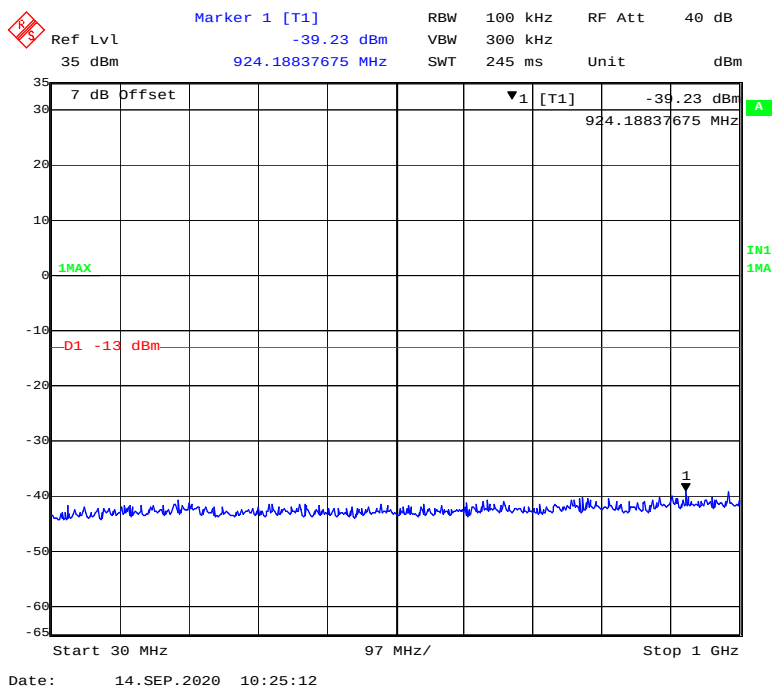
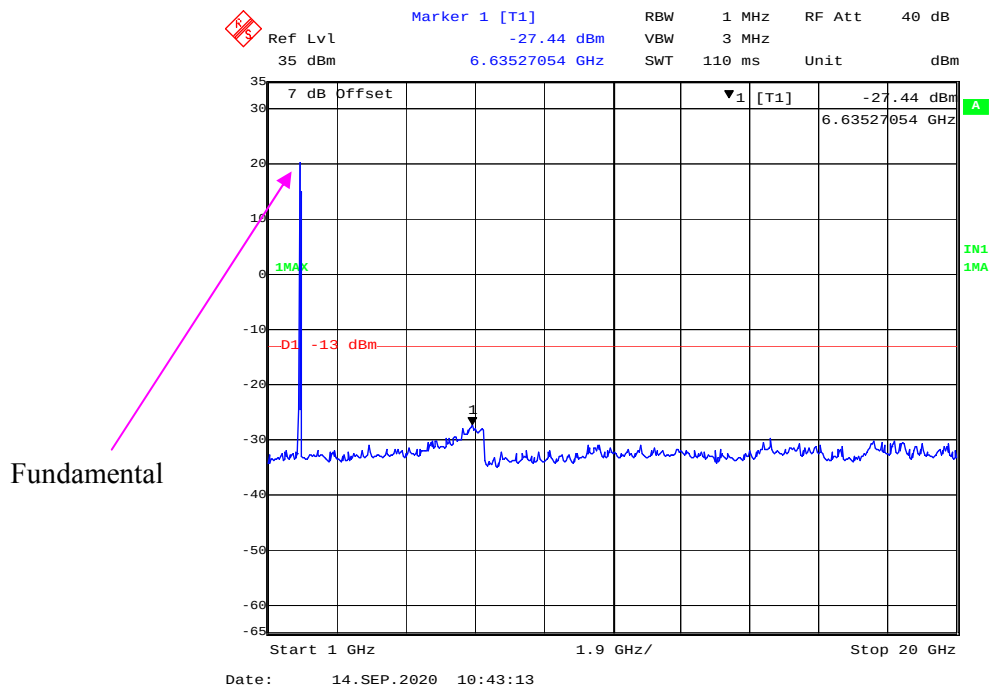
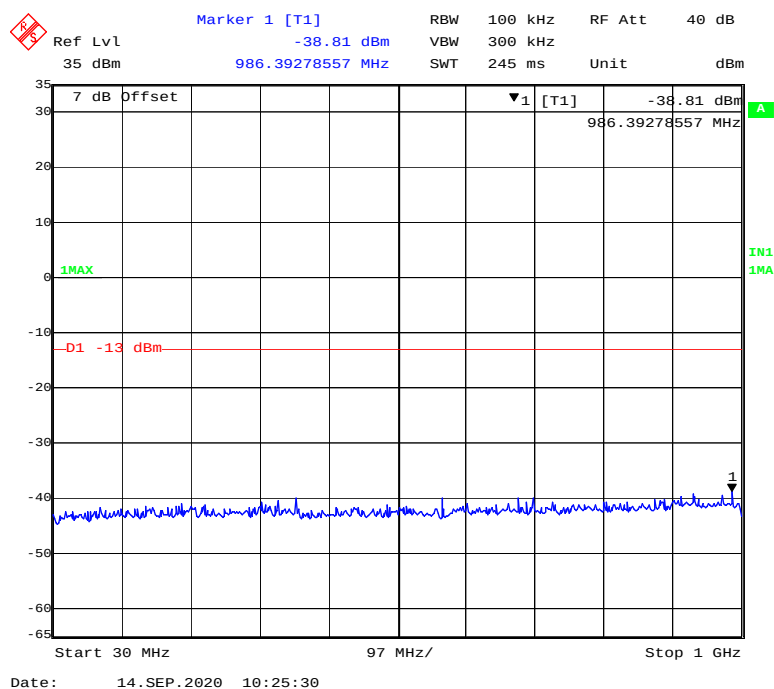
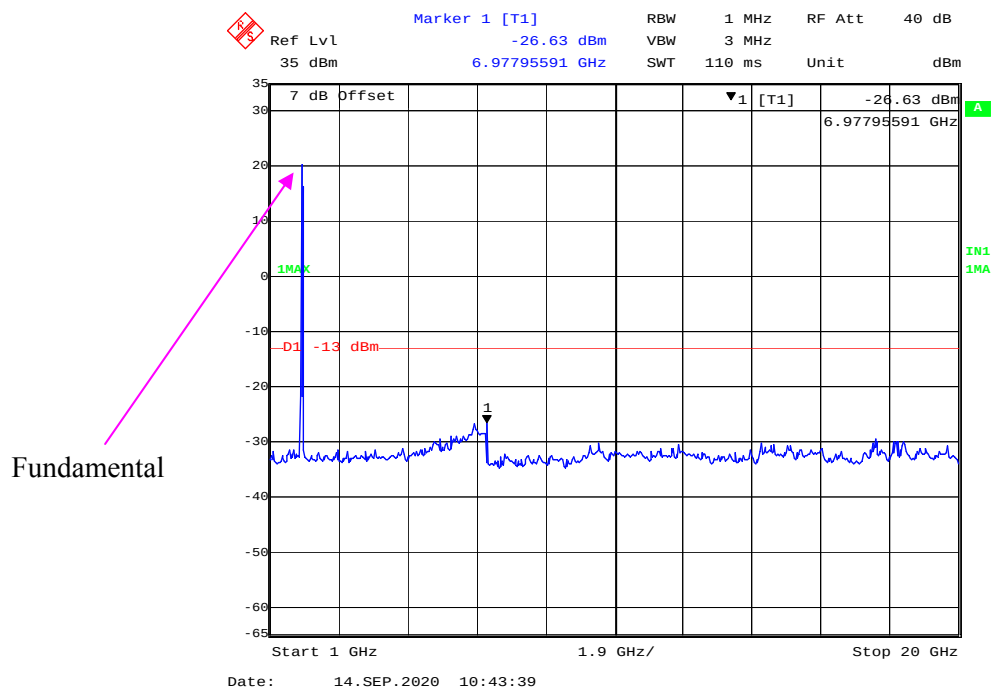
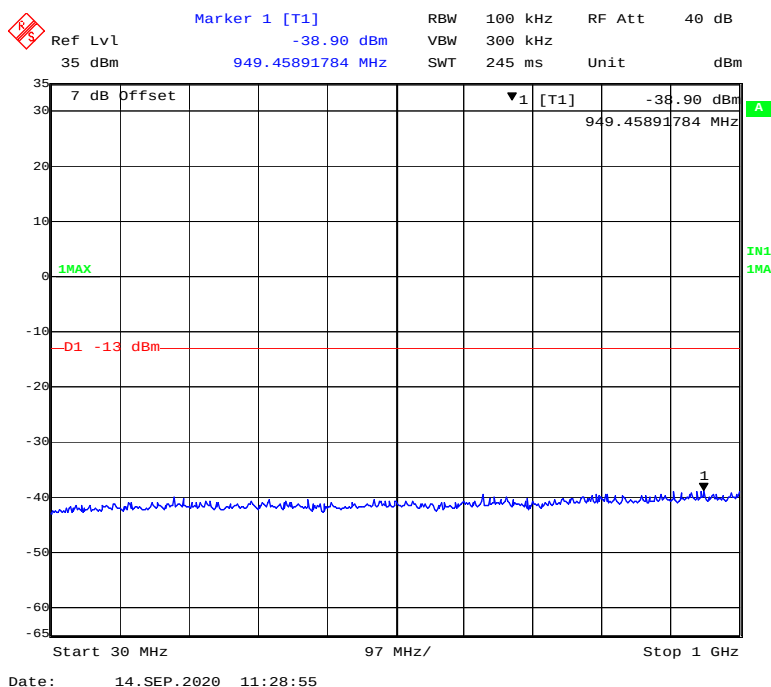
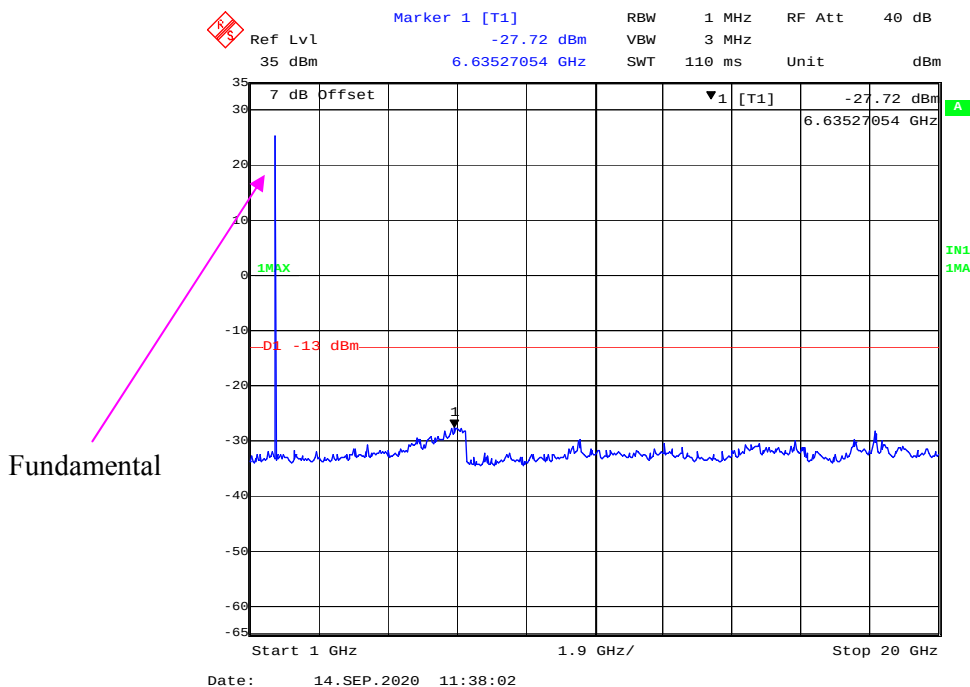
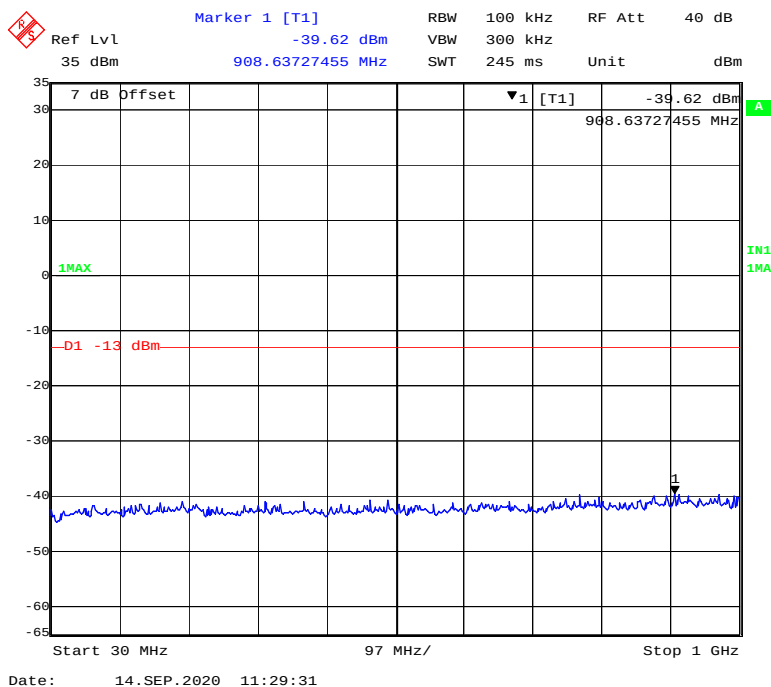


30 MHz - 1 GHz (20 MHz, QPSK, High Channel)**1 GHz - 20 GHz (20 MHz, QPSK, High Channel)**

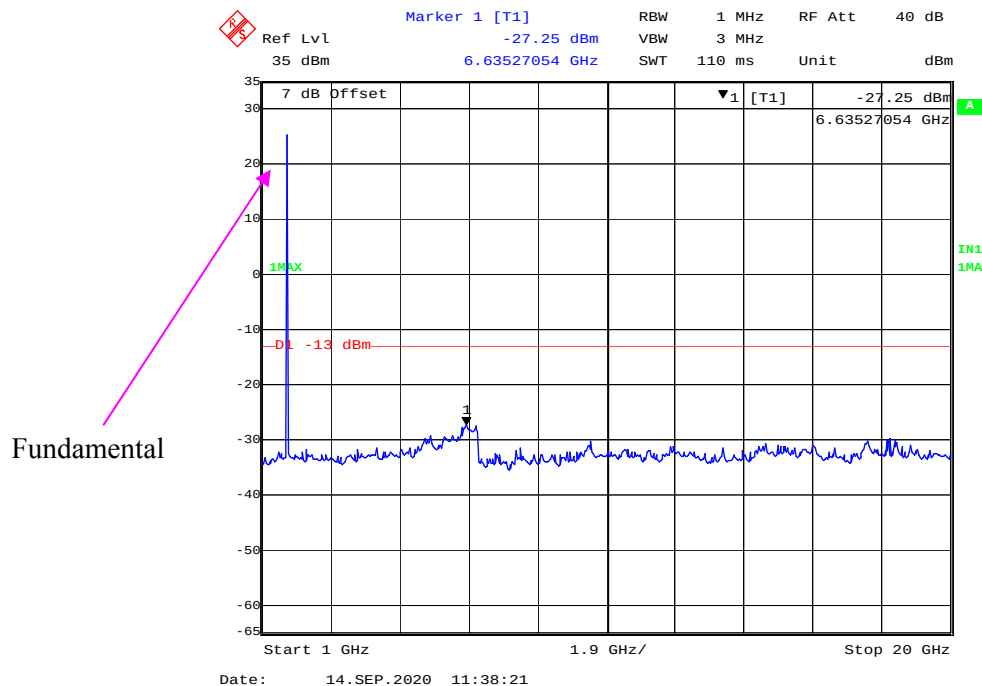
30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)**

LTE Band 4:**30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)****1 GHz - 20 GHz (1.4 MHz, QPSK, Low Channel)**

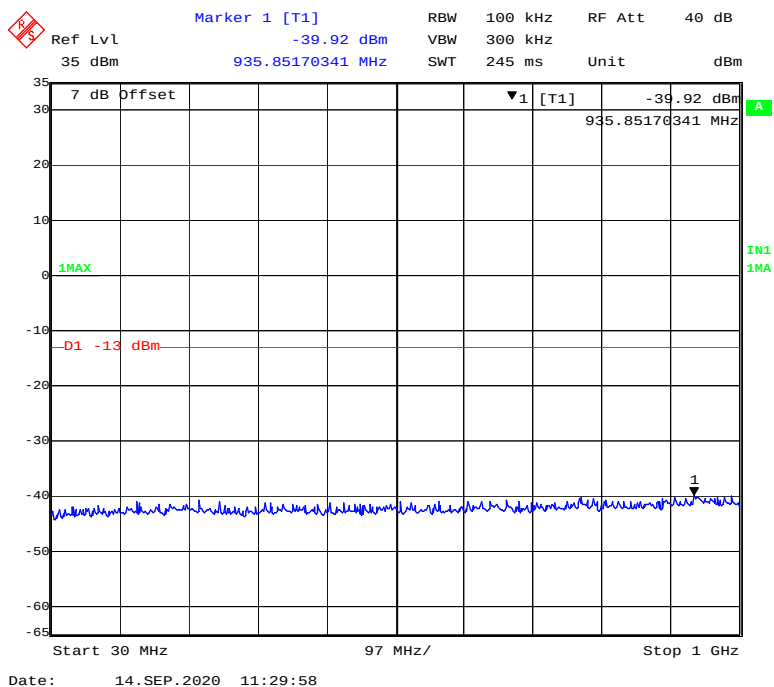
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



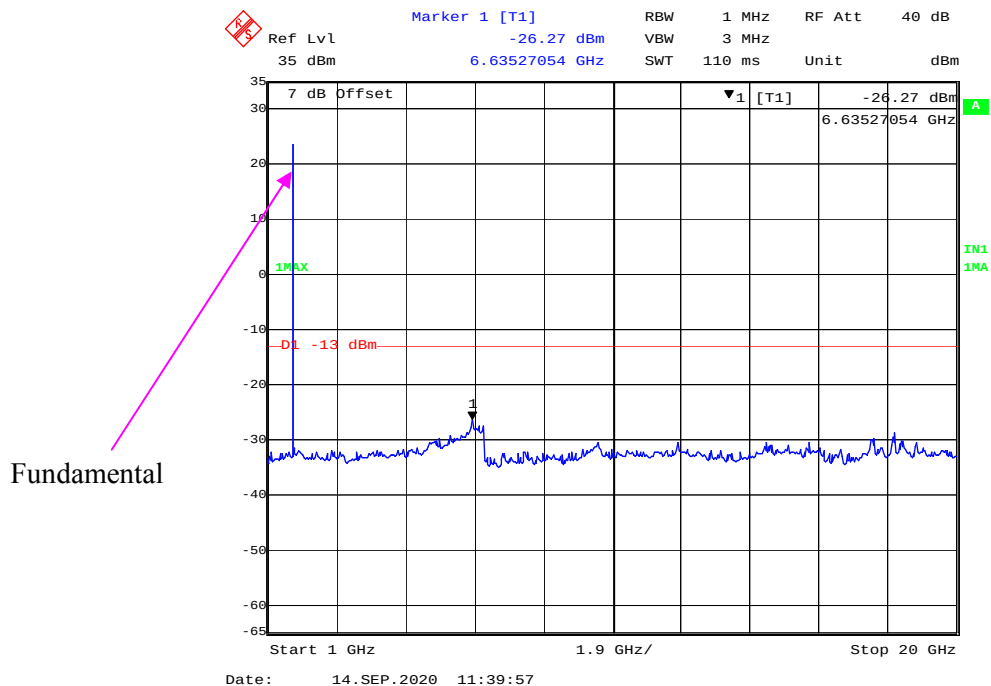
1 GHz - 20 GHz (1.4 MHz, 16-QAM, Low Channel)

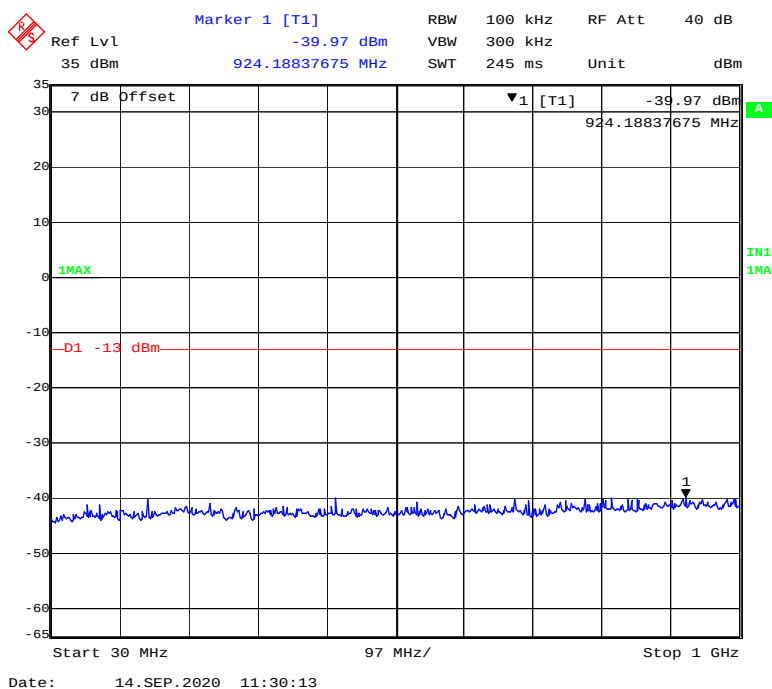
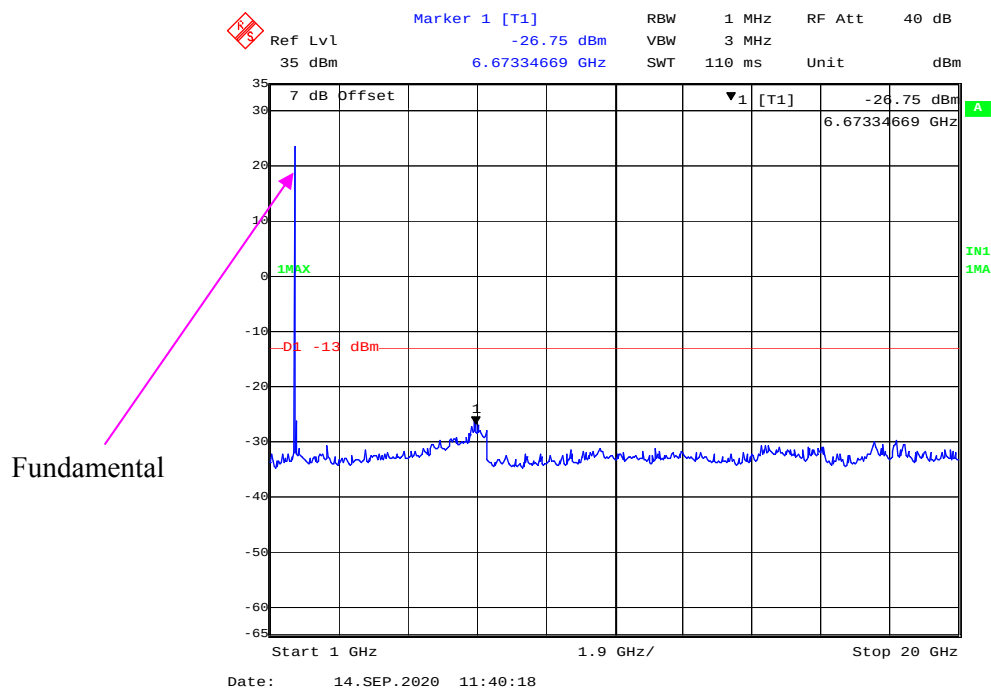


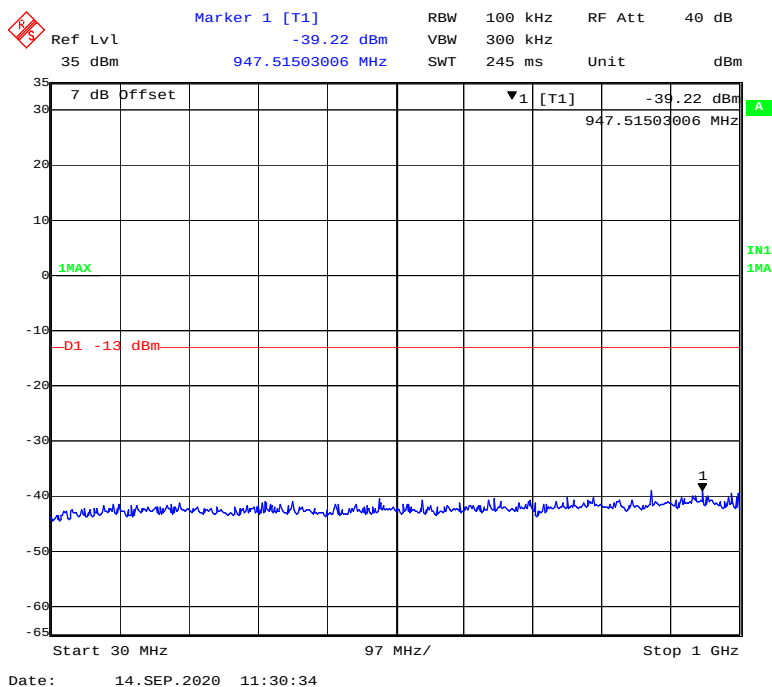
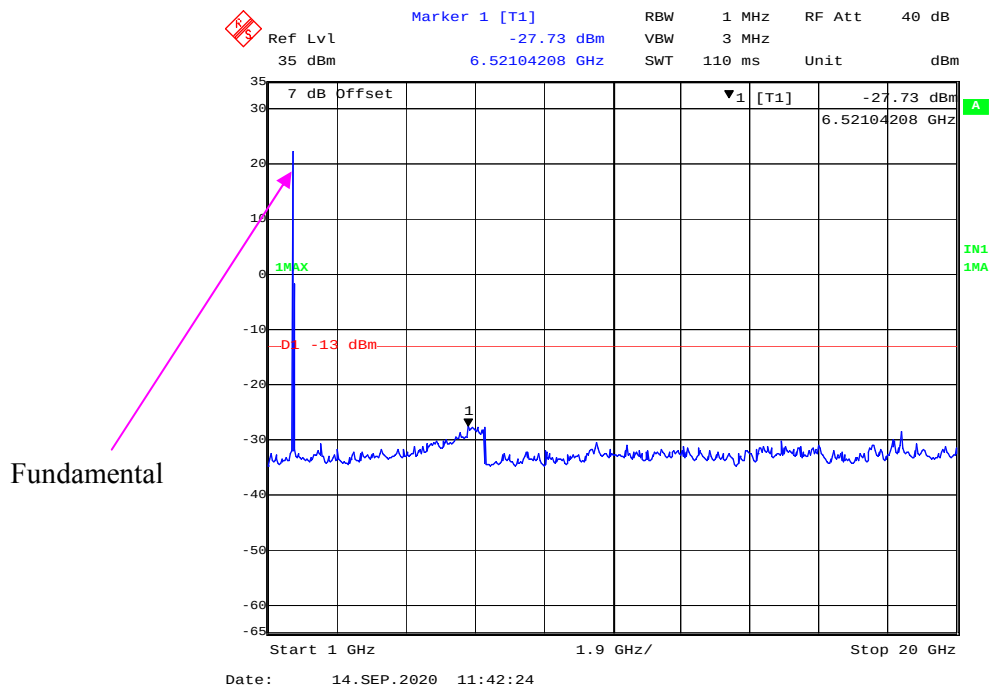
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)

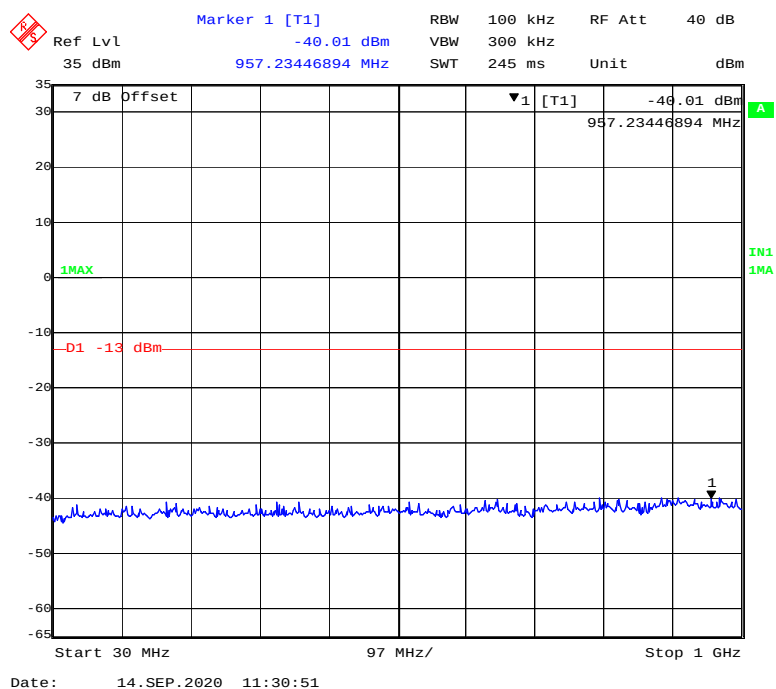
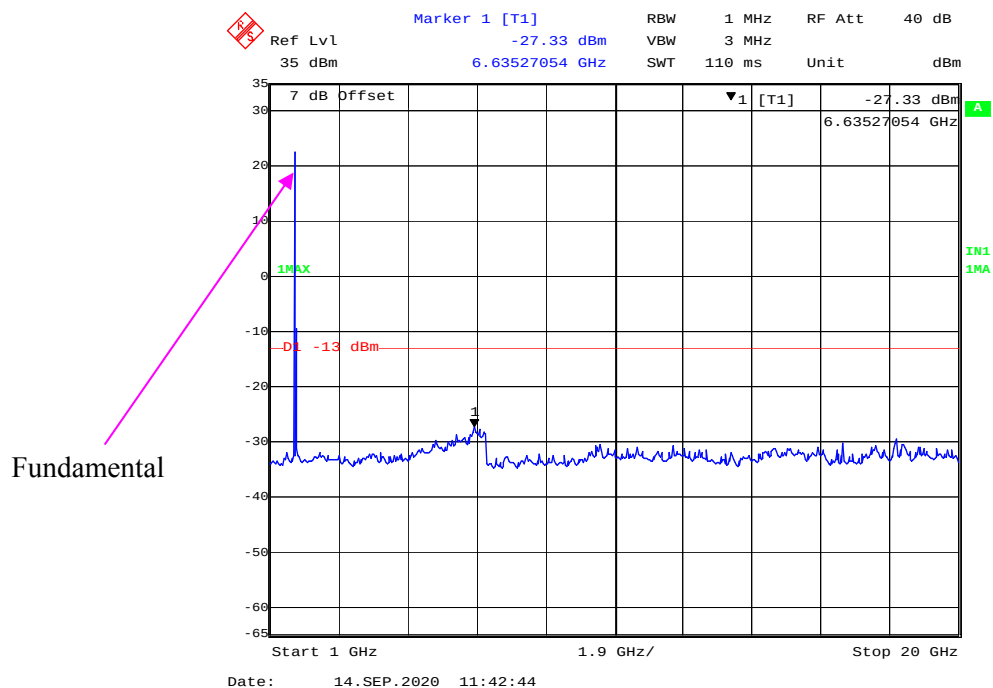


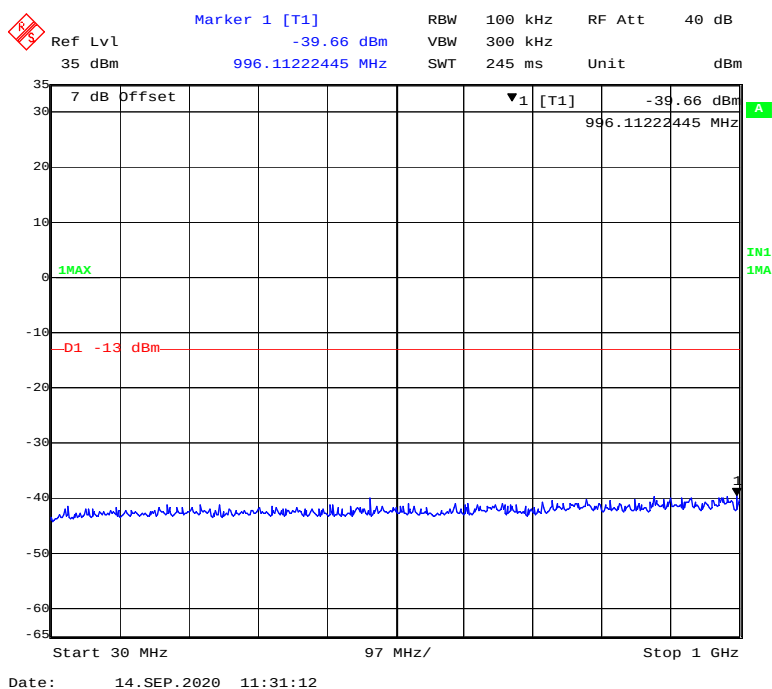
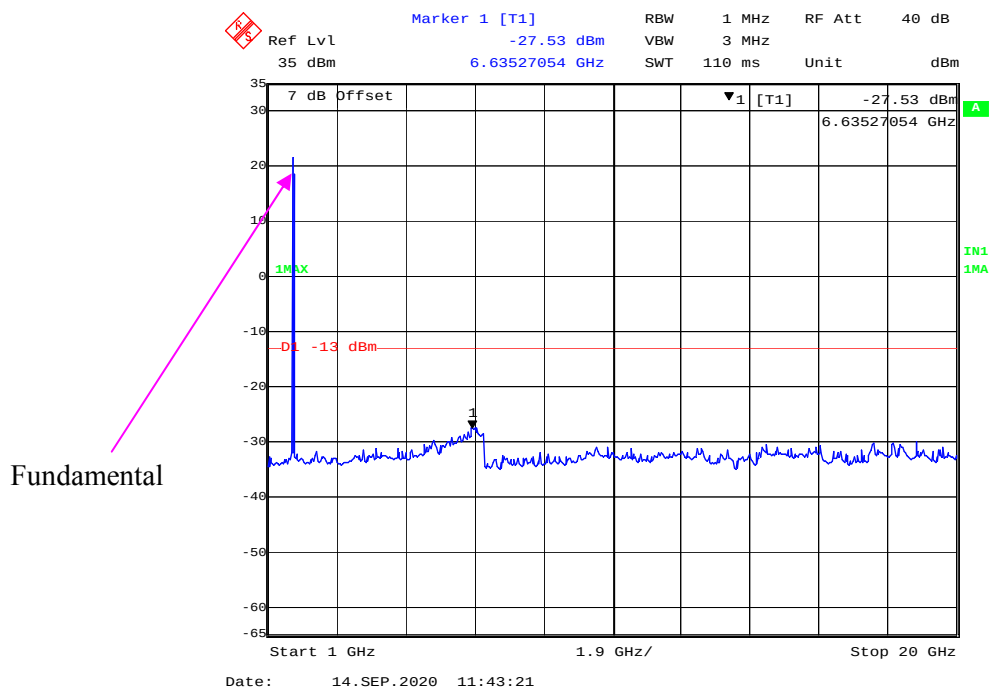
1 GHz – 20 GHz (3 MHz, QPSK, Low Channel)

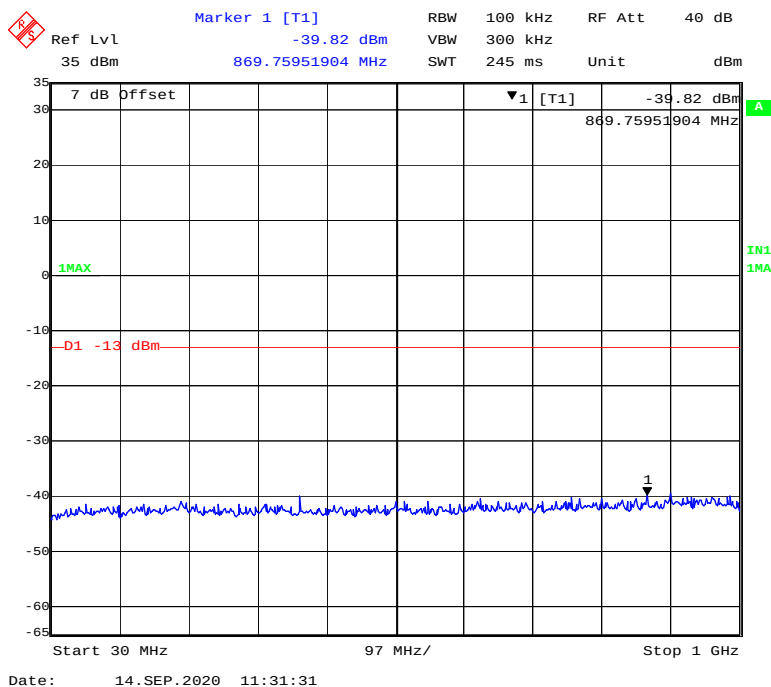
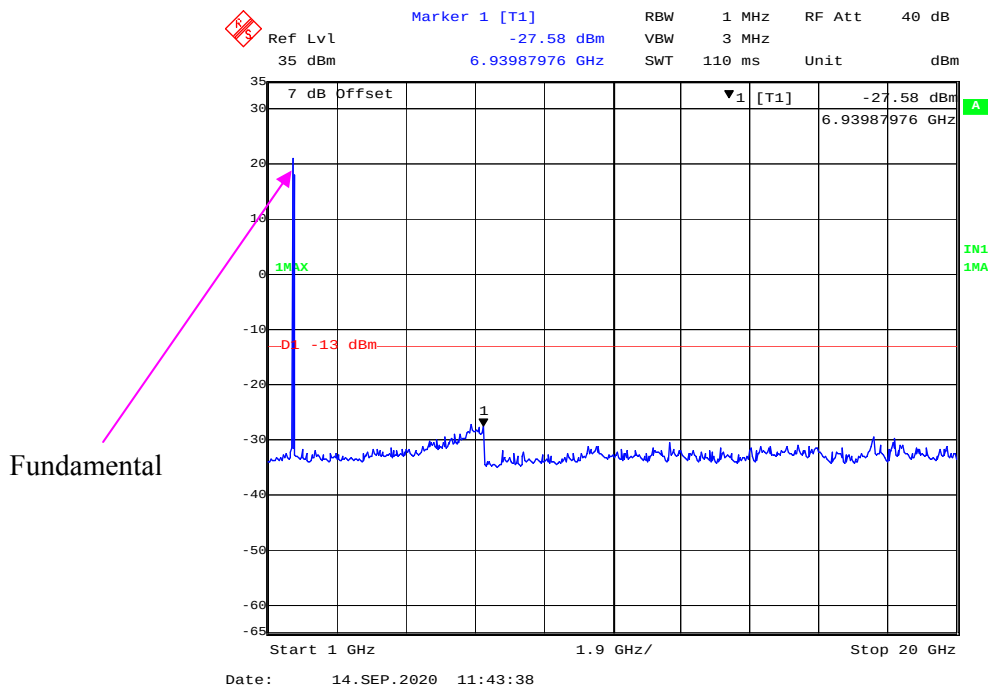


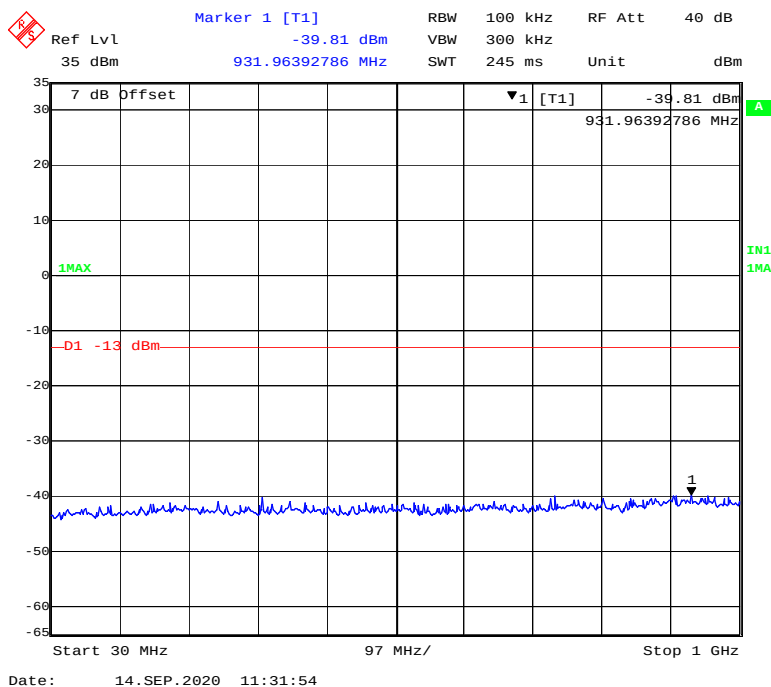
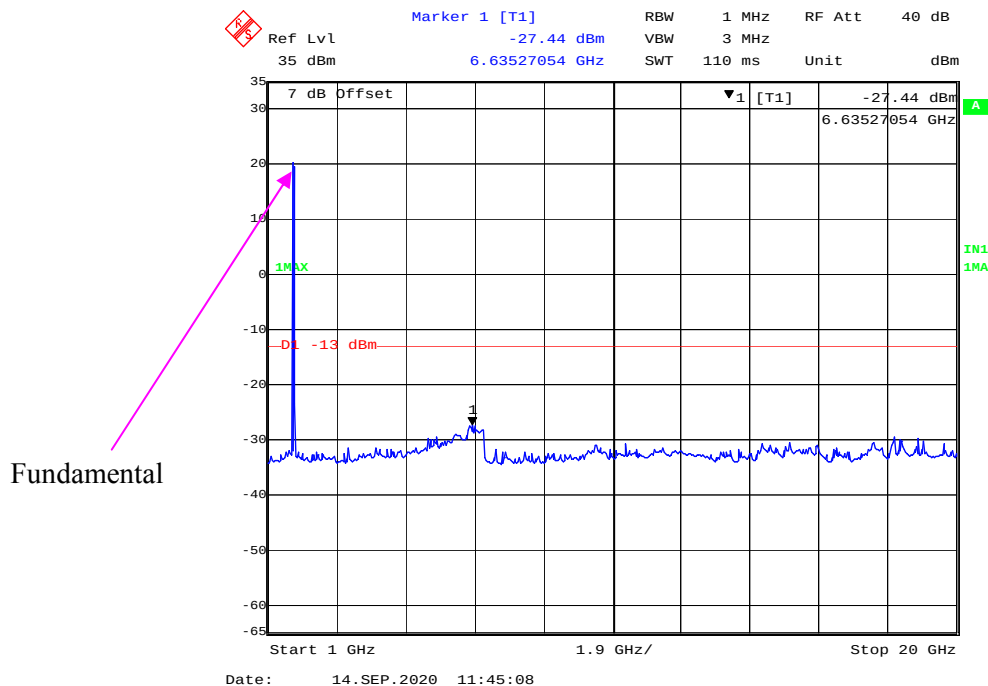
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)**1 GHz - 20 GHz (3 MHz, 16-QAM, Low Channel)**

30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)**1 GHz – 20 GHz (5 MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (5 MHz, 16-QAM, Low Channel)**

30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)**1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (10 MHz, 16-QAM, Low Channel)**

30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)**1 GHz - 20 GHz (15 MHz, QPSK, Low Channel)**

Marker 1 [T1]
 Ref Lvl -39.71 dBm
 35 dBm 966.95390782 MHz
 RBW 100 kHz RF Att 40 dB
 VBW 300 kHz
 SWT 245 ms Unit dBm

7 dB Offset
 ▼1 [T1] -39.71 dBm
 966.95390782 MHz
 1MAX
 D1 -13 dBm
 1
 Start 30 MHz 97 MHz/ Stop 1 GHz
 Date: 14.SEP.2020 11:32:17

Ref Lvl 35 dBm

Marker 1 [T1] -27.72 dBm

RBW 1 MHz RF Att 40 dB

VBW 3 MHz

SWT 110 ms Unit dBm

7 dB Offset

▼1 [T1] -27.72 dBm

6.59719439 GHz

1MAX

1

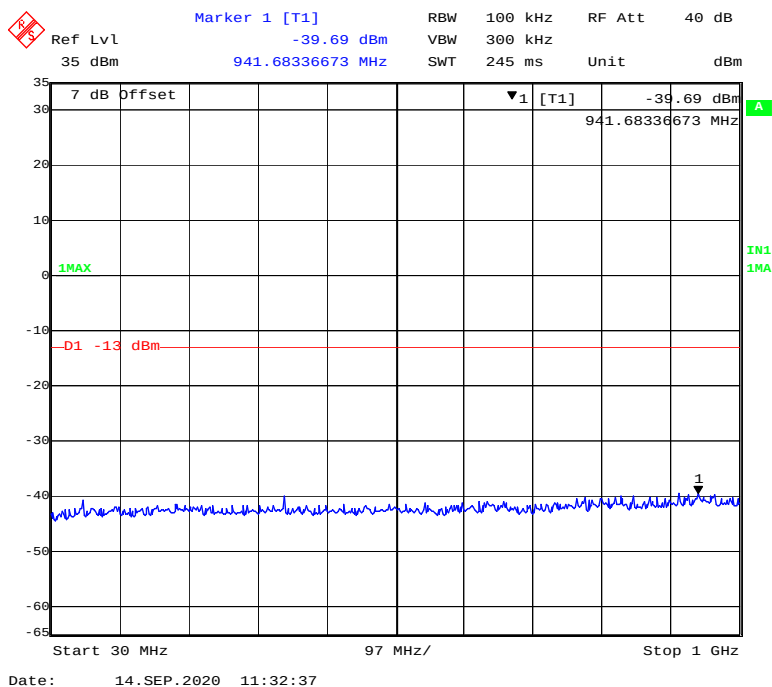
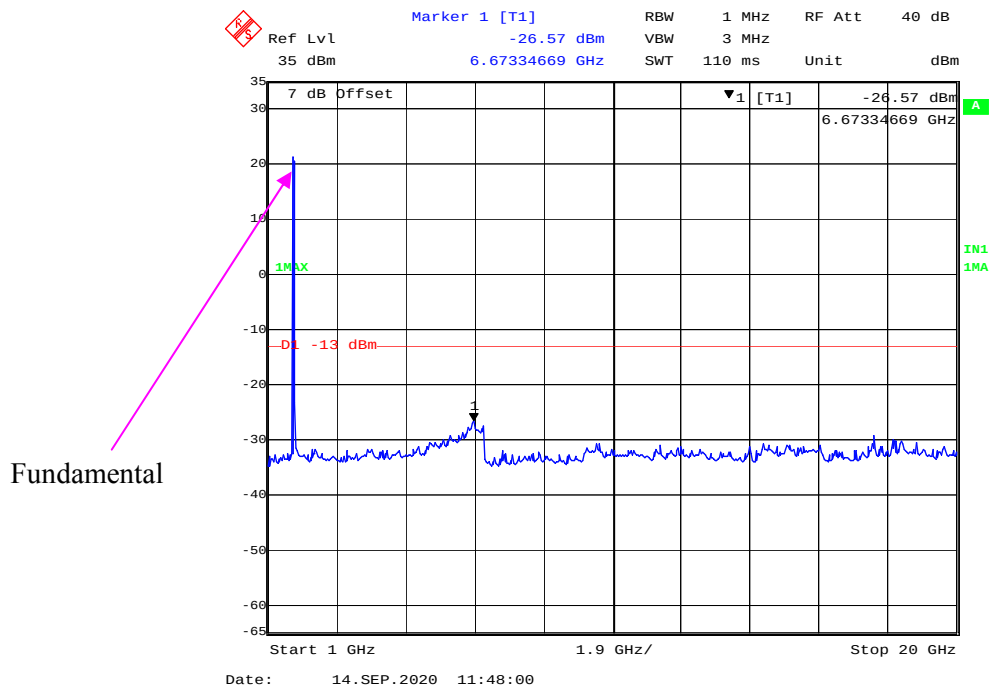
-13 dBm

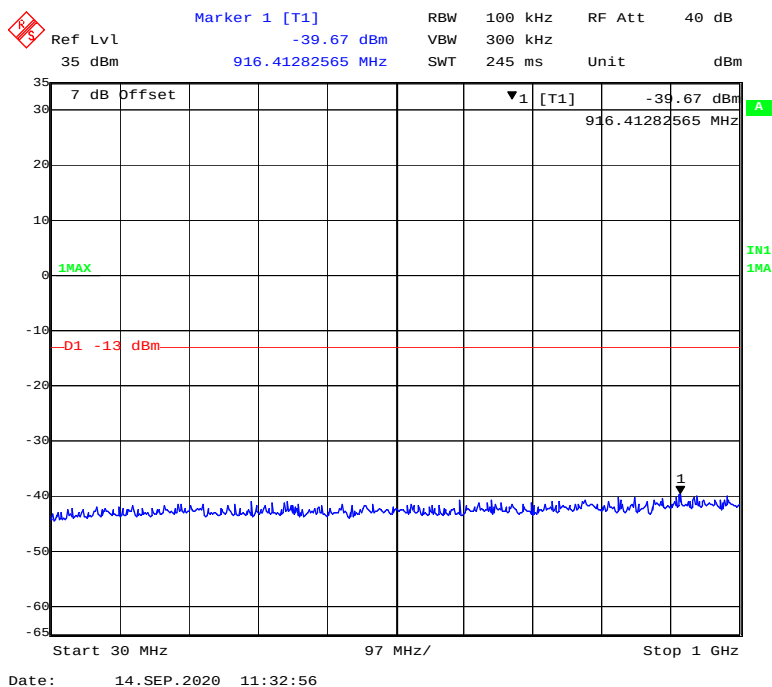
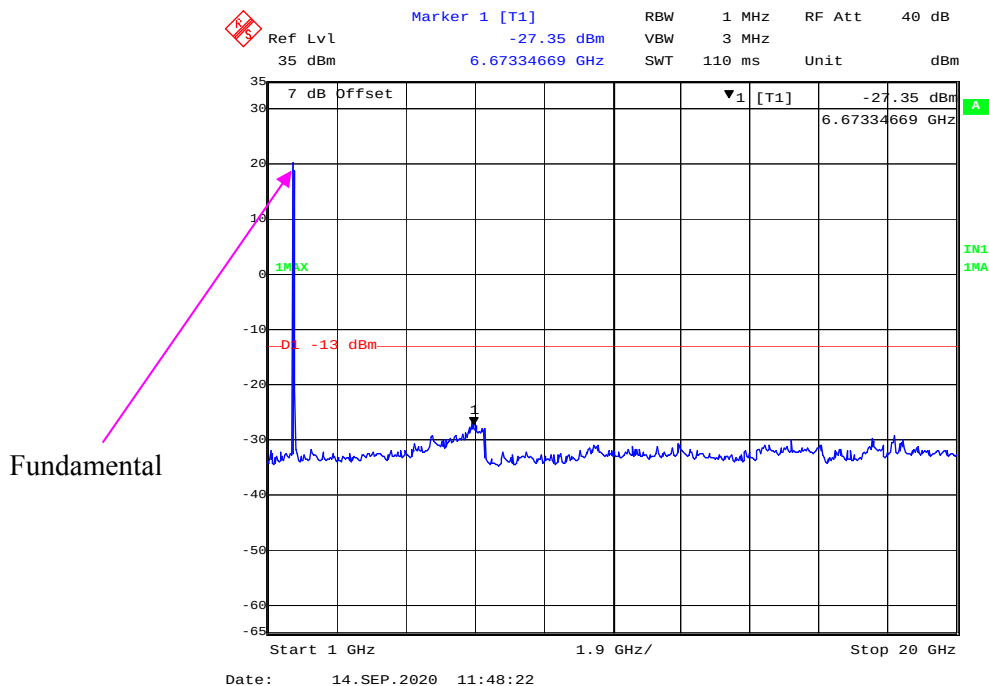
Start 1 GHz

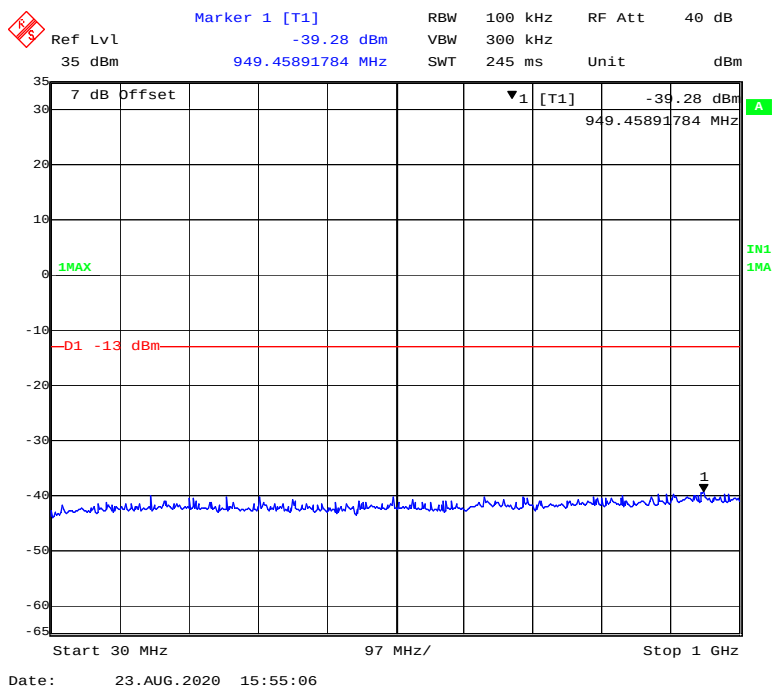
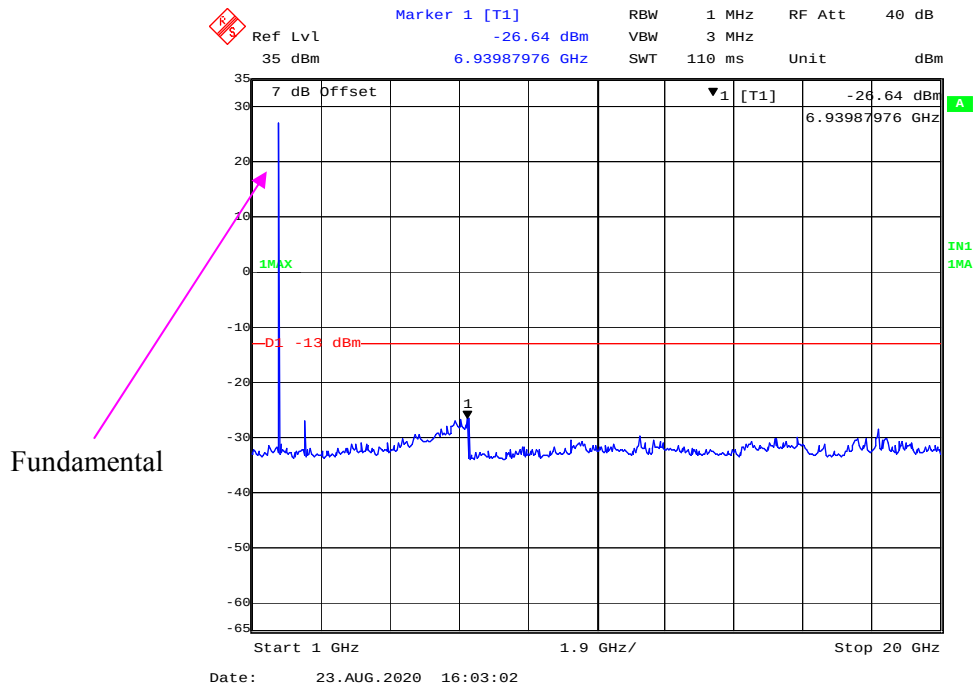
1.9 GHz/

Stop 20 GHz

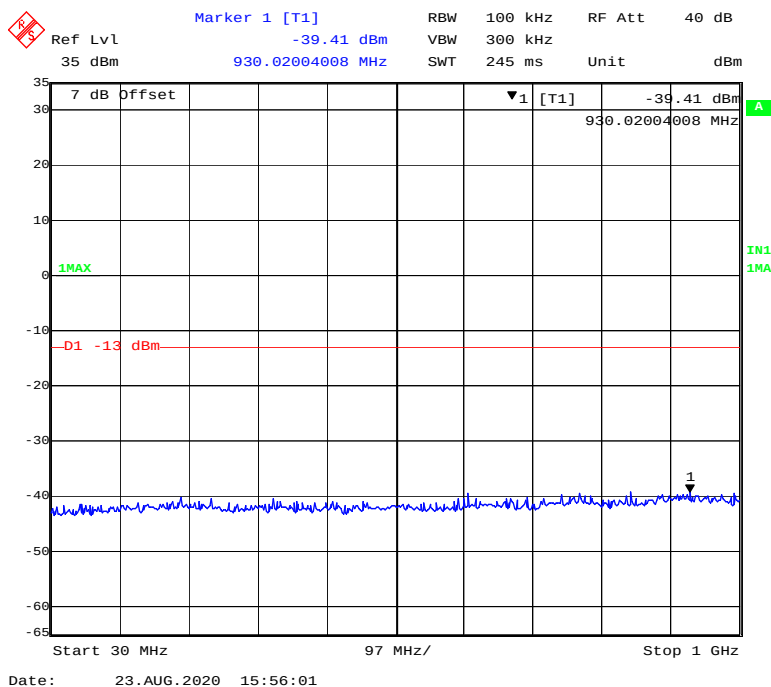
Date: 14.SEP.2020 11:45:29

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

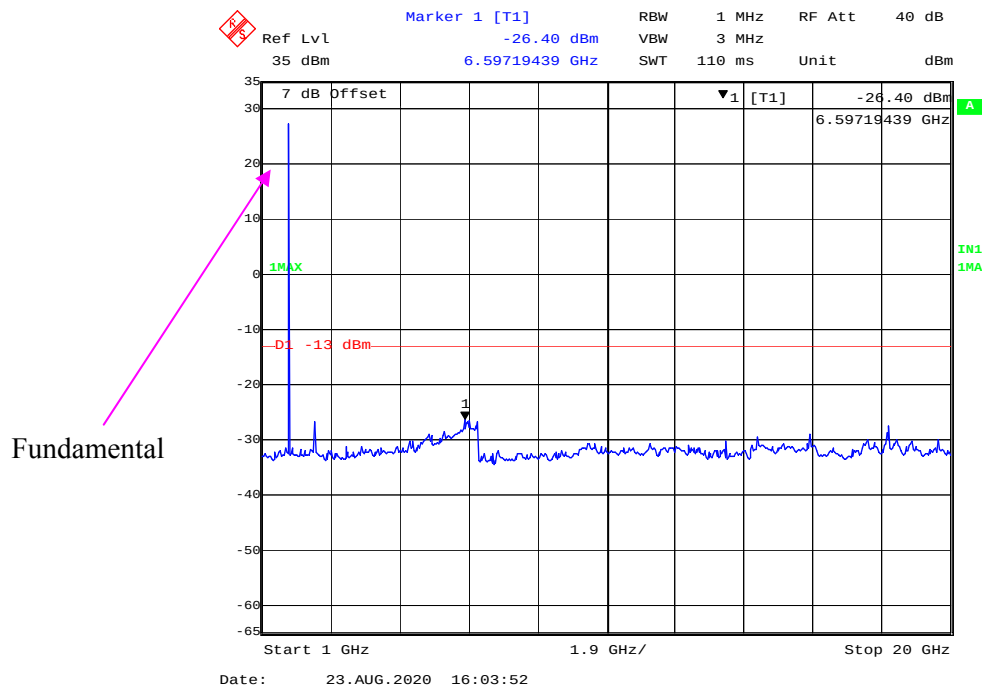
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (20 MHz, 16-QAM, Low Channel)**

