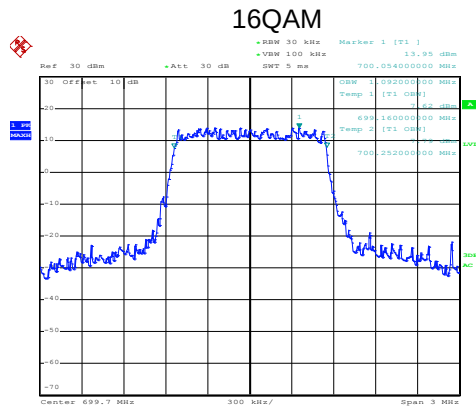
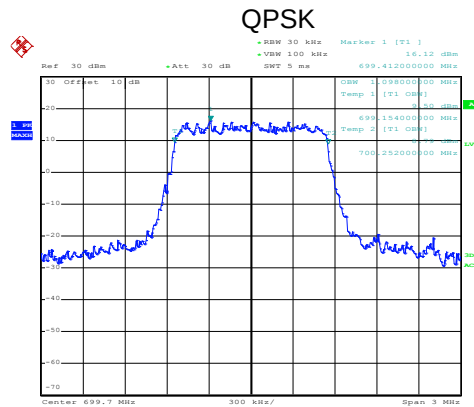


LTE Band 12 part:

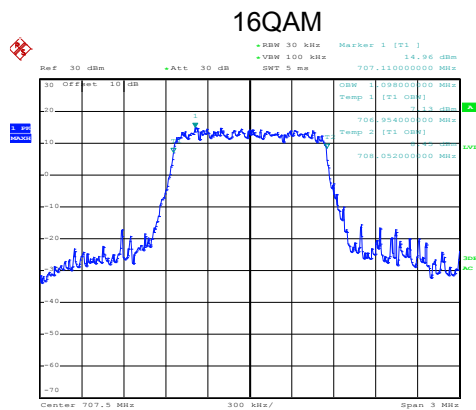
LTE Band 12: 99% Occupancy bandwidth
BW: 1.4MHz

Date: 8.MAY.2020 15:11:24

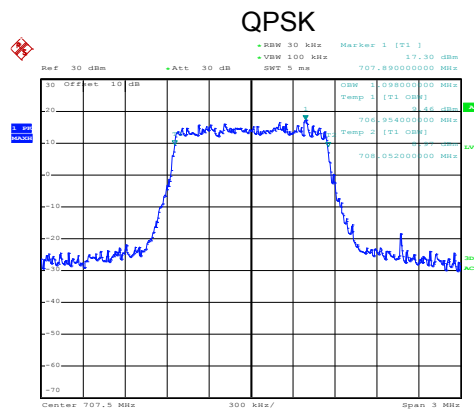


Date: 8.MAY.2020 15:11:21

Lowest channel

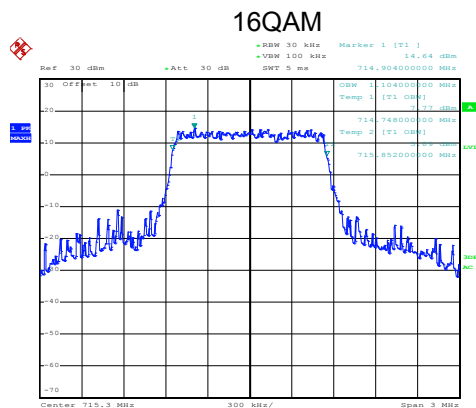


Date: 8.MAY.2020 15:11:41

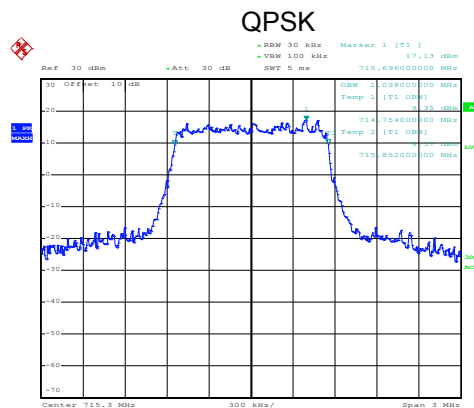


Date: 8.MAY.2020 15:11:35

Middle channel



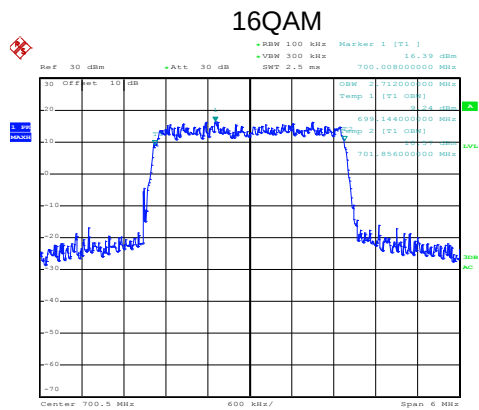
Date: 8.MAY.2020 15:12:28



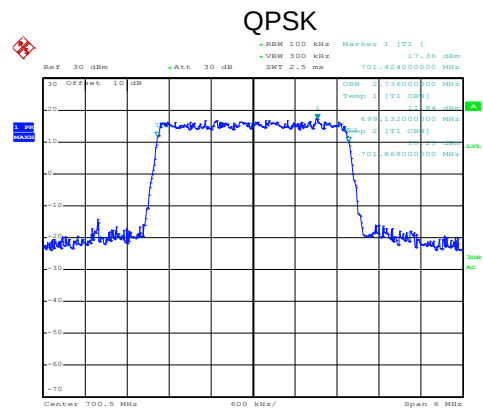
Date: 8.MAY.2020 15:12:23

Highest channel

LTE Band 12: 99% Occupy bandwidth
BW: 3MHz

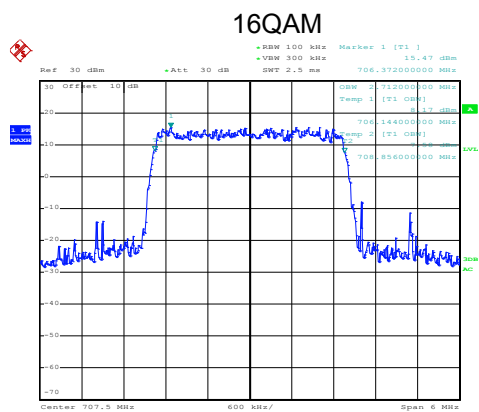


Date: 8.MAY.2020 15:09:43

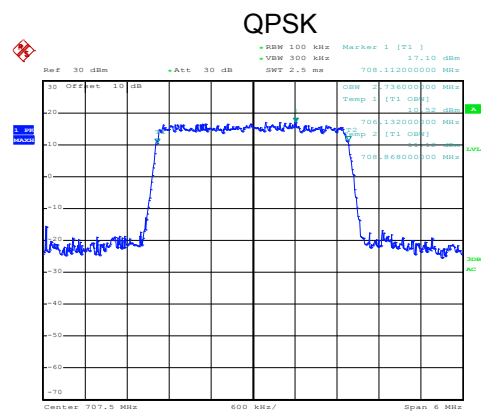


Date: 8.MAY.2020 15:09:38

Lowest channel

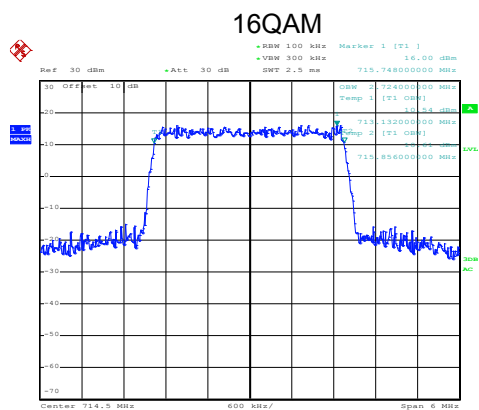


Date: 8.MAY.2020 15:10:16

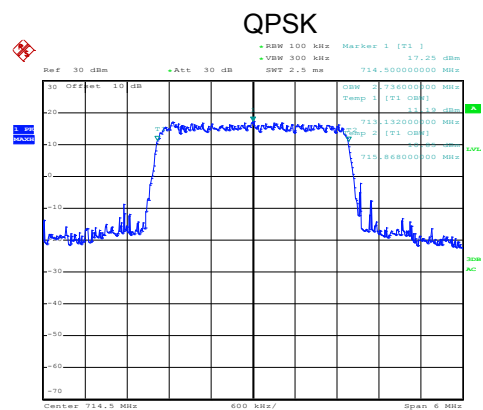


Date: 8.MAY.2020 15:10:12

Middle channel



Date: 8.MAY.2020 15:10:33

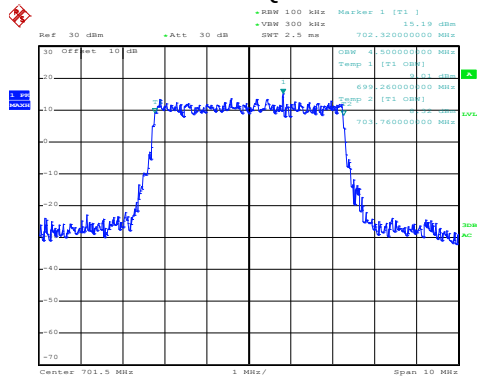


Date: 8.MAY.2020 15:10:29

Highest channel

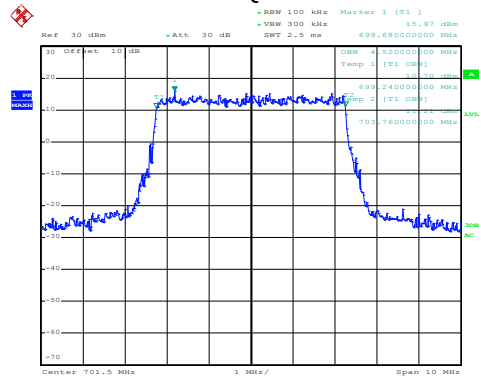
LTE Band 12: 99% Occupancy bandwidth
BW: 5MHz

16QAM



Date: 8.MAY.2020 15:08:22

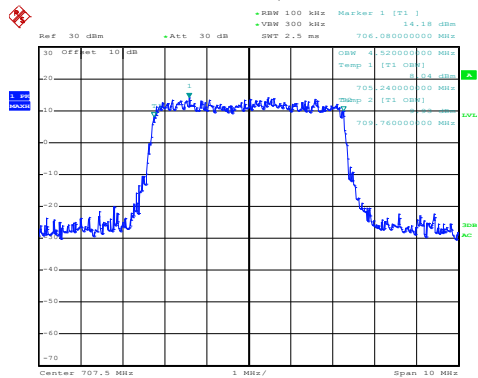
QPSK



Date: 8.MAY.2020 15:08:18

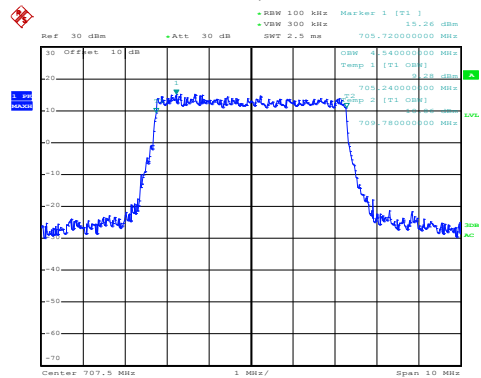
Lowest channel

16QAM



Date: 8.MAY.2020 15:08:37

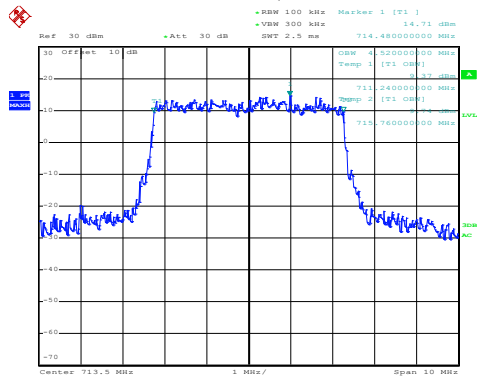
QPSK



Date: 8.MAY.2020 15:08:33

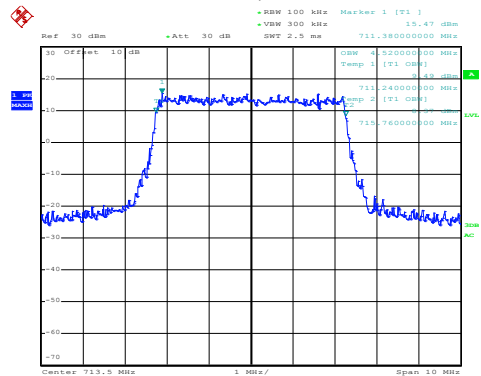
Middle channel

16QAM



Date: 8.MAY.2020 15:09:13

QPSK

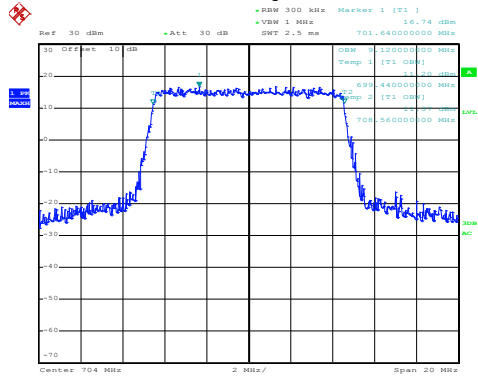


Date: 8.MAY.2020 15:09:10

Highest channel

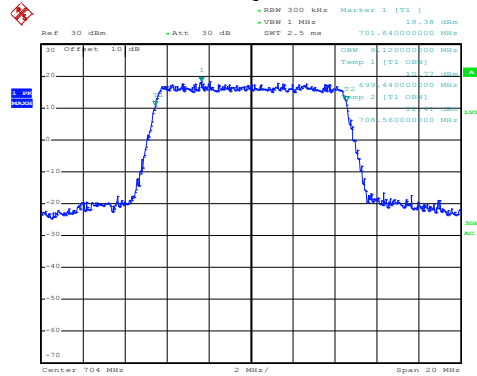
LTE Band 12: 99% Occupancy bandwidth
BW: 10MHz

16QAM



Date: 8.MAY.2020 15:06:32

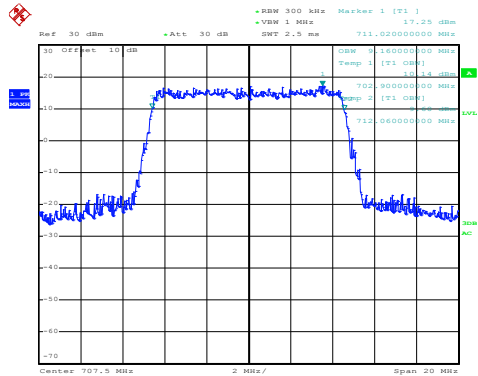
QPSK



Date: 8.MAY.2020 15:06:27

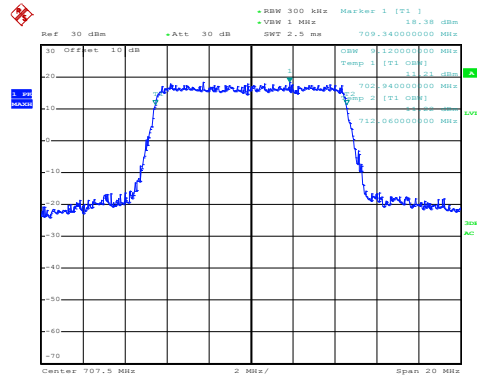
Lowest channel

16QAM



Date: 8.MAY.2020 15:07:11

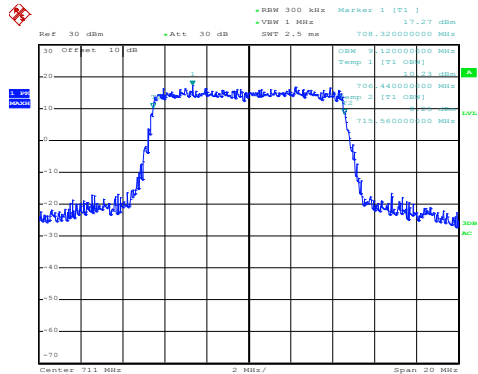
QPSK



Date: 8.MAY.2020 15:07:06

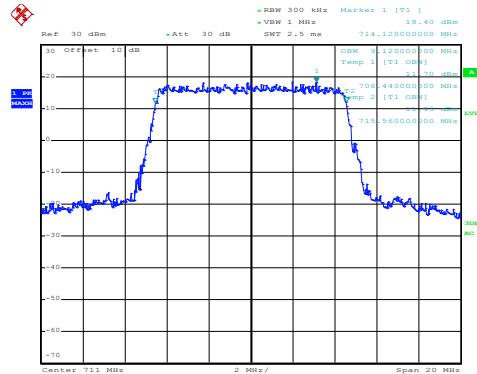
Middle channel

16QAM



Date: 8.MAY.2020 15:07:25

QPSK

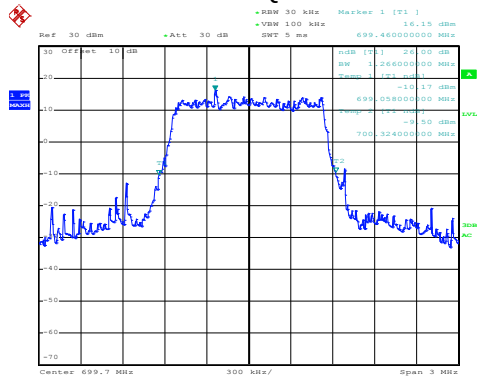


Date: 8.MAY.2020 15:07:21

Highest channel

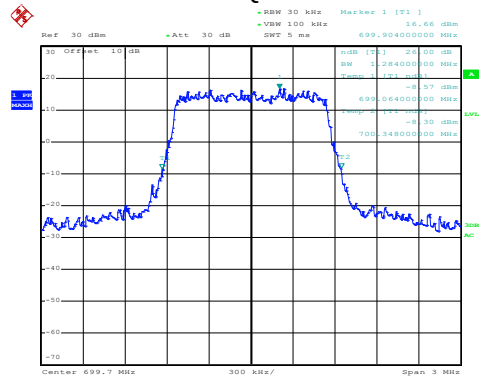
LTE Band 12: -26dBc bandwidth
BW: 1.4MHz

16QAM



Date: 8.MAY.2020 15:11:13

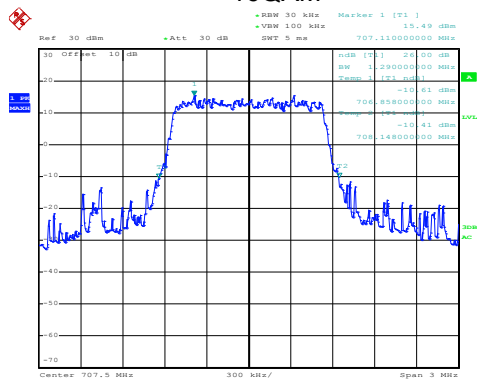
QPSK



Date: 8.MAY.2020 15:11:09

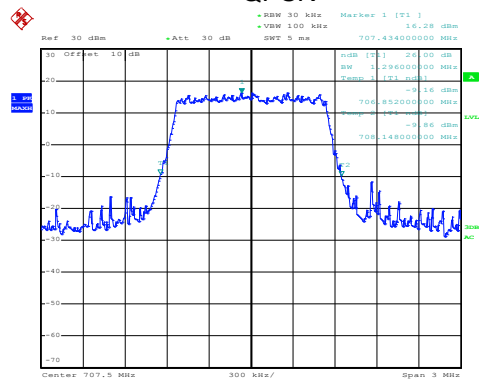
Lowest channel

16QAM



Date: 8.MAY.2020 15:11:53

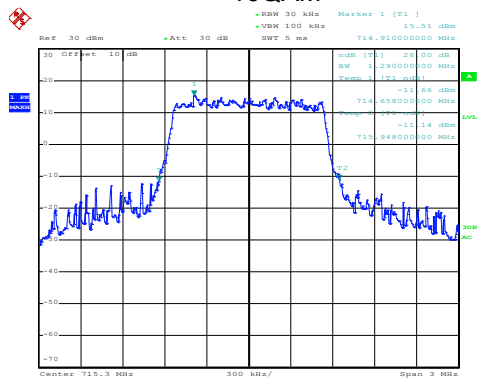
QPSK



Date: 8.MAY.2020 15:11:49

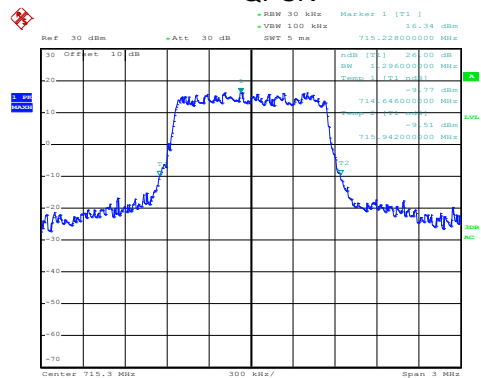
Middle channel

16QAM



Date: 8.MAY.2020 15:12:17

QPSK

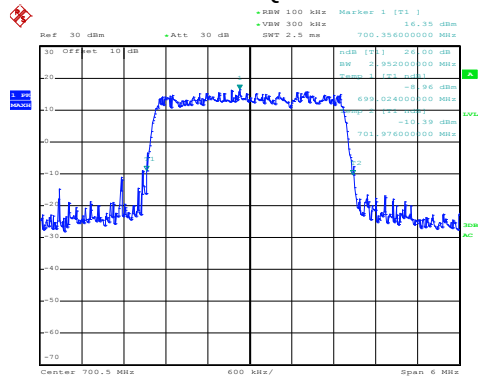


Date: 8.MAY.2020 15:12:12

Highest channel

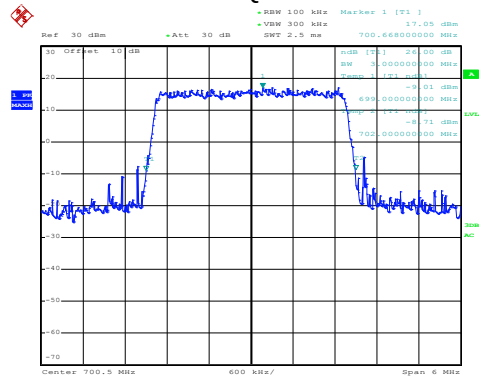
LTE Band 12: -26dBc bandwidth
BW: 3MHz

16QAM



Date: 8.MAY.2020 15:09:54

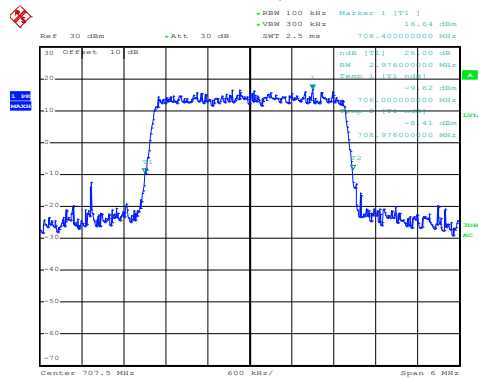
QPSK



Date: 8.MAY.2020 15:09:50

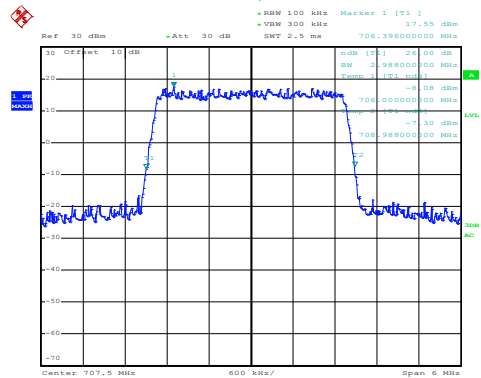
Lowest channel

16QAM



Date: 8.MAY.2020 15:10:06

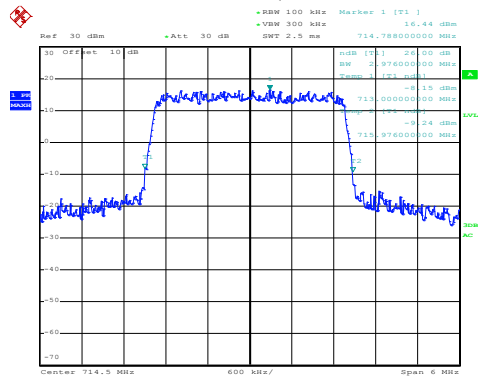
QPSK



Date: 8.MAY.2020 15:10:02

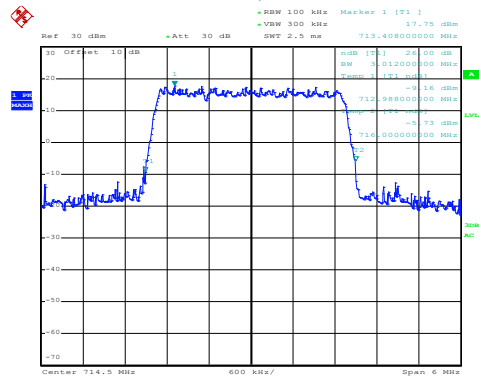
Middle channel

16QAM



Date: 8.MAY.2020 15:10:44

QPSK

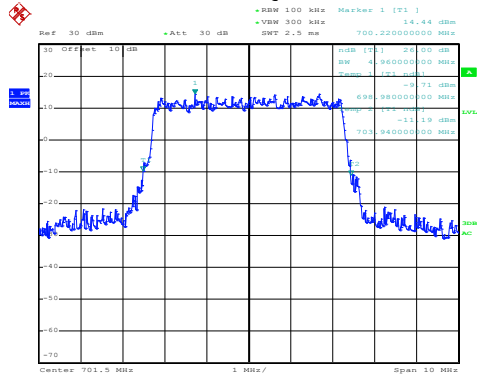


Date: 8.MAY.2020 15:10:40

Highest channel

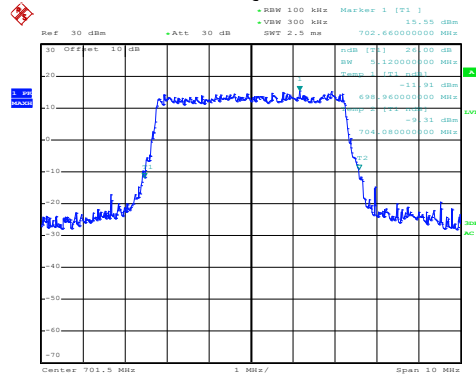
LTE Band 12: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 8.MAY.2020 15:08:12

