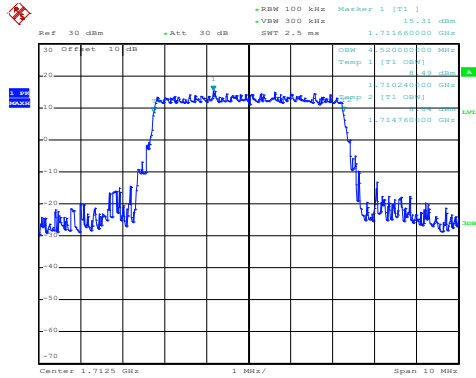


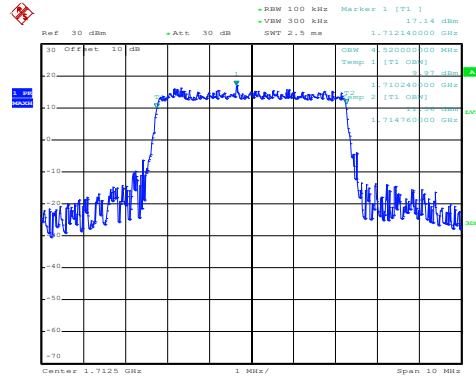
LTE Band 66: 99% Occupancy bandwidth  
BW: 5MHz

16QAM



Date: 23.DEC.2020 14:40:05

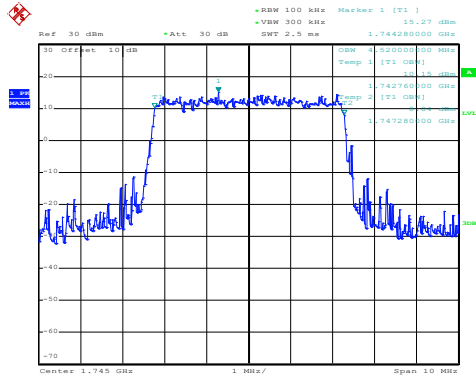
QPSK



Date: 23.DEC.2020 14:40:13

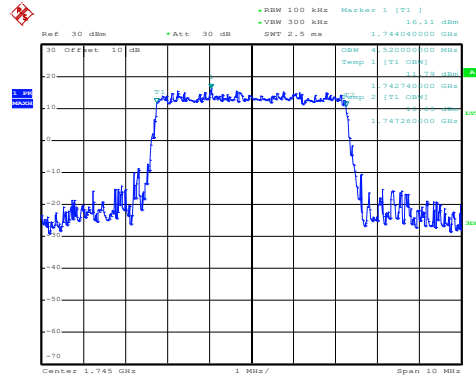
Lowest channel

16QAM



Date: 23.DEC.2020 14:40:31

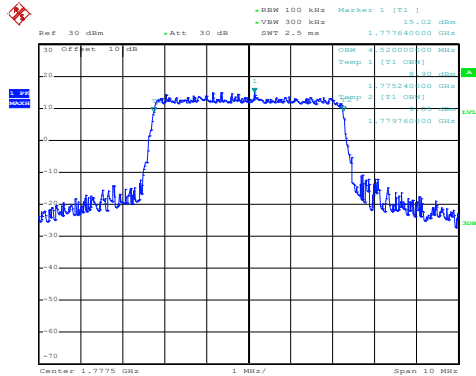
QPSK



Date: 23.DEC.2020 14:40:25

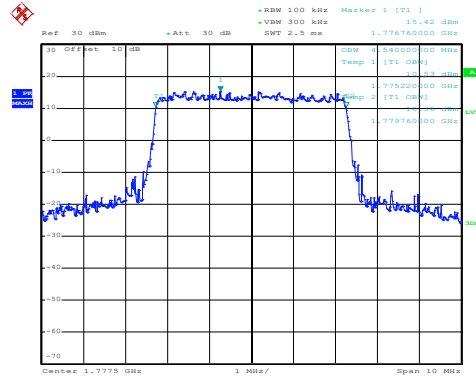
Middle channel

16QAM



Date: 23.DEC.2020 14:41:11

QPSK

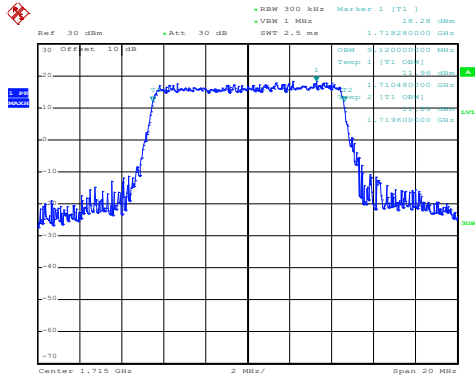


Date: 23.DEC.2020 14:41:19

Highest channel

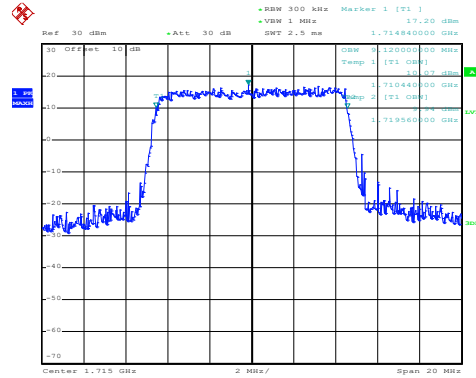
## LTE Band 66: 99% Occupancy bandwidth BW: 10MHz

### 16QAM



Date: 23.DEC.2020 14:35:24

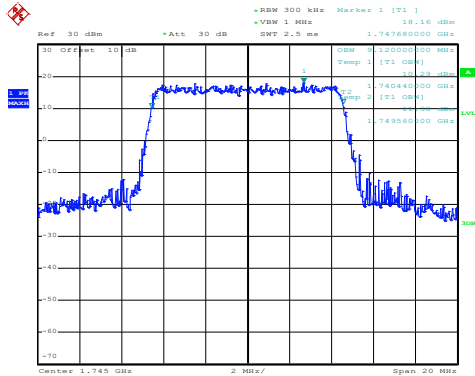
### QPSK



Date: 23.DEC.2020 14:35:30

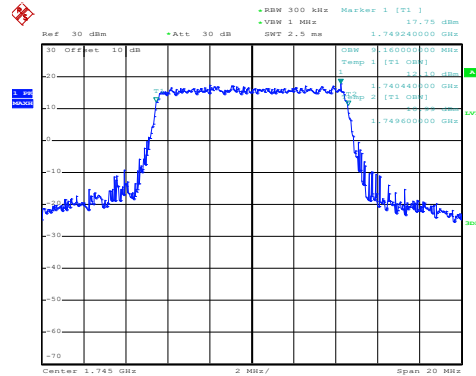
### Lowest channel

### 16QAM



Date: 23.DEC.2020 14:36:15

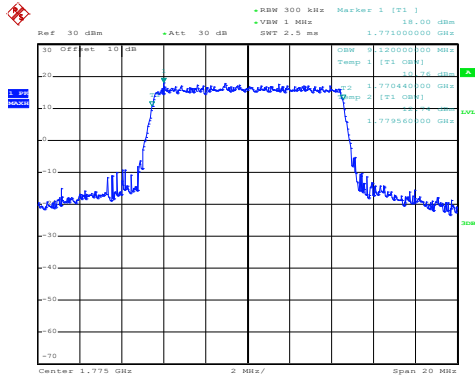
### QPSK



Date: 23.DEC.2020 14:36:07

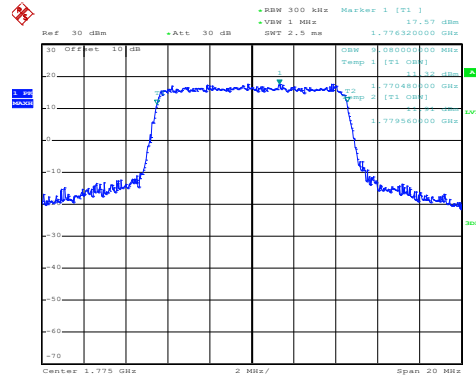
### Middle channel

### 16QAM



Date: 23.DEC.2020 14:36:30

### QPSK

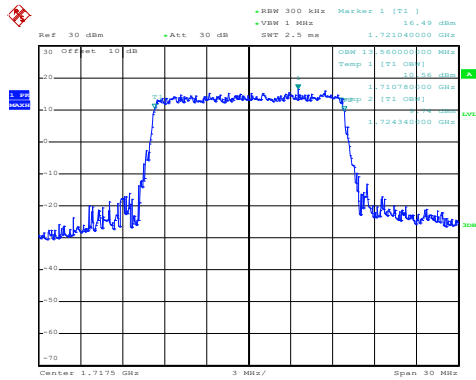


Date: 23.DEC.2020 14:59:46

### Highest channel

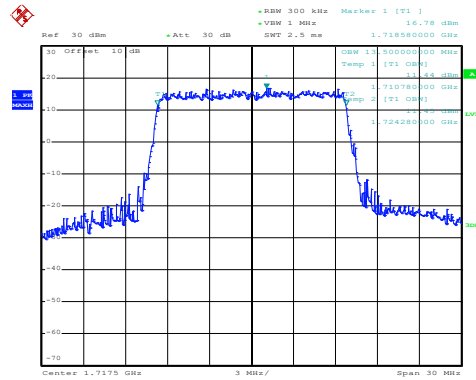
## LTE Band 66: 99% Occupancy bandwidth BW: 15MHz

16QAM



Date: 23.DEC.2020 14:33:44

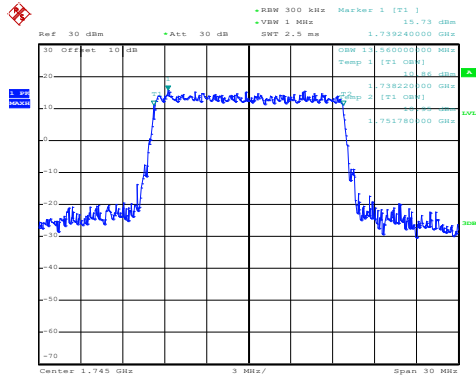
QPSK



Date: 23.DEC.2020 14:33:51

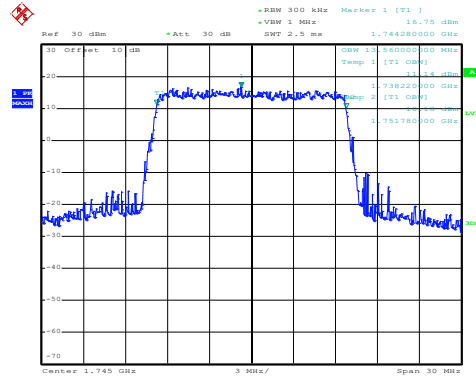
Lowest channel

16QAM



Date: 23.DEC.2020 14:34:10

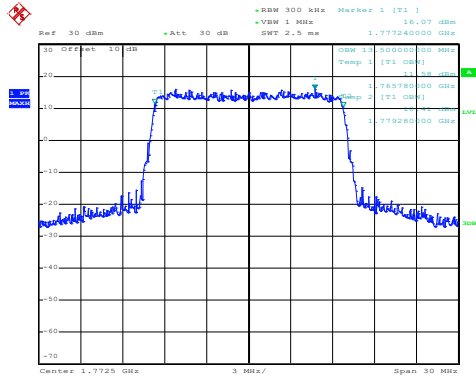
QPSK



Date: 23.DEC.2020 14:34:04

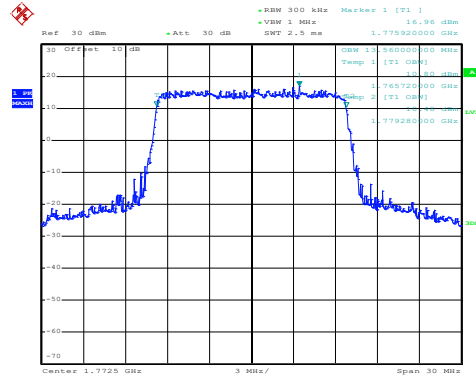
Middle channel

16QAM



Date: 23.DEC.2020 14:34:55

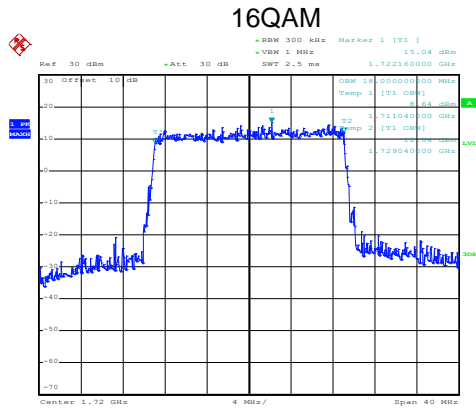
QPSK



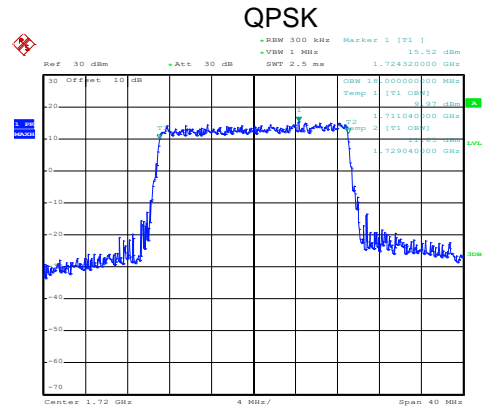
Date: 23.DEC.2020 14:35:02

Highest channel

## LTE Band 66: 99% Occupancy bandwidth BW: 20MHz

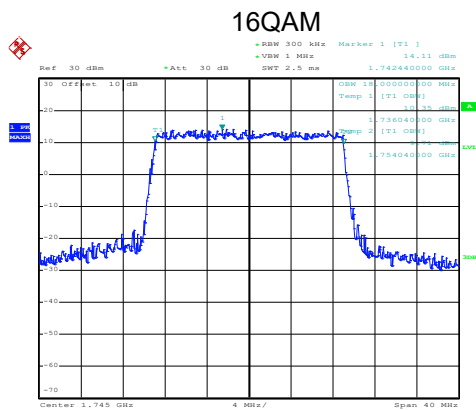


Date: 23.DEC.2020 14:32:45

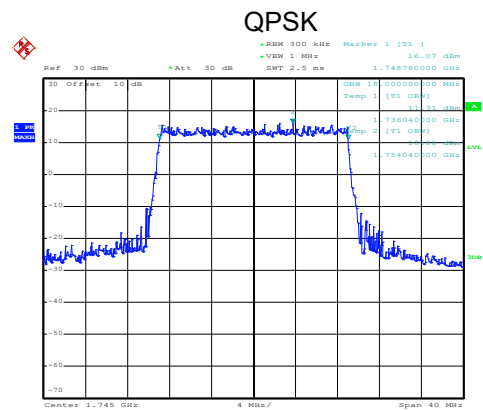


Date: 23.DEC.2020 14:32:41

### Lowest channel

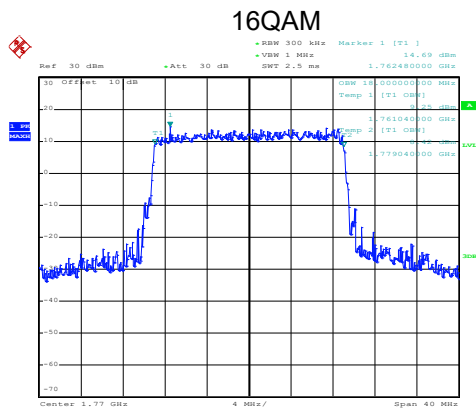


Date: 23.DEC.2020 14:32:19

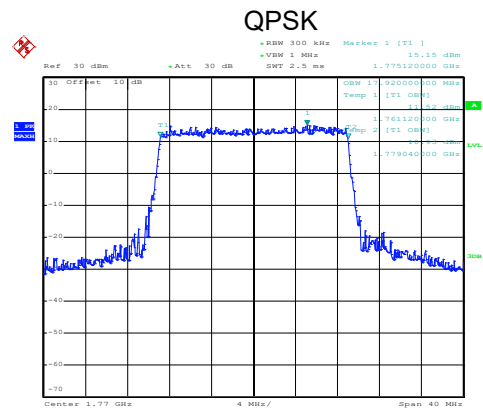


Date: 23.DEC.2020 14:32:27

### Middle channel



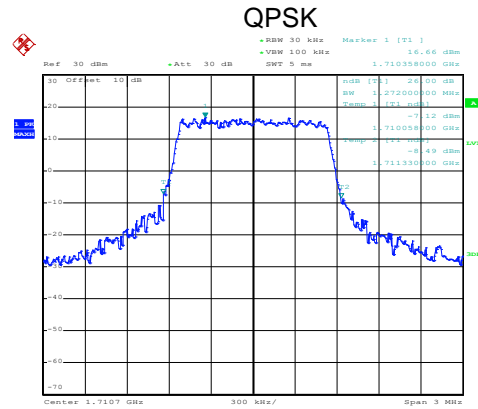
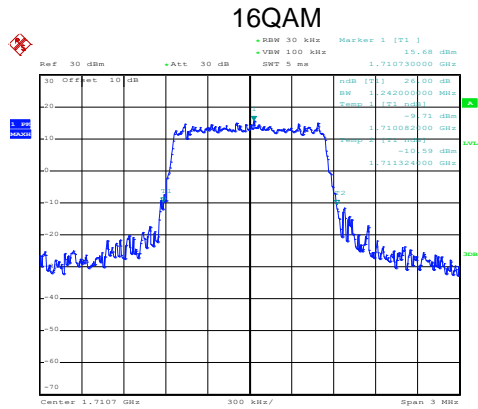
Date: 23.DEC.2020 14:31:39



Date: 23.DEC.2020 14:31:33

### Highest channel

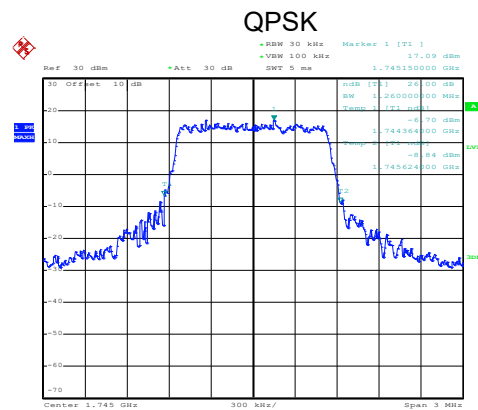
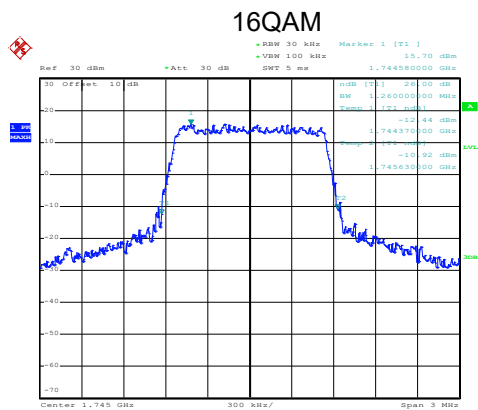
LTE Band 66: -26dBc bandwidth  
BW: 1.4MHz



Date: 23.DEC.2020 14:43:43

Date: 23.DEC.2020 14:43:36

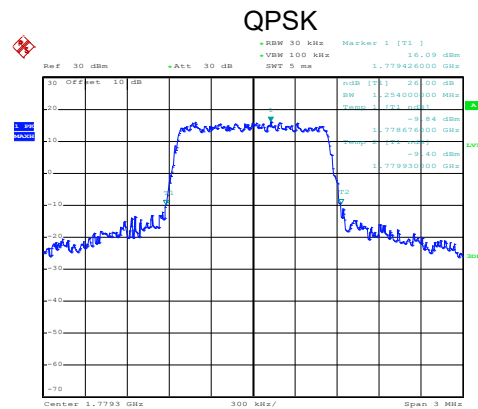
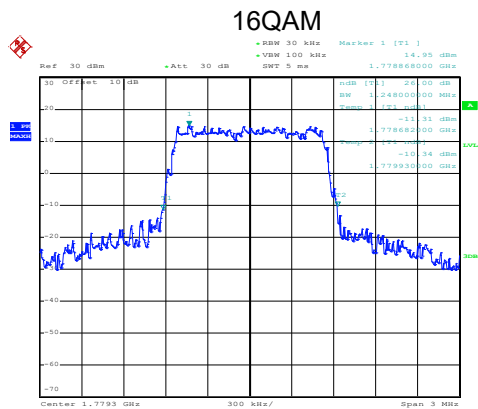
Lowest channel



Date: 23.DEC.2020 14:44:21

Date: 23.DEC.2020 14:44:30

Middle channel



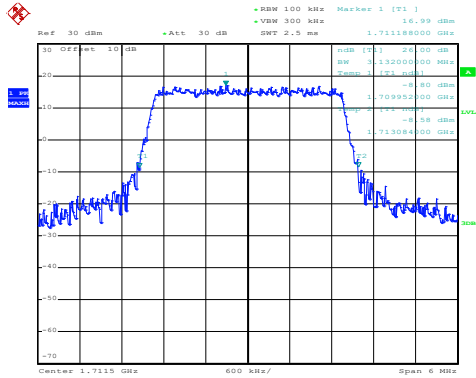
Date: 23.DEC.2020 14:44:57

Date: 23.DEC.2020 14:44:51

Highest channel

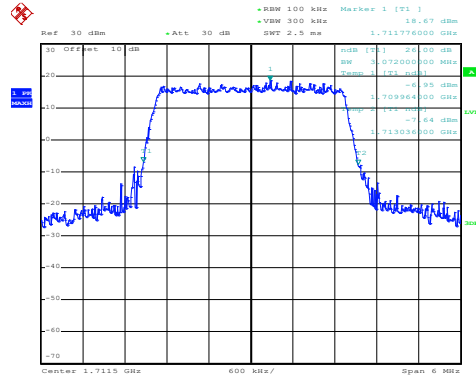
LTE Band 66: -26dBc bandwidth  
BW: 3MHz

16QAM



Date: 23.DEC.2020 14:41:51

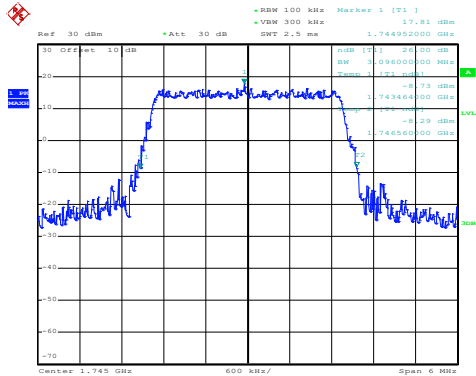
QPSK



Date: 23.DEC.2020 14:41:58

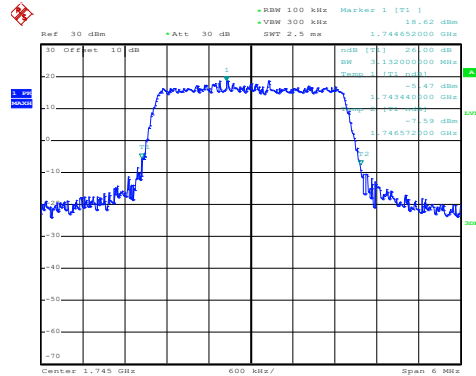
Lowest channel

16QAM



Date: 23.DEC.2020 14:42:17

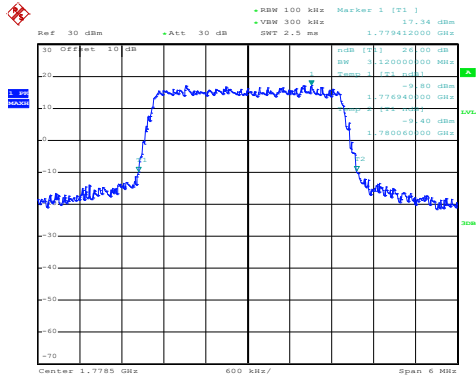
QPSK



Date: 23.DEC.2020 14:42:12

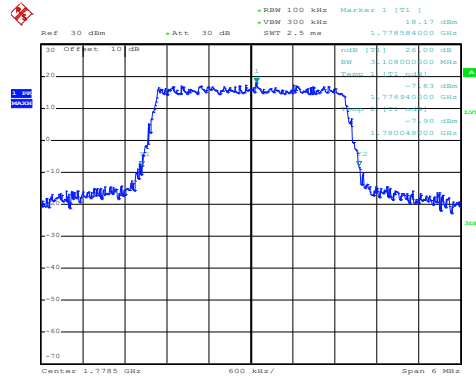
Middle channel

16QAM



Date: 23.DEC.2020 14:43:02

QPSK

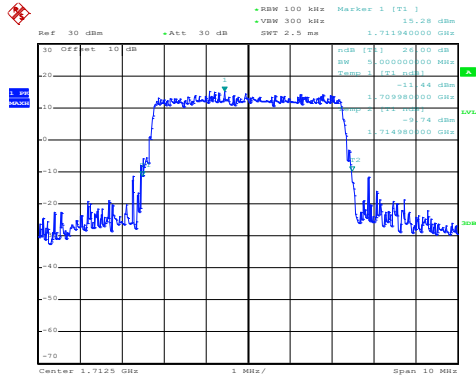


Date: 23.DEC.2020 14:43:09

Highest channel

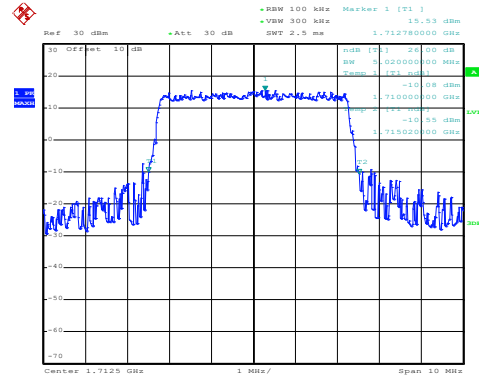
LTE Band 66: -26dBc bandwidth  
BW: 5MHz