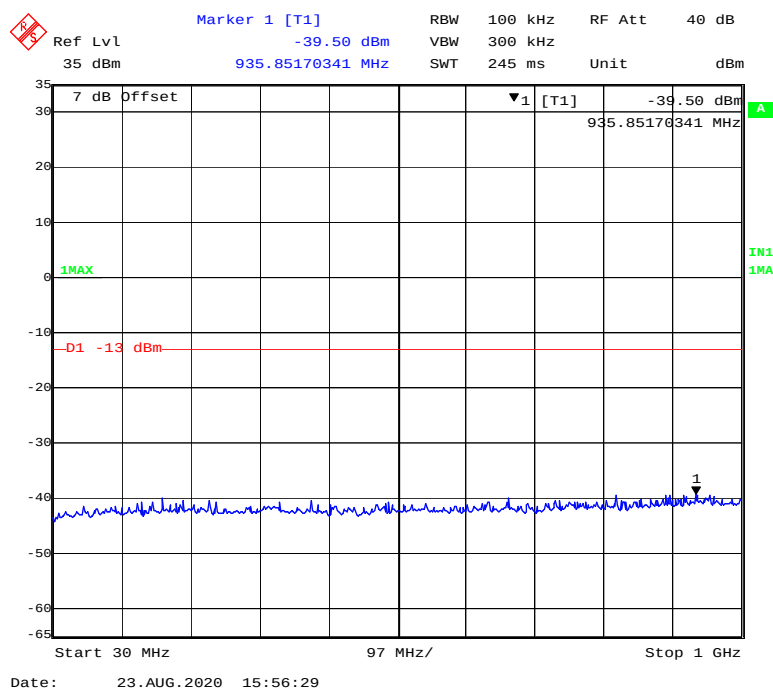
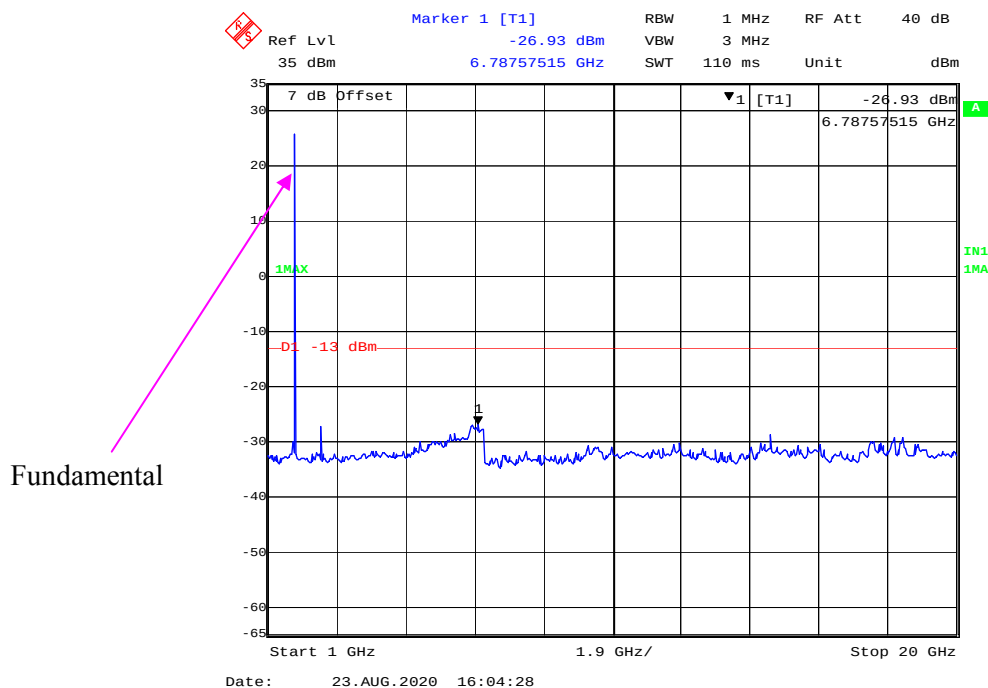
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (1.4 MHz, QPSK, Middle Channel)**

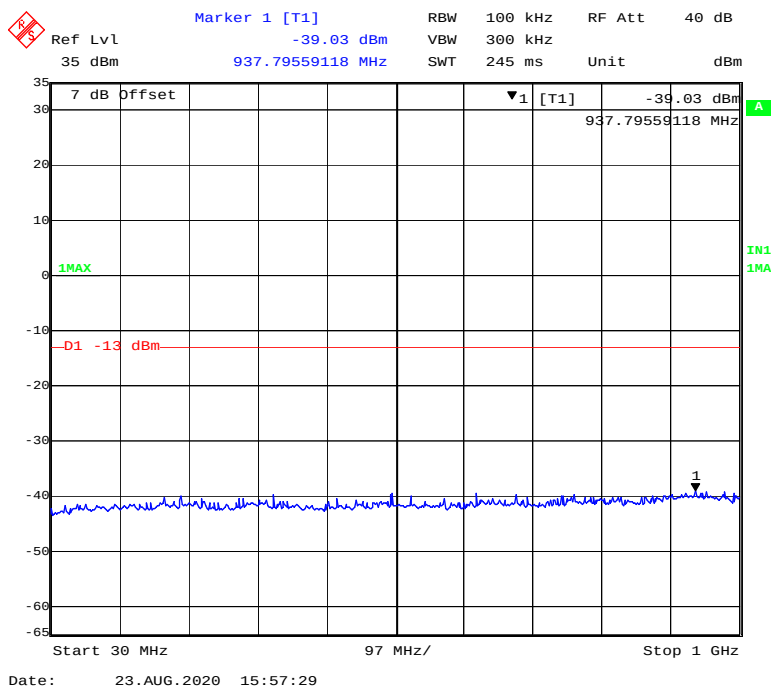
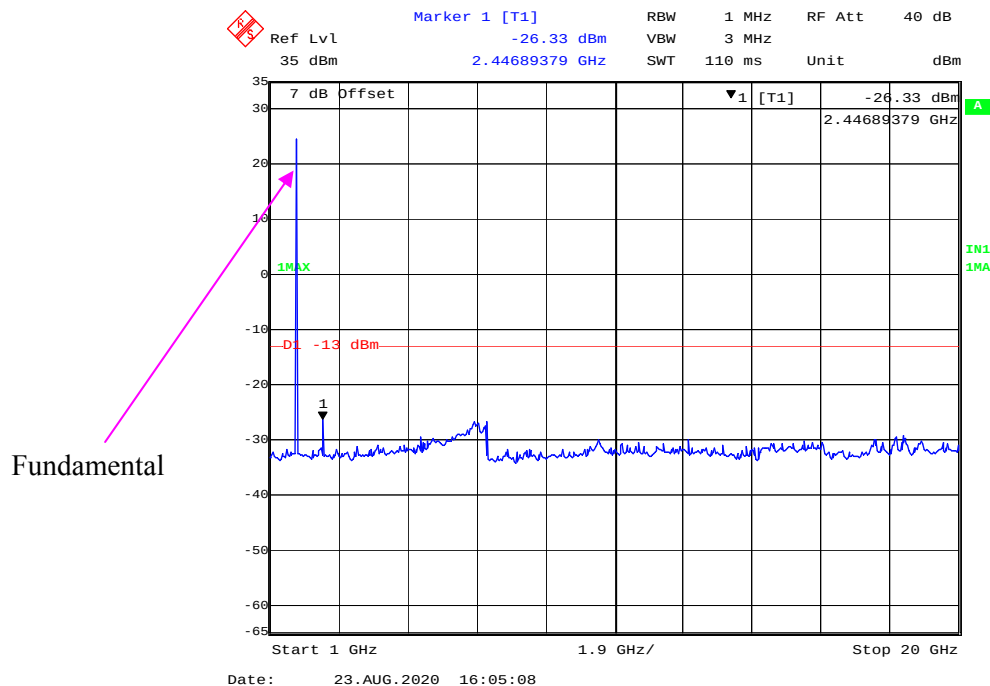
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)

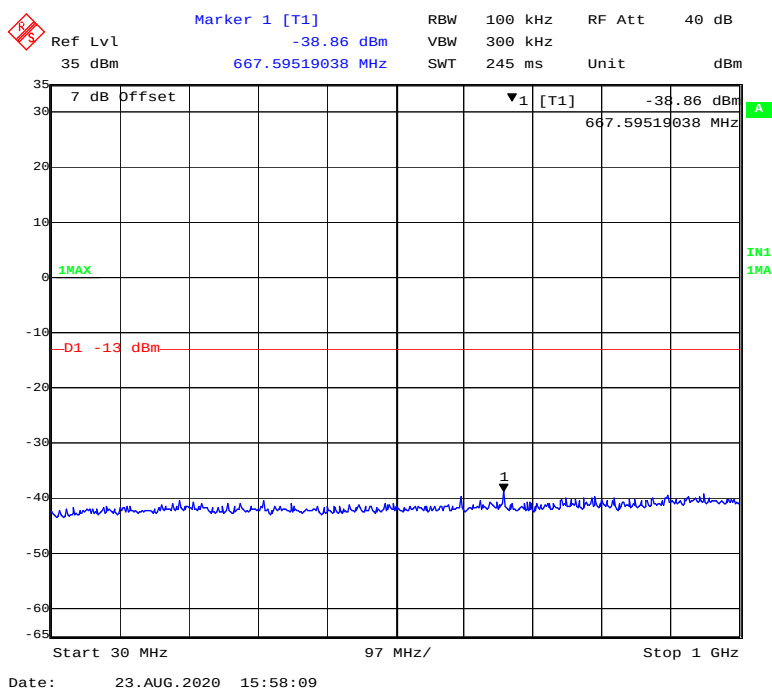
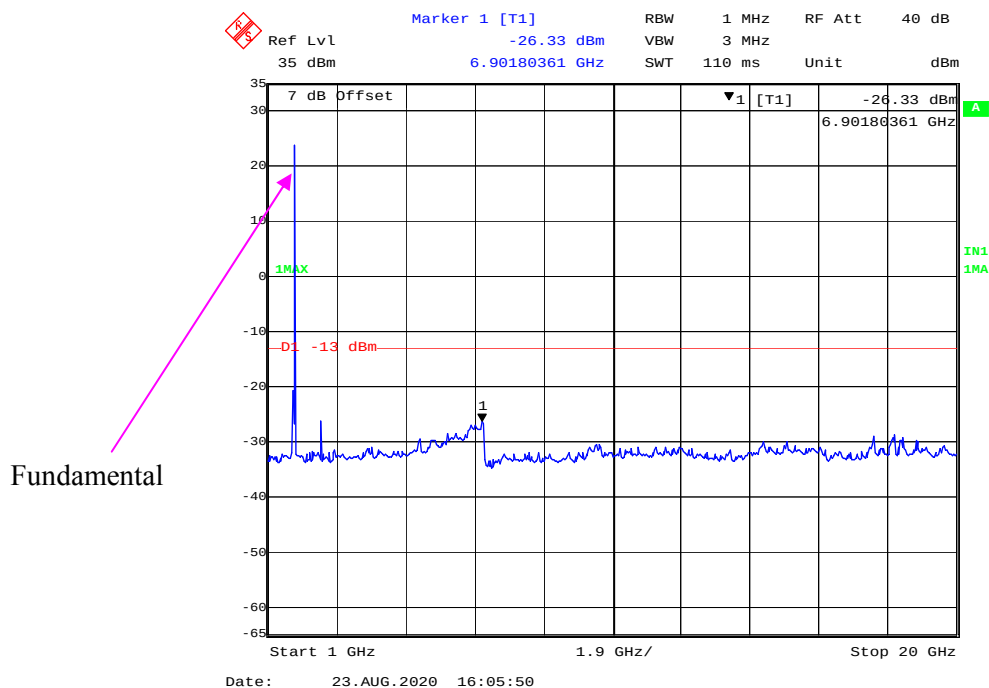


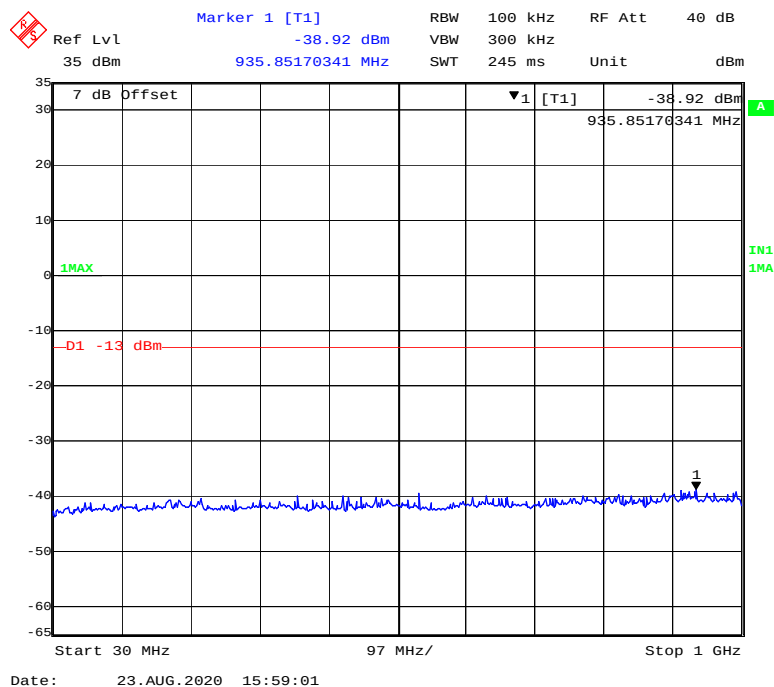
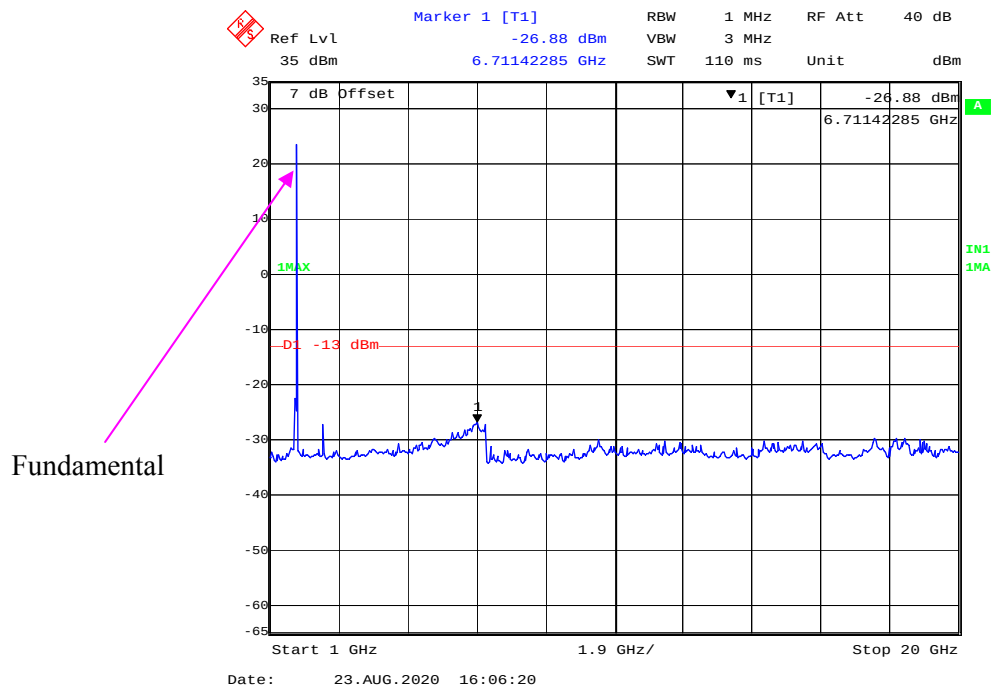
1 GHz - 20 GHz (1.4 MHz, 16-QAM, Middle Channel)



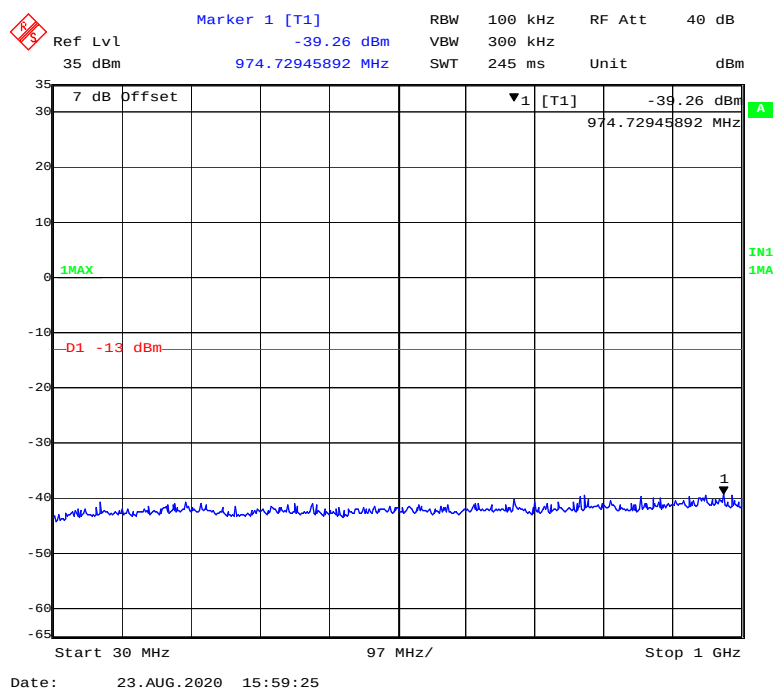
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)**

30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (3 MHz, 16-QAM, Middle Channel)**

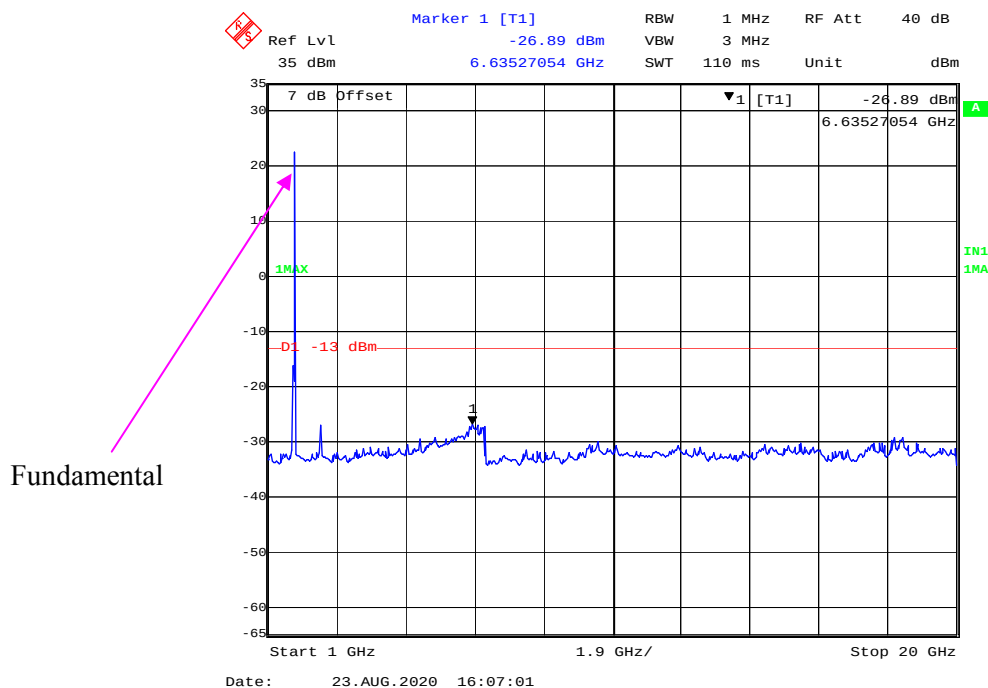
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)**

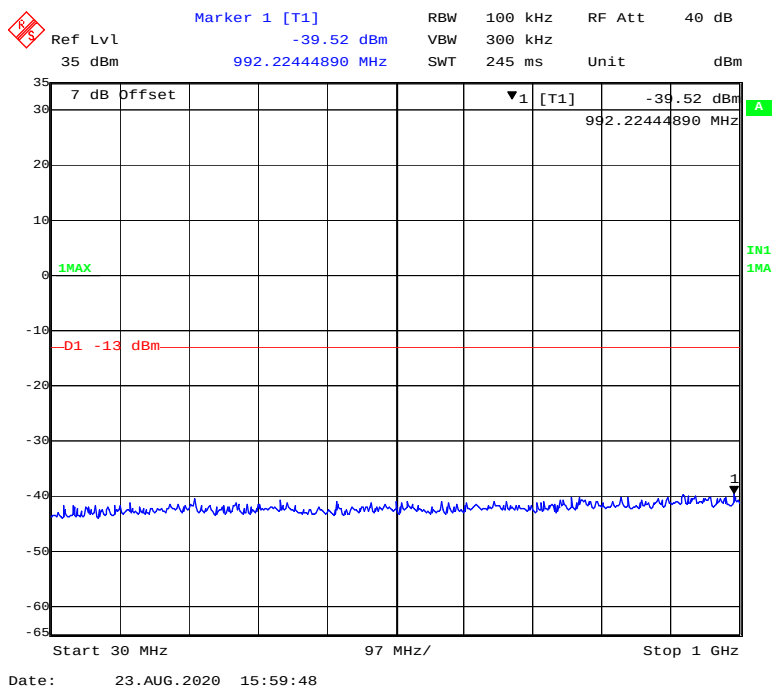
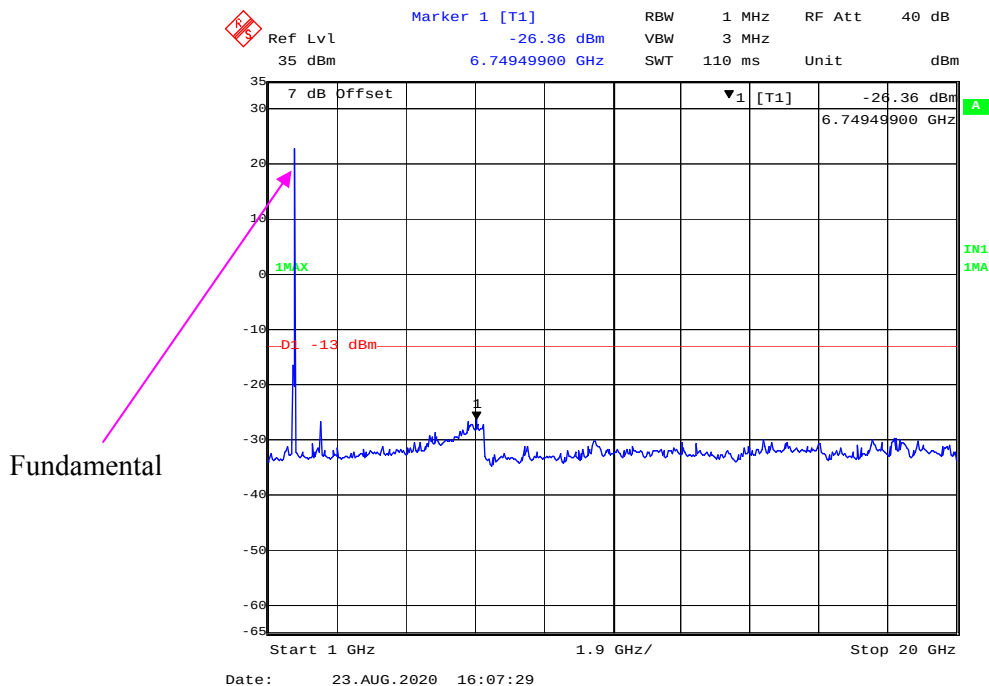
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (5 MHz, 16-QAM, Middle Channel)**

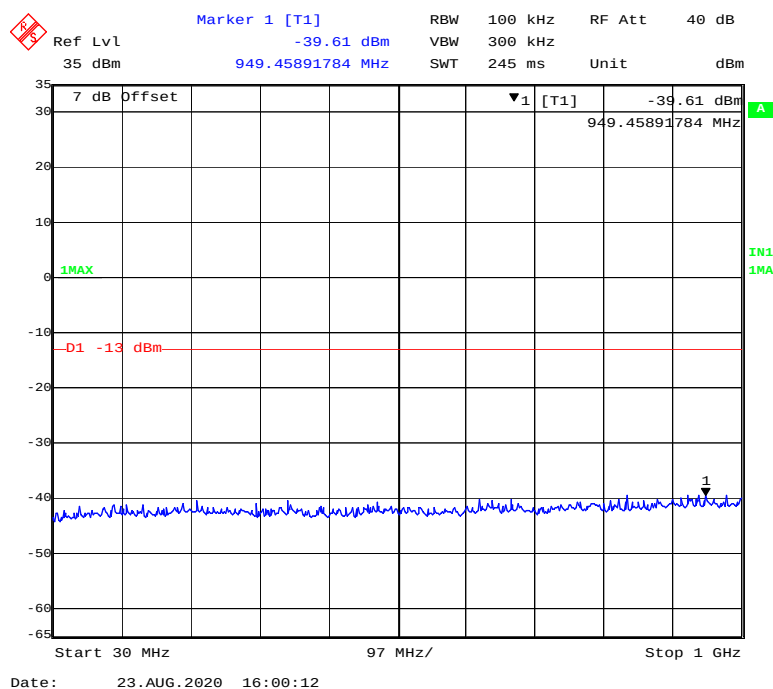
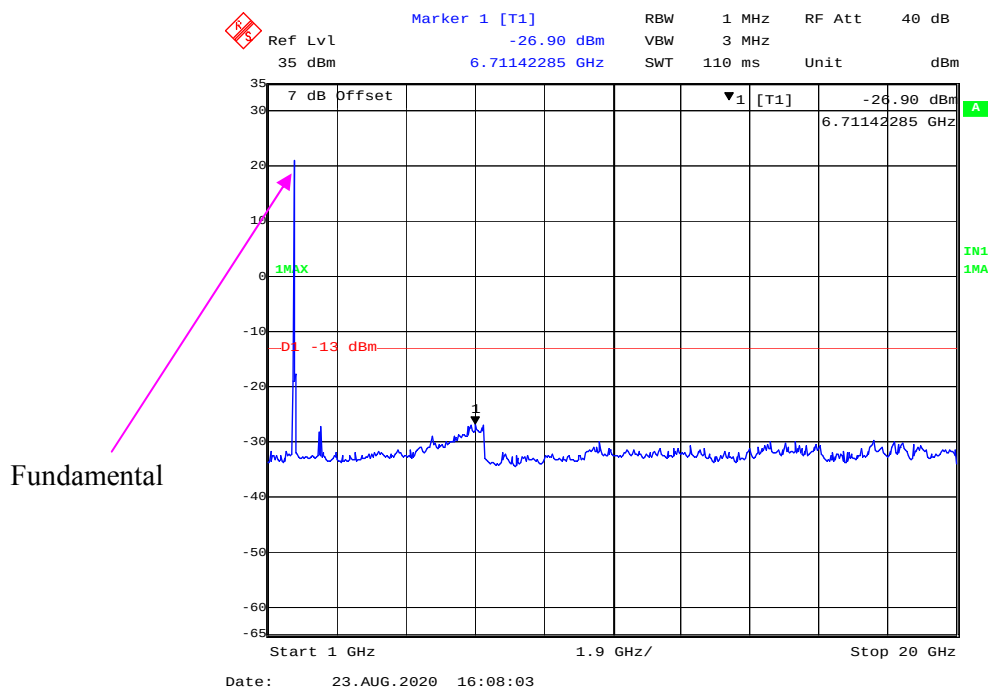
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



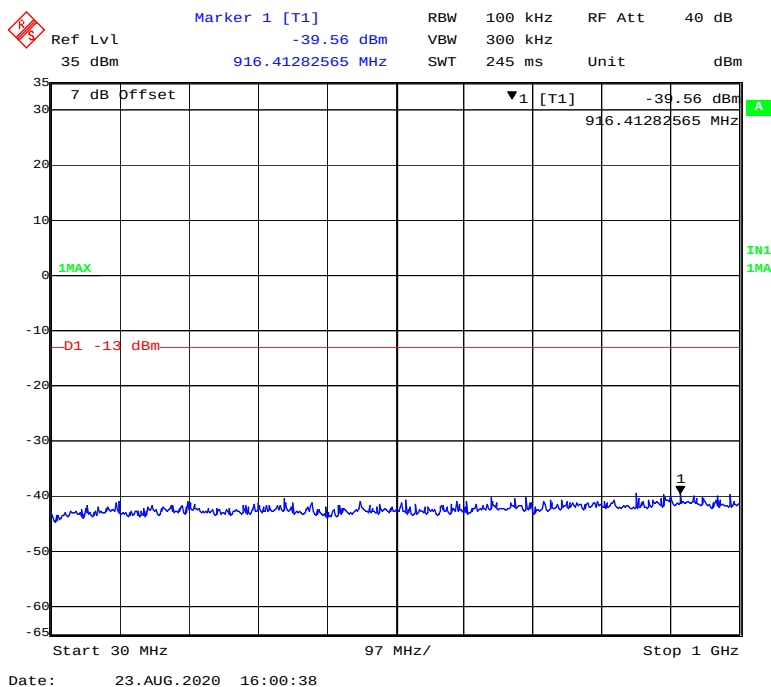
1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)



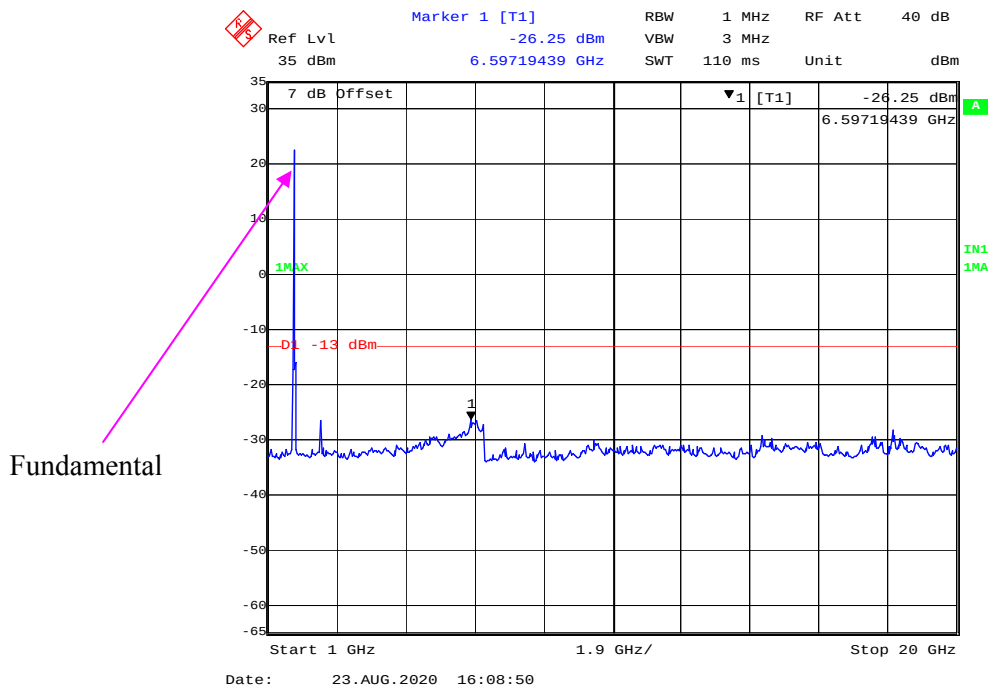
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (10 MHz, 16-QAM, Middle Channel)**

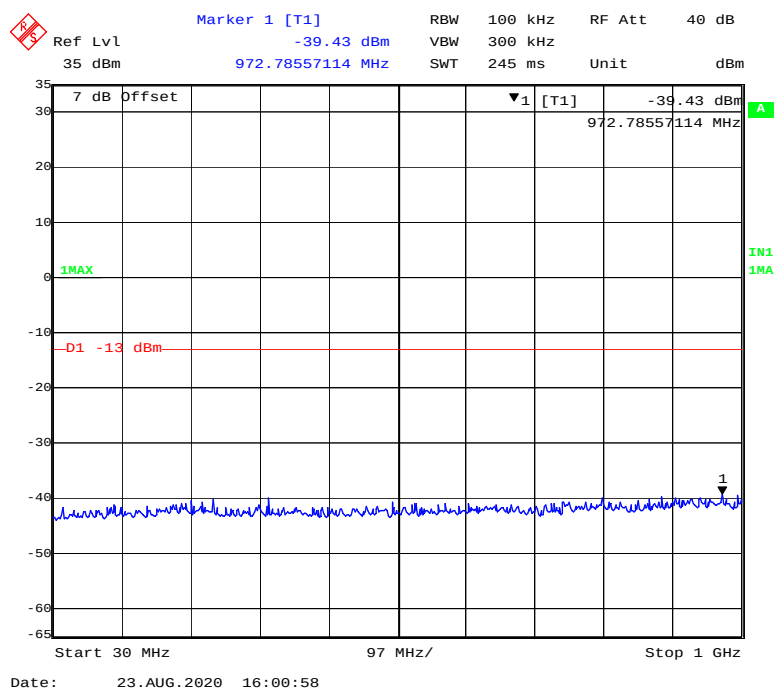
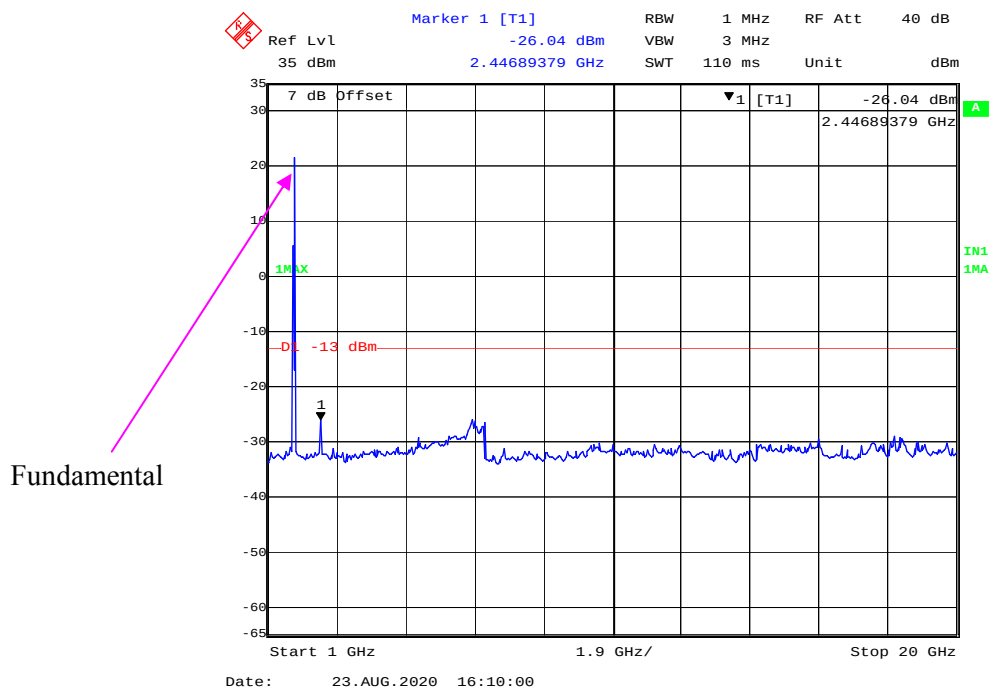
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)**

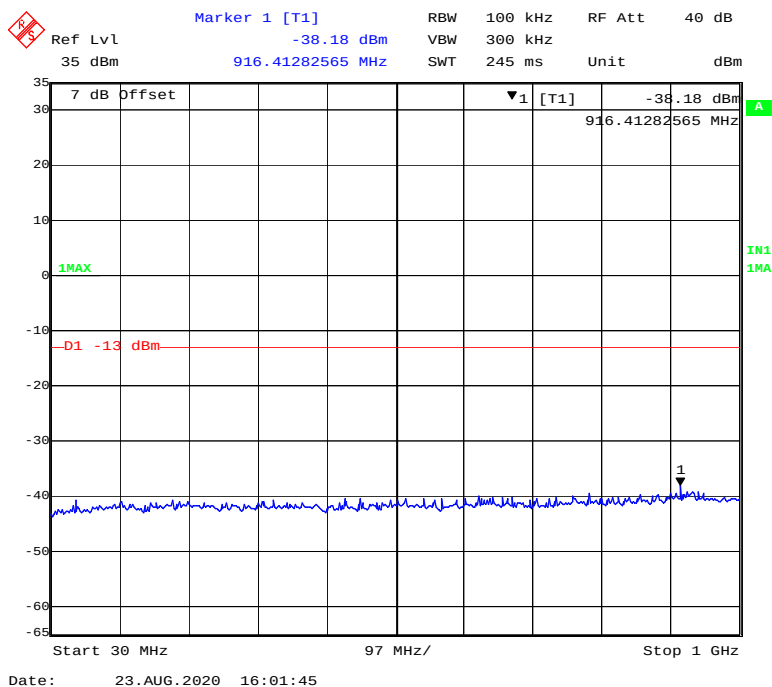
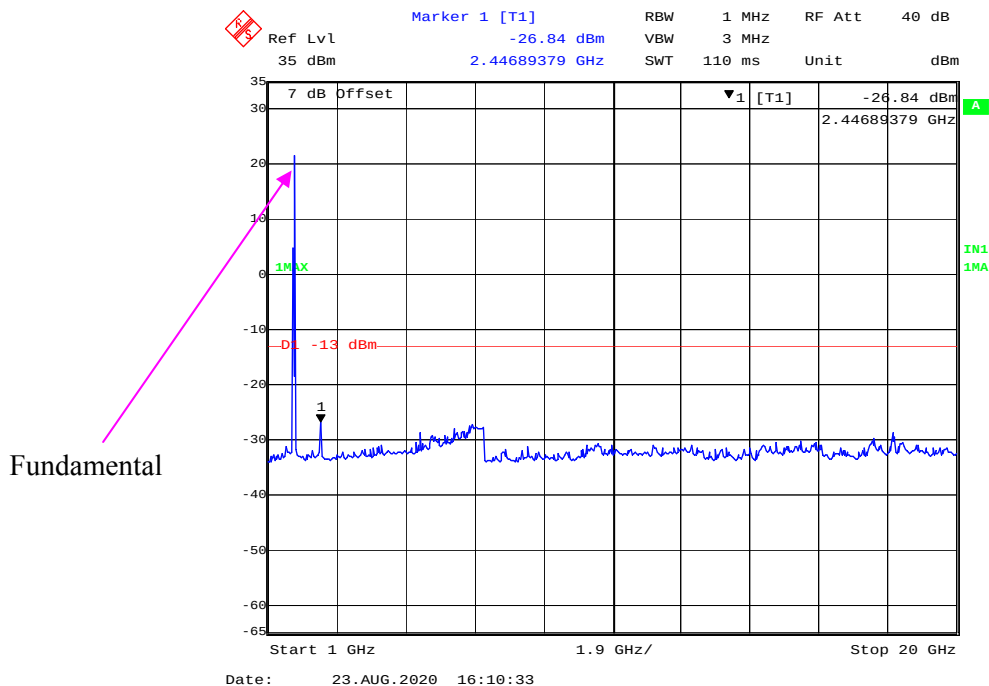
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



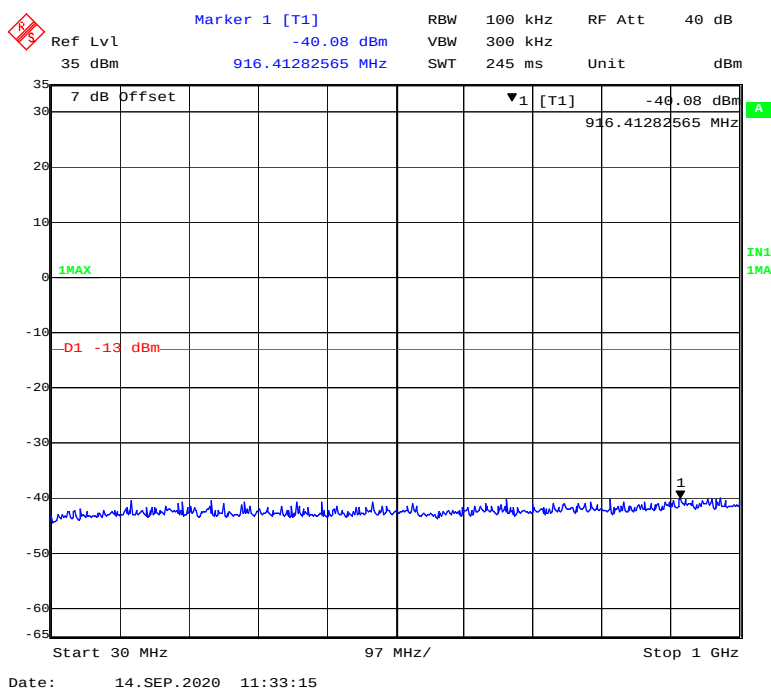
1 GHz – 20 GHz (15 MHz, 16-QAM, Middle Channel)



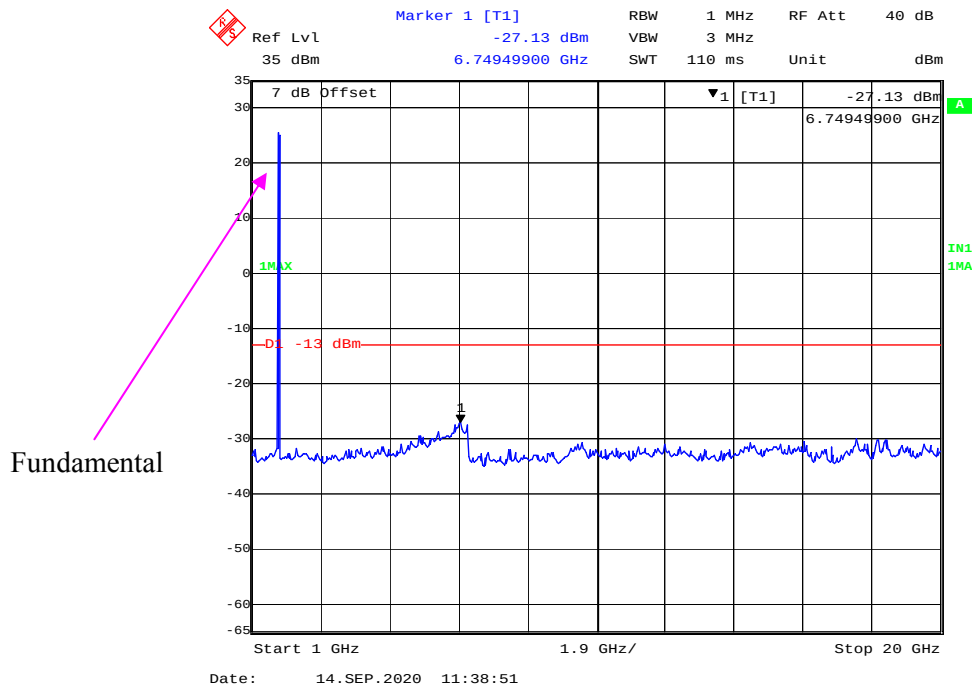
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (20 MHz, QPSK, Middle Channel)**

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

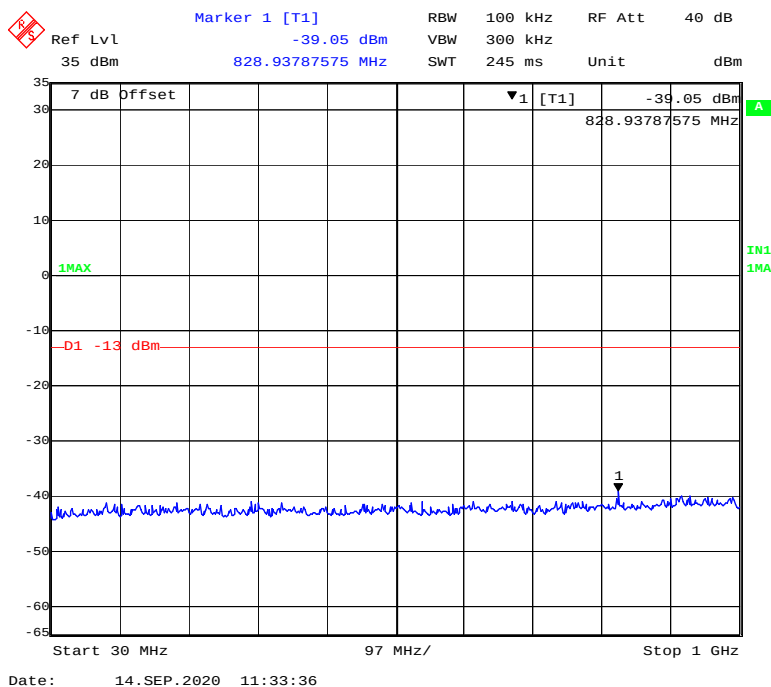
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



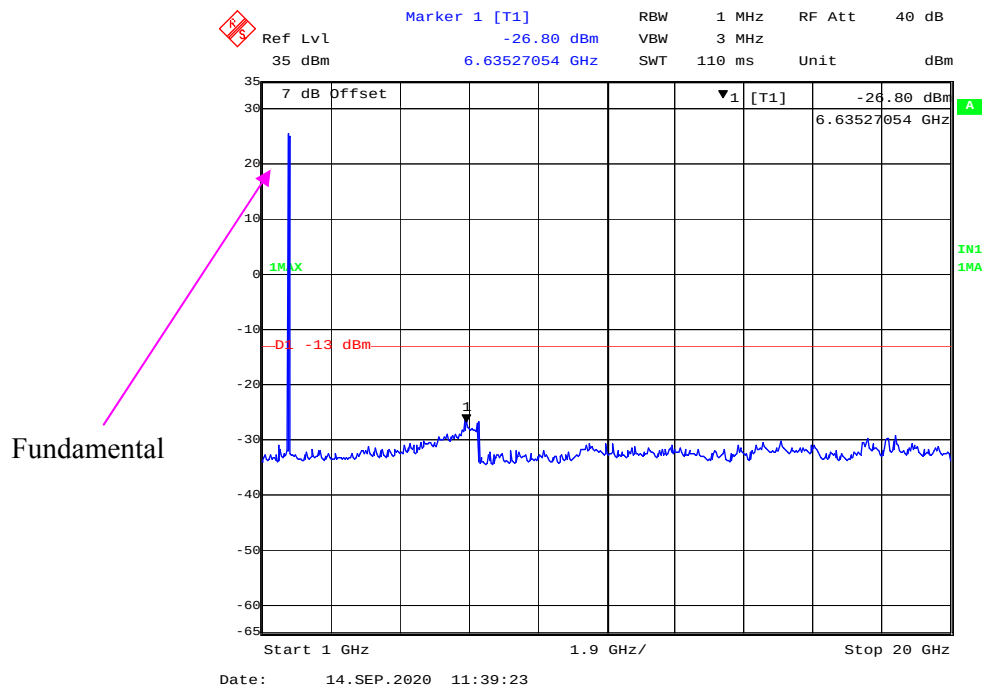
1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)

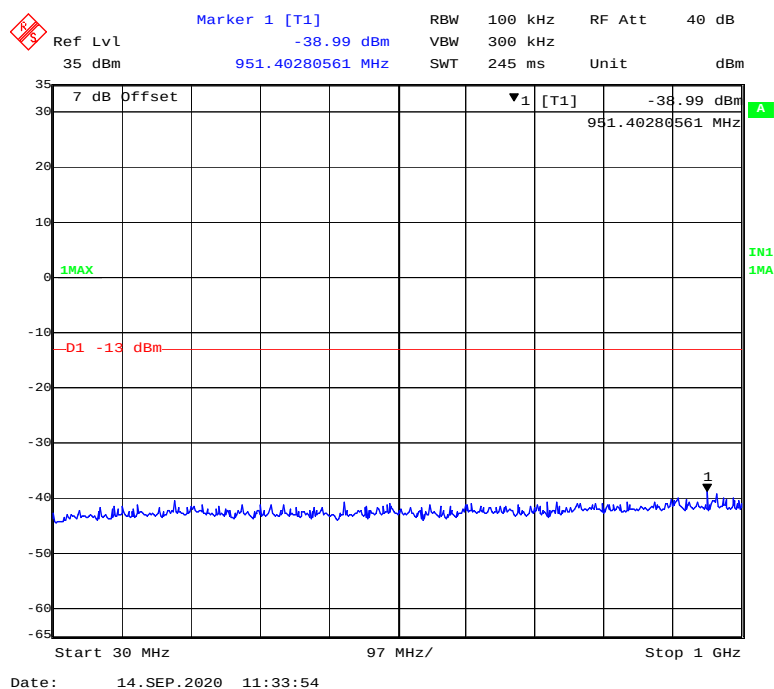
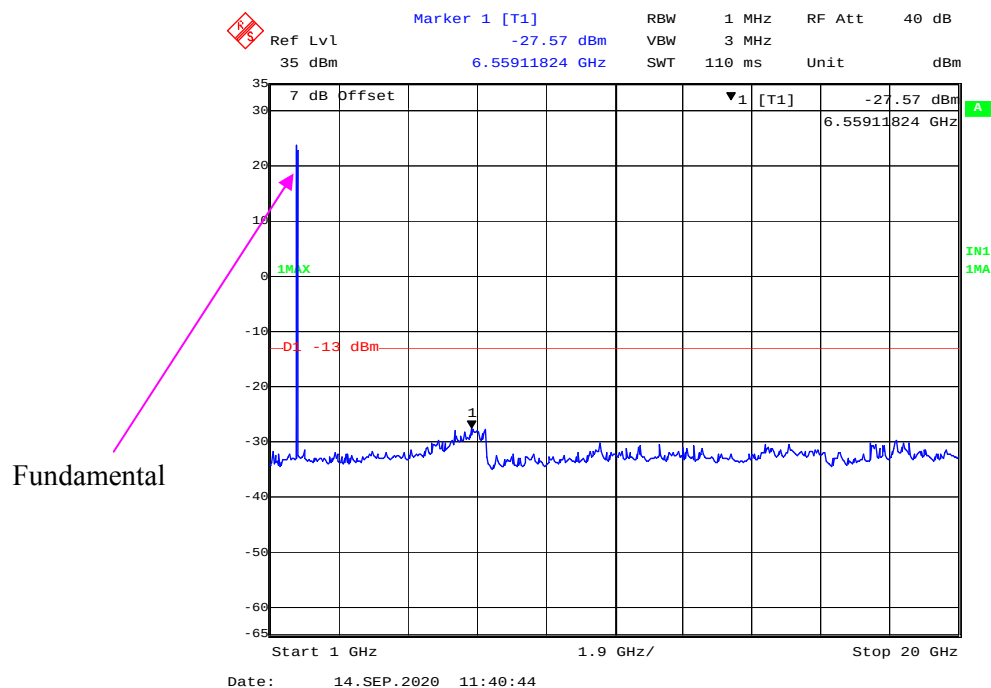


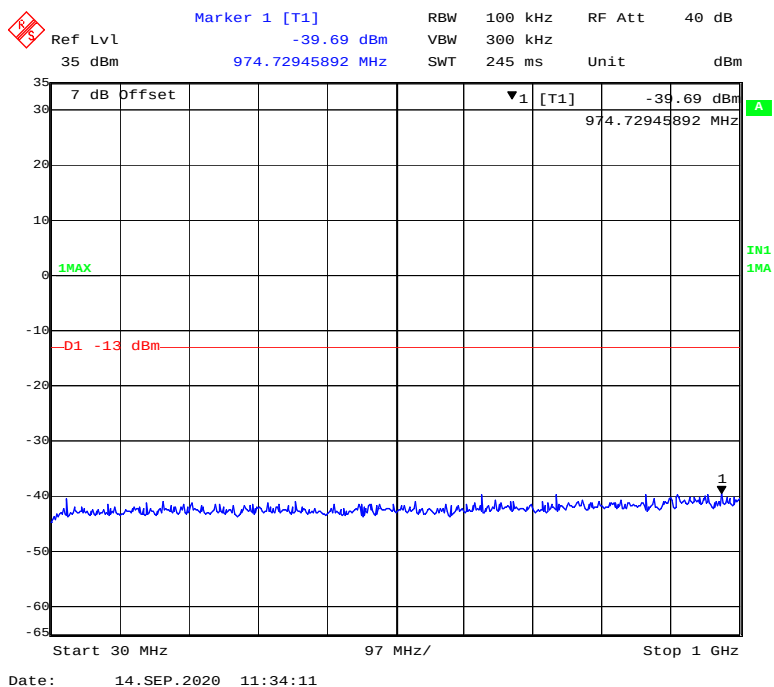
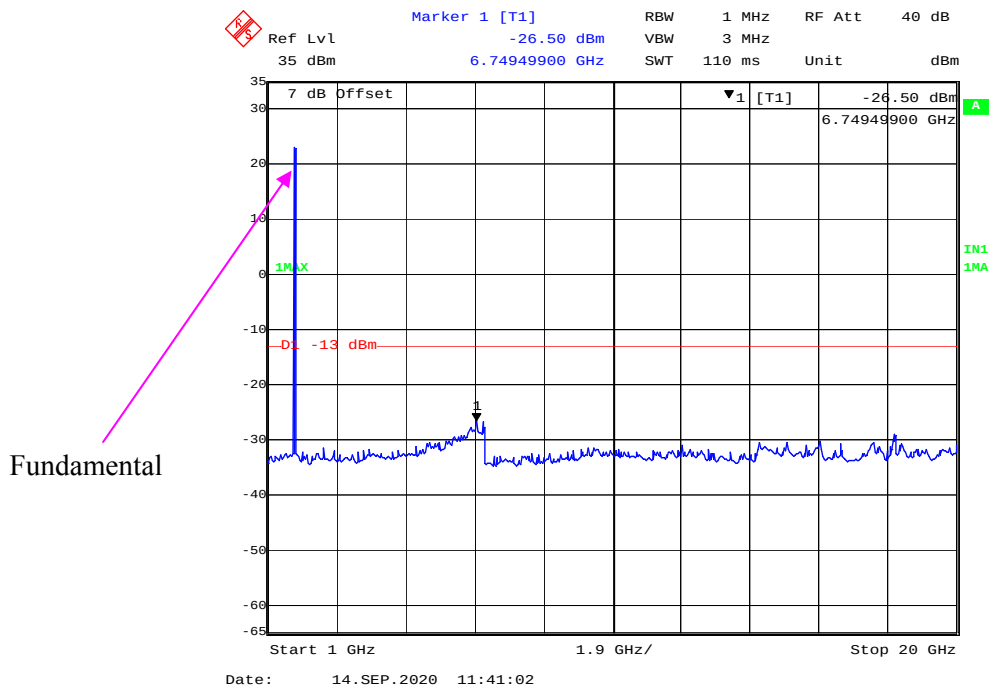
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)

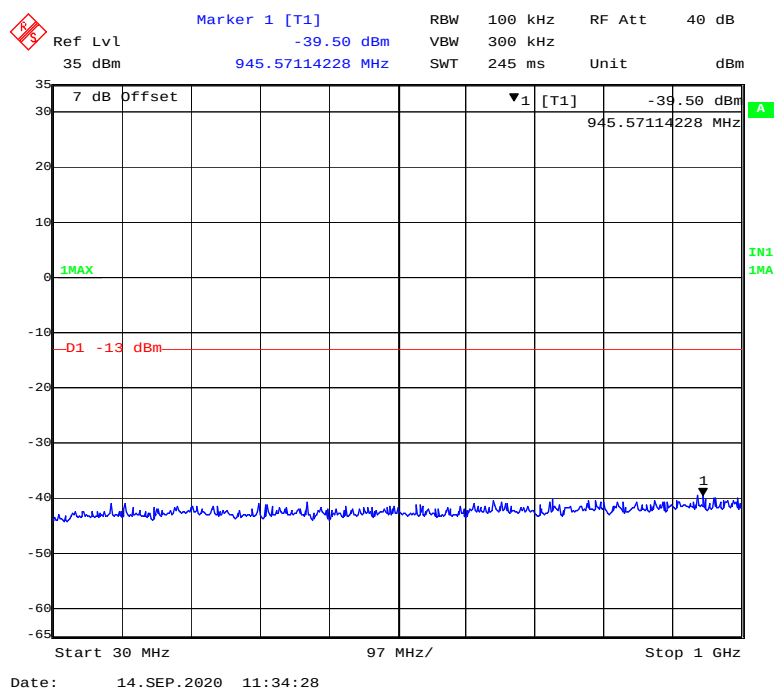
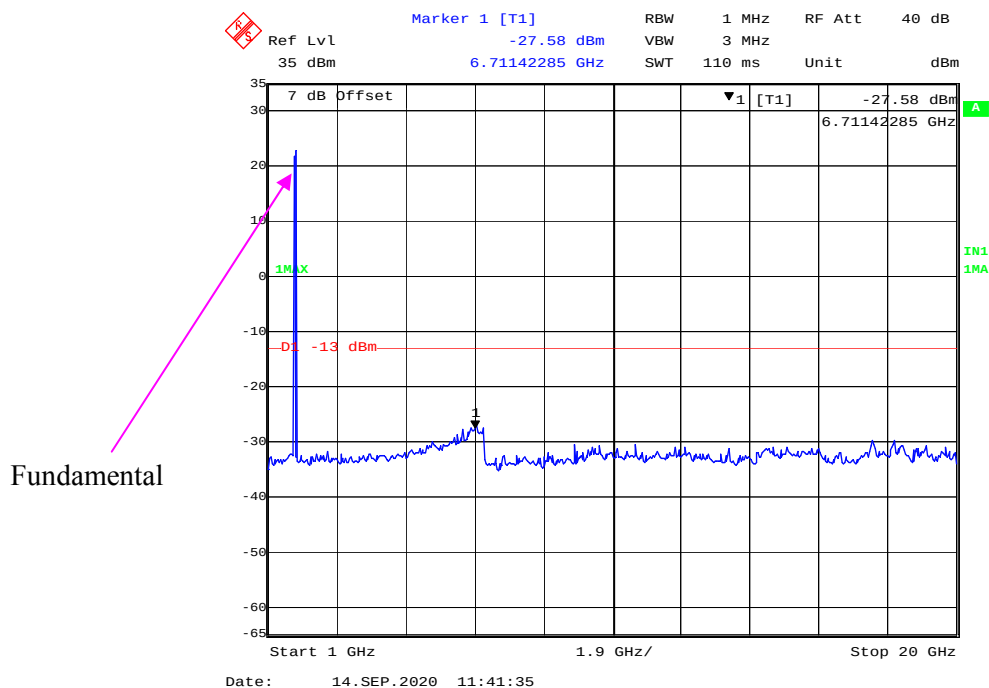