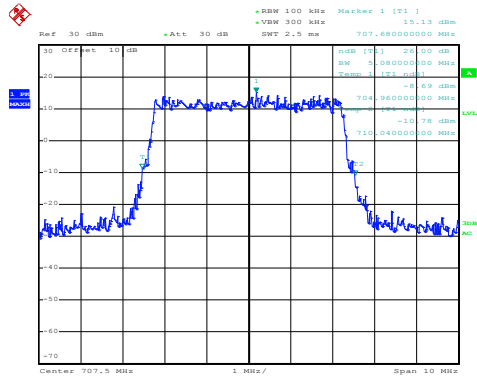
QPSK



Date: 8.MAY.2020 15:08:07

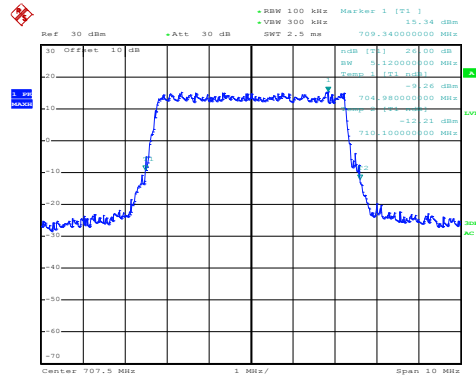
Lowest channel

16QAM



Date: 8.MAY.2020 15:08:49

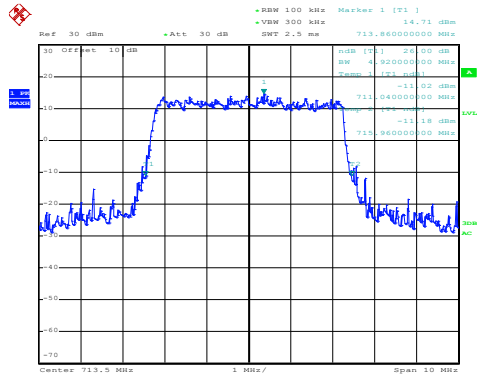
QPSK



Date: 8.MAY.2020 15:08:45

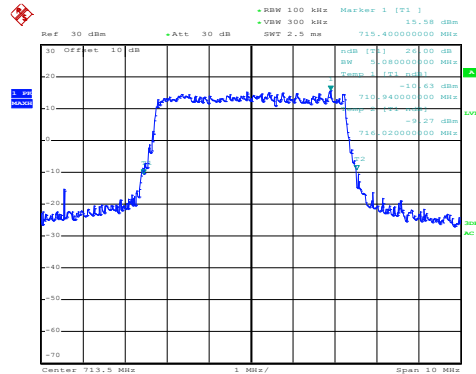
Middle channel

16QAM



Date: 8.MAY.2020 15:09:03

QPSK

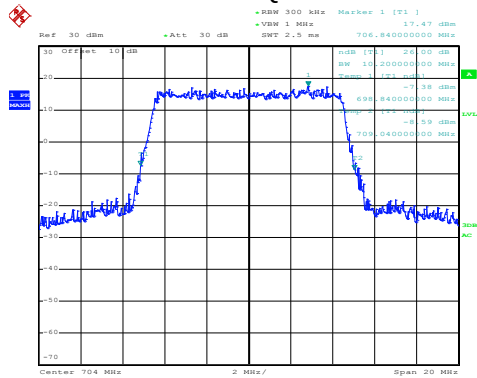


Date: 8.MAY.2020 15:08:59

Highest channel

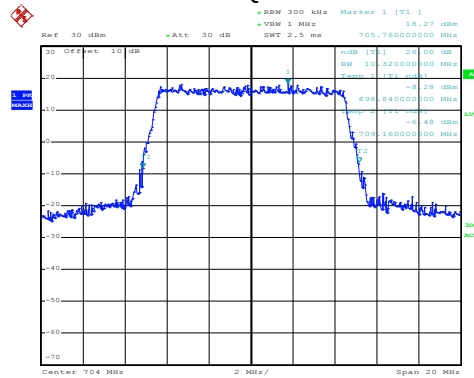
LTE Band 12: -26dBc bandwidth
BW: 10MHz

16QAM



Date: 8.MAY.2020 15:06:45

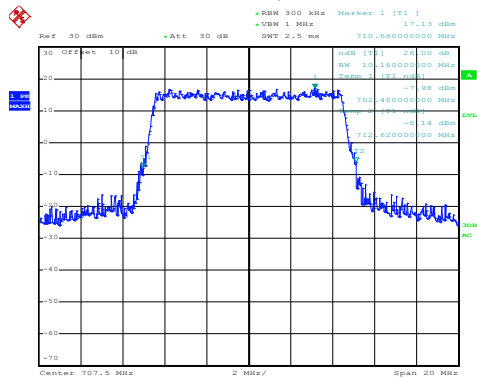
QPSK



Date: 8.MAY.2020 15:06:40

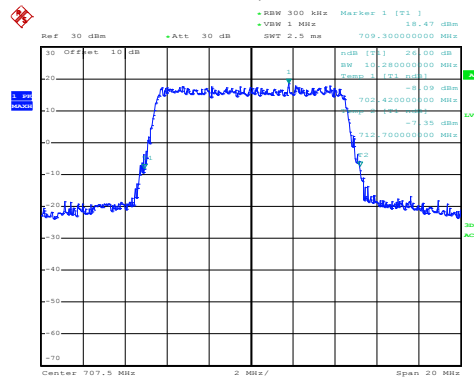
Lowest channel

16QAM



Date: 8.MAY.2020 15:06:59

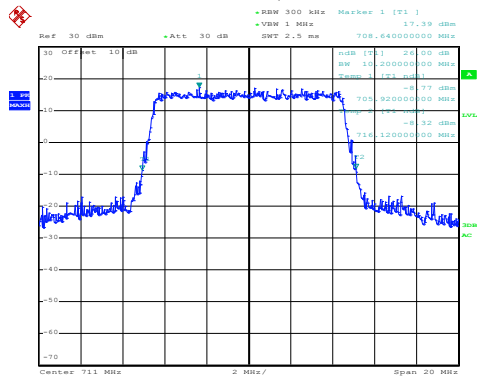
QPSK



Date: 8.MAY.2020 15:06:55

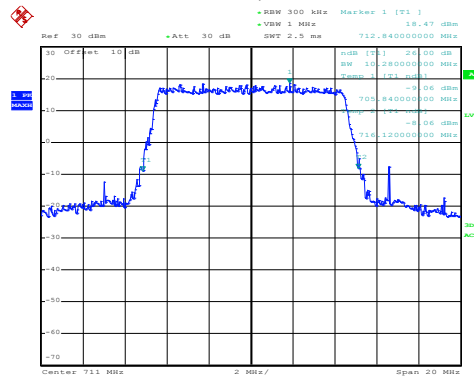
Middle channel

16QAM



Date: 8.MAY.2020 15:07:37

QPSK

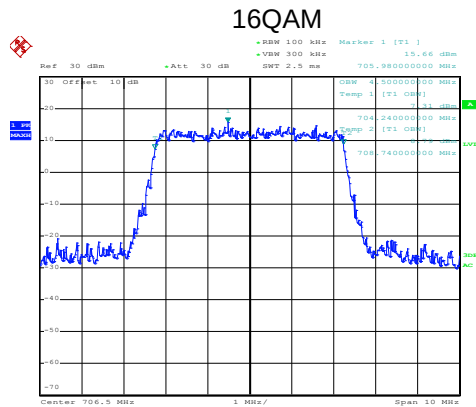


Date: 8.MAY.2020 15:07:33

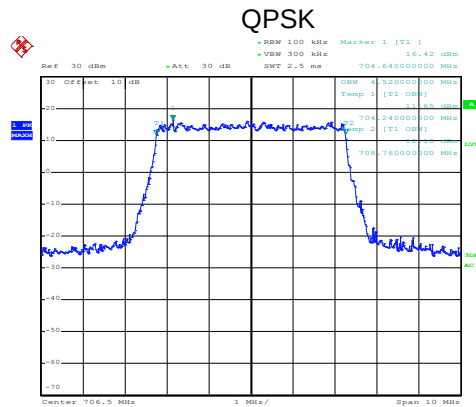
Highest channel

LTE Band 17 part:

LTE Band 17: 99% Occupy bandwidth BW: 5MHz

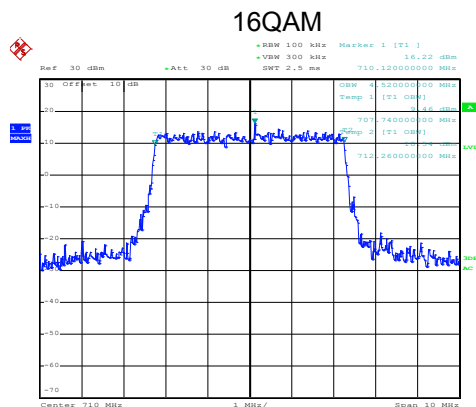


Date: 8.MAY.2020 15:03:04

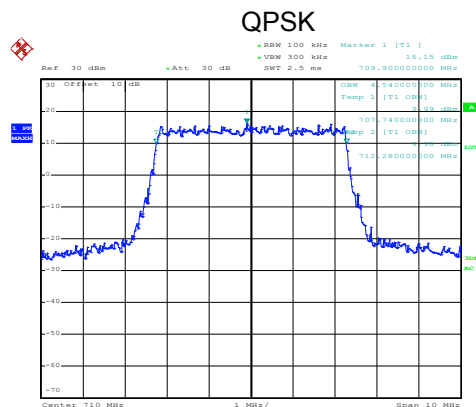


Date: 8.MAY.2020 15:02:58

Lowest channel

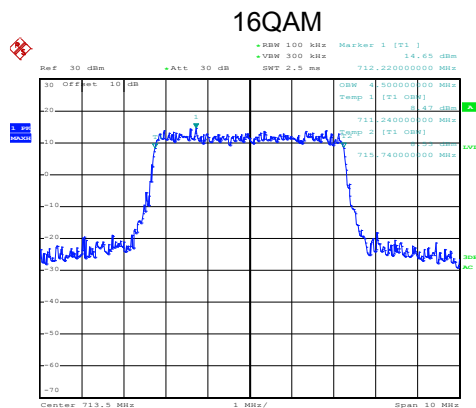


Date: 8.MAY.2020 15:03:49

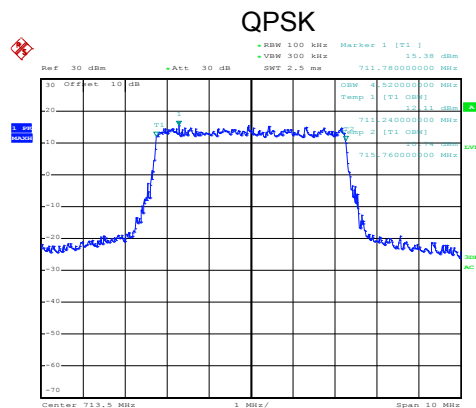


Date: 8.MAY.2020 15:03:45

Middle channel



Date: 8.MAY.2020 15:04:04

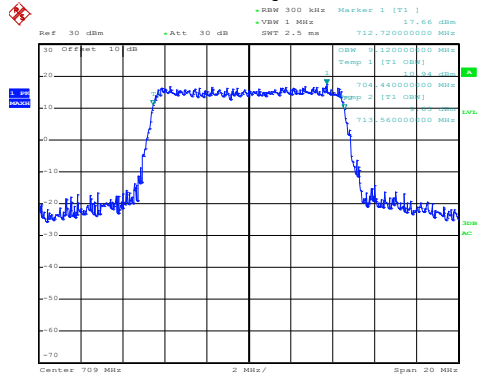


Date: 8.MAY.2020 15:04:00

Highest channel

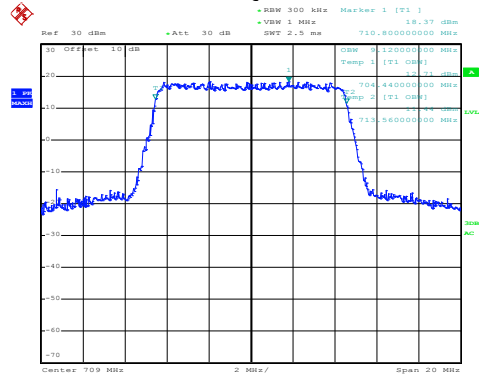
LTE Band 17: 99% Occupancy bandwidth
BW: 10MHz

16QAM



Date: 8.MAY.2020 15:05:05

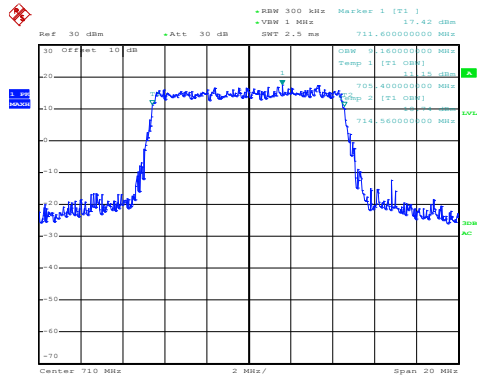
QPSK



Date: 8.MAY.2020 15:05:01

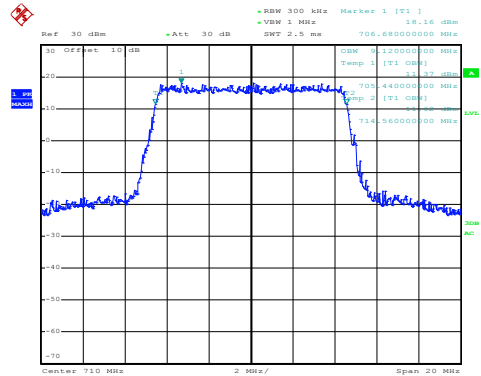
Lowest channel

16QAM



Date: 8.MAY.2020 15:05:22

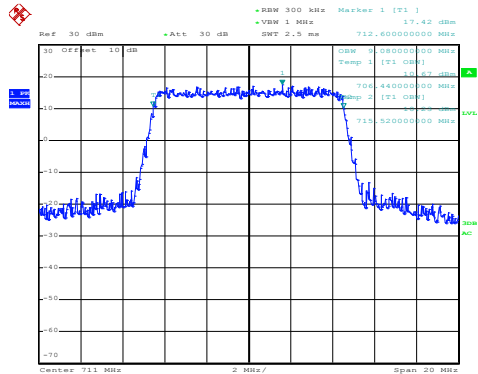
QPSK



Date: 8.MAY.2020 15:05:18

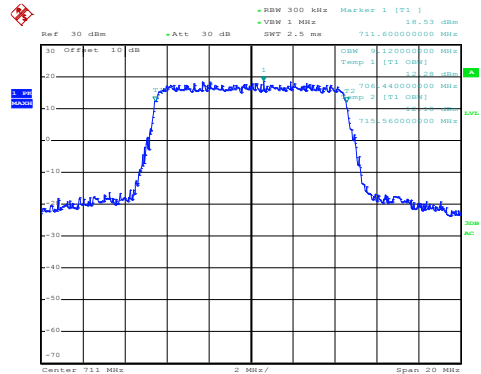
Middle channel

16QAM



Date: 8.MAY.2020 15:06:07

QPSK

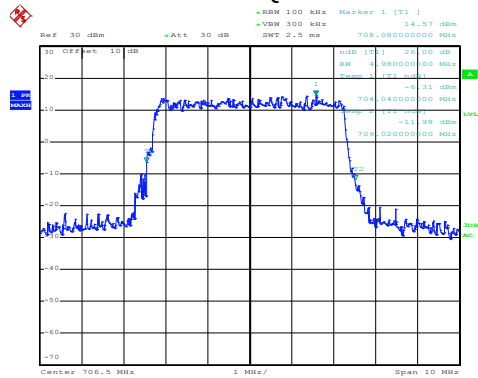


Date: 8.MAY.2020 15:06:03

Highest channel

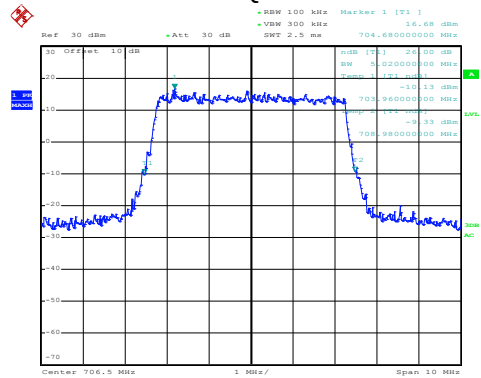
LTE Band 17: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 8.MAY.2020 15:03:19

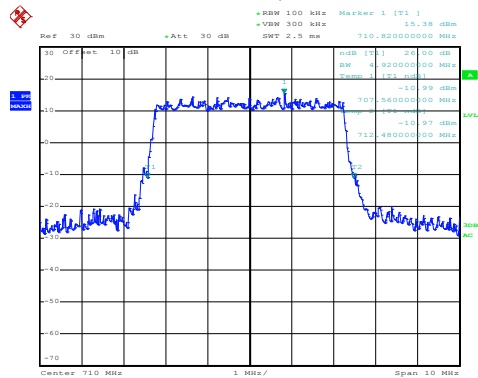
QPSK



Date: 8.MAY.2020 15:03:14

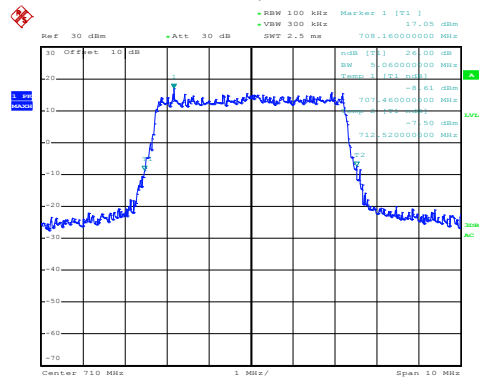
Lowest channel

16QAM



Date: 8.MAY.2020 15:03:34

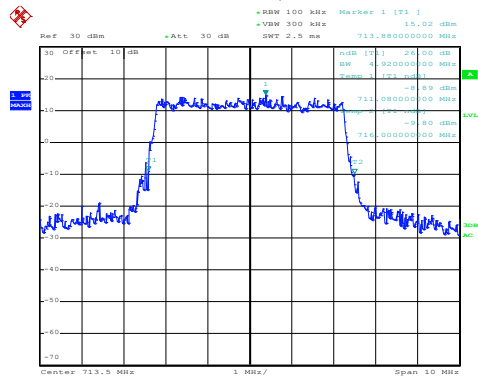
QPSK



Date: 8.MAY.2020 15:03:29

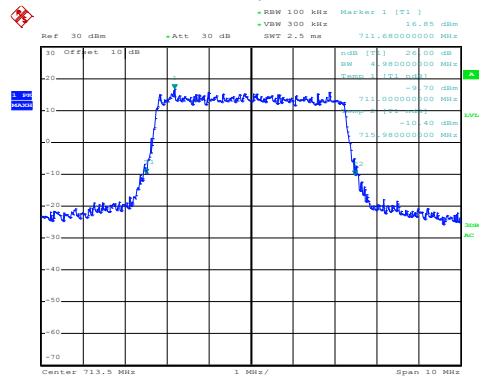
Middle channel

16QAM



Date: 8.MAY.2020 15:04:15

QPSK



Date: 8.MAY.2020 15:04:11

Highest channel

16QAM



Date: 8.MAY.2020 15:04:47

16QAM



Date: 8 MAY 2020 15:05:30

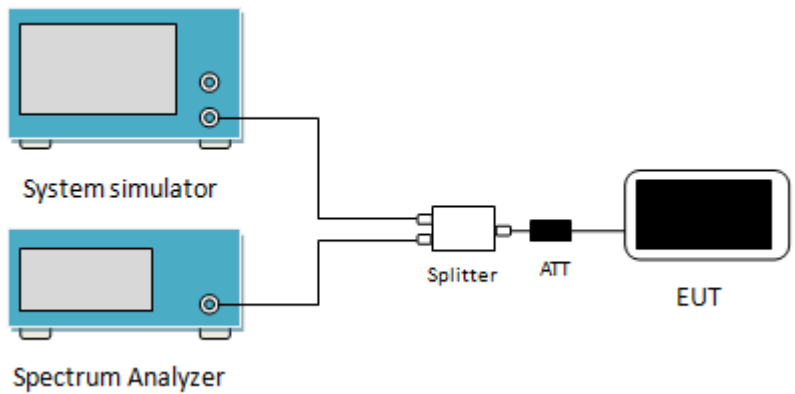
16QAM



Date: 8.MAY.2020 15:05:52

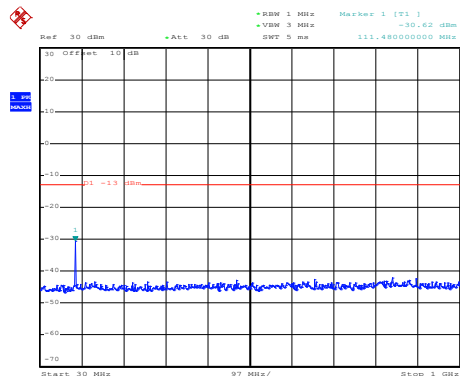
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6.4 Out of band emission at antenna terminals

Test Requirement:	Part 22.917(a), Part 24.238 (a), part 27.53(g), part 27.53(h),
Limit:	LTE Band 2 & 4 & 5 & 12 & 17: 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).
Test Setup:	 The diagram illustrates the test setup. On the left, there are two blue rectangular units: the top one is labeled 'System simulator' and the bottom one is labeled 'Spectrum Analyzer'. Both have a single output port. These two ports are connected to a central 'Splitter' unit. From the Splitter, one line goes to an 'ATT' (attenuator) unit, and another line goes to the 'EUT' (Equipment Under Test), which is represented by a black rectangular device.
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 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. 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.

