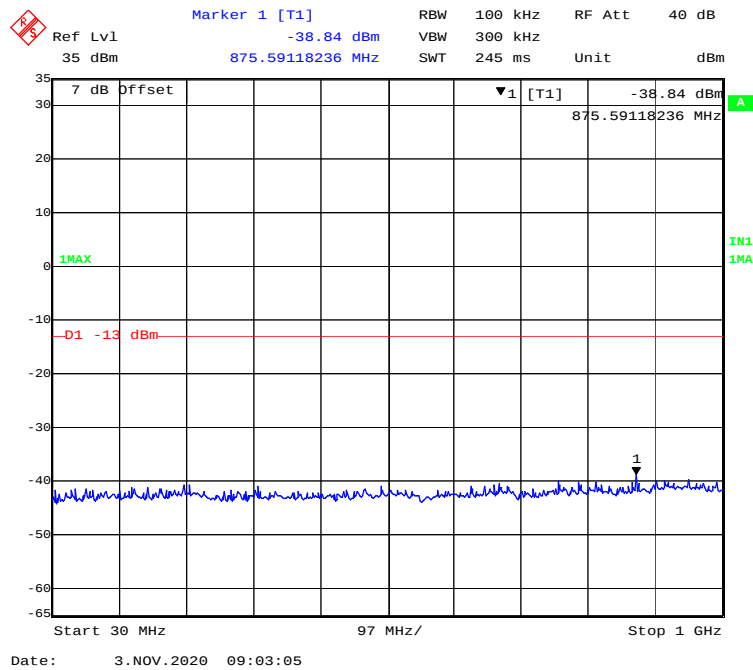
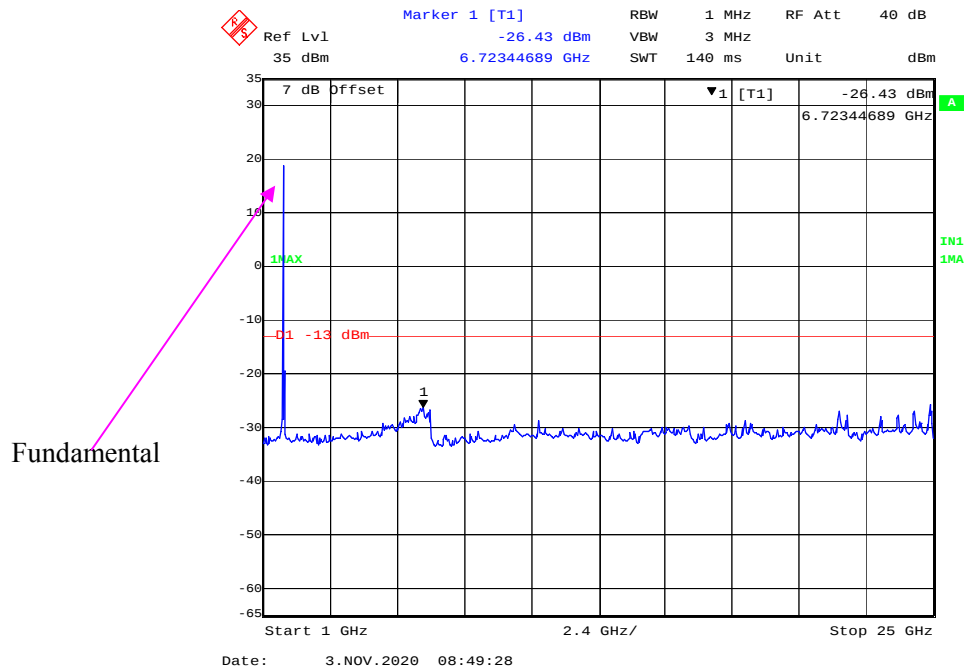


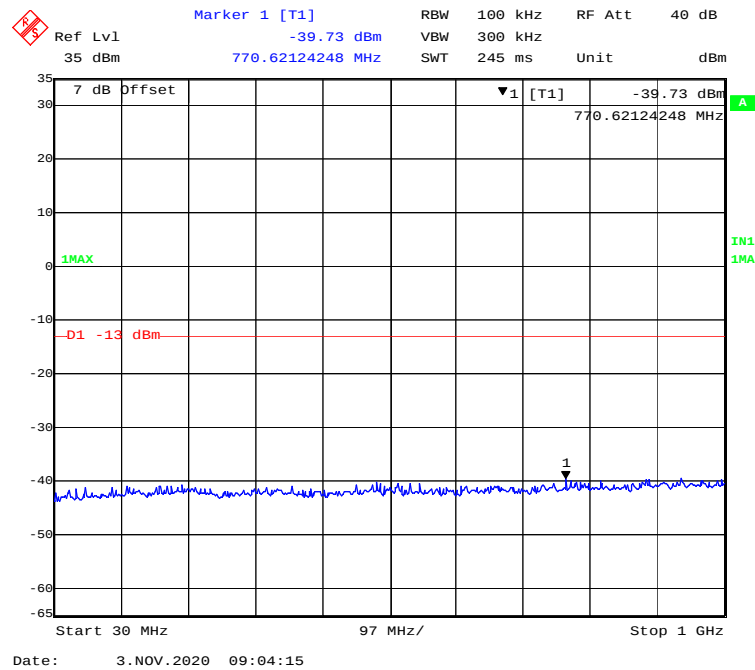
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



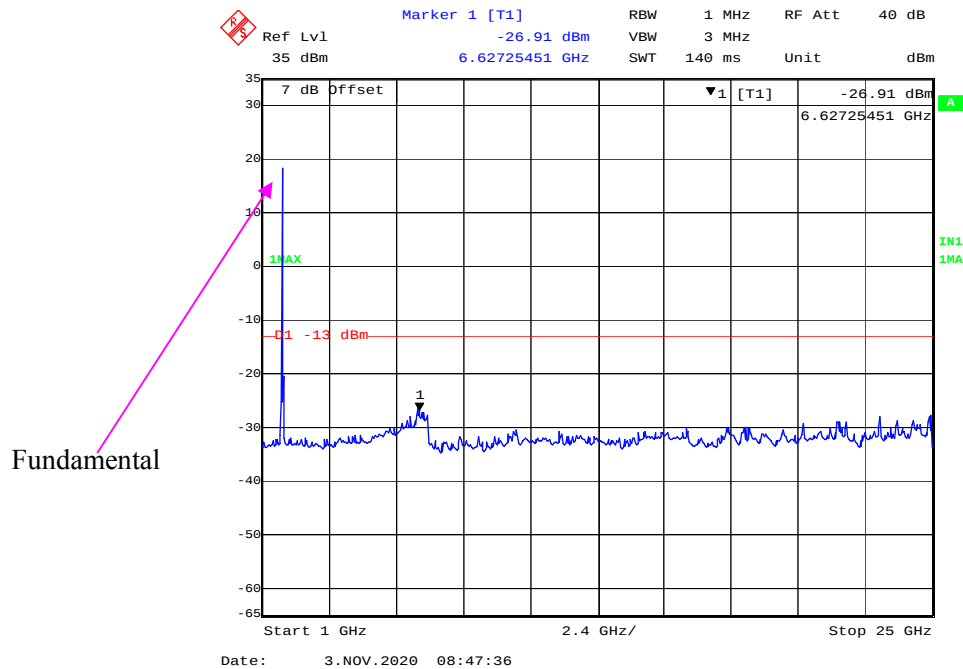
1 GHz – 25 GHz (15 MHz, 16-QAM, High Channel)



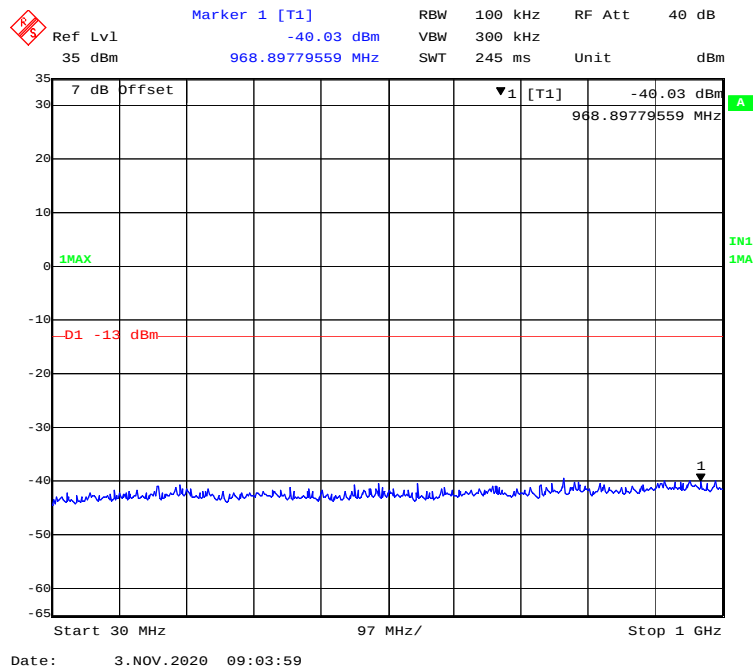
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



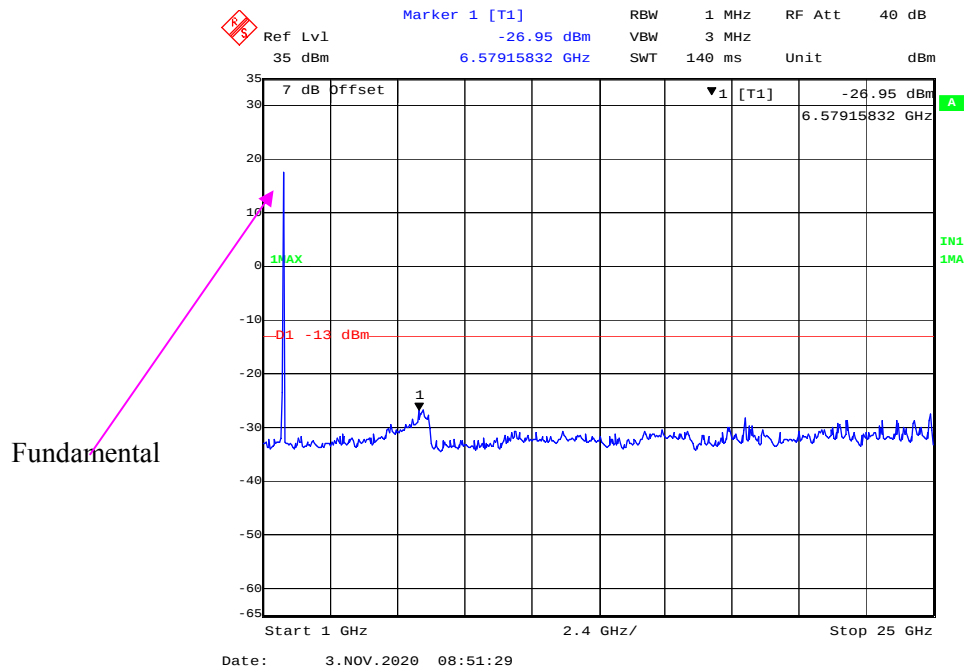
1 GHz – 25 GHz (20 MHz, QPSK, High Channel)

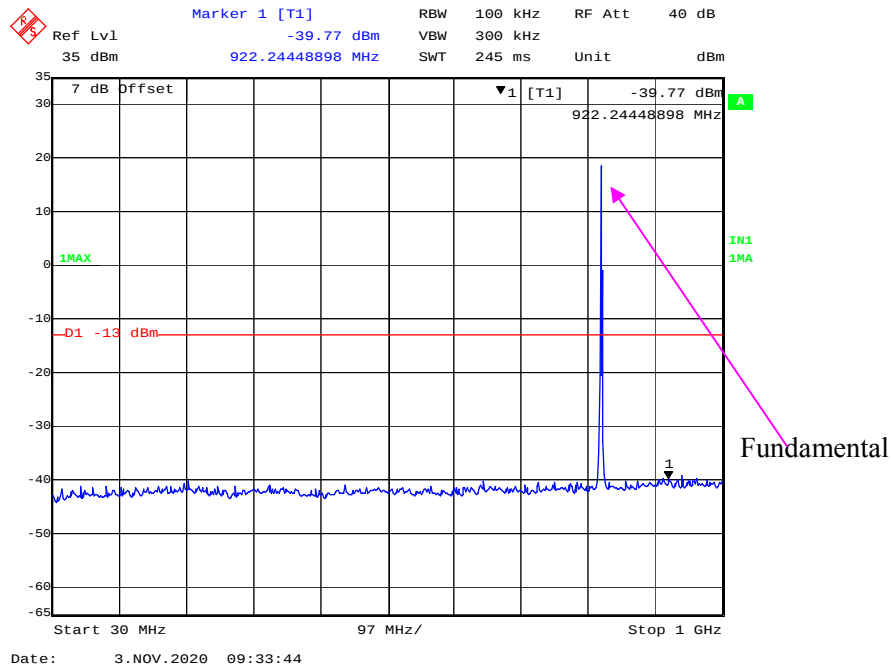
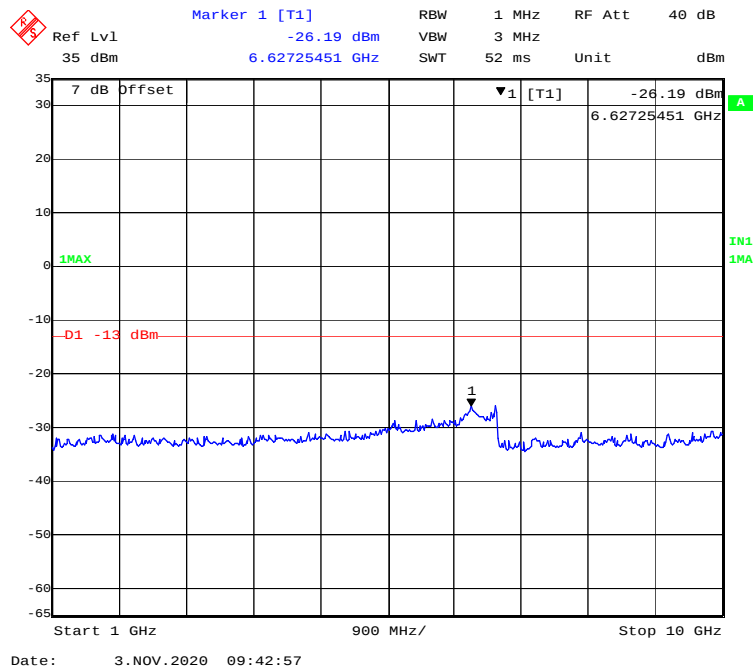


30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

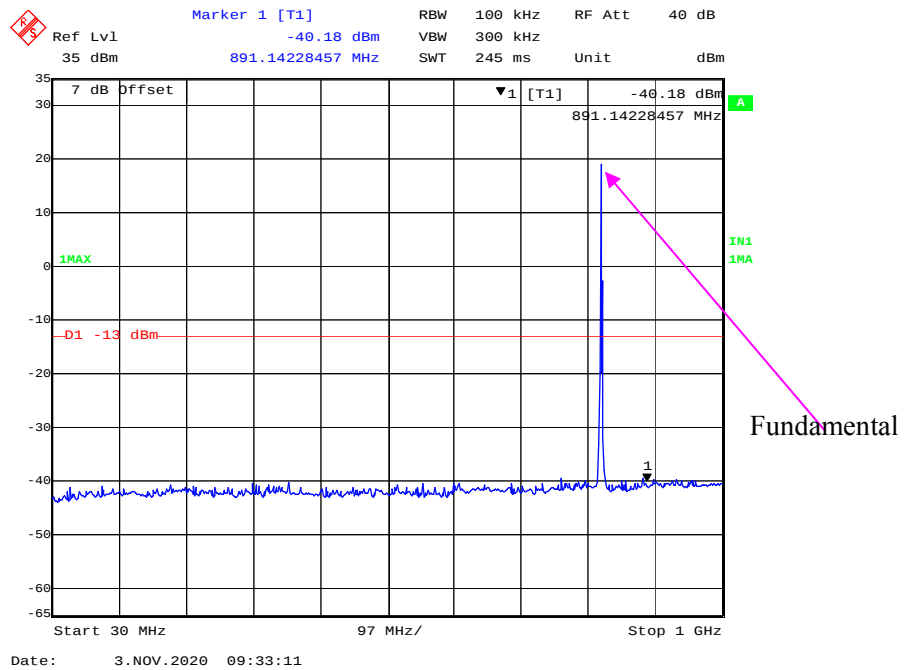


1 GHz – 25 GHz (20 MHz, 16-QAM, High Channel)

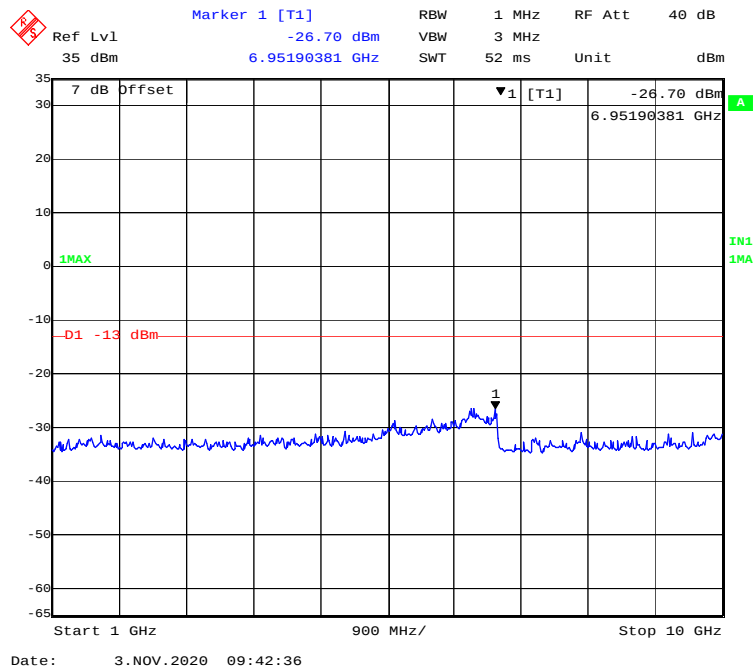


LTE Band 5:**30 MHz - 1 GHz (QPSK, 1.4 MHz, Low Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, Low Channel)**

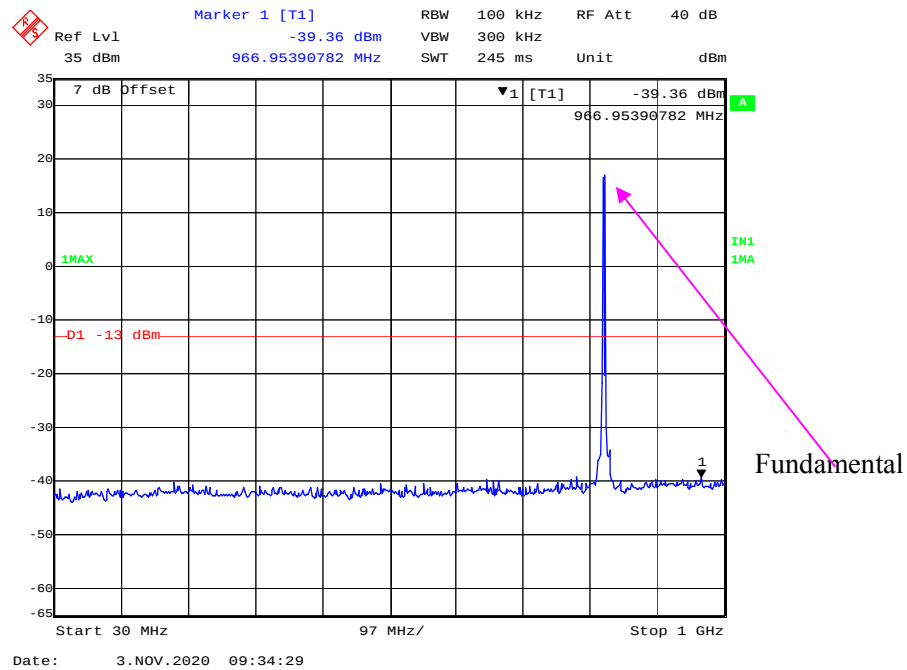
30 MHz - 1 GHz (16QAM, 1.4 MHz, Low Channel)



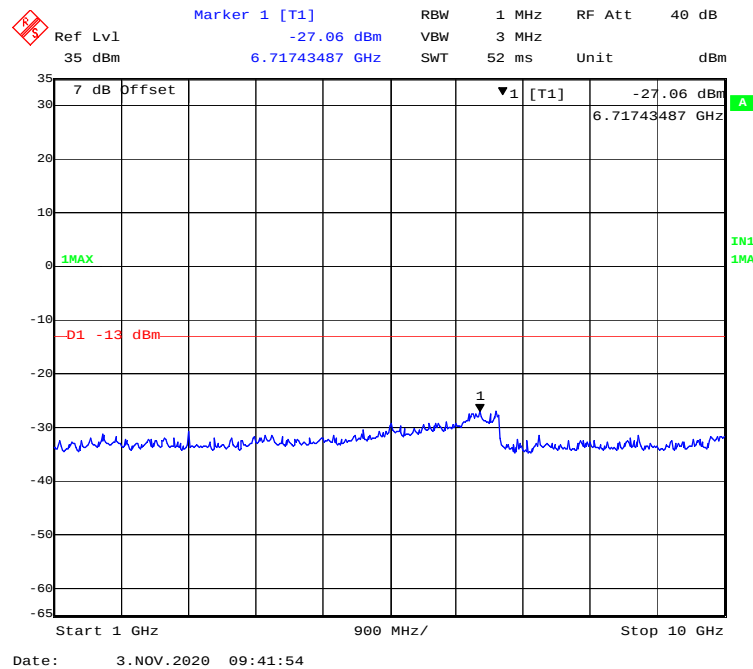
1 GHz – 10 GHz (16QAM, 1.4 MHz, Low Channel)



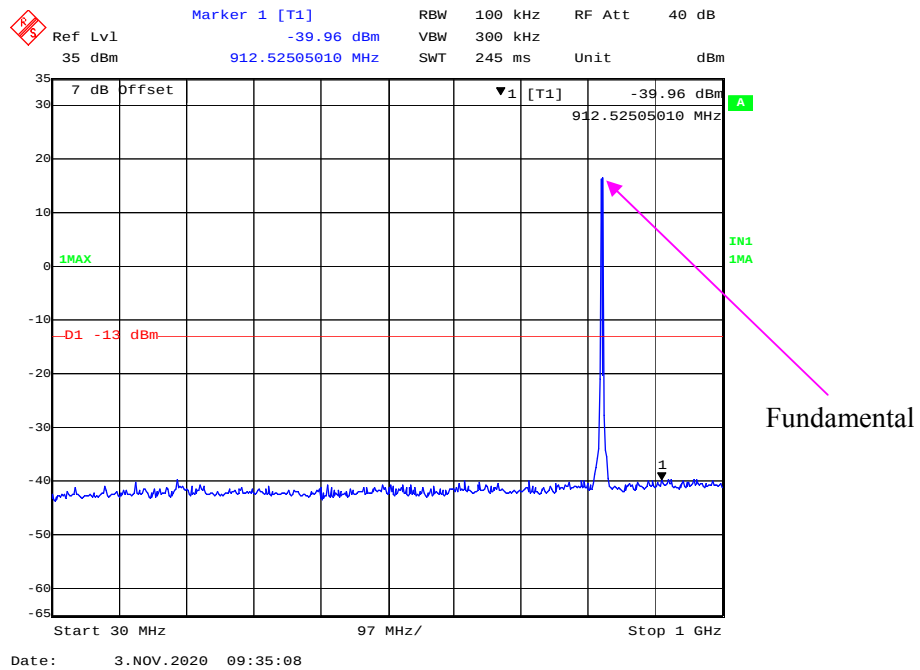
30 MHz - 1 GHz (QPSK, 3.0 MHz, Low Channel)



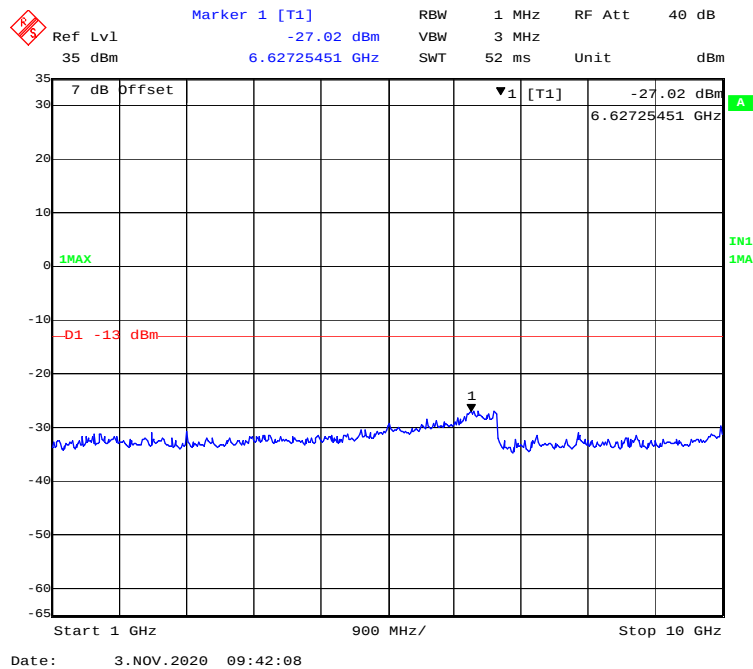
1 GHz – 10 GHz (QPSK, 3.0 MHz, Low Channel)



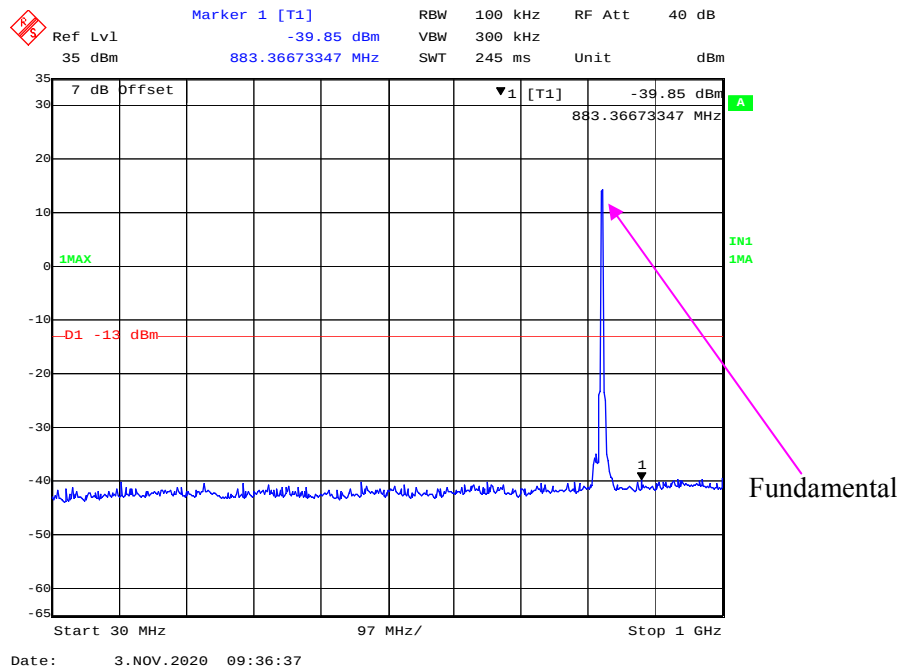
30 MHz - 1 GHz (16QAM, 3.0 MHz, Low Channel)



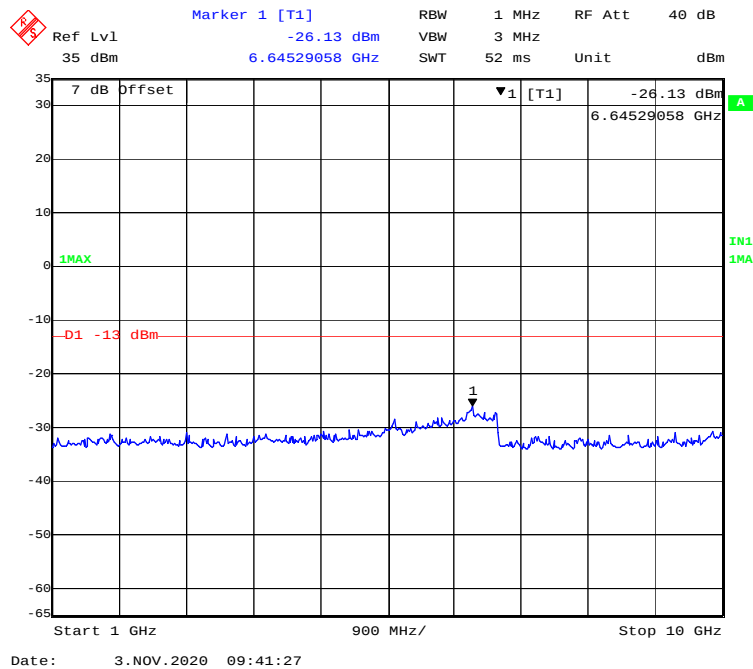
1 GHz – 10 GHz (16QAM, 3.0 MHz, Low Channel)



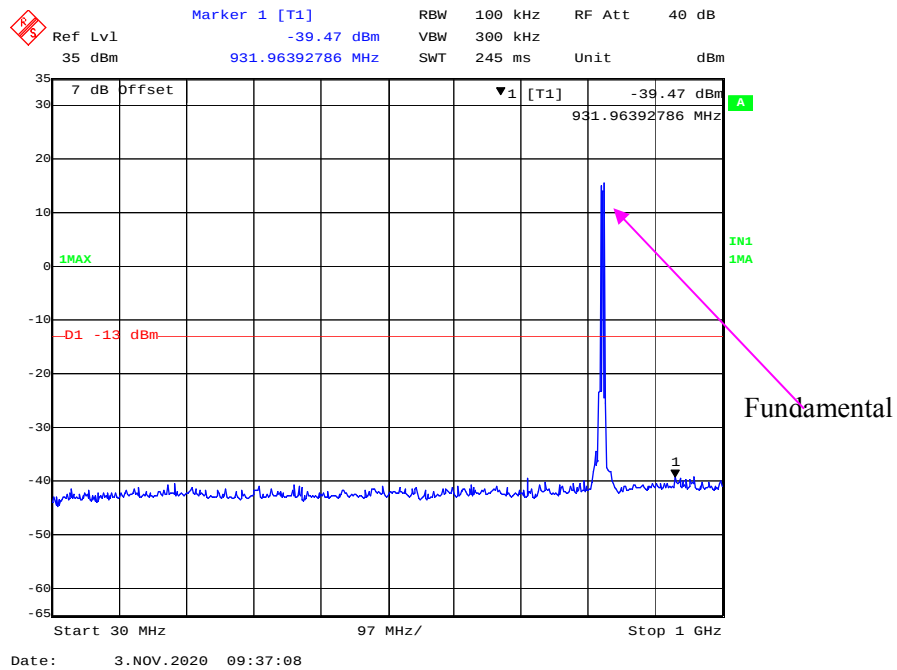
30 MHz - 1 GHz (QPSK, 5.0 MHz, Low Channel)



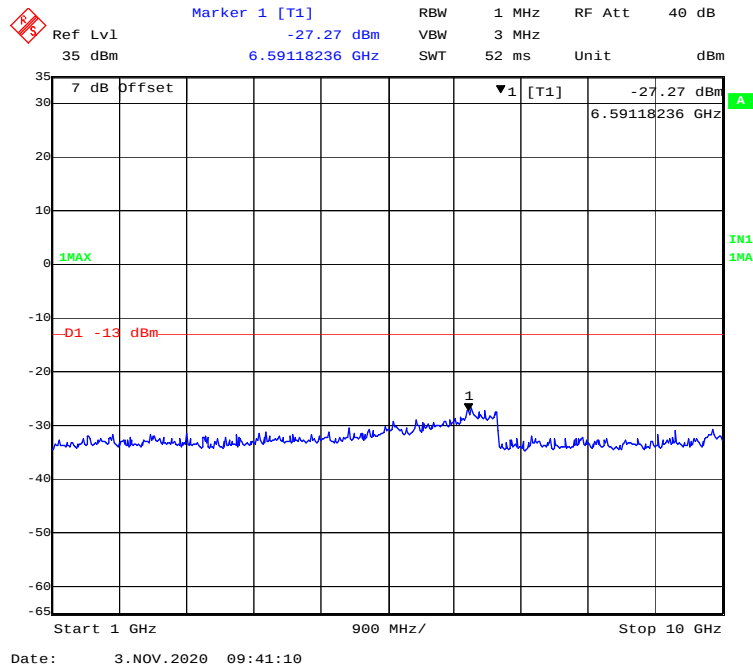
1 GHz – 10 GHz (QPSK, 5.0MHz, Low Channel)

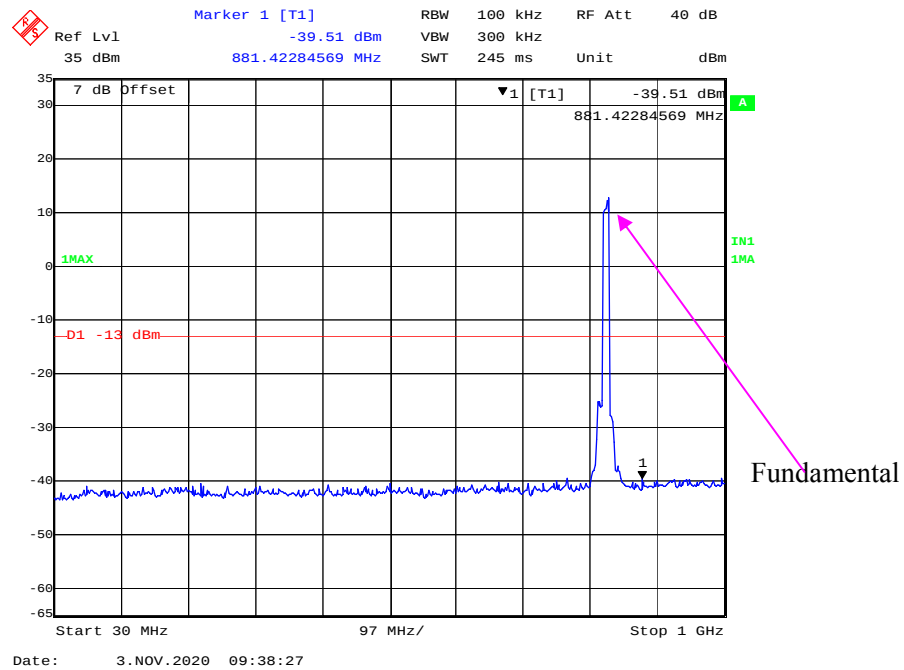
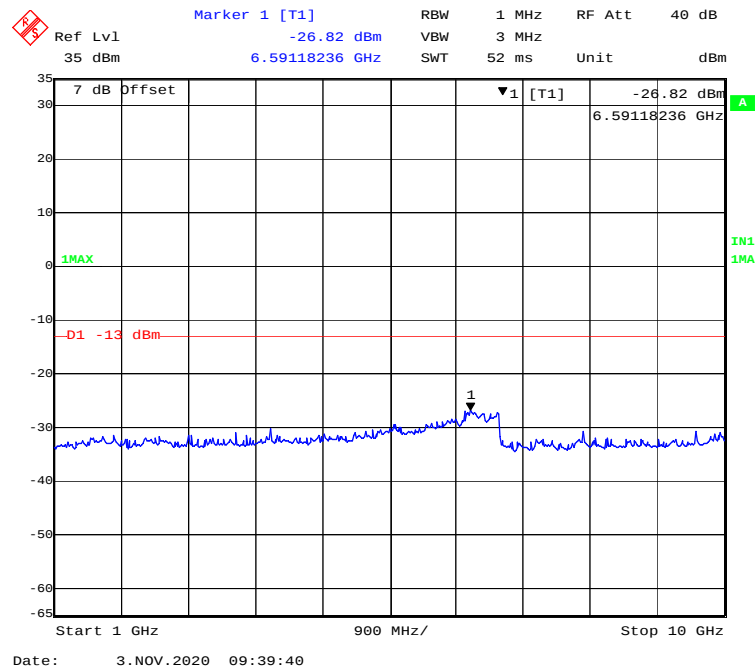


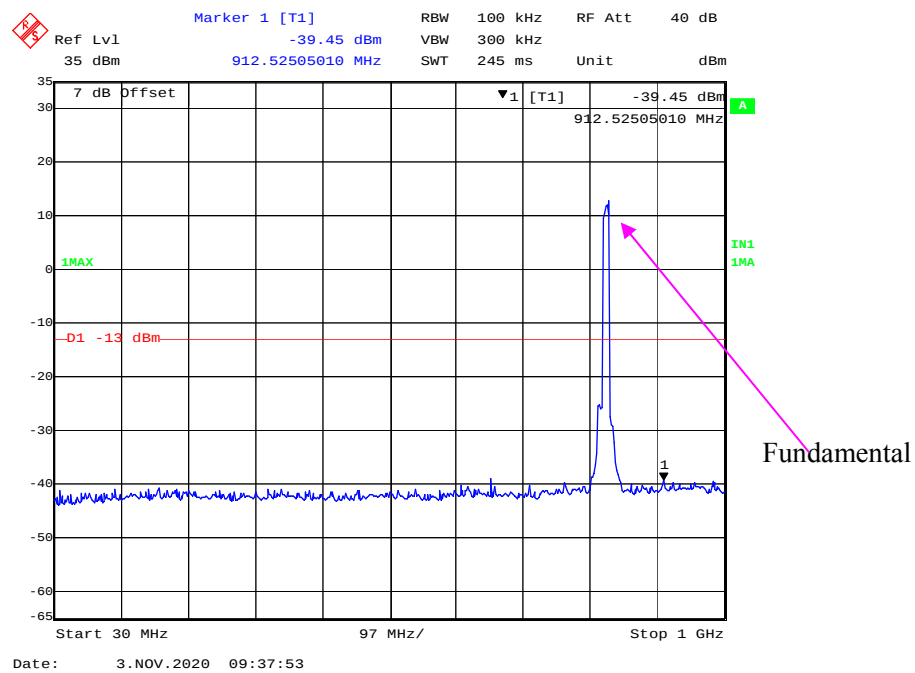
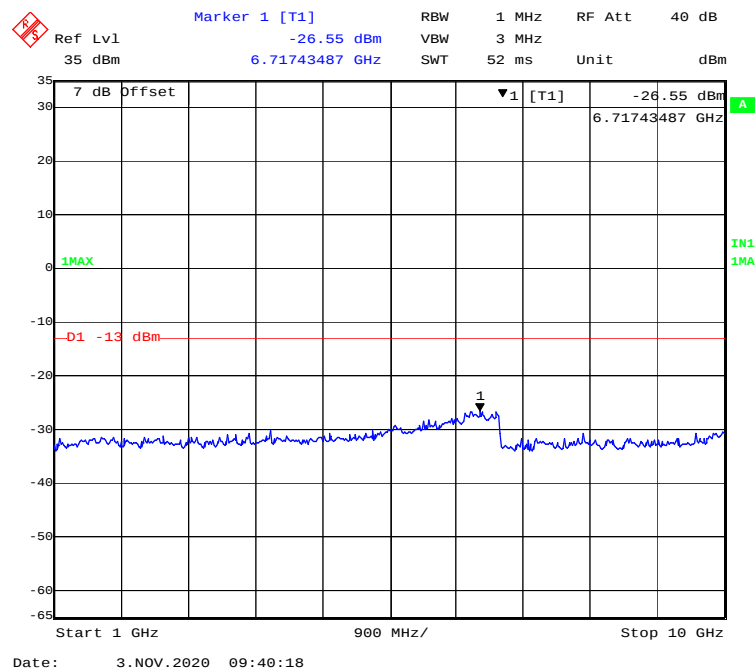
30 MHz - 1 GHz (16QAM, 5.0 MHz, Low Channel)

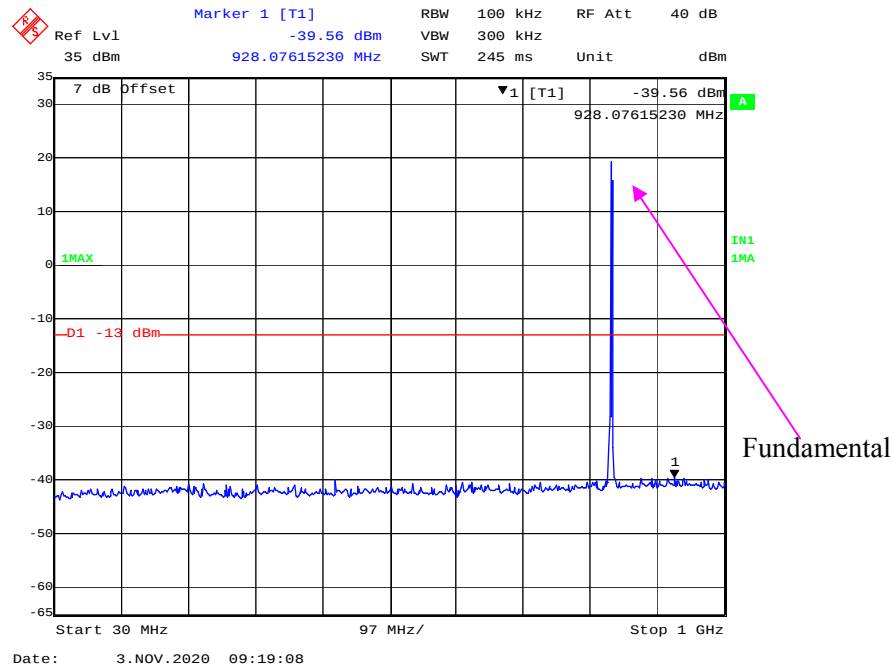
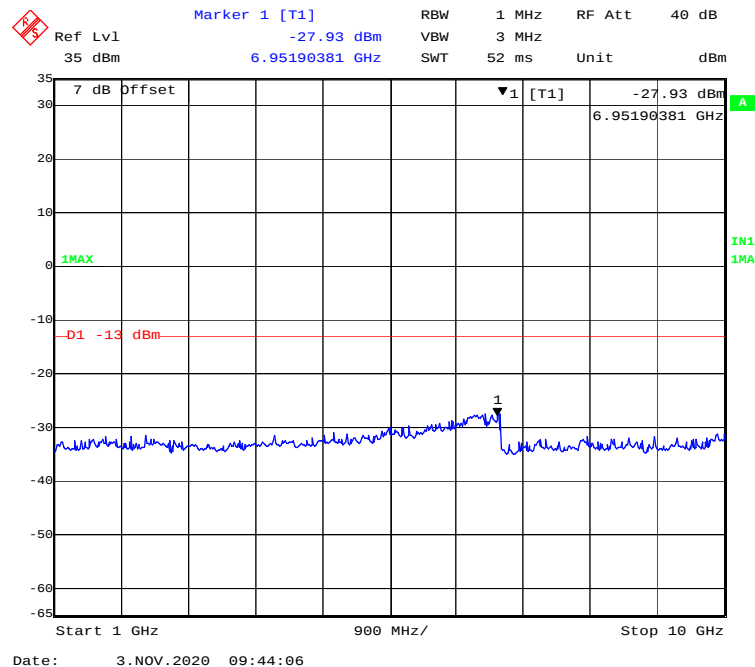


1 GHz – 10 GHz (16QAM, 5.0MHz, Low Channel)

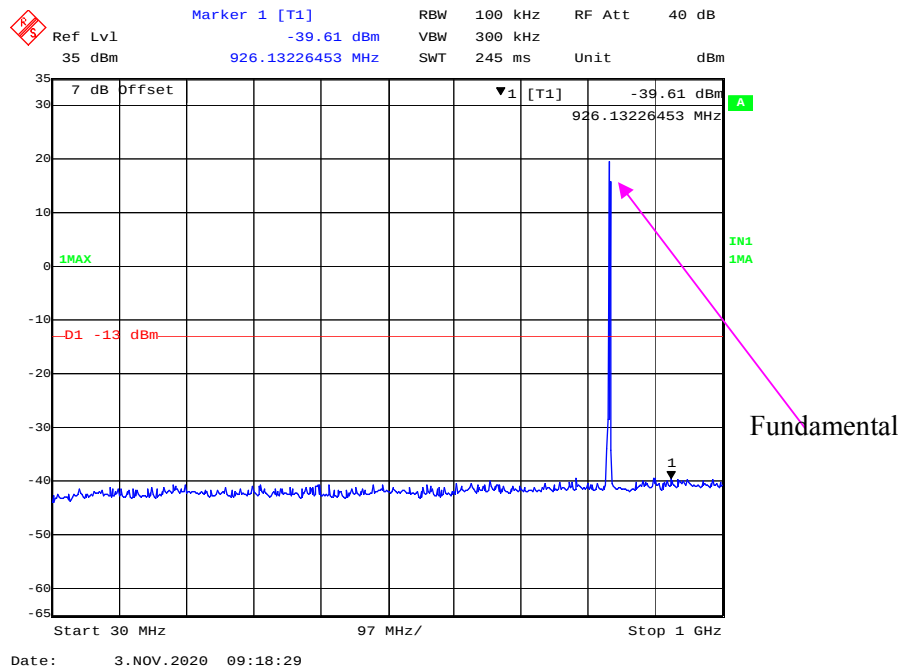


30 MHz - 1 GHz (QPSK, 10.0 MHz, Low Channel)**1 GHz – 10 GHz (QPSK, 10.0 MHz, Low Channel)**

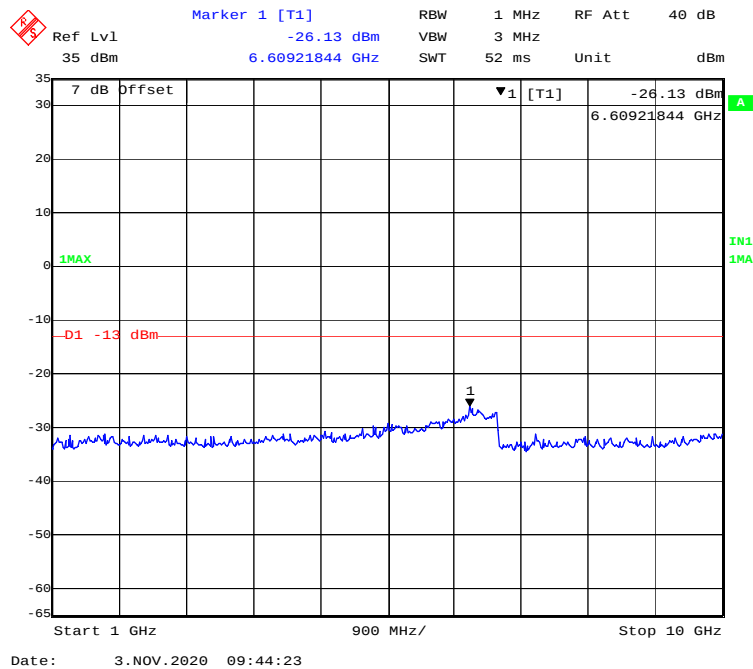
30 MHz - 1 GHz (16QAM, 10.0 MHz, Low Channel)**1 GHz – 10 GHz (16QAM, 10.0 MHz, Low Channel)**

30 MHz - 1 GHz (QPSK, 1.4 MHz, Middle Channel)**1 GHz – 10 GHz (QPSK, 1.4 MHz, Middle Channel)**

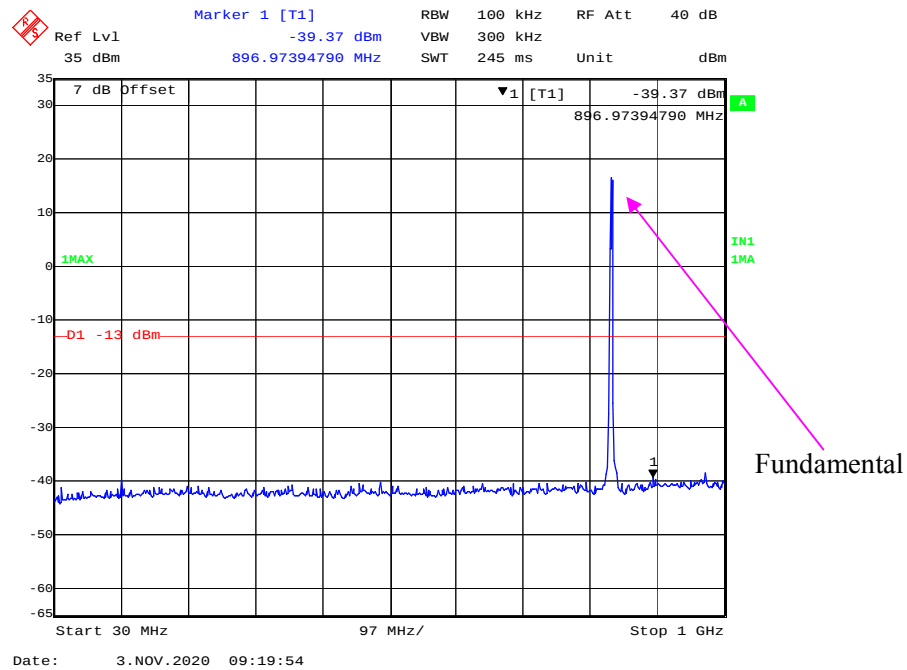
30 MHz - 1 GHz (16QAM, 1.4 MHz, Middle Channel)



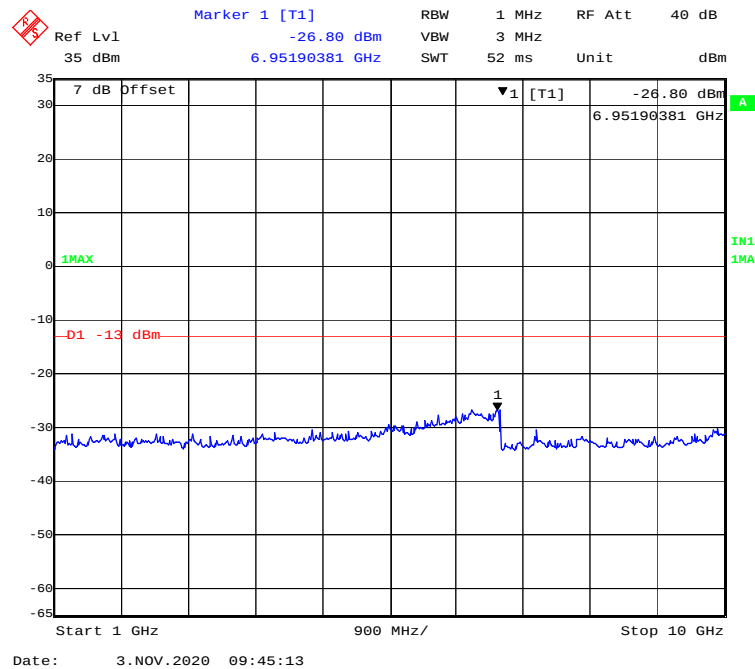
1 GHz – 10 GHz (16QAM, 1.4 MHz, Middle Channel)



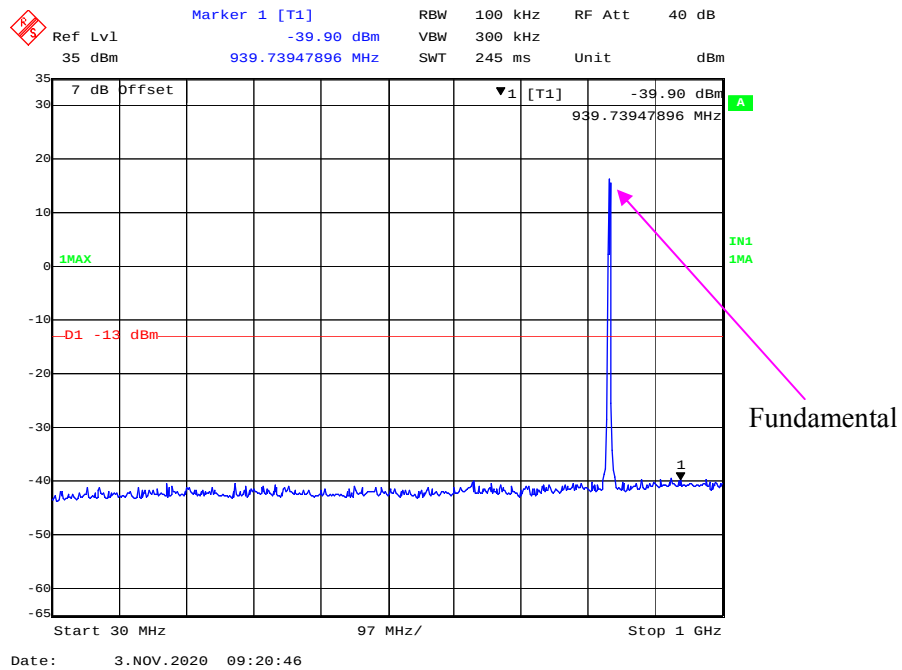
30 MHz - 1 GHz (QPSK, 3.0 MHz, Middle Channel)



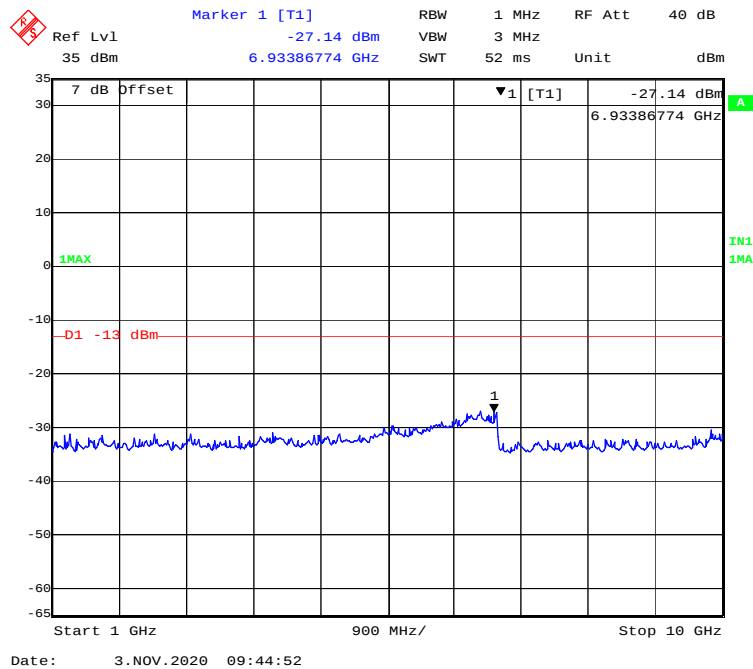
1 GHz – 10 GHz (QPSK, 3.0 MHz, Middle Channel)



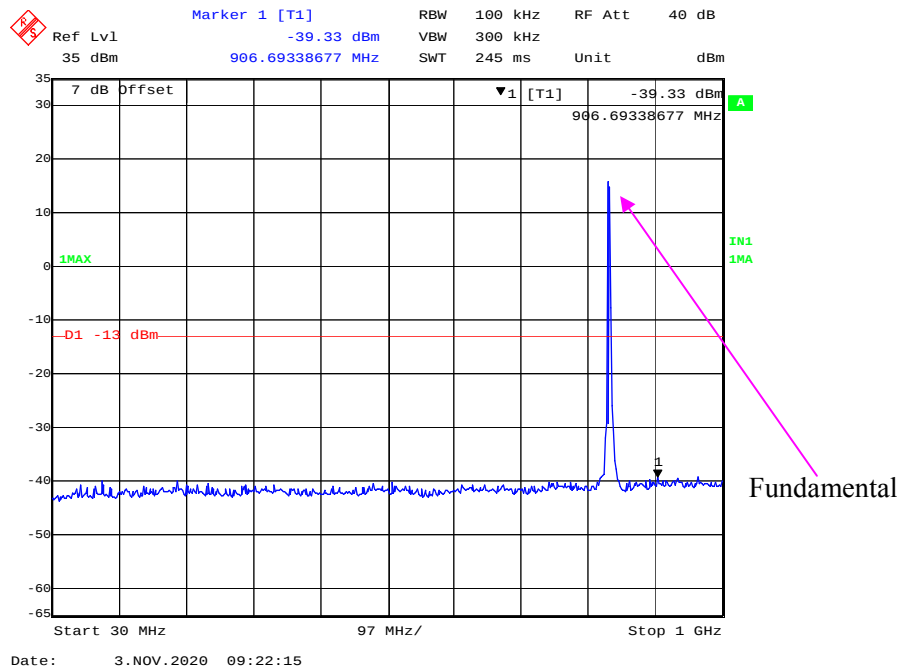
30 MHz - 1 GHz (16QAM, 3.0 MHz, Middle Channel)



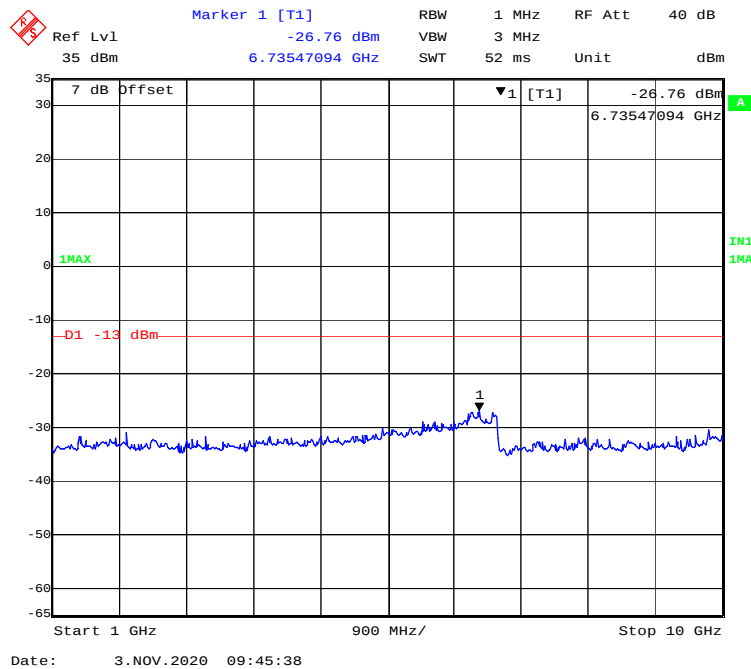
1 GHz – 10 GHz (16QAM, 3.0 MHz, Middle Channel)



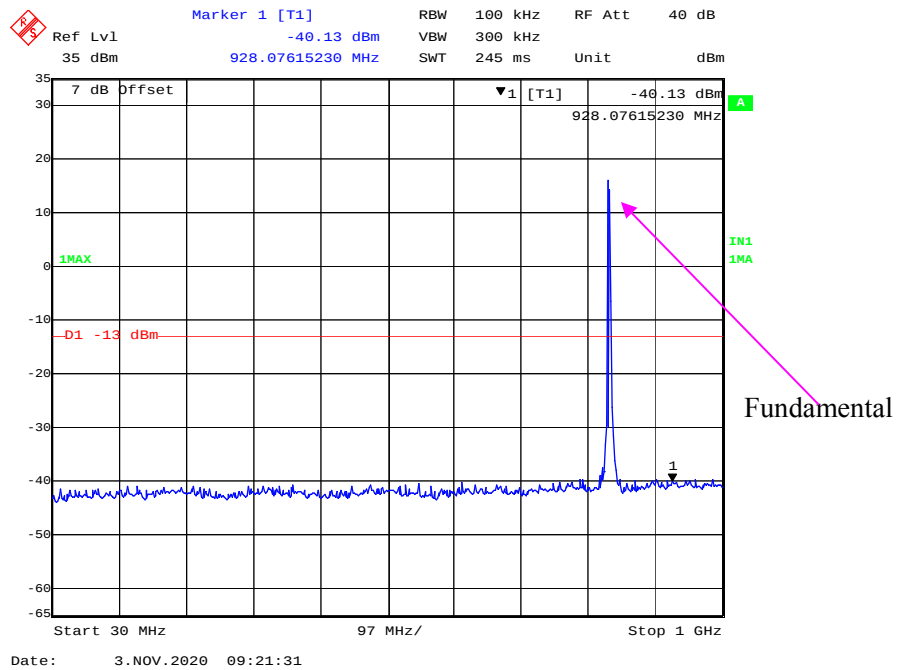
30 MHz - 1 GHz (QPSK, 5.0 MHz, Middle Channel)



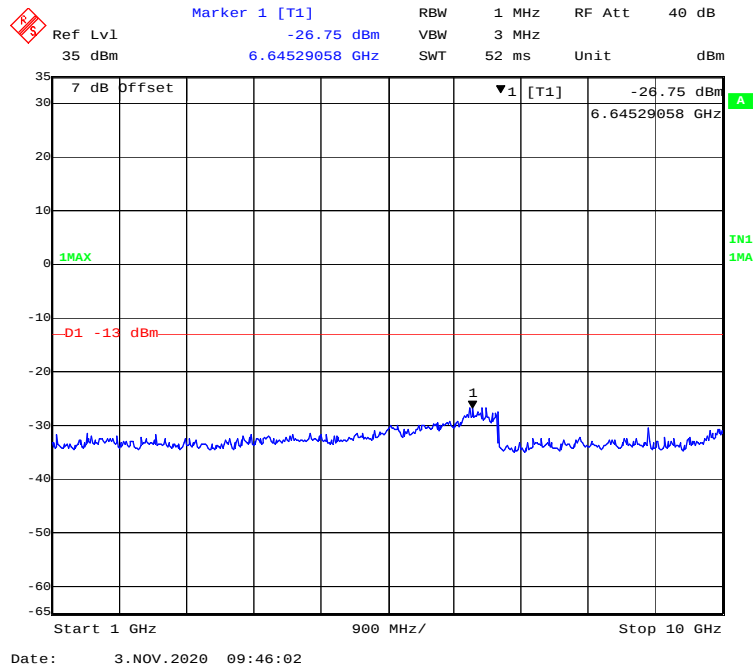
1 GHz – 10 GHz (QPSK, 5.0MHz, Middle Channel)



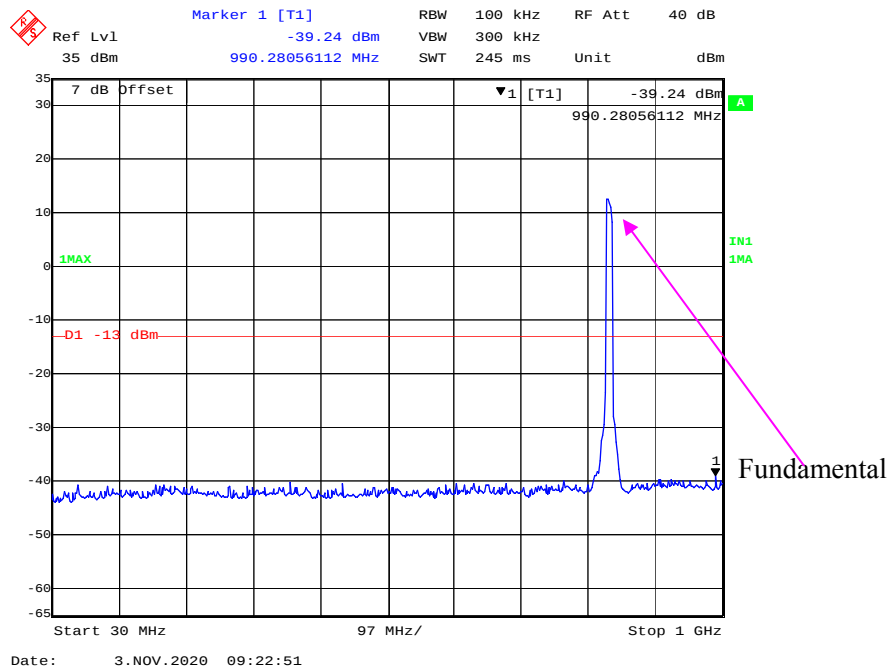
30 MHz - 1 GHz (16QAM, 5.0 MHz, Middle Channel)



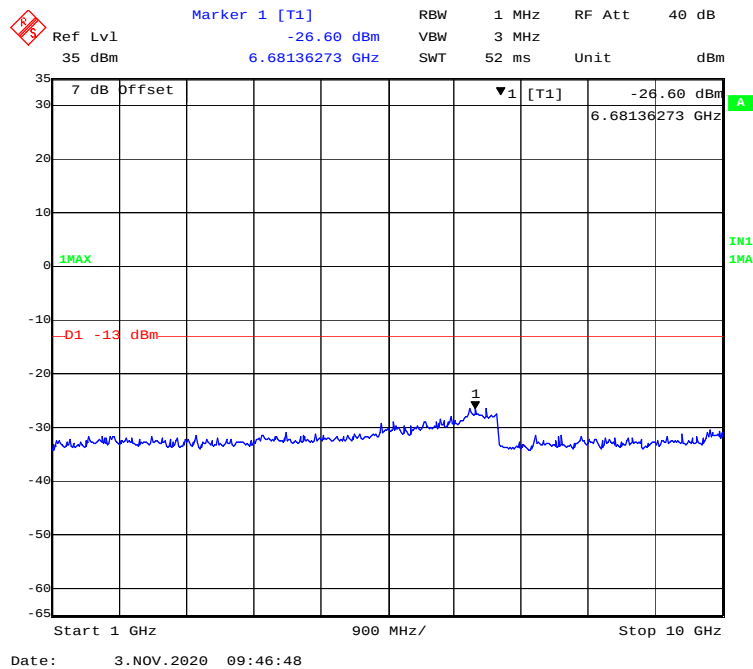
1 GHz – 10 GHz (16QAM, 5.0MHz, Middle Channel)



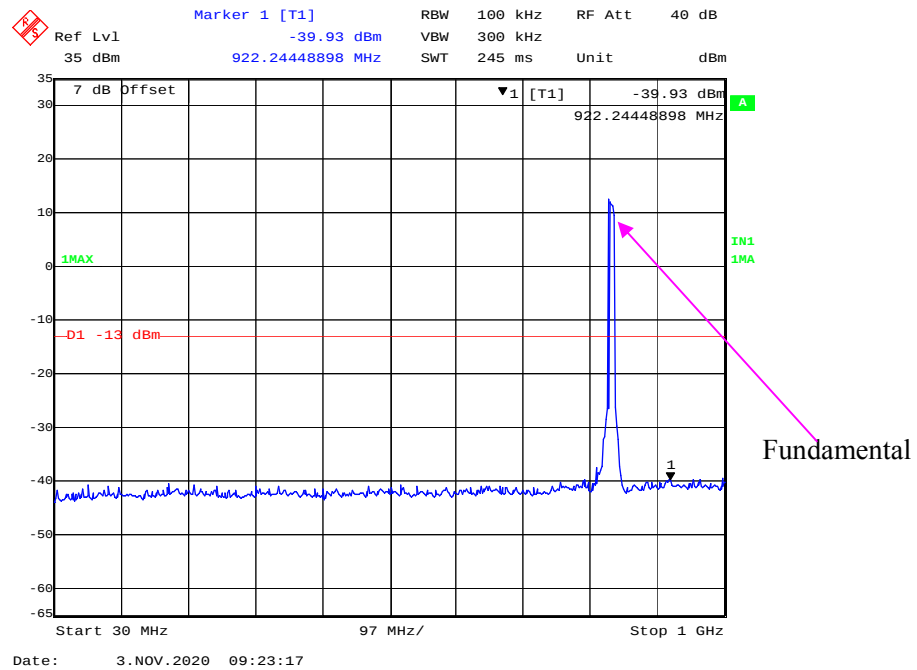
30 MHz - 1 GHz (QPSK, 10.0 MHz, Middle Channel)



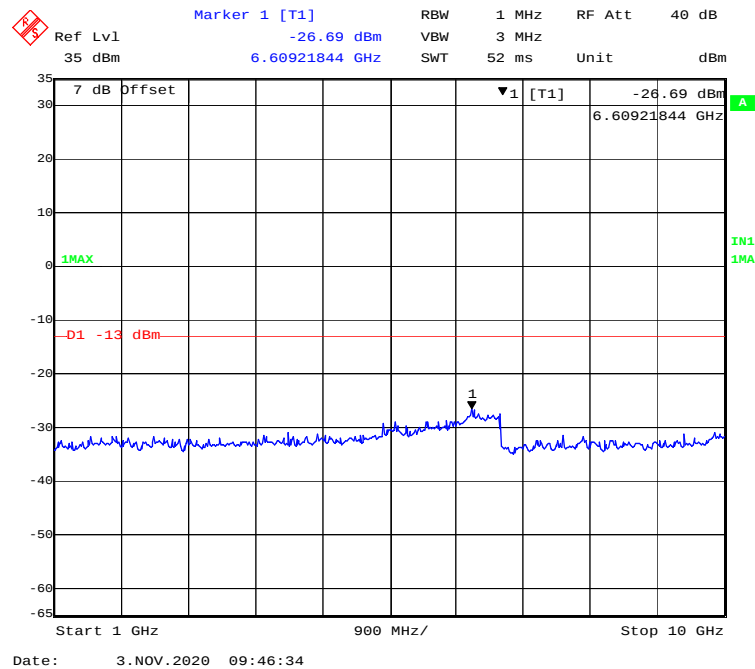
1 GHz – 10 GHz (QPSK, 10.0 MHz, Middle Channel)

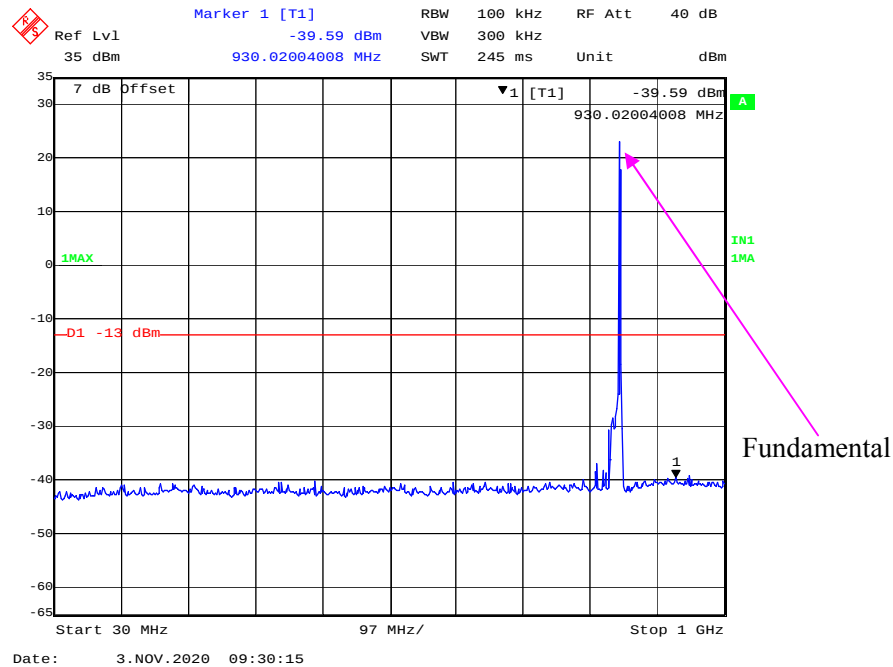
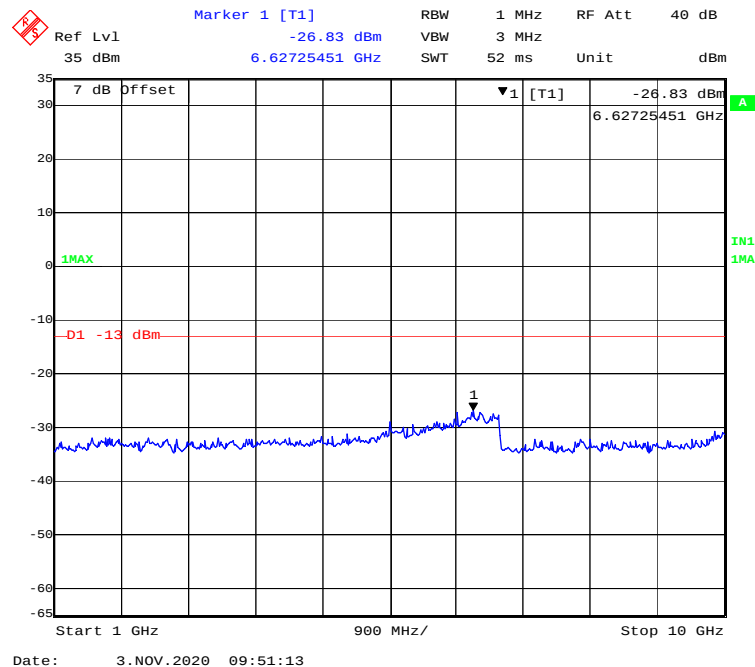


30 MHz - 1 GHz (16QAM, 10.0 MHz, Middle Channel)

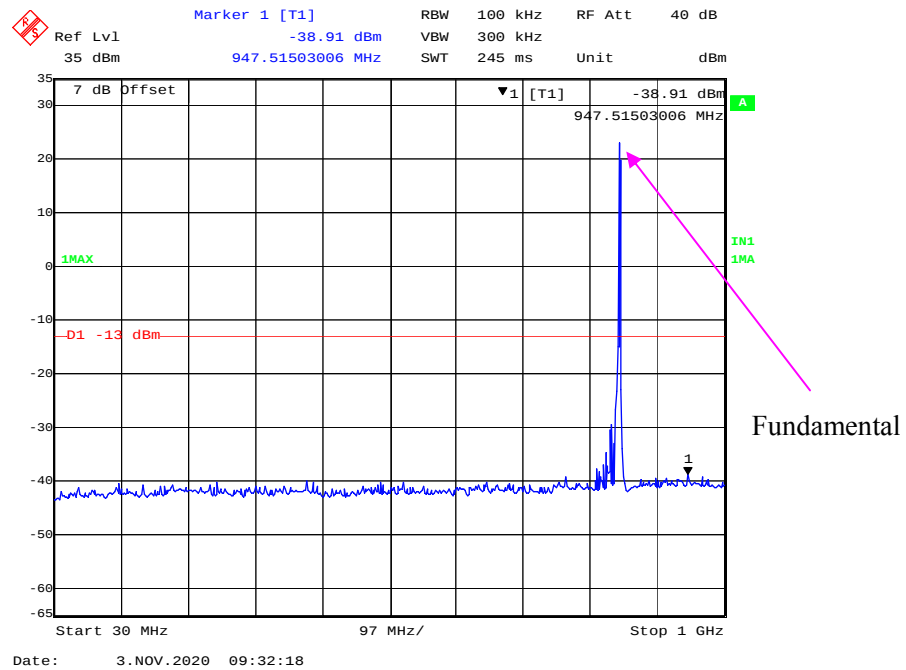


1 GHz – 10 GHz (16QAM, 10.0 MHz, Middle Channel)

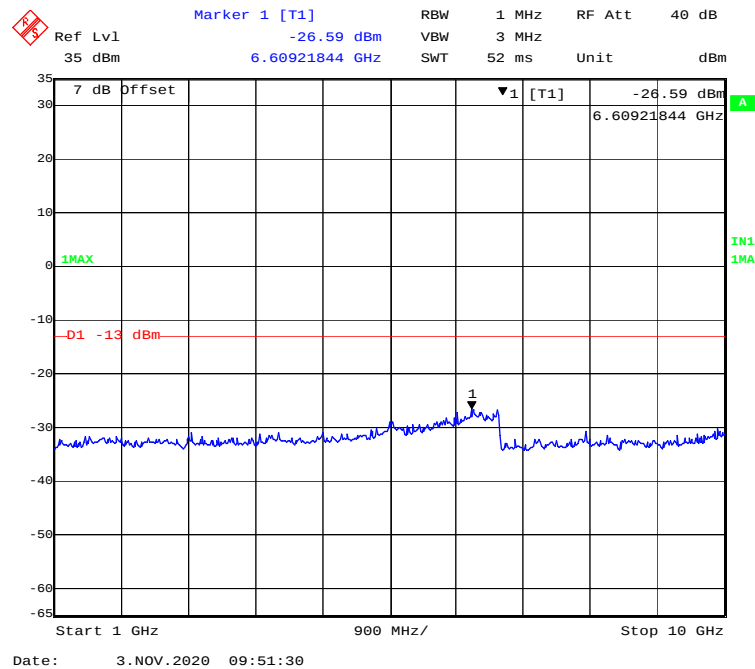


30 MHz - 1 GHz (QPSK, 1.4 MHz, High Channel)**1 GHz – 10 GHz (QPSK, 1.4 MHz, High Channel)**

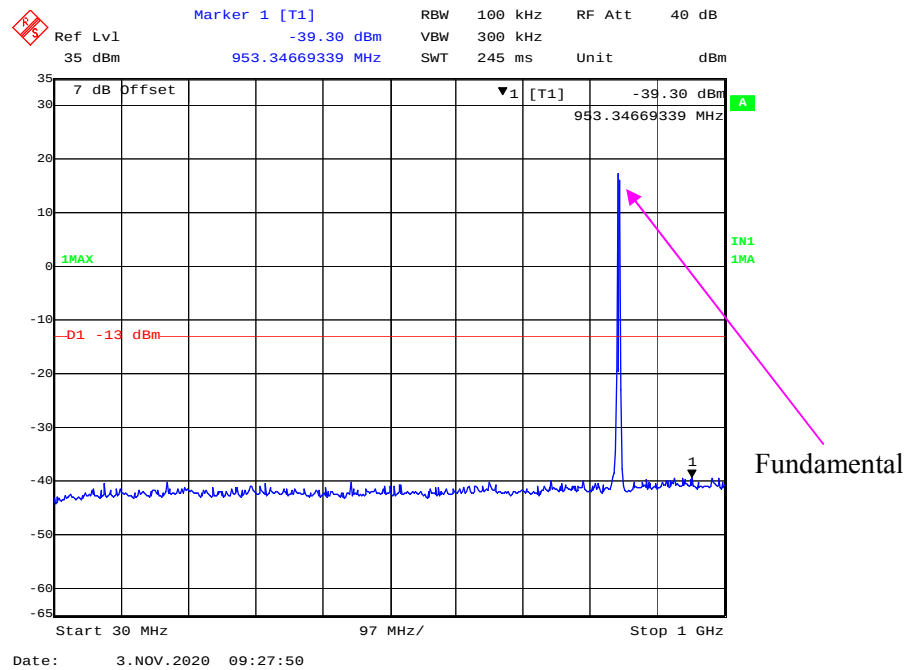
30 MHz - 1 GHz (16QAM, 1.4 MHz, High Channel)



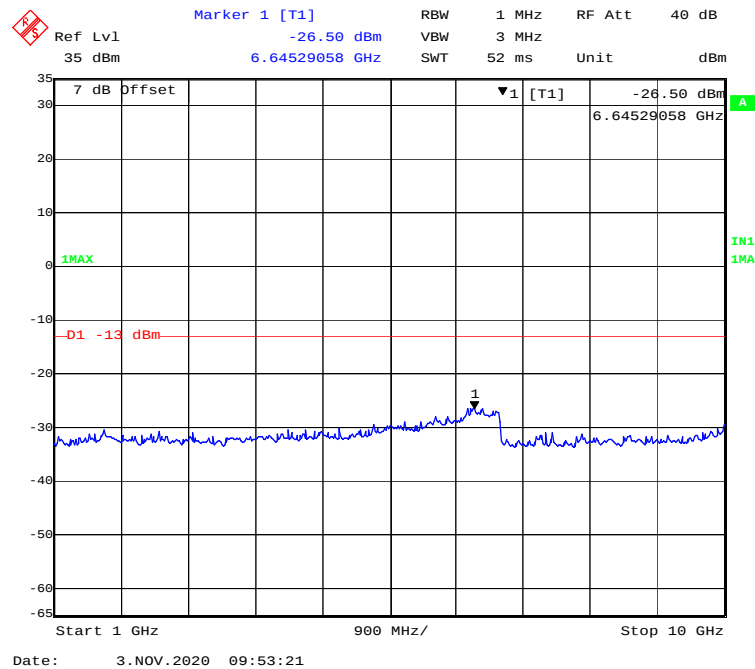
1 GHz – 10 GHz (16QAM, 1.4 MHz, High Channel)

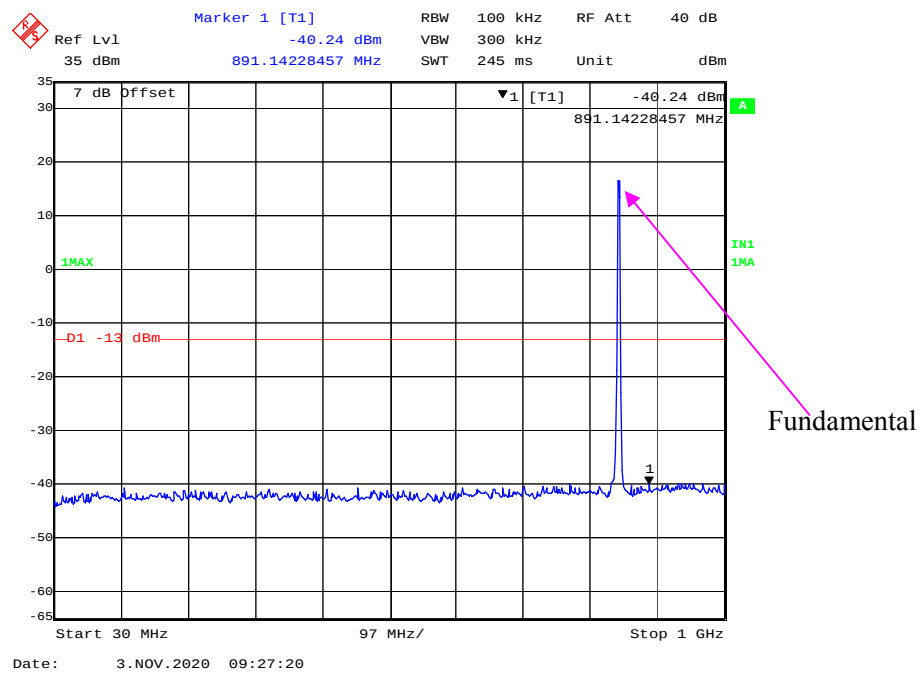
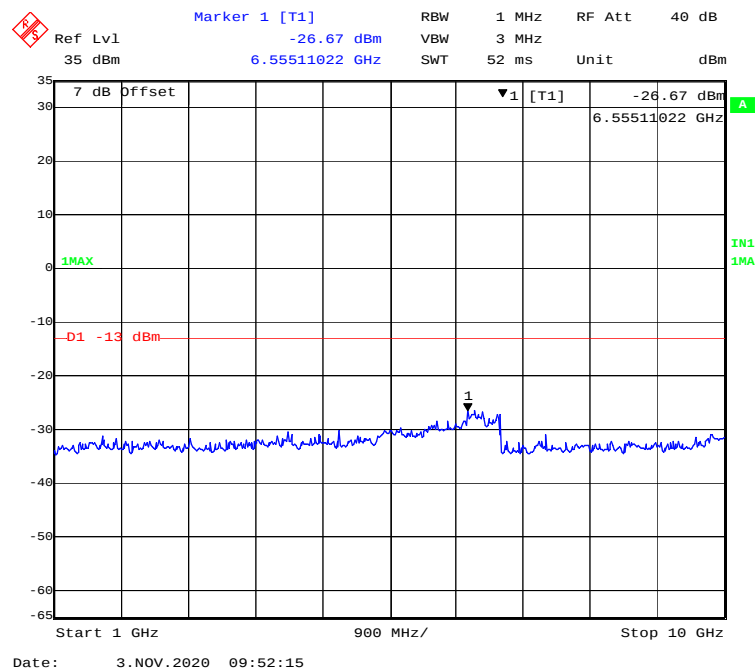


30 MHz - 1 GHz (QPSK, 3.0 MHz, High Channel)

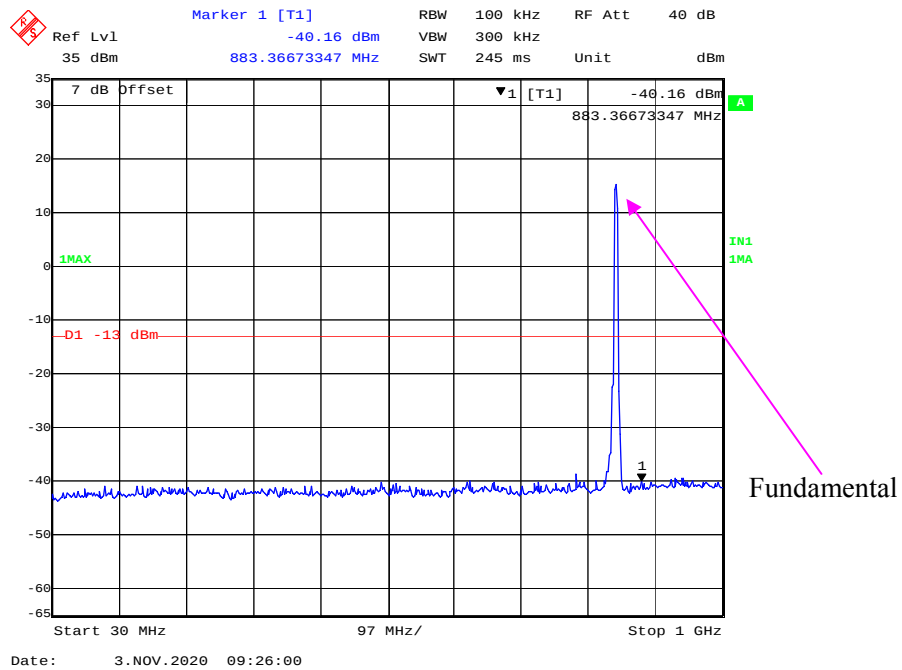


1 GHz – 10 GHz (QPSK, 3.0 MHz, High Channel)

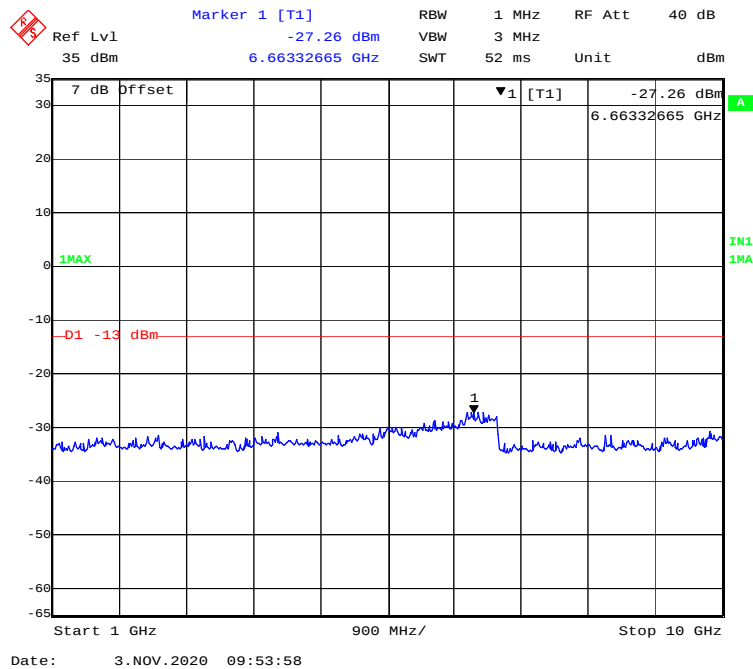


30 MHz - 1 GHz (16QAM, 3.0 MHz, High Channel)**1 GHz – 10 GHz (16QAM, 3.0 MHz, High Channel)**

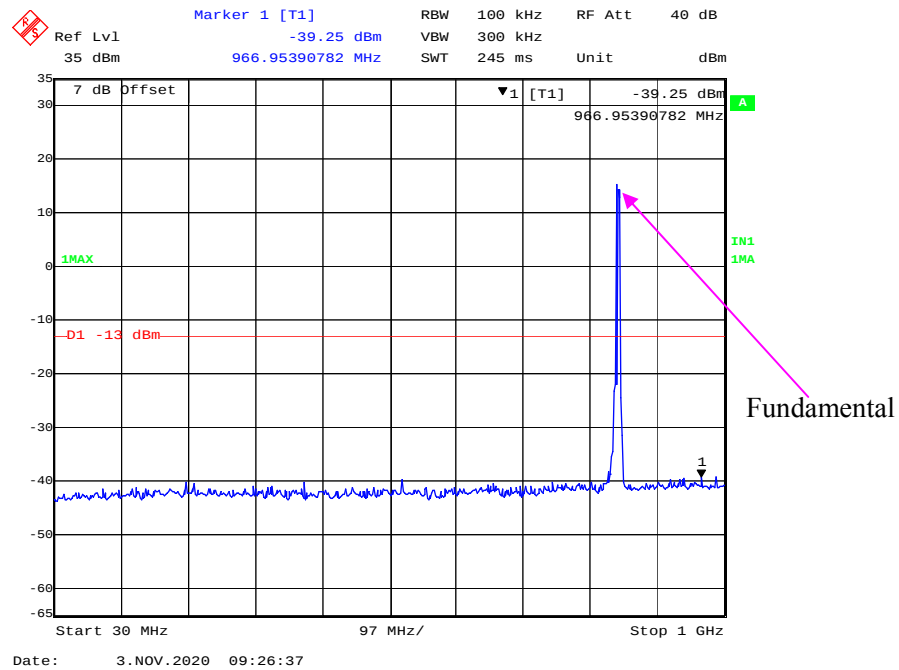
30 MHz - 1 GHz (QPSK, 5.0 MHz, High Channel)



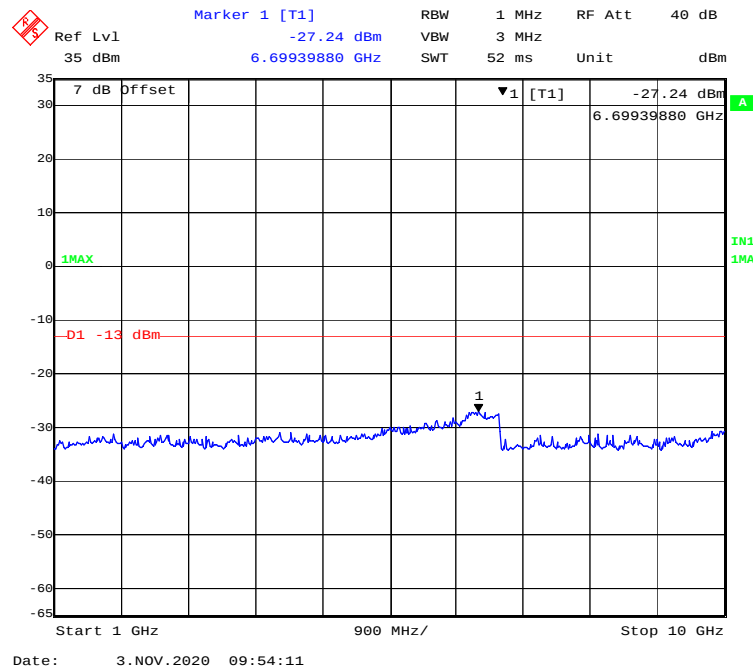
1 GHz – 10 GHz (QPSK, 5.0MHz, High Channel)



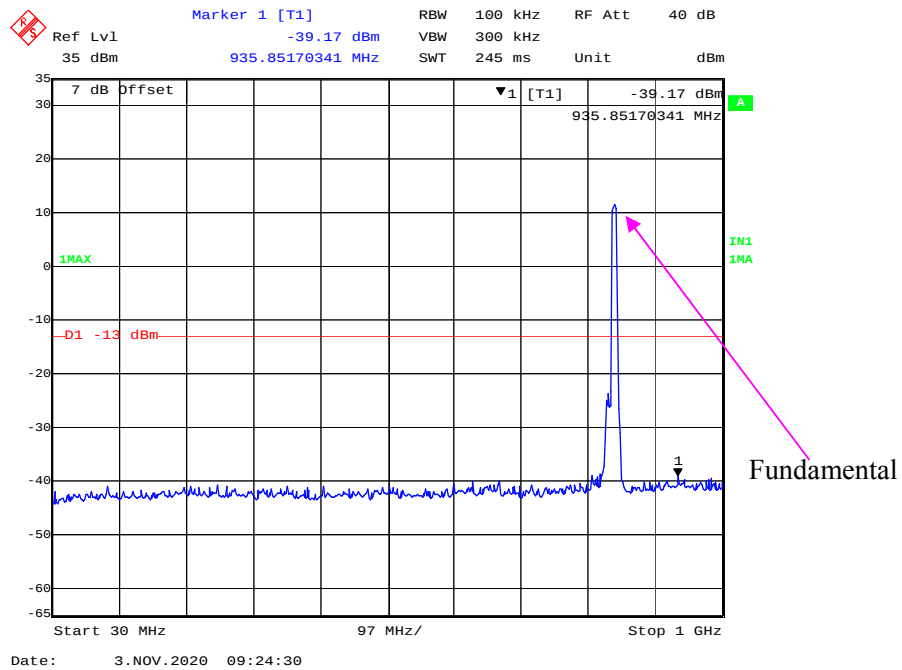
30 MHz - 1 GHz (16QAM, 5.0 MHz, High Channel)



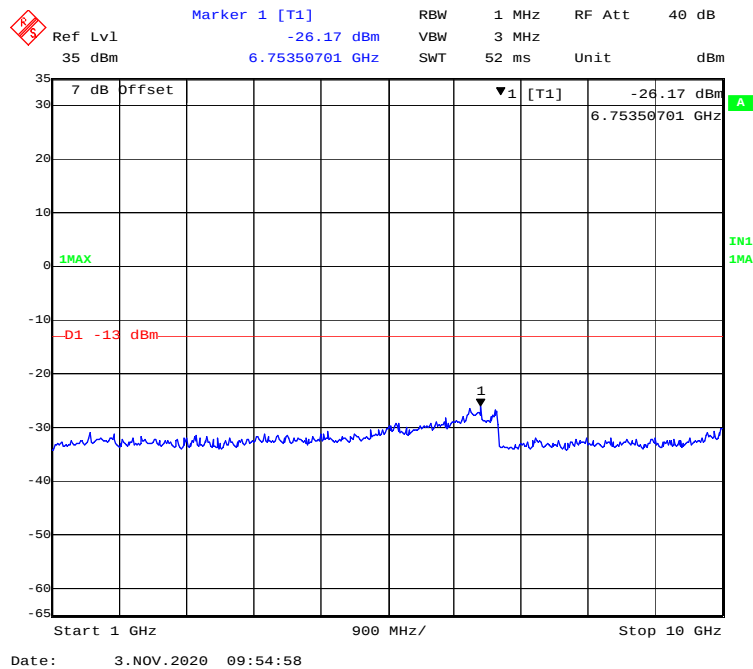
1 GHz – 10 GHz (16QAM, 5.0MHz, High Channel)



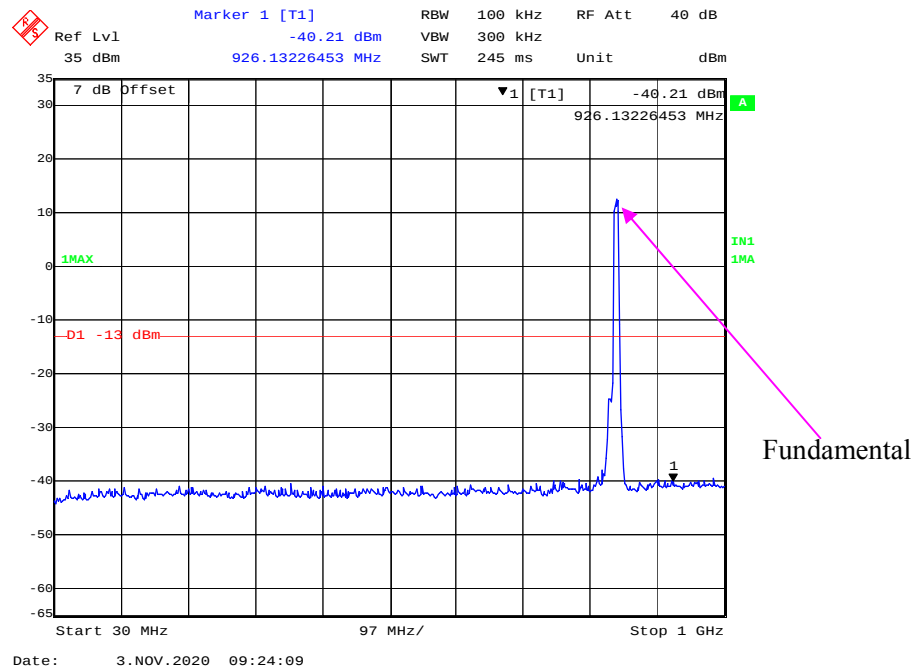
30 MHz - 1 GHz (QPSK, 10.0 MHz, High Channel)



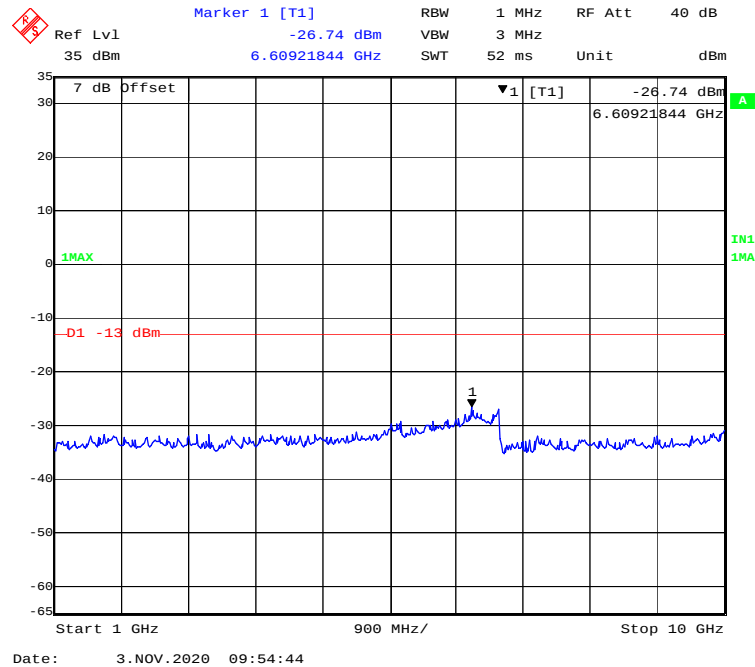
1 GHz – 10 GHz (QPSK, 10.0 MHz, High Channel)

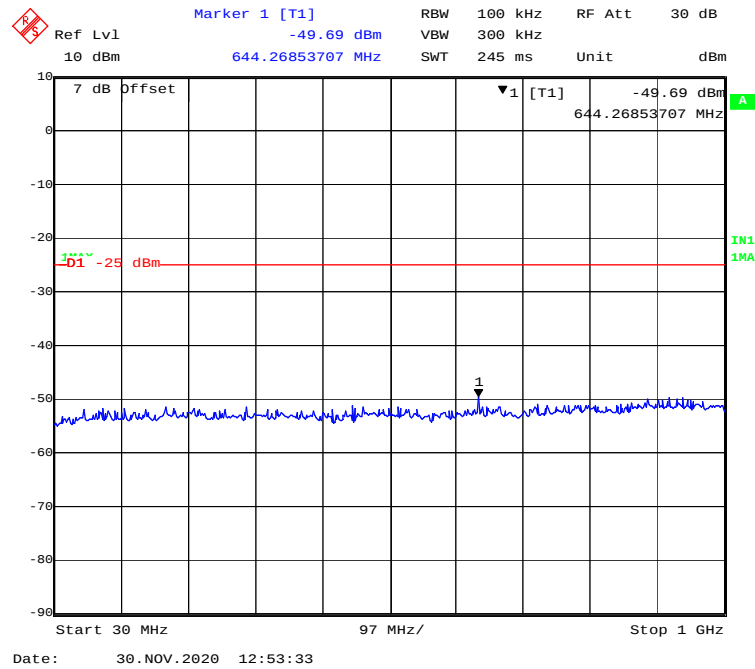
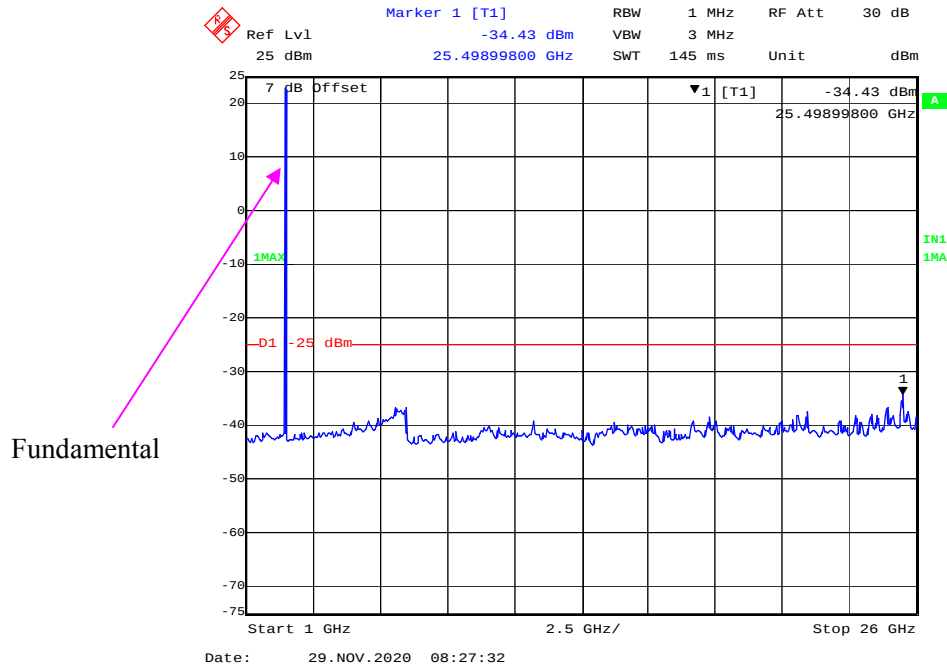


30 MHz - 1 GHz (16QAM, 10.0 MHz, High Channel)

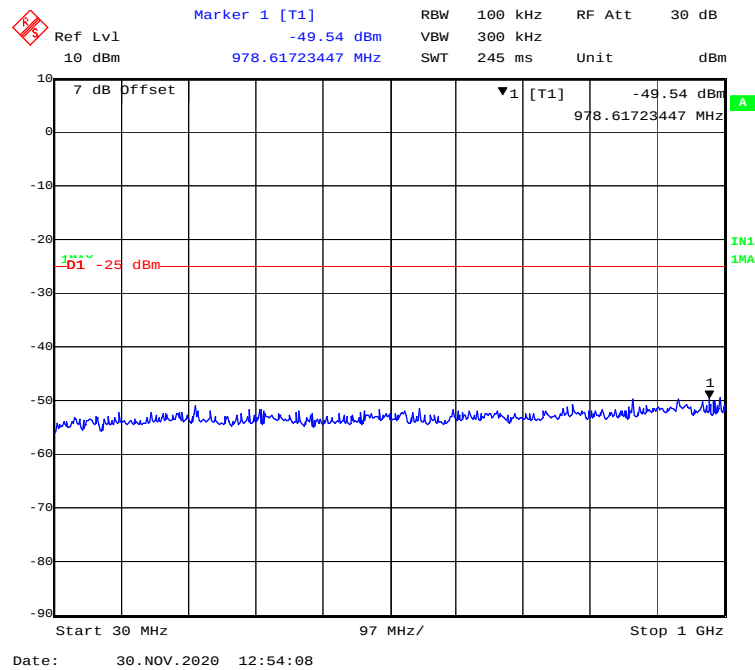


1 GHz – 10 GHz (16QAM, 10.0 MHz, High Channel)

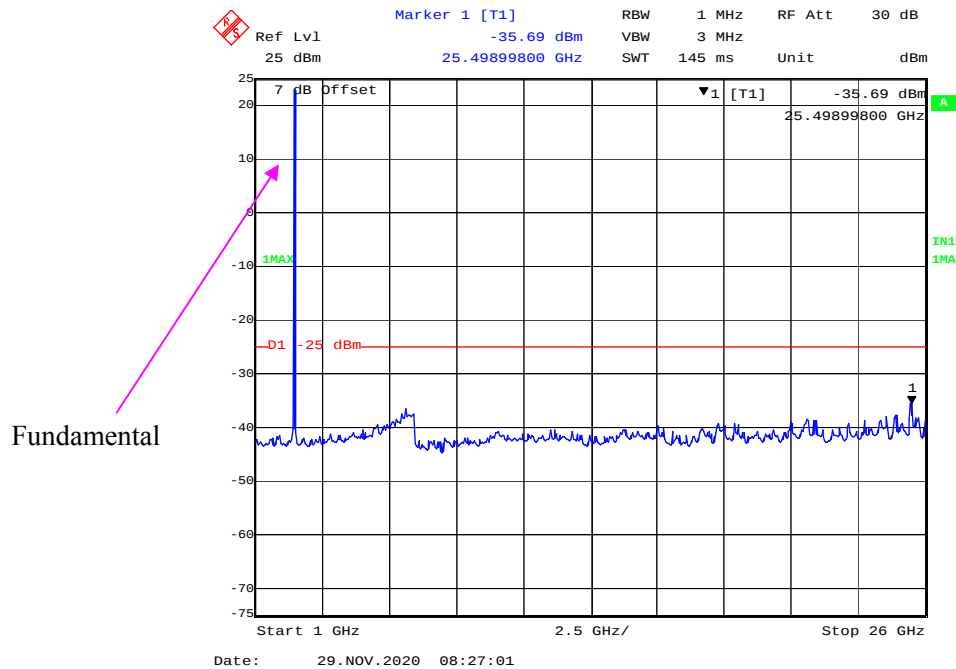


LTE Band 7:**30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)****1 GHz – 26 GHz (5 MHz, QPSK, Low Channel)**

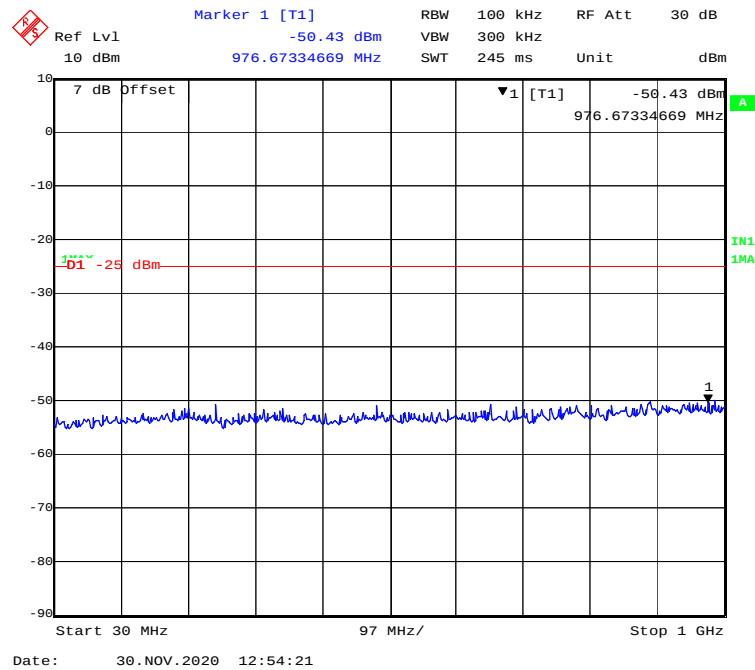
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