16QAM



Date: 23.DEC.2020 14:39:59

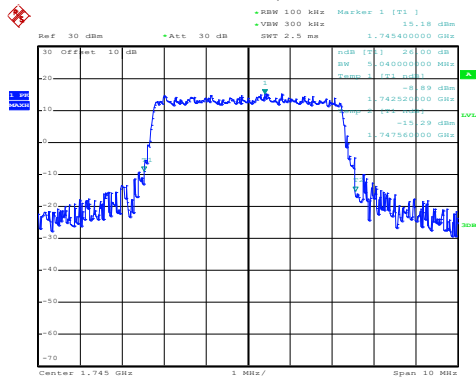
QPSK



Date: 23.DEC.2020 14:39:53

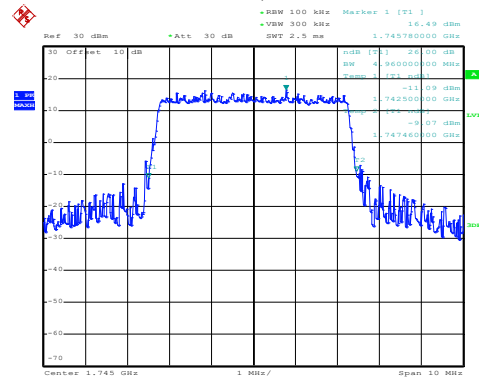
Lowest channel

16QAM



Date: 23.DEC.2020 14:40:38

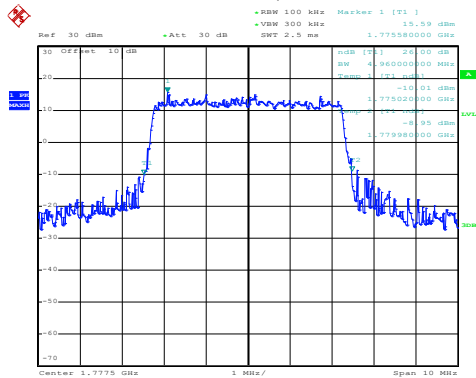
QPSK



Date: 23.DEC.2020 14:40:45

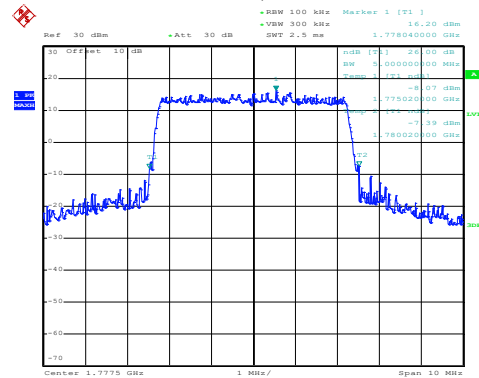
Middle channel

16QAM



Date: 23.DEC.2020 14:41:04

QPSK

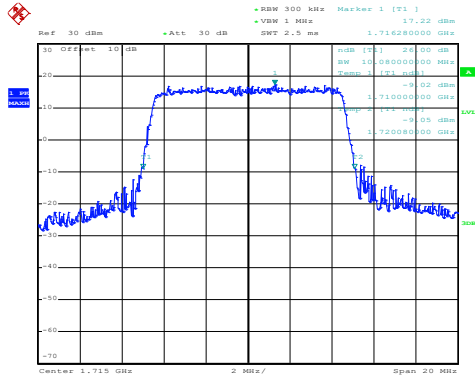


Date: 23.DEC.2020 14:40:58

Highest channel

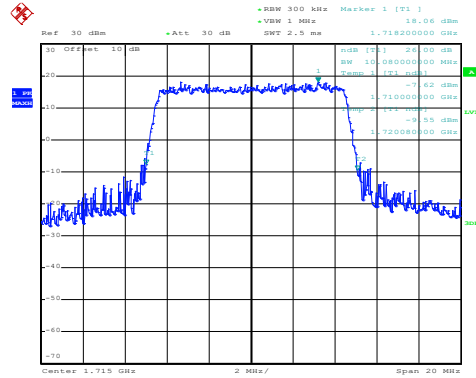
LTE Band 66: -26dBc bandwidth  
BW: 10MHz

16QAM



Date: 23.DEC.2020 14:35:35

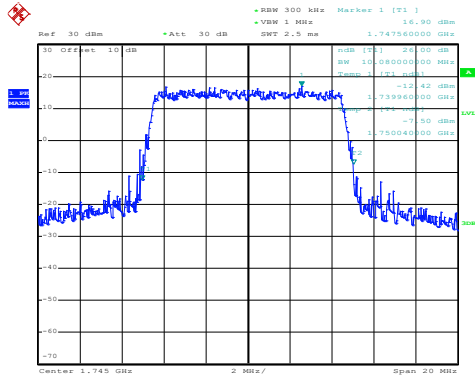
QPSK



Date: 23.DEC.2020 14:35:41

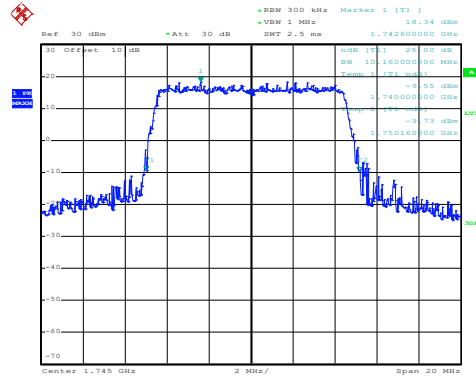
Lowest channel

16QAM



Date: 23.DEC.2020 14:35:59

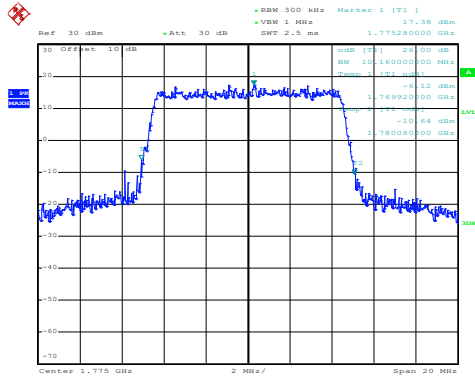
QPSK



Date: 23.DEC.2020 14:35:53

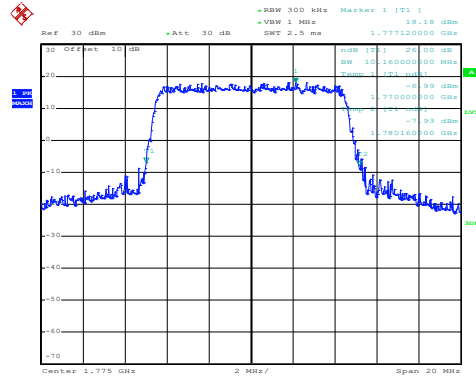
Middle channel

16QAM



Date: 23.DEC.2020 14:39:03

QPSK



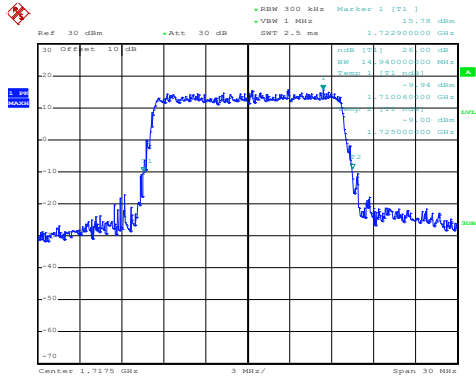
Date: 23.DEC.2020 14:38:58

Highest channel



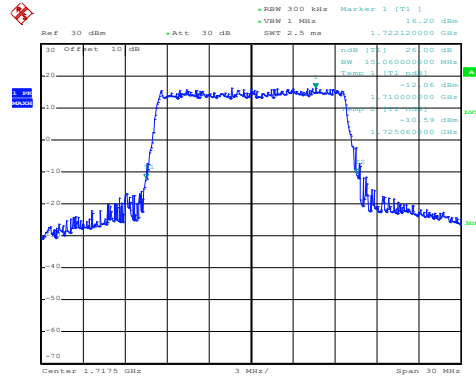
LTE Band 66: -26dBc bandwidth  
BW: 15MHz

16QAM



Date: 23.DEC.2020 14:33:37

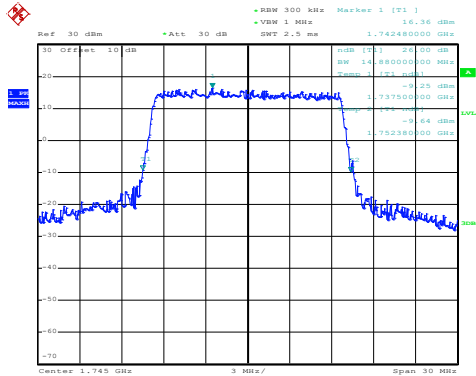
QPSK



Date: 23.DEC.2020 14:33:31

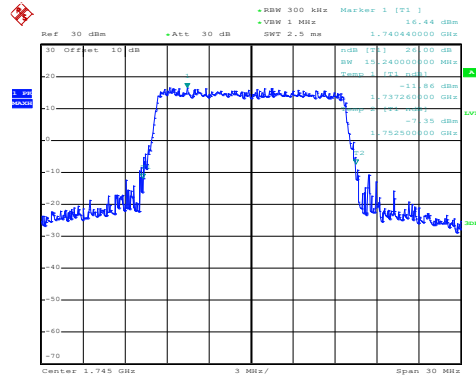
Lowest channel

16QAM



Date: 23.DEC.2020 14:34:19

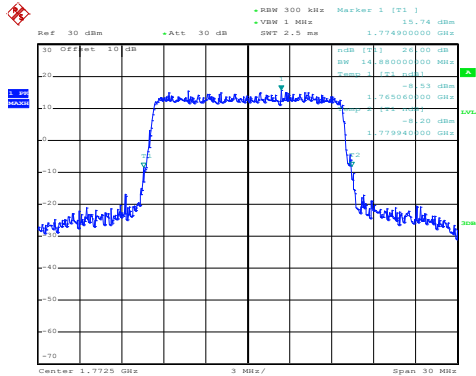
QPSK



Date: 23.DEC.2020 14:34:27

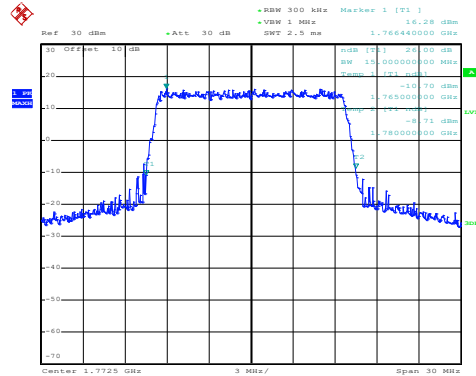
Middle channel

16QAM



Date: 23.DEC.2020 14:34:49

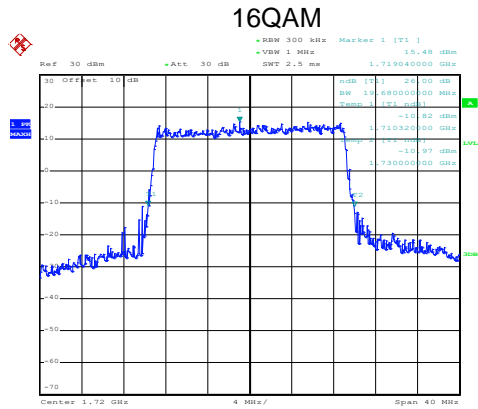
QPSK



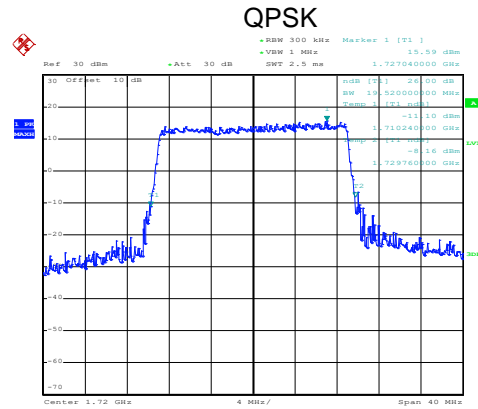
Date: 23.DEC.2020 14:34:44

Highest channel

LTE Band 66: -26dBc bandwidth  
BW: 20MHz

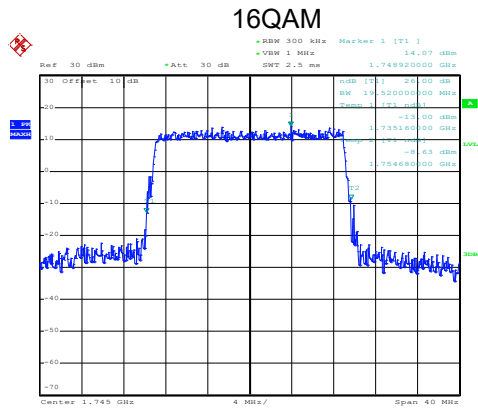


Date: 23.DEC.2020 14:32:52

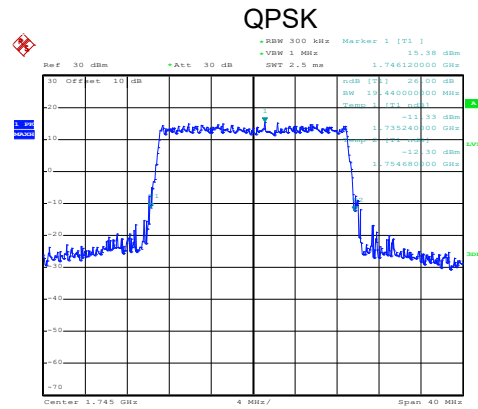


Date: 23.DEC.2020 14:32:59

Lowest channel

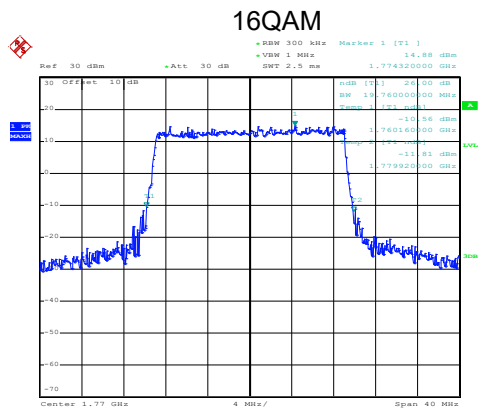


Date: 23.DEC.2020 14:32:13

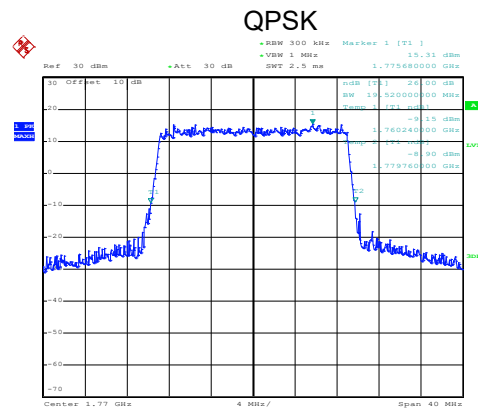


Date: 23.DEC.2020 14:32:07

Middle channel



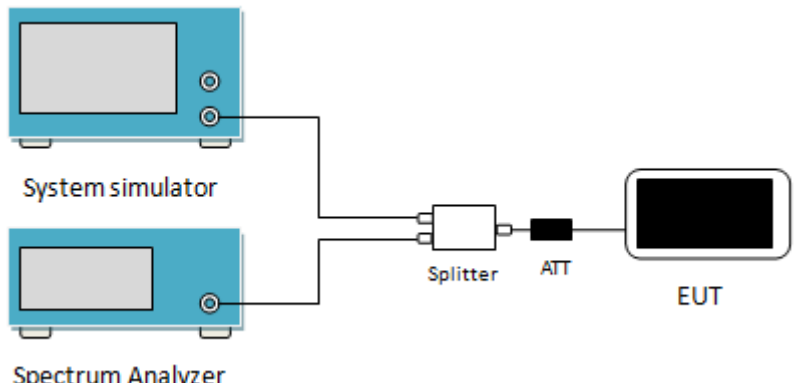
Date: 23.DEC.2020 14:31:48



Date: 23.DEC.2020 14:31:56

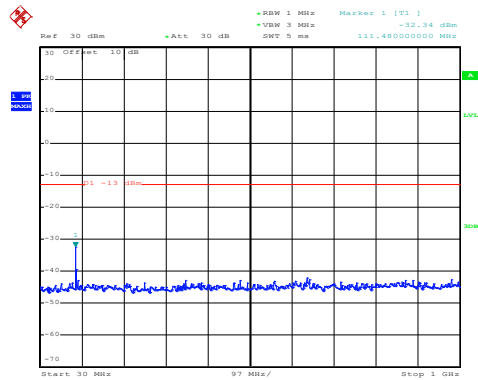
Highest channel

### 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),
Limit:	LTE Band 2 & 4 & 5 & 12 & 17 & 66: 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:	 <p>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 screen and two ports on the right side. A single cable connects the top port of the System simulator to the top port of the Spectrum Analyzer. A second cable connects the bottom port of the System simulator to the top port of a white 'Splitter'. The bottom port of the Splitter is connected to a black 'ATT' (attenuator). The output of the ATT is connected to the antenna of a black 'EUT' (Equipment Under Test).</p>
Test Procedure:	<ol style="list-style-type: none"> <li>1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.</li> <li>2 For the out of band: For Band 5 &amp; 12 &amp; 17 set the RBW=100 kHz, VBW=300 kHz and for Band 2 &amp; 4 &amp; 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.</li> <li>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.</li> </ol>
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.

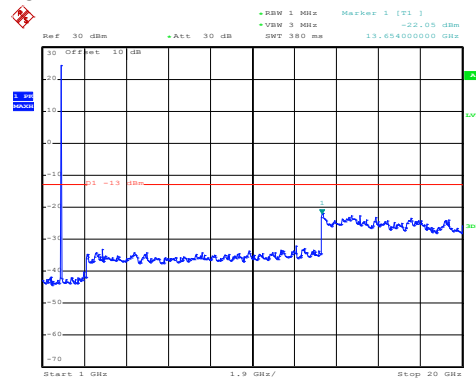
Test plots as follows (Conducted spurious emission) (worst case):  
LTE Band 2 part:

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



Date: 25.DEC.2020 15:42:05

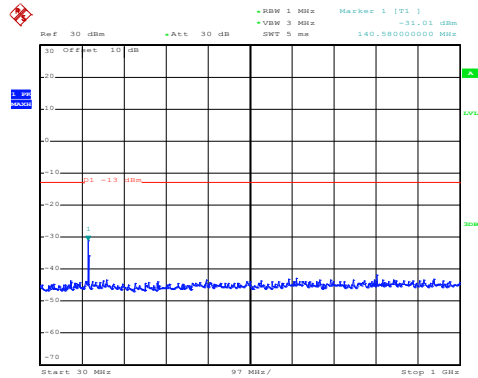
30MHz~1GHz



Date: 25.DEC.2020 15:37:27

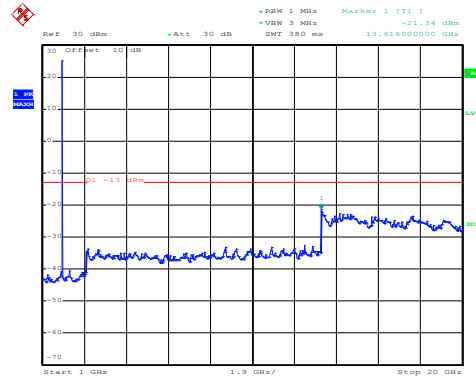
1GHz~25GHz

### Middle channel



Date: 25.DEC.2020 15:41:46

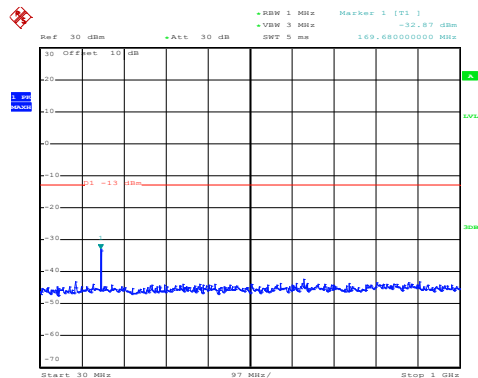
30MHz~1GHz



Date: 25.DEC.2020 15:37:49

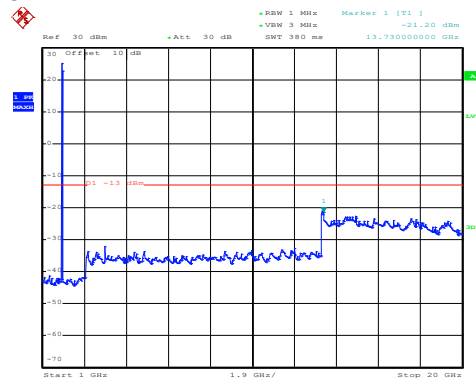
1GHz~25GHz

### High channel



Date: 25.DEC.2020 15:41:27

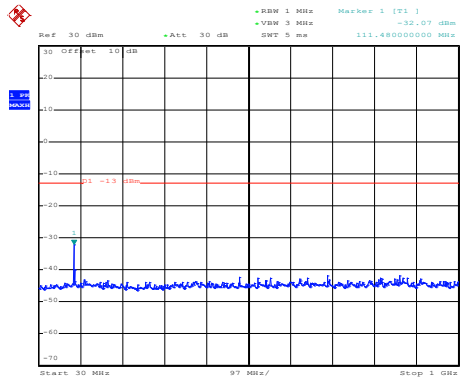
30MHz~1GHz



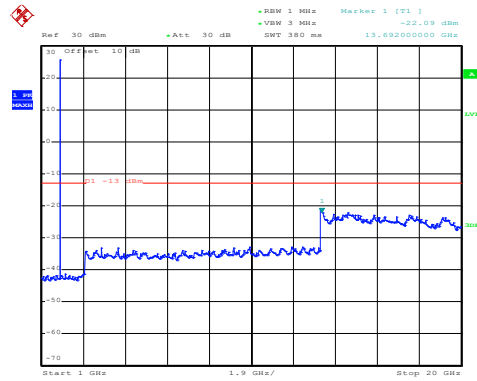
Date: 25.DEC.2020 15:38:20

1GHz~25GHz

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

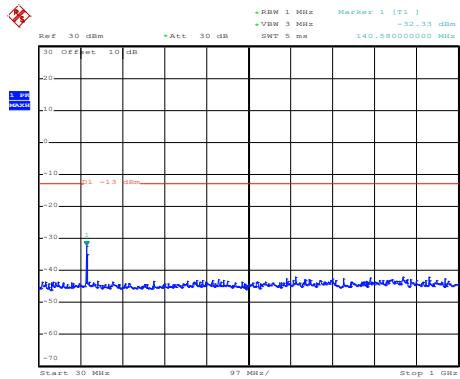


30MHz~1GHz

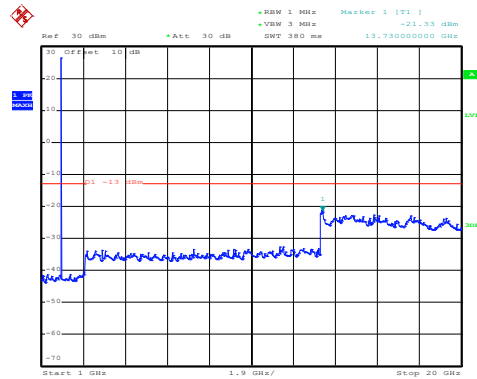


1GHz~25GHz

## Middle channel

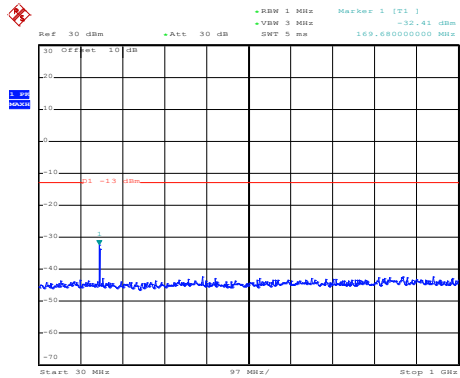


30MHz~1GHz

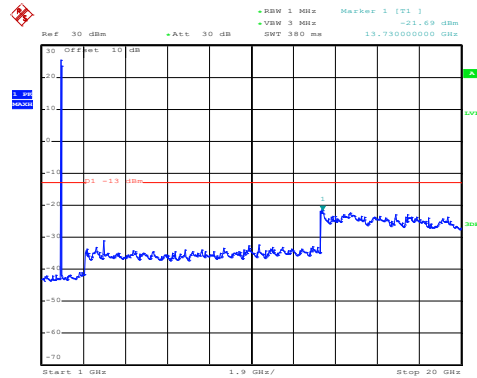


1GHz~25GHz

## High channel

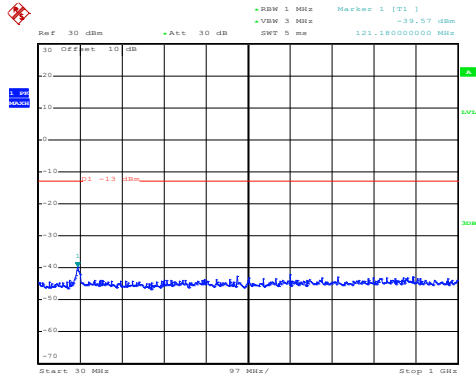


30MHz~1GHz



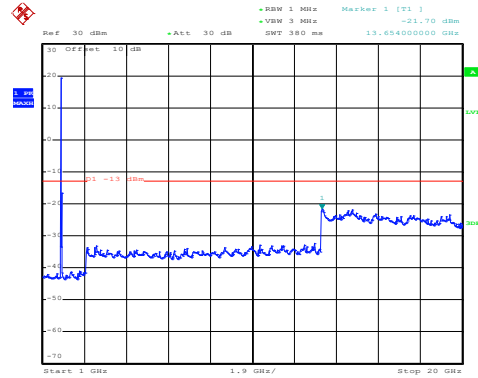
1GHz~25GHz

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



Date: 25.DEC.2020 15:40:20

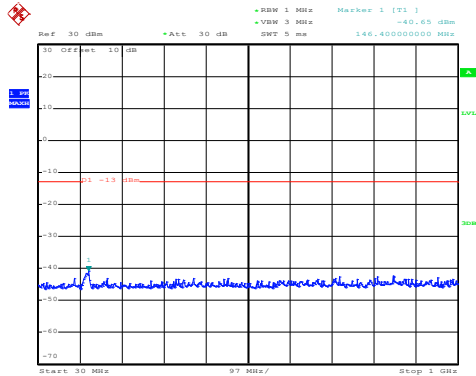
30MHz~1GHz



Date: 25.DEC.2020 15:39:58

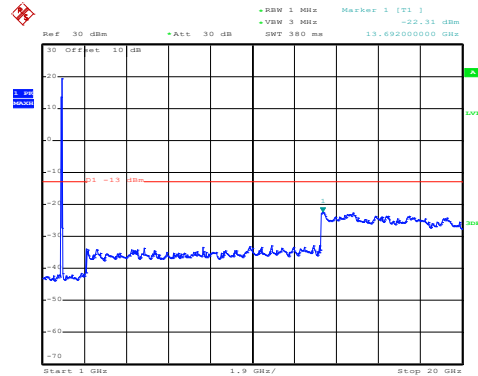
1GHz~25GHz

### Middle channel



Date: 25.DEC.2020 15:40:39

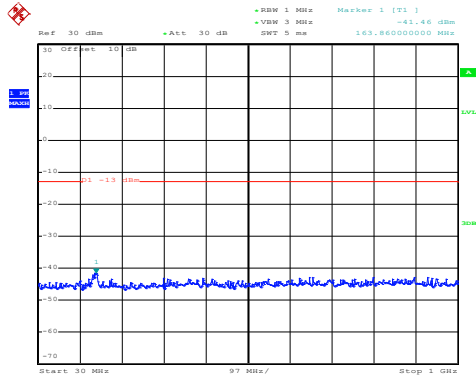
30MHz~1GHz



Date: 25.DEC.2020 15:39:27

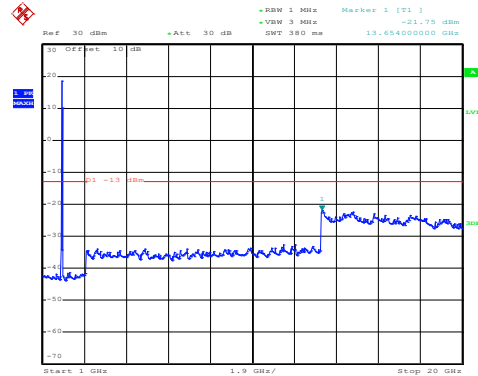
1GHz~25GHz

### High channel



Date: 25.DEC.2020 15:40:59

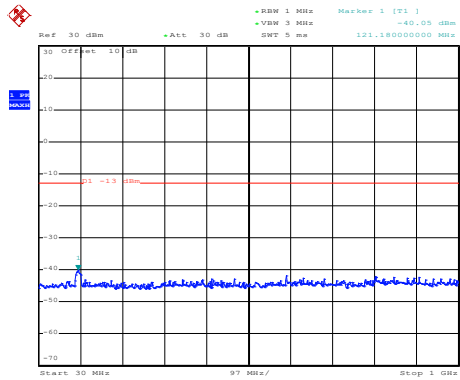
30MHz~1GHz



Date: 25.DEC.2020 15:39:04

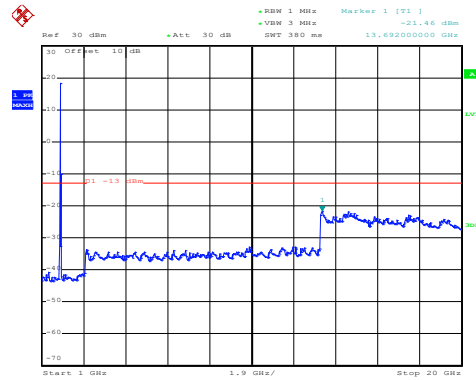
1GHz~25GHz

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



Date: 25.DEC.2020 15:40:13

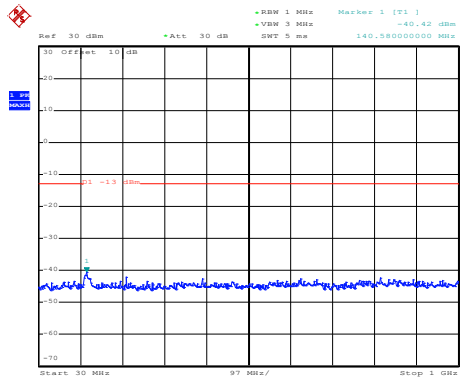
30MHz~1GHz



Date: 25.DEC.2020 15:39:44

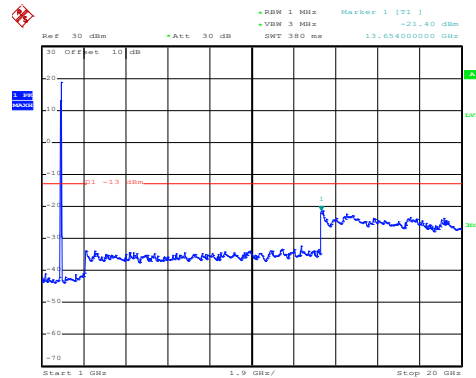
1GHz~25GHz

## Middle channel



Date: 25.DEC.2020 15:40:32

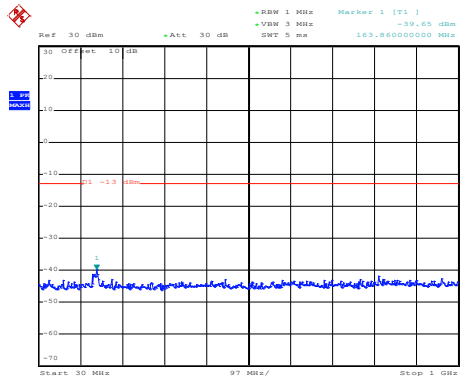
30MHz~1GHz



Date: 25.DEC.2020 15:39:17

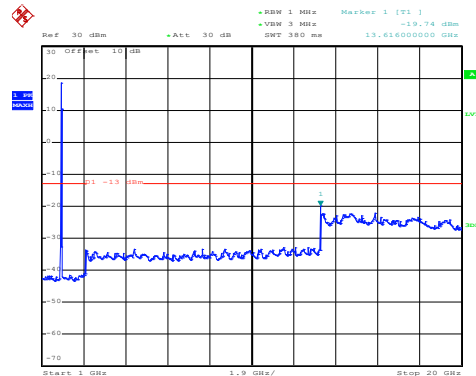
1GHz~25GHz

## High channel



Date: 25.DEC.2020 15:40:53

30MHz~1GHz

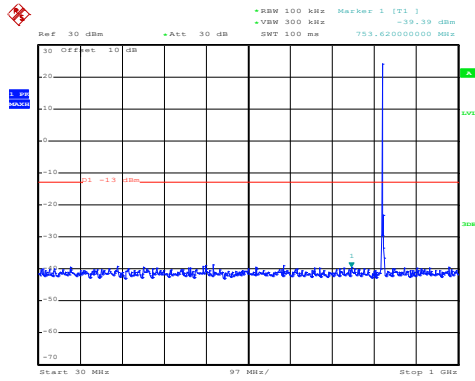


Date: 25.DEC.2020 15:38:52

1GHz~25GHz

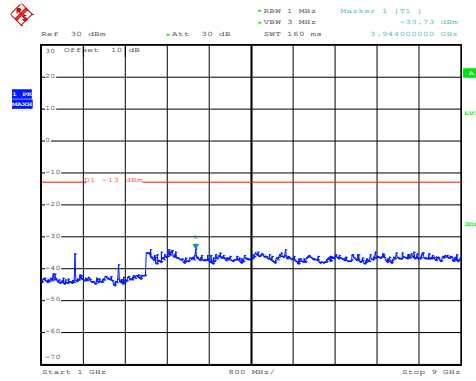
LTE Band 5 part:

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



Date: 25.DEC.2020 15:25:09

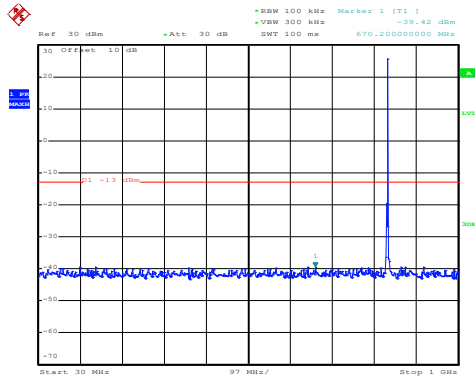
30MHz~1GHz



Date: 25.DEC.2020 15:23:12

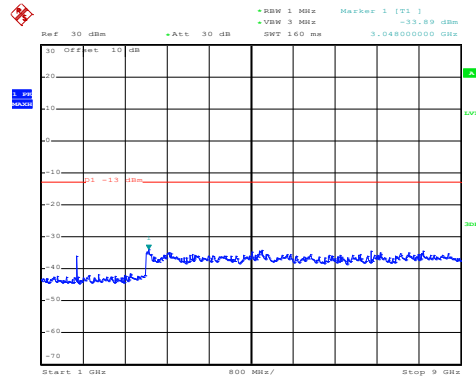
1GHz~9GHz

Middle channel



Date: 25.DEC.2020 15:24:41

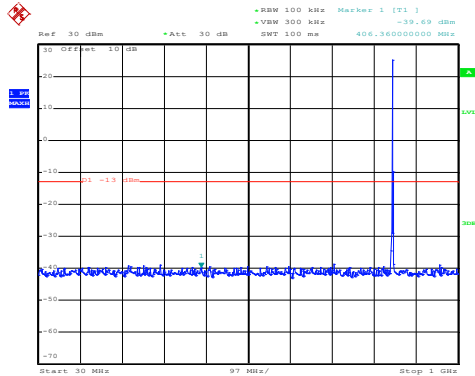
30MHz~1GHz



Date: 25.DEC.2020 15:23:32

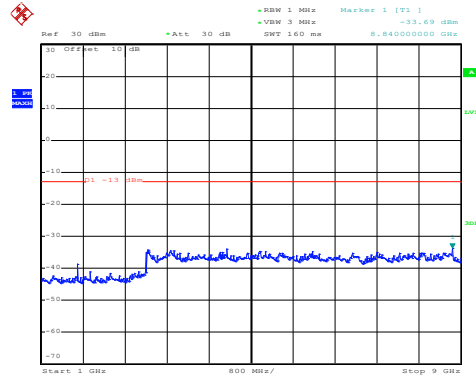
1GHz~9GHz

High channel



Date: 25.DEC.2020 15:24:20

30MHz~1GHz

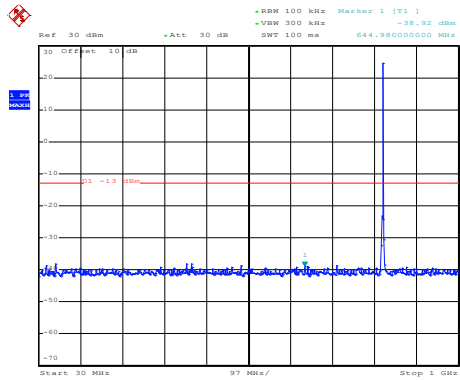


Date: 25.DEC.2020 15:23:52

1GHz~9GHz

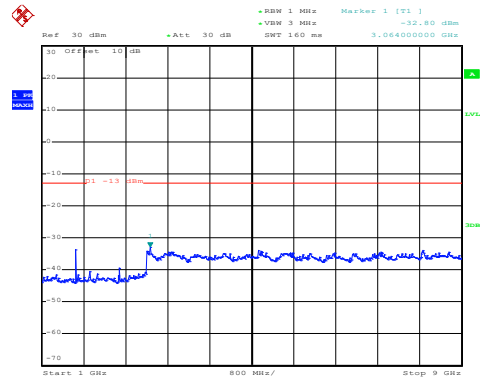


### LTE Band 5: QPSK & RB Size 1 BW: 1.4MHz Lowest channel



Date: 25.DEC.2020 15:24:57

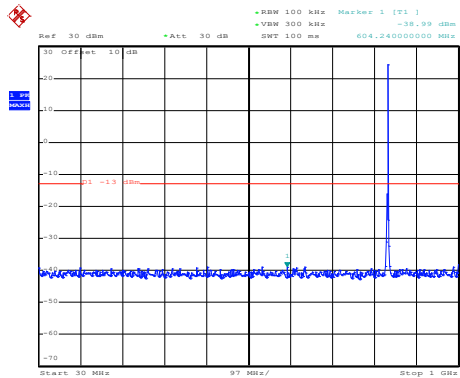
30MHz~1GHz



Date: 25.DEC.2020 15:23:06

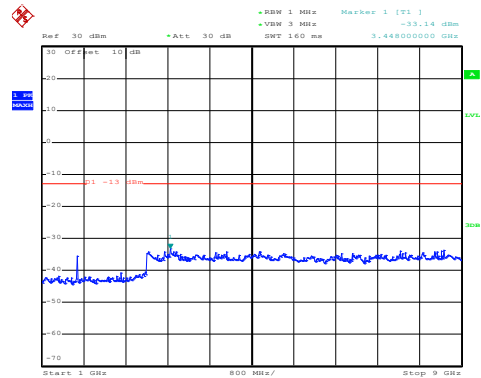
1GHz~9GHz

### Middle channel



Date: 25.DEC.2020 15:24:34

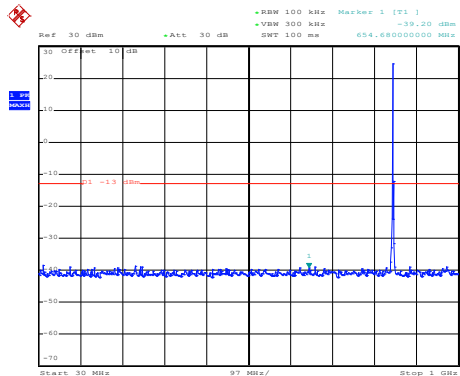
30MHz~1GHz



Date: 25.DEC.2020 15:23:27

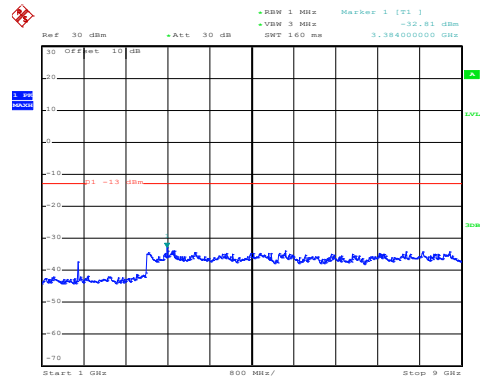
1GHz~9GHz

### High channel



Date: 25.DEC.2020 15:24:11

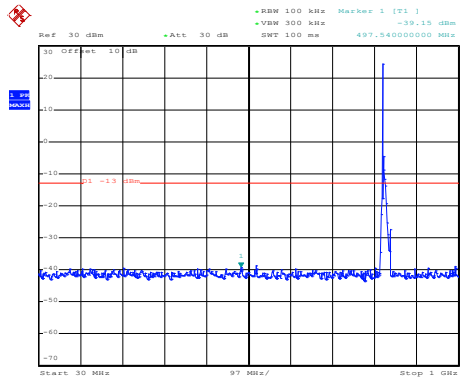
30MHz~1GHz



Date: 25.DEC.2020 15:23:46

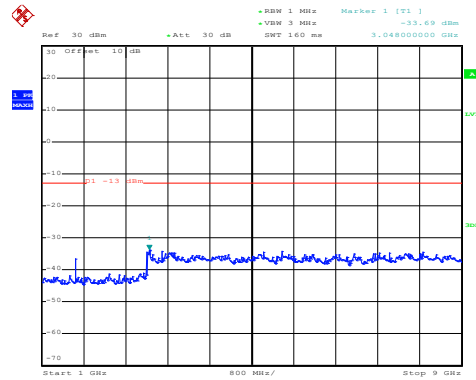
1GHz~9GHz

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



Date: 25.DEC.2020 15:25:49

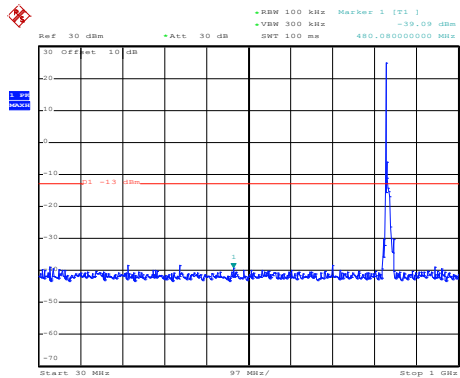
30MHz~1GHz



Date: 25.DEC.2020 15:27:40

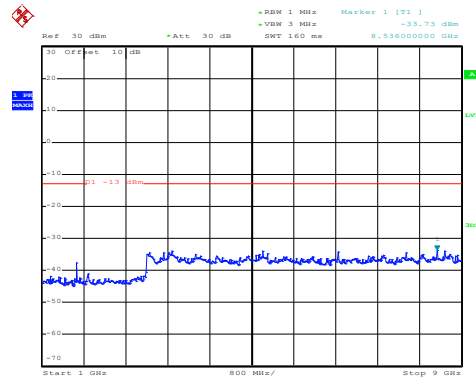
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 15:26:08

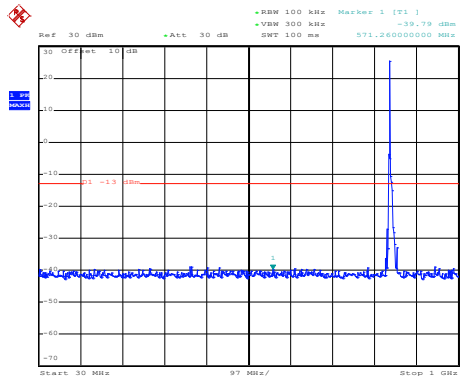
30MHz~1GHz



Date: 25.DEC.2020 15:27:23

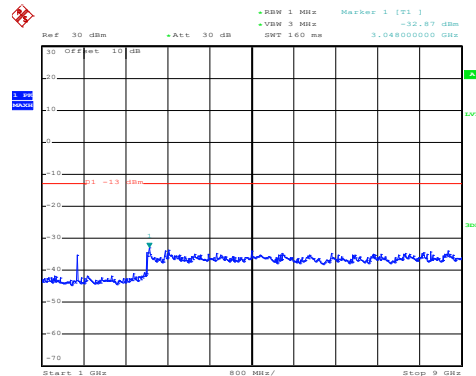
1GHz~9GHz

## High channel



Date: 25.DEC.2020 15:26:38

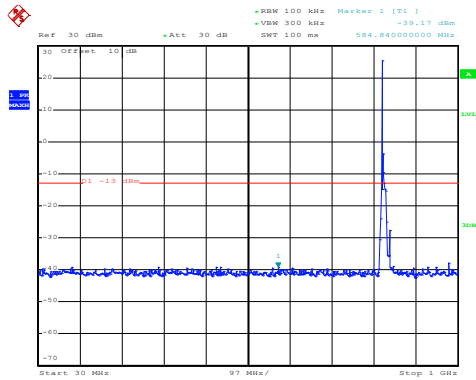
30MHz~1GHz



Date: 25.DEC.2020 15:27:05

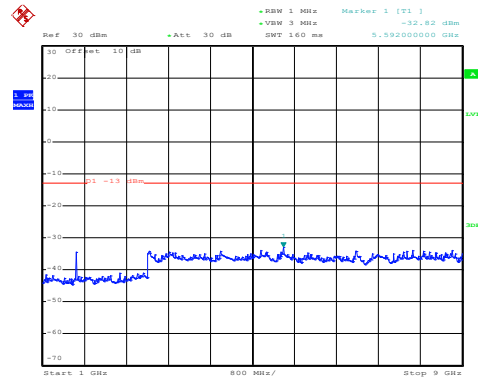
1GHz~9GHz

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



Date: 25.DEC.2020 15:25:41

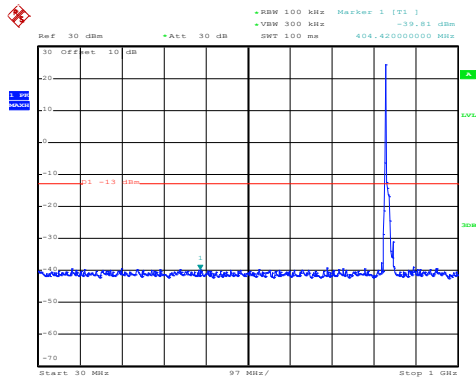
30MHz~1GHz



Date: 25.DEC.2020 15:27:33

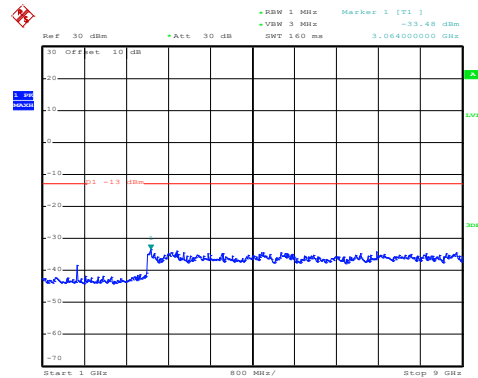
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 15:26:01

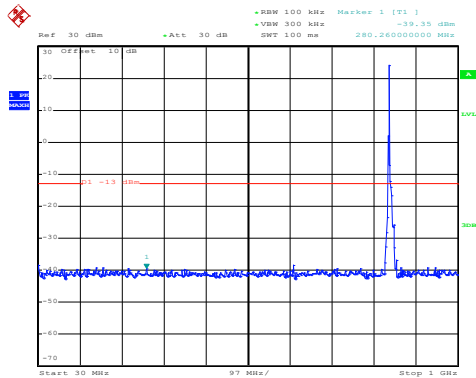
30MHz~1GHz



Date: 25.DEC.2020 15:27:17

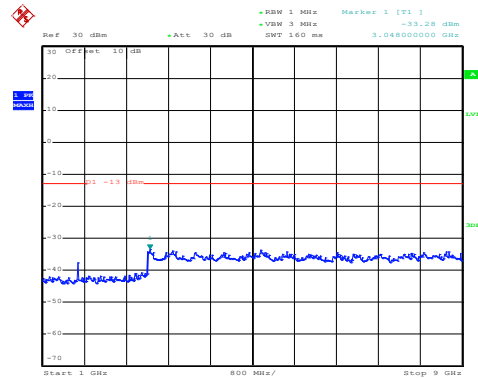
1GHz~9GHz

## High channel



Date: 25.DEC.2020 15:26:29

30MHz~1GHz

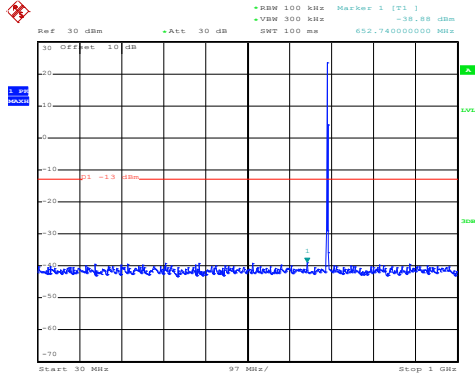


Date: 25.DEC.2020 15:26:56

1GHz~9GHz

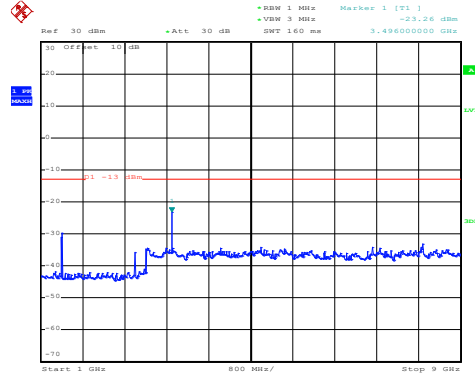
LTE Band 12 part:

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



Date: 25.DEC.2020 15:20:59

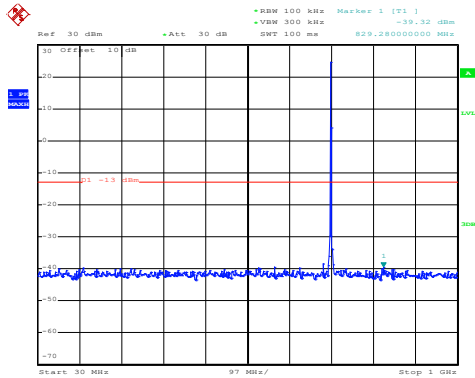
30MHz~1GHz



Date: 25.DEC.2020 15:22:46

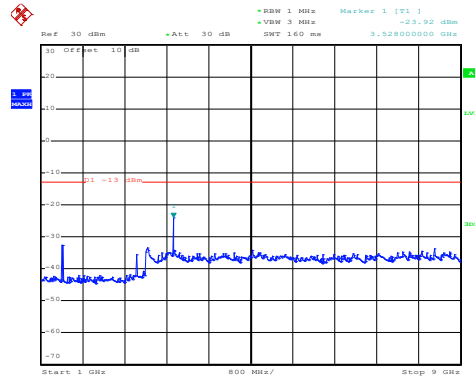
1GHz~9GHz

Middle channel



Date: 25.DEC.2020 15:21:19

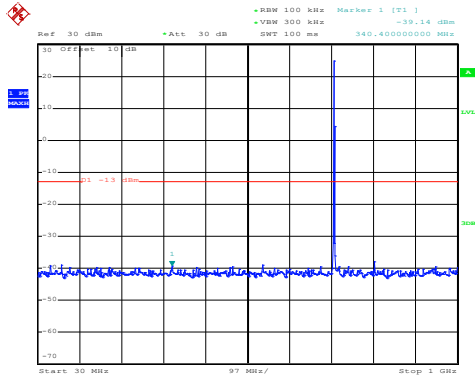
30MHz~1GHz



Date: 25.DEC.2020 15:22:26

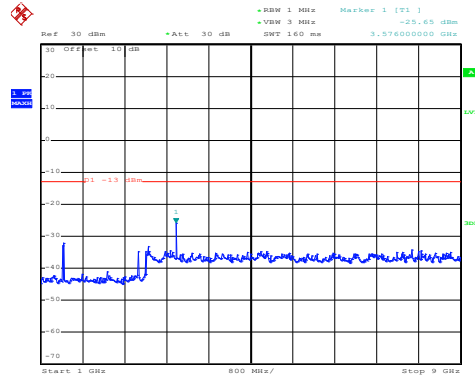
1GHz~9GHz

High channel



Date: 25.DEC.2020 15:21:42

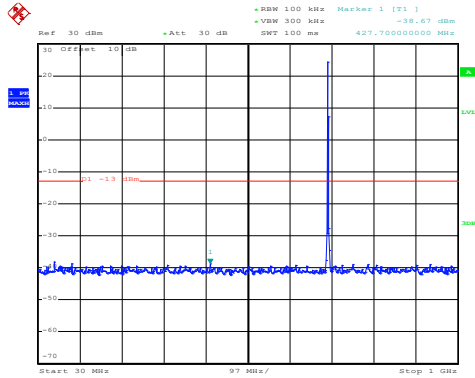
30MHz~1GHz



Date: 25.DEC.2020 15:22:08

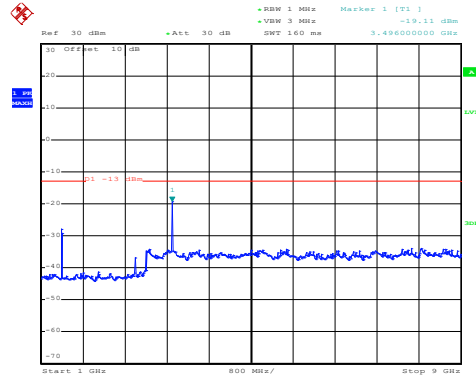
1GHz~9GHz

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



Date: 25.DEC.2020 15:20:51

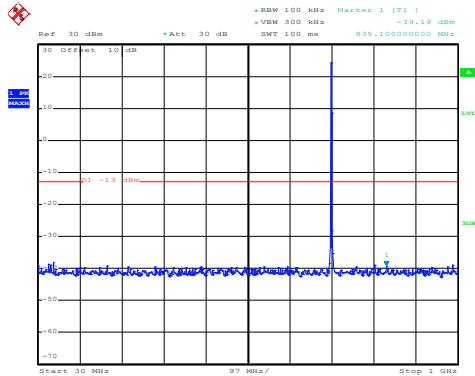
30MHz~1GHz



Date: 25.DEC.2020 15:22:39

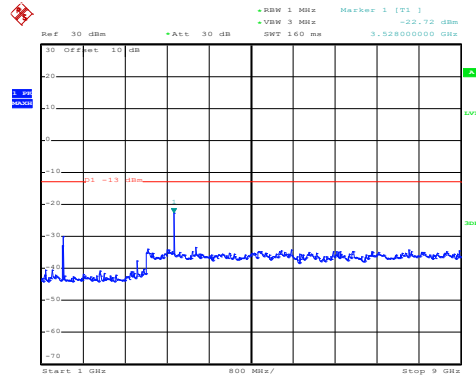
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 15:21:13

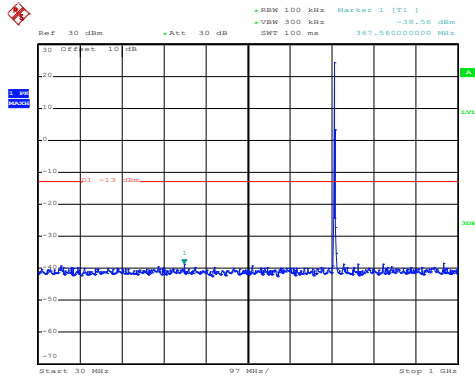
30MHz~1GHz



Date: 25.DEC.2020 15:22:19

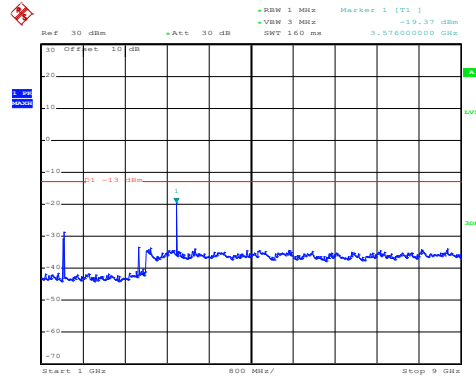
1GHz~9GHz

## High channel



Date: 25.DEC.2020 15:21:35

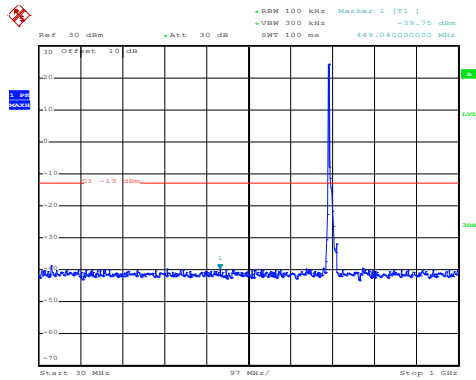
30MHz~1GHz



Date: 25.DEC.2020 15:22:02

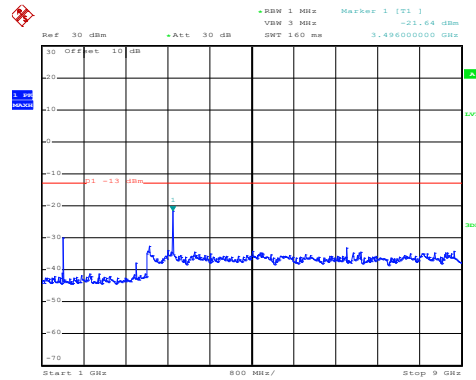
1GHz~9GHz

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



Date: 25.DEC.2020 15:20:21

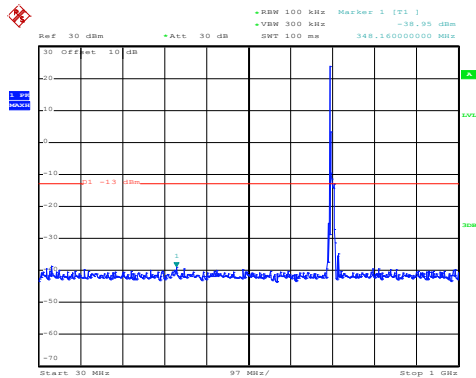
30MHz~1GHz



Date: 25.DEC.2020 15:13:09

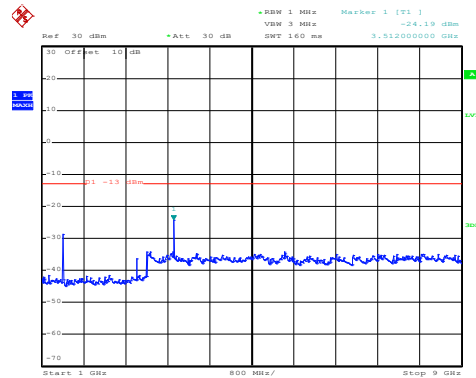
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 15:19:58

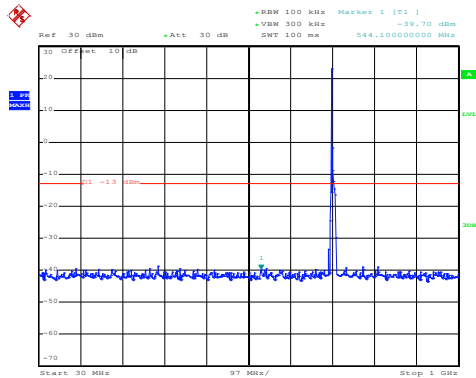
30MHz~1GHz



Date: 25.DEC.2020 15:13:30

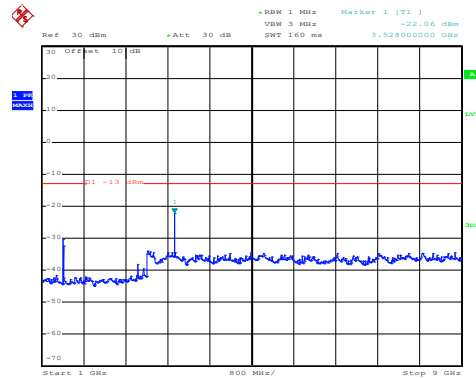
1GHz~9GHz

## High channel



Date: 25.DEC.2020 15:19:36

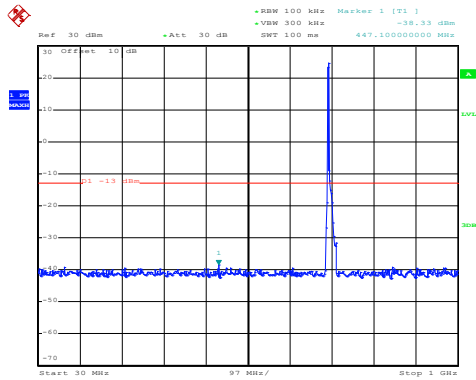
30MHz~1GHz



Date: 25.DEC.2020 15:13:50

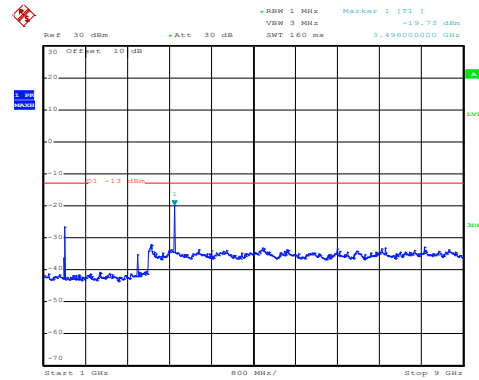
1GHz~9GHz

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



Date: 25.DEC.2020 15:20:13

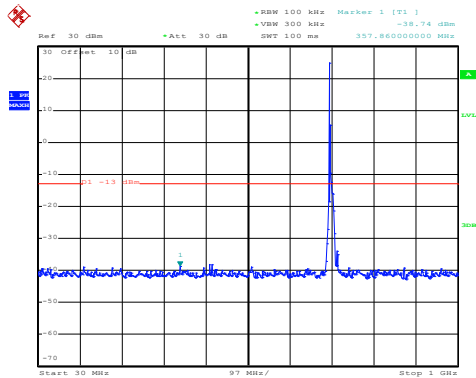
30MHz~1GHz



Date: 25.DEC.2020 15:13:02

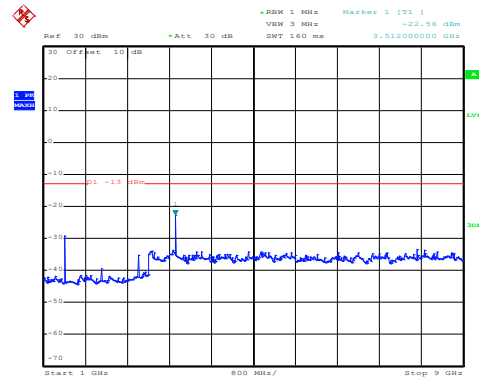
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 15:19:49

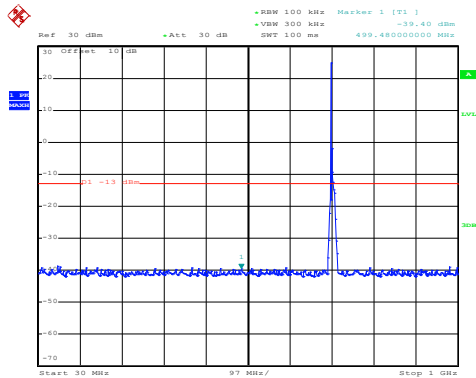
30MHz~1GHz



Date: 25.DEC.2020 15:13:24

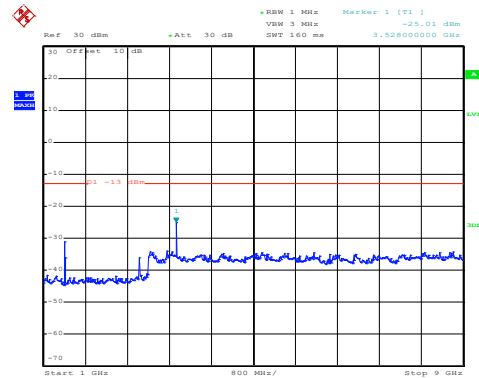
1GHz~9GHz

## High channel



Date: 25.DEC.2020 15:19:27

30MHz~1GHz

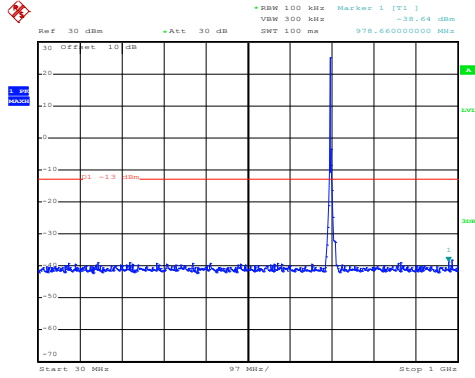


Date: 25.DEC.2020 15:13:43

1GHz~9GHz

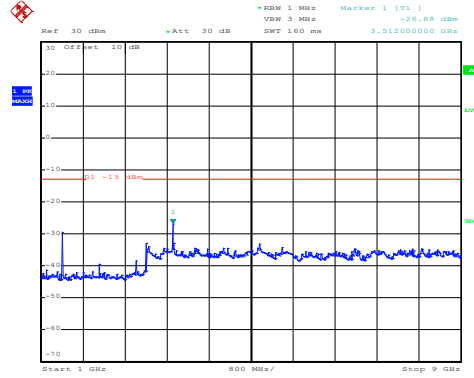
LTE Band 17 part:

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



Date: 25.DEC.2020 15:02:12

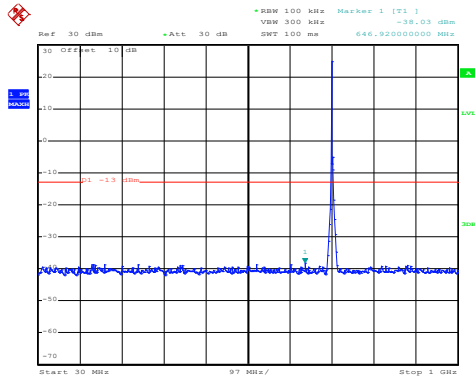
30MHz~1GHz



Date: 25.DEC.2020 15:03:38

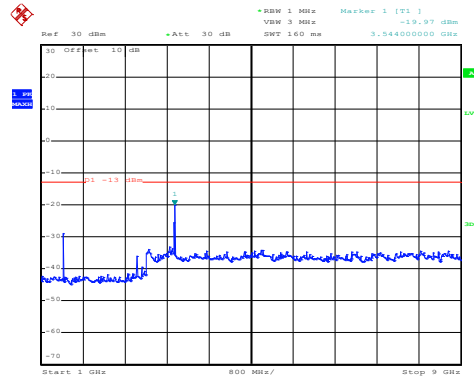
1GHz~9GHz

Middle channel



Date: 25.DEC.2020 15:01:14

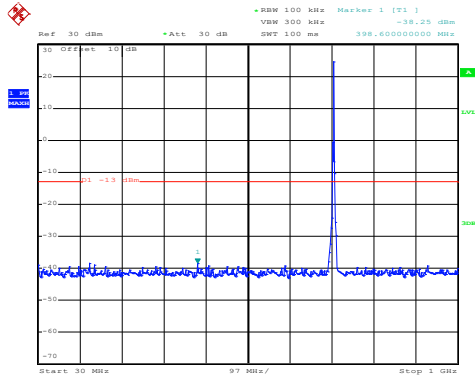
30MHz~1GHz



Date: 25.DEC.2020 15:03:59

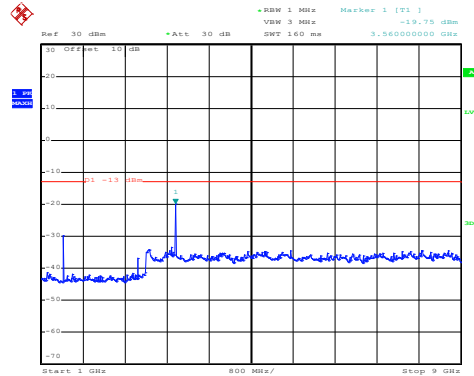
1GHz~9GHz

High channel



Date: 25.DEC.2020 14:59:02

30MHz~1GHz

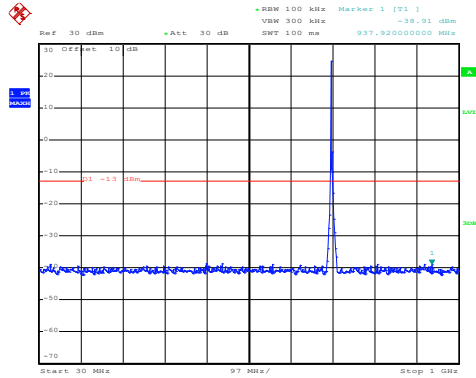


Date: 25.DEC.2020 15:04:56

1GHz~9GHz

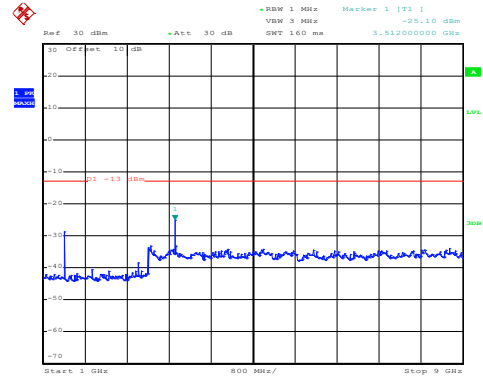


## LTE Band 17: QPSK & RB Size 1 BW: 5MHz Lowest channel



Date: 25.DEC.2020 15:02:00

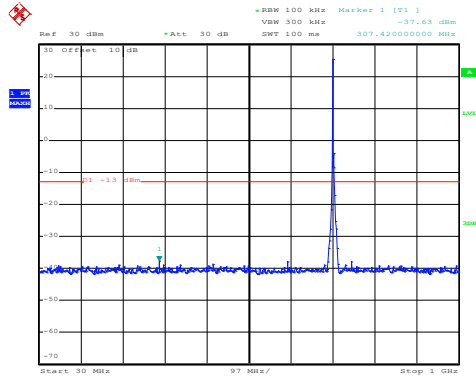
30MHz~1GHz



Date: 25.DEC.2020 15:03:32

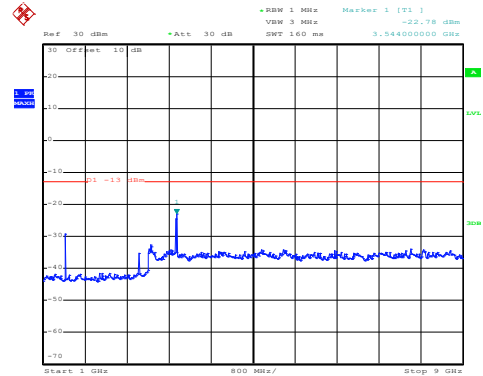
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 15:00:51

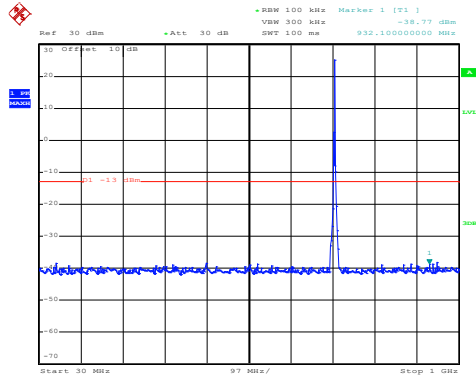
30MHz~1GHz



Date: 25.DEC.2020 15:03:53

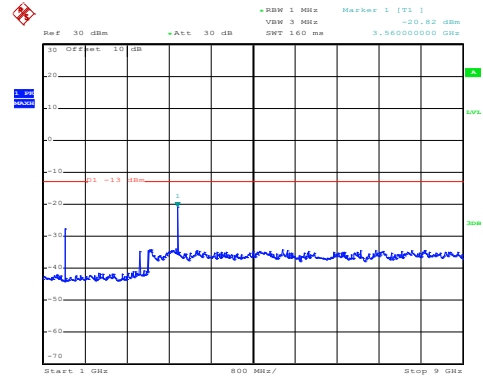
1GHz~9GHz

## High channel



Date: 25.DEC.2020 14:58:55

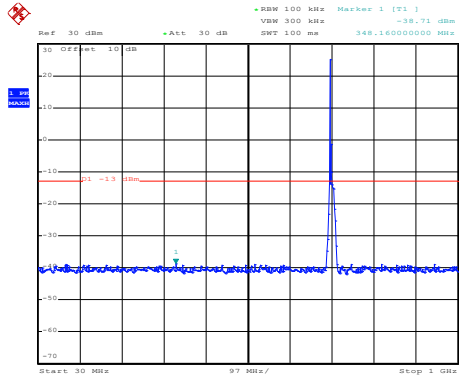
30MHz~1GHz



Date: 25.DEC.2020 15:04:51

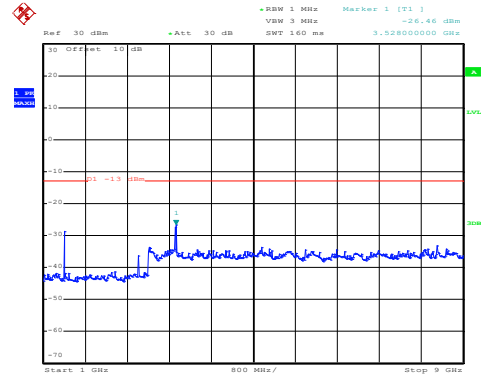
1GHz~9GHz

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



Date: 25.DEC.2020 14:56:13

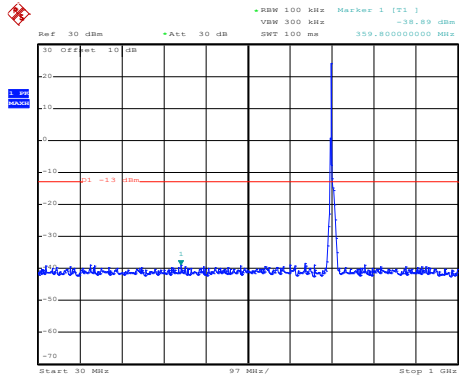
30MHz~1GHz



Date: 25.DEC.2020 15:10:23

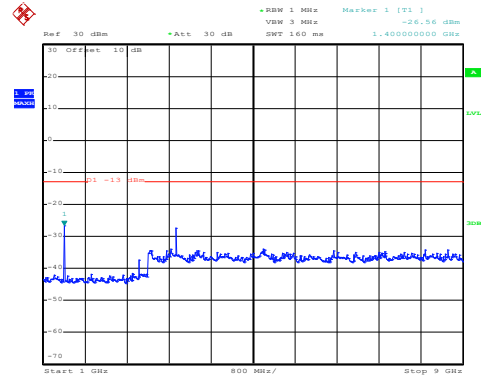
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 14:56:42