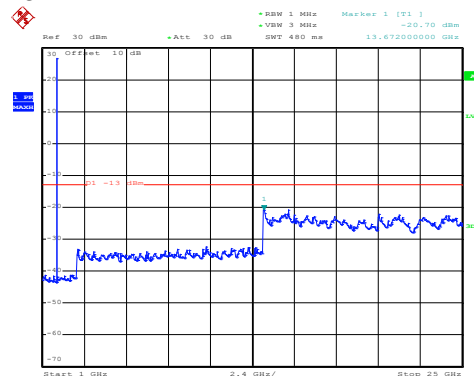
Test plots as follows (Conducted spurious emission) (worst case):
LTE Band 2 part:

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



Date: 9.MAY.2020 16:20:31

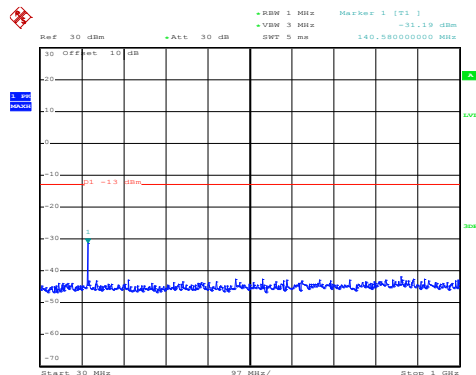
30MHz~1GHz



Date: 9.MAY.2020 16:18:51

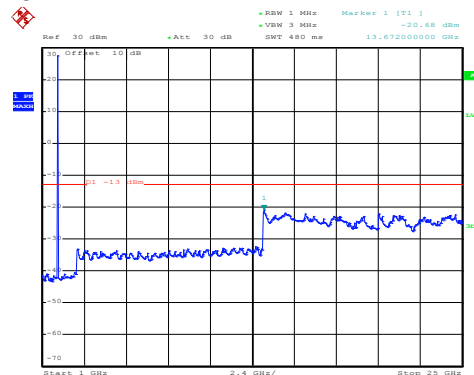
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:20:13

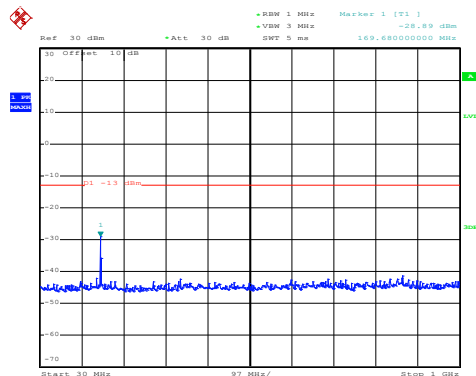
30MHz~1GHz



Date: 9.MAY.2020 16:19:20

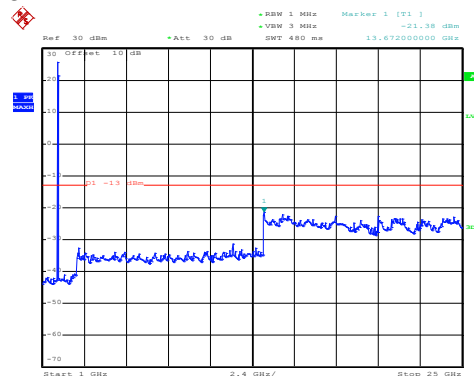
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:19:56

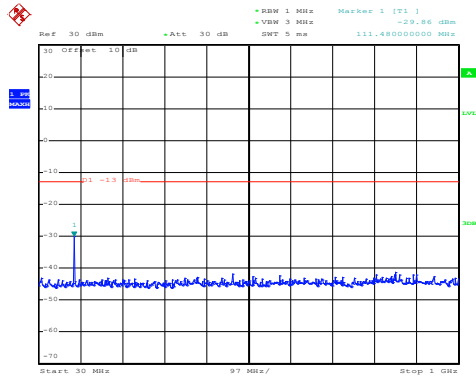
30MHz~1GHz



Date: 9.MAY.2020 16:19:39

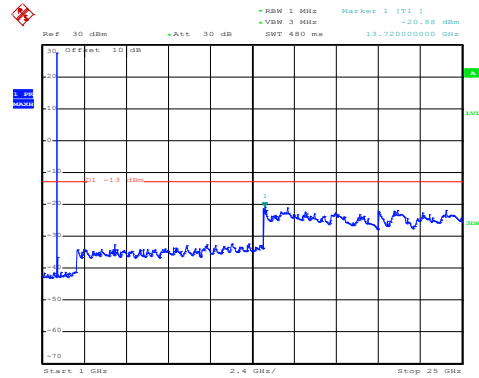
1GHz~25GHz

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



Date: 9.MAY.2020 16:20:25

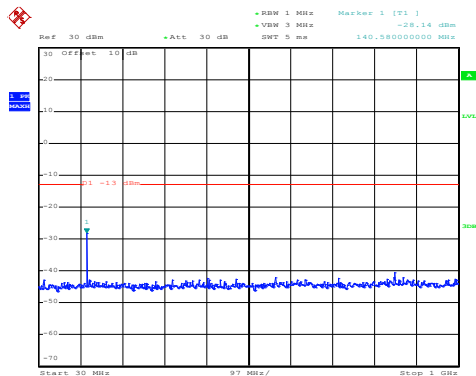
30MHz~1GHz



Date: 9.MAY.2020 16:18:41

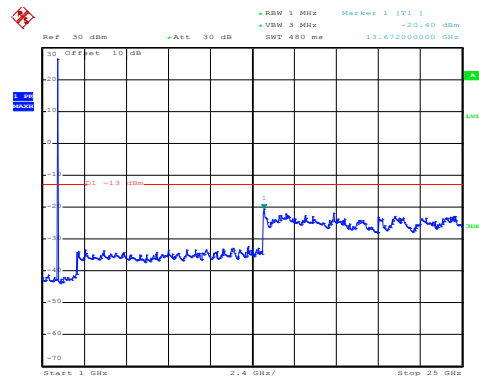
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:20:07

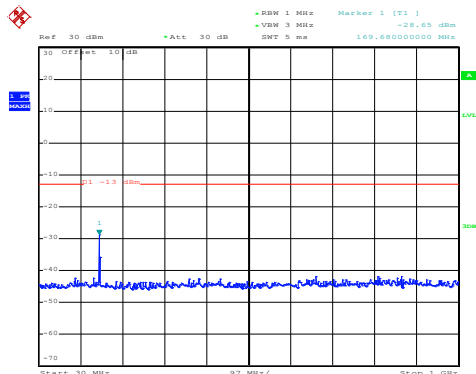
30MHz~1GHz



Date: 9.MAY.2020 16:19:03

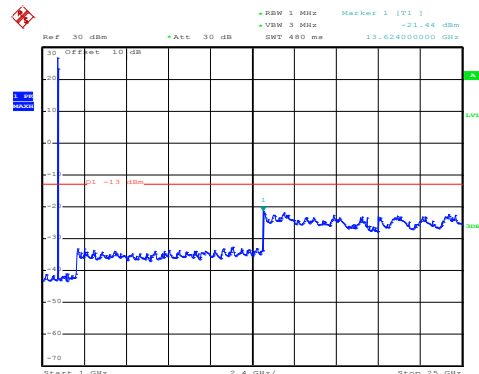
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:19:50

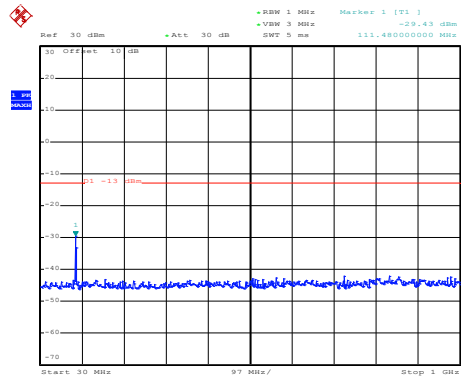
30MHz~1GHz



Date: 9.MAY.2020 16:19:33

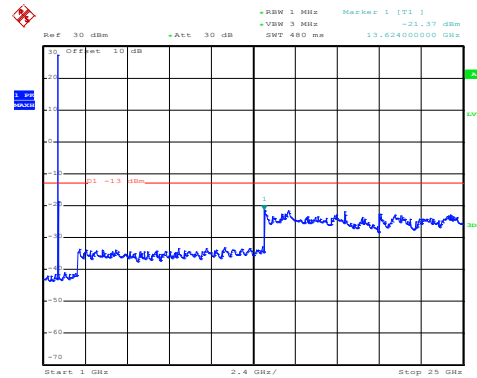
1GHz~25GHz

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



Date: 9.MAY.2020 16:16:25

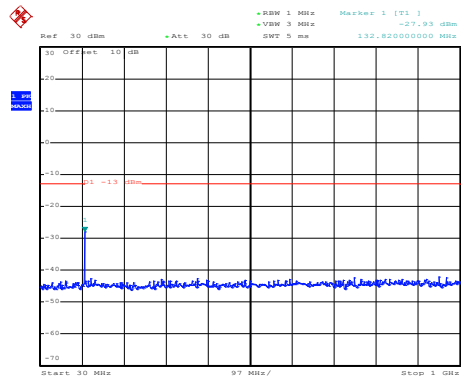
30MHz~1GHz



Date: 9.MAY.2020 16:18:11

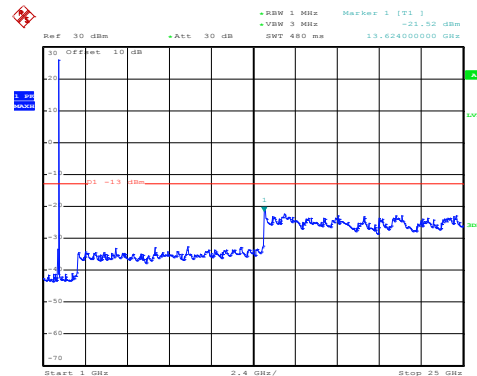
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:16:42

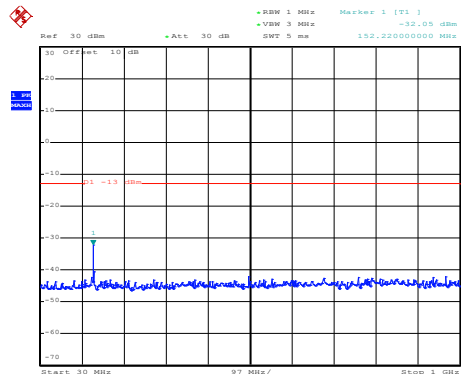
30MHz~1GHz



Date: 9.MAY.2020 16:17:43

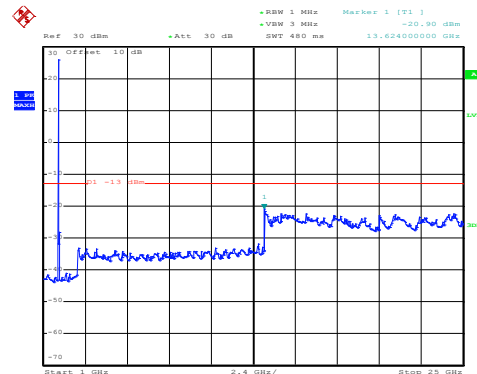
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:17:00

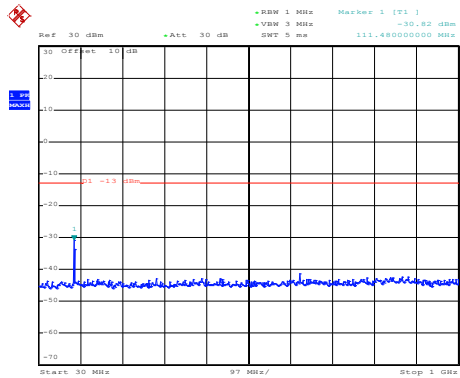
30MHz~1GHz



Date: 9.MAY.2020 16:17:23

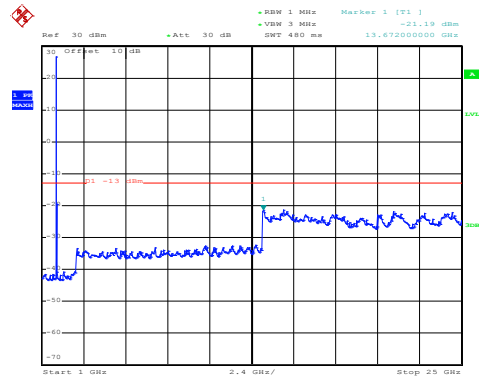
1GHz~25GHz

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



Date: 9.MAY.2020 16:16:19

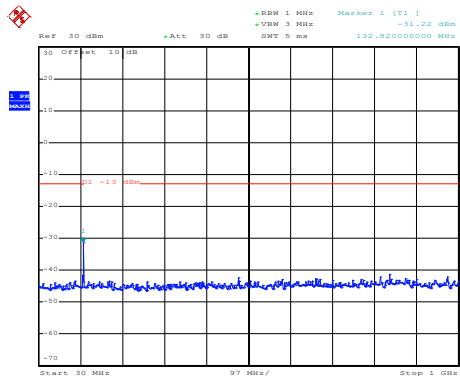
30MHz~1GHz



Date: 9.MAY.2020 16:18:02

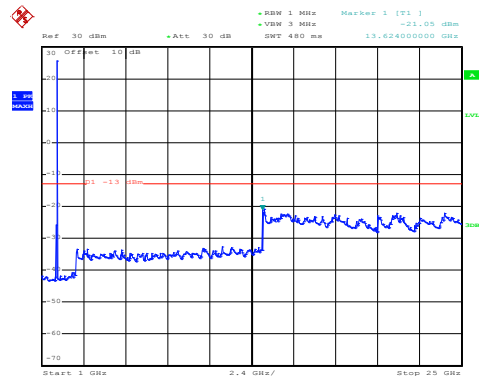
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:16:34

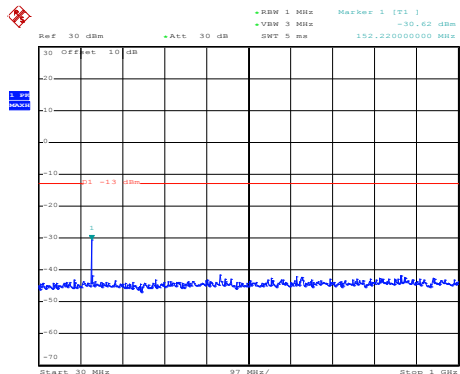
30MHz~1GHz



Date: 9.MAY.2020 16:17:36

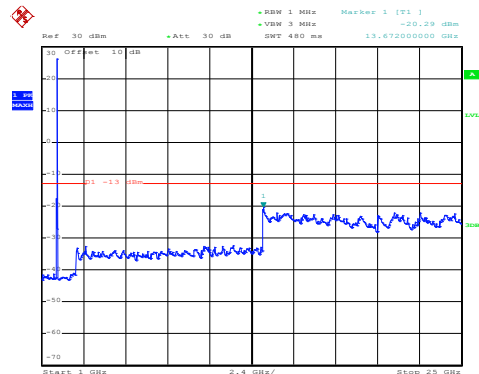
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:16:53

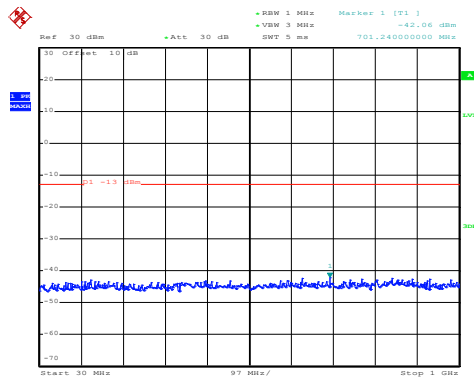
30MHz~1GHz



Date: 9.MAY.2020 16:17:16

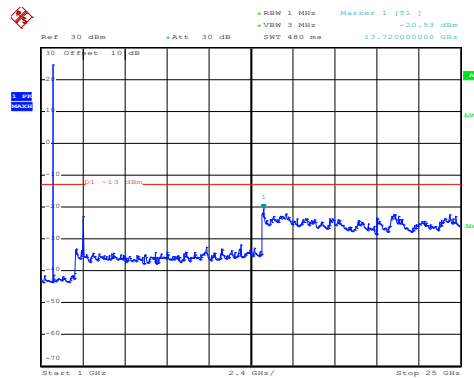
1GHz~25GHz

LTE Band 4 part:

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

Date: 9.MAY.2020 16:20:47

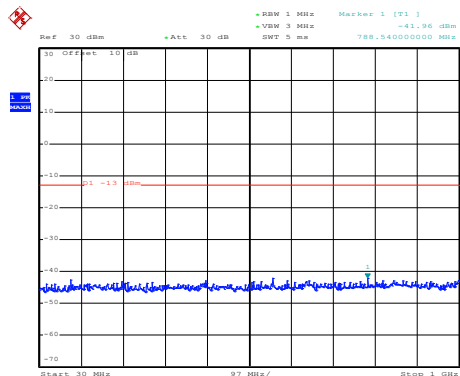
30MHz~1GHz



Date: 9.MAY.2020 16:22:33

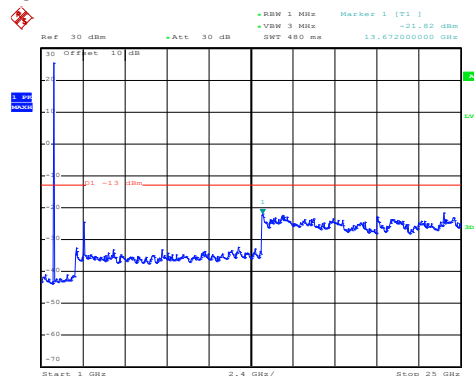
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:21:03

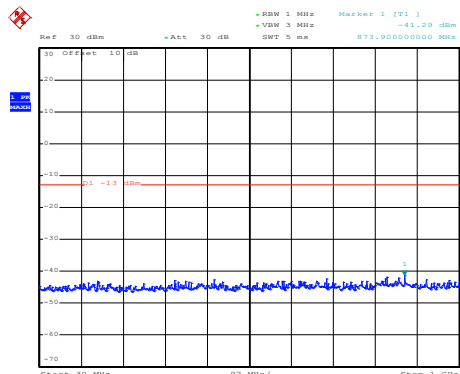
30MHz~1GHz



Date: 9.MAY.2020 16:22:11

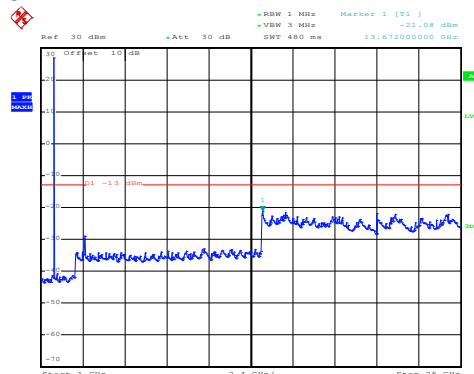
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:21:19

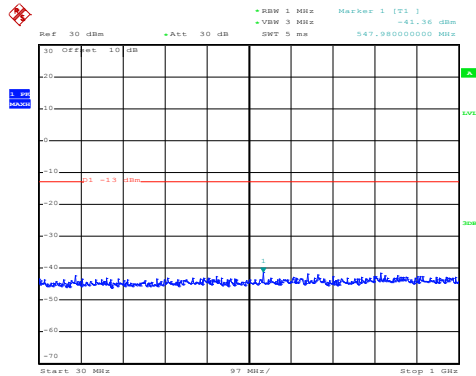
30MHz~1GHz



Date: 9.MAY.2020 16:21:46

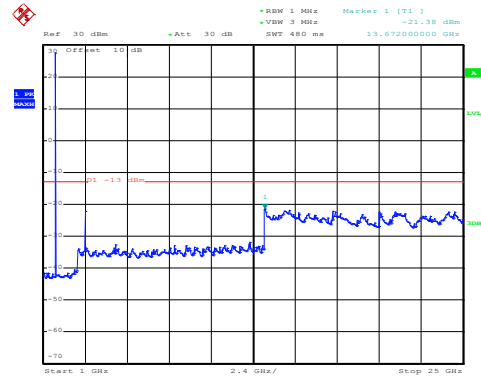
1GHz~25GHz

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



Date: 9.MAY.2020 16:20:41

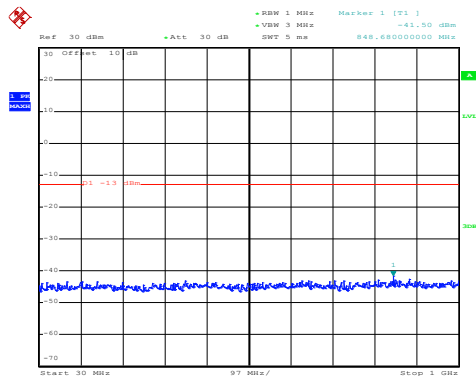
30MHz~1GHz



Date: 9.MAY.2020 16:22:27

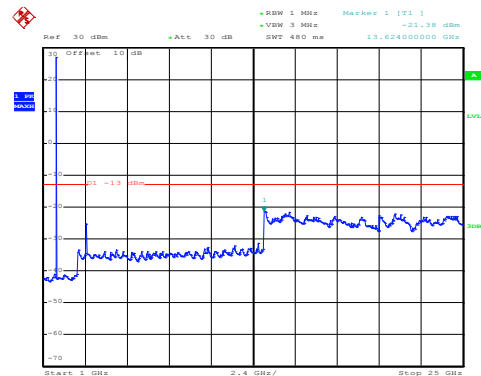
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:20:58

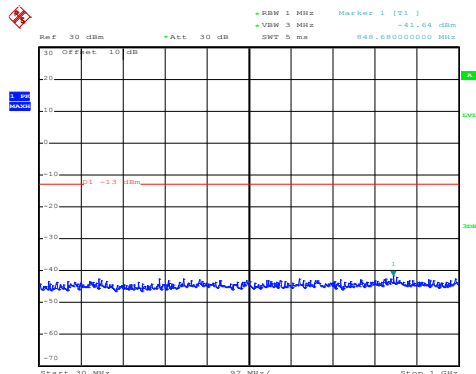
30MHz~1GHz



Date: 9.MAY.2020 16:22:04

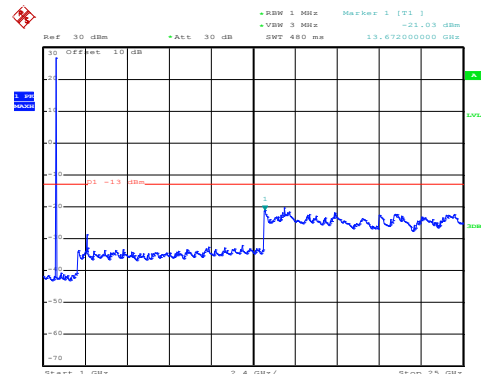
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:21:14

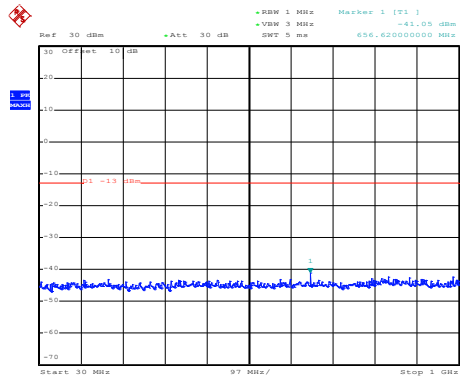
30MHz~1GHz



Date: 9.MAY.2020 16:21:38

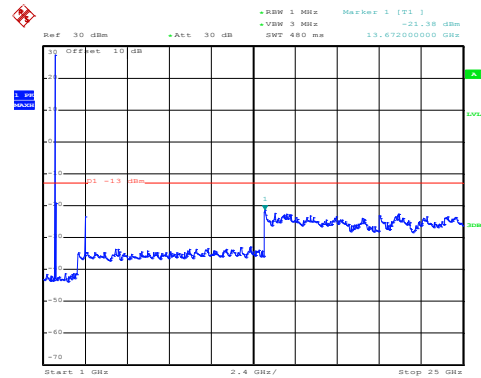
1GHz~25GHz

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



Date: 9.MAY.2020 16:15:34

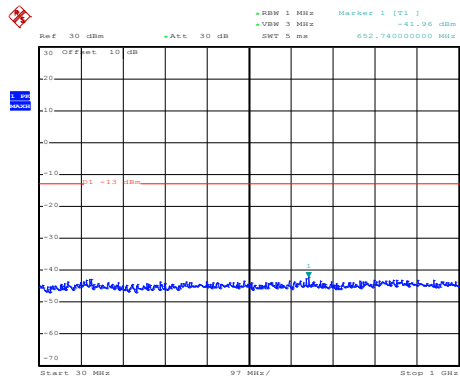
30MHz~1GHz



Date: 9.MAY.2020 16:15:14

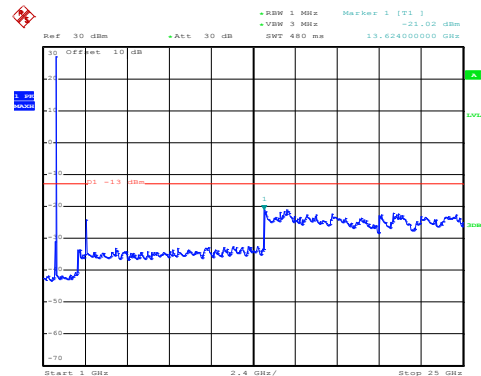
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:15:48

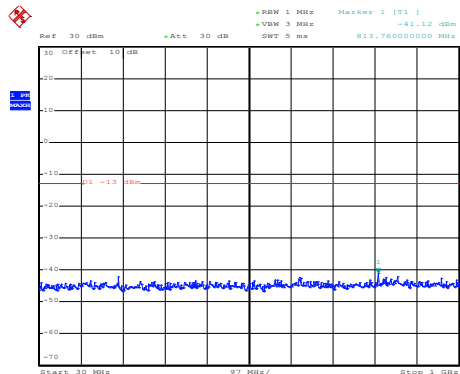
30MHz~1GHz



Date: 9.MAY.2020 16:14:55

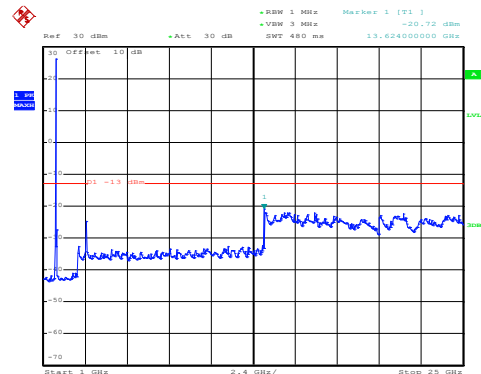
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:16:06