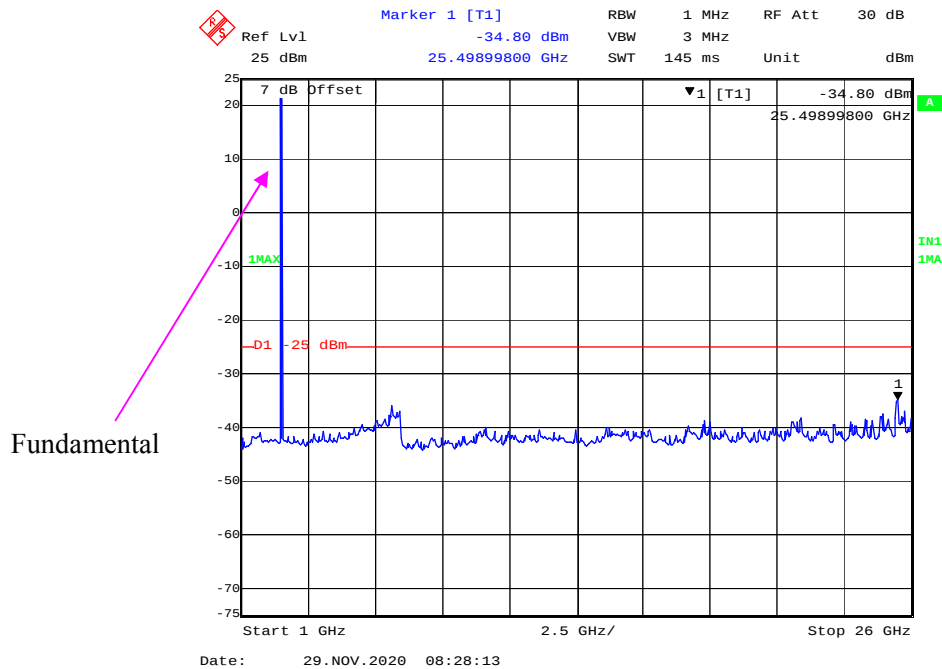
1 GHz - 26 GHz (5 MHz, 16-QAM, Low Channel)



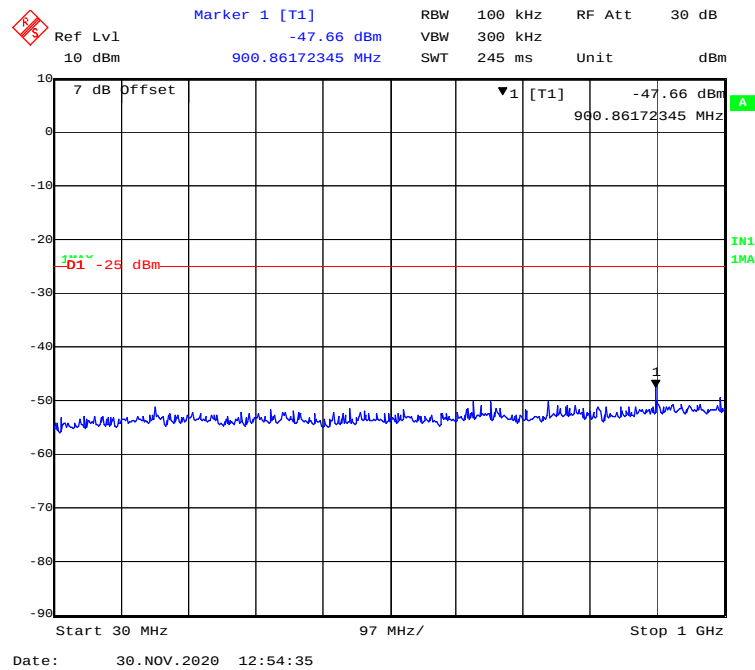
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



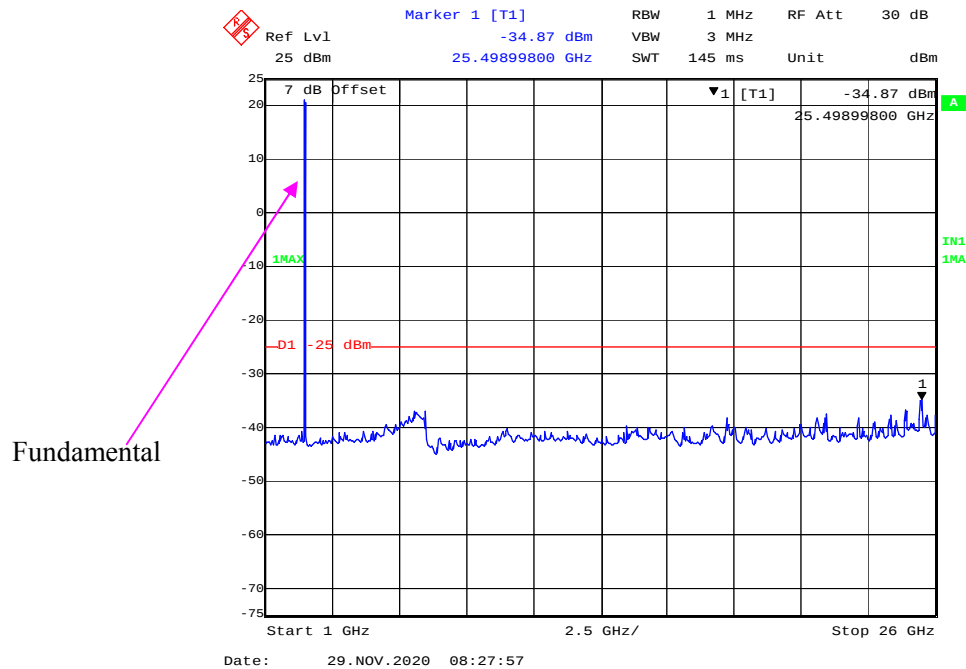
1 GHz – 26 GHz (10MHz, QPSK, Low Channel)

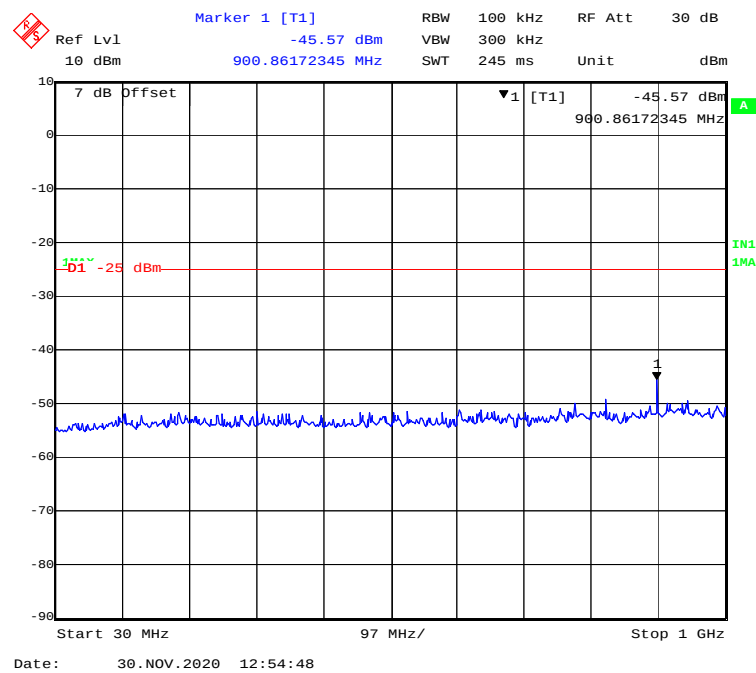
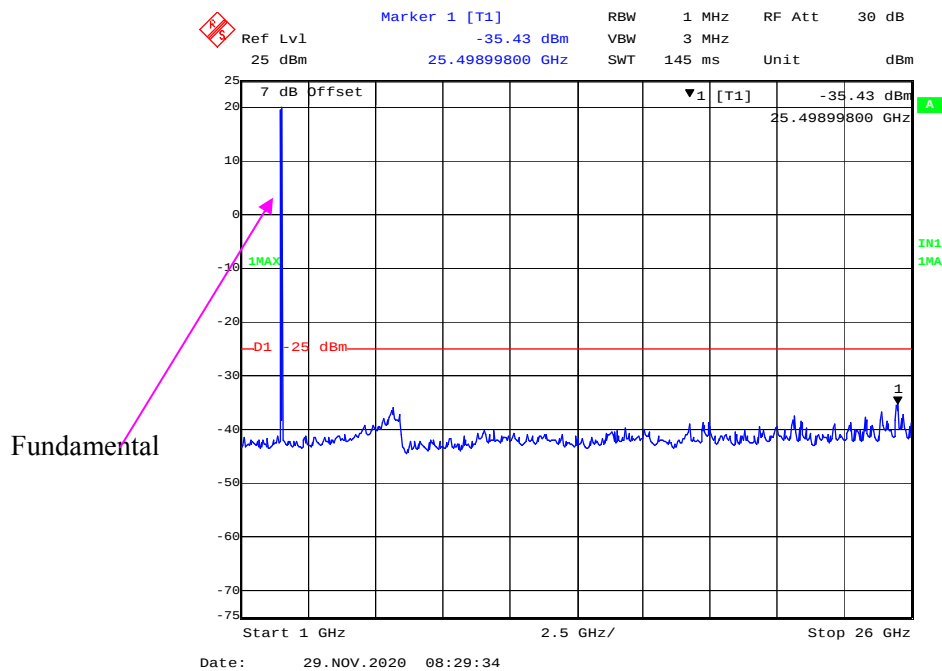


30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)

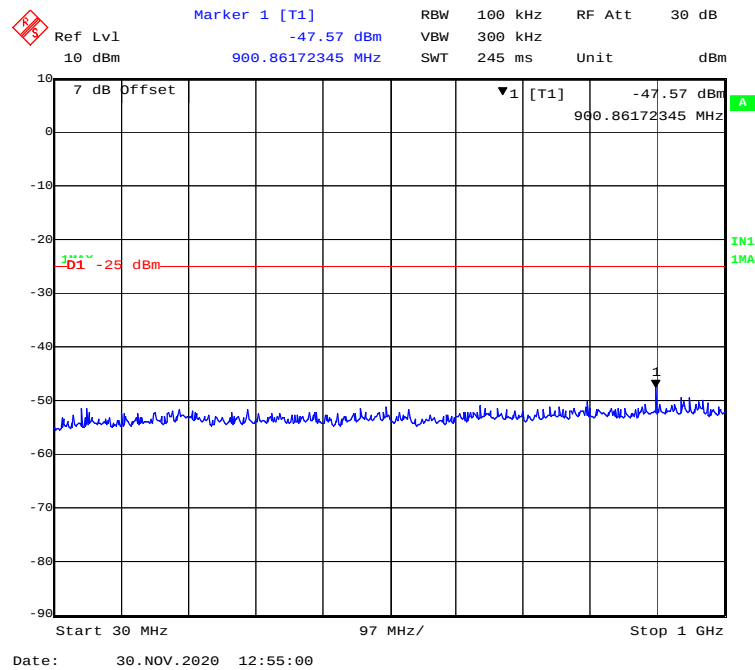


1 GHz – 26 GHz (10 MHz, 16-QAM, Low Channel)

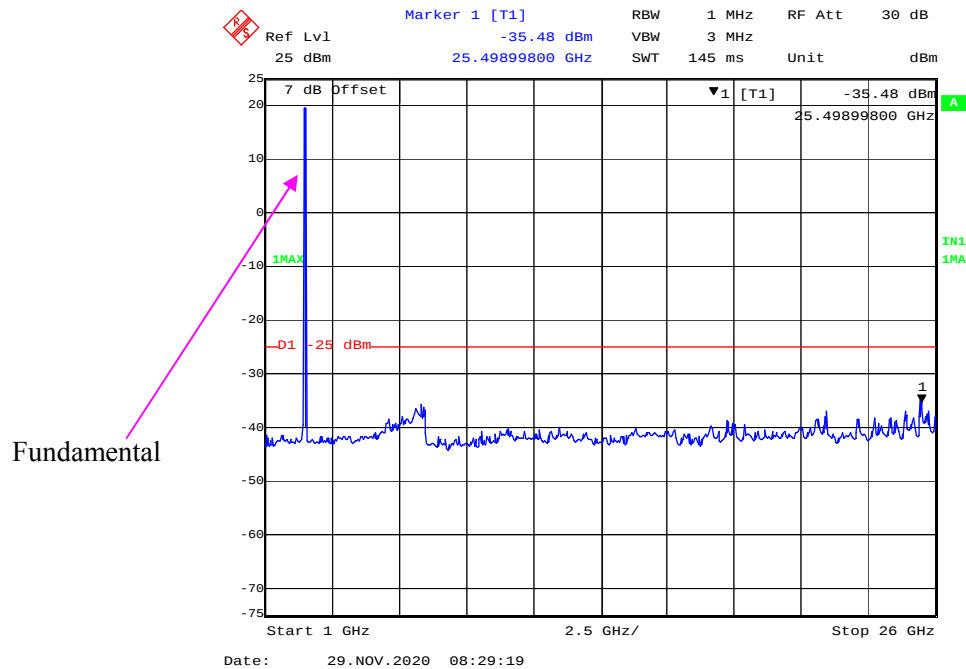


30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)**1 GHz – 26 GHz (15MHz, QPSK, Low Channel)**

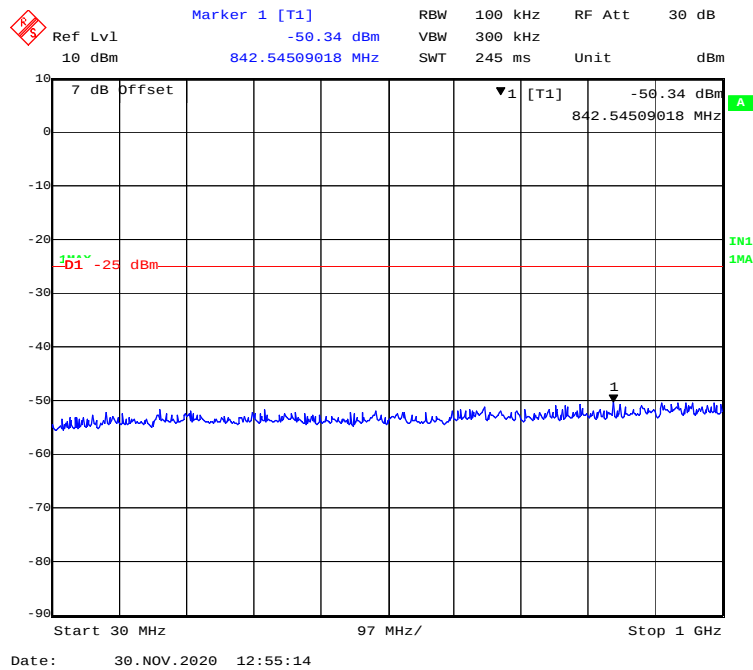
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



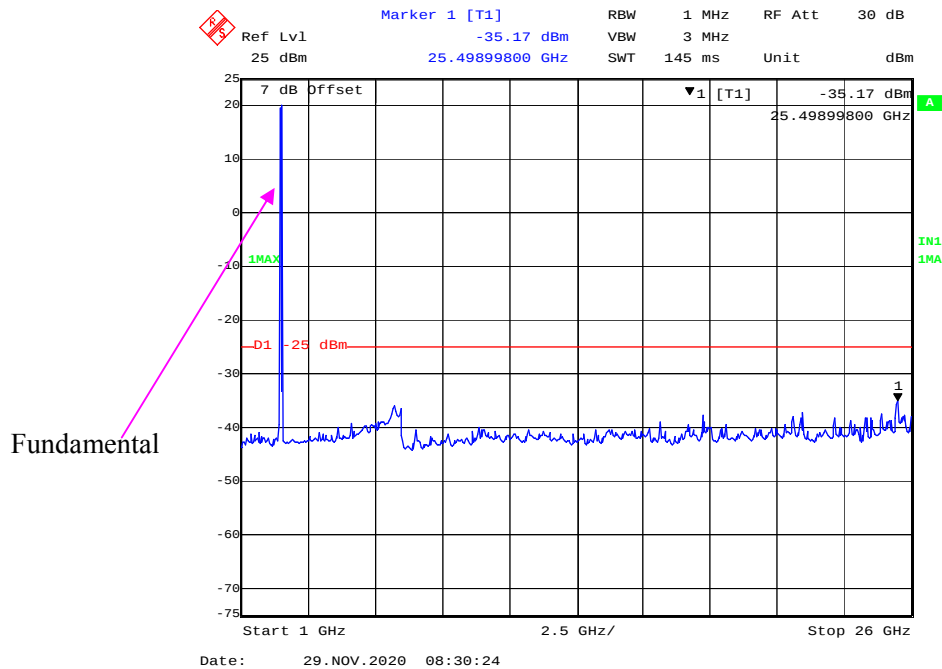
1 GHz – 26 GHz (15 MHz, 16-QAM, Low Channel)



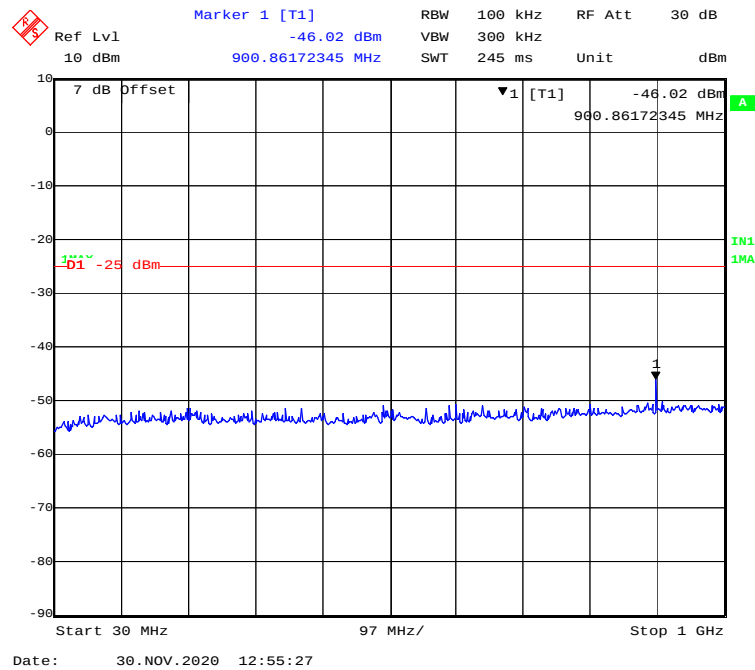
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



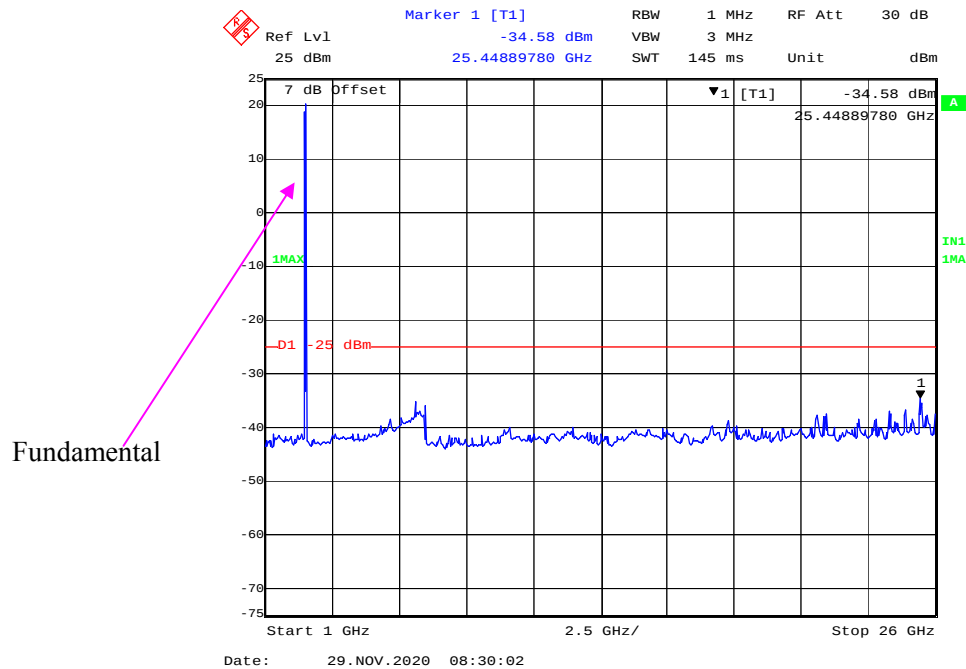
1 GHz – 26 GHz (20MHz, QPSK, Low Channel)



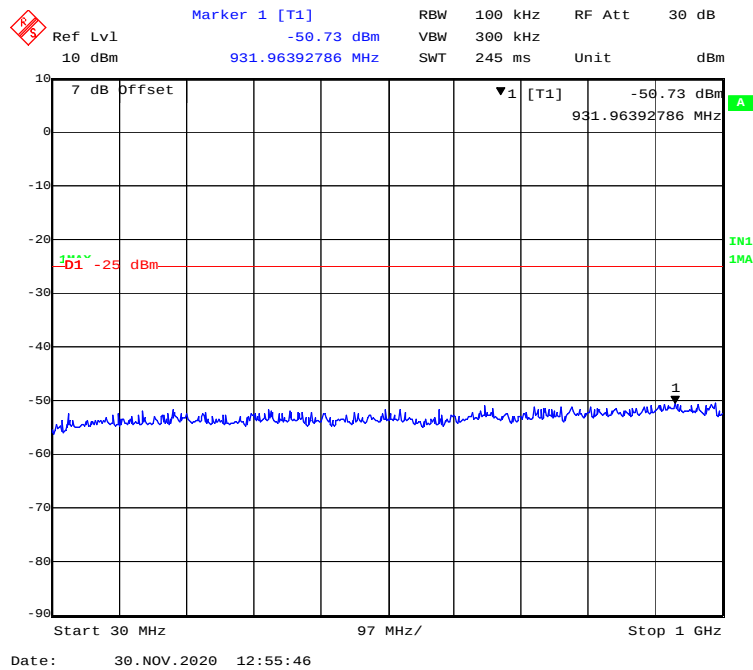
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



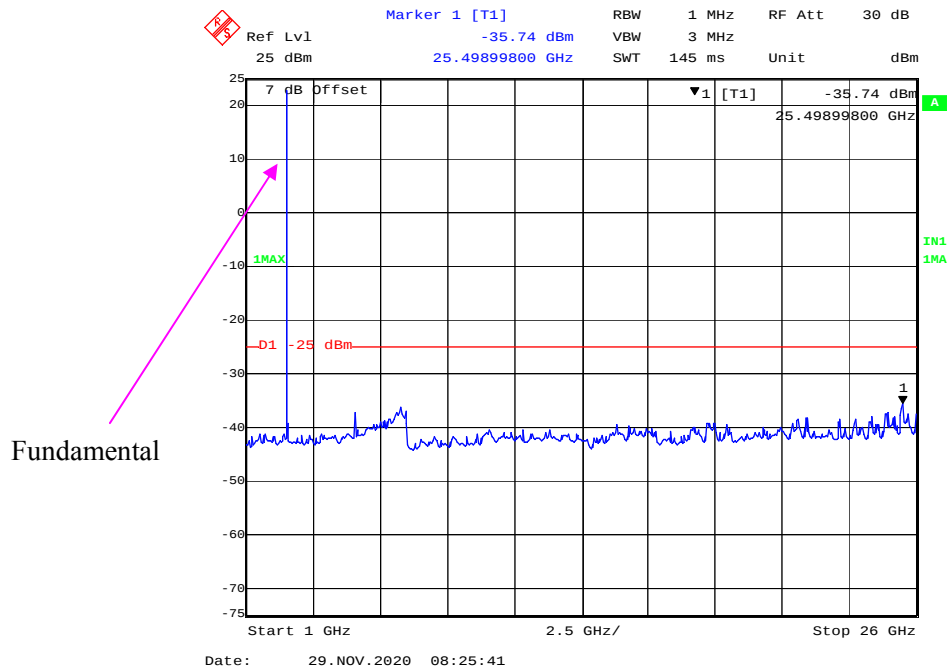
1 GHz – 26 GHz (20 MHz, 16-QAM, Low Channel)



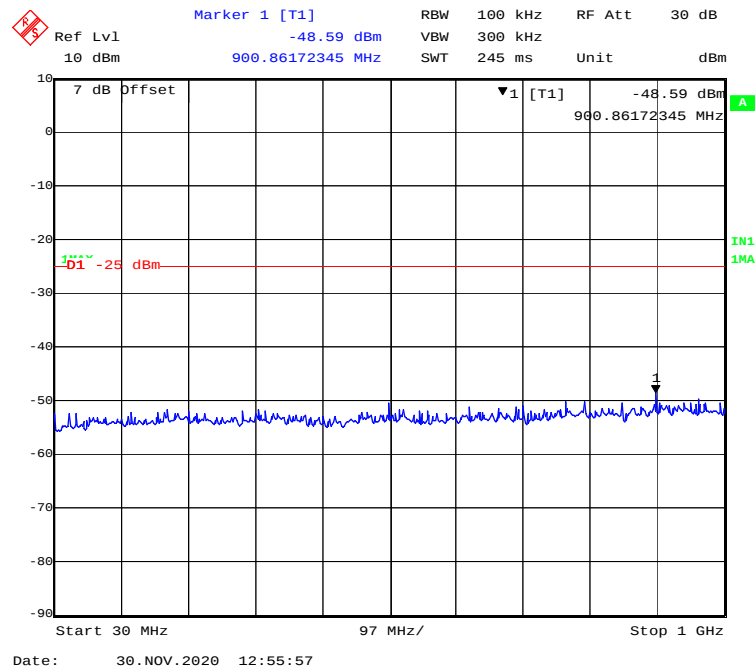
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



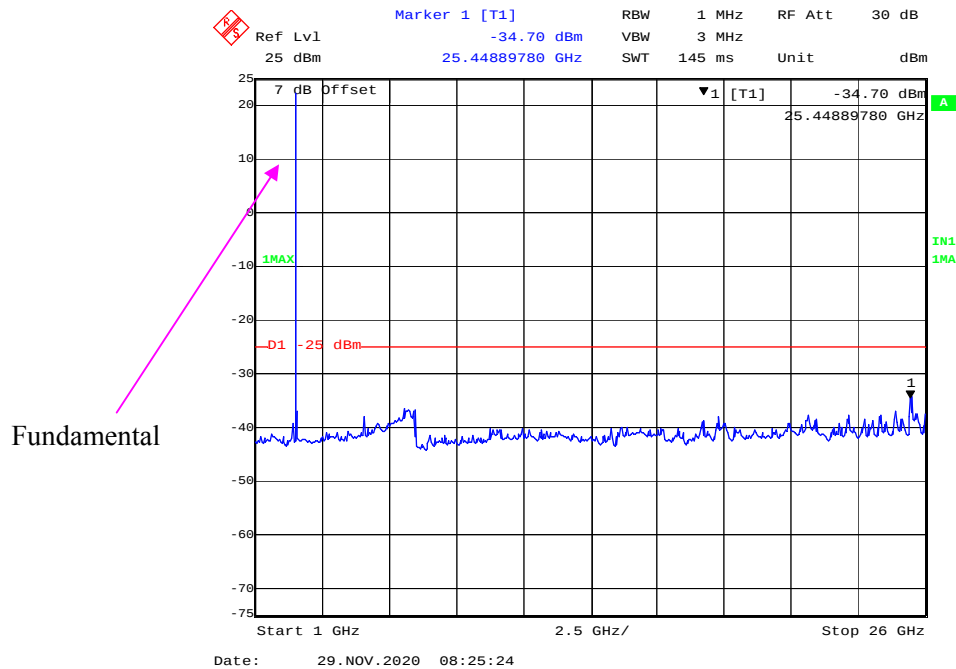
1 GHz – 26 GHz (5 MHz, QPSK, Middle Channel)



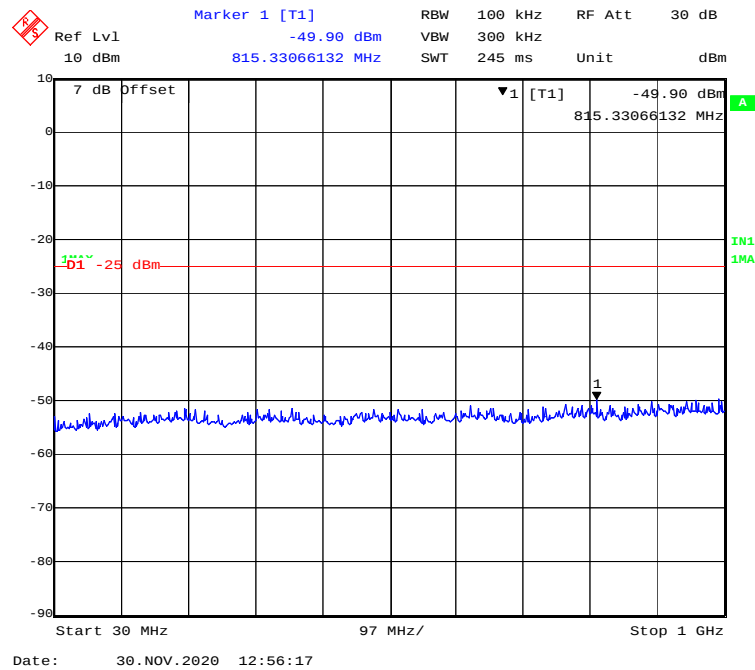
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



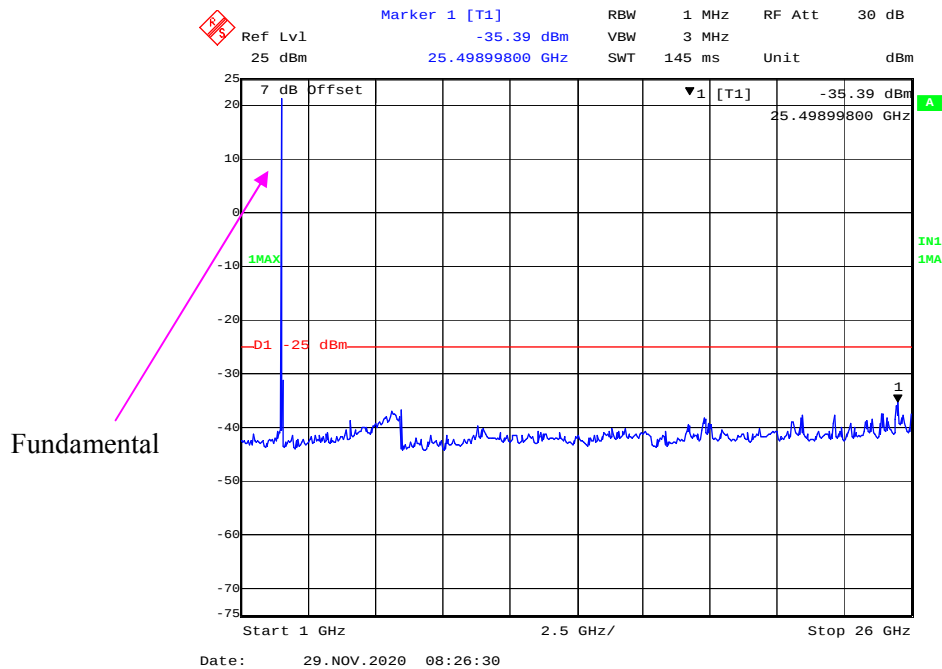
1 GHz – 26 GHz (5 MHz, 16-QAM, Middle Channel)



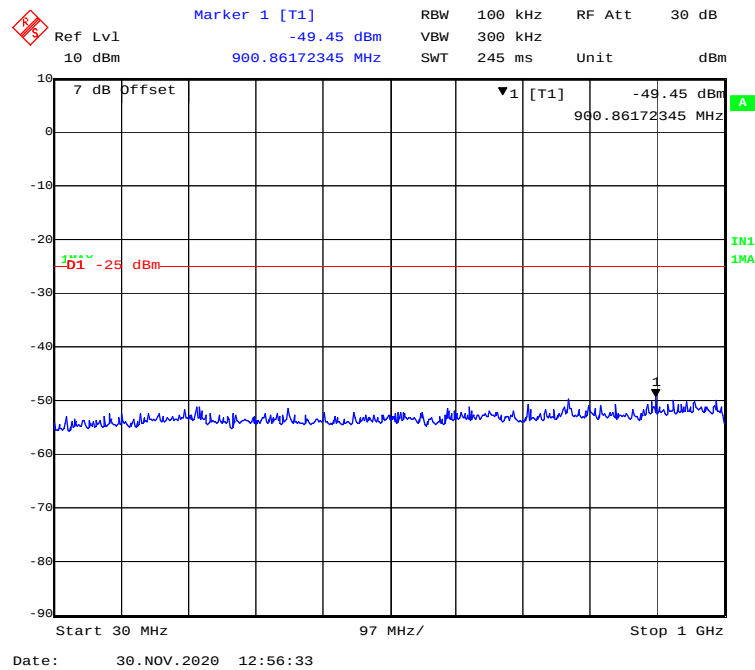
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



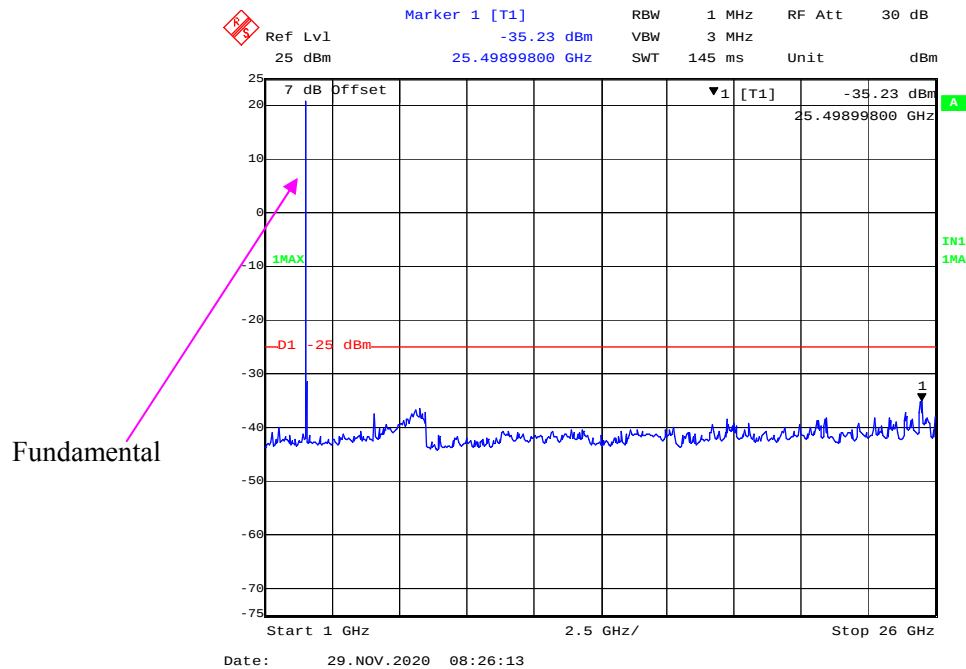
1 GHz – 26 GHz (10MHz, QPSK, Middle Channel)



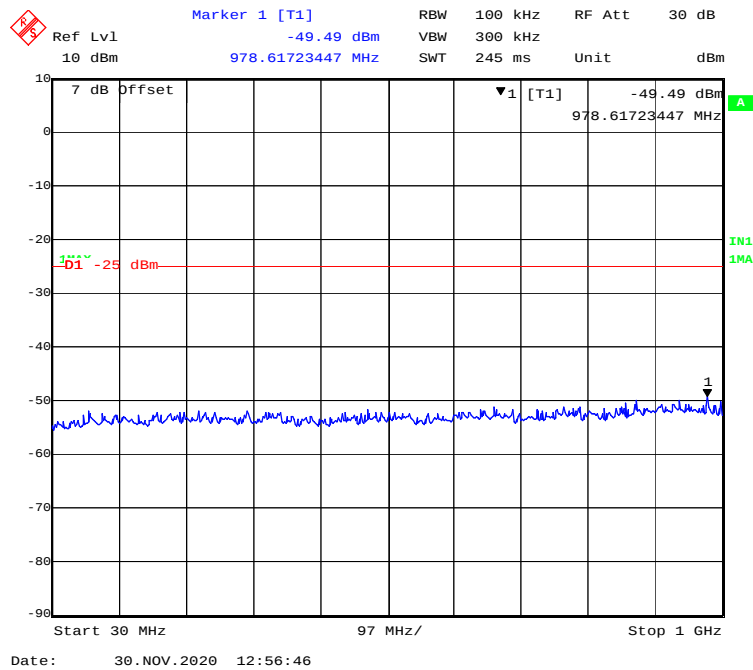
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



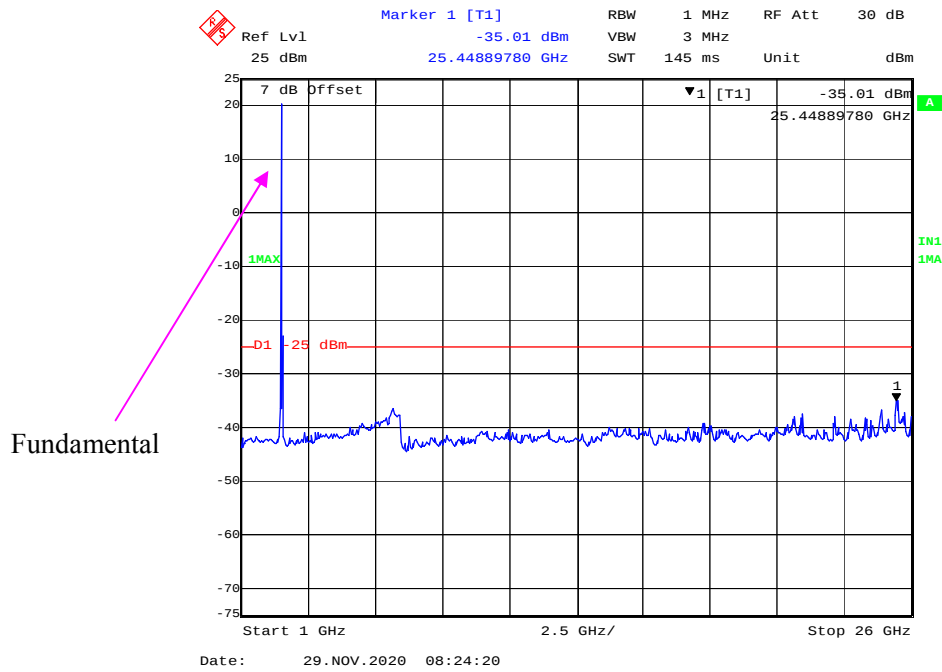
1 GHz – 26 GHz (10 MHz, 16-QAM, Middle Channel)



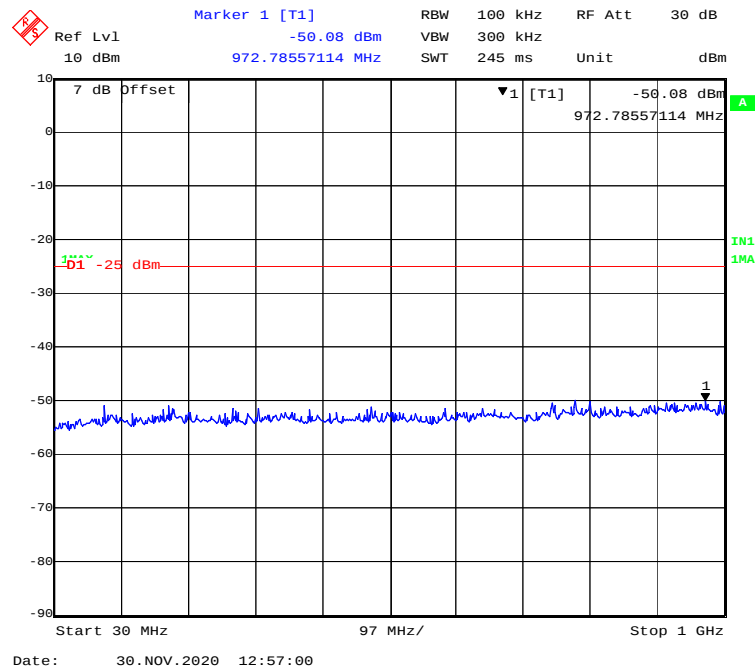
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



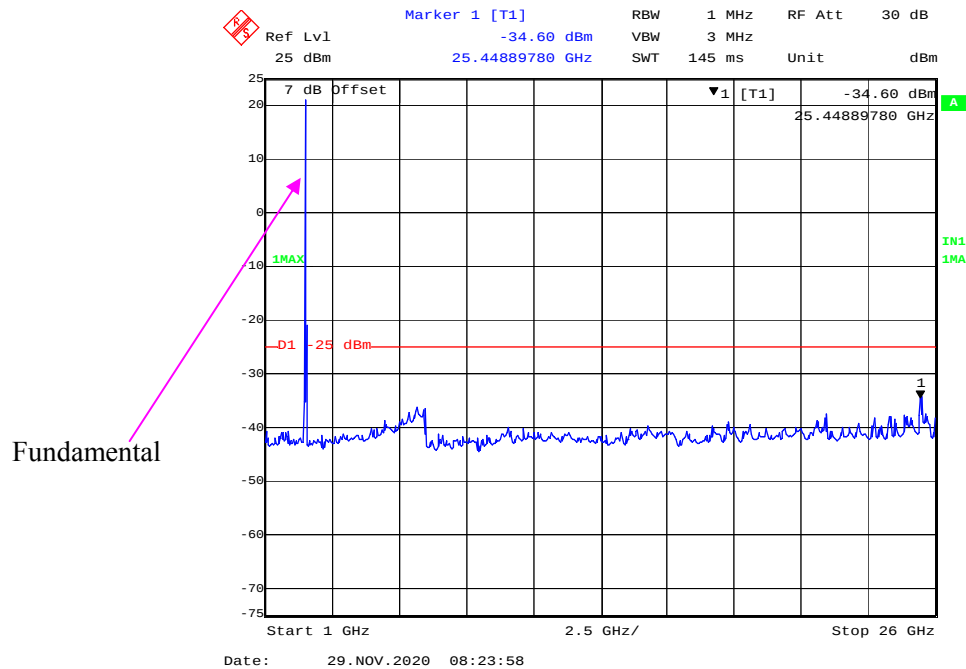
1 GHz – 26 GHz (15MHz, QPSK, Middle Channel)



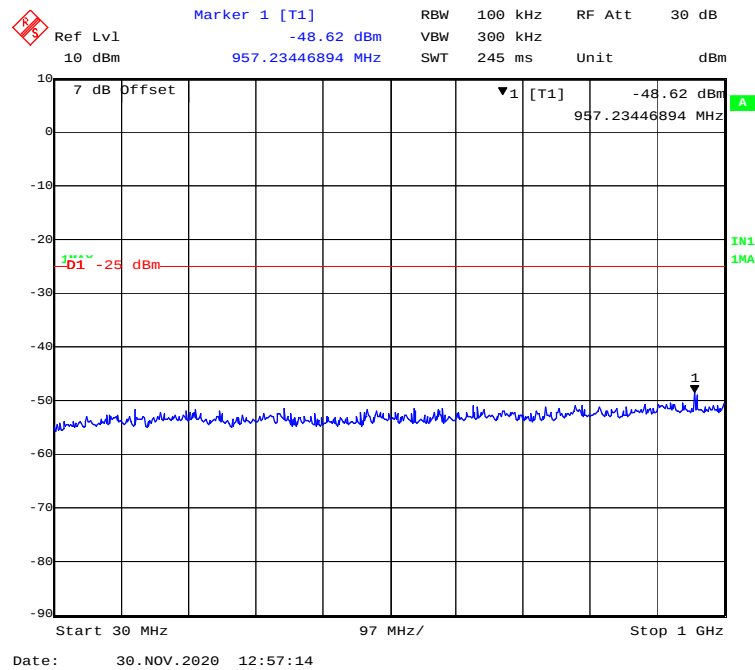
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



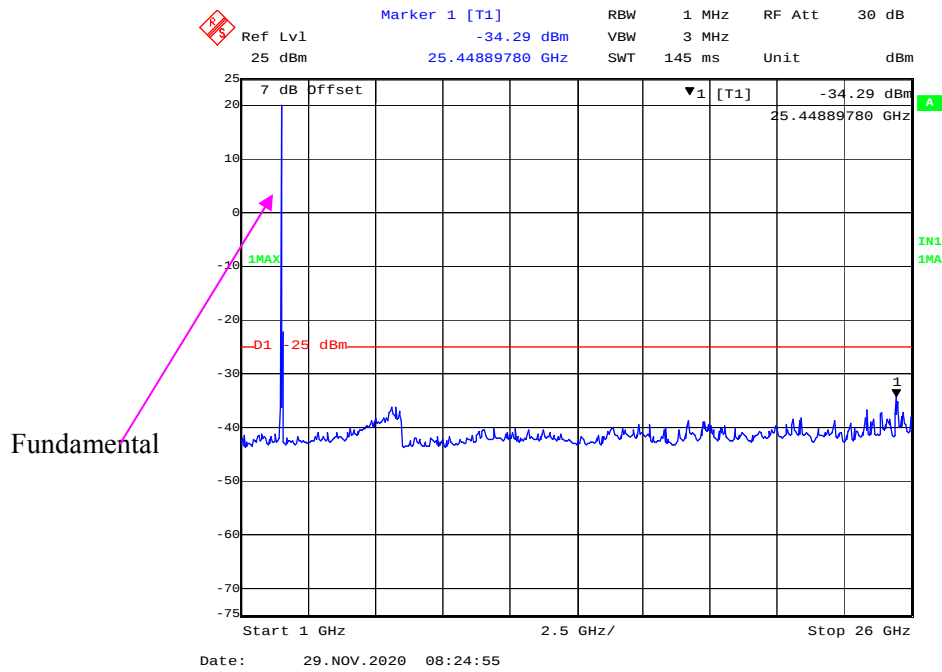
1 GHz – 26 GHz (15 MHz, 16-QAM, Middle Channel)



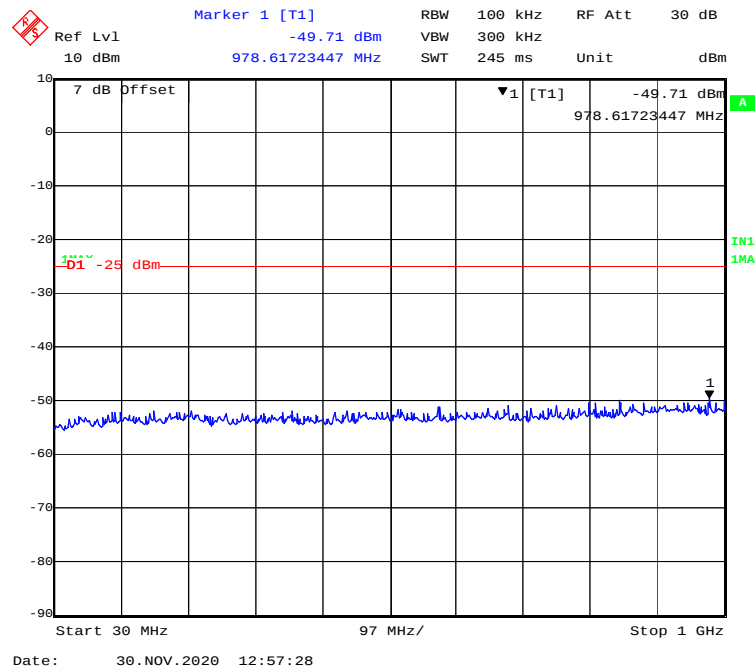
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



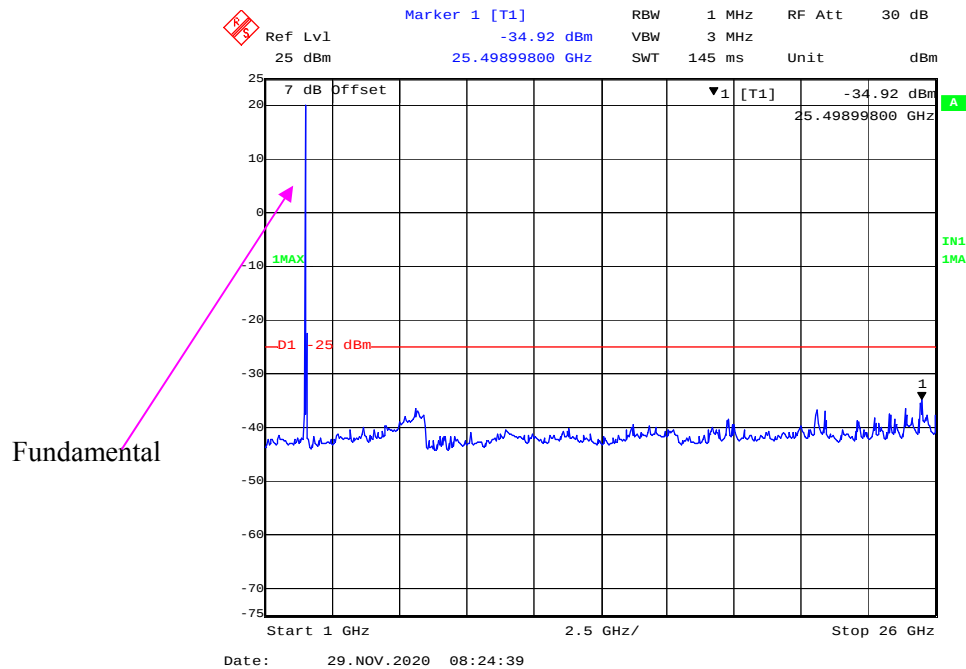
1 GHz – 26 GHz (20MHz, QPSK, Middle Channel)



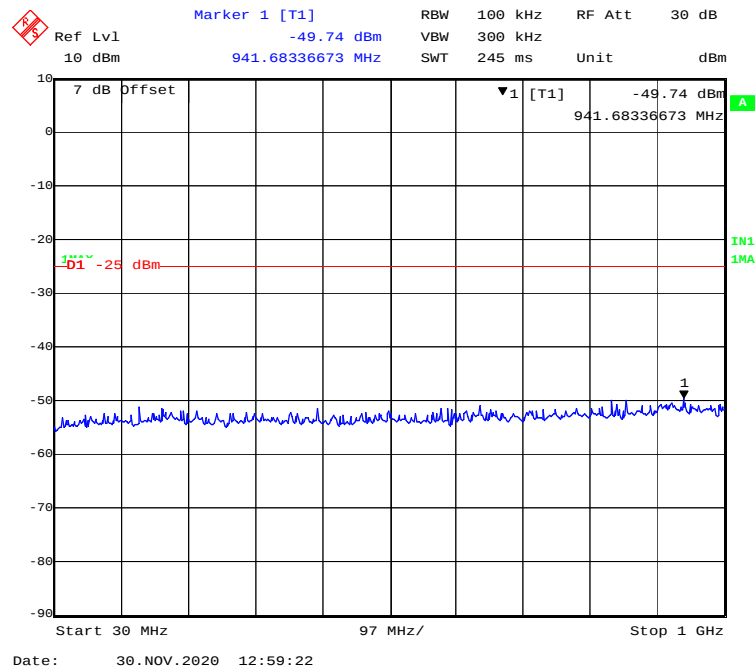
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



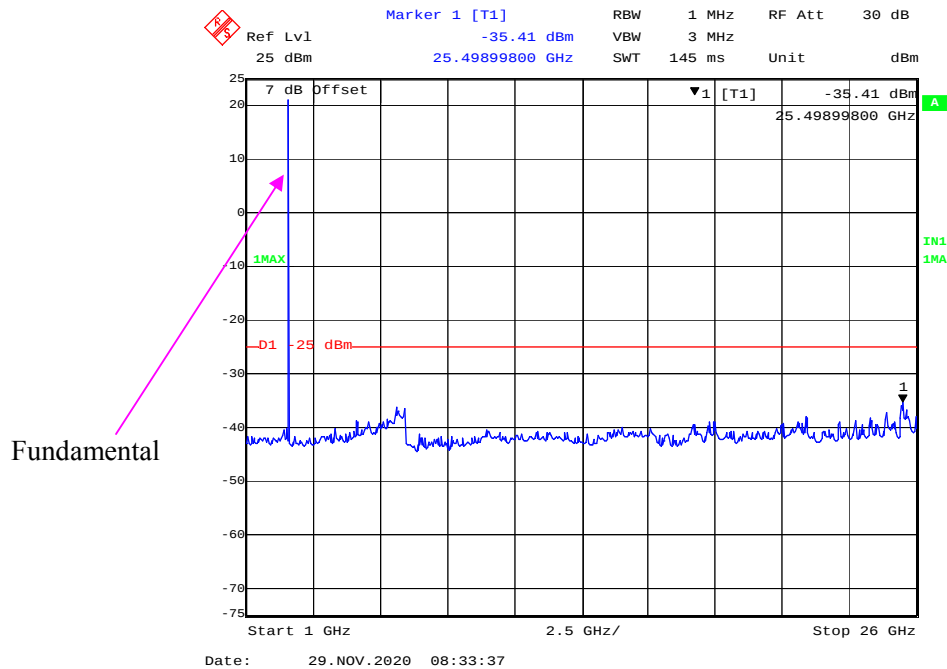
1 GHz – 26 GHz (20 MHz, 16-QAM, Middle Channel)



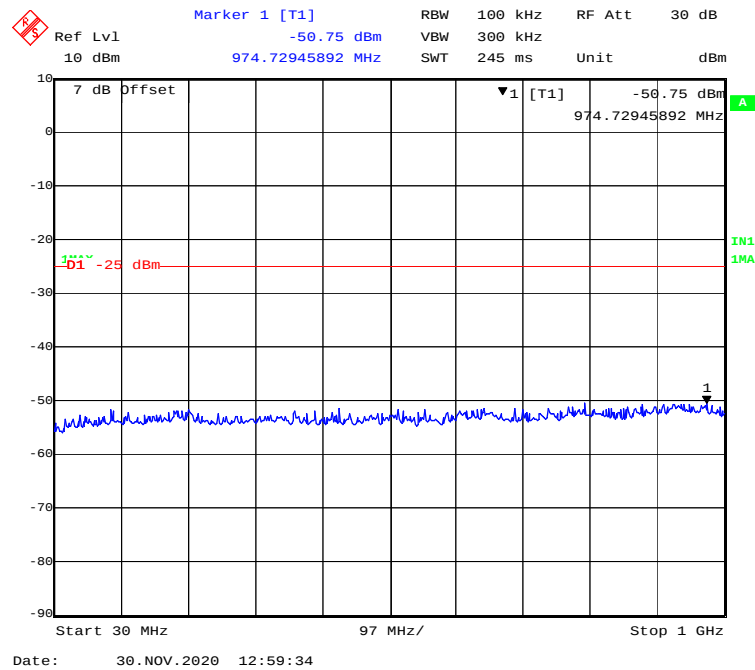
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



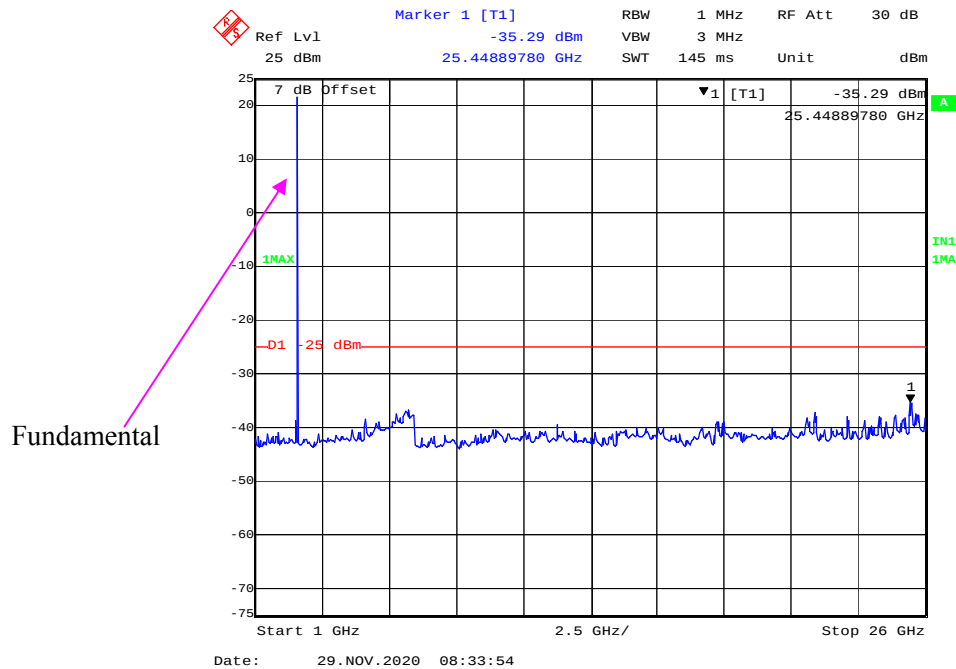
1 GHz – 26 GHz (5 MHz, QPSK, High Channel)



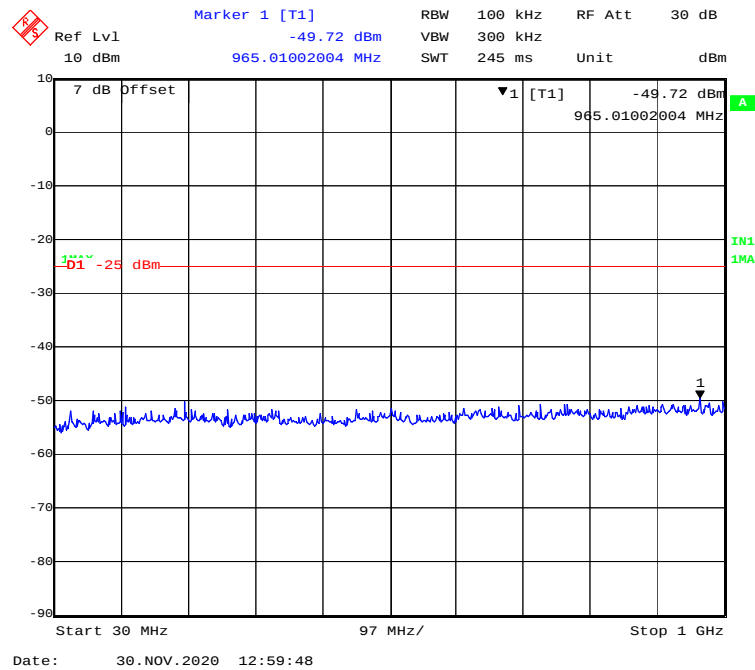
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



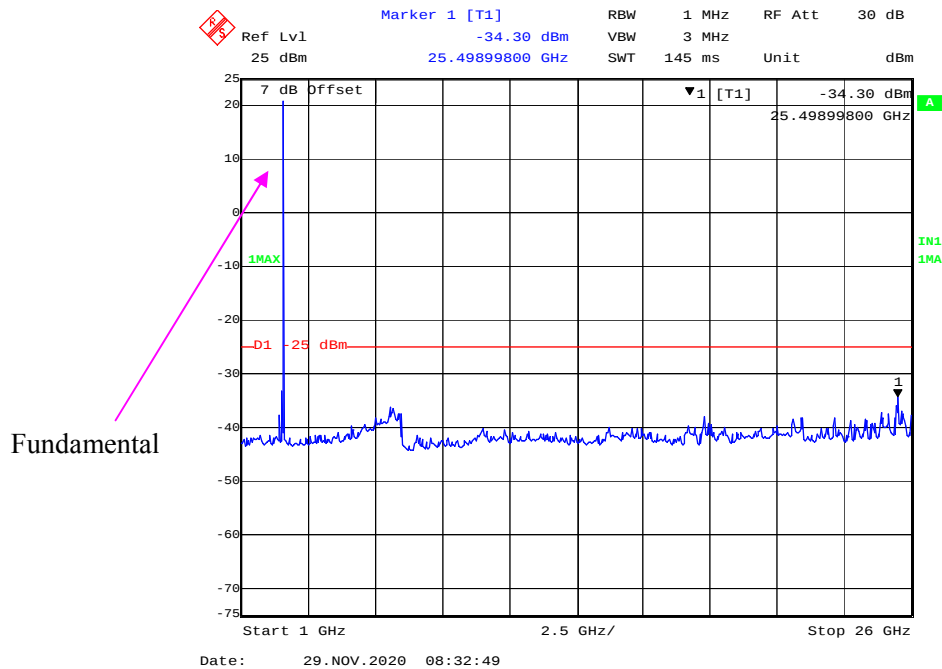
1 GHz - 26 GHz (5 MHz, 16-QAM, High Channel)



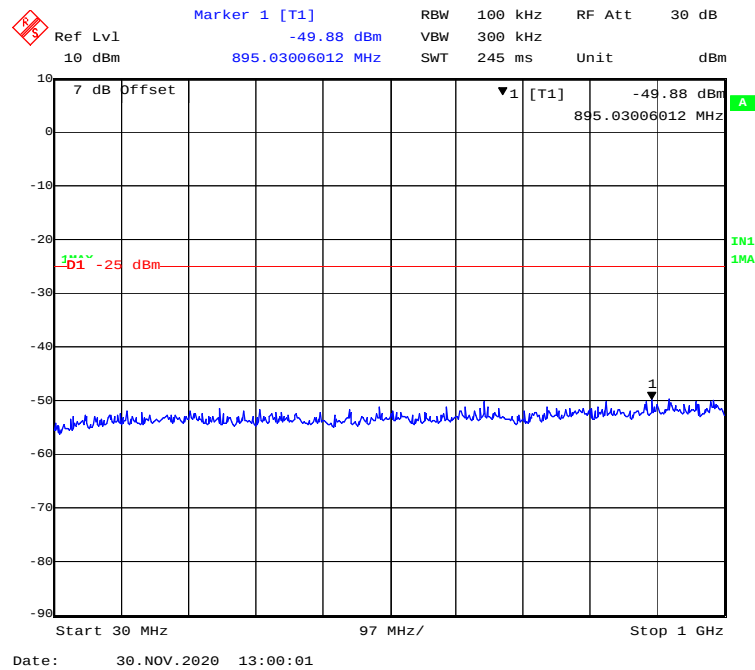
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



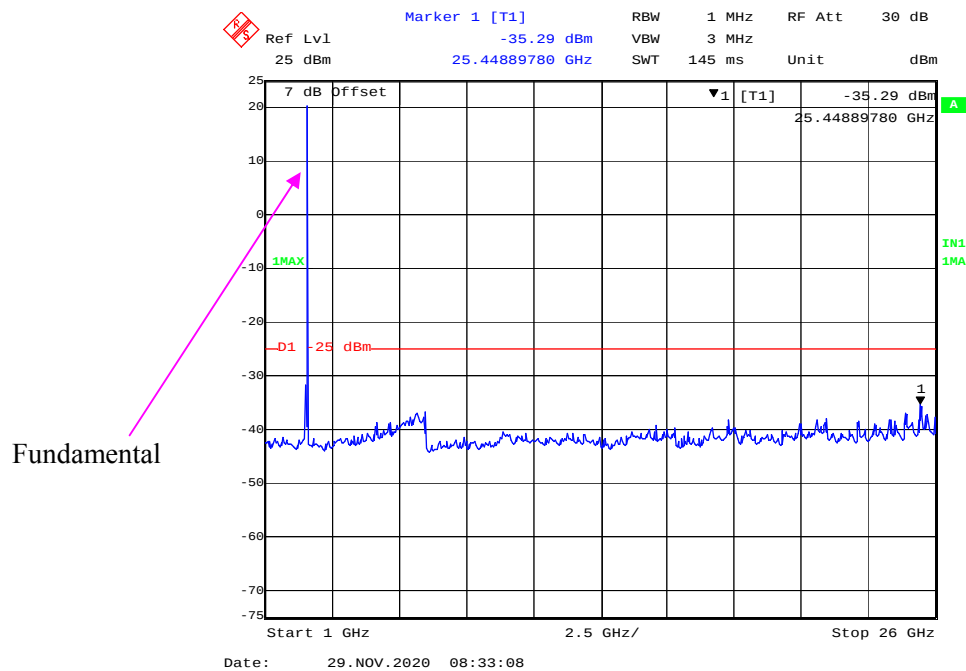
1 GHz – 26 GHz (10MHz, QPSK, High Channel)



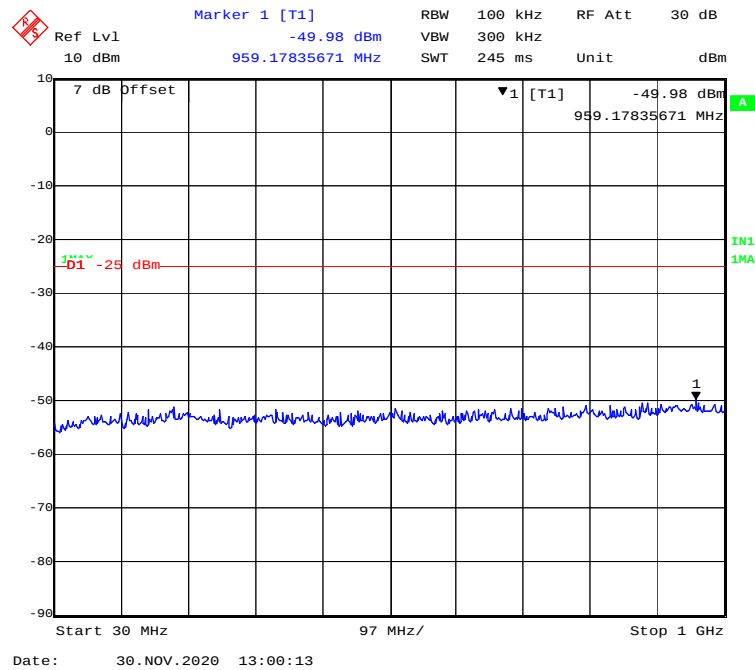
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



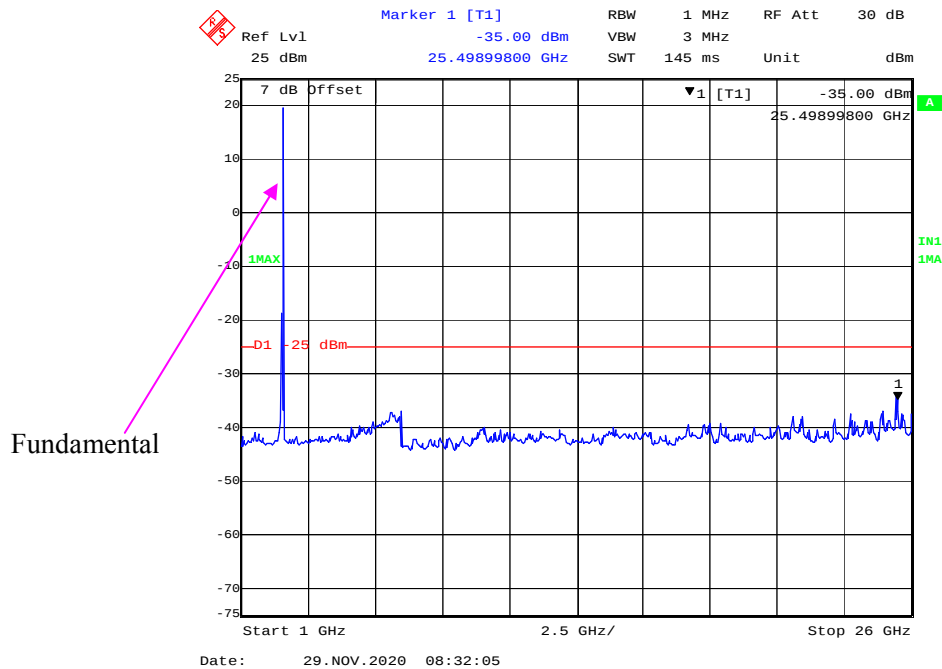
1 GHz – 26 GHz (10 MHz, 16-QAM, High Channel)



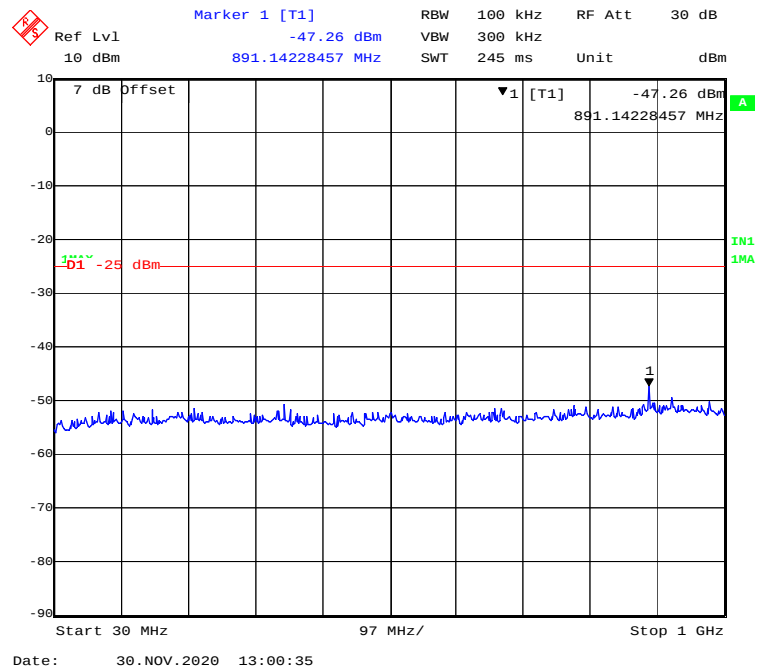
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



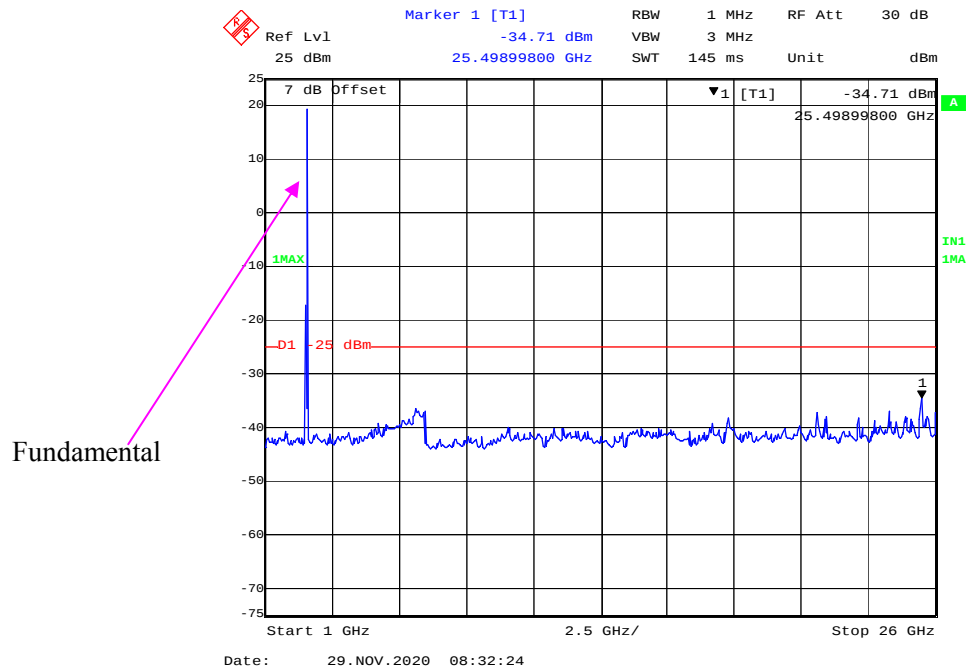
1 GHz – 26 GHz (15MHz, QPSK, High Channel)



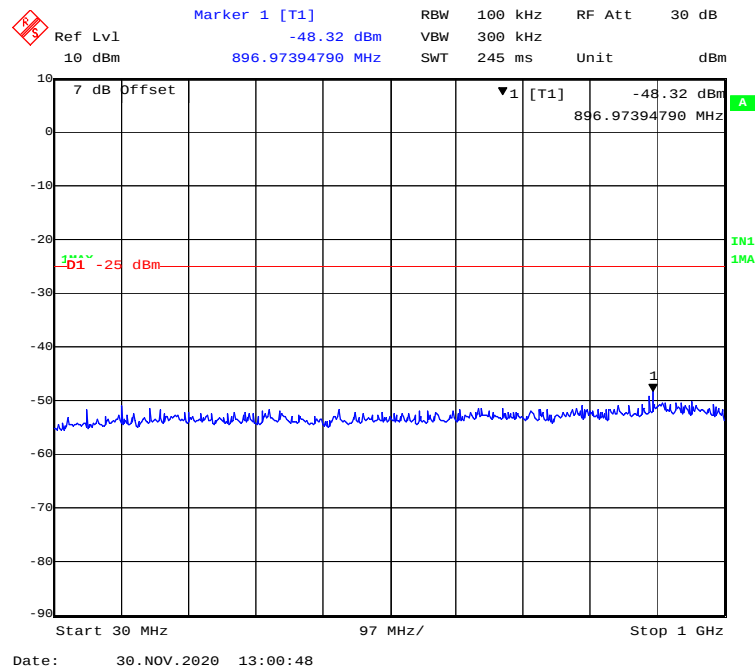
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



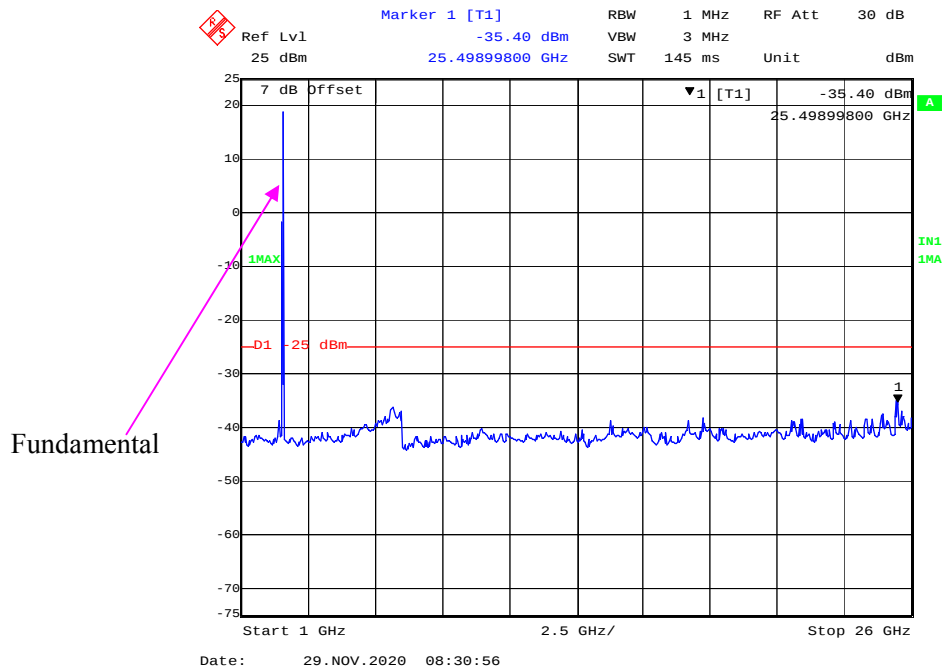
1 GHz – 26 GHz (15 MHz, 16-QAM, High Channel)



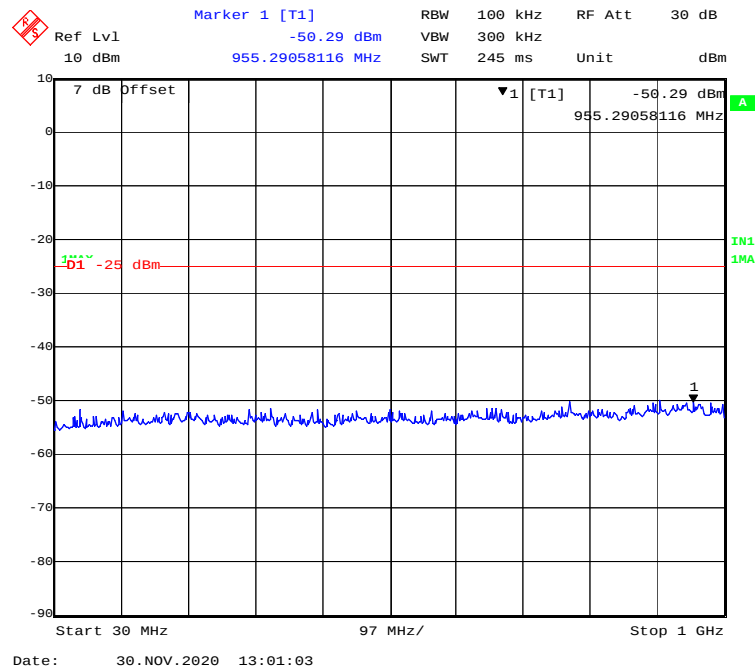
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



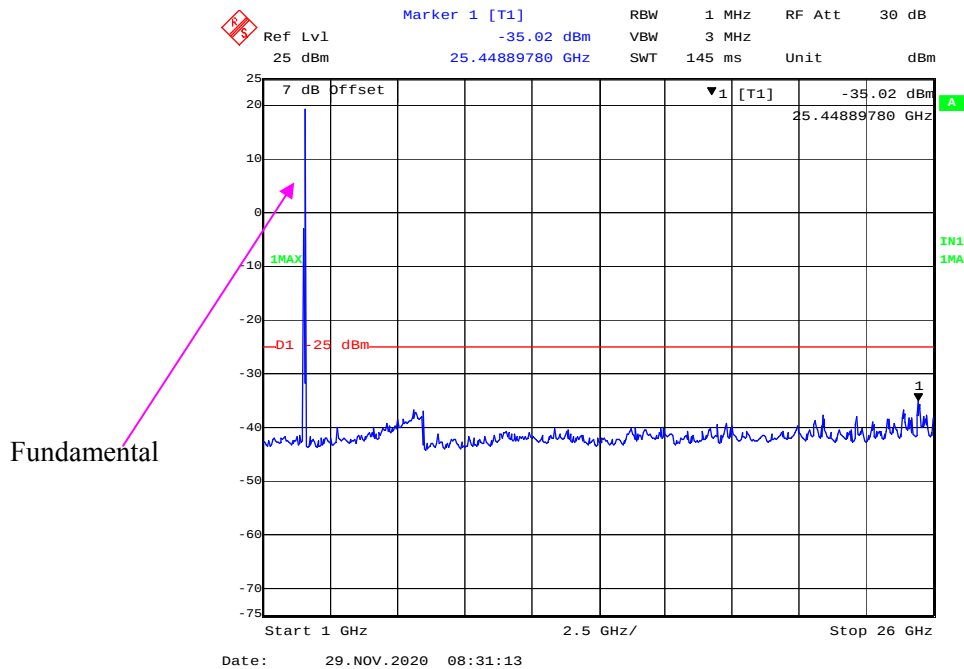
1 GHz – 26 GHz (20MHz, QPSK, High Channel)



30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

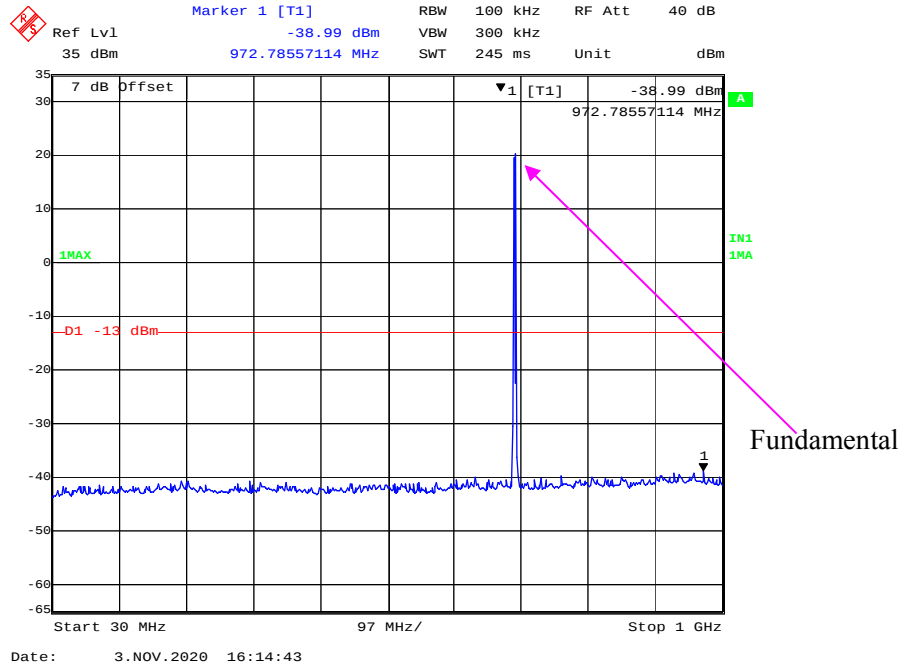


1 GHz – 26 GHz (20 MHz, 16-QAM, High Channel)

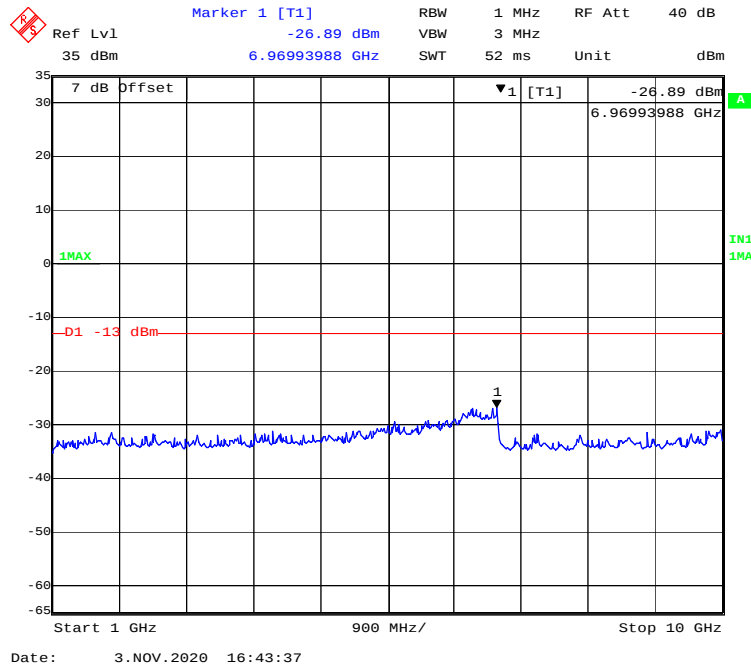


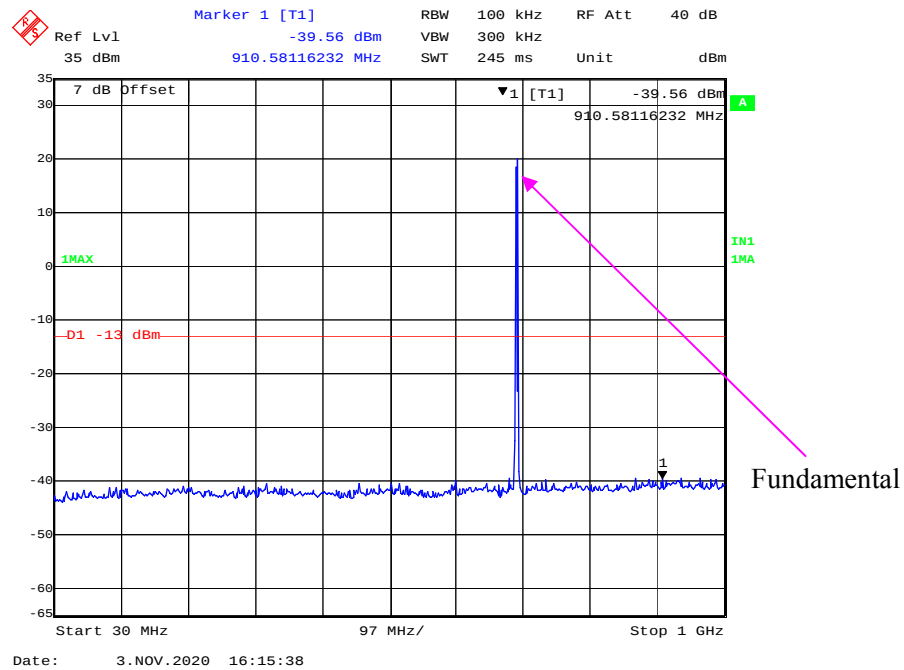
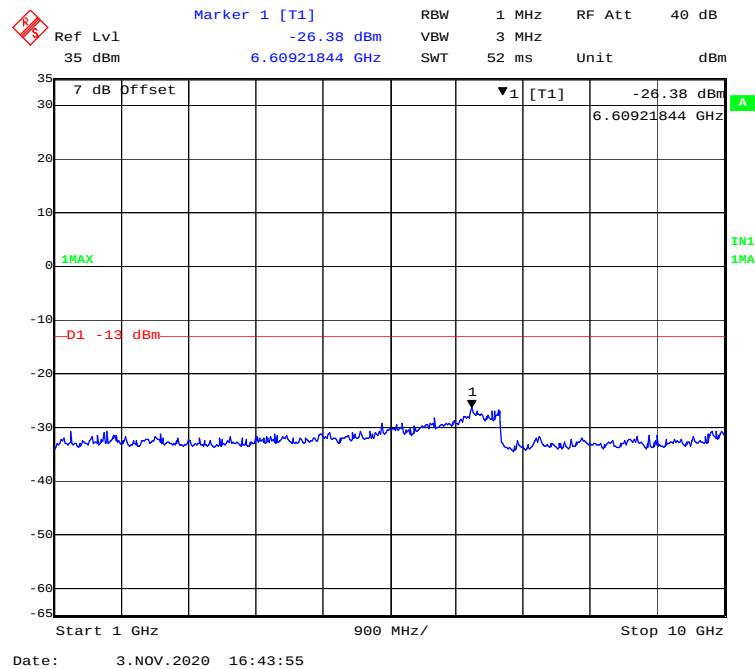
LTE Band 12:

30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)

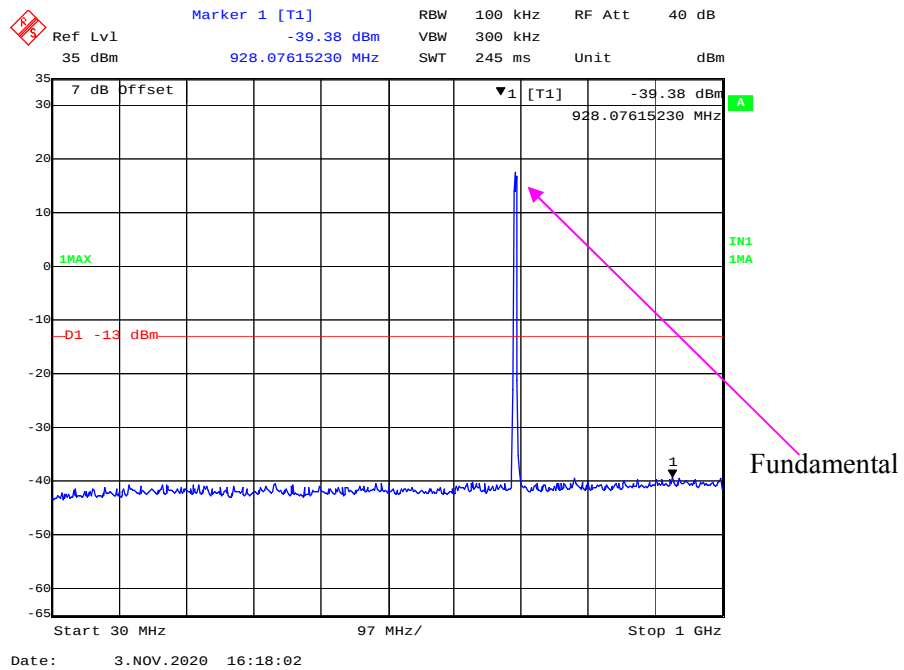


1 GHz – 10 GHz (1.4 MHz, QPSK, Low Channel)

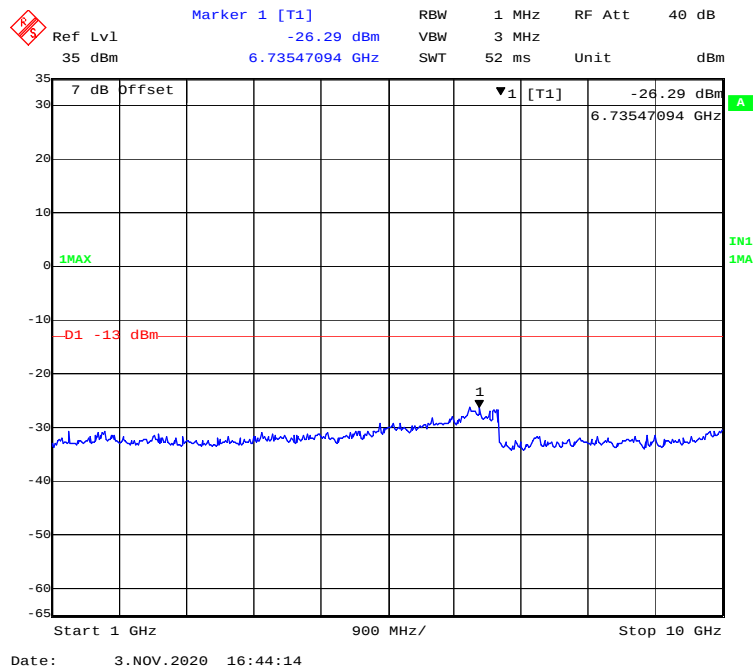


30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (1.4 MHz, 16-QAM, Low Channel)**

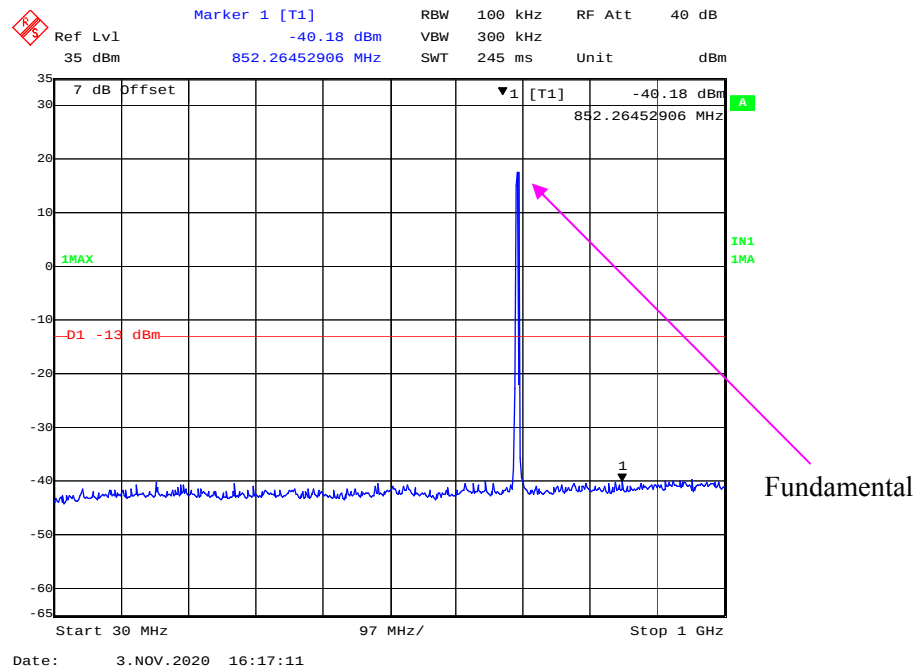
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



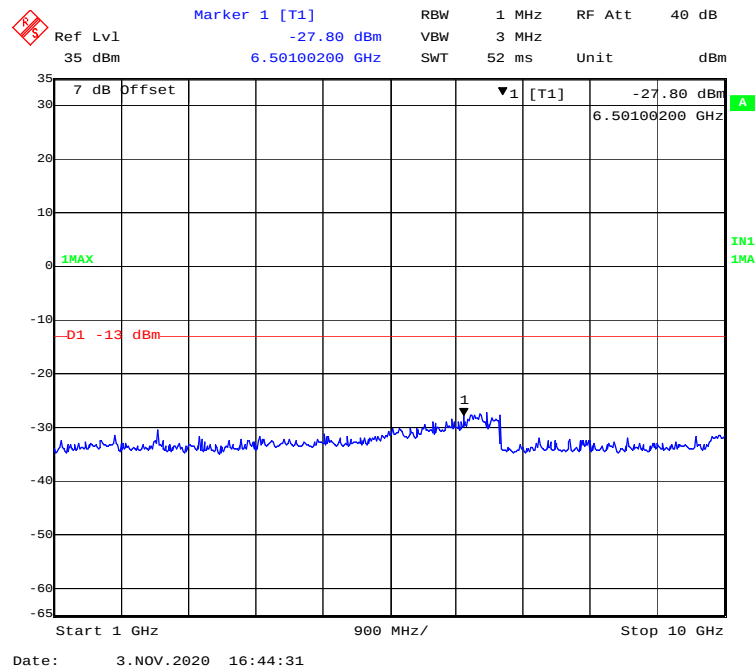
1 GHz - 10 GHz (3 MHz, QPSK, Low Channel)



30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



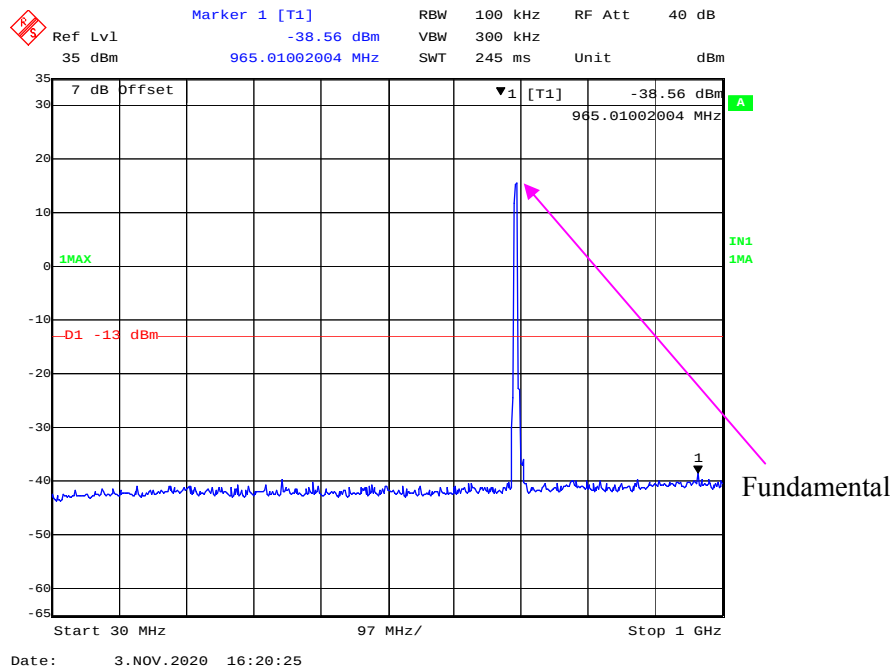
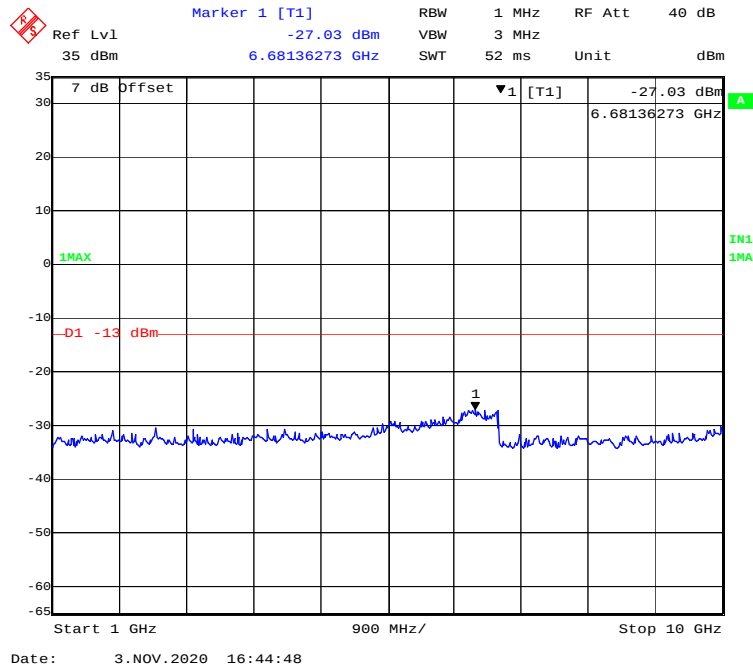
1 GHz - 10 GHz (3 MHz, 16-QAM, Low Channel)



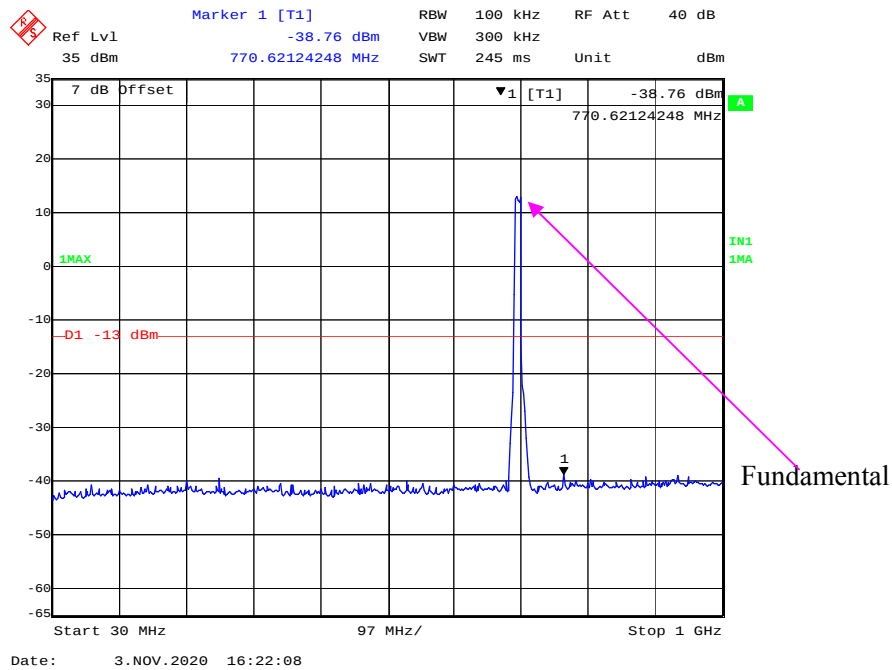
Marker 1 [T1]
 Ref Lvl 35 dBm -26.44 dBm RBW 1 MHz RF Att 40 dB
 35 dBm 6.78957916 GHz SWT 52 ms Unit dBm

7 dB Offset
 1MAX
 -D1 -13 dBm
 1
 -26.44 dBm
 6.78957916 GHz
 Start 1 GHz 900 MHz/ Stop 10 GHz

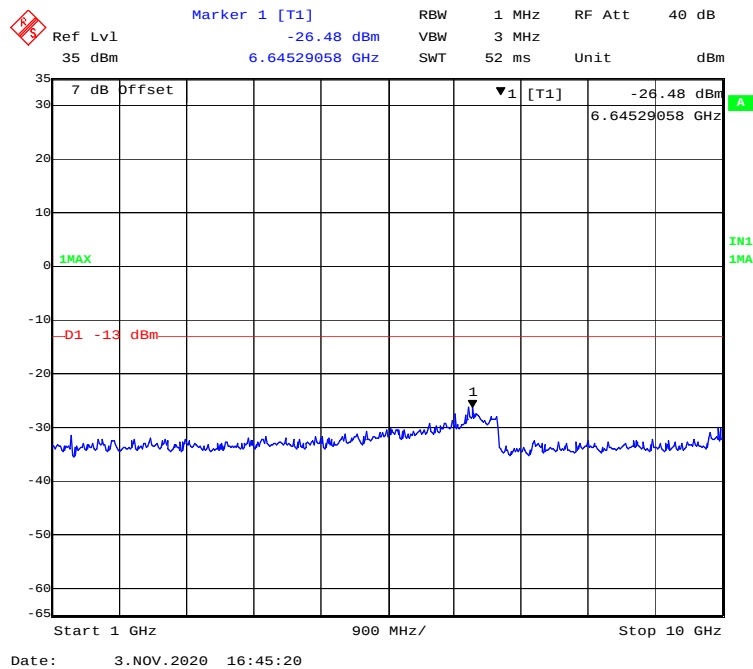
Date: 3.NOV.2020 16:45:01

30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)**

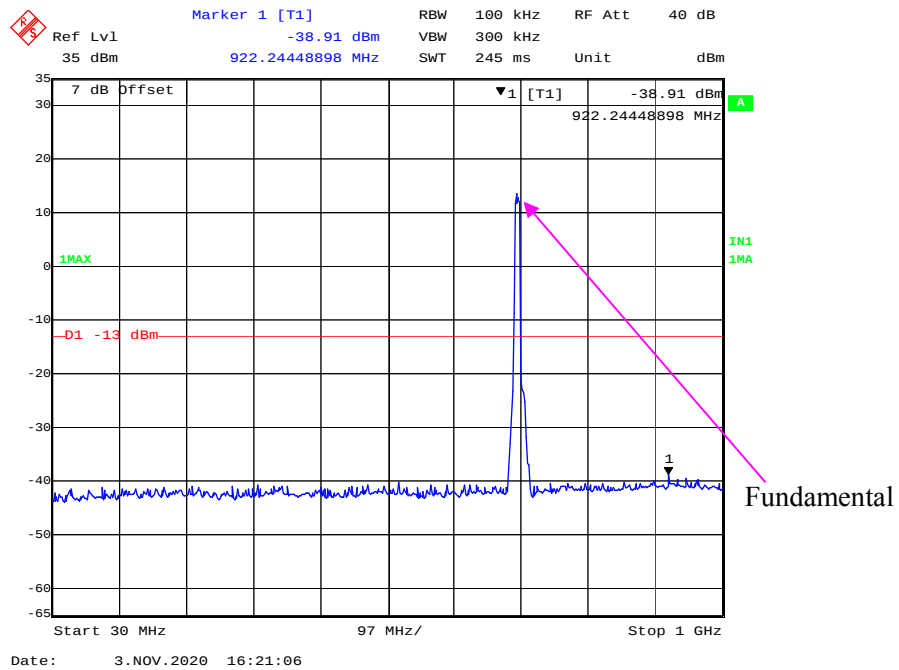
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



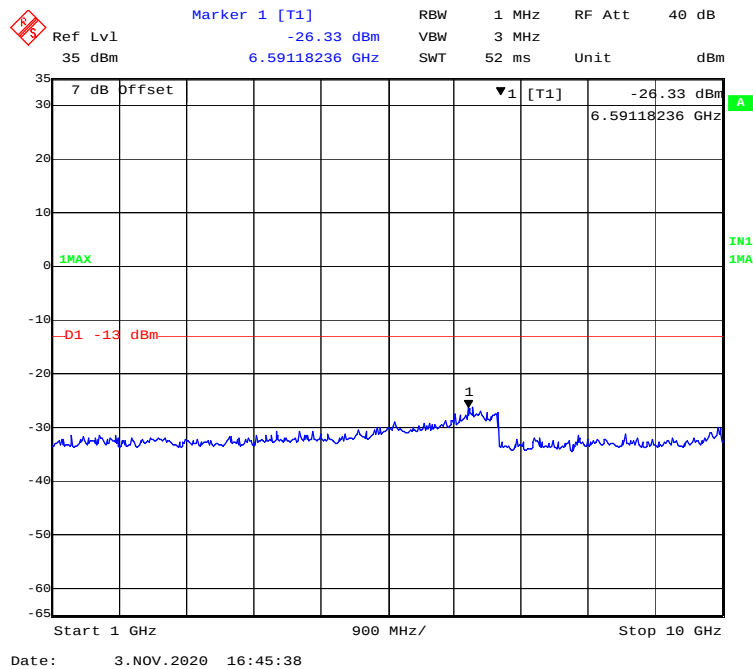
1 GHz – 10 GHz (10 MHz, QPSK, Low Channel)

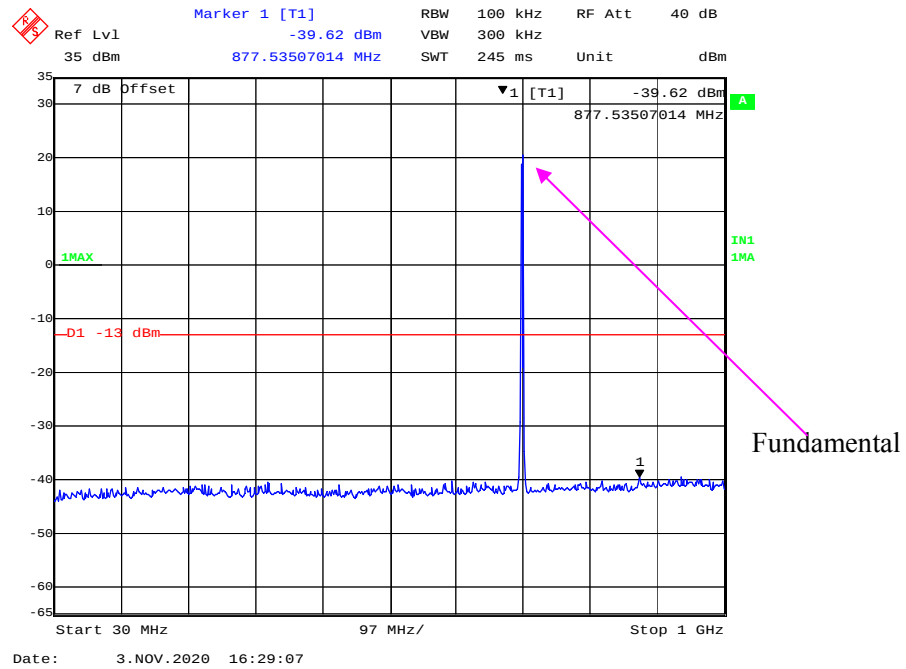
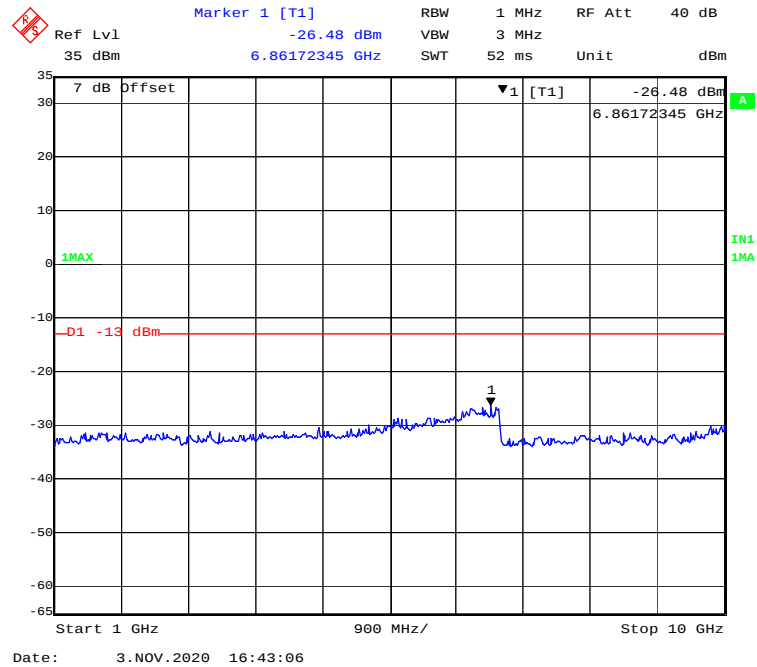