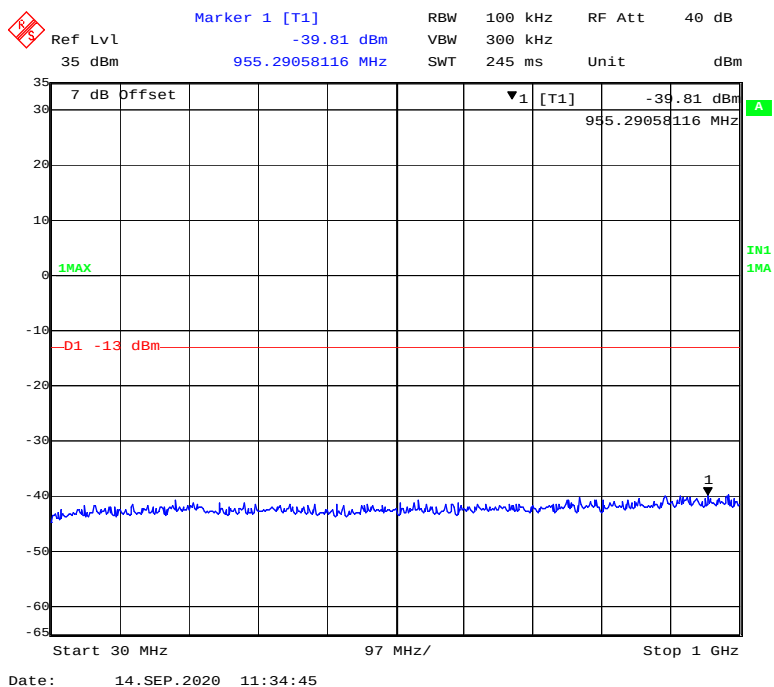
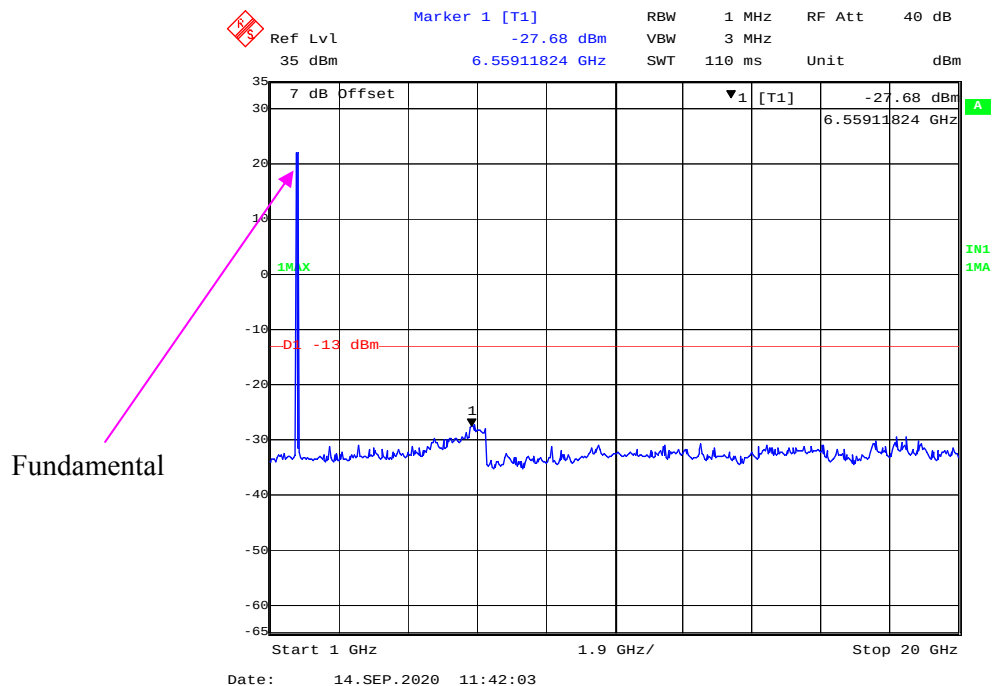
1 GHz - 20 GHz (1.4 MHz, 16-QAM, High Channel)

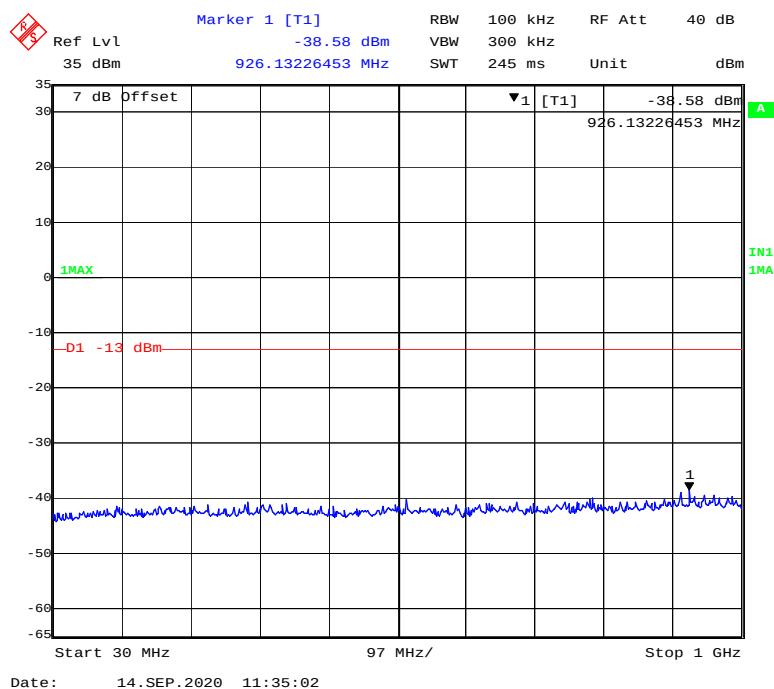
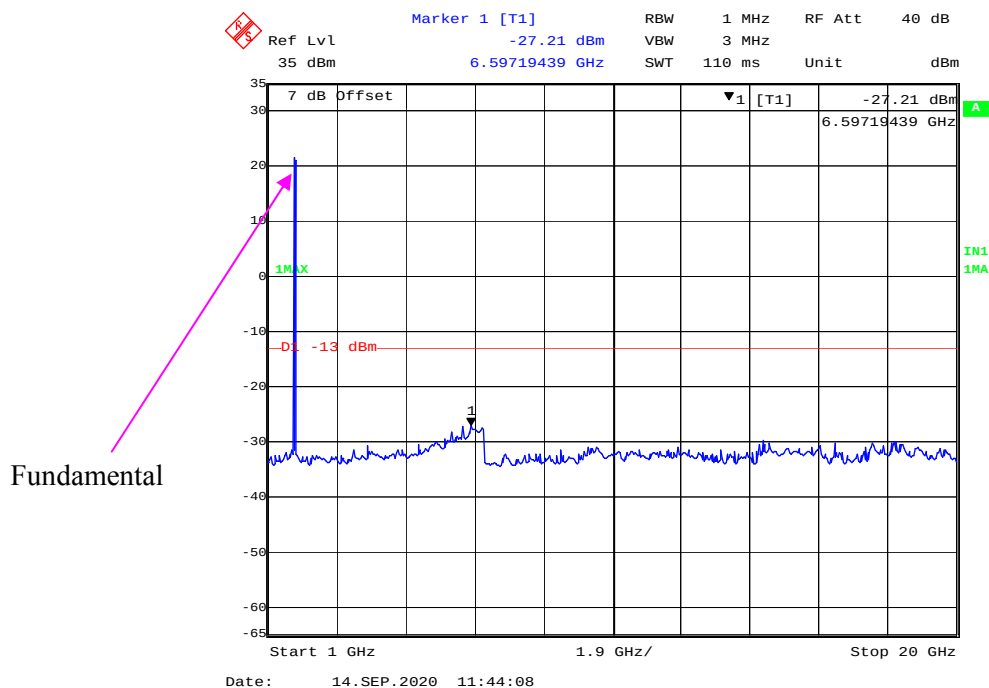


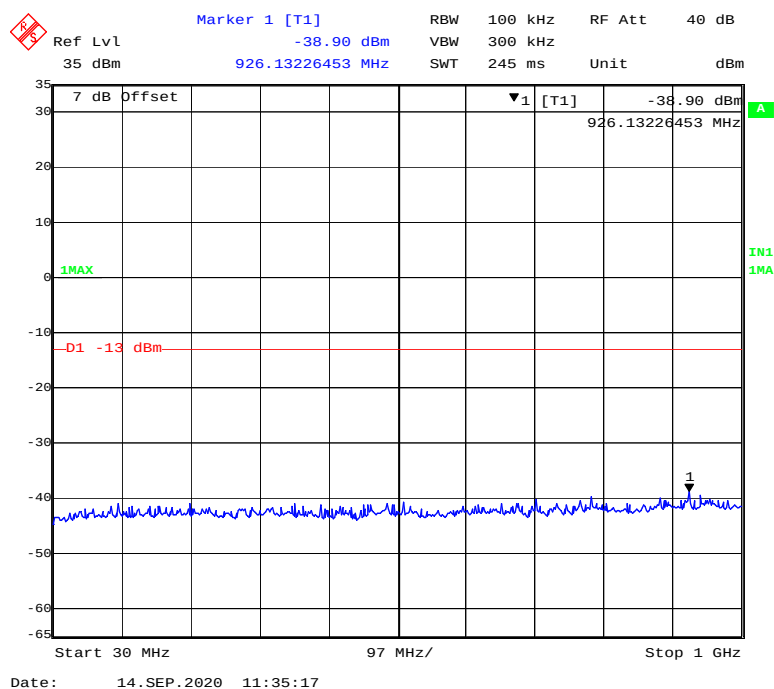
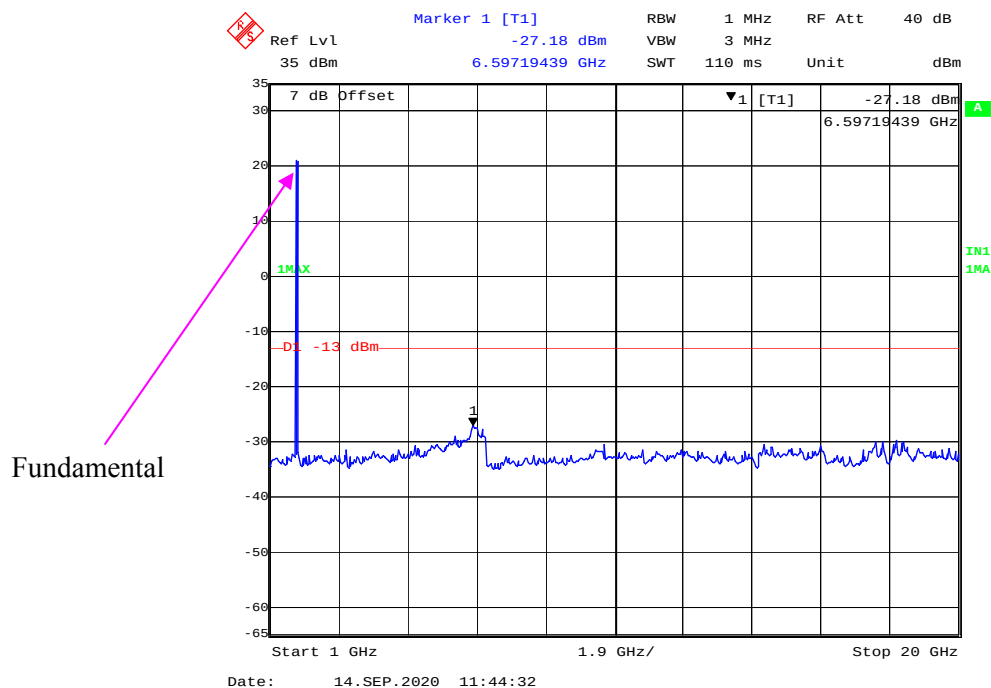
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)**1 GHz – 20 GHz (3 MHz, QPSK, High Channel)**

30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (3 MHz, 16-QAM, High Channel)**

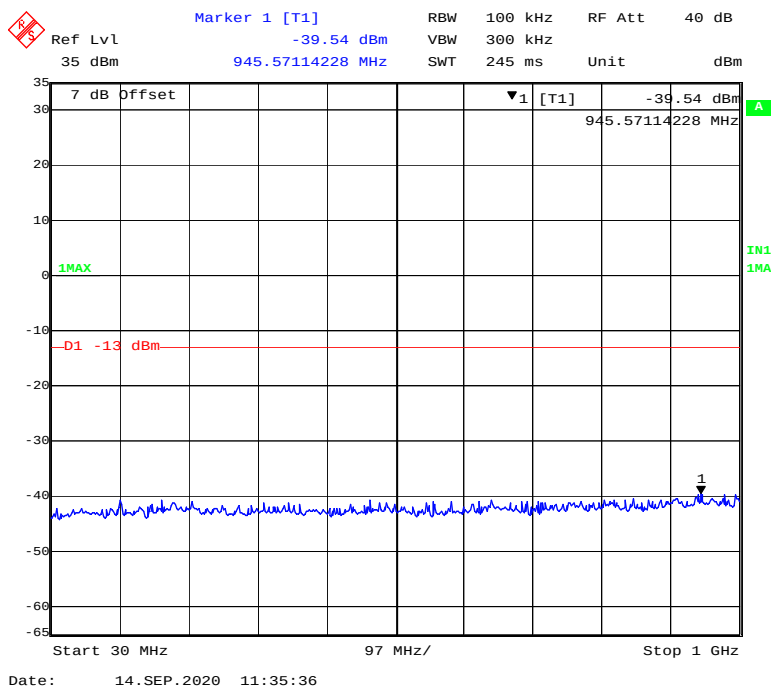
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)**1 GHz – 20 GHz (5 MHz, QPSK, High Channel)**

30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (5 MHz, 16-QAM, High Channel)**

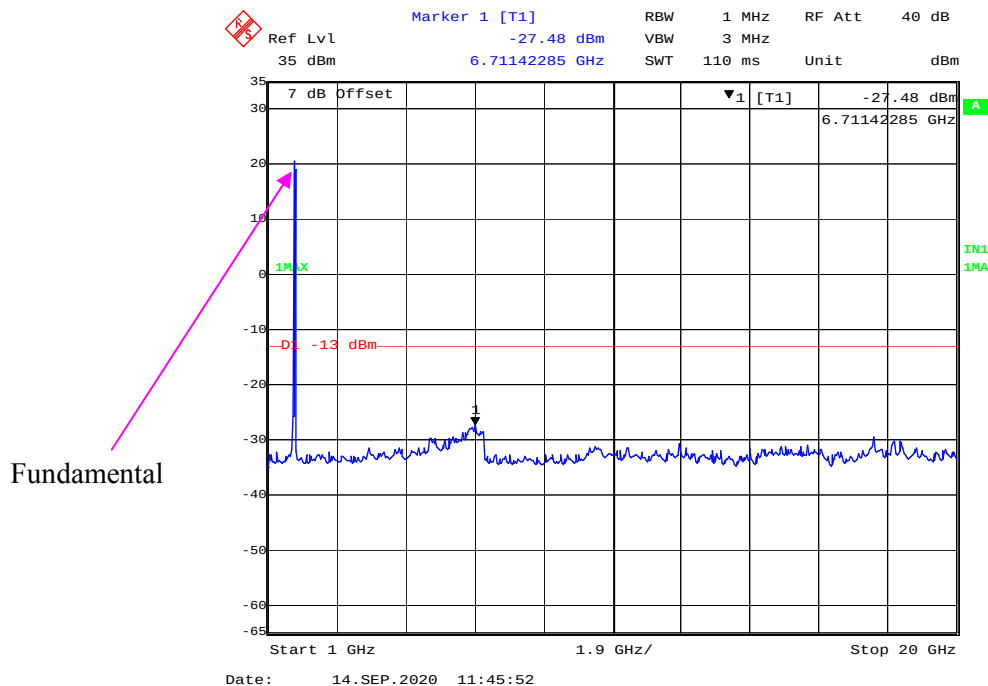
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)**1 GHz - 20 GHz (10 MHz, QPSK, High Channel)**

30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (10 MHz, 16-QAM, High Channel)**

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



1 GHz - 20 GHz (15 MHz, QPSK, High Channel)



Marker 1 [T1]
 Ref Lvl -38.99 dBm
 35 dBm 937.79559118 MHz
 RBW 100 kHz RF Att 40 dB
 VBW 300 kHz
 SWT 245 ms Unit dBm

7 dB Offset
 1MAX
 D1 -13 dBm
 1
 Start 30 MHz 97 MHz/ Stop 1 GHz
 Date: 14.SEP.2020 11:36:03

Ref Lvl 35 dBm

Marker 1 [T1] -27.05 dBm

RBW 1 MHz

VBW 3 MHz

SWT 110 ms

RF Att 40 dB

Unit dBm

7 dB Offset

▼1 [T1] -27.05 dBm

6.63527054 GHz

1MAX

1

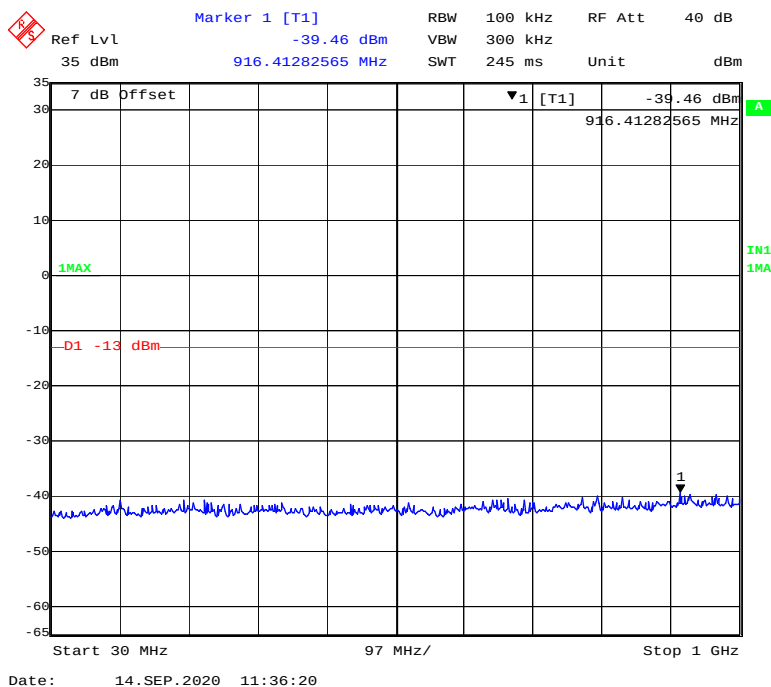
Start 1 GHz

1.9 GHz/

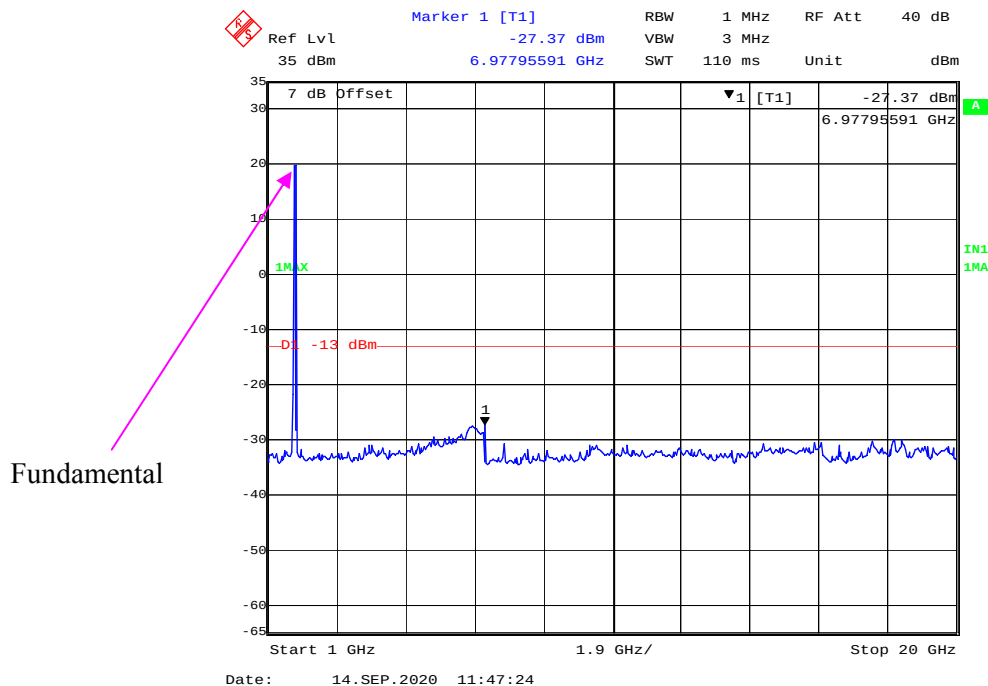
Stop 20 GHz

Date: 14.SEP.2020 11:46:35

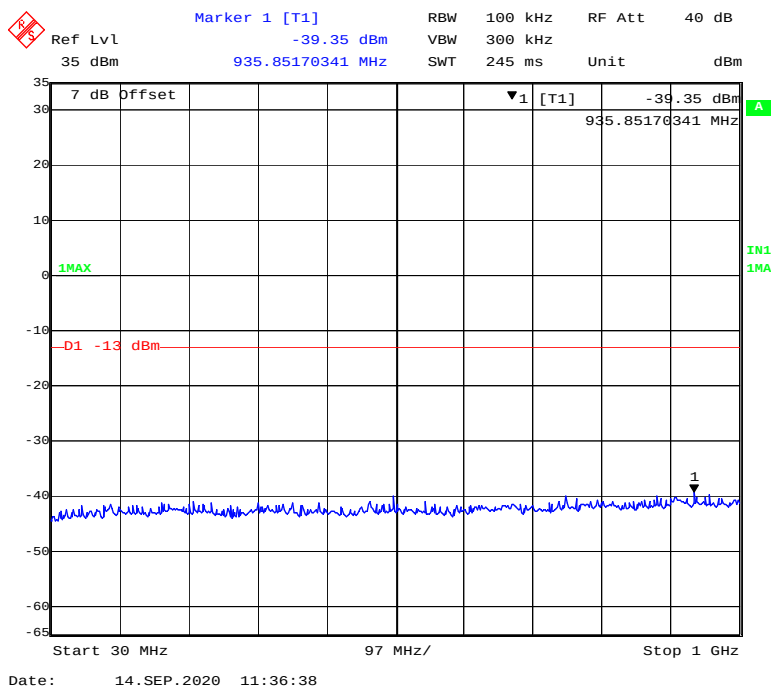
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



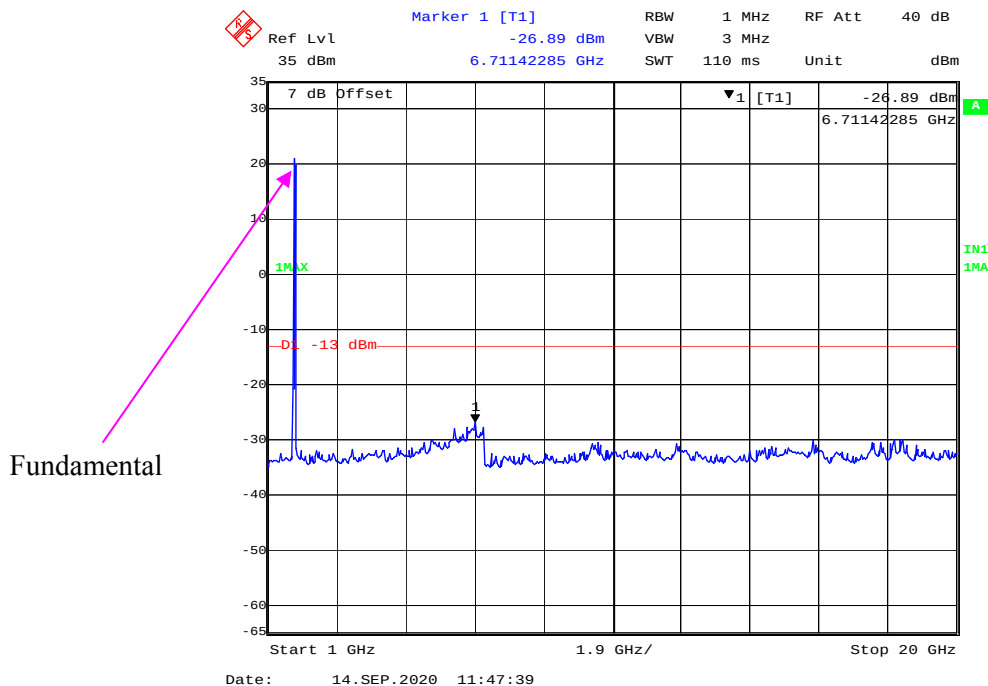
1 GHz - 20 GHz (20 MHz, QPSK, High Channel)

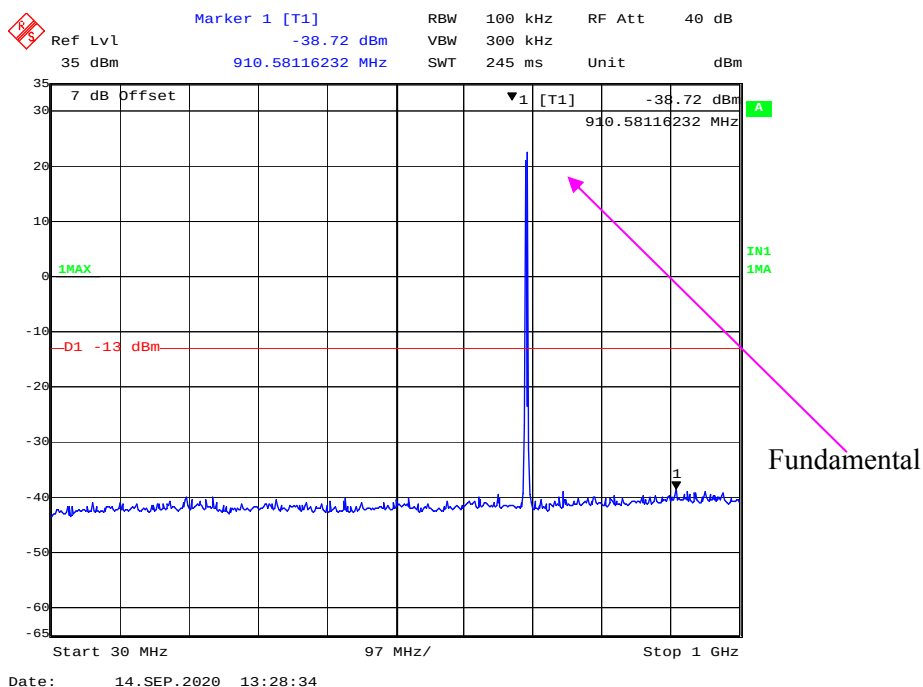
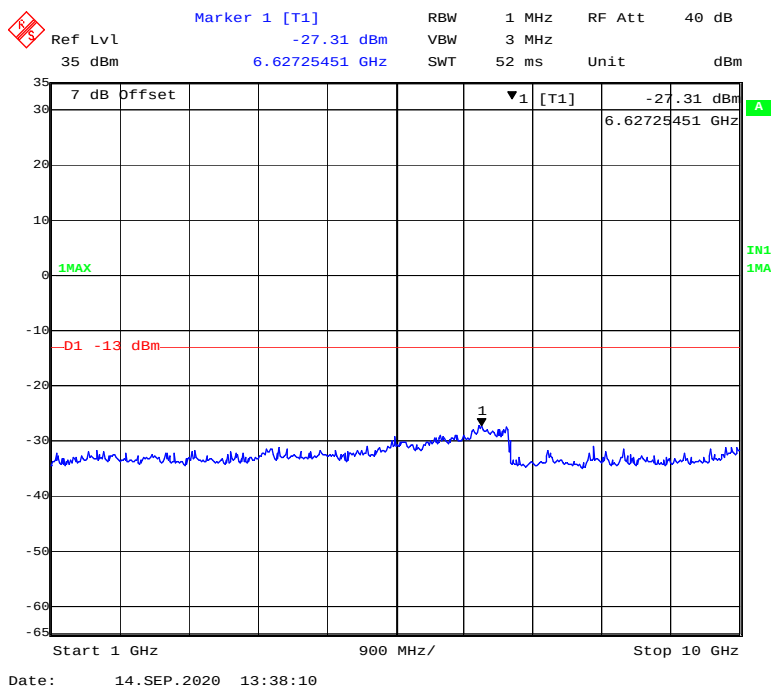


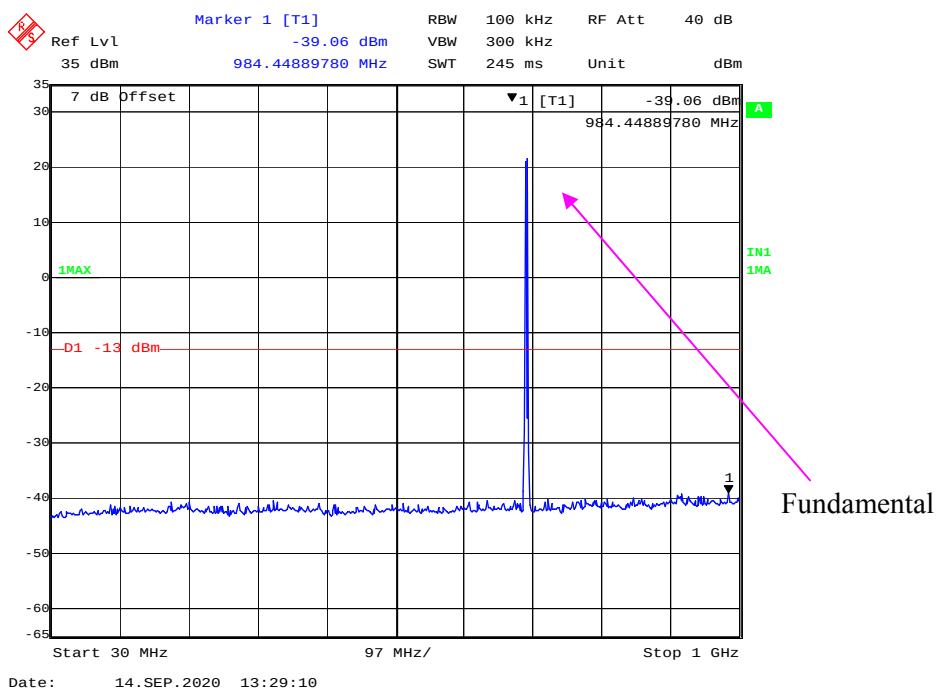
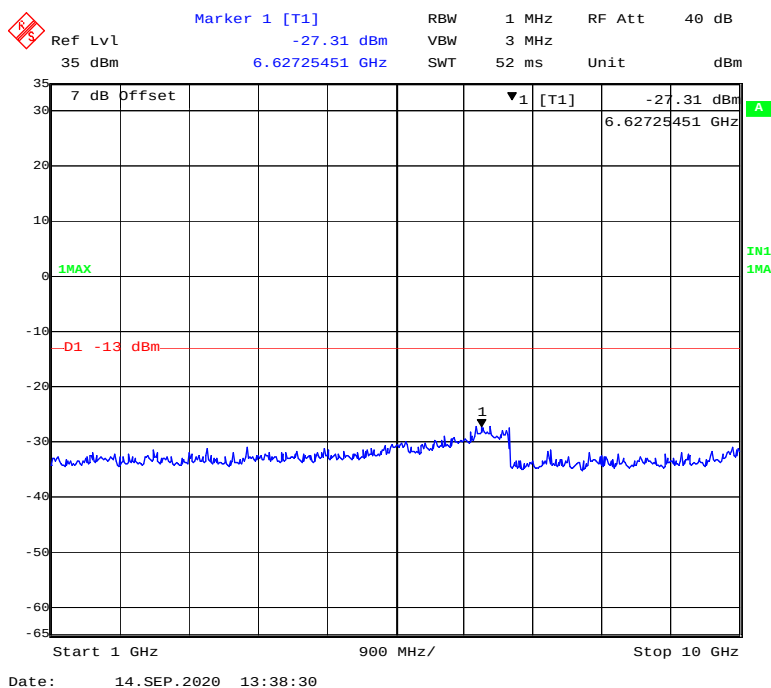
30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

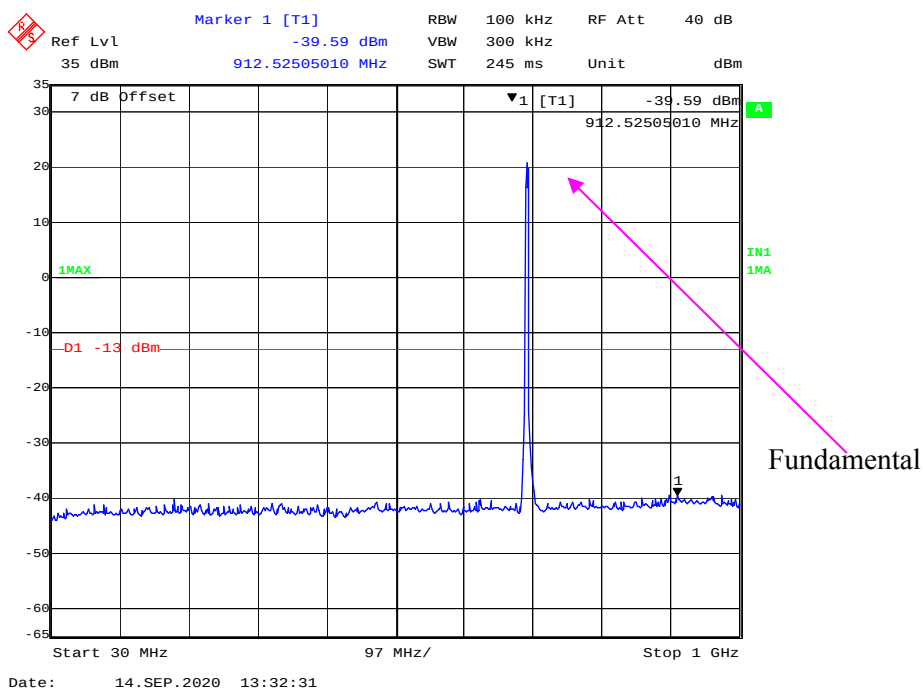
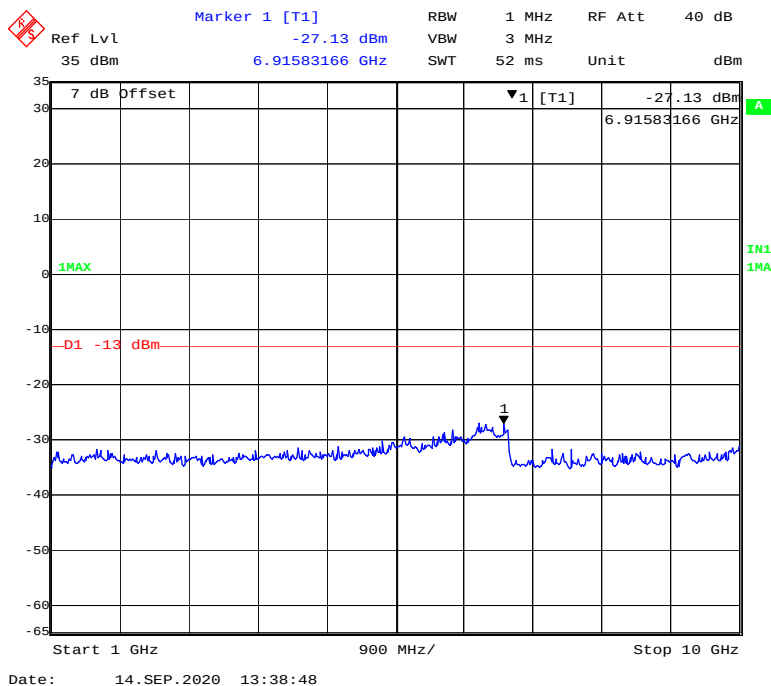


1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)



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)**

Marker 1 [T1]
 -39.35 dBm
 891.14228457 MHz

RBW 100 kHz
 VBW 300 kHz
 SWT 245 ms

Ref Lvl 35 dBm
 RF Att 40 dB
 Unit dBm

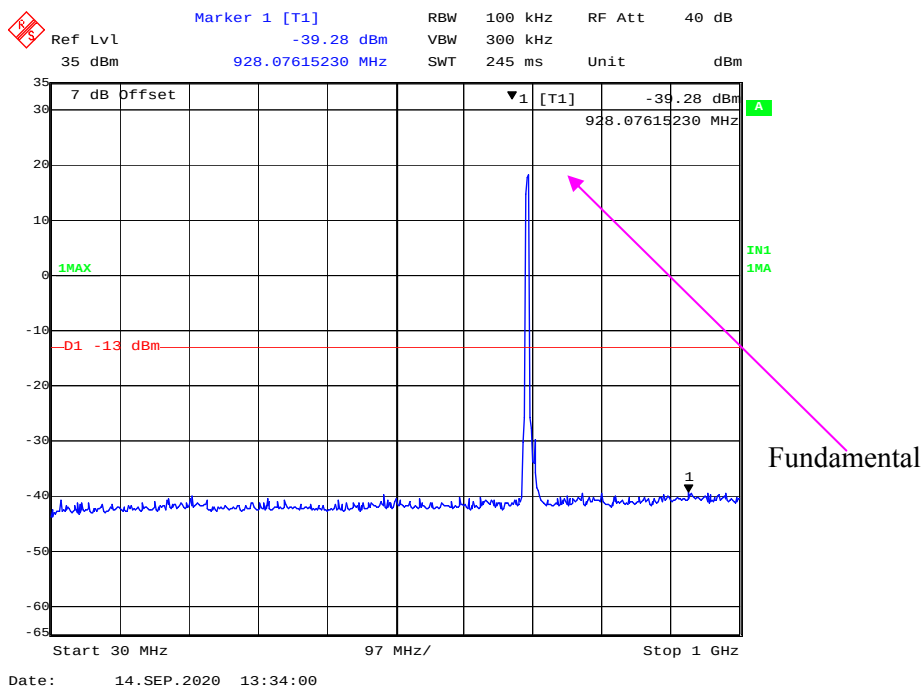
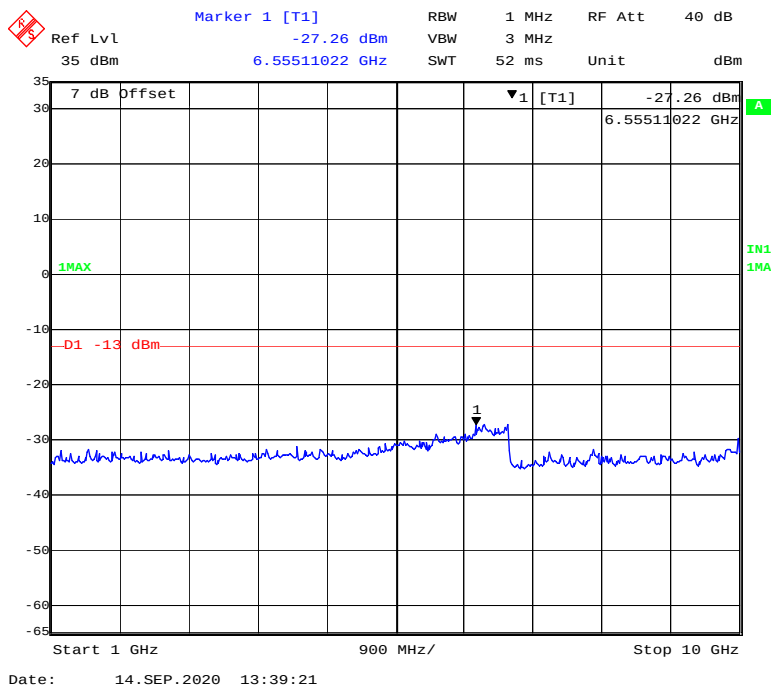
7 dB Offset
 1MAX
 D1 -13 dBm
 1
 Start 30 MHz
 97 MHz/
 Stop 1 GHz

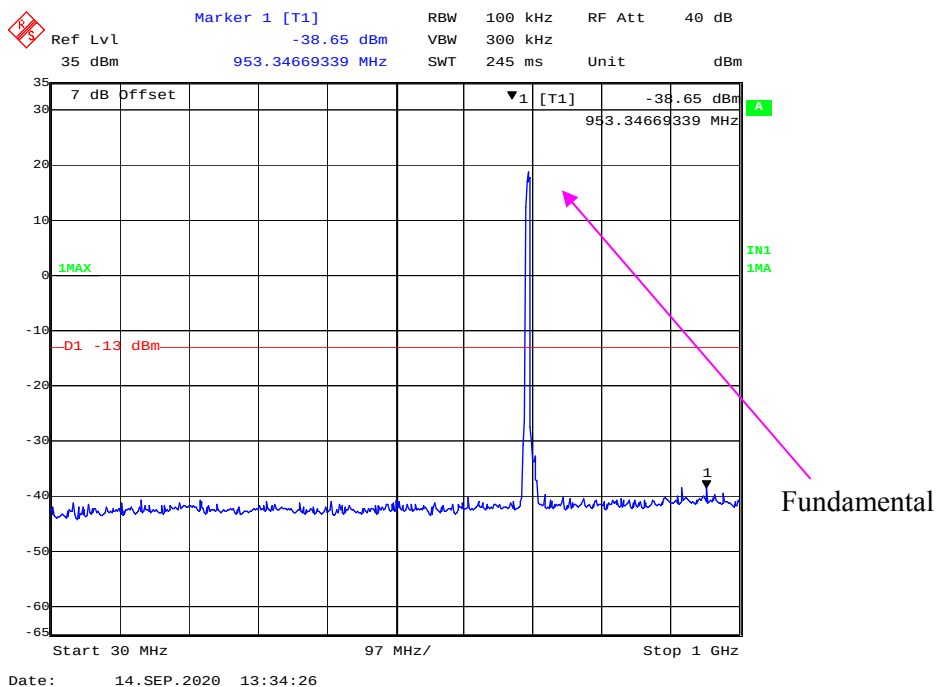
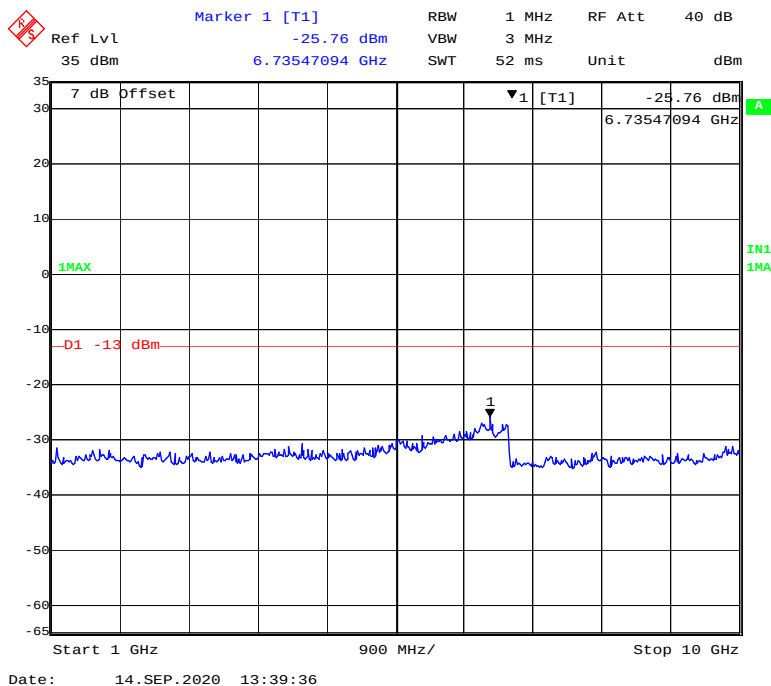
Ref Lvl 35 dBm
 Marker 1 [T1] -27.21 dBm
 6.60921844 GHz
 RBW 1 MHz
 VBW 3 MHz
 SWT 52 ms
 RF Att 40 dB
 Unit dBm

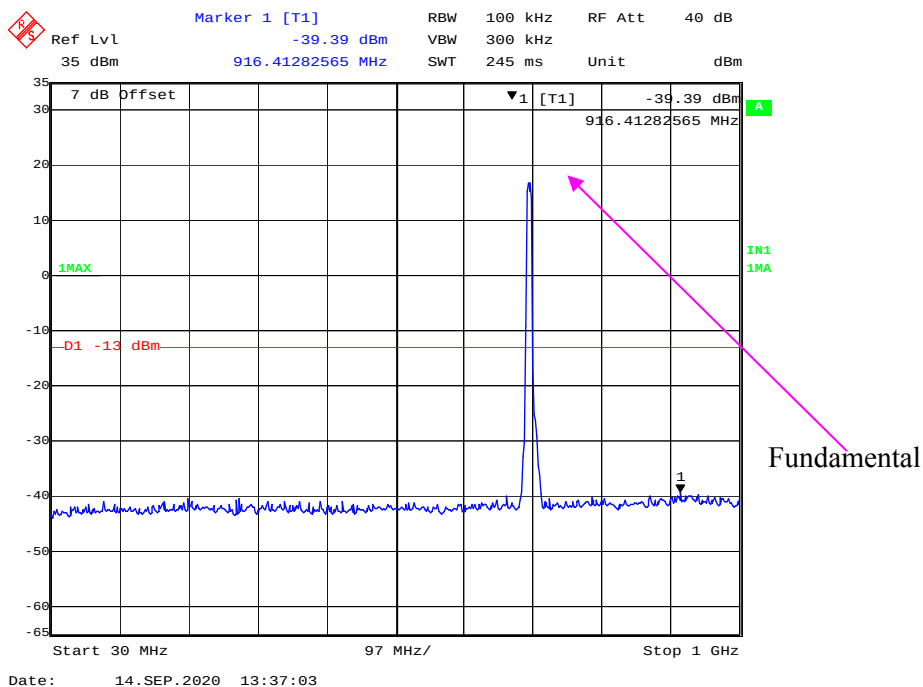
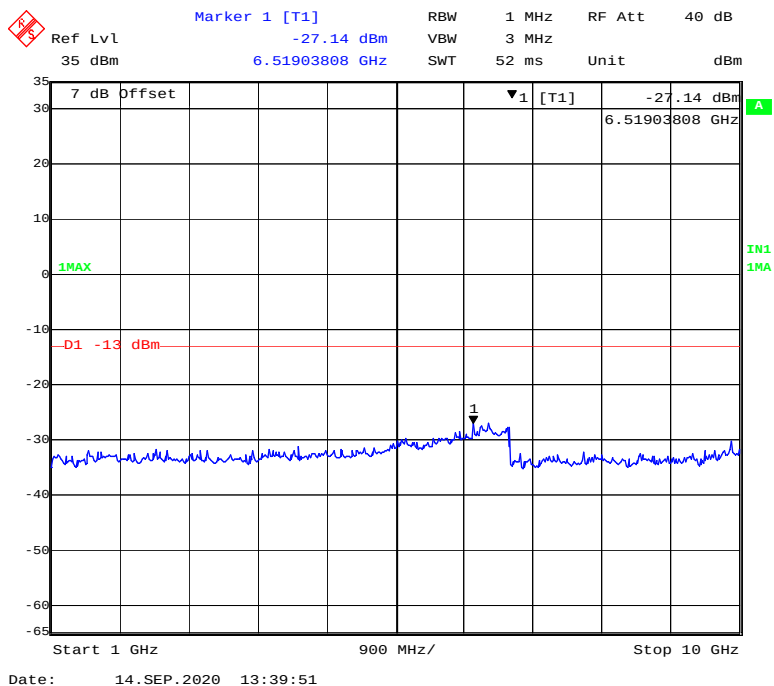
7 dB Offset
 1MAX
 D1 -13 dBm
 1
 IN1
 1MA

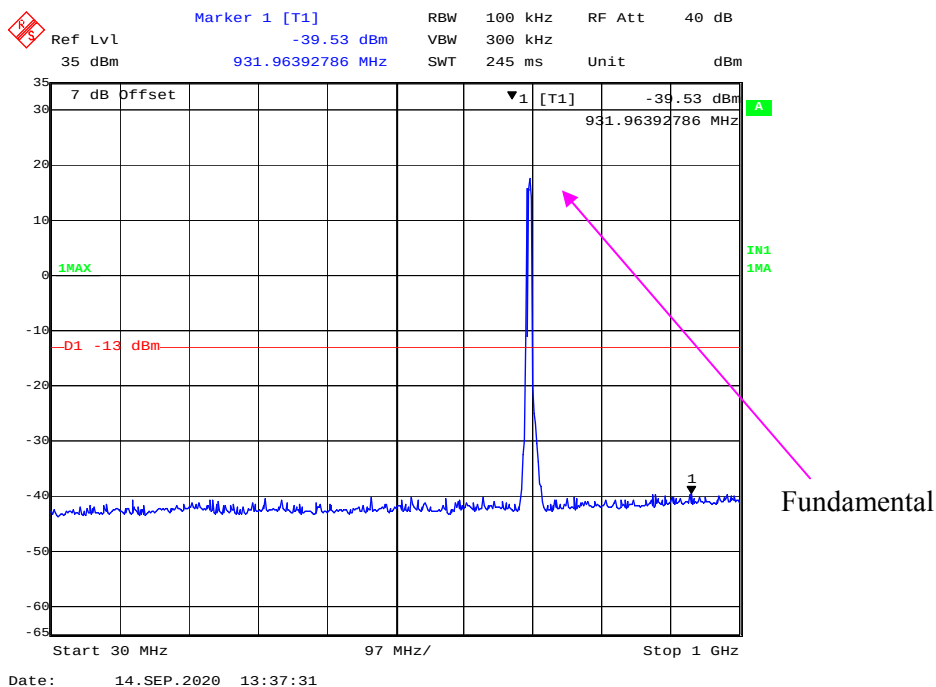
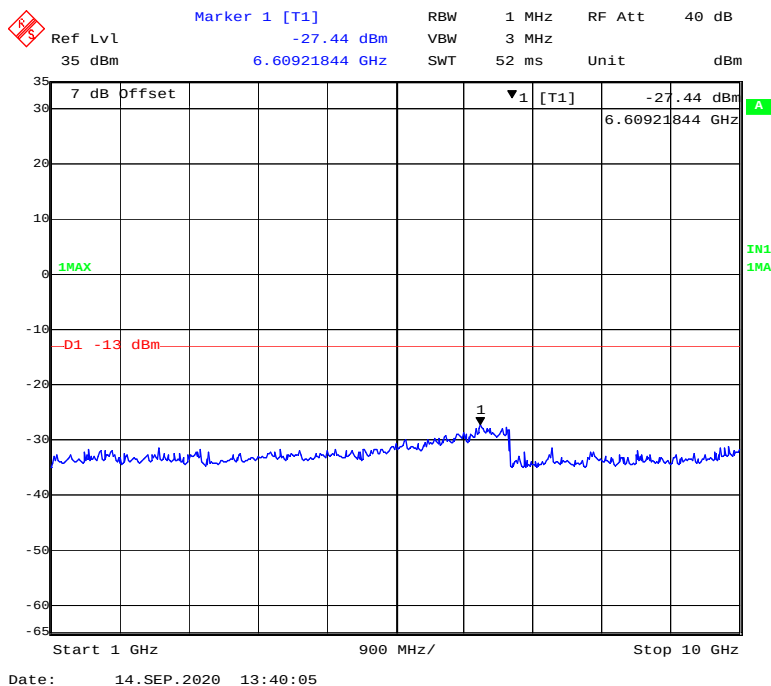
Start 1 GHz
 900 MHz/
 Stop 10 GHz

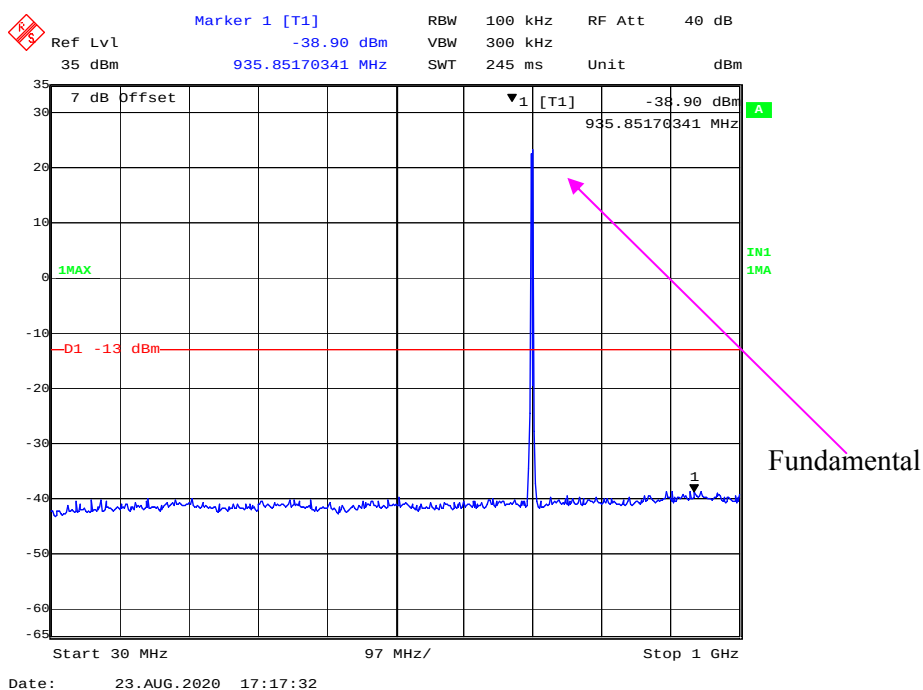
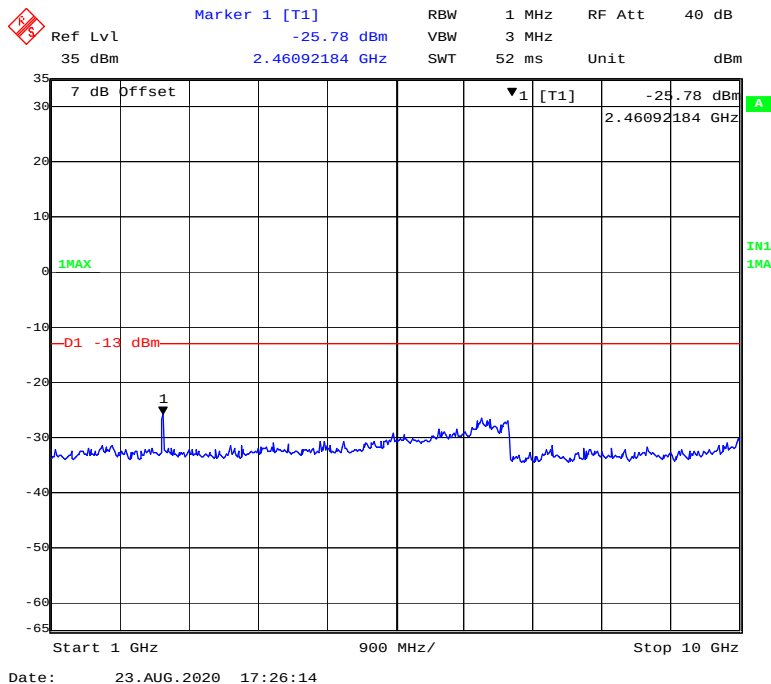
Date: 14.SEP.2020 13:39:04

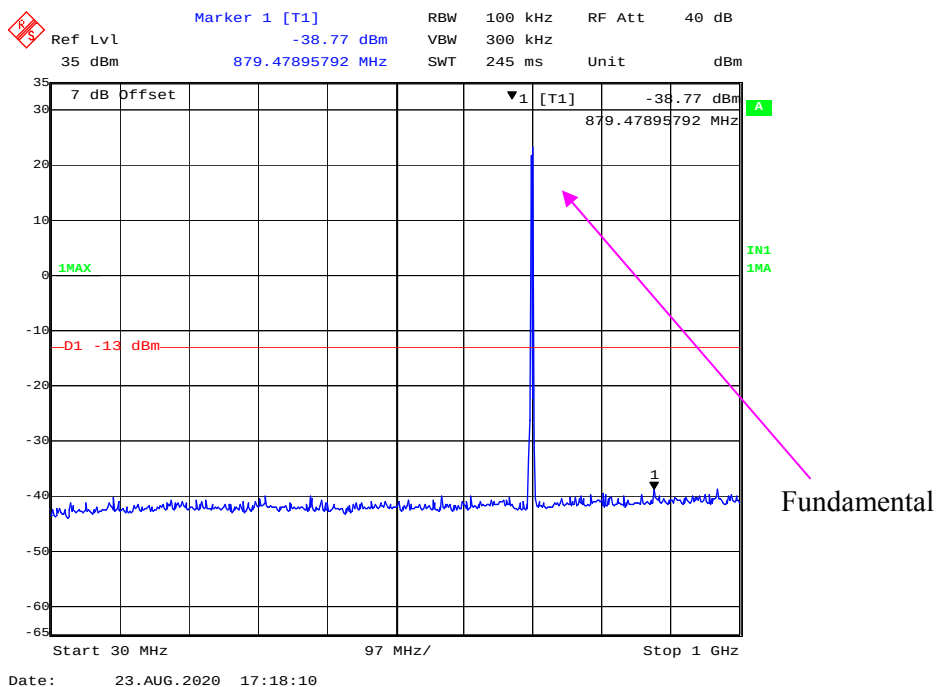
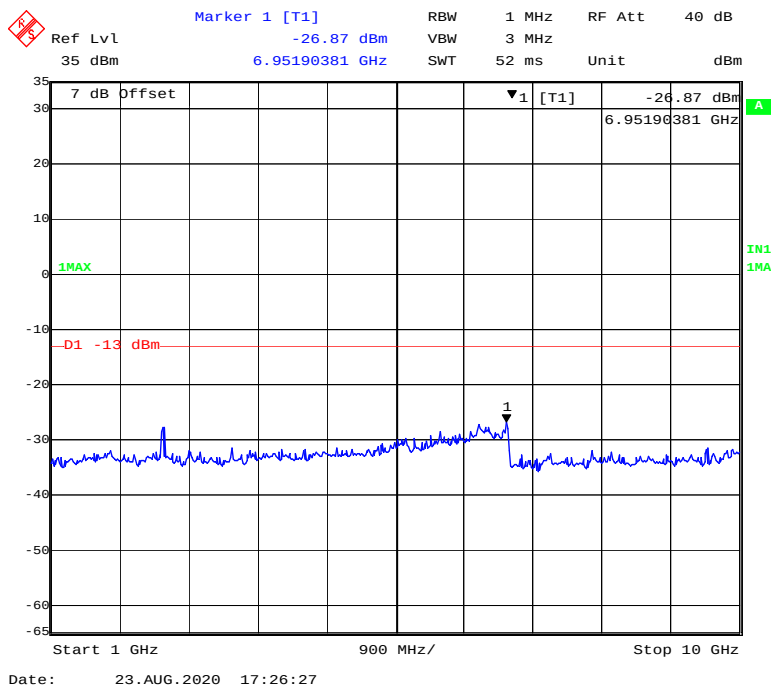
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)**1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)**

