00 | -43.93 | Horizontal |
| 3128.00 | -61.25 | 11.53 | 0.60 | -50.32 | -13.00 | -37.32 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1569.00 | -67.72 | 8.81 | 0.18 | -59.09 | -13.00 | -46.09 | Vertical |
| 2353.50 | -67.48 | 10.68 | 0.41 | -57.21 | -13.00 | -44.21 | Vertical |
| 3138.00 | -61.82 | 11.56 | 0.61 | -50.87 | -13.00 | -37.87 | Vertical |
| 1569.00 | -67.62 | 8.81 | 0.18 | -58.99 | -13.00 | -45.99 | Horizontal |
| 2353.50 | -67.36 | 10.68 | 0.41 | -57.09 | -13.00 | -44.09 | Horizontal |
| 3138.00 | -61.52 | 11.56 | 0.61 | -50.57 | -13.00 | -37.57 | Horizontal |
| *Remark:*<br>*The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

| Band 13 (10MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lowest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1564.00 | -67.74 | 8.79 | 0.18 | -59.13 | -13.00 | -46.13 | Vertical |
| 2346.00 | -67.28 | 10.68 | 0.40 | -57.00 | -13.00 | -44.00 | Vertical |
| 3128.00 | -62.05 | 11.53 | 0.60 | -51.12 | -13.00 | -38.12 | Vertical |
| 1564.00 | -67.56 | 8.79 | 0.18 | -58.95 | -13.00 | -45.95 | Horizontal |
| 2346.00 | -67.44 | 10.68 | 0.40 | -57.16 | -13.00 | -44.16 | Horizontal |
| 3128.00 | -60.95 | 11.53 | 0.60 | -50.02 | -13.00 | -37.02 | Horizontal |
| **Middle channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1564.00 | -67.47 | 8.79 | 0.18 | -58.86 | -13.00 | -45.86 | Vertical |
| 2346.00 | -67.07 | 10.68 | 0.40 | -56.79 | -13.00 | -43.79 | Vertical |
| 3128.00 | -62.41 | 11.53 | 0.60 | -51.48 | -13.00 | -38.48 | Vertical |
| 1564.00 | -67.66 | 8.79 | 0.18 | -59.05 | -13.00 | -46.05 | Horizontal |
| 2346.00 | -67.07 | 10.68 | 0.40 | -56.79 | -13.00 | -43.79 | Horizontal |
| 3128.00 | -60.74 | 11.53 | 0.60 | -49.81 | -13.00 | -36.81 | Horizontal |
| **Highest channel** | | | | | | | |
| Frequency (MHz) | Level at antenna terminals (dBm) | Substitute antenna gain (dBi) | Cable Loss (dBi) | Spurous Emission level (dBm) | Limit Line (dBm) | Over Limit (dBm) | Polarization |
| 1564.00 | -67.81 | 8.79 | 0.18 | -59.20 | -13.00 | -46.20 | Vertical |
| 2346.00 | -67.12 | 10.68 | 0.40 | -56.84 | -13.00 | -43.84 | Vertical |
| 3128.00 | -61.81 | 11.53 | 0.60 | -50.88 | -13.00 | -37.88 | Vertical |
| 1564.00 | -68.04 | 8.79 | 0.18 | -59.43 | -13.00 | -46.43 | Horizontal |
| 2346.00 | -67.51 | 10.68 | 0.40 | -57.23 | -13.00 | -44.23 | Horizontal |
| 3128.00 | -61.00 | 11.53 | 0.60 | -50.07 | -13.00 | -37.07 | Horizontal |
| *Remark:* *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.* | | | | | | | |

## 6.6 Frequency stability V.S. Temperature measurement

| | |
|---|---|
| Test Requirement: | Part 22.355, Part 24.235, Part 27.54, Part 2.1055(a)(1)(b) |
| Limit: | ±2.5 ppm for Band 5<br>Within authorized band for Band 2 & 4 & 7 & 12 & 13 & 17 |
| Test setup: |  |
| Test procedure: | 1. The equipment under test was connected to an external DC power supply and input rated voltage.<br>2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.<br>3. The EUT was placed inside the temperature chamber.<br>4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency.<br>5. Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency.<br>6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ 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 2 part:**

| Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 channel=1880.00MHz | | | | | |
|---|---|---|---|---|---|
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 3.80 | -30 | 178 | 0.094681 | Within authorized band for Band 2 | Pass |
| | -20 | 169 | 0.089894 | | |
| | -10 | 163 | 0.086702 | | |
| | 0 | 156 | 0.082979 | | |
| | 10 | 149 | 0.079255 | | |
| | 20 | 143 | 0.076064 | | |
| | 30 | 137 | 0.072872 | | |
| | 40 | 131 | 0.069681 | | |
| | 50 | 120 | 0.063830 | | |
| 16QAM | | | | | |
| 3.80 | -30 | 173 | 0.092021 | Within authorized band for Band 2 | Pass |
| | -20 | 114 | 0.060638 | | |
| | -10 | 123 | 0.065426 | | |
| | 0 | 130 | 0.069149 | | |
| | 10 | 137 | 0.072872 | | |
| | 20 | 146 | 0.077660 | | |
| | 30 | 153 | 0.081383 | | |
| | 40 | 159 | 0.084574 | | |
| | 50 | 166 | 0.088298 | | |
| *Note: Only the worst case shown in the report.* | | | | | |