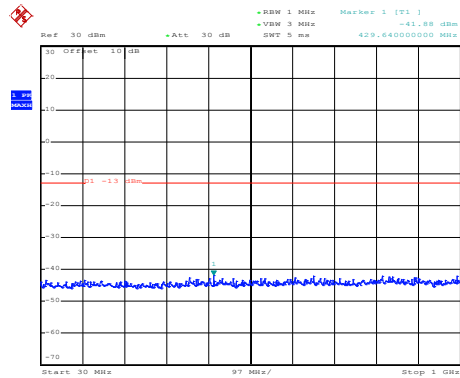
30MHz~1GHz



Date: 9.MAY.2020 16:14:29

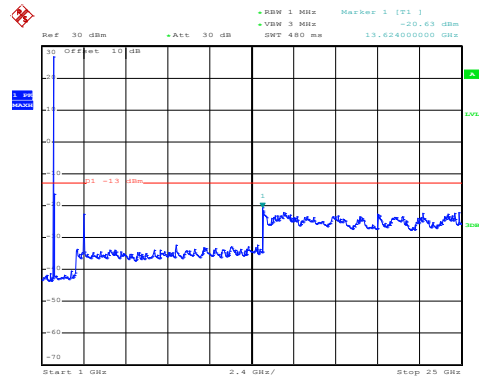
1GHz~25GHz

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



Date: 9.MAY.2020 16:15:28

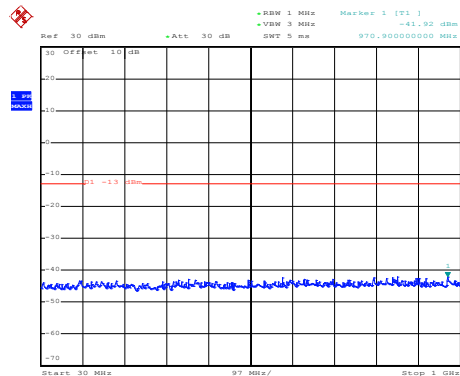
30MHz~1GHz



Date: 9.MAY.2020 16:15:06

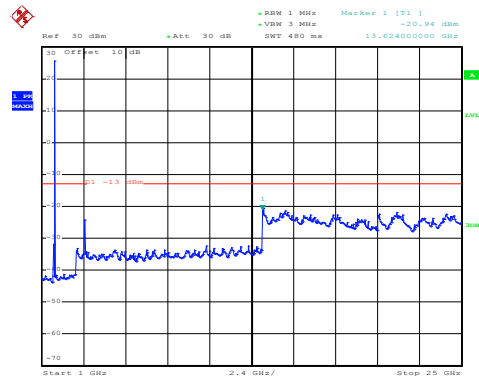
1GHz~25GHz

Middle channel



Date: 9.MAY.2020 16:15:42

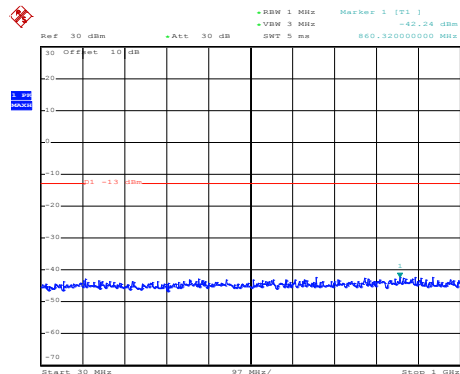
30MHz~1GHz



Date: 9.MAY.2020 16:14:41

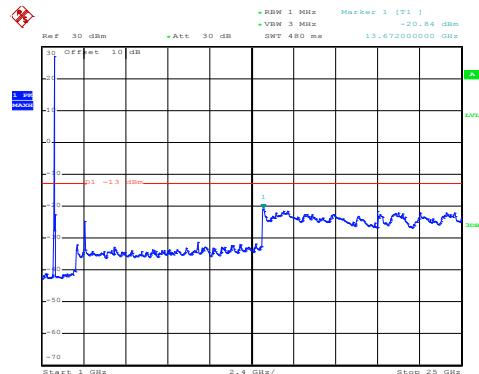
1GHz~25GHz

High channel



Date: 9.MAY.2020 16:15:59

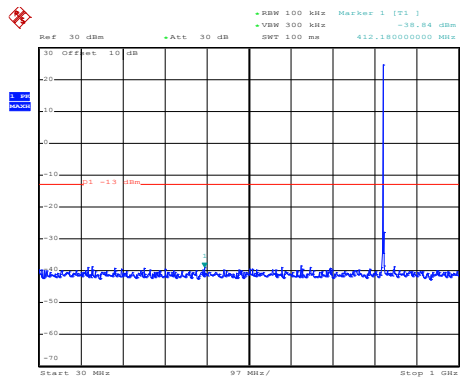
30MHz~1GHz



Date: 9.MAY.2020 16:14:17

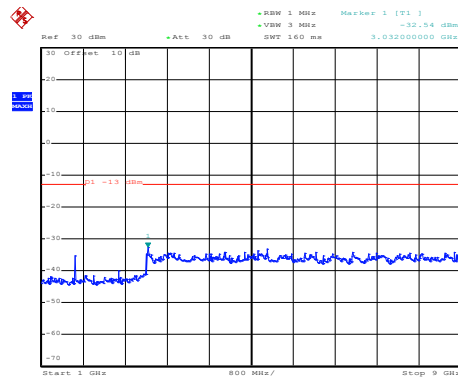
1GHz~25GHz

LTE Band 5 part:

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

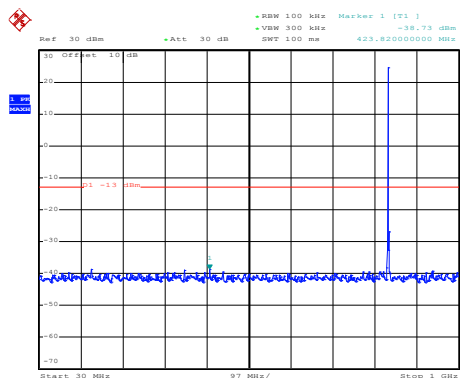
Date: 9.MAY.2020 16:25:07

30MHz~1GHz



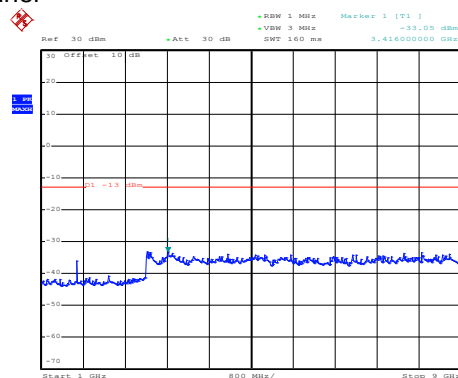
Date: 9.MAY.2020 16:23:17

1GHz~9GHz



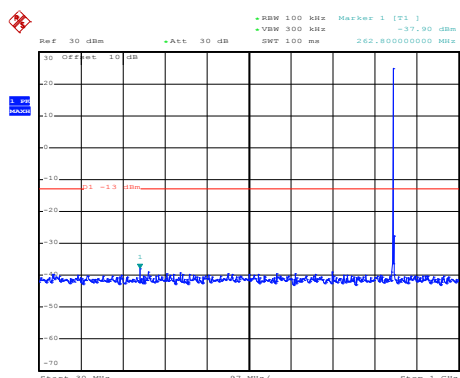
Date: 9.MAY.2020 16:24:44

30MHz~1GHz



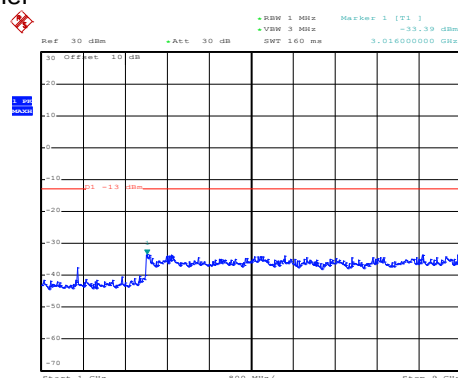
Date: 9.MAY.2020 16:23:37

1GHz~9GHz



Date: 9.MAY.2020 16:24:25

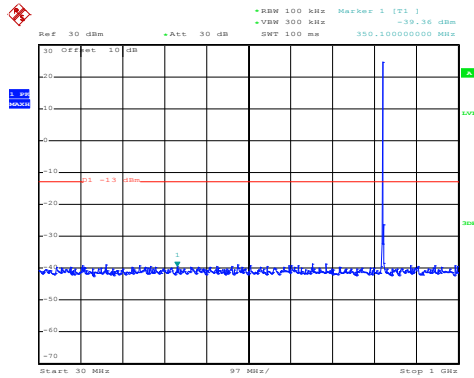
30MHz~1GHz



Date: 9.MAY.2020 16:23:52

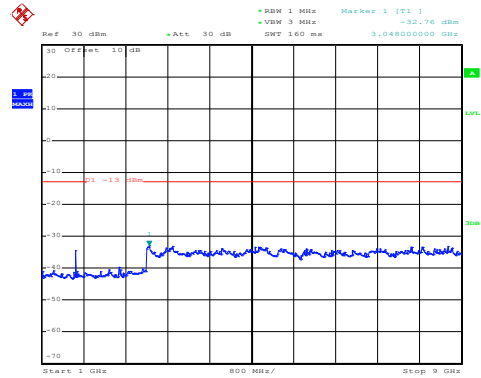
1GHz~9GHz

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



Date: 9.MAY.2020 16:24:57

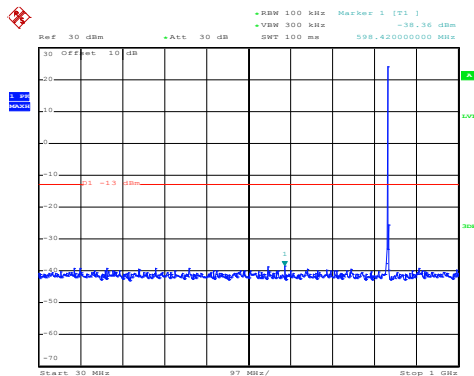
30MHz~1GHz



Date: 9.MAY.2020 16:23:11

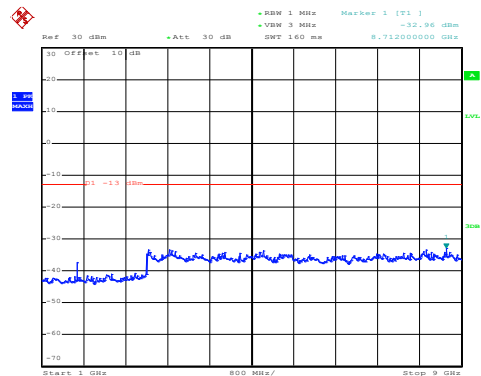
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:24:35

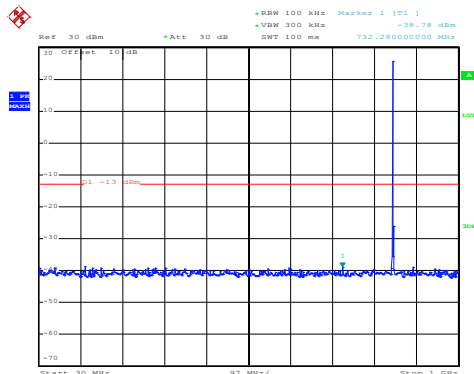
30MHz~1GHz



Date: 9.MAY.2020 16:23:28

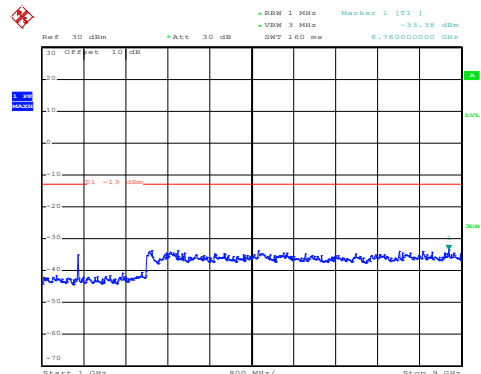
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:24:15

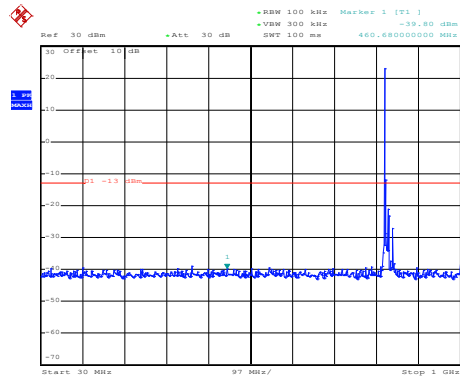
30MHz~1GHz



Date: 9.MAY.2020 16:23:46

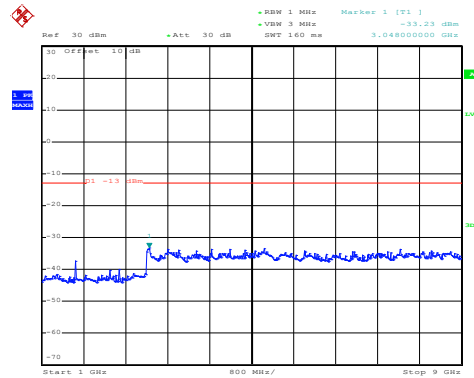
1GHz~9GHz

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



Date: 9.MAY.2020 16:31:00

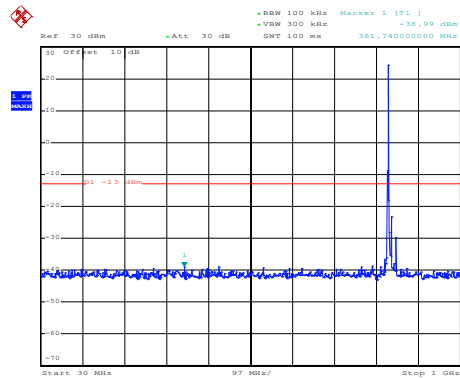
30MHz~1GHz



Date: 9.MAY.2020 16:32:46

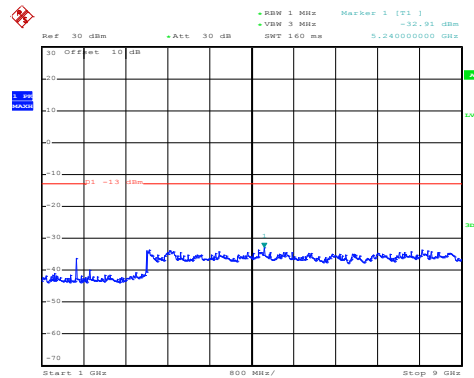
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:31:22

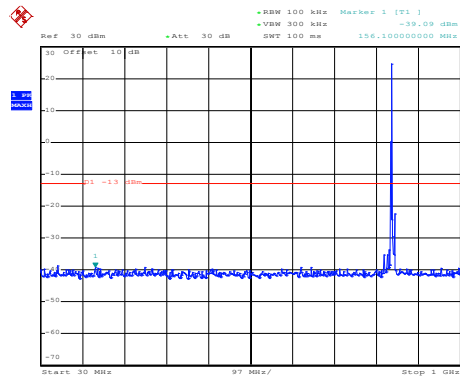
30MHz~1GHz



Date: 9.MAY.2020 16:32:29

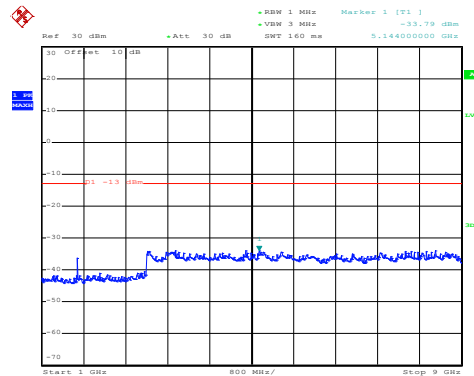
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:31:45

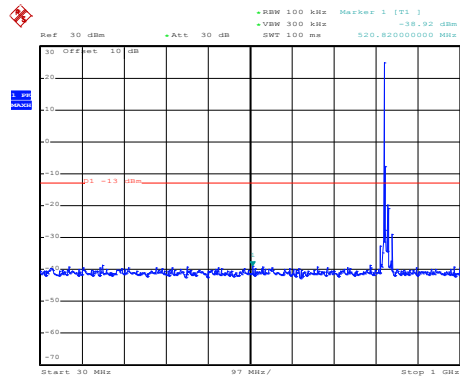
30MHz~1GHz



Date: 9.MAY.2020 16:32:11

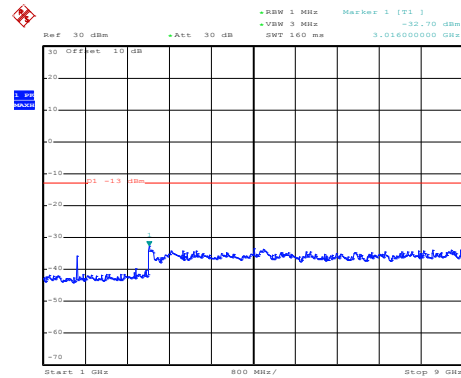
1GHz~9GHz

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



Date: 9.MAY.2020 16:30:52

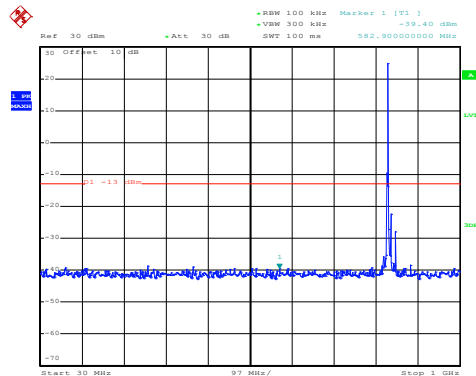
30MHz~1GHz



Date: 9.MAY.2020 16:32:38

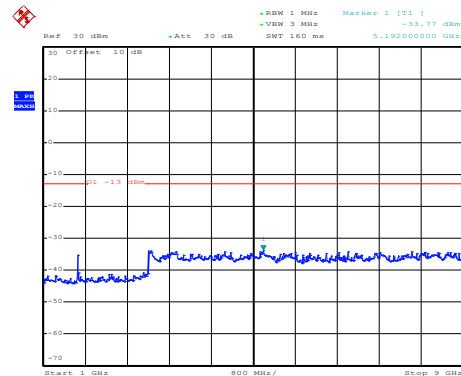
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:31:13

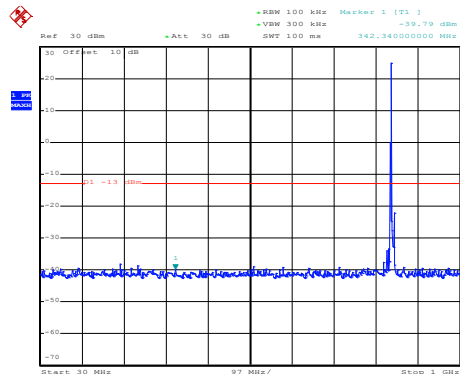
30MHz~1GHz



Date: 9.MAY.2020 16:32:20

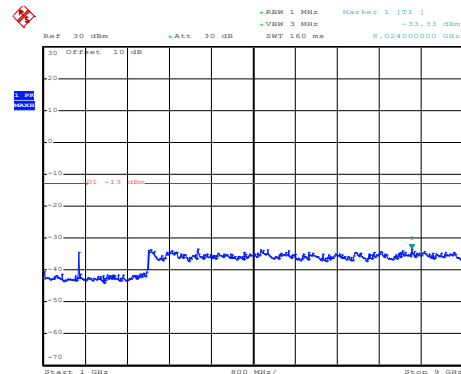
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:31:35

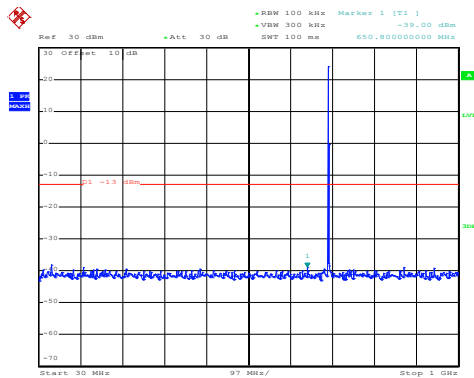
30MHz~1GHz



Date: 9.MAY.2020 16:32:04

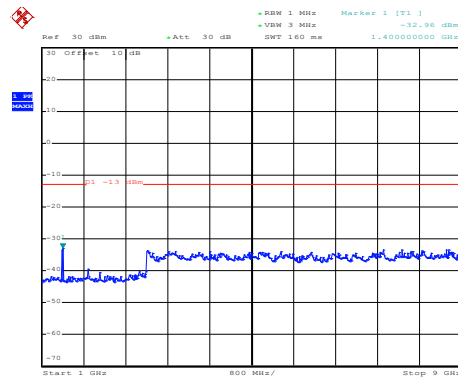
1GHz~9GHz

LTE Band 12 part:

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

Date: 9.MAY.2020 16:25:45

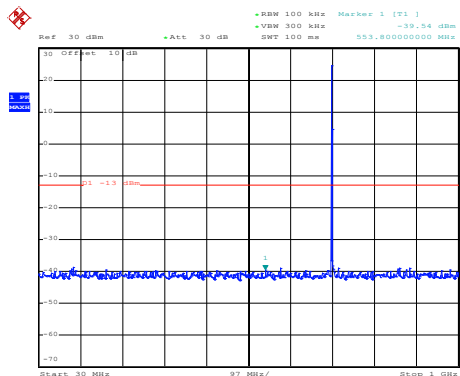
30MHz~1GHz



Date: 9.MAY.2020 16:27:44

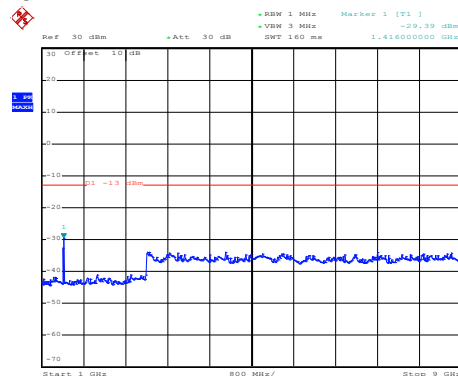
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:26:13

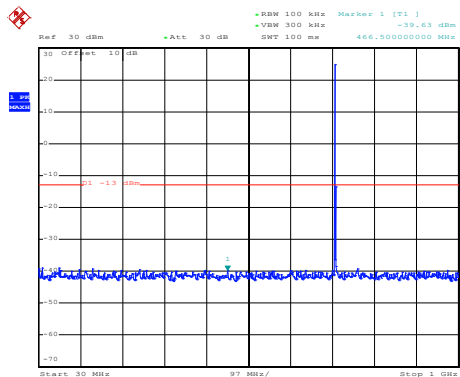
30MHz~1GHz



Date: 9.MAY.2020 16:27:18

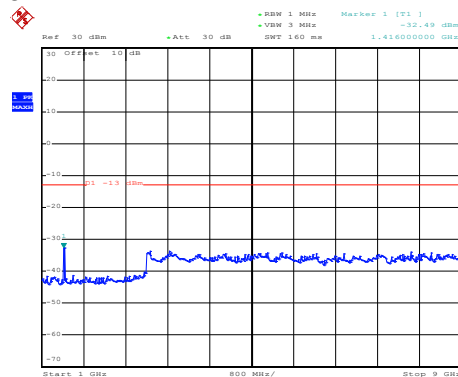
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:26:35

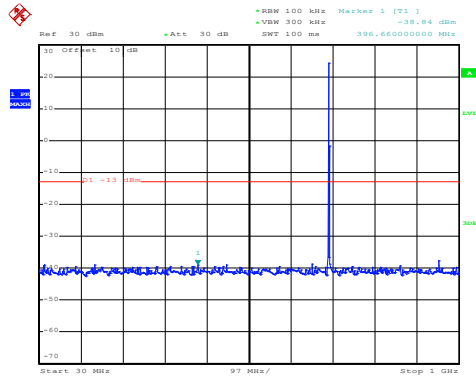
30MHz~1GHz



Date: 9.MAY.2020 16:27:02

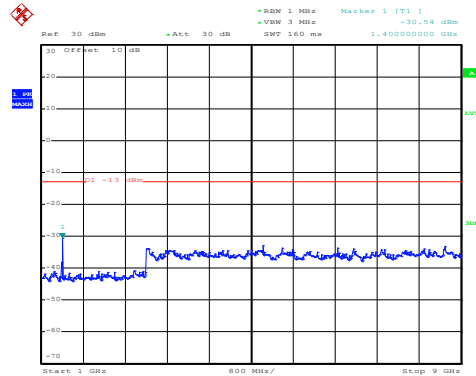
1GHz~9GHz

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



Date: 9.MAY.2020 16:25:36

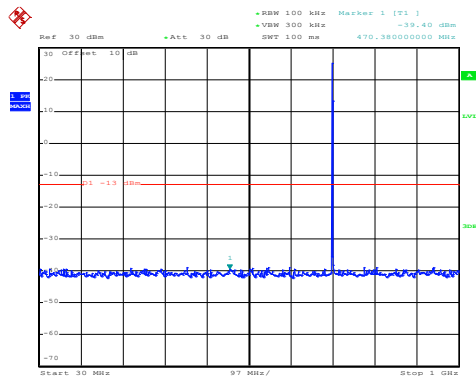
30MHz~1GHz



Date: 9.MAY.2020 16:27:33

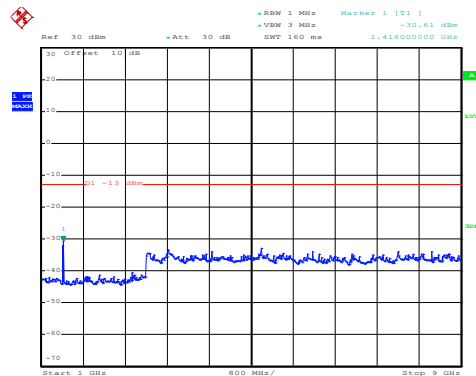
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:26:03