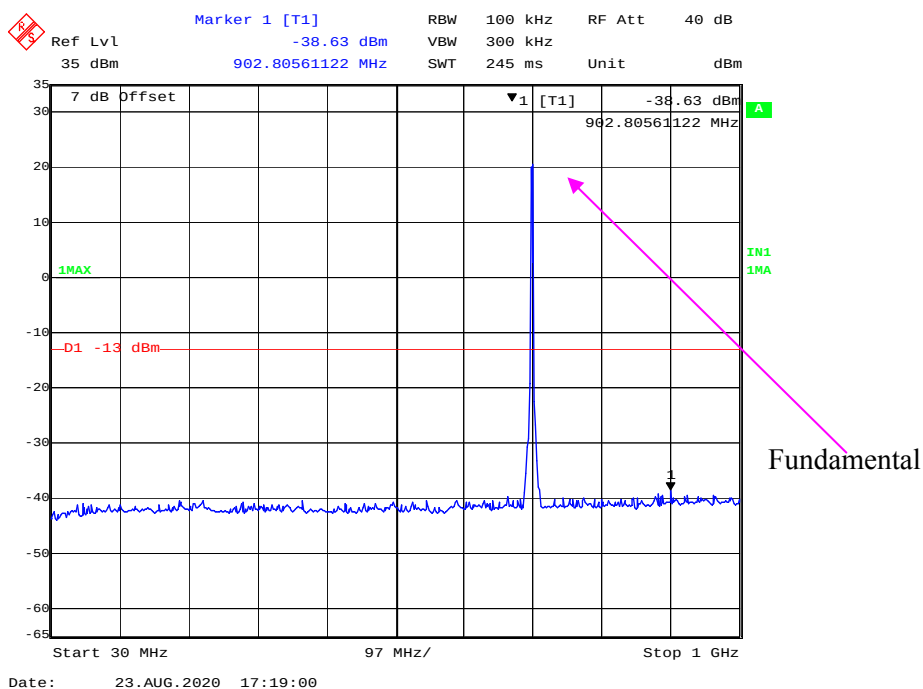
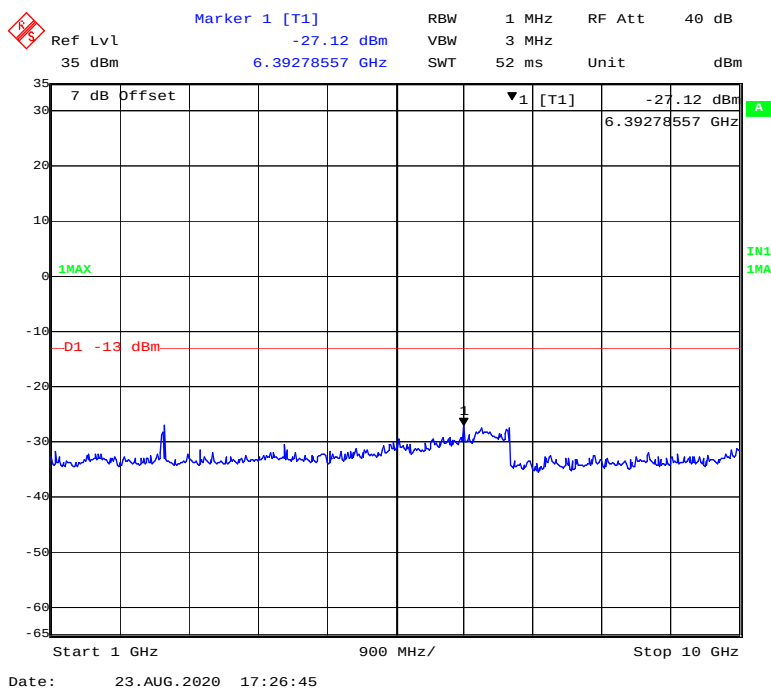
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)**

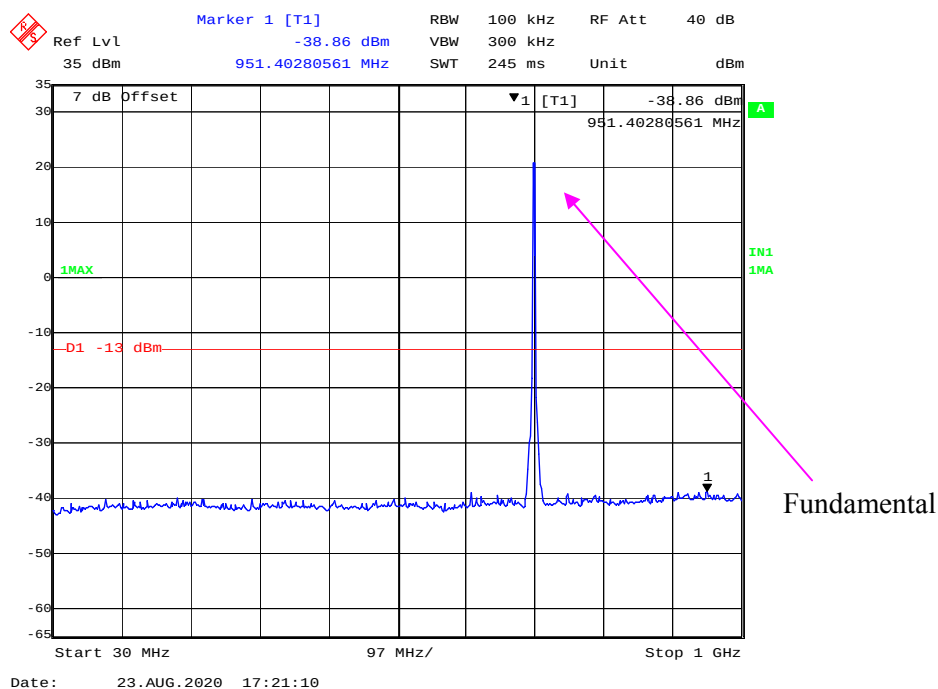
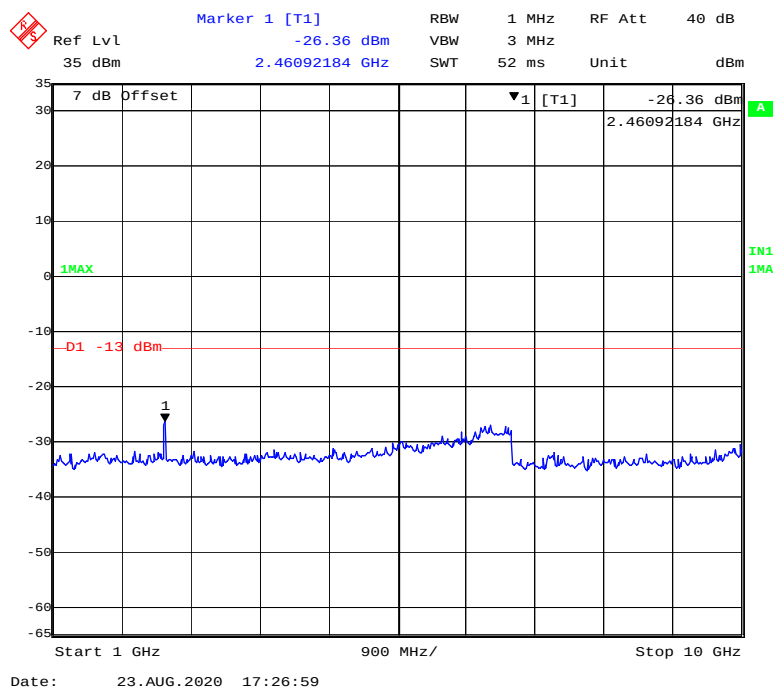
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)**1 GHz – 10 GHz (10 MHz, QPSK, Low Channel)**

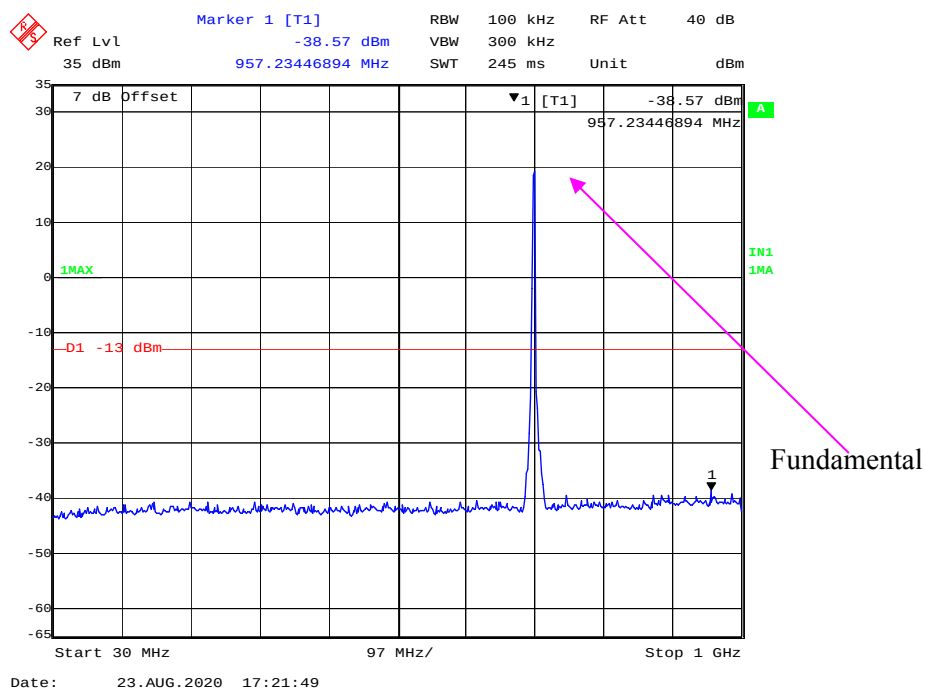
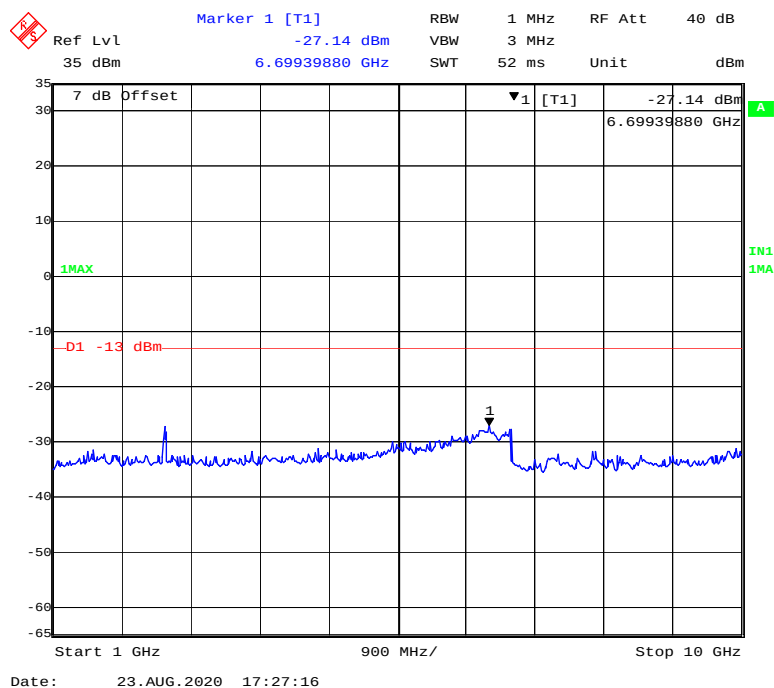
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, Low Channel)**

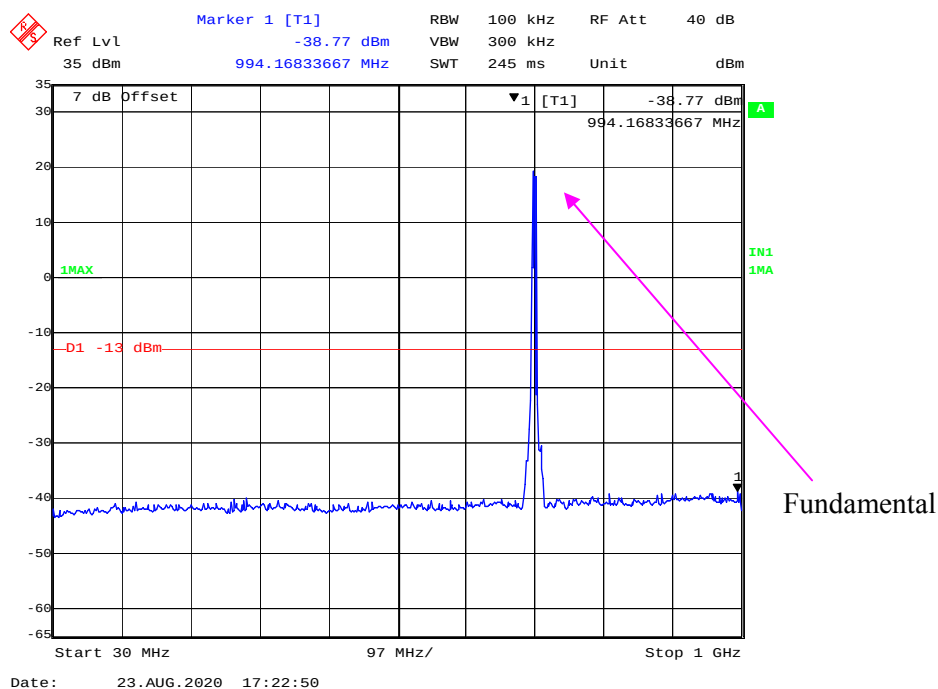
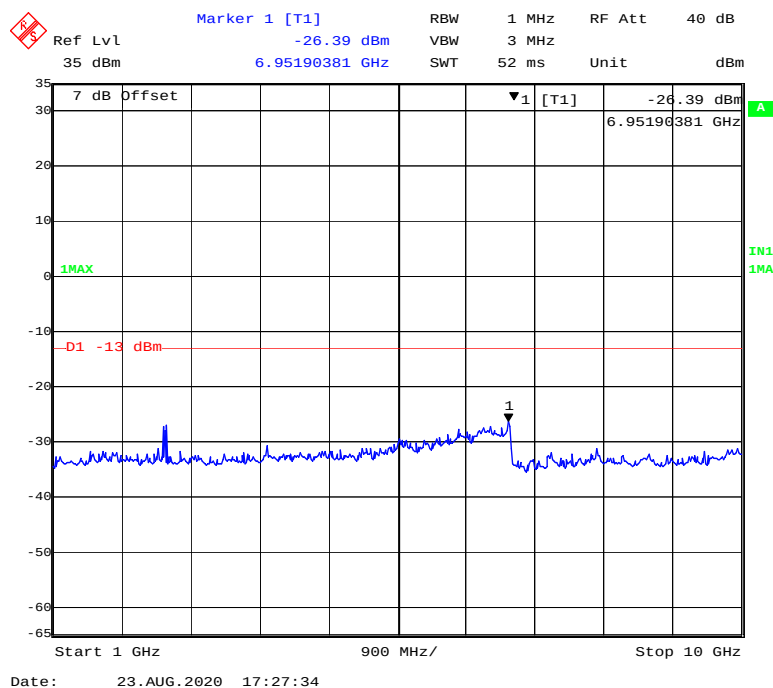
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (1.4 MHz, QPSK, Middle Channel)**

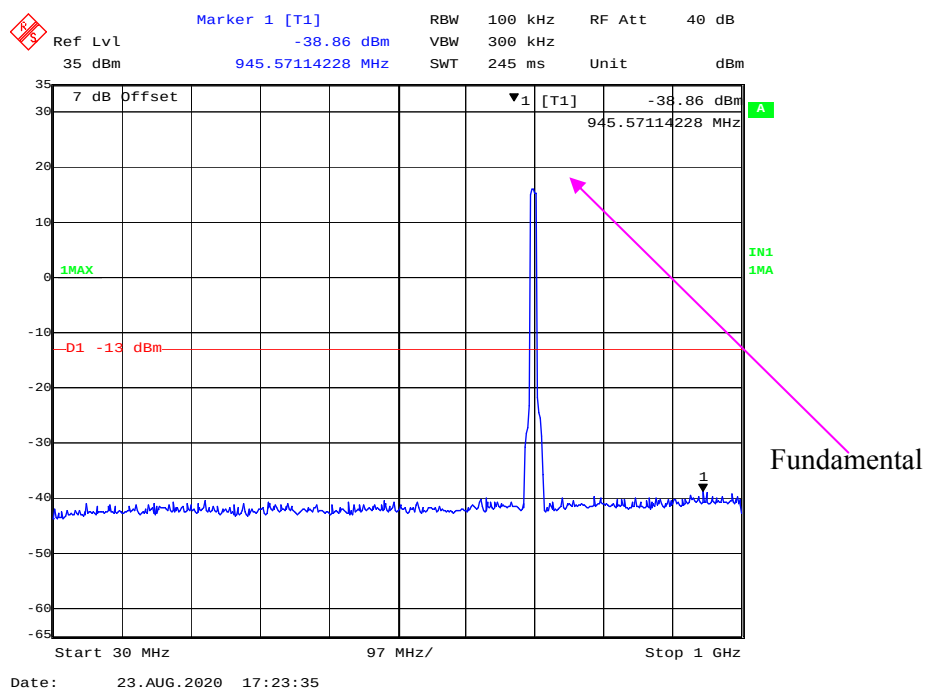
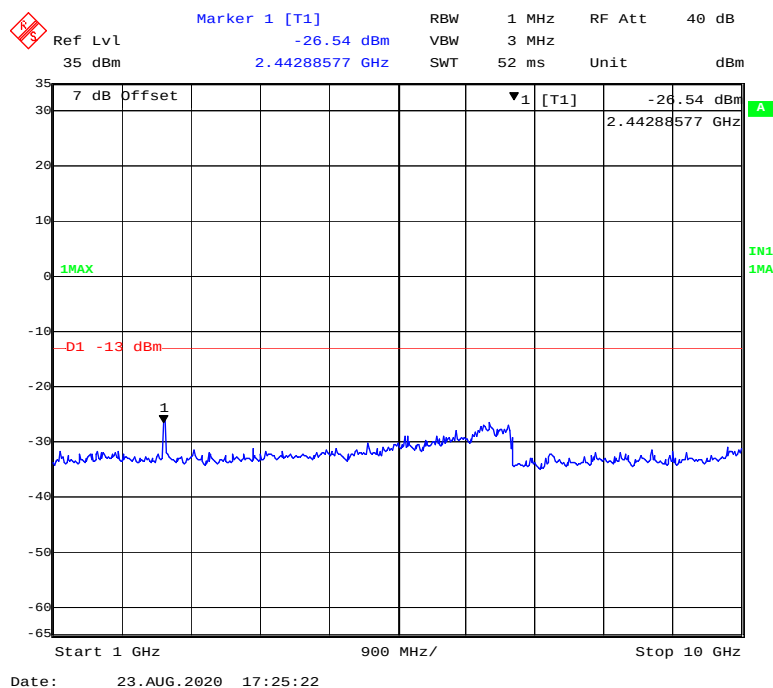
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)**1 GHz - 10 GHz (1.4 MHz, 16-QAM, Middle Channel)**

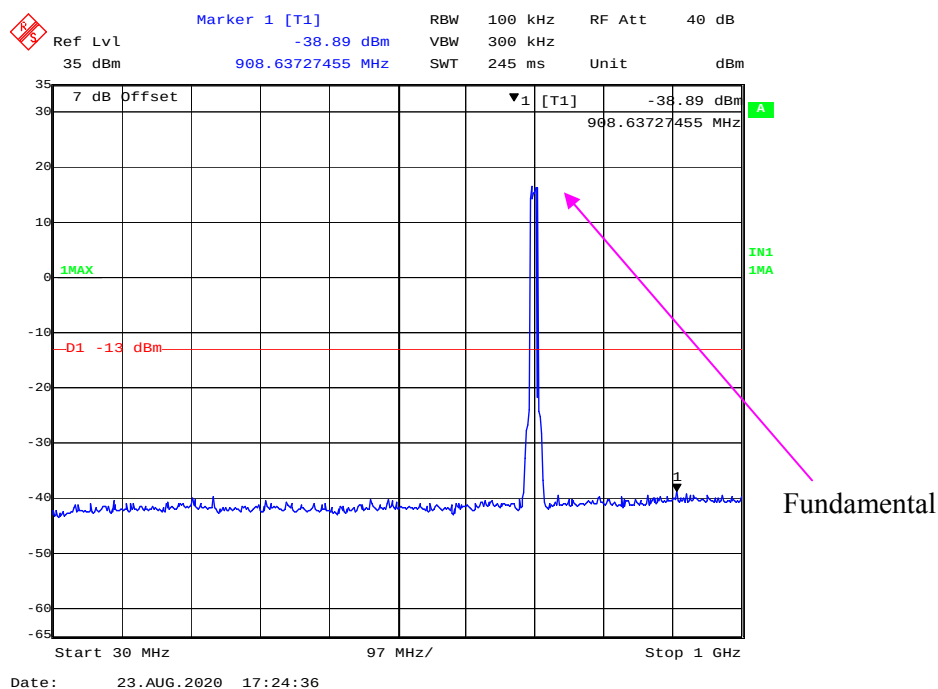
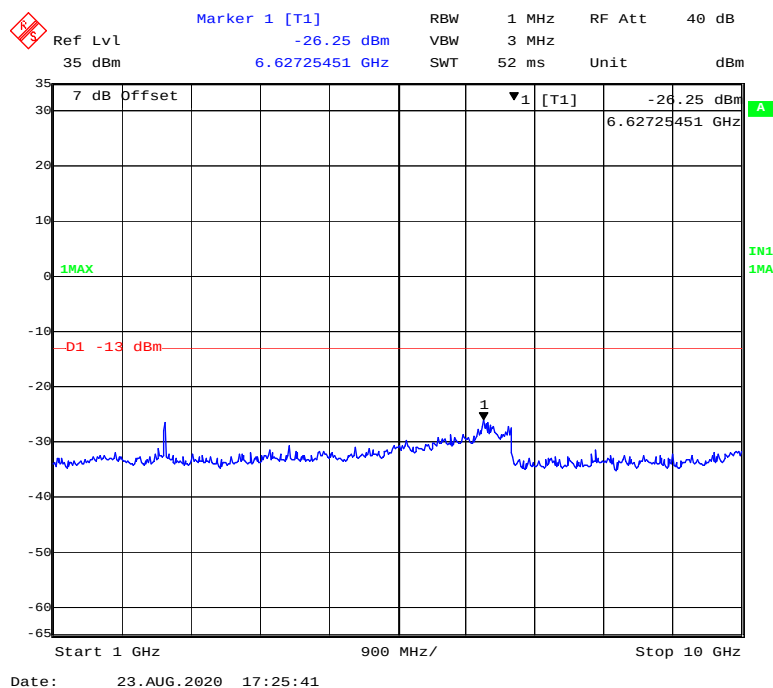
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (3 MHz, QPSK, Middle Channel)**

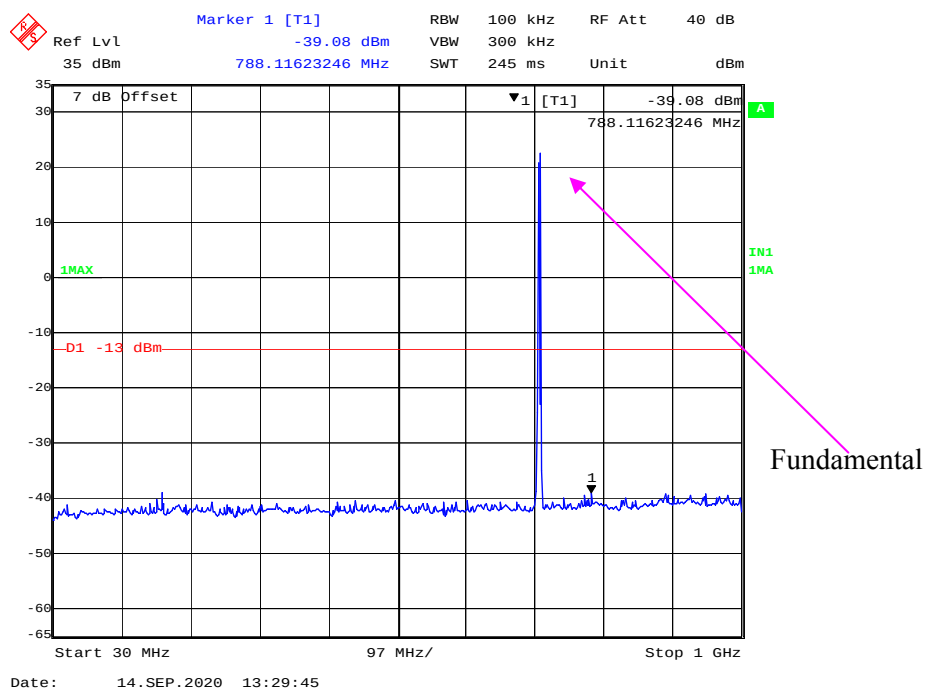
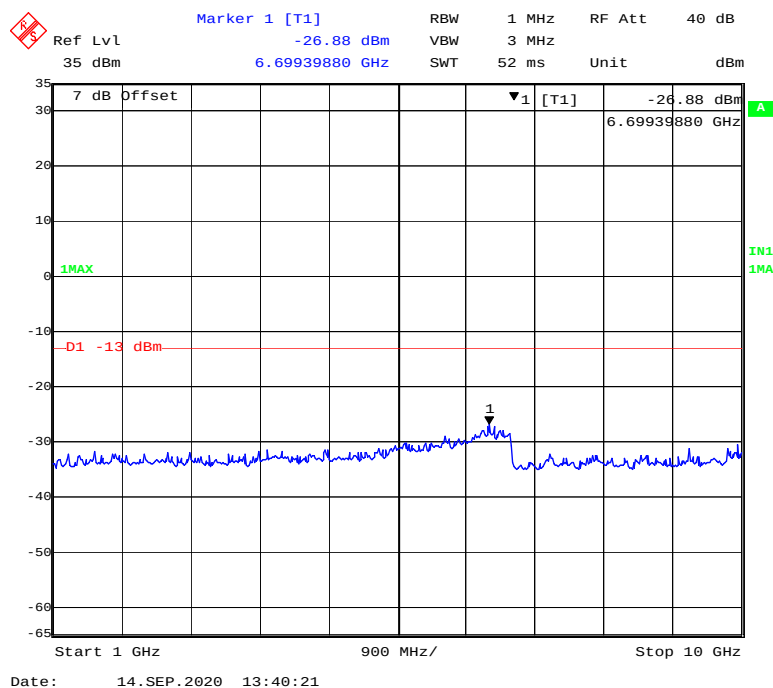
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (3 MHz, 16-QAM, Middle Channel)**

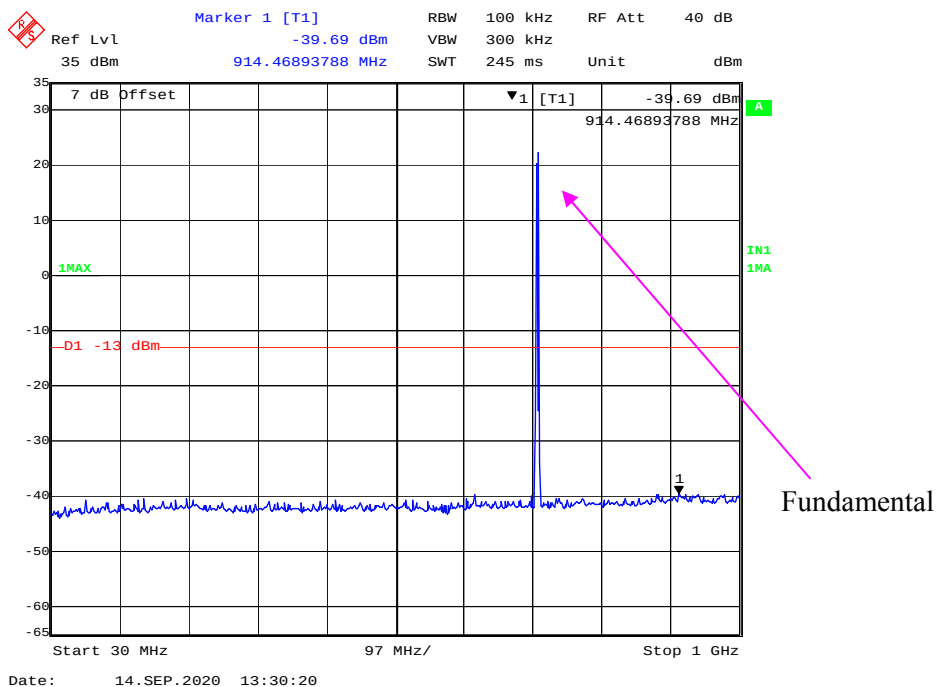
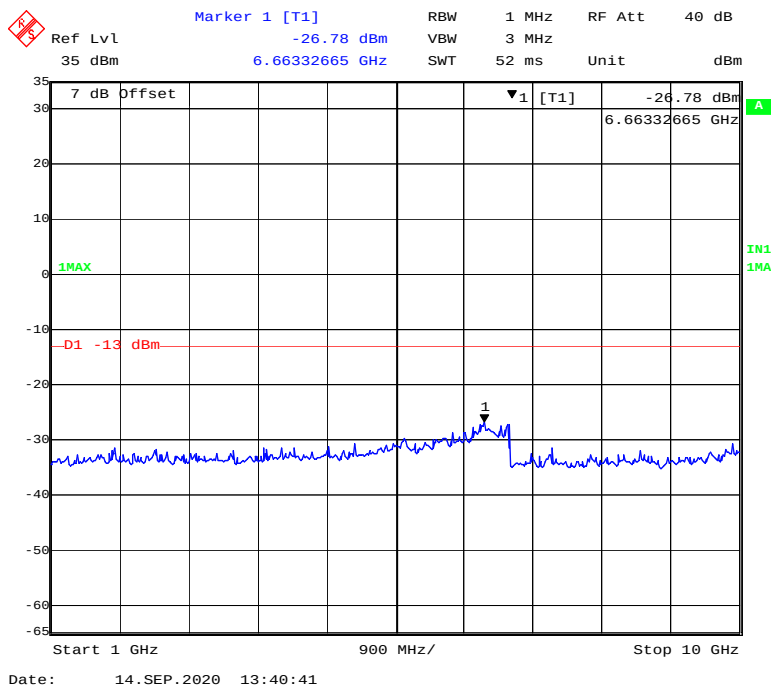
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)**

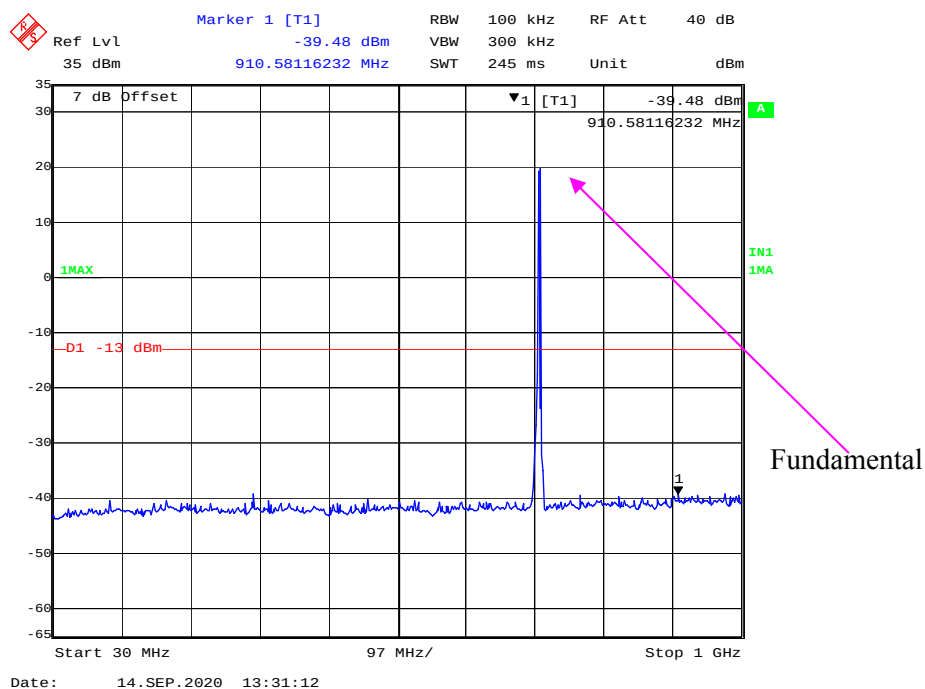
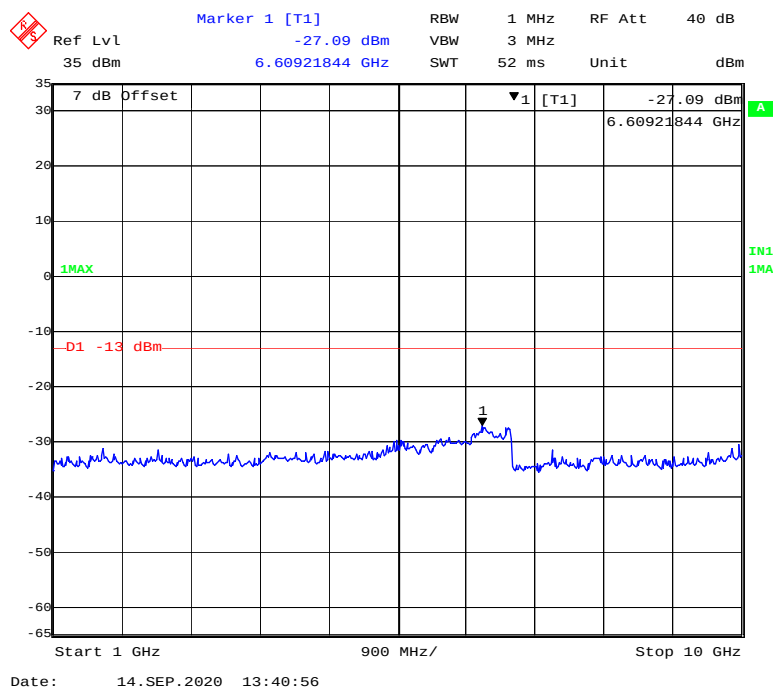
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)**

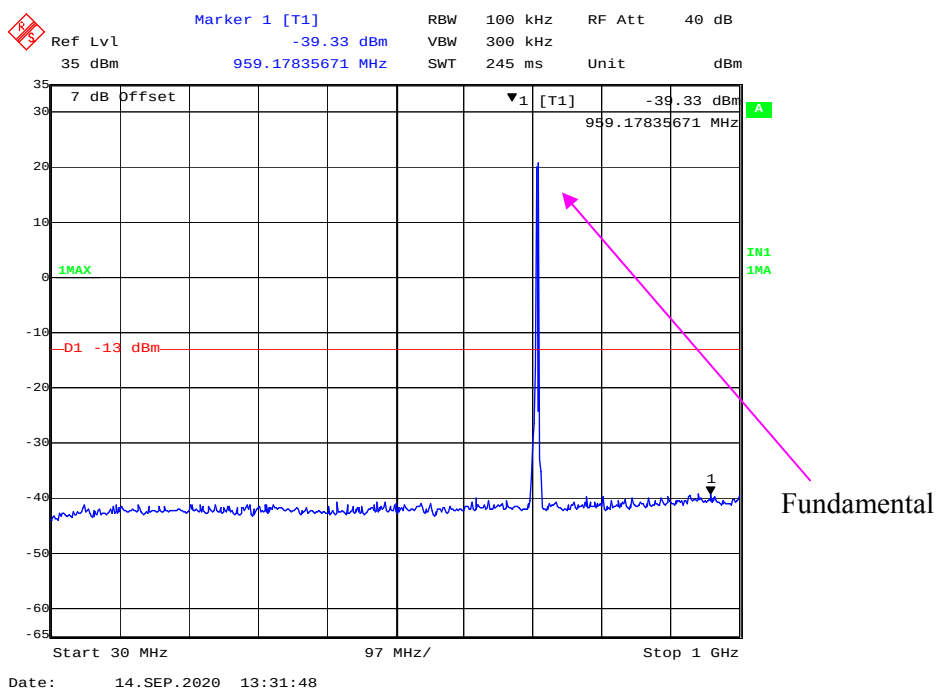
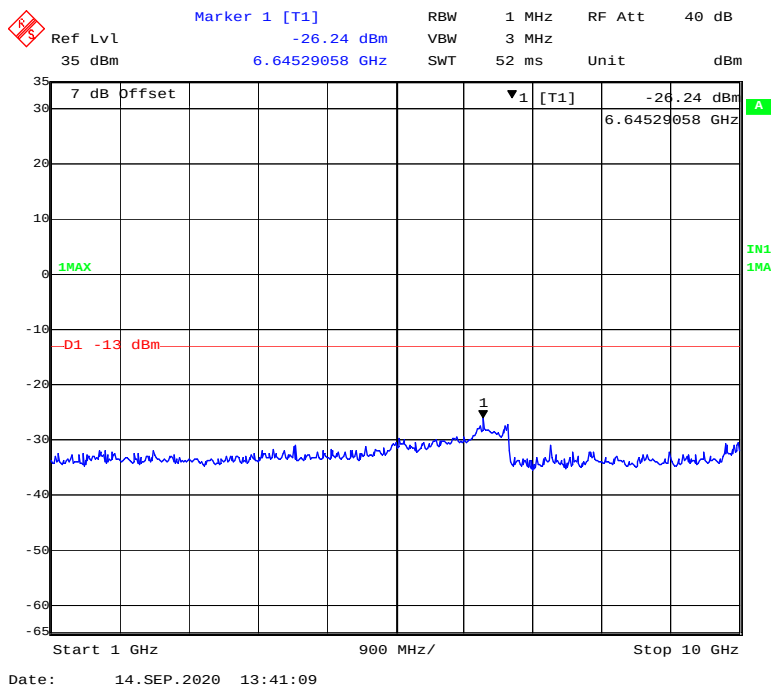
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)**

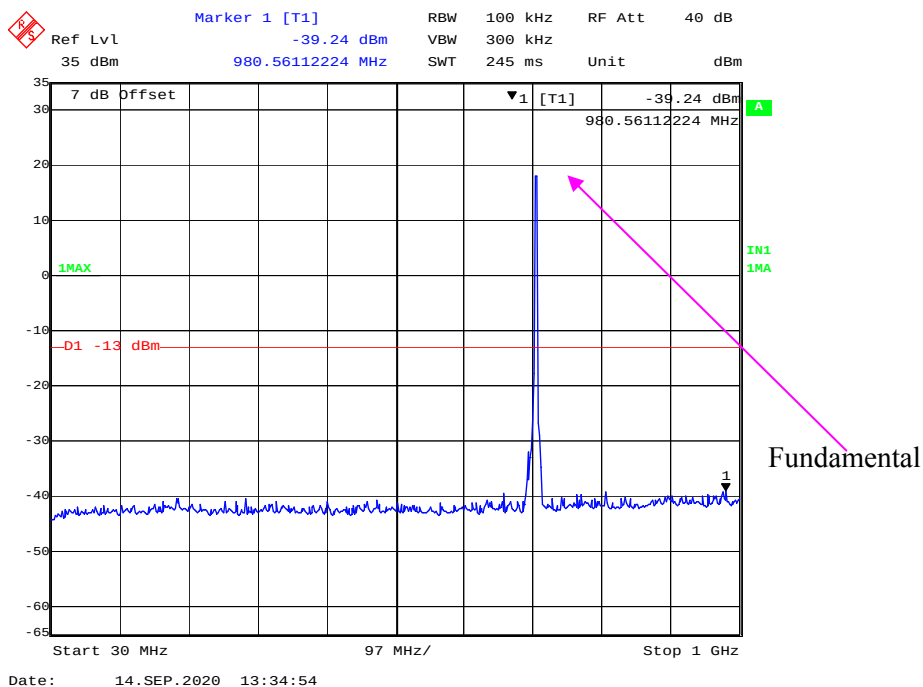
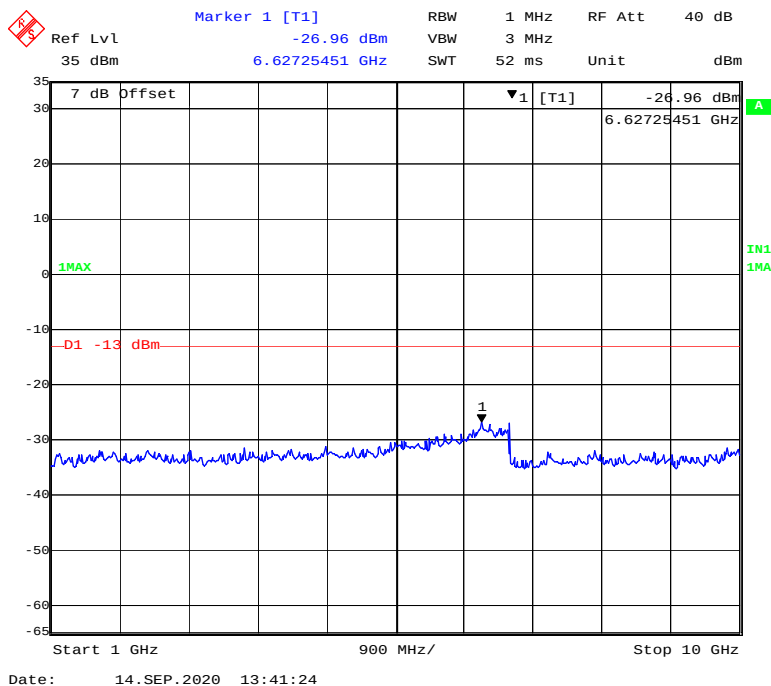
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)**

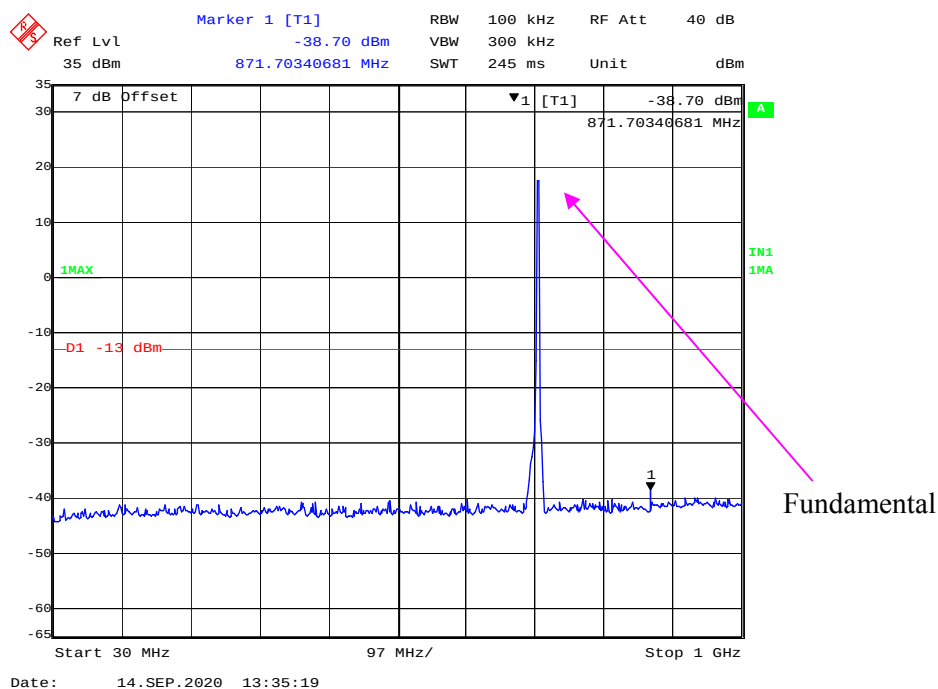
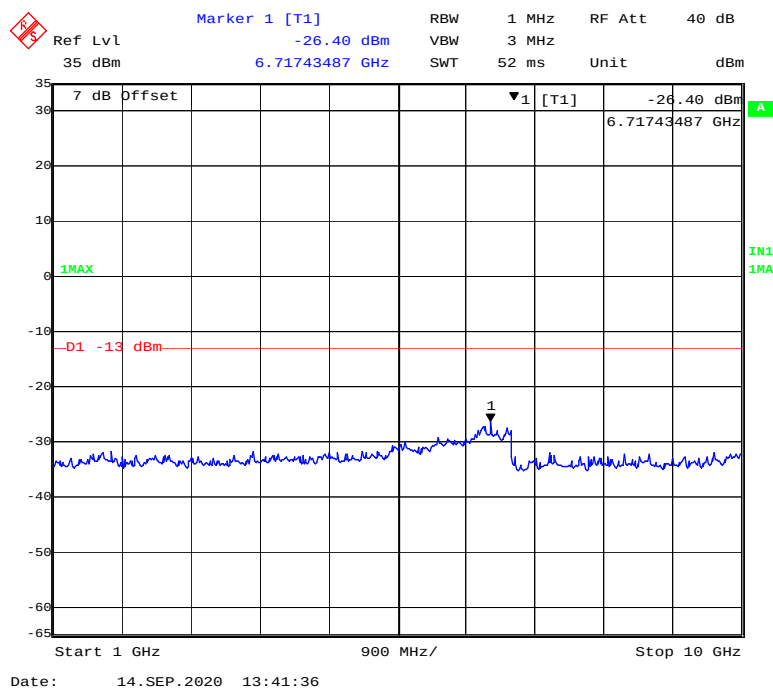
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)**1 GHz – 10 GHz (1.4 MHz, QPSK, High Channel)**

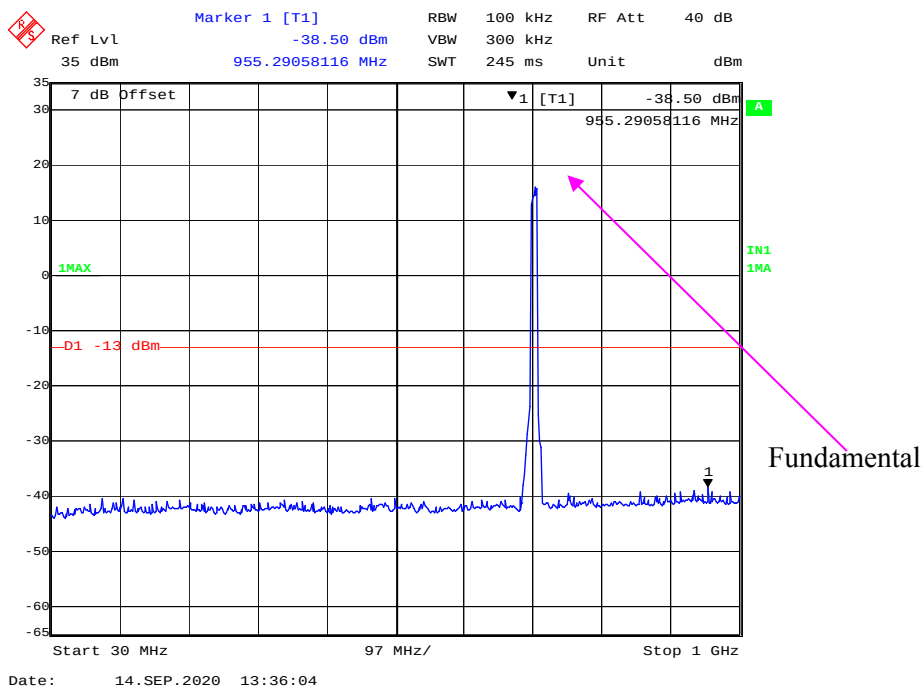
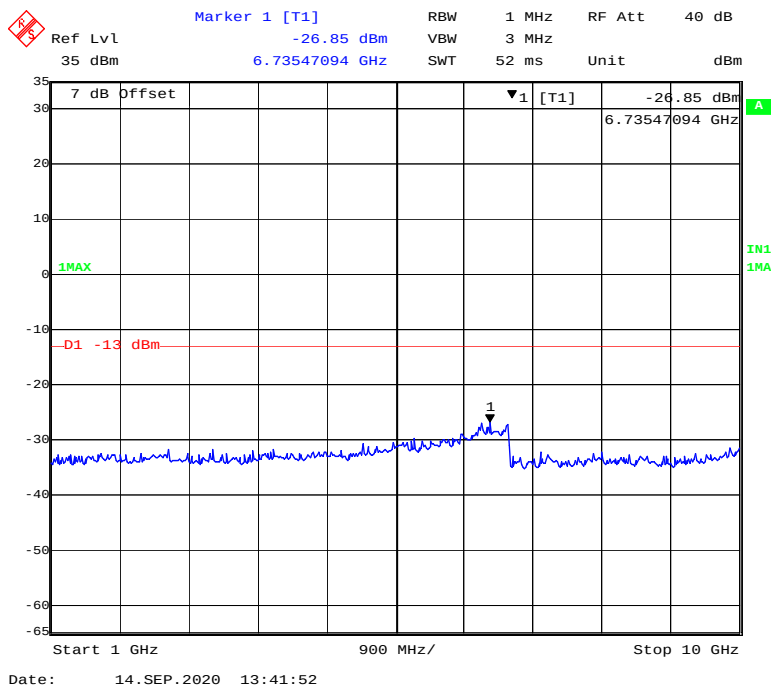
30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (1.4 MHz, 16-QAM, High Channel)**

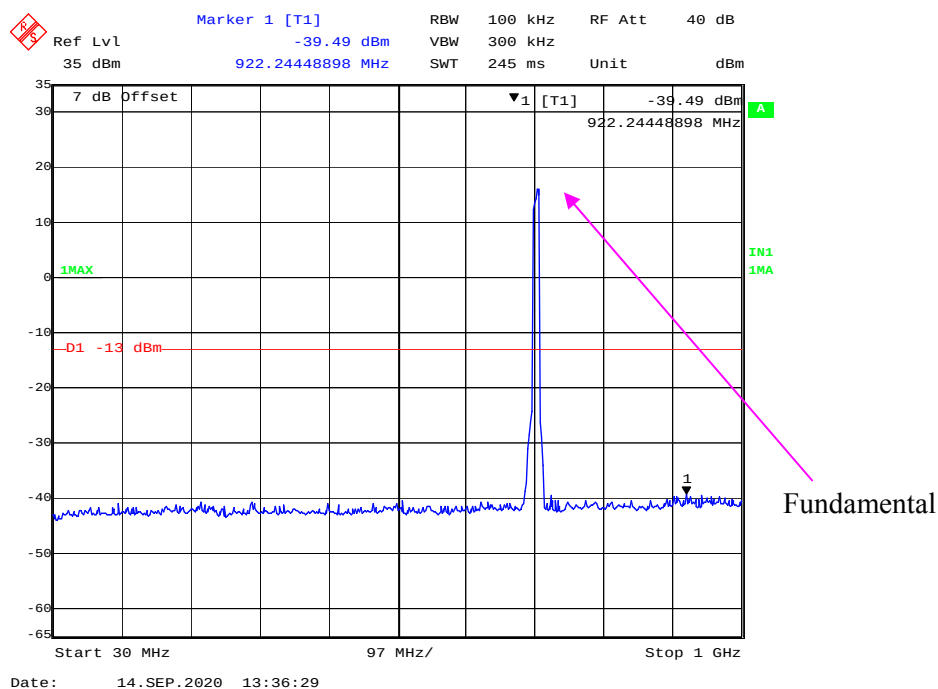
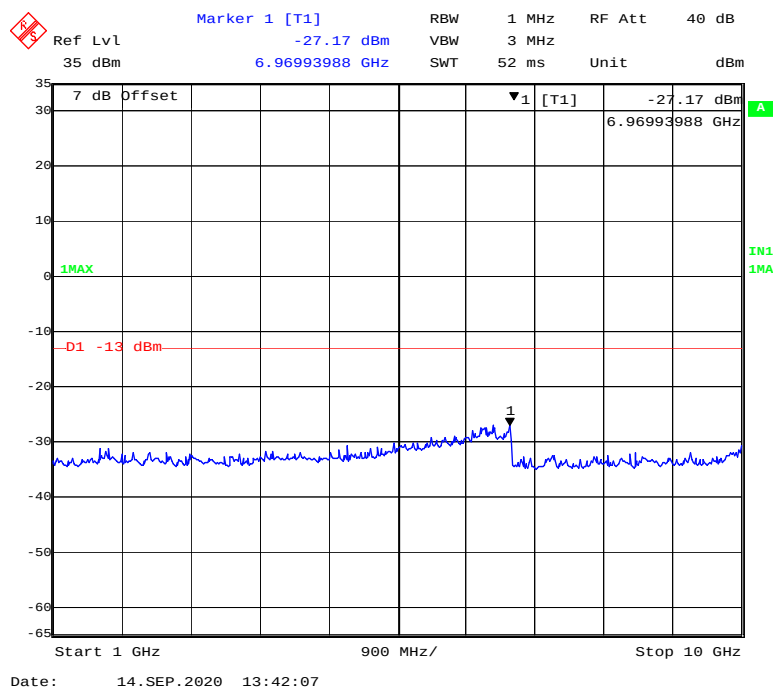
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)**1 GHz – 10 GHz (3 MHz, QPSK, High Channel)**

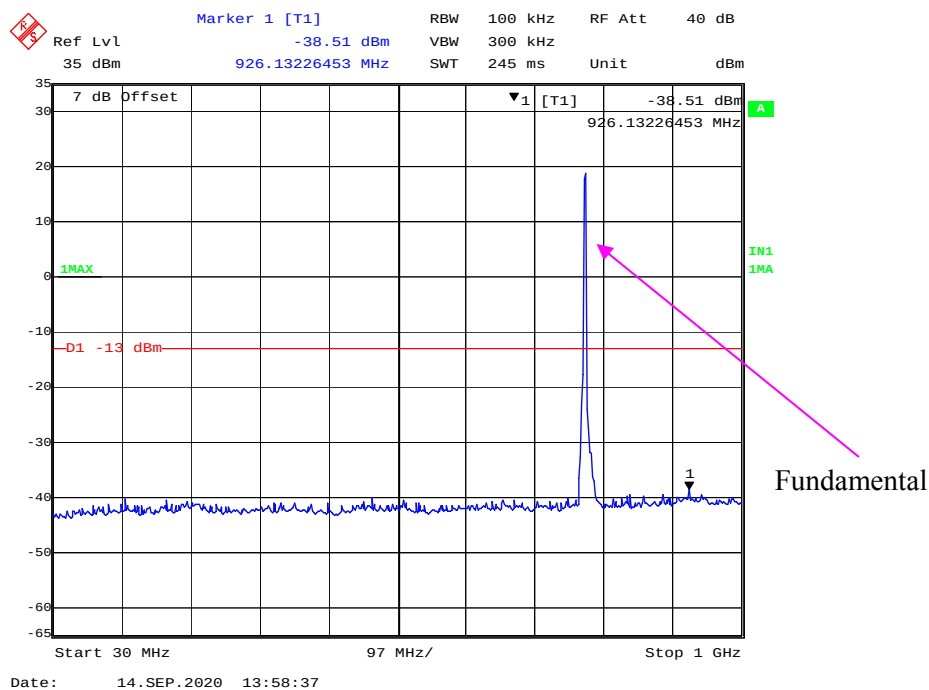
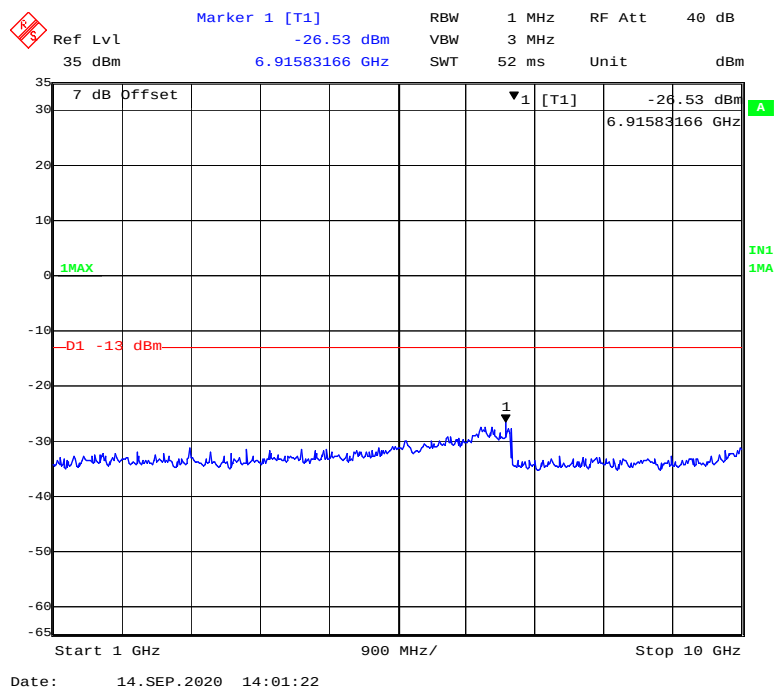
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (3 MHz, 16-QAM, High Channel)**