30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)

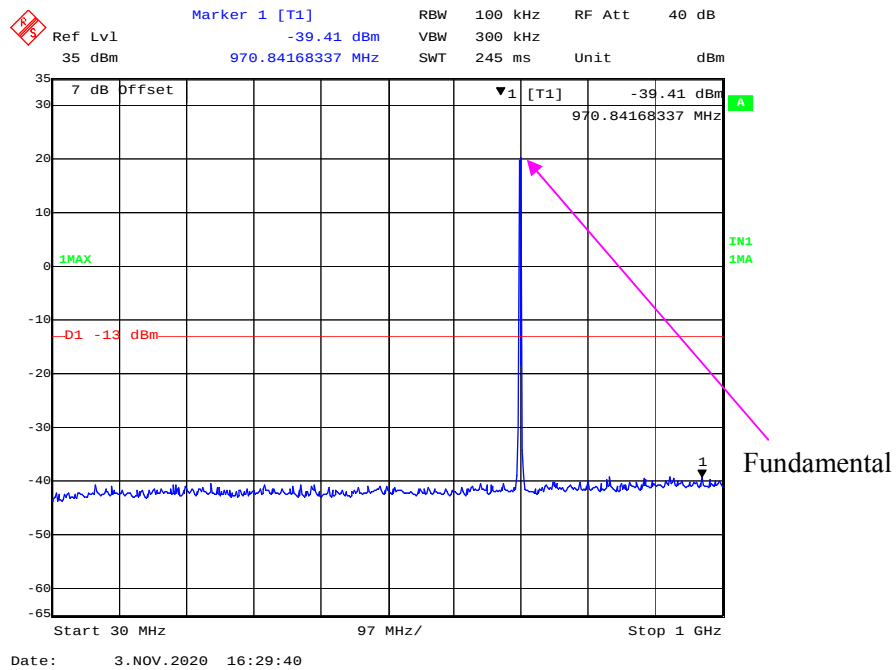


1 GHz – 10 GHz (10 MHz, 16-QAM, Low Channel)

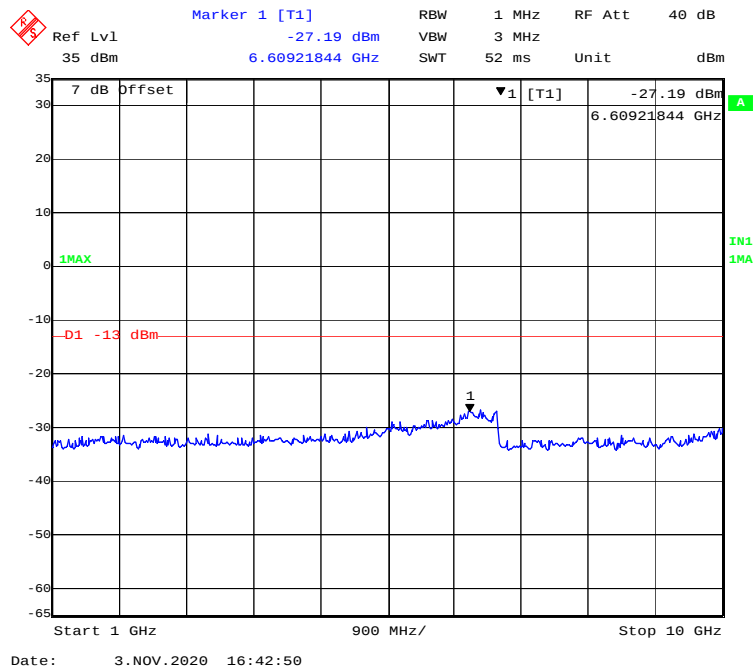


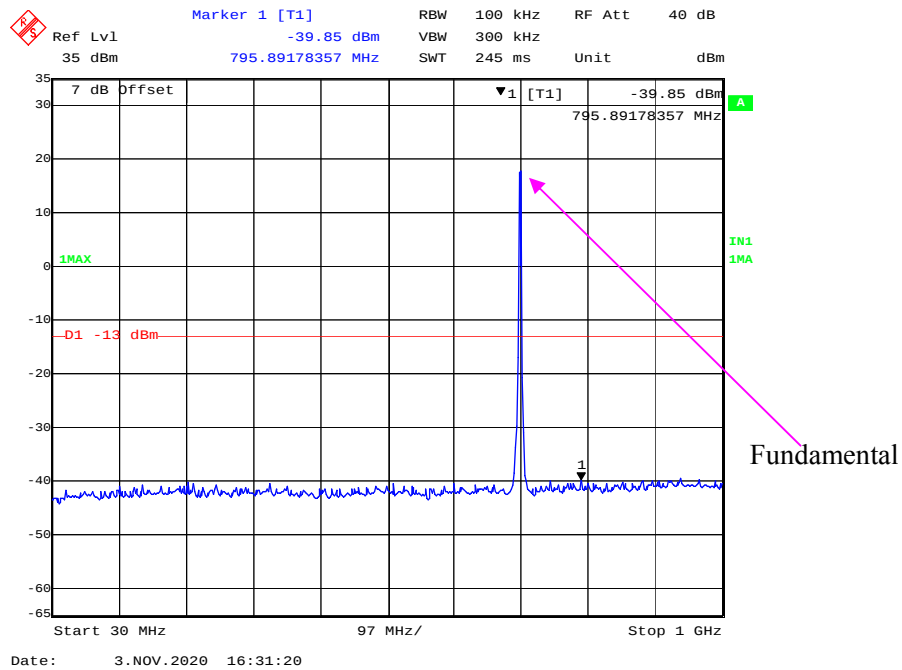
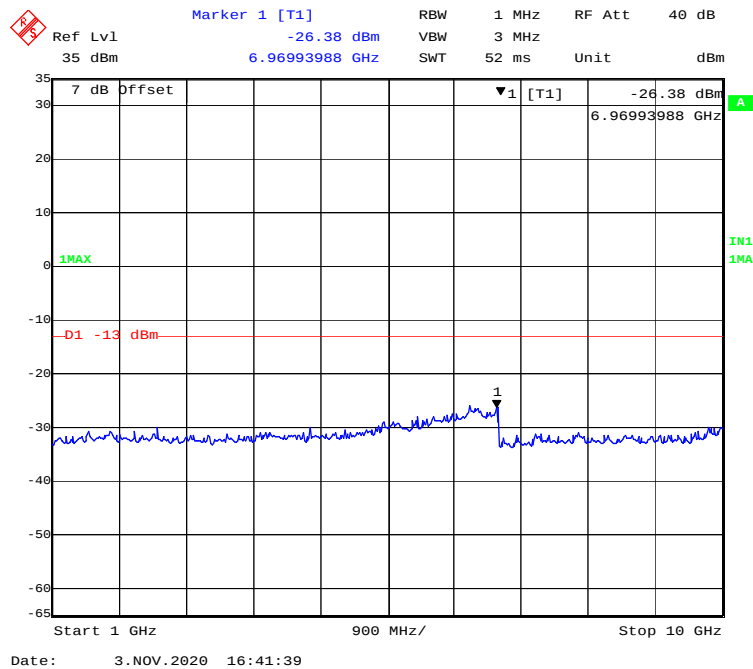
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (1.4 MHz, QPSK, Middle Channel)**

30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)

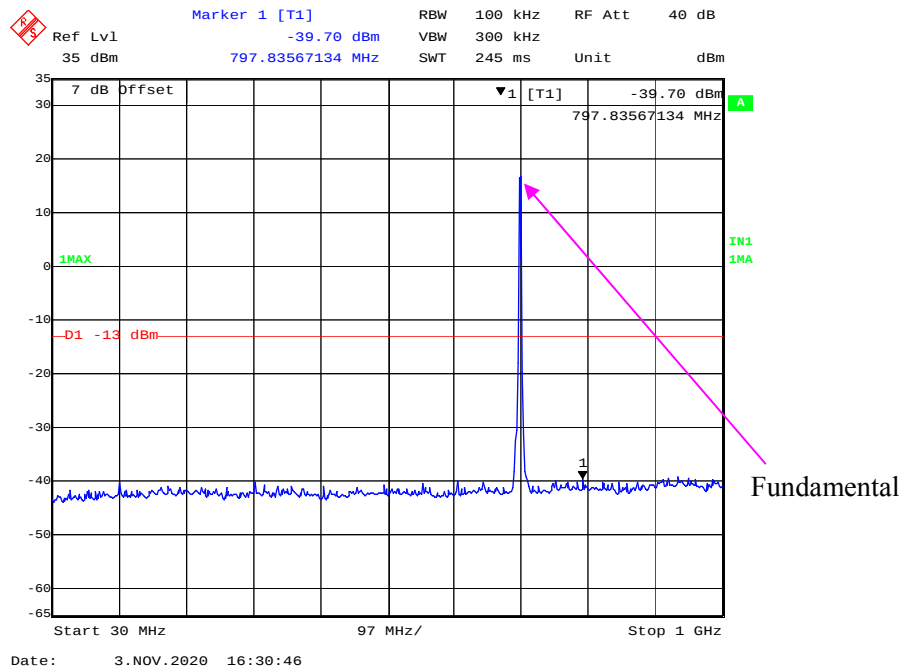


1 GHz – 10 GHz (1.4 MHz, 16-QAM, Middle Channel)

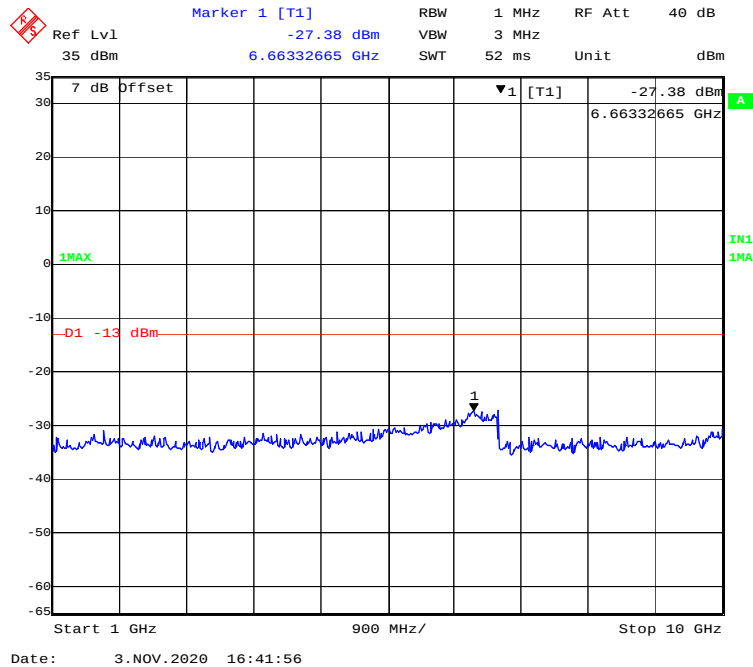


30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (3 MHz, QPSK, Middle Channel)**

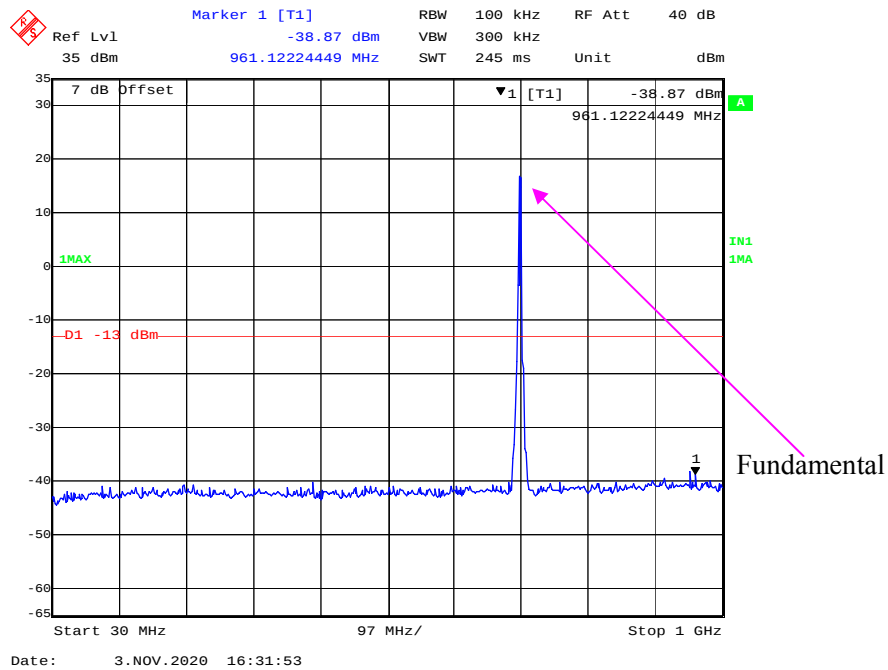
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



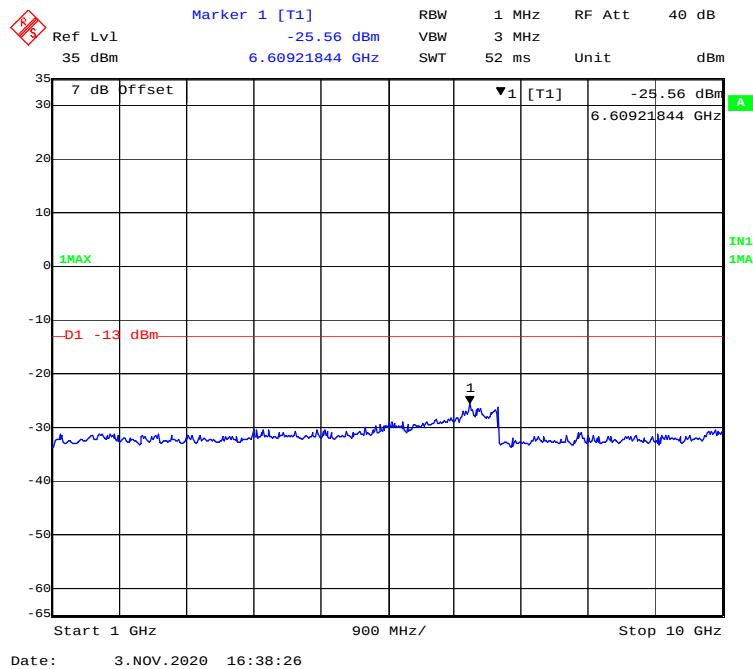
1 GHz – 10 GHz (3 MHz, 16-QAM, Middle Channel)



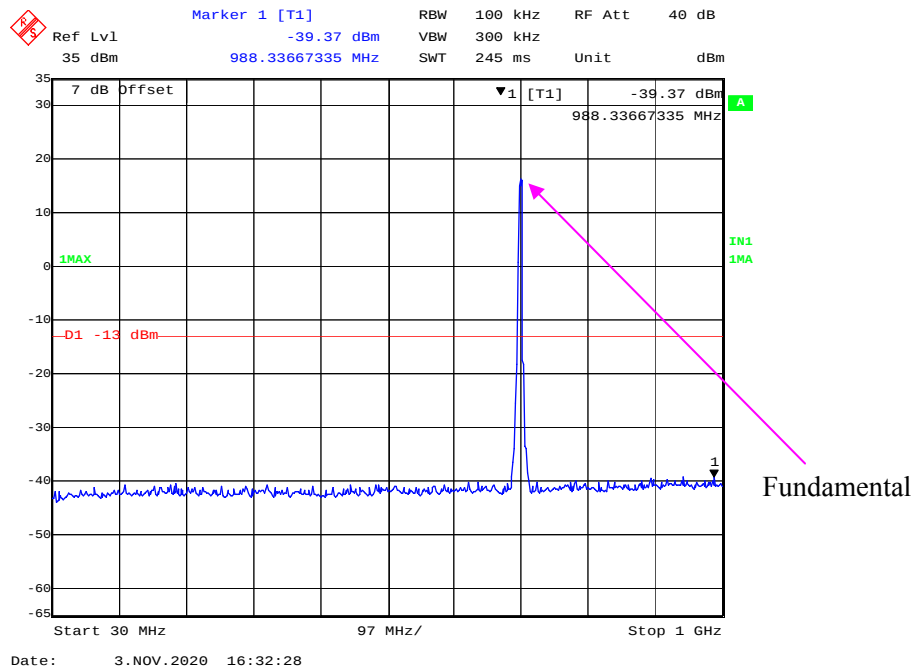
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



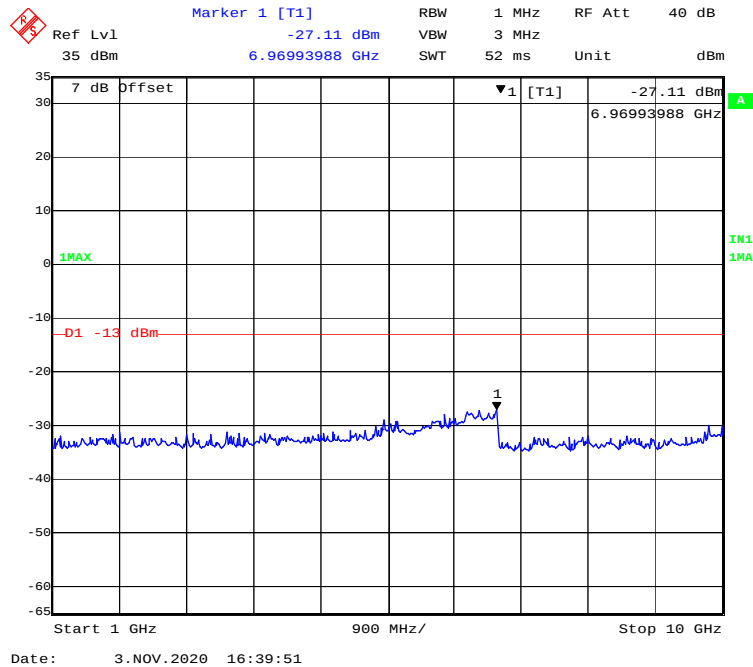
1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)



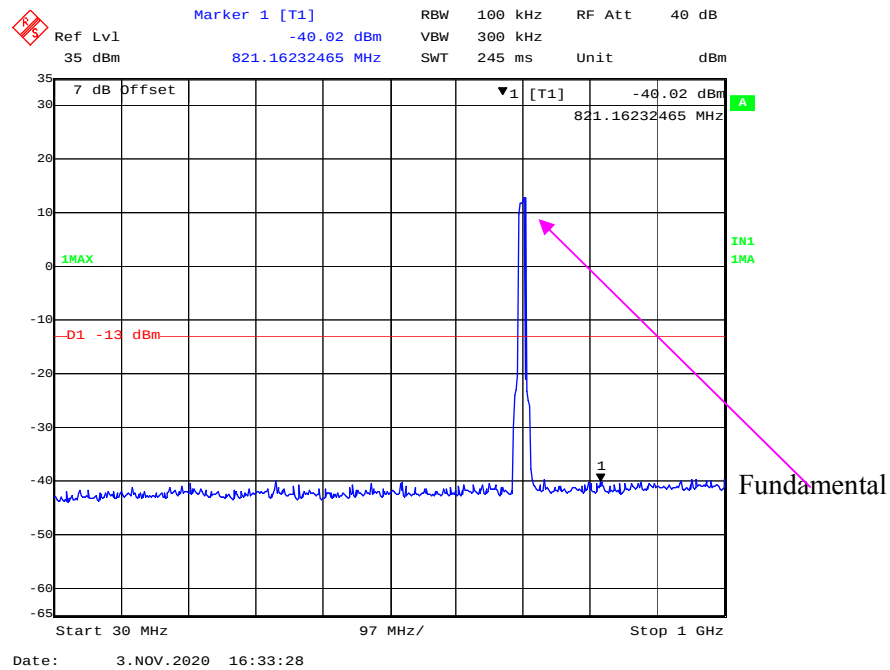
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



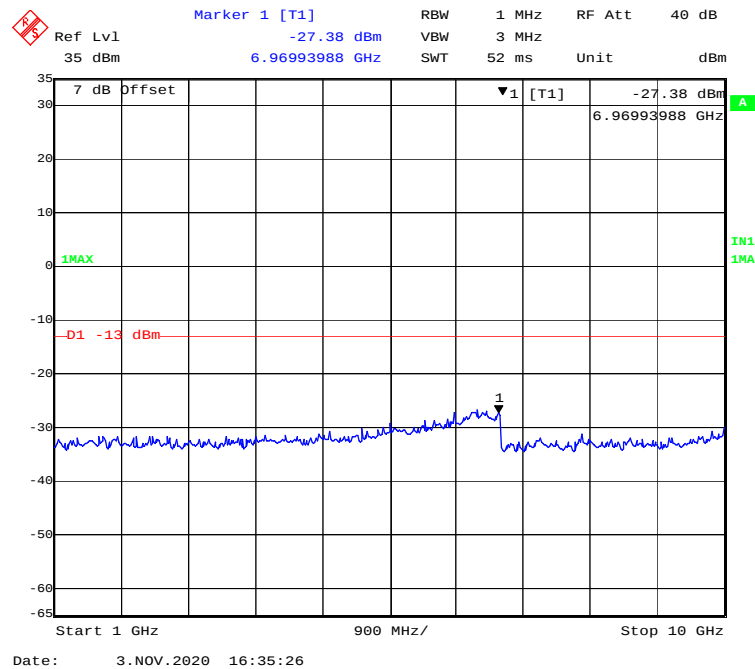
1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)



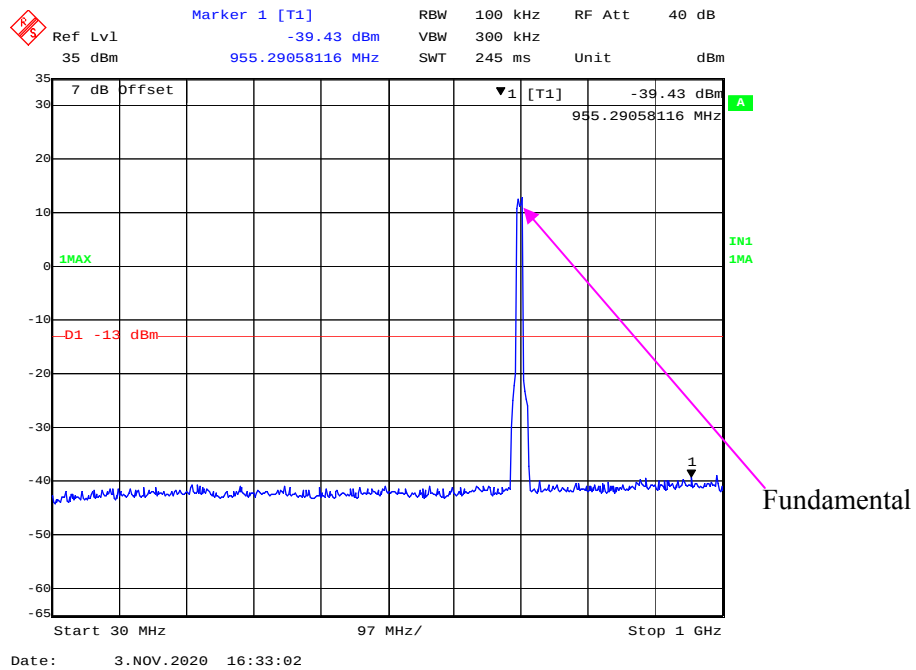
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



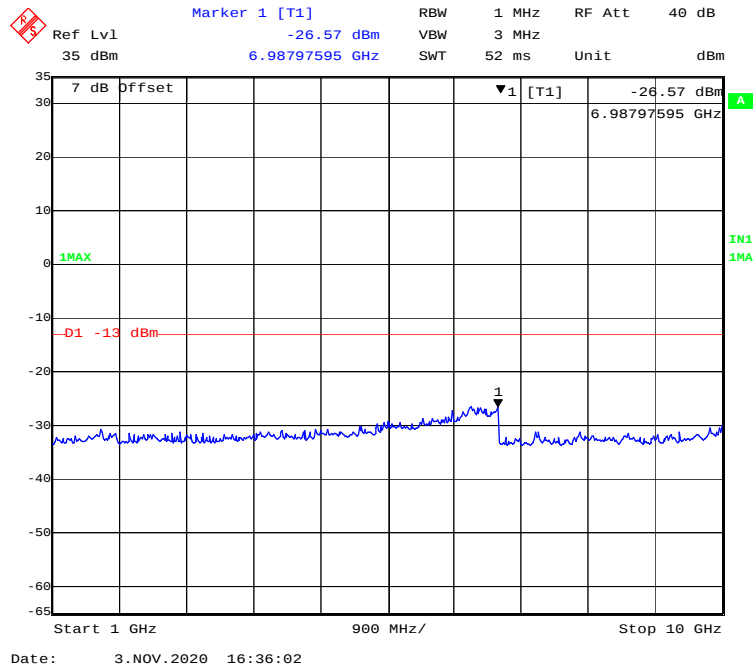
1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)



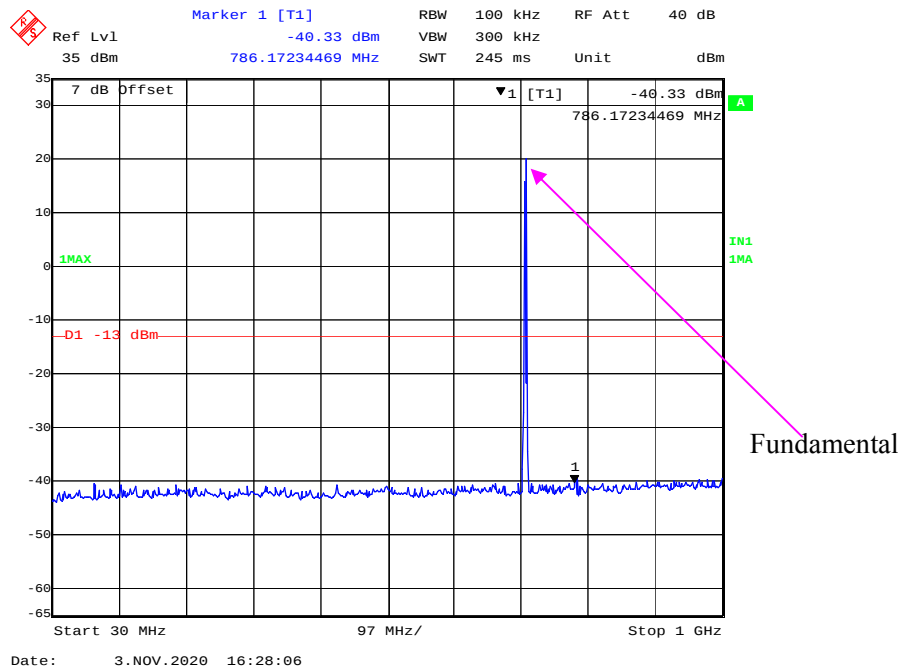
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



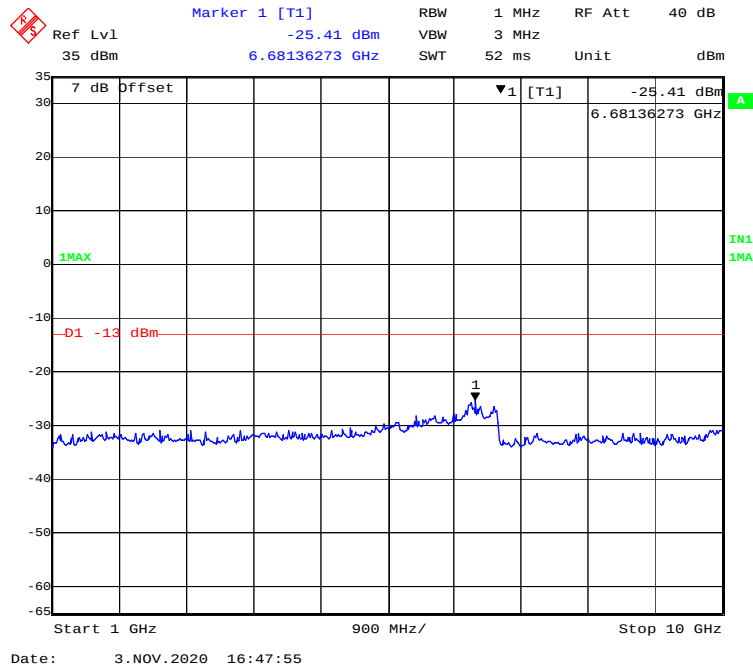
1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)



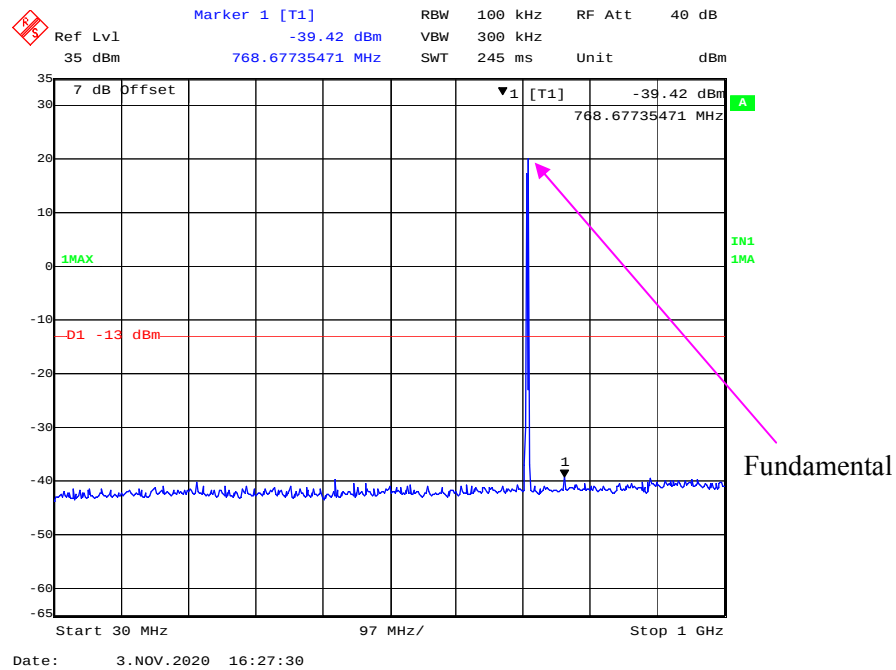
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



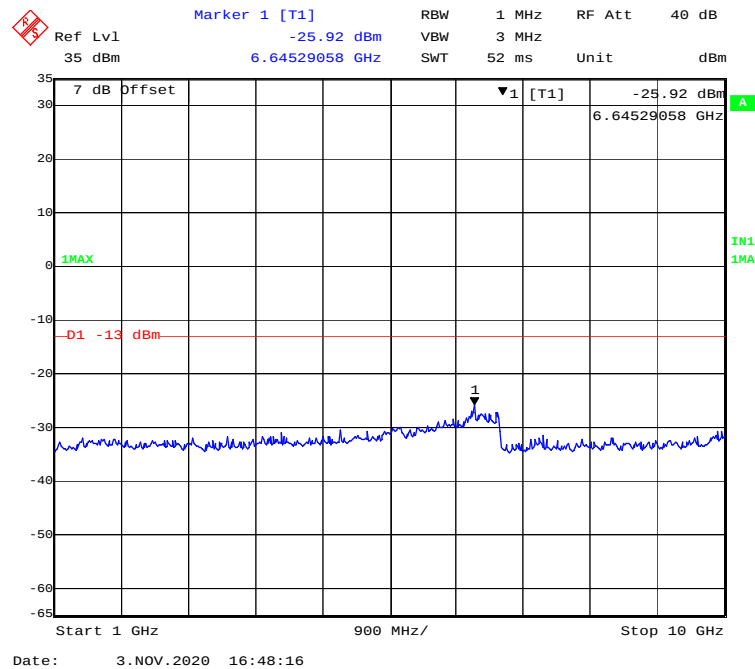
1 GHz – 10 GHz (1.4 MHz, QPSK, High Channel)



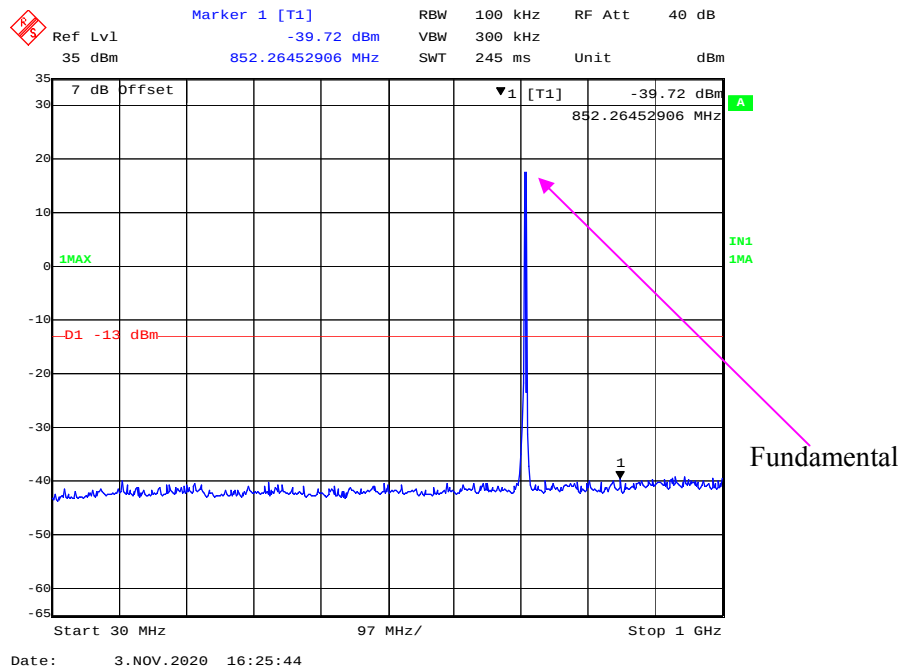
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



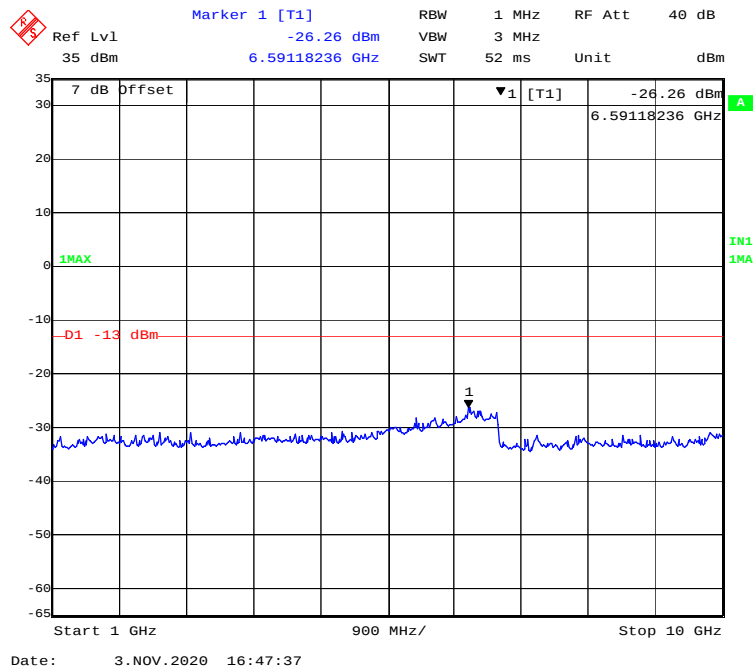
1 GHz – 10 GHz (1.4 MHz, 16-QAM, High Channel)



30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



1 GHz – 10 GHz (3 MHz, QPSK, High Channel)



Marker 1 [T1]
 Ref Lvl -39.64 dBm
 35 dBm 782.28456914 MHz

RBW 100 kHz
 VBW 300 kHz
 SWT 245 ms

RF Att 40 dB
 Unit dBm

7 dB Offset

▼1 [T1] -39.64 dBm
 782.28456914 MHz

1MAX

D1 -13 dBm

IN1 1MA

Fundamental

Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 3.NOV.2020 16:26:12

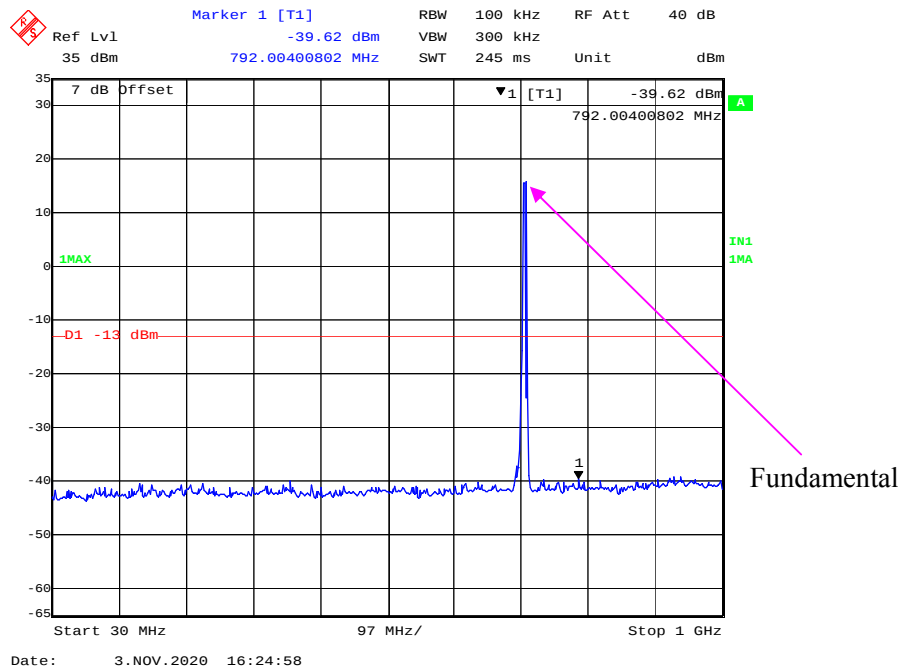
The screenshot displays a spectrum analyzer interface. At the top, a red 'A' icon is in the top-left corner. The main display area shows a frequency spectrum from 1 GHz to 10 GHz. A blue trace represents the signal, with a prominent peak at 6.73547094 GHz. A red horizontal line is drawn at -13 dBm, labeled '-D1 -13 dBm'. A black arrow points to the peak, labeled '1'. The peak's value is -27.17 dBm, and its frequency is 6.73547094 GHz. The noise floor is approximately -35 dBm. The interface includes various settings: RBW 1 MHz, RF Att 40 dB, VBW 3 MHz, SWT 52 ms, and Unit dBm. The bottom status bar shows the date and time: 3.NOV.2020 16:47:17.

Parameter	Value
Ref Lvl	35 dBm
Marker 1 [T1]	-27.17 dBm
Frequency	6.73547094 GHz
RBW	1 MHz
RF Att	40 dB
VBW	3 MHz
SWT	52 ms
Unit	dBm

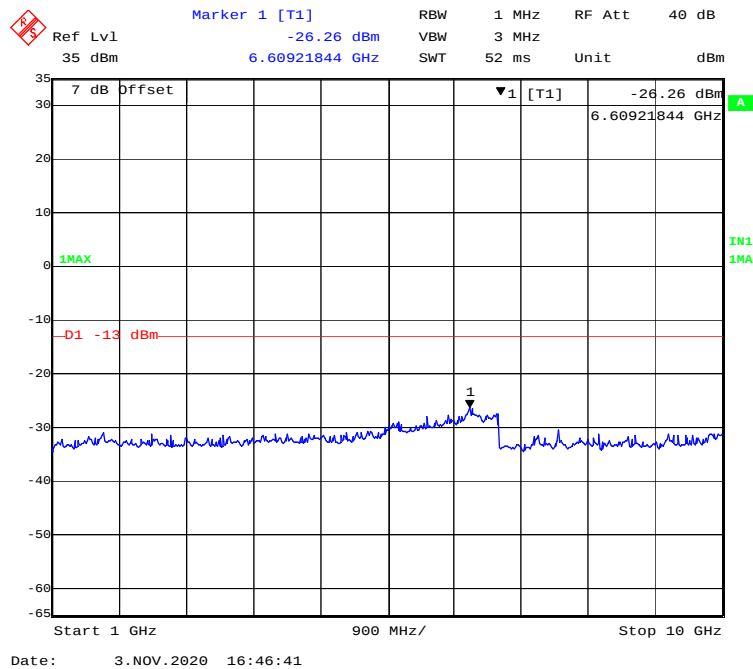
Start 1 GHz 900 MHz/ Stop 10 GHz

Date: 3.NOV.2020 16:47:17

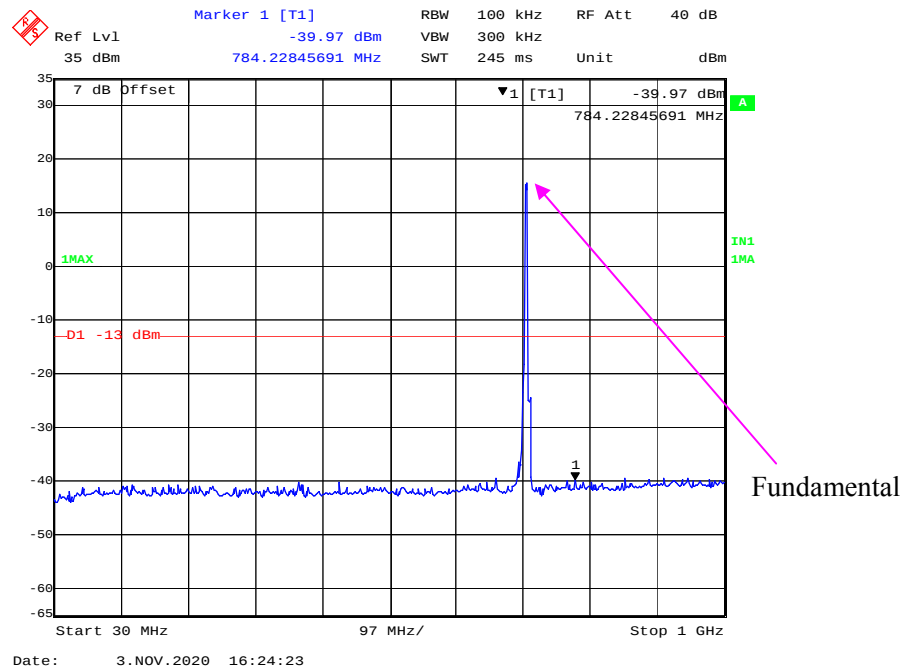
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



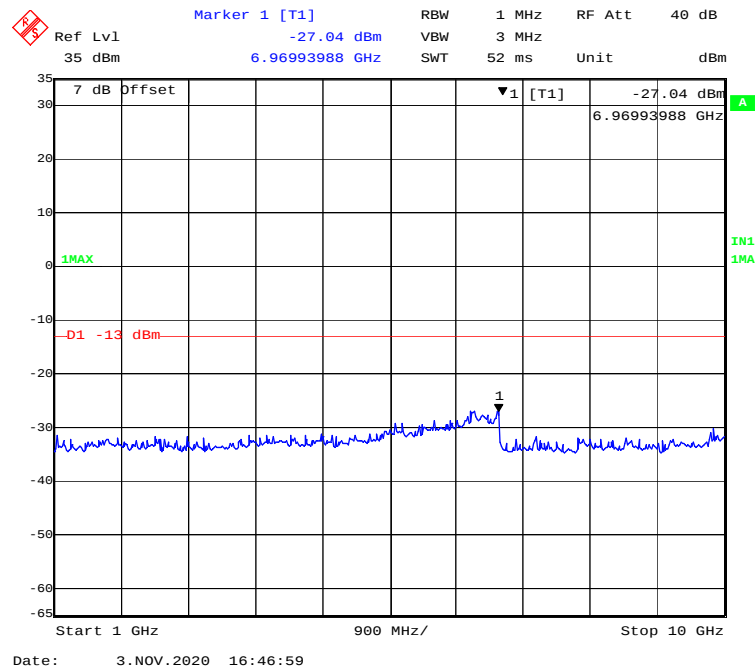
1 GHz – 10 GHz (5 MHz, QPSK, High Channel)



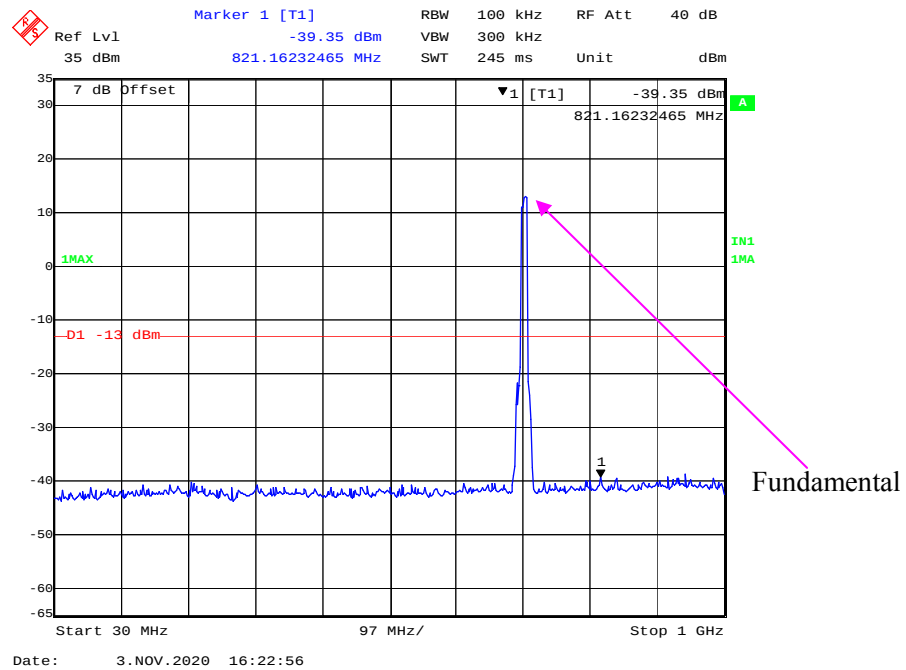
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



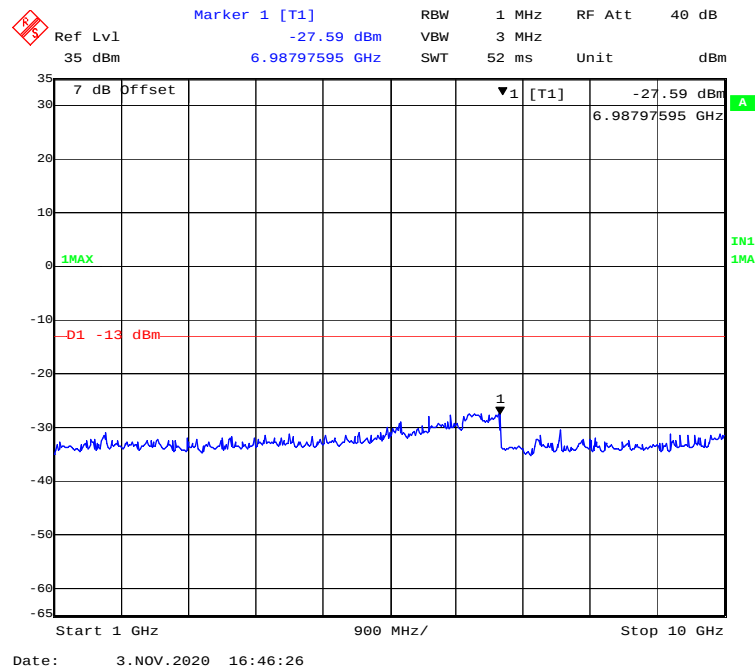
1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)

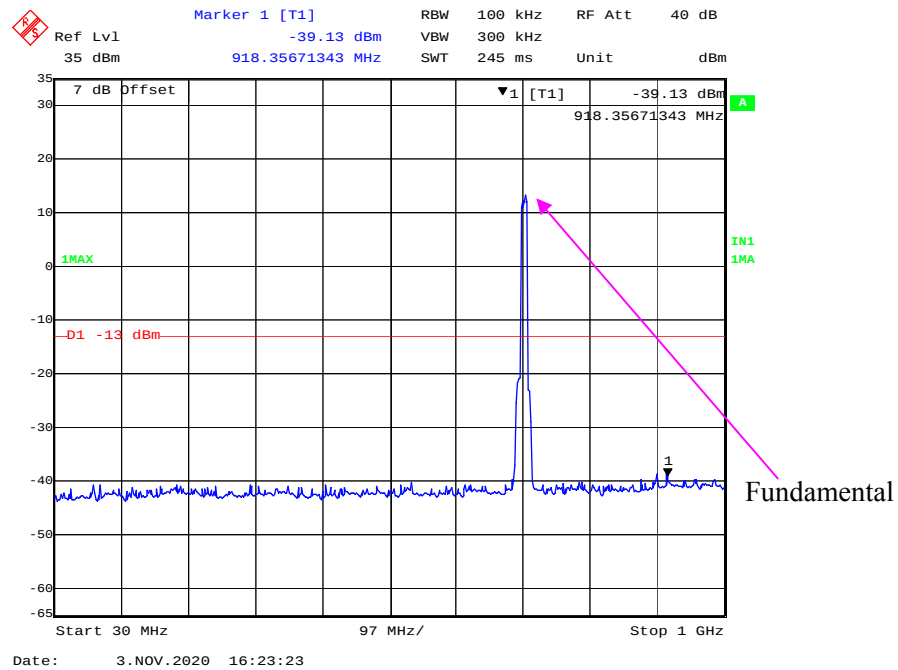
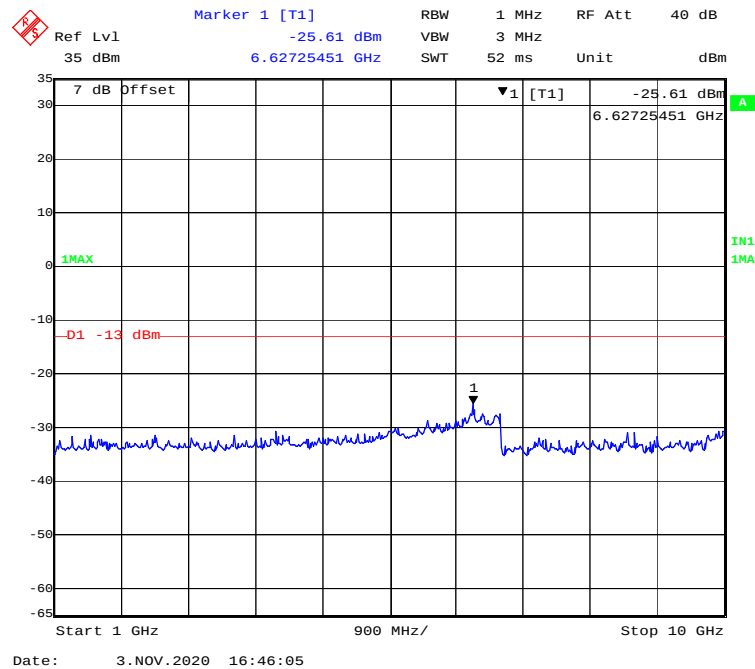


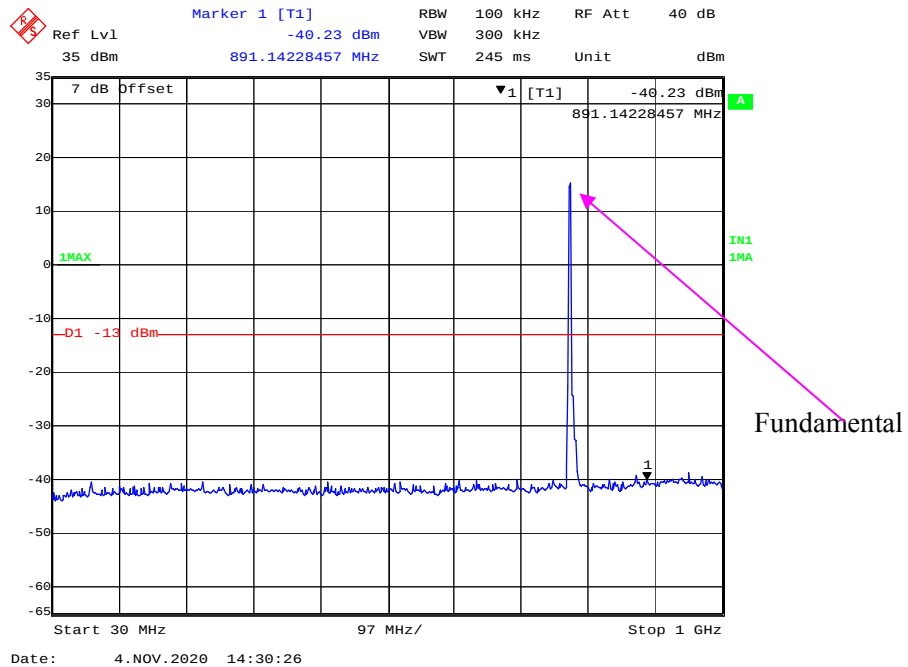
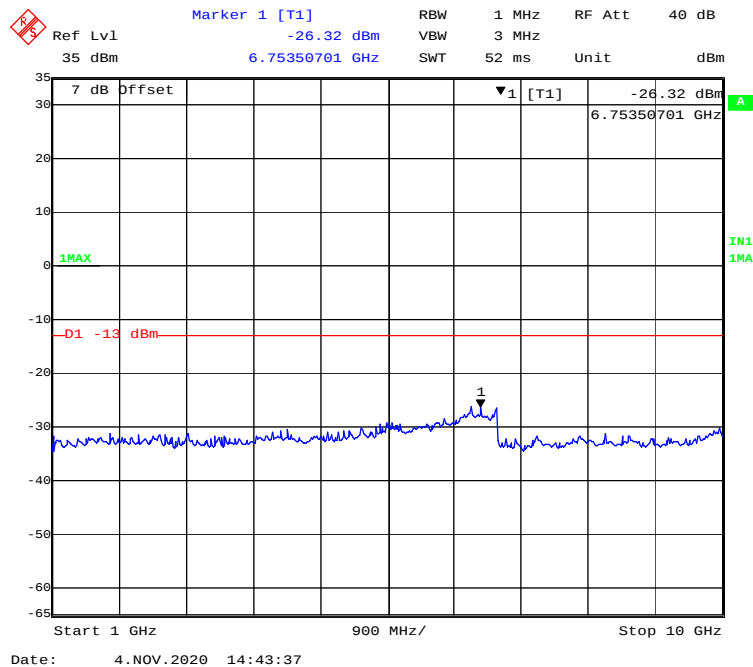
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



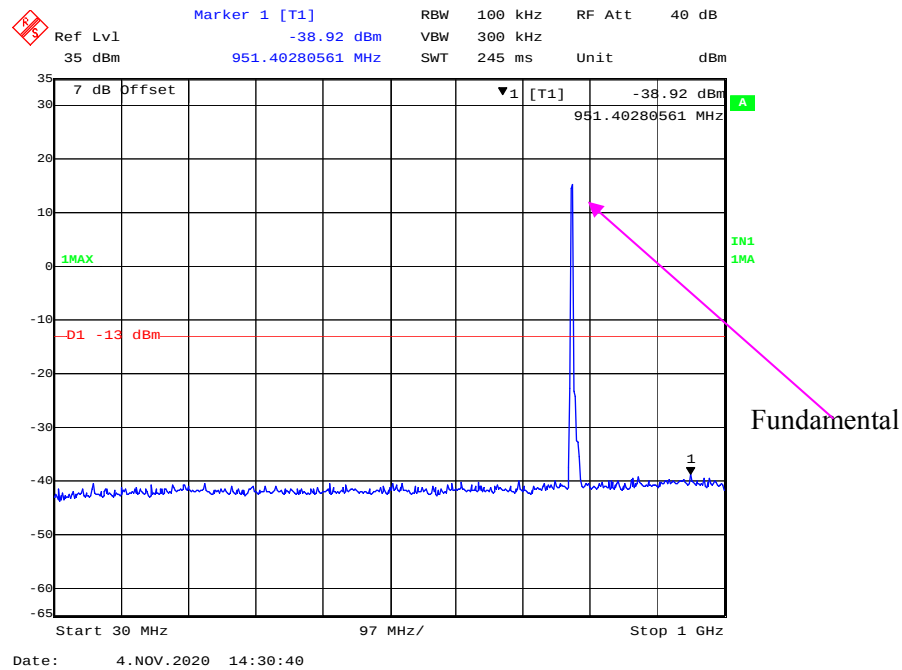
1 GHz – 10 GHz (10 MHz, QPSK, High Channel)



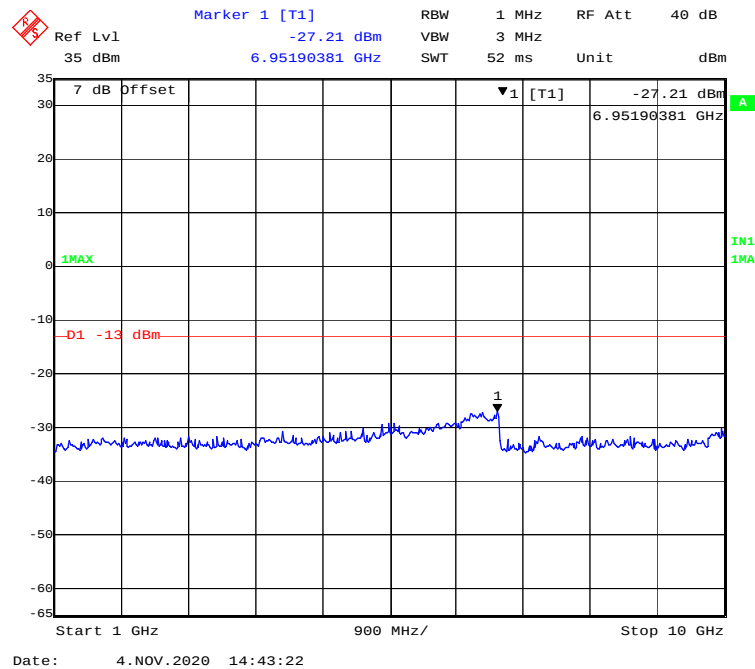
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, High Channel)**

LTE Band 13:**30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)****1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



1 GHz - 10 GHz (5 MHz, 16-QAM, Low Channel)



Marker 1 [T1]

Ref Lvl -49.79 dBm

0.5 dBm 774.71142285 MHz

RBW 10 kHz

VBW 30 kHz

SWT 300 ms

Unit dBm

7 dB Offset

▼1 [T1]

-49.79 dBm

774.71142285 MHz

3 MAX

-D1 -35 dBm

IN1

1

Start 763 MHz

1.2 MHz/

Stop 775 MHz

Date: 4.NOV.2020 15:39:07

Marker 1 [T1]
 Ref Lvl 0.5 dBm
 RBW 10 kHz
 RF Att 20 dB
 -50.34 dBm
 30 kHz
 774.87975952 MHz
 SWT 300 ms
 Unit dBm

7 dB Offset
 774.87975952 MHz
 -50.34 dBm
 7 dB Offset
 -35 dBm
 -01 -35 dBm
 IN1 1MA
 1
 Start 763 MHz
 1.2 MHz/
 Stop 775 MHz
 Date: 4.NOV.2020 15:38:42

Ref Lvl 0.5 dBm
 RBW 10 kHz RF Att 20 dB
 Marker 1 [T1] -55.86 dBm
 VBW 30 kHz Unit dBm
 SWT 300 ms

7 dB Offset
 7MAV
 -35 dBm
 -55.86 dBm
 793.02404810 MHz

Start 793 MHz 1.2 MHz/ Stop 805 MHz

Date: 4.NOV.2020 16:01:05

Ref Lvl 0.5 dBm

Marker 1 [T1] -55.89 dBm

RBW 10 kHz

RF Att 20 dB

VBW 30 kHz

SWT 300 ms

Unit dBm

7 dB Offset

▼1 [T1] -55.89 dBm

793.02404810 MHz

1MAX -35 dBm

IN1 1MA

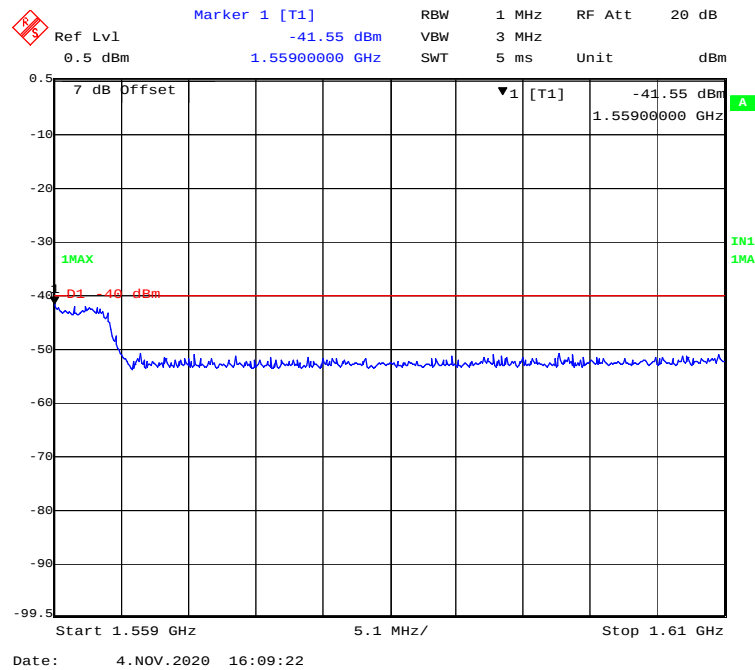
Start 793 MHz

1.2 MHz/

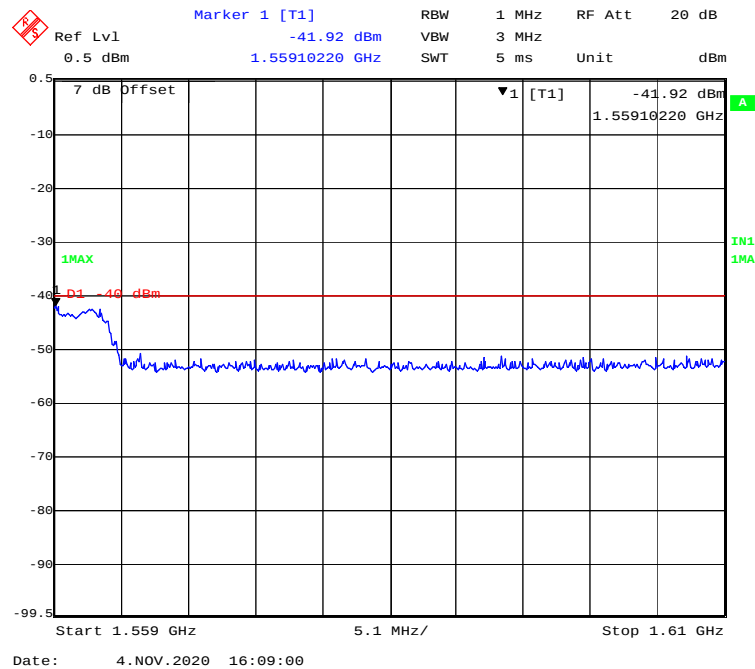
Stop 805 MHz

Date: 4.NOV.2020 15:58:52

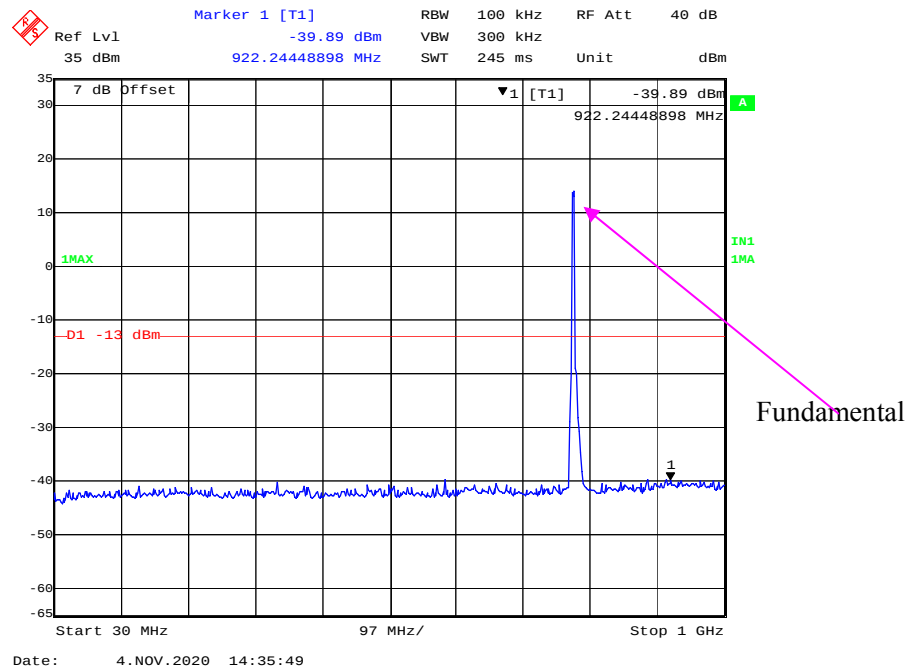
1559 MHz - 1610 MHz (5 MHz, QPSK, Low Channel)



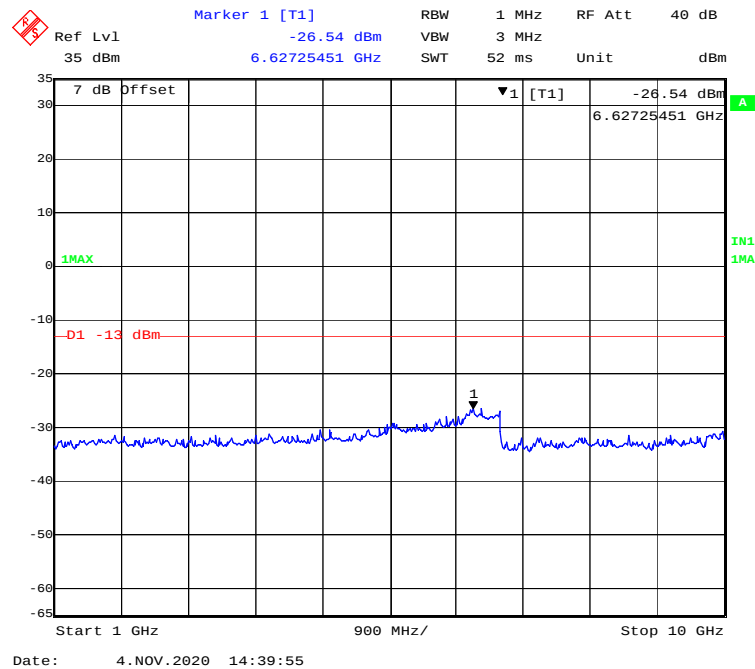
1559 MHz - 1610 MHz (5 MHz, 16-QAM, Low Channel)



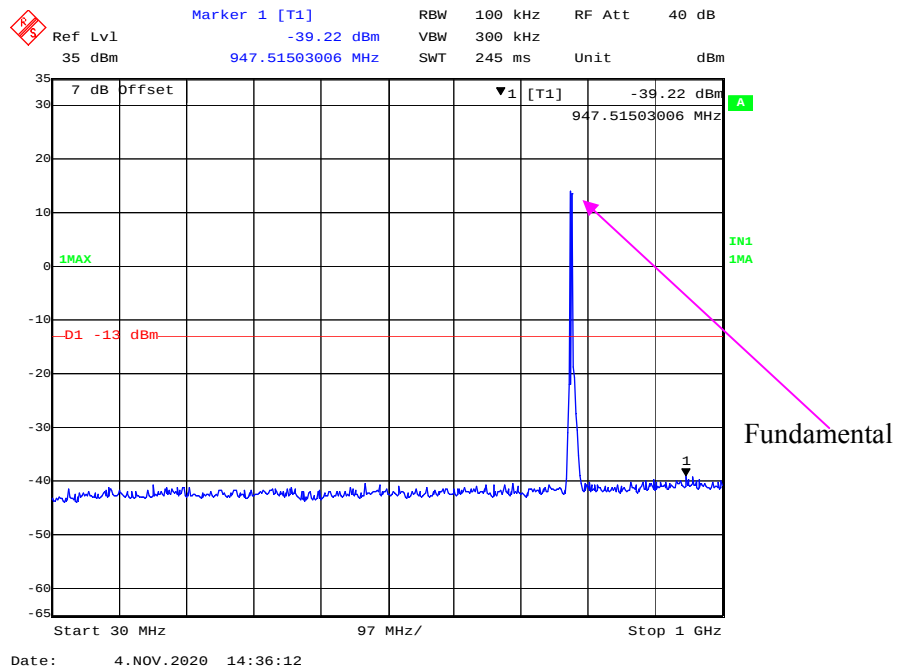
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



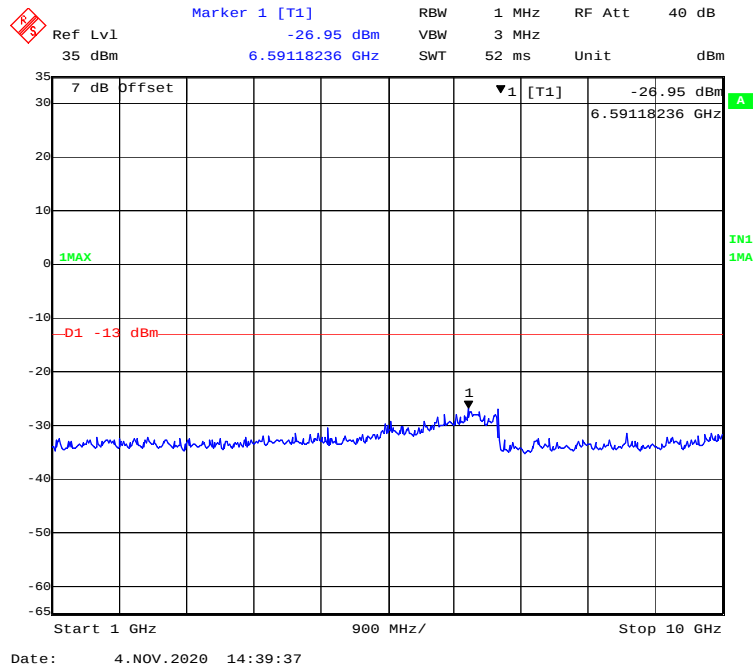
1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)

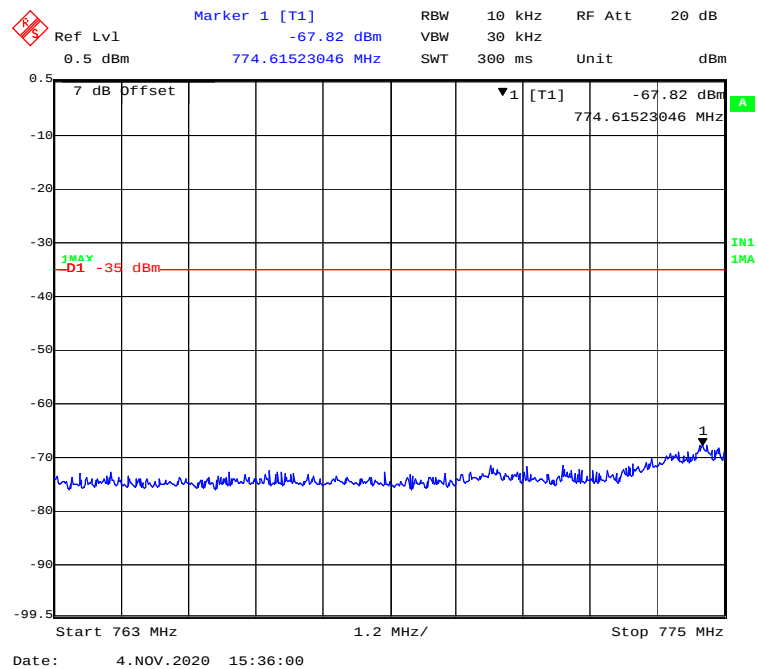
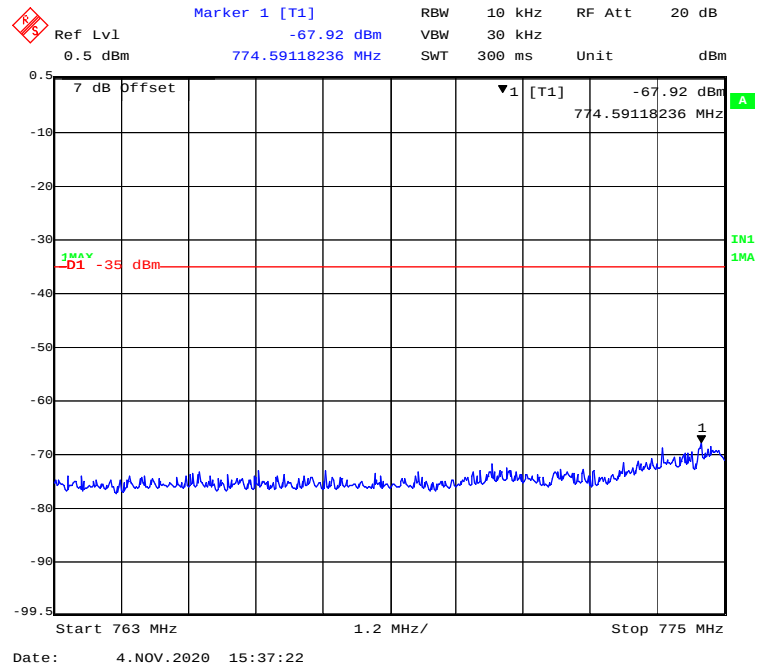


30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)

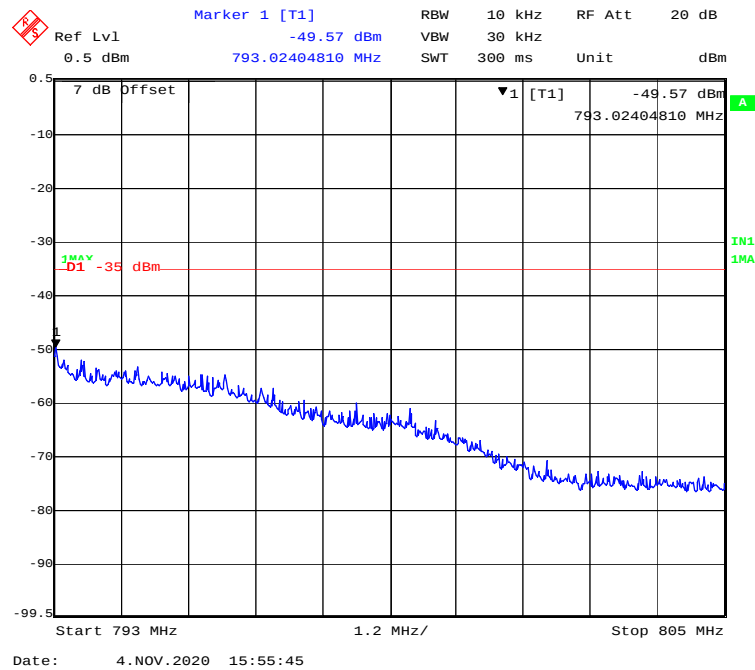


1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)

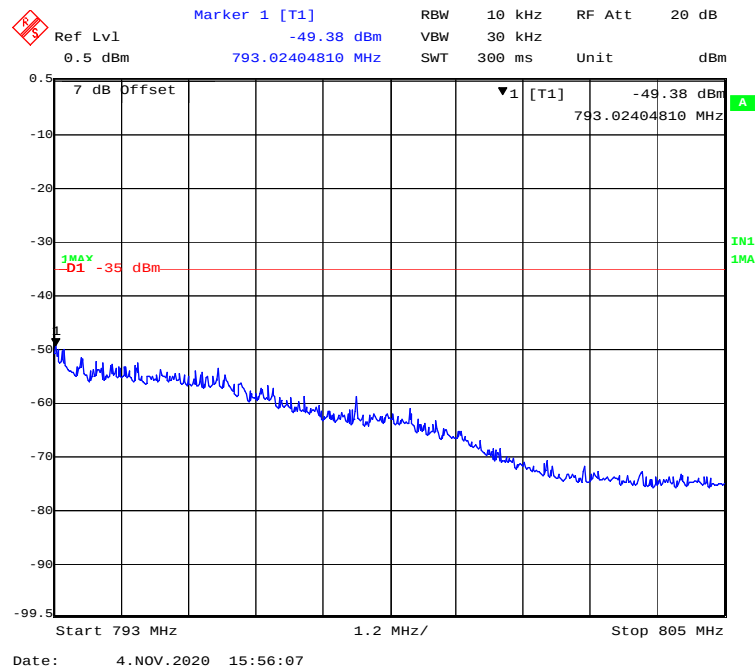


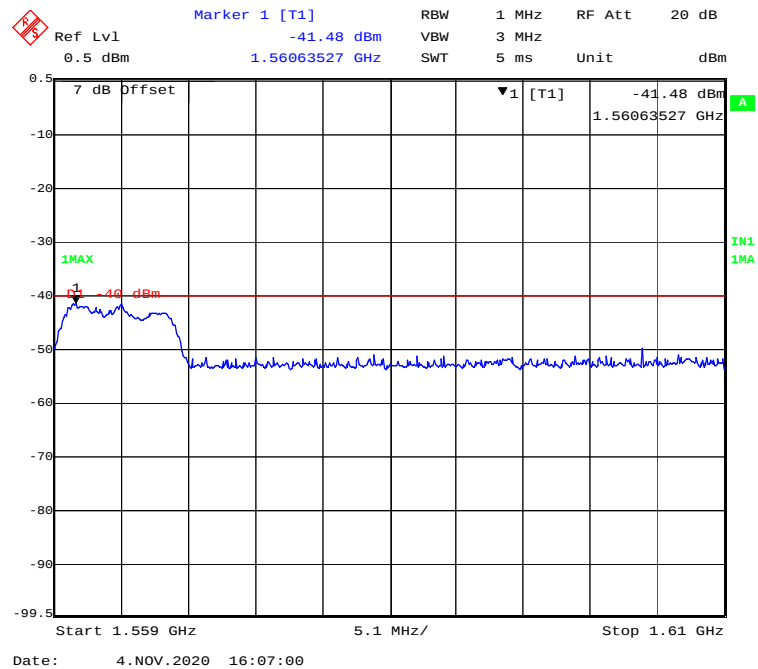
763 MHz - 775 MHz (5 MHz, QPSK, Middle Channel)**763 MHz - 775 MHz (5 MHz, 16-QAM, Middle Channel)**

793 MHz - 805 MHz (5 MHz, QPSK, Middle Channel)

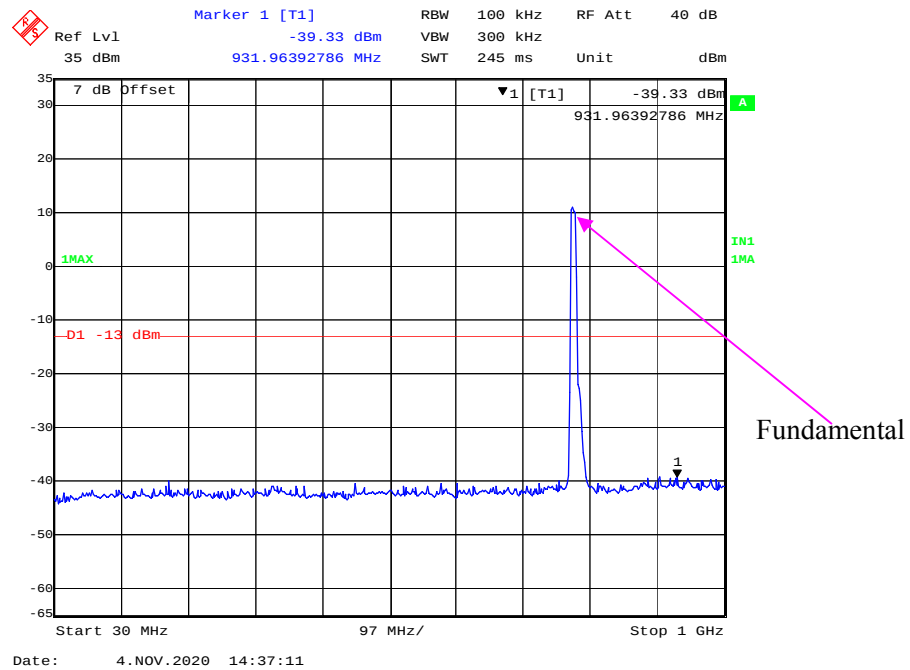


793 MHz - 805 MHz (5 MHz, 16-QAM, Middle Channel)

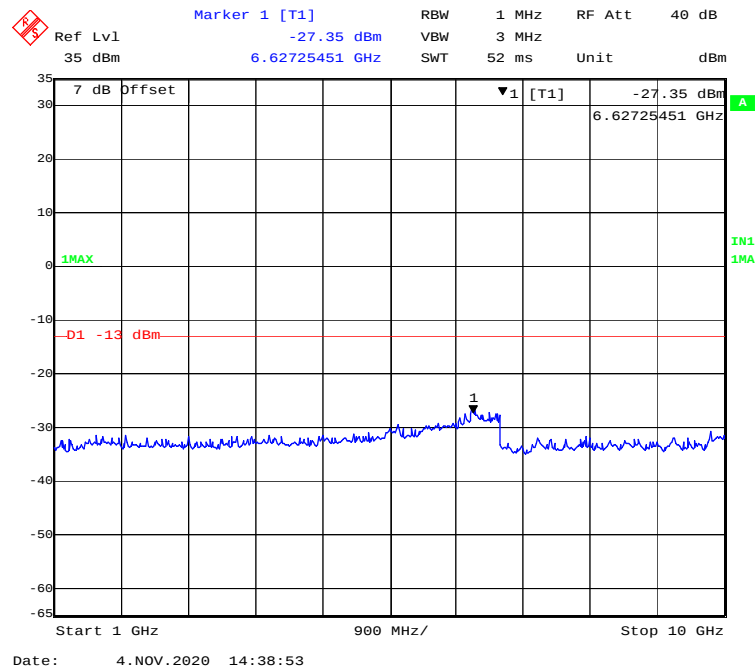


1559 MHz - 1610 MHz (5 MHz, QPSK, Middle Channel)**1559 MHz - 1610 MHz (5 MHz, 16-QAM, Middle Channel)**

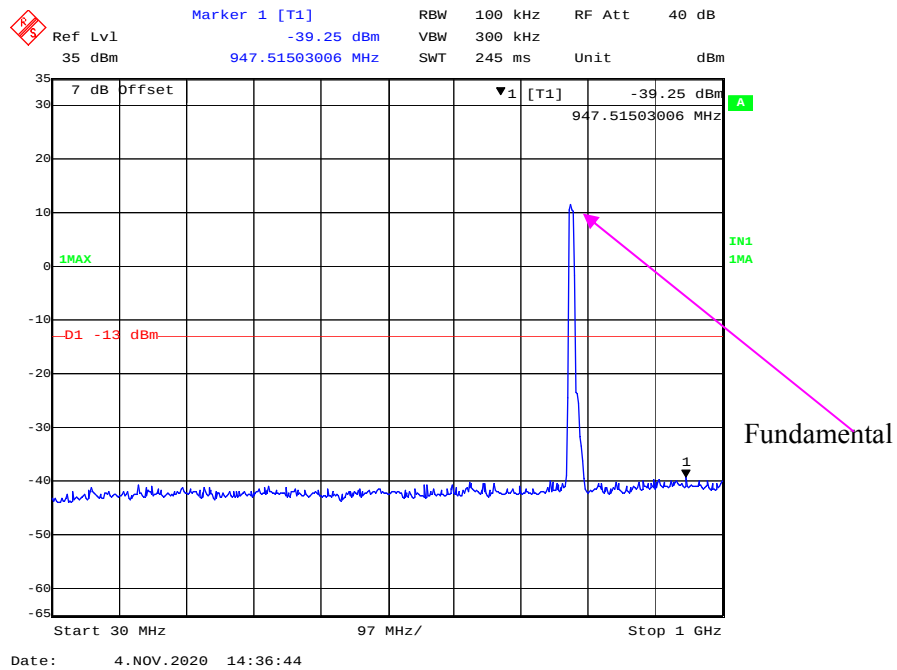
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



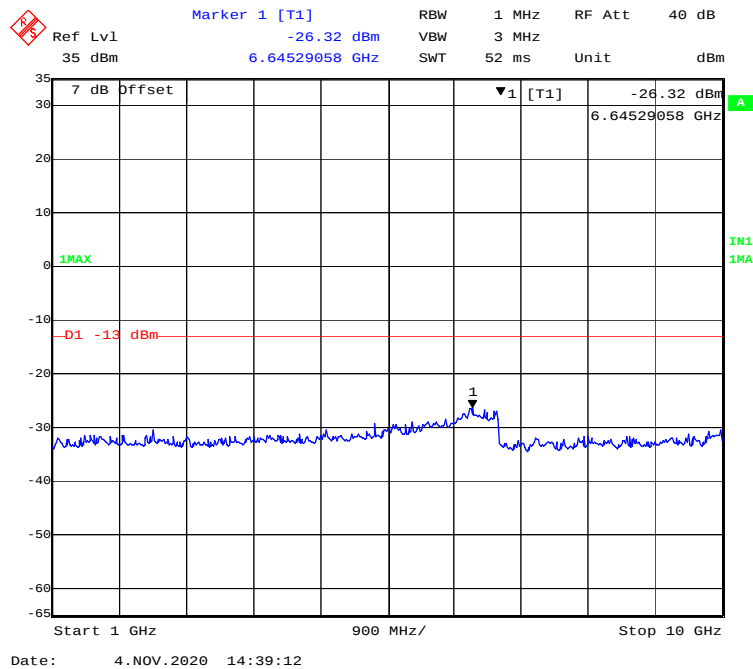
1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)



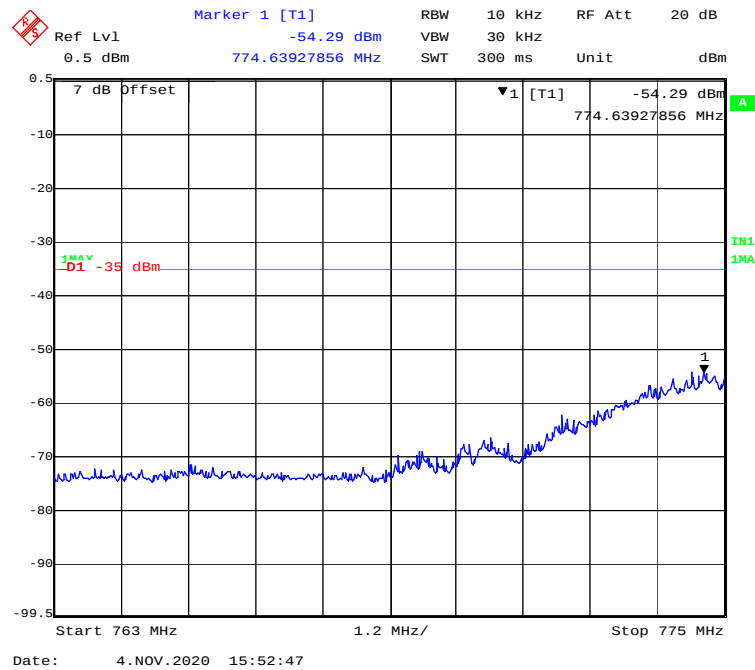
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



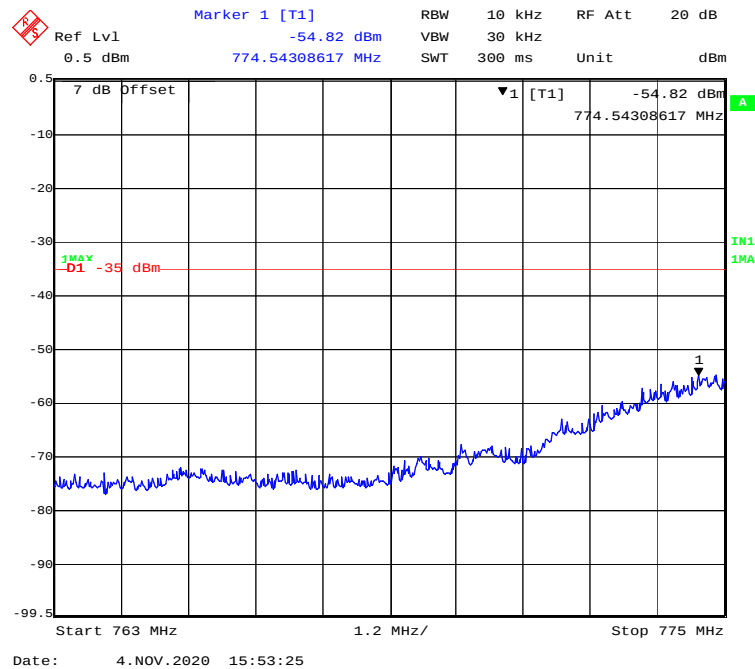
1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)

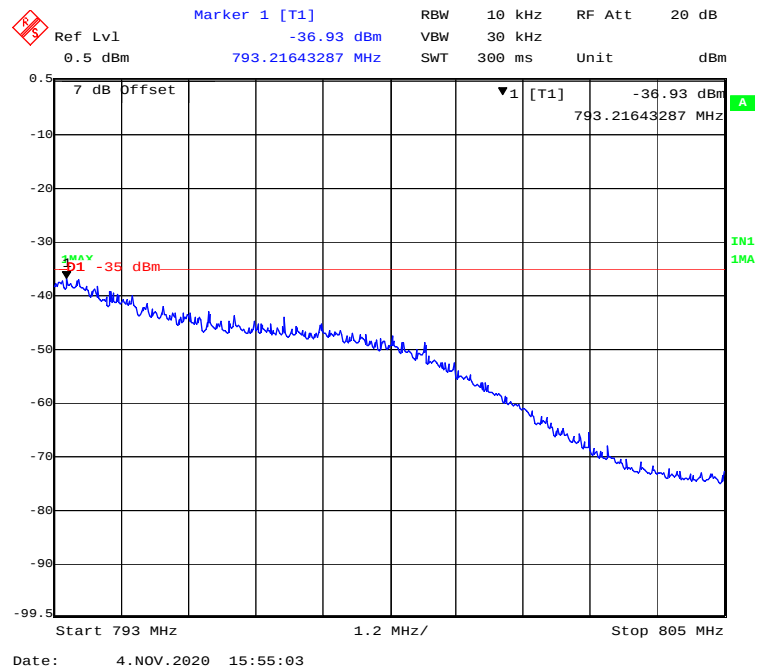
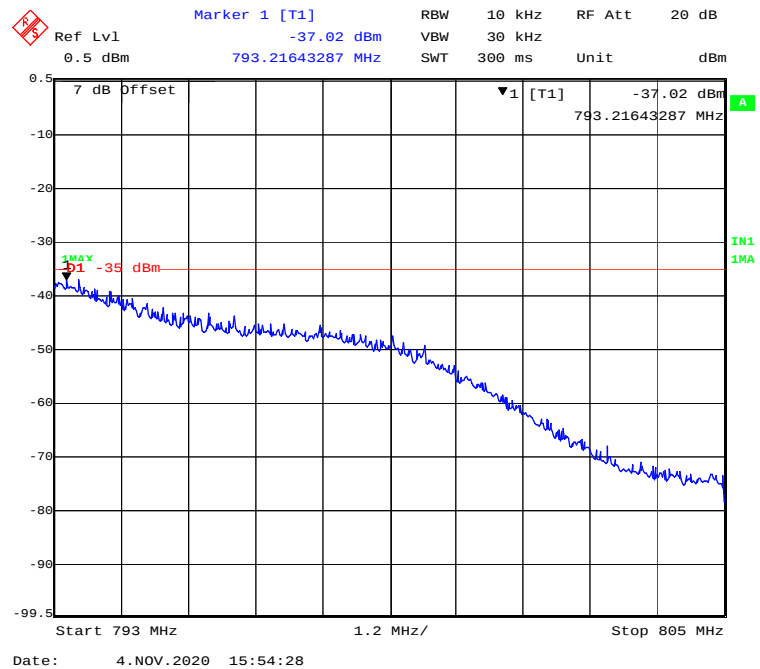


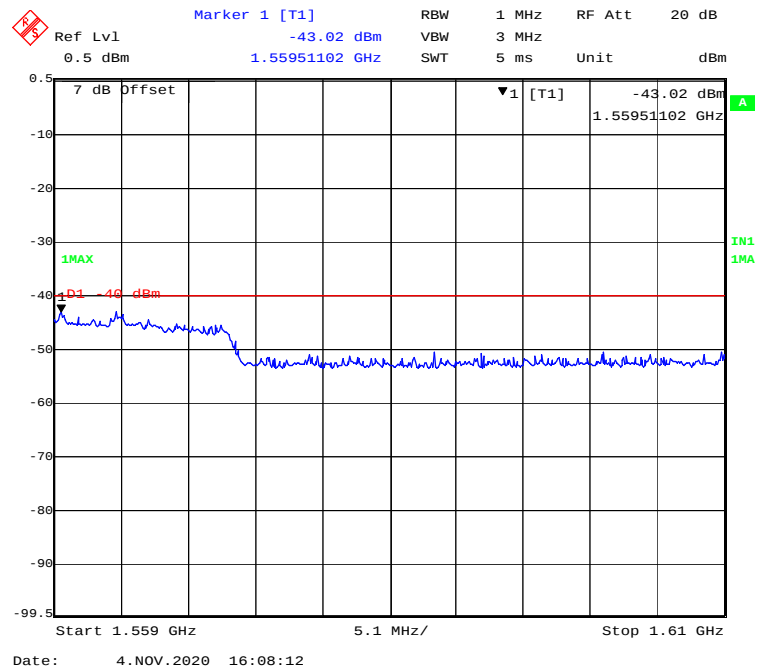
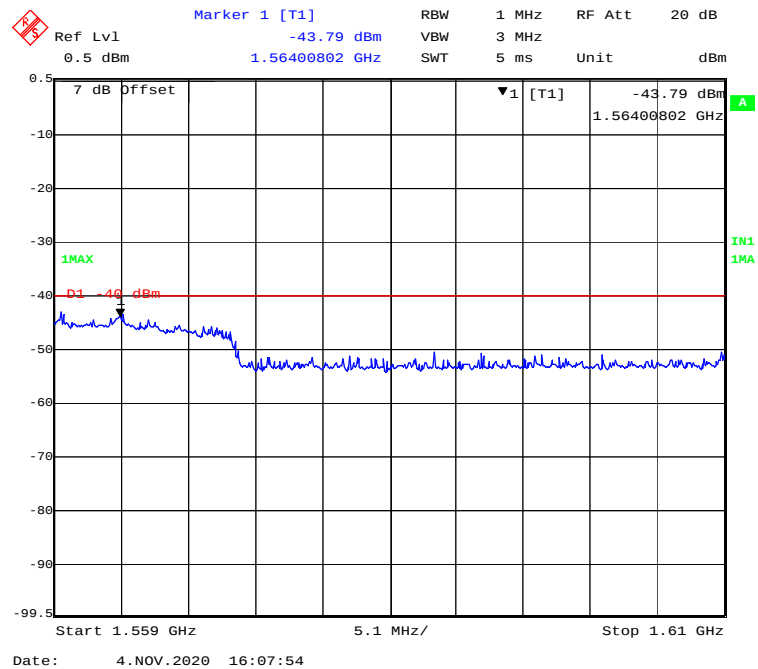
763 MHz - 775 MHz (10 MHz, QPSK, Middle Channel)



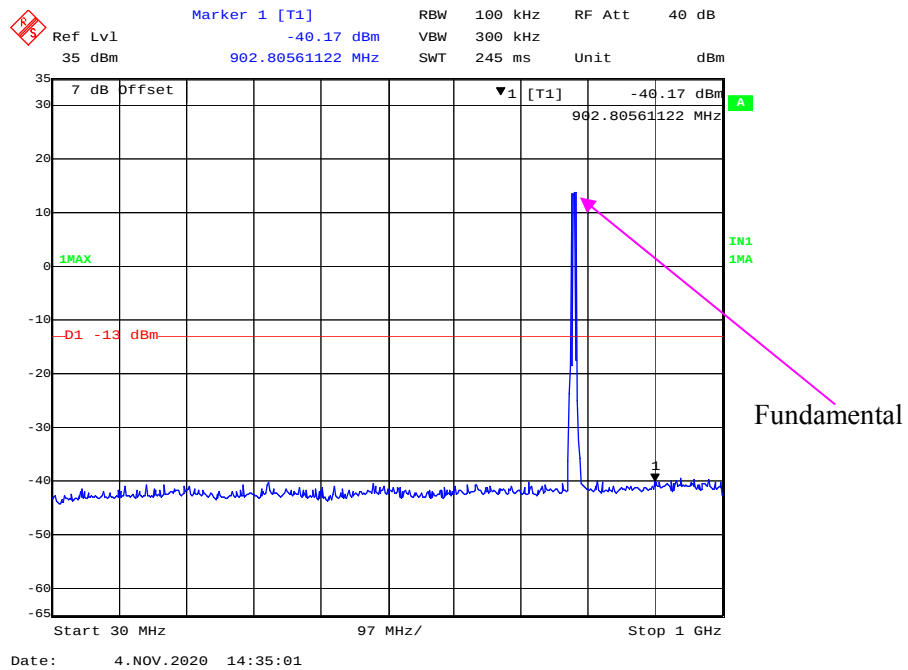
763 MHz - 775 MHz (10 MHz, 16-QAM, Middle Channel)



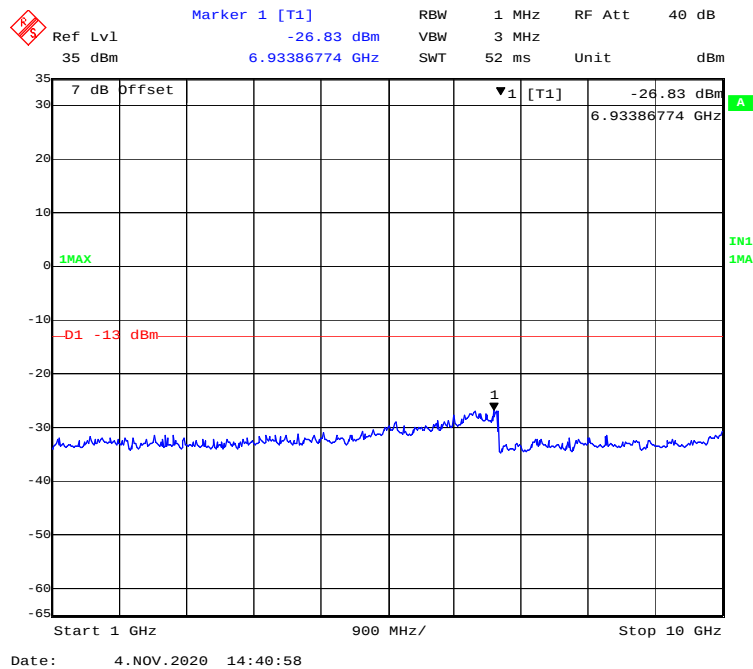
793 MHz - 805 MHz (10 MHz, QPSK, Middle Channel)**793 MHz - 805 MHz (10 MHz, 16-QAM, Middle Channel)**

1559 MHz - 1610 MHz (10 MHz, QPSK, Middle Channel)**1559 MHz - 1610 MHz (10 MHz, 16-QAM, Middle Channel)**

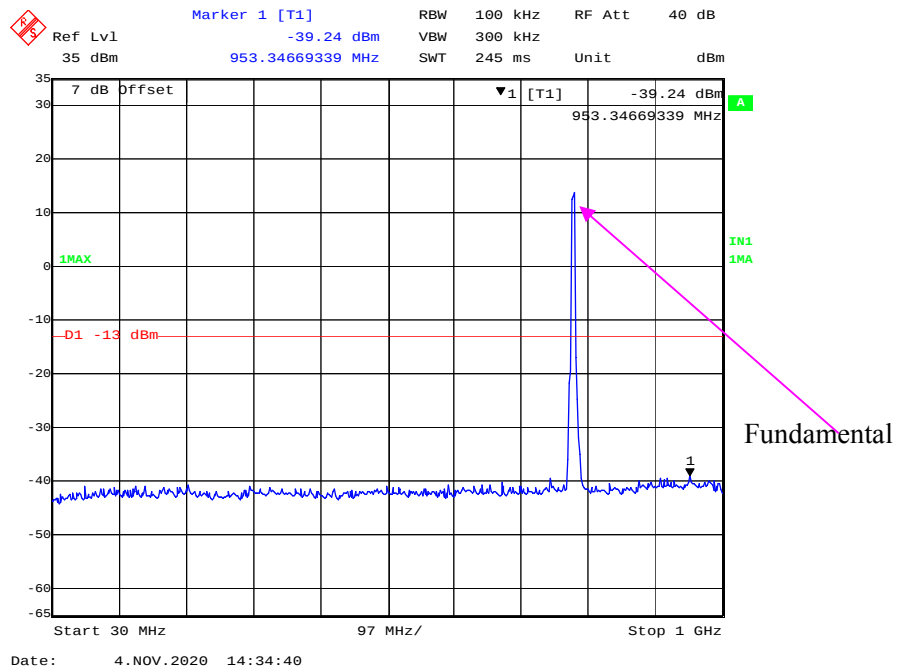
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



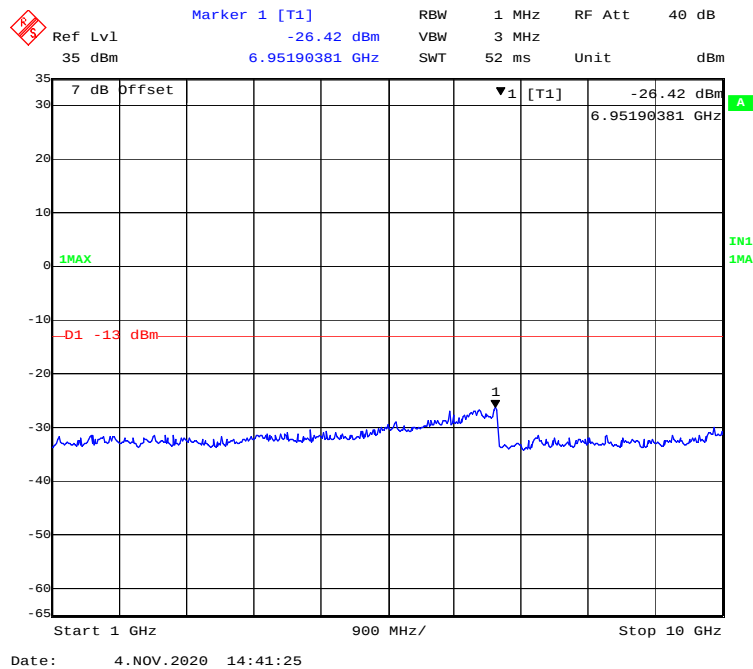
1 GHz – 10 GHz (5 MHz, QPSK, High Channel)



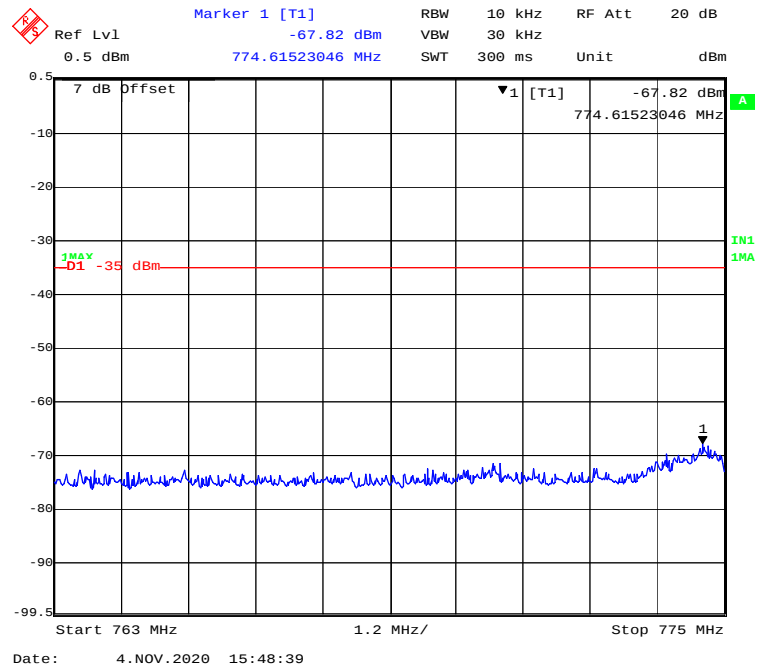
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



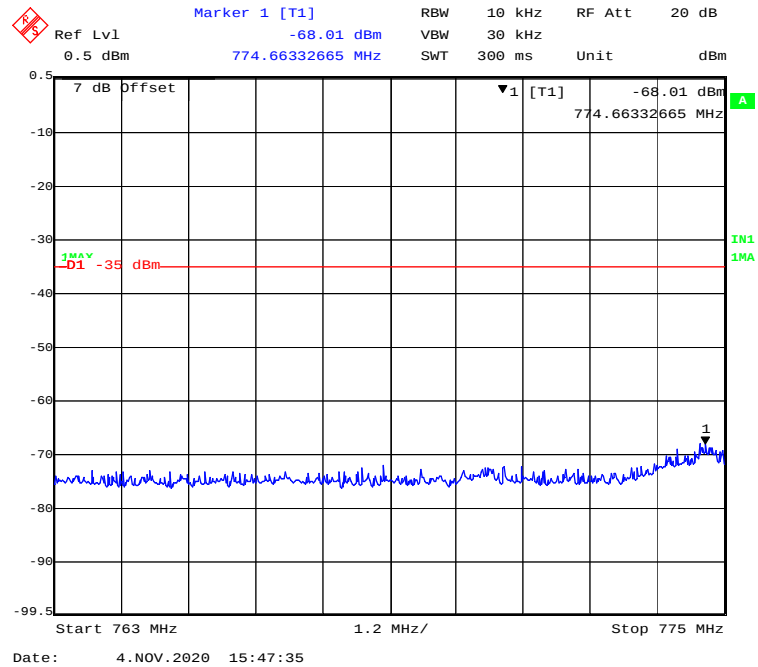
1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)