**LTE Band 4 part:**

| Reference Frequency: LTE Band 4 (10MHz) Middle channel=20175 channel=1732.50MHz | | | | | |
|---|---|---|---|---|---|
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 3.80 | -30 | 173 | 0.099856 | Within authorized band for Band 4 | Pass |
| | -20 | 143 | 0.082540 | | |
| | -10 | 136 | 0.078499 | | |
| | 0 | 129 | 0.074459 | | |
| | 10 | 150 | 0.086580 | | |
| | 20 | 123 | 0.070996 | | |
| | 30 | 113 | 0.065224 | | |
| | 40 | 155 | 0.089466 | | |
| | 50 | 160 | 0.092352 | | |
| 16QAM | | | | | |
| 3.80 | -30 | 170 | 0.098124 | Within authorized band for Band 4 | Pass |
| | -20 | 162 | 0.093506 | | |
| | -10 | 153 | 0.088312 | | |
| | 0 | 143 | 0.082540 | | |
| | 10 | 134 | 0.077345 | | |
| | 20 | 127 | 0.073304 | | |
| | 30 | 120 | 0.069264 | | |
| | 40 | 115 | 0.066378 | | |
| | 50 | 108 | 0.062338 | | |
| *Note: Only the worst case shown in the report.* | | | | | |

**LTE Band 5 part:**

| Reference Frequency: LTE Band 5 (10MHz) Middle channel=20525 channel=836.50MHz | | | | | |
|---|---|---|---|---|---|
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 3.80 | -30 | 168 | 0.200837 | ±2.5 | Pass |
| | -20 | 160 | 0.191273 | | |
| | -10 | 154 | 0.184100 | | |
| | 0 | 146 | 0.174537 | | |
| | 10 | 137 | 0.163778 | | |
| | 20 | 132 | 0.157800 | | |
| | 30 | 124 | 0.148237 | | |
| | 40 | 116 | 0.138673 | | |
| | 50 | 107 | 0.127914 | | |
| 16QAM | | | | | |
| 3.80 | -30 | 164 | 0.196055 | ±2.5 | Pass |
| | -20 | 158 | 0.188882 | | |
| | -10 | 150 | 0.179319 | | |
| | 0 | 143 | 0.170950 | | |
| | 10 | 136 | 0.162582 | | |
| | 20 | 128 | 0.153019 | | |
| | 30 | 121 | 0.144650 | | |
| | 40 | 113 | 0.135087 | | |
| | 50 | 102 | 0.121937 | | |
| *Note: Only the worst case shown in the report.* | | | | | |