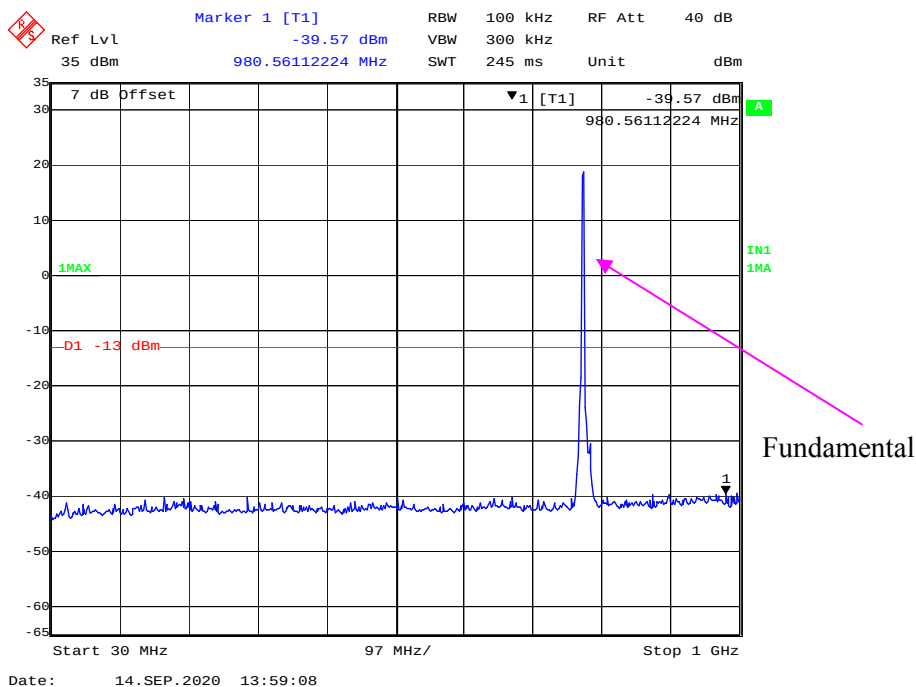
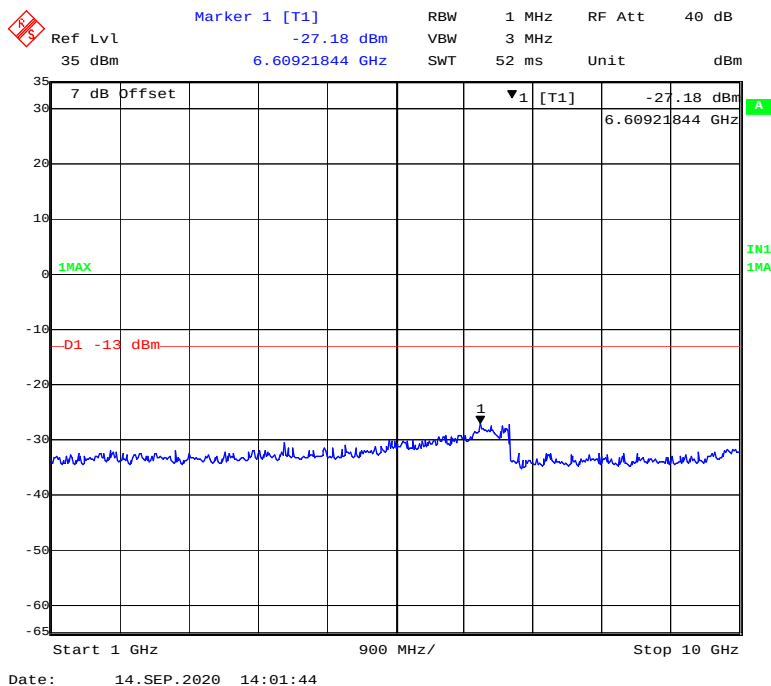
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)**1 GHz – 10 GHz (5 MHz, QPSK, High Channel)**

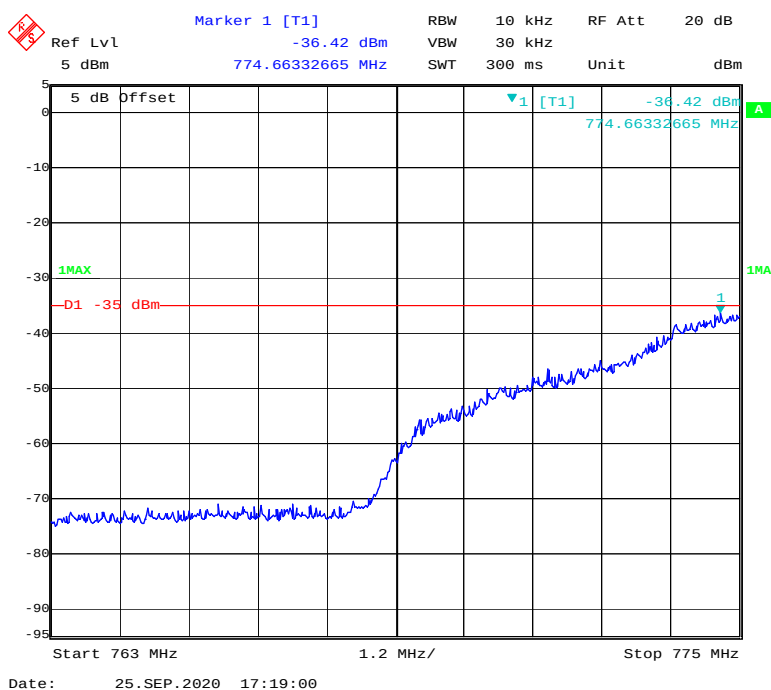
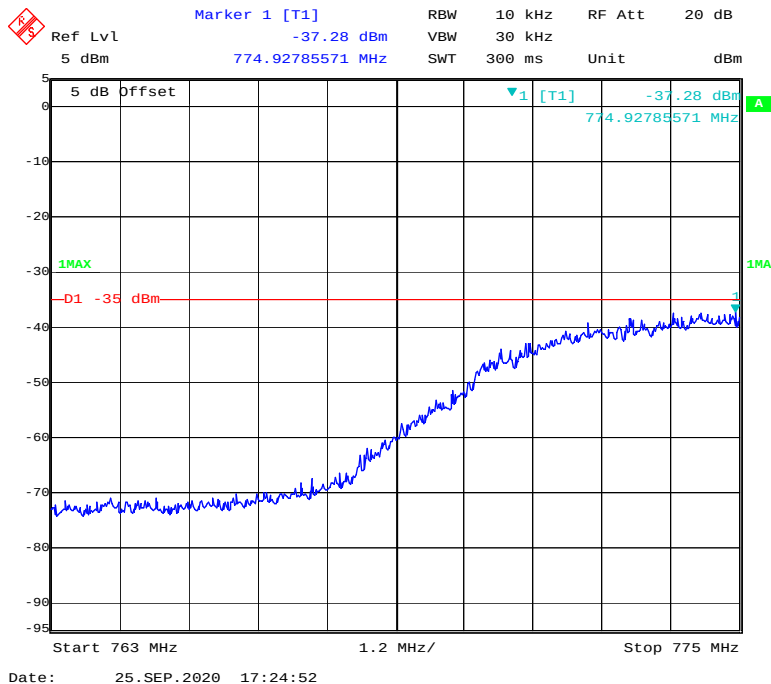
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)**

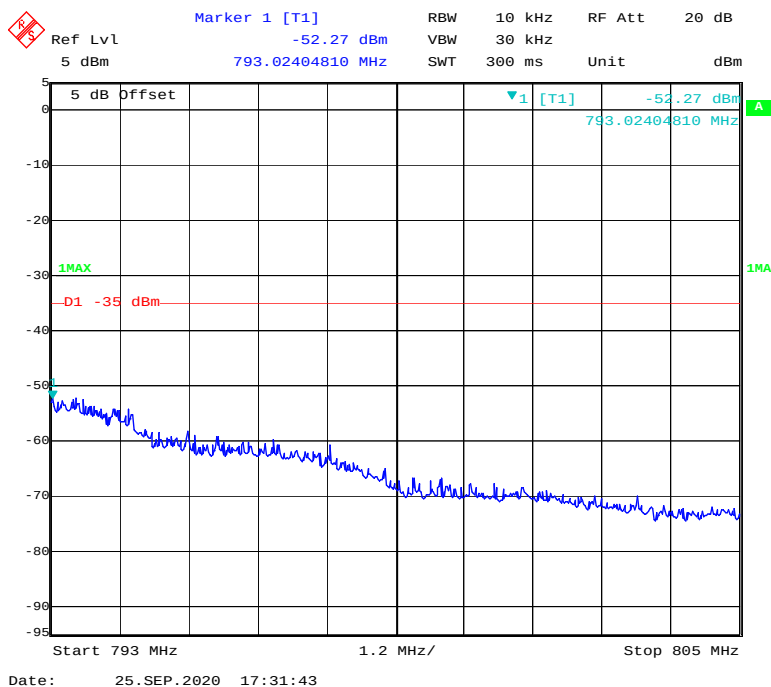
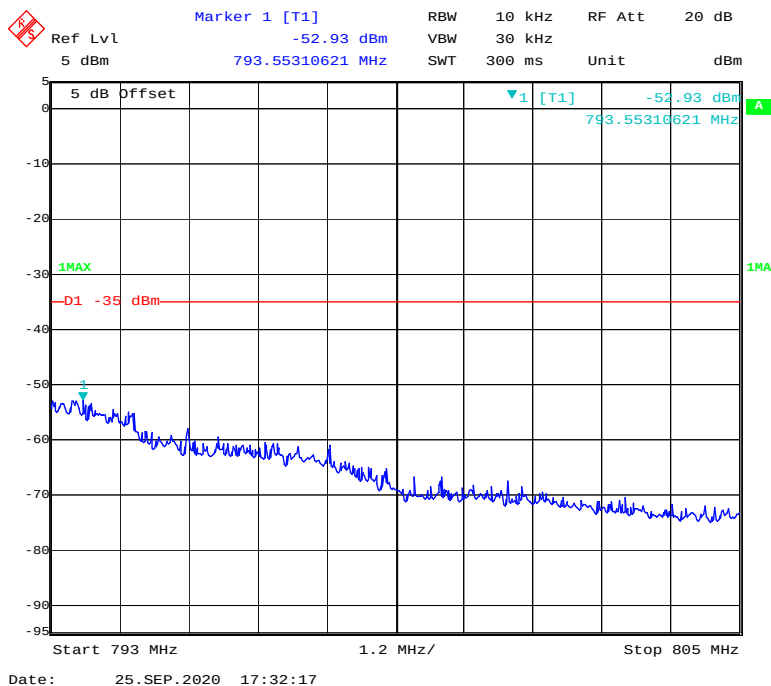
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)**1 GHz – 10 GHz (10 MHz, QPSK, High Channel)**

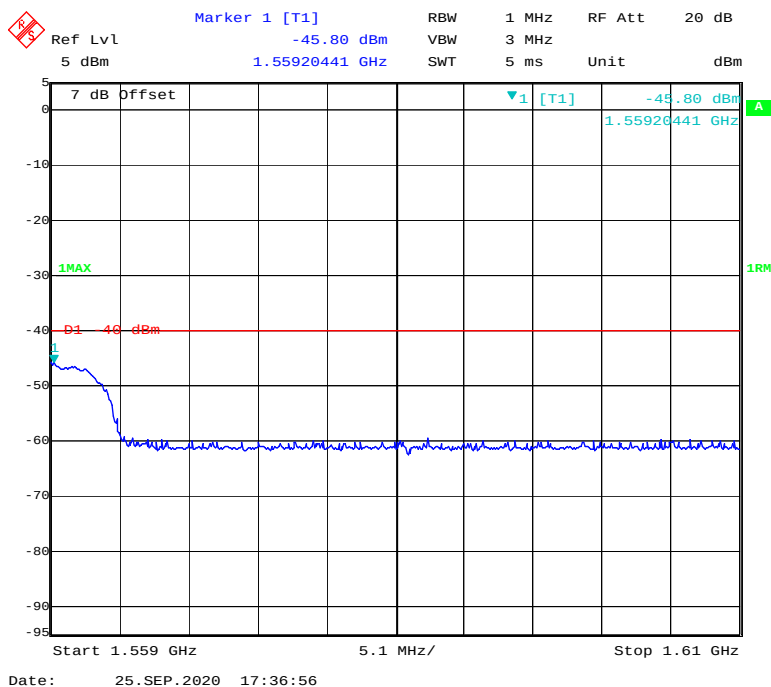
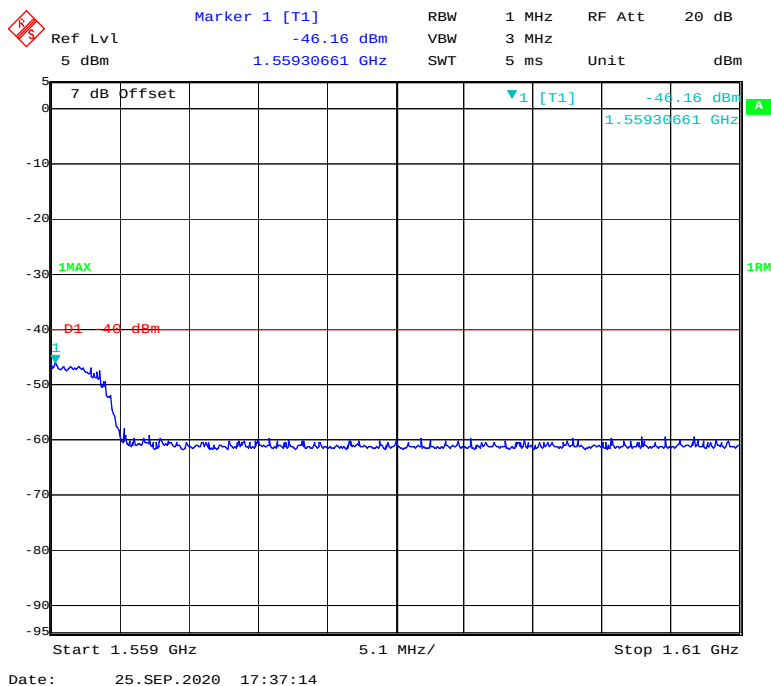
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, High Channel)**

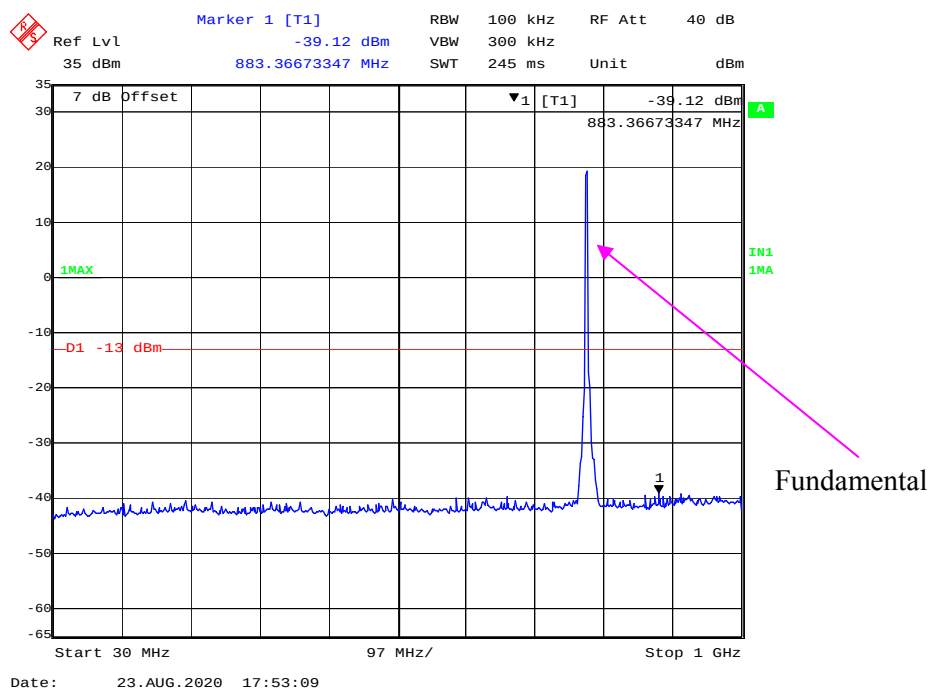
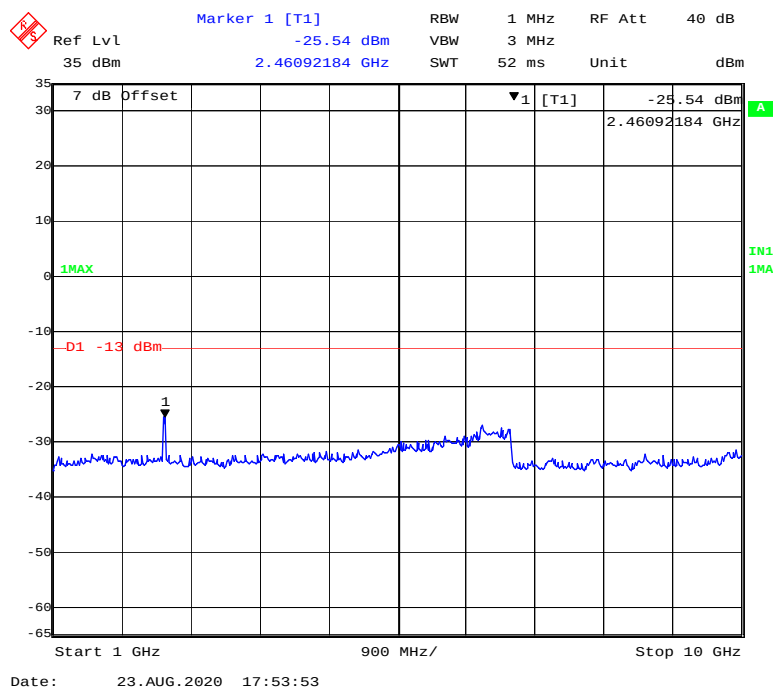
LTE Band 13:**30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)****1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)**

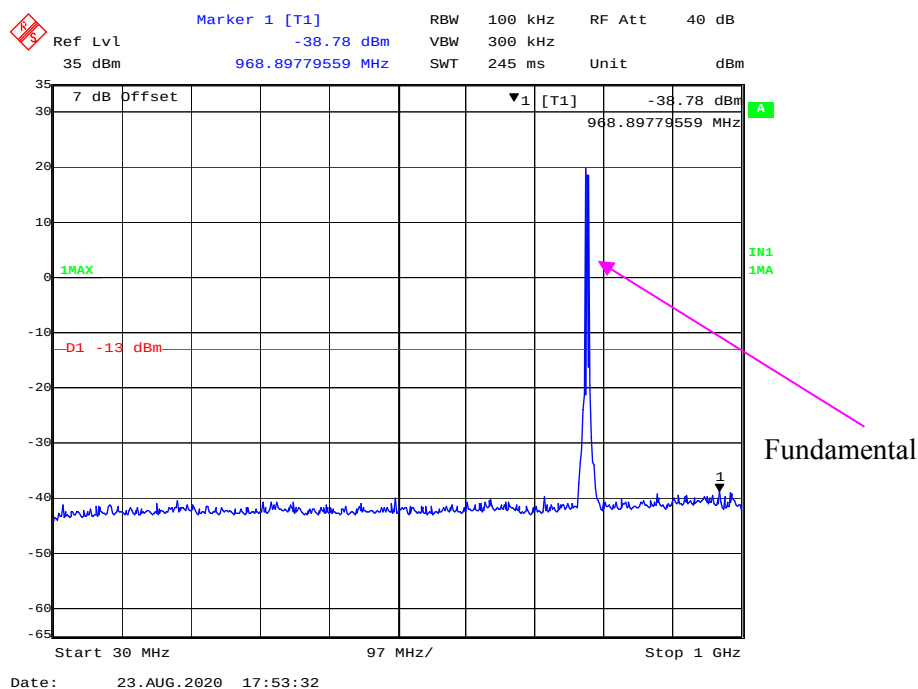
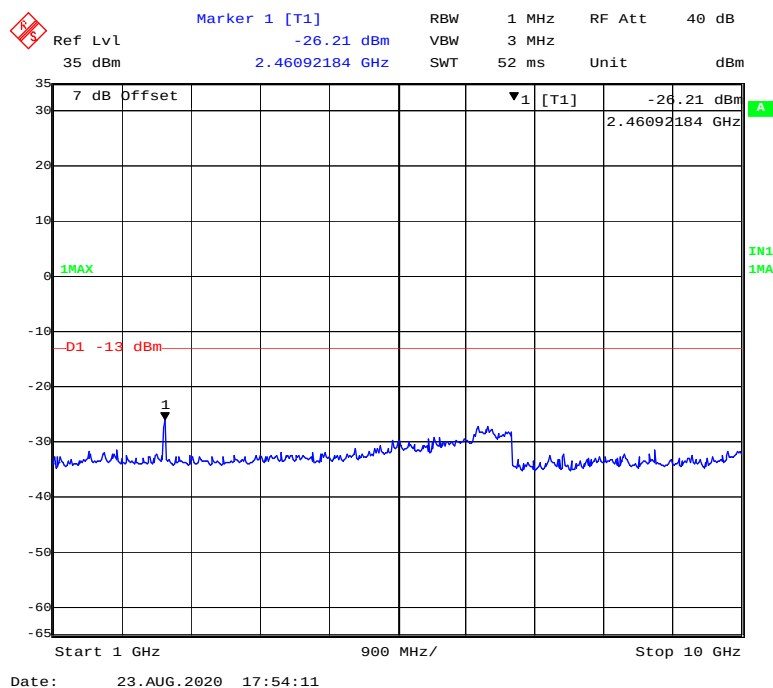
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)**

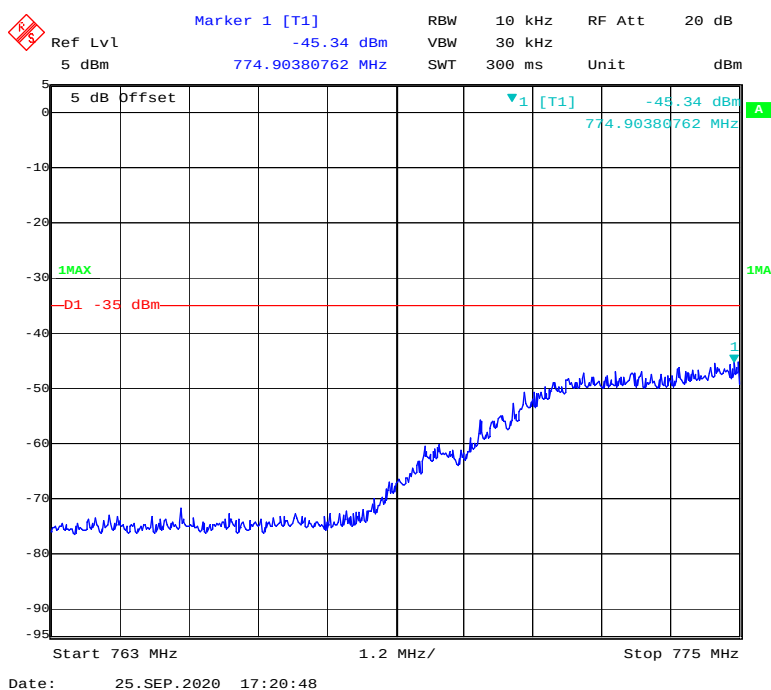
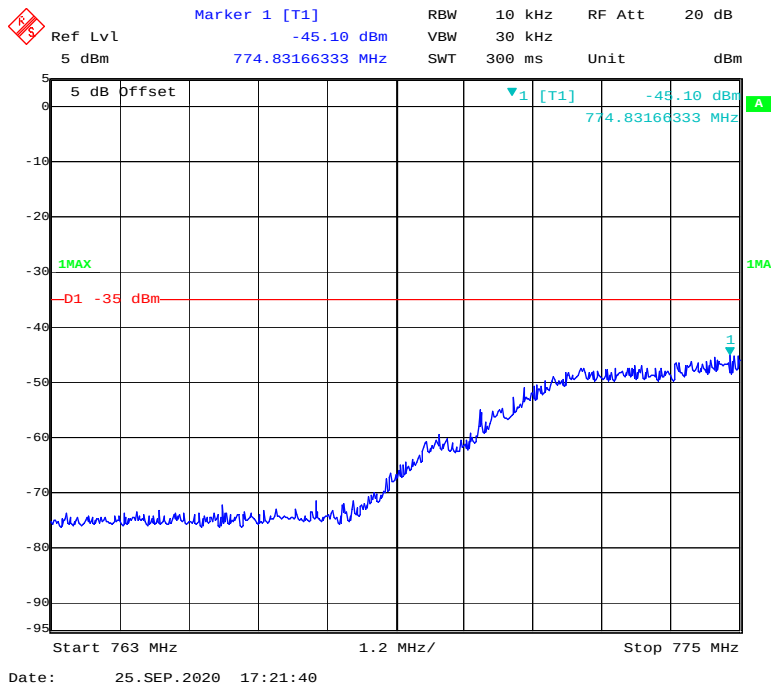
763 MHz - 775 MHz (5 MHz, QPSK, Low Channel)**763 MHz - 775 MHz (5 MHz, 16-QAM, Low Channel)**

793 MHz - 805 MHz (5 MHz, QPSK, Low Channel)**793 MHz - 805 MHz (5 MHz, 16-QAM, Low Channel)**

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)**

Marker 1 [T1]
 -51.81 dBm
 793.50501002 MHz

Ref Lvl 5 dBm
 RBW 10 kHz
 VBW 30 kHz
 RF Att 20 dB
 Unit dBm

5 dB Offset
 1MAX
 -D1 -35 dBm
 1 [T1]
 -51.81 dBm
 793.50501002 MHz

Start 793 MHz 1.2 MHz/ Stop 805 MHz

Date: 25.SEP.2020 17:33:40

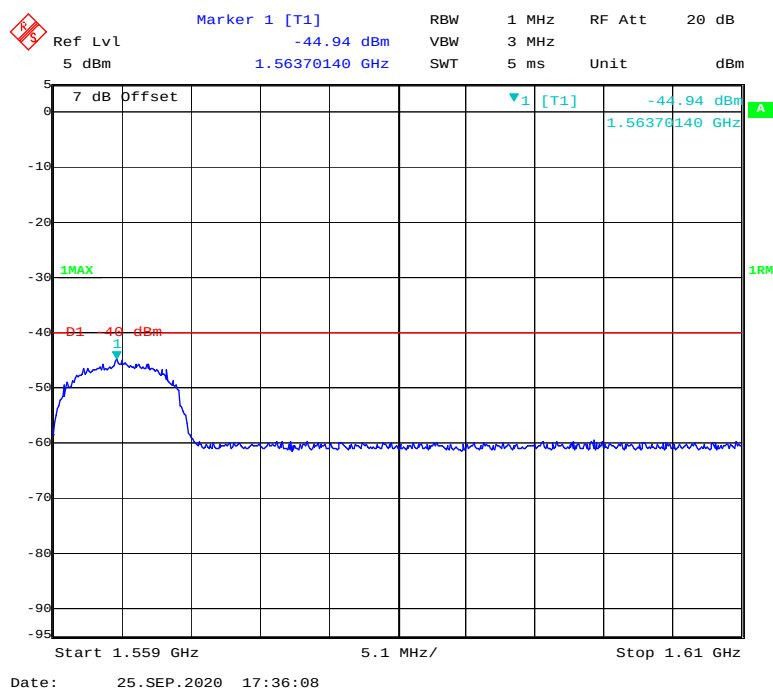
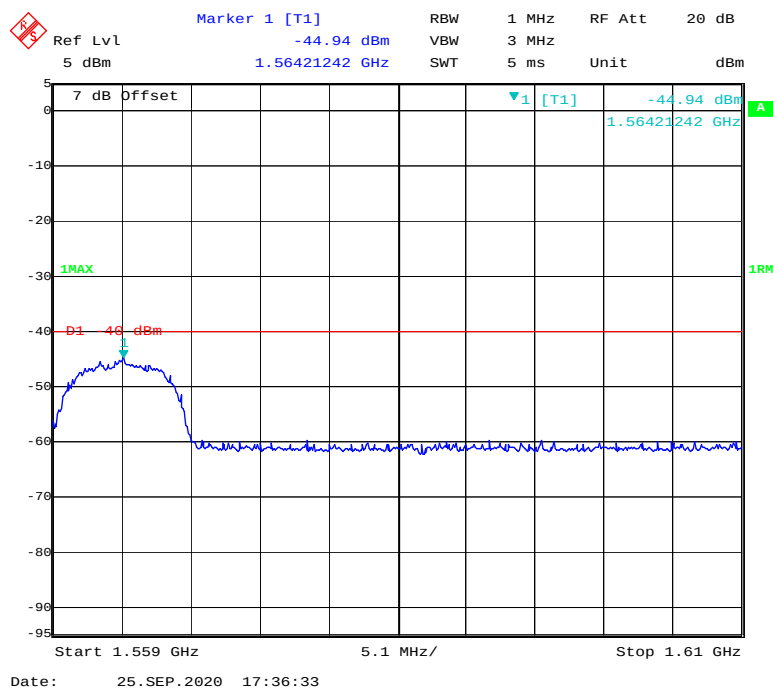
Marker 1 [T1]
 Ref Lvl -51.83 dBm
 5 dBm 793.50501002 MHz
 RBW 10 kHz RF Att 20 dB
 VBW 30 kHz
 SWT 300 ms Unit dBm

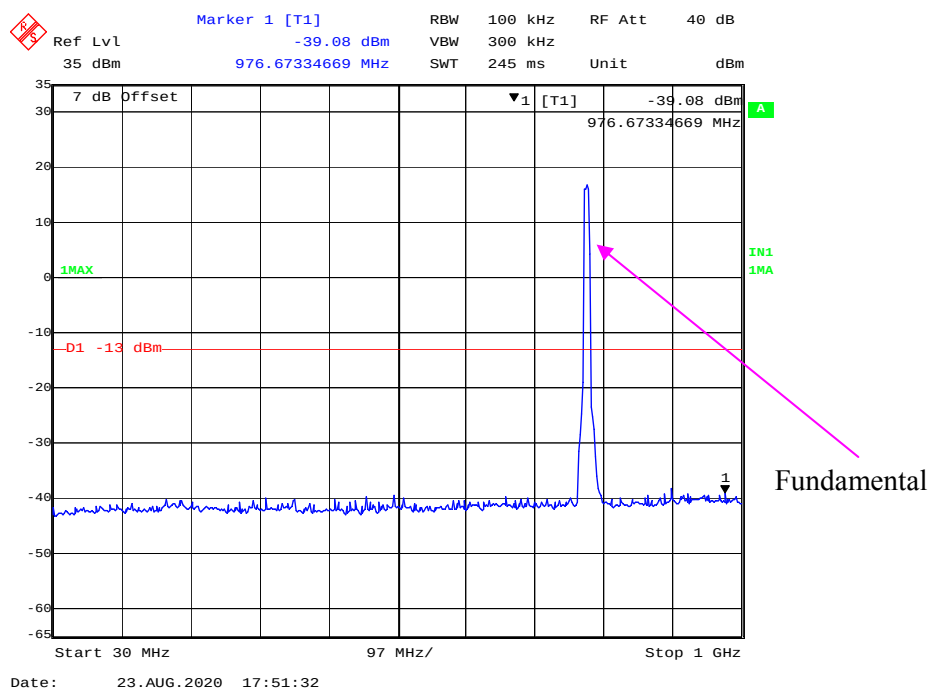
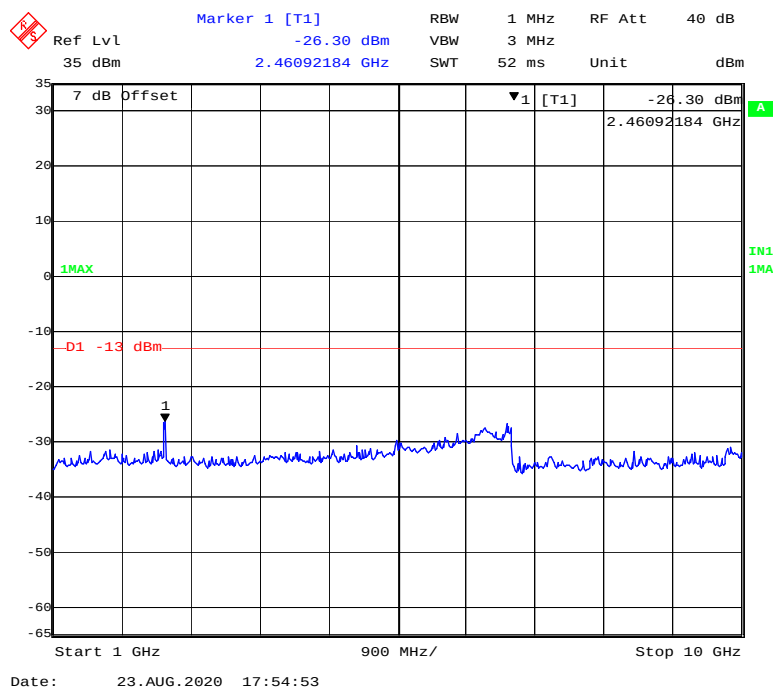
5 dB Offset
 ▼1 [T1] -51.83 dBm
 793.50501002 MHz

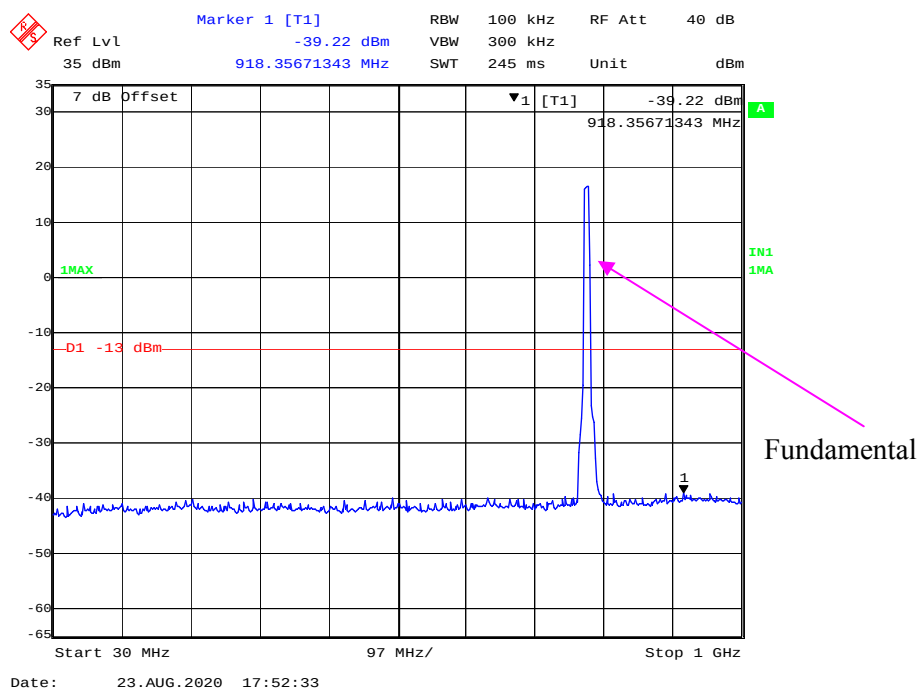
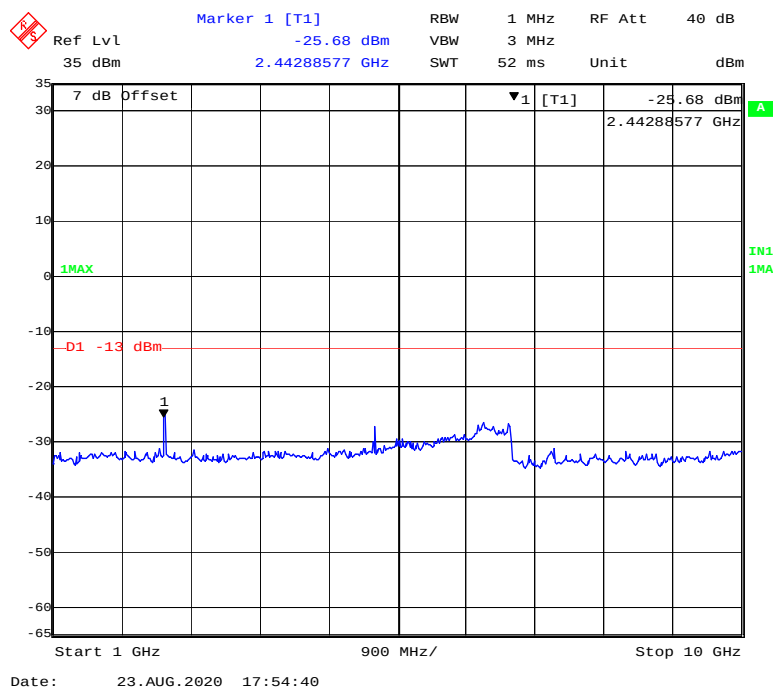
1MAX
 -D1 -35 dBm

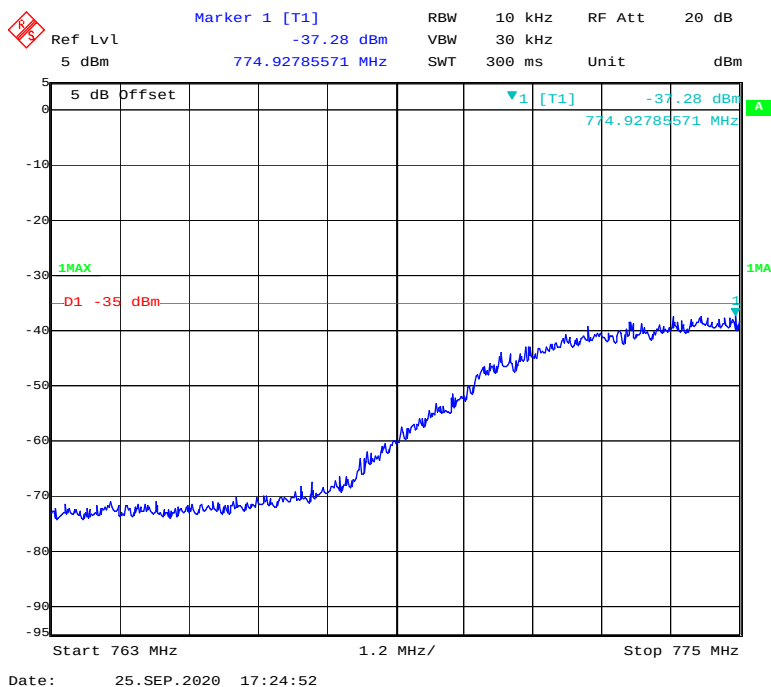
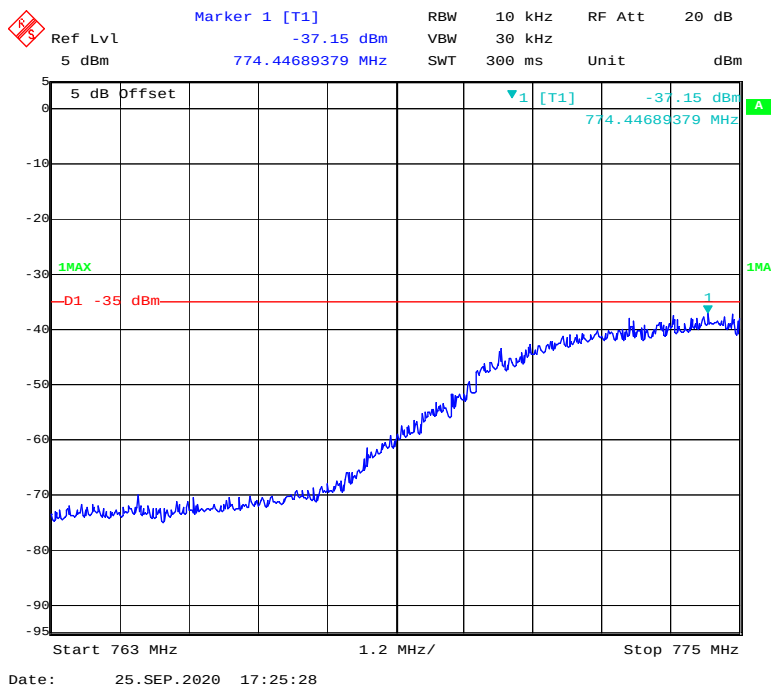
Start 793 MHz 1.2 MHz/ Stop 805 MHz

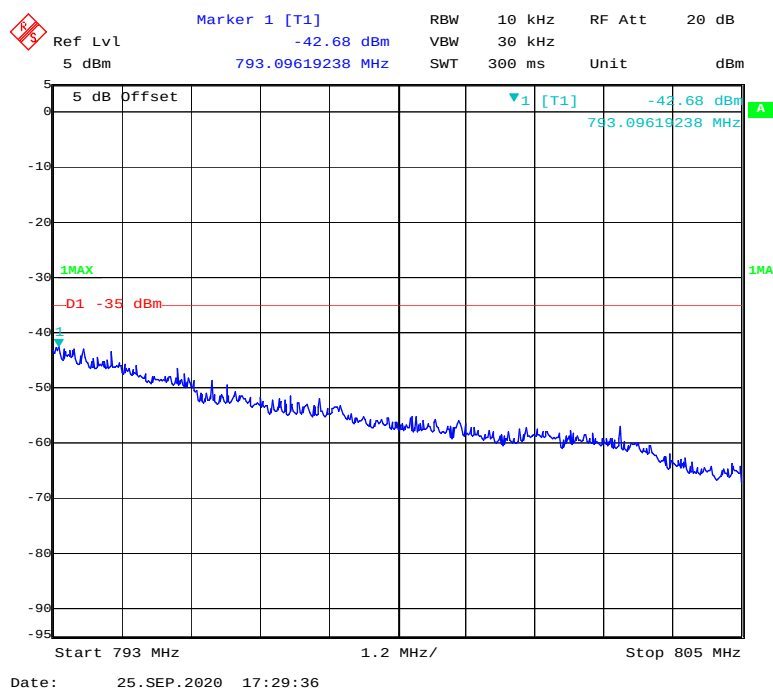
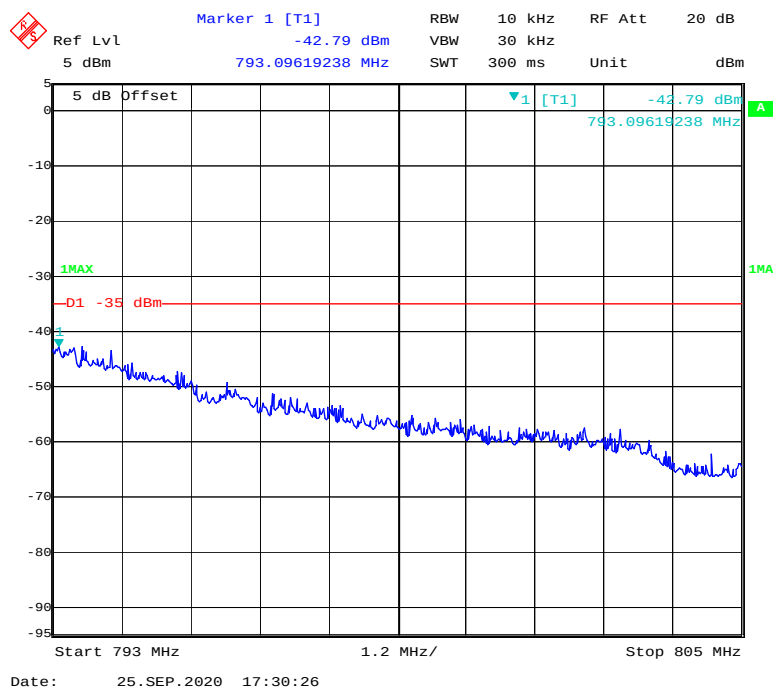
Date: 25.SEP.2020 17:34:08

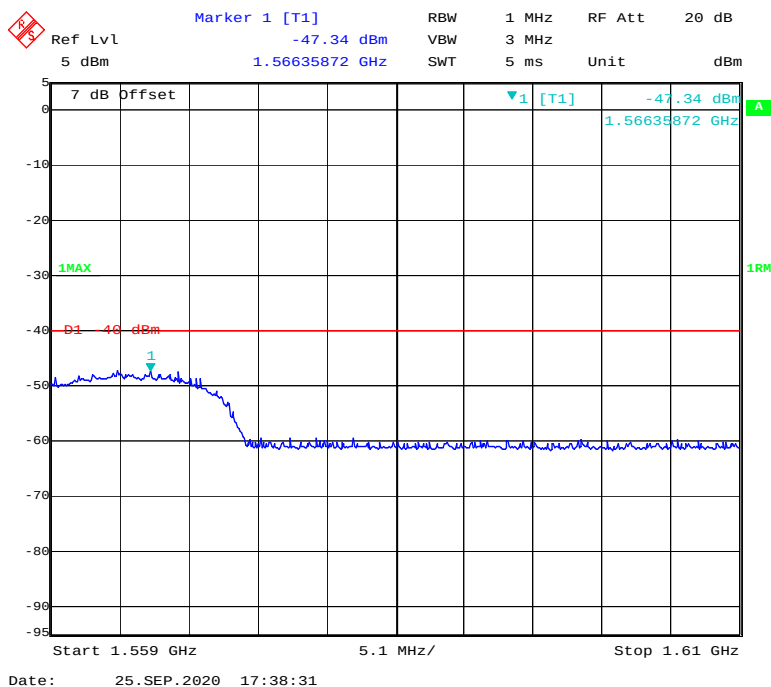
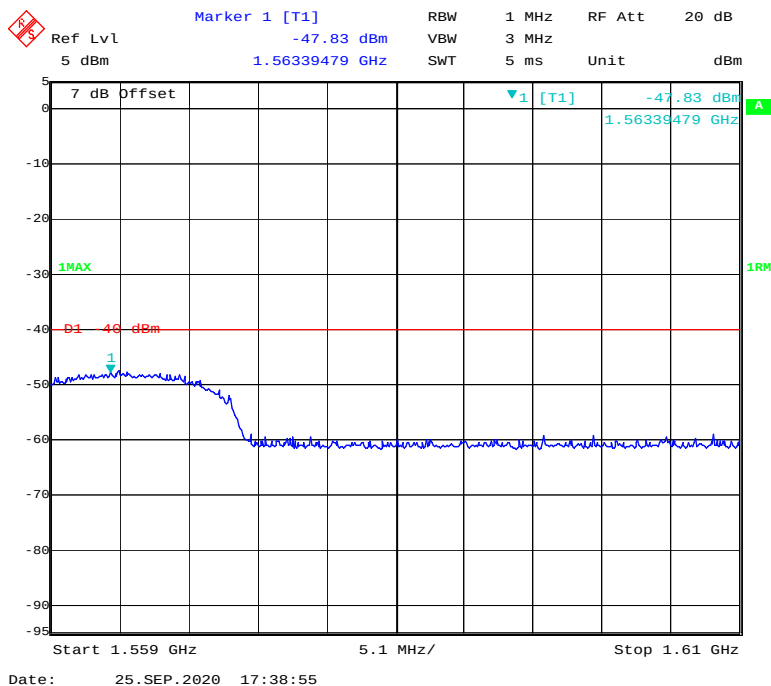
1559 MHz - 1610 MHz (5 MHz, QPSK, Middle Channel)**1559 MHz - 1610 MHz (5 MHz, 16-QAM, Middle Channel)**

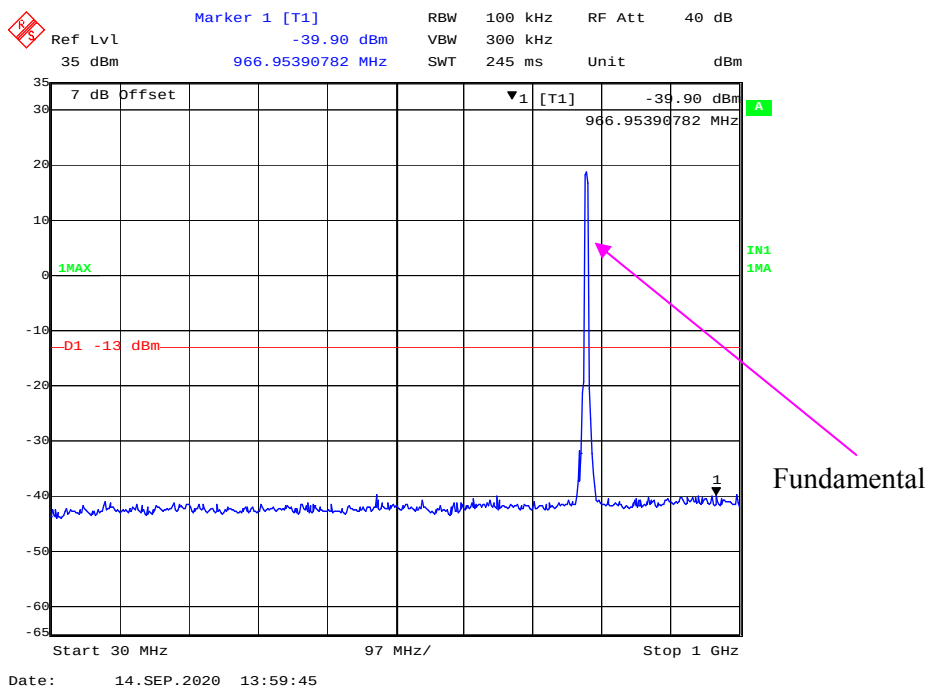
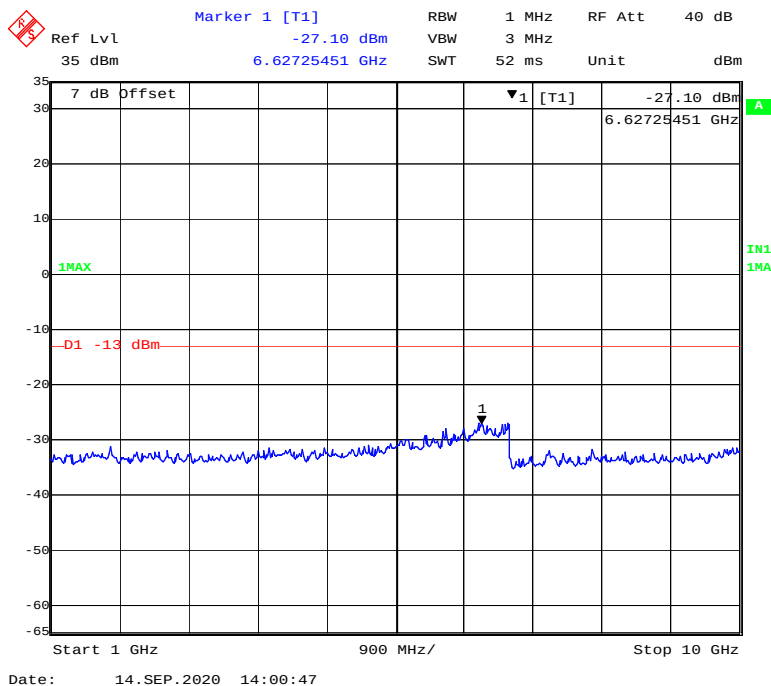
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)**

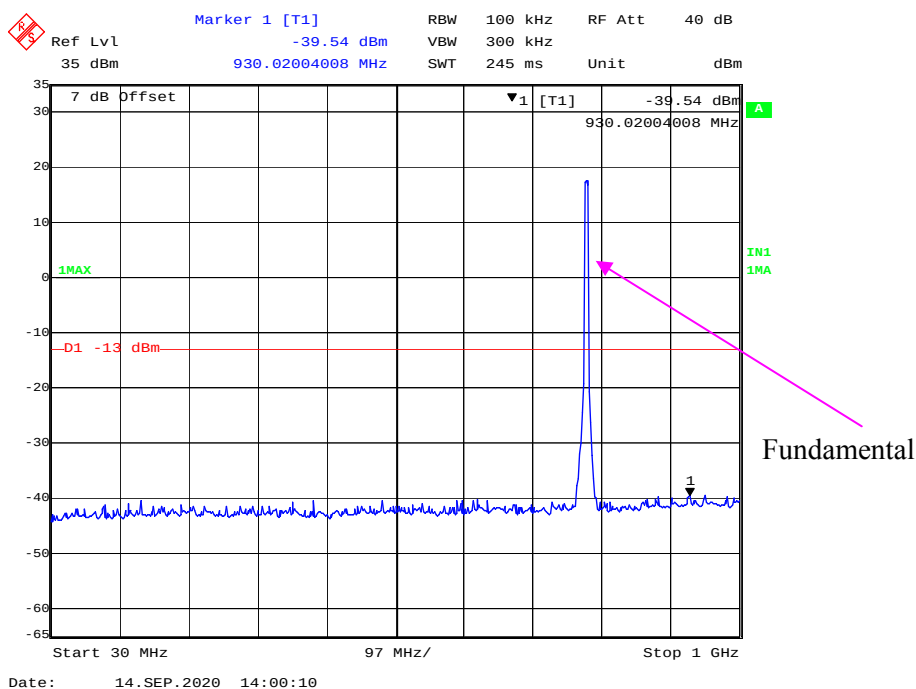
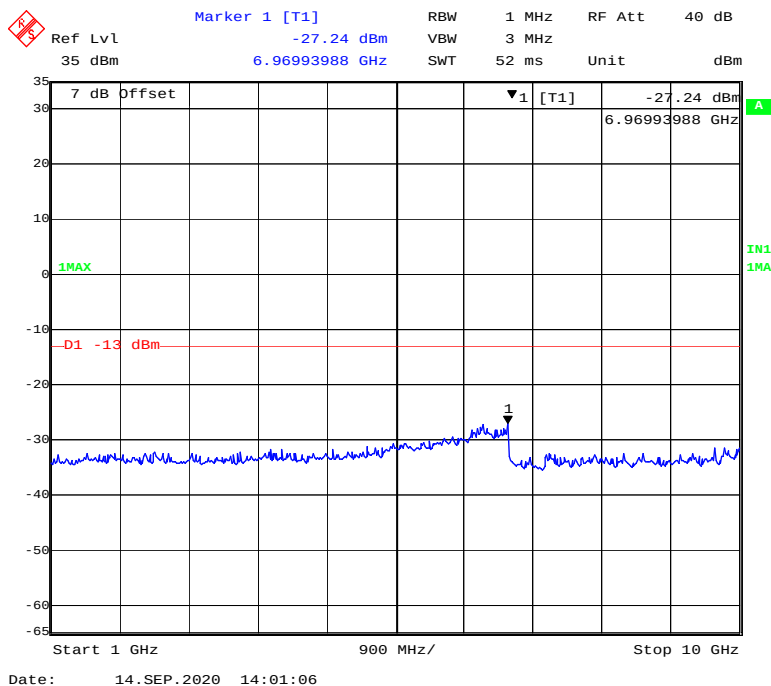
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)**

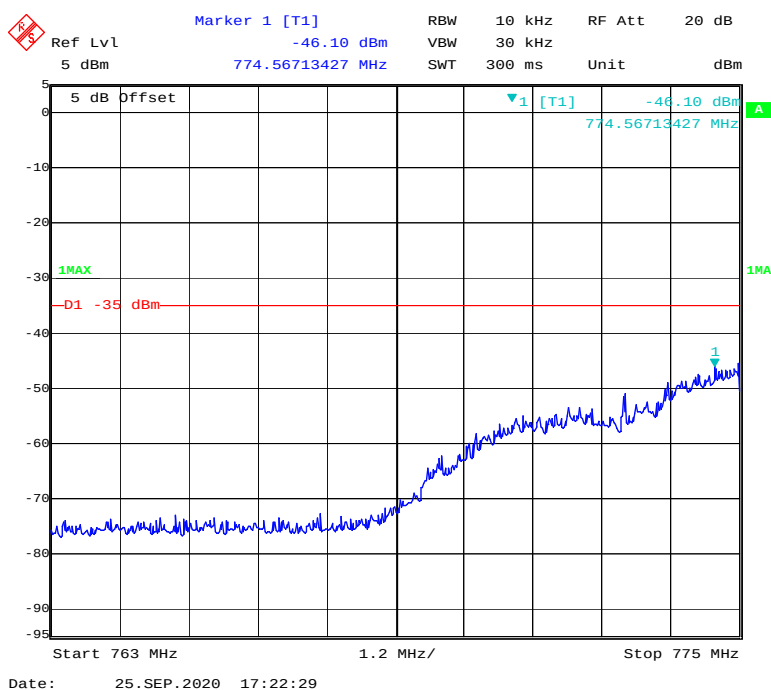
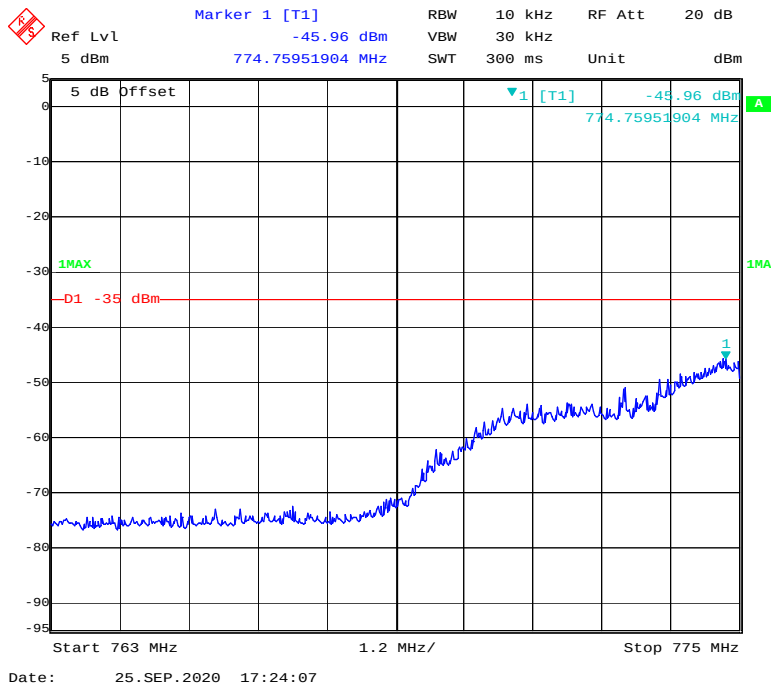
763 MHz - 775 MHz (10 MHz, QPSK, Middle Channel)**763 MHz - 775 MHz (10 MHz, 16-QAM, Middle Channel)**