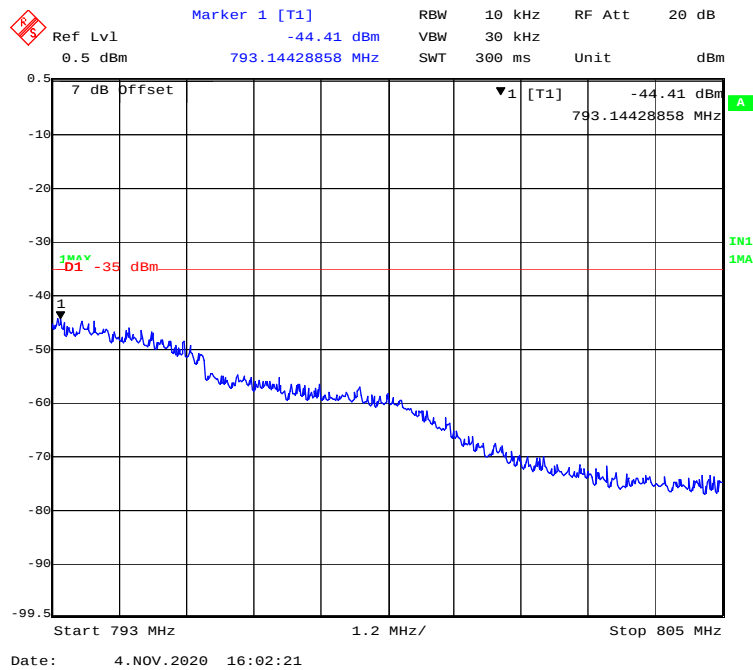
763 MHz - 775 MHz (5 MHz, QPSK, High Channel)



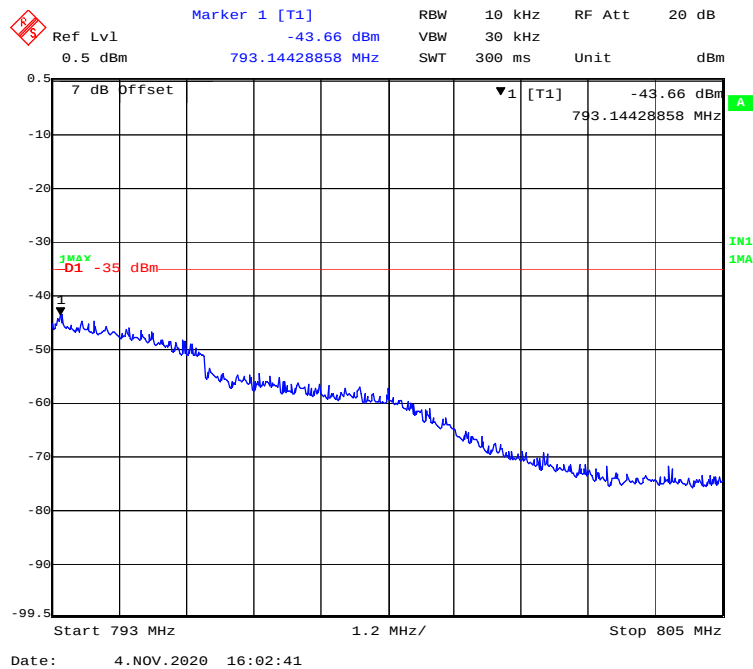
763 MHz - 775 MHz (5 MHz, 16-QAM, High Channel)

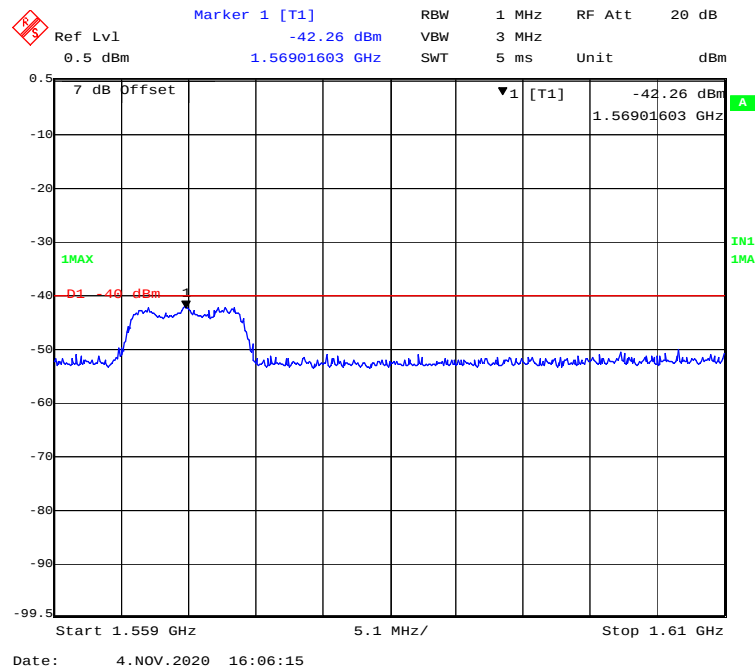
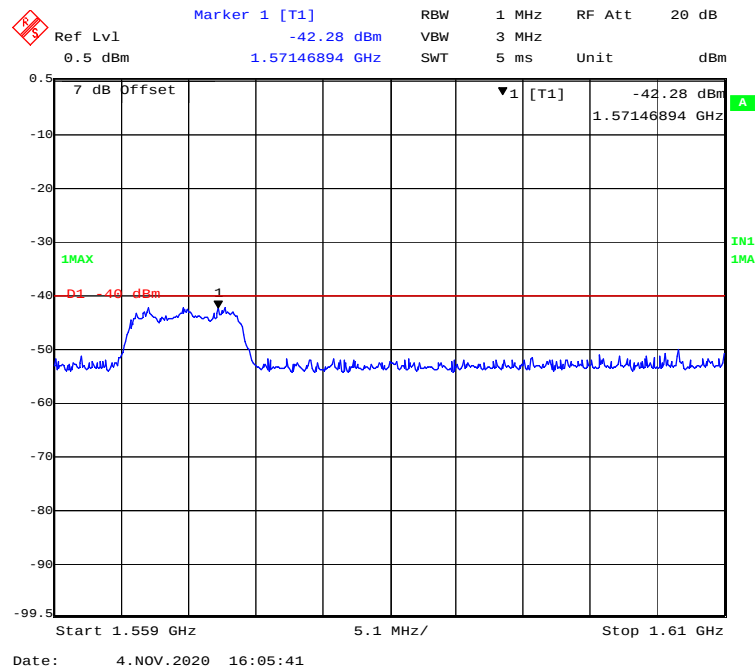


793 MHz - 805 MHz (5 MHz, QPSK, High Channel)



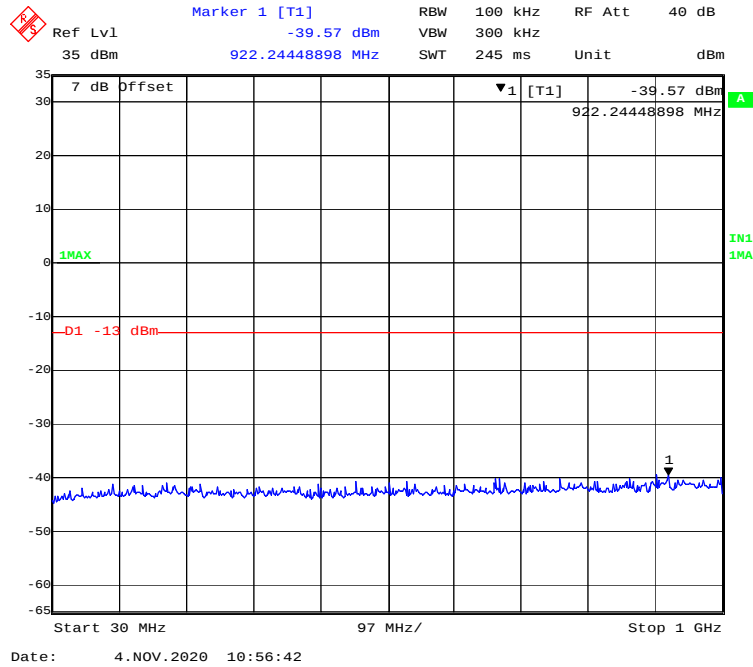
793 MHz - 805 MHz (5 MHz, 16-QAM, High Channel)



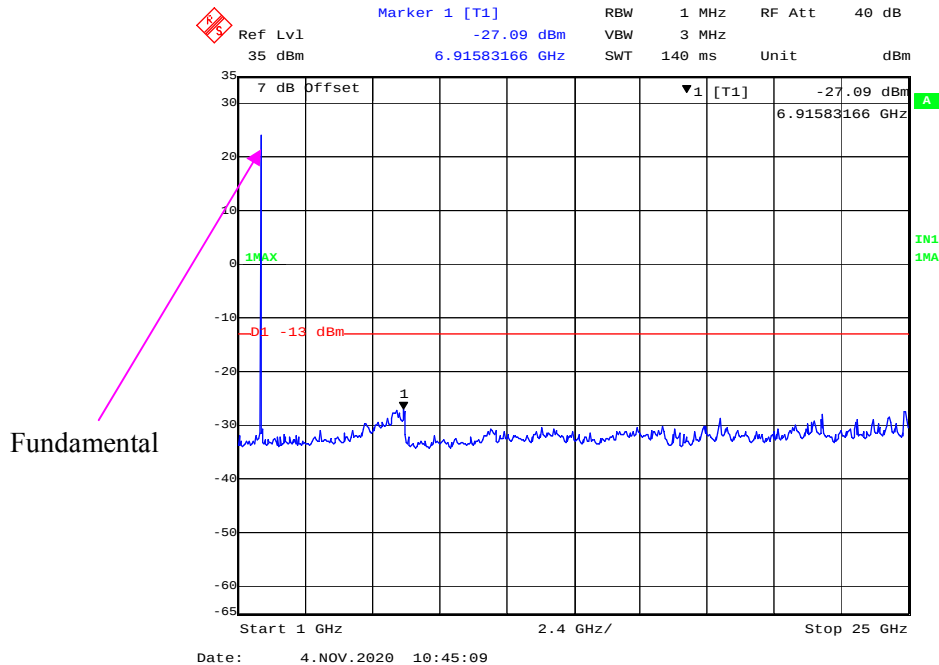
1559 MHz - 1610 MHz (5 MHz, QPSK, High Channel)**1559 MHz - 1610 MHz (5 MHz, 16-QAM, High Channel)**

LTE Band 25:

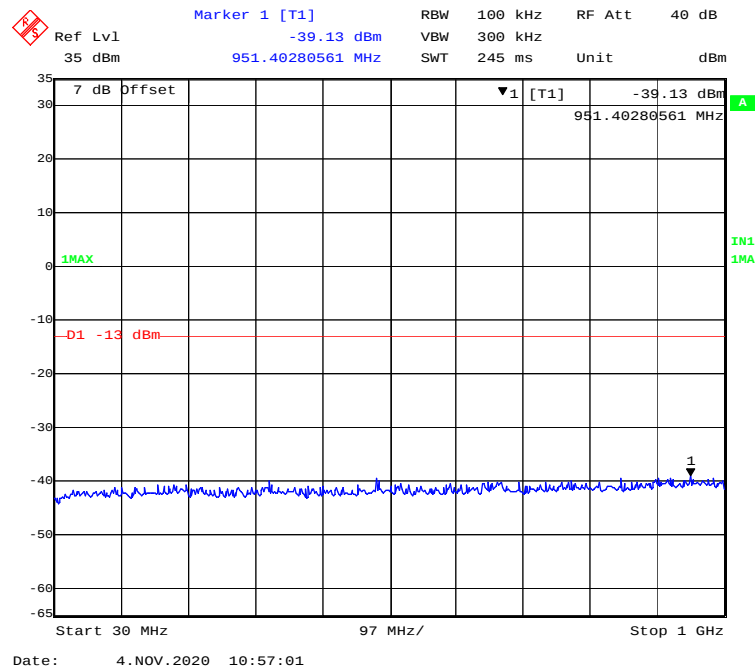
30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



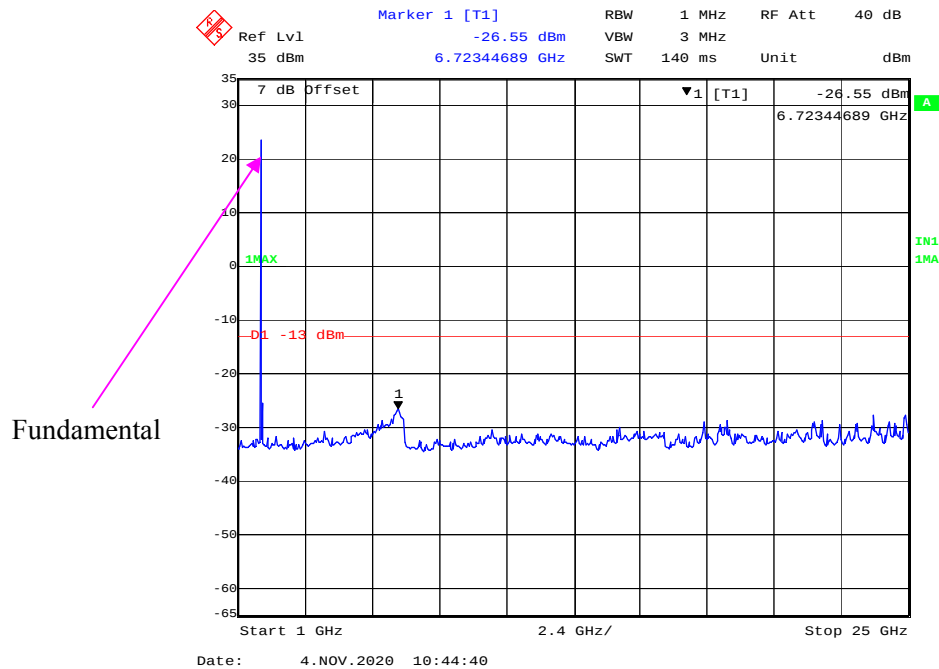
1 GHz – 25 GHz (1.4 MHz, QPSK, Low Channel)



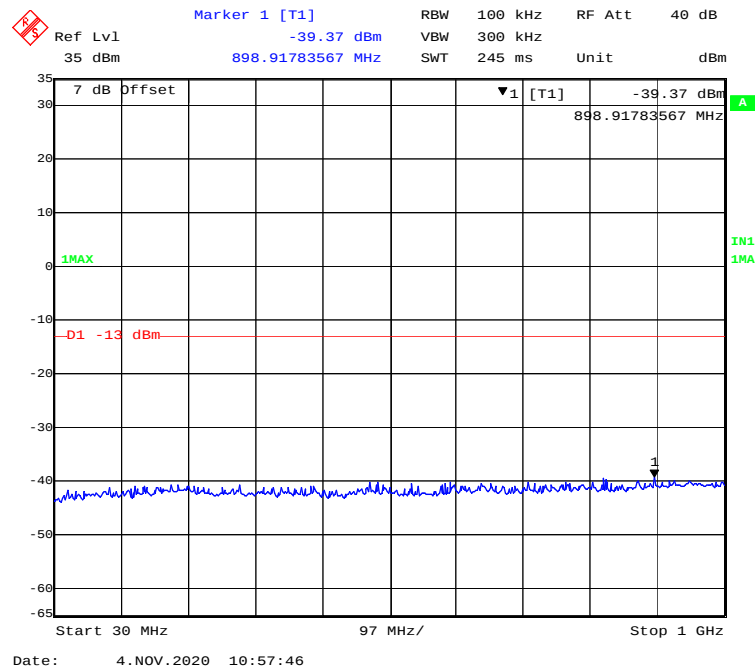
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



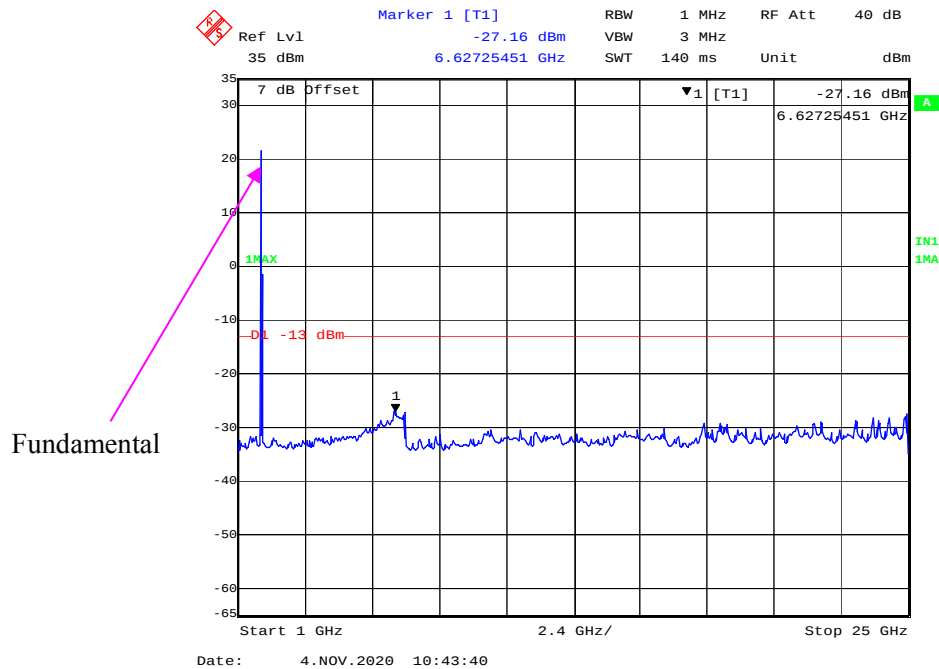
1 GHz – 25 GHz (1.4 MHz, 16-QAM, Low Channel)



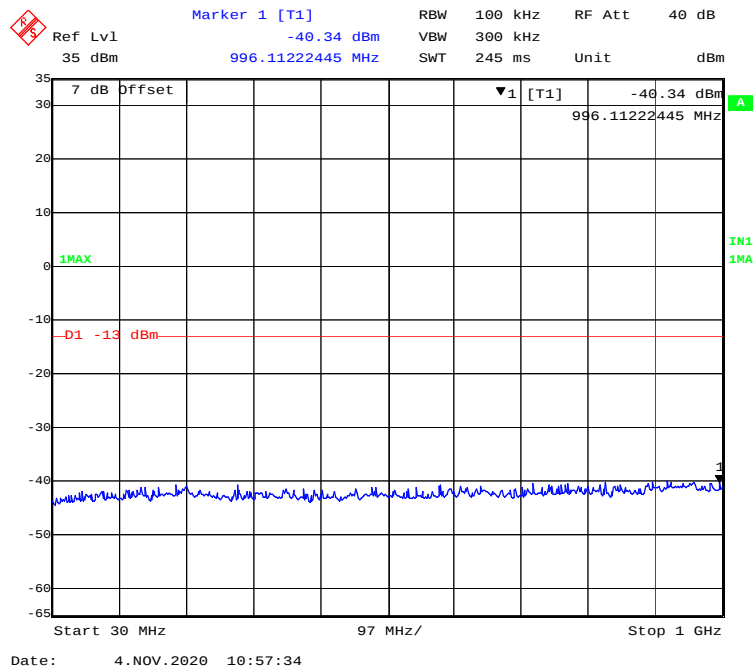
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



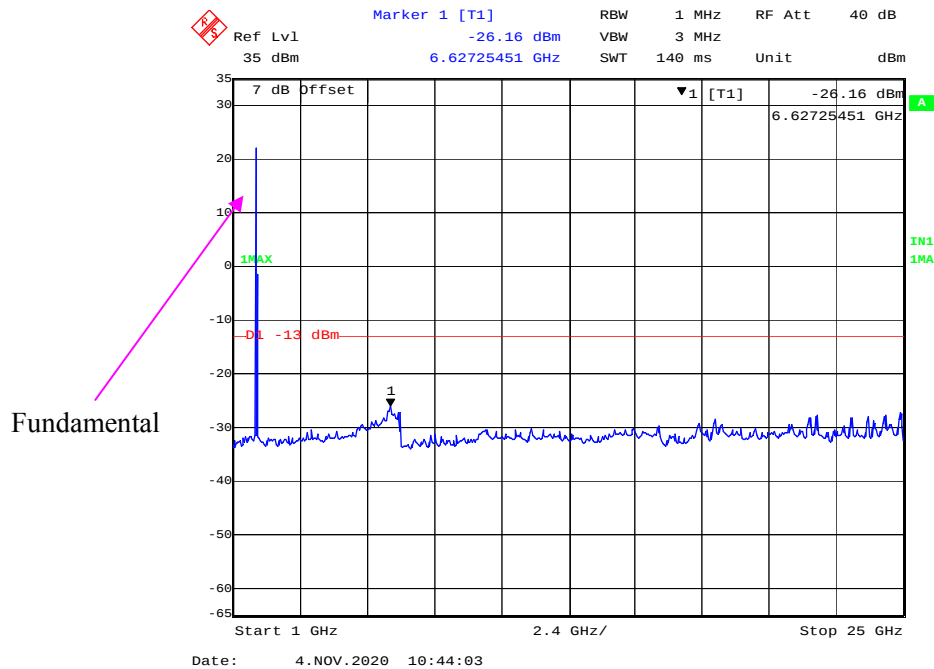
1 GHz – 25 GHz (3 MHz, QPSK, Low Channel)



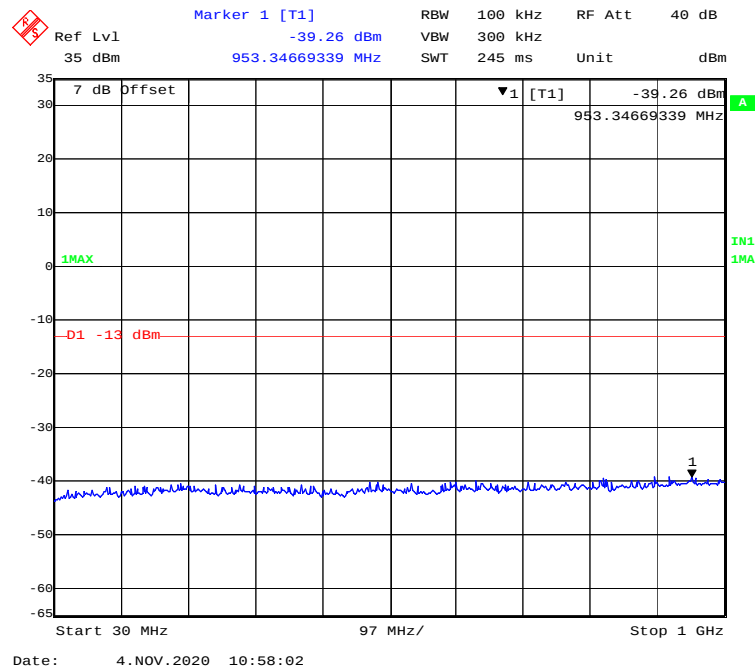
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



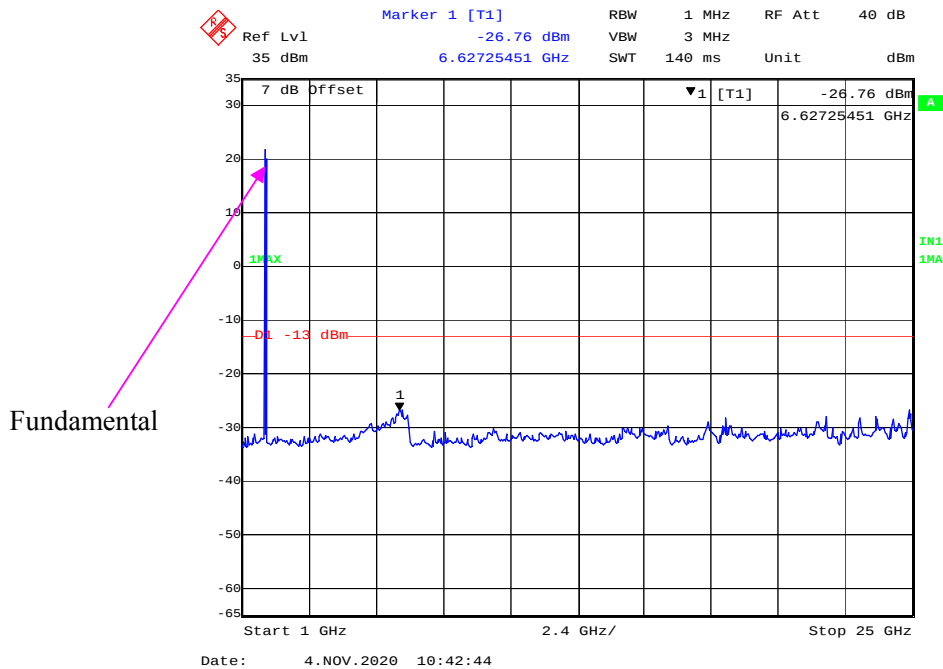
1 GHz – 25 GHz (3 MHz, 16-QAM, Low Channel)



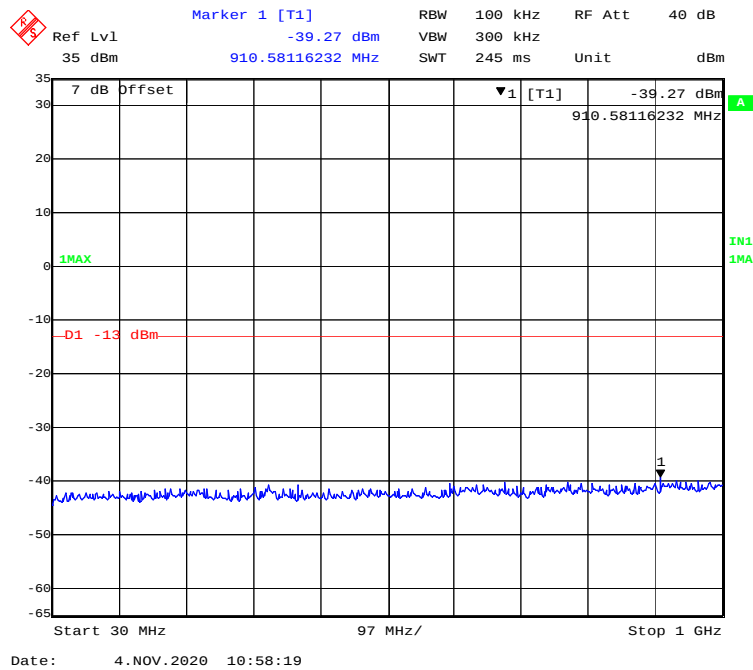
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



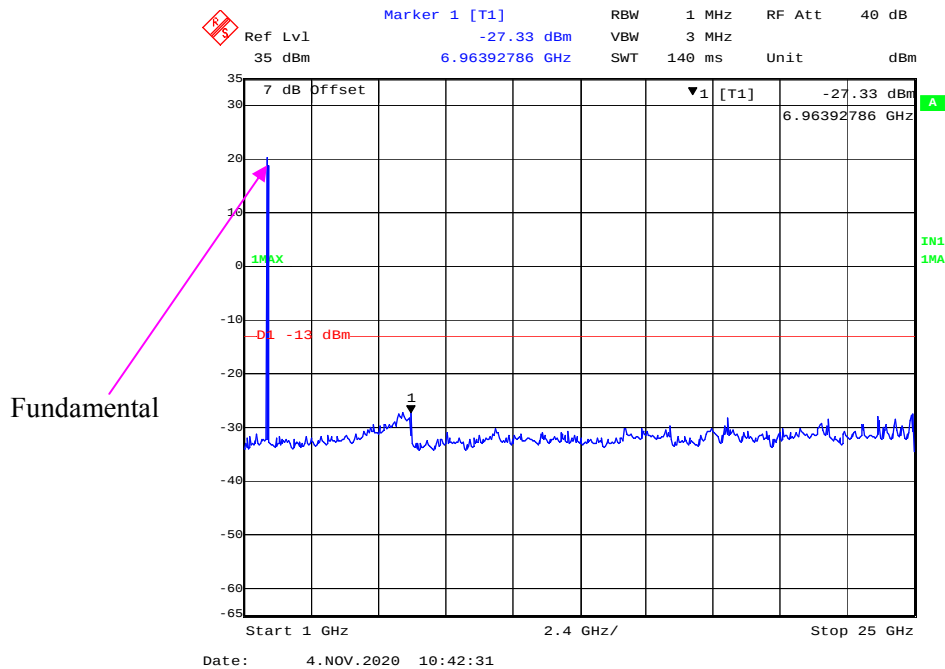
1 GHz – 25 GHz (5 MHz, QPSK, Low Channel)



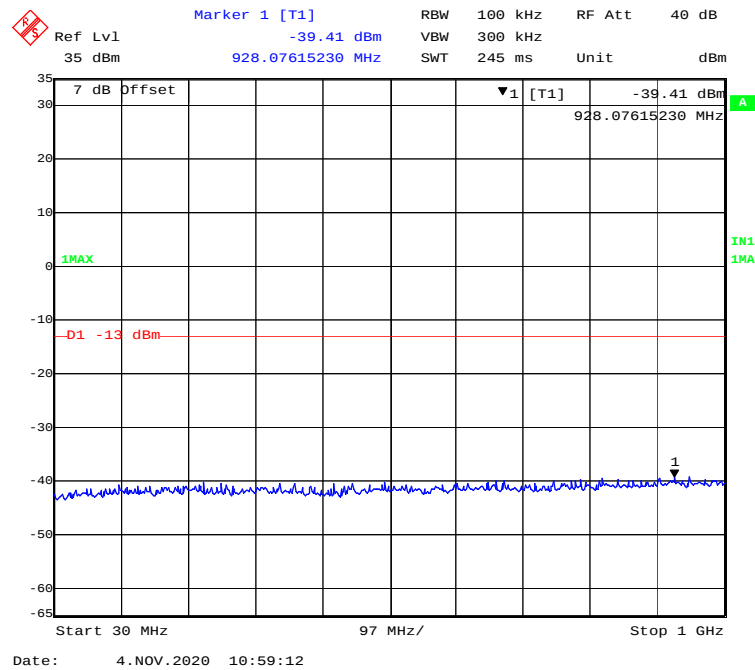
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



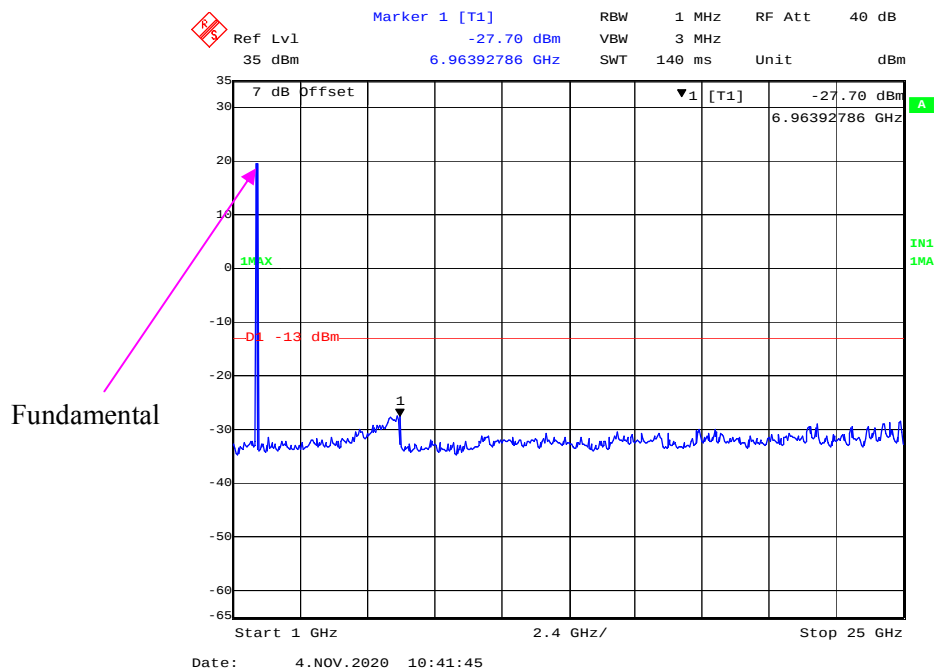
1 GHz – 25 GHz (5 MHz, 16-QAM, Low Channel)



30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



1 GHz – 25 GHz (10 MHz, QPSK, Low Channel)



Ref Lvl 35 dBm RBW 100 kHz RF Att 40 dB
 35 dBm VBW 300 kHz
 SWT 245 ms Unit dBm

Marker 1 [T1]
 -40.20 dBm
 951.40280561 MHz

7 dB Offset

▼1 [T1] -40.20 dBm
 951.40280561 MHz

1MAX

-D1 -13 dBm

1

Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 4.NOV.2020 10:58:40

Ref Lvl 35 dBm
Marker 1 [T1] -26.64 dBm
6.62725451 GHz
RBW 1 MHz
VBW 3 MHz
SWT 140 ms
RF Att 40 dB
Unit dBm

7 dB Offset
▼1 [T1] -26.64 dBm
6.62725451 GHz

19 dB
1MAX
-13 dBm
1
Fundamental

Start 1 GHz 2.4 GHz/ Stop 25 GHz

Date: 4.NOV.2020 10:41:58

Ref Lvl 35 dBm RBW 100 kHz RF Att 40 dB
 35 dBm Marker 1 [T1] -39.05 dBm VBW 300 kHz
 881.42284569 MHz SWT 245 ms Unit dBm

7 dB Offset ▼1 [T1] -39.05 dBm
 881.42284569 MHz

1MAX

D1 -13 dBm

1

Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 4.NOV.2020 10:59:24

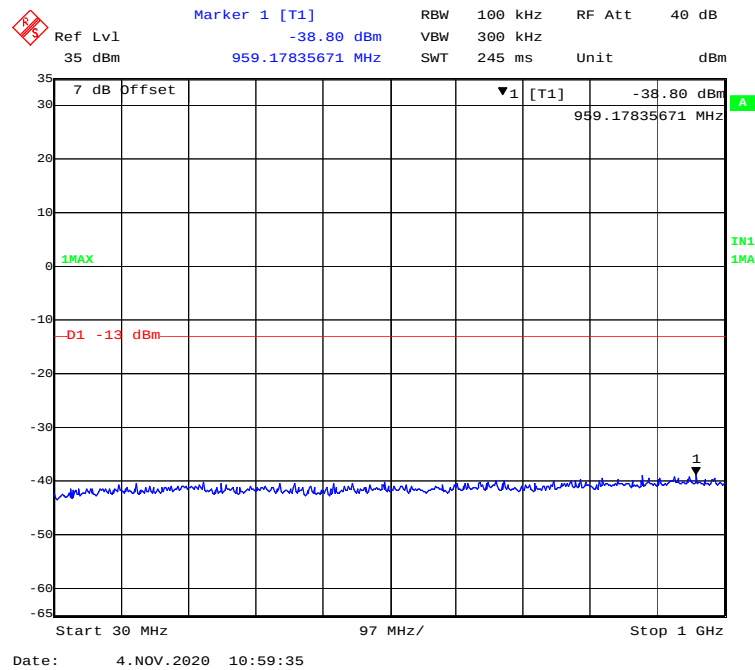
Ref Lvl 35 dBm RBW 1 MHz RF Att 40 dB
 Marker 1 [T1] -26.49 dBm VBW 3 MHz Unit dBm
 6.62725451 GHz SWT 140 ms

Start 1 GHz 2.4 GHz/ Stop 25 GHz

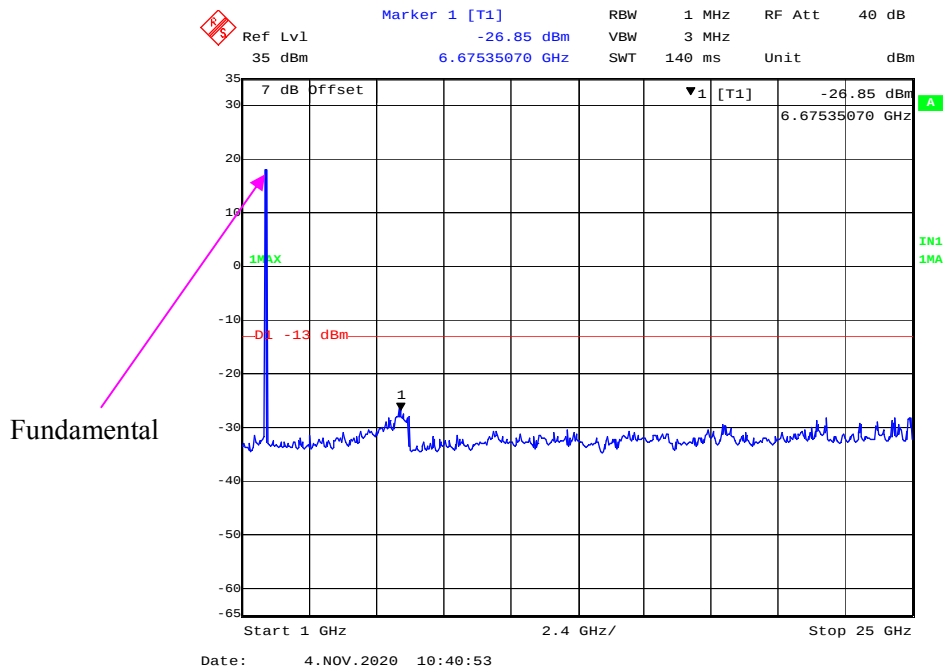
Date: 4.NOV.2020 10:41:08

Fundamental

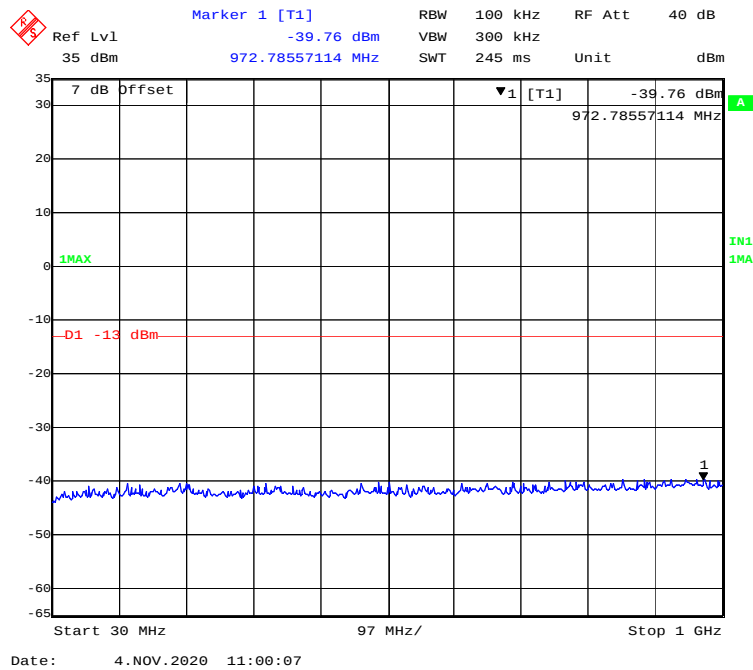
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



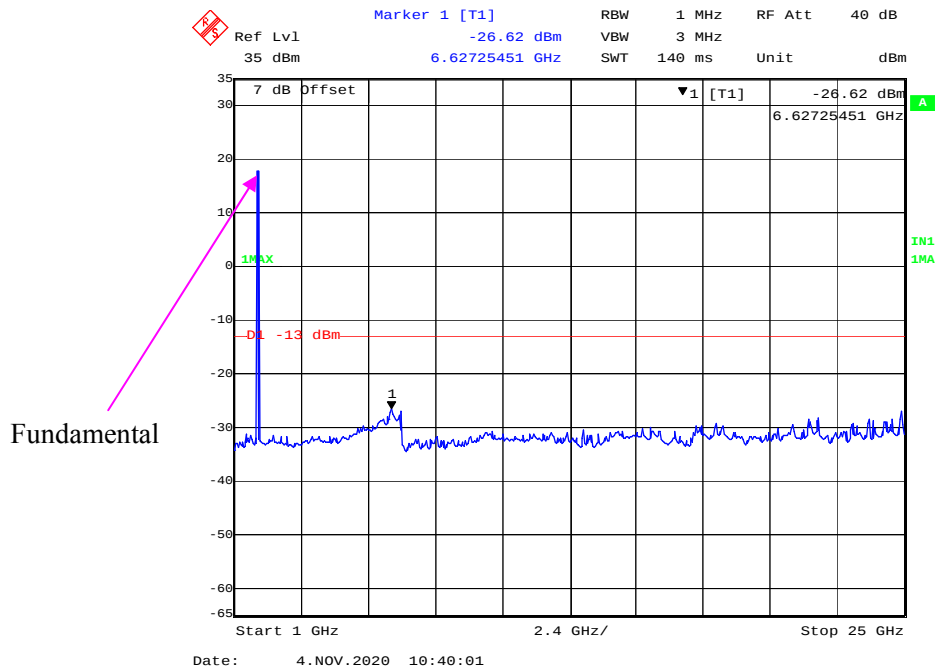
1 GHz – 25 GHz (15 MHz, 16-QAM, Low Channel)



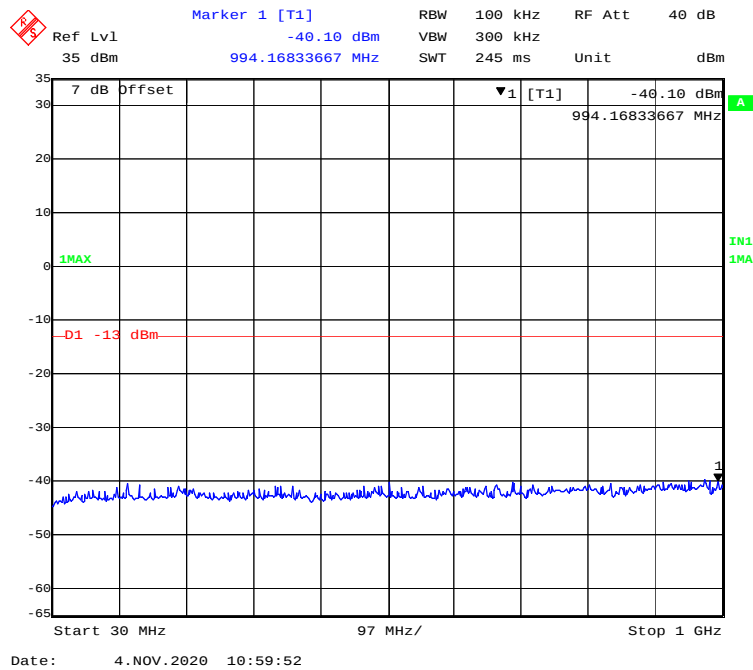
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



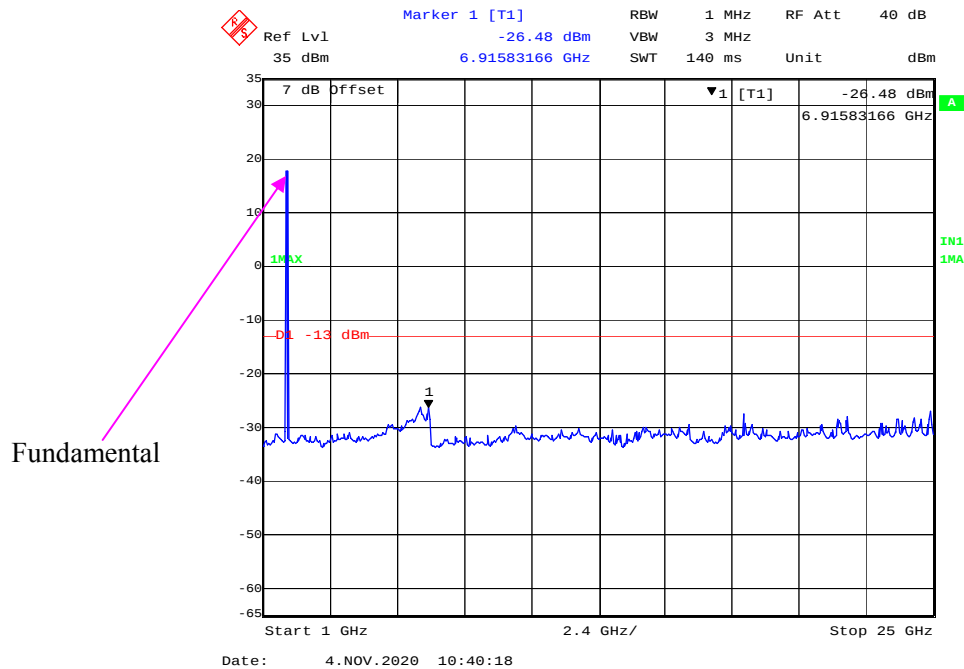
1 GHz – 25 GHz (20 MHz, QPSK, Low Channel)



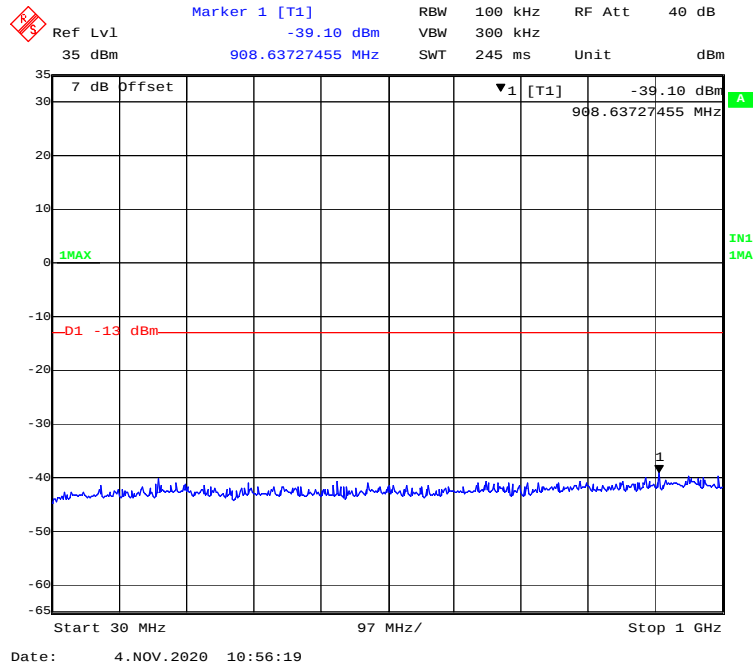
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



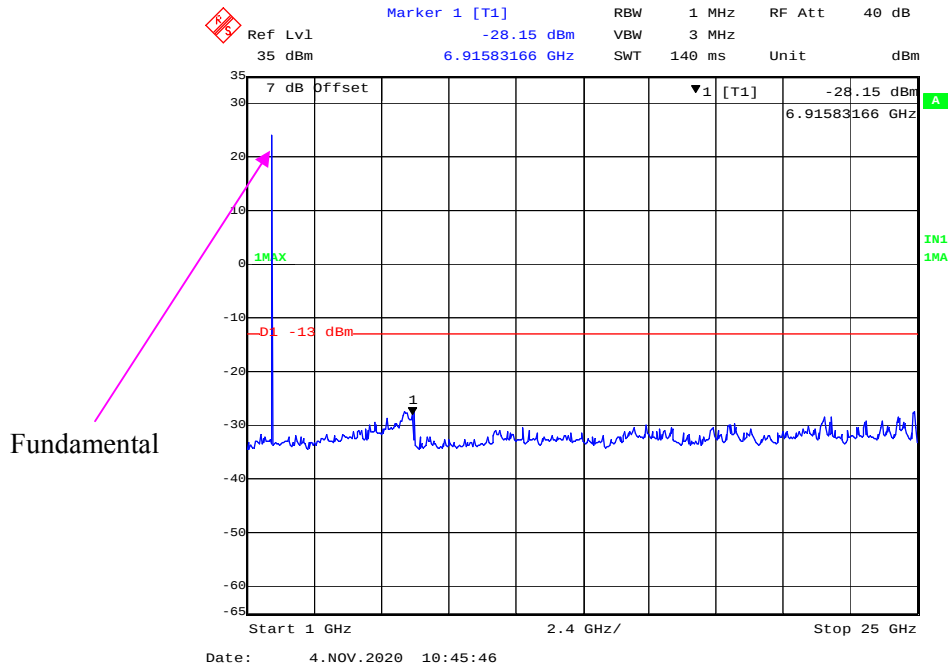
1 GHz – 25 GHz (20 MHz, 16-QAM, Low Channel)



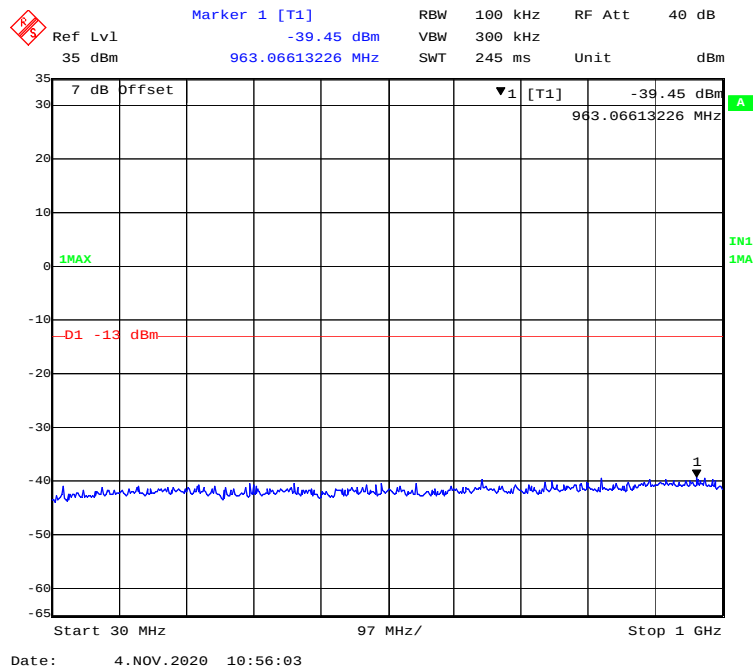
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



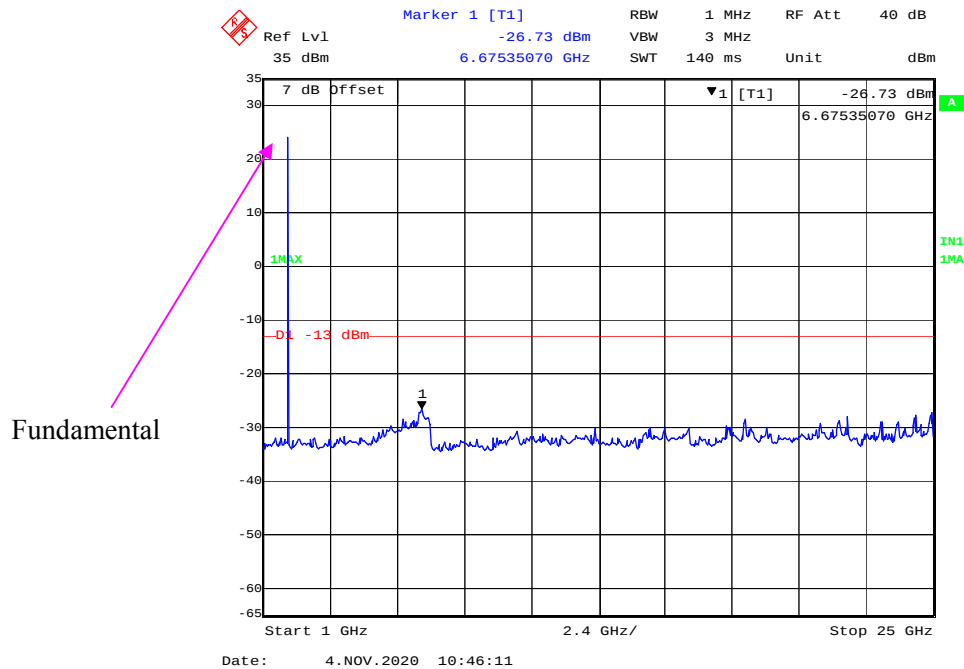
1 GHz – 25 GHz (1.4 MHz, QPSK, Middle Channel)



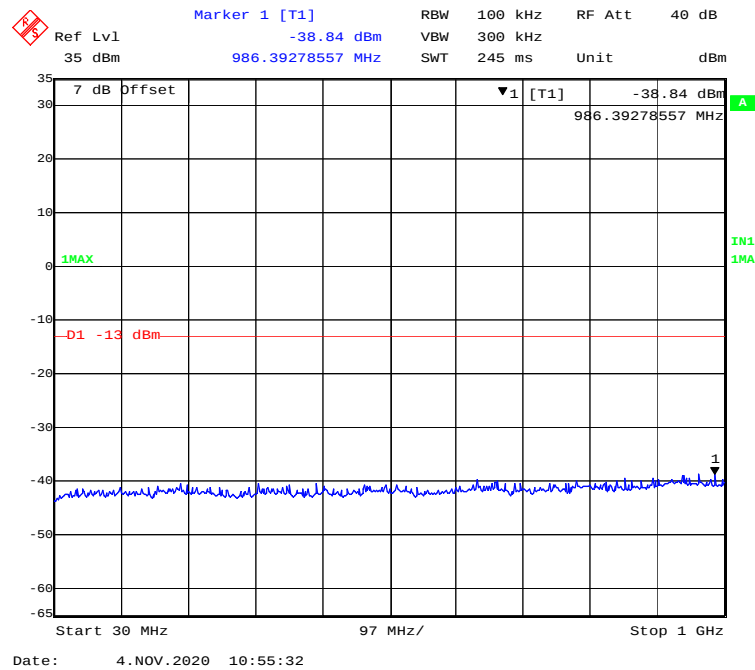
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



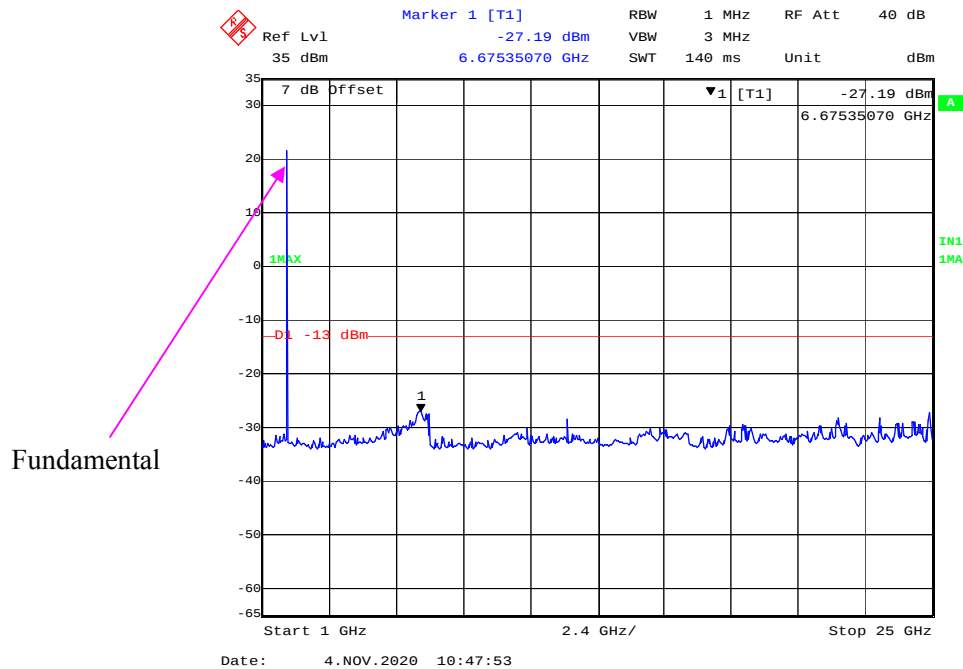
1 GHz – 25 GHz (1.4 MHz, 16-QAM, Middle Channel)



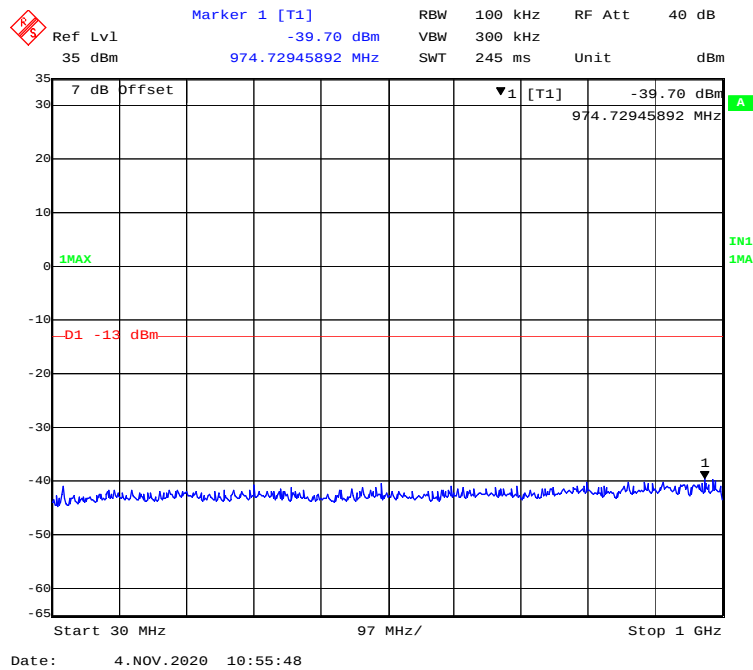
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



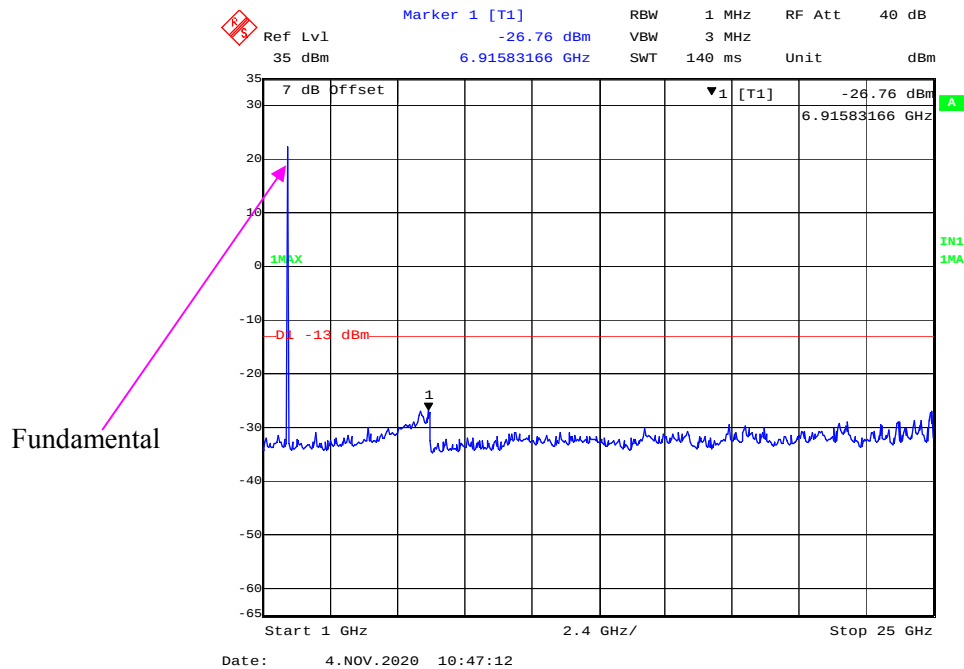
1 GHz – 25 GHz (3 MHz, QPSK, Middle Channel)



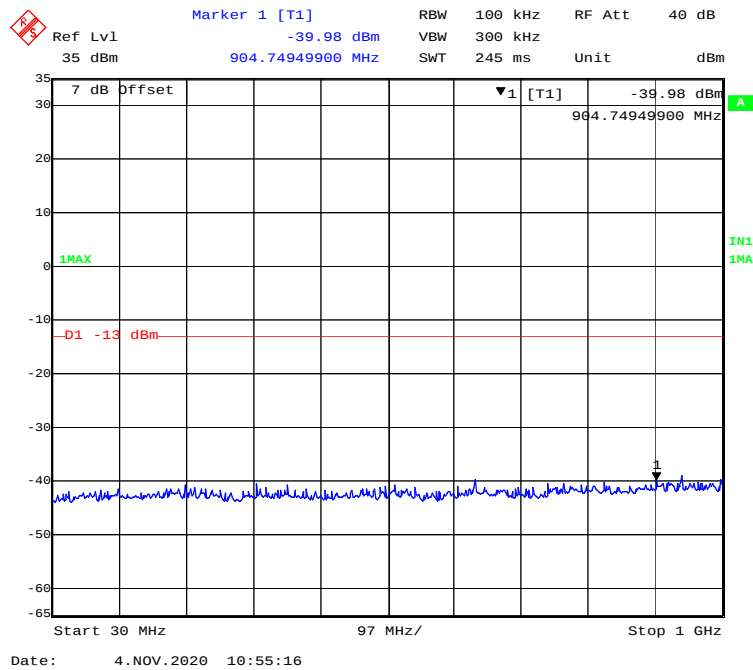
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



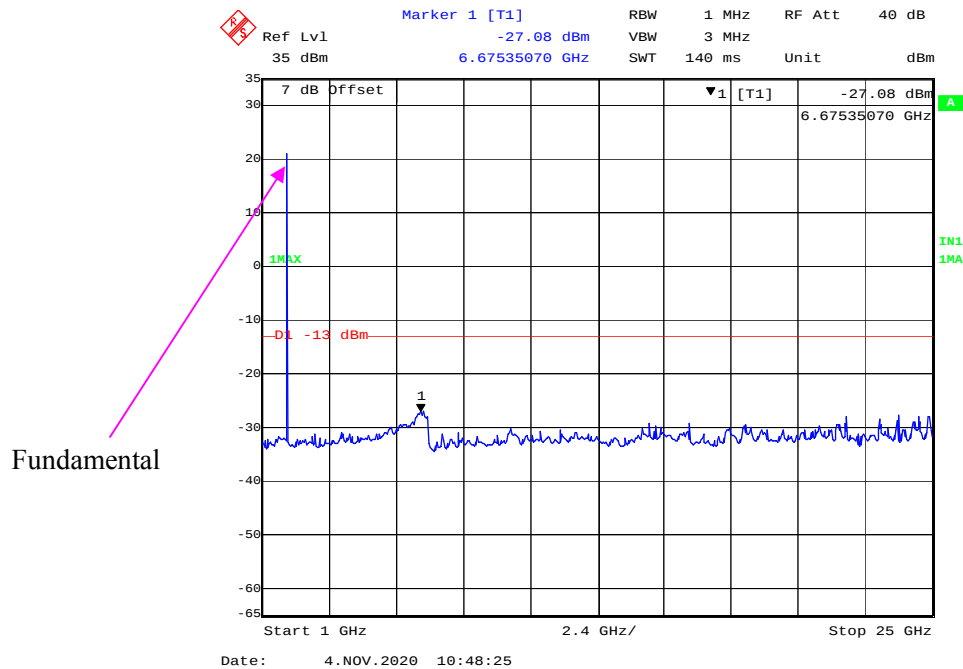
1 GHz – 25 GHz (3 MHz, 16-QAM, Middle Channel)



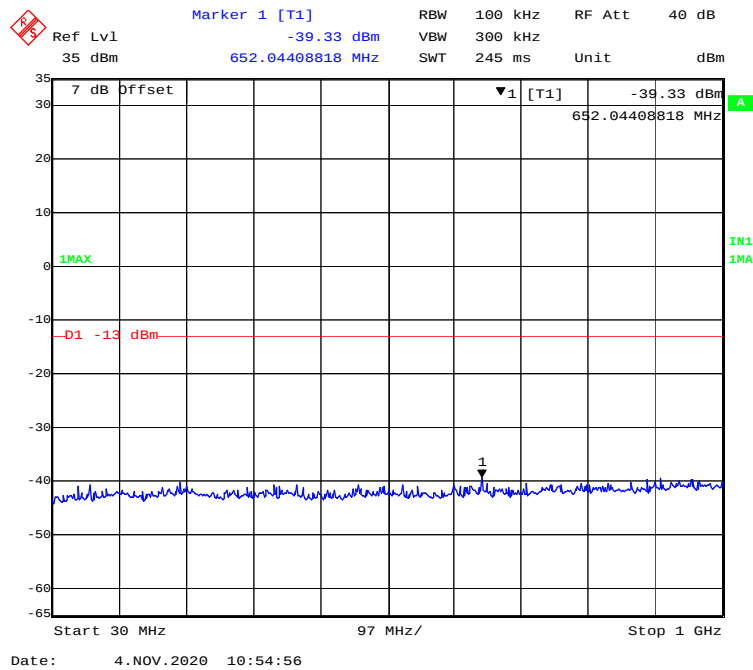
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



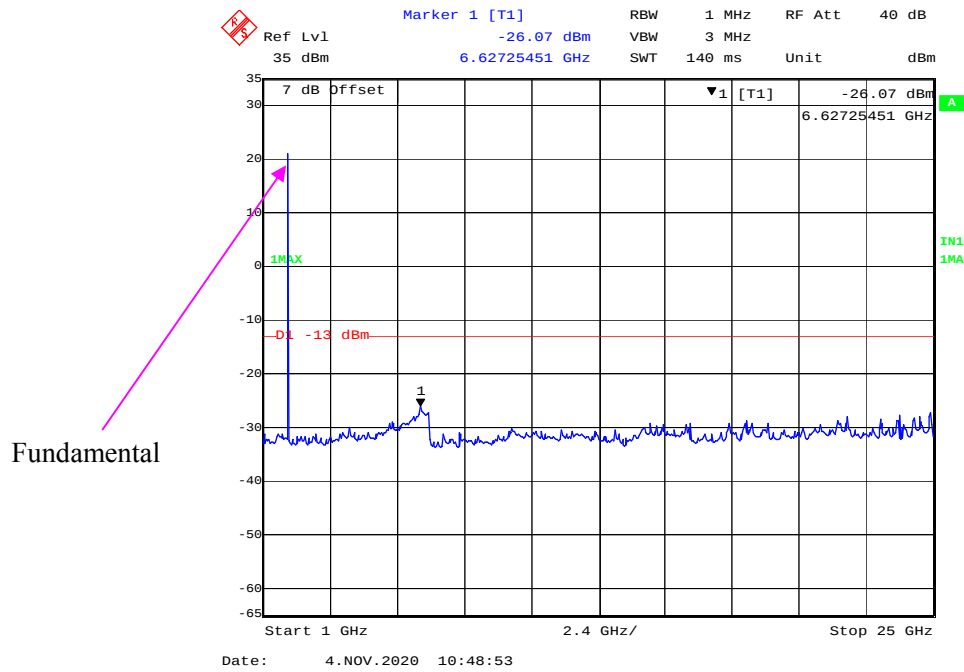
1 GHz – 25 GHz (5 MHz, QPSK, Middle Channel)



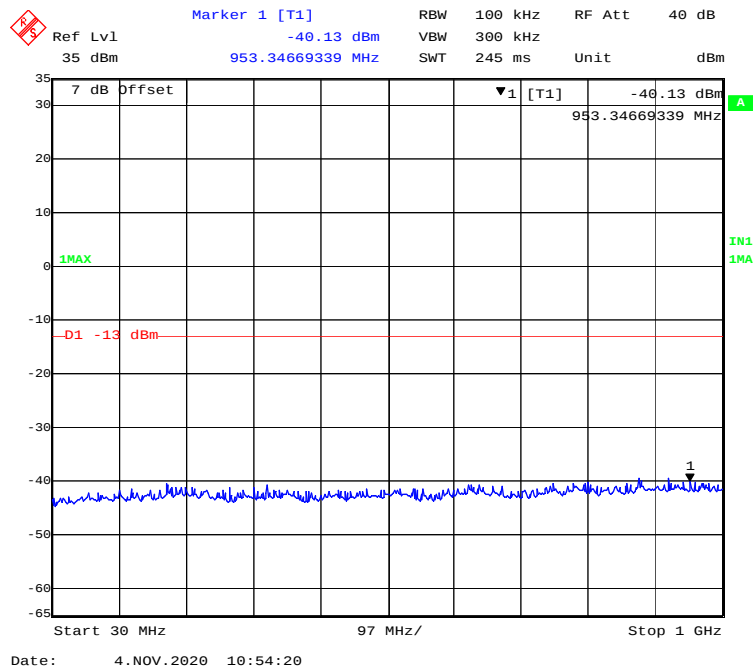
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



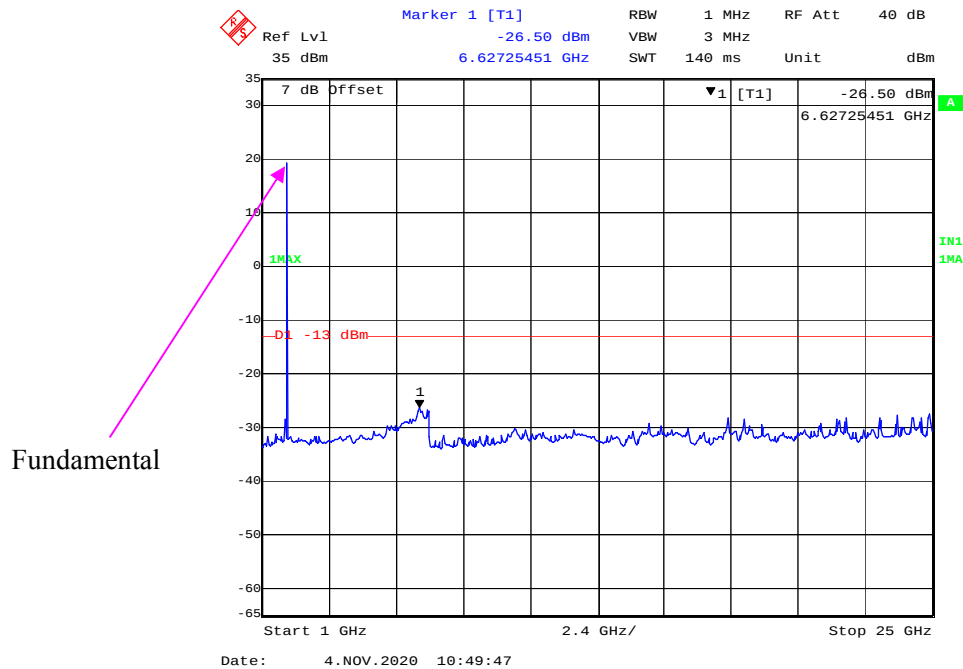
1 GHz – 25 GHz (5 MHz, 16-QAM, Middle Channel)



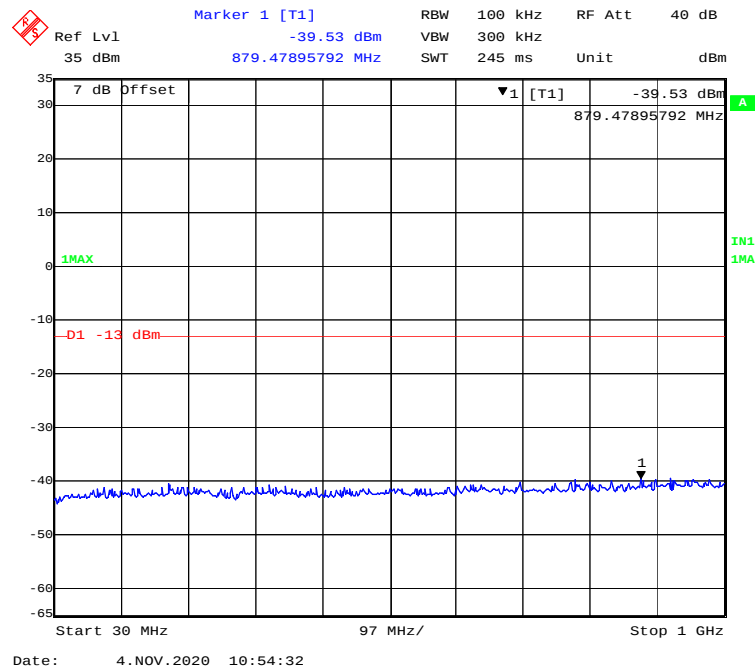
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



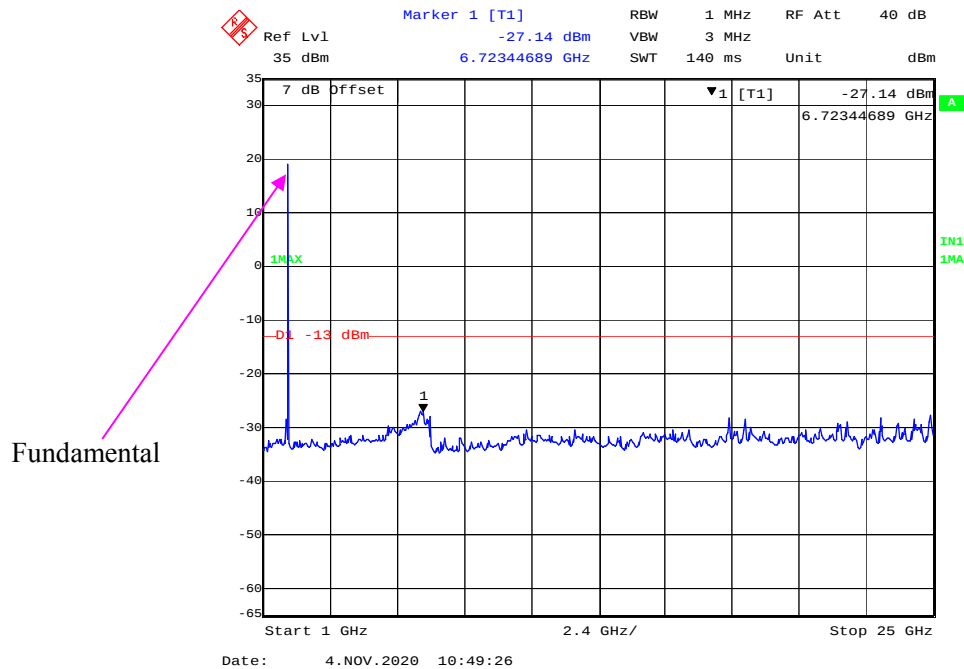
1 GHz – 25 GHz (10 MHz, QPSK, Middle Channel)



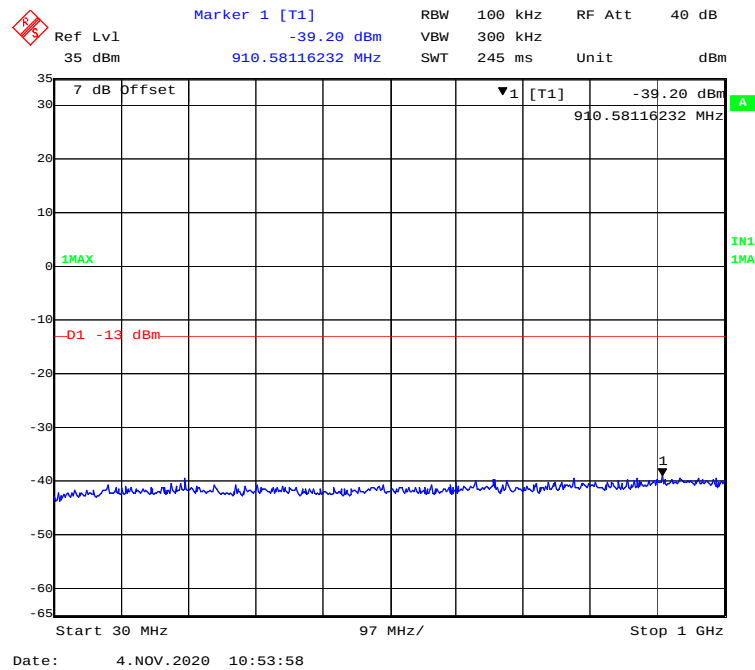
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



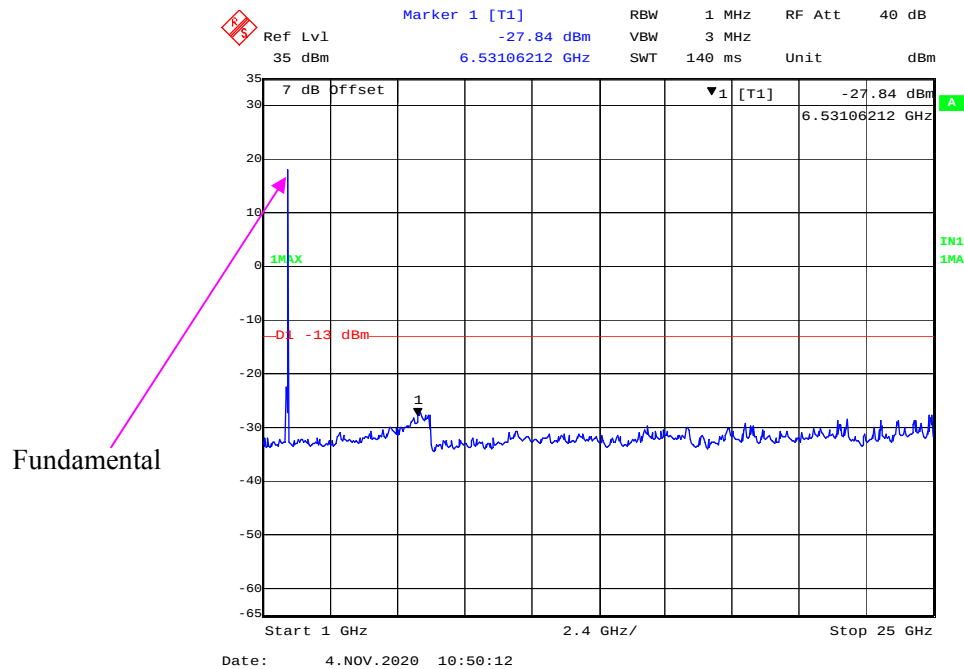
1 GHz – 25 GHz (10 MHz, 16-QAM, Middle Channel)



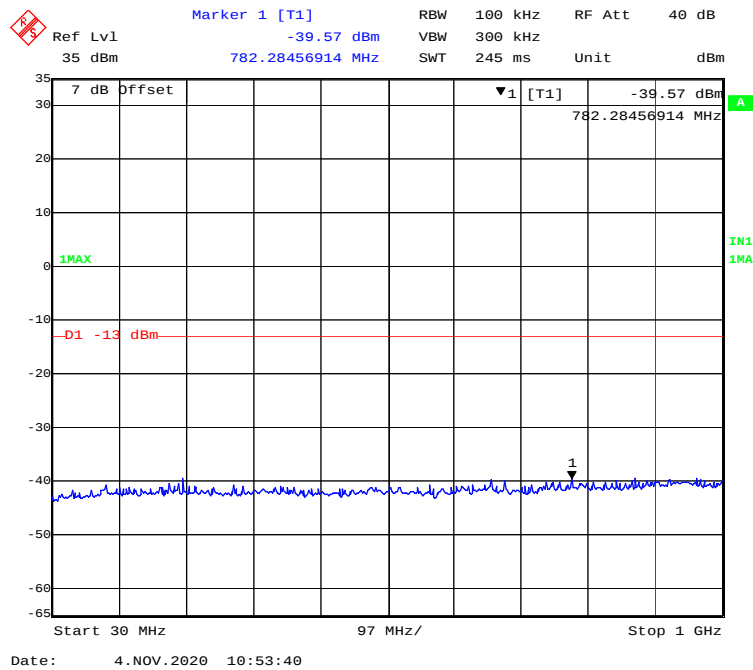
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



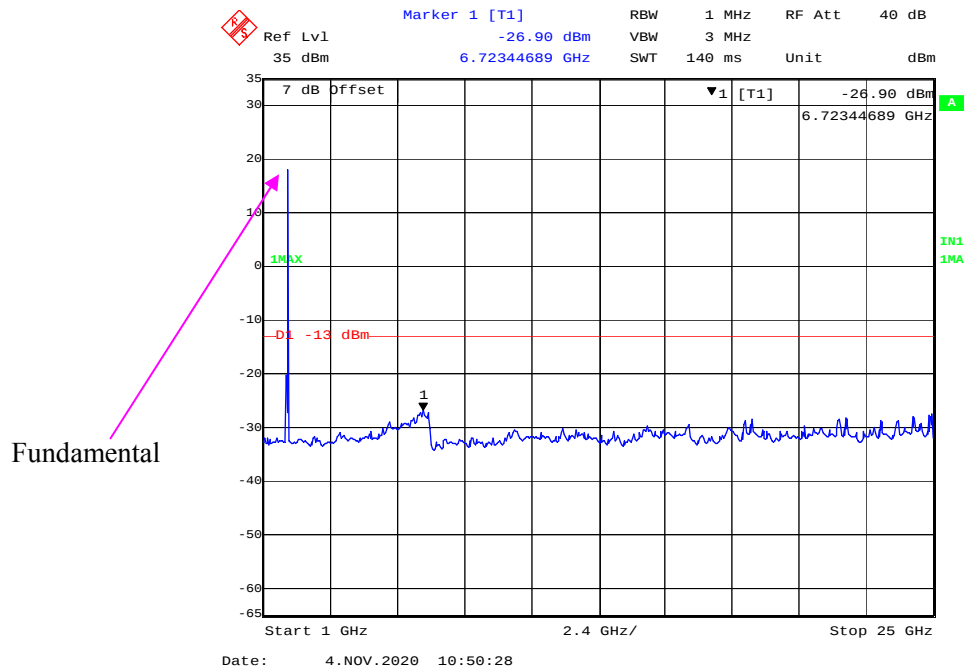
1 GHz – 25 GHz (15 MHz, QPSK, Middle Channel)

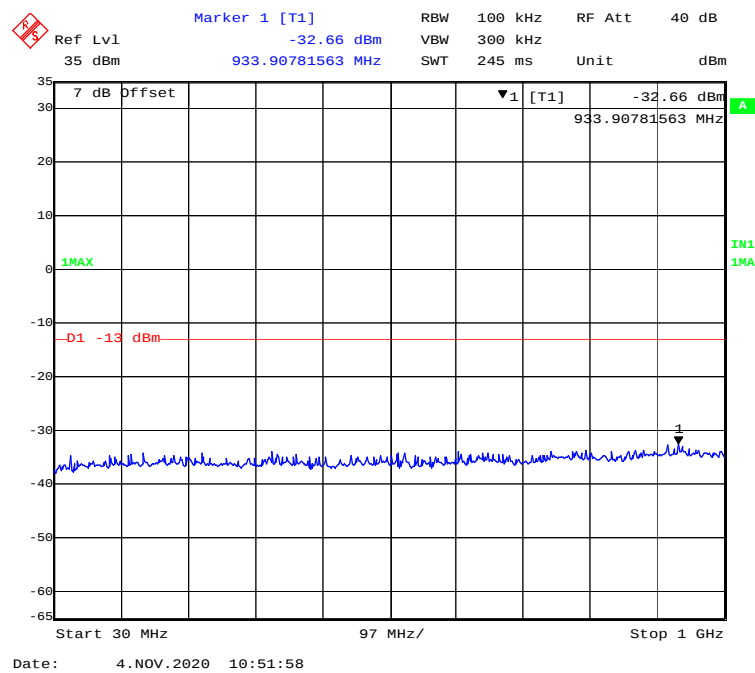
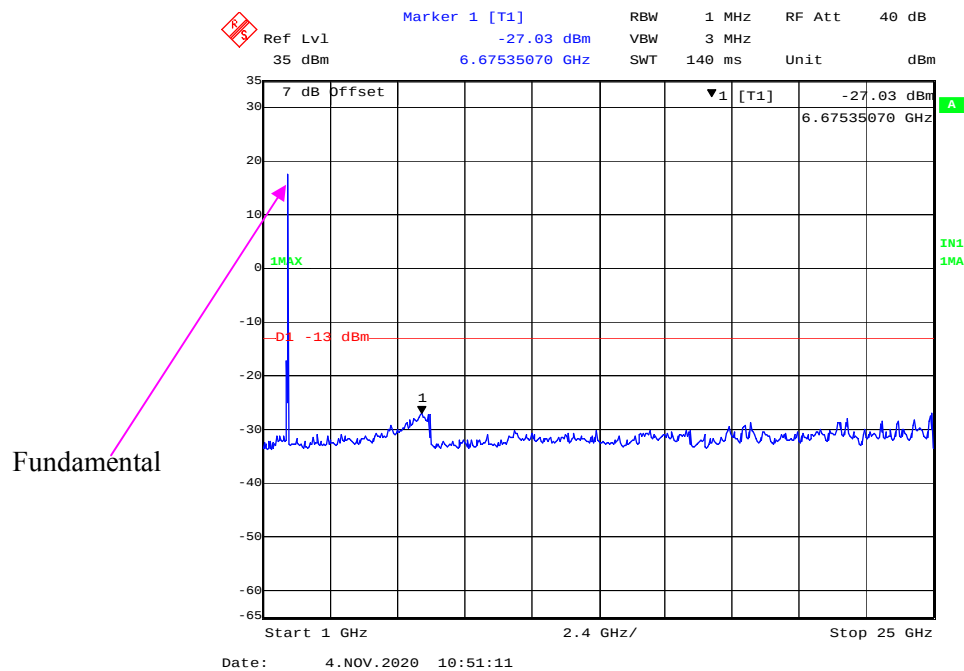


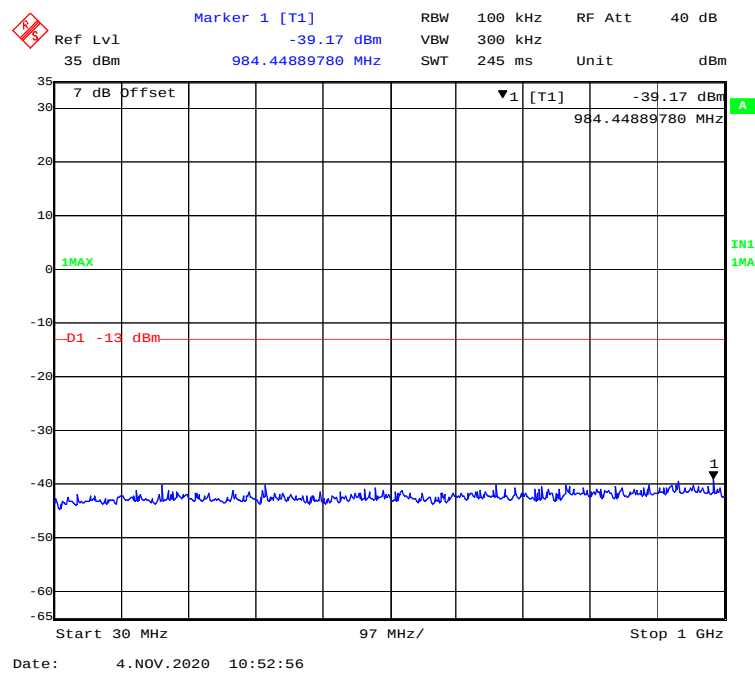
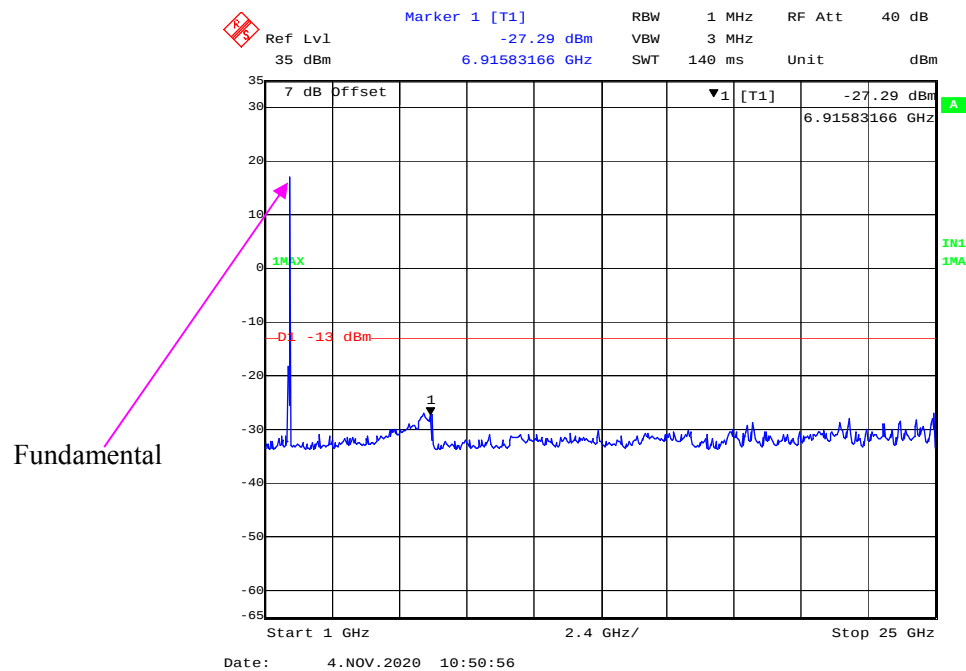
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



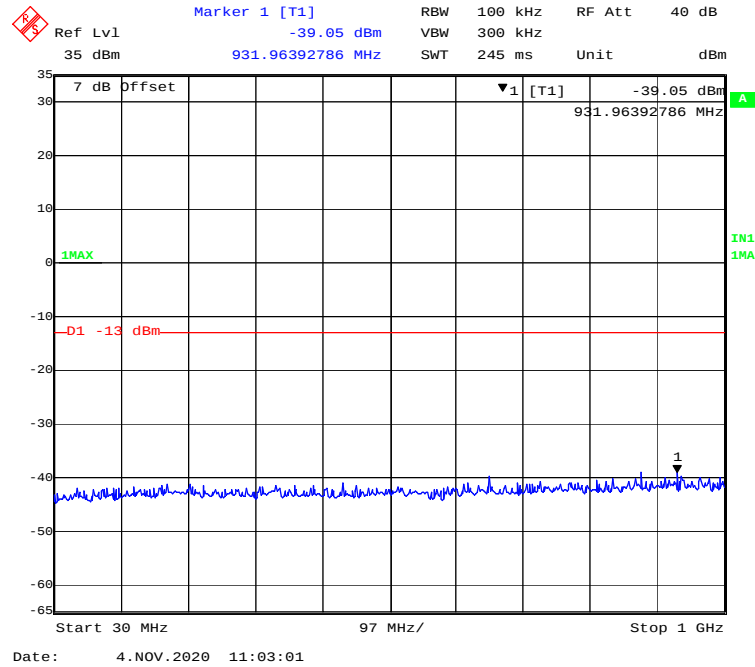
1 GHz – 25 GHz (15 MHz, 16-QAM, Middle Channel)



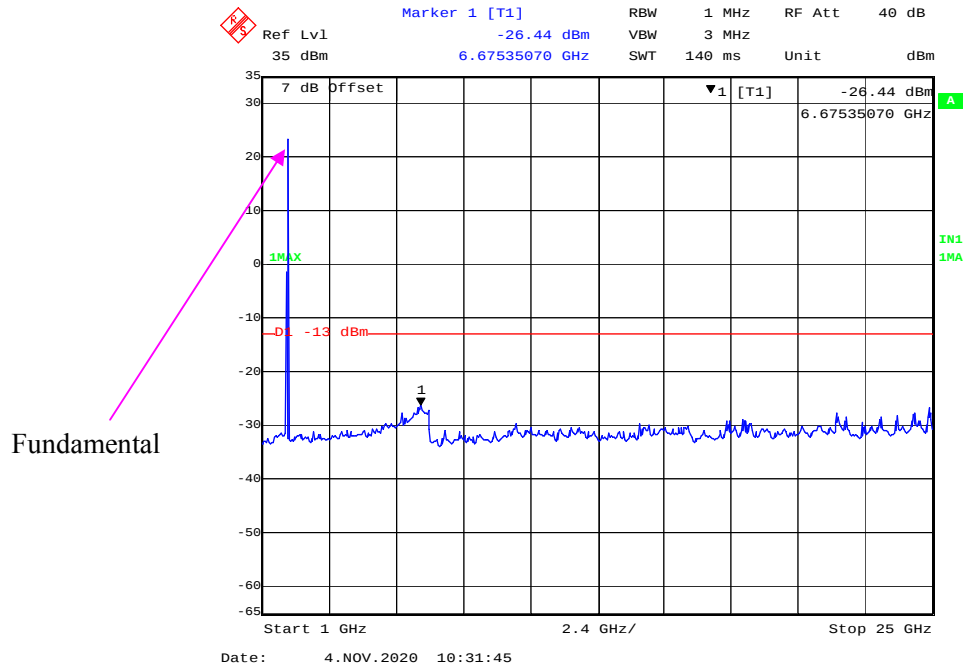
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)**1 GHz – 25 GHz (20 MHz, QPSK, Middle Channel)**

30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)**1 GHz – 25 GHz (20 MHz, 16-QAM, Middle Channel)**

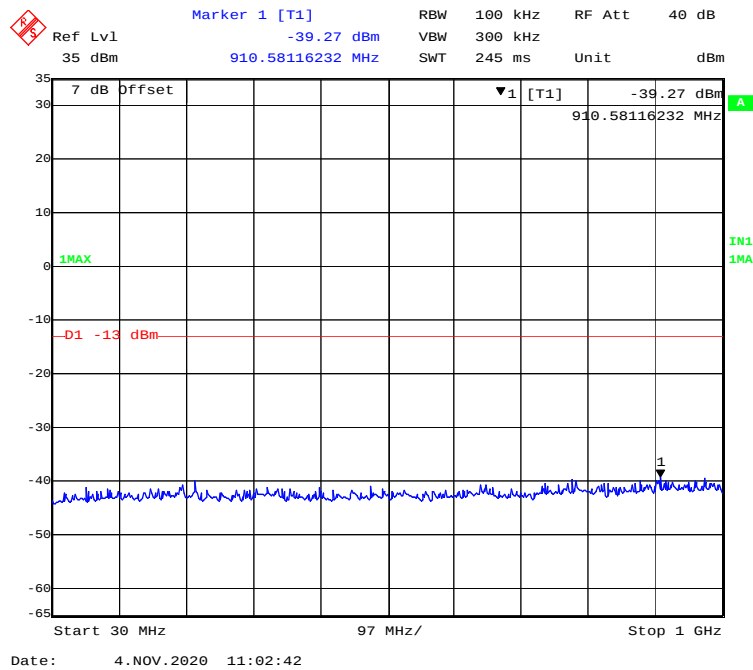
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



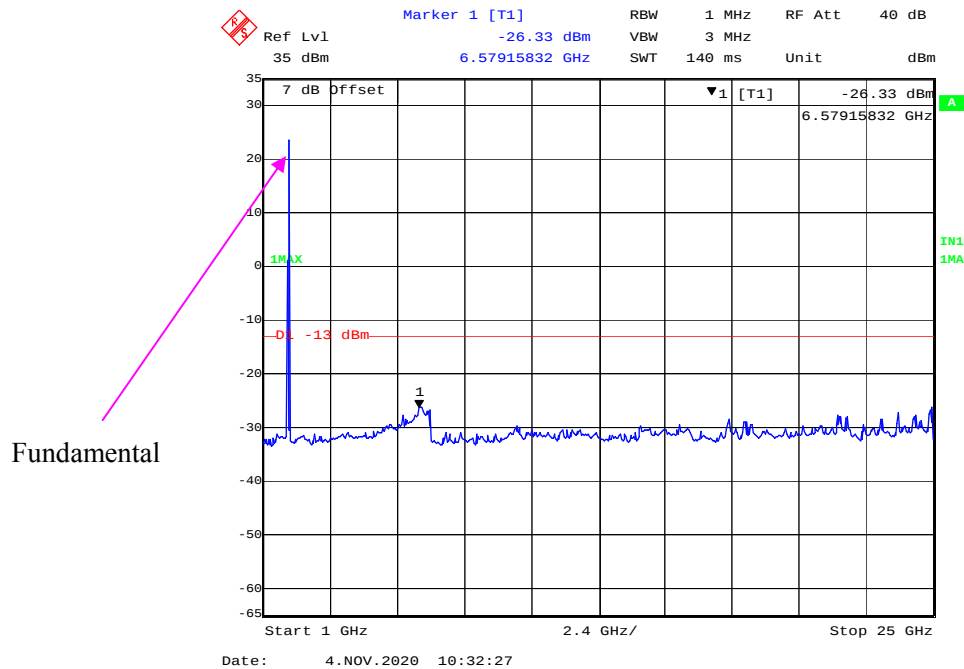
1 GHz - 25 GHz (1.4 MHz, QPSK, High Channel)



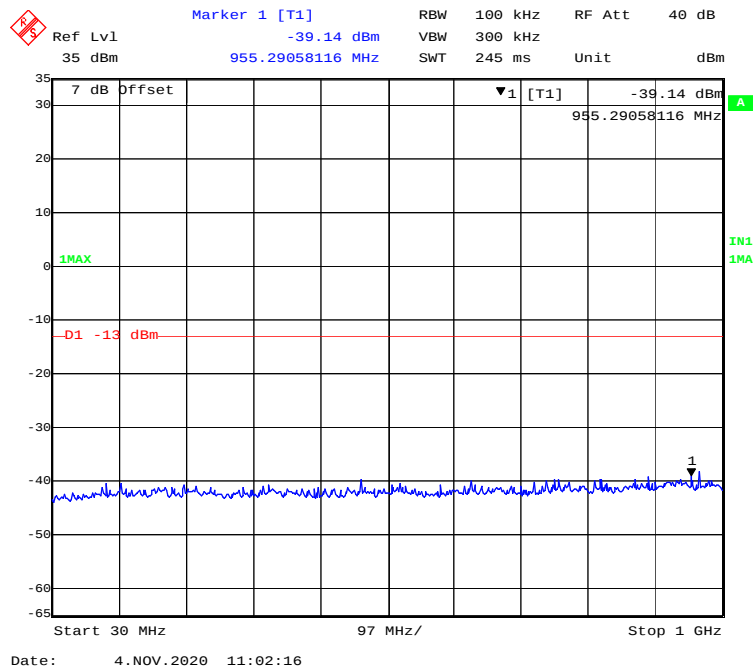
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



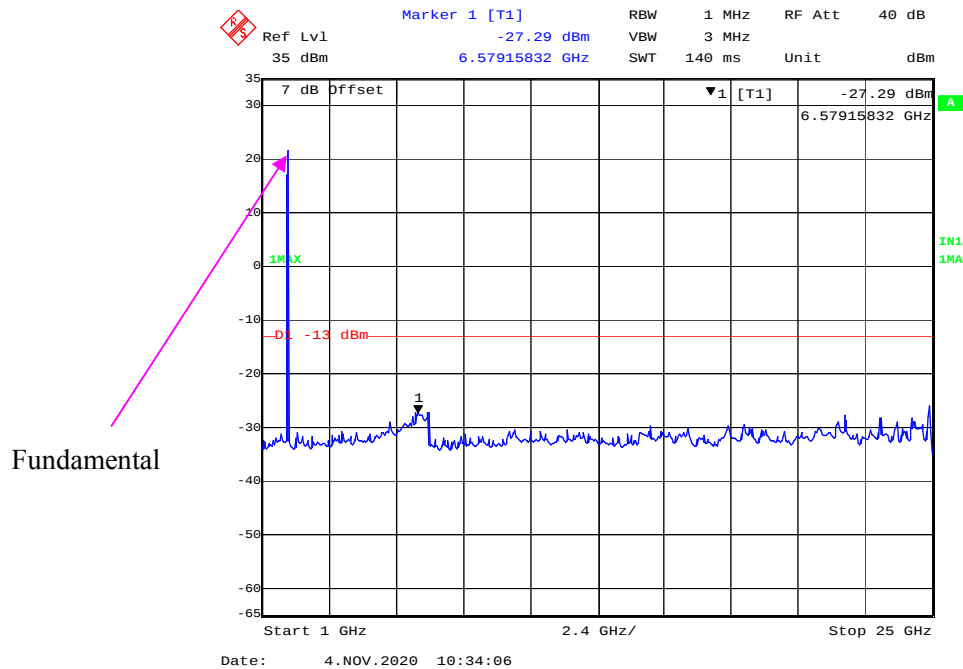
1 GHz – 25 GHz (1.4 MHz, 16-QAM, High Channel)



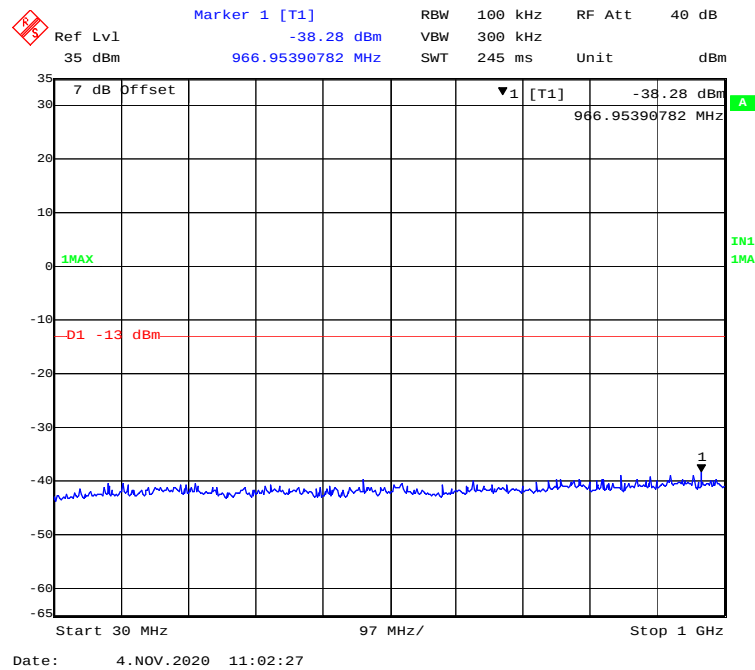
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



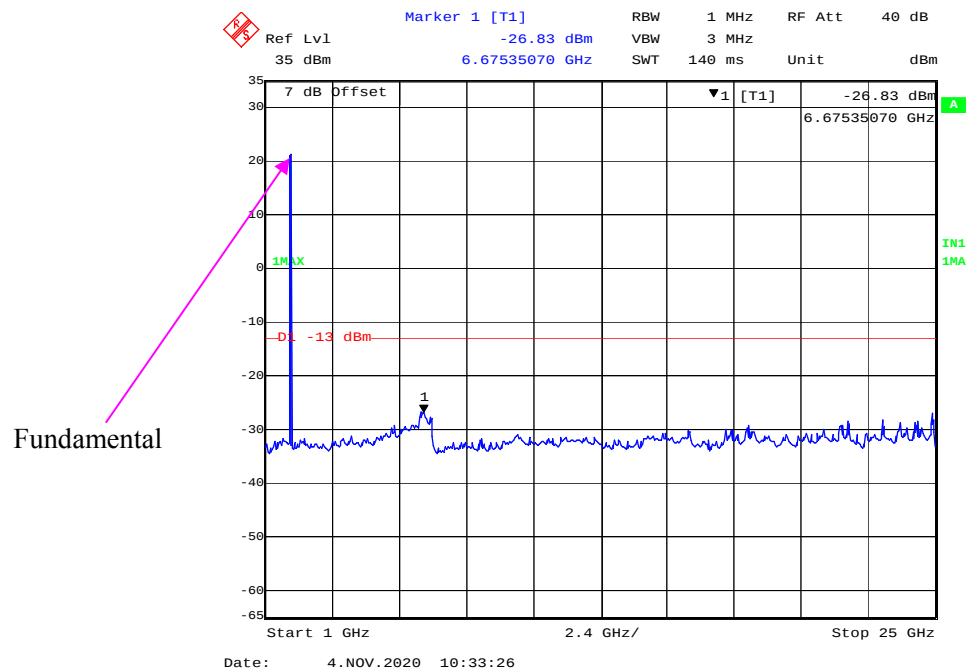
1 GHz – 25 GHz (3 MHz, QPSK, High Channel)



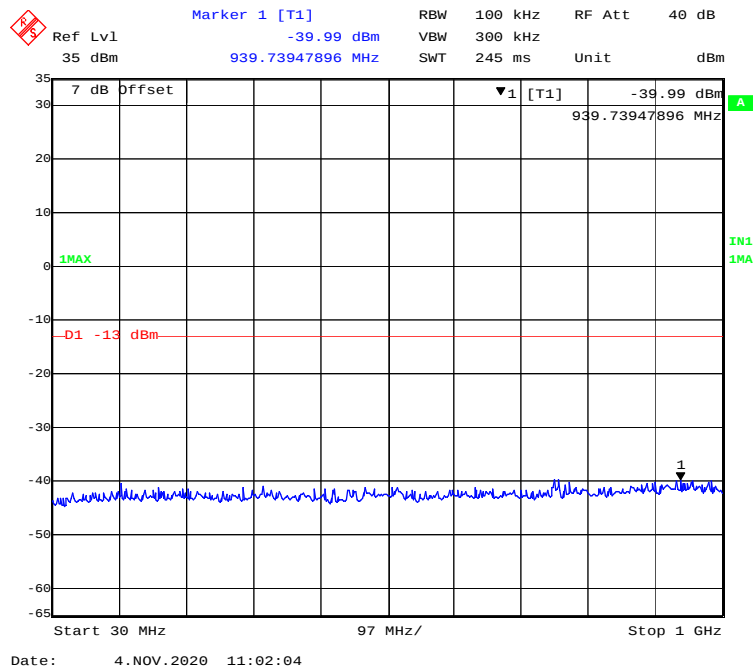
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)



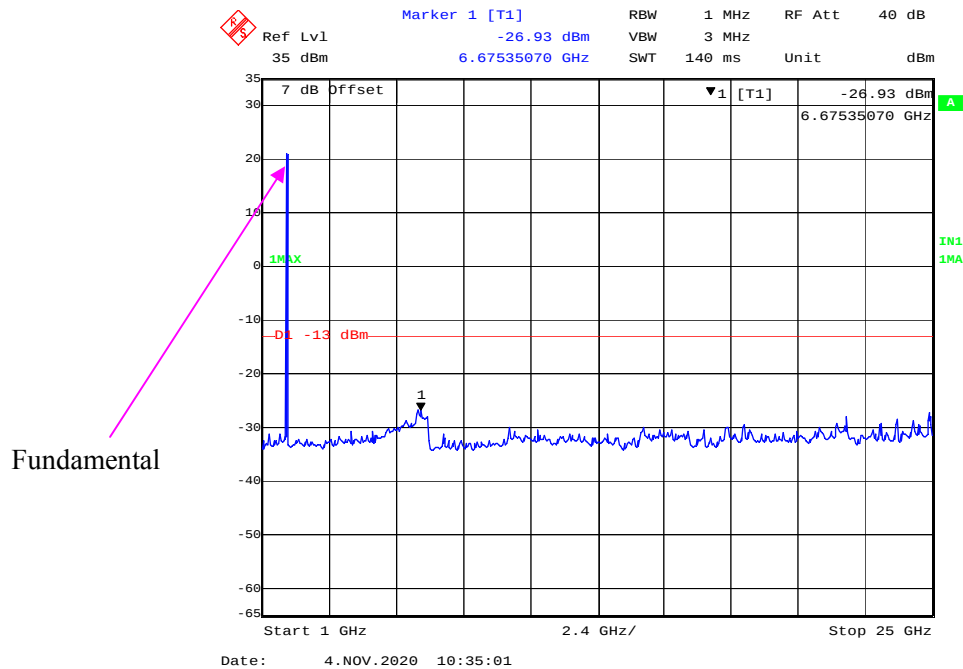
1 GHz - 25 GHz (3 MHz, 16-QAM, High Channel)