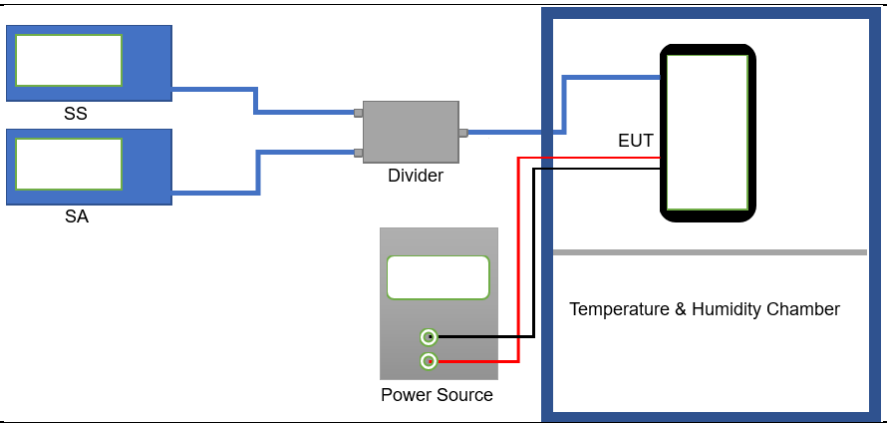
**LTE Band 12 part:**

| Reference Frequency: LTE Band 12 (10MHz) Middle channel=23095 channel=707.50MHz | | | | | |
|---|---|---|---|---|---|
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 3.80 | -30 | 170 | 0.240283 | Within authorized band for Band 12 | Pass |
| | -20 | 130 | 0.183746 | | |
| | -10 | 123 | 0.173852 | | |
| | 0 | 114 | 0.161131 | | |
| | 10 | 164 | 0.231802 | | |
| | 20 | 156 | 0.220495 | | |
| | 30 | 150 | 0.212014 | | |
| | 40 | 143 | 0.202120 | | |
| | 50 | 137 | 0.193640 | | |
| 16QAM | | | | | |
| 3.80 | -30 | 166 | 0.234629 | Within authorized band for Band 12 | Pass |
| | -20 | 159 | 0.224735 | | |
| | -10 | 154 | 0.217668 | | |
| | 0 | 146 | 0.206360 | | |
| | 10 | 138 | 0.195053 | | |
| | 20 | 132 | 0.186572 | | |
| | 30 | 126 | 0.178092 | | |
| | 40 | 121 | 0.171025 | | |
| | 50 | 113 | 0.159717 | | |
| *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 (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 3.70 | -30 | 165 | 0.210997 | ±2.5 | Pass |
| | -20 | 143 | 0.182864 | | |
| | -10 | 120 | 0.153453 | | |
| | 0 | 157 | 0.200767 | | |
| | 10 | 150 | 0.191816 | | |
| | 20 | 136 | 0.173913 | | |
| | 30 | 131 | 0.167519 | | |
| | 40 | 124 | 0.158568 | | |
| | 50 | 115 | 0.147059 | | |
| 16QAM | | | | | |
| 3.70 | -30 | 160 | 0.204604 | ±2.5 | Pass |
| | -20 | 106 | 0.135550 | | |
| | -10 | 114 | 0.145780 | | |
| | 0 | 126 | 0.161125 | | |
| | 10 | 120 | 0.153453 | | |
| | 20 | 134 | 0.171355 | | |
| | 30 | 139 | 0.177749 | | |
| | 40 | 146 | 0.186701 | | |
| | 50 | 154 | 0.196931 | | |
| *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 2.1055(d)(2) |
| Limit: | ±2.5 ppm for Band 5<br>Within authorized band for Band 2 & 4 & 7 & 12 & 13 & 17 |
| Test setup: |  |
| Test procedure: | 1. Set chamber temperature to 25℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage.<br>2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.<br>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 2 part:**

| Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz | | | | | |
|---|---|---|---|---|---|
| Temperature (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 25 | 4.35 | 80 | 0.042553 | Within authorized band for Band 2 | Pass |
| | 3.80 | 70 | 0.037234 | | |
| | 3.50 | 50 | 0.026596 | | |
| 16QAM | | | | | |
| 25 | 4.35 | 76 | 0.040426 | Within authorized band for Band 2 | Pass |
| | 3.80 | 67 | 0.035638 | | |
| | 3.50 | 56 | 0.029787 | | |
| *Note: Only the worst case shown in the report.* | | | | | |

**LTE Band 4 part:**

| Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz | | | | | |
|---|---|---|---|---|---|
| Temperature (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 25 | 4.35 | 88 | 0.050794 | Within authorized band for Band 4 | Pass |
| | 3.80 | 77 | 0.044444 | | |
| | 3.50 | 66 | 0.038095 | | |
| 16QAM | | | | | |
| 25 | 4.35 | 80 | 0.046176 | Within authorized band for Band 4 | Pass |
| | 3.80 | 73 | 0.042136 | | |
| | 3.50 | 62 | 0.035786 | | |
| *Note: Only the worst case shown in the report.* | | | | | |

**LTE Band 5 part:**

| Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 channel=836.50MHz | | | | | |
|---|---|---|---|---|---|
| Temperature (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 25 | 4.35 | 85 | 0.101614 | ±2.5 | Pass |
| | 3.80 | 72 | 0.086073 | | |
| | 3.50 | 59 | 0.070532 | | |
| 16QAM | | | | | |
| 25 | 4.35 | 80 | 0.095637 | ±2.5 | Pass |
| | 3.80 | 68 | 0.081291 | | |
| | 3.50 | 50 | 0.059773 | | |
| *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 (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 25 | 4.35 | 80 | 0.113074 | Within authorized band for Band 12 | Pass |
| | 3.80 | 72 | 0.101767 | | |
| | 3.50 | 61 | 0.086219 | | |
| 16QAM | | | | | |
| 25 | 4.35 | 76 | 0.107420 | Within authorized band for Band 12 | Pass |
| | 3.80 | 68 | 0.096113 | | |
| | 3.50 | 56 | 0.079152 | | |
| *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 (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| QPSK | | | | | |
| 25 | 4.20 | 83 | 0.106138 | ±2.5 | Pass |
| | 3.70 | 74 | 0.094629 | | |
| | 3.50 | 60 | 0.076726 | | |
| 16QAM | | | | | |
| 25 | 4.20 | 79 | 0.101023 | ±2.5 | Pass |
| | 3.70 | 69 | 0.088235 | | |
| | 3.50 | 50 | 0.063939 | | |
| *Note: Only the worst case shown in the report.* | | | | | |