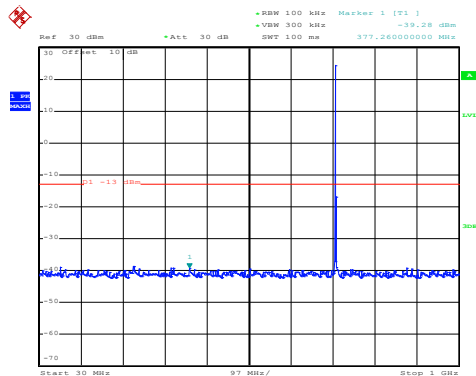
30MHz~1GHz



Date: 9.MAY.2020 16:27:11

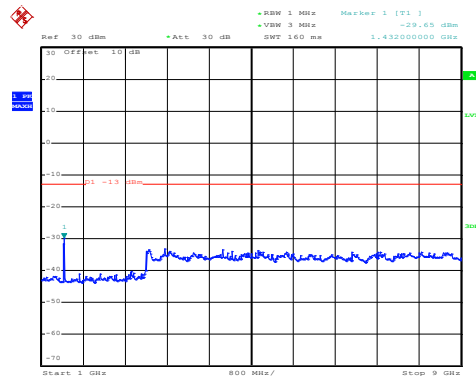
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:26:27

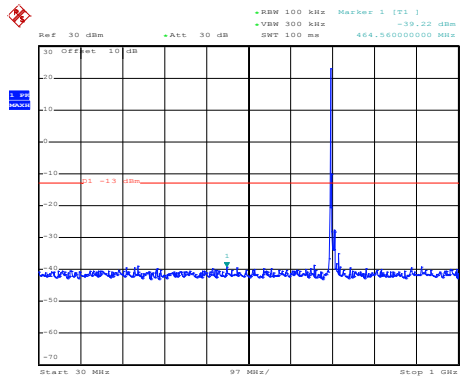
30MHz~1GHz



Date: 9.MAY.2020 16:26:54

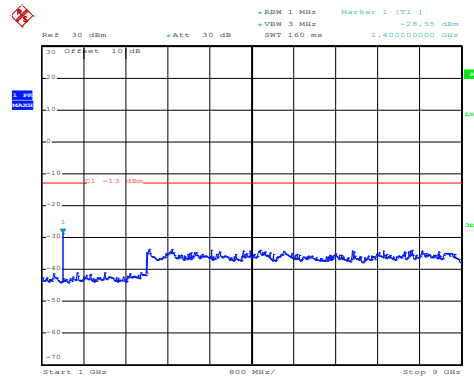
1GHz~9GHz

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



Date: 9.MAY.2020 16:30:18

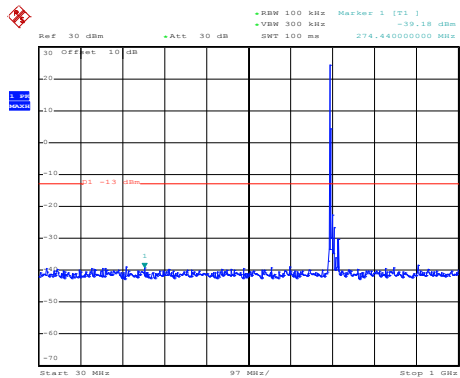
30MHz~1GHz



Date: 9.MAY.2020 16:28:30

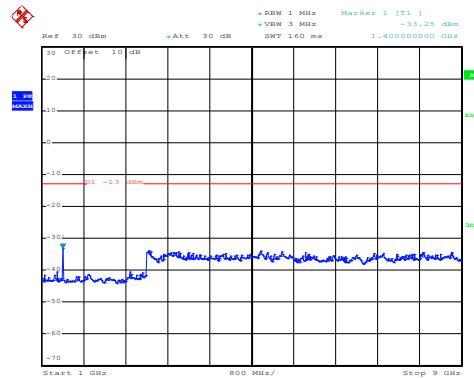
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:29:56

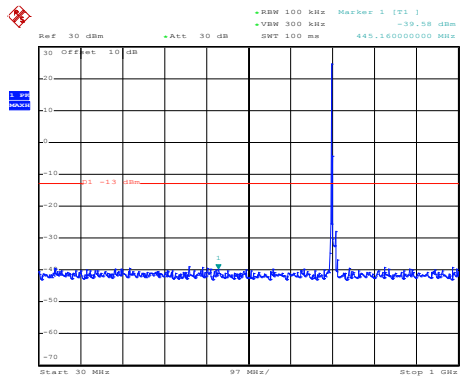
30MHz~1GHz



Date: 9.MAY.2020 16:28:49

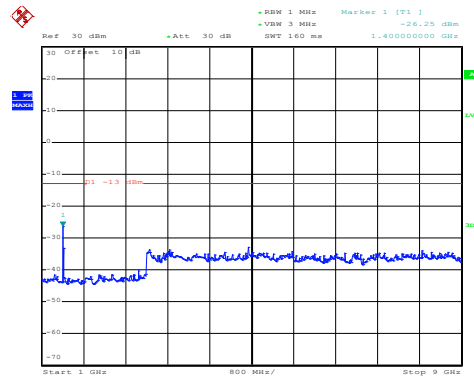
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:29:34

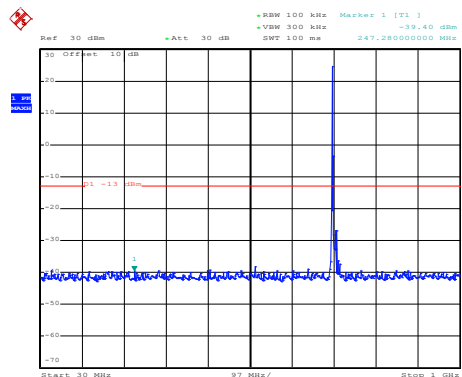
30MHz~1GHz



Date: 9.MAY.2020 16:29:08

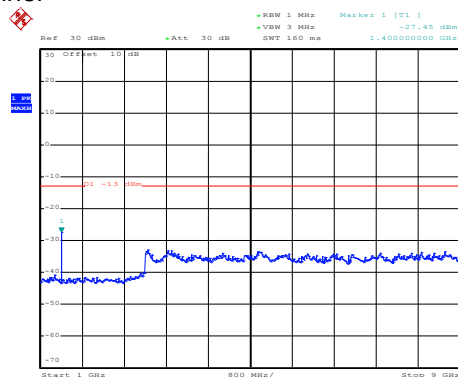
1GHz~9GHz

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



Date: 9.MAY.2020 16:30:10

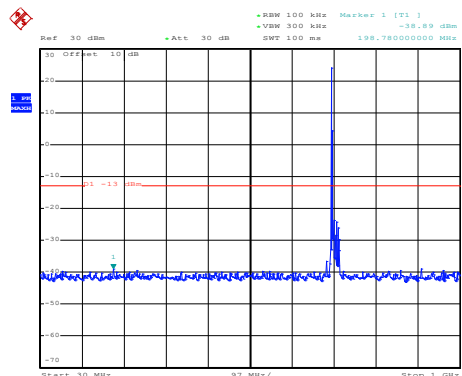
30MHz~1GHz



Date: 9.MAY.2020 16:28:23

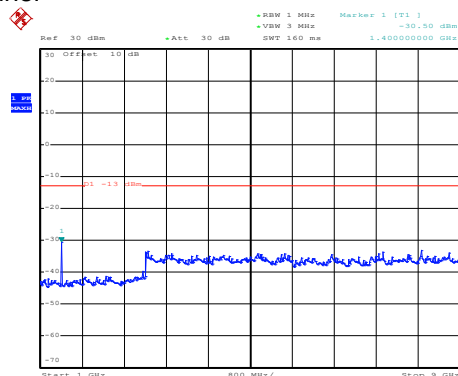
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:29:45

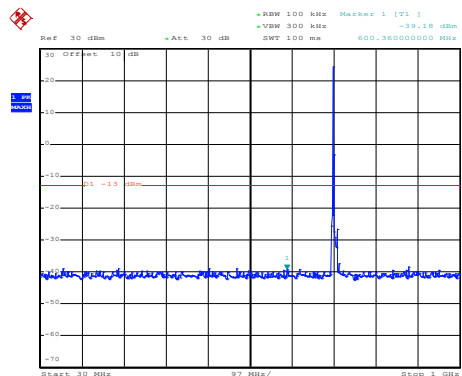
30MHz~1GHz



Date: 9.MAY.2020 16:28:41

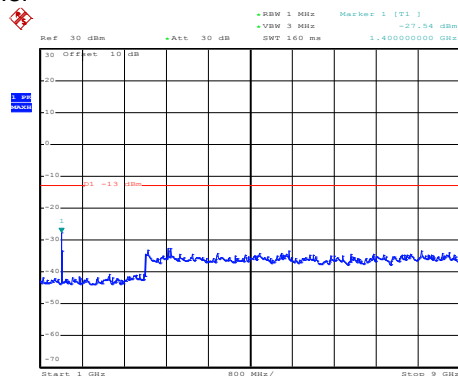
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:29:26

30MHz~1GHz



Date: 9.MAY.2020 16:29:02

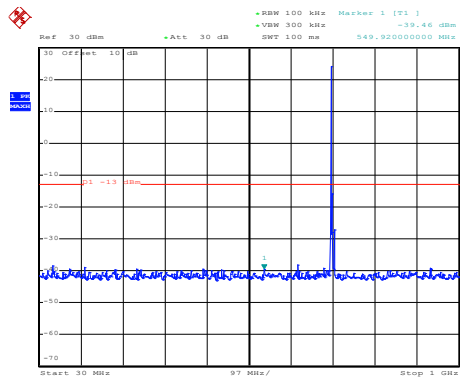
1GHz~9GHz

LTE Band 17 part:

LTE Band 17: 16 QAM & RB Size 1

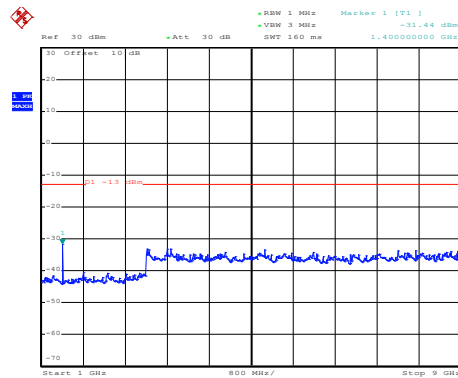
BW: 5MHz

Lowest channel



Date: 9.MAY.2020 16:35:28

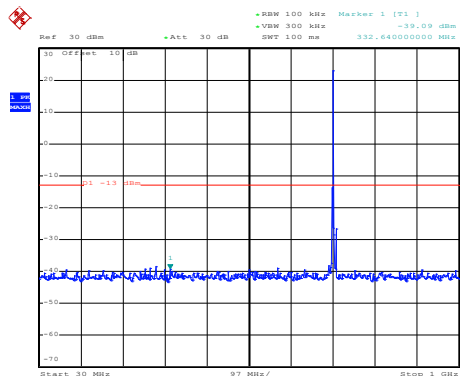
30MHz~1GHz



Date: 9.MAY.2020 16:37:14

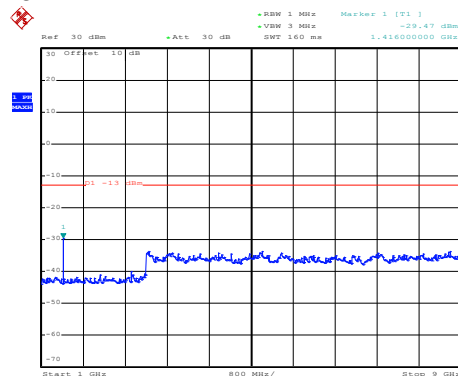
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:35:50

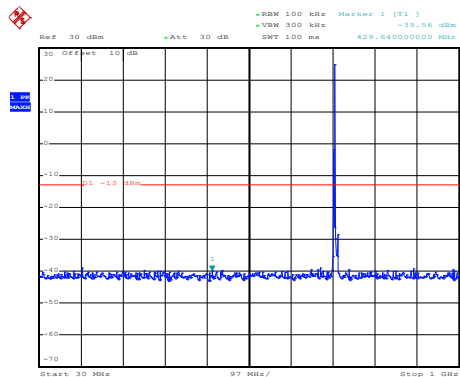
30MHz~1GHz



Date: 9.MAY.2020 16:36:55

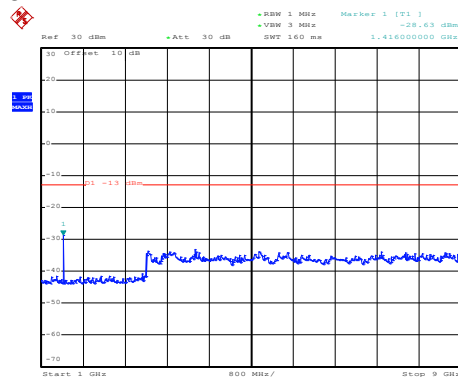
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:36:12

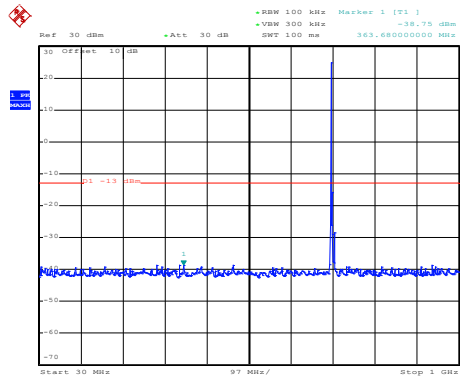
30MHz~1GHz



Date: 9.MAY.2020 16:36:37

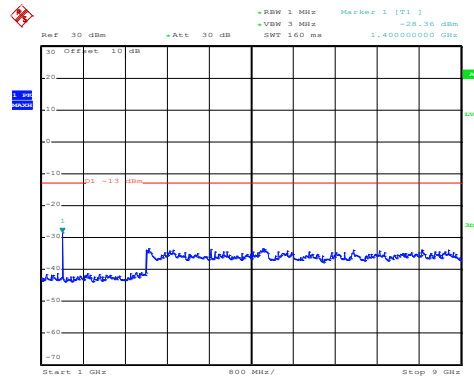
1GHz~9GHz

LTE Band 17: QPSK & RB Size 1
BW: 5MHz
Lowest channel



Date: 9.MAY.2020 16:35:19

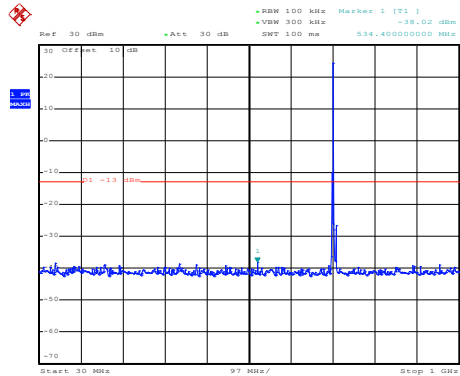
30MHz~1GHz



Date: 9.MAY.2020 16:37:06

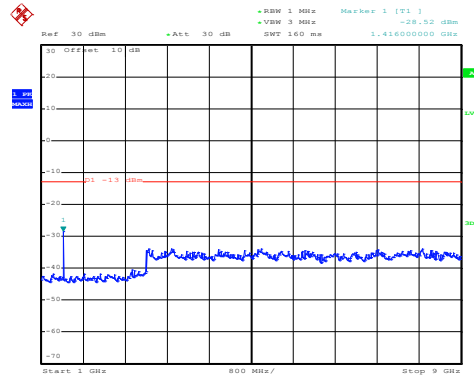
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:35:42

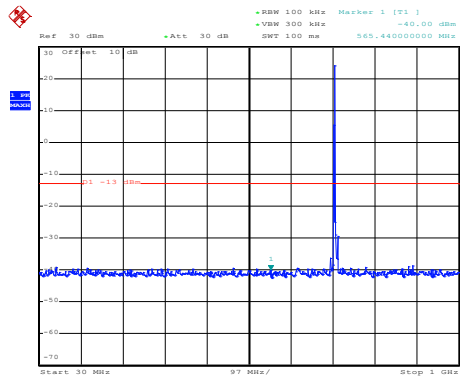
30MHz~1GHz



Date: 9.MAY.2020 16:36:46

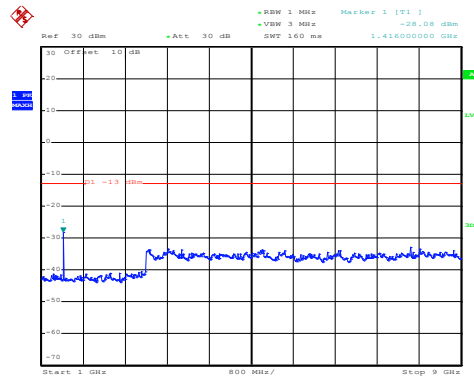
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:36:04

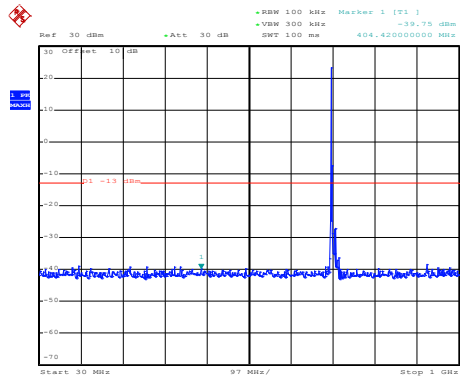
30MHz~1GHz



Date: 9.MAY.2020 16:36:30

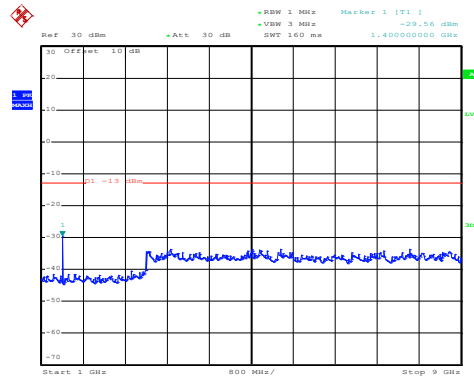
1GHz~9GHz

LTE Band 17: 16 QAM & RB Size 1
BW: 10MHz
Lowest channel



Date: 9.MAY.2020 16:34:51

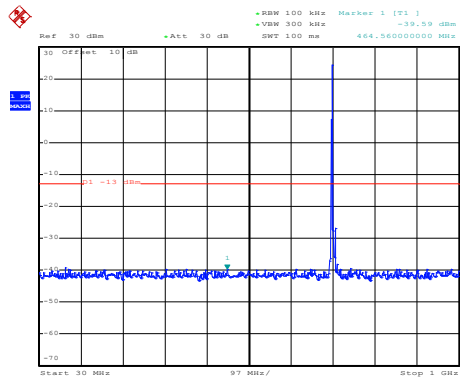
30MHz~1GHz



Date: 9.MAY.2020 16:33:05

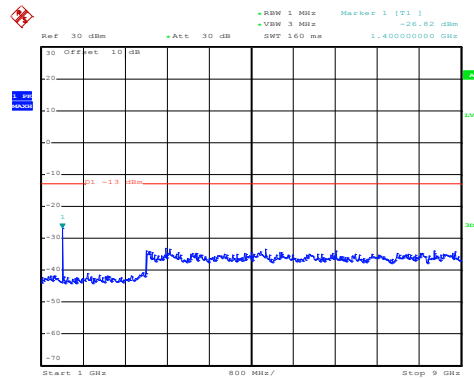
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:34:29

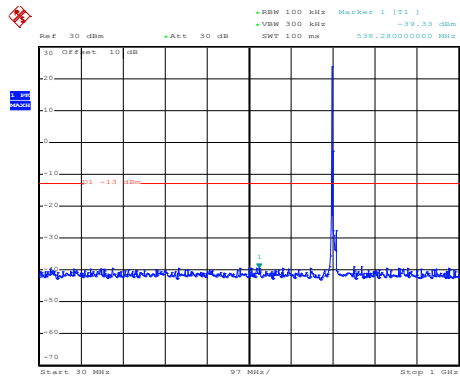
30MHz~1GHz



Date: 9.MAY.2020 16:33:21

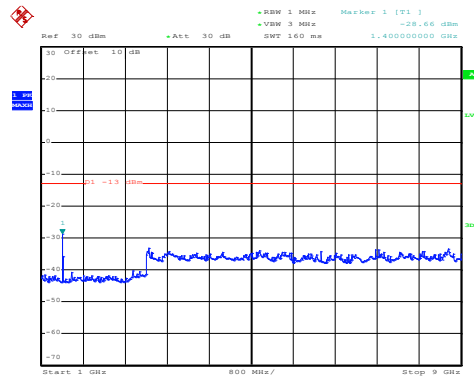
1GHz~9GHz

High channel



Date: 9.MAY.2020 16:34:08

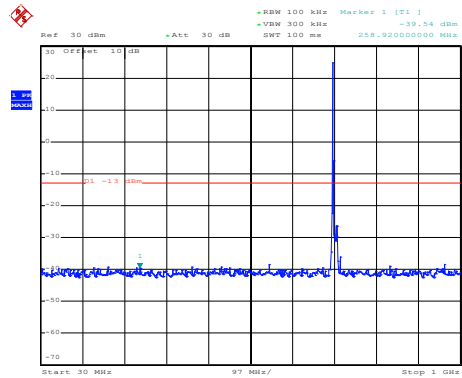
30MHz~1GHz



Date: 9.MAY.2020 16:33:41

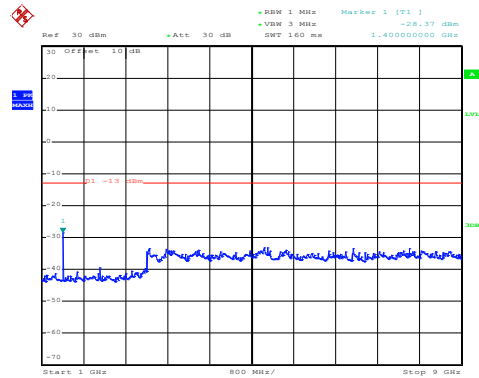
1GHz~9GHz

LTE Band 17: QPSK & RB Size 1
BW: 10MHz
Lowest channel



Date: 9.MAY.2020 16:34:43

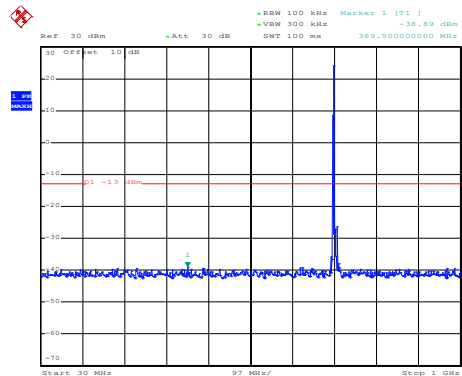
30MHz~1GHz



Date: 9.MAY.2020 16:32:58

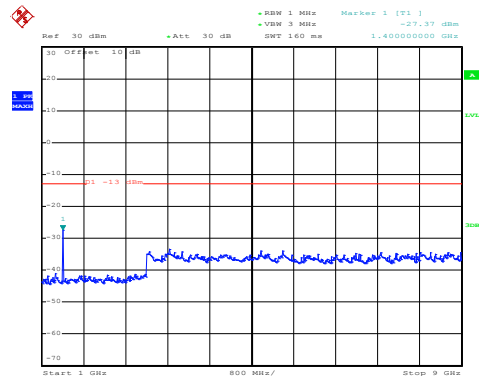
1GHz~9GHz

Middle channel



Date: 9.MAY.2020 16:34:21

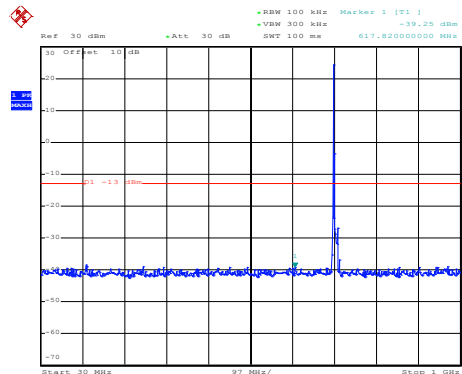
30MHz~1GHz



Date: 9.MAY.2020 16:33:14

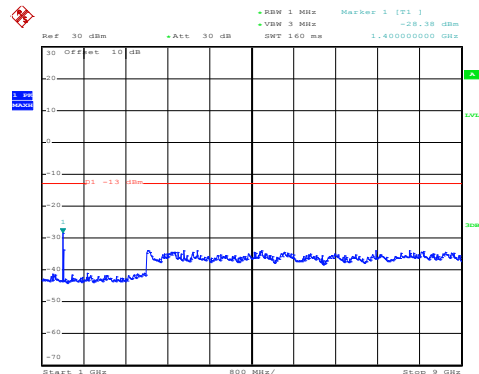
1GHz~9GHz

High channel



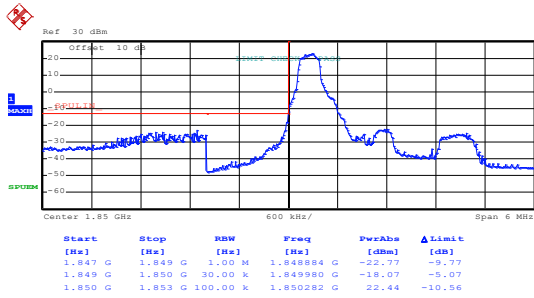
Date: 9.MAY.2020 16:34:00

30MHz~1GHz



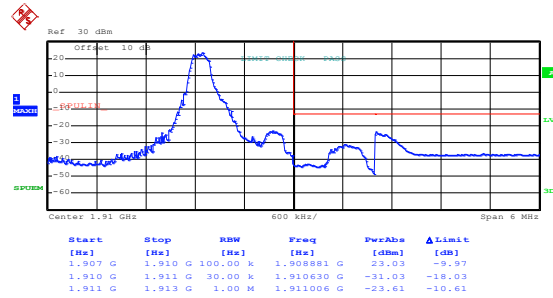
Date: 9.MAY.2020 16:33:34

1GHz~9GHz

Band edge emission:**LTE Band 2 part:****LTE Band 2, BW: 1.4MHz
16QAM & RB Size 1**