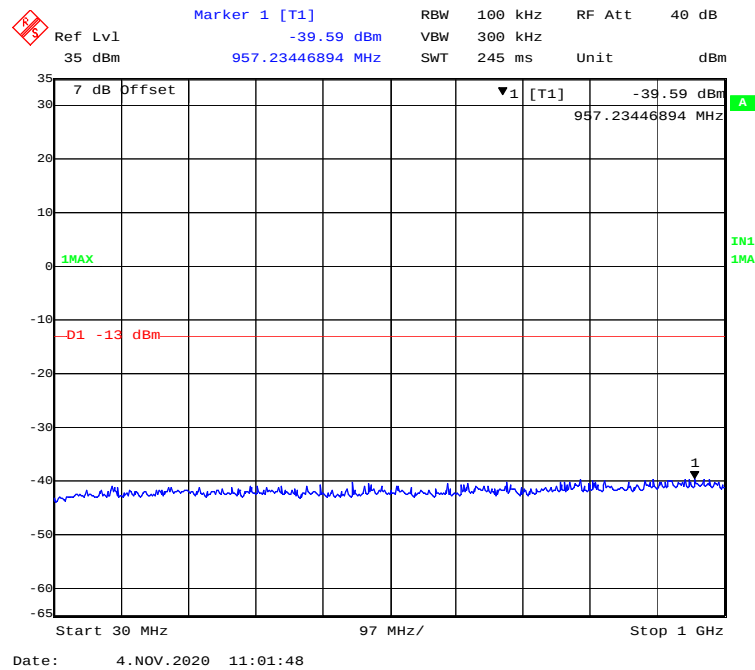
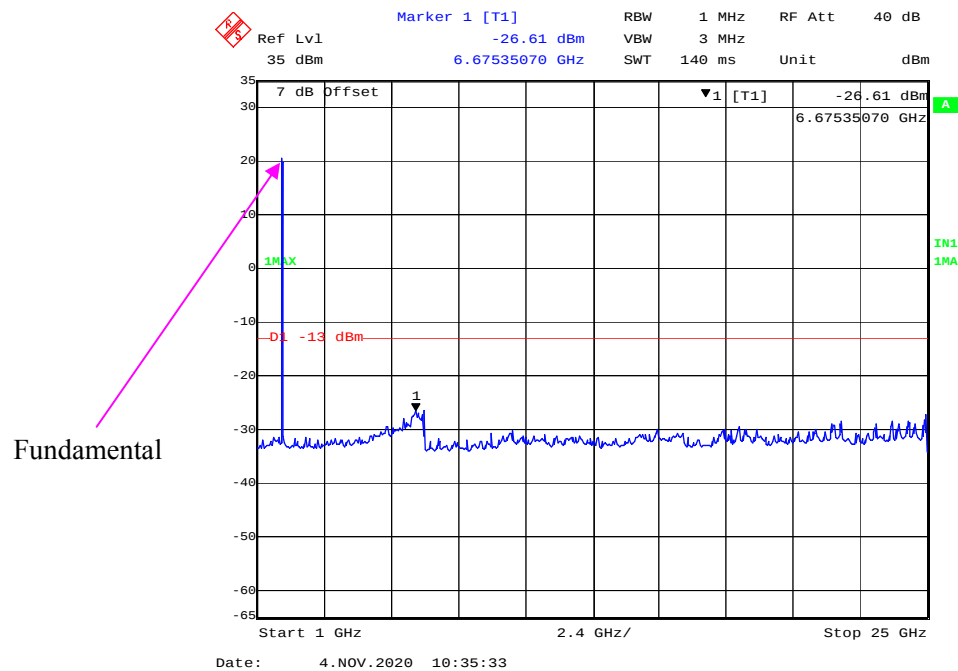


30 MHz - 1 GHz (5 MHz, QPSK, High Channel)

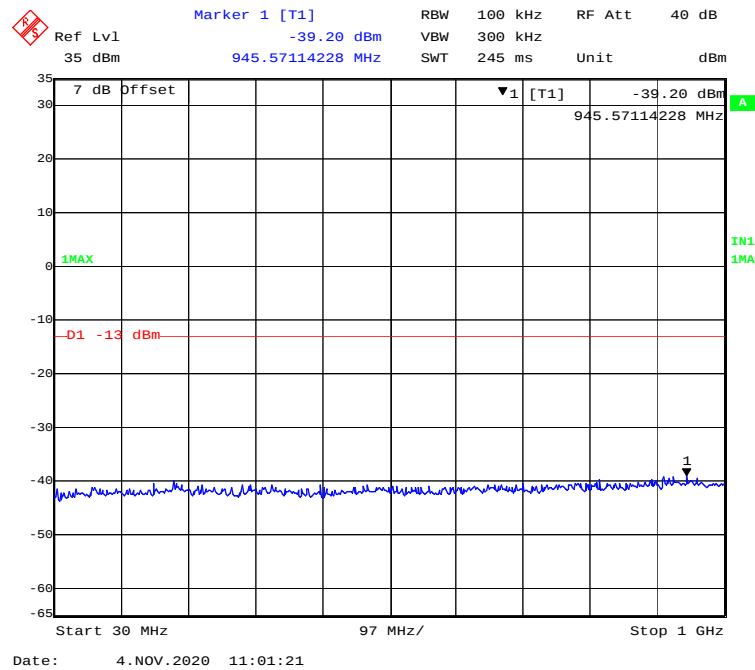


1 GHz - 25 GHz (5 MHz, QPSK, High Channel)

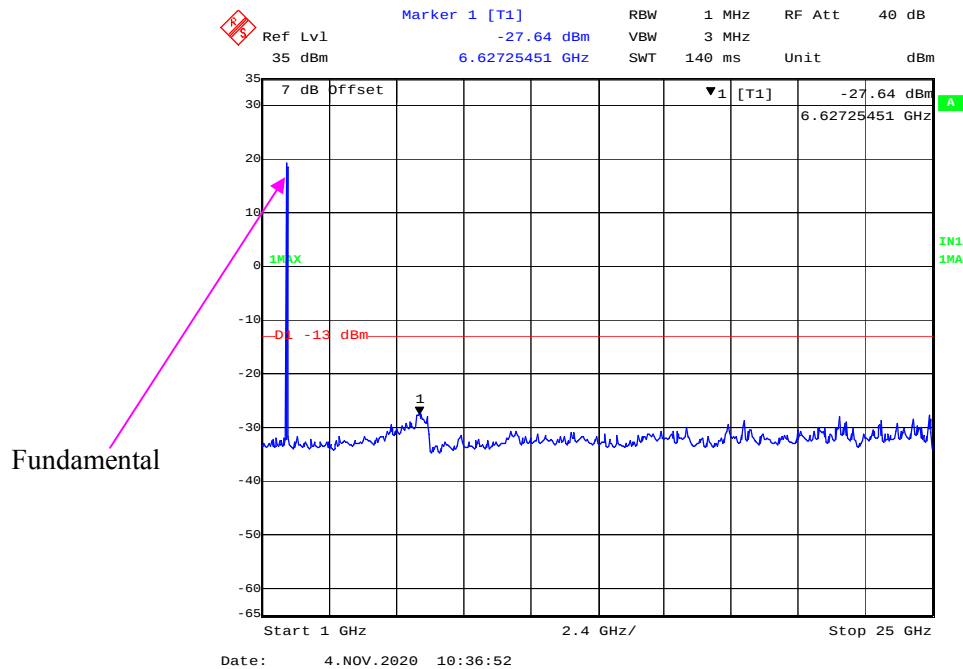


30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)**1 GHz - 25 GHz (5 MHz, 16-QAM, High Channel)**

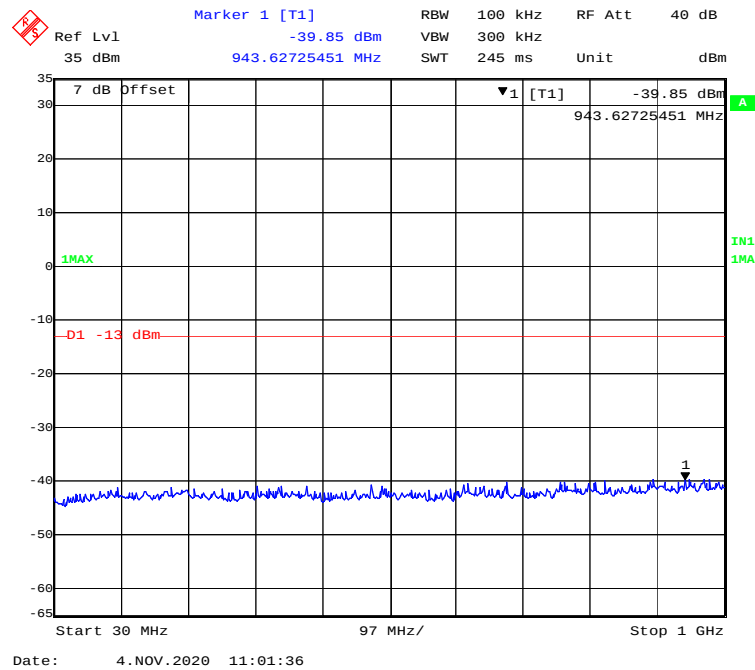
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



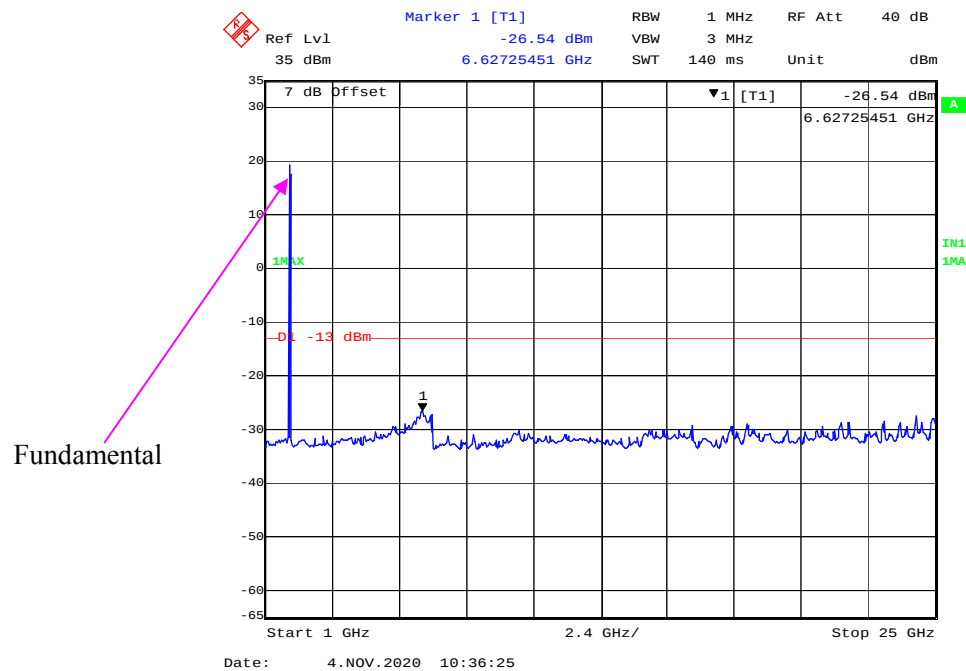
1 GHz – 25 GHz (10 MHz, QPSK, High Channel)



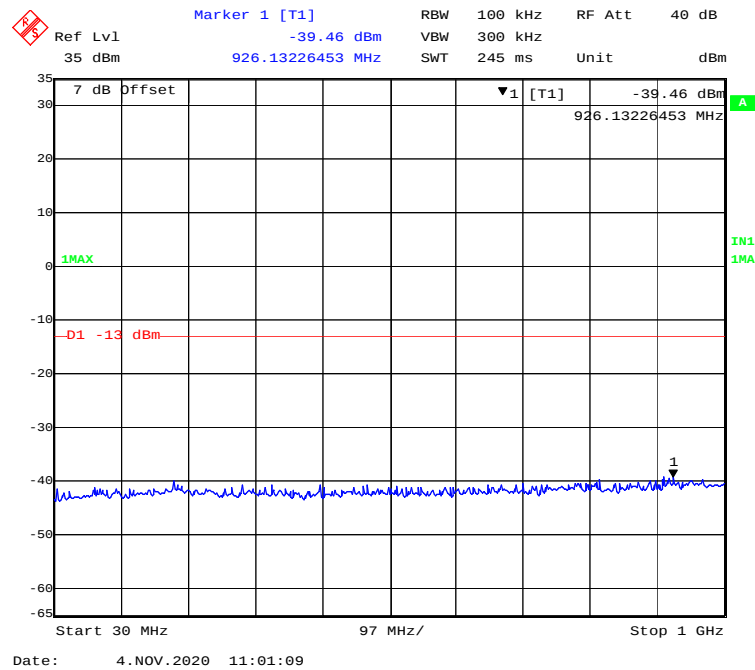
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



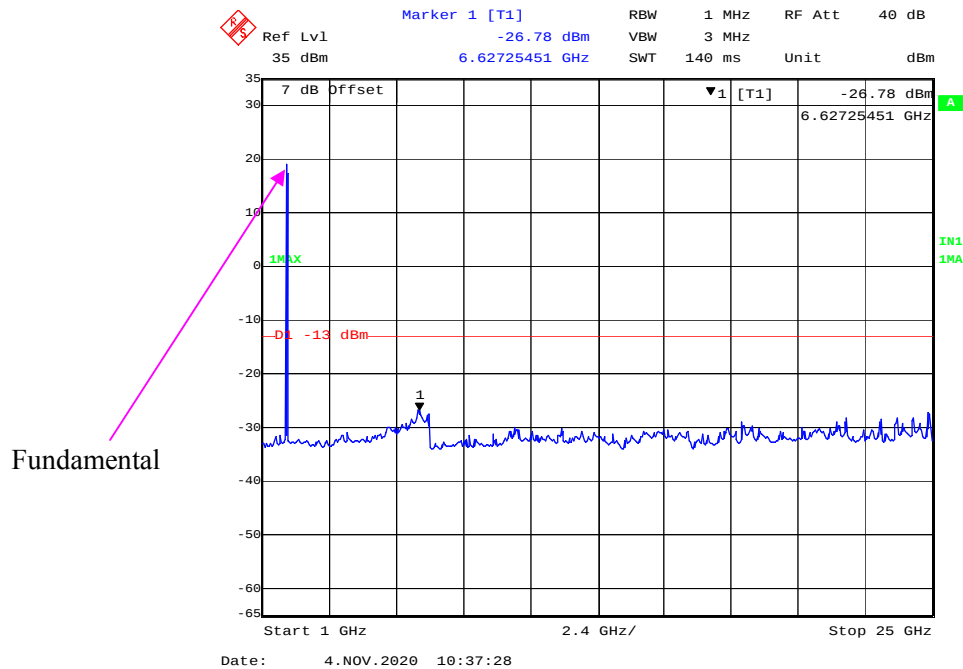
1 GHz – 25 GHz (10 MHz, 16-QAM, High Channel)



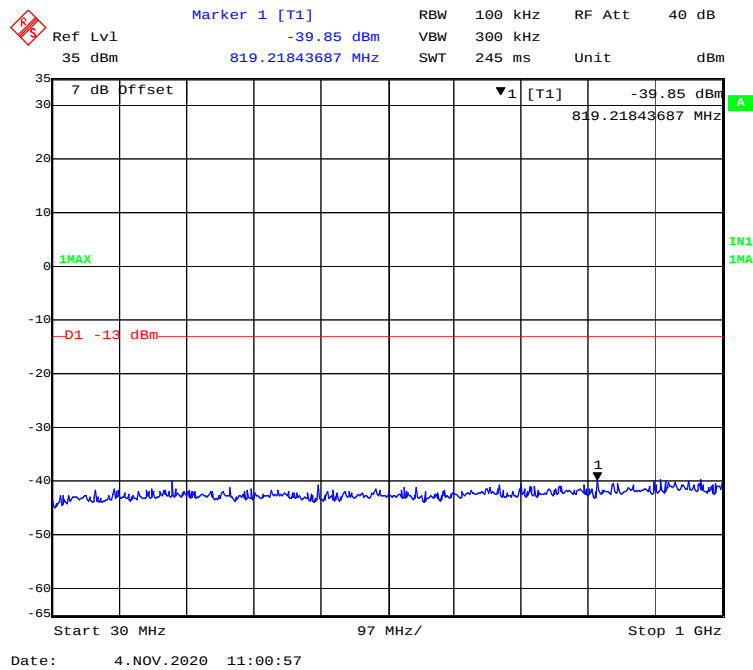
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



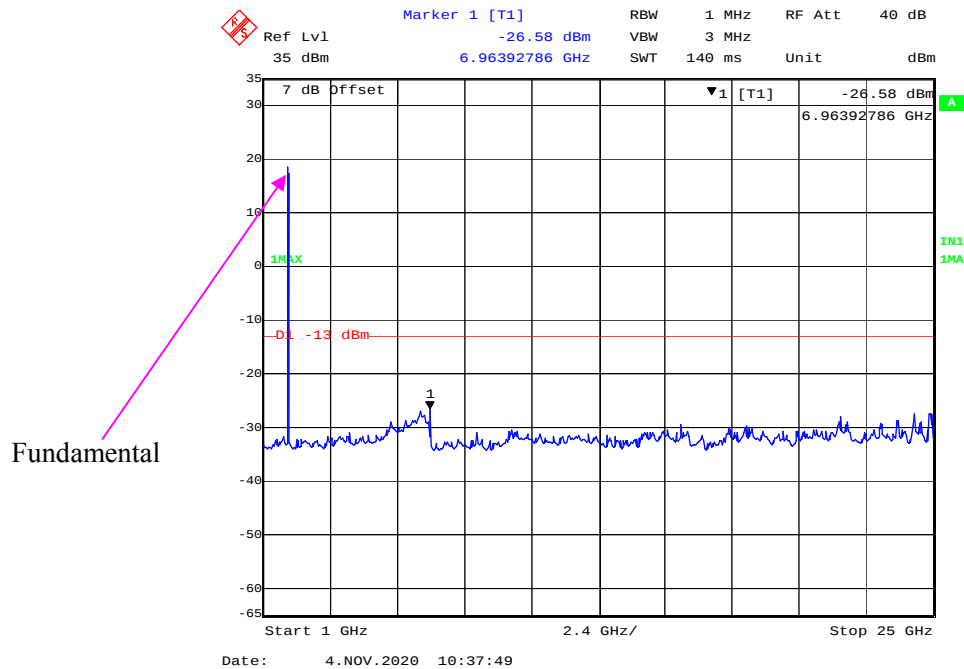
1 GHz – 25 GHz (15 MHz, QPSK, High Channel)



30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



1 GHz – 25 GHz (15 MHz, 16-QAM, High Channel)



Marker 1 [T1]
 -39.59 dBm
 918.35671343 MHz

Ref Lvl 35 dBm
 RBW 100 kHz
 RF Att 40 dB
 VBW 300 kHz
 SWT 245 ms
 Unit dBm

7 dB Offset
 1MAX
 -13 dBm
 1
 Start 30 MHz
 97 MHz/
 Stop 1 GHz

Date: 4.NOV.2020 11:00:20

Ref Lvl 35 dBm

Marker 1 [T1] -26.26 dBm

RBW 1 MHz RF Att 40 dB

VBW 3 MHz

SWT 140 ms Unit dBm

7 dB Offset

▼1 [T1] -26.26 dBm

6.72344689 GHz

1MAX

01 -13 dBm

1

Fundamental

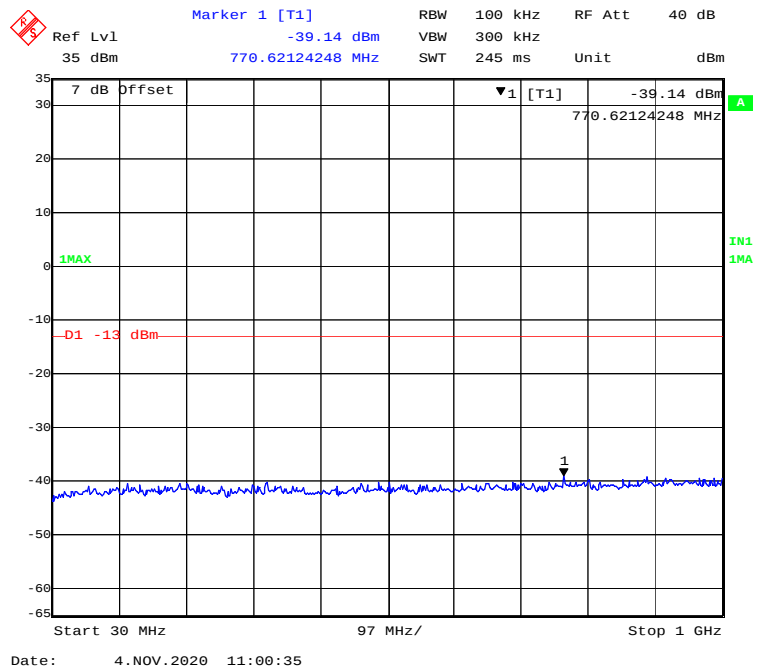
Start 1 GHz

2.4 GHz/

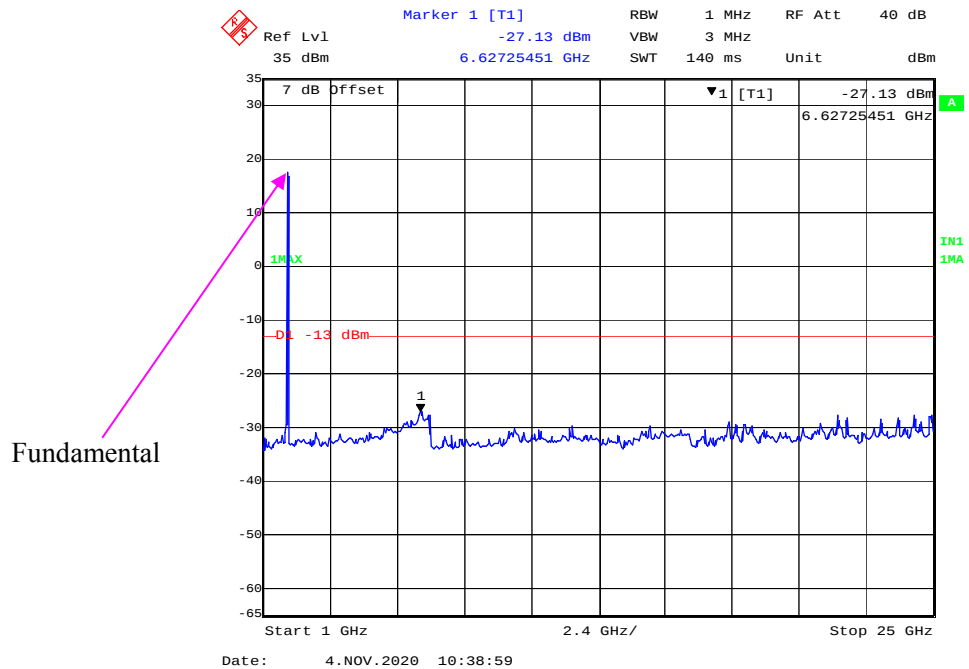
Stop 25 GHz

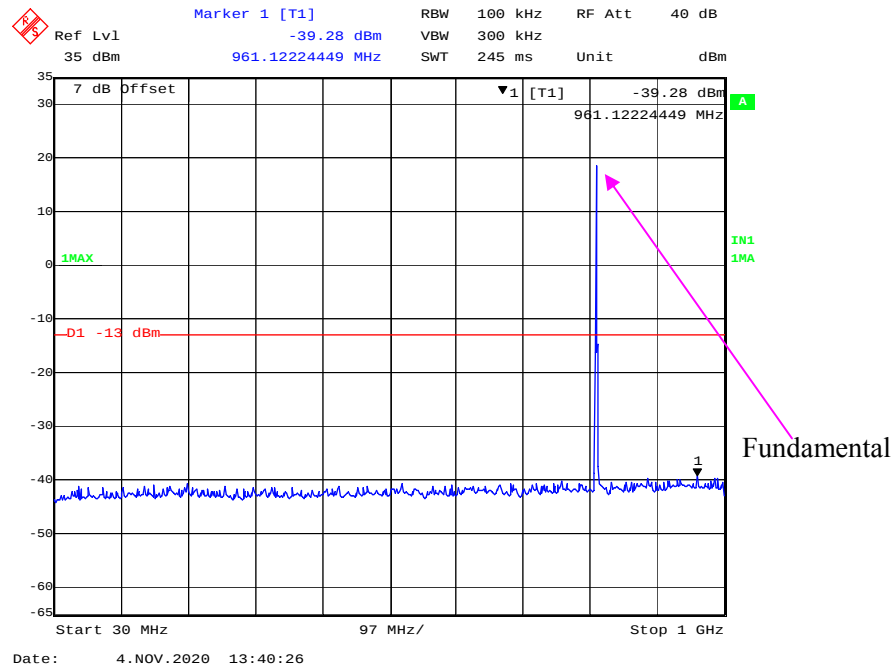
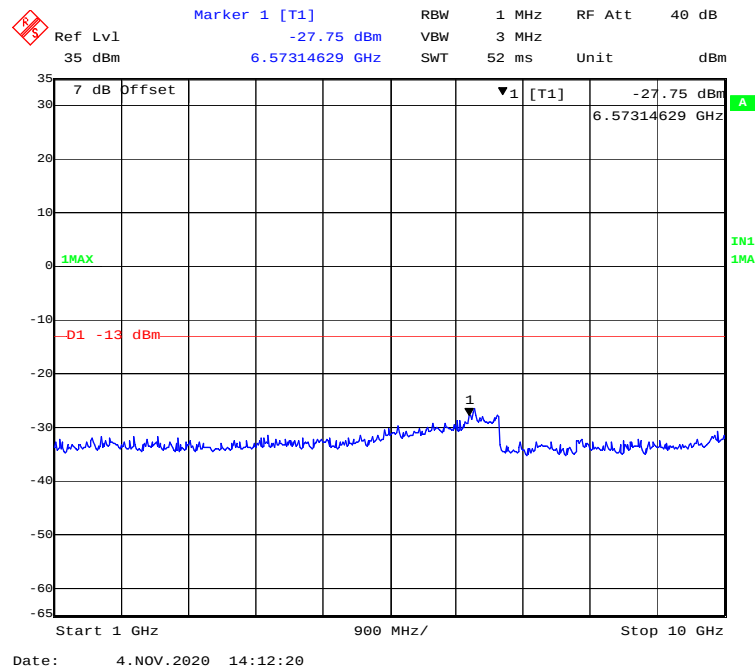
Date: 4.NOV.2020 10:39:21

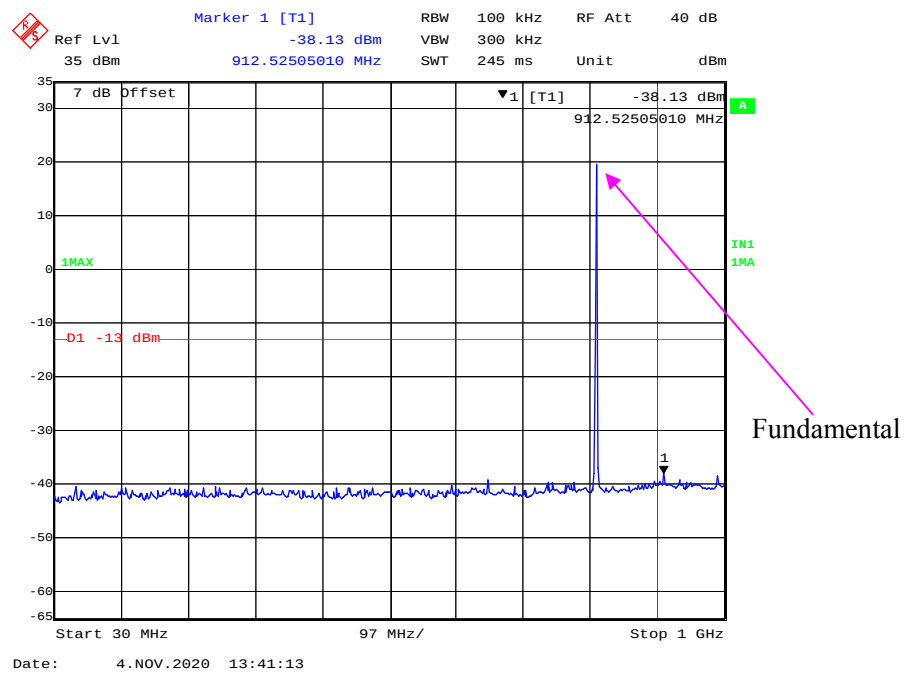
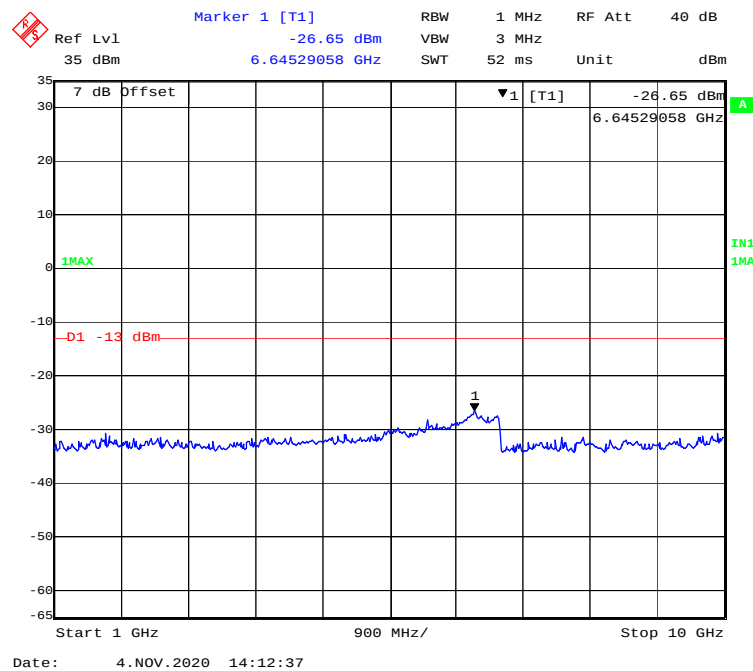
30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

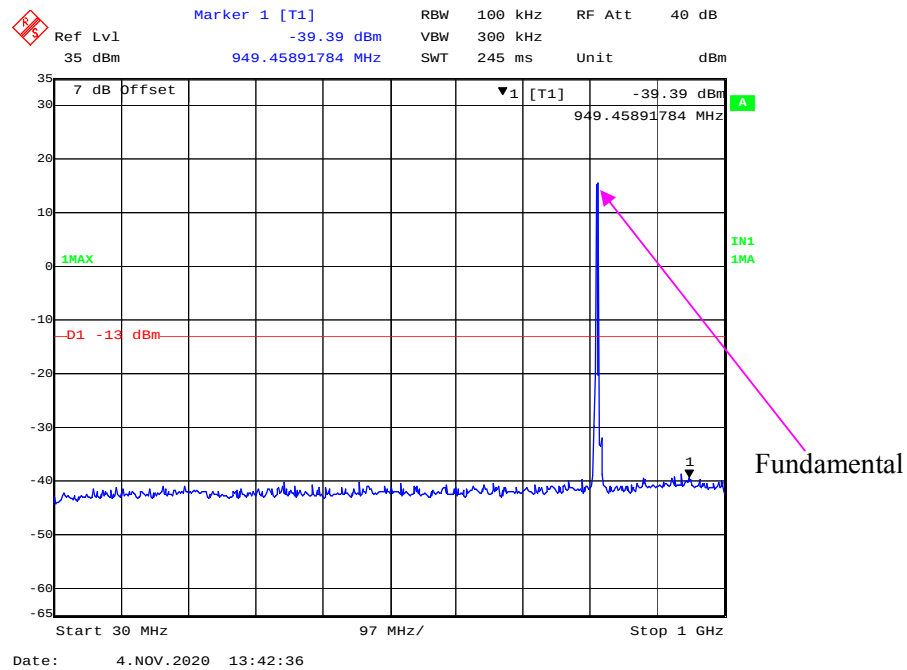
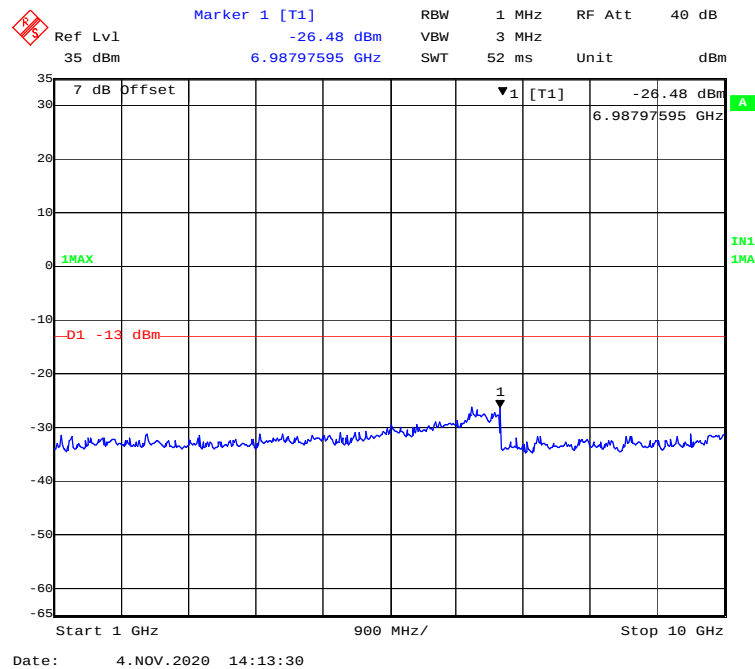


1 GHz – 25 GHz (20 MHz, 16-QAM, High Channel)

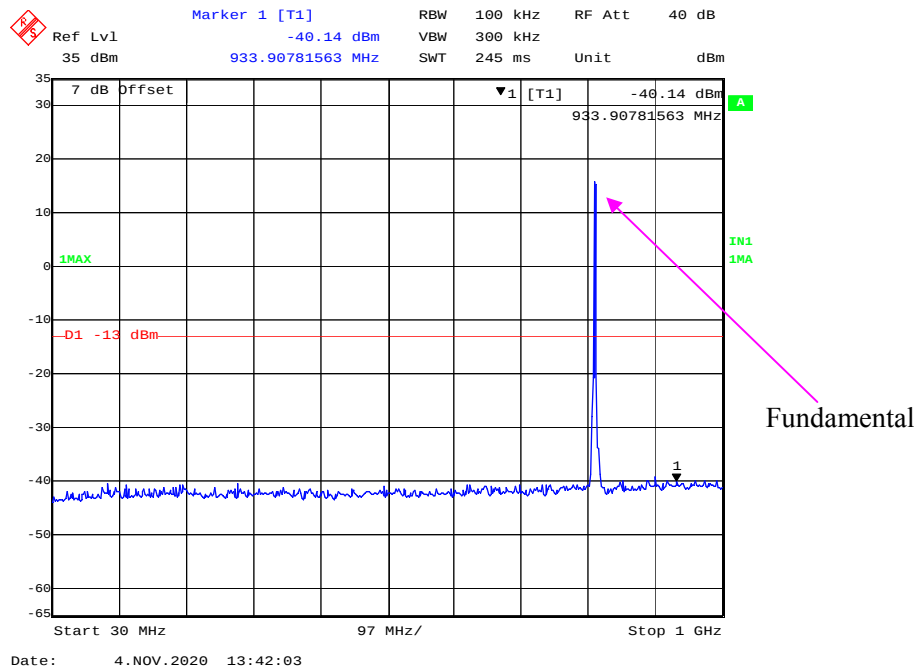


LTE Band 26:**30 MHz - 1 GHz (QPSK, 1.4 MHz, Low Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, Low Channel)**

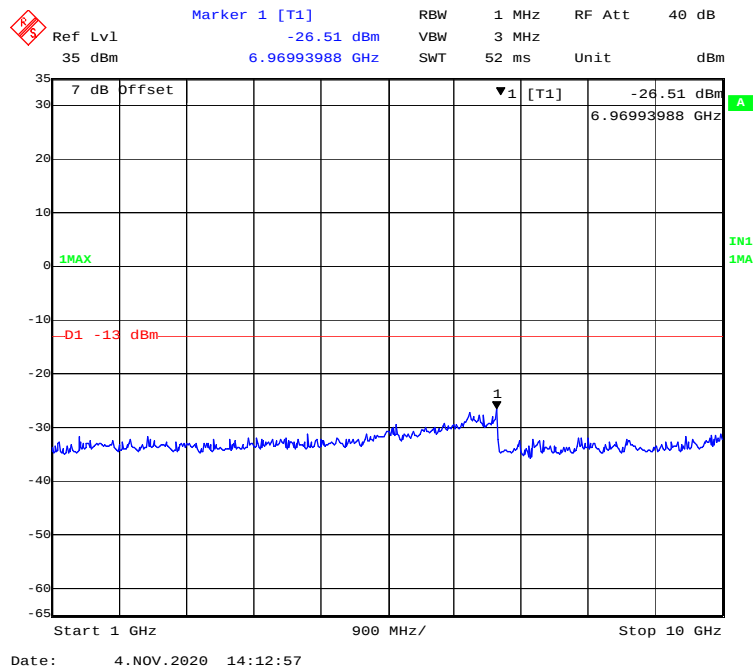
30 MHz - 1 GHz (16QAM, 1.4 MHz, Low Channel)**1 GHz – 10 GHz (16QAM, 1.4 MHz, Low Channel)**

30 MHz - 1 GHz (QPSK, 3.0 MHz, Low Channel)**1 GHz – 10 GHz (QPSK, 3.0 MHz, Low Channel)**

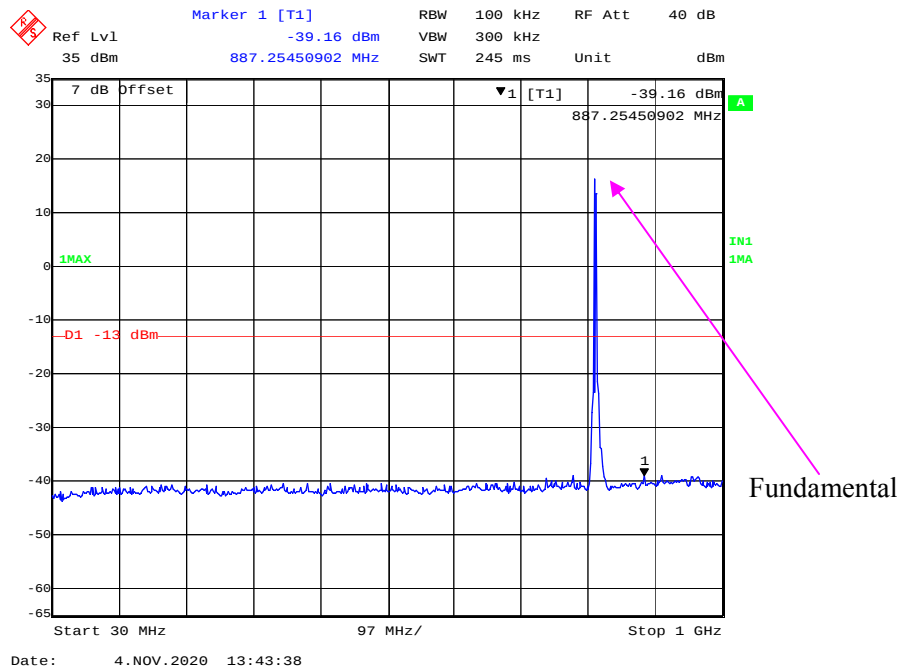
30 MHz - 1 GHz (16QAM, 3.0 MHz, Low Channel)



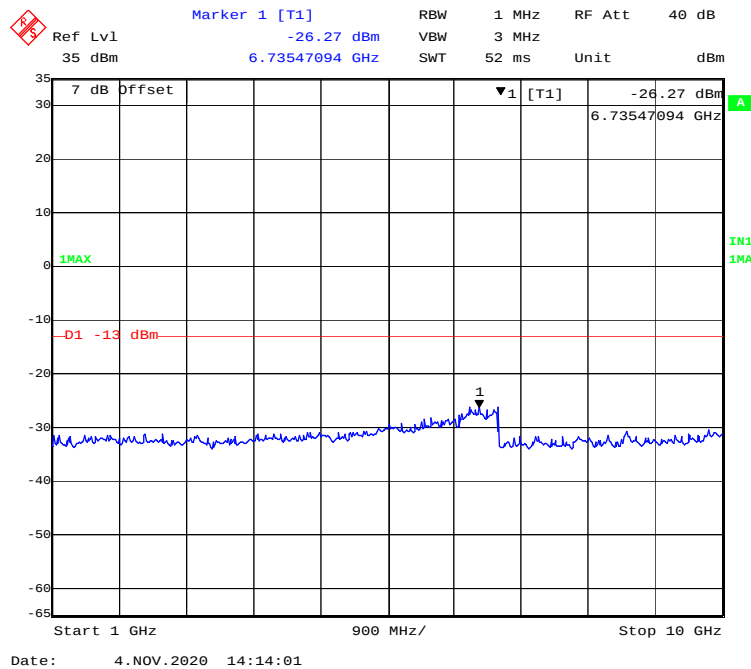
1 GHz – 10 GHz (16QAM, 3.0 MHz, Low Channel)



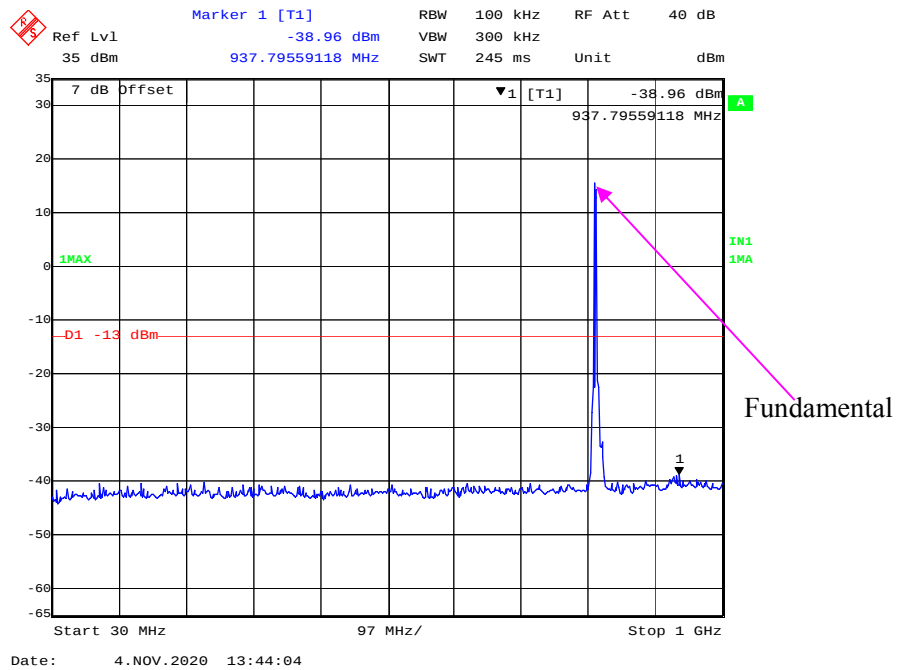
30 MHz - 1 GHz (QPSK, 5.0 MHz, Low Channel)



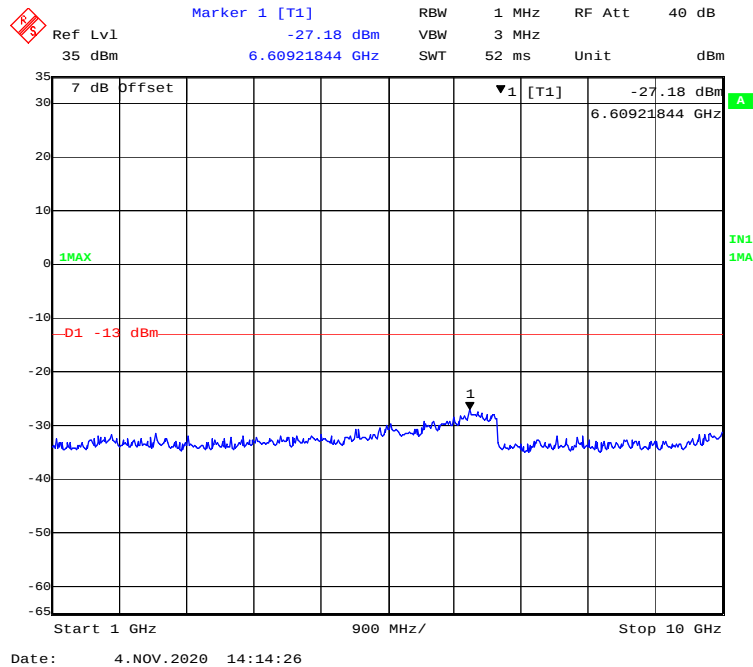
1 GHz – 10 GHz (QPSK, 5.0MHz, Low Channel)



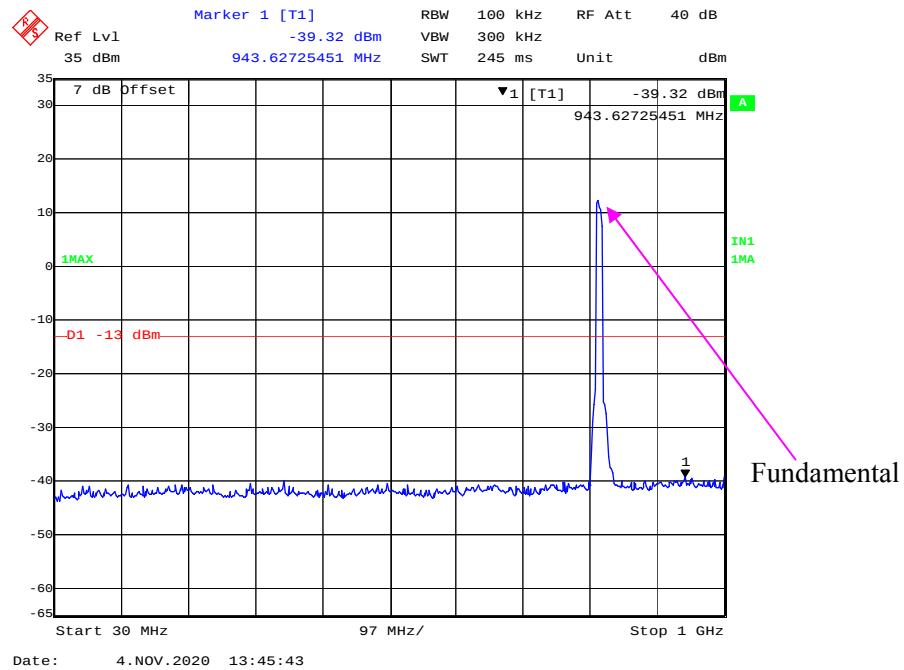
30 MHz - 1 GHz (16QAM, 5.0 MHz, Low Channel)



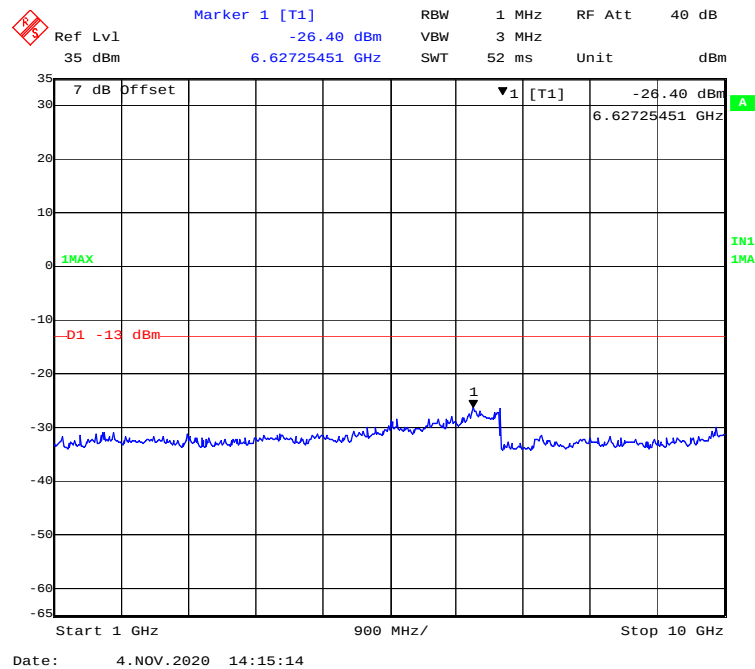
1 GHz – 10 GHz (16QAM, 5.0MHz, Low Channel)



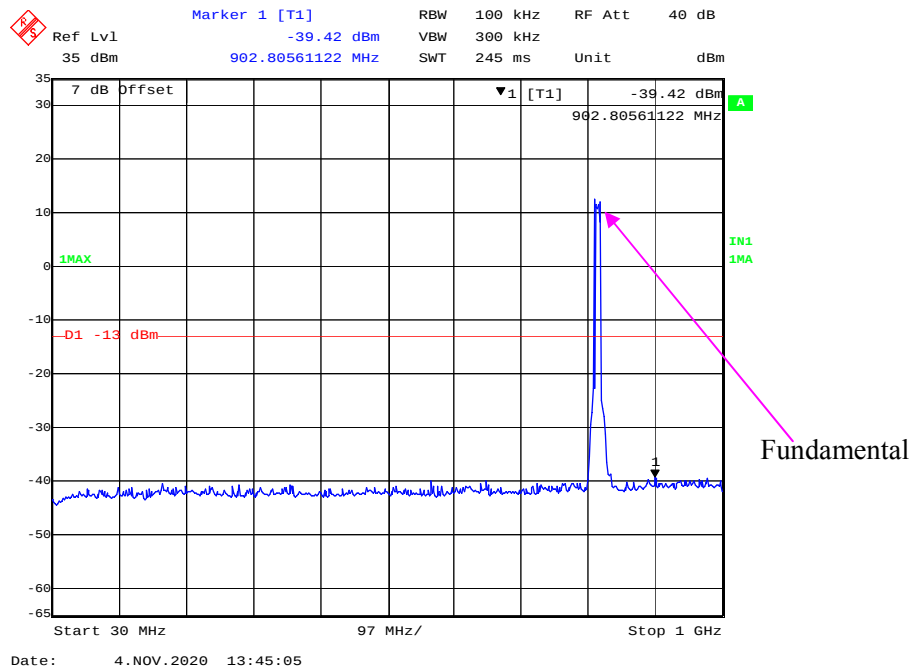
30 MHz - 1 GHz (QPSK, 10.0 MHz, Low Channel)



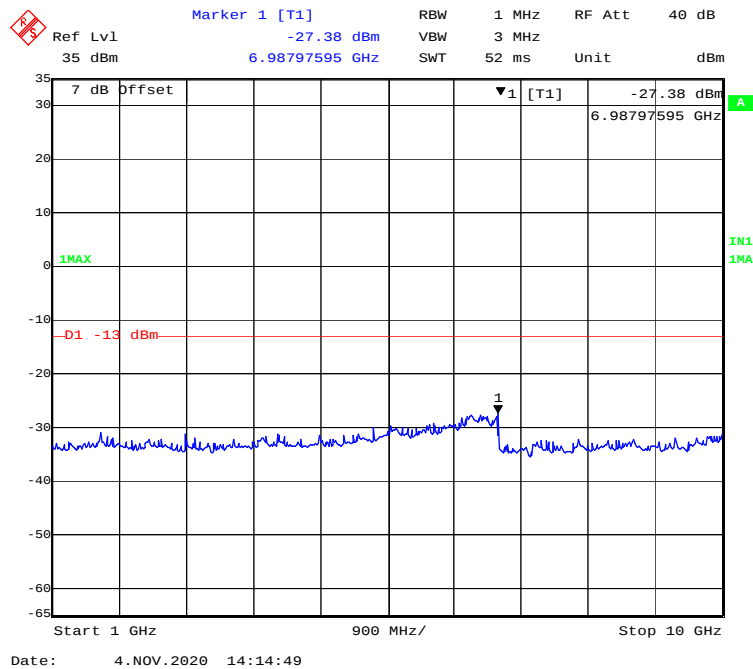
1 GHz – 10 GHz (QPSK, 10.0 MHz, Low Channel)



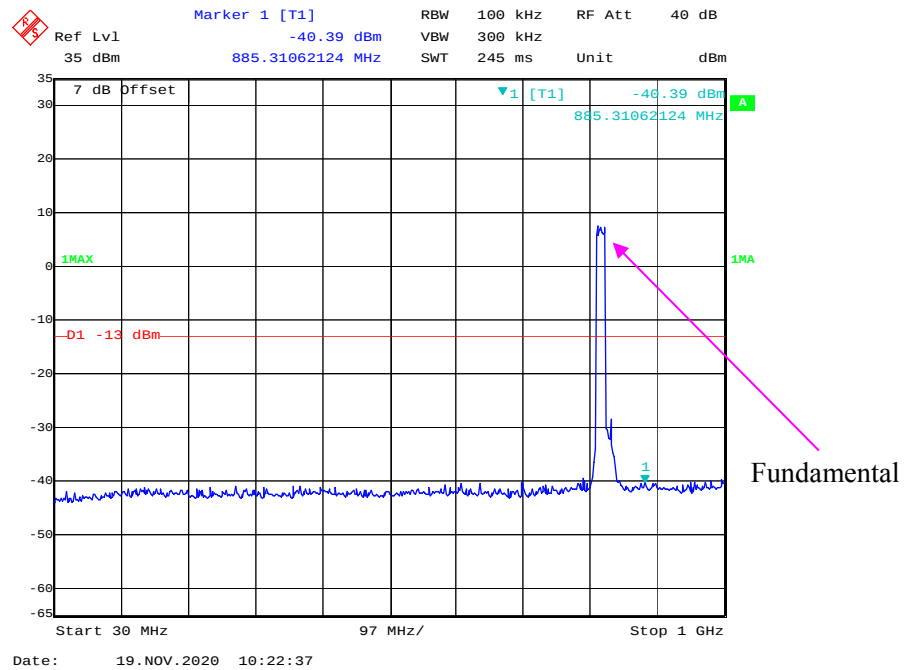
30 MHz - 1 GHz (16QAM, 10.0 MHz, Low Channel)



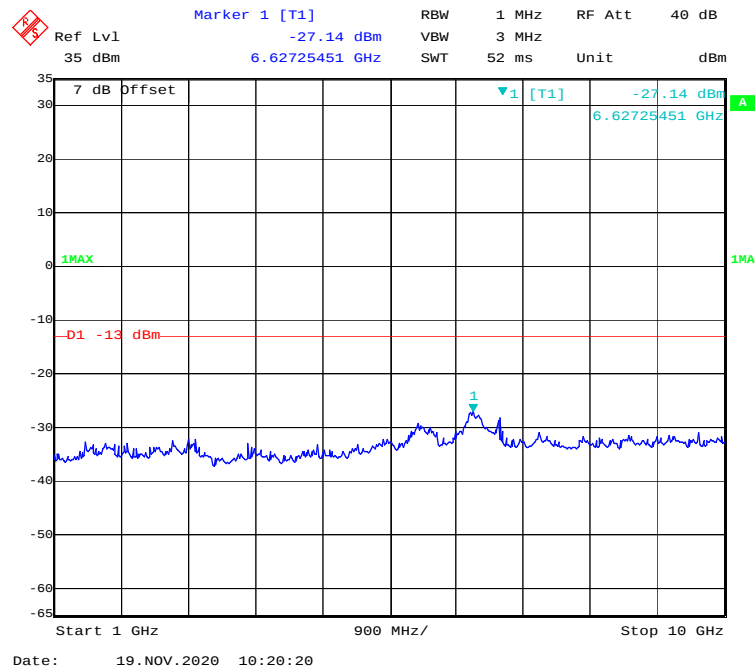
1 GHz – 10 GHz (16QAM, 10.0 MHz, Low Channel)



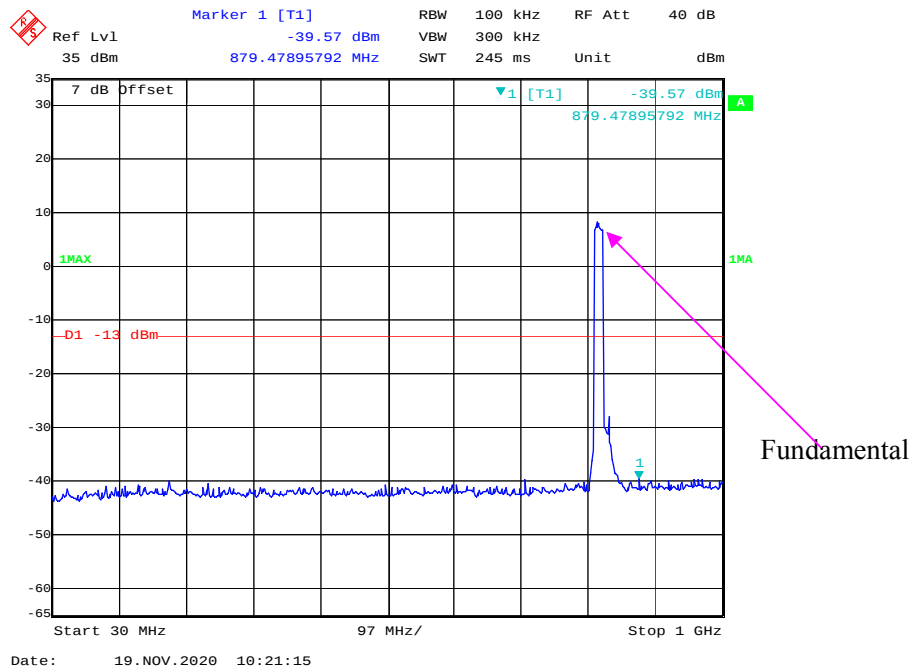
30 MHz - 1 GHz (QPSK, 15.0 MHz, Low Channel)



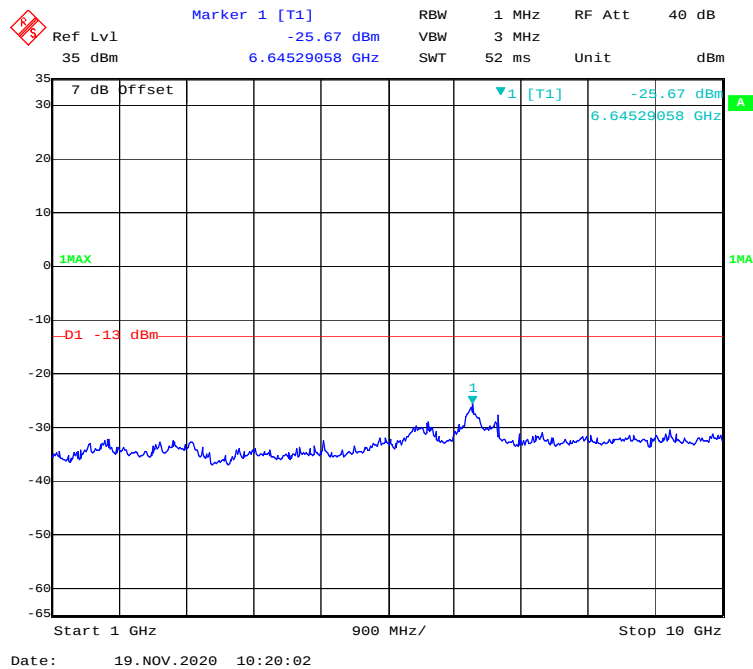
1 GHz – 10 GHz (QPSK, 15.0 MHz, Low Channel)

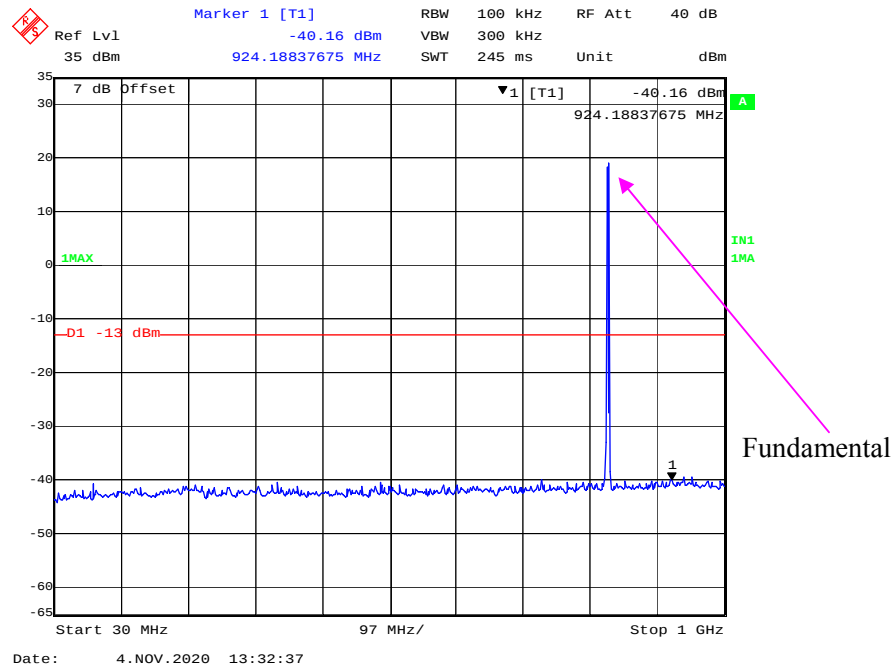
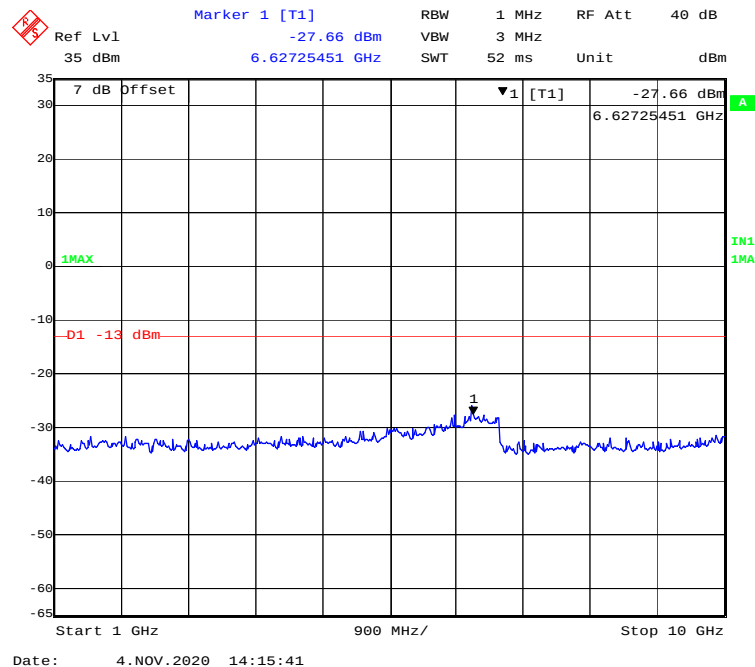


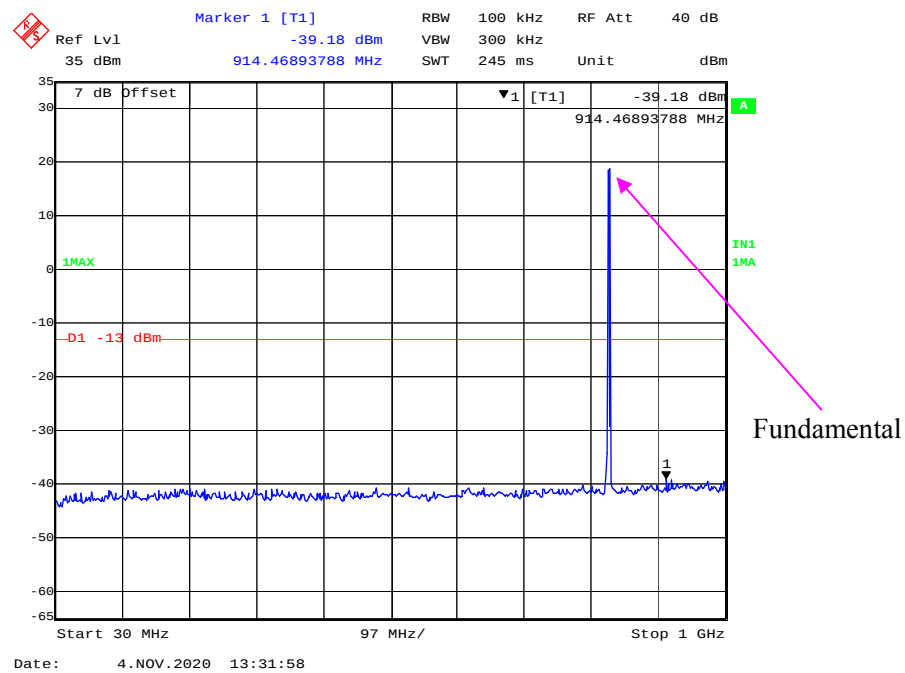
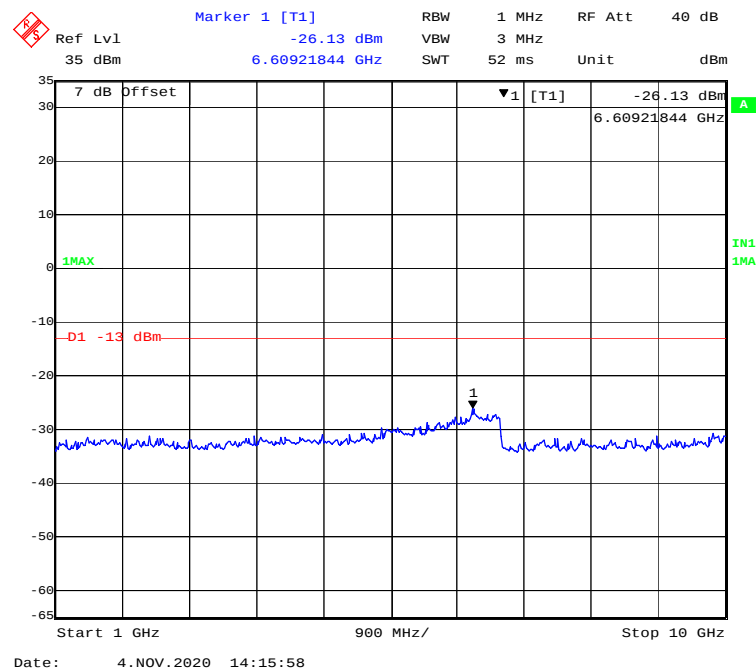
30 MHz - 1 GHz (16QAM, 15.0 MHz, Low Channel)

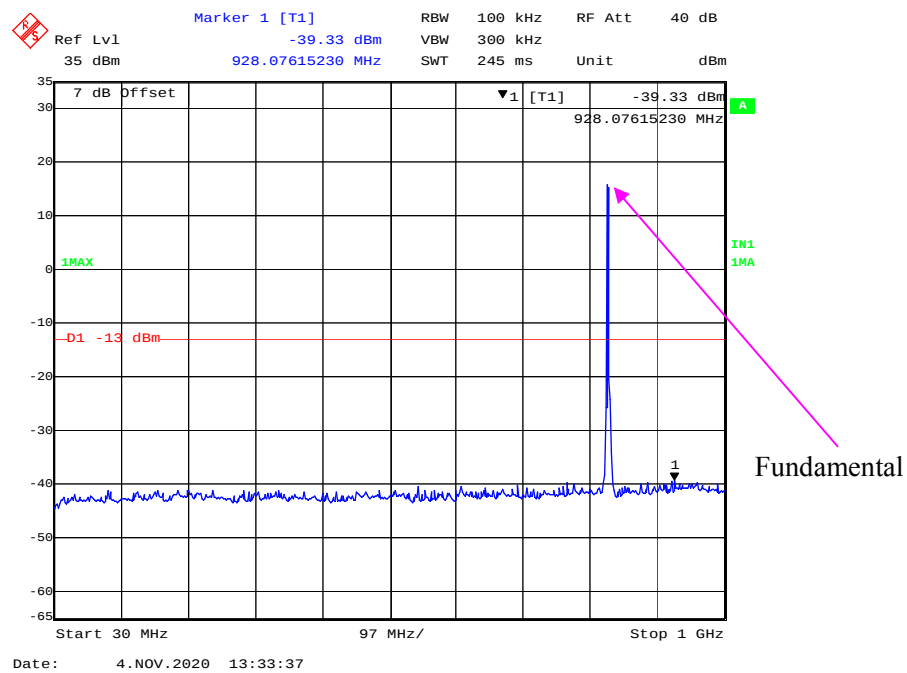
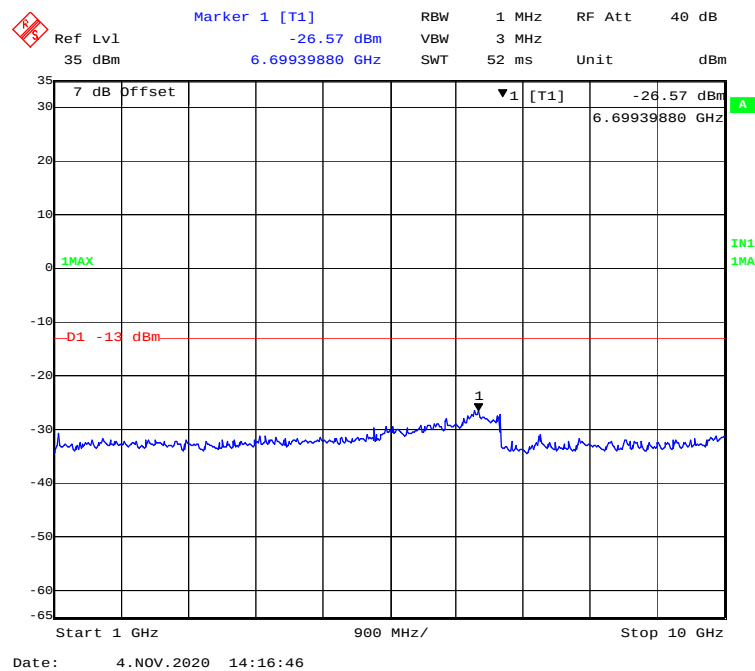


1 GHz – 10 GHz (16QAM, 15.0 MHz, Low Channel)

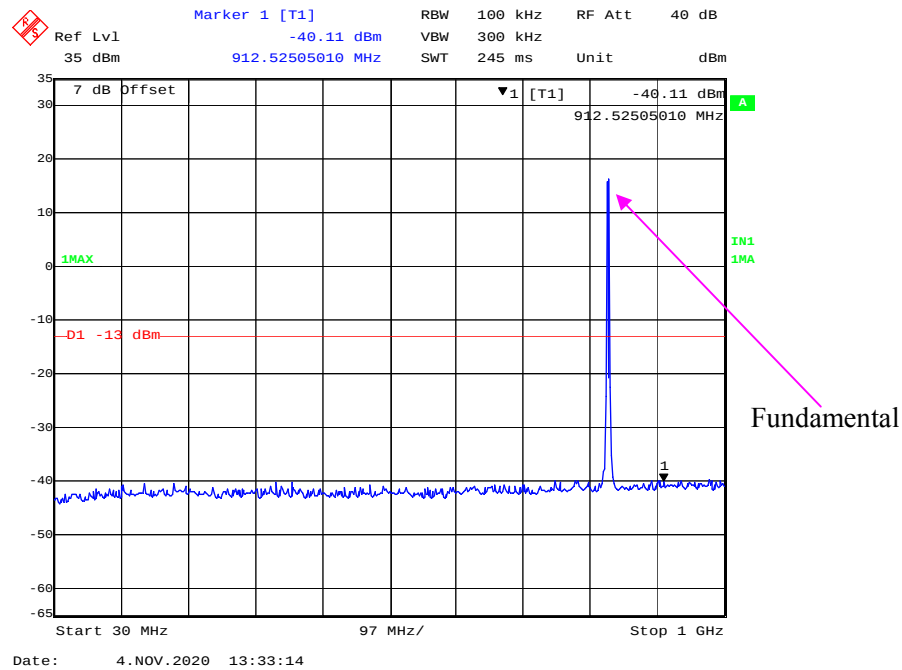


30 MHz - 1 GHz (QPSK, 1.4 MHz, Middle Channel)**1 GHz – 10 GHz (QPSK, 1.4 MHz, Middle Channel)**

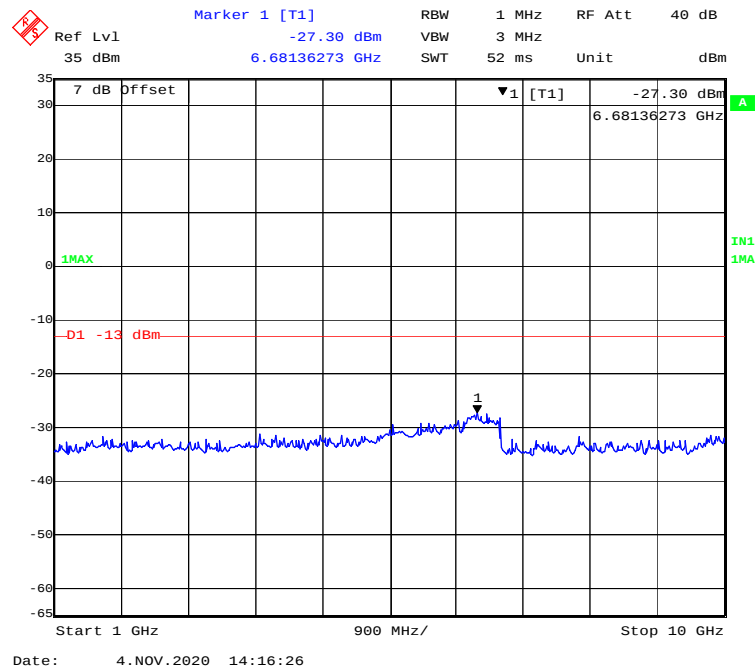
30 MHz - 1 GHz (16QAM, 1.4 MHz, Middle Channel)**1 GHz – 10 GHz (16QAM, 1.4 MHz, Middle Channel)**

30 MHz - 1 GHz (QPSK, 3.0 MHz, Middle Channel)**1 GHz – 10 GHz (QPSK, 3.0 MHz, Middle Channel)**

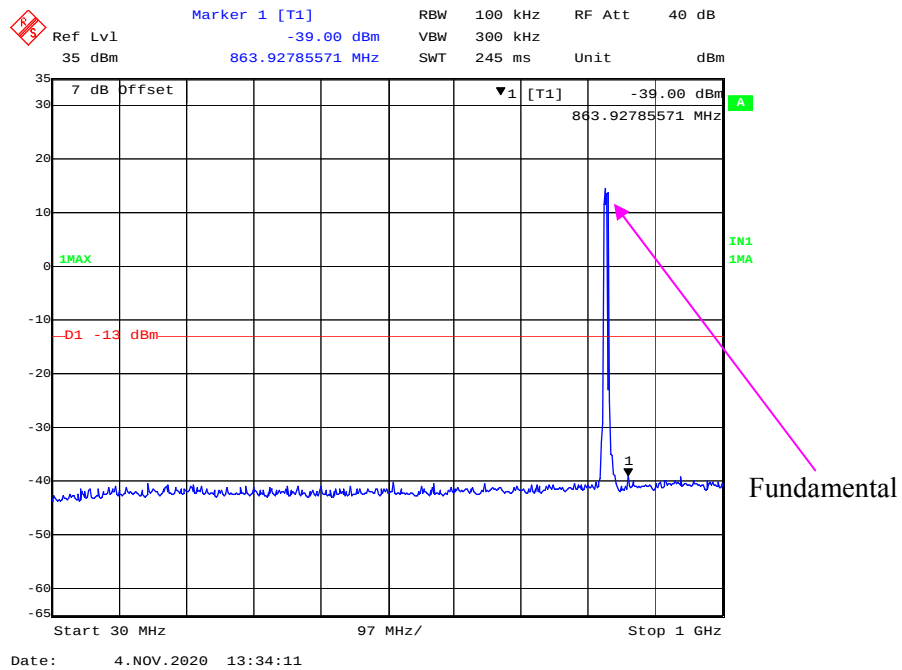
30 MHz - 1 GHz (16QAM, 3.0 MHz, Middle Channel)



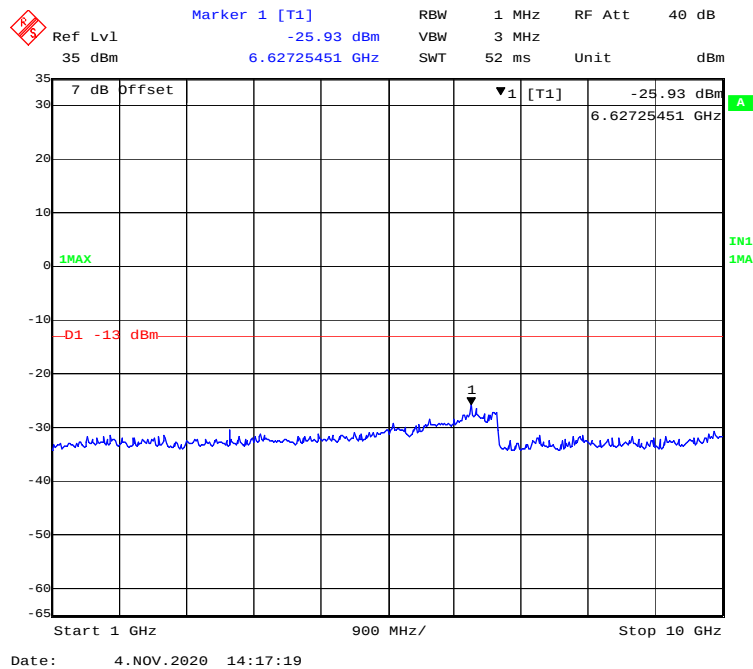
1 GHz – 10 GHz (16QAM, 3.0 MHz, Middle Channel)



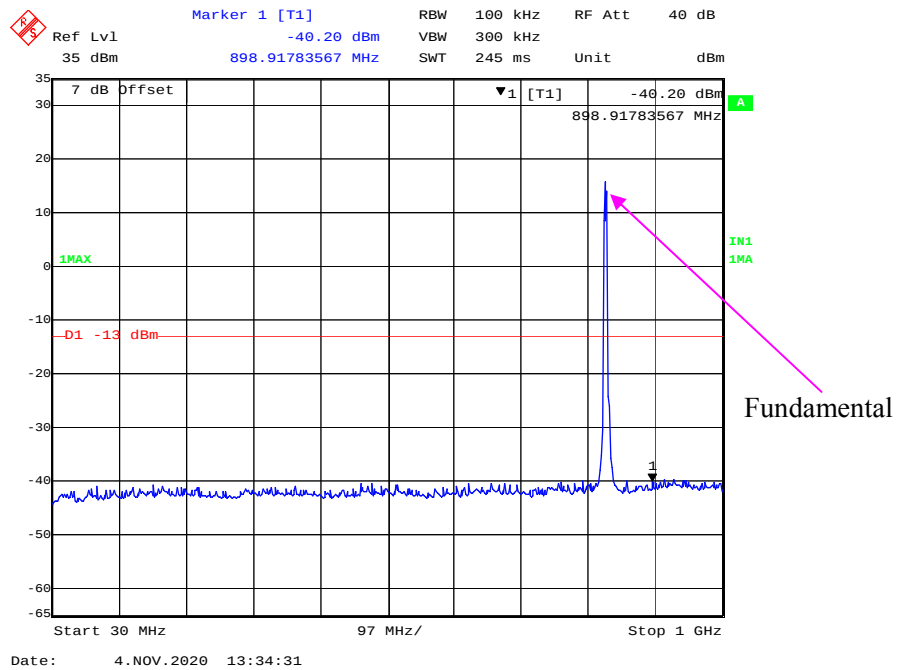
30 MHz - 1 GHz (QPSK, 5.0 MHz, Middle Channel)



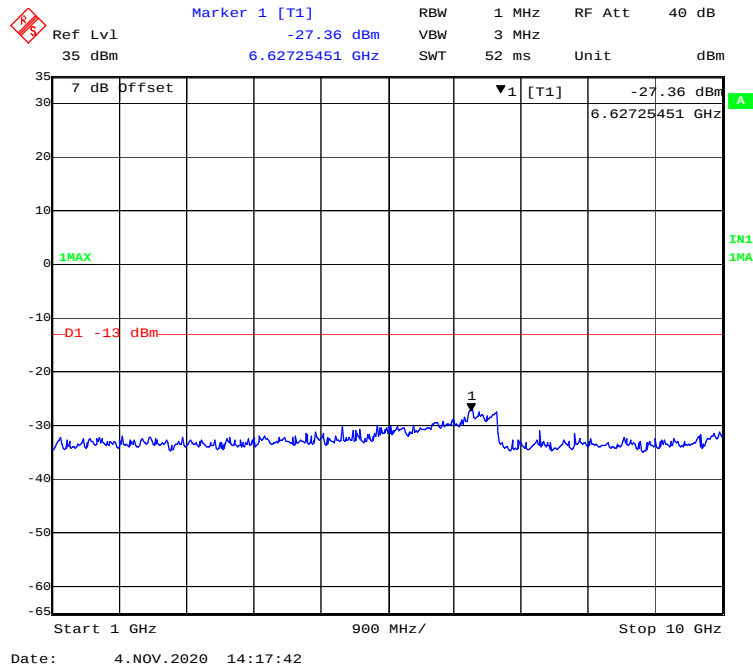
1 GHz – 10 GHz (QPSK, 5.0MHz, Middle Channel)



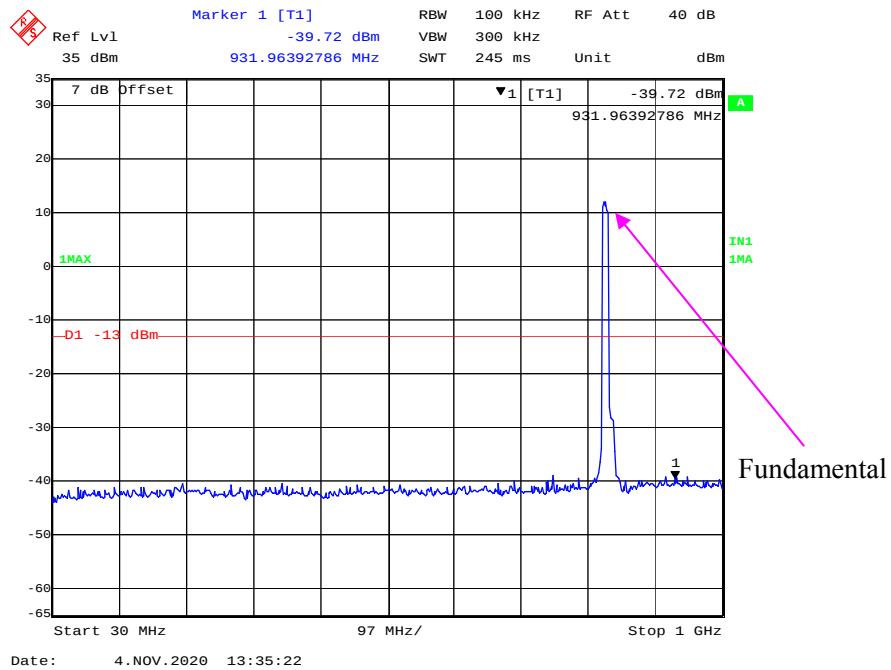
30 MHz - 1 GHz (16QAM, 5.0 MHz, Middle Channel)



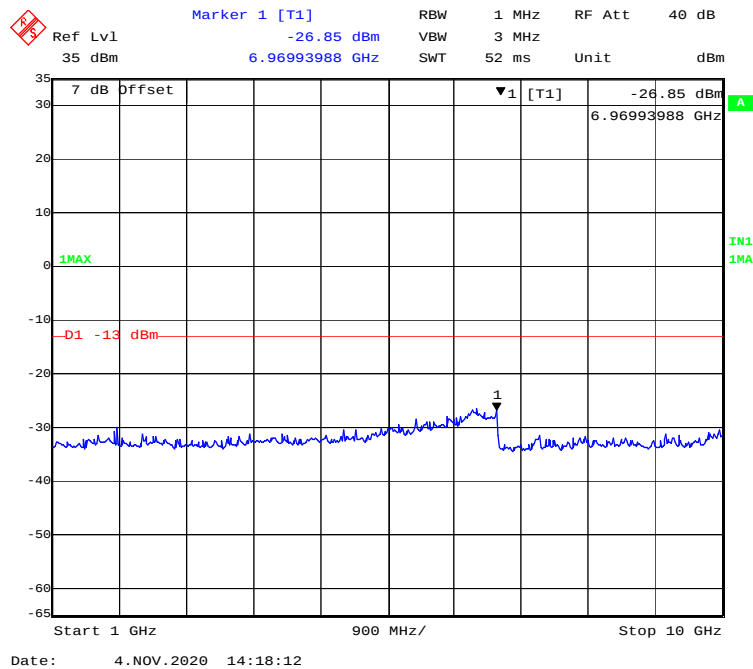
1 GHz – 10 GHz (16QAM, 5.0MHz, Middle Channel)



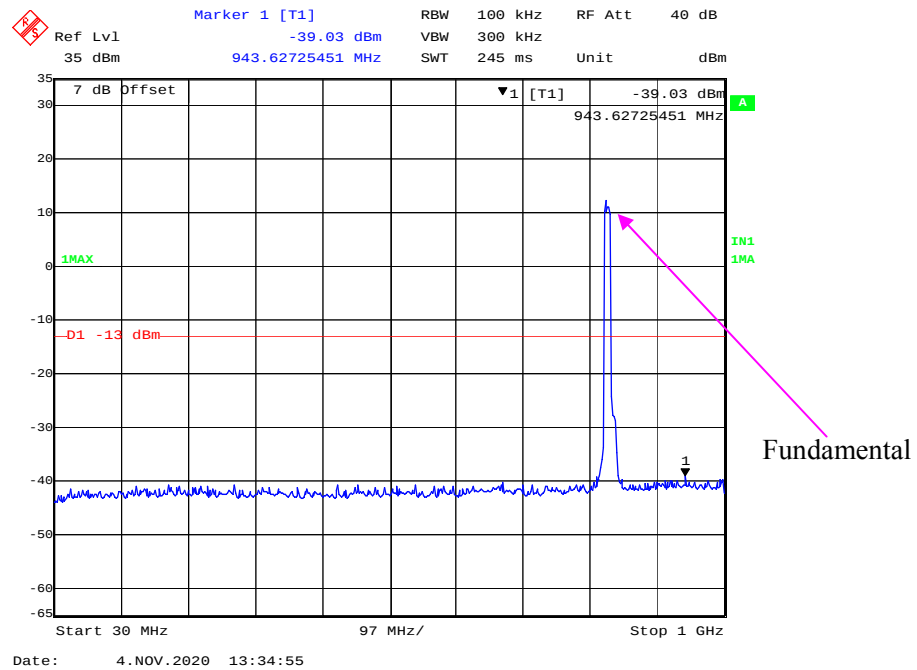
30 MHz - 1 GHz (QPSK, 10.0 MHz, Middle Channel)



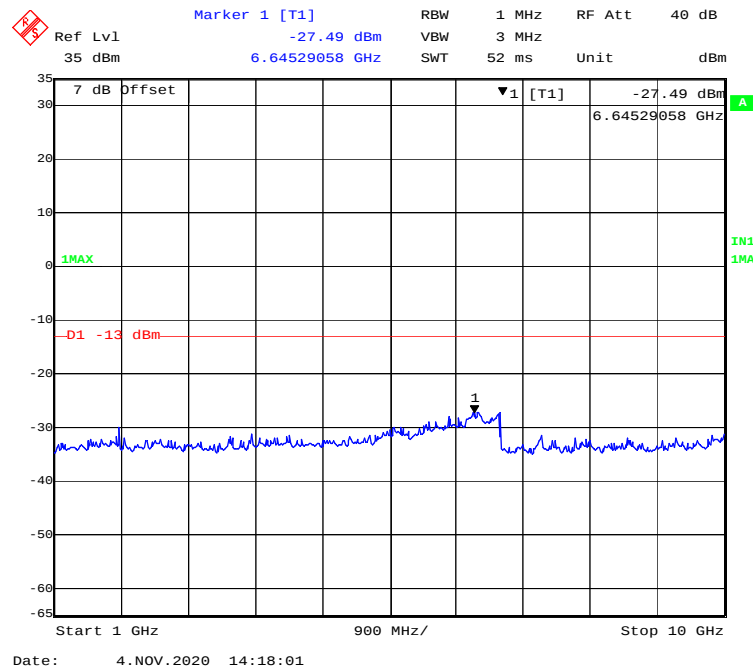
1 GHz – 10 GHz (QPSK, 10.0 MHz, Middle Channel)



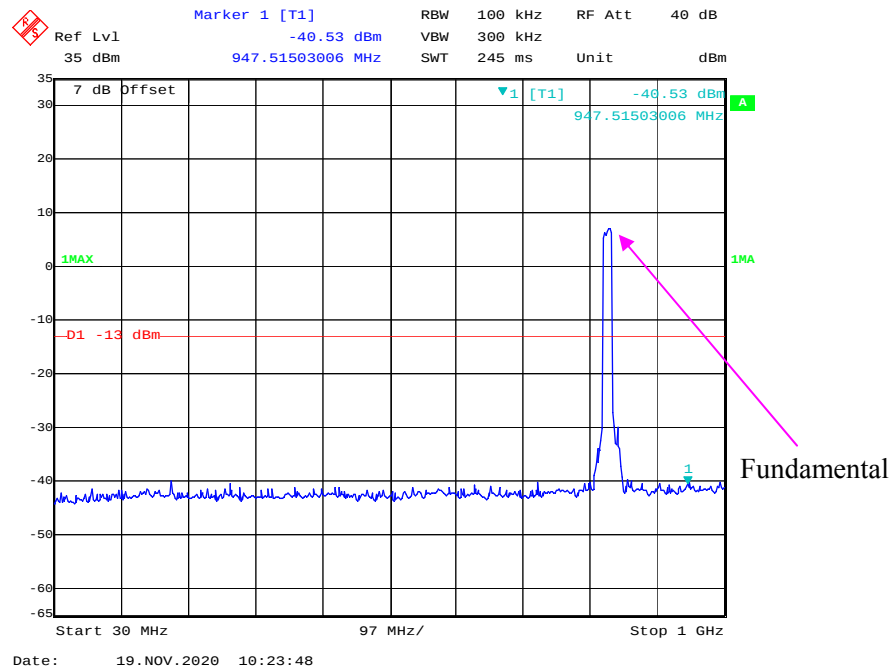
30 MHz - 1 GHz (16QAM, 10.0 MHz, Middle Channel)



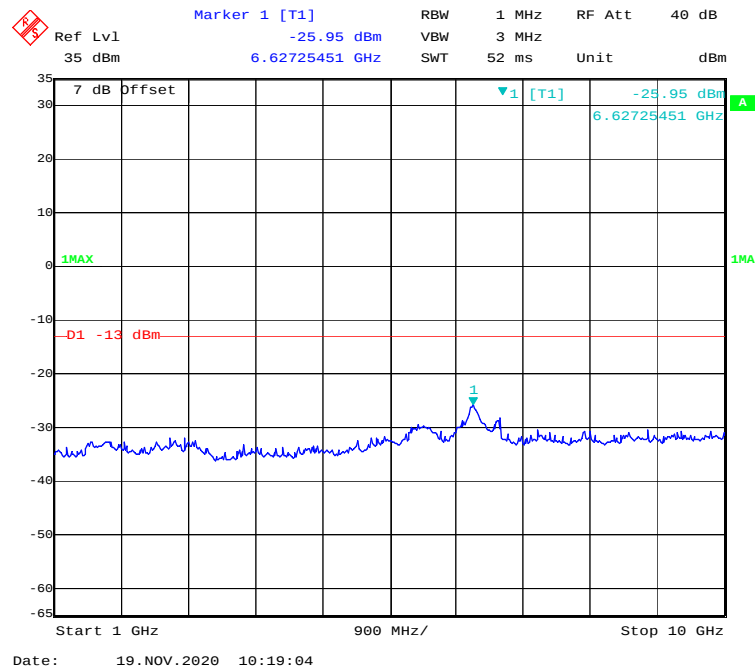
1 GHz – 10 GHz (16QAM, 10.0 MHz, Middle Channel)



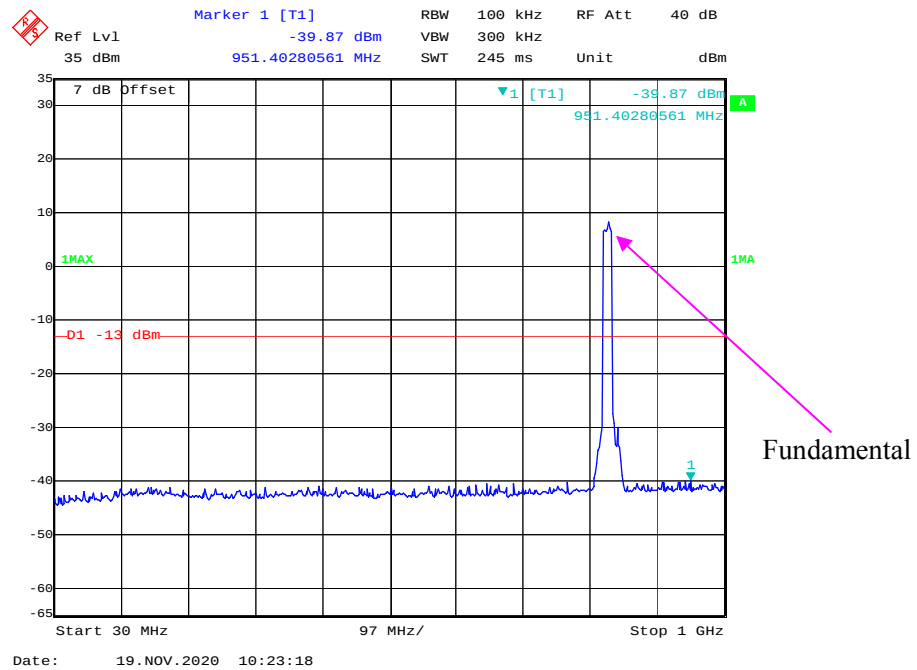
30 MHz - 1 GHz (QPSK, 15.0 MHz, Middle Channel)



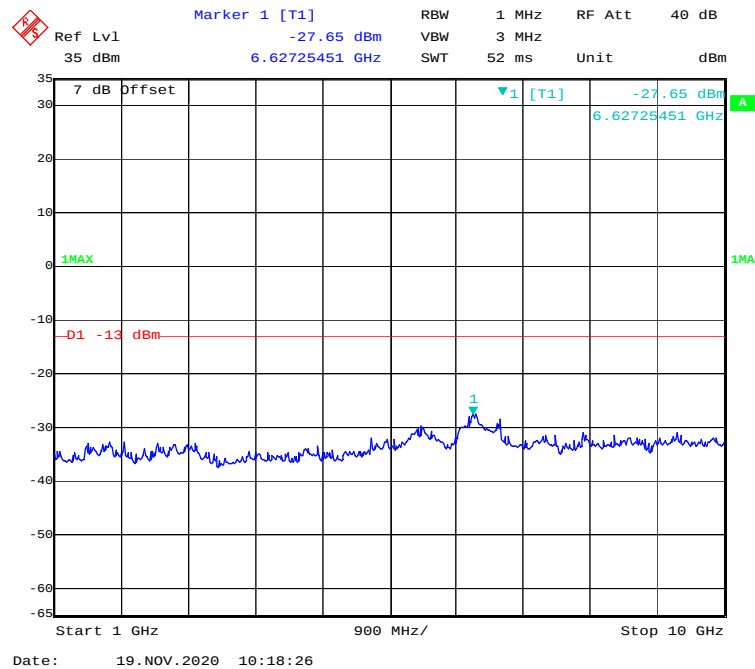
1 GHz – 10 GHz (QPSK, 15.0 MHz, Middle Channel)

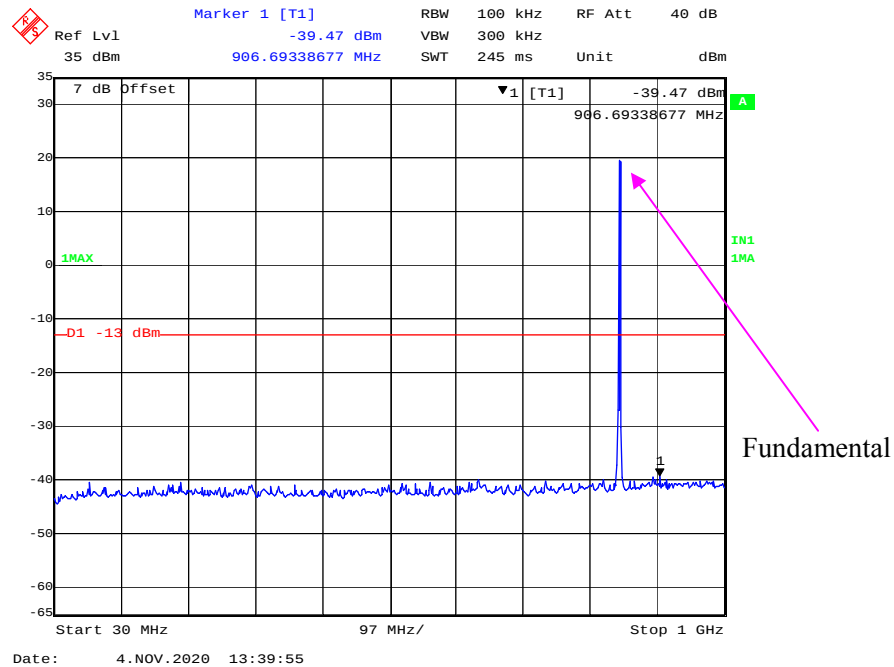
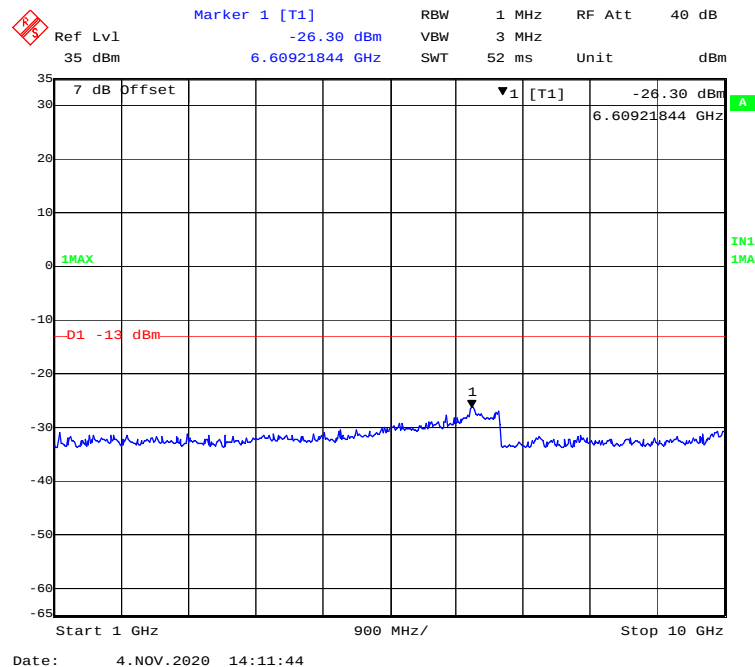


30 MHz - 1 GHz (16QAM, 15.0 MHz, Middle Channel)

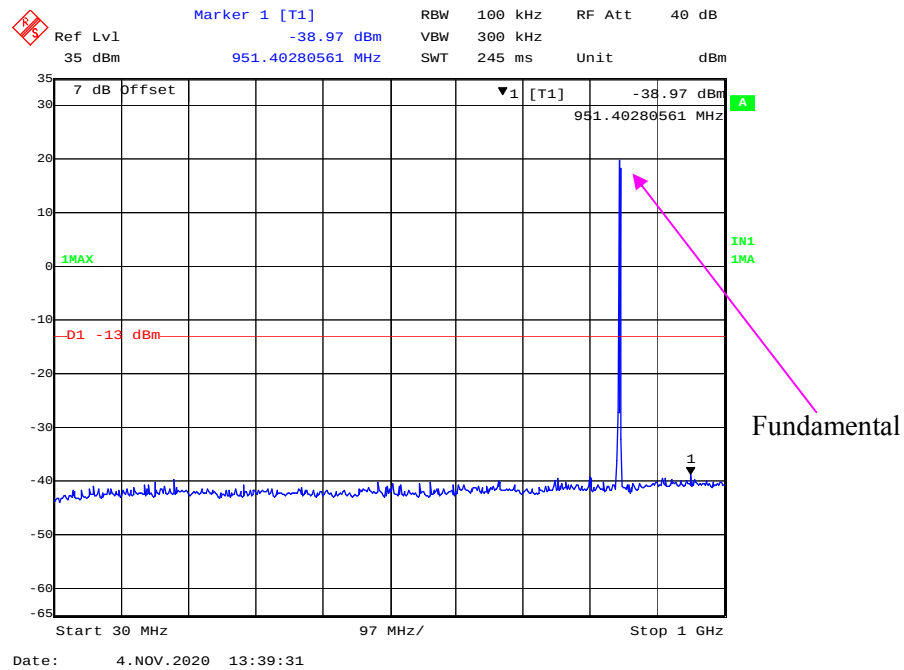


1 GHz – 10 GHz (16QAM, 15.0 MHz, Middle Channel)

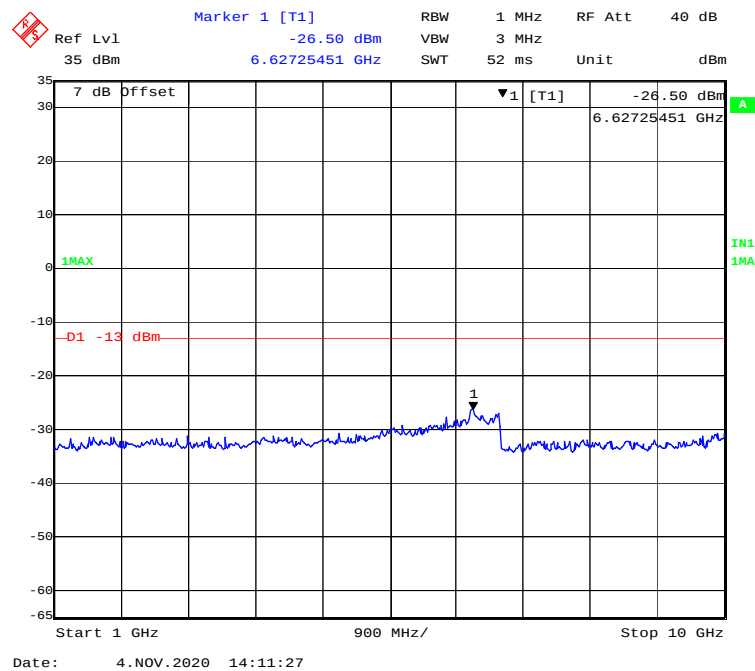


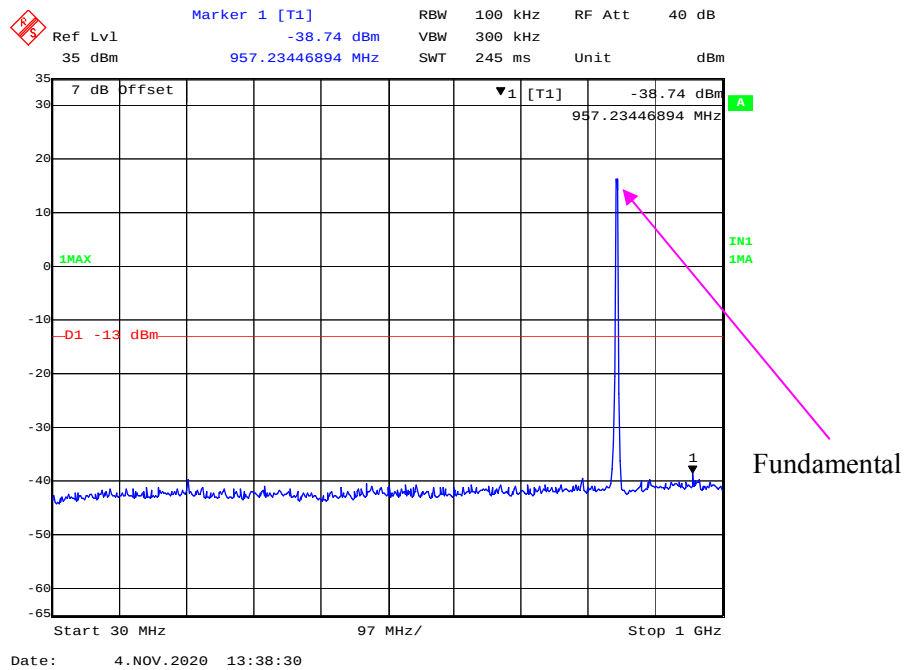
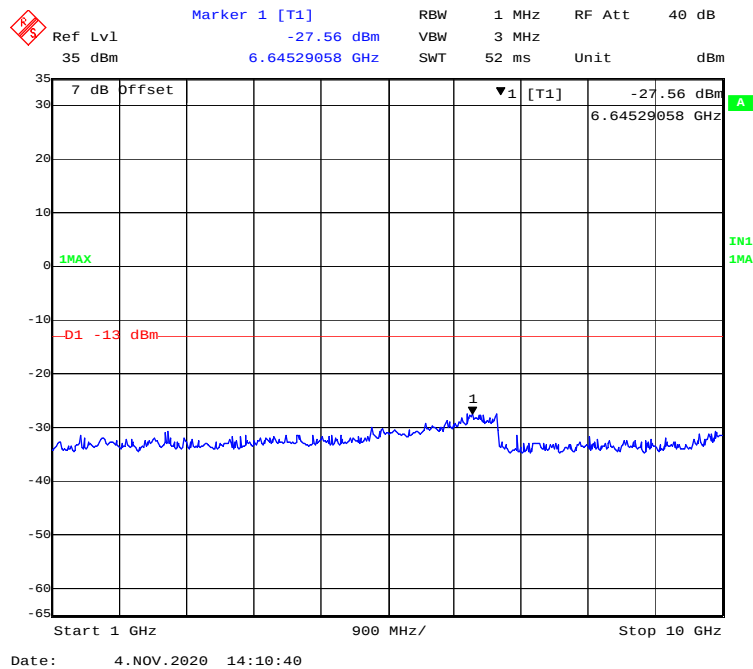
30 MHz - 1 GHz (QPSK, 1.4 MHz, High Channel)**1 GHz – 10 GHz (QPSK, 1.4 MHz, High Channel)**