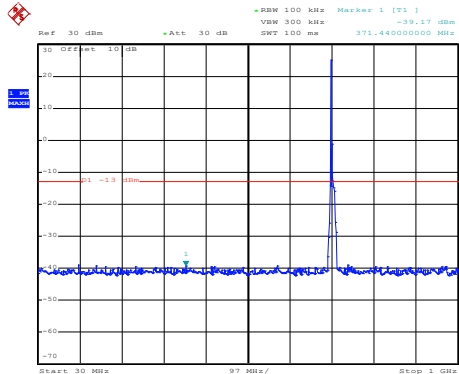
30MHz~1GHz



Date: 25.DEC.2020 15:06:11

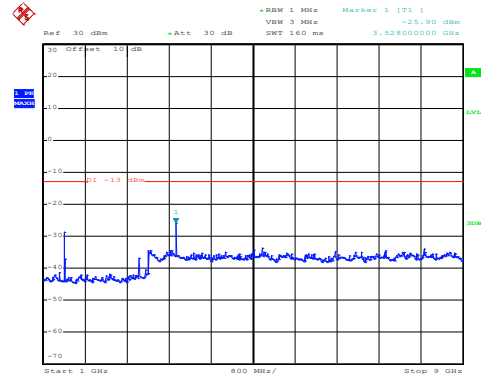
1GHz~9GHz

## High channel



Date: 25.DEC.2020 14:58:19

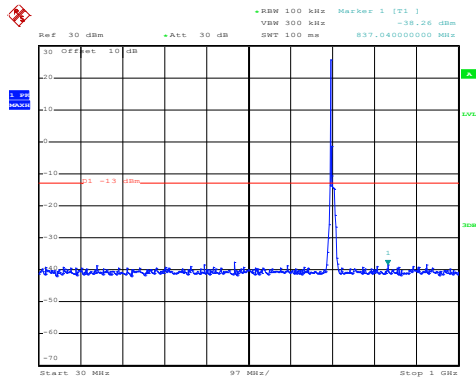
30MHz~1GHz



Date: 25.DEC.2020 15:05:24

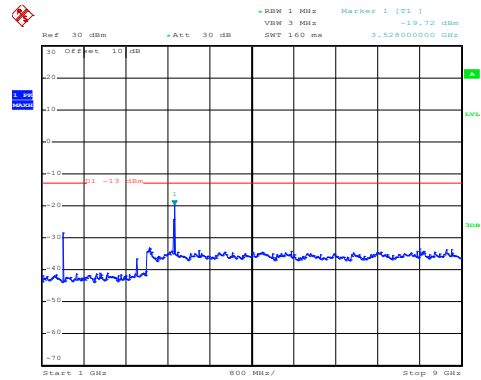
1GHz~9GHz

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



Date: 25.DEC.2020 14:55:52

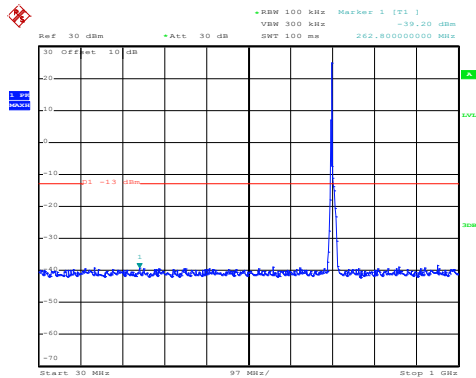
30MHz~1GHz



Date: 25.DEC.2020 15:10:15

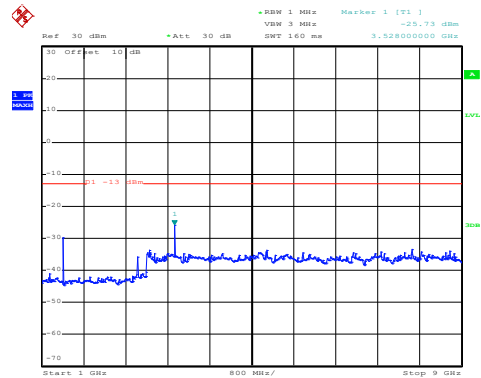
1GHz~9GHz

## Middle channel



Date: 25.DEC.2020 14:56:32

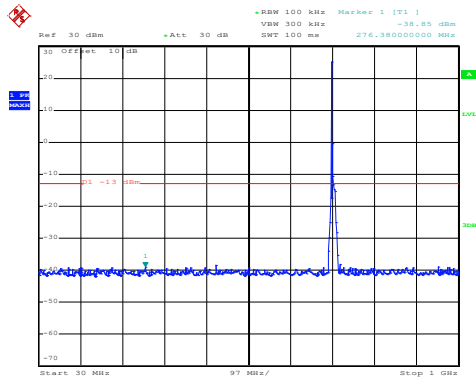
30MHz~1GHz



Date: 25.DEC.2020 15:06:06

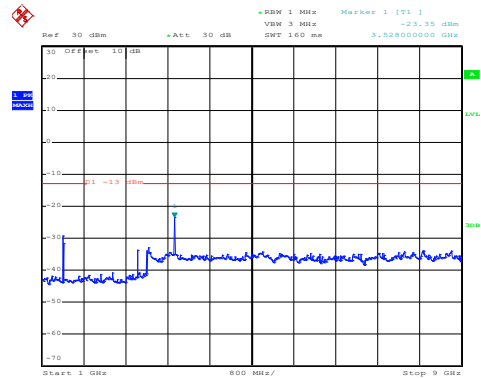
1GHz~9GHz

## High channel



Date: 25.DEC.2020 14:58:08

30MHz~1GHz

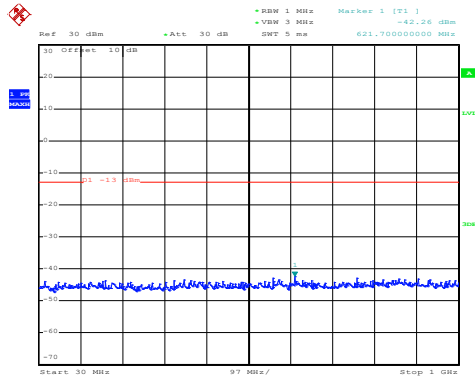


Date: 25.DEC.2020 15:05:19

1GHz~9GHz

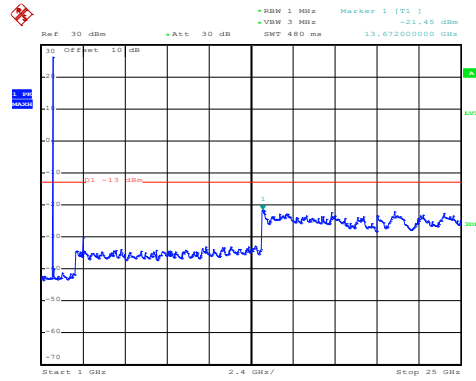
LTE Band 66 part:

LTE Band 66: 16 QAM & RB Size 1  
 BW: 1.4MHz  
 Lowest channel



Date: 23.DEC.2020 14:47:39

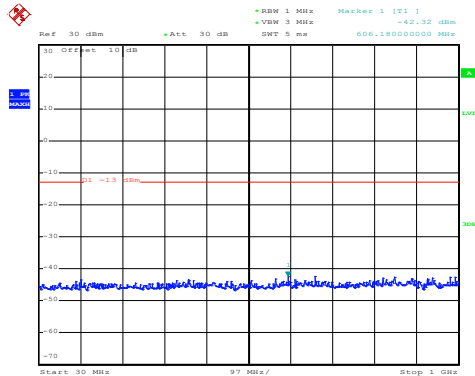
30MHz~1GHz



Date: 23.DEC.2020 14:47:22

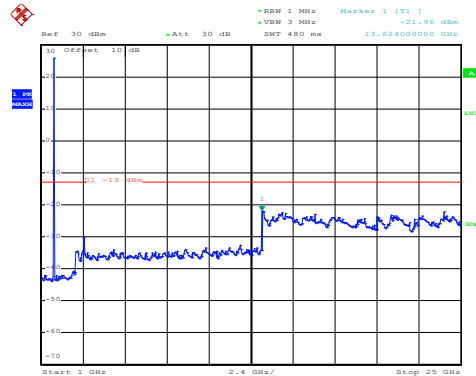
1GHz~25GHz

Middle channel



Date: 23.DEC.2020 14:47:54

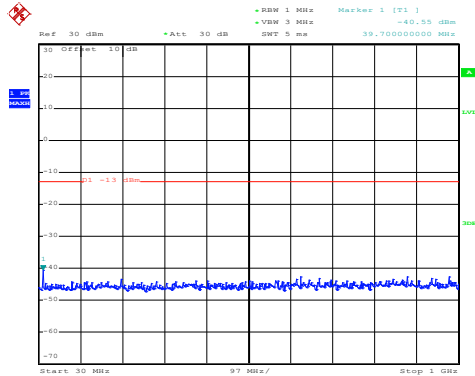
30MHz~1GHz



Date: 23.DEC.2020 14:46:51

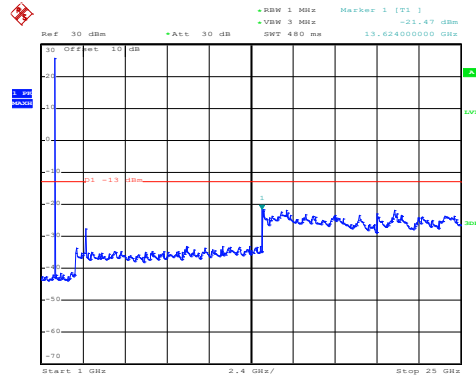
1GHz~25GHz

High channel



Date: 23.DEC.2020 14:48:08

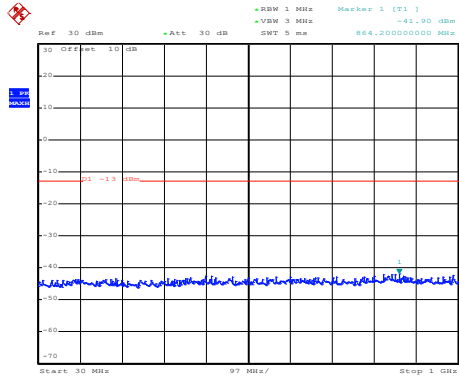
30MHz~1GHz



Date: 23.DEC.2020 14:46:27

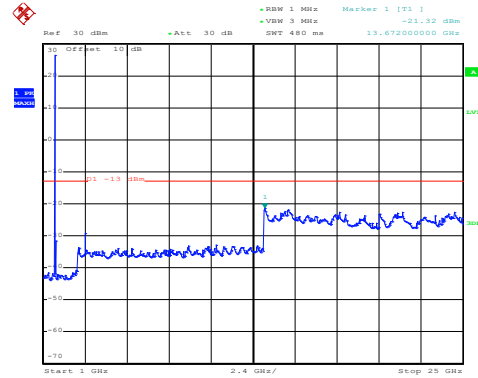
1GHz~25GHz

## LTE Band 66: QPSK & RB Size 1 BW: 1.4MHz Lowest channel



Date: 23.DEC.2020 14:47:35

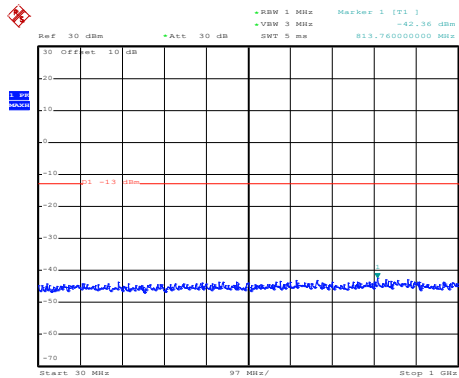
30MHz~1GHz



Date: 23.DEC.2020 14:47:11

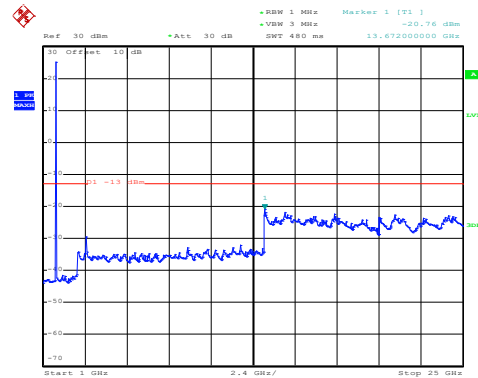
1GHz~25GHz

## Middle channel



Date: 23.DEC.2020 14:47:50

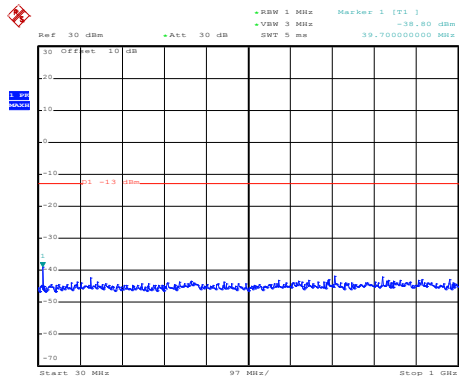
30MHz~1GHz



Date: 23.DEC.2020 14:46:43

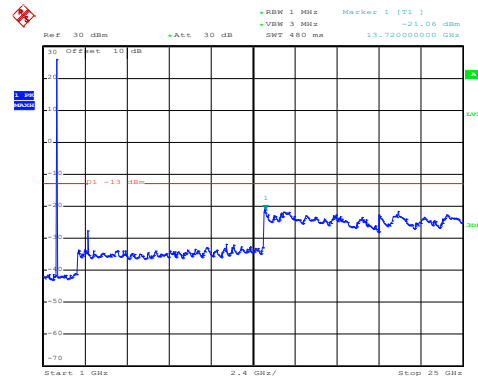
1GHz~25GHz

## High channel



Date: 23.DEC.2020 14:48:04

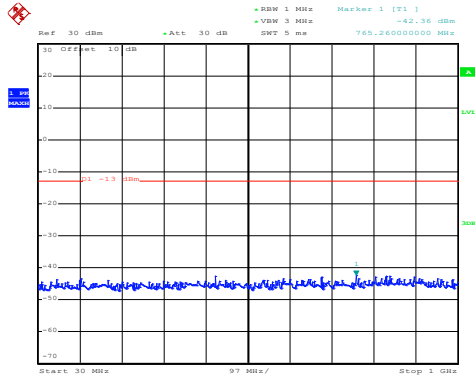
30MHz~1GHz



Date: 23.DEC.2020 14:46:18

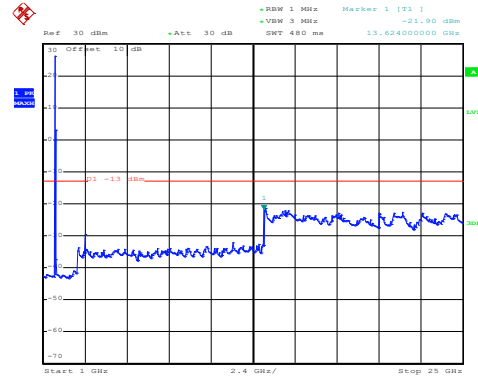
1GHz~25GHz

## LTE Band 66: 16 QAM & RB Size 1 BW: 20MHz Lowest channel



Date: 23.DEC.2020 14:48:31

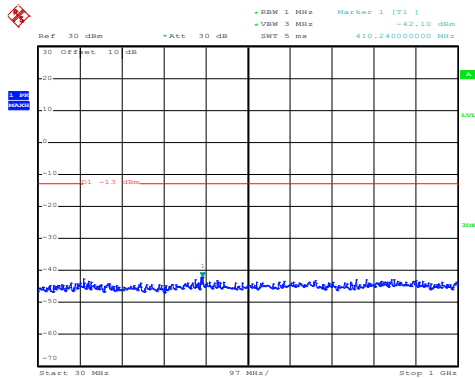
30MHz~1GHz



Date: 23.DEC.2020 14:50:37

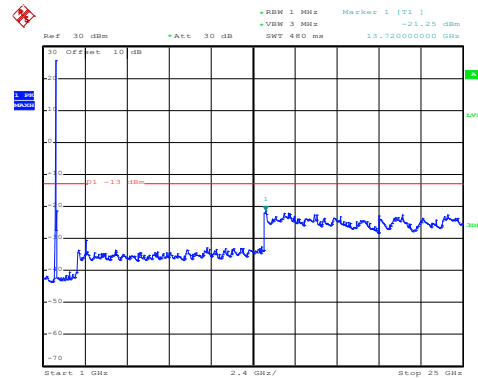
1GHz~25GHz

## Middle channel



Date: 23.DEC.2020 14:48:52

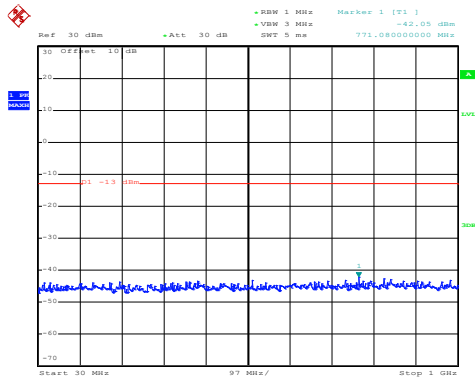
30MHz~1GHz



Date: 23.DEC.2020 14:50:01

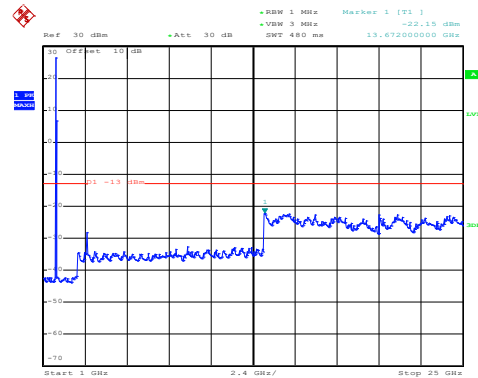
1GHz~25GHz

## High channel



Date: 23.DEC.2020 14:49:06

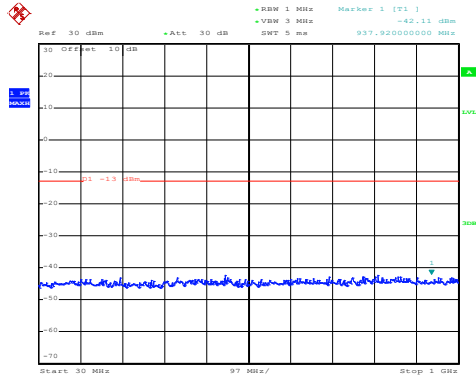
30MHz~1GHz



Date: 23.DEC.2020 14:49:30

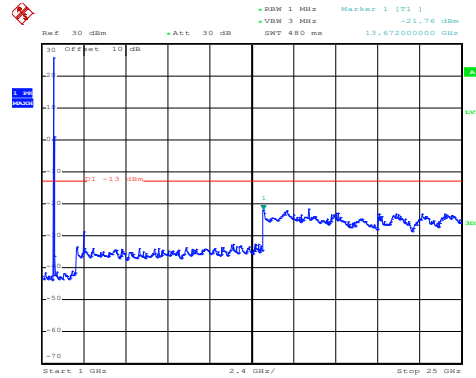
1GHz~25GHz

## LTE Band 66: QPSK & RB Size 1 BW: 20MHz Lowest channel



Date: 23.DEC.2020 14:48:27

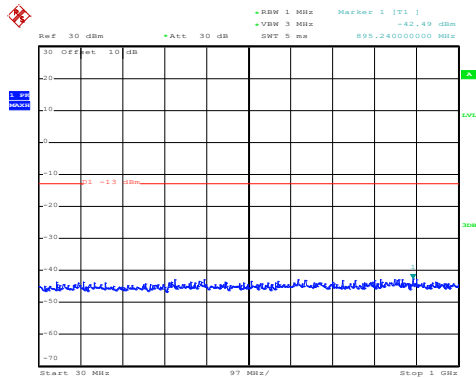
30MHz~1GHz



Date: 23.DEC.2020 14:50:19

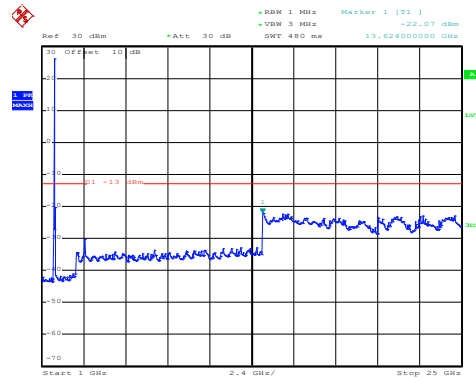
1GHz~25GHz

## Middle channel



Date: 23.DEC.2020 14:48:46

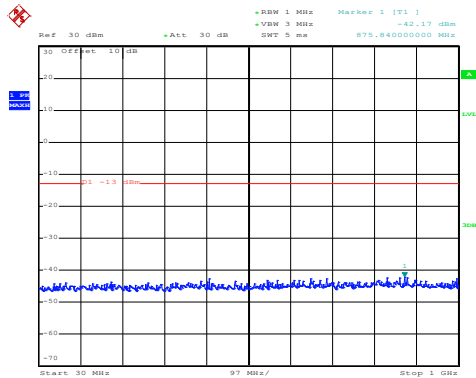
30MHz~1GHz



Date: 23.DEC.2020 14:49:45

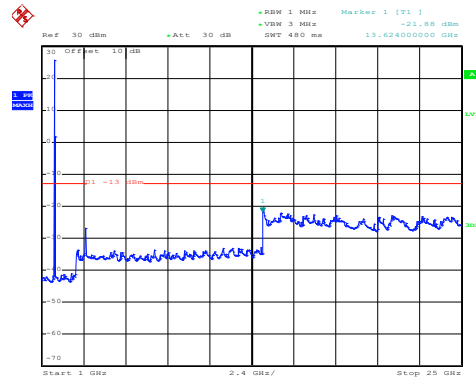
1GHz~25GHz

## High channel



Date: 23.DEC.2020 14:49:02

30MHz~1GHz

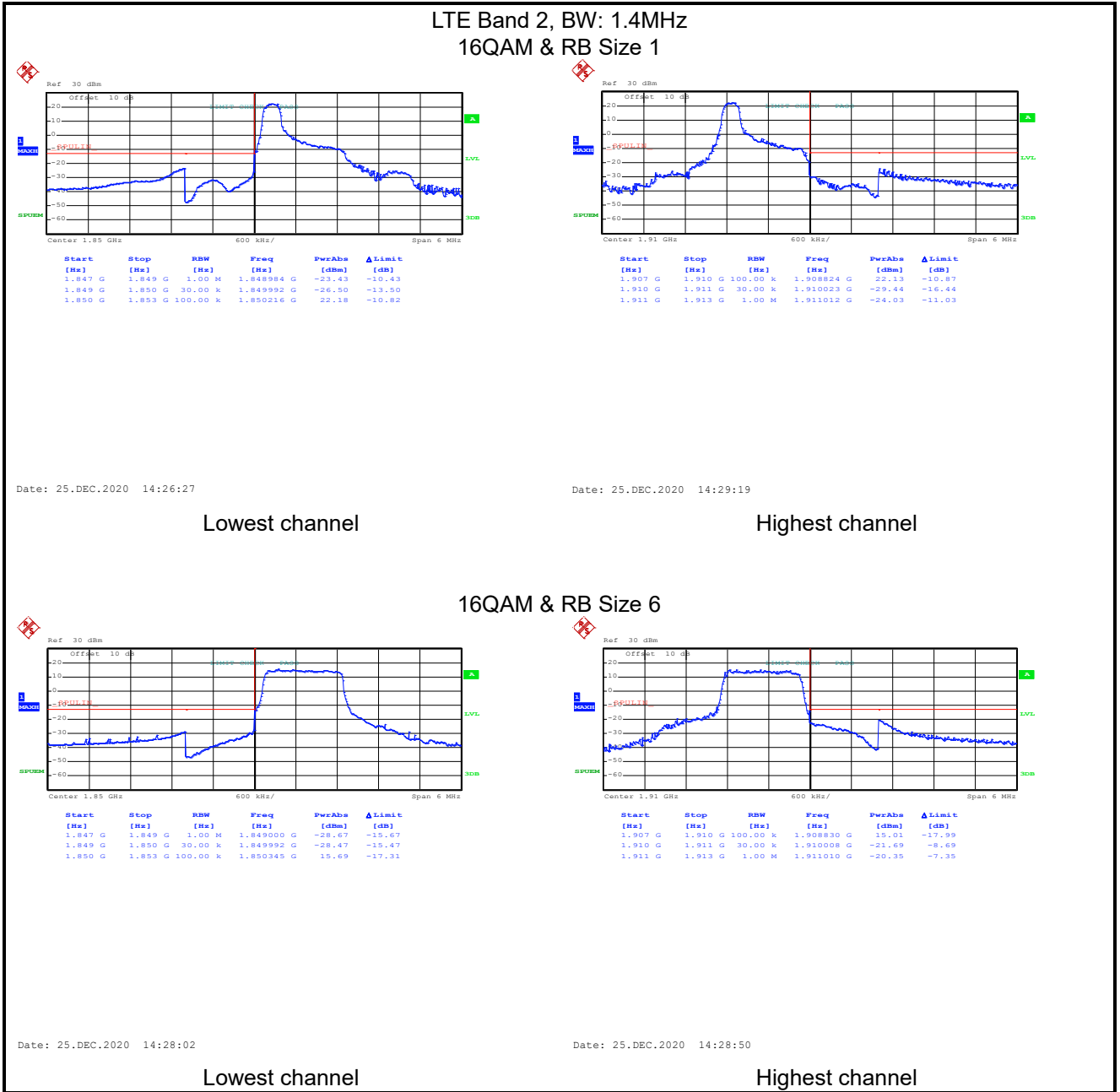


Date: 23.DEC.2020 14:49:18

1GHz~25GHz

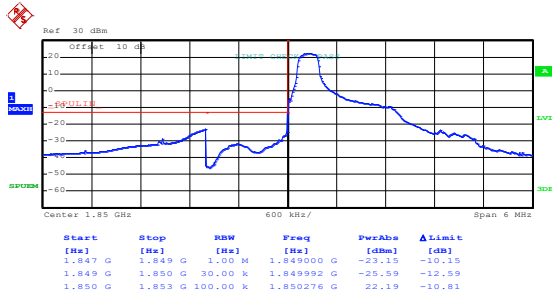
**Band edge emission:**

**LTE Band 2 part:**



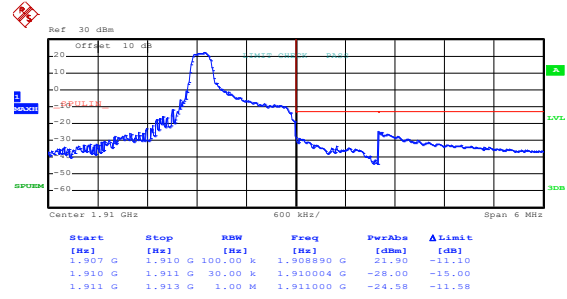


## LTE Band 2, BW: 1.4MHz QPSK & RB Size 1



Date: 25.DEC.2020 14:26:03

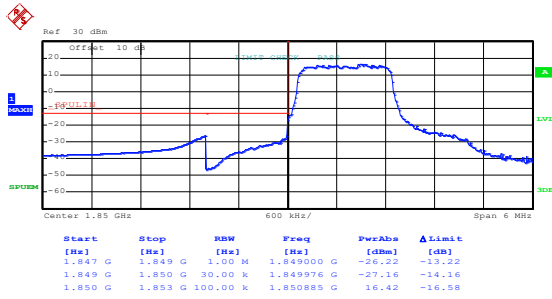
Lowest channel



Date: 25.DEC.2020 14:29:03

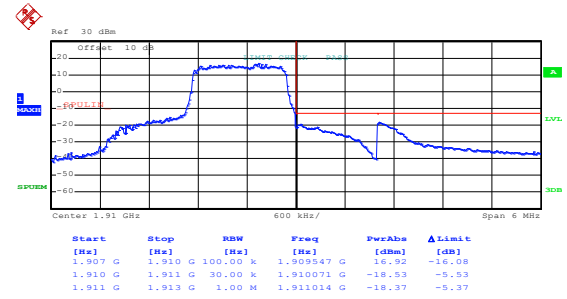
Highest channel

## QPSK & RB Size 6



Date: 25.DEC.2020 14:26:50

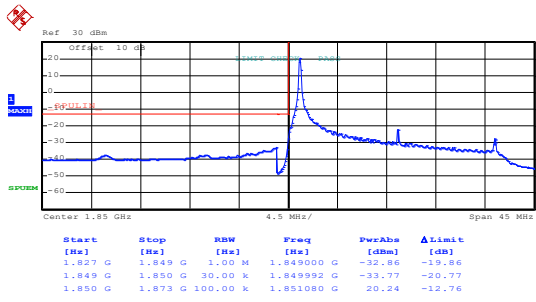
Lowest channel



Date: 25.DEC.2020 14:28:39

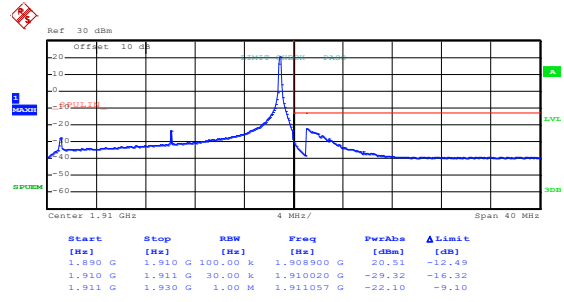
Highest channel

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



Date: 25.DEC.2020 14:30:45

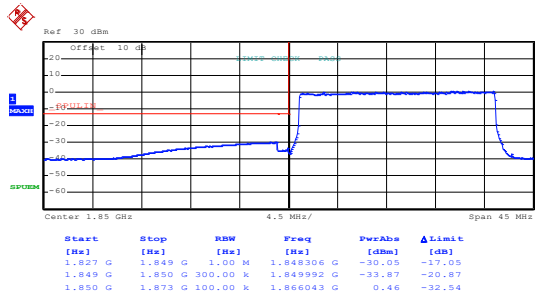
Lowest channel



Date: 2.MAR.2021 15:40:21

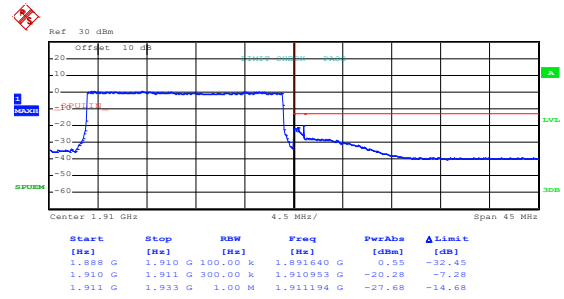
Highest channel

## 16QAM & RB Size 100



Date: 25.DEC.2020 14:31:15

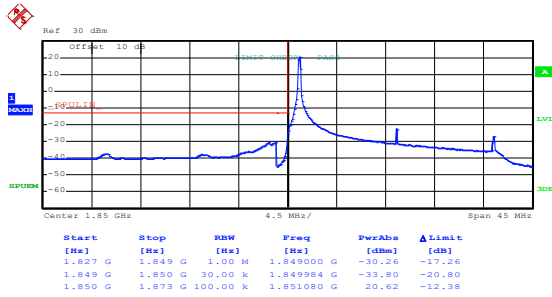
Lowest channel



Date: 25.DEC.2020 14:31:55

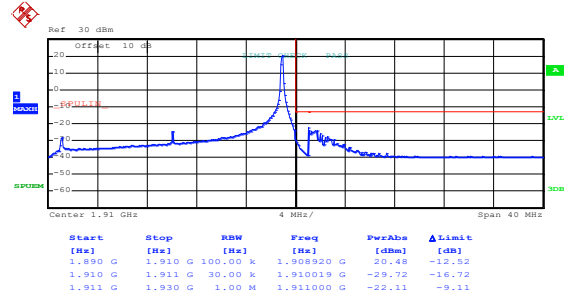
Highest channel

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



Date: 25.DEC.2020 14:30:31

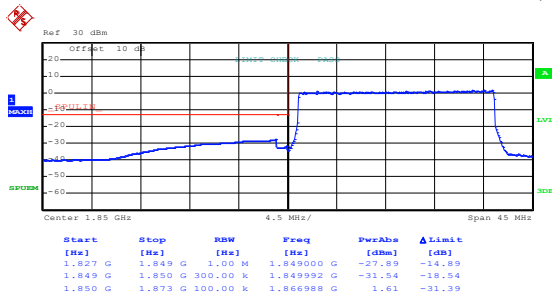
Lowest channel



Date: 2.MAR.2021 15:40:37

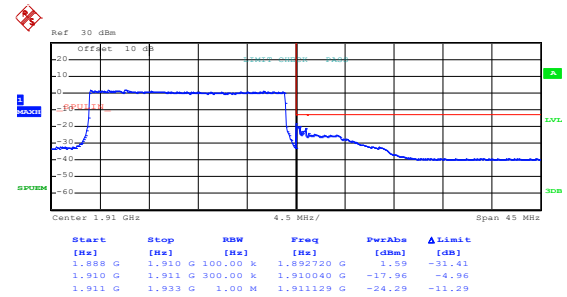
Highest channel

## QPSK & RB Size 100



Date: 25.DEC.2020 14:31:07

Lowest channel

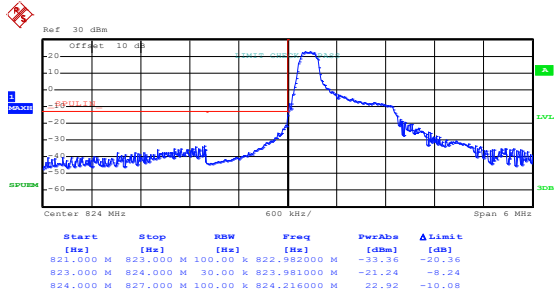


Date: 25.DEC.2020 14:31:45

Highest channel

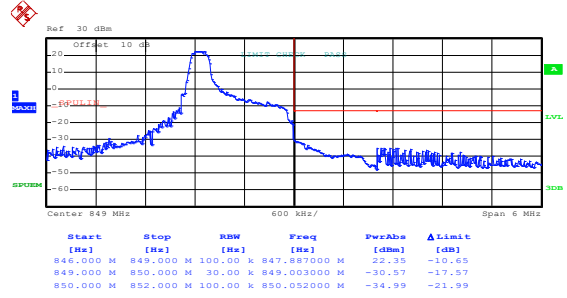
LTE Band 5 part:

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



Date: 25.DEC.2020 14:34:02

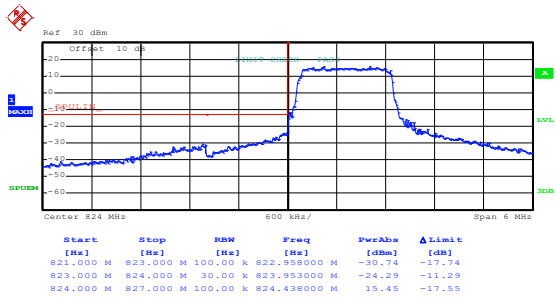
Lowest channel



Date: 25.DEC.2020 14:34:57

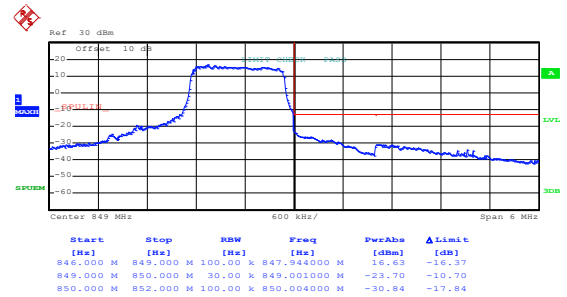
Highest channel

16QAM & RB Size 6



Date: 25.DEC.2020 14:34:23

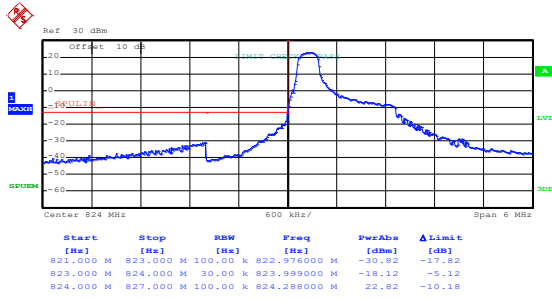
Lowest channel



Date: 25.DEC.2020 14:36:41

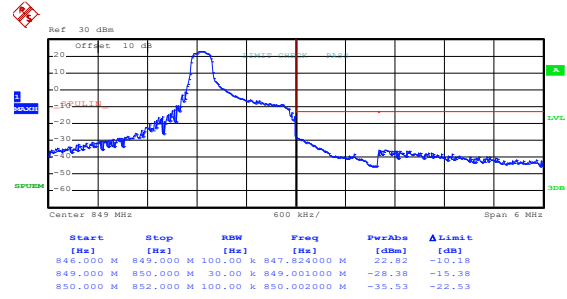
Highest channel

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



Date: 25.DEC.2020 14:33:51

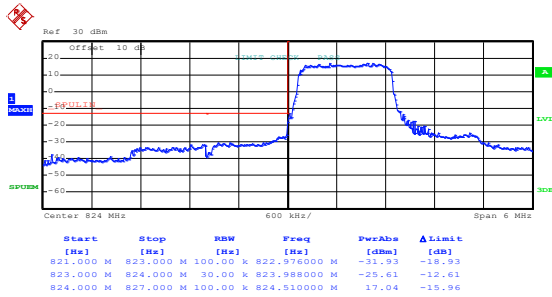
Lowest channel



Date: 25.DEC.2020 14:34:48

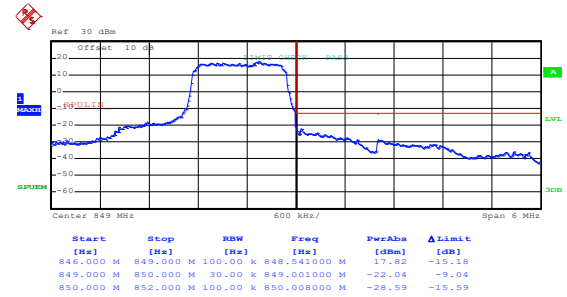
Highest channel

## QPSK & RB Size 6



Date: 25.DEC.2020 14:34:14

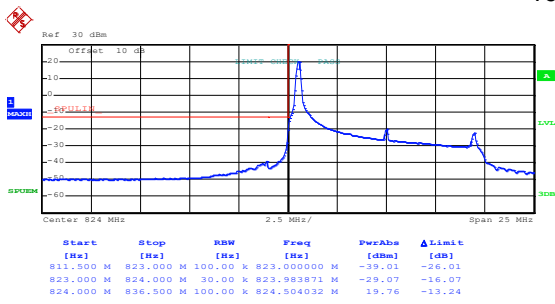
Lowest channel



Date: 25.DEC.2020 14:35:45

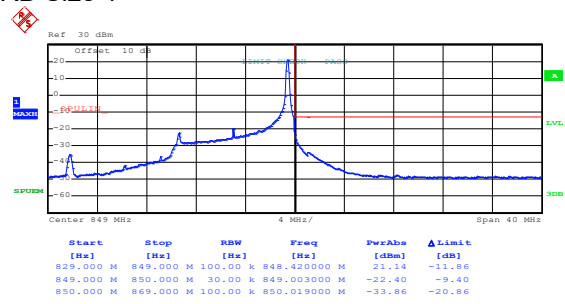
Highest channel

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



Date: 25.DEC.2020 14:41:56

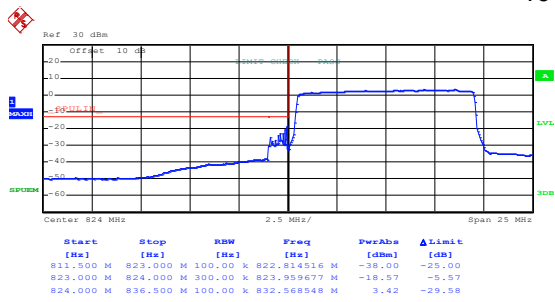
Lowest channel



Date: 2.MAR.2021 15:46:28

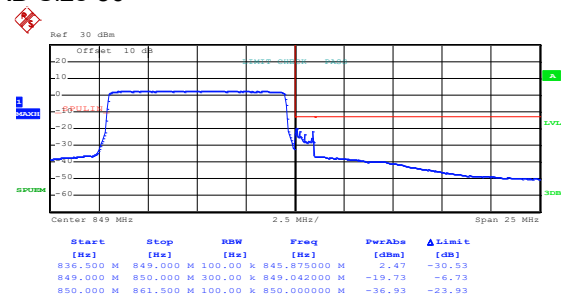
Highest channel

## 16QAM & RB Size 50



Date: 25.DEC.2020 14:41:29

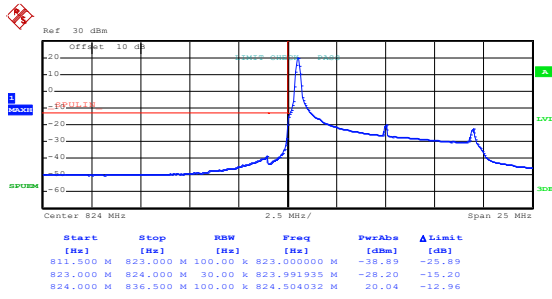
Lowest channel



Date: 25.DEC.2020 14:39:56

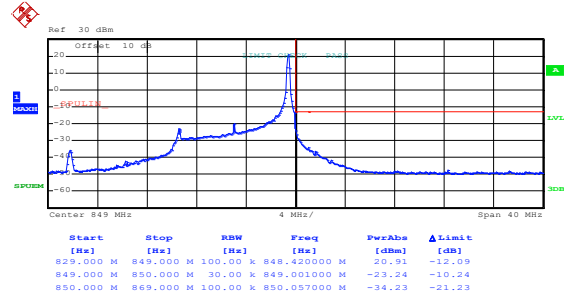
Highest channel

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



Date: 25.DEC.2020 14:41:49

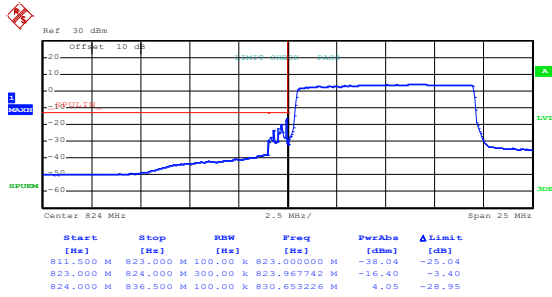
Lowest channel



Date: 2.MAR.2021 15:46:36

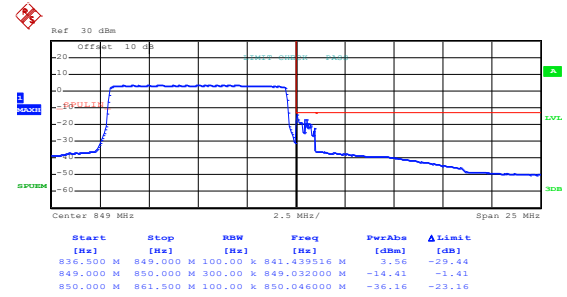
Highest channel

## QPSK & RB Size 50



Date: 25.DEC.2020 14:41:20

Lowest channel

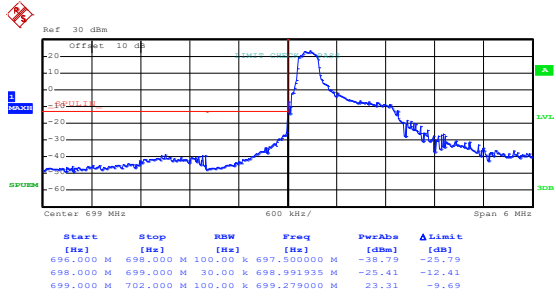


Date: 25.DEC.2020 14:39:44

Highest channel

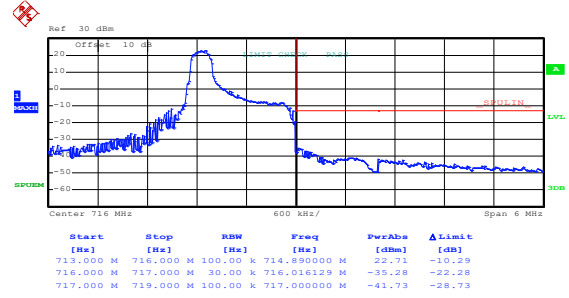
LTE band 12 part:

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



Date: 25.DEC.2020 14:47:02

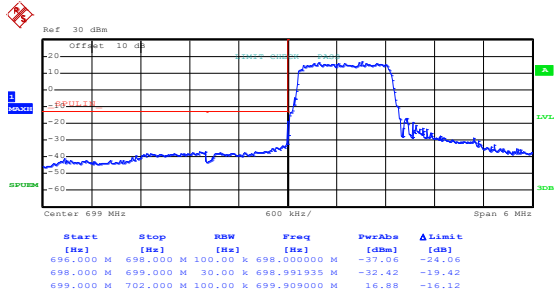
Lowest channel



Date: 25.DEC.2020 14:45:50

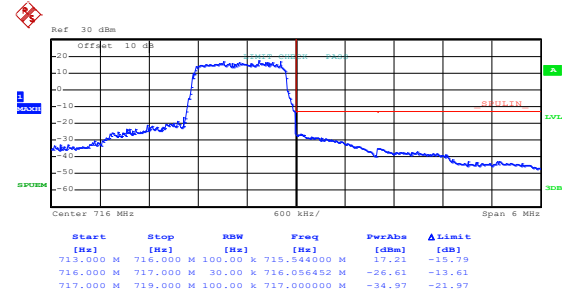
Highest channel

16QAM & RB Size 6



Date: 25.DEC.2020 14:46:45

Lowest channel

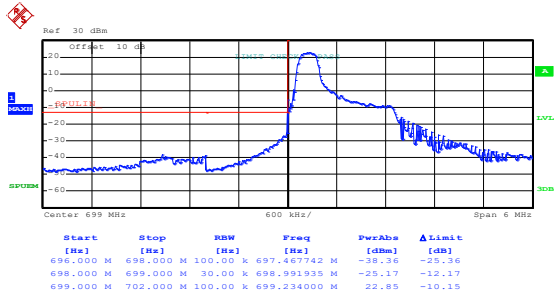


Date: 25.DEC.2020 14:46:05

Highest channel

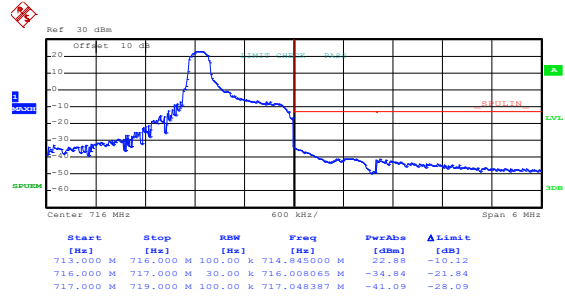


## LTE Band 12, BW: 1.4MHz QPSK & RB Size 1



Date: 25.DEC.2020 14:46:53

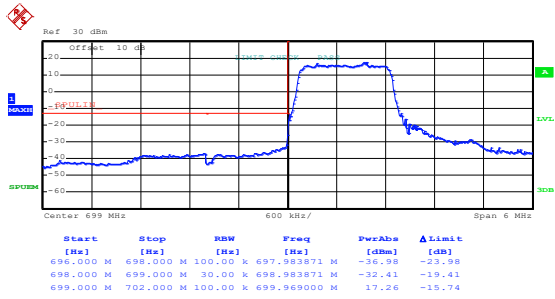
Lowest channel



Date: 25.DEC.2020 14:45:43

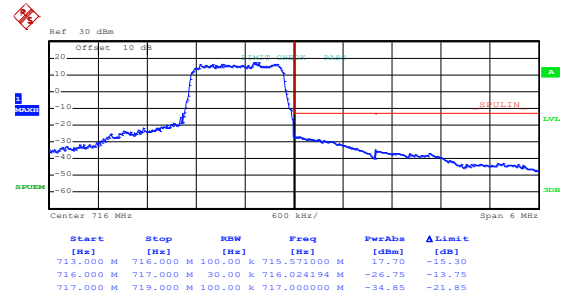
Highest channel

## QPSK & RB Size 6



Date: 25.DEC.2020 14:46:39

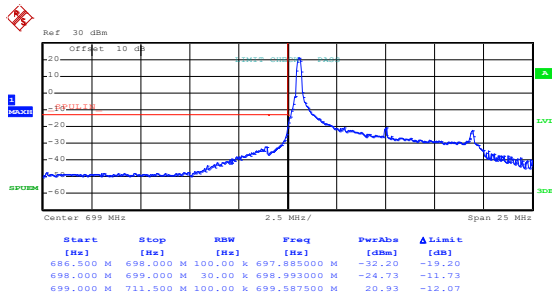
Lowest channel



Date: 25.DEC.2020 14:45:57

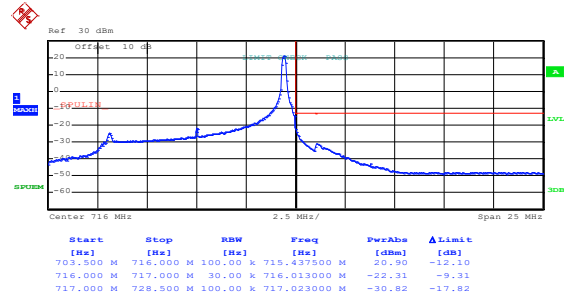
Highest channel

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



Date: 25.DEC.2020 14:42:59

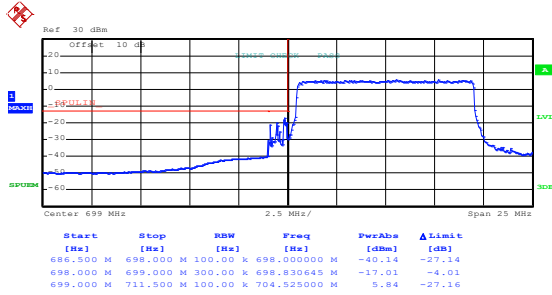
Lowest channel



Date: 2.MAR.2021 15:48:02

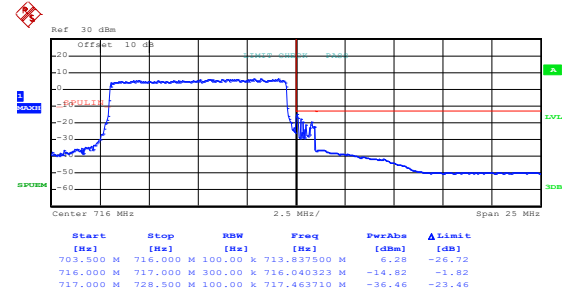
Highest channel

## 16QAM & RB Size 50



Date: 25.DEC.2020 14:43:37

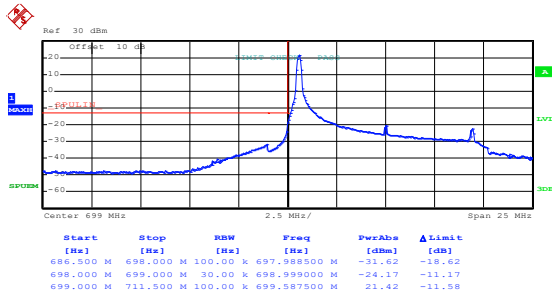
Lowest channel



Date: 25.DEC.2020 14:44:24

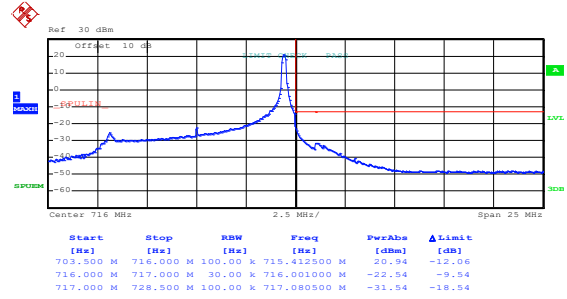
Highest channel

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



Date: 25.DEC.2020 14:42:53

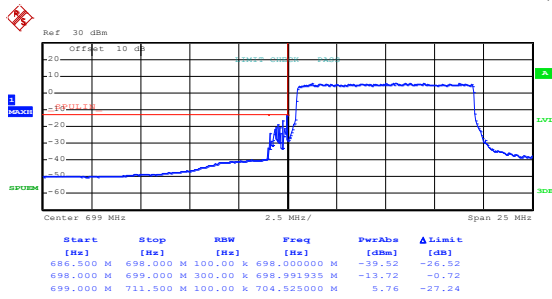
Lowest channel



Date: 2.MAR.2021 15:48:15

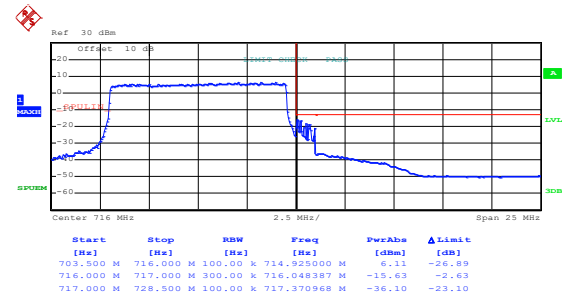
Highest channel

## QPSK & RB Size 50



Date: 25.DEC.2020 14:43:29

Lowest channel

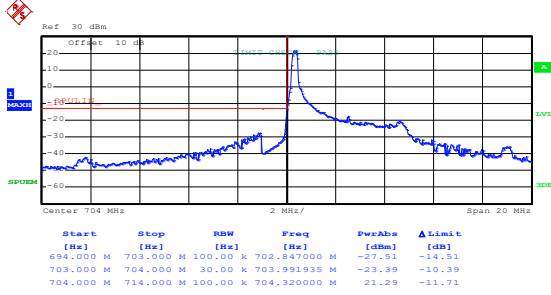


Date: 25.DEC.2020 14:44:16

Highest channel

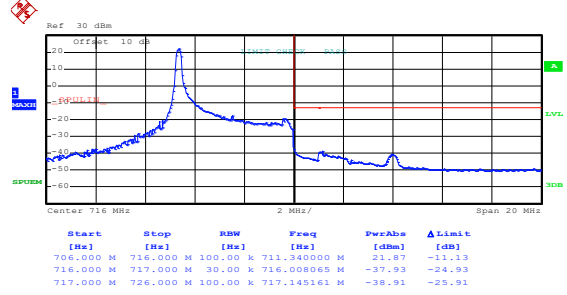
LTE Band 17 part:

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



Date: 25.DEC.2020 14:48:19

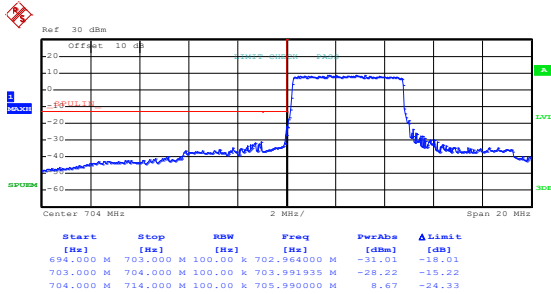
Lowest channel



Date: 25.DEC.2020 14:50:24

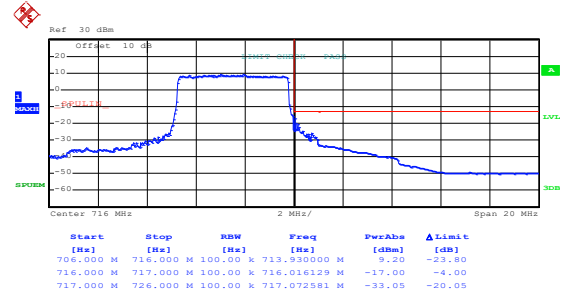
Highest channel

16QAM & RB Size 25



Date: 25.DEC.2020 14:48:44

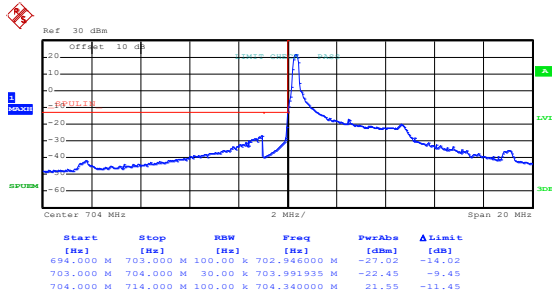
Lowest channel



Date: 25.DEC.2020 14:49:51

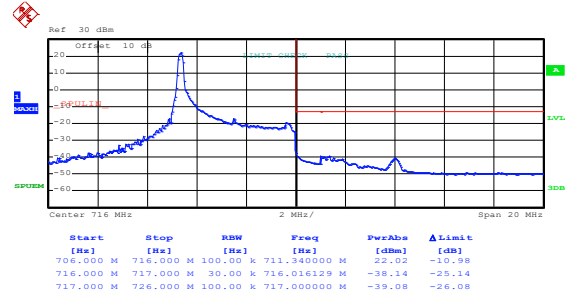
Highest channel

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



Date: 25.DEC.2020 14:48:11

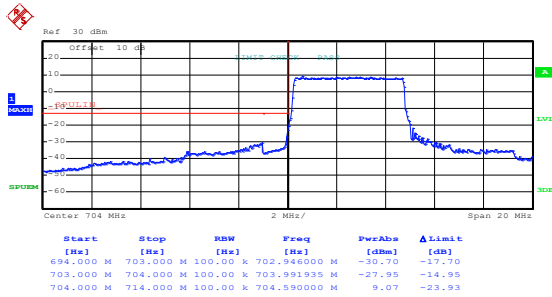
Lowest channel



Date: 25.DEC.2020 14:50:18

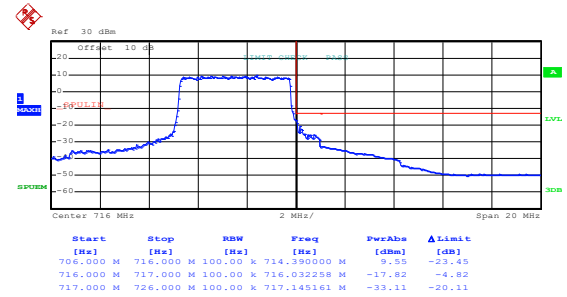
Highest channel

## QPSK & RB Size 25



Date: 25.DEC.2020 14:48:38

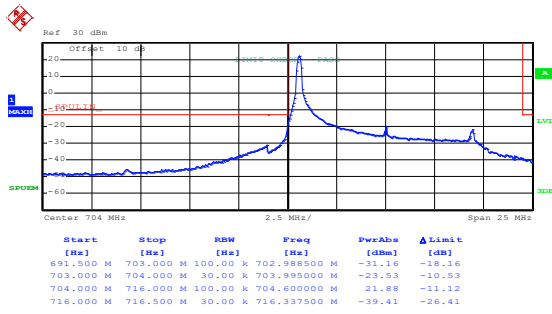
Lowest channel



Date: 25.DEC.2020 14:49:43

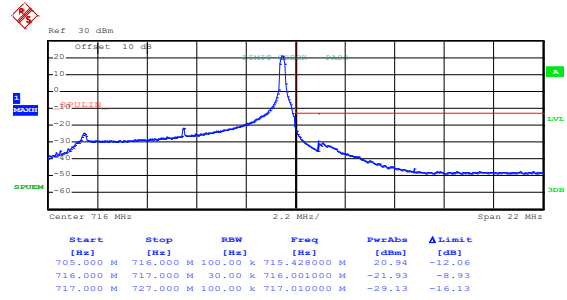
Highest channel

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



Date: 25.DEC.2020 14:53:14

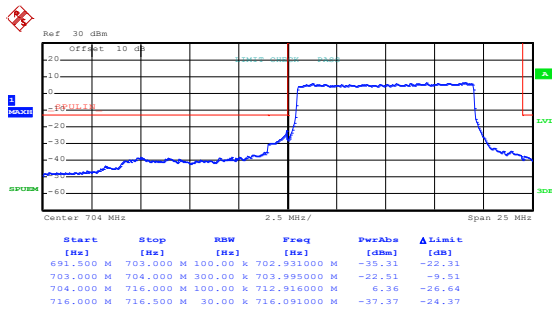
Lowest channel



Date: 2.MAR.2021 15:49:22

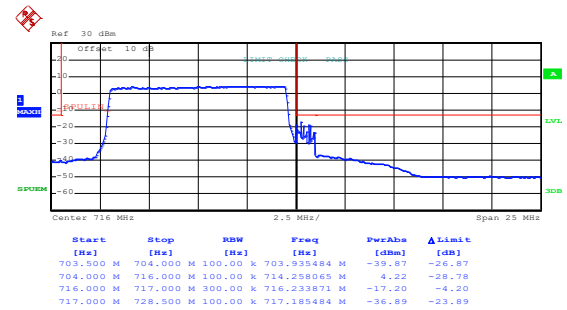
Highest channel

## 16QAM & RB Size 50



Date: 25.DEC.2020 14:53:51

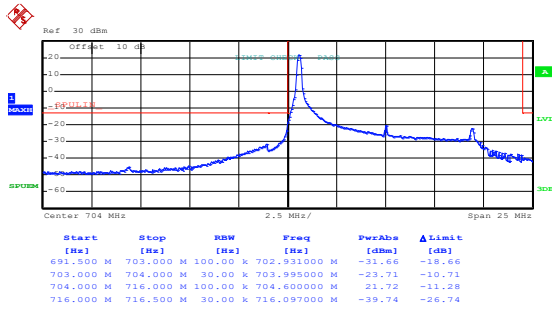
Lowest channel



Date: 25.DEC.2020 14:51:49

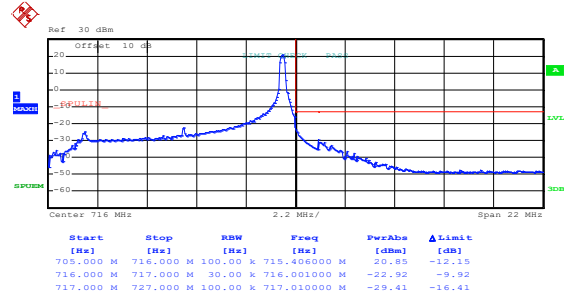
Highest channel

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



Date: 25.DEC.2020 14:52:55

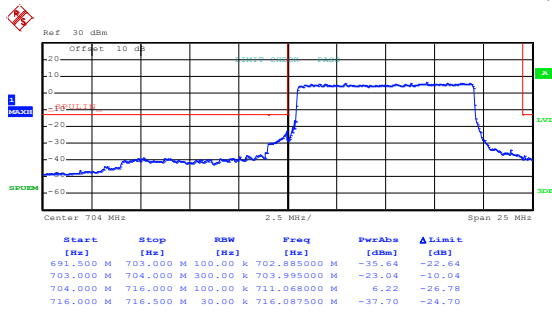
Lowest channel



Date: 2.MAR.2021 15:49:31

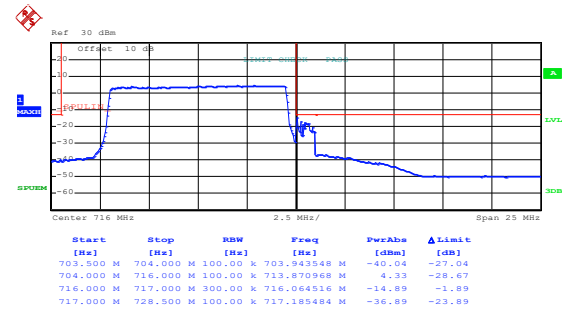
Highest channel

## QPSK & RB Size 50



Date: 25.DEC.2020 14:53:29

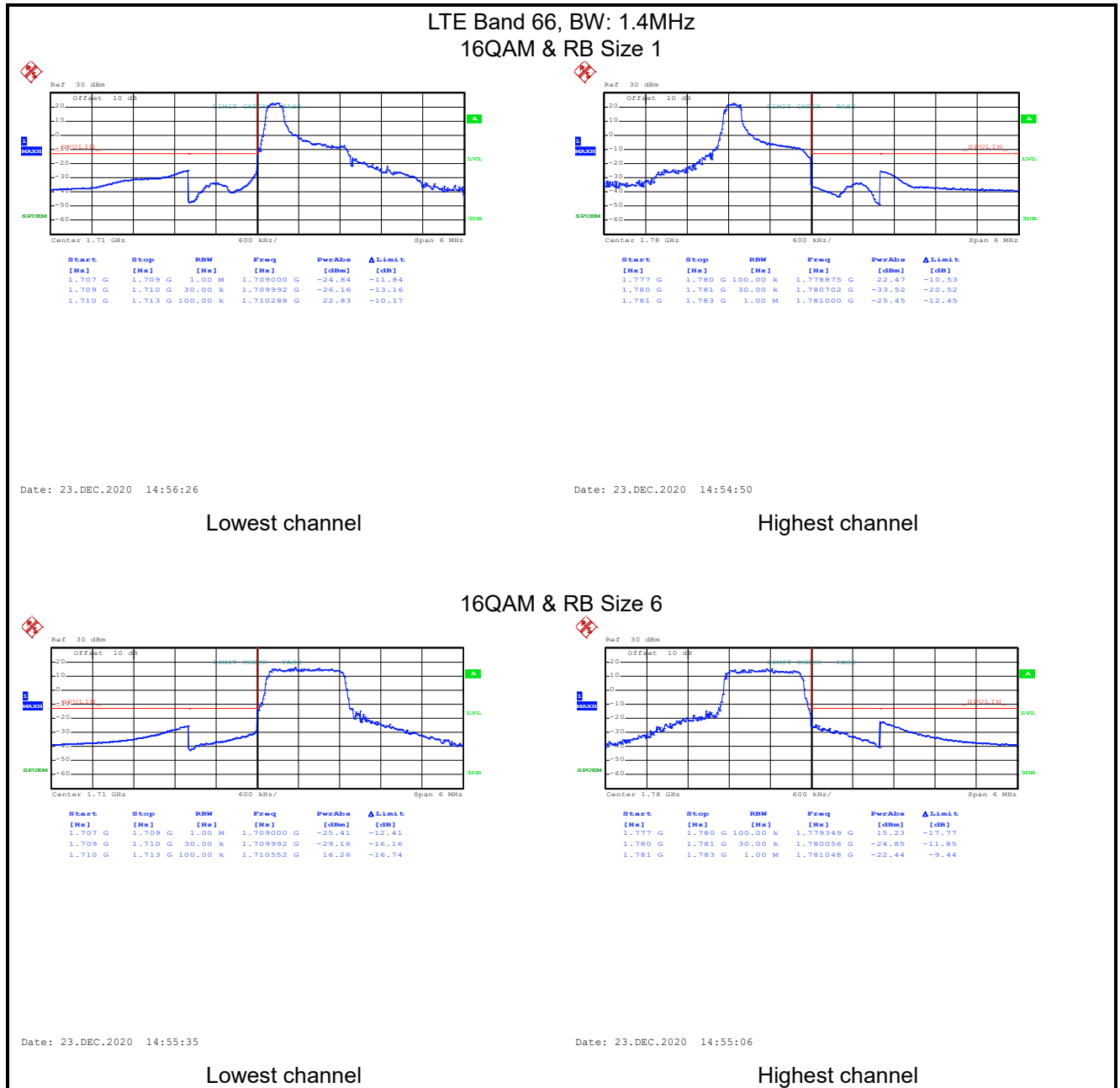
Lowest channel



Date: 25.DEC.2020 14:51:41

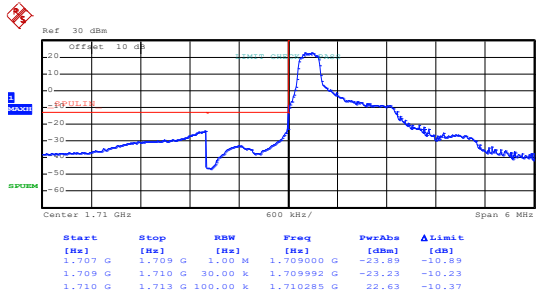
Highest channel

LTE Band 66 part:



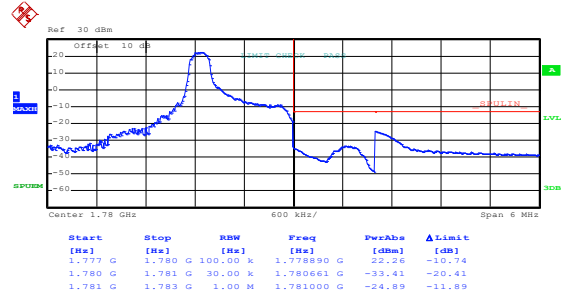


## LTE Band 66, BW: 1.4MHz QPSK & RB Size 1



Date: 23.DEC.2020 14:56:00

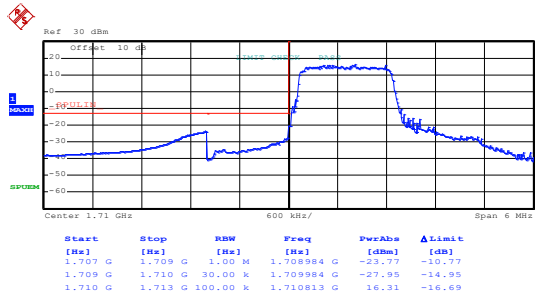
Lowest channel



Date: 23.DEC.2020 14:54:33

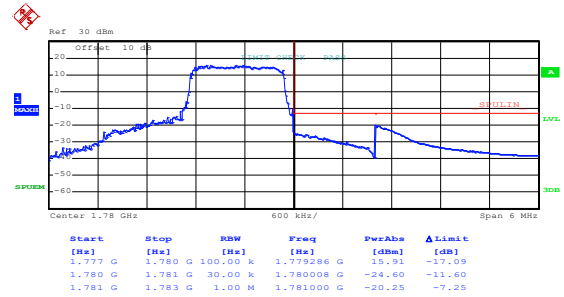
Highest channel

## QPSK & RB Size 6



Date: 23.DEC.2020 14:55:43

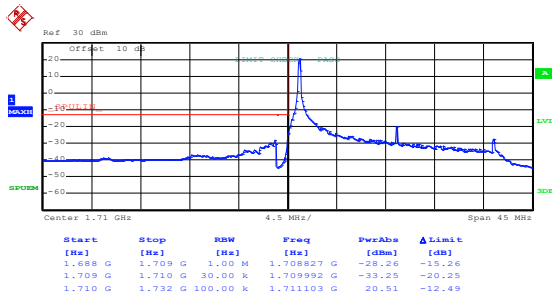
Lowest channel



Date: 23.DEC.2020 14:55:00

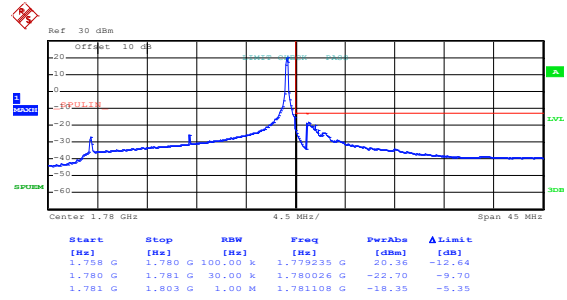
Highest channel

## LTE Band 66, BW: 20MHz 16QAM & RB Size 1



Date: 23.DEC.2020 14:51:44

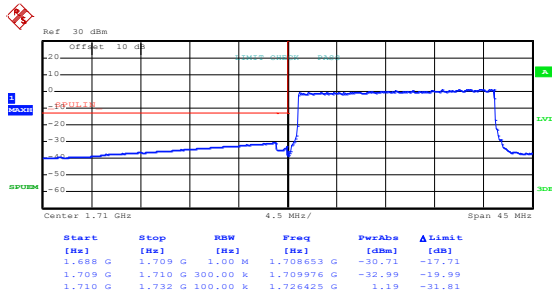
Lowest channel



Date: 2.MAR.2021 16:26:00

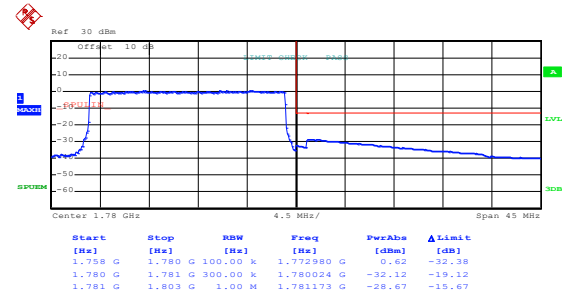
Highest channel

## 16QAM & RB Size 100



Date: 23.DEC.2020 14:52:11

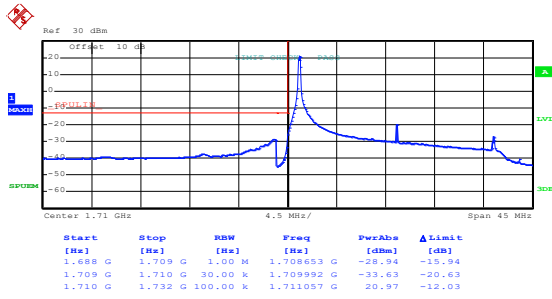
Lowest channel



Date: 23.DEC.2020 14:52:34

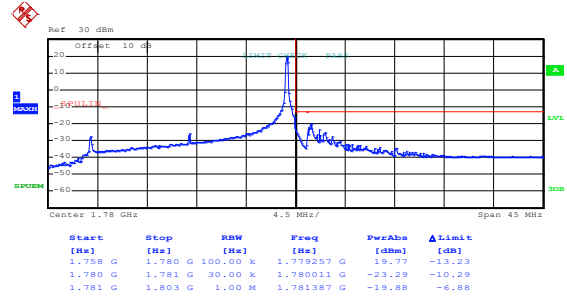
Highest channel

## LTE Band 66, BW: 20MHz QPSK & RB Size 1



Date: 23.DEC.2020 14:51:32

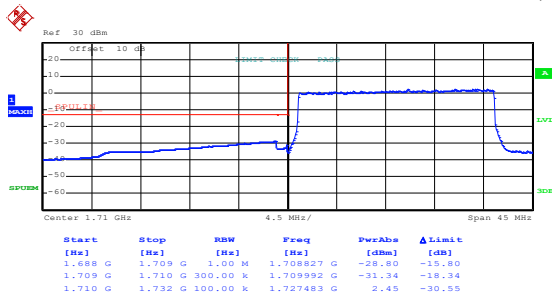
Lowest channel



Date: 2.MAR.2021 16:26:08

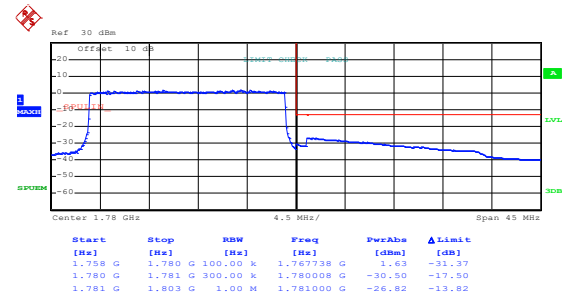
Highest channel

## QPSK & RB Size 100



Date: 23.DEC.2020 14:52:04

Lowest channel



Date: 23.DEC.2020 14:52:25

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 & 5 & 12 & 17& 66: 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:	<p>Below 1GHz</p> <p>Above 1GHz</p>
Test Procedure:	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.  <math display="block">ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}</math> </li> </ol>
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:**