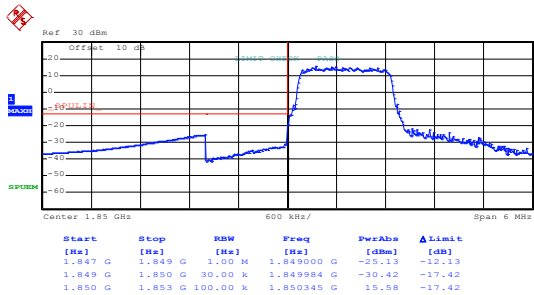
Date: 9.MAY.2020 15:40:54

Lowest channel



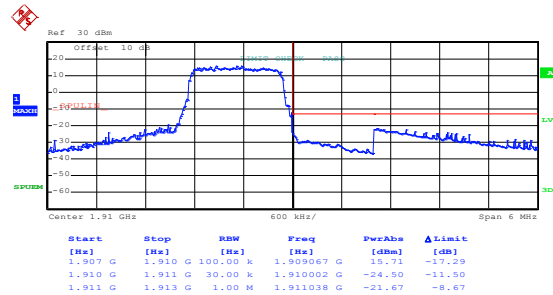
Date: 9.MAY.2020 15:44:13

Highest channel

16QAM & RB Size 6

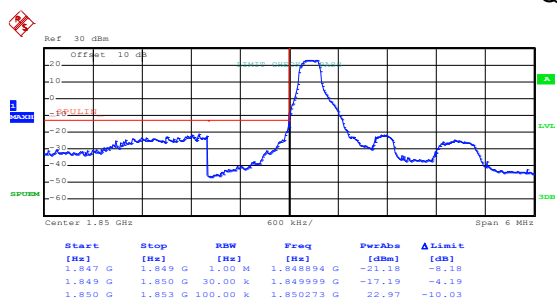
Date: 9.MAY.2020 15:41:21

Lowest channel



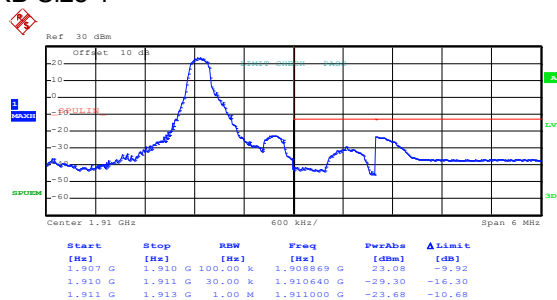
Date: 9.MAY.2020 15:43:59

Highest channel

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

Date: 9.MAY.2020 15:40:46

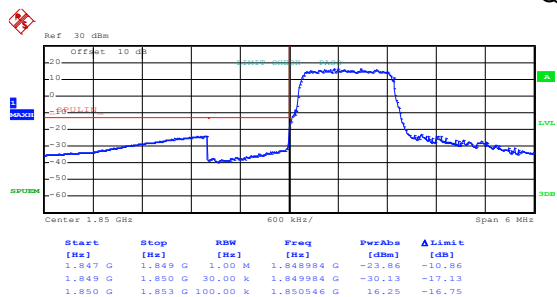
Lowest channel



Date: 9.MAY.2020 15:44:06

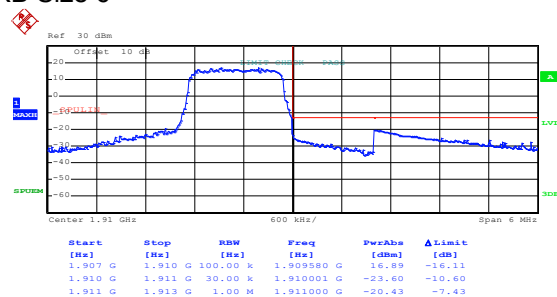
Highest channel

QPSK & RB Size 6



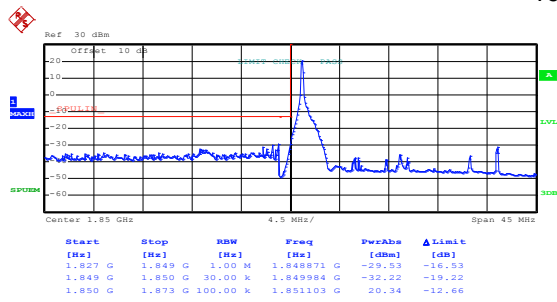
Date: 9.MAY.2020 15:41:14

Lowest channel



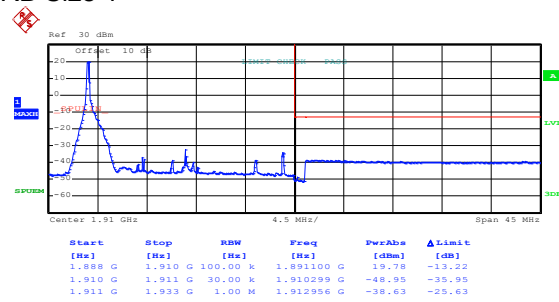
Date: 9.MAY.2020 15:43:50

Highest channel

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

Date: 9.MAY.2020 16:06:45

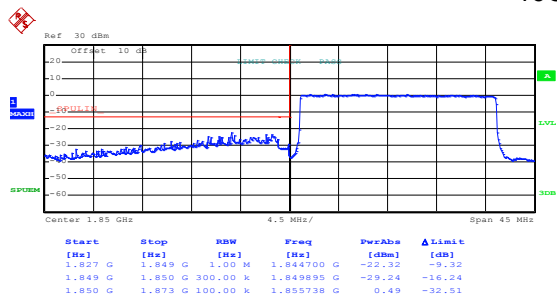
Lowest channel



Date: 9.MAY.2020 16:07:32

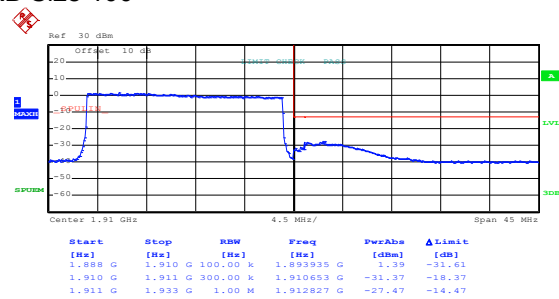
Highest channel

16QAM & RB Size 100



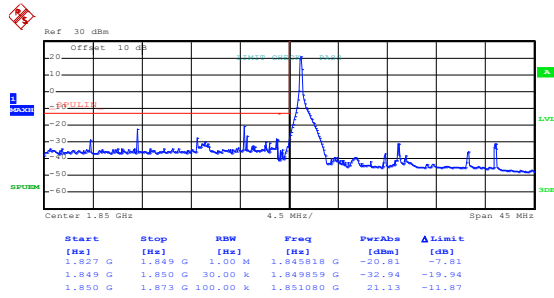
Date: 9.MAY.2020 16:07:07

Lowest channel



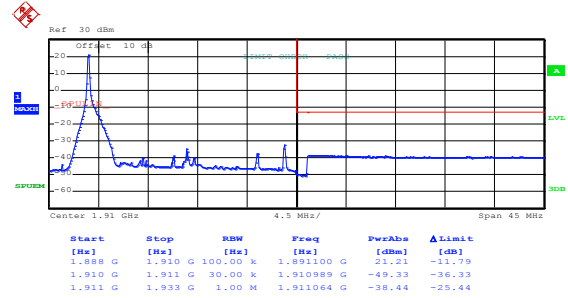
Date: 9.MAY.2020 16:07:50

Highest channel

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

Date: 9.MAY.2020 16:06:38

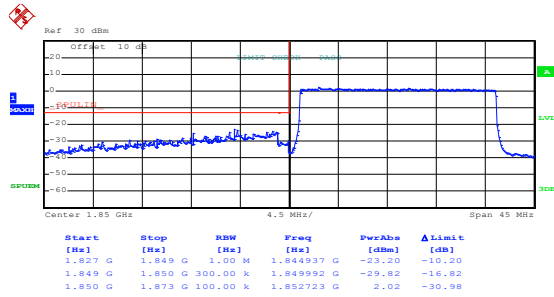
Lowest channel



Date: 9.MAY.2020 16:07:25

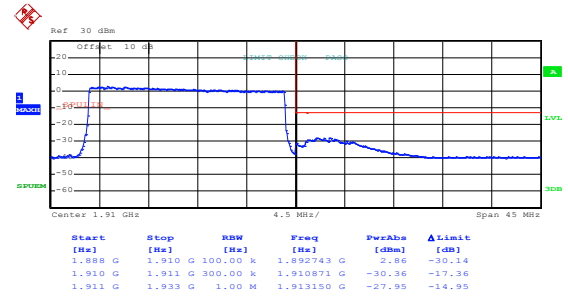
Highest channel

QPSK & RB Size 100



Date: 9.MAY.2020 16:07:02

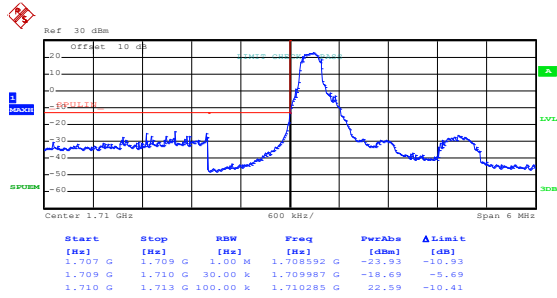
Lowest channel



Date: 9.MAY.2020 16:07:45

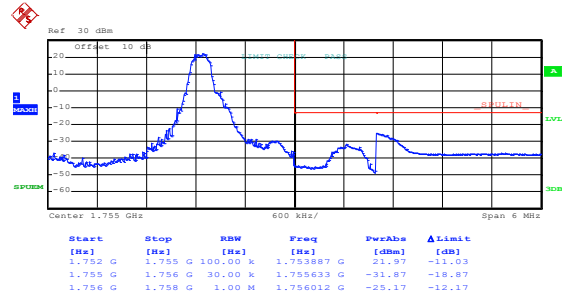
Highest channel

LTE Band 4 part:

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

Date: 9.MAY.2020 15:46:26

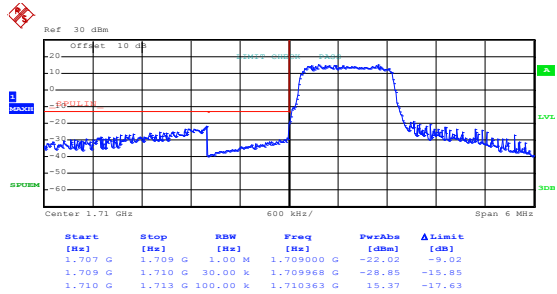
Lowest channel



Date: 9.MAY.2020 15:47:22

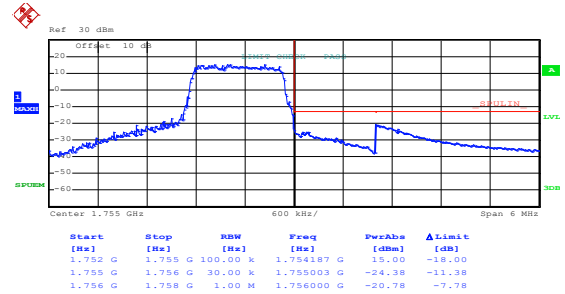
Highest channel

16QAM & RB Size 6



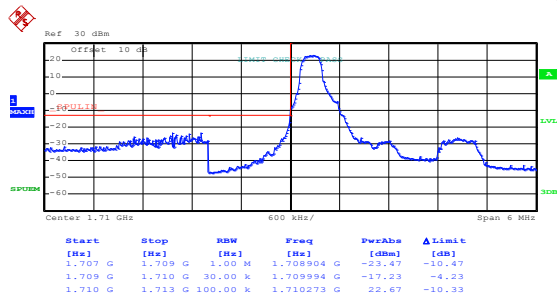
Date: 9.MAY.2020 15:46:48

Lowest channel



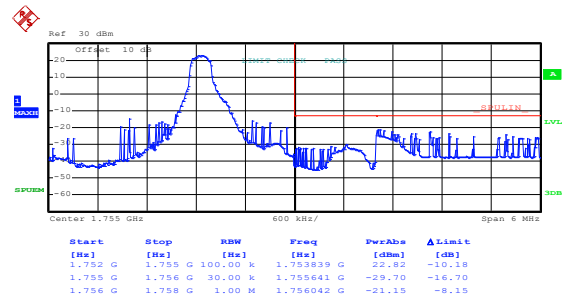
Date: 9.MAY.2020 15:47:09

Highest channel

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

Date: 9.MAY.2020 15:46:19

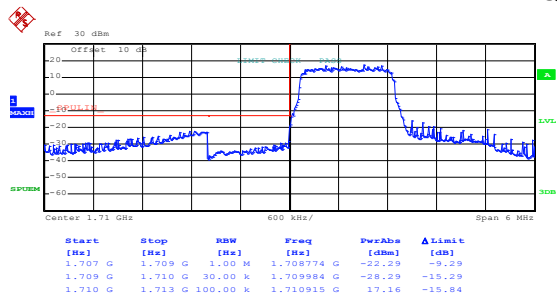
Lowest channel



Date: 9.MAY.2020 15:47:16

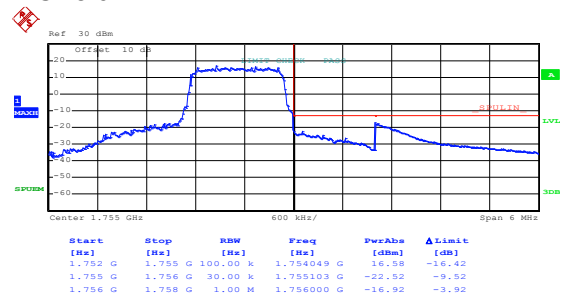
Highest channel

QPSK & RB Size 6



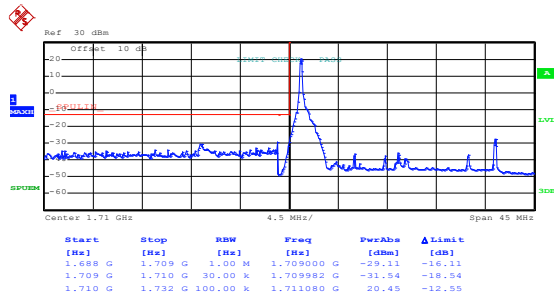
Date: 9.MAY.2020 15:46:41

Lowest channel



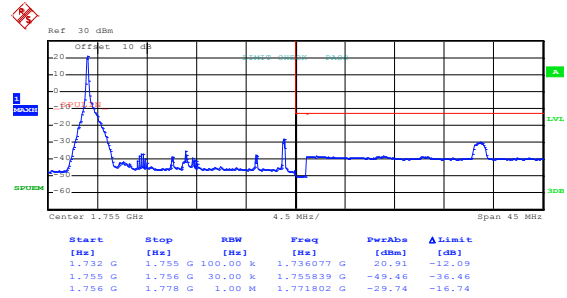
Date: 9.MAY.2020 15:47:04

Highest channel

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

Date: 9.MAY.2020 16:08:27

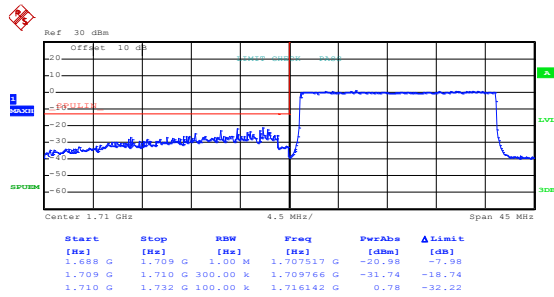
Lowest channel



Date: 9.MAY.2020 16:09:17

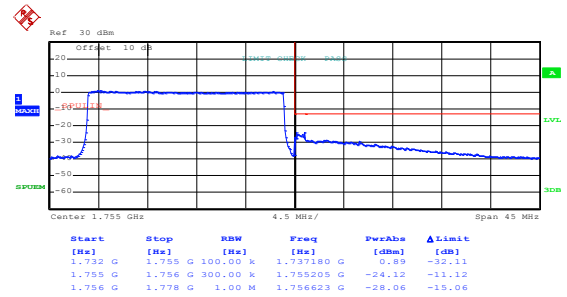
Highest channel

16QAM & RB Size 100



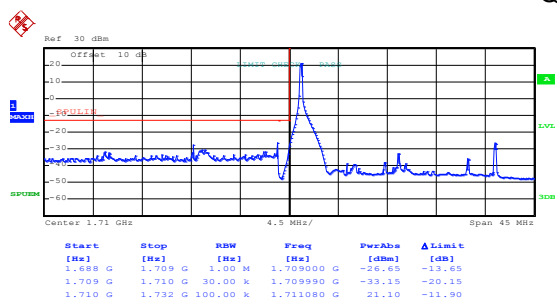
Date: 9.MAY.2020 16:08:49

Lowest channel



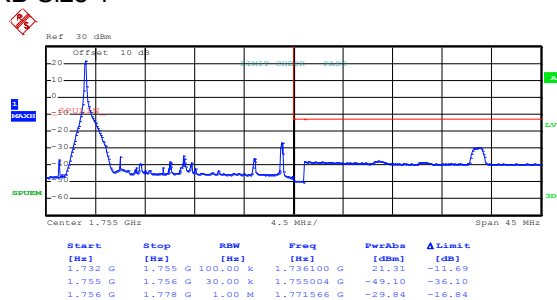
Date: 9.MAY.2020 16:09:39

Highest channel

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

Date: 9.MAY.2020 16:08:21

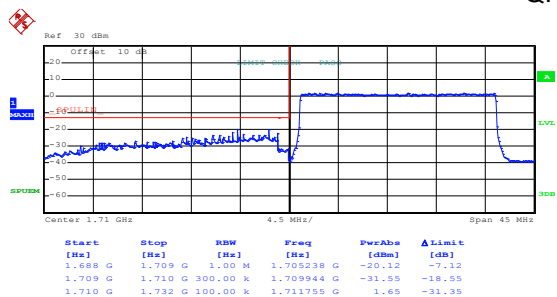
Lowest channel



Date: 9.MAY.2020 16:09:08

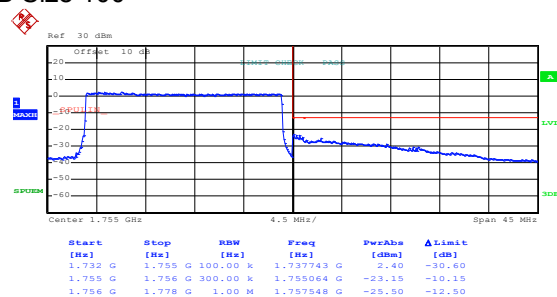
Highest channel

QPSK & RB Size 100



Date: 9.MAY.2020 16:08:43

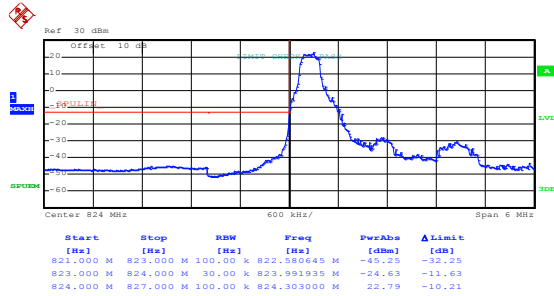
Lowest channel



Date: 9.MAY.2020 16:09:33

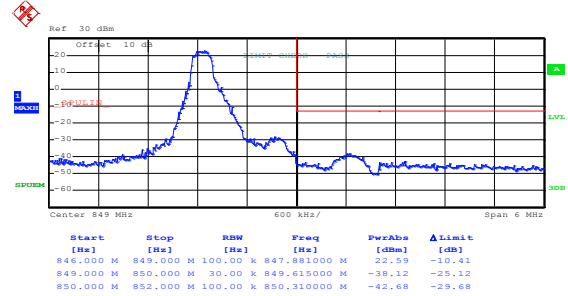
Highest channel

LTE Band 5 part:

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

Date: 9.MAY.2020 15:50:27

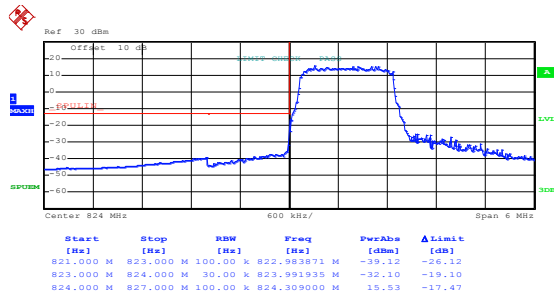
Lowest channel



Date: 9.MAY.2020 15:51:19

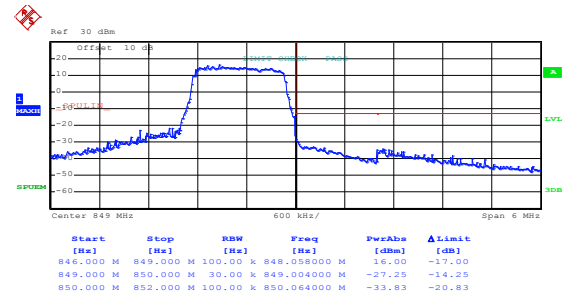
Highest channel

16QAM & RB Size 6



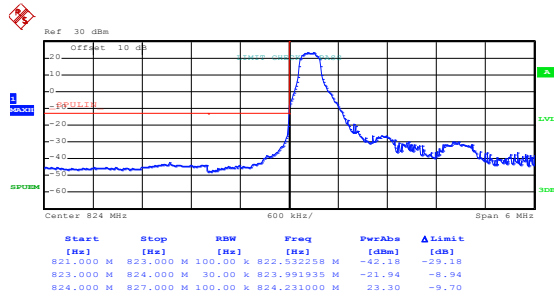
Date: 9.MAY.2020 15:50:44

Lowest channel



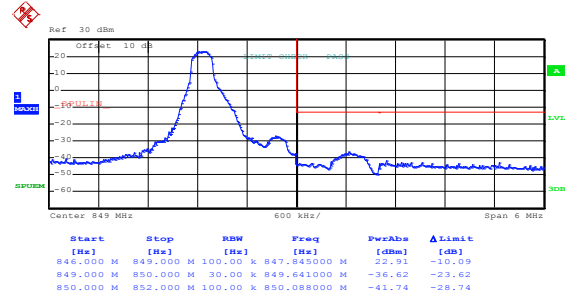
Date: 9.MAY.2020 15:51:05

Highest channel

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

Date: 9.MAY.2020 15:50:21

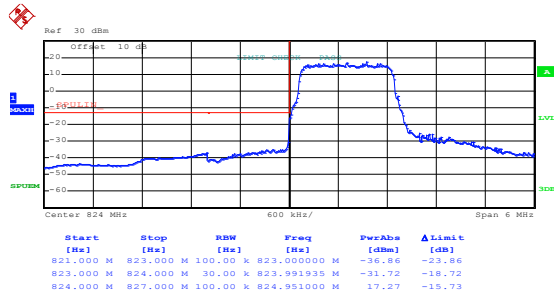
Lowest channel



Date: 9.MAY.2020 15:51:13

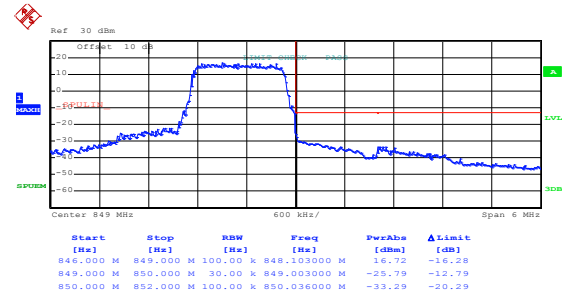
Highest channel

QPSK & RB Size 6



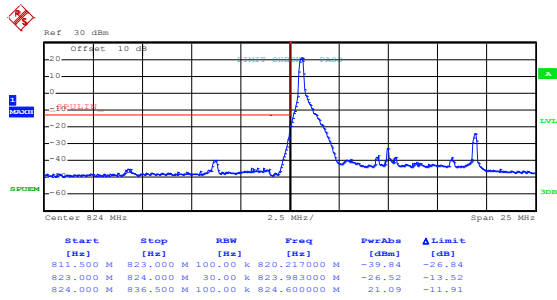
Date: 9.MAY.2020 15:50:37

Lowest channel



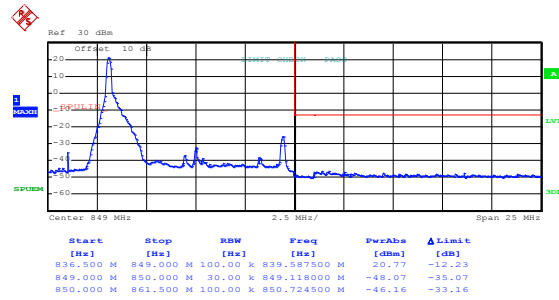
Date: 9.MAY.2020 15:50:59

Highest channel

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

Date: 9.MAY.2020 15:58:53

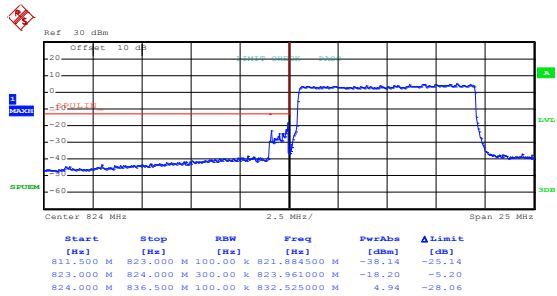
Lowest channel



Date: 9.MAY.2020 15:59:57

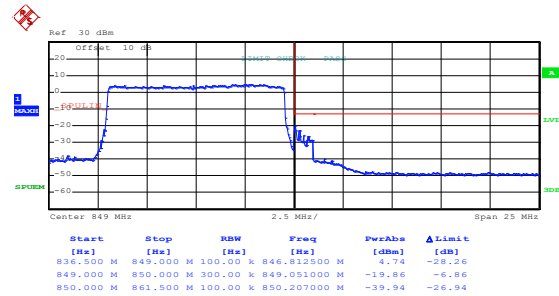
Highest channel

16QAM & RB Size 50



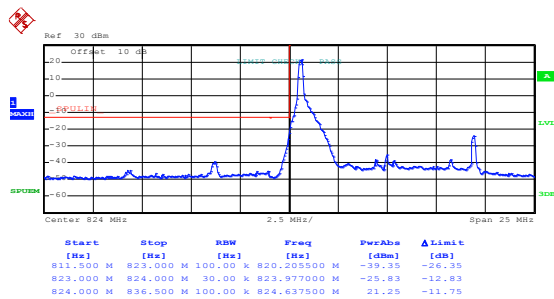
Date: 9.MAY.2020 15:59:28

Lowest channel



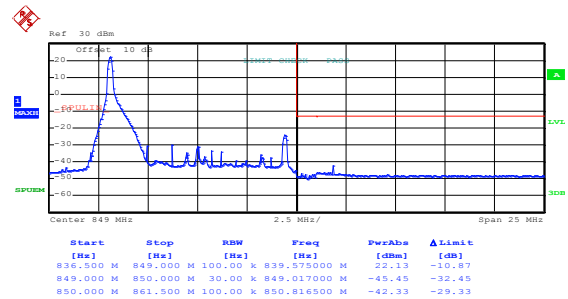
Date: 9.MAY.2020 16:00:14

Highest channel

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

Date: 9.MAY.2020 15:59:09

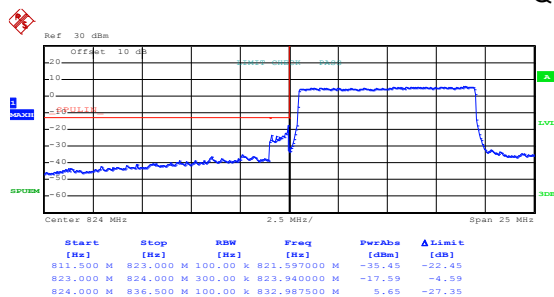
Lowest channel



Date: 9.MAY.2020 15:59:52

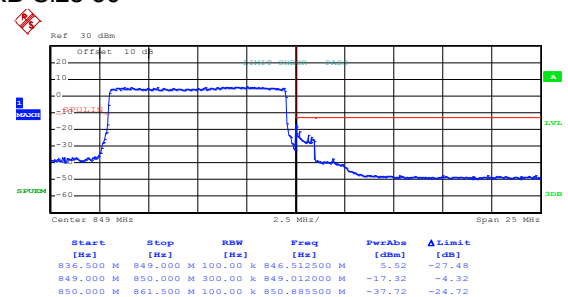
Highest channel

QPSK & RB Size 50



Date: 9.MAY.2020 15:59:22

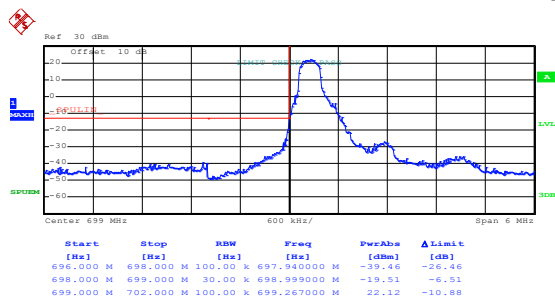
Lowest channel



Date: 9.MAY.2020 16:00:08

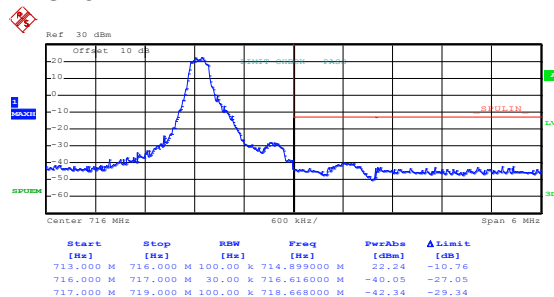
Highest channel

LTE band 12 part:

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

Date: 9.MAY.2020 15:53:30

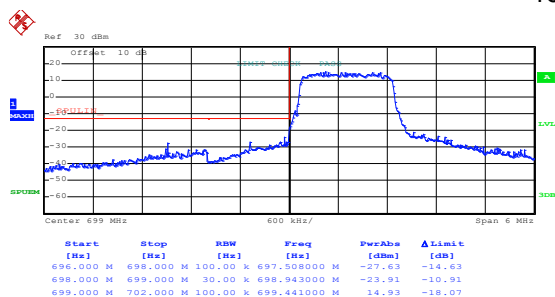
Lowest channel



Date: 9.MAY.2020 15:54:23

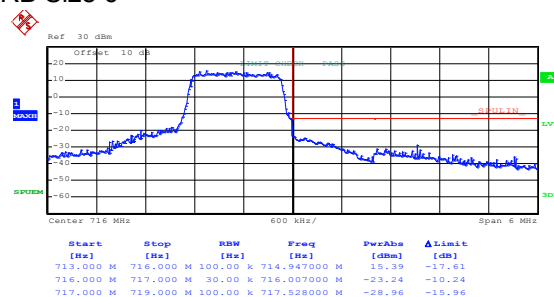
Highest channel

16QAM & RB Size 6



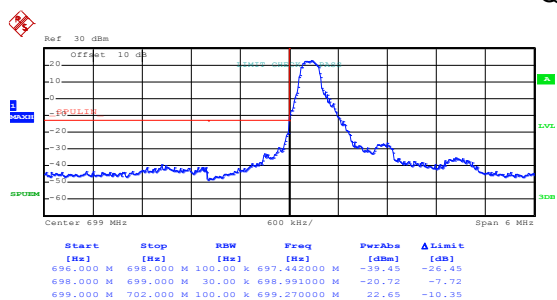
Date: 9.MAY.2020 15:53:44

Lowest channel



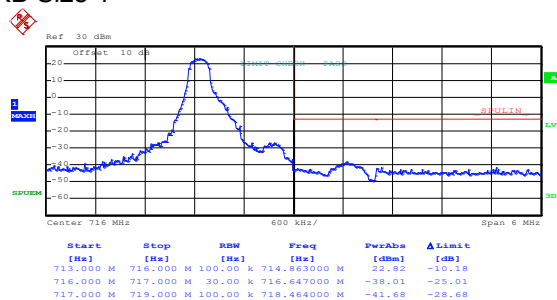
Date: 9.MAY.2020 15:54:07

Highest channel

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

Date: 9.MAY.2020 15:53:24

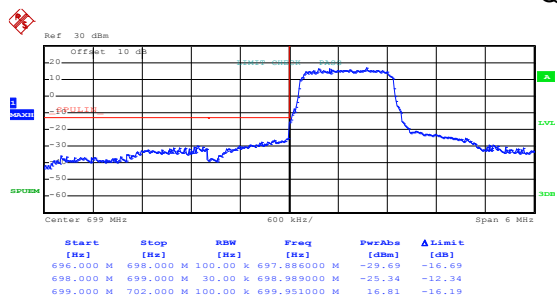
Lowest channel



Date: 9.MAY.2020 15:54:17

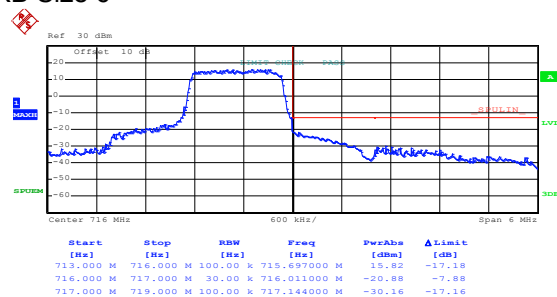
Highest channel

QPSK & RB Size 6



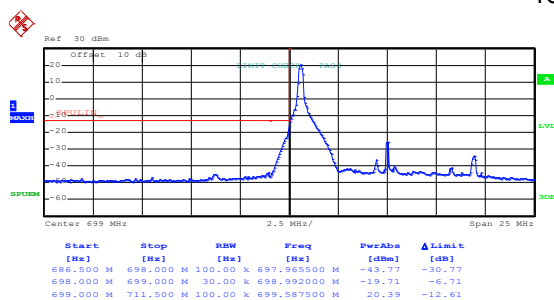
Date: 9.MAY.2020 15:53:39

Lowest channel



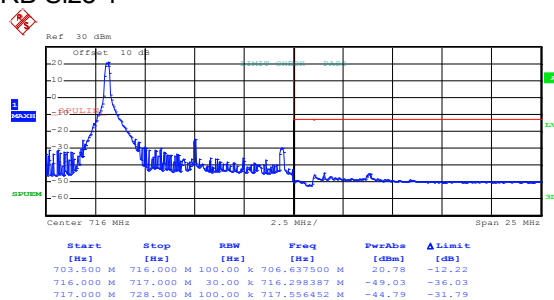
Date: 9.MAY.2020 15:54:02

Highest channel

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

Date: 9.MAY.2020 15:55:57

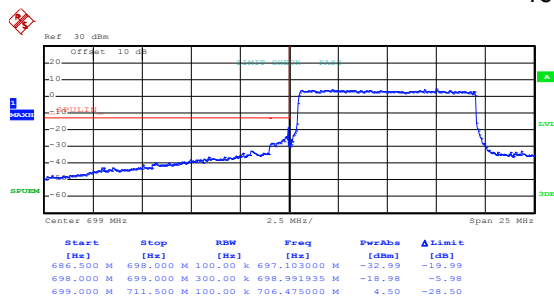
Lowest channel



Date: 9.MAY.2020 15:57:50

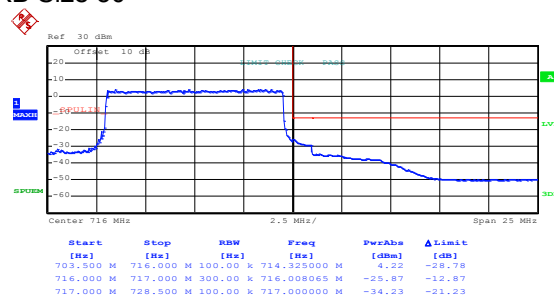
Highest channel

16QAM & RB Size 50



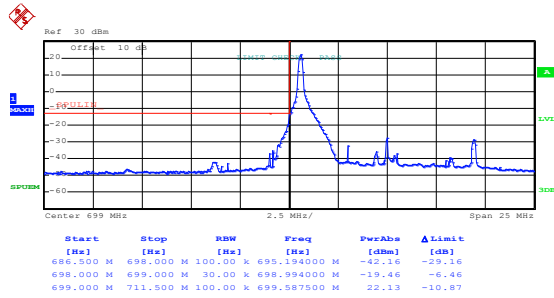
Date: 9.MAY.2020 15:56:24

Lowest channel



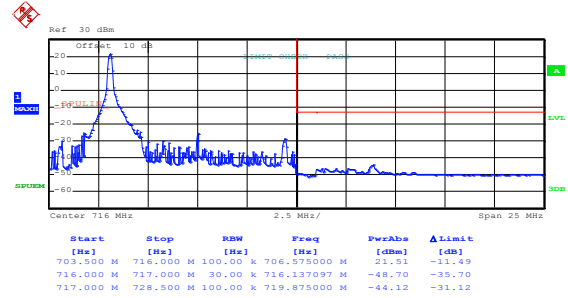
Date: 9.MAY.2020 15:57:21

Highest channel

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

Date: 9.MAY.2020 15:55:50

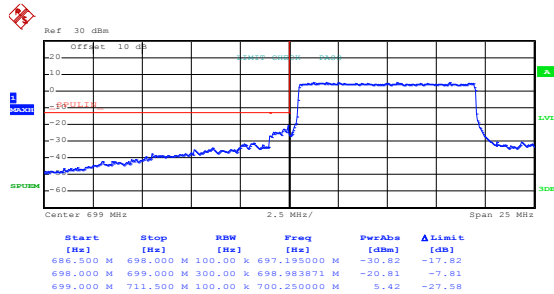
Lowest channel



Date: 9.MAY.2020 15:57:39

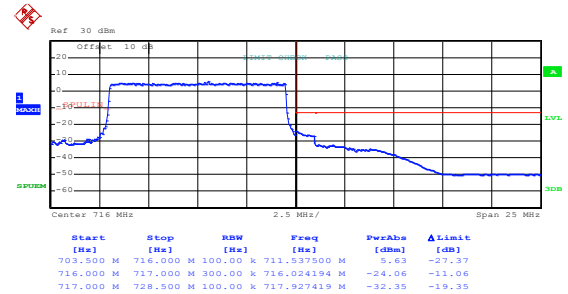
Highest channel

QPSK & RB Size 50



Date: 9.MAY.2020 15:56:17

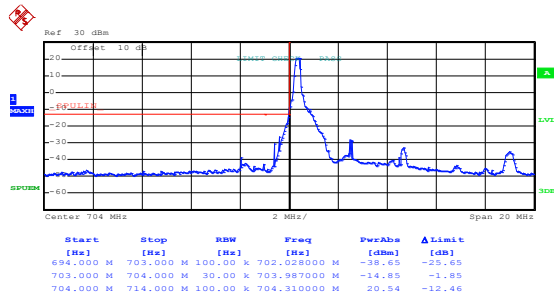
Lowest channel



Date: 9.MAY.2020 15:57:15

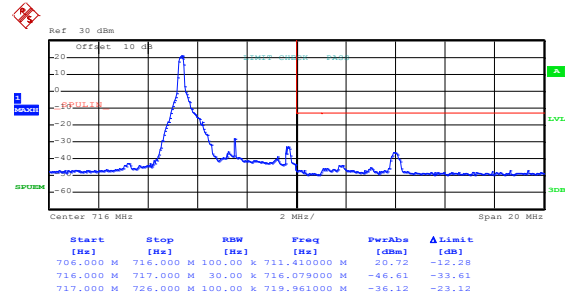
Highest channel

LTE Band 17 part:

LTE Band 17, BW: 5MHz
16QAM & RB Size 1

Date: 9.MAY.2020 16:04:02

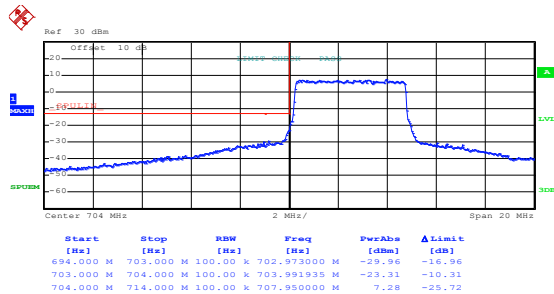
Lowest channel



Date: 9.MAY.2020 16:04:51

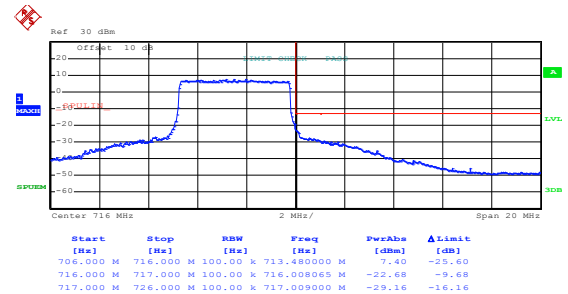
Highest channel

16QAM & RB Size 25



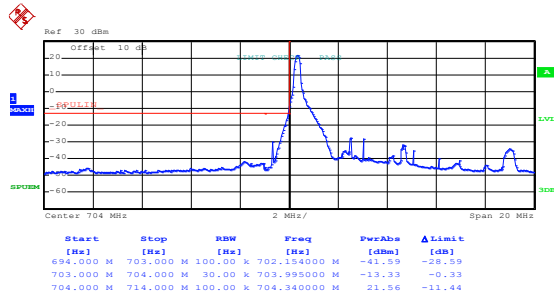
Date: 9.MAY.2020 16:04:29

Lowest channel



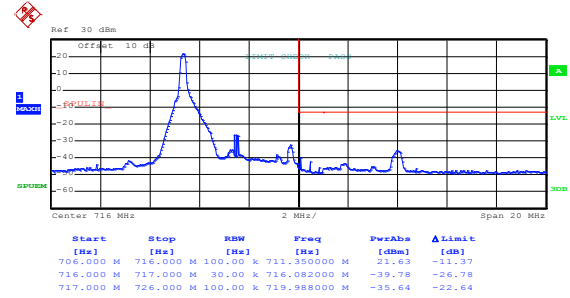
Date: 9.MAY.2020 16:05:11

Highest channel

LTE Band 17, BW: 5MHz
QPSK & RB Size 1

Date: 9.MAY.2020 16:03:56

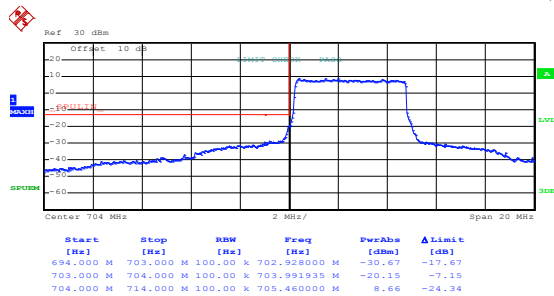
Lowest channel



Date: 9.MAY.2020 16:04:45

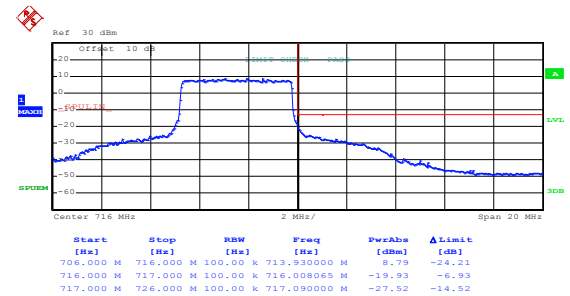
Highest channel

QPSK & RB Size 25



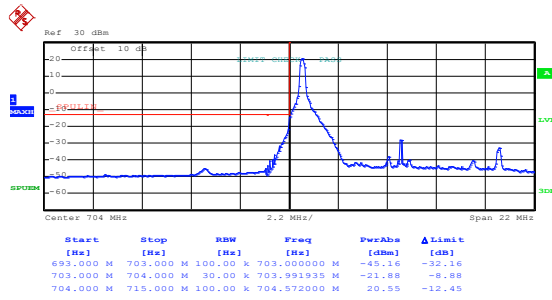
Date: 9.MAY.2020 16:04:24

Lowest channel



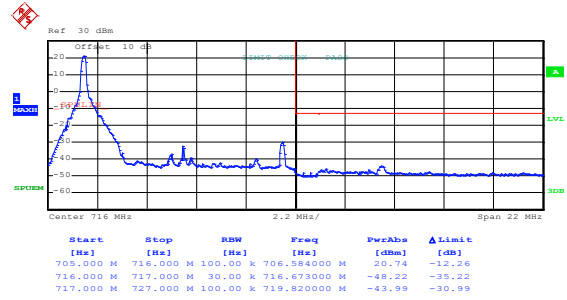
Date: 9.MAY.2020 16:05:06

Highest channel

LTE Band 17, BW: 10MHz
16QAM & RB Size 1

Date: 9.MAY.2020 16:02:05

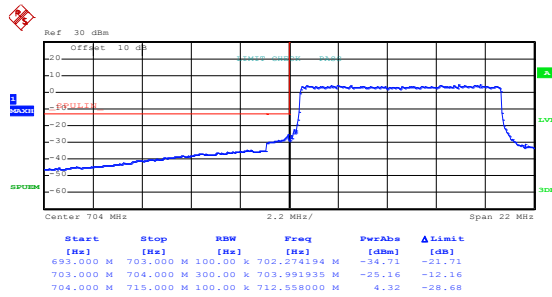
Lowest channel



Date: 9.MAY.2020 16:02:48

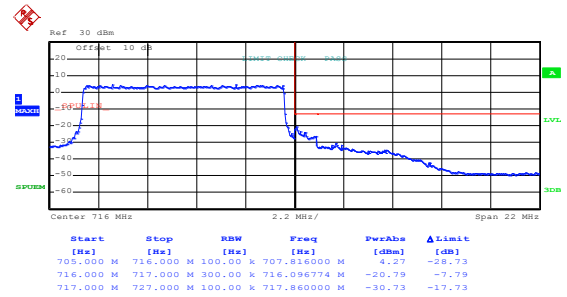
Highest channel

16QAM & RB Size 50



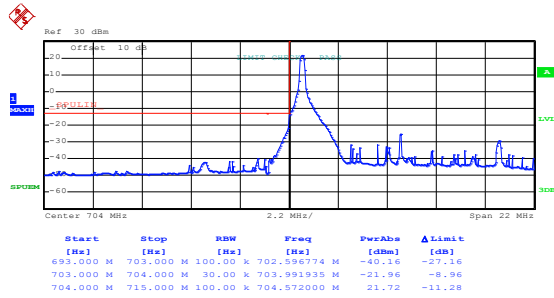
Date: 9.MAY.2020 16:02:26

Lowest channel



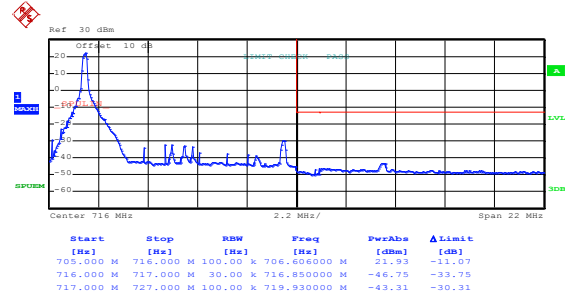
Date: 9.MAY.2020 16:03:12

Highest channel

LTE Band 17, BW: 10MHz
QPSK & RB Size 1

Date: 9.MAY.2020 16:01:59

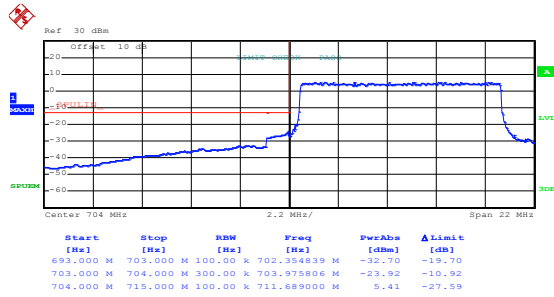
Lowest channel



Date: 9.MAY.2020 16:02:42

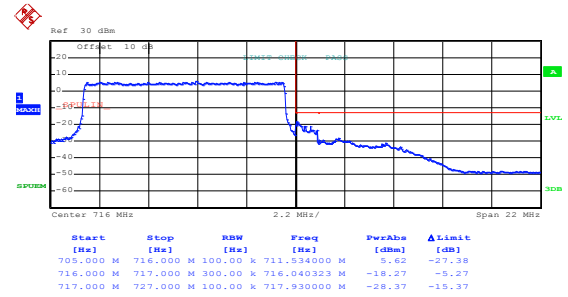
Highest channel

QPSK & RB Size 50



Date: 9.MAY.2020 16:02:20

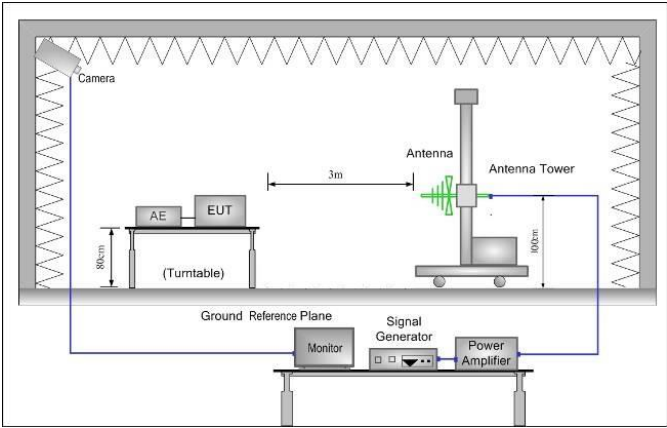
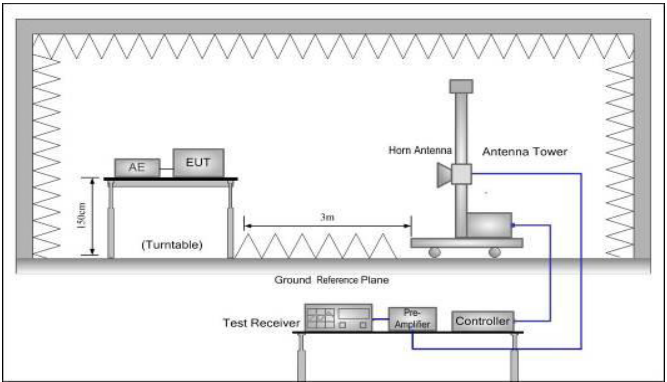
Lowest channel