30 MHz - 1 GHz (16QAM, 1.4 MHz, High Channel)

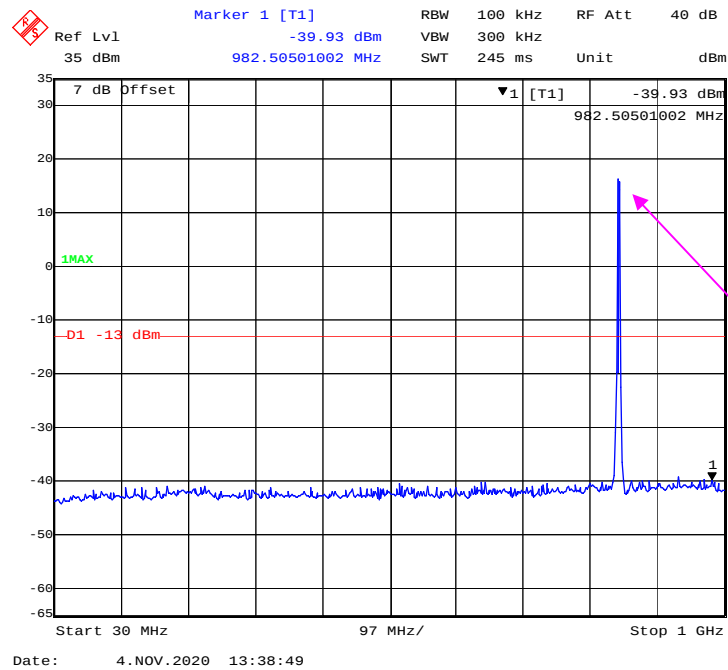


1 GHz – 10 GHz (16QAM, 1.4 MHz, High Channel)

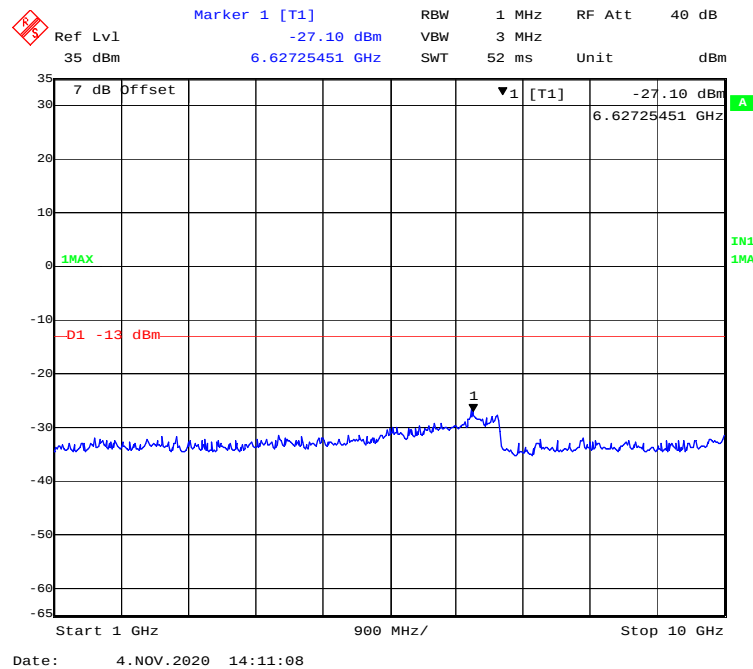


30 MHz - 1 GHz (QPSK, 3.0 MHz, High Channel)**1 GHz – 10 GHz (QPSK, 3.0 MHz, High Channel)**

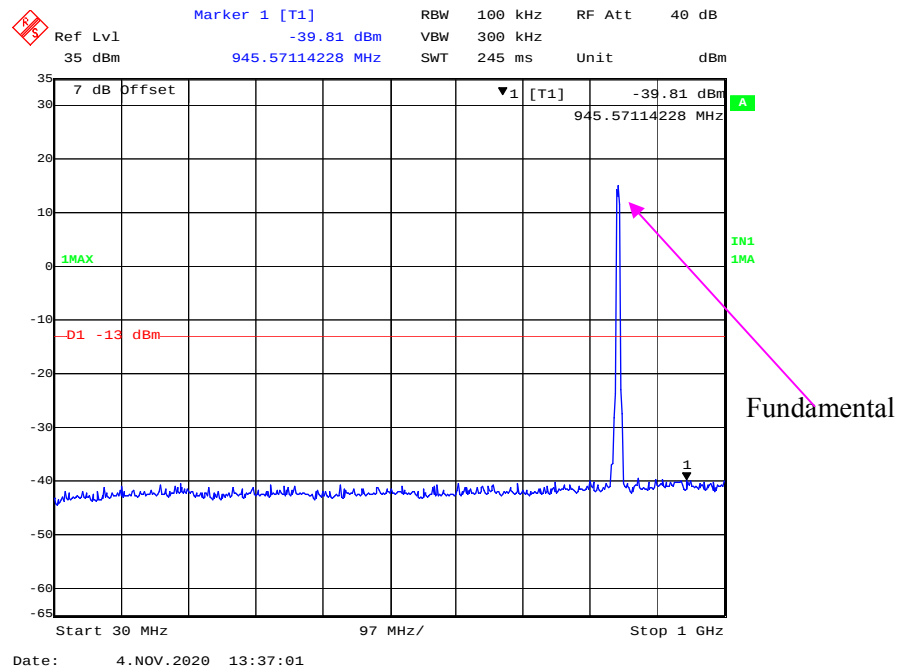
30 MHz - 1 GHz (16QAM, 3.0 MHz, High Channel)



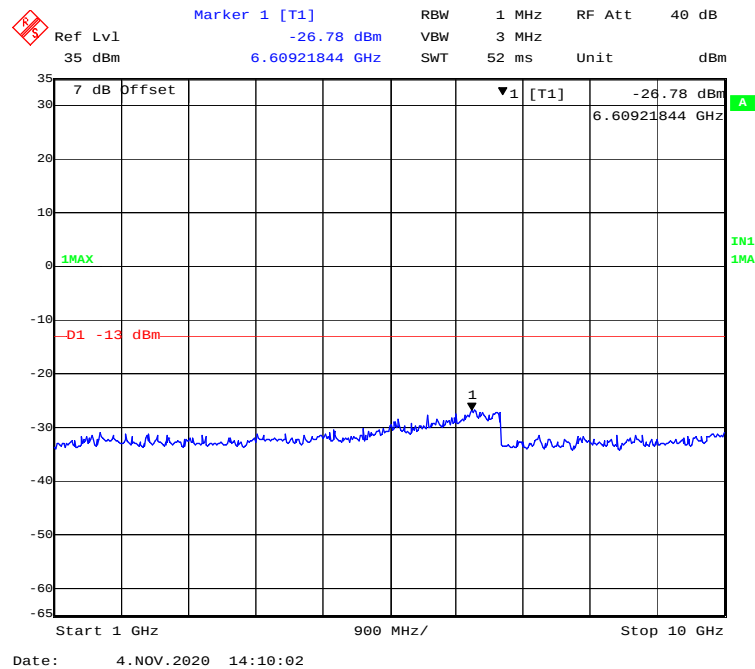
1 GHz – 10 GHz (16QAM, 3.0 MHz, High Channel)



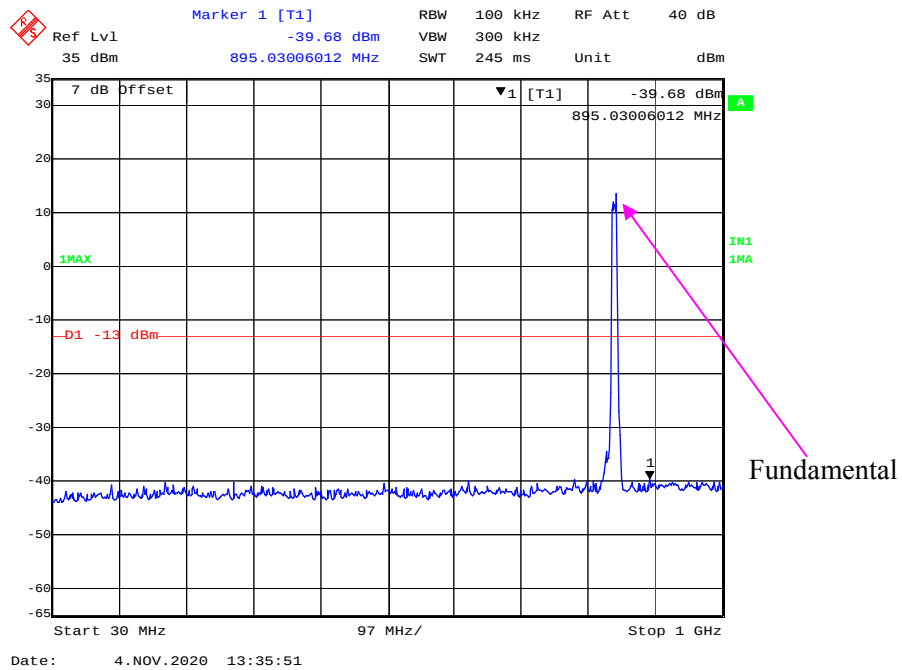
30 MHz - 1 GHz (16QAM, 5.0 MHz, High Channel)



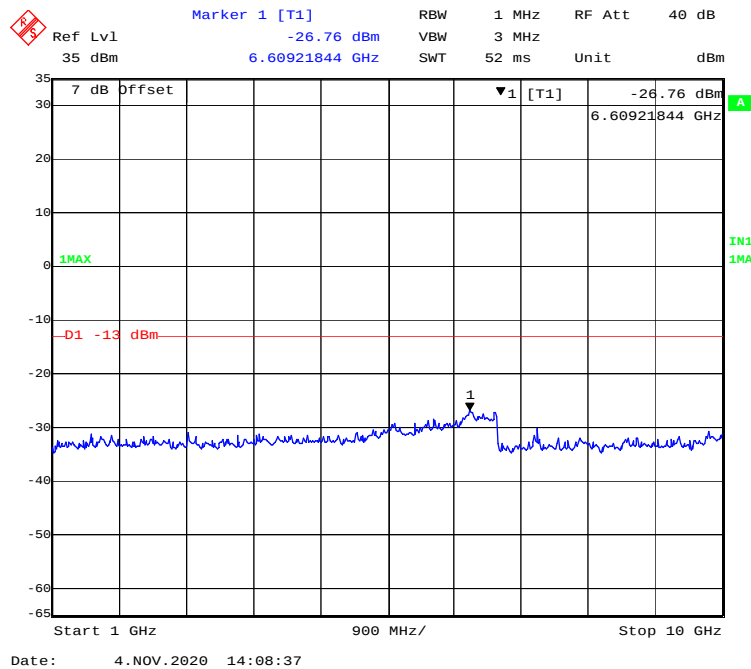
1 GHz – 10 GHz (16QAM, 5.0MHz, High Channel)

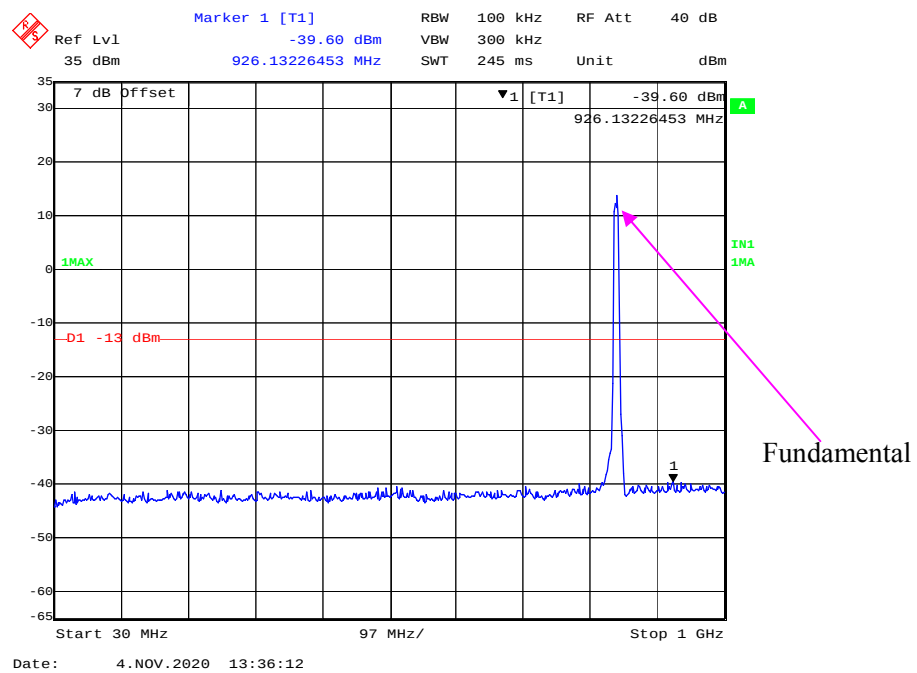
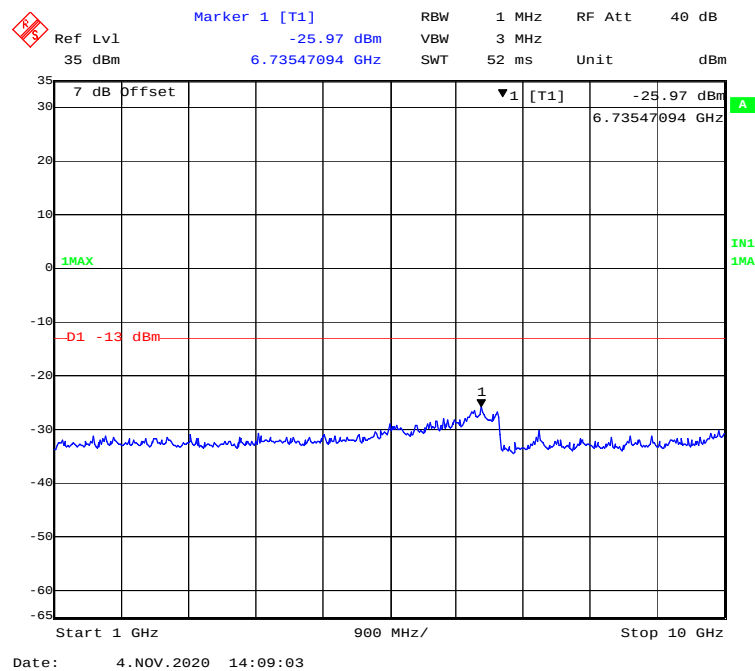


30 MHz - 1 GHz (QPSK, 10.0 MHz, High Channel)

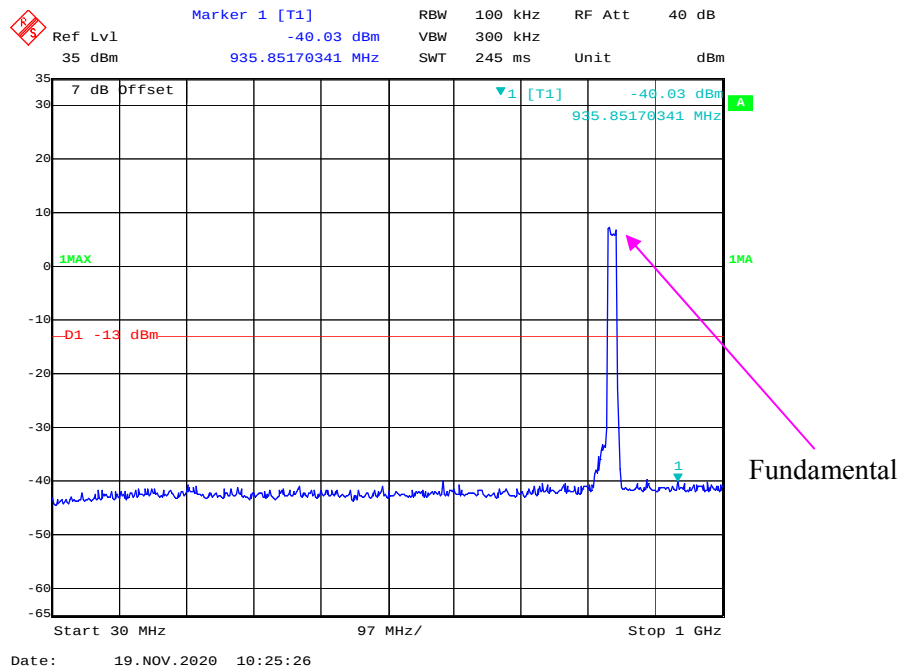


1 GHz – 10 GHz (QPSK, 10.0 MHz, High Channel)

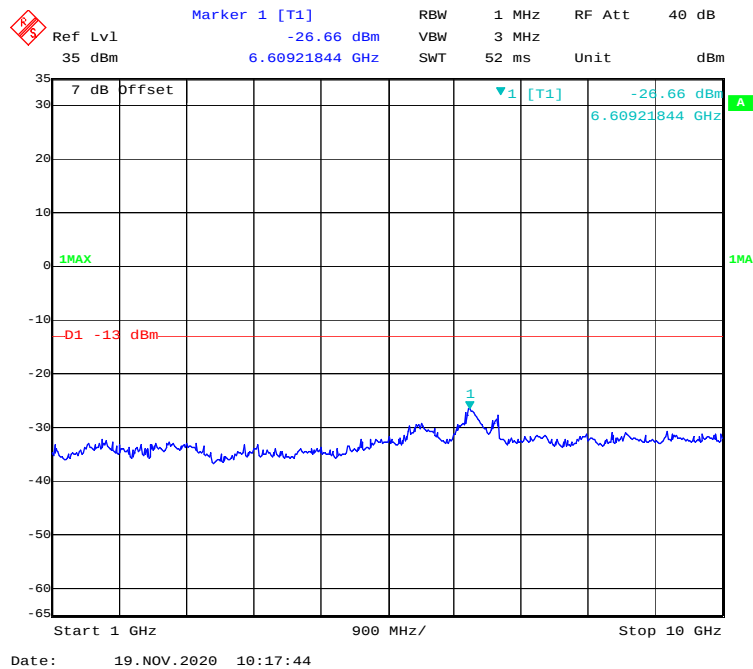


30 MHz - 1 GHz (16QAM, 10.0 MHz, High Channel)**1 GHz – 10 GHz (16QAM, 10.0 MHz, High Channel)**

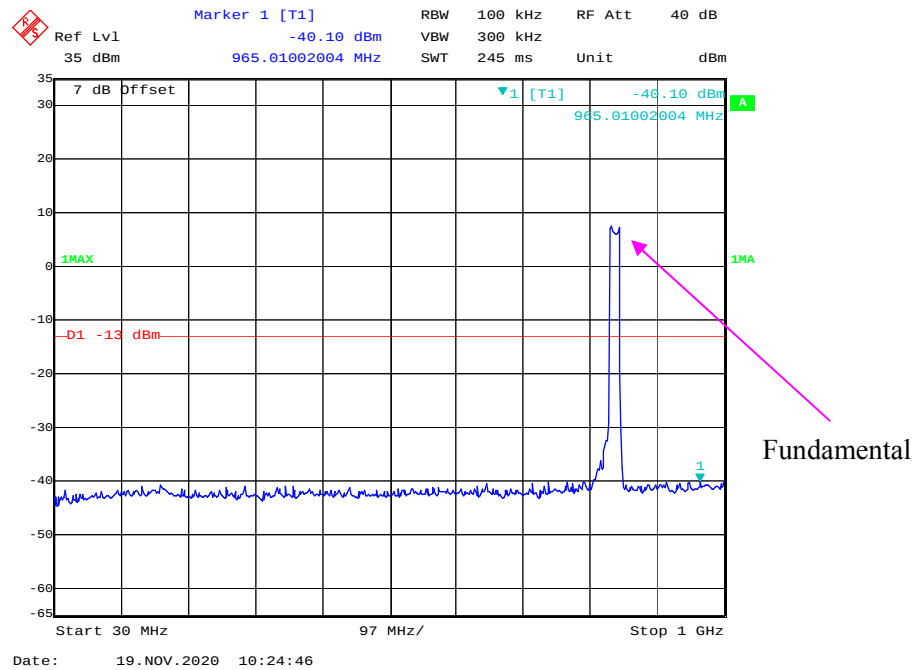
30 MHz - 1 GHz (QPSK, 15.0 MHz, High Channel)



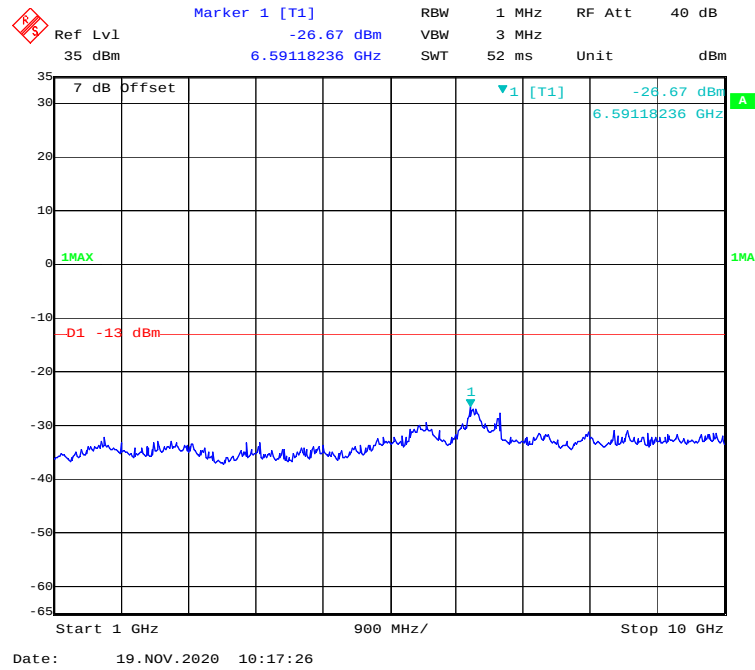
1 GHz – 10 GHz (QPSK, 15.0 MHz, High Channel)



30 MHz - 1 GHz (16QAM, 15.0 MHz, High Channel)



1 GHz – 10 GHz (16QAM, 15.0 MHz, High Channel)



FCC § 2.1053; § 22.917 (a); § 24.238 (a); §27.53 (m) (h) ; § 90.691 - SPURIOUS RADIATED EMISSIONS

Applicable Standards

FCC § 2.1053, §22.917(a) ,§ 24.238(a), §90.691 and § 27.53(m) (h)

22.917 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

24.238 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

§ 27.53(m) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Rule Part 90.691 specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg (\text{TX pwr in Watts}/0.001)$ – the absolute level

Spurious attenuation limit in dB = $43 + 10 \text{Log}_{10} (\text{power out in Watts})$

Test Data**Environmental Conditions**

Temperature:	23.9~25.3 °C
Relative Humidity:	49~53 %
ATM Pressure:	100.7~101.9 kPa

The testing was performed by Jack Jiao from 2020-11-02 to 2020-11-04.

Test mode: Transmitting

30 MHz ~ 10 GHz:

WCDMA Band V

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Low channel										
335.30	55.76	279	150	H	-52.32	0.48	-1.87	-54.67	-13	41.67
335.30	55.23	107	150	V	-52.85	0.48	-1.87	-55.20	-13	42.20
1652.80	36.59	334	100	H	-76.73	0.84	8.44	-69.13	-13	56.13
1652.80	36.85	294	100	V	-76.47	0.84	8.44	-68.87	-13	55.87
WCDMA Mode, Middle channel										
335.30	55.80	76	150	H	-52.28	0.48	-1.87	-54.63	-13	41.63
335.30	55.89	67	150	V	-52.19	0.48	-1.87	-54.54	-13	41.54
1673.20	36.58	273	100	H	-66.81	0.84	8.48	-59.17	-13	46.17
1673.20	36.94	11	100	V	-66.45	0.84	8.48	-58.81	-13	45.81
WCDMA Mode, High channel										
335.30	55.04	247	150	H	-53.04	0.48	-1.87	-55.39	-13	42.39
335.30	55.18	139	150	V	-52.90	0.48	-1.87	-55.25	-13	42.25
1693.20	36.75	84	100	H	-76.28	0.84	8.51	-68.61	-13	55.61
1693.20	36.00	29	100	V	-77.03	0.84	8.51	-69.36	-13	56.36

30 MHz ~ 20 GHz:**WCDMA Band II**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Low channel										
557.43	53.05	66	150	H	-51.58	0.58	-1.20	-53.36	-13	40.36
557.43	53.41	63	150	V	-51.22	0.58	-1.20	-53.00	-13	40.00
3704.80	37.12	302	200	H	-69.84	0.95	9.78	-61.01	-13	48.01
3704.80	37.98	99	100	V	-68.98	0.95	9.78	-60.15	-13	47.15
WCDMA Mode, Middle channel										
557.43	53.57	156	150	H	-51.06	0.58	-1.2	-52.84	-13	39.84
557.43	53.99	178	150	V	-50.64	0.58	-1.2	-52.42	-13	39.42
3760.00	37.94	352	200	H	-68.84	0.95	9.74	-60.05	-13	47.05
3760.00	37.46	216	100	V	-69.32	0.95	9.74	-60.53	-13	47.53
WCDMA Mode, High channel										
557.43	53.20	39	150	H	-51.43	0.58	-1.20	-53.21	-13	40.21
557.43	53.95	88	150	V	-50.68	0.58	-1.20	-52.46	-13	39.46
3815.20	37.01	104	200	H	-69.59	0.96	9.71	-60.84	-13	47.84
3815.20	37.08	89	100	V	-69.52	0.96	9.71	-60.77	-13	47.77

30 MHz ~ 20 GHz:**WCDMA Band IV**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Low channel										
711.18	59.60	32	150	H	-40.97	0.62	-1.69	-43.28	-13	30.28
711.18	59.81	304	150	V	-40.76	0.62	-1.69	-43.07	-13	30.07
3424.80	39.33	341	200	H	-68.57	0.93	9.83	-59.67	-13	46.67
3424.80	39.21	185	100	V	-68.69	0.93	9.83	-59.79	-13	46.79
WCDMA Mode, Middle channel										
711.18	59.87	178	150	H	-40.7	0.62	-1.69	-43.01	-13	30.01
711.18	59.09	196	150	V	-41.48	0.62	-1.69	-43.79	-13	30.79
3465.20	39.13	163	200	H	-68.62	0.93	9.87	-59.68	-13	46.68
3465.20	39.89	249	100	V	-67.86	0.93	9.87	-58.92	-13	45.92
WCDMA Mode, High channel										
711.18	59.17	315	150	H	-41.40	0.62	-1.69	-43.71	-13	30.71
711.18	59.66	191	150	V	-40.91	0.62	-1.69	-43.22	-13	30.22
3505.20	39.54	248	200	H	-68.06	0.93	9.90	-59.09	-13	46.09
3505.20	39.47	217	100	V	-68.13	0.93	9.90	-59.16	-13	46.16

Note:

- 1) Absolute Level (dBm) = Submitted Level (dBm) - Cable loss (dB) + Antenna Gain (dBd/dBi)
- 2) Margin (dB) = Limit (dBm) - Absolute Level (dBm)

30 MHz ~ 20 GHz:**LTE Band 2:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
459.58	52.15	147	100	H	-47.24	0.55	-1.71	-44.98	-13	31.98
459.58	52.97	131	200	V	-46.42	0.55	-1.71	-44.16	-13	31.16
3701.40	42.08	124	150	H	-64.88	0.95	9.78	-56.05	-13	43.05
3701.40	41.27	325	100	V	-65.69	0.95	9.78	-56.86	-13	43.86
16-QAM 1.4MHz Bandwidth Low Channel										
459.58	52.02	246	150	H	-47.37	0.55	-1.71	-45.11	-13	32.11
459.58	51.76	56	150	V	-47.63	0.55	-1.71	-45.37	-13	32.37
3701.40	41.61	191	200	H	-65.35	0.95	9.78	-56.52	-13	43.52
3701.40	42.04	52	200	V	-64.92	0.95	9.78	-56.09	-13	43.09

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
459.58	51.32	302	100	H	-48.07	0.55	-1.71	-45.81	-13	32.81
459.58	52.13	357	200	V	-47.26	0.55	-1.71	-45.00	-13	32.00
3760.00	42.47	226	150	H	-64.31	0.95	9.74	-55.52	-13	42.52
3760.00	41.68	253	100	V	-65.10	0.95	9.74	-56.31	-13	43.31
16-QAM 1.4MHz Bandwidth Middle Channel										
459.58	52.31	82	150	H	-47.08	0.55	-1.71	-44.82	-13	31.82
459.58	53.16	95	150	V	-46.23	0.55	-1.71	-43.97	-13	30.97
3760.00	39.38	271	200	H	-67.40	0.95	9.74	-58.61	-13	45.61
3760.00	40.74	222	200	V	-66.04	0.95	9.74	-57.25	-13	44.25

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
459.58	52.26	129	100	H	-47.13	0.55	-1.71	-44.87	-13	31.87
459.58	52.72	90	200	V	-46.67	0.55	-1.71	-44.41	-13	31.41
3818.60	41.82	33	150	H	-64.78	0.96	9.71	-56.03	-13	43.03
3818.60	41.02	182	100	V	-65.58	0.96	9.71	-56.83	-13	43.83
16-QAM 1.4MHz Bandwidth High Channel										
459.58	53.12	190	150	H	-46.27	0.55	-1.71	-44.01	-13	31.01
459.58	52.74	290	150	V	-46.65	0.55	-1.71	-44.39	-13	31.39
3818.60	41.78	201	200	H	-64.82	0.96	9.71	-56.07	-13	43.07
3818.60	41.44	161	200	V	-65.16	0.96	9.71	-56.41	-13	43.41

30 MHz ~ 25 GHz:**LTE Band 4:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
457.52	51.21	165	100	H	-47.92	0.55	-1.69	-45.68	-13	32.68
457.52	51.38	37	200	V	-47.75	0.55	-1.69	-45.51	-13	32.51
3421.40	42.44	250	150	H	-65.50	0.93	9.82	-56.61	-13	43.61
3421.40	42.14	127	100	V	-65.80	0.93	9.82	-56.91	-13	43.91
16-QAM 1.4MHz Bandwidth Low Channel										
457.52	51.67	177	150	H	-47.46	0.55	-1.69	-45.22	-13	32.22
457.52	51.61	13	150	V	-47.52	0.55	-1.69	-45.28	-13	32.28
3421.40	42.89	267	200	H	-65.05	0.93	9.82	-56.16	-13	43.16
3421.40	42.07	268	200	V	-65.87	0.93	9.82	-56.98	-13	43.98

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
457.52	51.85	108	100	H	-47.28	0.55	-1.69	-45.04	-13	32.04
457.52	51.43	139	200	V	-47.70	0.55	-1.69	-45.46	-13	32.46
3465.00	42.72	87	150	H	-65.03	0.93	9.87	-56.09	-13	43.09
3465.00	42.15	203	100	V	-65.60	0.93	9.87	-56.66	-13	43.66
16-QAM 1.4MHz Bandwidth Middle Channel										
457.52	51.55	72	150	H	-47.58	0.55	-1.69	-45.34	-13	32.34
457.52	51.42	267	150	V	-47.71	0.55	-1.69	-45.47	-13	32.47
3465.00	42.05	223	200	H	-65.70	0.93	9.87	-56.76	-13	43.76
3465.00	42.66	91	200	V	-65.09	0.93	9.87	-56.15	-13	43.15

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
457.52	51.82	170	100	H	-47.31	0.55	-1.69	-45.07	-13	32.07
457.52	51.03	78	200	V	-48.10	0.55	-1.69	-45.86	-13	32.86
3508.60	42.43	89	150	H	-65.14	0.93	9.90	-56.17	-13	43.17
3508.60	42.03	223	100	V	-65.54	0.93	9.90	-56.57	-13	43.57
16-QAM 1.4MHz Bandwidth High Channel										
457.52	51.02	342	150	H	-48.11	0.55	-1.69	-45.87	-13	32.87
457.52	51.18	224	150	V	-47.95	0.55	-1.69	-45.71	-13	32.71
3508.60	42.04	129	200	H	-65.53	0.93	9.90	-56.56	-13	43.56
3508.60	42.29	195	200	V	-65.28	0.93	9.90	-56.31	-13	43.31

30 MHz ~ 10 GHz:
LTE Band 5:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
459.22	51.98	92	100	H	-47.34	0.55	-1.71	-45.08	-13	32.08
459.22	51.03	20	200	V	-48.29	0.55	-1.71	-46.03	-13	33.03
1649.40	49.66	155	150	H	-63.68	0.84	8.44	-56.08	-13	43.08
1649.40	48.81	28	100	V	-64.53	0.84	8.44	-56.93	-13	43.93
16-QAM 1.4MHz Bandwidth Low Channel										
459.22	51.55	114	150	H	-47.77	0.55	-1.71	-45.51	-13	32.51
459.22	50.41	125	150	V	-48.91	0.55	-1.71	-46.65	-13	33.65
1649.40	48.89	41	200	H	-64.45	0.84	8.44	-56.85	-13	43.85
1649.40	49.20	228	200	V	-64.14	0.84	8.44	-56.54	-13	43.54

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
459.22	51.77	320	100	H	-47.55	0.55	-1.71	-45.29	-13	32.29
459.22	51.47	251	200	V	-47.85	0.55	-1.71	-45.59	-13	32.59
1673.00	38.90	274	150	H	-64.49	0.84	8.48	-56.85	-13	43.85
1673.00	39.27	203	100	V	-64.12	0.84	8.48	-56.48	-13	43.48
16-QAM 1.4MHz Bandwidth Middle Channel										
459.22	51.25	34	150	H	-48.07	0.55	-1.71	-45.81	-13	32.81
459.22	50.85	351	150	V	-48.47	0.55	-1.71	-46.21	-13	33.21
1673.00	39.64	128	200	H	-63.75	0.84	8.48	-56.11	-13	43.11
1673.00	38.75	356	200	V	-64.64	0.84	8.48	-57.00	-13	44.00

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
459.22	51.44	3	100	H	-47.88	0.55	-1.71	-45.62	-13	32.62
459.22	51.99	308	200	V	-47.33	0.55	-1.71	-45.07	-13	32.07
1696.60	49.07	228	150	H	-63.94	0.84	8.51	-56.27	-13	43.27
1696.60	48.44	327	100	V	-64.57	0.84	8.51	-56.90	-13	43.90
16-QAM 1.4MHz Bandwidth High Channel										
459.22	51.44	88	150	H	-47.88	0.55	-1.71	-45.62	-13	32.62
459.22	50.85	216	150	V	-48.47	0.55	-1.71	-46.21	-13	33.21
1696.60	48.38	202	200	H	-64.63	0.84	8.51	-56.96	-13	43.96
1696.60	48.93	17	200	V	-64.08	0.84	8.51	-56.41	-13	43.41

30 MHz ~ 26 GHz:**LTE Band 7:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Low Channel										
457.52	51.12	300	200	H	-48.04	0.55	-1.70	-45.79	-25	20.79
457.52	51.21	102	200	V	-47.95	0.55	-1.70	-45.70	-25	20.70
5005.00	40.40	111	100	H	-65.59	1.08	10.30	-56.37	-25	31.37
5005.00	40.04	5	150	V	-65.95	1.08	10.30	-56.73	-25	31.73
16-QAM 5MHz Bandwidth Low Channel										
457.52	51.73	204	100	H	-47.43	0.55	-1.70	-45.18	-25	20.18
457.52	51.48	32	150	V	-47.68	0.55	-1.70	-45.43	-25	20.43
5005.00	40.52	319	150	H	-65.47	1.08	10.30	-56.25	-25	31.25
5005.00	40.71	42	200	V	-65.28	1.08	10.30	-56.06	-25	31.06

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Middle Channel										
457.52	51.64	297	200	H	-47.52	0.55	-1.70	-45.27	-25	20.27
457.52	51.32	158	200	V	-47.84	0.55	-1.70	-45.59	-25	20.59
5070.00	29.93	142	100	H	-65.35	1.09	10.30	-56.14	-25	31.14
5070.00	29.40	138	150	V	-65.88	1.09	10.30	-56.67	-25	31.67
16-QAM 5MHz Bandwidth Middle Channel										
457.52	51.77	169	100	H	-47.39	0.55	-1.70	-45.14	-25	20.14
457.52	51.07	45	150	V	-48.09	0.55	-1.70	-45.84	-25	20.84
5070.00	29.28	142	150	H	-66.00	1.09	10.30	-56.79	-25	31.79
5070.00	29.28	225	200	V	-66.00	1.09	10.30	-56.79	-25	31.79

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth High Channel										
457.52	51.74	168	200	H	-47.42	0.55	-1.70	-45.17	-25	20.17
457.52	52.00	52	200	V	-47.16	0.55	-1.70	-44.91	-25	19.91
5135.00	39.62	353	100	H	-65.65	1.10	10.30	-56.45	-25	31.45
5135.00	39.22	142	150	V	-66.05	1.10	10.30	-56.85	-25	31.85
16-QAM 5MHz Bandwidth High Channel										
457.52	51.62	254	100	H	-47.54	0.55	-1.70	-45.29	-25	20.29
457.52	51.37	293	150	V	-47.79	0.55	-1.70	-45.54	-25	20.54
5135.00	39.36	128	150	H	-65.91	1.10	10.30	-56.71	-25	31.71
5135.00	39.63	105	200	V	-65.64	1.10	10.30	-56.44	-25	31.44

30 MHz ~ 10 GHz:
LTE Band 12:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
342.82	50.81	318	100	H	-57.45	0.49	-1.81	-55.15	-13	42.15
342.82	50.57	31	200	V	-57.69	0.49	-1.81	-55.39	-13	42.39
1399.40	44.52	98	150	H	-69.65	0.82	7.92	-62.55	-13	49.55
1399.40	44.57	22	100	V	-69.60	0.82	7.92	-62.50	-13	49.50
16-QAM 1.4MHz Bandwidth Low Channel										
342.82	50.56	297	150	H	-57.70	0.49	-1.91	-55.30	-13	42.30
342.82	50.49	221	150	V	-57.77	0.49	-1.91	-55.37	-13	42.37
1399.40	44.11	195	200	H	-70.06	0.82	7.92	-62.96	-13	49.96
1399.40	44.25	42	200	V	-69.92	0.82	7.92	-62.82	-13	49.82

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
342.82	50.58	298	100	H	-57.68	0.49	-1.81	-55.38	-13	42.38
342.82	50.73	254	200	V	-57.53	0.49	-1.81	-55.23	-13	42.23
1415.00	44.37	297	150	H	-69.83	0.82	7.96	-62.69	-13	49.69
1415.00	44.51	304	100	V	-69.69	0.82	7.96	-62.55	-13	49.55
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	50.07	260	150	H	-58.19	0.49	-1.91	-55.79	-13	42.79
342.82	50.79	35	150	V	-57.47	0.49	-1.91	-55.07	-13	42.07
1415.00	44.51	108	200	H	-69.69	0.82	7.96	-62.55	-13	49.55
1415.00	45.04	28	200	V	-69.16	0.82	7.96	-62.02	-13	49.02

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
342.82	50.63	106	100	H	-57.63	0.49	-1.81	-55.33	-13	42.33
342.82	50.34	138	200	V	-57.92	0.49	-1.81	-55.62	-13	42.62
1430.60	44.36	312	150	H	-69.87	0.82	8.00	-62.69	-13	49.69
1430.60	44.82	139	100	V	-69.41	0.82	8.00	-62.23	-13	49.23
16-QAM 1.4MHz Bandwidth High Channel										
342.82	50.09	46	150	H	-58.17	0.49	-1.91	-55.77	-13	42.77
342.82	50.85	296	150	V	-57.41	0.49	-1.91	-55.01	-13	42.01
1430.60	44.07	65	200	H	-70.16	0.82	8.00	-62.98	-13	49.98
1430.60	44.92	58	200	V	-69.31	0.82	8.00	-62.13	-13	49.13

30 MHz ~ 10 GHz:**LTE Band 13:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Low Channel										
749.01	58.05	84	200	H	-43.14	0.62	-1.50	-41.02	-13	28.02
749.01	58.53	177	200	V	-42.66	0.62	-1.50	-40.54	-13	27.54
1559.00	48.61	236	100	H	-65.35	0.83	8.29	-57.89	-13	44.89
1559.00	49.45	198	150	V	-64.51	0.83	8.29	-57.05	-13	44.05
16-QAM 5MHz Bandwidth Low Channel										
749.01	58.27	33	100	H	-42.92	0.62	-1.50	-40.80	-13	27.8
749.01	58.44	206	150	V	-42.75	0.62	-1.50	-40.63	-13	27.63
1559.00	48.99	320	150	H	-64.97	0.83	8.29	-57.51	-13	44.51
1559.00	49.15	83	200	V	-64.81	0.83	8.29	-57.35	-13	44.35

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Middle Channel										
749.01	58.98	164	200	H	-42.21	0.62	-1.50	-40.09	-13	27.09
749.01	58.48	45	200	V	-42.71	0.62	-1.50	-40.59	-13	27.59
1564.00	49.11	192	100	H	-64.82	0.83	8.30	-57.35	-13	44.35
1564.00	48.97	15	150	V	-64.96	0.83	8.30	-57.49	-13	44.49
16-QAM 5MHz Bandwidth Middle Channel										
749.01	58.79	126	100	H	-42.4	0.62	-1.50	-40.28	-13	27.28
749.01	58.64	251	150	V	-42.55	0.62	-1.50	-40.43	-13	27.43
1564.00	49.10	358	150	H	-64.83	0.83	8.30	-57.36	-13	44.36
1564.00	49.43	259	200	V	-64.50	0.83	8.30	-57.03	-13	44.03

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth High Channel										
749.01	58.83	29	200	H	-42.36	0.62	-1.50	-40.24	-13	27.24
749.01	58.82	254	200	V	-42.37	0.62	-1.50	-40.25	-13	27.25
1569.00	48.62	196	100	H	-65.27	0.83	8.31	-57.79	-13	44.79
1569.00	49.21	129	150	V	-64.68	0.83	8.31	-57.20	-13	44.20
16-QAM 5MHz Bandwidth High Channel										
749.01	58.57	48	100	H	-42.62	0.62	-1.50	-40.50	-13	27.50
749.01	58.31	245	150	V	-42.88	0.62	-1.50	-40.76	-13	27.76
1569.00	48.52	76	150	H	-65.37	0.83	8.31	-57.89	-13	44.89
1569.00	48.66	315	200	V	-65.23	0.83	8.31	-57.75	-13	44.75

30 MHz ~ 10 GHz:**LTE Band 25:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
342.82	50.77	272	100	H	-57.49	0.49	-1.81	-55.19	-13	42.19
342.82	50.83	48	200	V	-57.43	0.49	-1.81	-55.13	-13	42.13
3611.40	35.65	164	150	H	-71.60	0.94	9.83	-62.71	-13	49.71
3611.40	35.70	101	100	V	-71.55	0.94	9.83	-62.66	-13	49.66
16-QAM 1.4MHz Bandwidth Low Channel										
342.82	50.44	291	150	H	-57.82	0.49	-1.91	-55.42	-13	42.42
342.82	50.95	170	150	V	-57.31	0.49	-1.91	-54.91	-13	41.91
3611.40	35.99	328	200	H	-71.26	0.94	9.83	-62.37	-13	49.37
3611.40	35.98	29	200	V	-71.27	0.94	9.83	-62.38	-13	49.38

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
342.82	50.98	78	100	H	-57.28	0.49	-1.81	-54.98	-13	41.98
342.82	50.02	120	200	V	-58.24	0.49	-1.81	-55.94	-13	42.94
3765.00	35.40	283	150	H	-71.36	0.95	9.74	-62.57	-13	49.57
3765.00	35.09	106	100	V	-71.67	0.95	9.74	-62.88	-13	49.88
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	50.73	303	150	H	-57.53	0.49	-1.91	-55.13	-13	42.13
342.82	50.67	72	150	V	-57.59	0.49	-1.91	-55.19	-13	42.19
3765.00	35.04	277	200	H	-71.72	0.95	9.74	-62.93	-13	49.93
3765.00	35.46	315	200	V	-71.30	0.95	9.74	-62.51	-13	49.51

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
342.82	50.88	179	100	H	-57.38	0.49	-1.81	-55.08	-13	42.08
342.82	50.50	209	200	V	-57.76	0.49	-1.81	-55.46	-13	42.46
3828.60	34.97	41	150	H	-71.59	0.96	9.70	-62.85	-13	49.85
3828.60	35.71	213	100	V	-70.85	0.96	9.70	-62.11	-13	49.11
16-QAM 1.4MHz Bandwidth High Channel										
342.82	50.59	314	150	H	-57.67	0.49	-1.91	-55.27	-13	42.27
342.82	50.35	324	150	V	-57.91	0.49	-1.91	-55.51	-13	42.51
3828.60	35.50	217	200	H	-71.06	0.96	9.70	-62.32	-13	49.32
3828.60	35.05	358	200	V	-71.51	0.96	9.70	-62.77	-13	49.77

30 MHz ~ 10 GHz:**LTE Band 26:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Low Channel										
749.01	58.10	136	200	H	-43.09	0.62	-1.50	-40.97	-13	27.97
749.01	58.80	40	200	V	-42.39	0.62	-1.50	-40.27	-13	27.27
1629.40	48.25	256	100	H	-65.22	0.84	8.41	-57.65	-13	44.65
1629.40	48.16	117	150	V	-65.31	0.84	8.41	-57.74	-13	44.74
16-QAM 5MHz Bandwidth Low Channel										
749.01	58.78	109	100	H	-42.41	0.62	-1.50	-40.29	-13	27.29
749.01	58.28	1	150	V	-42.91	0.62	-1.50	-40.79	-13	27.79
1629.40	48.27	188	150	H	-65.20	0.84	8.41	-57.63	-13	44.63
1629.40	48.16	207	200	V	-65.31	0.84	8.41	-57.74	-13	44.74

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Middle Channel										
749.01	58.36	243	200	H	-42.83	0.62	-1.50	-40.71	-13	27.71
749.01	58.16	126	200	V	-43.03	0.62	-1.50	-40.91	-13	27.91
1663.00	47.78	48	100	H	-65.46	0.84	8.46	-57.84	-13	44.84
1663.00	47.68	144	150	V	-65.56	0.84	8.46	-57.94	-13	44.94
16-QAM 5MHz Bandwidth Middle Channel										
749.01	58.52	329	100	H	-42.67	0.62	-1.50	-40.55	-13	27.55
749.01	58.99	62	150	V	-42.20	0.62	-1.50	-40.08	-13	27.08
1663.00	47.98	164	150	H	-65.26	0.84	8.46	-57.64	-13	44.64
1663.00	47.76	25	200	V	-65.48	0.84	8.46	-57.86	-13	44.86

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth High Channel										
749.01	58.36	86	200	H	-42.83	0.62	-1.50	-40.71	-13	27.71
749.01	58.97	89	200	V	-42.22	0.62	-1.50	-40.10	-13	27.10
1696.60	48.13	346	100	H	-64.88	0.84	8.51	-57.21	-13	44.21
1696.60	48.12	183	150	V	-64.89	0.84	8.51	-57.22	-13	44.22
16-QAM 5MHz Bandwidth High Channel										
749.01	58.12	13	100	H	-43.07	0.62	-1.50	-40.95	-13	27.95
749.01	58.65	349	150	V	-42.54	0.62	-1.50	-40.42	-13	27.42
1696.60	47.96	225	150	H	-65.05	0.84	8.51	-57.38	-13	44.38
1696.60	48.01	66	200	V	-65.00	0.84	8.51	-57.33	-13	44.33

Note:

- 1) Absolute Level (dBm) = Submitted Level (dBm) - Cable loss (dB) + Antenna Gain (dBd/dBi)
- 2) Margin (dB) = Limit (dBm) - Absolute Level (dBm)

FCC § 22.917 (a); § 24.238 (a); §27.53 (m) (h) ; § 90.691- BAND EDGES**Applicable Standards**

According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

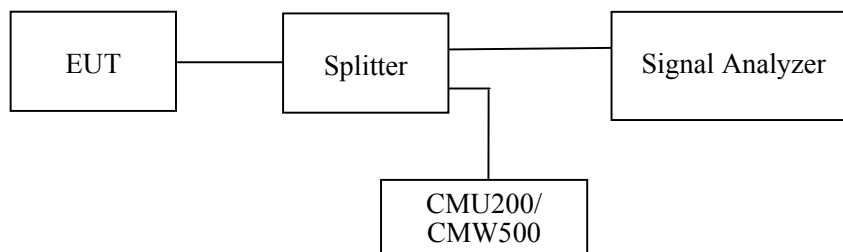
For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC §2.1051 and §90.691(a). The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency.

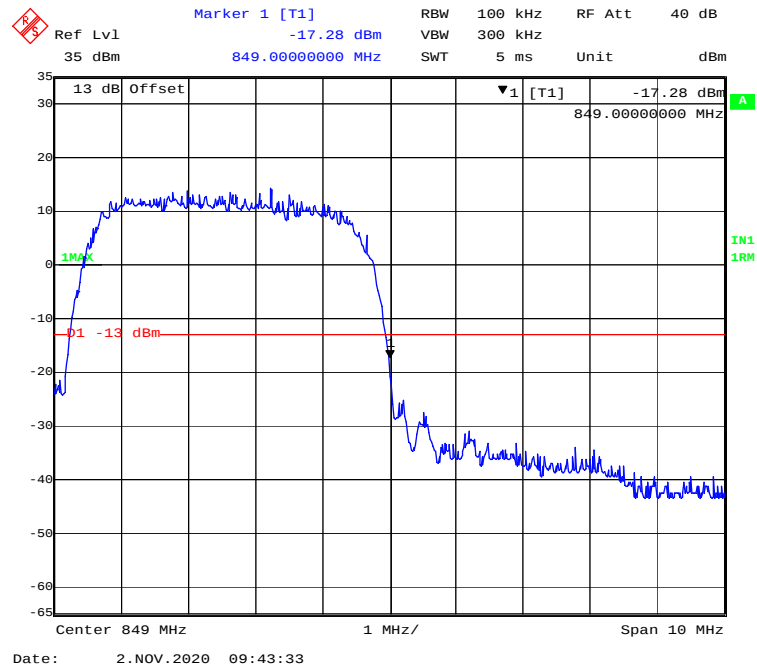
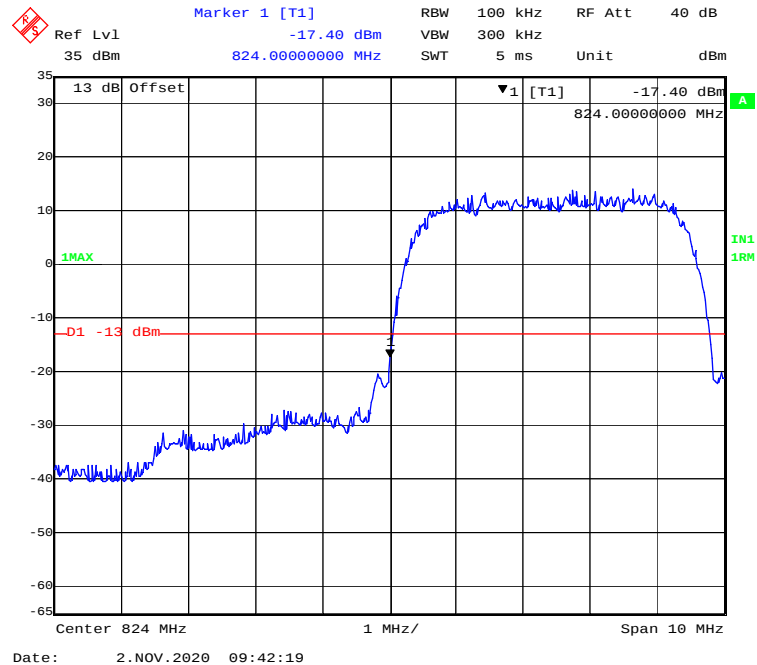
**Test Data****Environmental Conditions**

Temperature:	23.9~25.4 °C
Relative Humidity:	49~53 %
ATM Pressure:	100.7~101.9 kPa

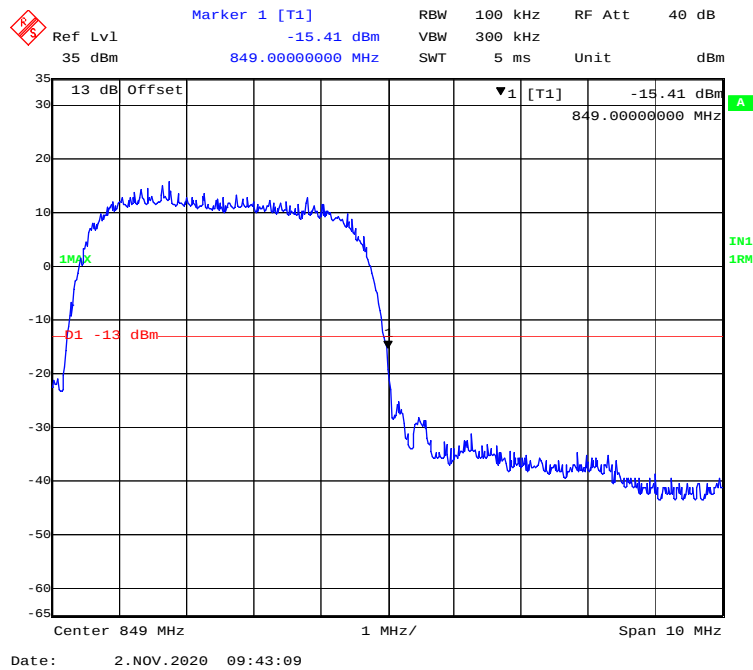
The testing was performed by Jack Jiao from 2020-11-02 to 2020-11-19.

EUT operation mode: Transmitting

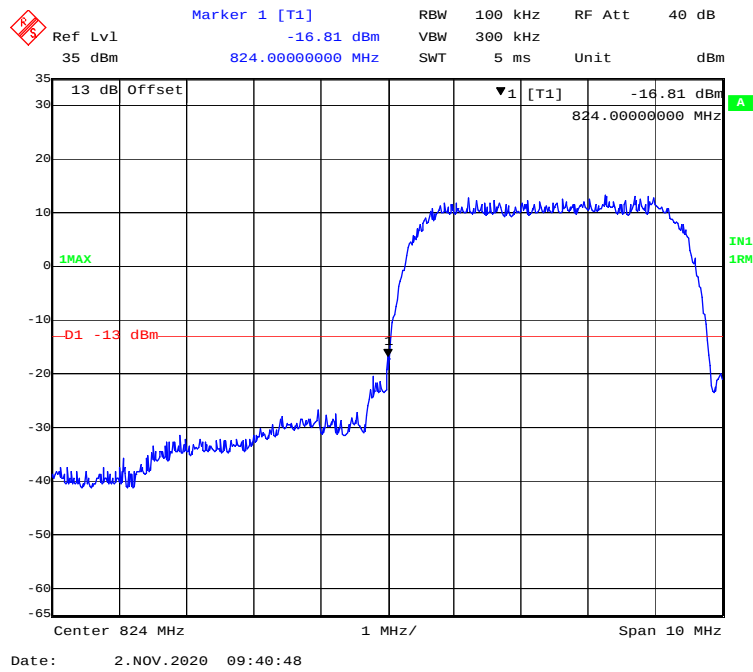
Test Result: Compliant.

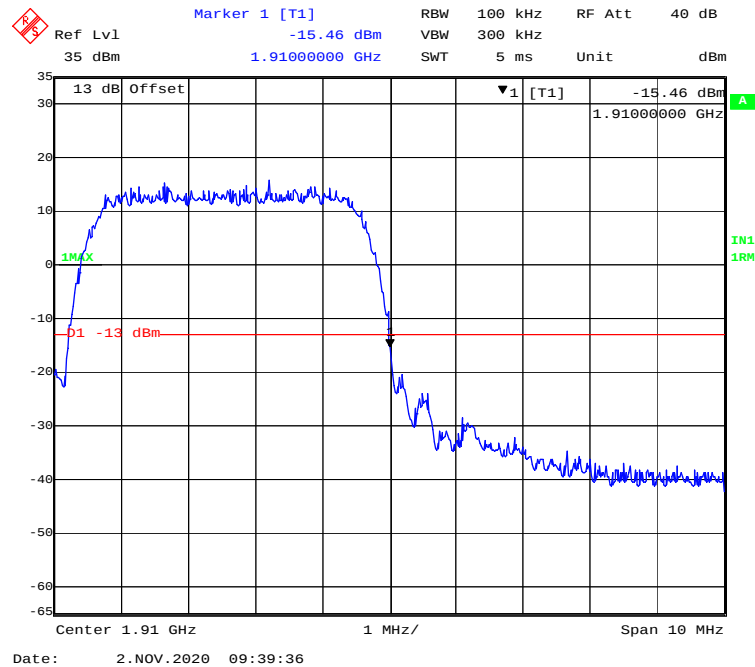
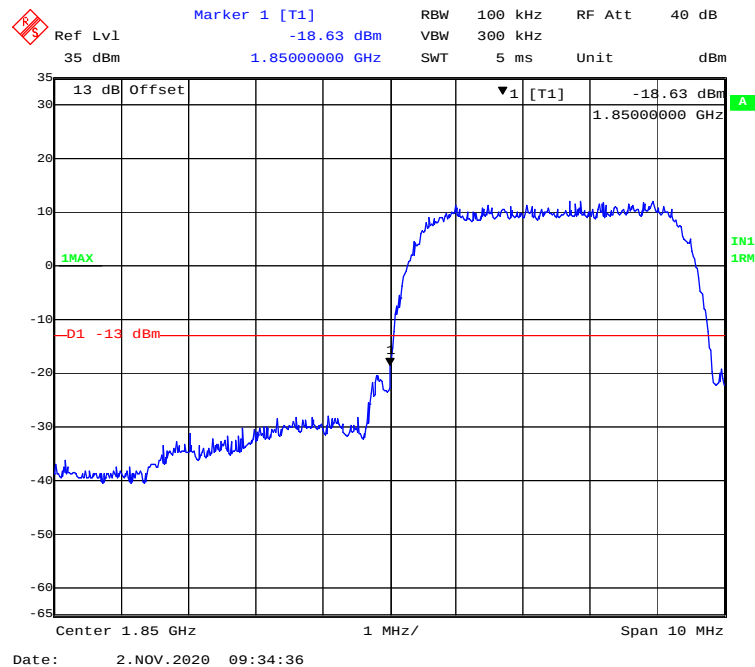
WCDMA Band V**WCDMA (Rel 99) Mode, Right Band Edge****WCDMA (Rel 99) Mode, Left Band Edge**

WCDMA (HSDPA) Mode, Right Band Edge

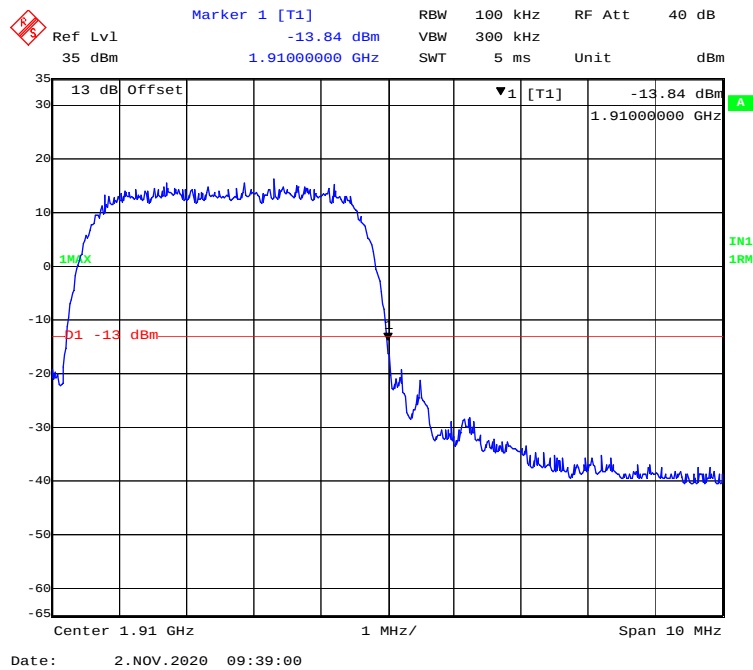


WCDMA (HSDPA) Mode, Left Band Edge

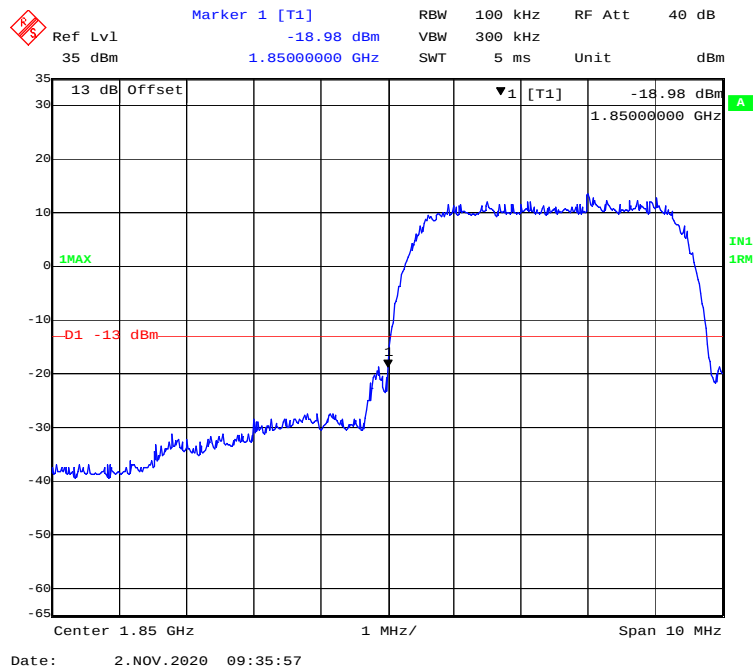


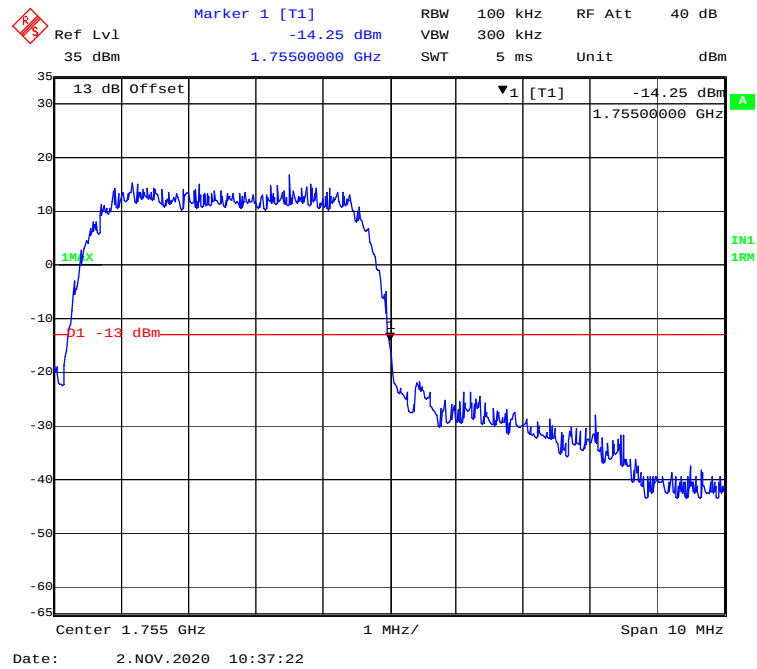
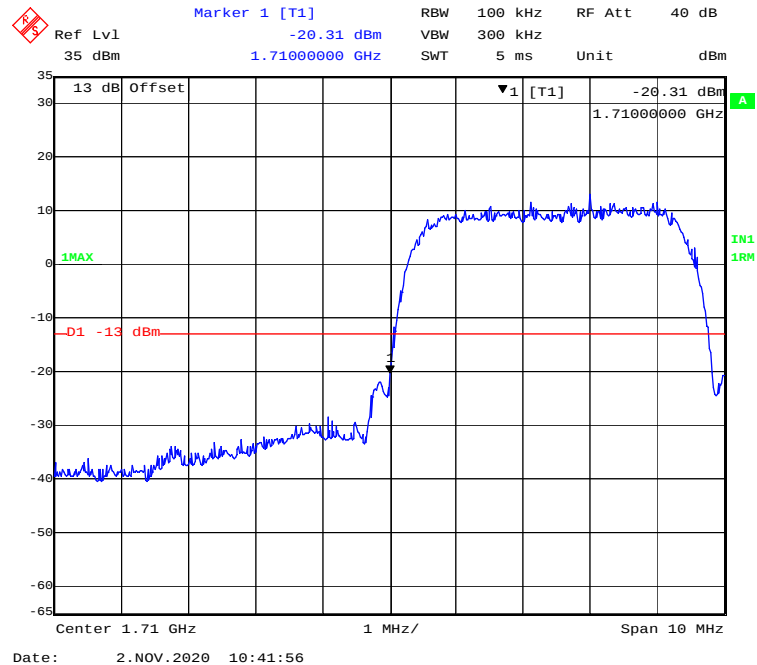
WCDMA Band II**WCDMA (Rel 99) Mode, Right Band Edge****WCDMA (Rel 99) Mode, Left Band Edge**

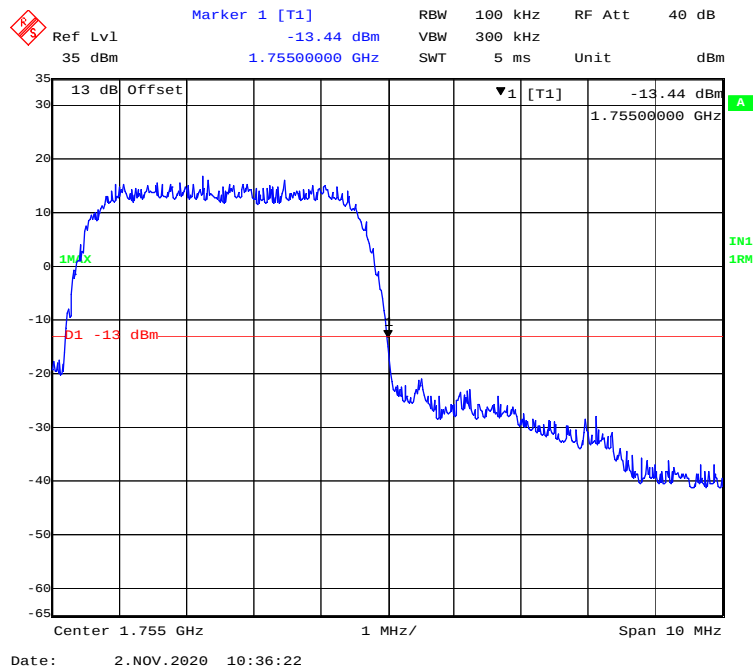
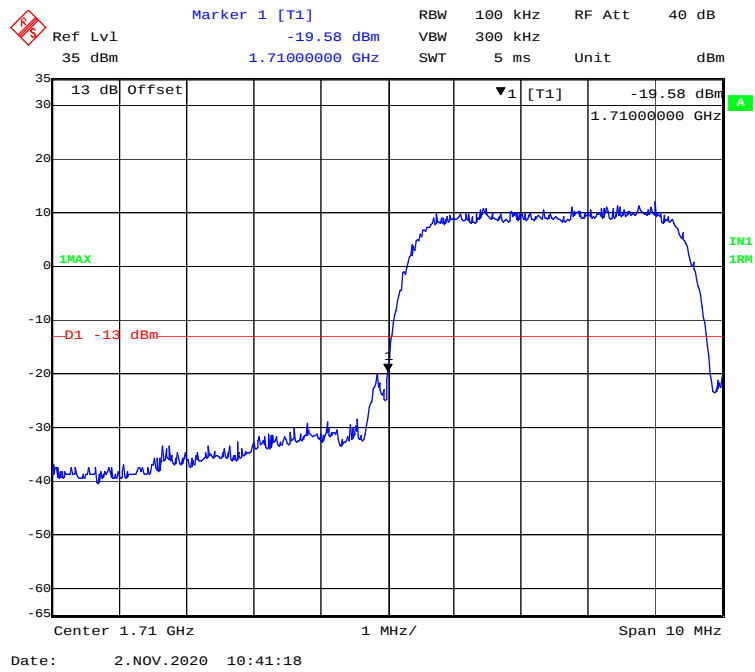
WCDMA (HSDPA) Mode, Right Band Edge

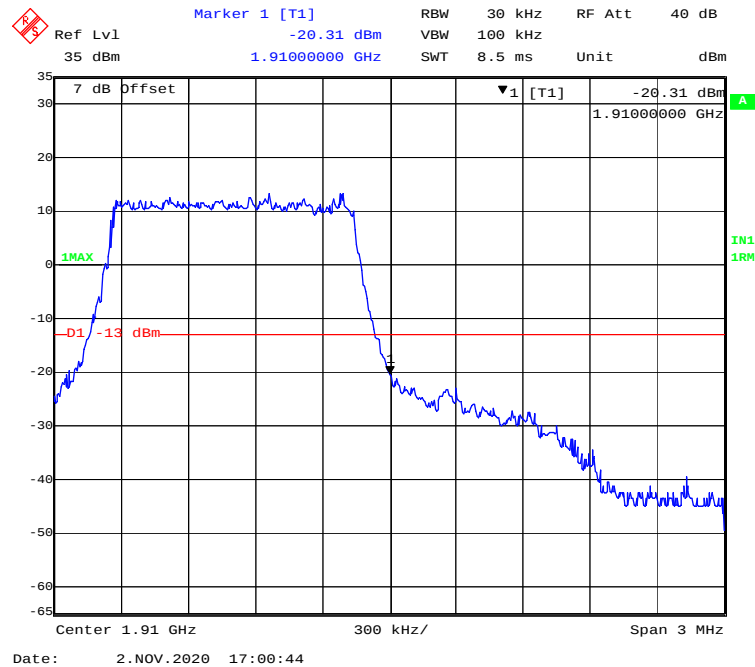
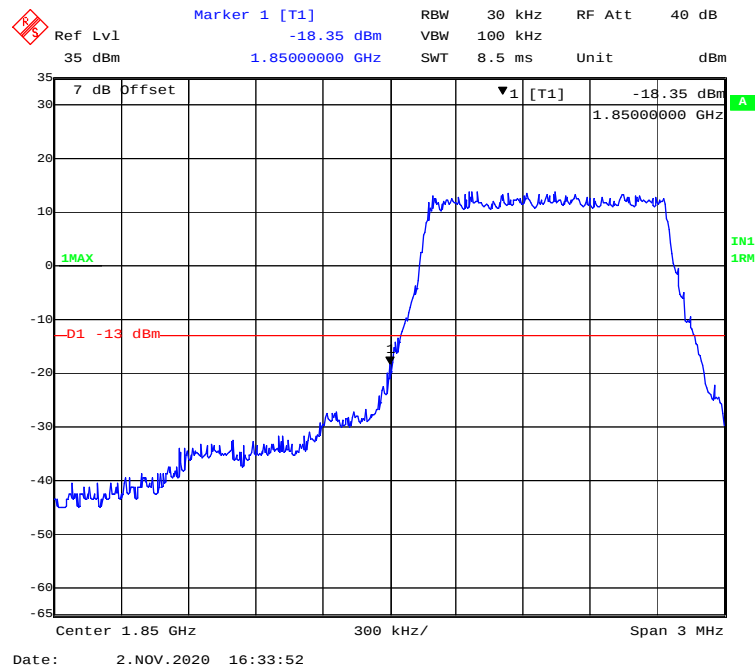


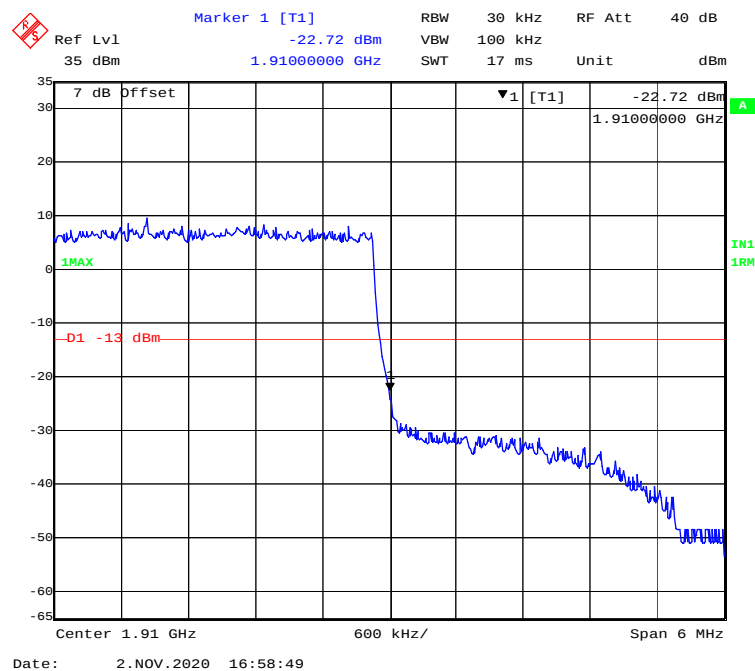
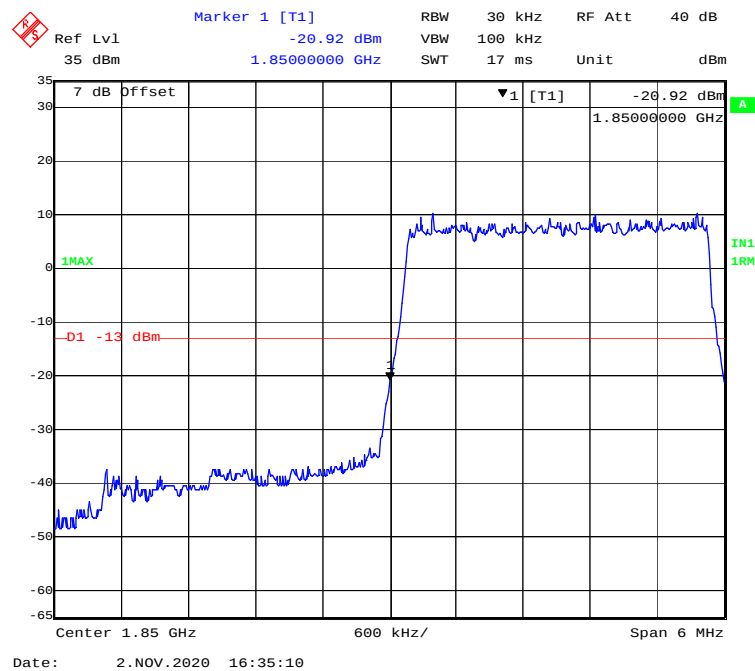
WCDMA (HSDPA) Mode, Left Band Edge

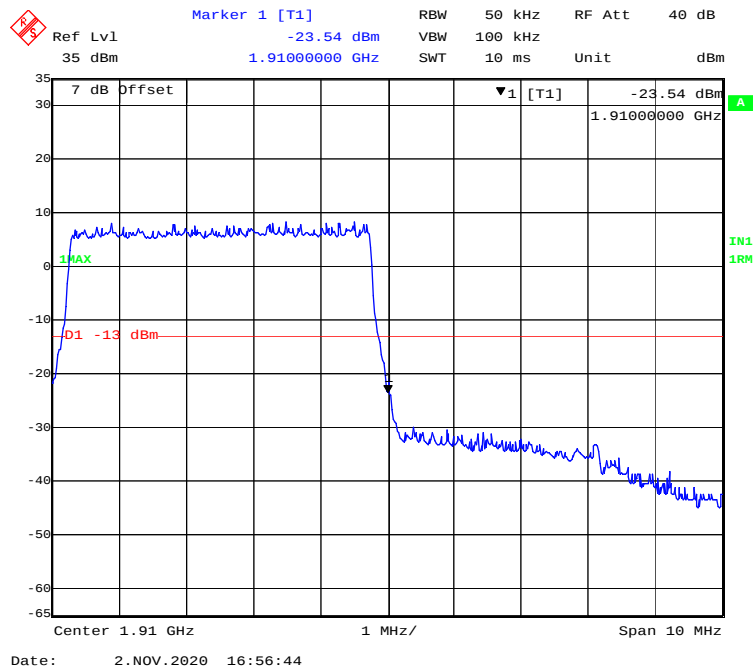
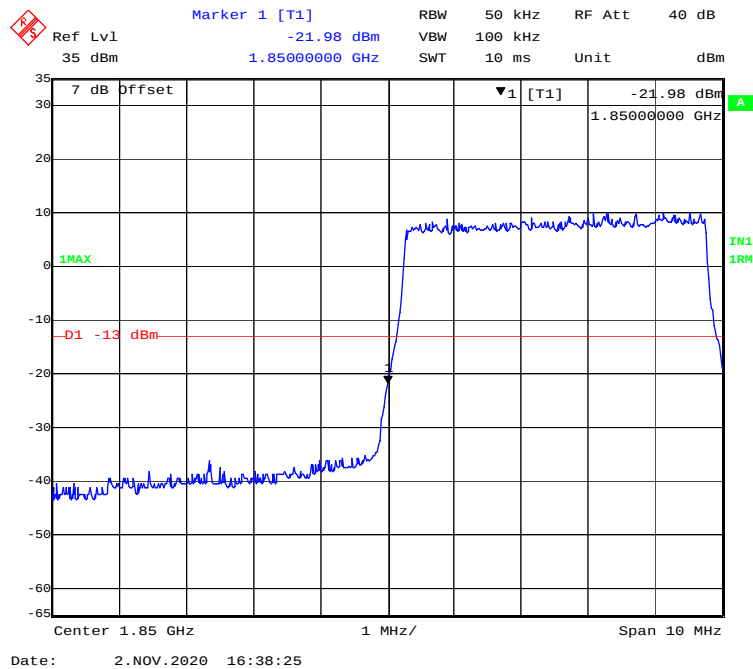


WCDMA Band IV**WCDMA (Rel 99) Mode, Right Band Edge****WCDMA (Rel 99) Mode, Left Band Edge**

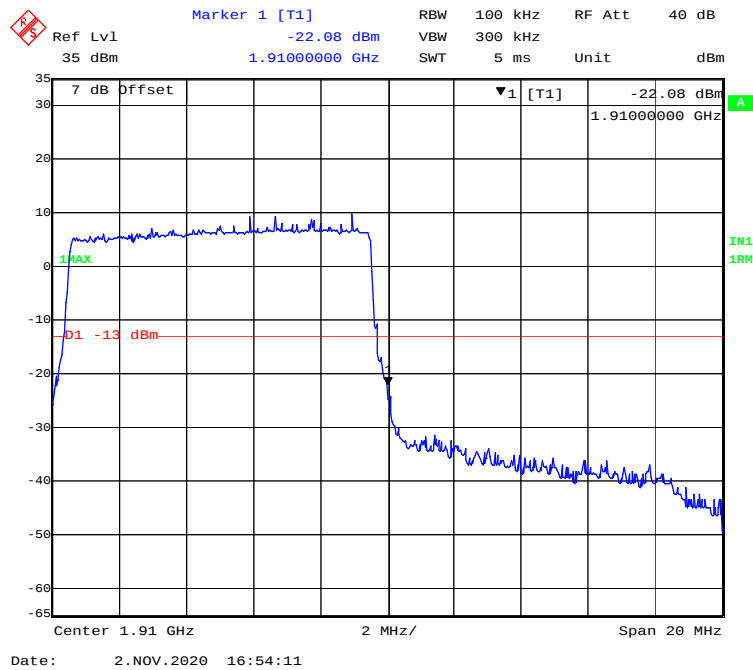
WCDMA (HSDPA) Mode, Right Band Edge**WCDMA (HSDPA) Mode, Left Band Edge**

LTE Band 2:**QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

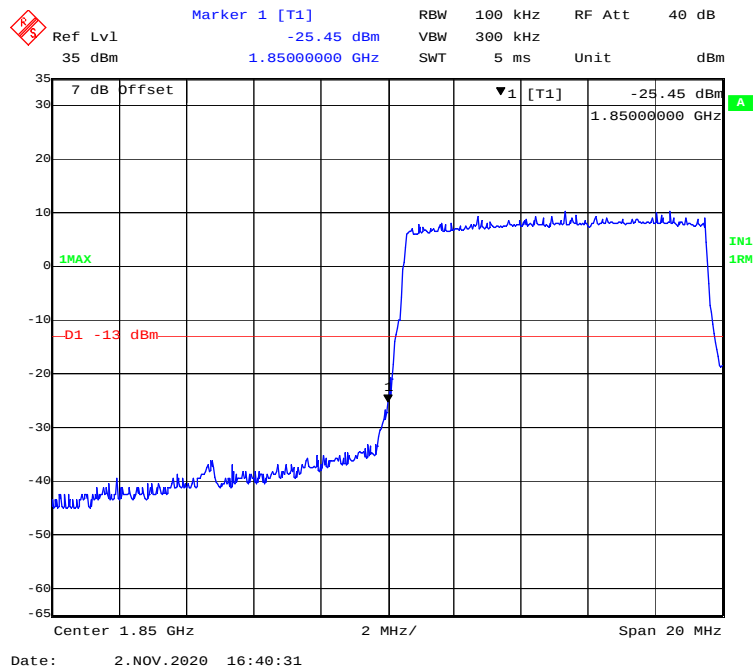
QPSK (3 MHz, FULL RB) - Right Band Edge**QPSK (3 MHz, FULL RB) - Left Band Edge**

QPSK (5 MHz, FULL RB) - Right Band Edge**QPSK (5 MHz, FULL RB) - Left Band Edge**

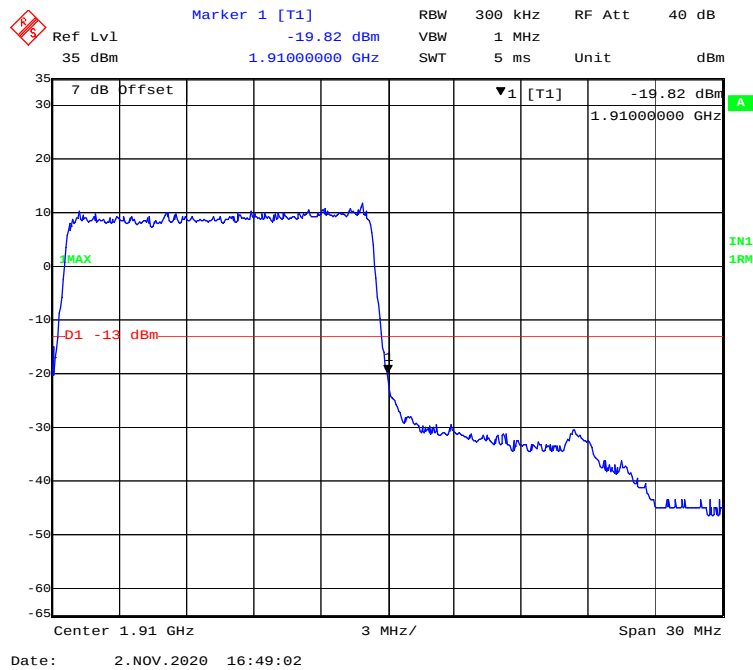
QPSK (10 MHz, FULL RB) - Right Band Edge



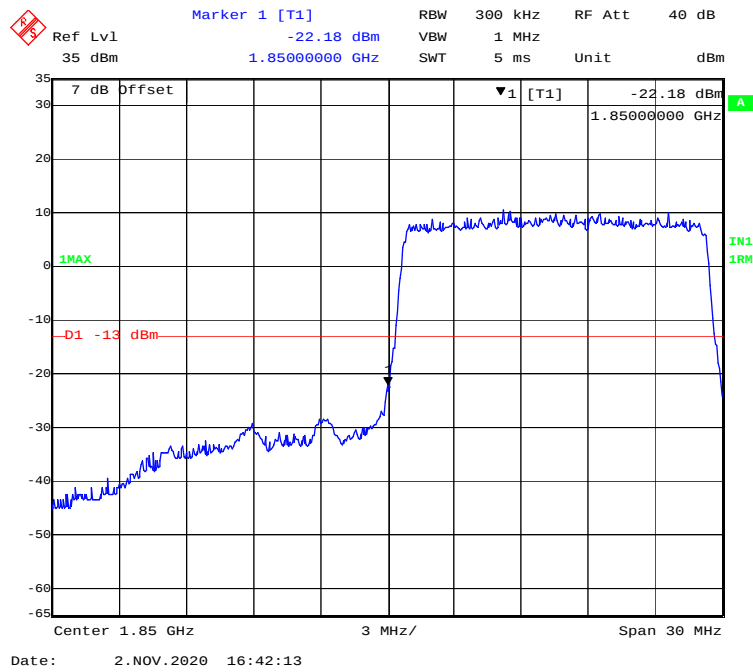
QPSK (10 MHz, FULL RB) - Left Band Edge



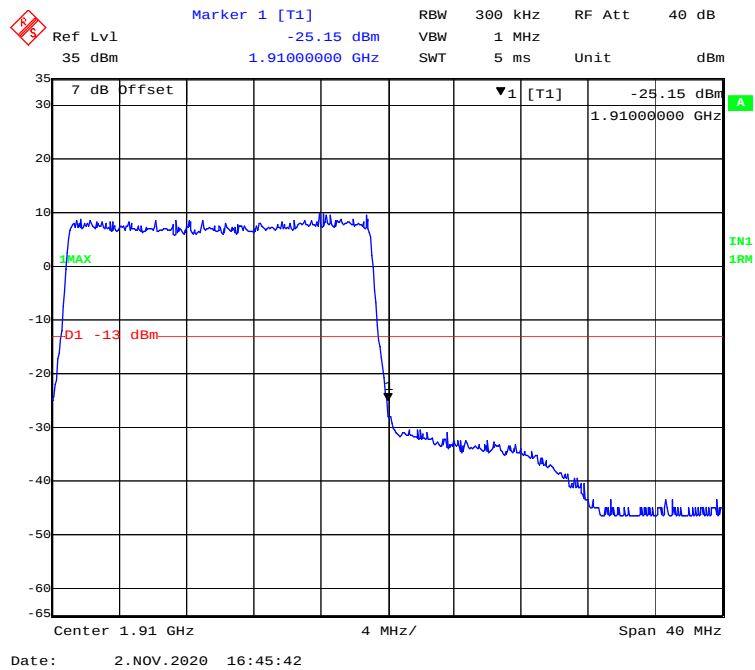
QPSK (15 MHz, FULL RB) - Right Band Edge



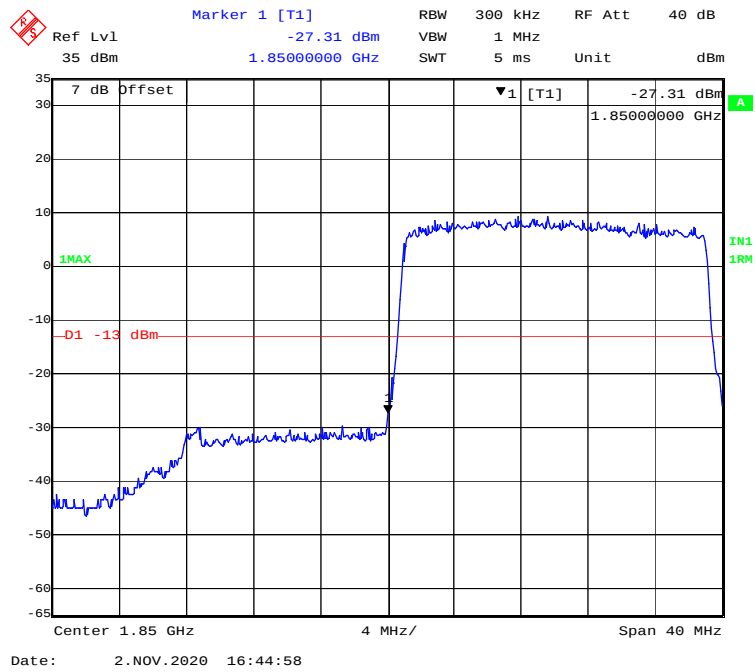
QPSK (15 MHz, FULL RB) - Left Band Edge



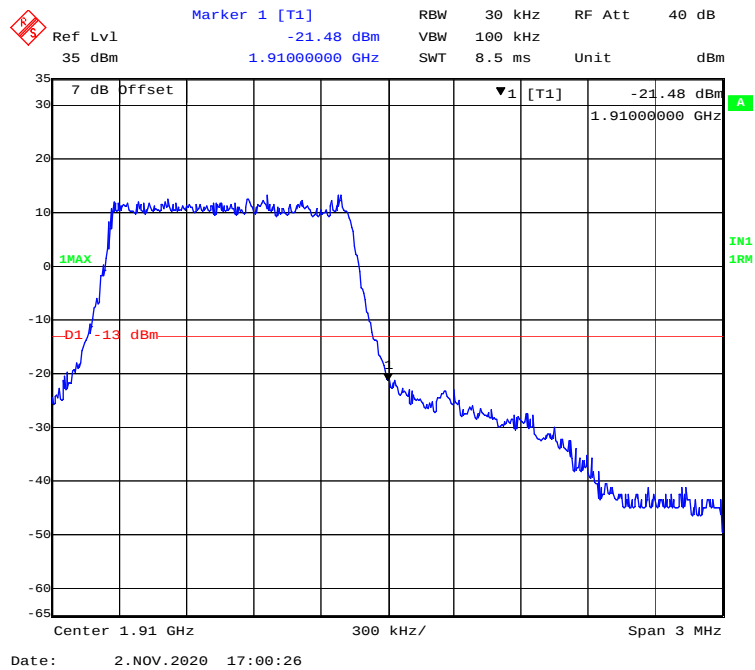
QPSK (20 MHz, FULL RB) - Right Band Edge



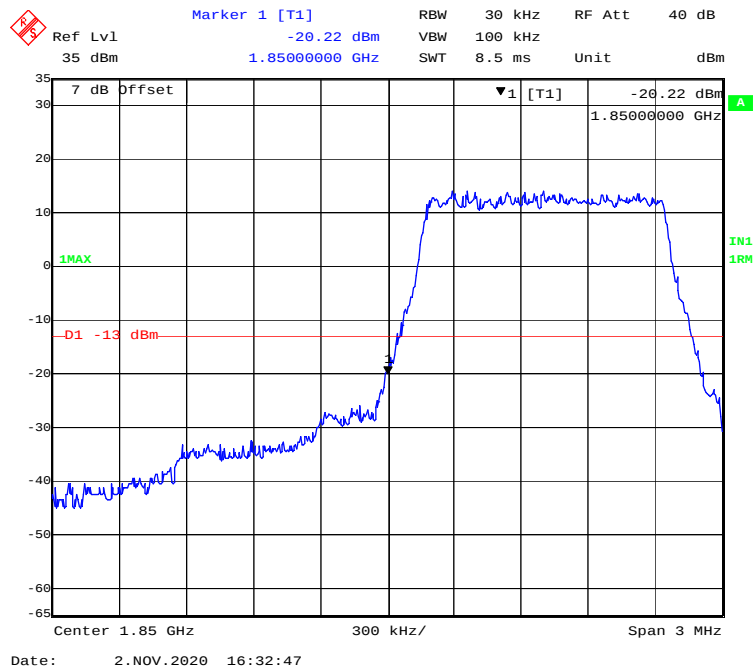
QPSK (20 MHz, FULL RB) - Left Band Edge



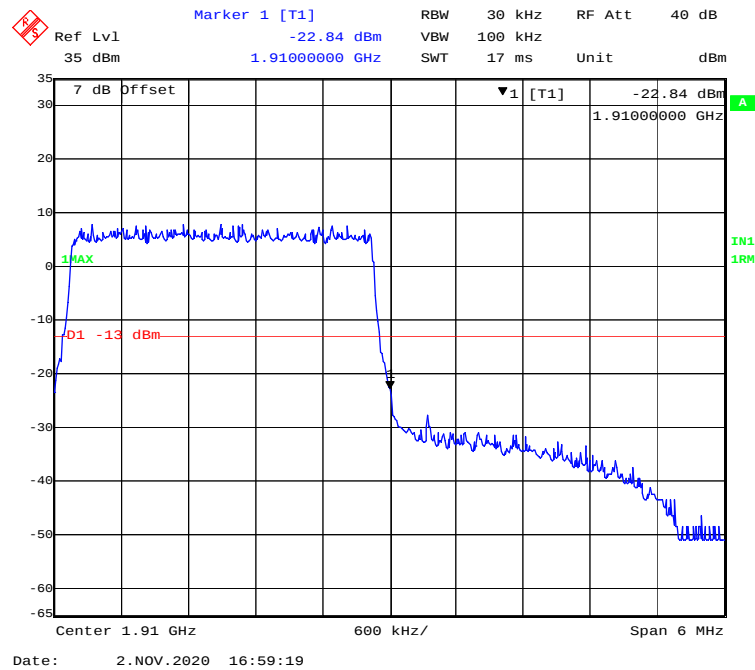
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



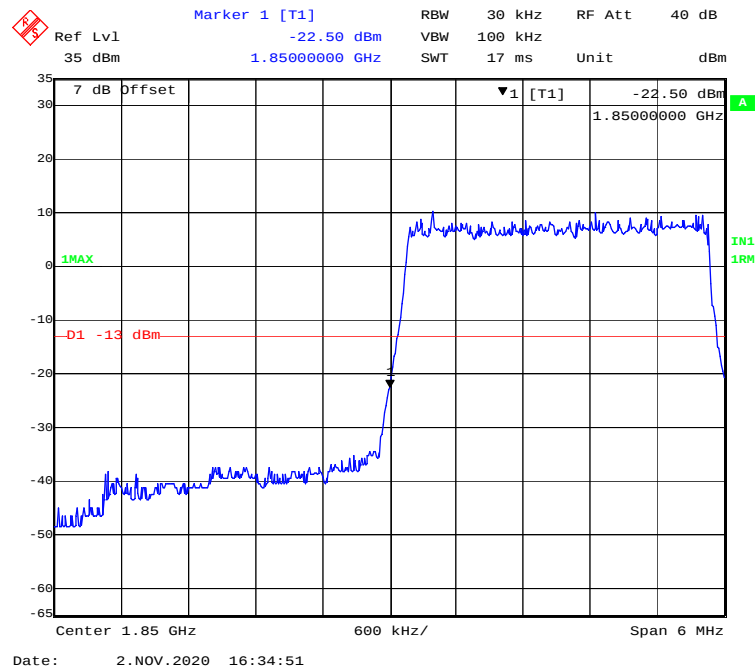
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



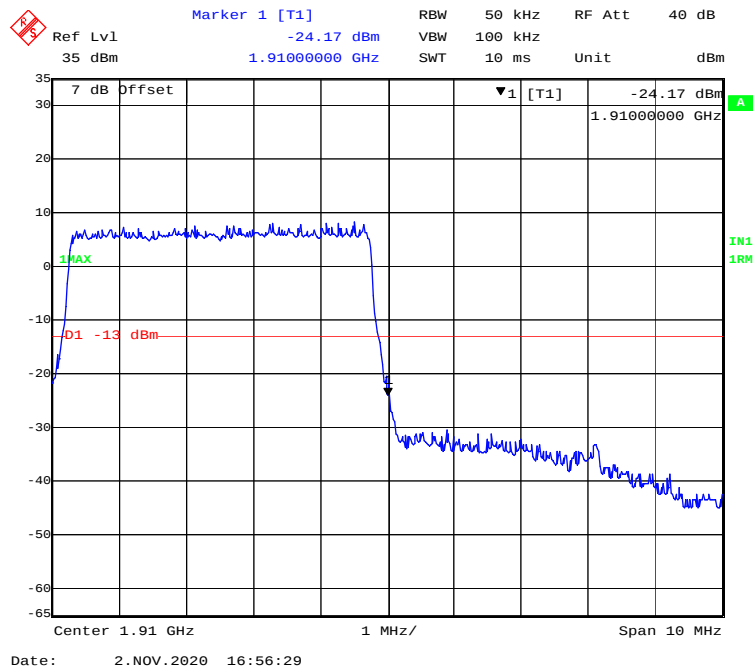
16-QAM (3 MHz, FULL RB) - Right Band Edge



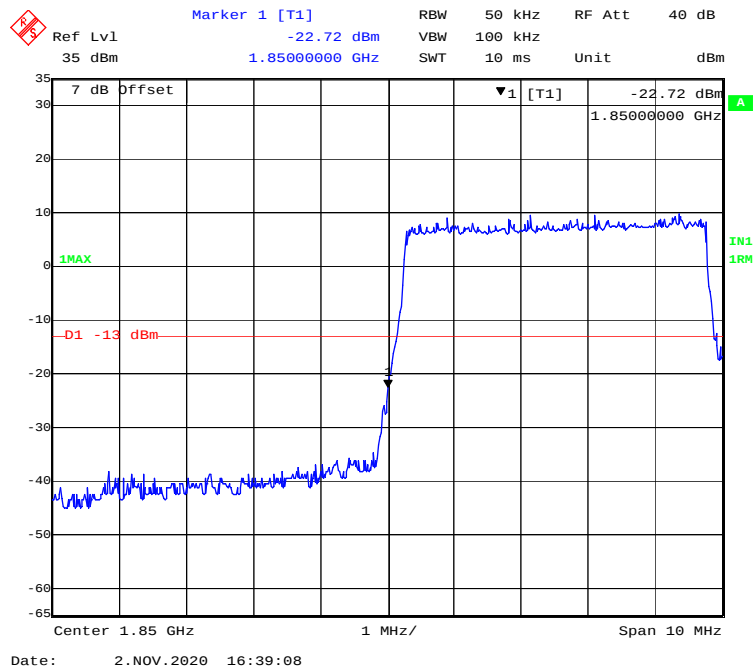
16-QAM (3 MHz, FULL RB) - Left Band Edge



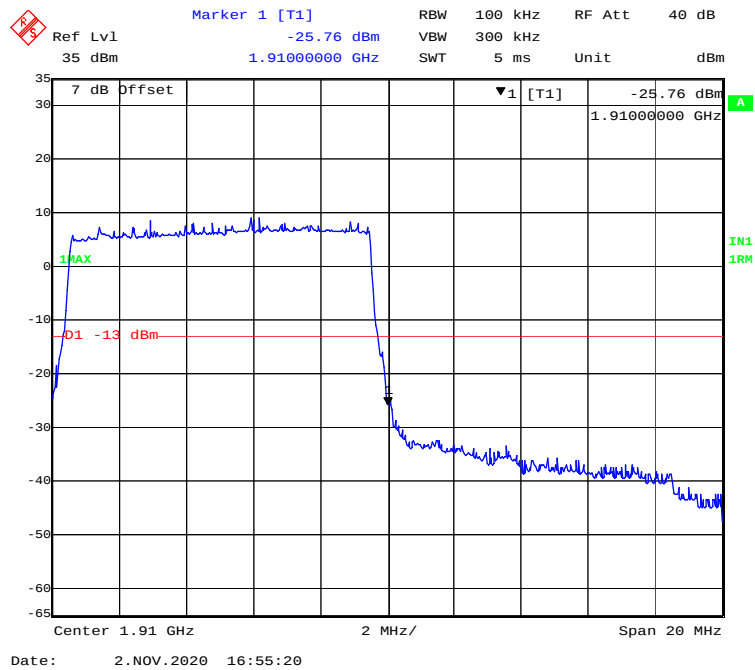
16-QAM (5 MHz, FULL RB) - Right Band Edge



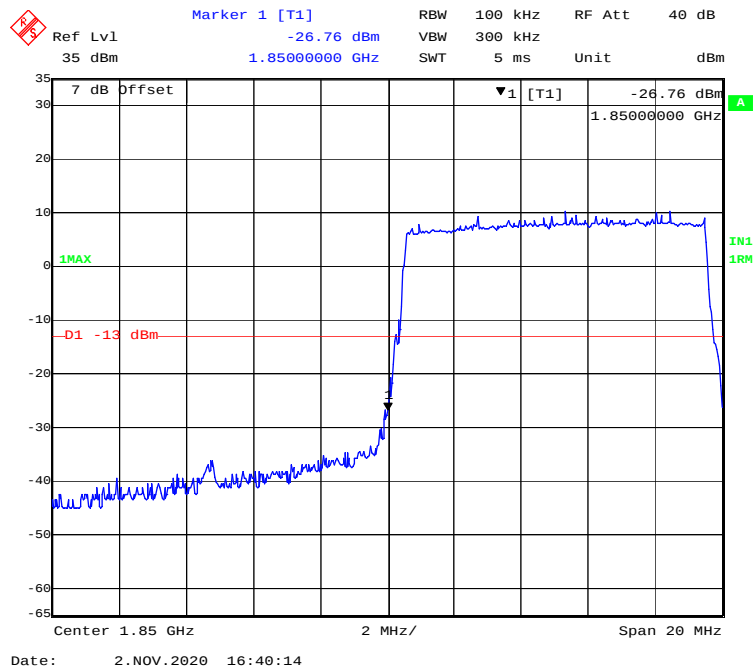
16-QAM (5 MHz, FULL RB) - Left Band Edge



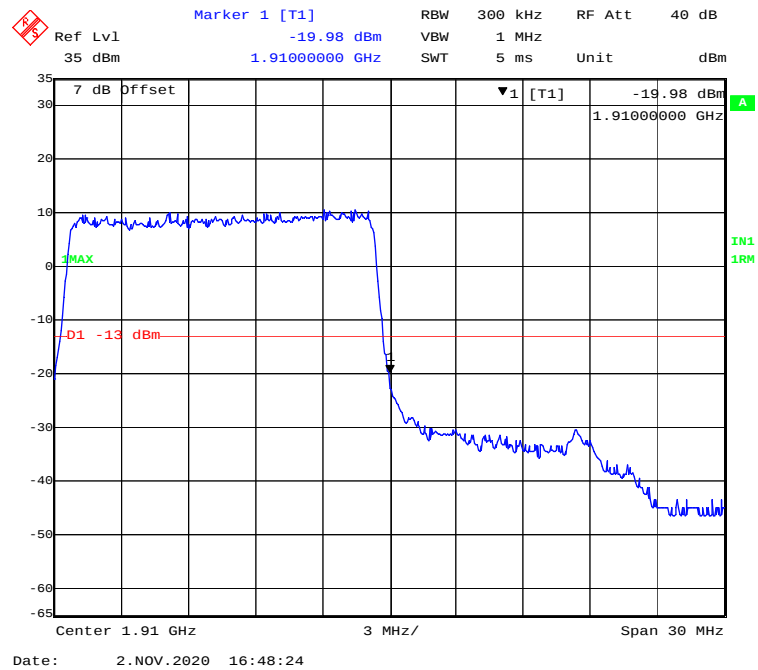
16-QAM (10 MHz, FULL RB) - Right Band Edge



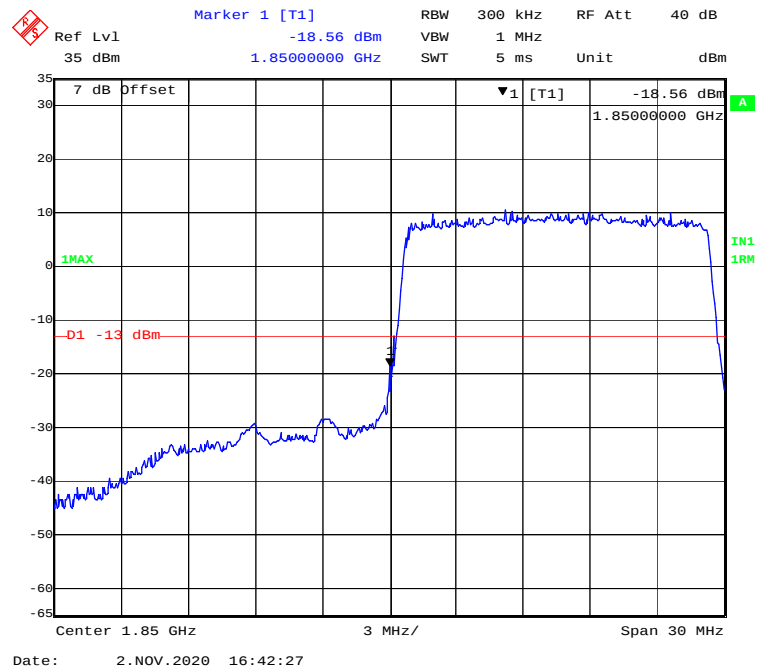
16-QAM (10 MHz, FULL RB) - Left Band Edge



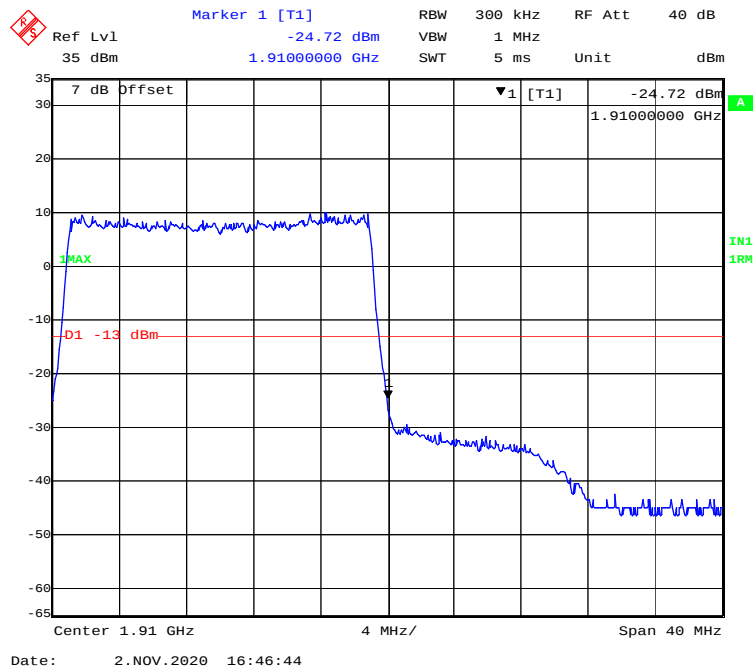
16-QAM (15 MHz, FULL RB) - Right Band Edge



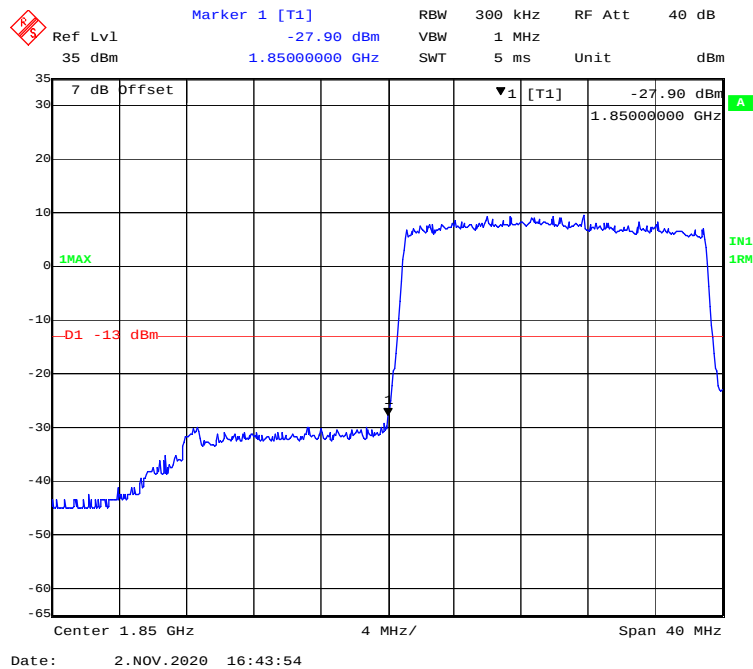
16-QAM (15 MHz, FULL RB) - Left Band Edge