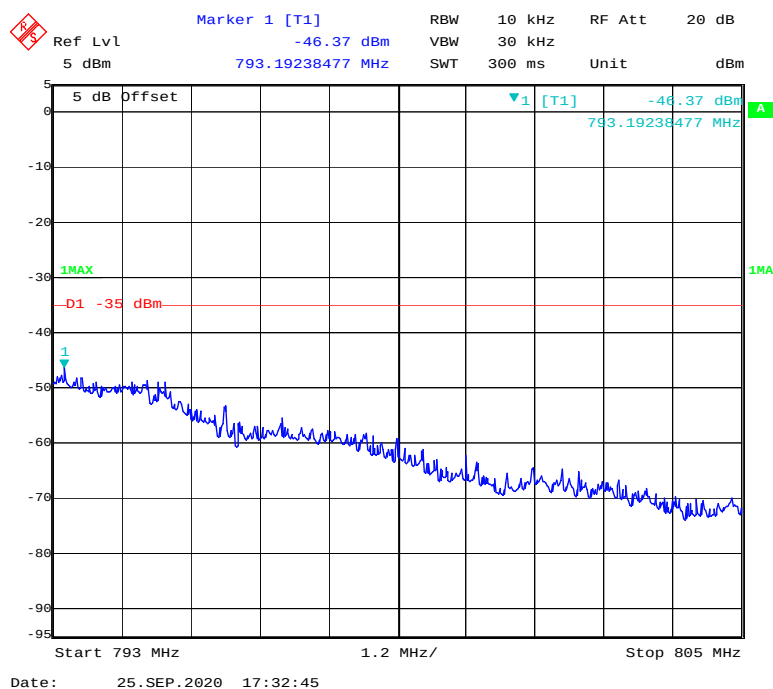
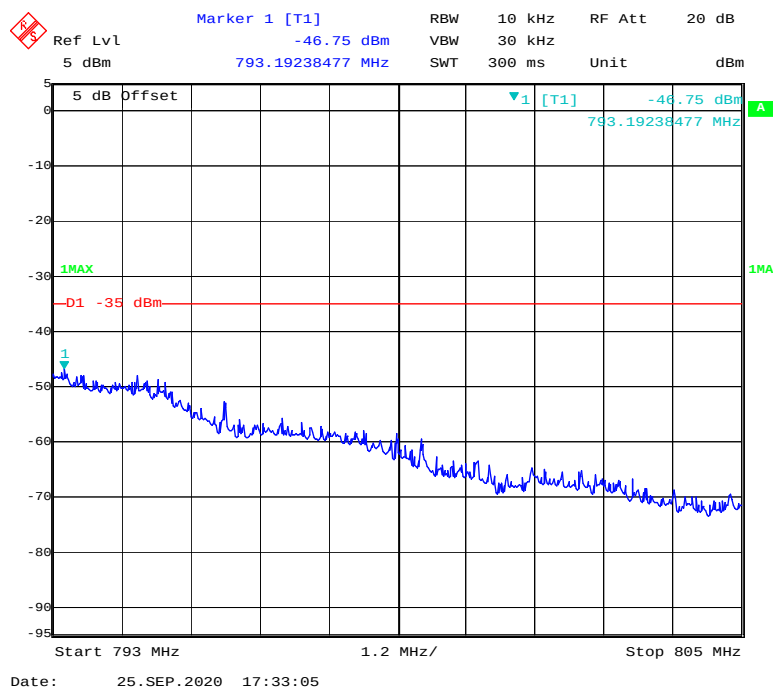
793 MHz - 805 MHz (10 MHz, QPSK, Middle Channel)**793 MHz - 805 MHz (10 MHz, 16-QAM, Middle Channel)**

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)**

Ref Lvl 5 dBm

Marker 1 [T1] -43.88 dBm

RBW 1 MHz

VBW 3 MHz

RF Att 20 dB

5 dBm

1.56922044 GHz

SWT 5 ms

Unit dBm

7 dB Offset

▼1 [T1] -43.88 dBm

1.56922044 GHz

1MAX

D1 -40 dBm

Start 1.559 GHz

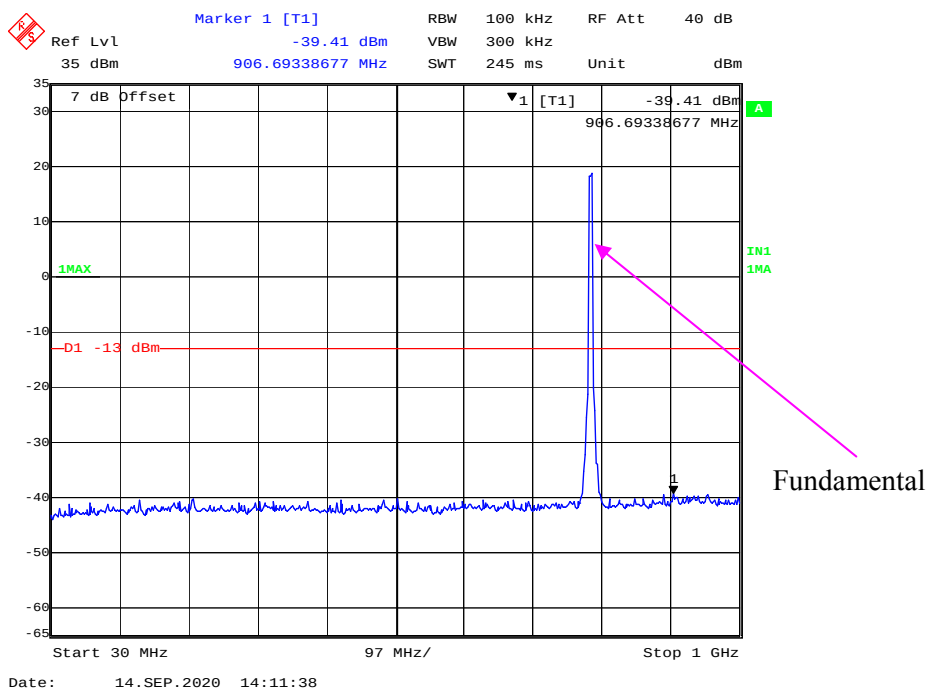
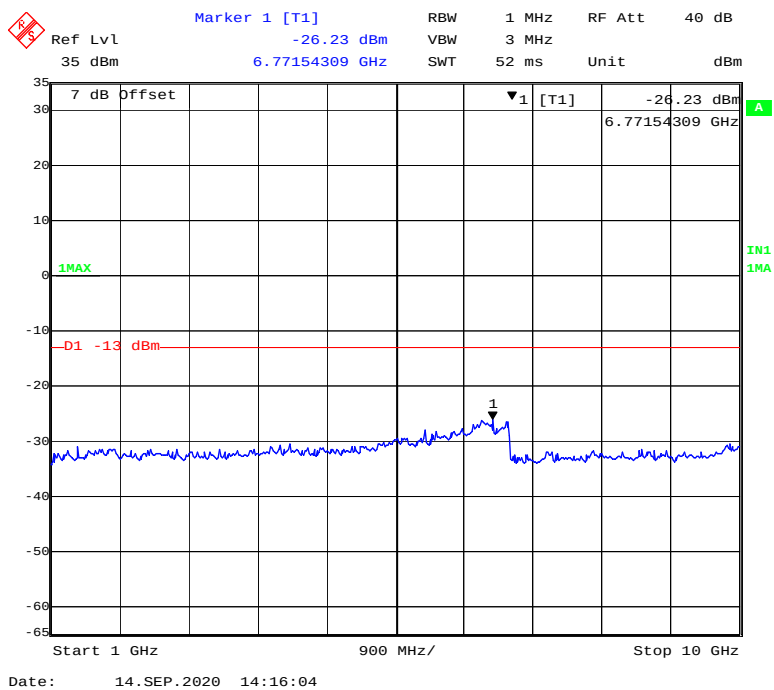
5.1 MHz/

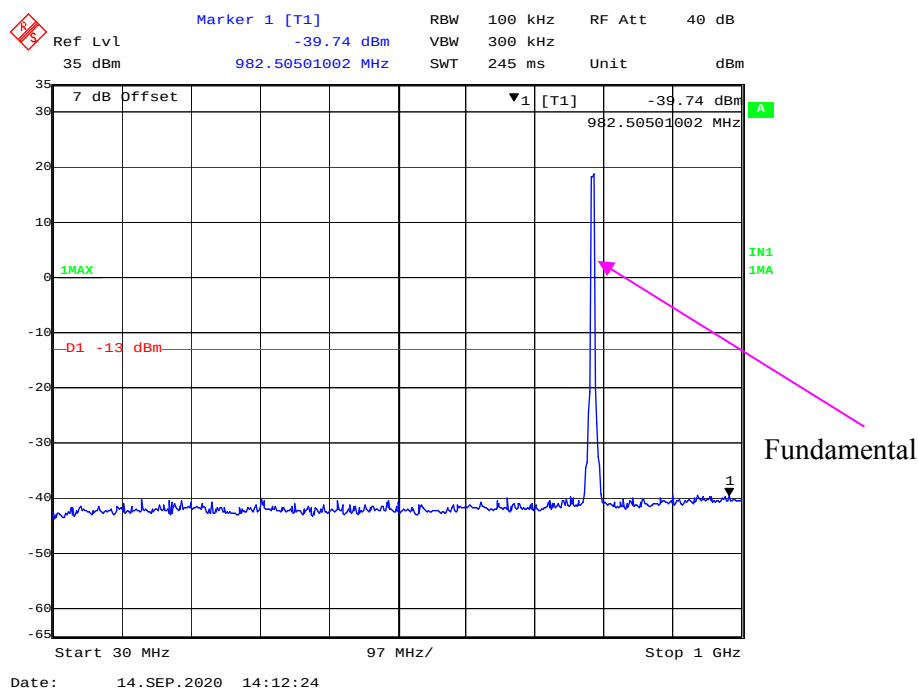
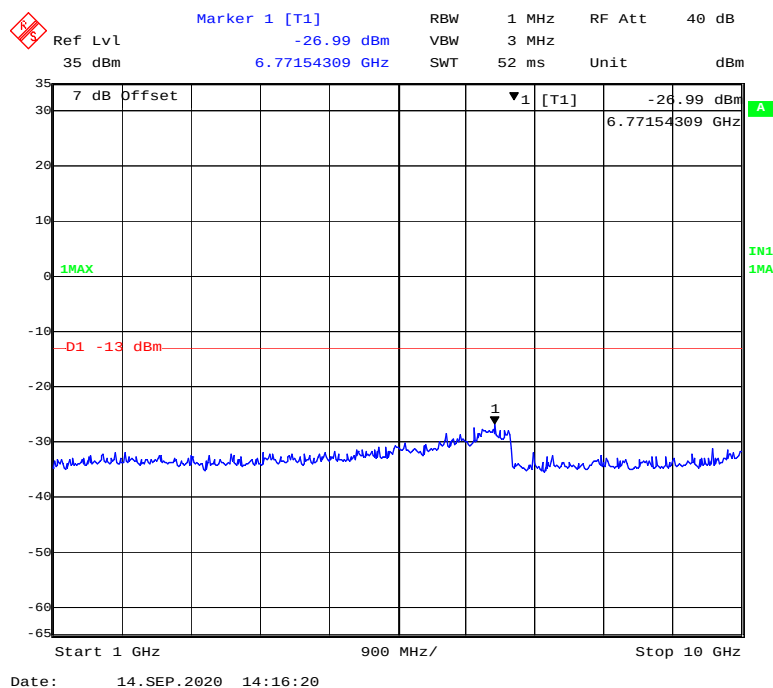
Stop 1.61 GHz

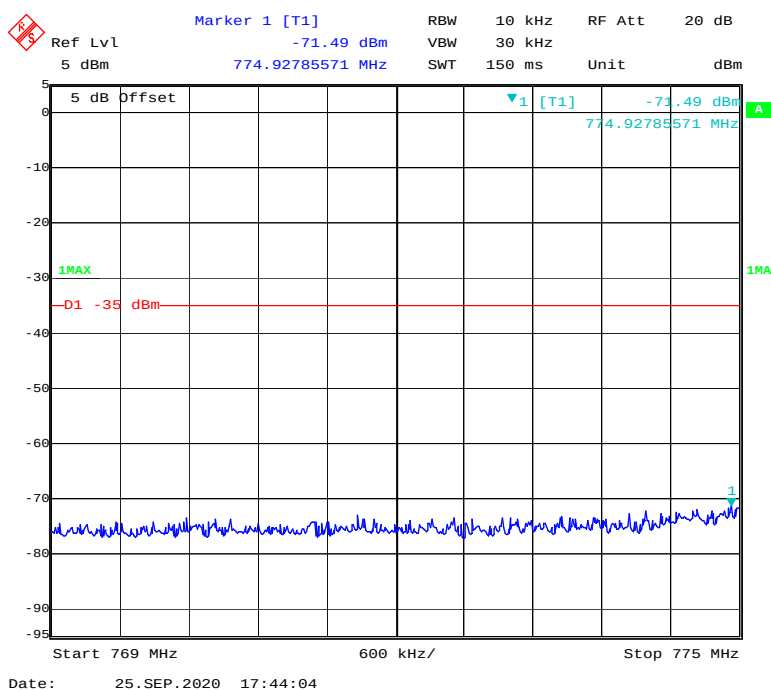
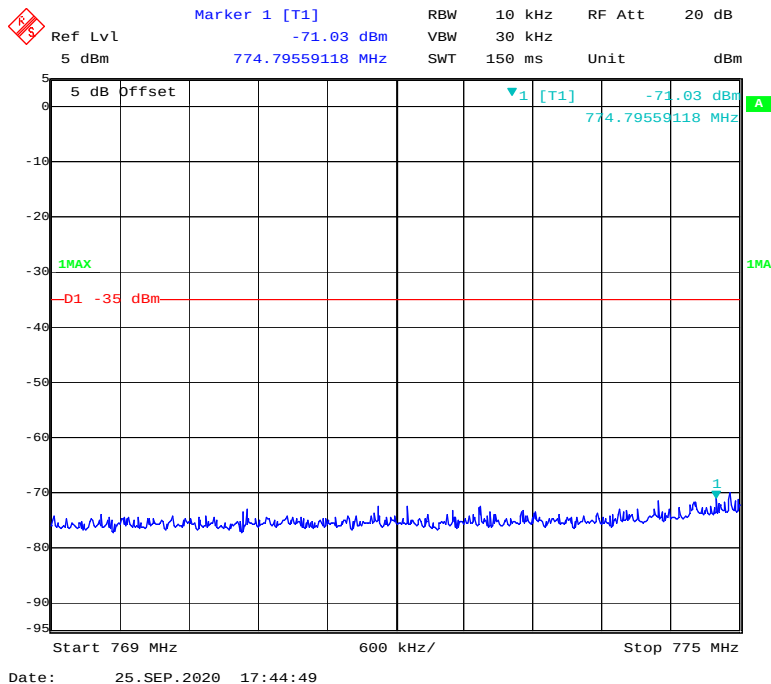
Date: 25.SEP.2020 17:37:49

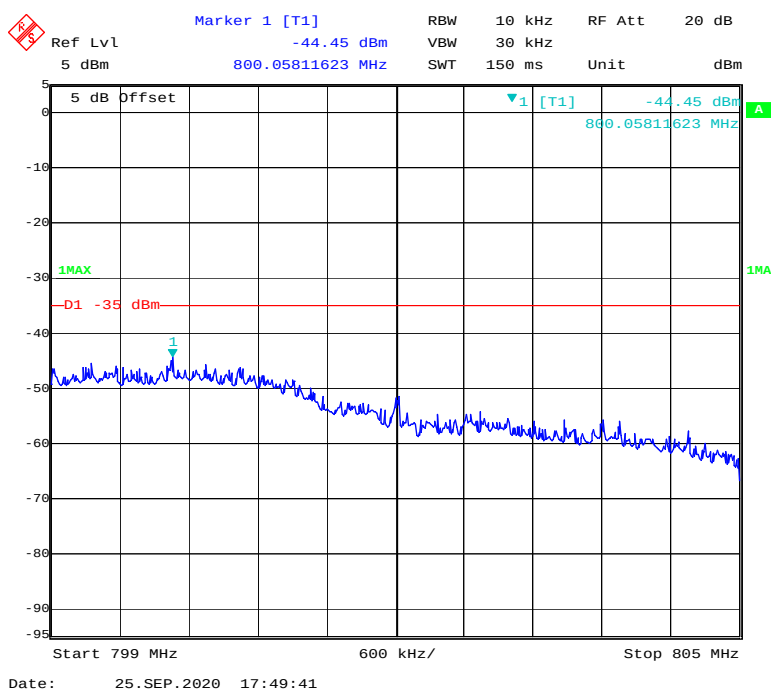
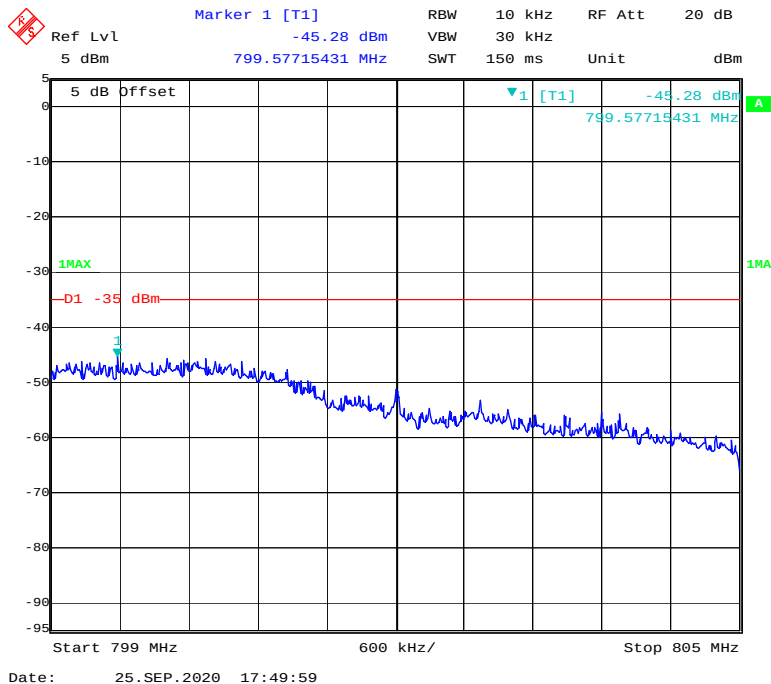
Ref Lvl 5 dBm
 Marker 1 [T1] -44.33 dBm
 RBW 1 MHz
 VBW 3 MHz
 SWT 5 ms
 RF Att 20 dB
 Unit dBm

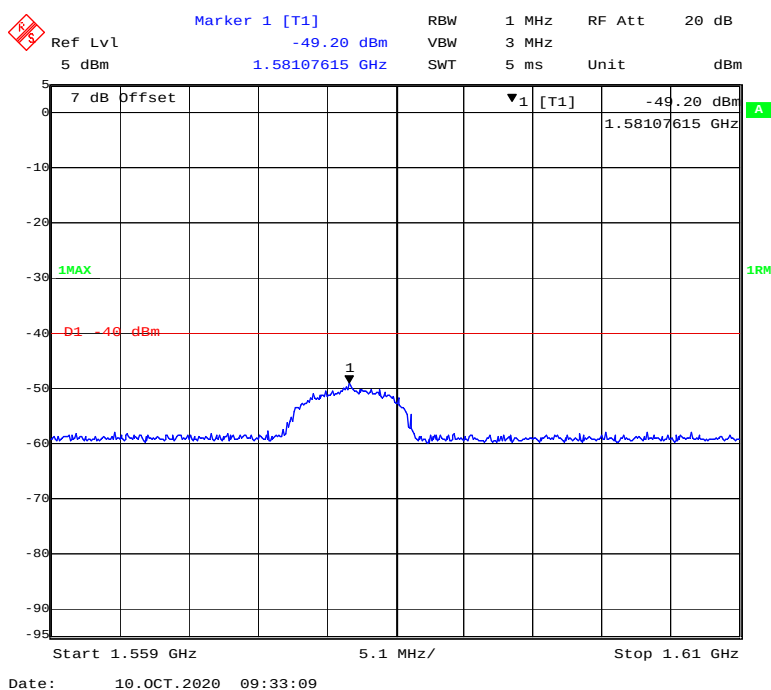
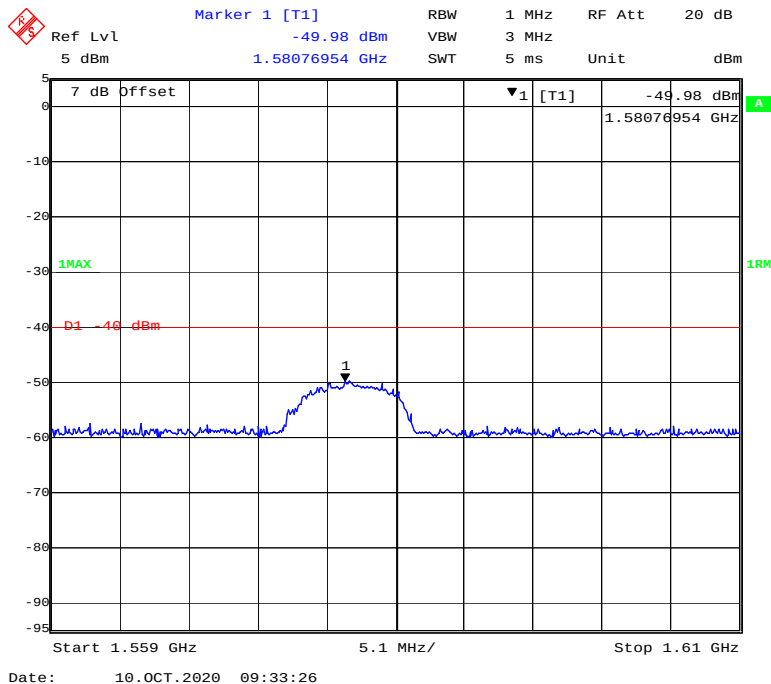
7 dB Offset
 1MAX
 D1 -40 dBm
 Start 1.559 GHz
 5.1 MHz/
 Stop 1.61 GHz

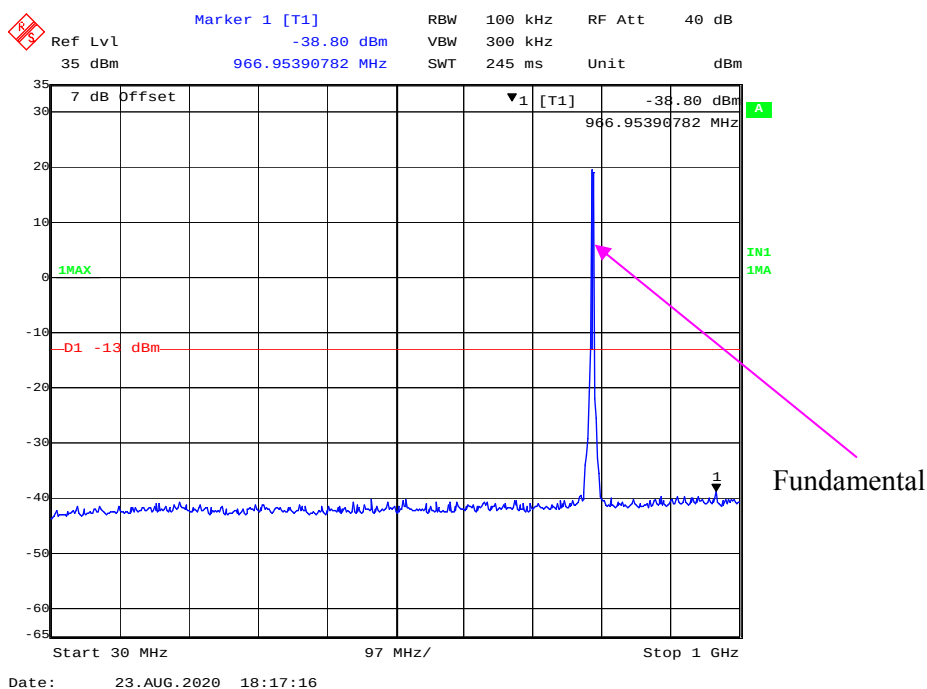
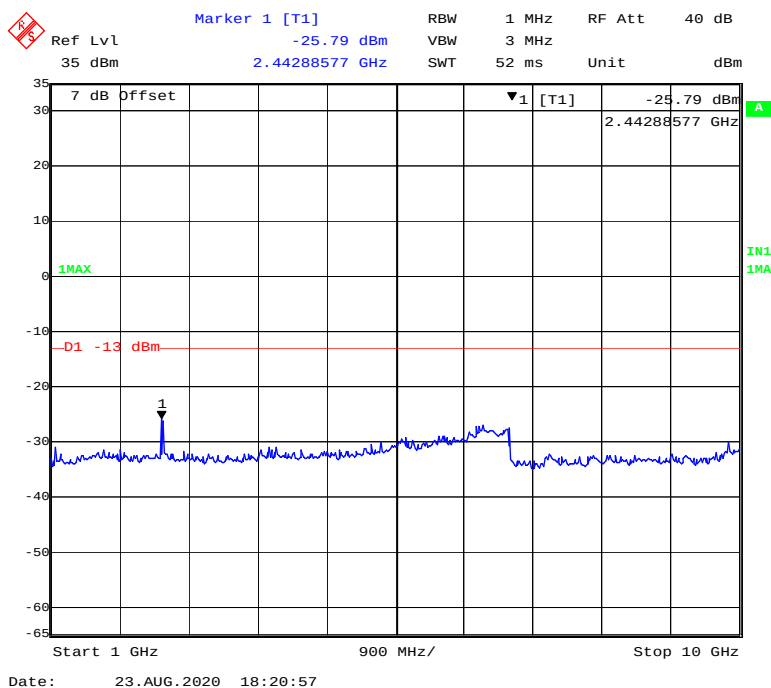
LTE Band 14:**30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)****1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)**

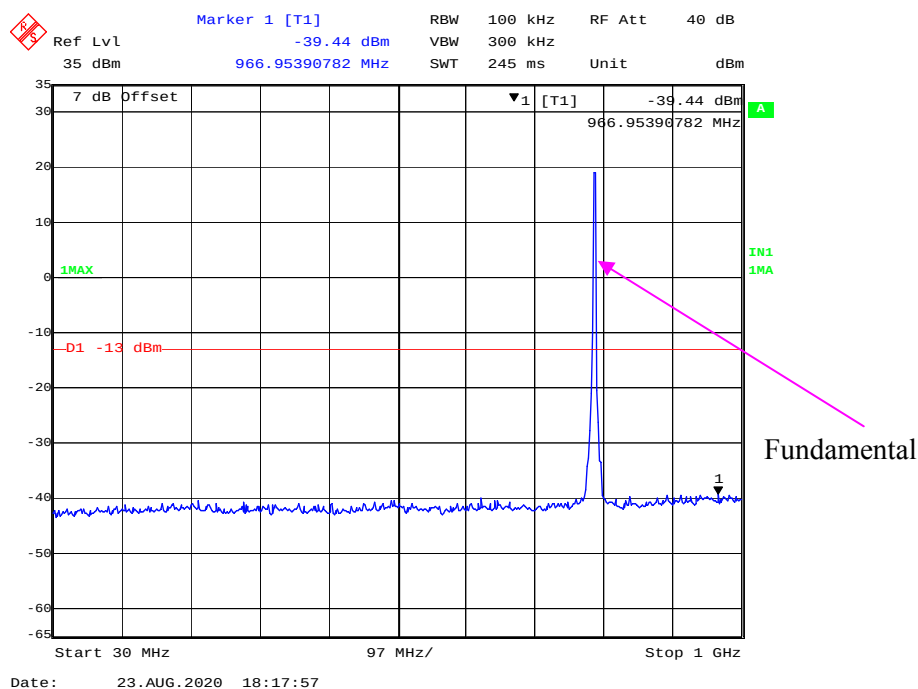
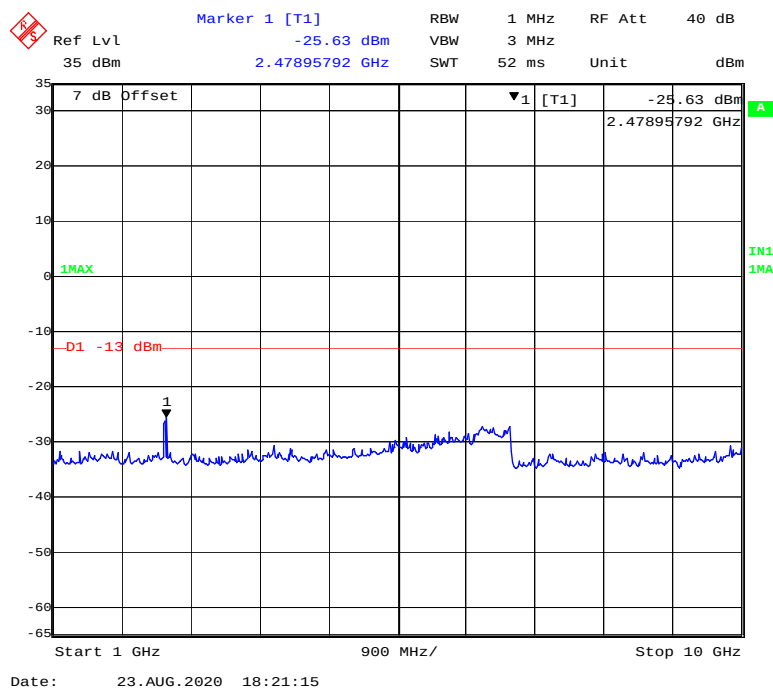
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)**

769 MHz - 775 MHz (5 MHz, QPSK, Low Channel)**769 MHz - 775 MHz (5 MHz, 16-QAM, Low Channel)**

799 MHz - 805 MHz (5 MHz, QPSK, Low Channel)**799 MHz - 805 MHz (5 MHz, 16-QAM, Low Channel)**

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)**

Marker 1 [T1]
 Ref Lvl -71.50 dBm
 5 dBm 775.00000000 MHz
 RBW 10 kHz RF Att 20 dB
 VBW 30 kHz
 SWT 150 ms Unit dBm

5 dB Offset
 1MAX
 -D1 -35 dBm
 -71.50 dBm
 775.00000000 MHz
 Start 769 MHz 600 kHz/ Stop 775 MHz
 Date: 25.SEP.2020 17:45:29

Ref Lvl 5 dBm
 Marker 1 [T1] -71.71 dBm
 RBW 10 kHz
 VBW 30 kHz
 SWT 150 ms
 RF Att 20 dB
 Unit dBm

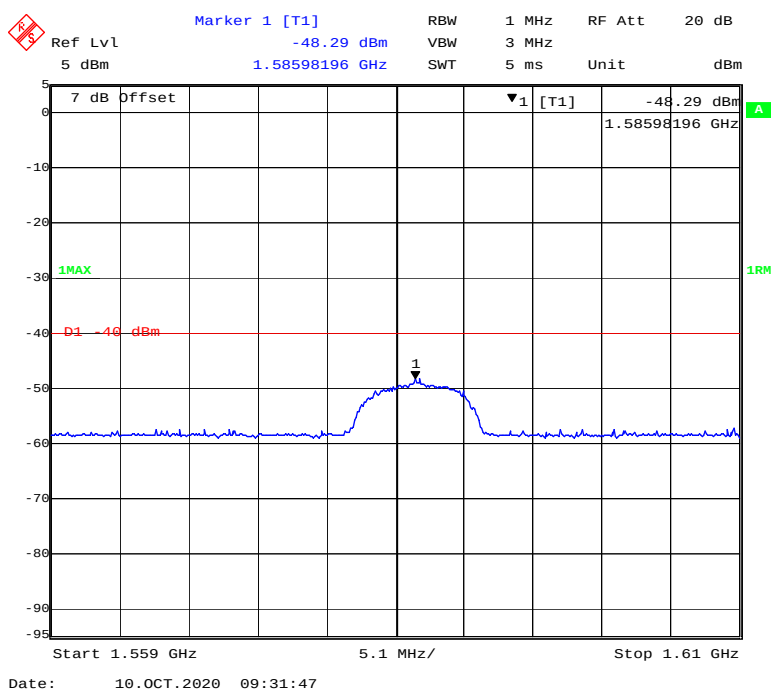
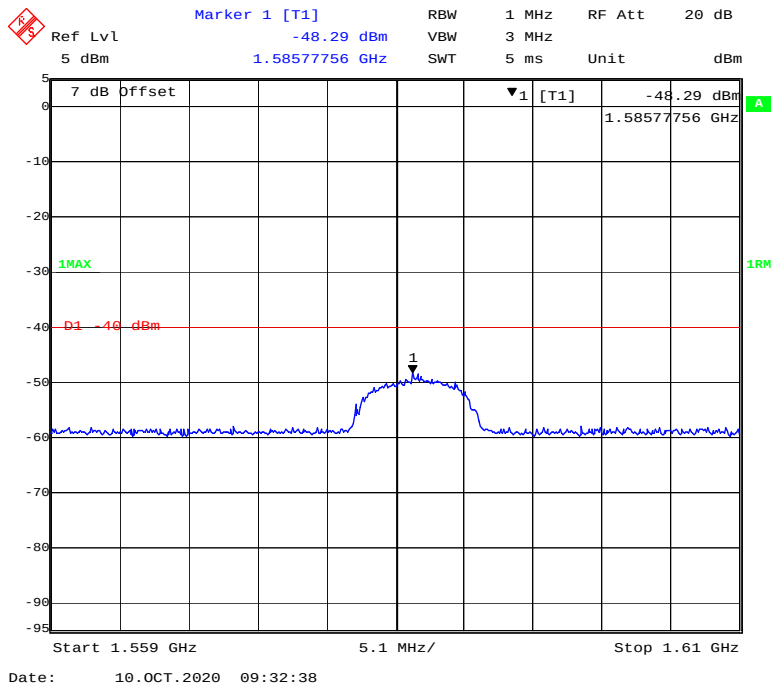
5 dB Offset
 774.90380762 MHz
 -71.71 dBm
 774.90380762 MHz
 1MAX
 D1 -35 dBm
 1

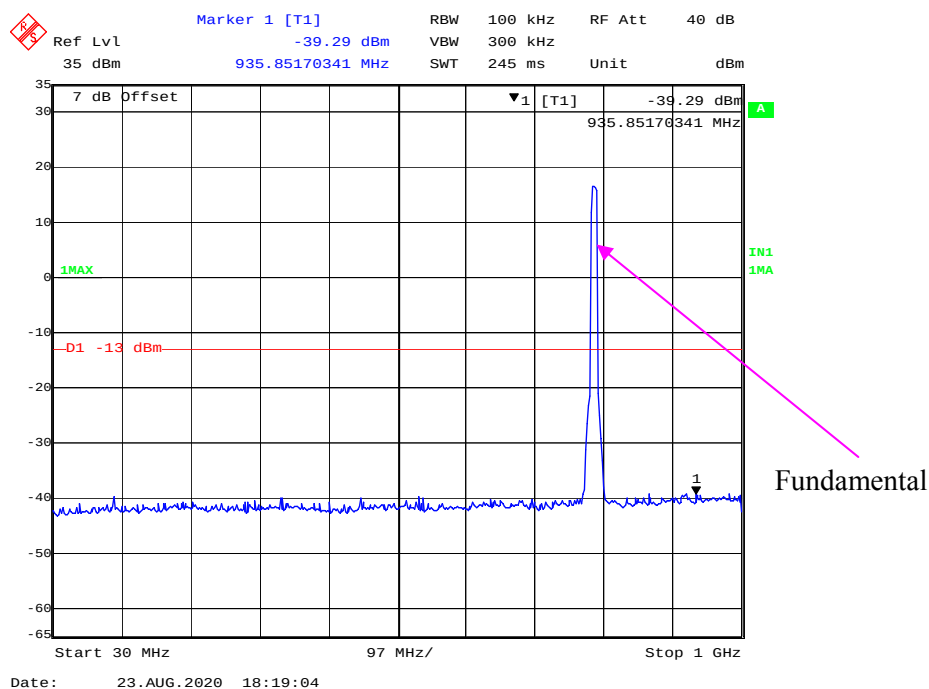
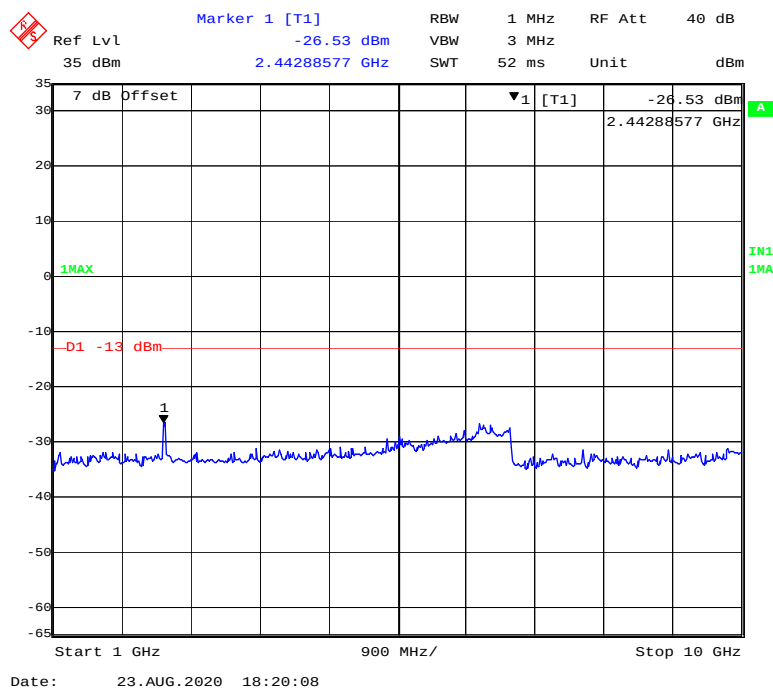
Start 769 MHz
 600 kHz/
 Stop 775 MHz

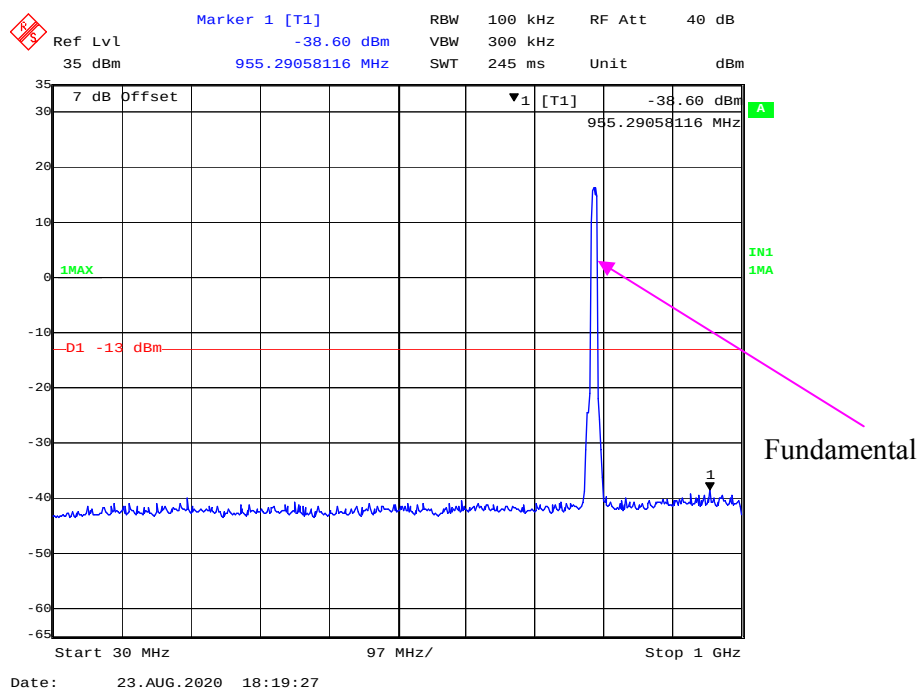
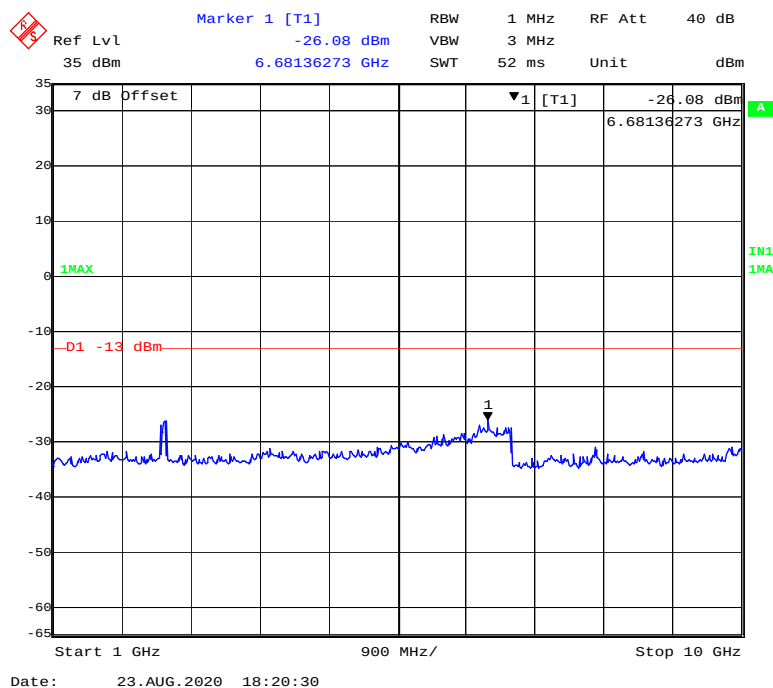
Date: 25.SEP.2020 17:45:54

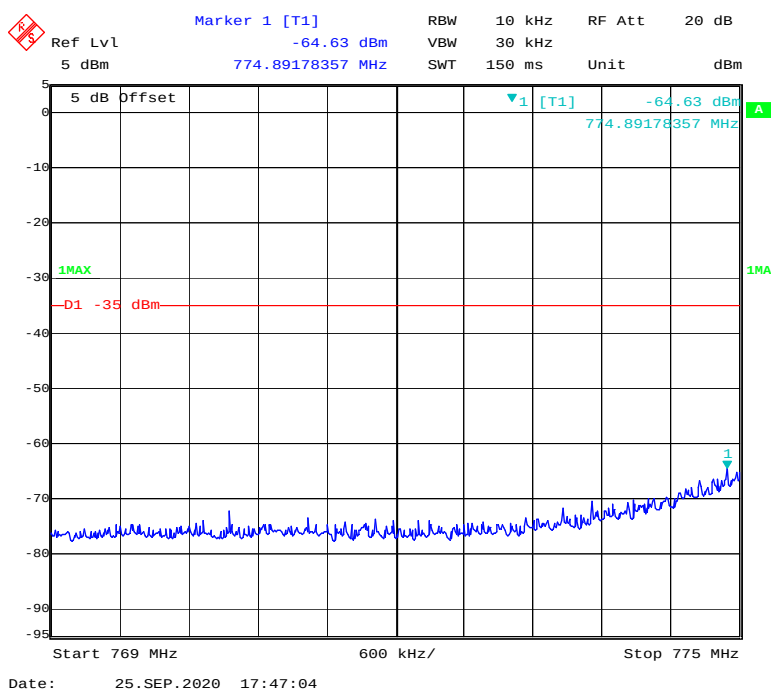
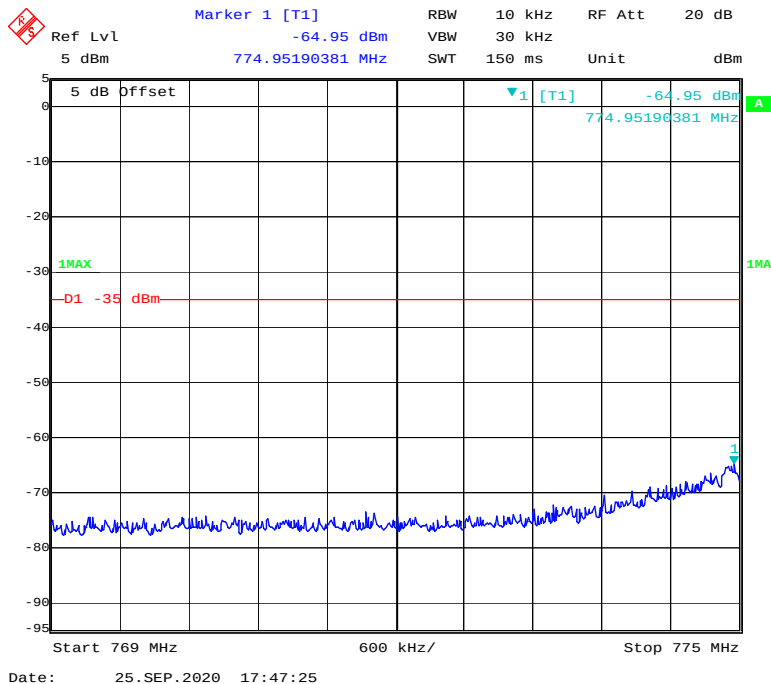
Ref Lvl 5 dBm
 Marker 1 [T1] -40.88 dBm
 RBW 10 kHz
 VBW 30 kHz
 RF Att 20 dB
 Unit dBm
 799.06012024 MHz
 150 ms
 5 dB Offset
 1MAX
 D1 -35 dBm
 Start 799 MHz
 600 kHz/
 Stop 805 MHz
 Date: 25.SEP.2020 17:48:56

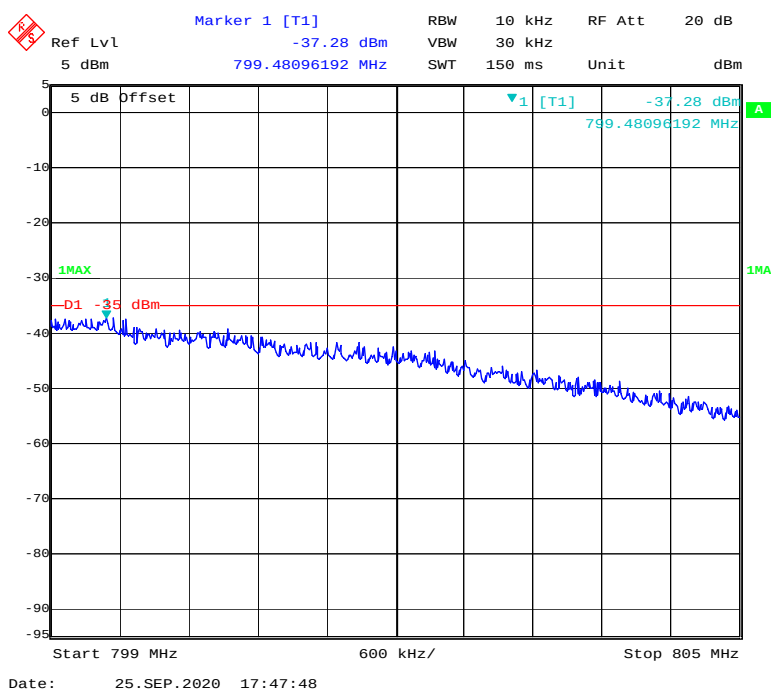
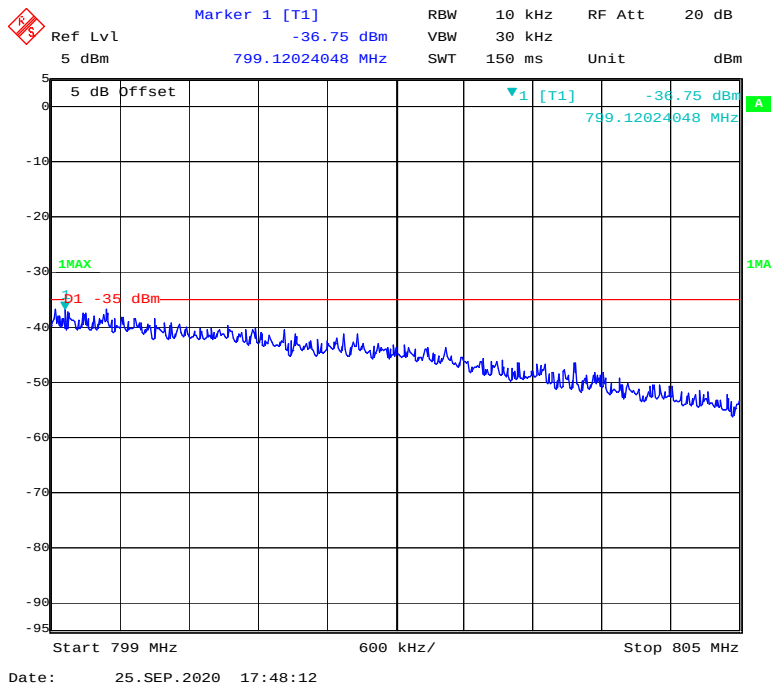
Ref Lvl 5 dBm
 Marker 1 [T1] -41.23 dBm
 RBW 10 kHz
 VBW 30 kHz
 RF Att 20 dB
 Unit dBm
 799.00000000 MHz
 150 ms
 5 dB Offset
 1MAX
 D1 -35 dBm
 Start 799 MHz
 600 kHz/
 Stop 805 MHz
 Date: 25.SEP.2020 17:49:17

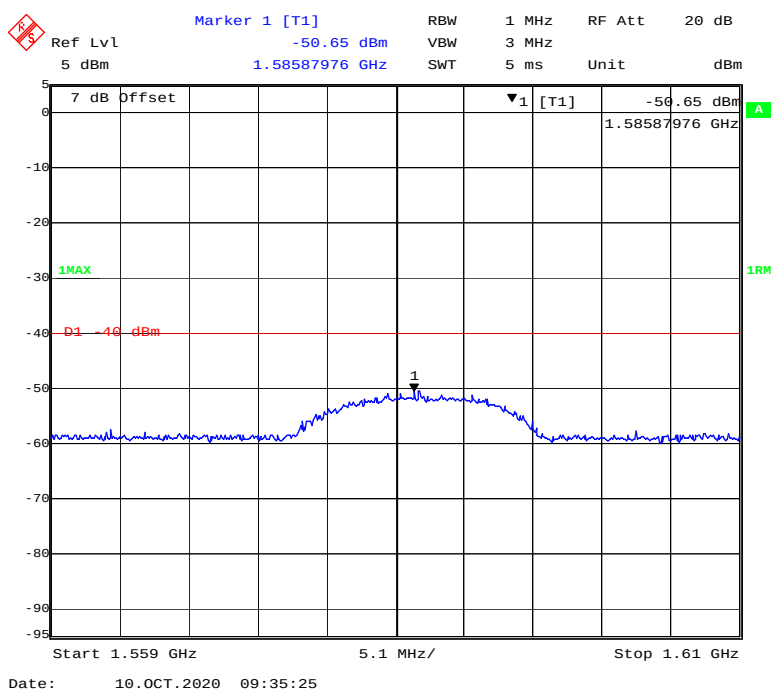
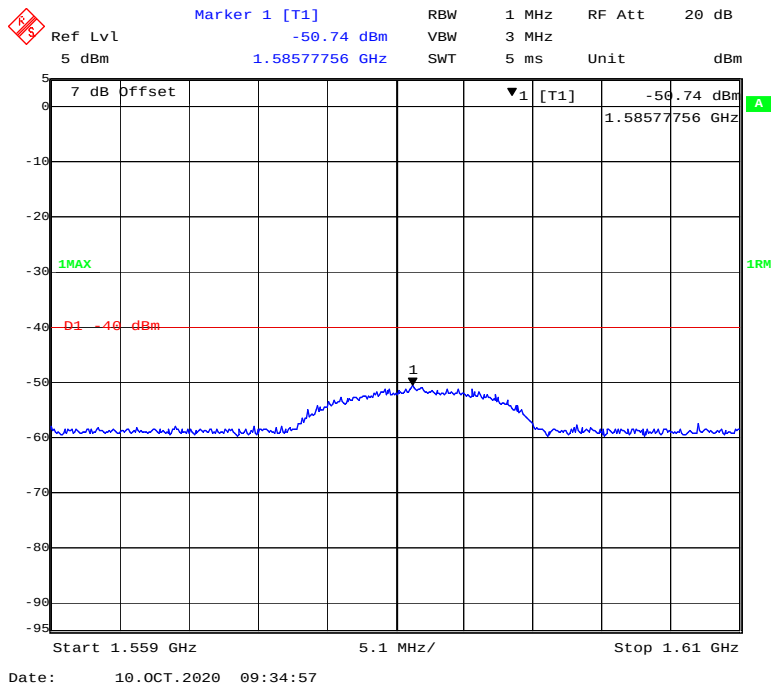
1559 MHz - 1610 MHz (5 MHz, QPSK, Middle Channel)**1559 MHz - 1610 MHz (5 MHz, 16-QAM, Middle Channel)**

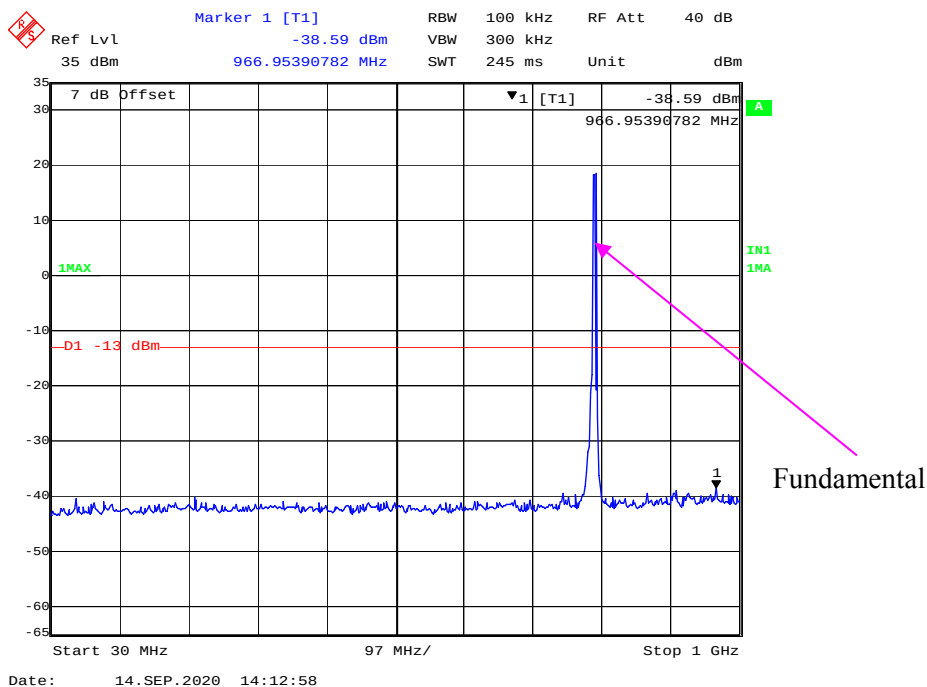
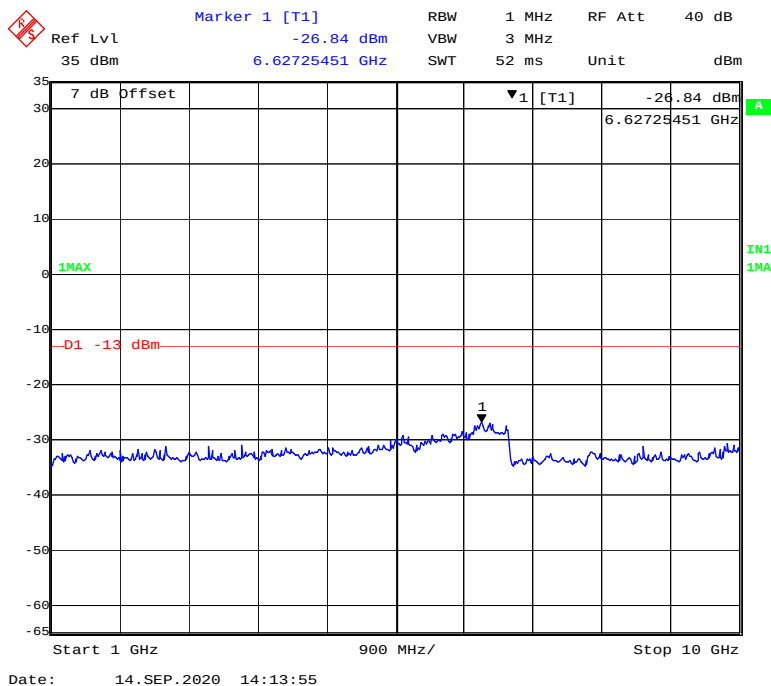
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)**

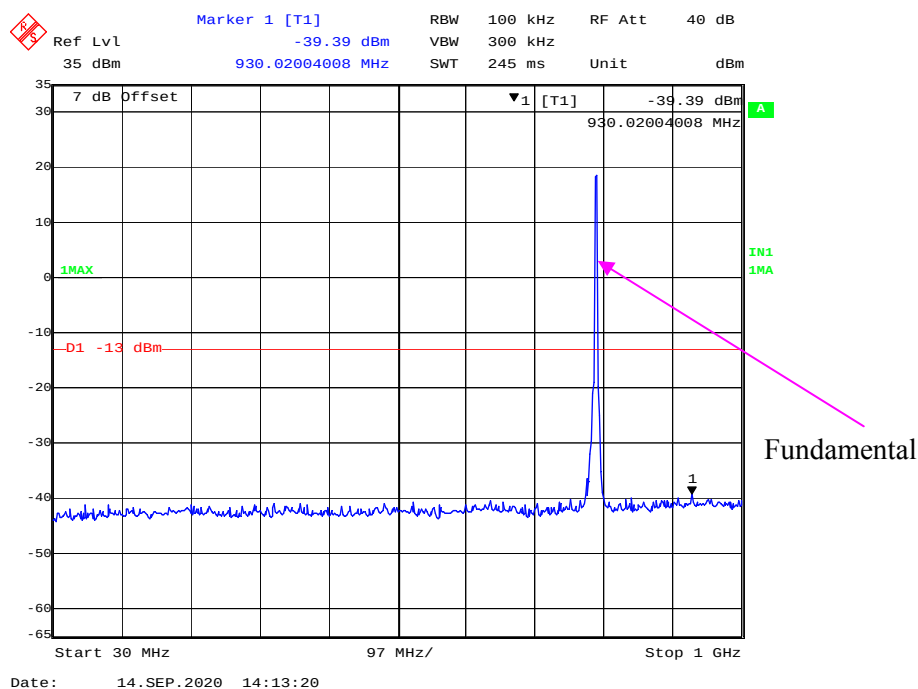
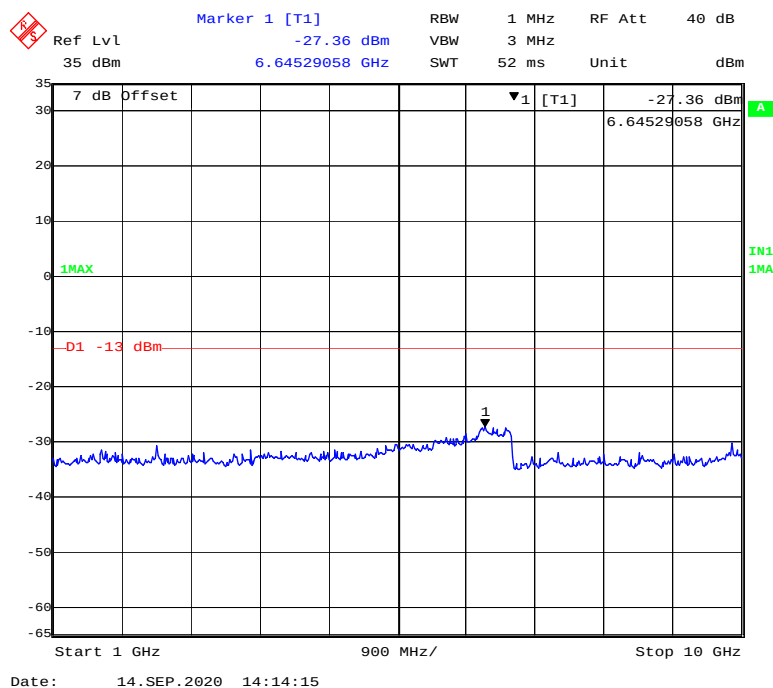
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)**