<b>Band 2 (1.4MHz)</b>							
<b>Lowest channel</b>							
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	-52.74	12.64	0.75	-40.85	-13.00	-27.85	Vertical
5552.10	-45.56	12.76	1.13	-33.93	-13.00	-20.93	Vertical
7402.00	-38.60	11.44	1.63	-28.79	-13.00	-15.79	Vertical
3701.40	-52.60	12.64	0.75	-40.71	-13.00	-27.71	Horizontal
5552.10	-46.17	12.76	1.13	-34.54	-13.00	-21.54	Horizontal
7402.00	-39.00	11.44	1.63	-29.19	-13.00	-16.19	Horizontal
<b>Middle channel</b>							
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	-53.12	12.71	0.79	-41.20	-13.00	-28.20	Vertical
5640.00	-45.27	12.87	1.15	-33.55	-13.00	-20.55	Vertical
7520.00	-38.91	11.48	1.66	-29.09	-13.00	-16.09	Vertical
3760.00	-52.70	12.71	0.79	-40.78	-13.00	-27.78	Horizontal
5640.00	-46.71	12.87	1.15	-34.99	-13.00	-21.99	Horizontal
7520.00	-39.03	11.48	1.66	-29.21	-13.00	-16.21	Horizontal
<b>Highest channel</b>							
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	-53.26	12.78	0.81	-41.29	-13.00	-28.29	Vertical
5724.90	-45.39	12.97	1.19	-33.61	-13.00	-20.61	Vertical
7633.20	-38.50	11.34	1.71	-28.87	-13.00	-15.87	Vertical
3816.60	-52.73	12.78	0.81	-40.76	-13.00	-27.76	Horizontal
5724.90	-46.45	12.97	1.19	-34.67	-13.00	-21.67	Horizontal
7633.20	-38.97	11.34	1.71	-29.34	-13.00	-16.34	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

<b>Band 2 (20MHz)</b>							
<b>Lowest channel</b>							
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	-53.03	12.66	0.77	-41.14	-13.00	-28.14	Vertical
5580.00	-45.07	12.80	1.15	-33.42	-13.00	-20.42	Vertical
7440.00	-38.45	11.46	1.64	-28.63	-13.00	-15.63	Vertical
3720.00	-52.30	12.66	0.77	-40.41	-13.00	-27.41	Horizontal
5580.00	-46.52	12.80	1.15	-34.87	-13.00	-21.87	Horizontal
7440.00	-39.21	11.46	1.64	-29.39	-13.00	-16.39	Horizontal
<b>Middle channel</b>							
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	-53.36	12.71	0.79	-41.44	-13.00	-28.44	Vertical
5640.00	-45.55	12.87	1.15	-33.83	-13.00	-20.83	Vertical
7520.00	-38.55	11.48	1.66	-28.73	-13.00	-15.73	Vertical
3760.00	-51.85	12.71	0.79	-39.93	-13.00	-26.93	Horizontal
5640.00	-46.35	12.87	1.15	-34.63	-13.00	-21.63	Horizontal
7520.00	-39.58	11.48	1.66	-29.76	-13.00	-16.76	Horizontal
<b>Highest channel</b>							
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	-53.14	12.76	0.79	-41.17	-13.00	-28.17	Vertical
5700.00	-45.59	12.94	1.18	-33.83	-13.00	-20.83	Vertical
7600.00	-38.83	11.38	1.69	-29.14	-13.00	-16.14	Vertical
3800.00	-51.43	12.76	0.79	-39.46	-13.00	-26.46	Horizontal
5700.00	-46.30	12.94	1.18	-34.54	-13.00	-21.54	Horizontal
7600.00	-39.70	11.38	1.69	-30.01	-13.00	-17.01	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

<b>Band 5 (1.4MHz)</b>							
<b>Lowest channel</b>							
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	-59.47	9.57	0.20	-50.10	-13.00	-37.10	Vertical
2474.10	-57.05	10.86	0.43	-46.62	-13.00	-33.62	Vertical
3298.80	-51.84	12.00	0.64	-40.48	-13.00	-27.48	Vertical
1649.40	-58.48	9.57	0.20	-49.11	-13.00	-36.11	Horizontal
2474.10	-57.35	10.86	0.43	-46.92	-13.00	-33.92	Horizontal
3298.80	-52.25	12.00	0.64	-40.89	-13.00	-27.89	Horizontal
<b>Middle channel</b>							
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	-59.90	9.66	0.22	-50.46	-13.00	-37.46	Vertical
2509.50	-56.96	10.91	0.46	-46.51	-13.00	-33.51	Vertical
3346.00	-51.95	12.09	0.66	-40.52	-13.00	-27.52	Vertical
1673.30	-58.81	9.66	0.22	-49.37	-13.00	-36.37	Horizontal
2509.50	-57.01	10.91	0.46	-46.56	-13.00	-33.56	Horizontal
3346.00	-52.53	12.09	0.66	-41.10	-13.00	-28.10	Horizontal
<b>Highest channel</b>							
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	-60.31	9.74	0.23	-50.80	-13.00	-37.80	Vertical
2544.90	-56.56	10.94	0.49	-46.11	-13.00	-33.11	Vertical
3393.20	-52.15	12.19	0.68	-40.64	-13.00	-27.64	Vertical
1696.60	-59.20	9.74	0.23	-49.69	-13.00	-36.69	Horizontal
2544.90	-56.76	10.94	0.49	-46.31	-13.00	-33.31	Horizontal
3393.20	-52.79	12.19	0.68	-41.28	-13.00	-28.28	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

<b>Band 5 (10MHz)</b>							
<b>Lowest channel</b>							
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	-60.47	9.60	0.21	-51.08	-13.00	-38.08	Vertical
2487.00	-56.84	10.88	0.45	-46.41	-13.00	-33.41	Vertical
3316.00	-52.27	12.03	0.65	-40.89	-13.00	-27.89	Vertical
1658.00	-59.45	9.60	0.21	-50.06	-13.00	-37.06	Horizontal
2487.00	-56.63	10.88	0.45	-46.20	-13.00	-33.20	Horizontal
3316.00	-52.41	12.03	0.65	-41.03	-13.00	-28.03	Horizontal
<b>Middle channel</b>							
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	-60.32	9.66	0.21	-50.87	-13.00	-37.87	Vertical
2509.50	-56.74	10.91	0.46	-46.29	-13.00	-33.29	Vertical
3346.00	-52.10	12.09	0.66	-40.67	-13.00	-27.67	Vertical
1673.30	-59.71	9.66	0.21	-50.26	-13.00	-37.26	Horizontal
2509.50	-57.08	10.91	0.46	-46.63	-13.00	-33.63	Horizontal
3346.00	-52.20	12.09	0.66	-40.77	-13.00	-27.77	Horizontal
<b>Highest channel</b>							
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	-60.02	9.71	0.23	-50.54	-13.00	-37.54	Vertical
2532.00	-56.99	10.93	0.48	-46.54	-13.00	-33.54	Vertical
3376.00	-52.15	12.15	0.67	-40.67	-13.00	-27.67	Vertical
1688.00	-59.51	9.71	0.23	-50.03	-13.00	-37.03	Horizontal
2532.00	-56.83	10.93	0.48	-46.38	-13.00	-33.38	Horizontal
3376.00	-52.06	12.15	0.67	-40.58	-13.00	-27.58	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							



**LTE Band 12 part:**

<b>Band 12 (1.4MHz)</b>							
<b>Lowest channel</b>							
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	-57.66	7.80	0.11	-49.97	-13.00	-36.97	Vertical
2099.10	-58.29	10.34	0.29	-48.24	-13.00	-35.24	Vertical
2798.80	-52.46	11.20	0.53	-41.79	-13.00	-28.79	Vertical
1399.40	-56.70	7.80	0.11	-49.01	-13.00	-36.01	Horizontal
2099.10	-58.31	10.34	0.29	-48.26	-13.00	-35.26	Horizontal
2798.80	-53.48	11.20	0.53	-42.81	-13.00	-29.81	Horizontal
<b>Middle channel</b>							
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	-58.11	7.92	0.13	-50.32	-13.00	-37.32	Vertical
2122.50	-58.18	10.37	0.32	-48.13	-13.00	-35.13	Vertical
2830.00	-52.76	11.23	0.55	-42.08	-13.00	-29.08	Vertical
1415.00	-57.09	7.92	0.13	-49.30	-13.00	-36.30	Horizontal
2122.50	-57.98	10.37	0.32	-47.93	-13.00	-34.93	Horizontal
2830.00	-53.50	11.23	0.55	-42.82	-13.00	-29.82	Horizontal
<b>Highest channel</b>							
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	-58.33	8.04	0.16	-50.45	-13.00	-37.45	Vertical
2145.90	-58.30	10.40	0.35	-48.25	-13.00	-35.25	Vertical
2861.20	-52.67	11.26	0.58	-41.99	-13.00	-28.99	Vertical
1430.60	-57.28	8.04	0.16	-49.40	-13.00	-36.40	Horizontal
2145.90	-57.70	10.40	0.35	-47.65	-13.00	-34.65	Horizontal
2861.20	-53.68	11.26	0.58	-43.00	-13.00	-30.00	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

<b>Band 12 (10MHz)</b>							
<b>Lowest channel</b>							
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	-58.04	7.86	0.12	-50.30	-13.00	-37.30	Vertical
2112.00	-58.47	10.36	0.30	-48.41	-13.00	-35.41	Vertical
2816.00	-52.48	11.22	0.54	-41.80	-13.00	-28.80	Vertical
1408.00	-57.49	7.86	0.12	-49.75	-13.00	-36.75	Horizontal
2112.00	-57.06	10.36	0.30	-47.00	-13.00	-34.00	Horizontal
2816.00	-53.47	11.22	0.54	-42.79	-13.00	-29.79	Horizontal
<b>Middle channel</b>							
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	-58.00	7.92	0.13	-50.21	-13.00	-37.21	Vertical
2122.50	-58.12	10.37	0.32	-48.07	-13.00	-35.07	Vertical
2830.00	-52.39	11.23	0.55	-41.71	-13.00	-28.71	Vertical
1415.00	-57.51	7.92	0.13	-49.72	-13.00	-36.72	Horizontal
2122.50	-57.11	10.37	0.32	-47.06	-13.00	-34.06	Horizontal
2830.00	-53.45	11.23	0.55	-42.77	-13.00	-29.77	Horizontal
<b>Highest channel</b>							
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	-58.51	7.98	0.15	-50.68	-13.00	-37.68	Vertical
2133.00	-58.27	10.39	0.34	-48.22	-13.00	-35.22	Vertical
2844.00	-52.57	11.24	0.57	-41.90	-13.00	-28.90	Vertical
1422.00	-57.32	7.98	0.15	-49.49	-13.00	-36.49	Horizontal
2133.00	-57.34	10.39	0.34	-47.29	-13.00	-34.29	Horizontal
2844.00	-53.37	11.24	0.57	-42.70	-13.00	-29.70	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

**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	-57.64	7.90	0.12	-49.86	-13.00	-36.86	Vertical
2119.50	-58.21	10.37	0.31	-48.15	-13.00	-35.15	Vertical
2826.00	-52.22	11.23	0.54	-41.53	-13.00	-28.53	Vertical
1413.00	-57.07	7.90	0.12	-49.29	-13.00	-36.29	Horizontal
2119.50	-57.96	10.37	0.31	-47.90	-13.00	-34.90	Horizontal
2826.00	-53.53	11.23	0.54	-42.84	-13.00	-29.84	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
1420.00	-57.64	7.96	0.14	-49.82	-13.00	-36.82	Vertical
2130.00	-58.43	10.38	0.33	-48.38	-13.00	-35.38	Vertical
2840.00	-51.85	11.24	0.56	-41.17	-13.00	-28.17	Vertical
1420.00	-57.55	7.96	0.14	-49.73	-13.00	-36.73	Horizontal
2130.00	-57.94	10.38	0.33	-47.89	-13.00	-34.89	Horizontal
2840.00	-53.88	11.24	0.56	-43.20	-13.00	-30.20	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	-57.42	8.02	0.16	-49.56	-13.00	-36.56	Vertical
2140.50	-58.18	10.40	0.34	-48.12	-13.00	-35.12	Vertical
2854.00	-52.29	11.25	0.57	-41.61	-13.00	-28.61	Vertical
1427.00	-57.22	8.02	0.16	-49.36	-13.00	-36.36	Horizontal
2140.50	-58.02	10.40	0.34	-47.96	-13.00	-34.96	Horizontal
2854.00	-53.40	11.25	0.57	-42.72	-13.00	-29.72	Horizontal
Remark: The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.							

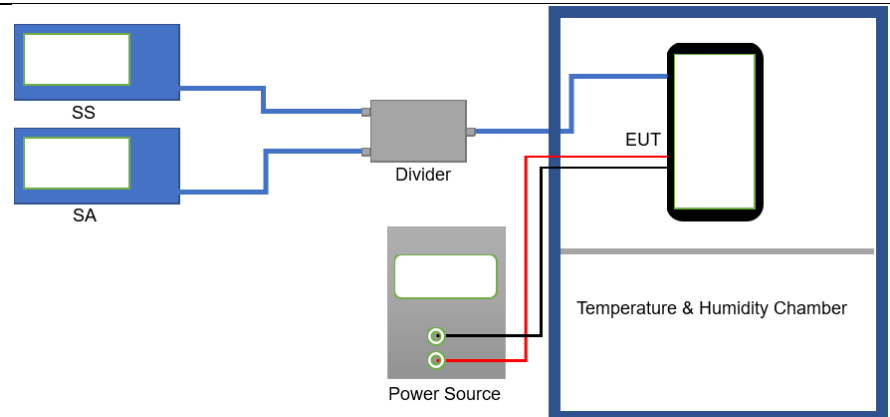
<b>Band 17 (10MHz)</b>							
<b>Lowest channel</b>							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurious Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1418.00	-56.49	7.94	0.13	-48.68	-13.00	-35.68	Vertical
2127.00	-58.28	10.38	0.32	-48.22	-13.00	-35.22	Vertical
2836.00	-52.71	11.24	0.56	-42.03	-13.00	-29.03	Vertical
1418.00	-56.96	7.94	0.13	-49.15	-13.00	-36.15	Horizontal
2127.00	-58.69	10.38	0.32	-48.63	-13.00	-35.63	Horizontal
2836.00	-53.84	11.24	0.56	-43.16	-13.00	-30.16	Horizontal
<b>Middle channel</b>							
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	-56.60	7.96	0.14	-48.78	-13.00	-35.78	Vertical
2130.00	-58.25	10.38	0.33	-48.20	-13.00	-35.20	Vertical
2840.00	-52.28	11.24	0.56	-41.60	-13.00	-28.60	Vertical
1420.00	-57.01	7.96	0.14	-49.19	-13.00	-36.19	Horizontal
2130.00	-58.61	10.38	0.33	-48.56	-13.00	-35.56	Horizontal
2840.00	-53.42	11.24	0.56	-42.74	-13.00	-29.74	Horizontal
<b>Highest channel</b>							
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	-57.04	7.98	0.15	-49.21	-13.00	-36.21	Vertical
2133.00	-58.57	10.39	0.34	-48.52	-13.00	-35.52	Vertical
2844.00	-51.90	11.24	0.57	-41.23	-13.00	-28.23	Vertical
1422.00	-57.05	7.98	0.15	-49.22	-13.00	-36.22	Horizontal
2133.00	-58.40	10.39	0.34	-48.35	-13.00	-35.35	Horizontal
2844.00	-53.63	11.24	0.57	-42.96	-13.00	-29.96	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

**LTE Band 66 part:**

<b>Band 66 (1.4MHz)</b>							
<b>Lowest channel</b>							
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	-44.83	12.24	0.70	-33.29	-13.00	-20.29	Vertical
5132.10	-47.76	12.92	1.01	-35.85	-13.00	-22.85	Vertical
6842.80	-39.15	11.42	1.53	-29.26	-13.00	-16.26	Vertical
3421.40	-61.64	12.24	0.70	-50.10	-13.00	-37.10	Horizontal
5132.10	-58.53	12.92	1.01	-46.62	-13.00	-33.62	Horizontal
6842.80	-50.37	11.42	1.53	-40.48	-13.00	-27.48	Horizontal
<b>Middle channel</b>							
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	-45.31	12.38	0.73	-33.66	-13.00	-20.66	Vertical
5235.00	-47.29	12.86	1.06	-35.49	-13.00	-22.49	Vertical
6980.00	-38.97	11.23	1.57	-29.31	-13.00	-16.31	Vertical
3490.00	-61.33	12.38	0.73	-49.68	-13.00	-36.68	Horizontal
5235.00	-58.35	12.86	1.06	-46.55	-13.00	-33.55	Horizontal
6980.00	-50.44	11.23	1.57	-40.78	-13.00	-27.78	Horizontal
<b>Highest channel</b>							
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
3558.60	-45.17	12.47	0.74	-33.44	-13.00	-20.44	Vertical
5337.90	-47.71	12.80	1.08	-35.99	-13.00	-22.99	Vertical
7117.20	-39.01	11.27	1.59	-29.33	-13.00	-16.33	Vertical
3558.60	-61.63	12.47	0.74	-49.90	-13.00	-36.90	Horizontal
5337.90	-57.90	12.80	1.08	-46.18	-13.00	-33.18	Horizontal
7117.20	-50.54	11.27	1.59	-40.86	-13.00	-27.86	Horizontal
<i>Remark:</i>							
<i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

<b>Band 66 (20MHz)</b>							
<b>Lowest channel</b>							
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	-44.93	12.28	0.71	-33.36	-13.00	-20.36	Vertical
5160.00	-47.54	12.90	1.03	-35.67	-13.00	-22.67	Vertical
6880.00	-39.05	11.37	1.54	-29.22	-13.00	-16.22	Vertical
3440.00	-61.25	12.28	0.71	-49.68	-13.00	-36.68	Horizontal
5160.00	-58.38	12.90	1.03	-46.51	-13.00	-33.51	Horizontal
6880.00	-50.61	11.37	1.54	-40.78	-13.00	-27.78	Horizontal
<b>Middle channel</b>							
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	-44.96	12.38	0.73	-33.31	-13.00	-20.31	Vertical
5235.00	-47.53	12.86	1.06	-35.73	-13.00	-22.73	Vertical
6980.00	-38.49	11.23	1.57	-28.83	-13.00	-15.83	Vertical
3490.00	-61.35	12.38	0.73	-49.70	-13.00	-36.70	Horizontal
5235.00	-58.28	12.86	1.06	-46.48	-13.00	-33.48	Horizontal
6980.00	-50.72	11.23	1.57	-41.06	-13.00	-28.06	Horizontal
<b>Highest channel</b>							
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
3540.00	-45.13	12.45	0.74	-33.42	-13.00	-20.42	Vertical
5310.00	-47.82	12.81	1.08	-36.09	-13.00	-23.09	Vertical
7080.00	-38.58	11.25	1.59	-28.92	-13.00	-15.92	Vertical
3540.00	-61.27	12.45	0.74	-49.56	-13.00	-36.56	Horizontal
5310.00	-57.79	12.81	1.08	-46.06	-13.00	-33.06	Horizontal
7080.00	-50.37	11.25	1.59	-40.71	-13.00	-27.71	Horizontal
<b>Remark:</b> <i>The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.</i>							

### 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 & 12 & 17 & 66
Test setup:	
Test procedure:	<ol style="list-style-type: none"> <li>1. The equipment under test was connected to an external DC power supply and input rated voltage.</li> <li>2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.</li> <li>3. The EUT was placed inside the temperature chamber.</li> <li>4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency.</li> <li>5. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li> <li>6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached</li> </ol>
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		
<b>QPSK</b>					
3.70	-30	168	0.089362	Within authorized band for Band 2	Pass
	-20	153	0.081383		
	-10	146	0.077660		
	0	135	0.071809		
	10	128	0.068085		
	20	113	0.060106		
	30	107	0.056915		
	40	160	0.085106		
	50	120	0.063830		
<b>16QAM</b>					
3.70	-30	165	0.087766	Within authorized band for Band 2	Pass
	-20	158	0.084043		
	-10	143	0.076064		
	0	137	0.072872		
	10	122	0.064894		
	20	116	0.061702		
	30	108	0.057447		
	40	152	0.080851		
	50	130	0.069149		

*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		
<b>QPSK</b>					
3.70	-30	170	0.203228	±2.5	Pass
	-20	163	0.194860		
	-10	154	0.184100		
	0	147	0.175732		
	10	133	0.158996		
	20	124	0.148237		
	30	117	0.139868		
	40	140	0.167364		
	50	106	0.126718		
<b>16QAM</b>					
3.70	-30	166	0.198446	±2.5	Pass
	-20	158	0.188882		
	-10	143	0.170950		
	0	134	0.160191		
	10	127	0.151823		
	20	115	0.137478		
	30	151	0.180514		
	40	120	0.143455		
	50	103	0.123132		

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		
<b>QPSK</b>					
3.70	-30	173	0.244523	Within authorized band for Band 12	Pass
	-20	167	0.236042		
	-10	151	0.213428		
	0	143	0.202120		
	10	136	0.192226		
	20	127	0.179505		
	30	160	0.226148		
	40	120	0.169611		
	50	112	0.158304		
<b>16QAM</b>					
3.70	-30	170	0.240283	Within authorized band for Band 12	Pass
	-20	160	0.226148		
	-10	153	0.216254		
	0	146	0.206360		
	10	137	0.193640		
	20	121	0.171025		
	30	115	0.162544		
	40	106	0.149823		
	50	130	0.183746		
<i>Note: Only the worst case shown in the report.</i>					

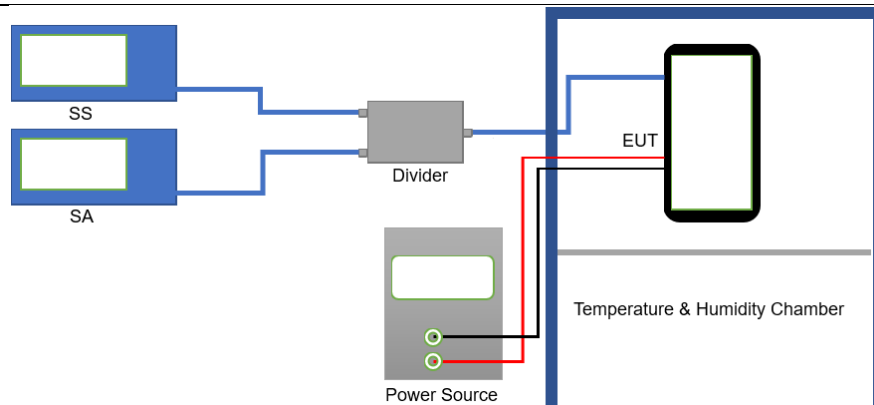
**LTE Band 17 part:**

Reference Frequency: LTE Band 17 (10MHz) Middle channel=23790 channel=710.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.70	-30	171	0.240845	Within authorized band for Band 17	Pass
	-20	163	0.229577		
	-10	156	0.219718		
	0	147	0.207042		
	10	132	0.185915		
	20	123	0.173239		
	30	116	0.163380		
	40	141	0.198592		
	50	104	0.146479		
<b>16QAM</b>					
3.70	-30	168	0.236620	Within authorized band for Band 17	Pass
	-20	159	0.223944		
	-10	143	0.201408		
	0	136	0.191549		
	10	128	0.180282		
	20	113	0.159155		
	30	101	0.142254		
	40	151	0.212676		
	50	120	0.169014		
<i>Note: Only the worst case shown in the report.</i>					

**LTE Band 66 part:**

Reference Frequency: LTE Band 66 (10MHz) Middle channel=132322 channel=1745.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.70	-30	176	0.100860	Within authorized band for Band 66	Pass
	-20	168	0.096275		
	-10	153	0.087679		
	0	146	0.083668		
	10	137	0.078510		
	20	122	0.069914		
	30	162	0.092837		
	40	130	0.074499		
	50	115	0.065903		
<b>16QAM</b>					
3.70	-30	173	0.099140	Within authorized band for Band 66	Pass
	-20	165	0.094556		
	-10	158	0.090544		
	0	141	0.080802		
	10	132	0.075645		
	20	127	0.072779		
	30	112	0.064183		
	40	150	0.085960		
	50	120	0.068768		
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 & 12 & 17 & 66
Test setup:	
Test procedure:	<ol style="list-style-type: none"> <li>1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage.</li> <li>2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.</li> <li>3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.</li> </ol>
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	4.25	80	0.042553	Within authorized band for Band 2	Pass
	3.70	70	0.037234		
	3.50	60	0.031915		
16QAM					
25	4.25	79	0.042021	Within authorized band for Band 2	Pass
	3.70	69	0.036702		
	3.50	59	0.031383		

*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	4.25	83	0.099223	±2.5	Pass
	3.70	70	0.083682		
	3.50	60	0.071727		
16QAM					
25	4.25	80	0.095637	±2.5	Pass
	3.70	75	0.089659		
	3.50	62	0.074118		

*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	4.25	71	0.100353	Within authorized band for Band 12	Pass
	3.70	62	0.087633		
	3.50	53	0.074912		
16QAM					
25	4.25	70	0.098940	Within authorized band for Band 12	Pass
	3.70	60	0.084806		
	3.50	51	0.072085		

*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	4.25	83	0.116901	Within authorized band for Band 17	Pass
	3.70	72	0.101408		
	3.50	60	0.084507		
16QAM					
25	4.25	81	0.114085	Within authorized band for Band 17	Pass
	3.70	70	0.098592		
	3.50	64	0.090141		

*Note: Only the worst case shown in the report.*

**LTE Band 66 part:**

Reference Frequency: LTE Band 66(10MHz) Middle channel=132332 channel=1745.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.25	85	0.048711	Within authorized band for Band 66	Pass
	3.70	64	0.036676		
	3.50	73	0.041834		
16QAM					
25	4.25	83	0.047564	Within authorized band for Band 66	Pass
	3.70	70	0.040115		
	3.50	65	0.037249		

*Note: Only the worst case shown in the report.*