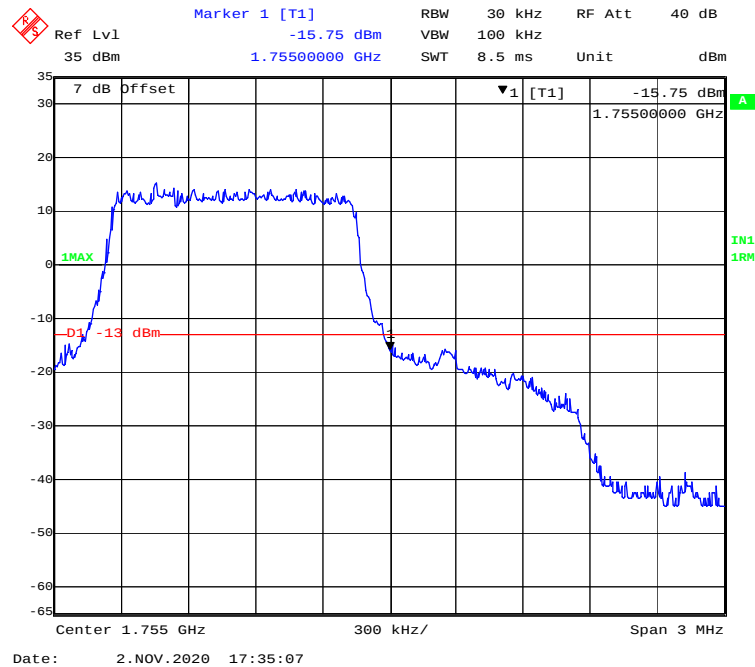
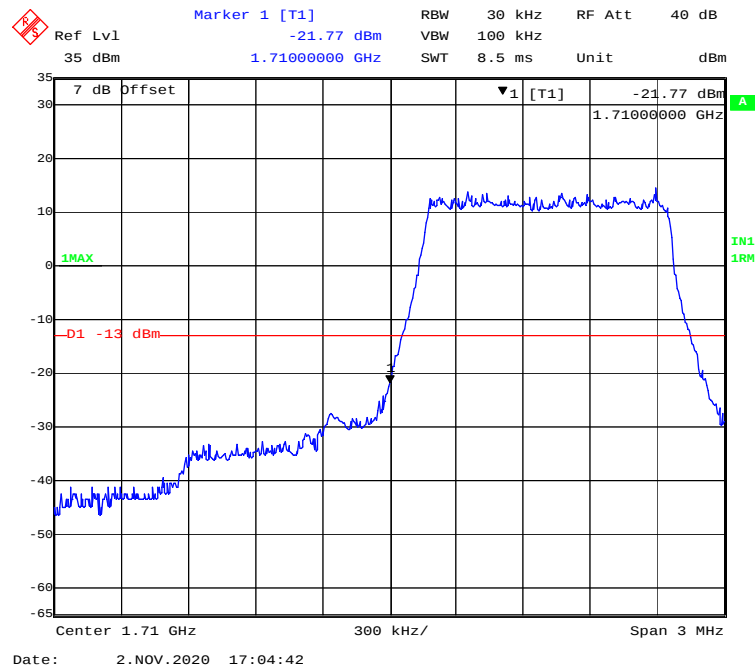


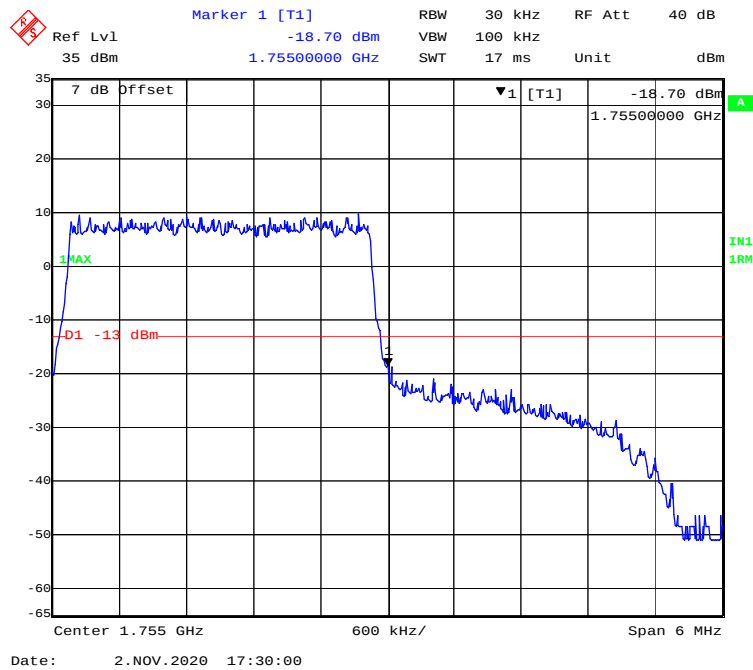
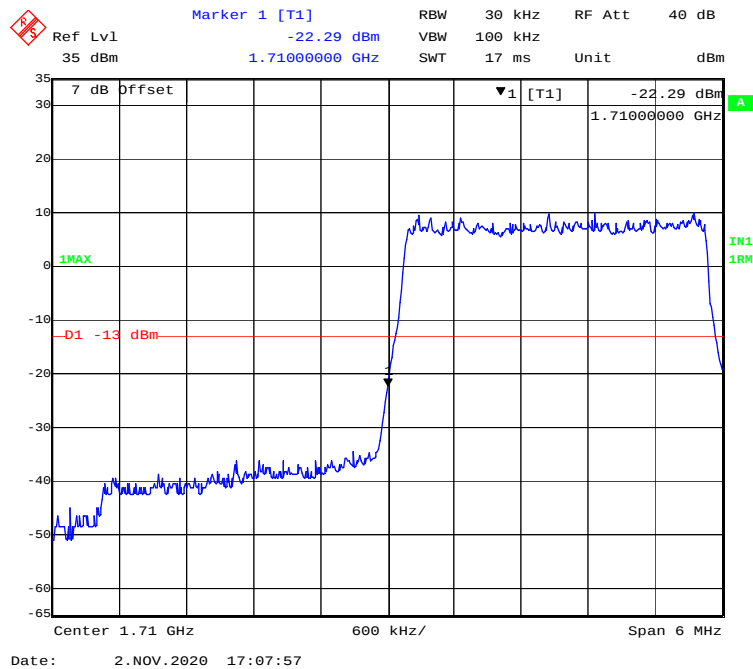
16-QAM (20 MHz, FULL RB) - Right Band Edge



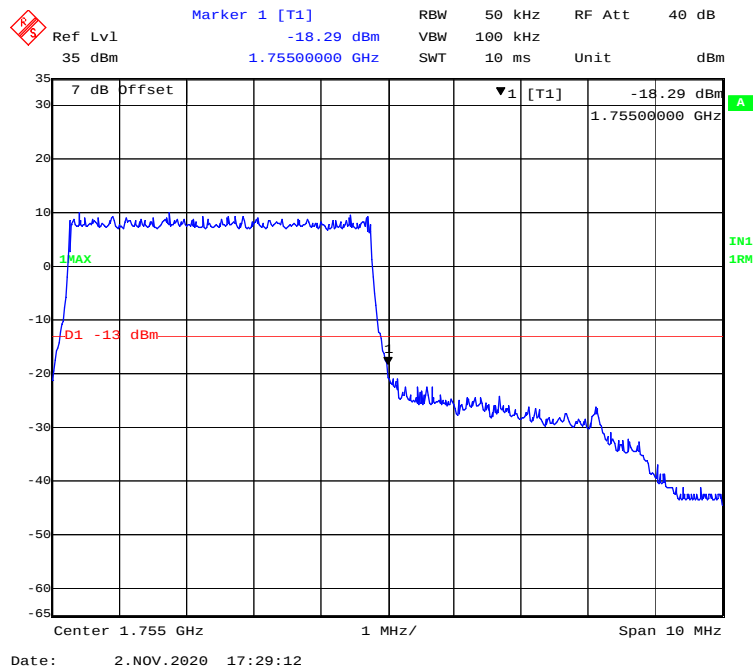
16-QAM (20 MHz, FULL RB) - Left Band Edge



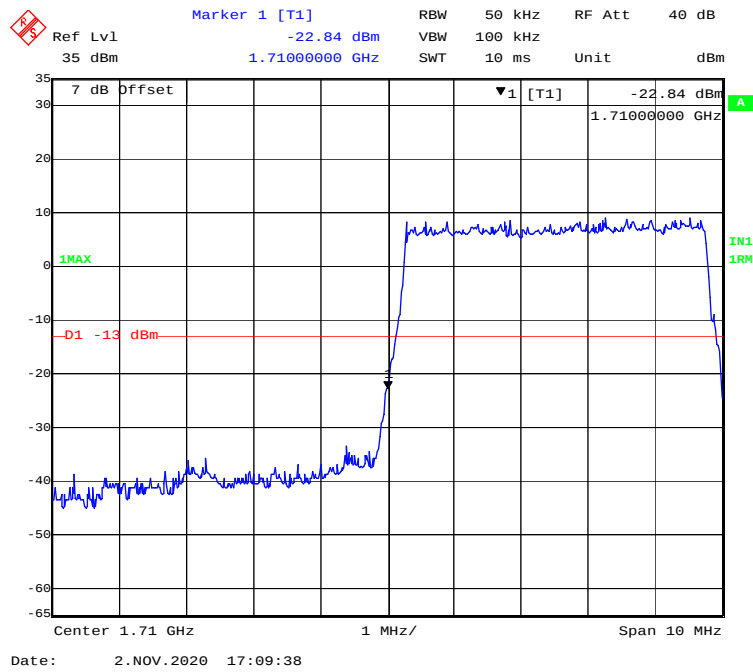
LTE Band 4:**QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

QPSK (3 MHz, FULL RB) - Right Band Edge**QPSK (3 MHz, FULL RB) - Left Band Edge**

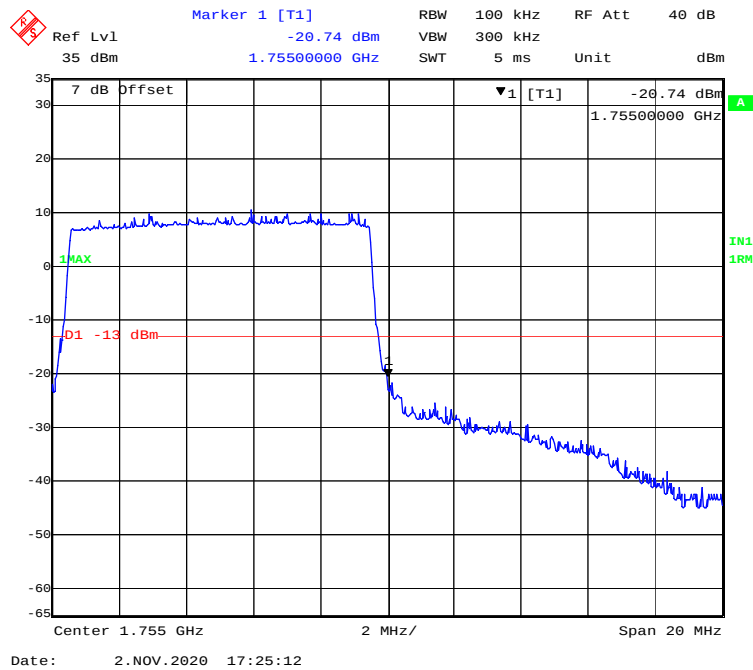
QPSK (5 MHz, FULL RB) - Right Band Edge



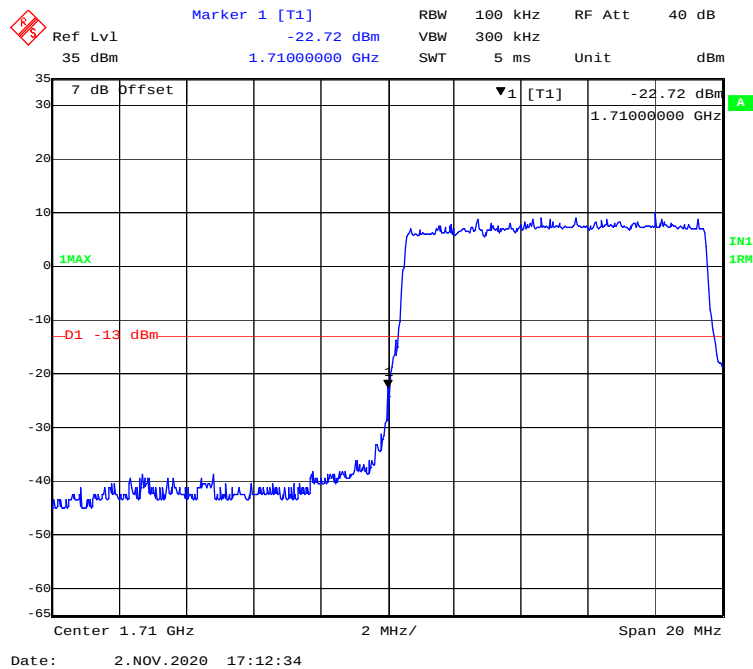
QPSK (5 MHz, FULL RB) - Left Band Edge



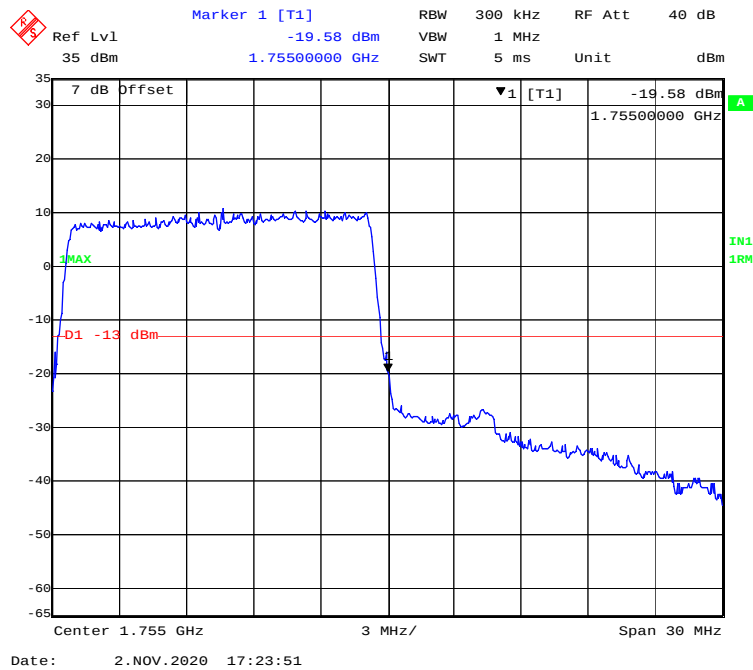
QPSK (10 MHz, FULL RB) - Right Band Edge



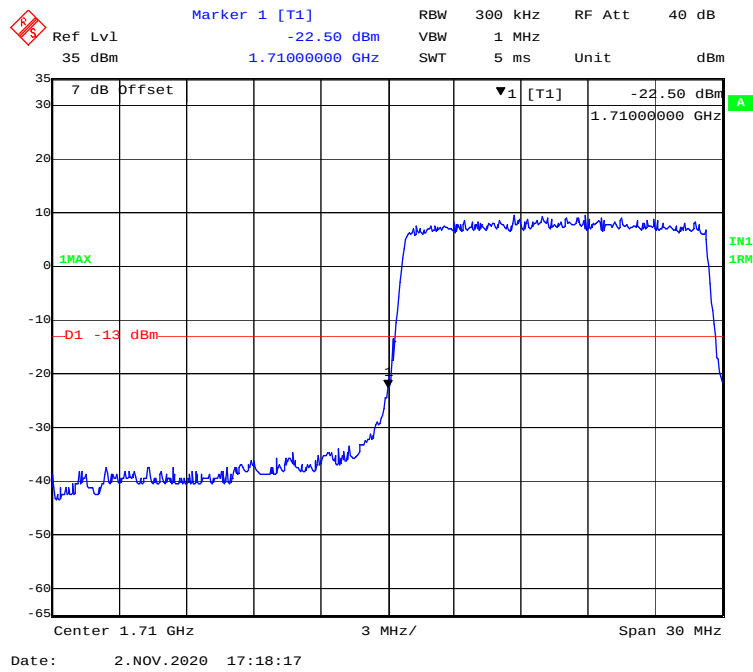
QPSK (10 MHz, FULL RB) - Left Band Edge



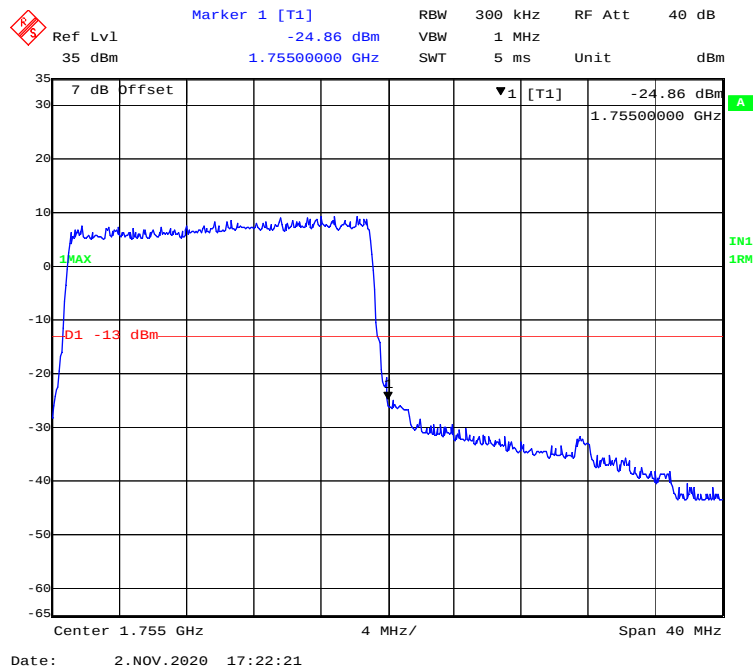
QPSK (15 MHz, FULL RB) - Right Band Edge



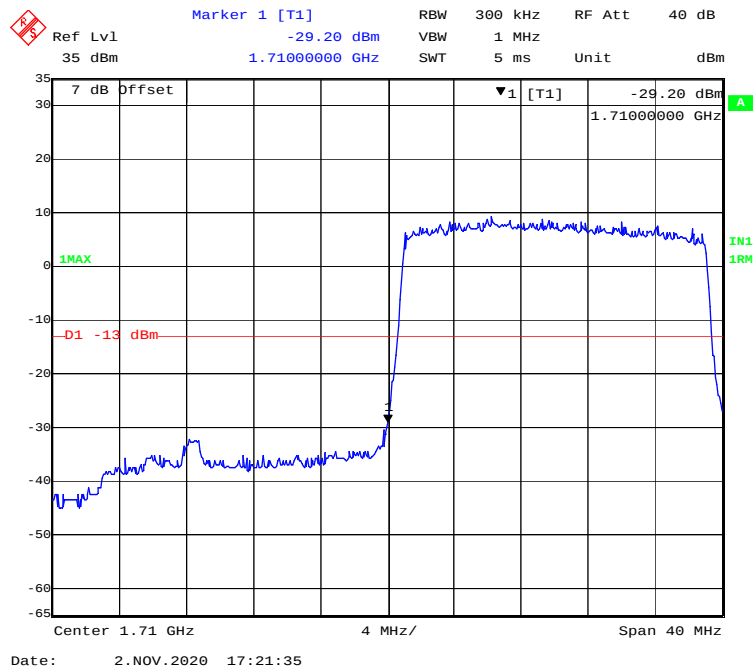
QPSK (15 MHz, FULL RB) - Left Band Edge



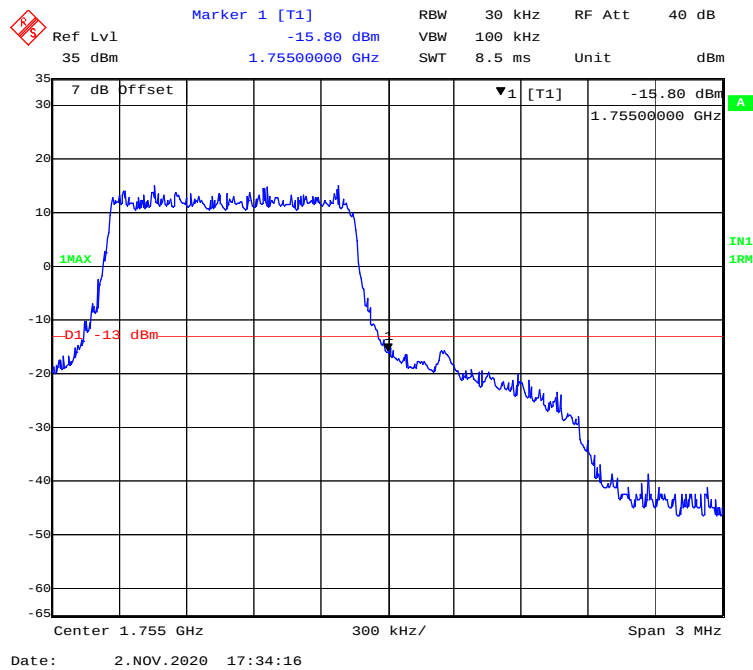
QPSK (20 MHz, FULL RB) - Right Band Edge



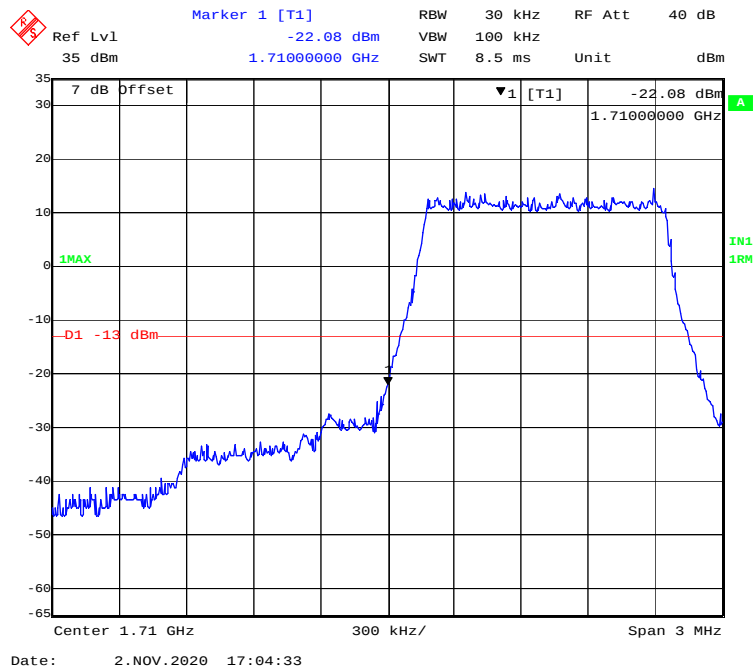
QPSK (20 MHz, FULL RB) - Left Band Edge



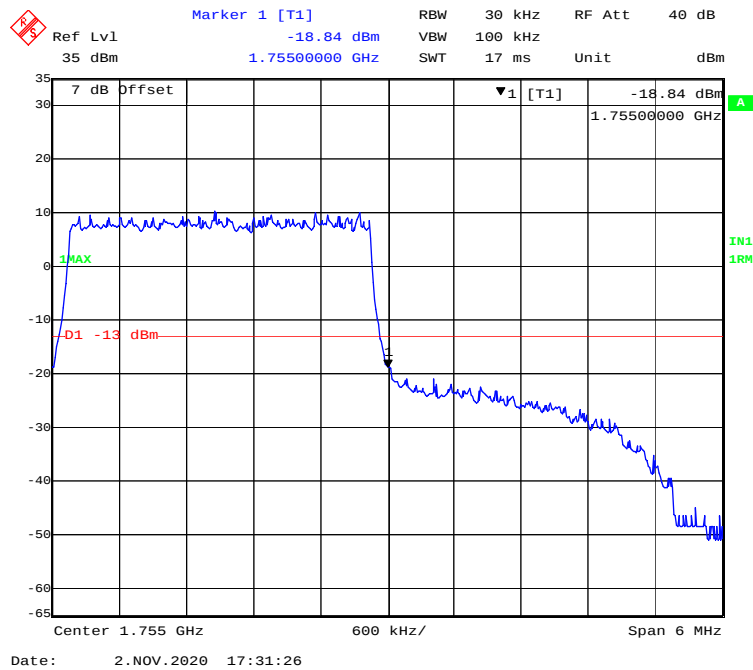
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



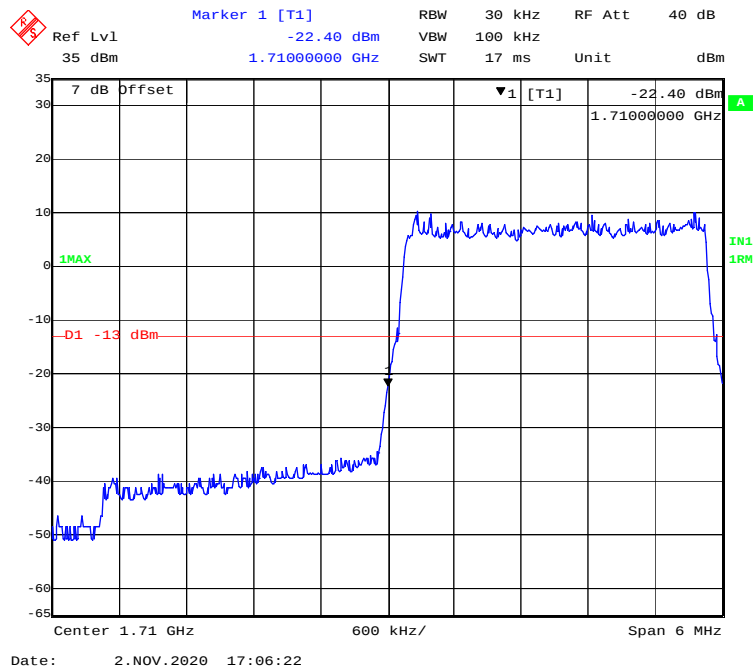
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



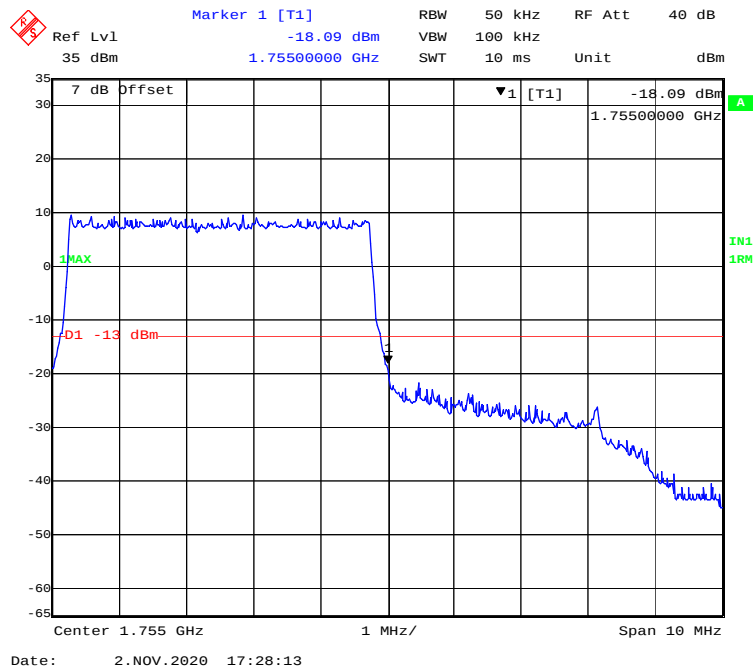
16-QAM (3 MHz, FULL RB) - Right Band Edge



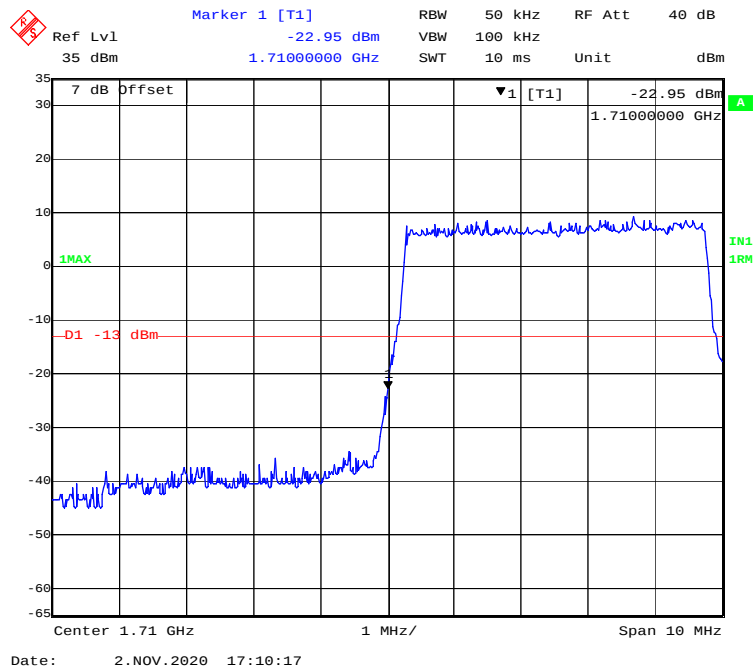
16-QAM (3 MHz, FULL RB) - Left Band Edge



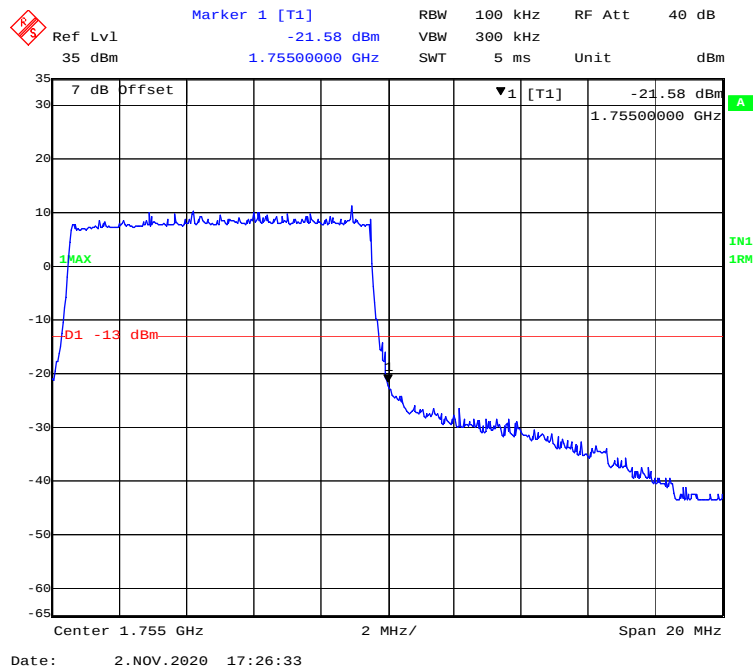
16-QAM (5 MHz, FULL RB) - Right Band Edge



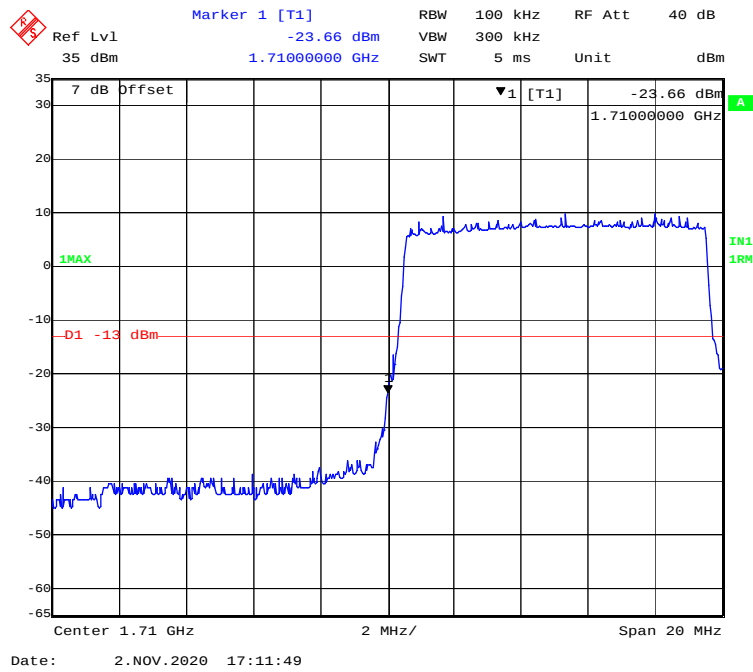
16-QAM (5 MHz, FULL RB) - Left Band Edge



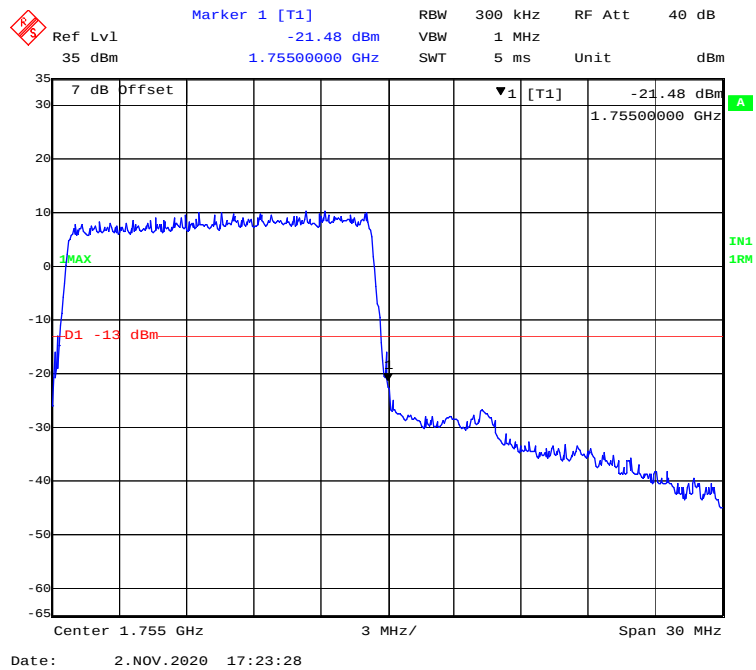
16-QAM (10 MHz, FULL RB) - Right Band Edge



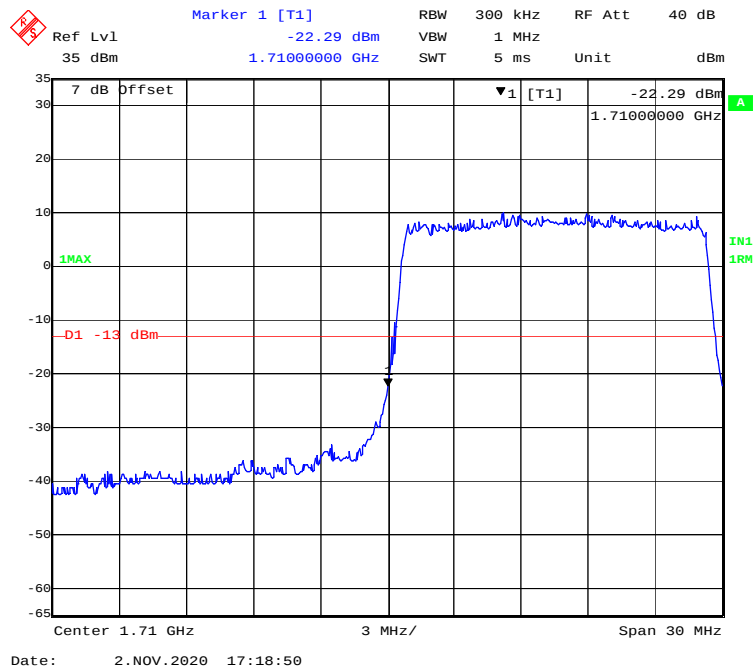
16-QAM (10 MHz, FULL RB) - Left Band Edge



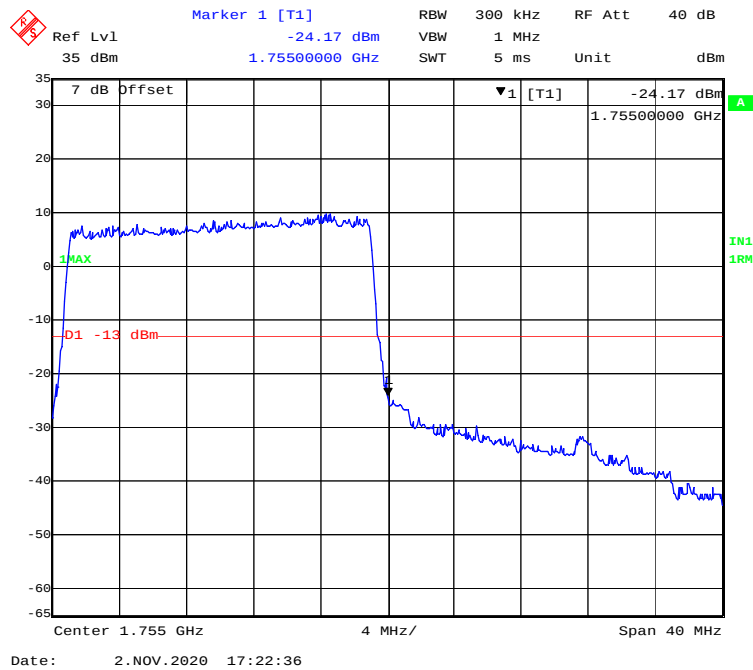
16-QAM (15 MHz, FULL RB) - Right Band Edge



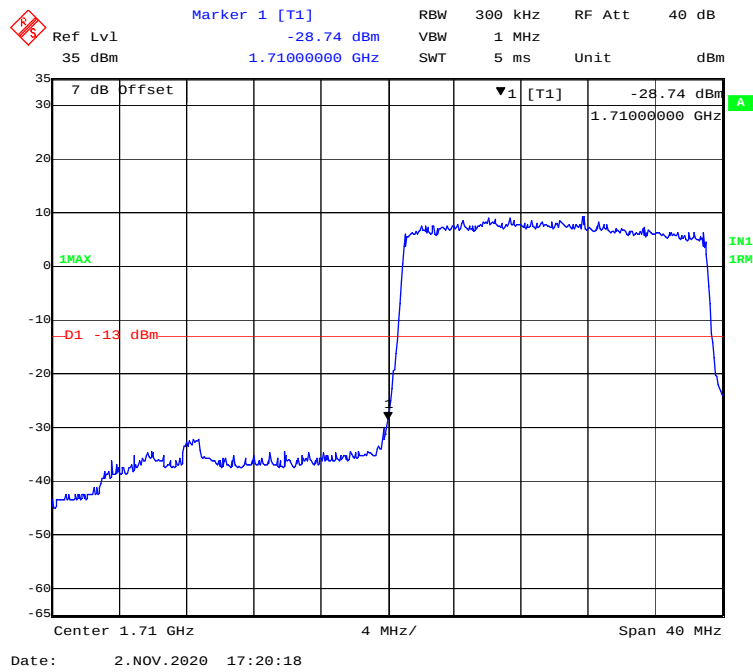
16-QAM (15 MHz, FULL RB) - Left Band Edge

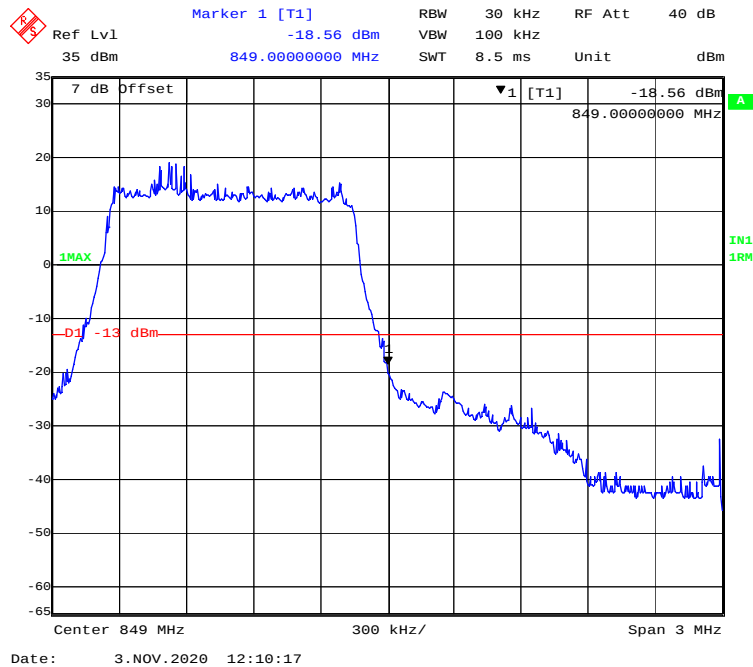
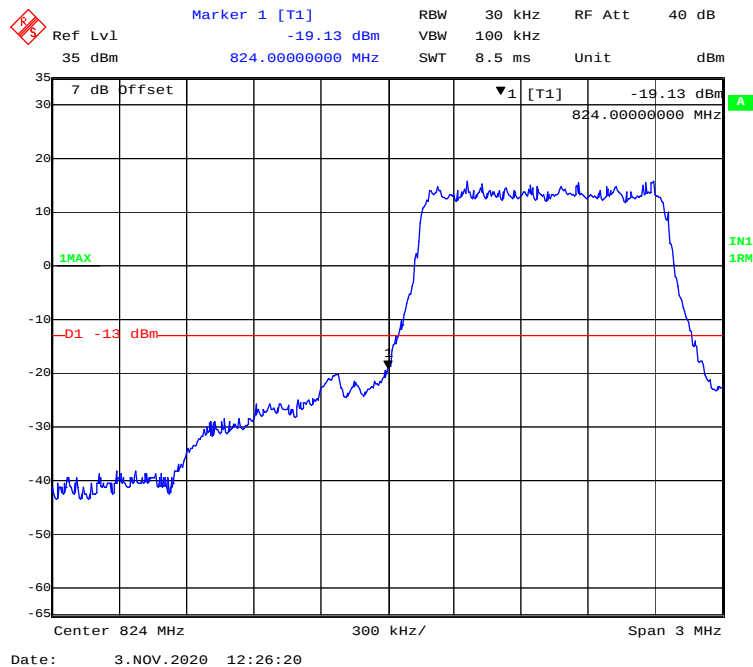


16-QAM (20 MHz, FULL RB) - Right Band Edge

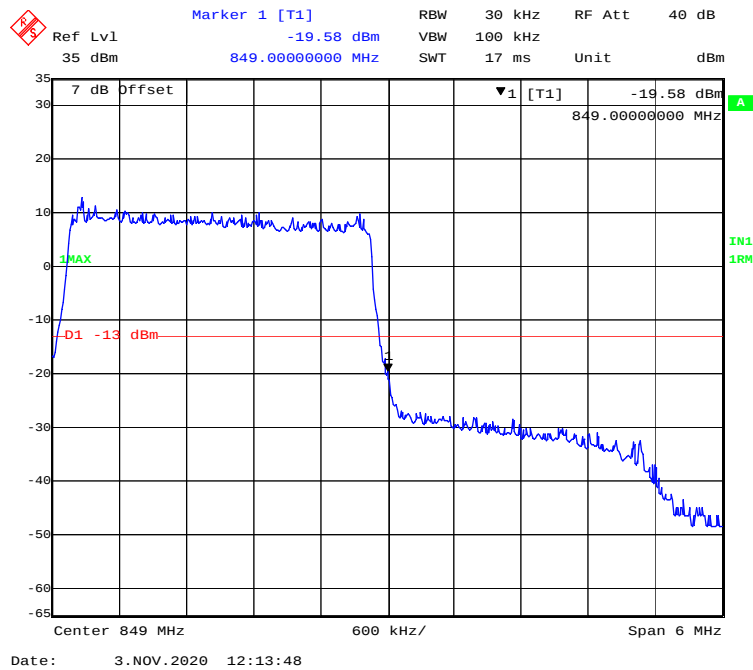


16-QAM (20 MHz, FULL RB) - Left Band Edge

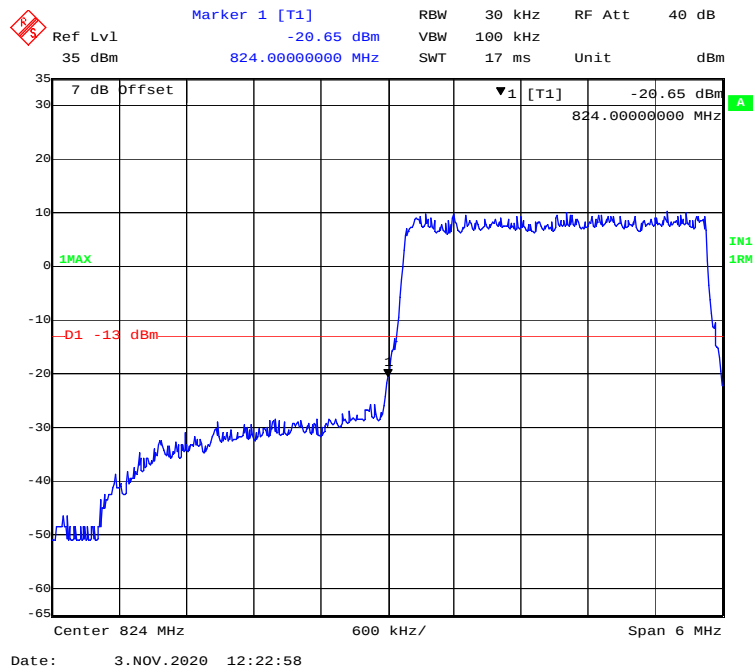


LTE Band 5:**QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

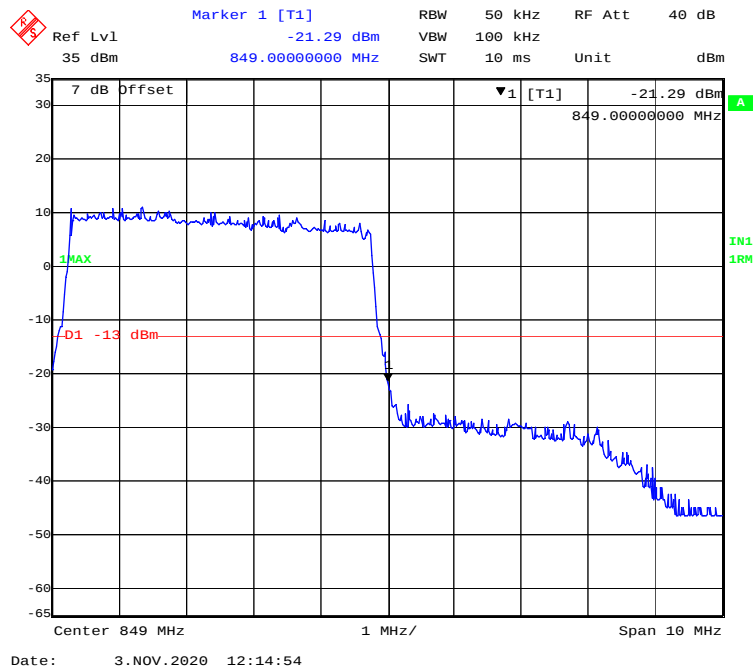
QPSK (3.0 MHz, FULL RB) - Right Band Edge



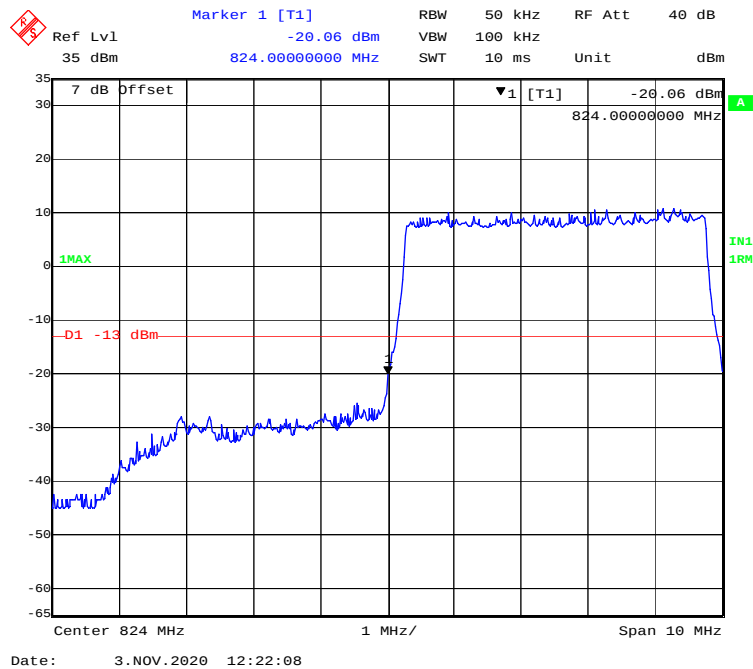
QPSK (3.0 MHz, FULL RB) - Left Band Edge



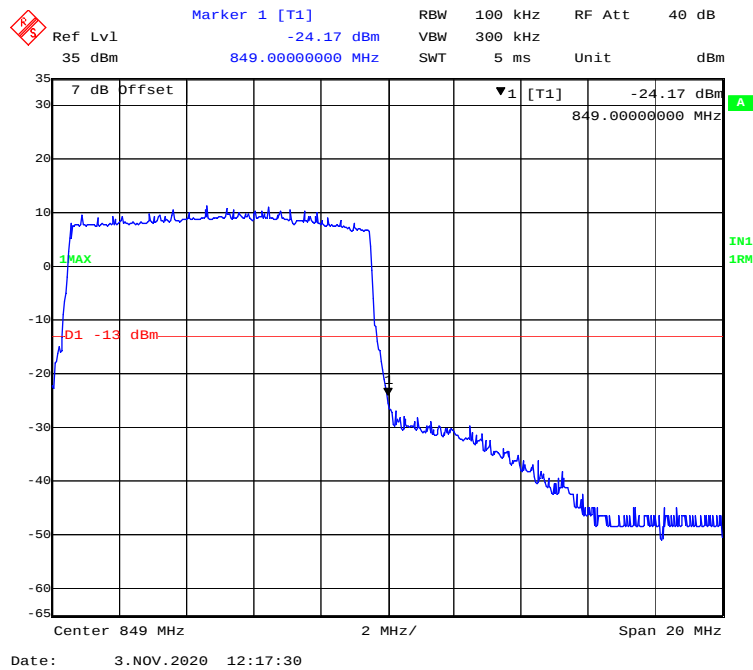
QPSK (5.0 MHz, FULL RB) - Right Band Edge



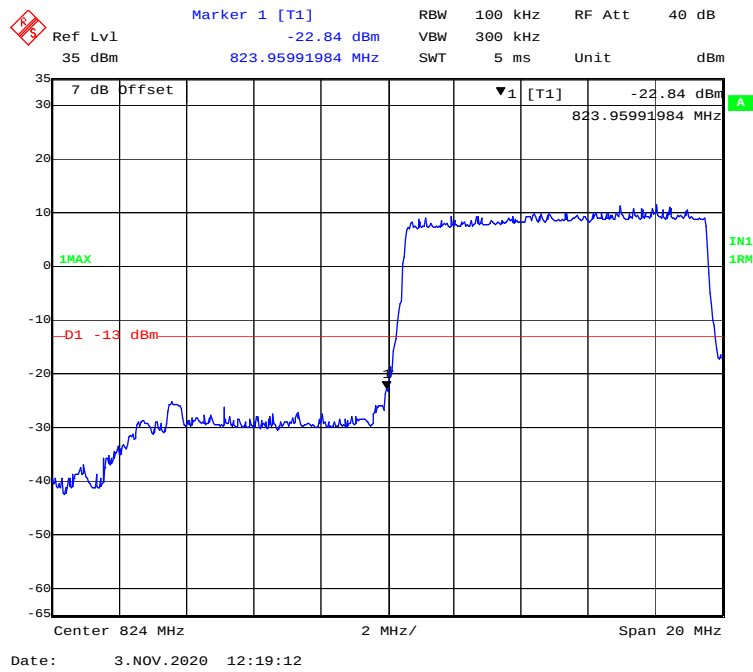
QPSK (5.0 MHz, FULL RB) - Left Band Edge



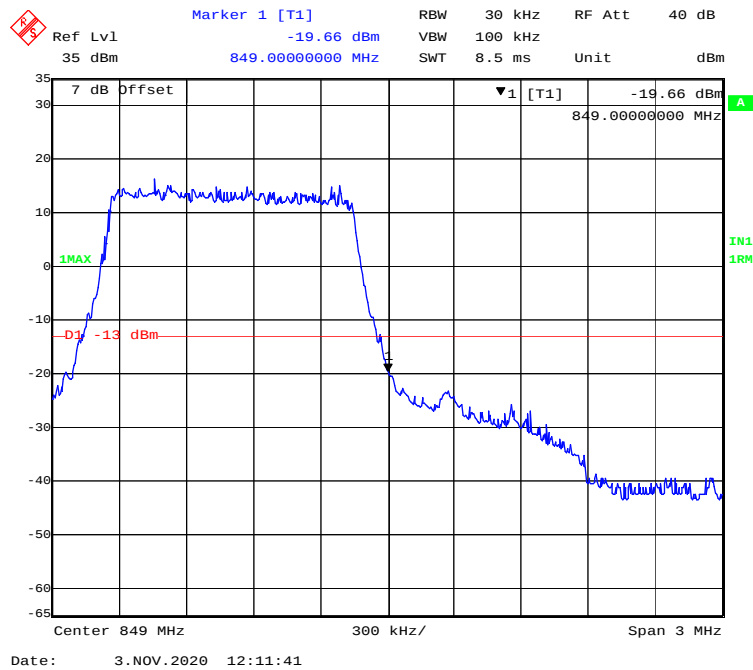
QPSK (10.0 MHz, FULL RB) - Right Band Edge



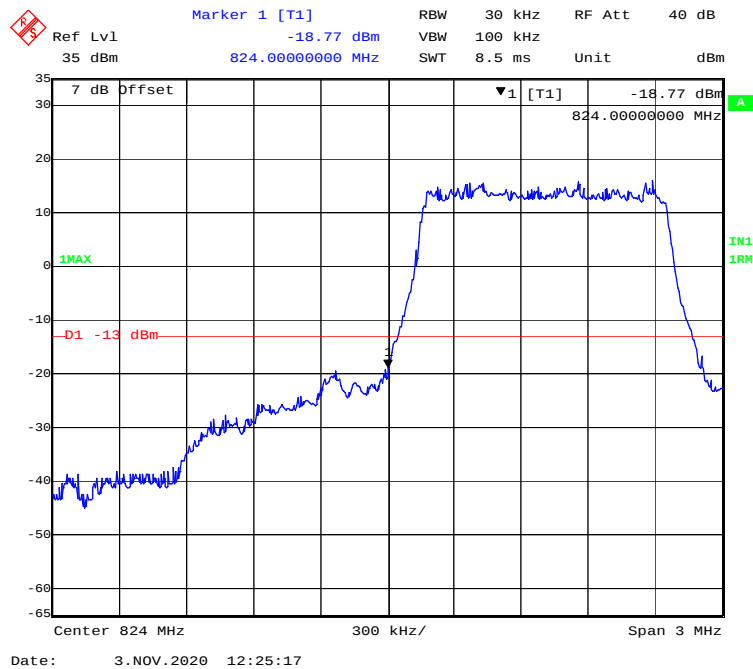
QPSK (10.0 MHz, FULL RB) - Left Band Edge



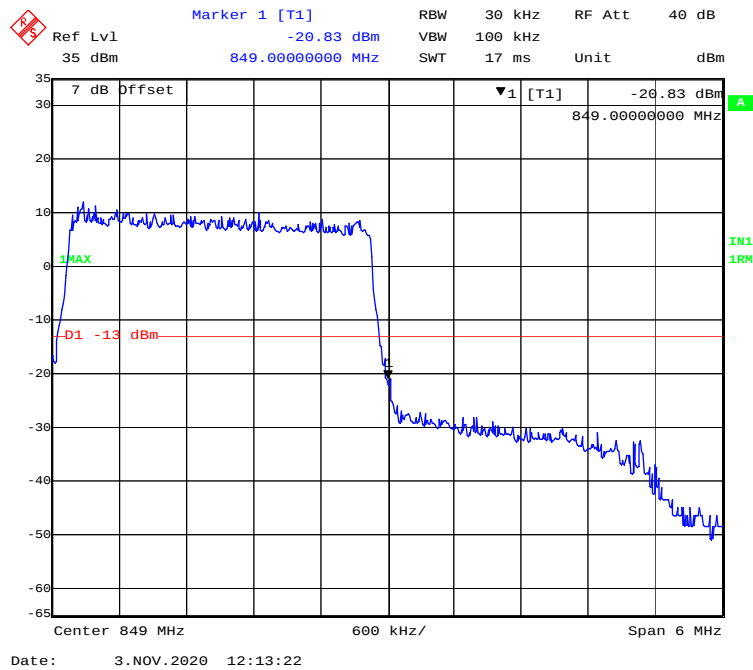
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



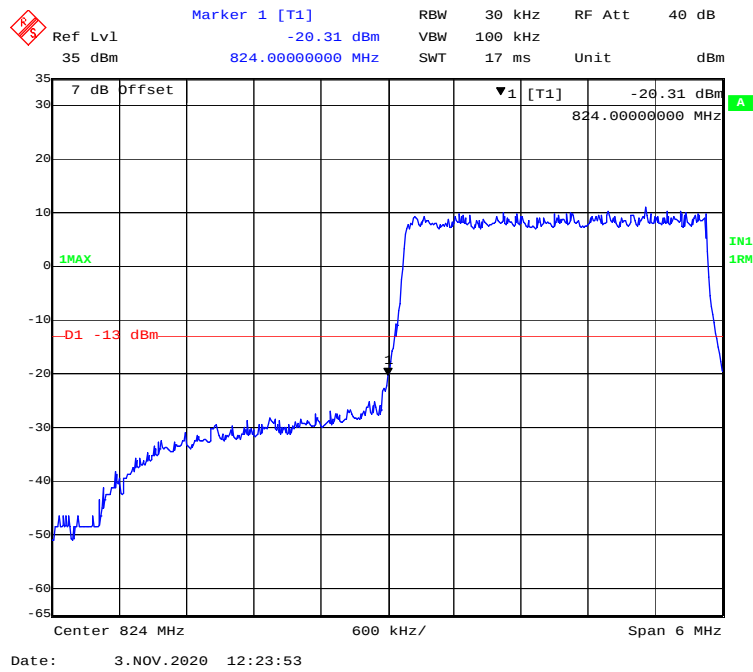
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



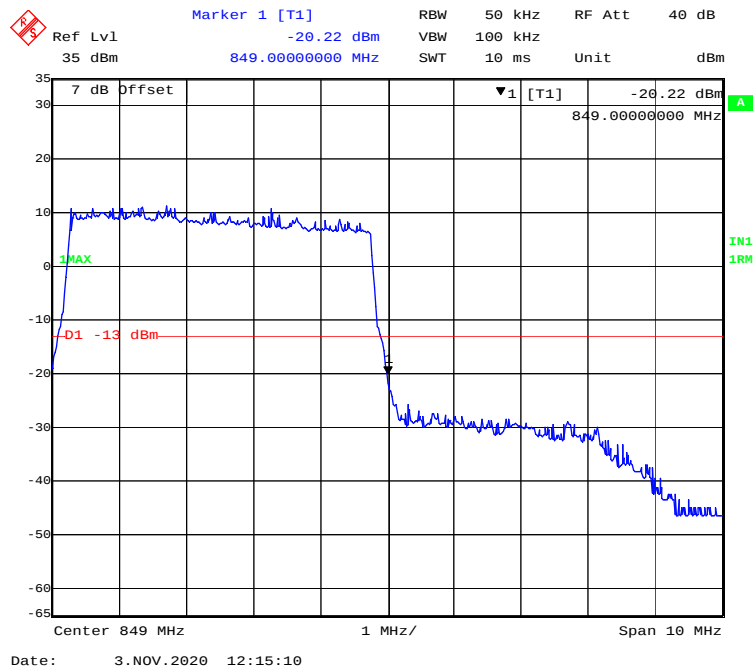
16-QAM (3.0 MHz, FULL RB) - Right Band Edge



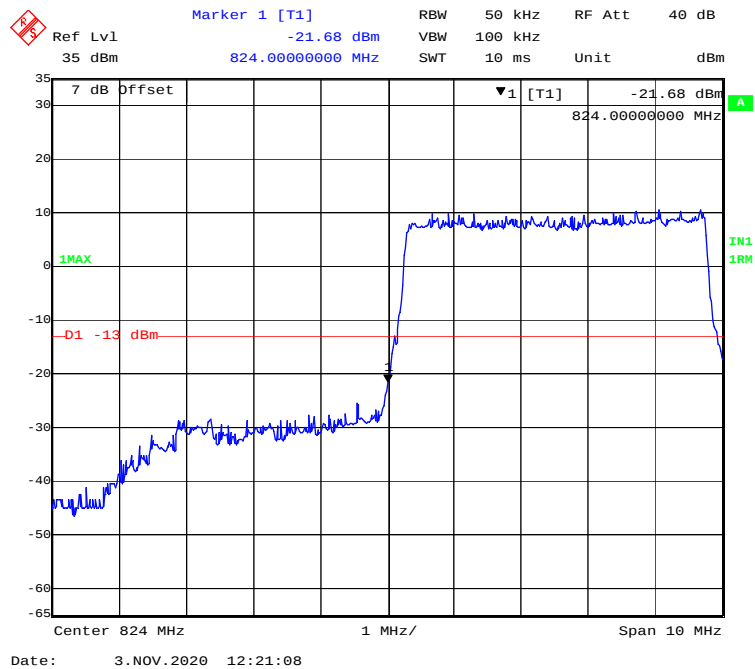
16-QAM (3.0 MHz, FULL RB) - Left Band Edge



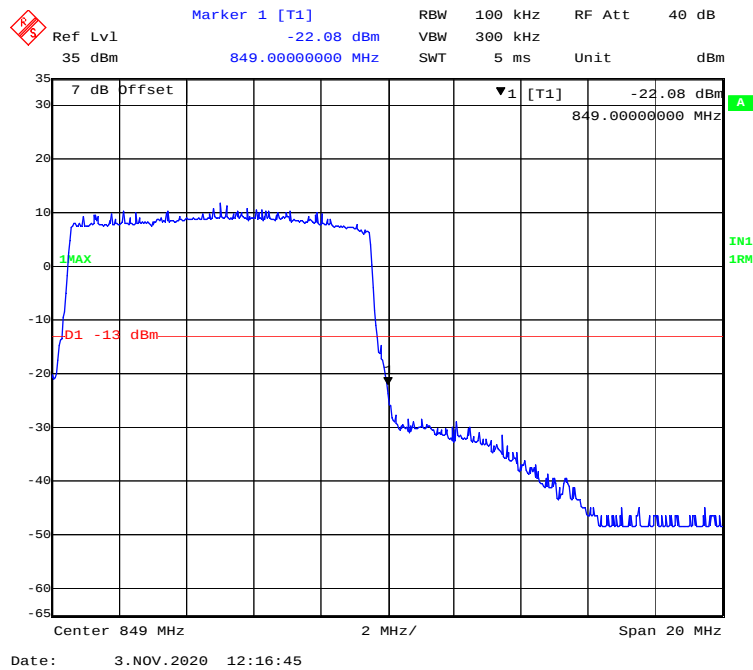
16-QAM (5.0 MHz, FULL RB) - Right Band Edge



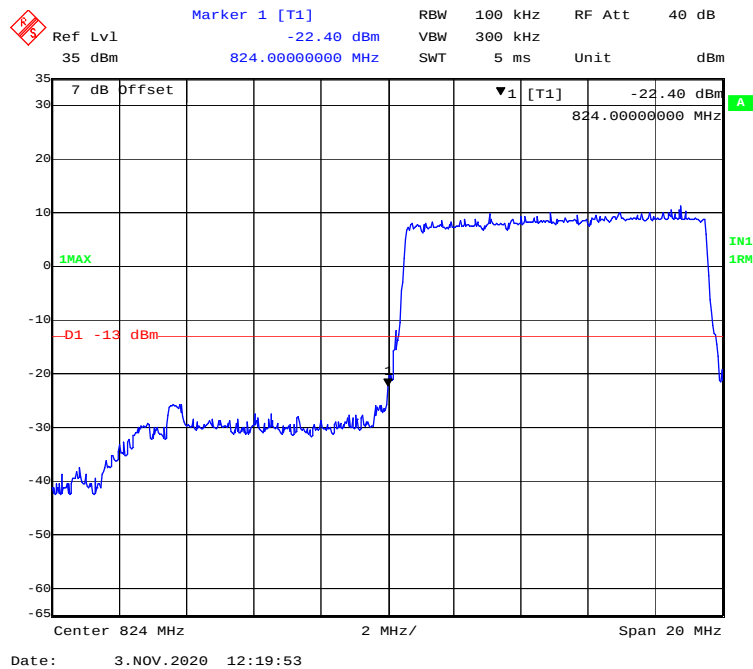
16-QAM (5.0 MHz, FULL RB) - Left Band Edge



16-QAM (10.0 MHz, FULL RB) - Right Band Edge

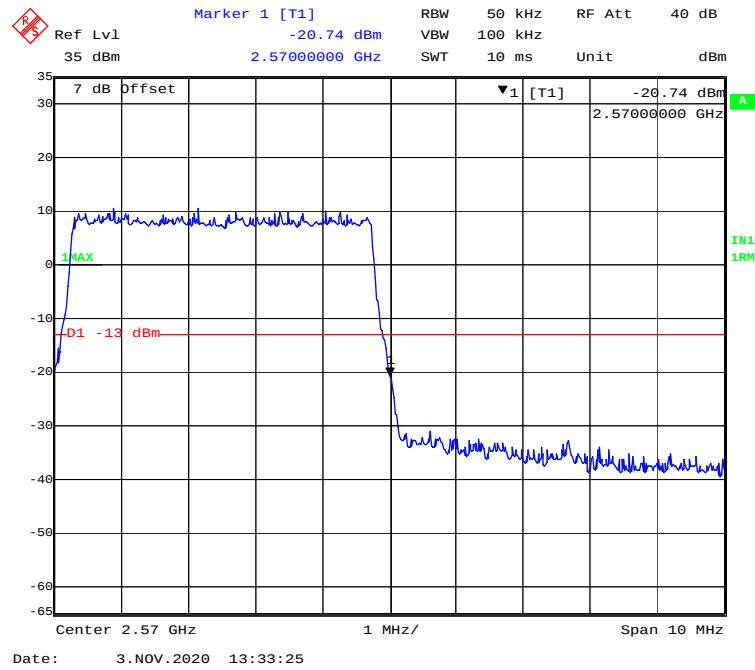


16-QAM (10.0 MHz, FULL RB) - Left Band Edge

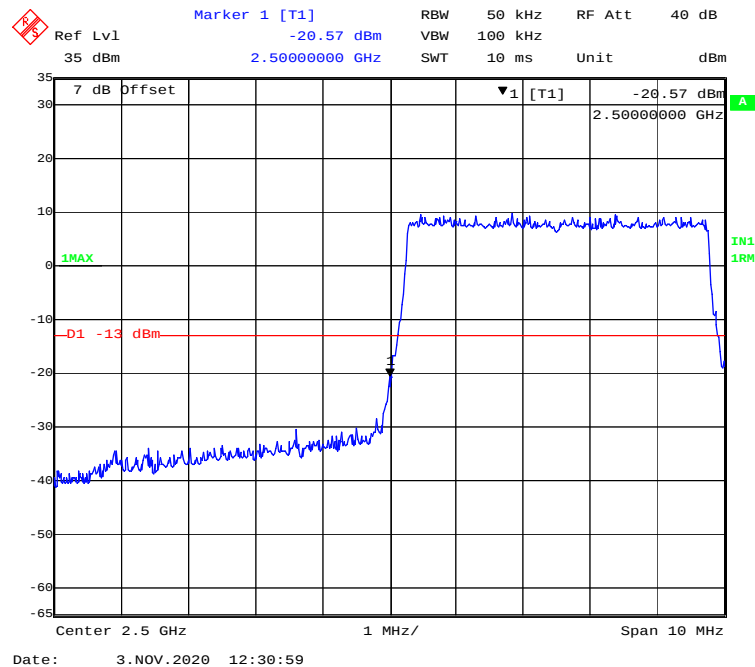


LTE Band 7:

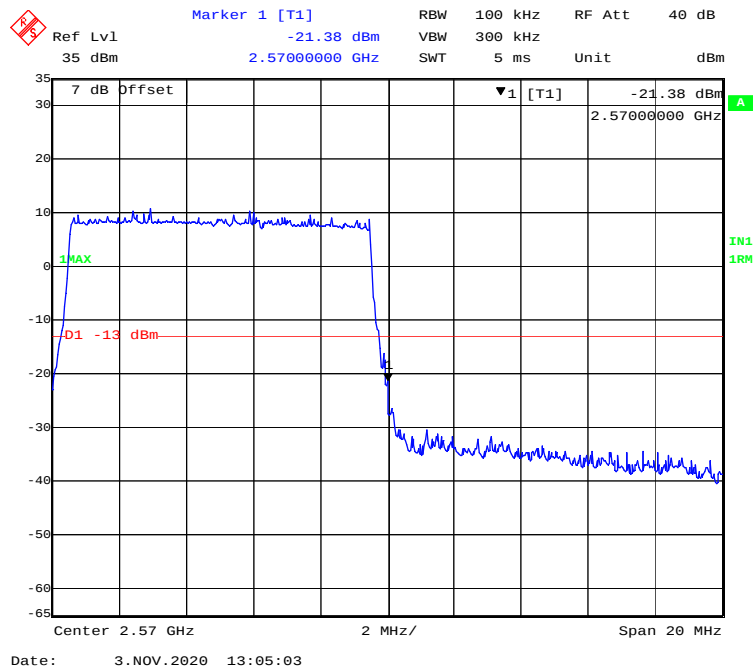
QPSK (5 MHz, FULL RB) - Right Band Edge



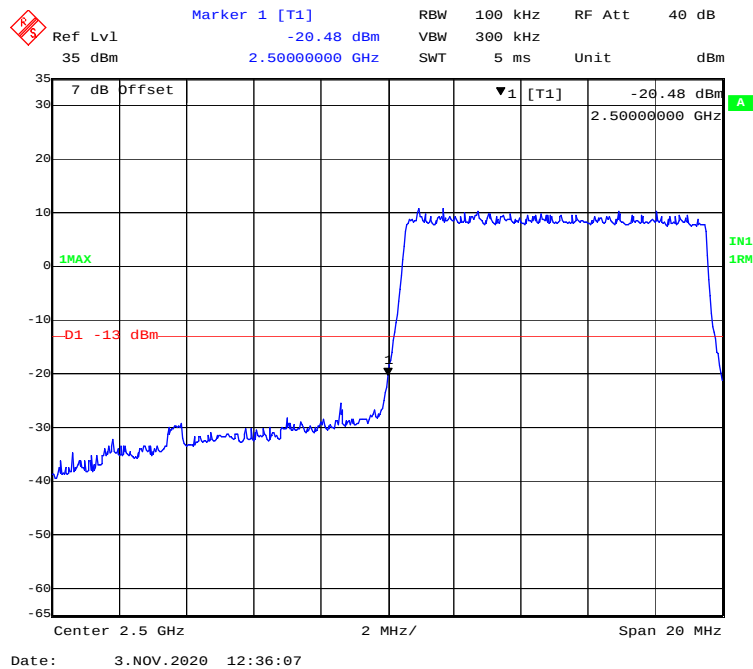
QPSK (5 MHz, FULL RB) - Left Band Edge



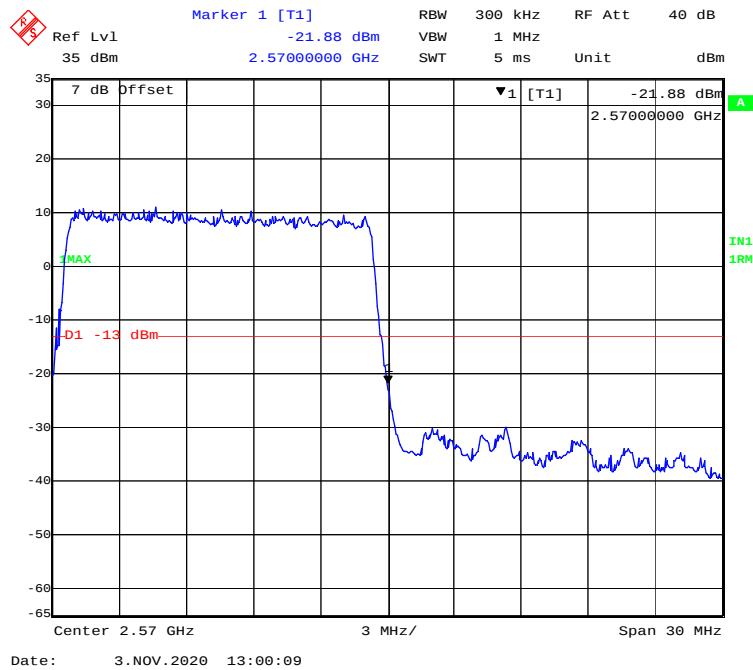
QPSK (10 MHz, FULL RB) - Right Band Edge



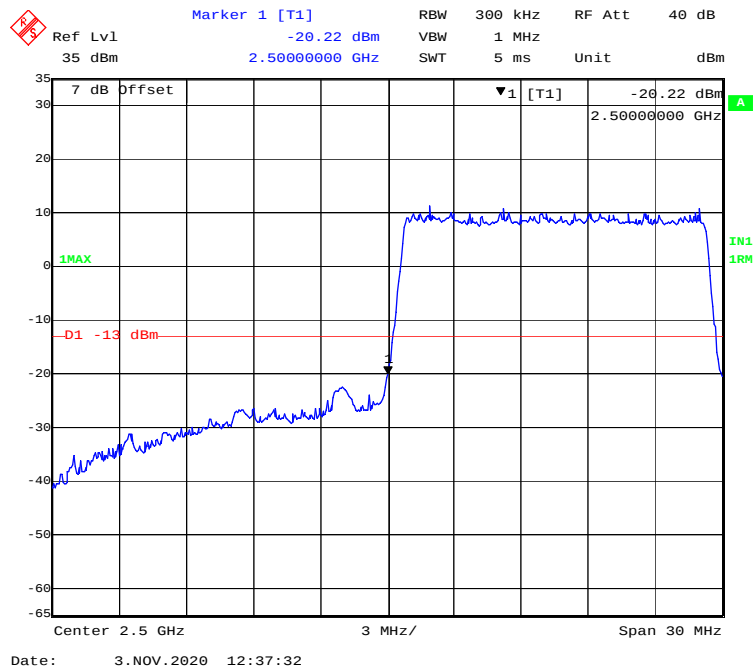
QPSK (10 MHz, FULL RB) - Left Band Edge



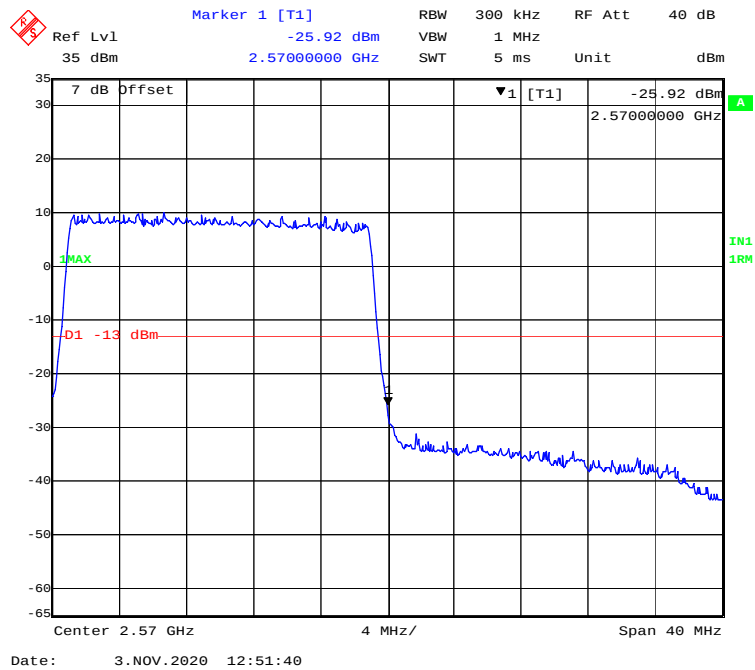
QPSK (15 MHz, FULL RB) - Right Band Edge



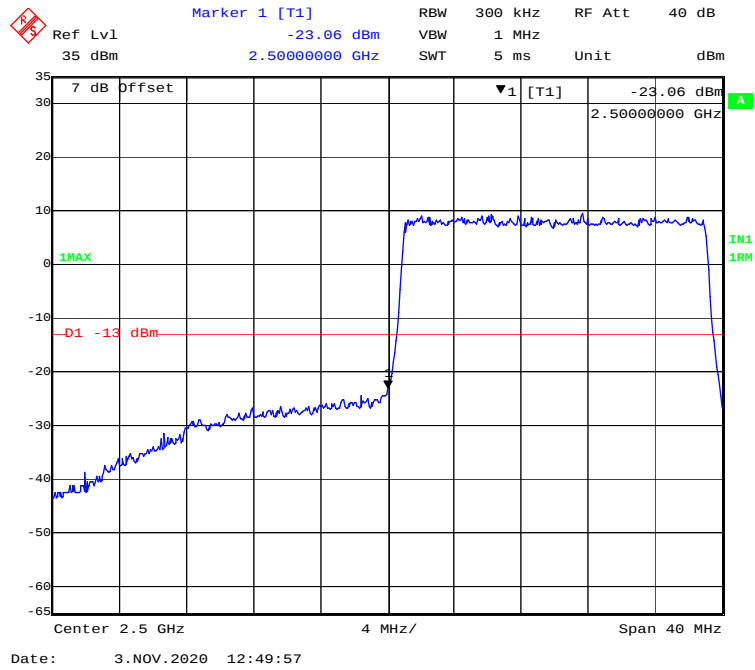
QPSK (15 MHz, FULL RB) - Left Band Edge



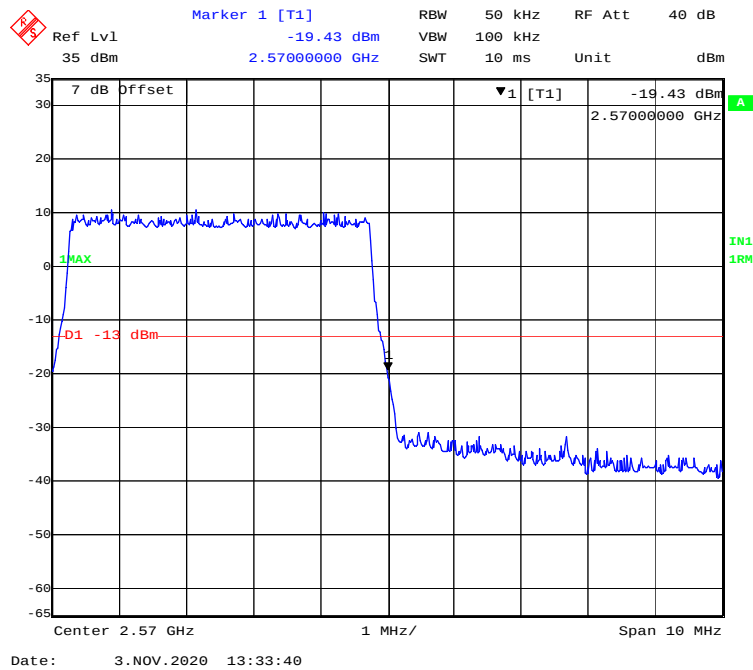
QPSK (20 MHz, FULL RB) - Right Band Edge



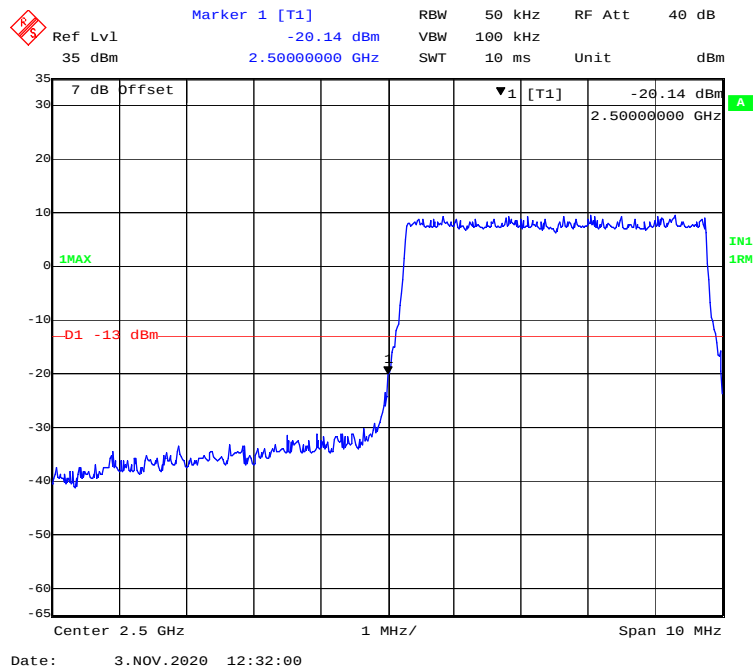
QPSK (20 MHz, FULL RB) - Left Band Edge



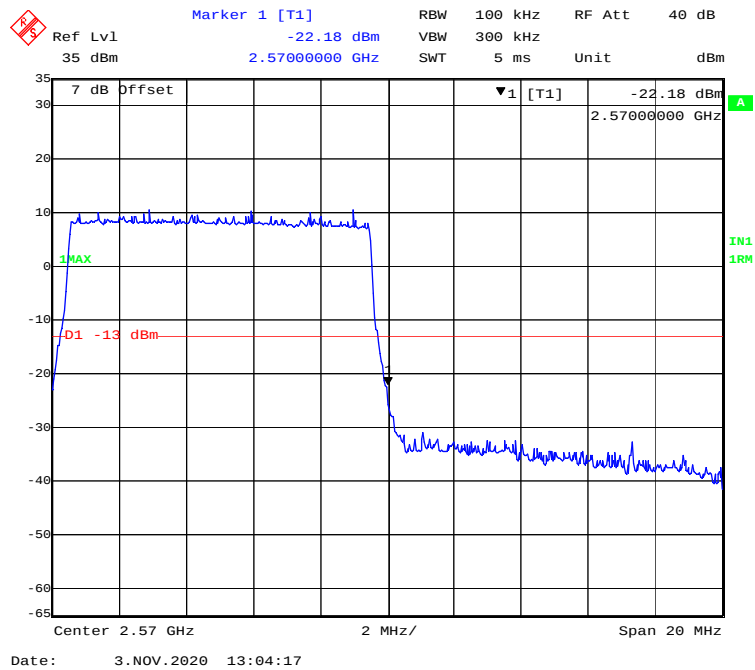
16-QAM (5 MHz, FULL RB) - Right Band Edge



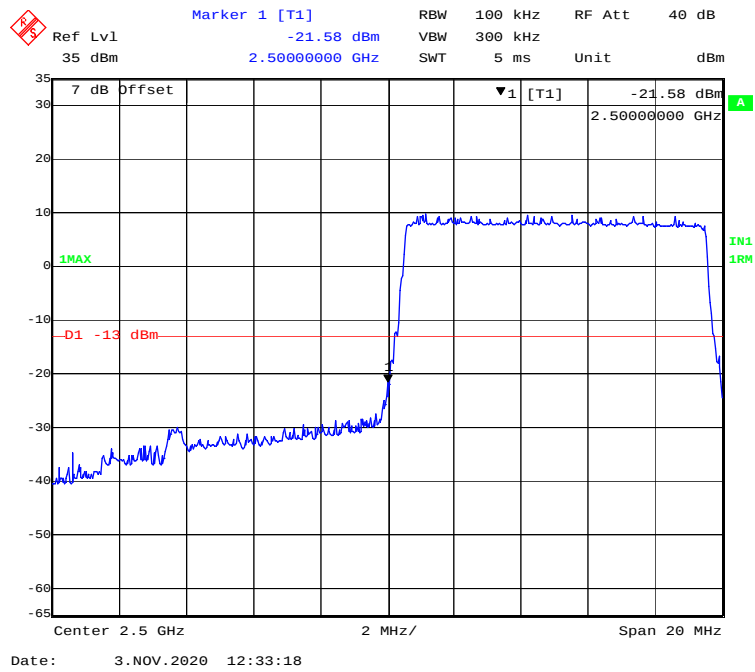
16-QAM (5 MHz, FULL RB) - Left Band Edge

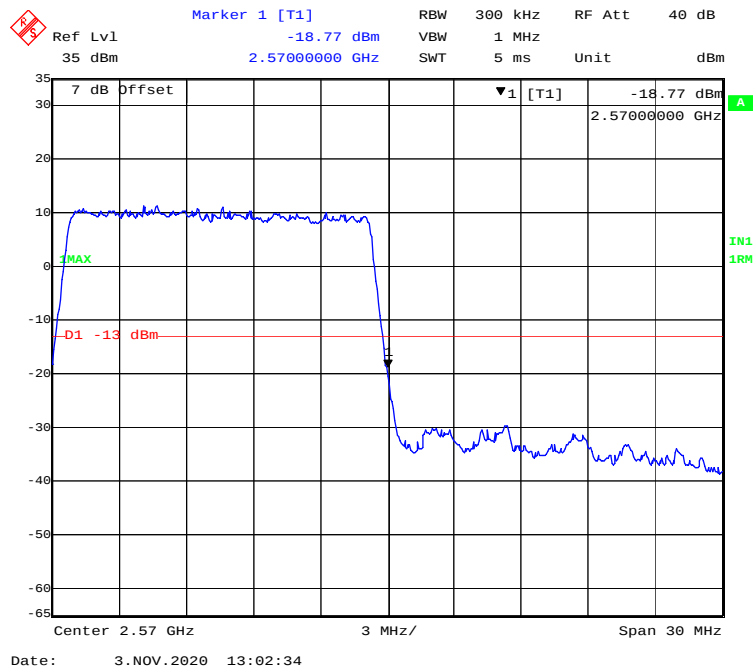
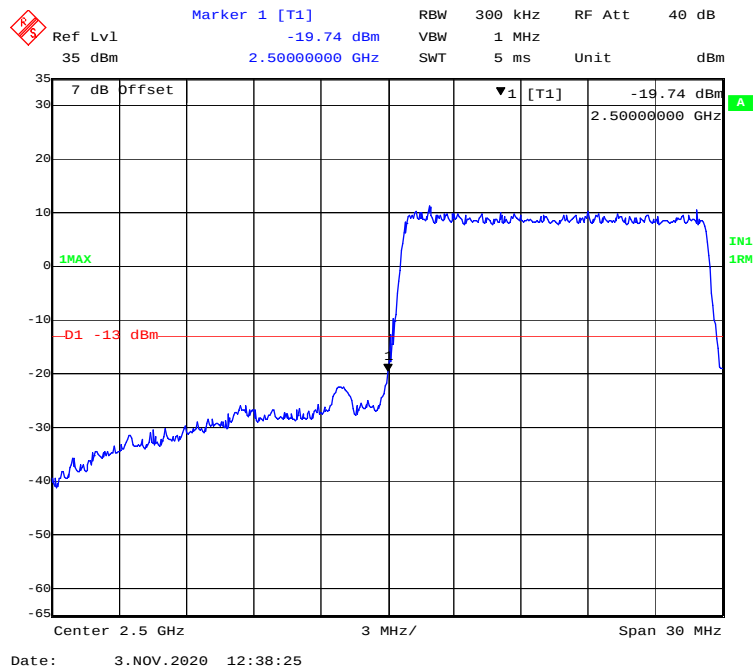


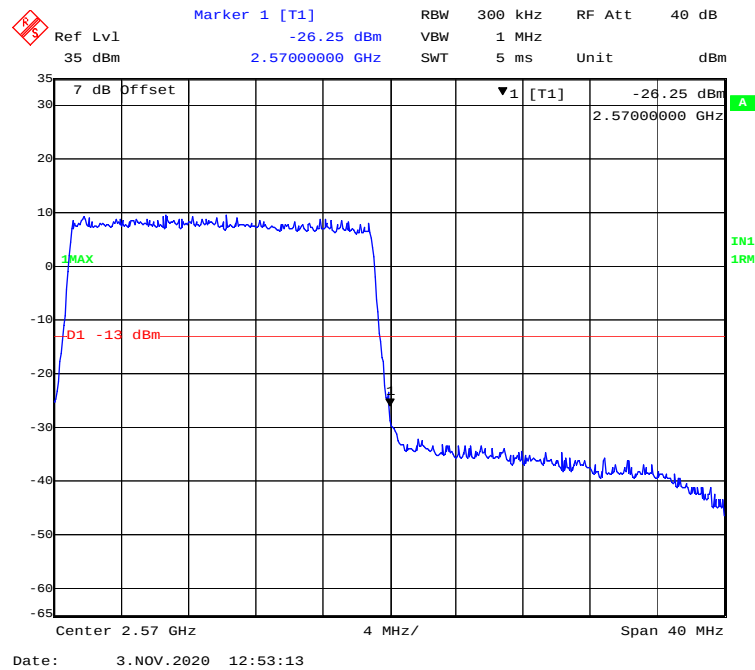
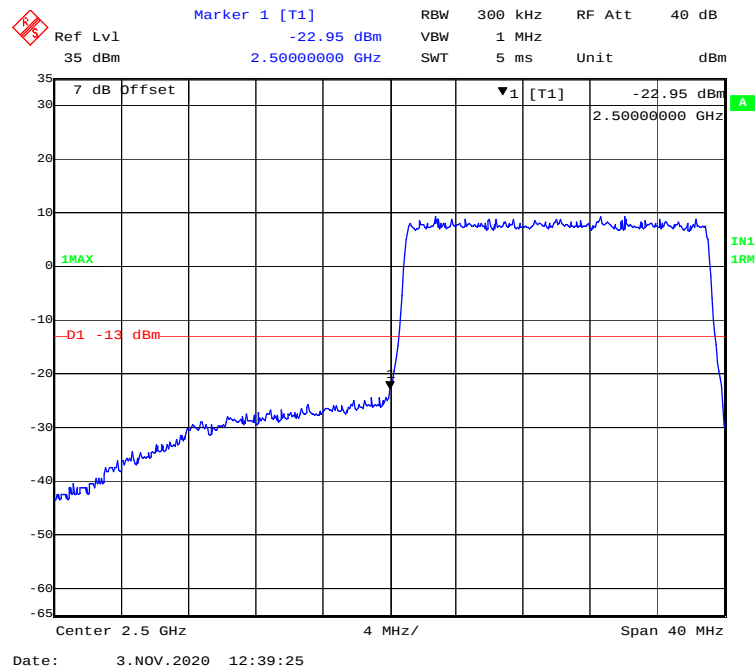
16-QAM (10 MHz, FULL RB) - Right Band Edge

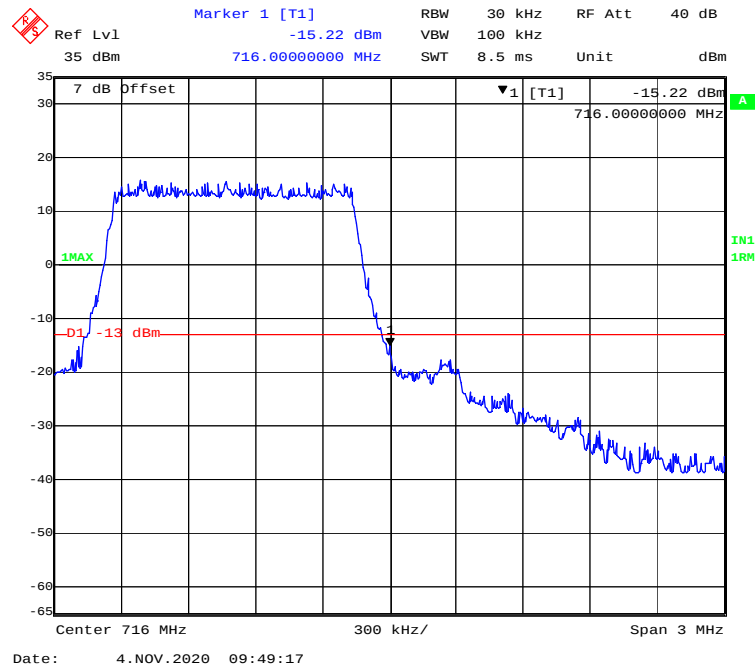
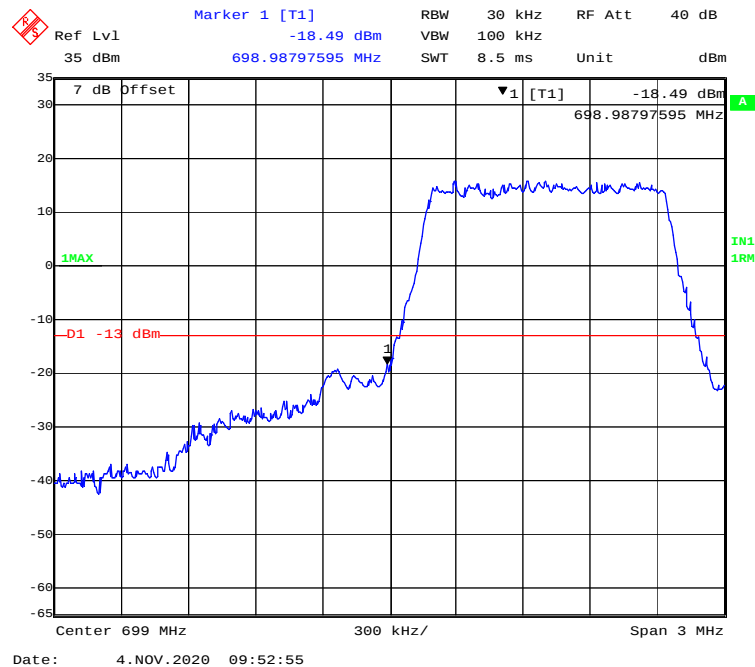


16-QAM (10 MHz, FULL RB) - Left Band Edge

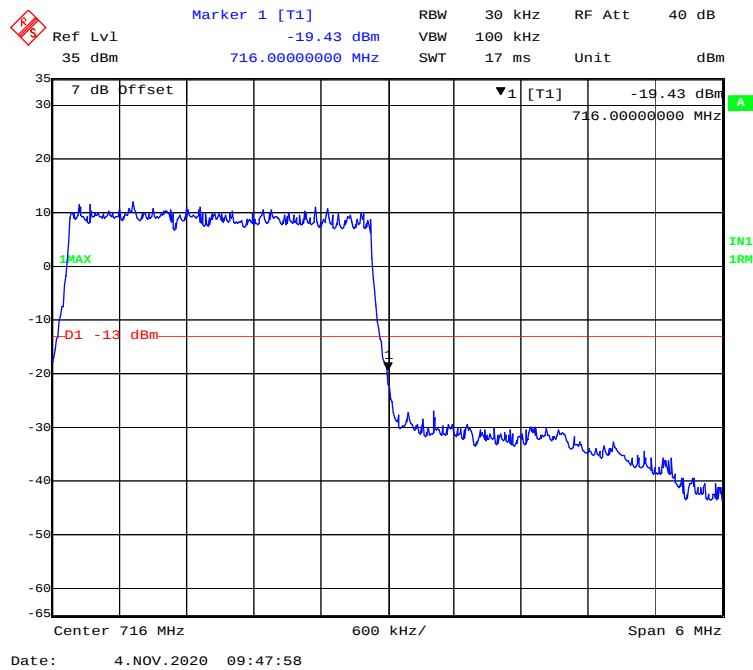


16-QAM (15 MHz, FULL RB) - Right Band Edge**16-QAM (15 MHz, FULL RB) - Left Band Edge**

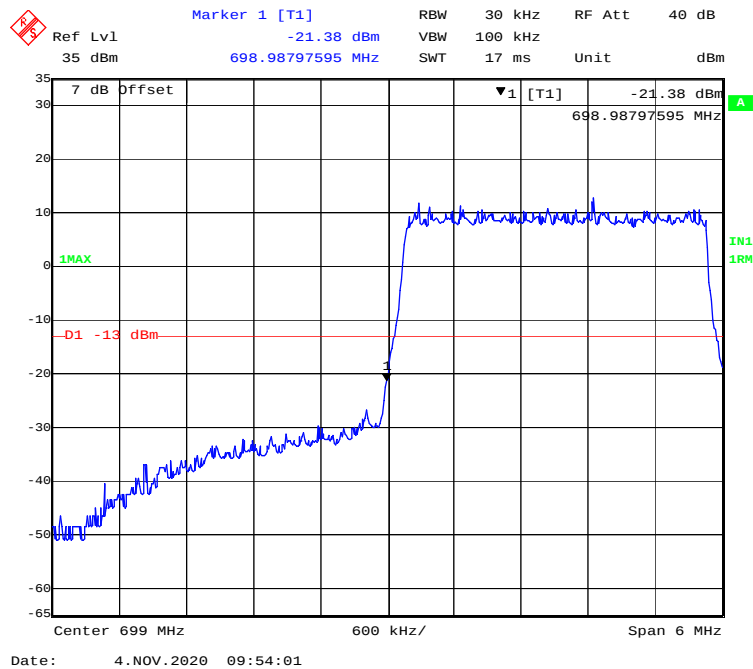
16-QAM (20 MHz, FULL RB) - Right Band Edge**16-QAM (20 MHz, FULL RB) - Left Band Edge**

LTE Band 12:**QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

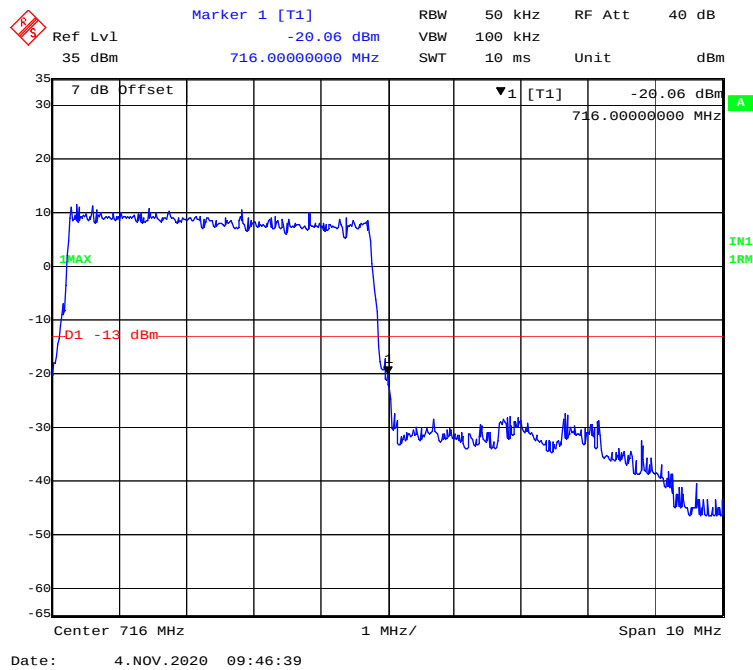
QPSK (3 MHz, FULL RB) - Right Band Edge



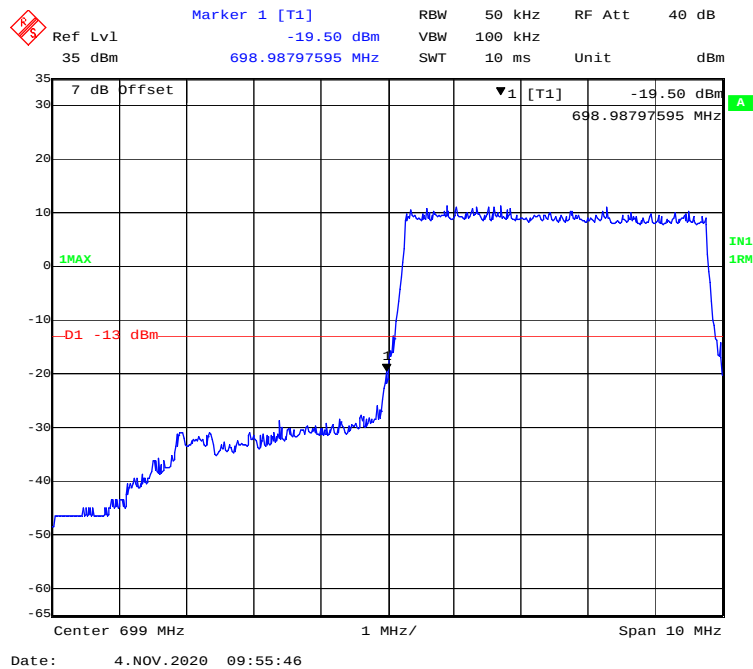
QPSK (3 MHz, FULL RB) - Left Band Edge



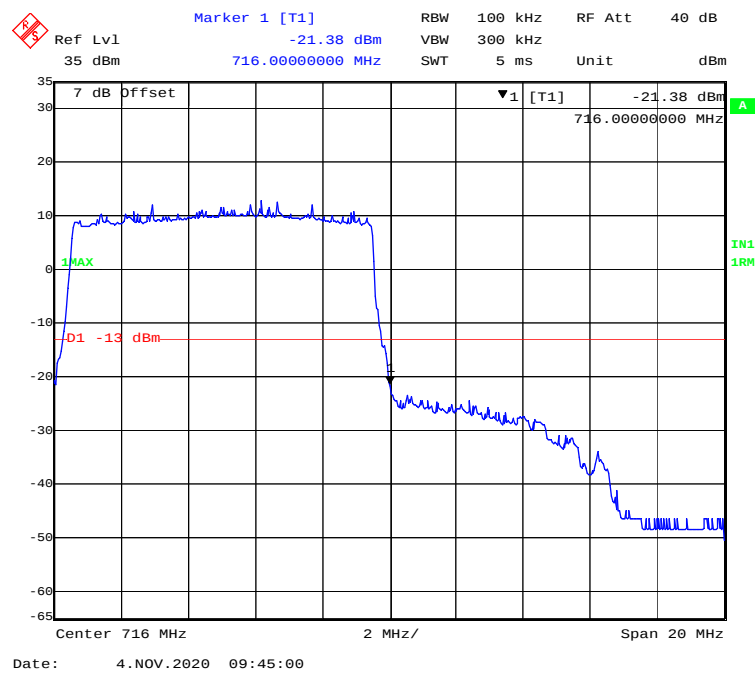
QPSK (5 MHz, FULL RB) - Right Band Edge



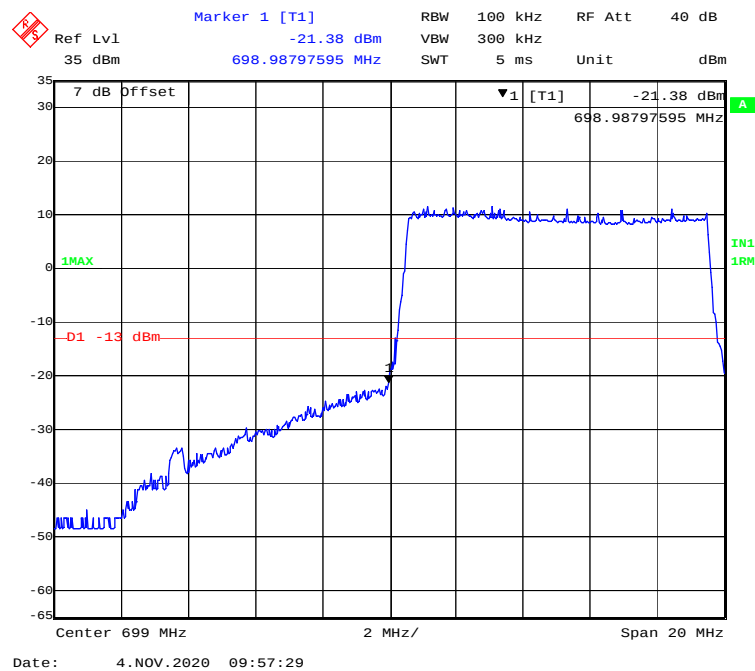
QPSK (5 MHz, FULL RB) - Left Band Edge



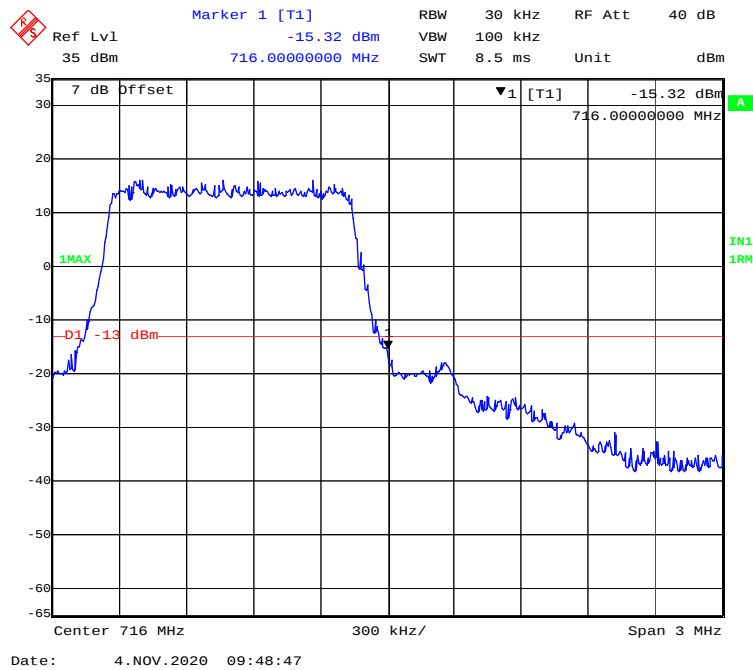
QPSK (10 MHz, FULL RB) - Right Band Edge



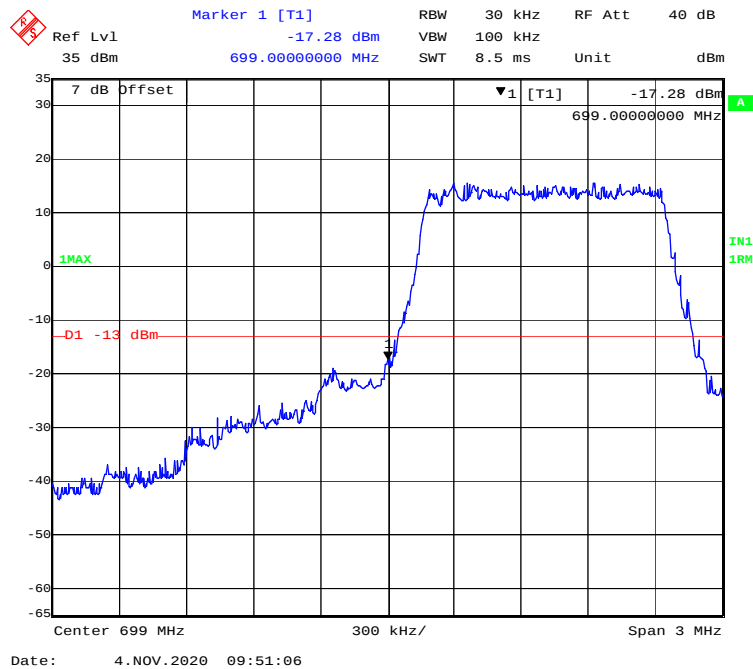
QPSK (10 MHz, FULL RB) - Left Band Edge



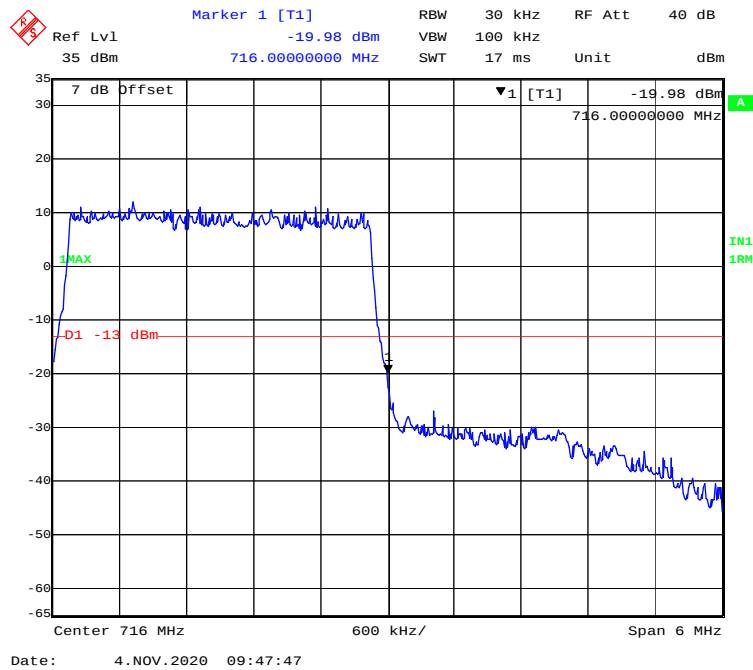
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