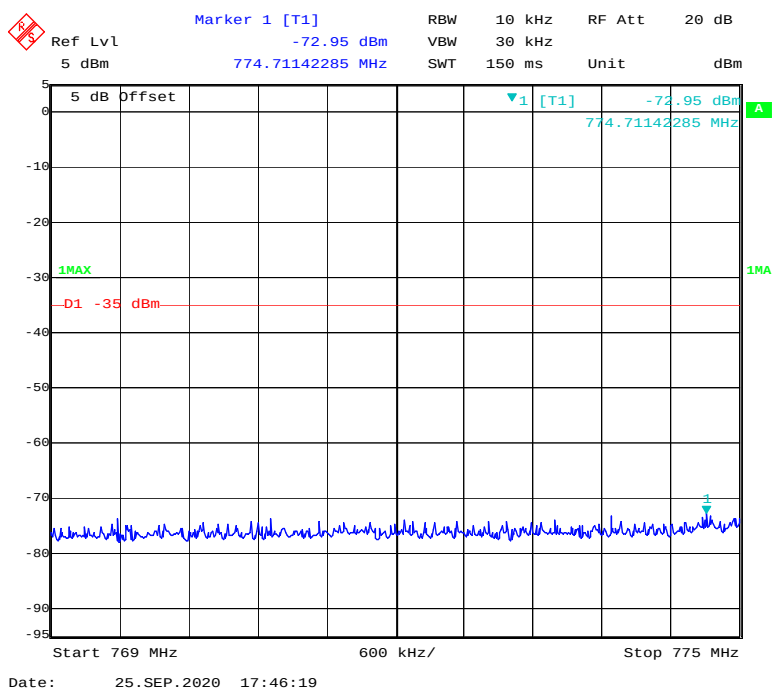
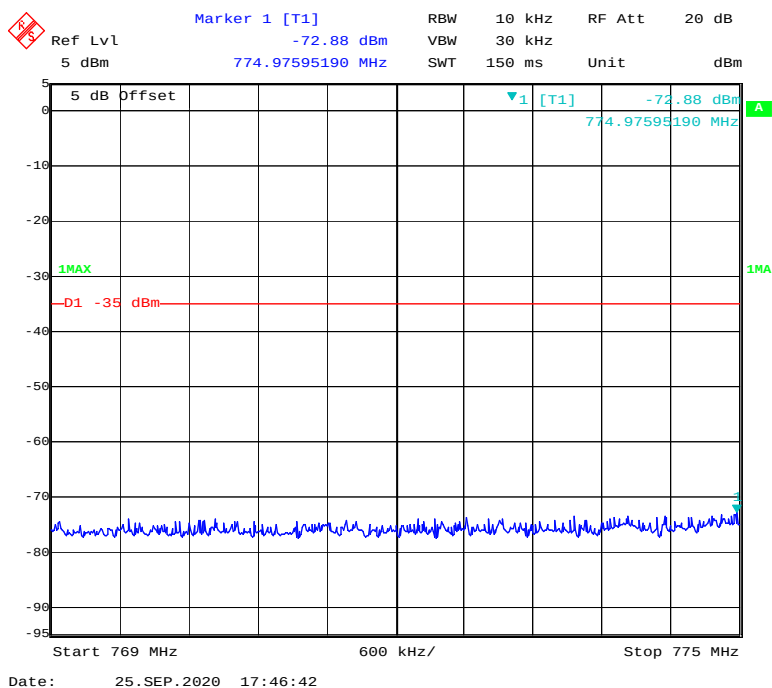
769 MHz - 775 MHz (10 MHz, QPSK, Middle Channel)**769 MHz - 775 MHz (10 MHz, 16-QAM, Middle Channel)**

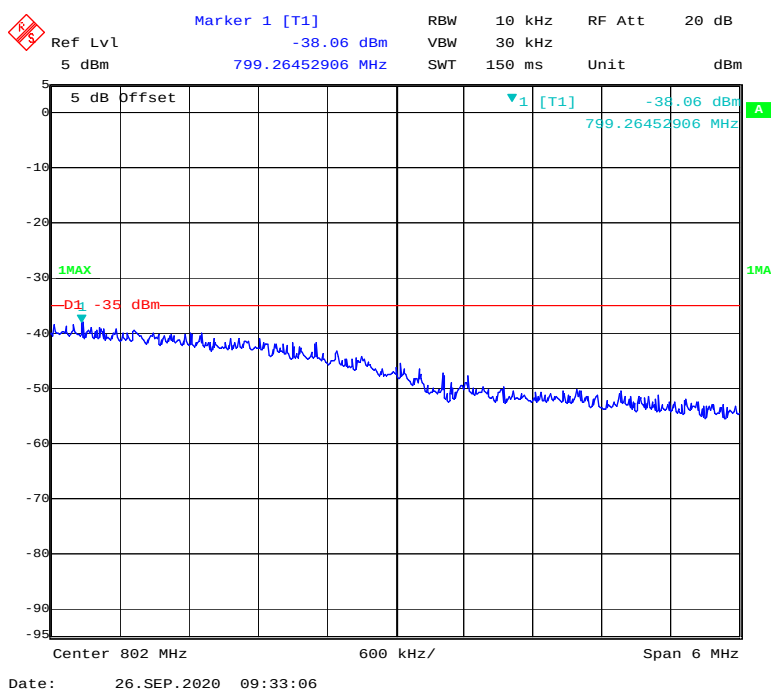
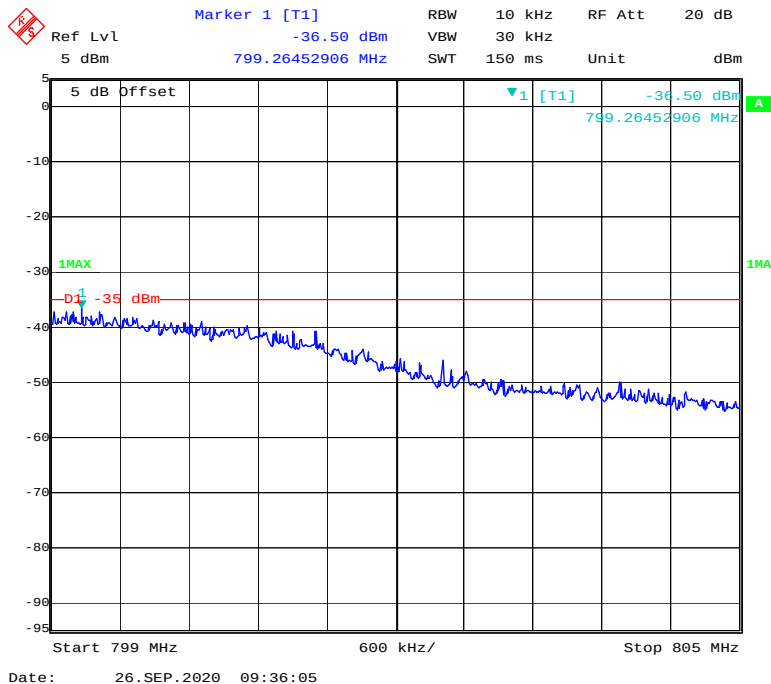
799 MHz - 805 MHz (10 MHz, QPSK, Middle Channel)**799 MHz - 805 MHz (10 MHz, 16-QAM, Middle Channel)**

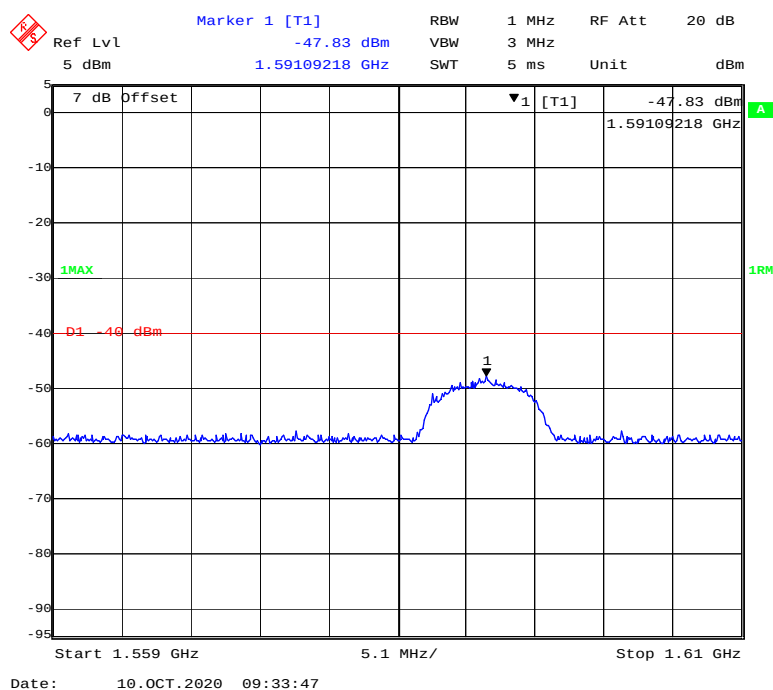
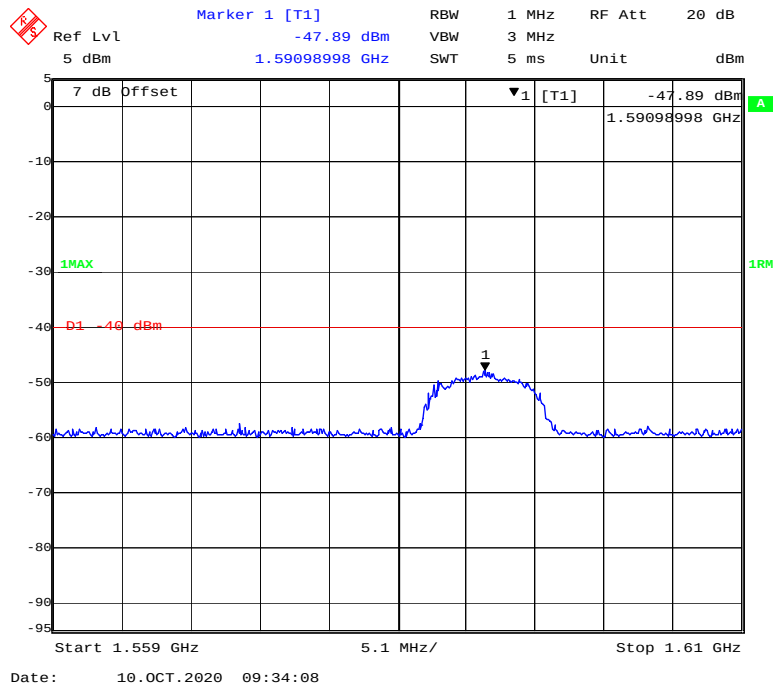
1559 MHz - 1610 MHz (10 MHz, QPSK, Middle Channel)**1559 MHz - 1610 MHz (10 MHz, 16-QAM, Middle Channel)**

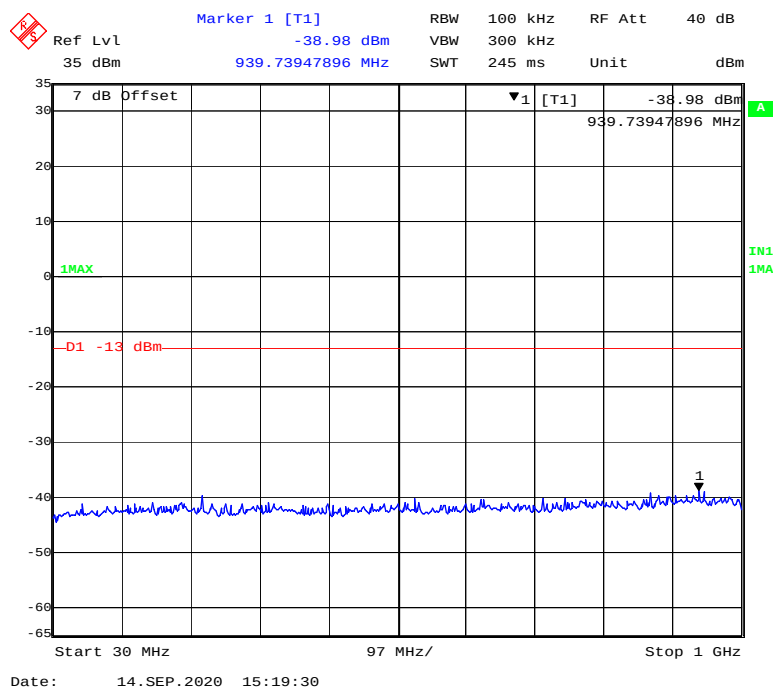
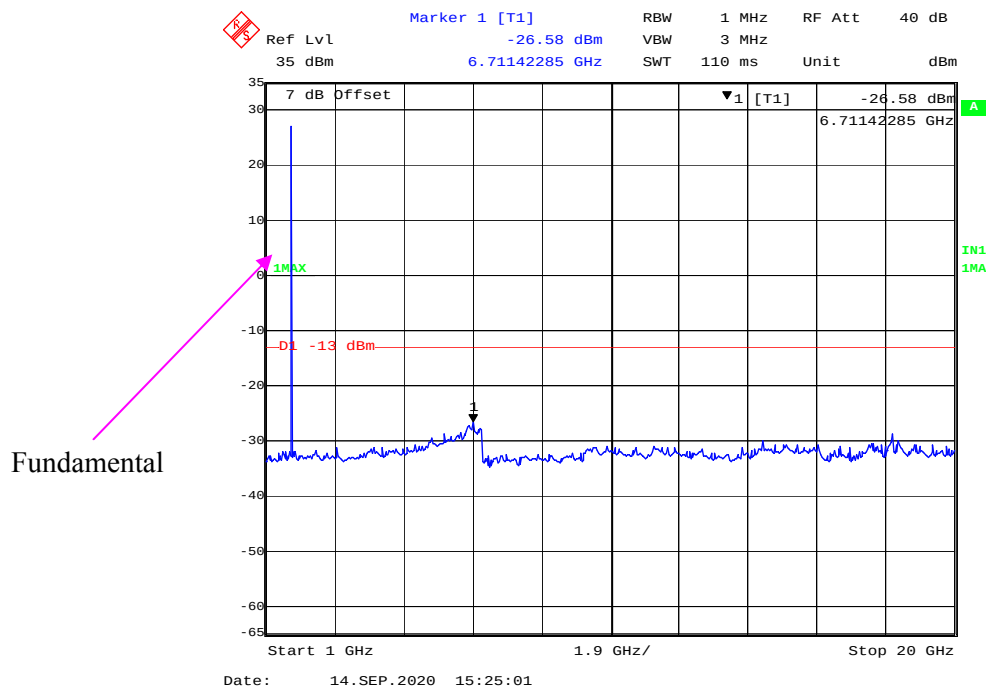
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)**1 GHz – 10 GHz (5 MHz, QPSK, High Channel)**

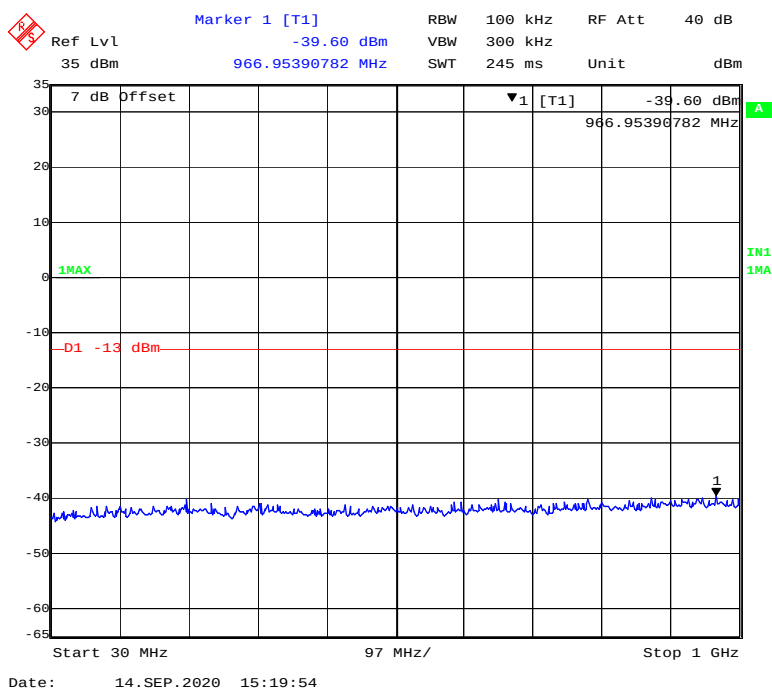
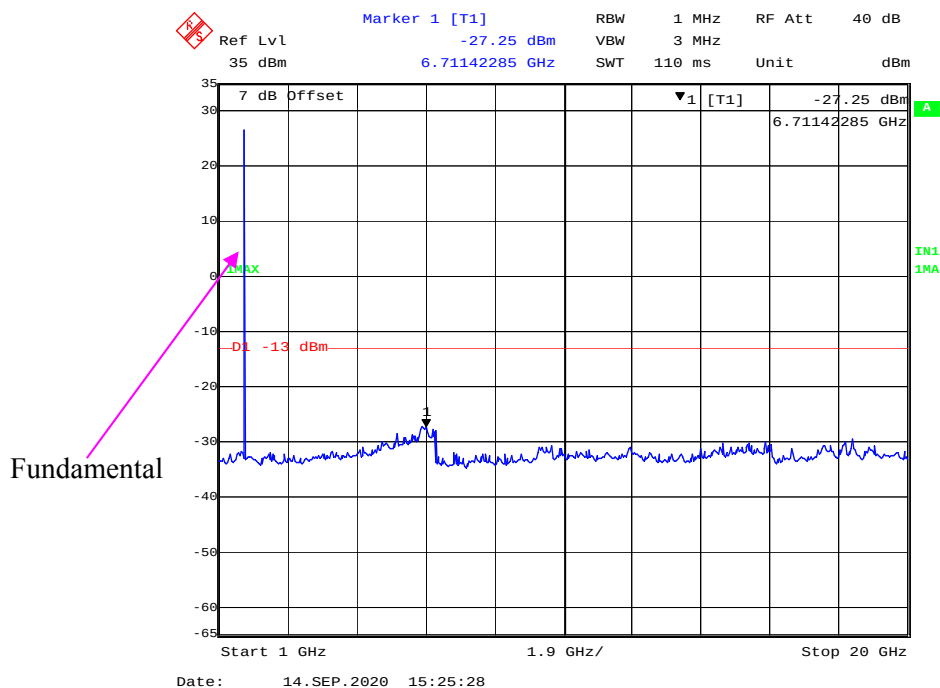
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)**

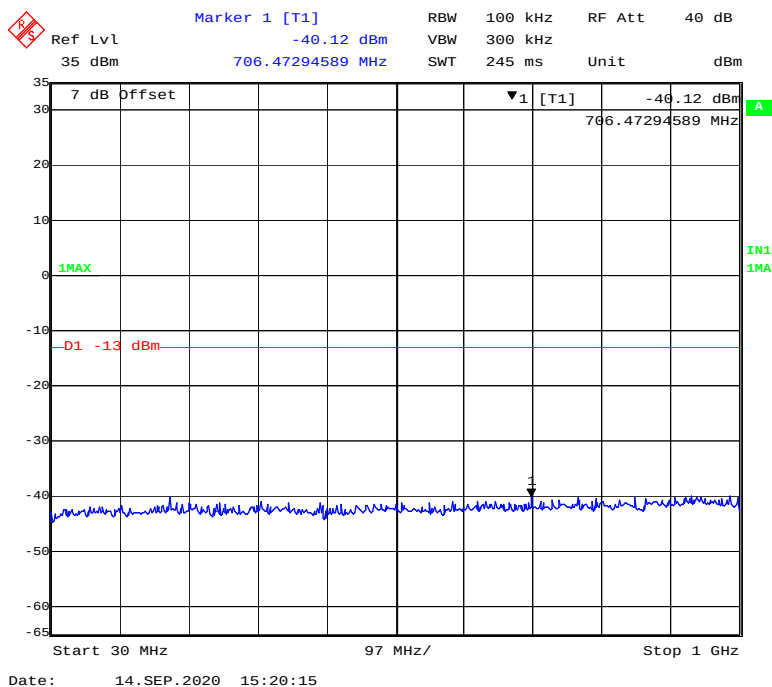
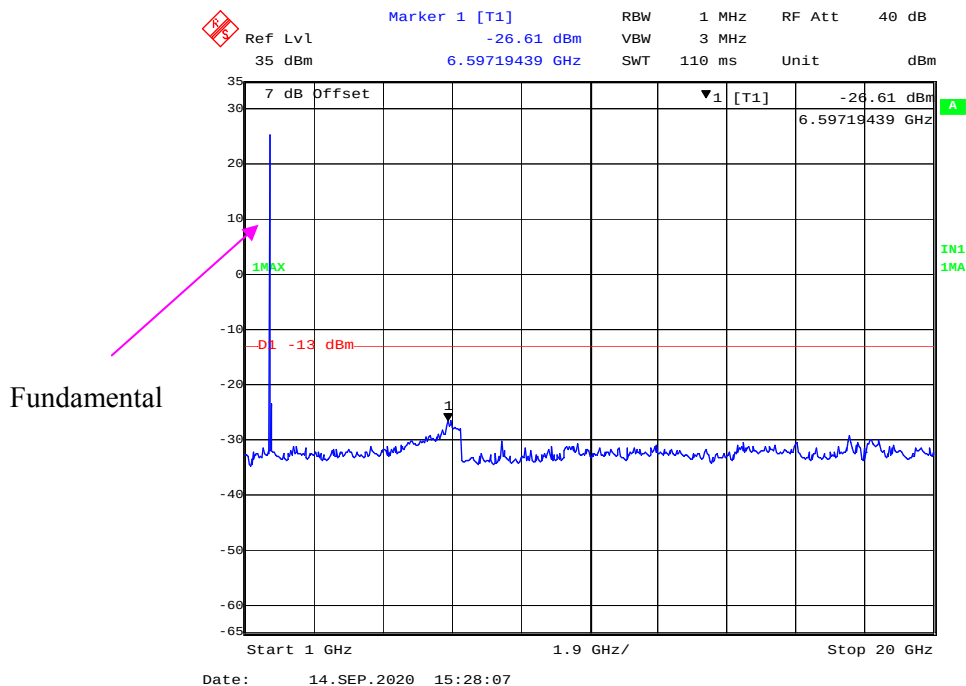
769 MHz - 775 MHz (5 MHz, QPSK, High Channel)**769 MHz - 775 MHz (5 MHz, 16-QAM, High Channel)**

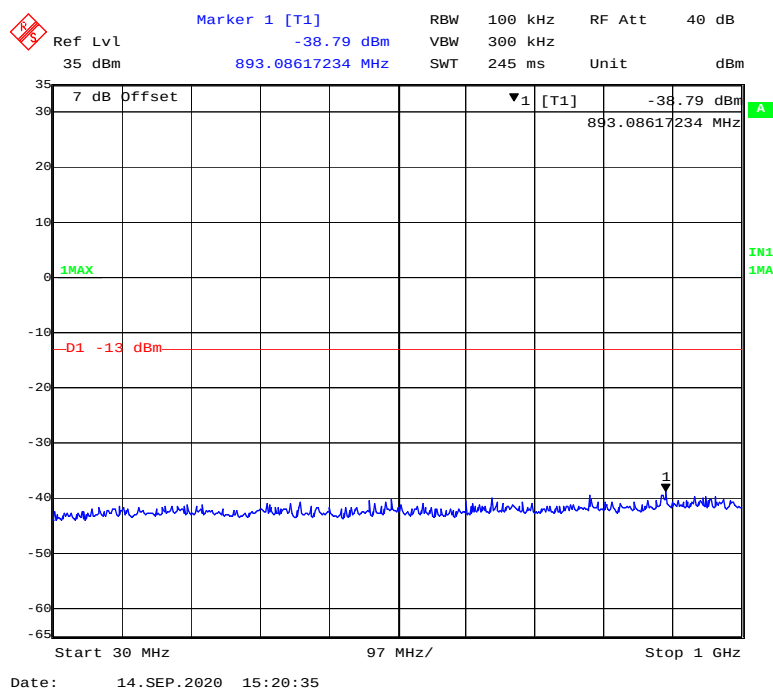
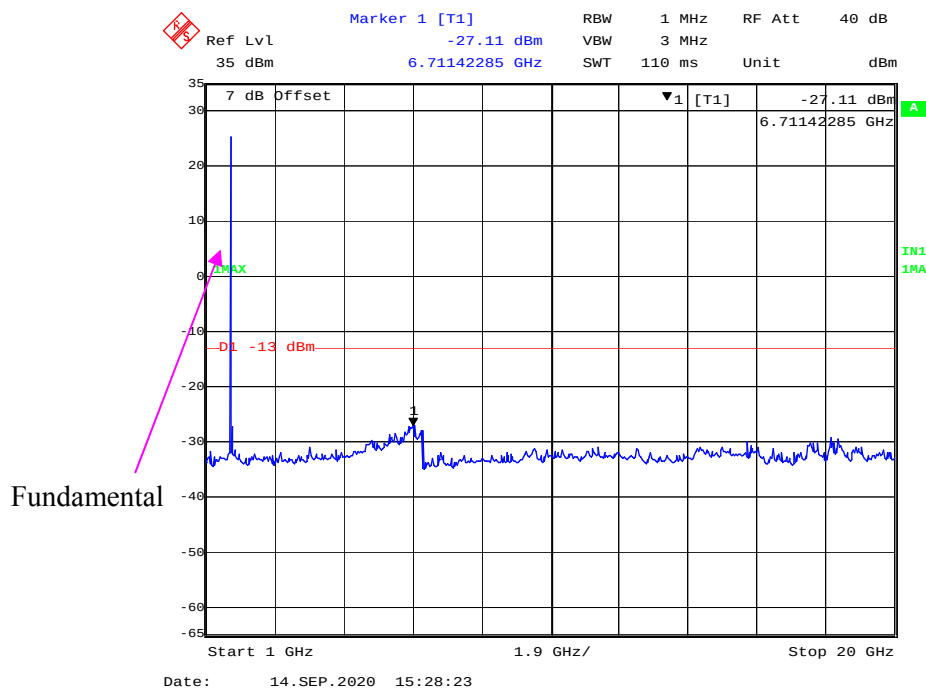
799 MHz - 805 MHz (5 MHz, QPSK, High Channel)**799 MHz - 805 MHz (5 MHz, 16-QAM, High Channel)**

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

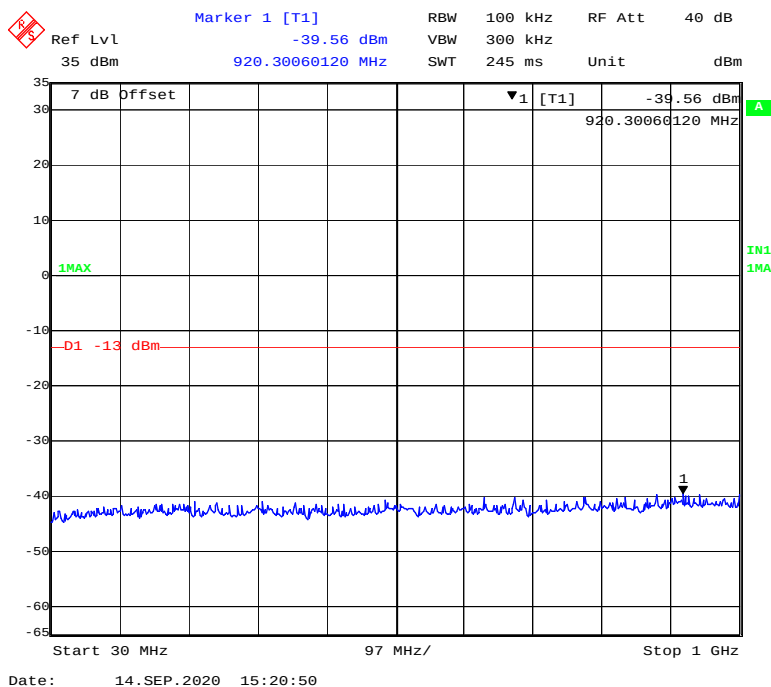
LTE Band 66:**30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)****1 GHz - 20 GHz (1.4 MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (1.4 MHz, 16-QAM, Low Channel)**

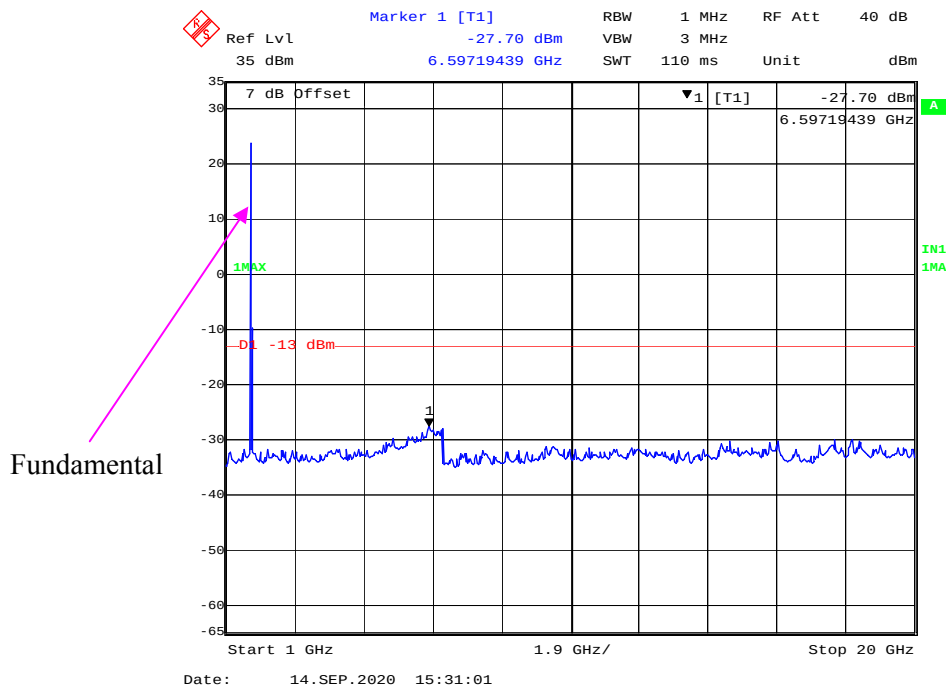
30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)**1 GHz – 20 GHz (3 MHz, QPSK, Low Channel)**

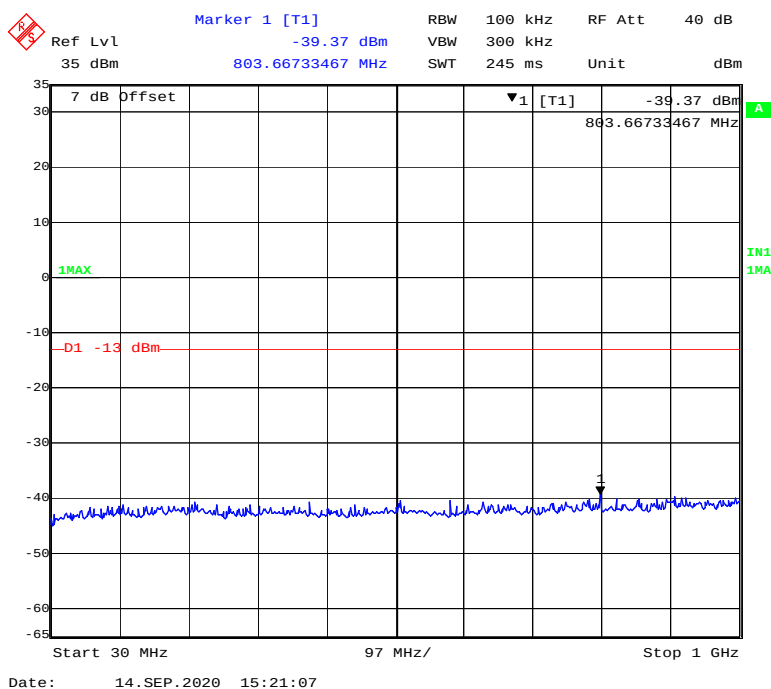
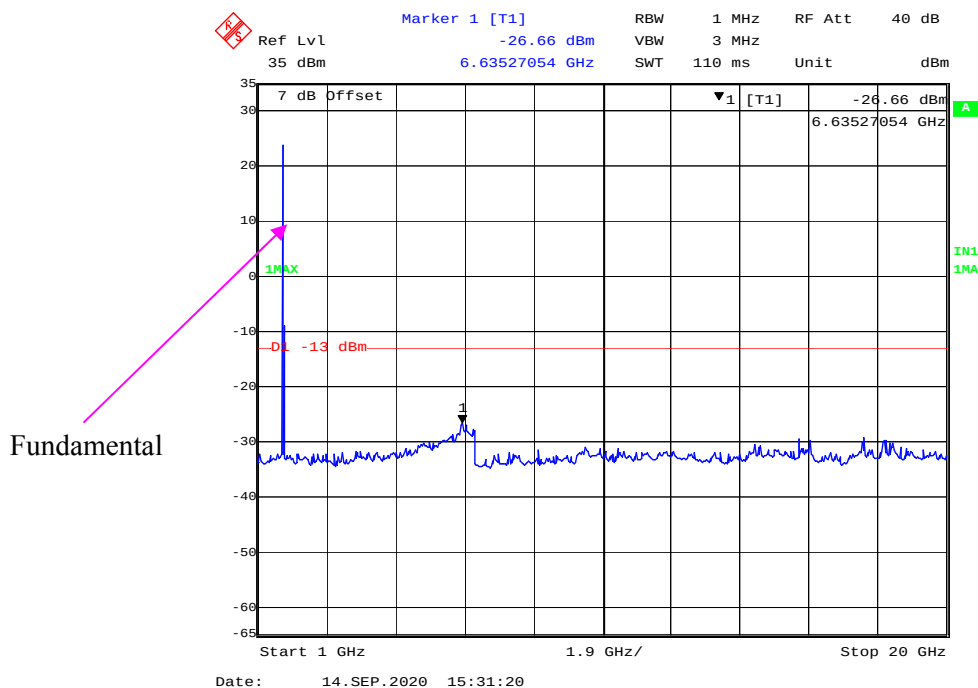
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (3 MHz, 16-QAM, Low Channel)**

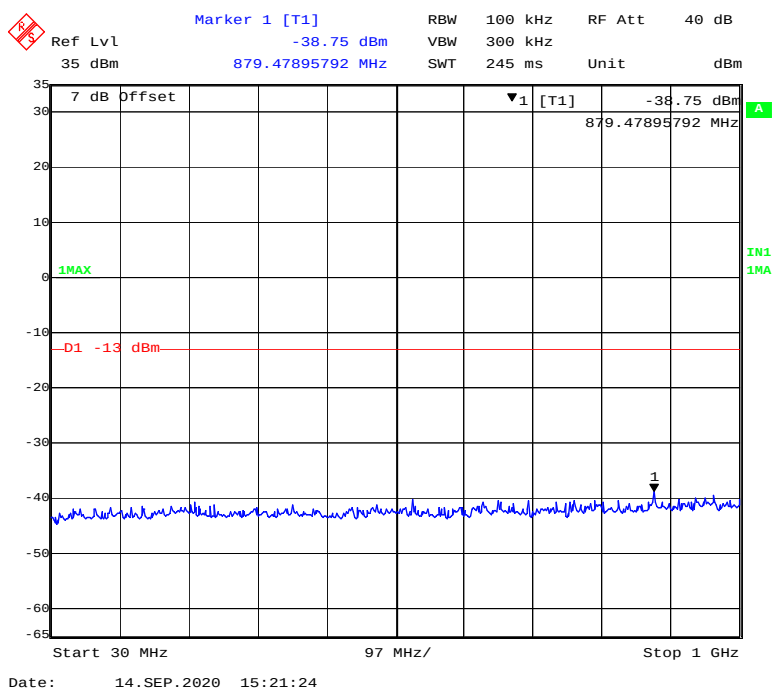
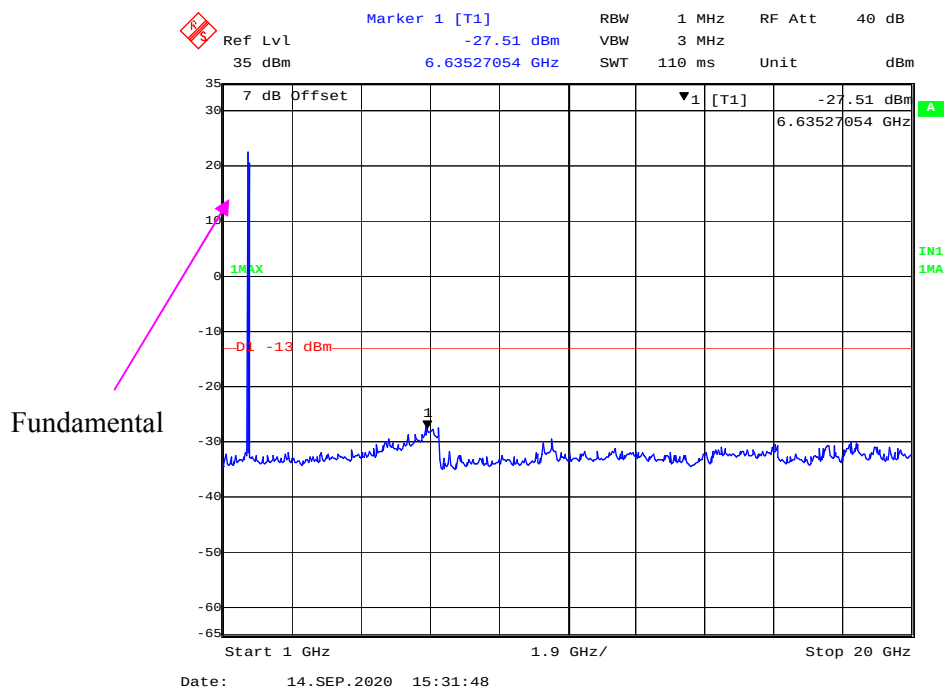
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)

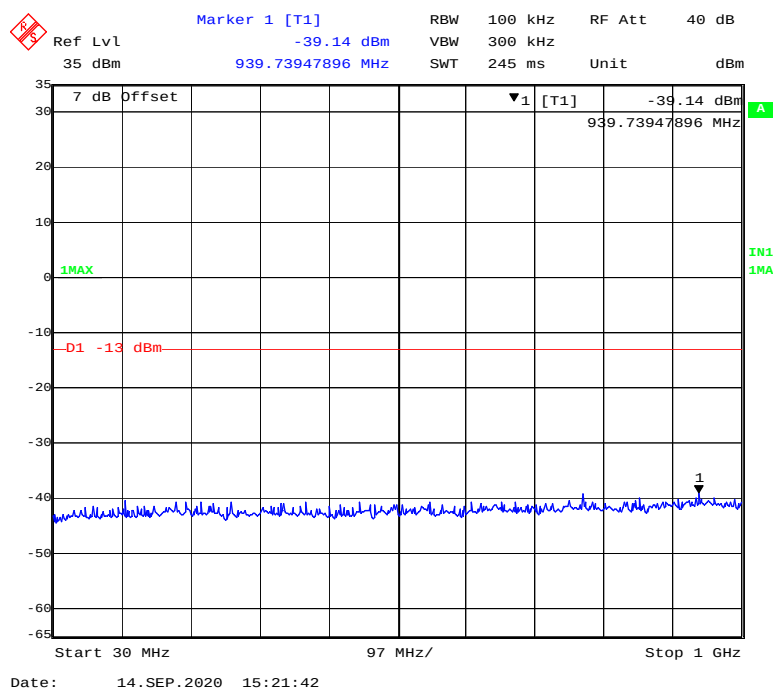
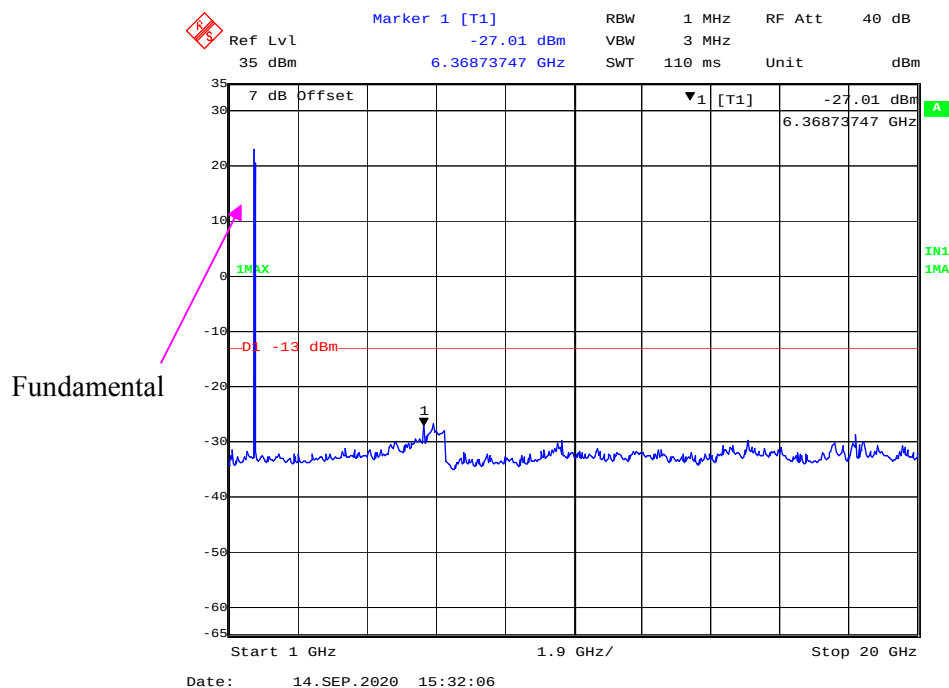


1 GHz – 20 GHz (5 MHz, QPSK, Low Channel)

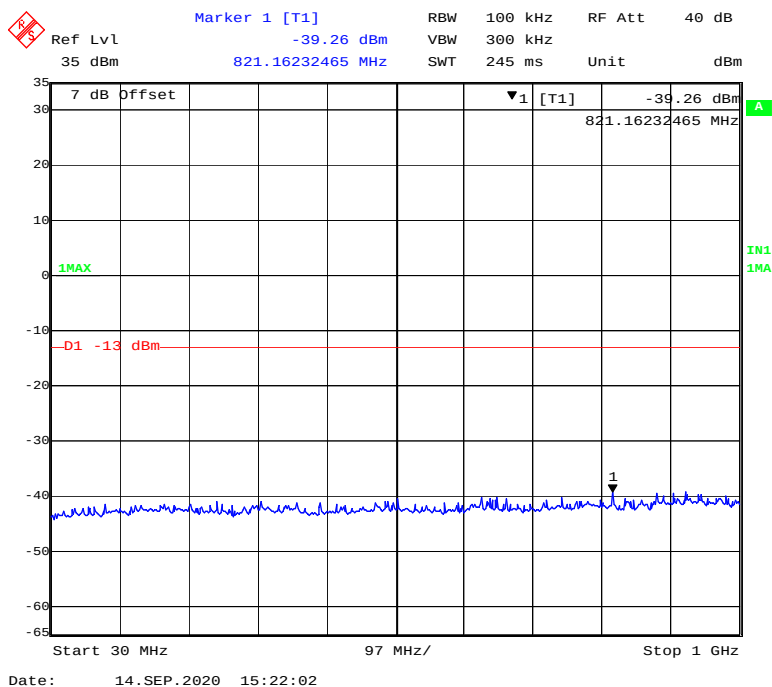


30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (5 MHz, 16-QAM, Low Channel)**

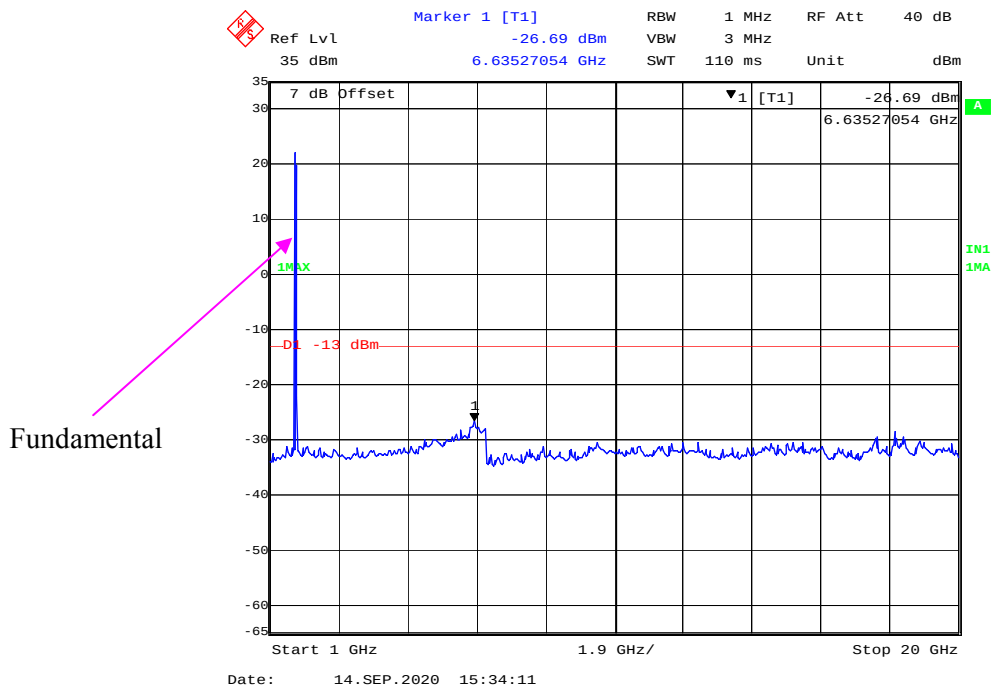
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)**1 GHz - 20 GHz (10 MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)**1 GHz – 20 GHz (10 MHz, 16-QAM, Low Channel)**

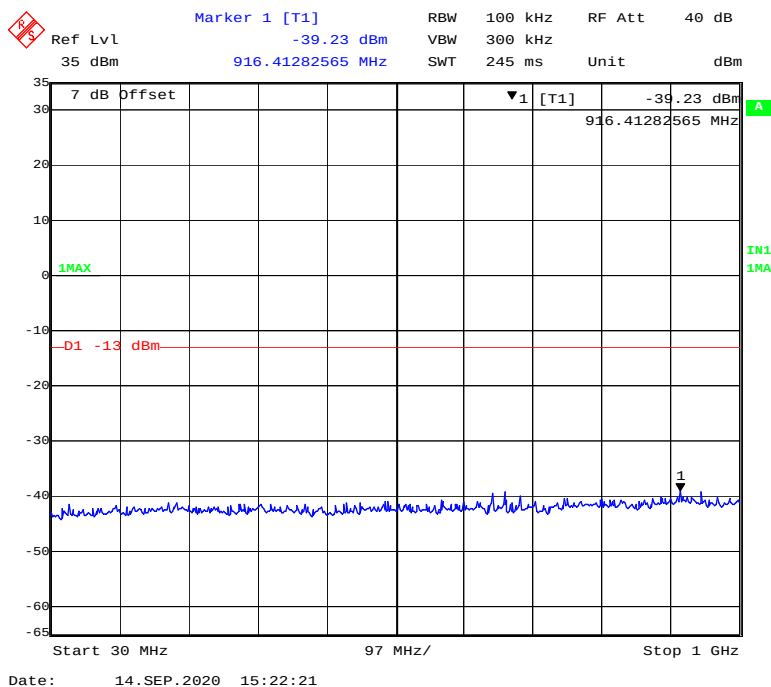
30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



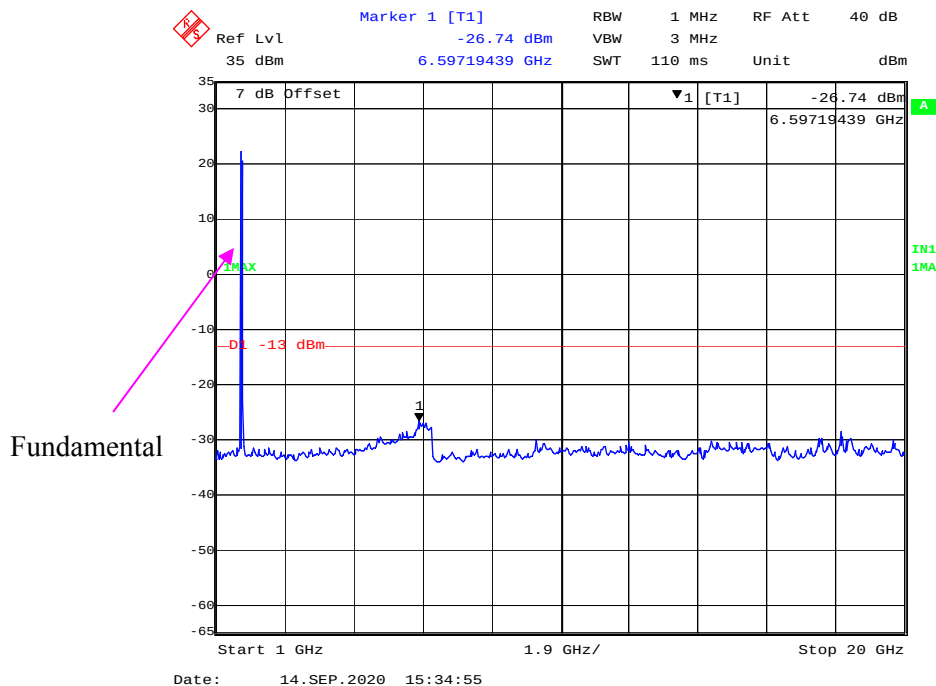
1 GHz - 20 GHz (15 MHz, QPSK, Low Channel)

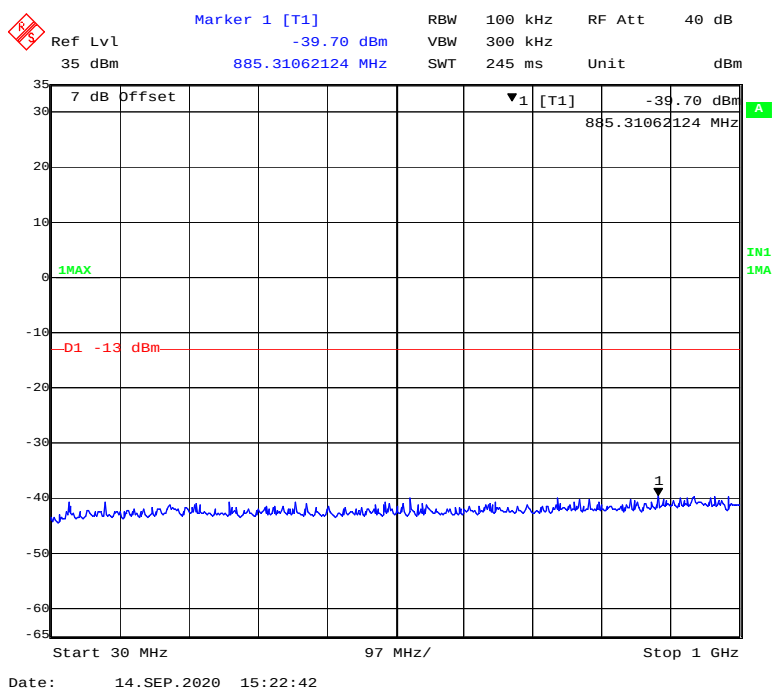
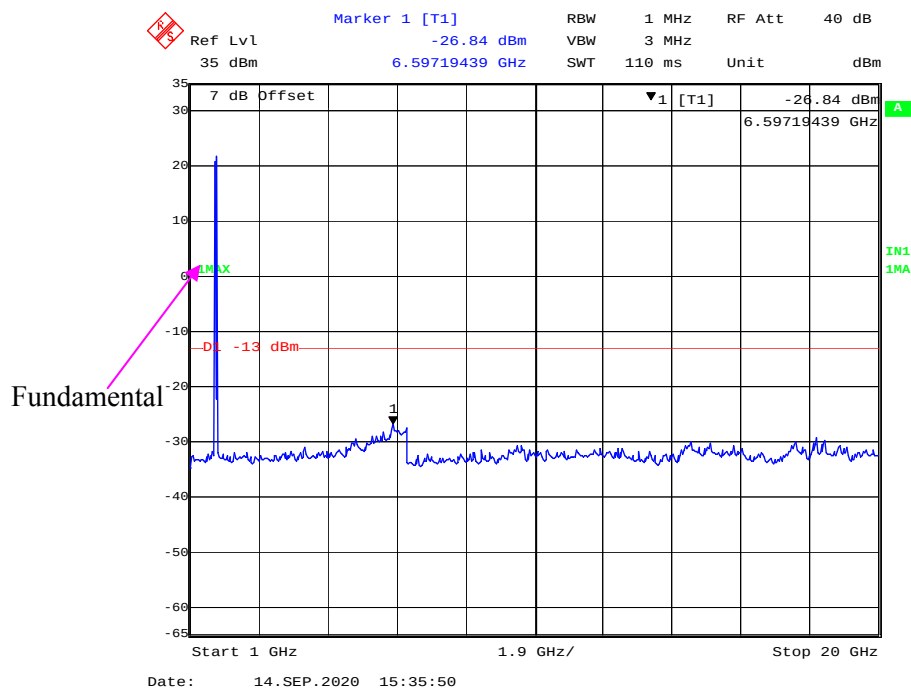


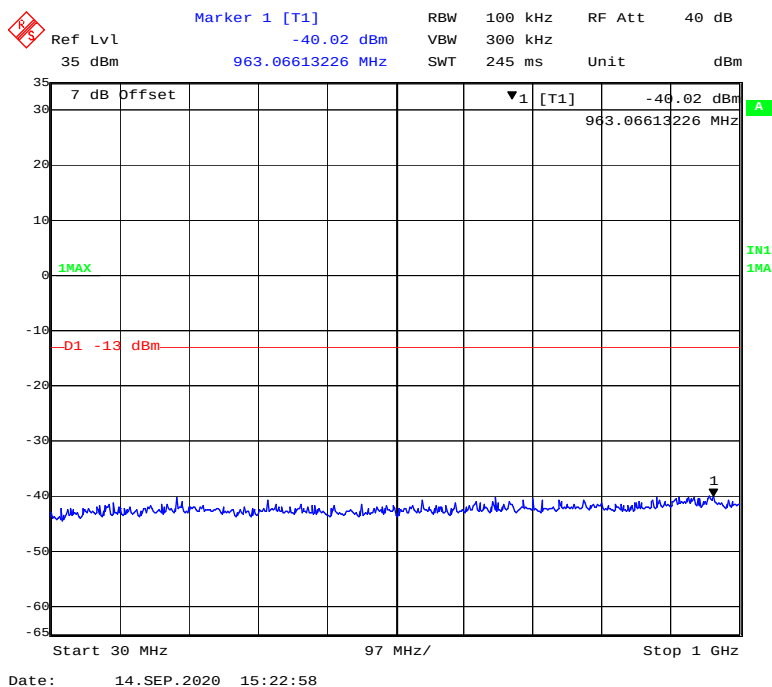
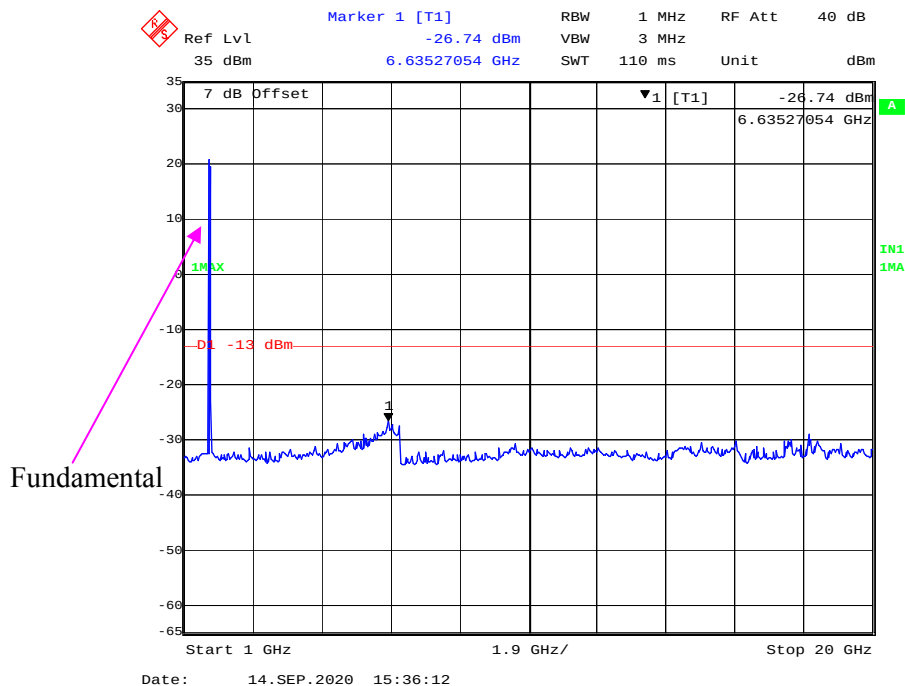
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



1 GHz – 20 GHz (15 MHz, 16-QAM, Low Channel)



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

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

The screenshot displays a spectrum analyzer interface. At the top, a red 'A' icon is visible. The main display area shows a frequency spectrum with a blue trace representing the signal. A horizontal red line is drawn at -13 dBm, labeled 'D1 -13 dBm'. A horizontal green line is drawn at -38.99 dBm, labeled '1MAX'. The y-axis is labeled 'dBm' and ranges from -65 to 35. The x-axis is labeled 'MHz' and ranges from 30 to 100. The signal trace is centered around 97 MHz. The noise floor is approximately -48 dBm. The reference level is -38.99 dBm. The bandwidth is 100 kHz. The resolution bandwidth is 300 kHz. The sweep time is 245 ms. The unit is dBm. The start frequency is 30 MHz and the stop frequency is 100 MHz.