Date: 9.MAY.2020 16:03:07

Highest 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(h)
Limit:	LTE Band 2 & 4 & 5 & 12 & 17: 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).
Test setup:	Below 1GHz  Above 1GHz 
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. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
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:

LTE Band 2 part:Band 2 (1.4MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3701.40	-55.73	12.26	0.75	-44.22	-42.68	-1.54	Vertical
5552.10	-53.91	12.47	1.13	-42.57	-37.40	-5.17	Vertical
7402.00	-47.36	11.26	1.63	-37.73	-48.47	10.74	Vertical
3701.40	-60.53	12.26	0.75	-49.02	-41.87	-7.15	Horizontal
5552.10	-53.00	12.47	1.13	-41.66	-37.52	-4.14	Horizontal
7402.00	-47.51	11.26	1.63	-37.88	-13.00	-24.88	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3760.00	-55.43	12.19	0.79	-44.03	-13.00	-31.03	Vertical
5640.00	-53.91	12.60	1.15	-42.46	-13.00	-29.46	Vertical
7520.00	-47.37	11.18	1.66	-37.85	-13.00	-24.85	Vertical
3760.00	-60.31	12.19	0.79	-48.91	-13.00	-35.91	Horizontal
5640.00	-53.51	12.60	1.15	-42.06	-13.00	-29.06	Horizontal
7520.00	-46.99	11.18	1.66	-37.47	-13.00	-24.47	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3816.60	-55.51	12.12	0.81	-44.20	-13.00	-31.20	Vertical
5724.90	-54.20	12.71	1.19	-42.68	-13.00	-29.68	Vertical
7633.20	-46.78	11.09	1.71	-37.40	-13.00	-24.40	Vertical
3816.60	-59.78	12.12	0.81	-48.47	-13.00	-35.47	Horizontal
5724.90	-53.39	12.71	1.19	-41.87	-13.00	-28.87	Horizontal
7633.20	-46.90	11.09	1.71	-37.52	-13.00	-24.52	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)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3720.00	-54.55	12.24	0.77	-43.08	-13.00	-30.08	Vertical
5580.00	-54.32	12.51	1.15	-42.96	-13.00	-29.96	Vertical
7440.00	-46.99	11.24	1.64	-37.39	-13.00	-24.39	Vertical
3720.00	-59.24	12.24	0.77	-47.77	-13.00	-34.77	Horizontal
5580.00	-53.05	12.51	1.15	-41.69	-13.00	-28.69	Horizontal
7440.00	-46.82	11.24	1.64	-37.22	-13.00	-24.22	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3760.00	-54.62	12.19	0.79	-43.22	-13.00	-30.22	Vertical
5640.00	-53.98	12.60	1.15	-42.53	-13.00	-29.53	Vertical
7520.00	-46.98	11.18	1.66	-37.46	-13.00	-24.46	Vertical
3760.00	-59.51	12.19	0.79	-48.11	-13.00	-35.11	Horizontal
5640.00	-53.15	12.60	1.15	-41.70	-13.00	-28.70	Horizontal
7520.00	-47.08	11.18	1.66	-37.56	-13.00	-24.56	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3800.00	-55.02	12.14	0.79	-43.67	-13.00	-30.67	Vertical
5700.00	-53.68	12.68	1.18	-42.18	-13.00	-29.18	Vertical
7600.00	-47.20	11.12	1.69	-37.77	-13.00	-24.77	Vertical
3800.00	-59.79	12.14	0.79	-48.44	-13.00	-35.44	Horizontal
5700.00	-53.28	12.68	1.18	-41.78	-13.00	-28.78	Horizontal
7600.00	-46.80	11.12	1.69	-37.37	-13.00	-24.37	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)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3421.40	-56.73	12.30	0.70	-45.13	-13.00	-32.13	Vertical
5132.10	-56.24	12.69	1.01	-44.56	-13.00	-31.56	Vertical
6842.80	-49.25	11.56	1.53	-39.22	-13.00	-26.22	Vertical
3421.40	-58.46	12.30	0.70	-46.86	-13.00	-33.86	Horizontal
5132.10	-56.75	12.69	1.01	-45.07	-13.00	-32.07	Horizontal
6842.80	-48.81	11.56	1.53	-38.78	-13.00	-25.78	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3465.00	-56.96	12.41	0.72	-45.27	-13.00	-32.27	Vertical
5197.50	-56.38	12.64	1.04	-44.78	-13.00	-31.78	Vertical
6930.00	-49.50	11.53	1.56	-39.53	-13.00	-26.53	Vertical
3465.00	-58.44	12.41	0.72	-46.75	-13.00	-33.75	Horizontal
5197.50	-56.75	12.64	1.04	-45.15	-13.00	-32.15	Horizontal
6930.00	-49.01	11.53	1.56	-39.04	-13.00	-26.04	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3508.60	-56.54	12.49	0.74	-44.79	-13.00	-31.79	Vertical
5262.90	-56.79	12.59	1.07	-45.27	-13.00	-32.27	Vertical
7017.20	-49.26	11.49	1.58	-39.35	-13.00	-26.35	Vertical
3508.60	-58.33	12.49	0.74	-46.58	-13.00	-33.58	Horizontal
5262.90	-56.75	12.59	1.07	-45.23	-13.00	-32.23	Horizontal
7017.20	-49.27	11.49	1.58	-39.36	-13.00	-26.36	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)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3440.00	-56.97	12.34	0.71	-45.34	-13.00	-32.34	Vertical
5160.00	-56.71	12.67	1.03	-45.07	-13.00	-32.07	Vertical
6880.00	-48.98	11.55	1.54	-38.97	-13.00	-25.97	Vertical
3440.00	-58.35	12.34	0.71	-46.72	-13.00	-33.72	Horizontal
5160.00	-56.96	12.67	1.03	-45.32	-13.00	-32.32	Horizontal
6880.00	-48.94	11.55	1.54	-38.93	-13.00	-25.93	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3465.00	-56.71	12.41	0.72	-45.02	-13.00	-32.02	Vertical
5197.50	-56.55	12.64	1.04	-44.95	-13.00	-31.95	Vertical
6930.00	-49.26	11.53	1.56	-39.29	-13.00	-26.29	Vertical
3465.00	-58.17	12.41	0.72	-46.48	-13.00	-33.48	Horizontal
5197.50	-57.15	12.64	1.04	-45.55	-13.00	-32.55	Horizontal
6930.00	-49.24	11.53	1.56	-39.27	-13.00	-26.27	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3490.00	-56.53	12.49	0.73	-44.77	-13.00	-31.77	Vertical
5235.00	-56.35	12.61	1.06	-44.80	-13.00	-31.80	Vertical
6980.00	-49.58	11.51	1.57	-39.64	-13.00	-26.64	Vertical
3490.00	-58.36	12.49	0.73	-46.60	-13.00	-33.60	Horizontal
5235.00	-57.16	12.61	1.06	-45.61	-13.00	-32.61	Horizontal
6980.00	-49.18	11.51	1.57	-39.24	-13.00	-26.24	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)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1649.40	-58.45	9.58	0.20	-49.07	-13.00	-36.07	Vertical
2474.10	-63.45	10.79	0.43	-53.09	-13.00	-40.09	Vertical
3298.80	-61.90	12.14	0.64	-50.40	-13.00	-37.40	Vertical
1649.40	-51.91	9.58	0.20	-42.53	-13.00	-29.53	Horizontal
2474.10	-60.13	10.79	0.43	-49.77	-13.00	-36.77	Horizontal
3298.80	-61.97	12.14	0.64	-50.47	-13.00	-37.47	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1673.30	-58.39	9.62	0.22	-48.99	-13.00	-35.99	Vertical
2509.50	-63.47	10.83	0.46	-53.10	-13.00	-40.10	Vertical
3346.00	-62.20	12.23	0.66	-50.63	-13.00	-37.63	Vertical
1673.30	-51.75	9.62	0.22	-42.35	-13.00	-29.35	Horizontal
2509.50	-60.15	10.83	0.46	-49.78	-13.00	-36.78	Horizontal
3346.00	-61.96	12.23	0.66	-50.39	-13.00	-37.39	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1696.60	-58.58	9.66	0.23	-49.15	-13.00	-36.15	Vertical
2544.90	-63.46	10.88	0.49	-53.07	-13.00	-40.07	Vertical
3393.20	-62.57	12.32	0.68	-50.93	-13.00	-37.93	Vertical
1696.60	-52.07	9.66	0.23	-42.64	-13.00	-29.64	Horizontal
2544.90	-59.71	10.88	0.49	-49.32	-13.00	-36.32	Horizontal
3393.20	-61.83	12.32	0.68	-50.19	-13.00	-37.19	Horizontal
Remark: 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)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1658.00	-58.74	9.58	0.21	-49.37	-13.00	-36.37	Vertical
2487.00	-63.57	10.79	0.45	-53.23	-13.00	-40.23	Vertical
3316.00	-62.34	12.14	0.65	-50.85	-13.00	-37.85	Vertical
1658.00	-51.65	9.58	0.21	-42.28	-13.00	-29.28	Horizontal
2487.00	-59.64	10.79	0.45	-49.30	-13.00	-36.30	Horizontal
3316.00	-61.33	12.14	0.65	-49.84	-13.00	-36.84	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1673.30	-58.99	9.62	0.21	-49.58	-13.00	-36.58	Vertical
2509.50	-63.73	10.83	0.46	-53.36	-13.00	-40.36	Vertical
3346.00	-62.03	12.23	0.66	-50.46	-13.00	-37.46	Vertical
1673.30	-51.53	9.62	0.21	-42.12	-13.00	-29.12	Horizontal
2509.50	-59.56	10.83	0.46	-49.19	-13.00	-36.19	Horizontal
3346.00	-61.42	12.23	0.66	-49.85	-13.00	-36.85	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1688.00	-59.13	9.66	0.23	-49.70	-13.00	-36.70	Vertical
2532.00	-63.92	10.88	0.48	-53.52	-13.00	-40.52	Vertical
3376.00	-61.84	12.32	0.67	-50.19	-13.00	-37.19	Vertical
1688.00	-51.22	9.66	0.23	-41.79	-13.00	-28.79	Horizontal
2532.00	-59.79	10.88	0.48	-49.39	-13.00	-36.39	Horizontal
3376.00	-61.59	12.32	0.67	-49.94	-13.00	-36.94	Horizontal
Remark: 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)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1399.40	-40.71	8.30	0.11	-32.52	-13.00	-19.52	Vertical
2099.10	-66.95	10.48	0.29	-56.76	-13.00	-43.76	Vertical
2798.80	-63.87	11.04	0.53	-53.36	-13.00	-40.36	Vertical
1399.40	-36.62	8.30	0.11	-28.43	-13.00	-15.43	Horizontal
2099.10	-68.46	10.48	0.29	-58.27	-13.00	-45.27	Horizontal
2798.80	-63.41	11.04	0.53	-52.90	-13.00	-39.90	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1415.00	-40.65	8.35	0.13	-32.43	-13.00	-19.43	Vertical
2122.50	-67.10	10.50	0.32	-56.92	-13.00	-43.92	Vertical
2830.00	-64.25	11.06	0.55	-53.74	-13.00	-40.74	Vertical
1415.00	-36.64	8.35	0.13	-28.42	-13.00	-15.42	Horizontal
2122.50	-68.36	10.50	0.32	-58.18	-13.00	-45.18	Horizontal
2830.00	-63.48	11.06	0.55	-52.97	-13.00	-39.97	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1430.60	-41.15	8.39	0.16	-32.92	-13.00	-19.92	Vertical
2145.90	-66.65	10.52	0.35	-56.48	-13.00	-43.48	Vertical
2861.20	-64.03	11.09	0.58	-53.52	-13.00	-40.52	Vertical
1430.60	-37.04	8.39	0.16	-28.81	-13.00	-15.81	Horizontal
2145.90	-67.93	10.52	0.35	-57.76	-13.00	-44.76	Horizontal
2861.20	-63.21	11.09	0.58	-52.70	-13.00	-39.70	Horizontal
Remark: The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.							

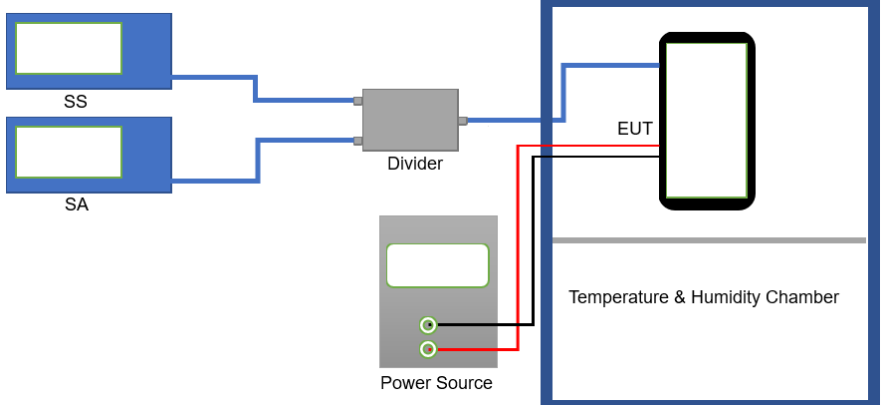
Band 12 (10MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1408.00	-41.53	8.32	0.12	-33.33	-13.00	-20.33	Vertical
2112.00	-66.62	10.49	0.30	-56.43	-13.00	-43.43	Vertical
2816.00	-64.31	11.05	0.54	-53.80	-13.00	-40.80	Vertical
1408.00	-37.28	8.32	0.12	-29.08	-13.00	-16.08	Horizontal
2112.00	-67.47	10.49	0.30	-57.28	-13.00	-44.28	Horizontal
2816.00	-63.00	11.05	0.54	-52.49	-13.00	-39.49	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1415.00	-41.86	8.35	0.13	-33.64	-13.00	-20.64	Vertical
2122.50	-66.49	10.50	0.32	-56.31	-13.00	-43.31	Vertical
2830.00	-63.95	11.06	0.55	-53.44	-13.00	-40.44	Vertical
1415.00	-37.67	8.35	0.13	-29.45	-13.00	-16.45	Horizontal
2122.50	-67.16	10.50	0.32	-56.98	-13.00	-43.98	Horizontal
2830.00	-63.11	11.06	0.55	-52.60	-13.00	-39.60	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1422.00	-41.45	8.37	0.15	-33.23	-13.00	-20.23	Vertical
2133.00	-66.97	10.51	0.34	-56.80	-13.00	-43.80	Vertical
2844.00	-63.95	11.08	0.57	-53.44	-13.00	-40.44	Vertical
1422.00	-37.90	8.37	0.15	-29.68	-13.00	-16.68	Horizontal
2133.00	-67.43	10.51	0.34	-57.26	-13.00	-44.26	Horizontal
2844.00	-63.49	11.08	0.57	-52.98	-13.00	-39.98	Horizontal
Remark: The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.							

LTE Band 17 part:

Band 17 (5MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1413.00	-39.35	8.34	0.12	-31.13	-13.00	-18.13	Vertical
2119.50	-65.97	10.50	0.31	-55.78	-13.00	-42.78	Vertical
2826.00	-63.97	11.06	0.54	-53.45	-13.00	-40.45	Vertical
1413.00	-36.86	8.34	0.12	-28.64	-13.00	-15.64	Horizontal
2119.50	-67.01	10.50	0.31	-56.82	-13.00	-43.82	Horizontal
2826.00	-63.78	11.06	0.54	-53.26	-13.00	-40.26	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1420.00	-39.61	8.36	0.14	-31.39	-13.00	-18.39	Vertical
2130.00	-66.29	10.50	0.33	-56.12	-13.00	-43.12	Vertical
2840.00	-63.79	11.07	0.56	-53.28	-13.00	-40.28	Vertical
1420.00	-37.30	8.36	0.14	-29.08	-13.00	-16.08	Horizontal
2130.00	-66.60	10.50	0.33	-56.43	-13.00	-43.43	Horizontal
2840.00	-63.56	11.07	0.56	-53.05	-13.00	-40.05	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1427.00	-39.56	8.38	0.16	-31.34	-13.00	-18.34	Vertical
2140.50	-66.05	10.51	0.34	-55.88	-13.00	-42.88	Vertical
2854.00	-63.86	11.08	0.57	-53.35	-13.00	-40.35	Vertical
1427.00	-37.38	8.38	0.16	-29.16	-13.00	-16.16	Horizontal
2140.50	-66.92	10.51	0.34	-56.75	-13.00	-43.75	Horizontal
2854.00	-63.15	11.08	0.57	-52.64	-13.00	-39.64	Horizontal
Remark: The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.							

Band 17 (10MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1418.00	-40.19	8.35	0.13	-31.97	-13.00	-18.97	Vertical
2127.00	-66.49	10.50	0.32	-56.31	-13.00	-43.31	Vertical
2836.00	-63.37	11.07	0.56	-52.86	-13.00	-39.86	Vertical
1418.00	-38.40	8.35	0.13	-30.18	-13.00	-17.18	Horizontal
2127.00	-67.04	10.50	0.32	-56.86	-13.00	-43.86	Horizontal
2836.00	-63.91	11.07	0.56	-53.40	-13.00	-40.40	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1420.00	-40.21	8.36	0.14	-31.99	-13.00	-18.99	Vertical
2130.00	-66.44	10.50	0.33	-56.27	-13.00	-43.27	Vertical
2840.00	-63.52	11.07	0.56	-53.01	-13.00	-40.01	Vertical
1420.00	-37.97	8.36	0.14	-29.75	-13.00	-16.75	Horizontal
2130.00	-67.07	10.50	0.33	-56.90	-13.00	-43.90	Horizontal
2840.00	-64.06	11.07	0.56	-53.55	-13.00	-40.55	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1422.00	-39.73	8.37	0.15	-31.51	-13.00	-18.51	Vertical
2133.00	-66.04	10.51	0.34	-55.87	-13.00	-42.87	Vertical
2844.00	-63.61	11.08	0.57	-53.10	-13.00	-40.10	Vertical
1422.00	-37.86	8.37	0.15	-29.64	-13.00	-16.64	Horizontal
2133.00	-66.76	10.51	0.34	-56.59	-13.00	-43.59	Horizontal
2844.00	-63.63	11.08	0.57	-53.12	-13.00	-40.12	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 Within authorized band for Band 2 & 4 & 12 & 13 & 17
Test setup:	
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	198	0.105319	±2.5	Pass
	-20	155	0.082447		
	-10	163	0.086702		
	0	123	0.065426		
	10	188	0.100000		
	20	174	0.092553		
	30	114	0.060638		
	40	105	0.055851		
	50	150	0.079787		
16QAM					
3.85	-30	123	0.065426	±2.5	Pass
	-20	150	0.079787		
	-10	166	0.088298		
	0	122	0.064894		
	10	144	0.076596		
	20	140	0.074468		
	30	156	0.082979		
	40	133	0.070745		
	50	138	0.073404		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	195	0.112554	±2.5	Pass
	-20	123	0.070996		
	-10	165	0.095238		
	0	180	0.103896		
	10	177	0.102165		
	20	140	0.080808		
	30	100	0.057720		
	40	132	0.076190		
	50	117	0.067532		
16QAM					
3.85	-30	196	0.113131	±2.5	Pass
	-20	151	0.087157		
	-10	188	0.108514		
	0	171	0.098701		
	10	123	0.070996		
	20	136	0.078499		
	30	161	0.092929		
	40	145	0.083694		
	50	102	0.058874		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	198	0.236701	±2.5	Pass
	-20	196	0.234310		
	-10	177	0.211596		
	0	180	0.215182		
	10	165	0.197250		
	20	144	0.172146		
	30	150	0.179319		
	40	100	0.119546		
	50	132	0.157800		
16QAM					
3.85	-30	196	0.234310	±2.5	Pass
	-20	111	0.132696		
	-10	155	0.185296		
	0	132	0.157800		
	10	180	0.215182		
	20	172	0.205619		
	30	126	0.150628		
	40	144	0.172146		
	50	100	0.119546		
Note: Only the worst case shown in the report.					

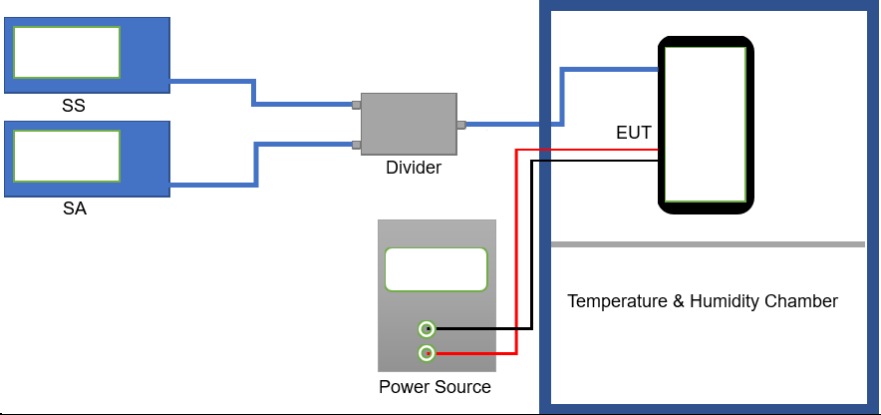
LTE Band 12 part:

Reference Frequency: LTE Band 12 (10MHz) Middle channel=23095 channel=707.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	191	0.269965	±2.5	Pass
	-20	144	0.203534		
	-10	180	0.254417		
	0	174	0.245936		
	10	165	0.233216		
	20	132	0.186572		
	30	100	0.141343		
	40	111	0.156890		
	50	147	0.207774		
16QAM					
3.85	-30	190	0.268551	±2.5	Pass
	-20	180	0.254417		
	-10	177	0.250177		
	0	123	0.173852		
	10	165	0.233216		
	20	101	0.142756		
	30	145	0.204947		
	40	108	0.152650		
	50	111	0.156890		
Note: Only the worst case shown in the report.					

LTE Band 17 part:

Reference Frequency: LTE Band 17 (10MHz) Middle channel=23790 channel=710.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	199	0.280282	±2.5	Pass
	-20	188	0.264789		
	-10	144	0.202817		
	0	165	0.232394		
	10	123	0.173239		
	20	136	0.191549		
	30	177	0.249296		
	40	101	0.142254		
	50	111	0.156338		
16QAM					
3.85	-30	198	0.278873	±2.5	Pass
	-20	155	0.218310		
	-10	165	0.232394		
	0	123	0.173239		
	10	134	0.188732		
	20	177	0.249296		
	30	146	0.205634		
	40	100	0.140845		
	50	118	0.166197		
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 Within authorized band for Band 2 & 4 & 5 & 12 & 17
Test setup:	 The diagram illustrates the test setup. A Signal Source (SS) and a Spectrum Analyzer (SA) are connected to a Divider. The output of the Divider is connected to the EUT (Equipment Under Test) inside a Temperature & Humidity Chamber. A Power Source is also connected to the EUT.
Test procedure:	1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 2 part:

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.40	98	0.052128	±2.5	Pass
	3.85	65	0.034574		
	3.50	74	0.039362		
16QAM					
25	4.40	80	0.042553	±2.5	Pass
	3.85	96	0.051064		
	3.50	48	0.025532		
Note: Only the worst case shown in the report.					

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 (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.40	96	0.055411	±2.5	Pass
	3.85	88	0.050794		
	3.50	74	0.042713		
16QAM					
25	4.40	90	0.051948	±2.5	Pass
	3.85	77	0.044444		
	3.50	60	0.034632		
Note: Only the worst case shown in the report.					

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 (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.40	88	0.105200	±2.5	Pass
	3.85	90	0.107591		
	3.50	74	0.088464		
16QAM					
25	4.40	96	0.114764	±2.5	Pass
	3.85	80	0.095637		
	3.50	74	0.088464		
Note: Only the worst case shown in the report.					

Note: Only the worst case shown in the report.

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 channel=707.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.40	91	0.128622	±2.5	Pass
	3.85	80	0.113074		
	3.50	77	0.108834		
16QAM					
25	4.40	96	0.135689	±2.5	Pass
	3.85	88	0.124382		
	3.50	76	0.107420		
Note: Only the worst case shown in the report.					

LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.40	99	0.139437	±2.5	Pass
	3.85	80	0.112676		
	3.50	76	0.107042		
16QAM					
25	4.40	80	0.112676	±2.5	Pass
	3.85	74	0.104225		
	3.50	60	0.084507		
Note: Only the worst case shown in the report.					