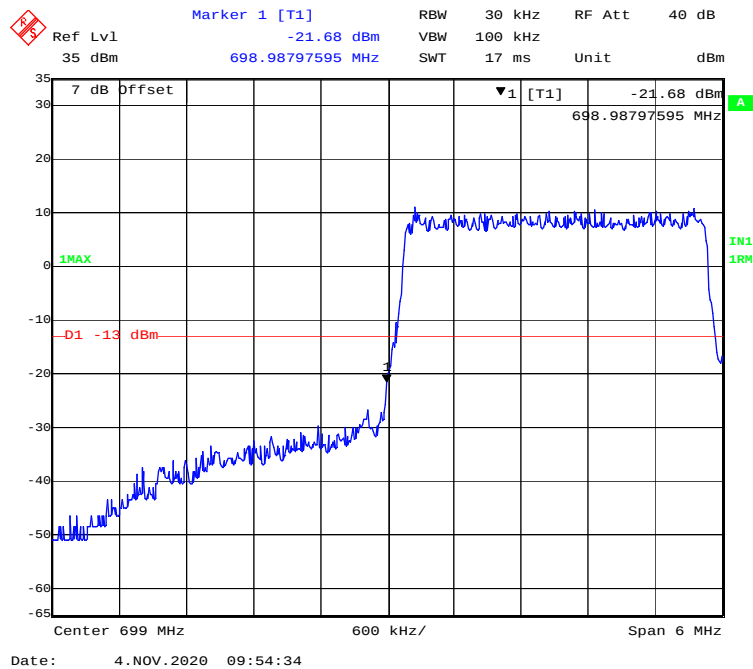
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



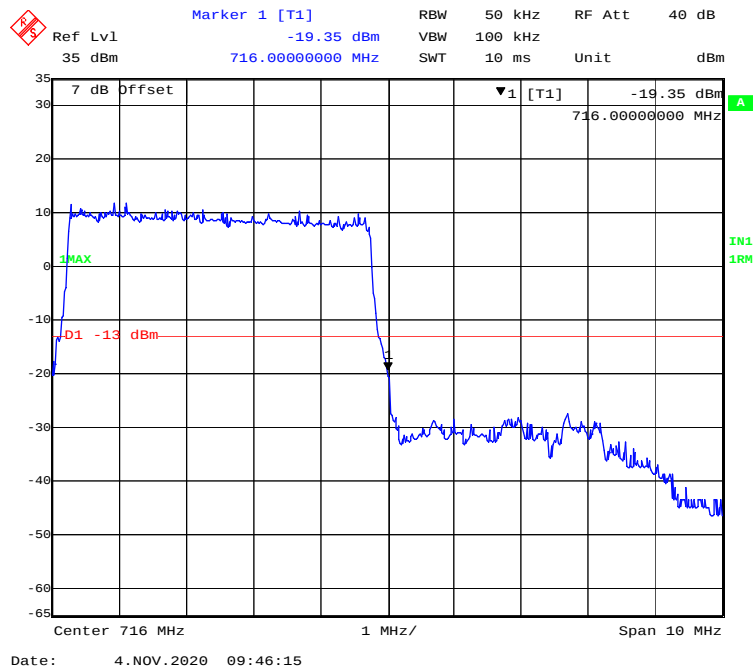
16-QAM (3 MHz, FULL RB) - Right Band Edge



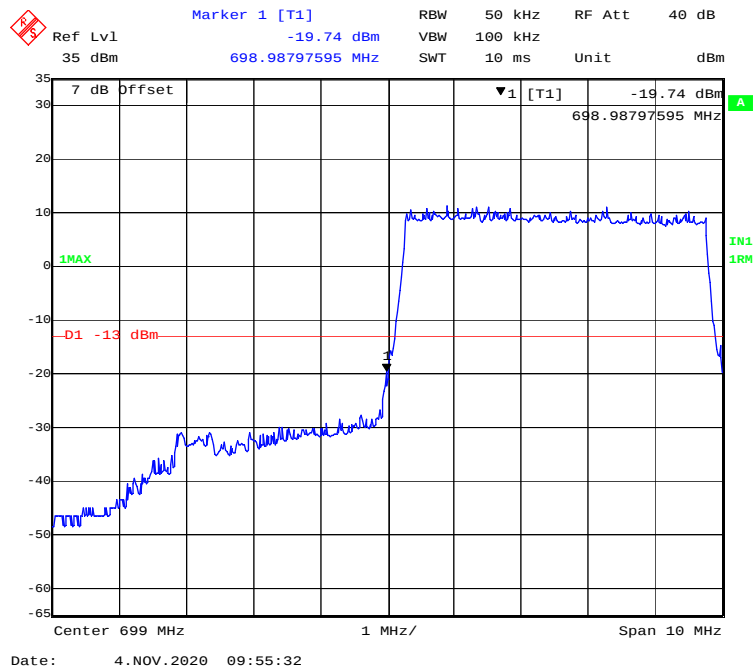
16-QAM (3 MHz, FULL RB) - Left Band Edge

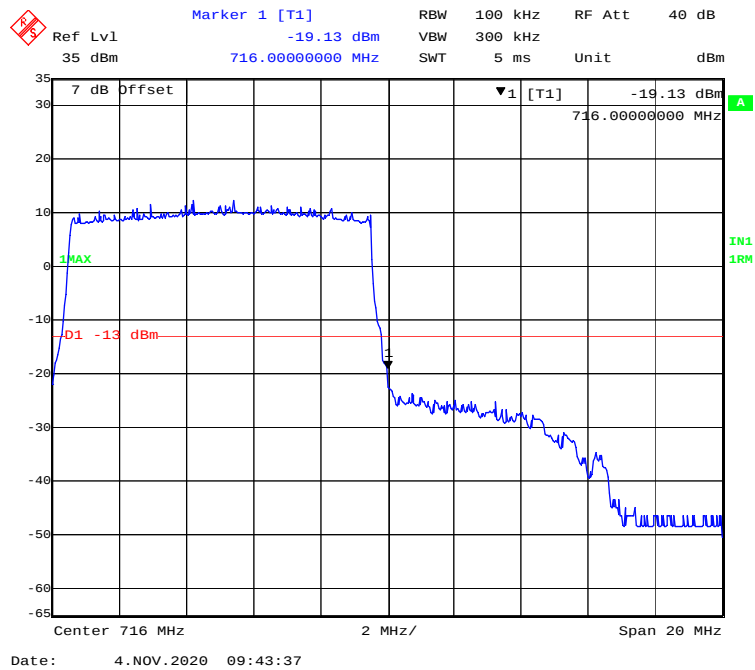
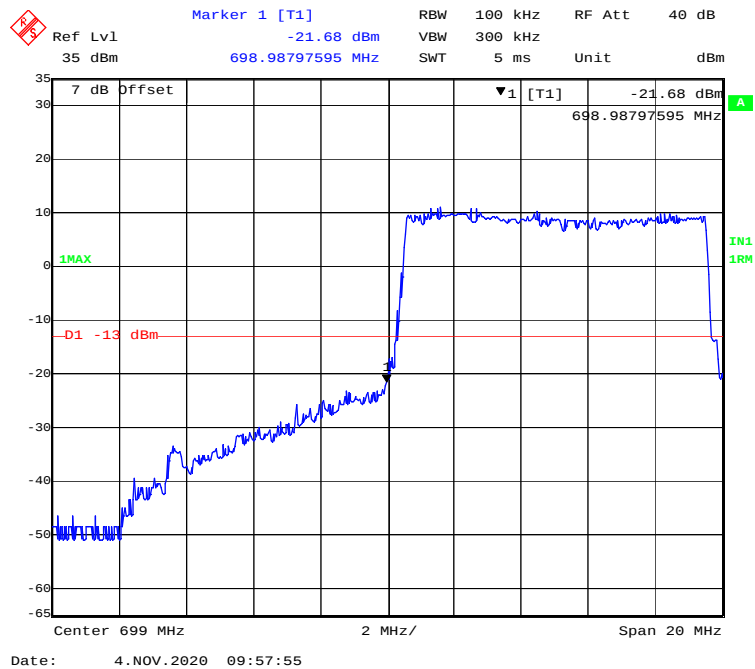


16-QAM (5 MHz, FULL RB) - Right Band Edge



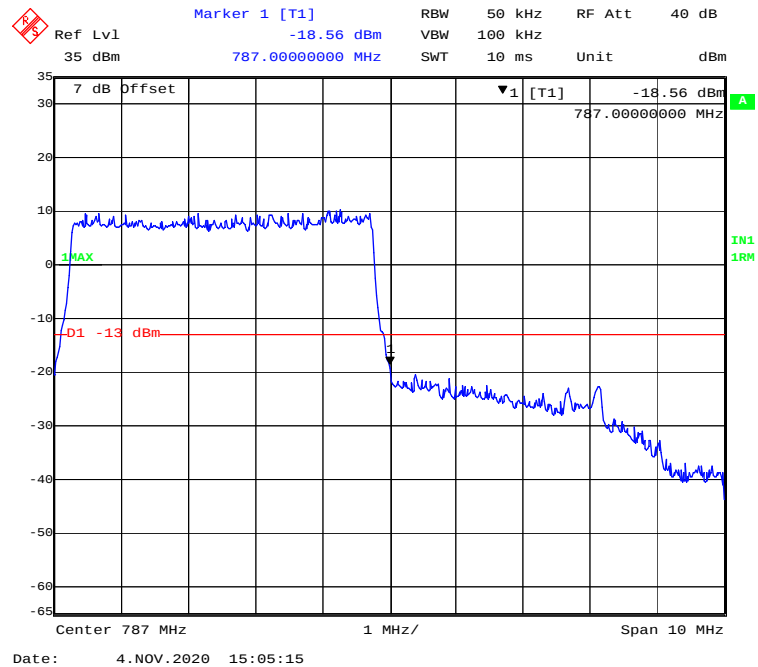
16-QAM (5 MHz, FULL RB) - Left Band Edge



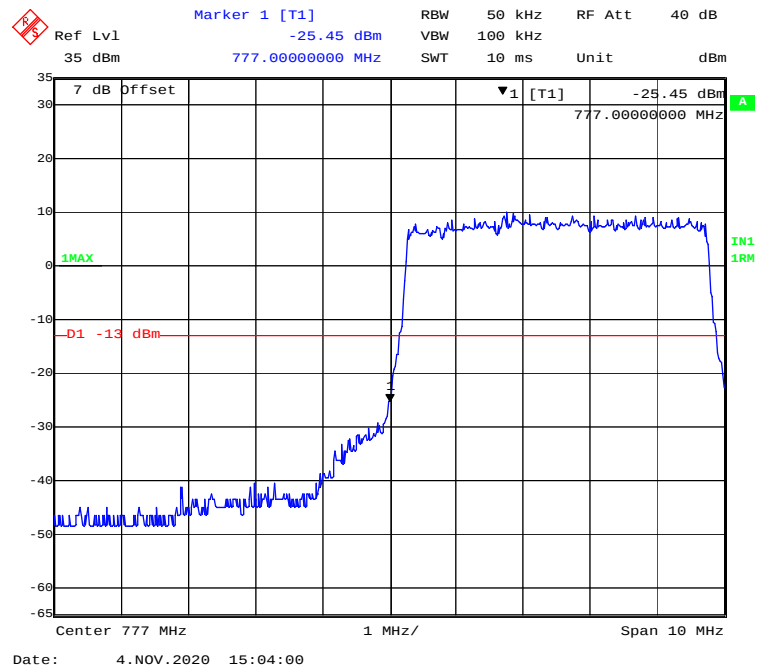
16-QAM (10 MHz, FULL RB) - Right Band Edge**16-QAM (10 MHz, FULL RB) - Left Band Edge**

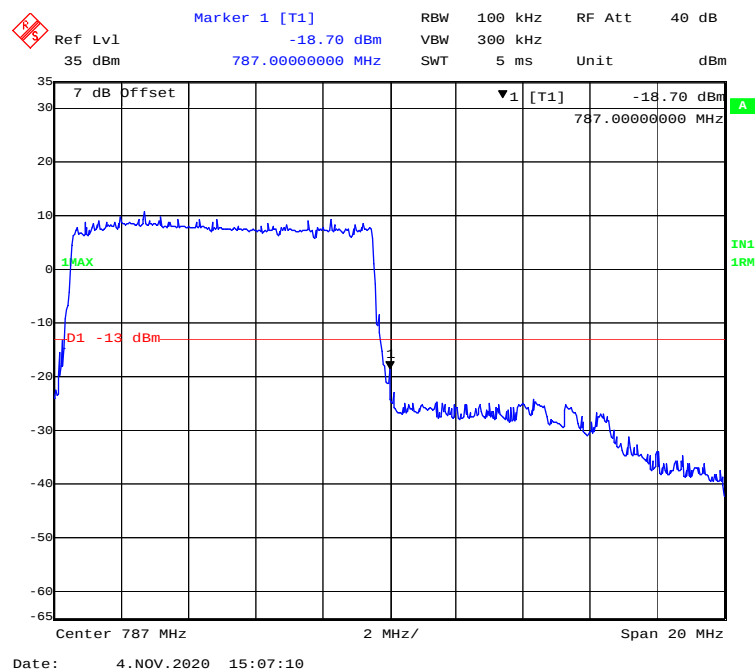
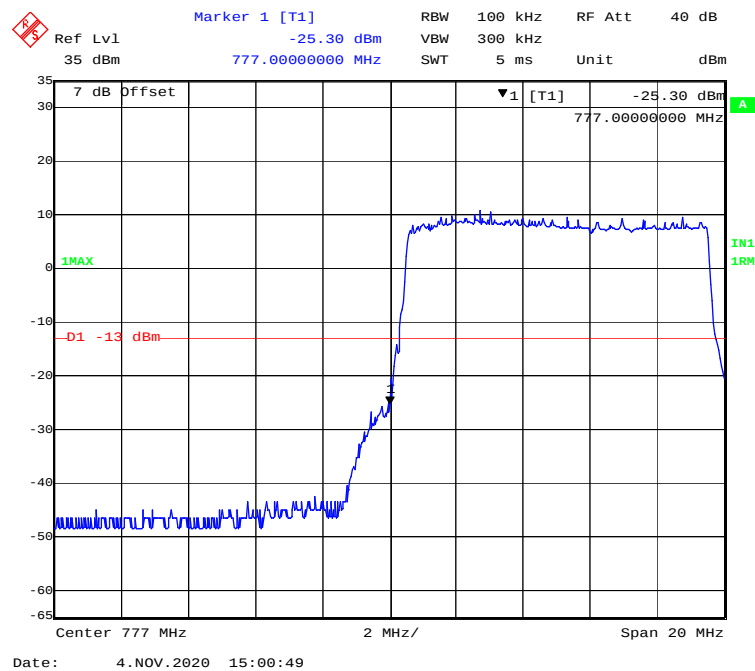
LTE Band 13:

QPSK (5 MHz, FULL RB) - Right Band Edge

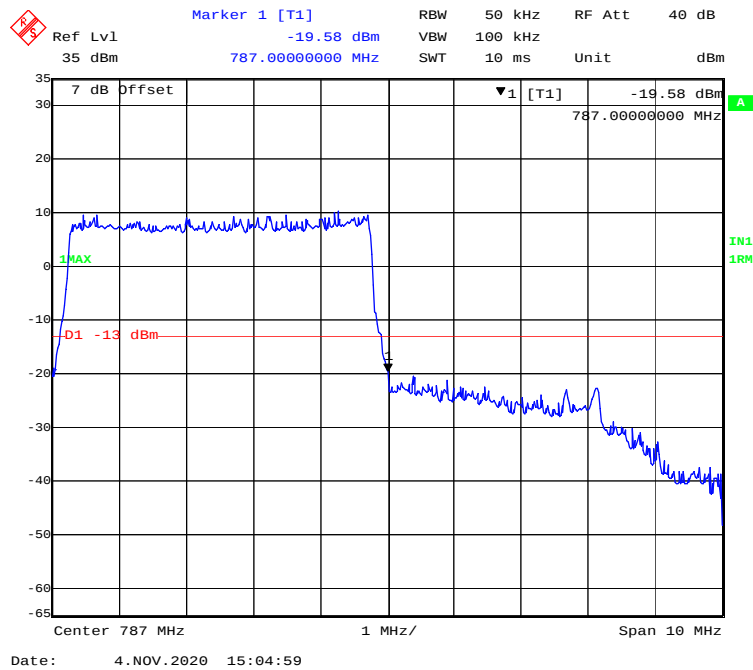


QPSK (5 MHz, FULL RB) - Left Band Edge

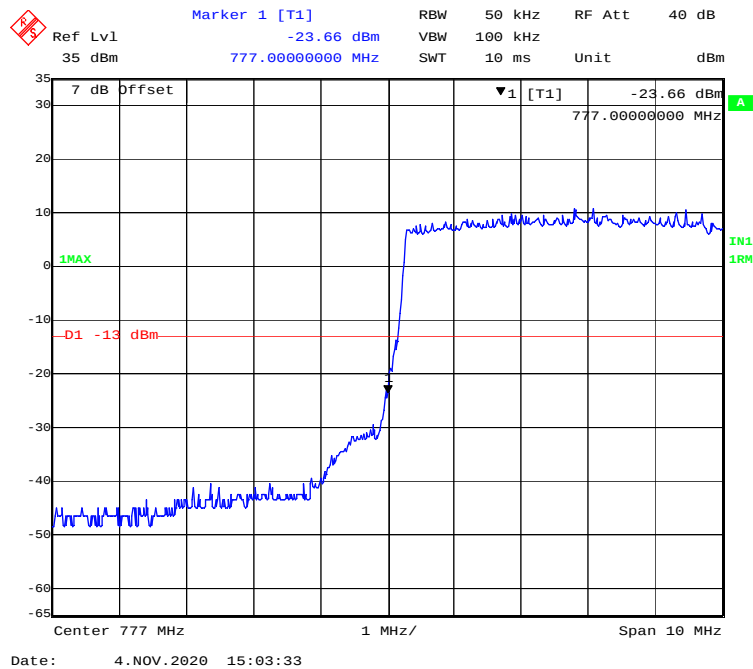


QPSK (10 MHz, FULL RB) - Right Band Edge**QPSK (10 MHz, FULL RB) - Left Band Edge**

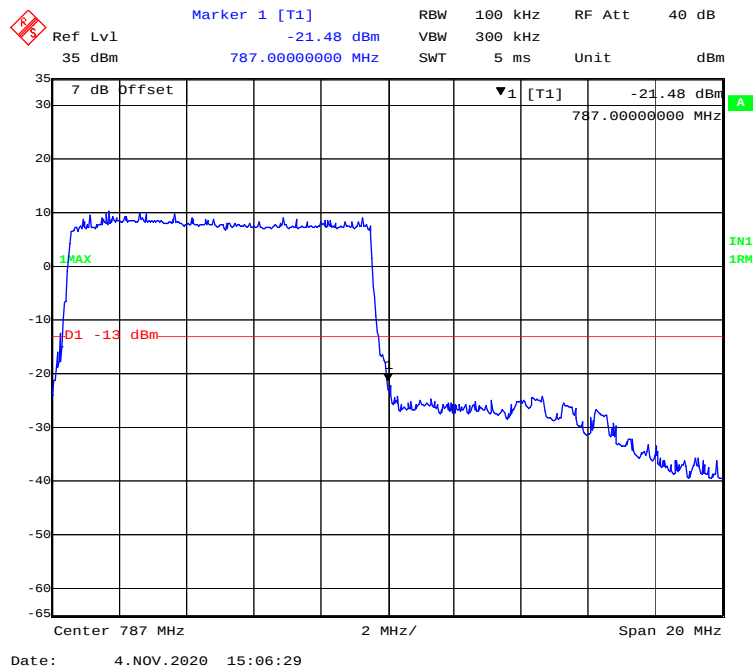
16-QAM (5 MHz, FULL RB) - Right Band Edge



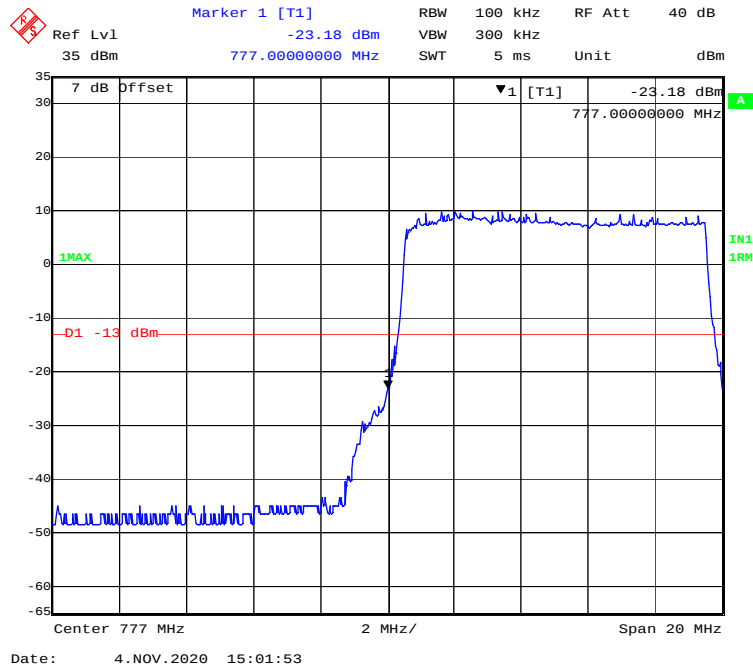
16-QAM (5 MHz, FULL RB) - Left Band Edge



16-QAM (10 MHz, FULL RB) - Right Band Edge

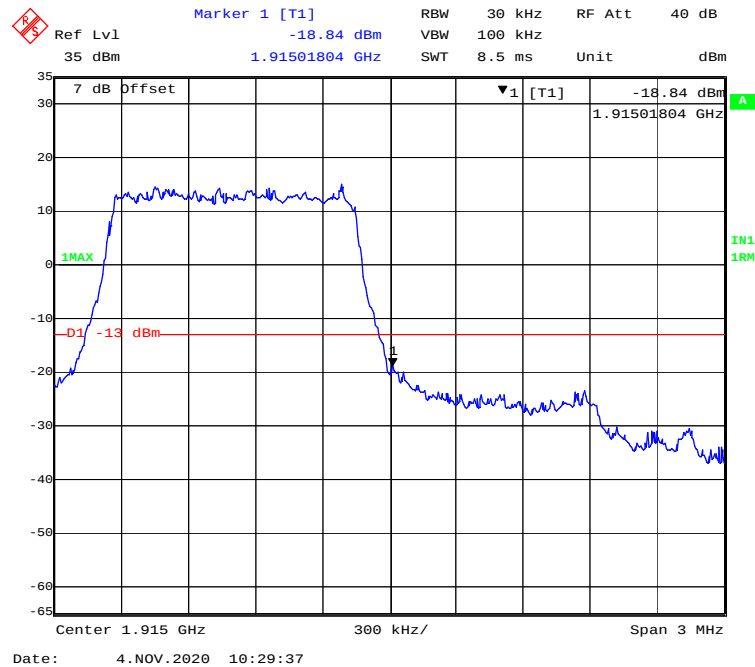


16-QAM (10 MHz, FULL RB) - Left Band Edge

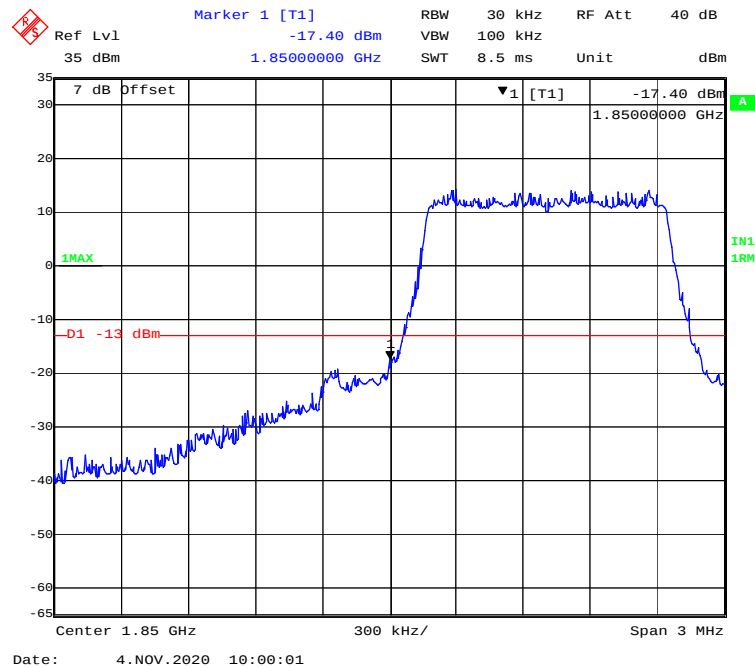


LTE Band 25:

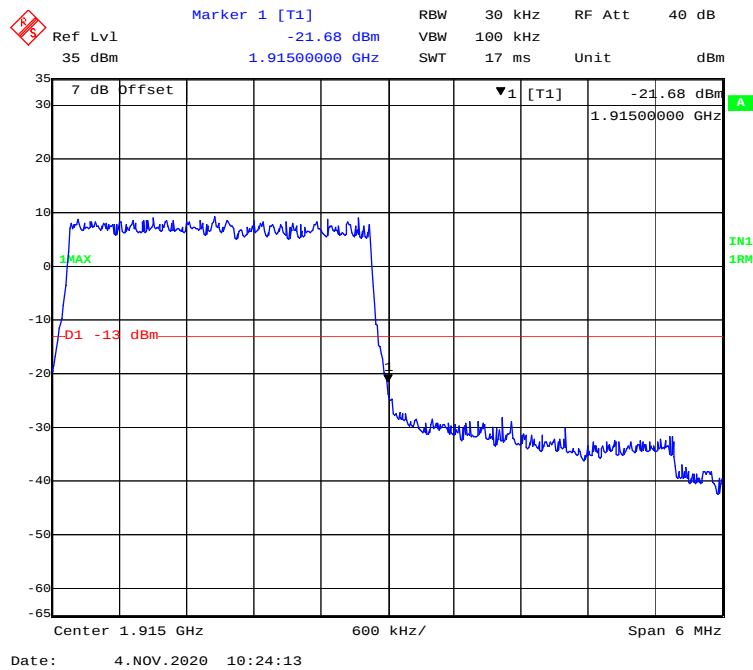
QPSK (1.4 MHz, FULL RB) - Right Band Edge



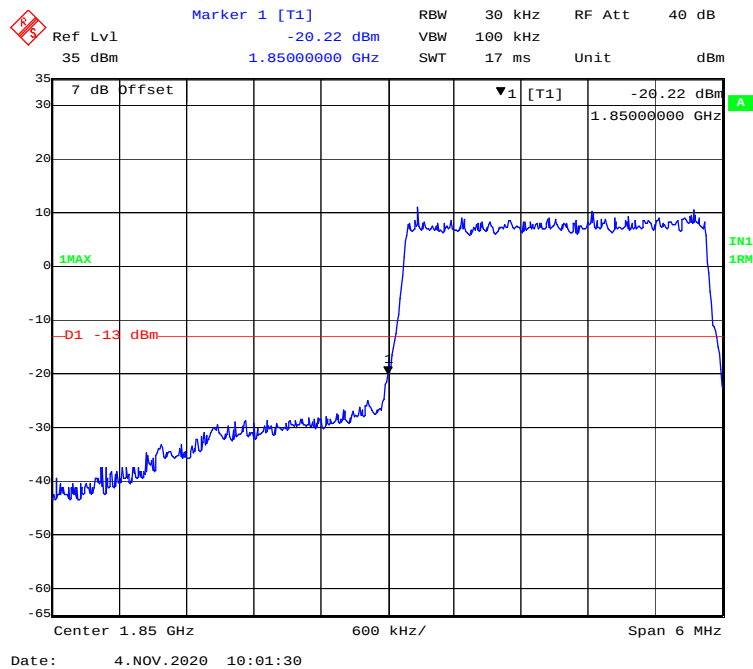
QPSK (1.4 MHz, FULL RB) - Left Band Edge



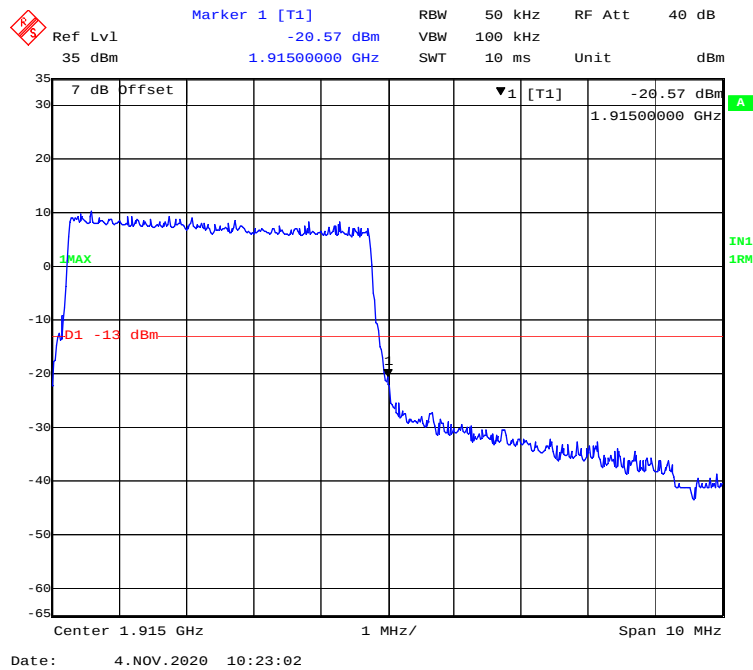
QPSK (3 MHz, FULL RB) - Right Band Edge



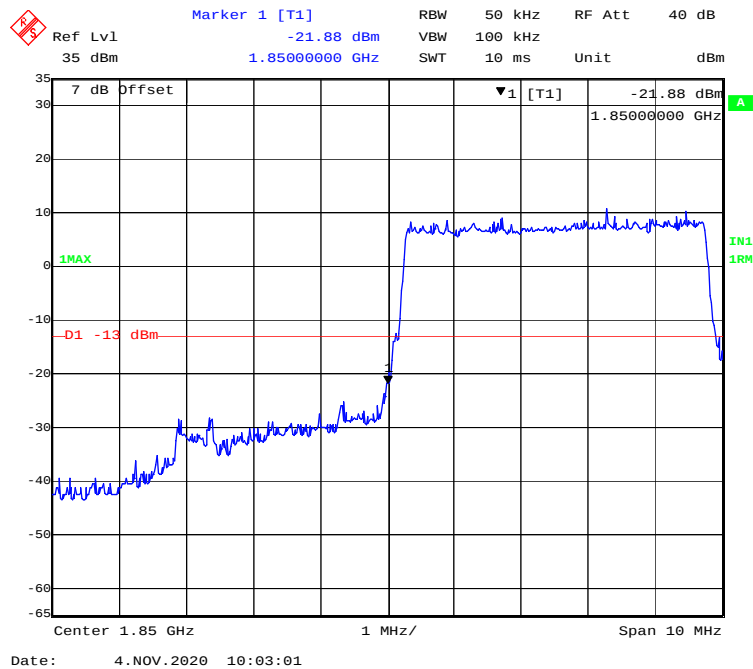
QPSK (3 MHz, FULL RB) - Left Band Edge



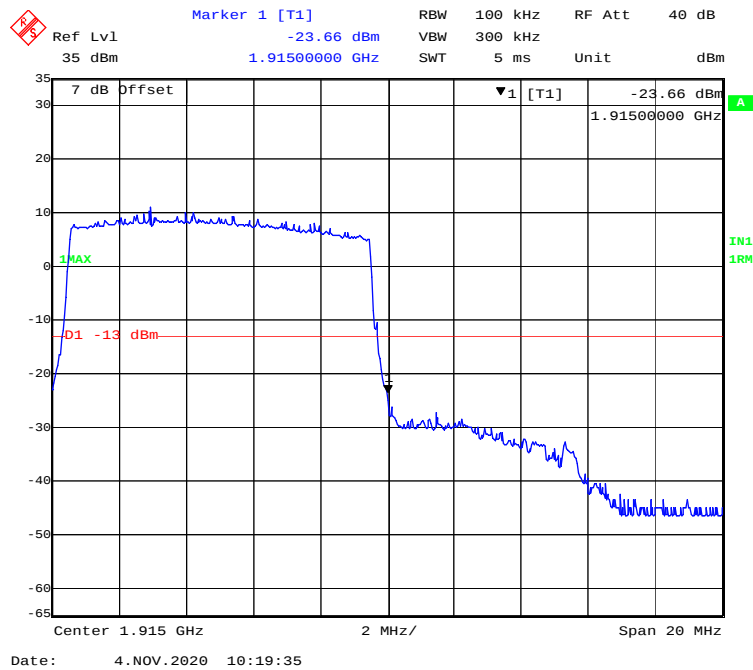
QPSK (5 MHz, FULL RB) - Right Band Edge



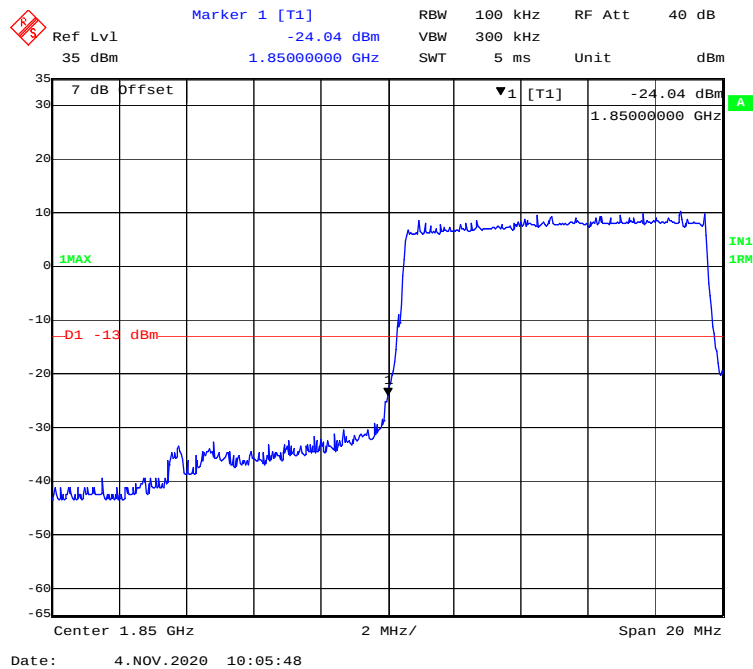
QPSK (5 MHz, FULL RB) - Left Band Edge



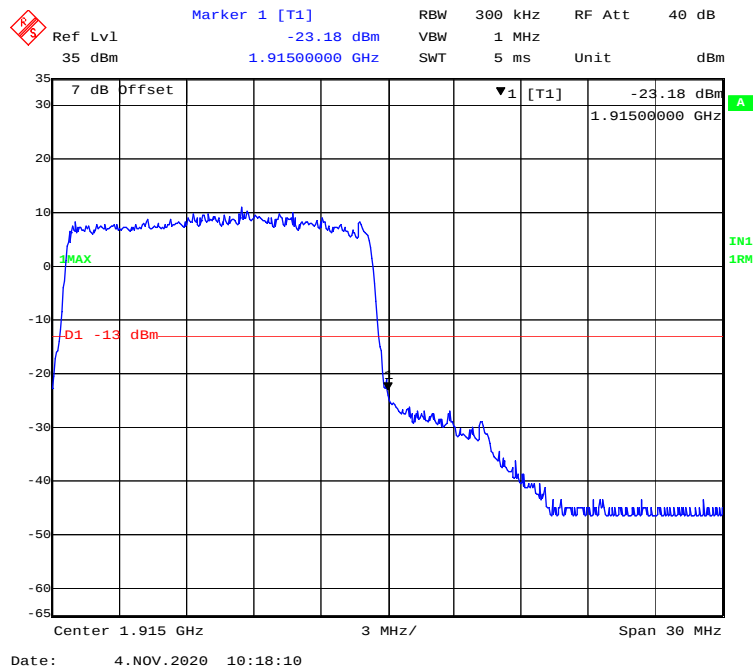
QPSK (10 MHz, FULL RB) - Right Band Edge



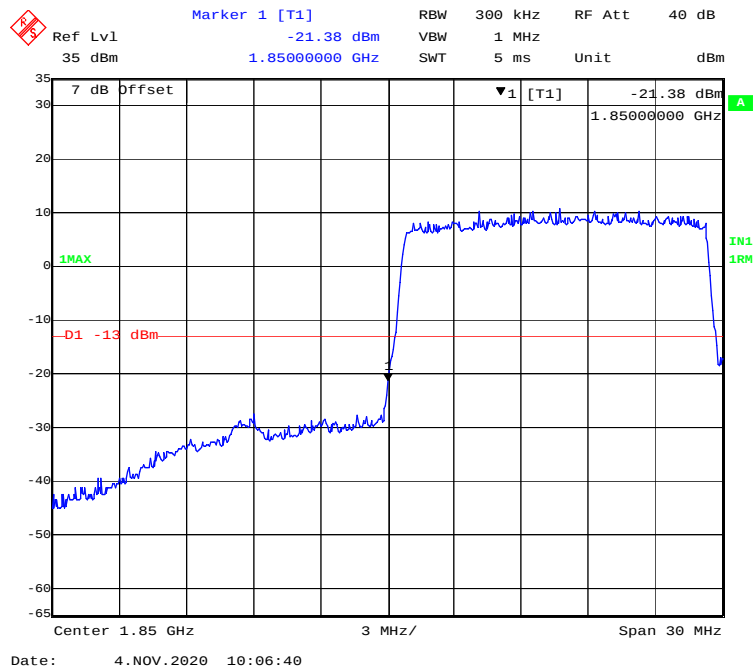
QPSK (10 MHz, FULL RB) - Left Band Edge



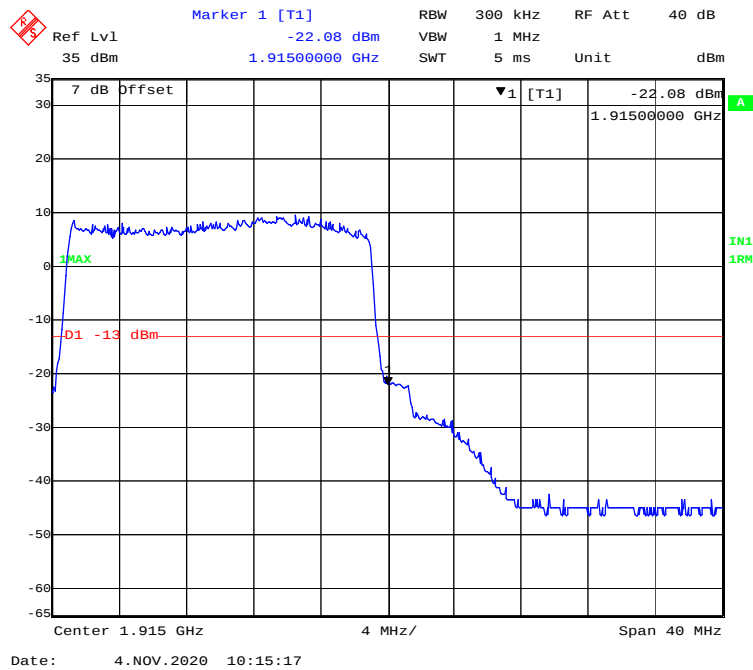
QPSK (15 MHz, FULL RB) - Right Band Edge



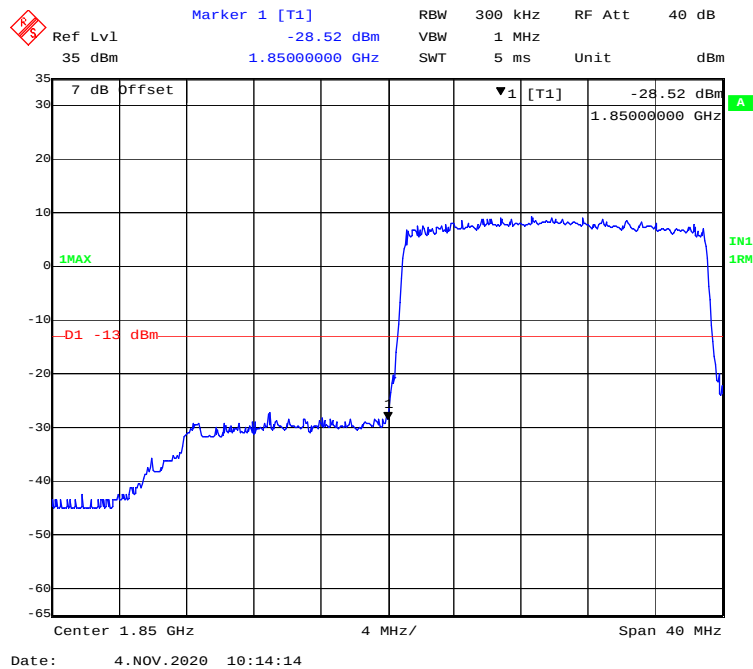
QPSK (15 MHz, FULL RB) - Left Band Edge

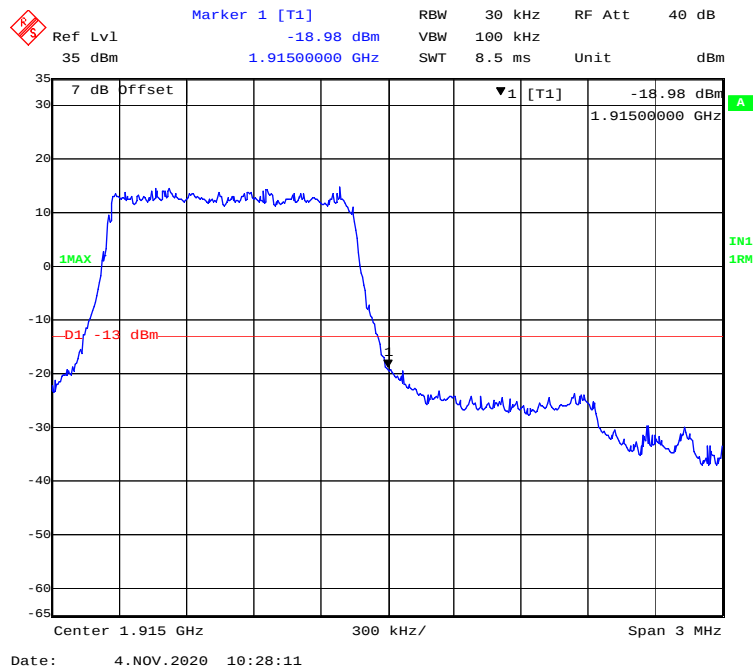
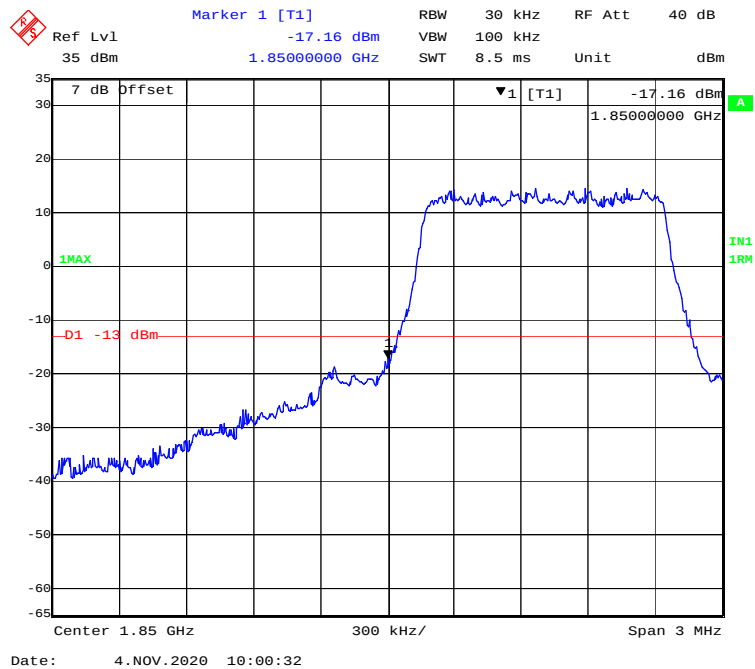


QPSK (20 MHz, FULL RB) - Right Band Edge

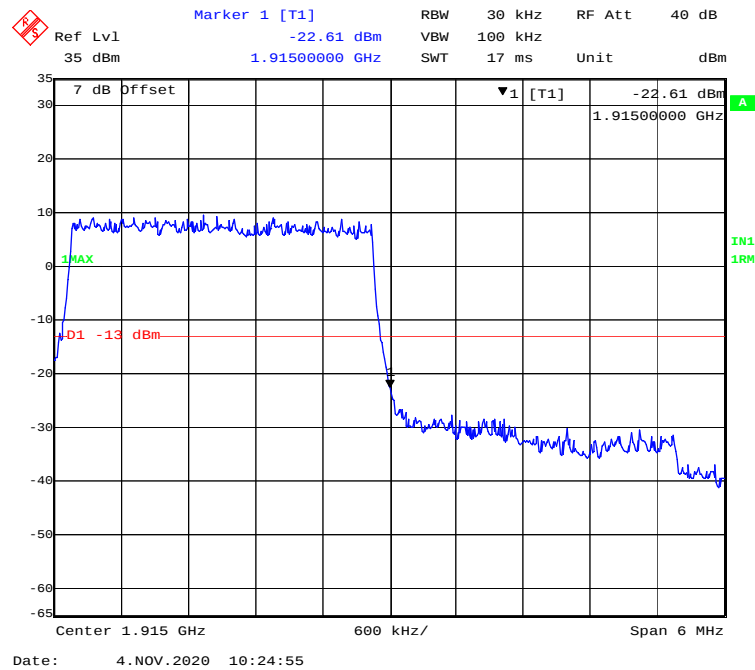


QPSK (20 MHz, FULL RB) - Left Band Edge

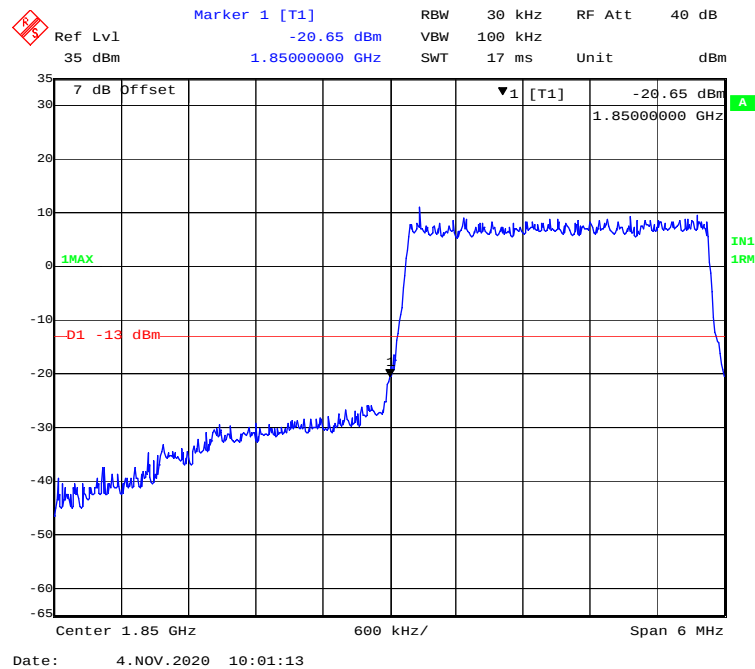


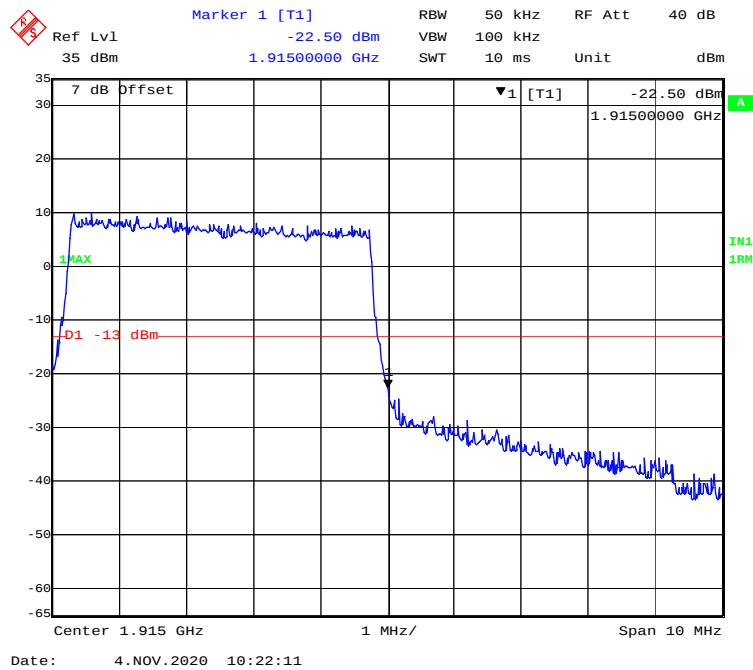
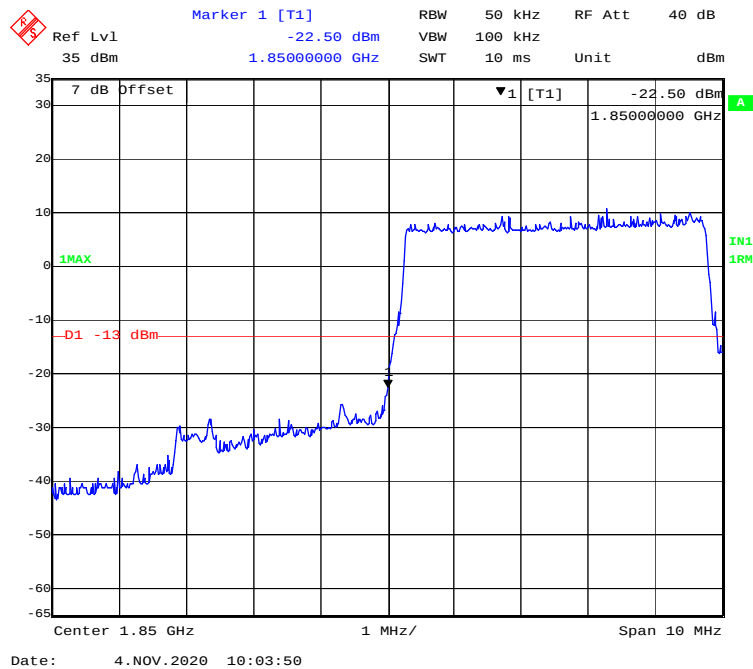
16-QAM (1.4 MHz, FULL RB) - Right Band Edge**16-QAM (1.4 MHz, FULL RB) - Left Band Edge**

16-QAM (3 MHz, FULL RB) - Right Band Edge

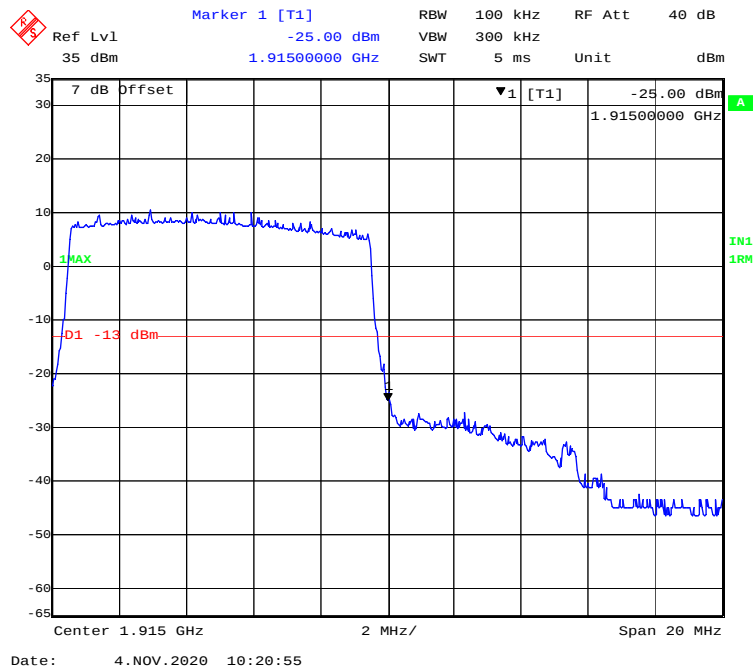


16-QAM (3 MHz, FULL RB) - Left Band Edge

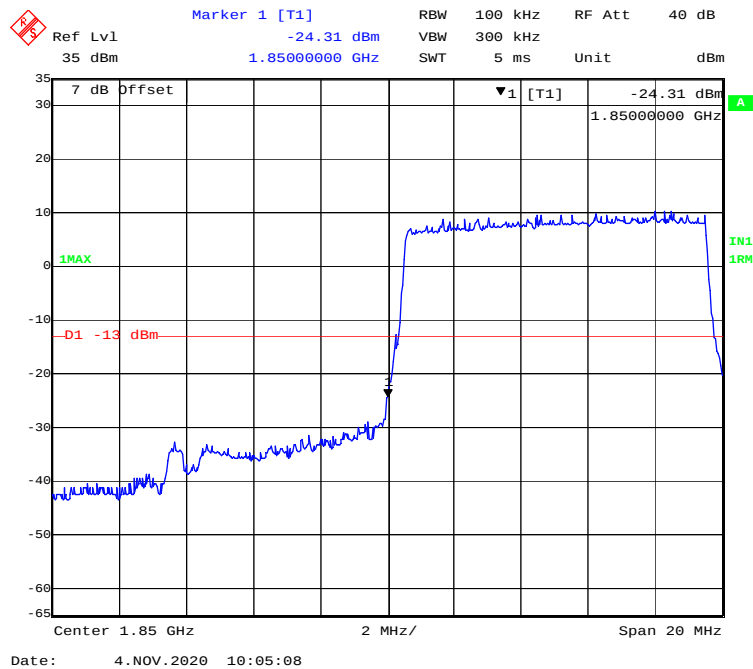


16-QAM (5 MHz, FULL RB) - Right Band Edge**16-QAM (5 MHz, FULL RB) - Left Band Edge**

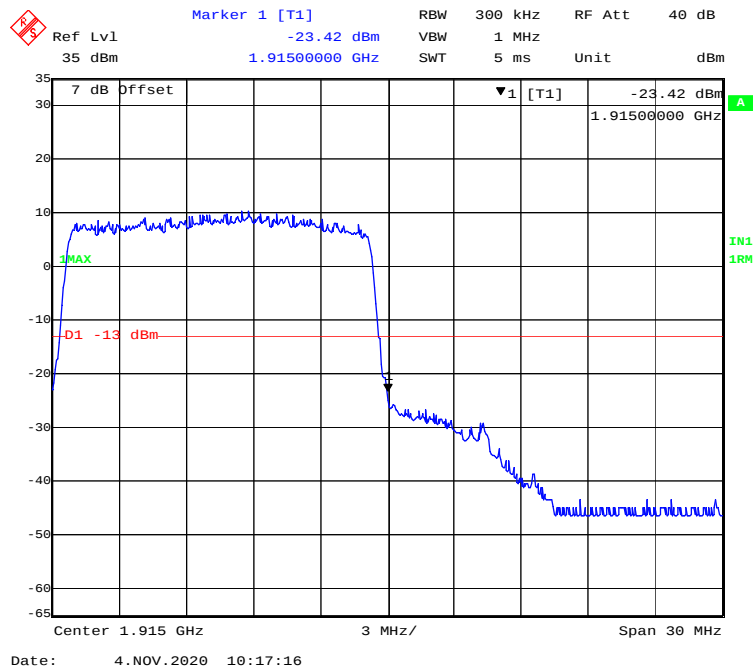
16-QAM (10 MHz, FULL RB) - Right Band Edge



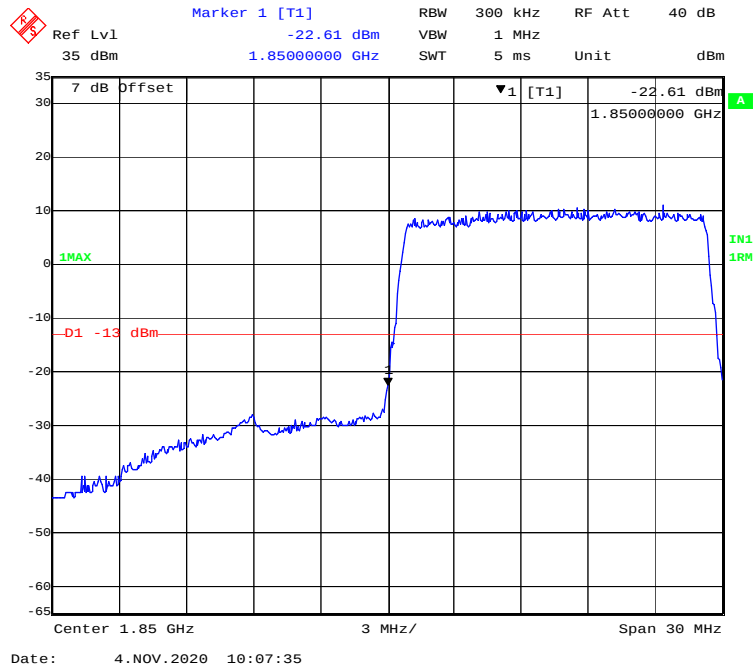
16-QAM (10 MHz, FULL RB) - Left Band Edge



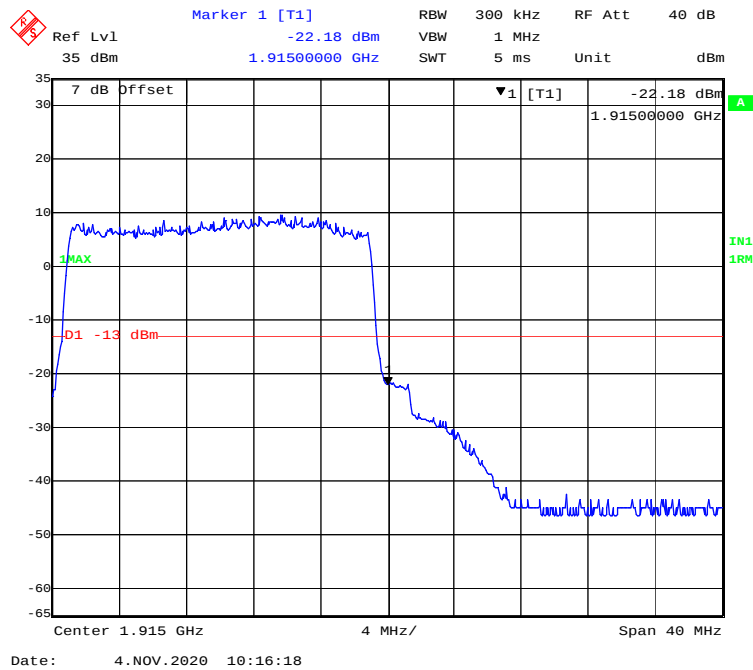
16-QAM (15 MHz, FULL RB) - Right Band Edge



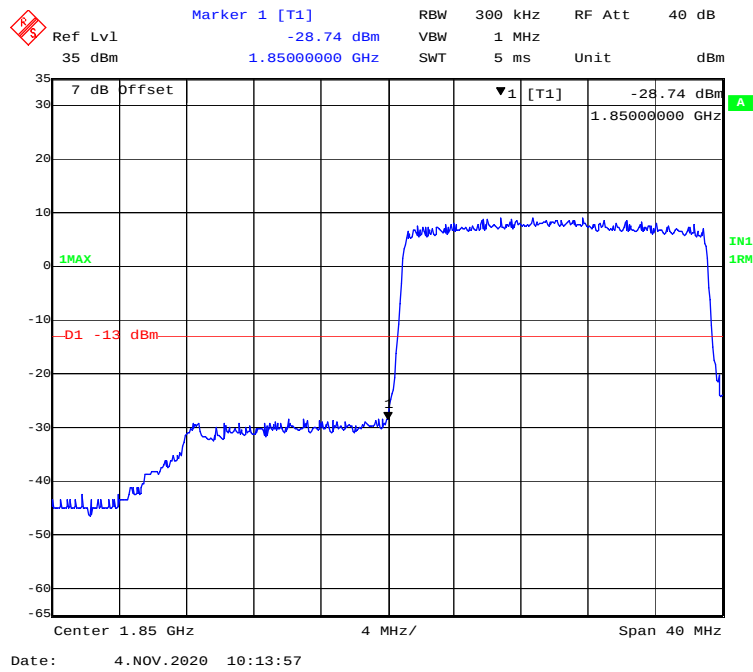
16-QAM (15 MHz, FULL RB) - Left Band Edge

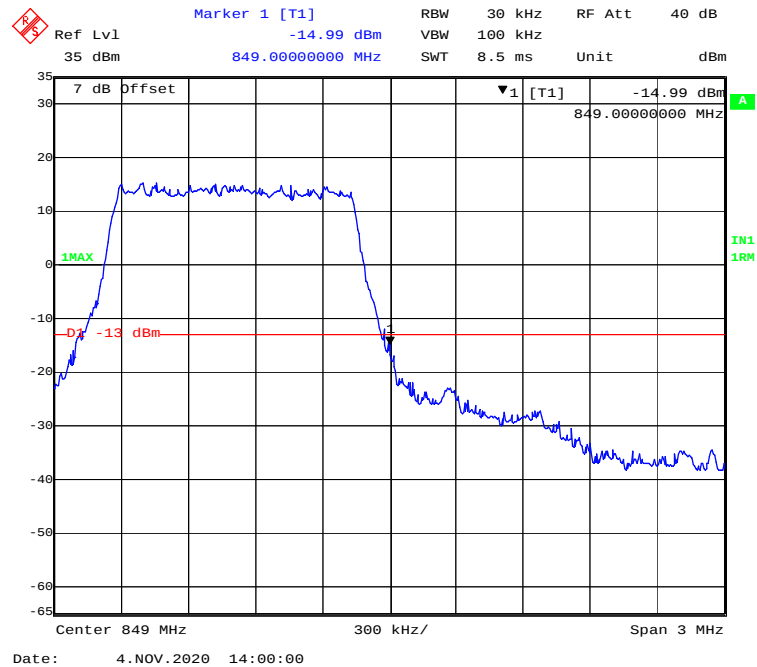
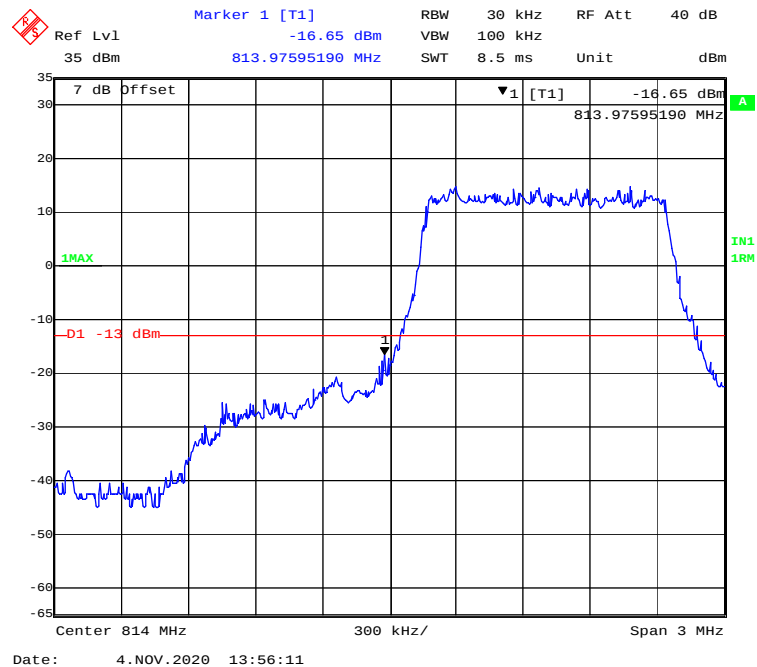


16-QAM (20 MHz, FULL RB) - Right Band Edge

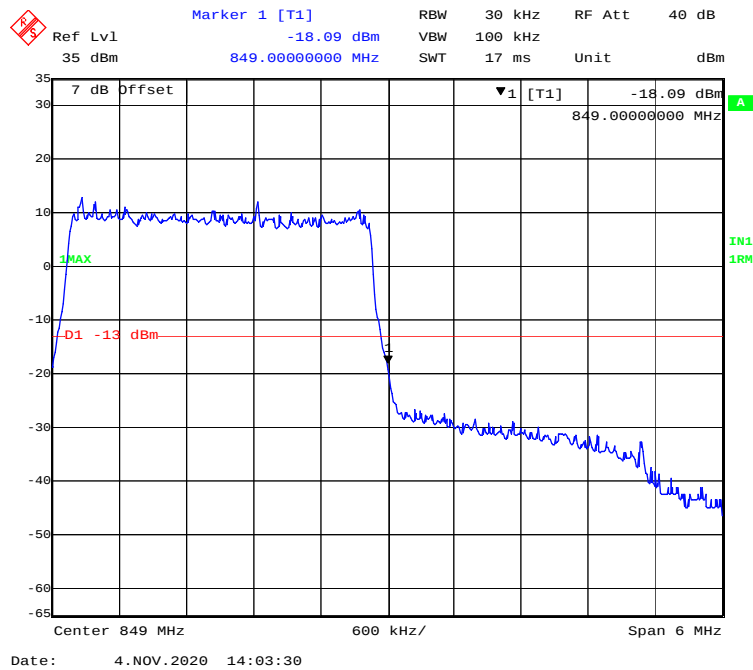


16-QAM (20 MHz, FULL RB) - Left Band Edge

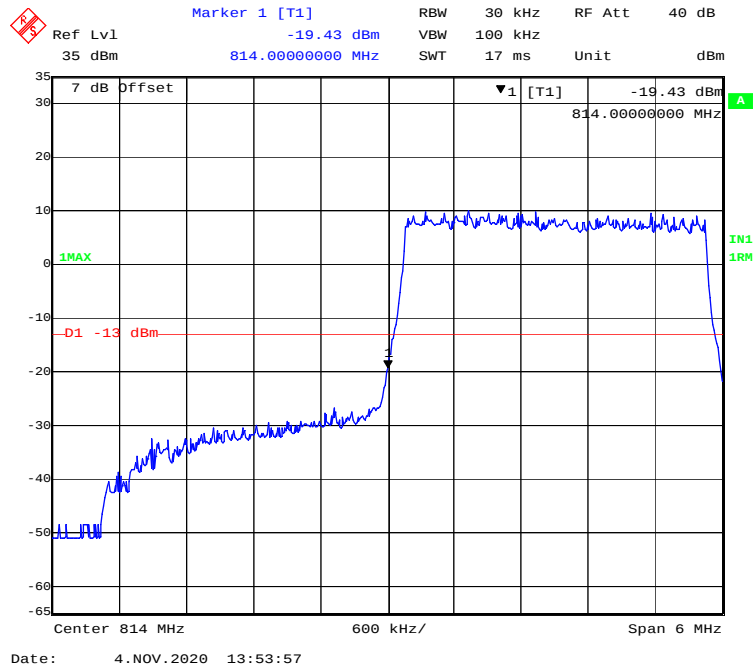


LTE Band 26:**QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

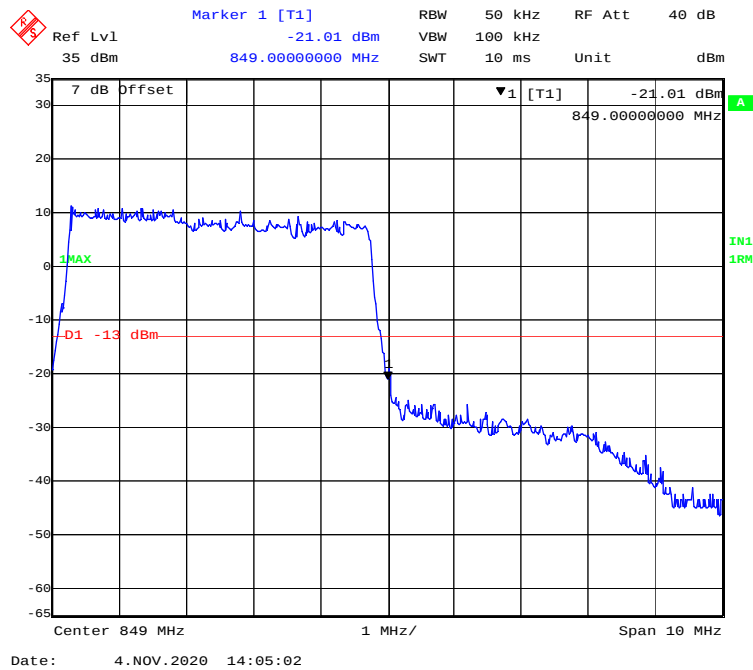
QPSK (3 MHz, FULL RB) - Right Band Edge



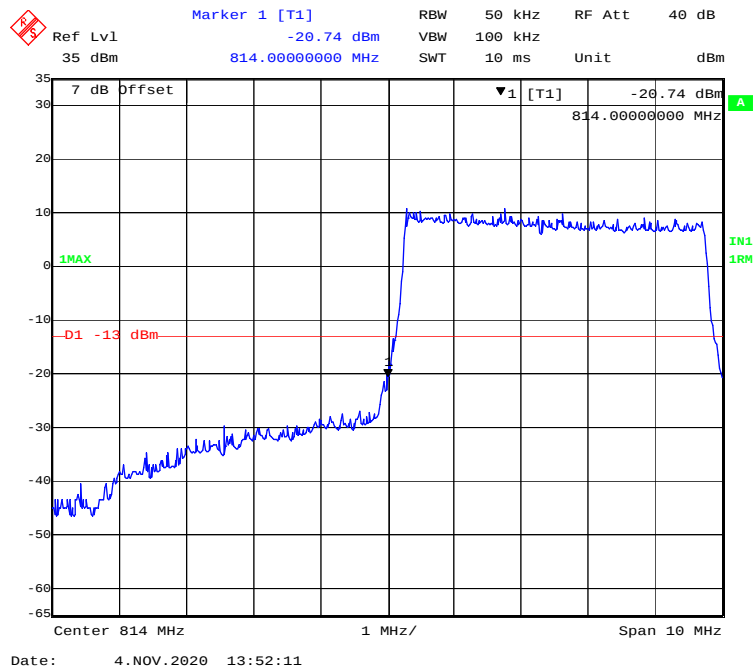
QPSK (3 MHz, FULL RB) - Left Band Edge

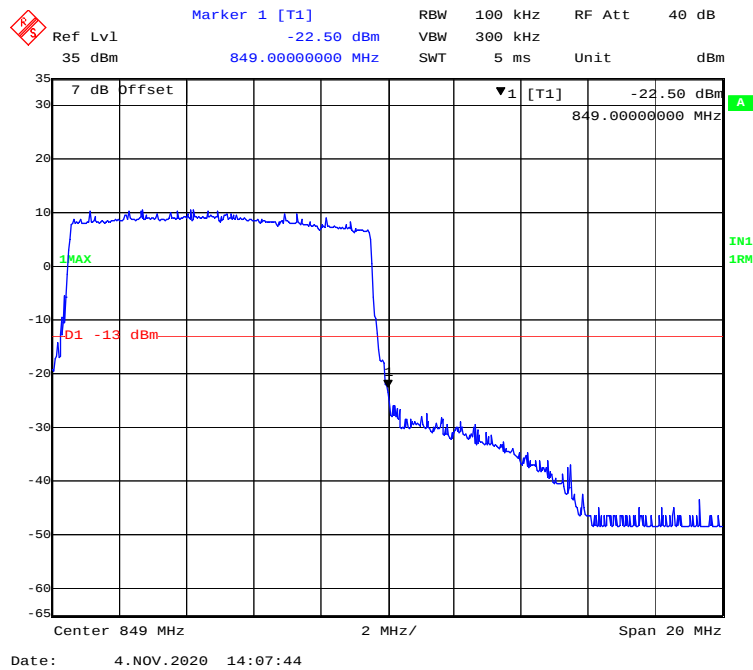
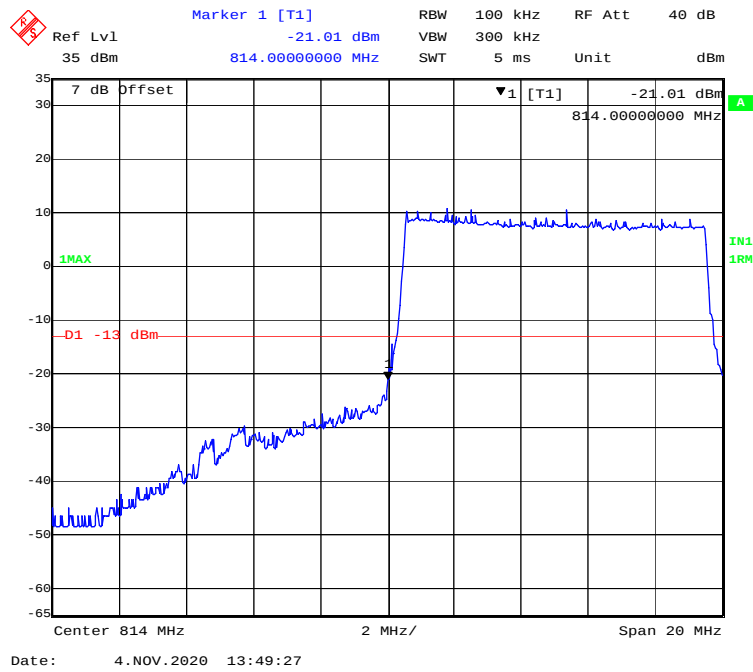


QPSK (5 MHz, FULL RB) - Right Band Edge

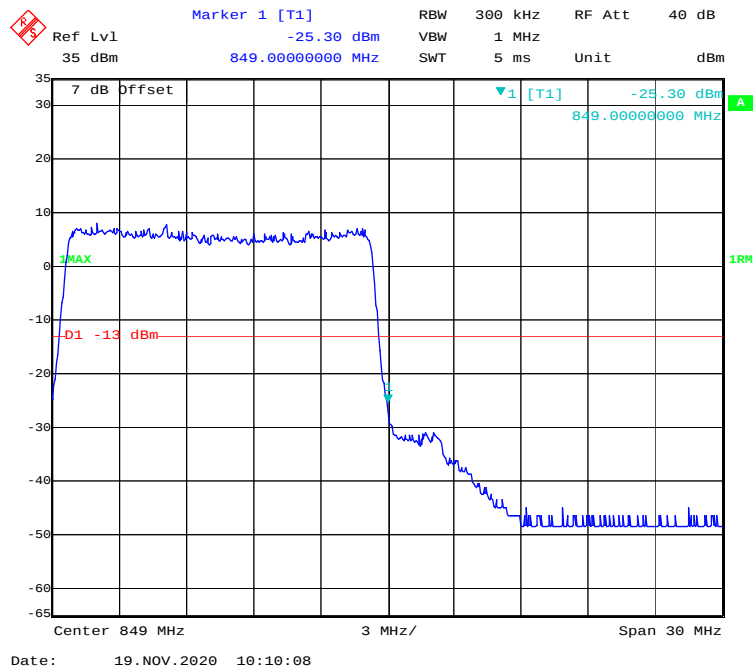


QPSK (5 MHz, FULL RB) - Left Band Edge

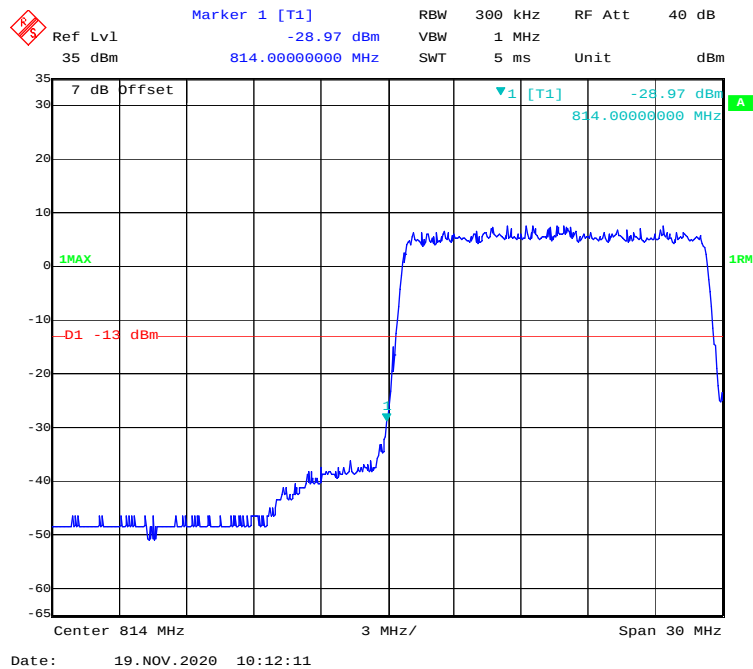


QPSK (10 MHz, FULL RB) - Right Band Edge**QPSK (10 MHz, FULL RB) - Left Band Edge**

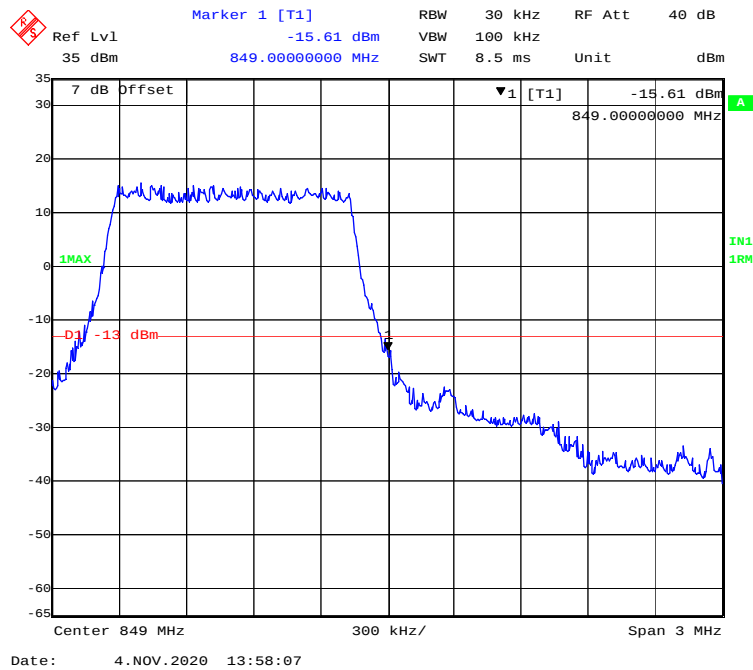
QPSK (15 MHz, FULL RB) - Right Band Edge



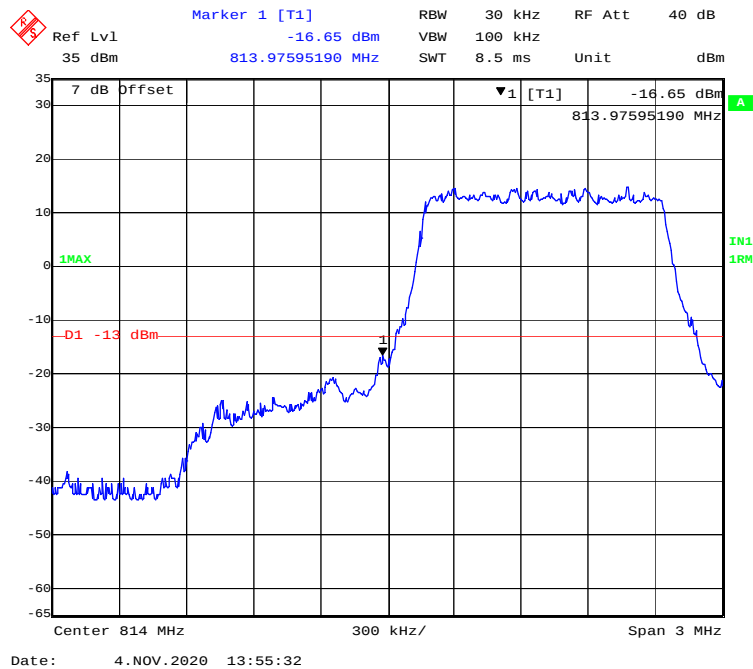
QPSK (15 MHz, FULL RB) - Left Band Edge

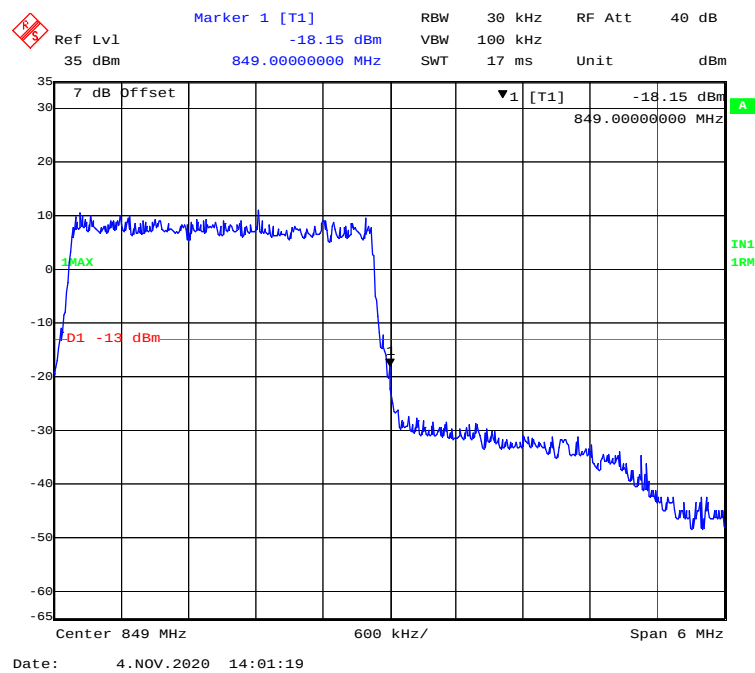
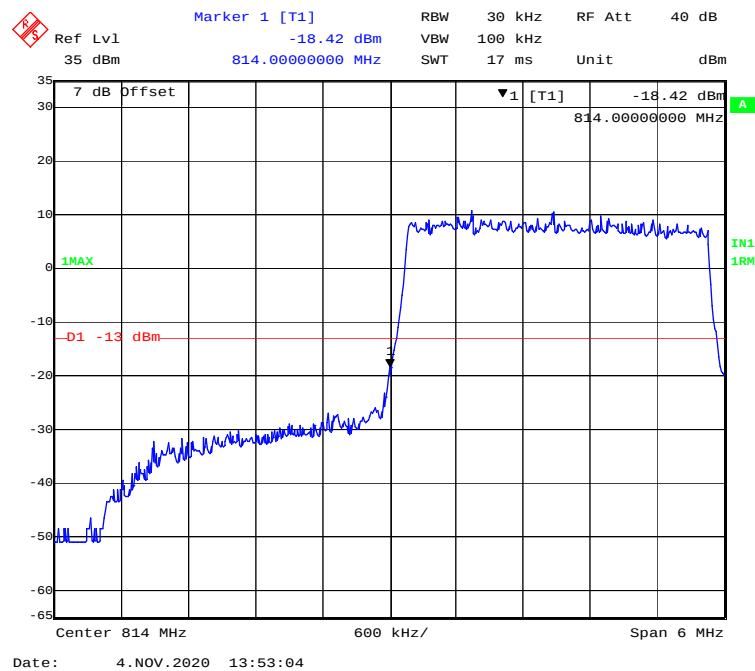


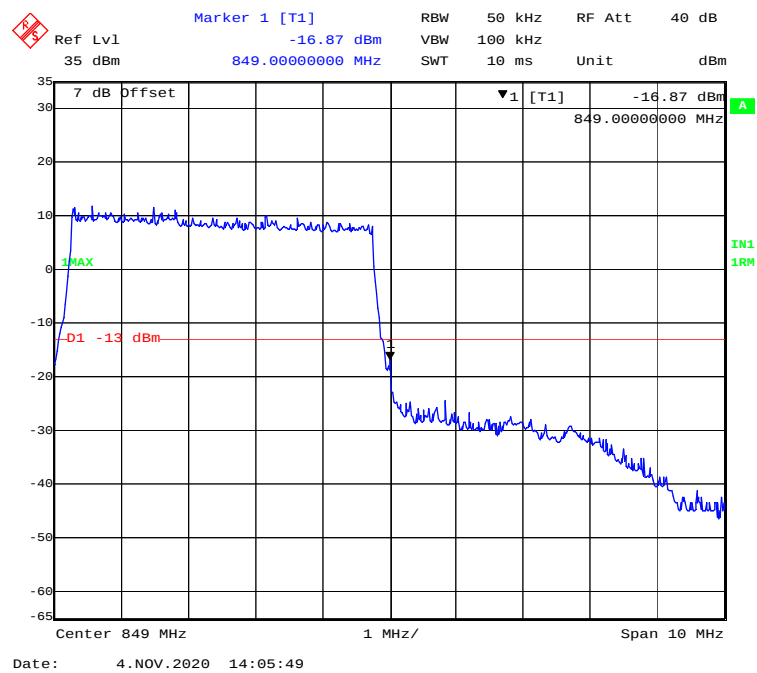
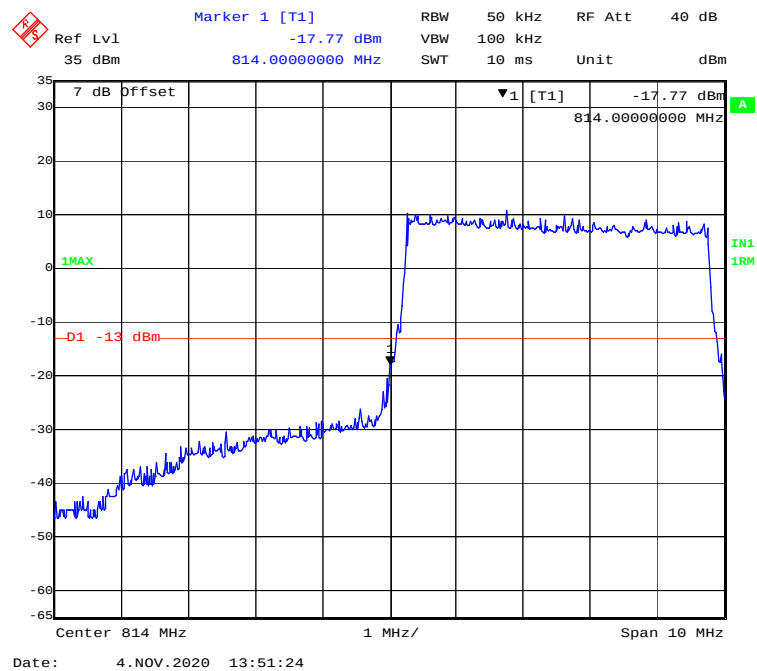
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



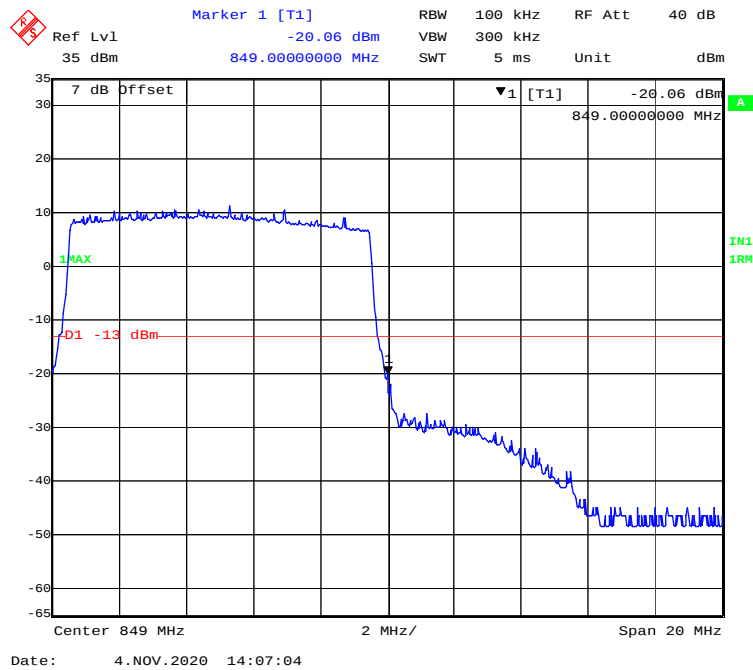
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



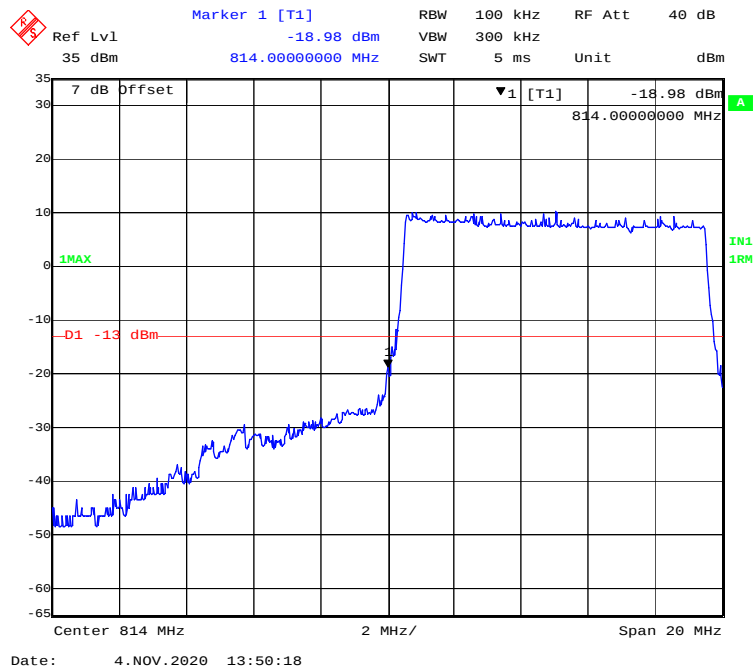
16-QAM (3 MHz, FULL RB) - Right Band Edge**16-QAM (3 MHz, FULL RB) - Left Band Edge**

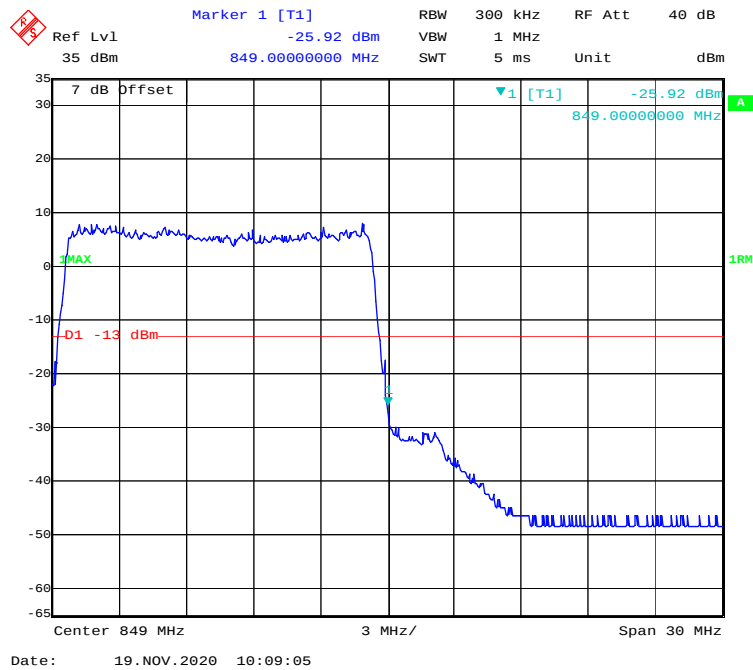
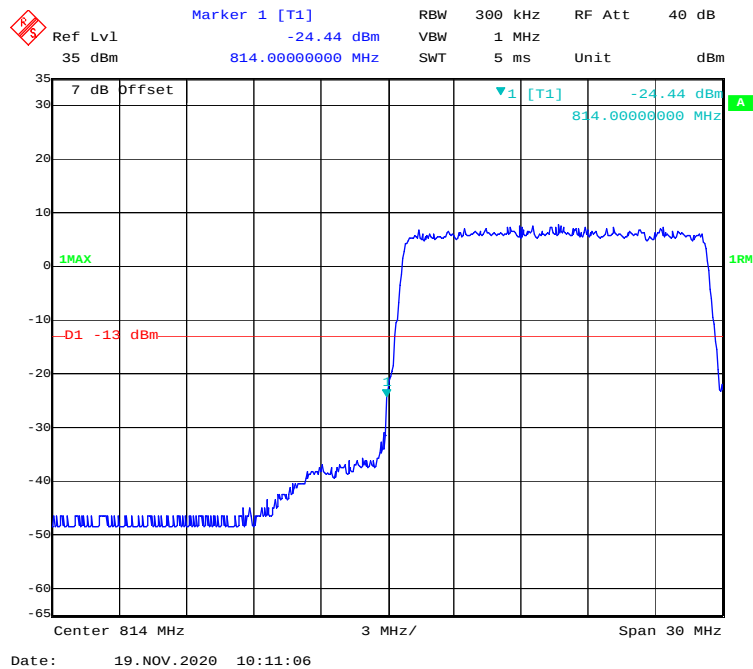
16-QAM (5 MHz, FULL RB) - Right Band Edge**16-QAM (5 MHz, FULL RB) - Left Band Edge**

16-QAM (10 MHz, FULL RB) - Right Band Edge



16-QAM (10 MHz, FULL RB) - Left Band Edge



16-QAM (15 MHz, FULL RB) - Right Band Edge**16-QAM (15 MHz, FULL RB) - Left Band Edge**

FCC § 2.1055; § 22.355; § 24.235; §27.54, § 90.213 - FREQUENCY STABILITY

Applicable Standards

FCC § 2.1055, §22.355, §24.235, § 90.213 and §27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

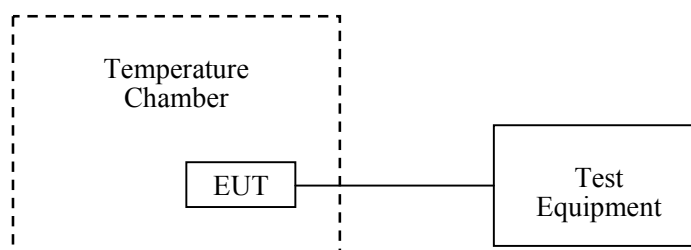
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data**Environmental Conditions**

Temperature:	23.9~25.3 °C
Relative Humidity:	49~53 %
ATM Pressure:	100.7~101.9 kPa

The testing was performed by Jack Jiao from 2020-11-02 to 2020-11-04.

EUT operation mode: Transmitting

Test Result: Compliant.

DC 7.40V from battery:

WCDMA Band V:

WCDMA Mode, Middle Channel, $f_o = 836.6$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	7.40	14	0.016734	2.5
-20		13	0.010758	2.5
-10		8	0.014344	2.5
0		9	0.010758	2.5
10		12	0.014344	2.5
20		7	0.008367	2.5
30		16	0.019125	2.5
40		13	0.015539	2.5
50		15	0.017930	2.5
25	V min.= 6.66	18	0.021516	2.5
25	V max.= 8.14	15	0.017930	2.5

WCDMA Band II:

WCDMA Mode, Middle Channel, $f_0 = 1880.0$ MHz				
Temperature (°C)	Power Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	7.40	15	0.007979	pass
-20		10	0.005319	pass
-10		14	0.007447	pass
0		13	0.006915	pass
10		7	0.003723	pass
20		17	0.009043	pass
30		6	0.003191	pass
40		12	0.006383	pass
50		15	0.007979	pass
20	V min.= 6.66	11	0.005851	pass
20	V max.= 8.14	12	0.006383	pass

WCDMA Band IV:

WCDMA Mode, Low Channel & High Channel					
Temperature	Power Supplied	F_L	F_H	F_L Limit	F_H Limit
(°C)	(V_{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	1710.3862	1754.7649	1710	1755
-20		1710.3819	1754.7659	1710	1755
-10		1710.3829	1754.7692	1710	1755
0		1710.3610	1754.7639	1710	1755
10		1710.3991	1754.7655	1710	1755
20		1710.3374	1754.7697	1710	1755
30		1710.3742	1754.7664	1710	1755
40		1710.4258	1754.7639	1710	1755
50		1710.4215	1754.7616	1710	1755
25	V min.= 6.66	1710.4237	1754.7604	1710	1755
25	V max.= 8.14	1710.3446	1754.7654	1710	1755

LTE Band 2:

Middle Channel, $f_o=1880.0$ MHz (QPSK) /Channel Bandwidth:20MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	7.40	18	0.0215	pass
-20		15	0.0179	pass
-10		14	0.0167	pass
0		13	0.0155	pass
10		10	0.0120	pass
20		8	0.0096	pass
30		6	0.0072	pass
40		9	0.0108	pass
50		9	0.0108	pass
20	V min.= 6.66	11	0.0132	pass
20	V max.= 8.14	10	0.0120	pass

Middle Channel, $f_o=1880.0$ MHz (16-QAM) /Channel Bandwidth:20MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	7.40	20	0.0239	pass
-20		18	0.0215	pass
-10		16	0.0191	pass
0		13	0.0155	pass
10		9	0.0108	pass
20		12	0.0143	pass
30		10	0.0120	pass
40		8	0.0096	pass
50		9	0.0108	pass
20	V min.= 6.66	11	0.0132	pass
20	V max.= 8.14	13	0.0000	pass

LTE Band 4:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	1710.043	1749.966	1710	1755
-20		1710.042	1749.961	1710	1755
-10		1710.043	1749.966	1710	1755
0		1710.048	1749.962	1710	1755
10		1710.045	1749.960	1710	1755
20		1710.041	1749.968	1710	1755
30		1710.041	1749.964	1710	1755
40		1710.043	1749.966	1710	1755
50		1710.047	1749.965	1710	1755
20	V min.= 6.66	1710.045	1749.963	1710	1755
20	V max.= 8.14	1710.049	1749.962	1710	1755

Low Channel & High Channel (16-QAM) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	1710.044	1749.968	1710	1755
-20		1710.043	1749.961	1710	1755
-10		1710.046	1749.964	1710	1755
0		1710.048	1749.966	1710	1755
10		1710.041	1749.966	1710	1755
20		1710.042	1749.966	1710	1755
30		1710.041	1749.969	1710	1755
40		1710.041	1749.965	1710	1755
50		1710.045	1749.961	1710	1755
20	V min.= 6.66	1710.046	1749.969	1710	1755
20	V max.= 8.14	1710.043	1749.964	1710	1755

LTE Band 5:

Middle Channel, $f_0 = 836.5$ MHz (QPSK) /Channel Bandwidth:10MHz				
Temperature	Power Supplied	Frequency Error	Frequency Error	Limit
(°C)	(V _{DC})	(Hz)	(ppm)	(ppm)
-30	7.40	18	0.0215	2.5
-20		15	0.0179	2.5
-10		14	0.0167	2.5
0		13	0.0155	2.5
10		10	0.0120	2.5
20		8	0.0096	2.5
30		6	0.0072	2.5
40		9	0.0108	2.5
50		9	0.0108	2.5
20	V min.= 6.66	11	0.0132	2.5
20	V max.= 8.14	10	0.0120	2.5

Middle Channel, $f_0 = 836.5$ MHz (16-QAM) /Channel Bandwidth:10MHz				
Temperature	Power Supplied	Frequency Error	Frequency Error	Limit
(°C)	(V _{DC})	(Hz)	(ppm)	(ppm)
-30	7.40	20	0.0239	2.5
-20		18	0.0215	2.5
-10		16	0.0191	2.5
0		13	0.0155	2.5
10		9	0.0108	2.5
20		12	0.0143	2.5
30		10	0.0120	2.5
40		8	0.0096	2.5
50		9	0.0108	2.5
20	V min.= 6.66	11	0.0132	2.5
20	V max.= 8.14	13	0.0155	2.5

LTE Band 7:

Low Channel & High Channel (QPSK):20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	2500.0431	2569.9527	2500	2570
-20		2500.0445	2569.9548	2500	2570
-10		2500.0406	2569.9552	2500	2570
0		2500.0463	2569.9500	2500	2570
10		2500.0405	2569.9559	2500	2570
20		2500.0469	2569.9542	2500	2570
30		2500.0401	2569.9583	2500	2570
40		2500.0422	2569.9582	2500	2570
50		2500.0467	2569.9585	2500	2570
20	V min.= 6.66	2500.0444	2569.9515	2500	2570
20	V max.= 8.14	2500.0464	2569.9530	2500	2570

Low Channel & High Channel (16-QAM):20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	2500.0455	2569.9569	2500	2570
-20		2500.0475	2569.9578	2500	2570
-10		2500.0406	2569.9527	2500	2570
0		2500.0491	2569.9596	2500	2570
10		2500.0477	2569.9556	2500	2570
20		2500.0404	2569.9562	2500	2570
30		2500.0478	2569.9591	2500	2570
40		2500.0419	2569.9591	2500	2570
50		2500.0489	2569.9576	2500	2570
20	V min.= 6.66	2500.0494	2569.9564	2500	2570
20	V max.= 8.14	2500.0469	2569.9598	2500	2570

LTE Band 12:

Low Channel & High Channel (QPSK) /Channel Bandwidth:10MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	699.1389	715.7647	699	716
-20		699.1163	715.6689	699	716
-10		699.2820	715.8043	699	716
0		699.0428	715.9745	699	716
10		699.2237	715.9851	699	716
20		699.0858	715.9939	699	716
30		699.2676	715.9893	699	716
40		699.3256	715.6758	699	716
50		699.1979	715.7645	699	716
20	V min.= 6.66	699.1607	715.8477	699	716
20	V max.= 8.14	699.0578	715.6496	699	716

Low Channel & High Channel (16-QAM) /Channel Bandwidth:10MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	699.0745	715.8395	699	716
-20		699.2272	715.9904	699	716
-10		699.2658	715.7142	699	716
0		699.1272	715.8427	699	716
10		699.2364	715.8581	699	716
20		699.1985	715.8016	699	716
30		699.2949	715.8626	699	716
40		699.0387	715.9961	699	716
50		699.0857	715.9321	699	716
20	V min.= 6.66	699.2466	715.7896	699	716
20	V max.= 8.14	699.3991	715.8825	699	716

LTE Band 13:

Middle Channel (QPSK) /Channel Bandwidth:10MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	777.2851	786.8630	777	787
-20		777.0712	786.6839	777	787
-10		777.3615	786.9544	777	787
0		777.3575	786.7978	777	787
10		777.0284	786.6281	777	787
20		777.3848	786.8563	777	787
30		777.3355	786.8056	777	787
40		777.3047	786.7234	777	787
50		777.3450	786.6534	777	787
20	V min.= 6.66	777.2187	786.8166	777	787
20	V max.= 8.14	777.2960	786.7631	777	787

Middle Channel (QPSK) /Channel Bandwidth:10MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	777.2469	786.6873	777	787
-20		777.2598	786.9116	777	787
-10		777.0918	786.9216	777	787
0		777.1785	786.7511	777	787
10		777.1632	786.6253	777	787
20		777.1525	786.8605	777	787
30		777.3919	786.9445	777	787
40		777.2913	786.6438	777	787
50		777.3975	786.7966	777	787
20	V min.= 6.66	777.1161	786.8745	777	787
20	V max.= 8.14	777.0812	786.9427	777	787

LTE Band 25:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	1850.706	1914.301	1850	1915
-20		1850.703	1914.300	1850	1915
-10		1850.707	1914.301	1850	1915
0		1850.708	1914.303	1850	1915
10		1850.702	1914.307	1850	1915
20		1850.708	1914.302	1850	1915
30		1850.708	1914.304	1850	1915
40		1850.702	1914.303	1850	1915
50		1850.708	1914.303	1850	1915
20	V min.= 6.66	1850.704	1914.309	1850	1915
20	V max.= 8.14	1850.705	1914.302	1850	1915

Low Channel & High Channel (16-QAM) /Channel Bandwidth:10MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{DC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	7.40	1850.705	1914.308	1850	1915
-20		1850.703	1914.308	1850	1915
-10		1850.703	1914.308	1850	1915
0		1850.705	1914.301	1850	1915
10		1850.707	1914.307	1850	1915
20		1850.702	1914.307	1850	1915
30		1850.703	1914.308	1850	1915
40		1850.706	1914.307	1850	1915
50		1850.704	1914.301	1850	1915
20	V min.= 6.66	1850.703	1914.305	1850	1915
20	V max.= 8.14	1850.710	1914.305	1850	1915

LTE Band 26:

Middle Channel, $f_0 = 831.5$ MHz (QPSK)				
Temperature	Power Supplied	Frequency Error	Frequency Error	Limit
(°C)	(V _{DC})	(Hz)	(ppm)	(ppm)
-30	7.40	19	0.0227	2.5
-20		16	0.0191	2.5
-10		15	0.0179	2.5
0		18	0.0215	2.5
10		11	0.0132	2.5
20		15	0.0179	2.5
30		12	0.0143	2.5
40		10	0.0120	2.5
50		11	0.0132	2.5
20	V min.= 6.66	12	0.0143	2.5
20	V max.= 8.14	13	0.0155	2.5

Middle Channel, $f_0 = 831.5$ MHz (QPSK)				
Temperature	Power Supplied	Frequency Error	Frequency Error	Limit
(°C)	(V _{DC})	(Hz)	(ppm)	(ppm)
-30	7.40	15	0.0179	2.5
-20		16	0.0191	2.5
-10		17	0.0203	2.5
0		14	0.0167	2.5
10		10	0.0120	2.5
20		13	0.0155	2.5
30		11	0.0132	2.5
40		10	0.0120	2.5
50		8	0.0096	2.5
20	V min.= 6.66	10	0.0120	2.5
20	V max.= 8.14	12	0.0143	2.5

Declarations

1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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