Ref Lvl 35 dBm

Marker 1 [T1] -26.34 dBm

RBW 1 MHz RF Att 40 dB

VBW 3 MHz

SWT 110 ms Unit dBm

7 dB Offset

▼1 [T1] -26.34 dBm

6.74949900 GHz

1MAX

-13 dBm

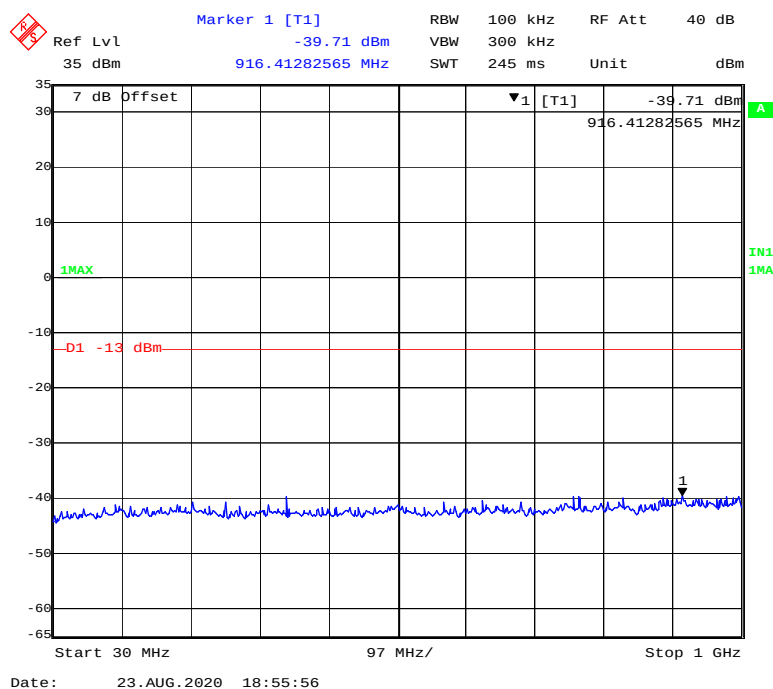
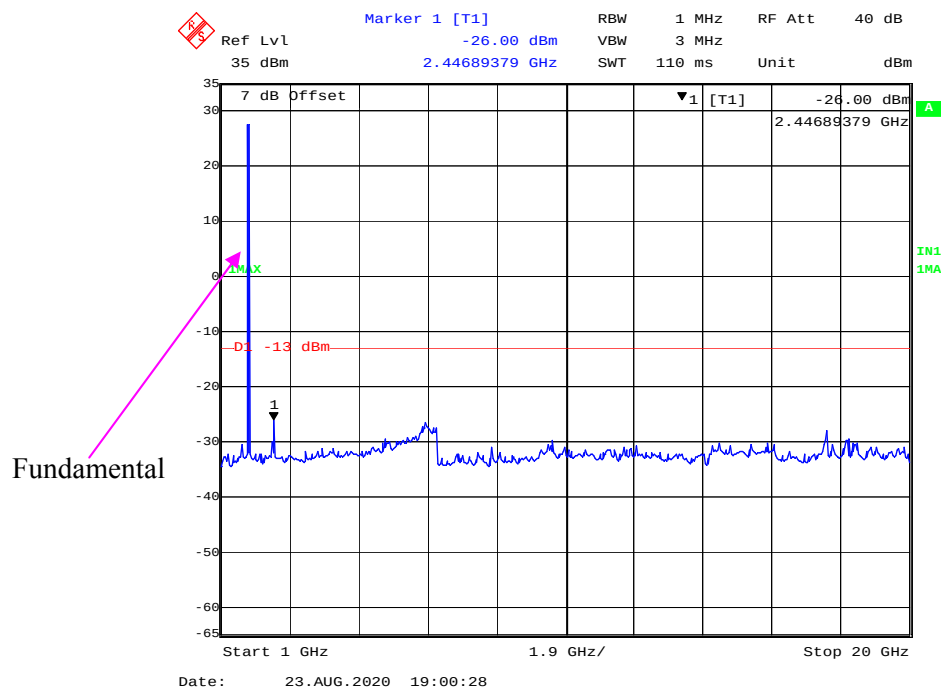
1

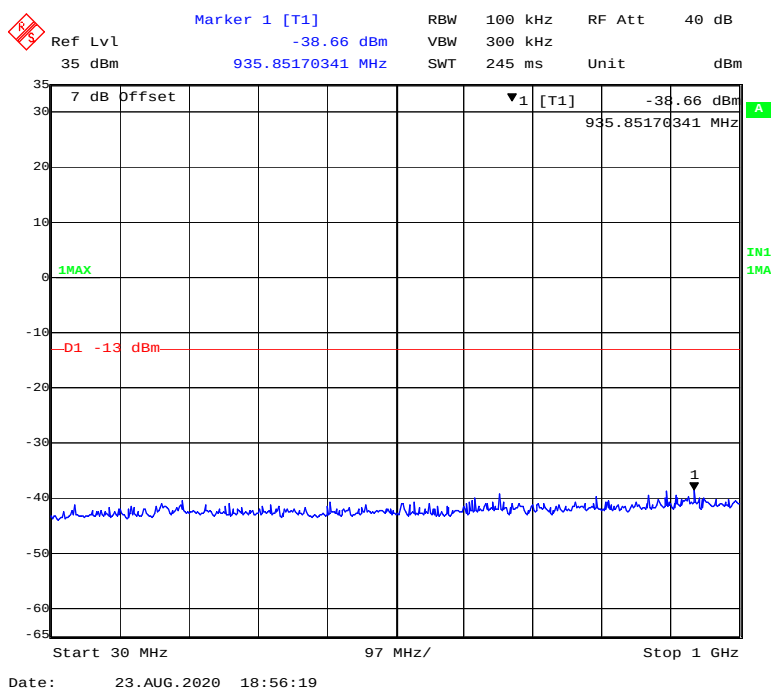
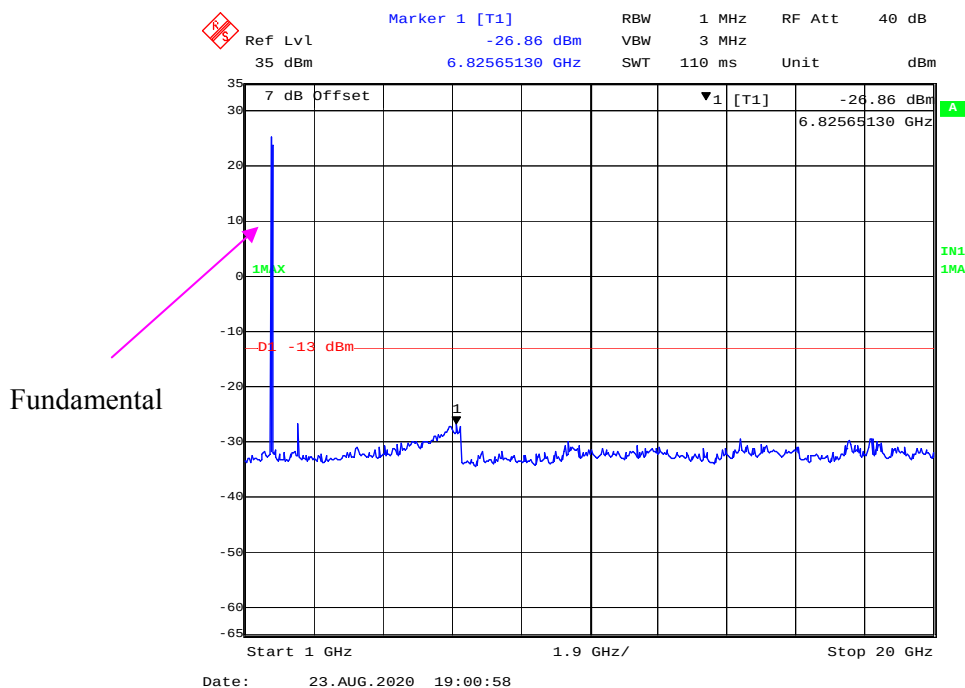
Start 1 GHz

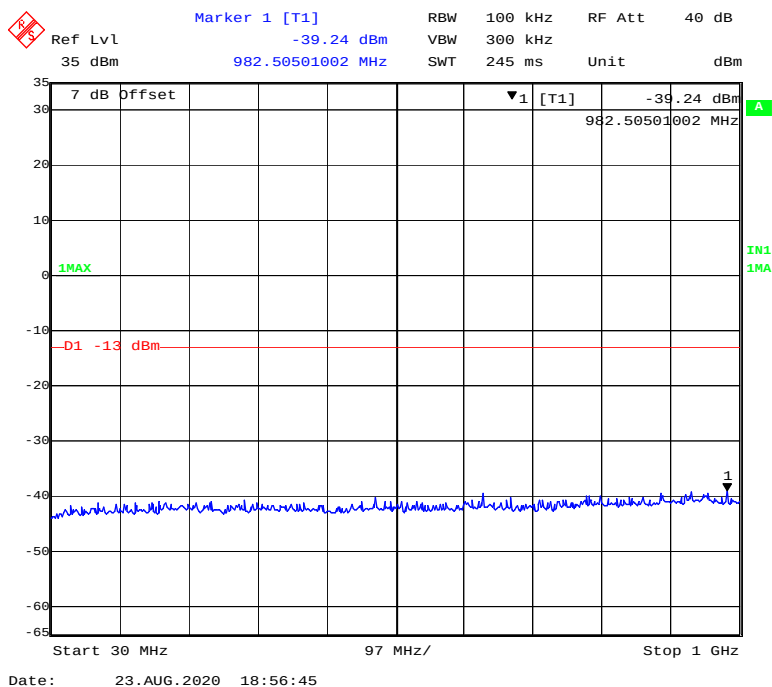
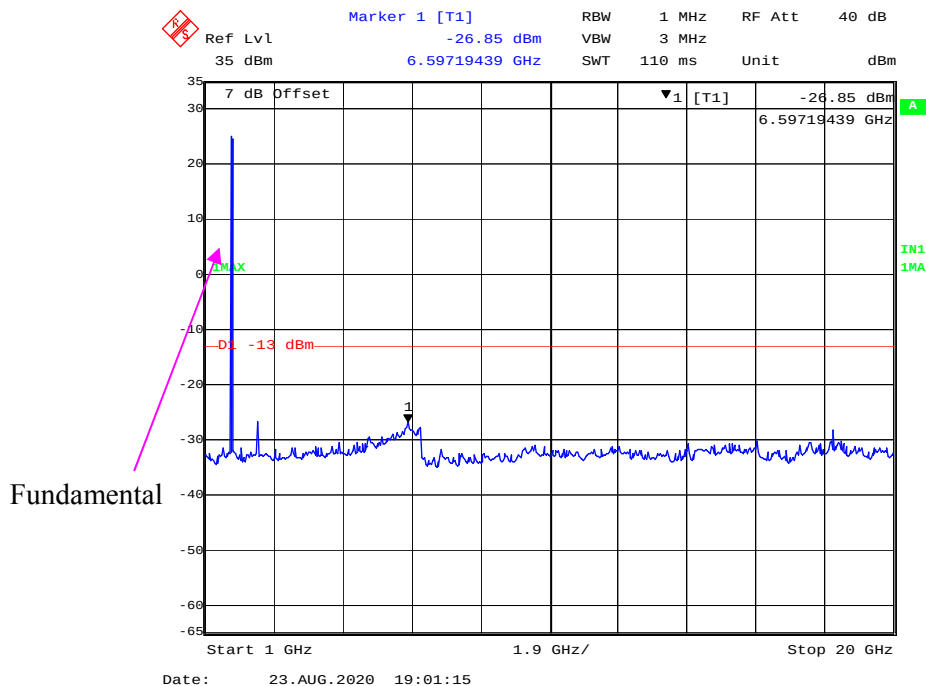
1.9 GHz/

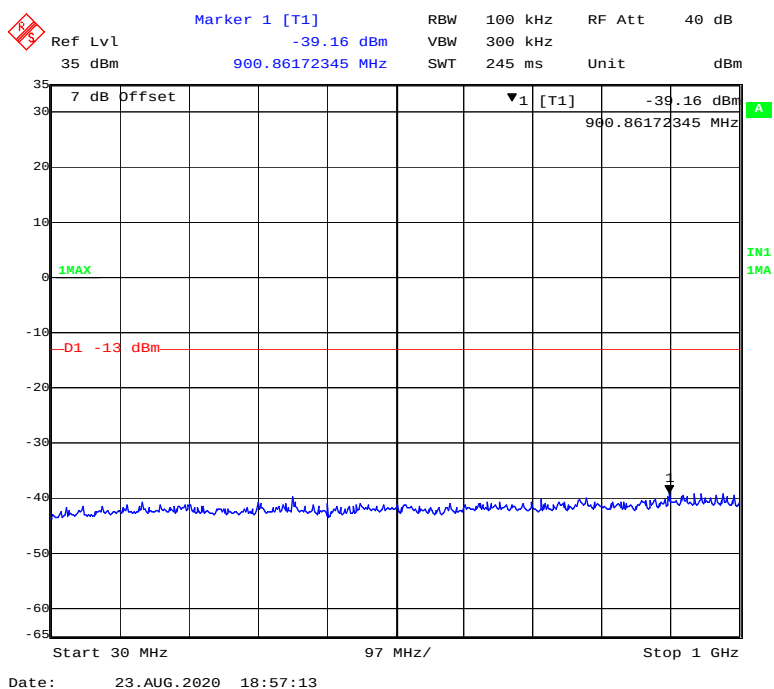
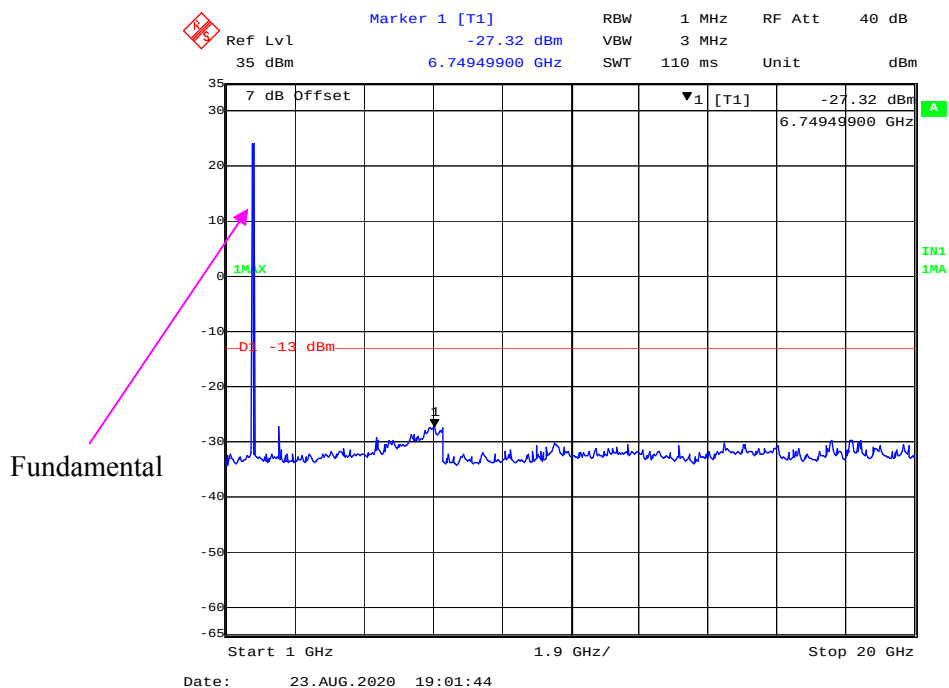
Stop 20 GHz

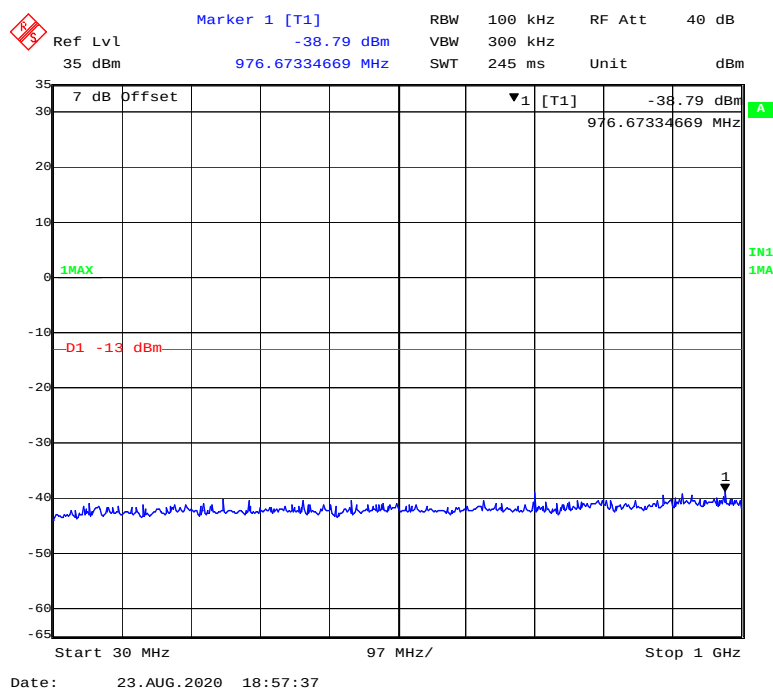
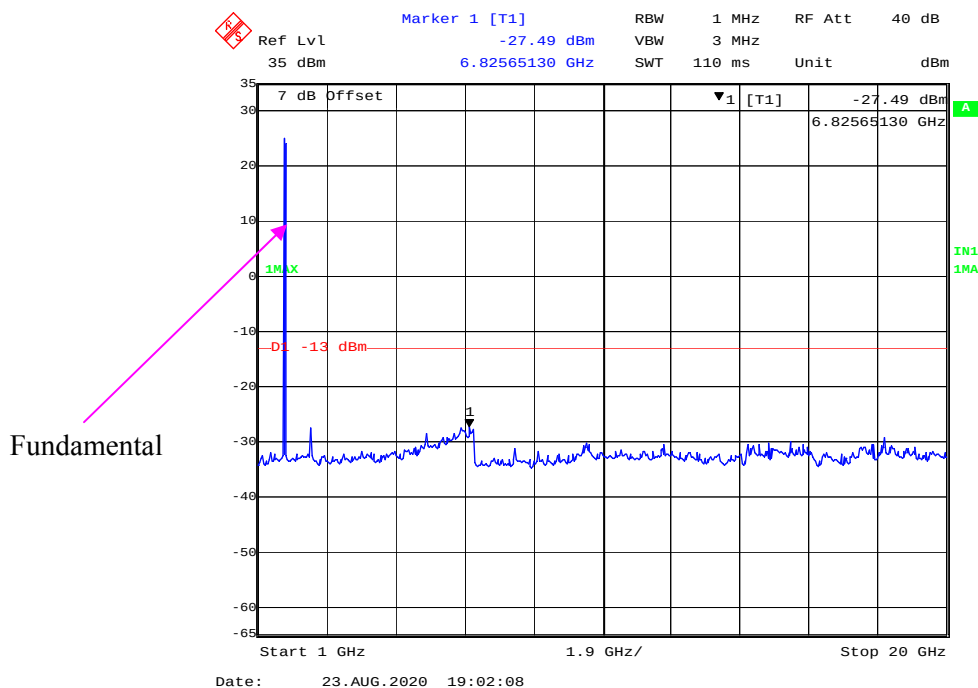
Date: 23.AUG.2020 19:00:03

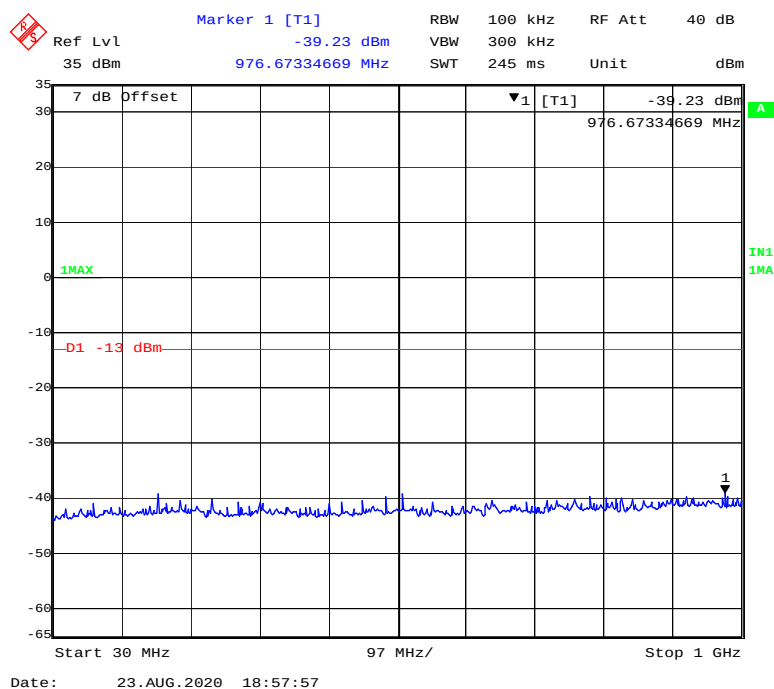
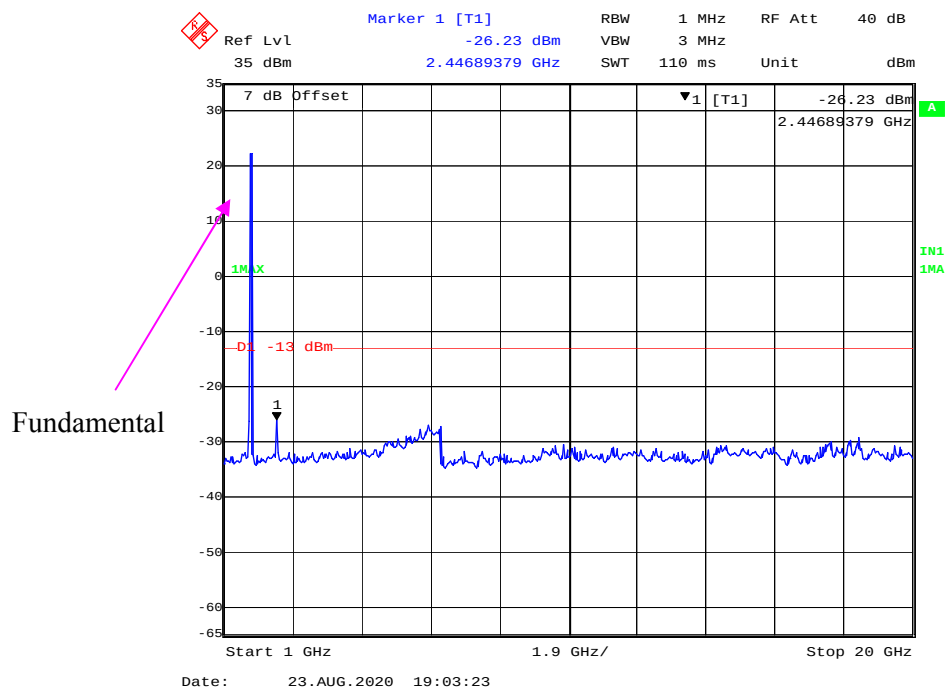
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)**1 GHz - 20 GHz (1.4 MHz, 16-QAM, Middle Channel)**

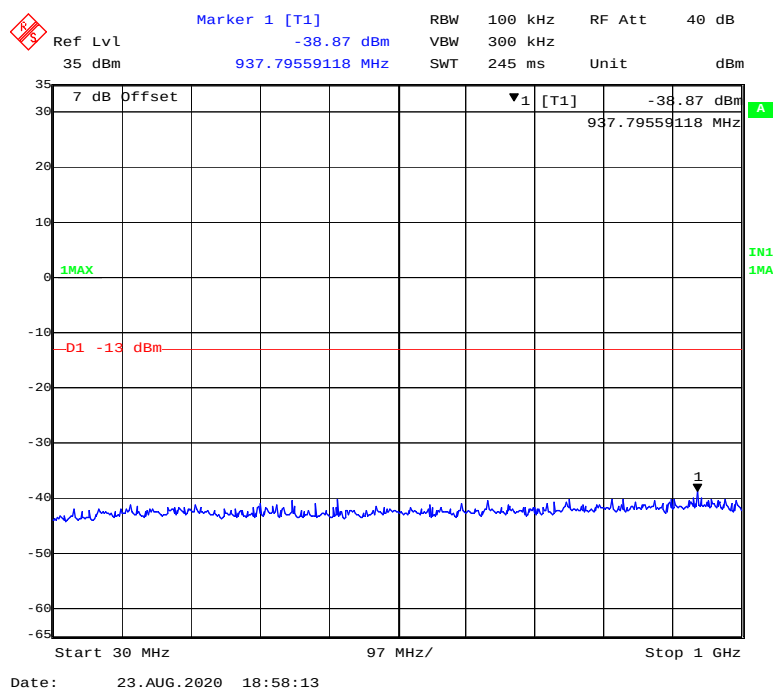
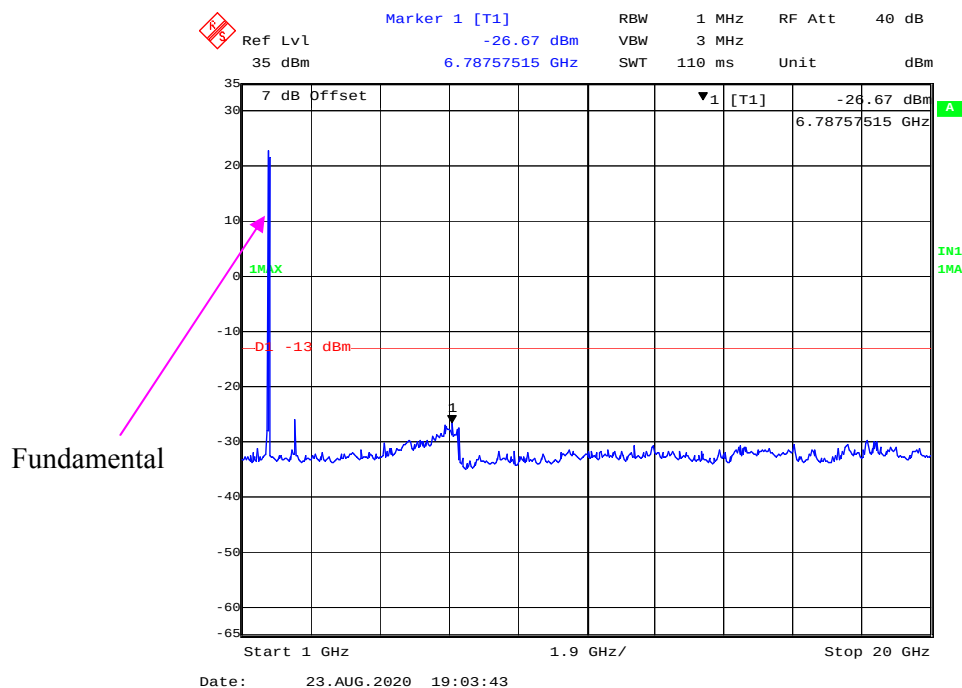
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)**

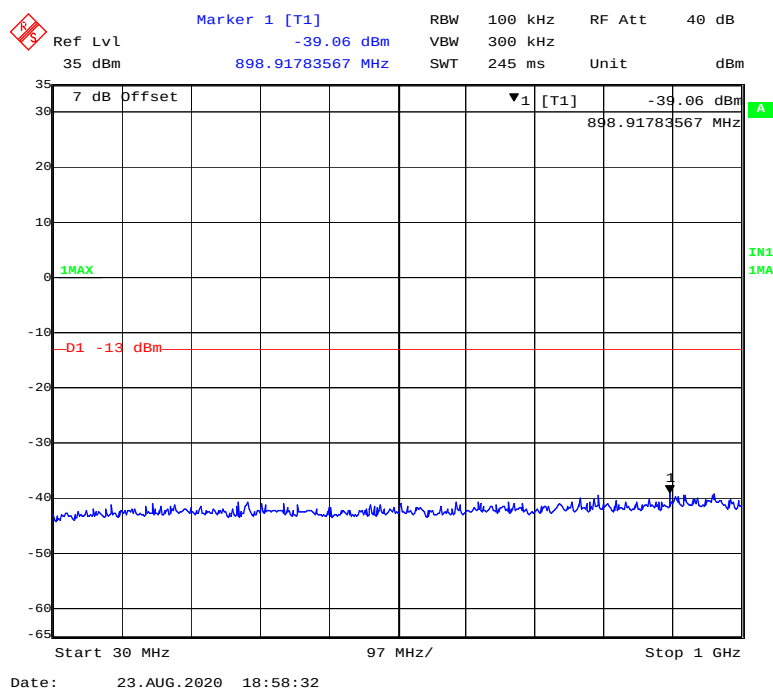
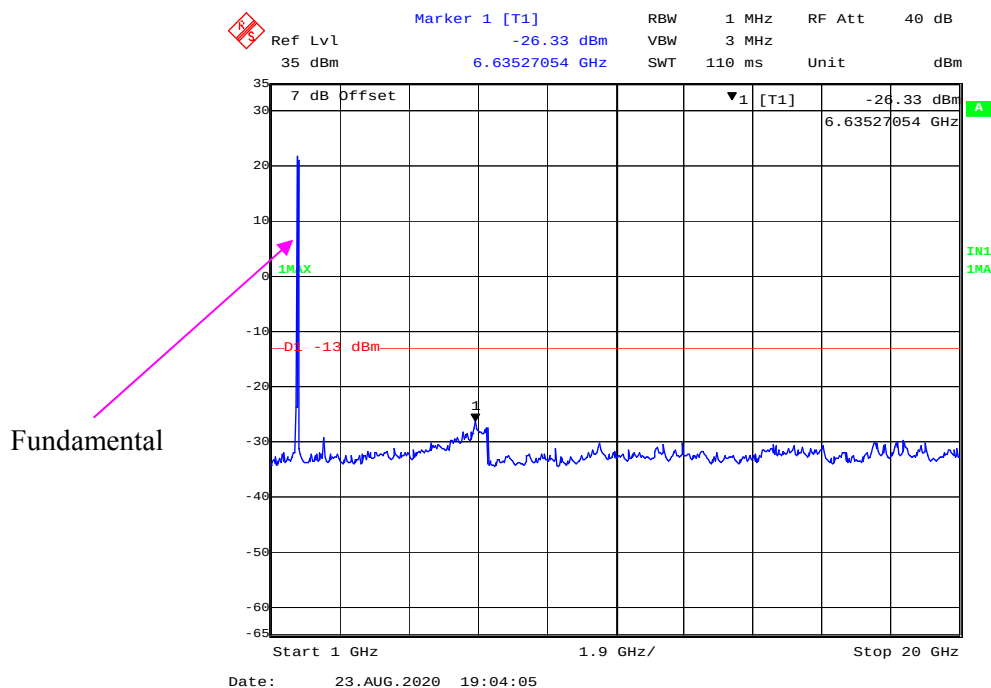
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (3 MHz, 16-QAM, Middle Channel)**

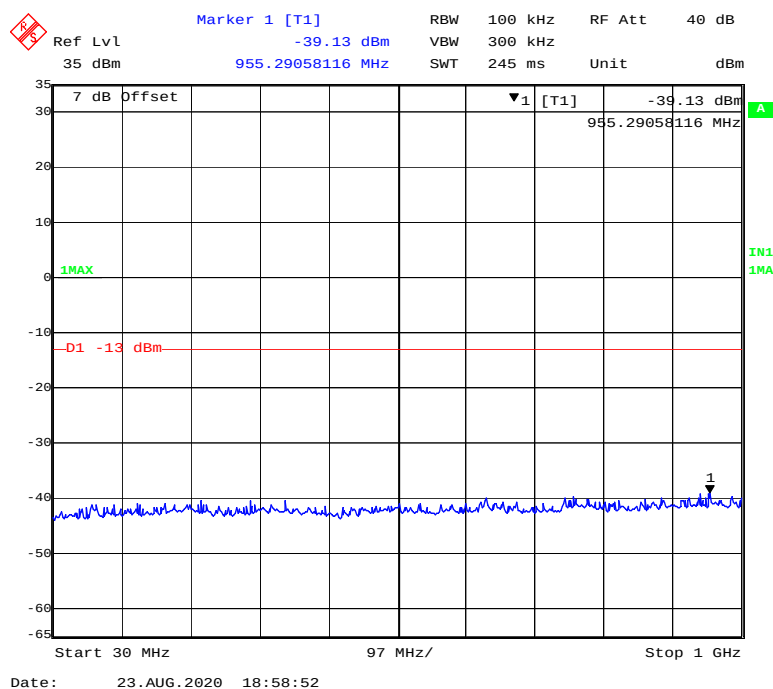
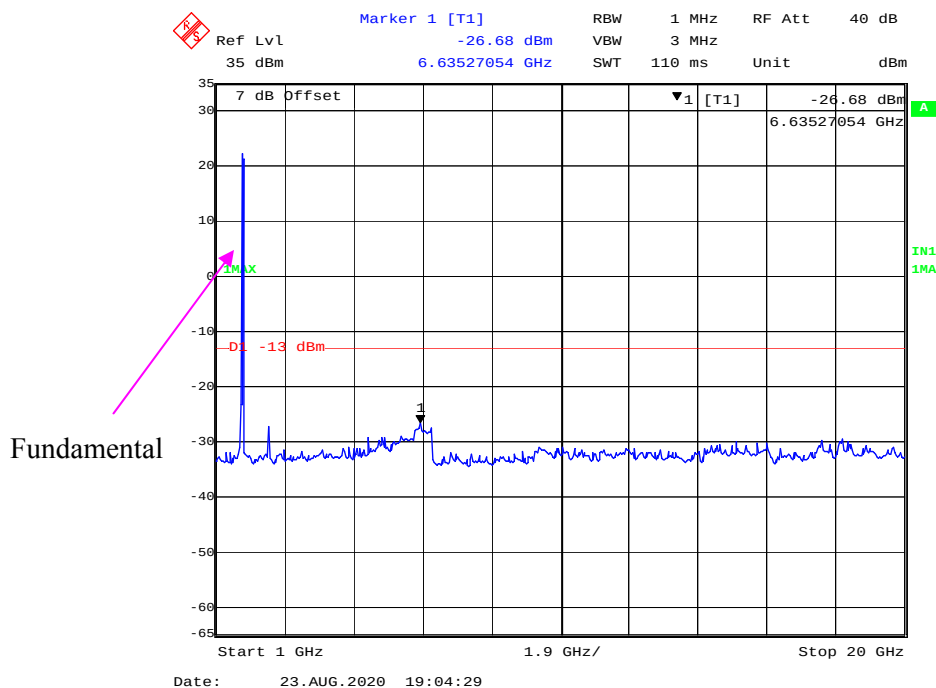
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)**

30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (5 MHz, 16-QAM, Middle Channel)**

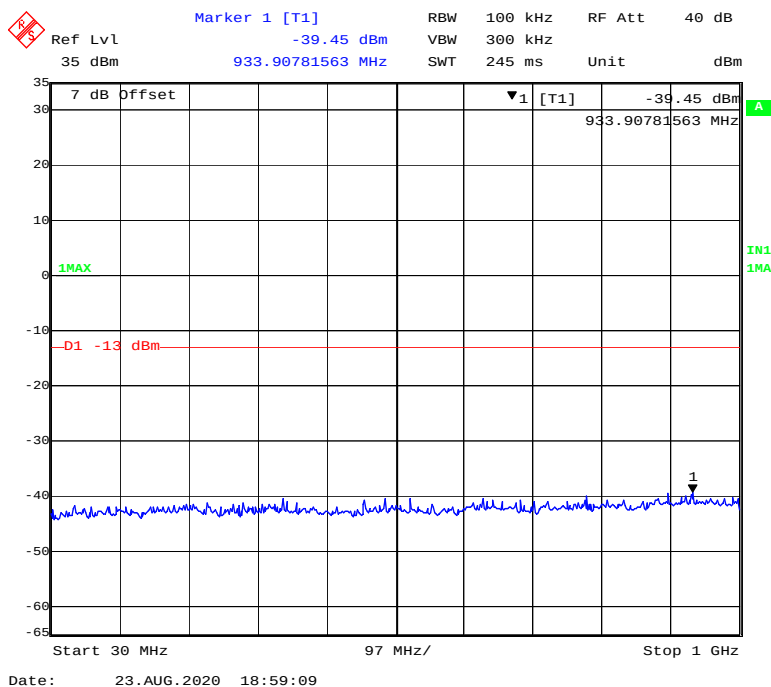
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)**

30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (10 MHz, 16-QAM, Middle Channel)**

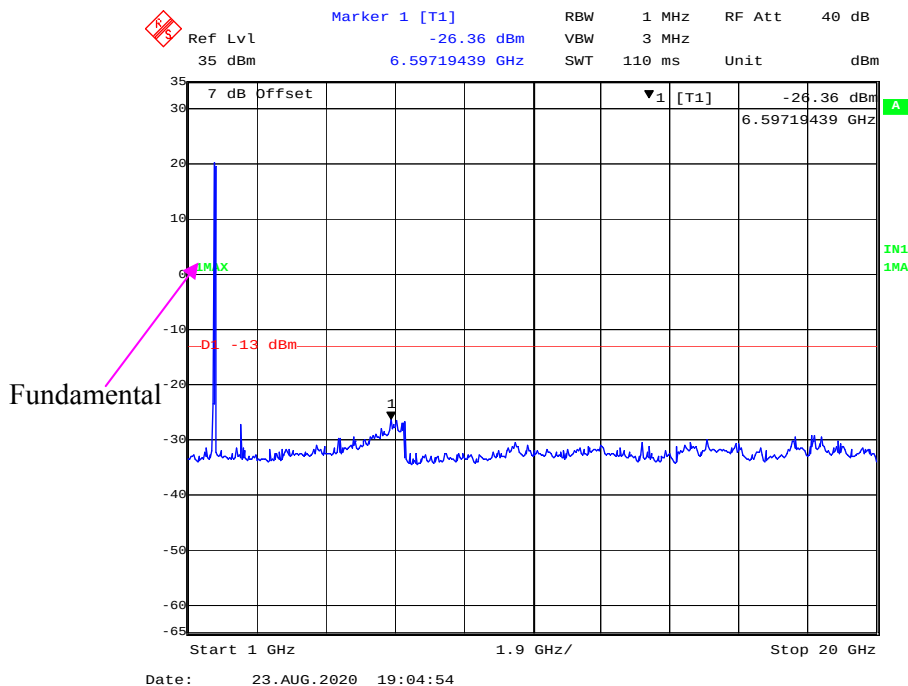
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)**1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)**

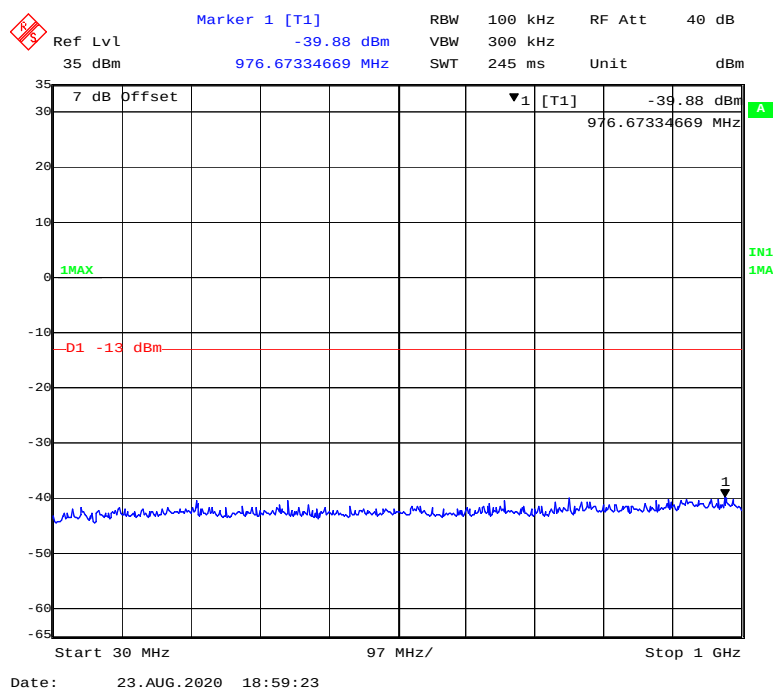
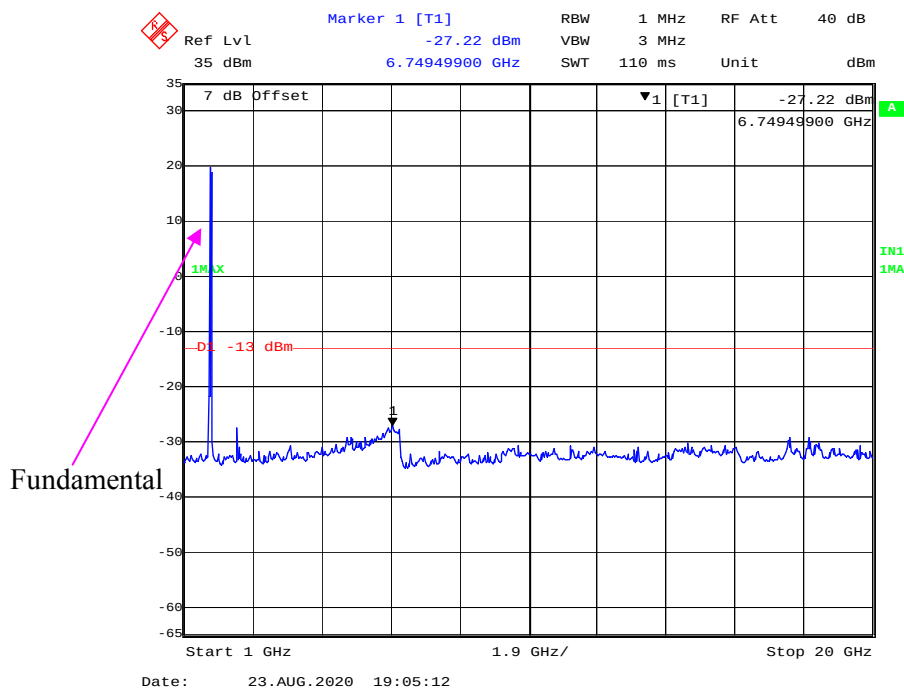
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)**1 GHz – 20 GHz (15 MHz, 16-QAM, Middle Channel)**

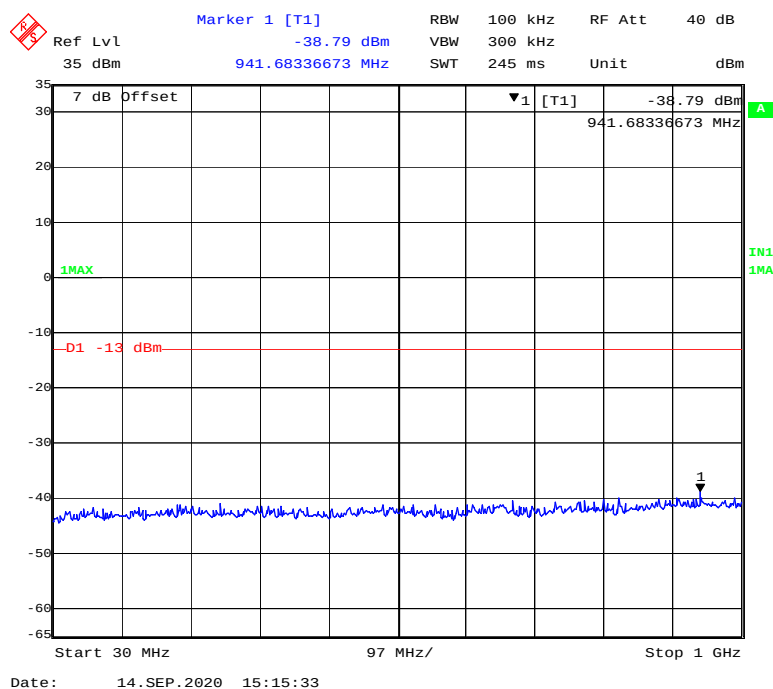
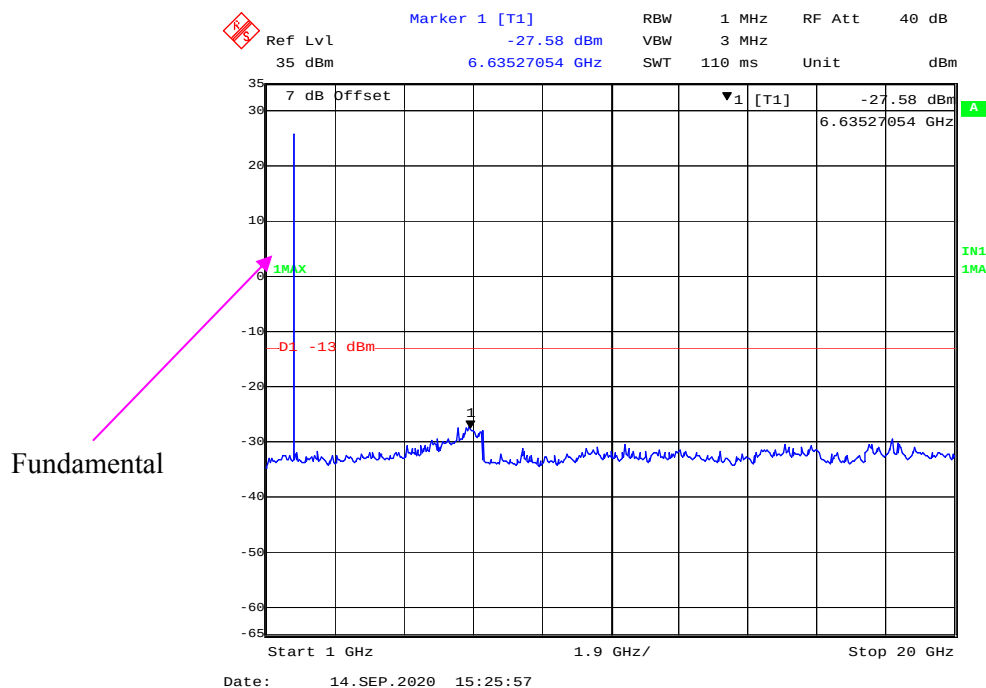
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



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



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

30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)**1 GHz - 20 GHz (1.4 MHz, QPSK, High Channel)**

Marker 1 [T1]

Ref Lvl	-39.55 dBm	RBW	100 kHz	RF Att	40 dB
35 dBm	959.17835671 MHz	SWT	245 ms	Unit	dBm

▼1 [T1] -39.55 dBm
959.17835671 MHz

IN1 1MAX

D1 -13 dBm

Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 14.SEP.2020 15:15:49

Ref Lvl 35 dBm

Marker 1 [T1] -26.51 dBm

RBW 1 MHz

RF Att 40 dB

VBW 3 MHz

SWT 110 ms

Unit dBm

7 dB Offset

▼1 [T1]

-26.51 dBm

6.97795591 GHz

1MAX

D1 -13 dBm

1

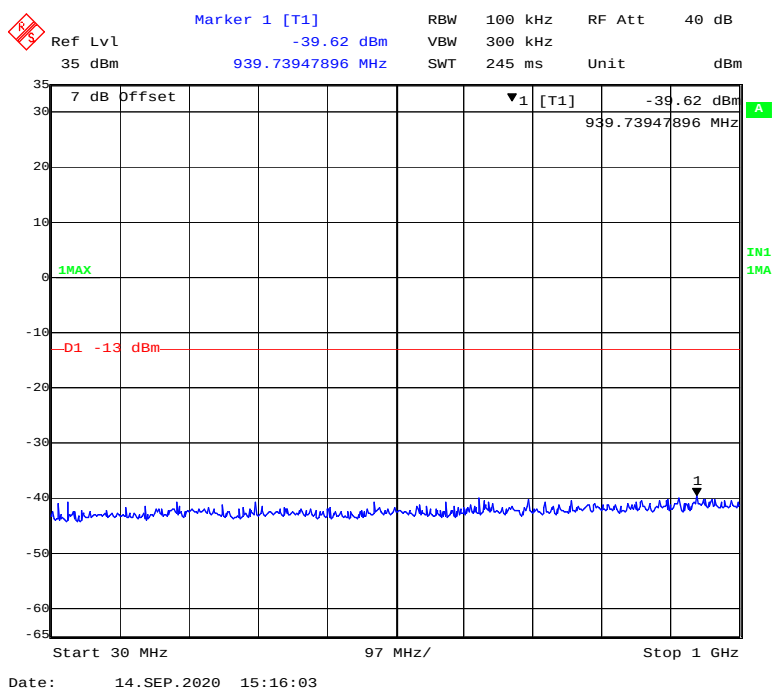
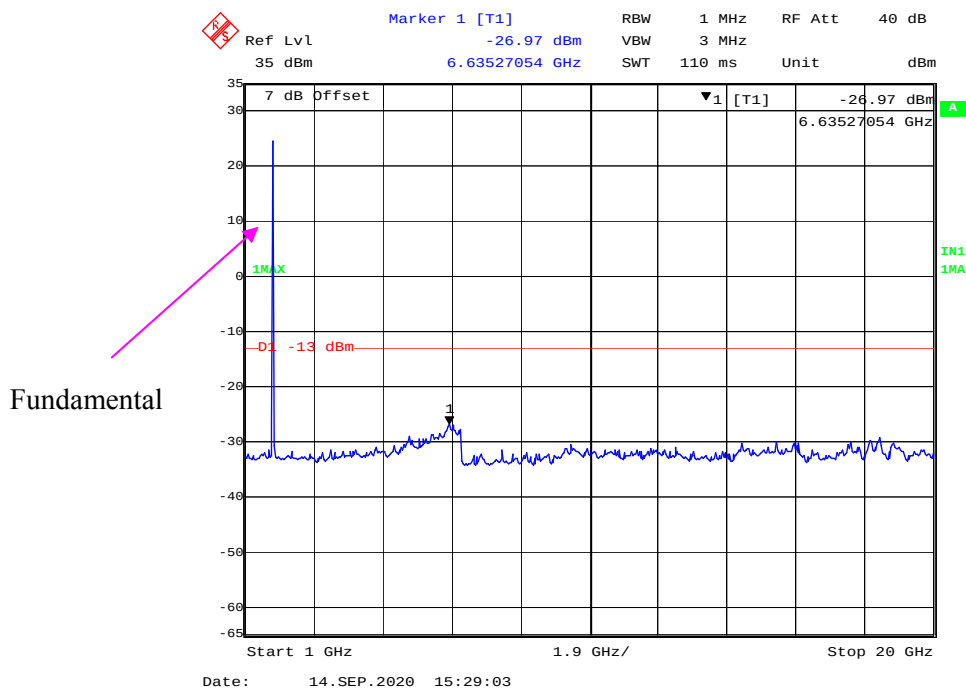
Fundamental

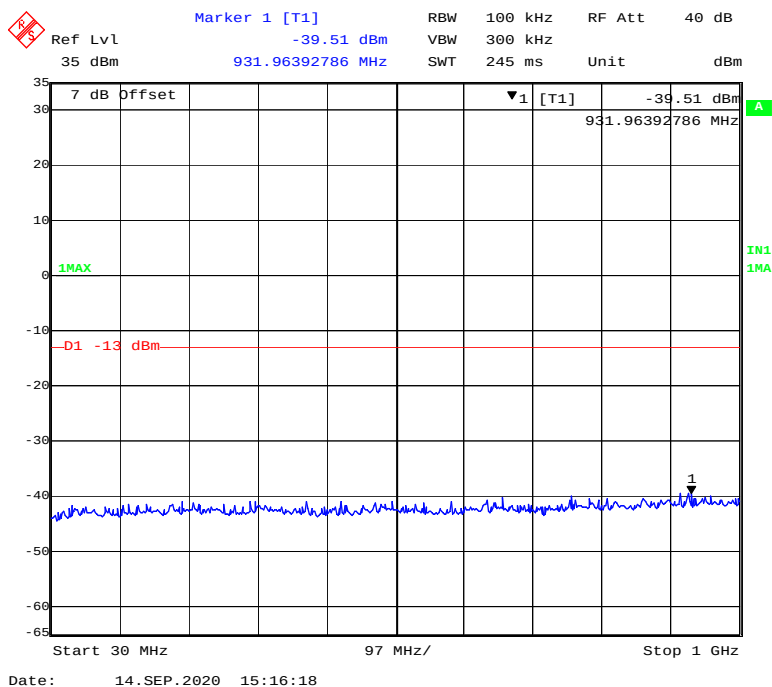
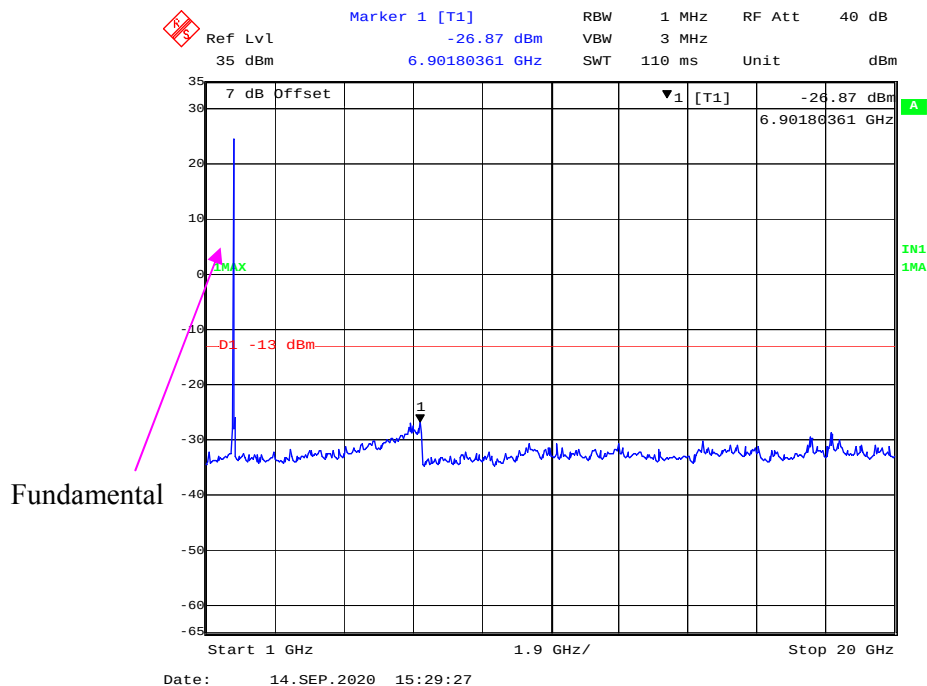
Start 1 GHz

1.9 GHz/

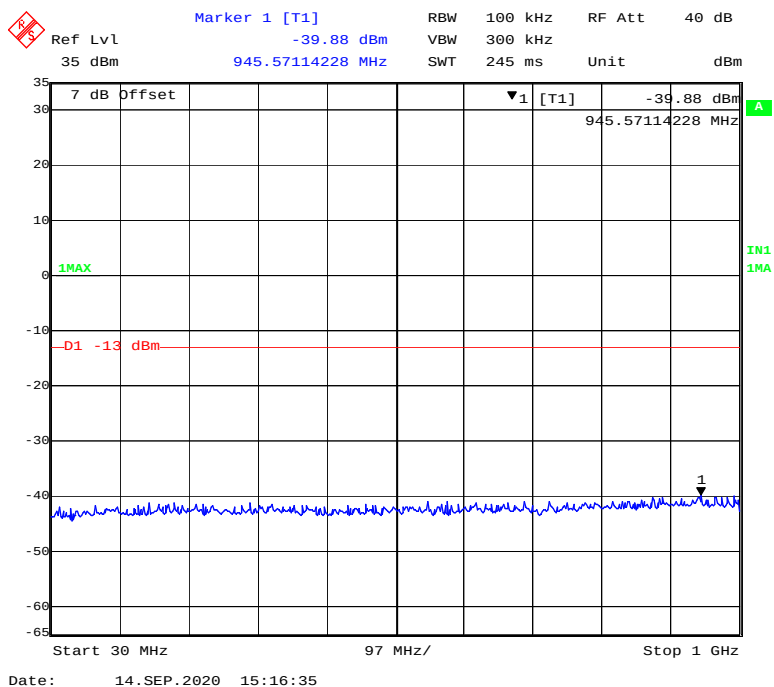
Stop 20 GHz

Date: 14.SEP.2020 15:26:21

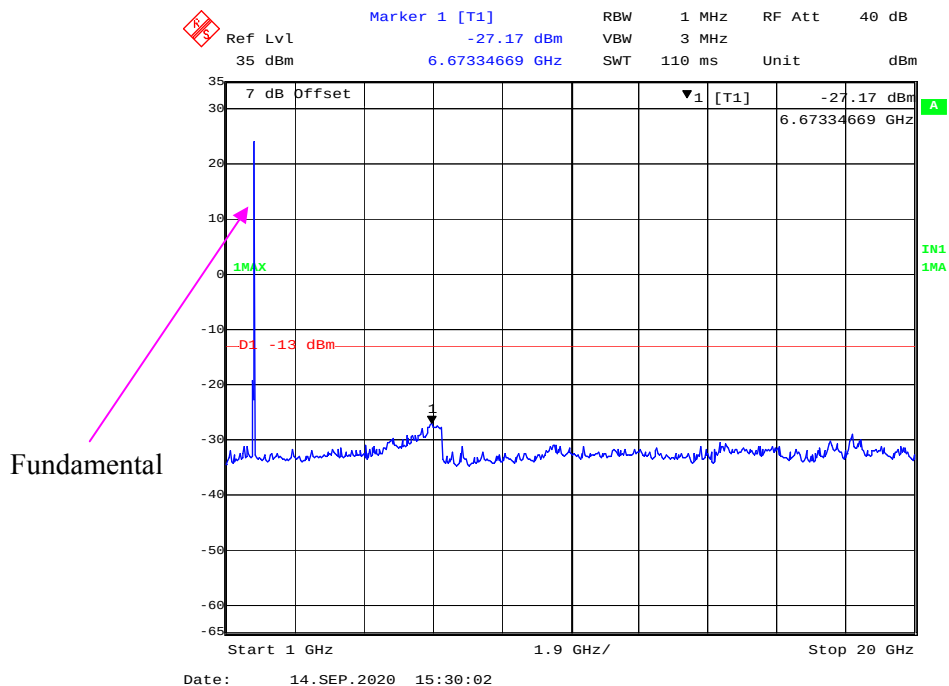
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)**1 GHz – 20 GHz (3 MHz, QPSK, High Channel)**

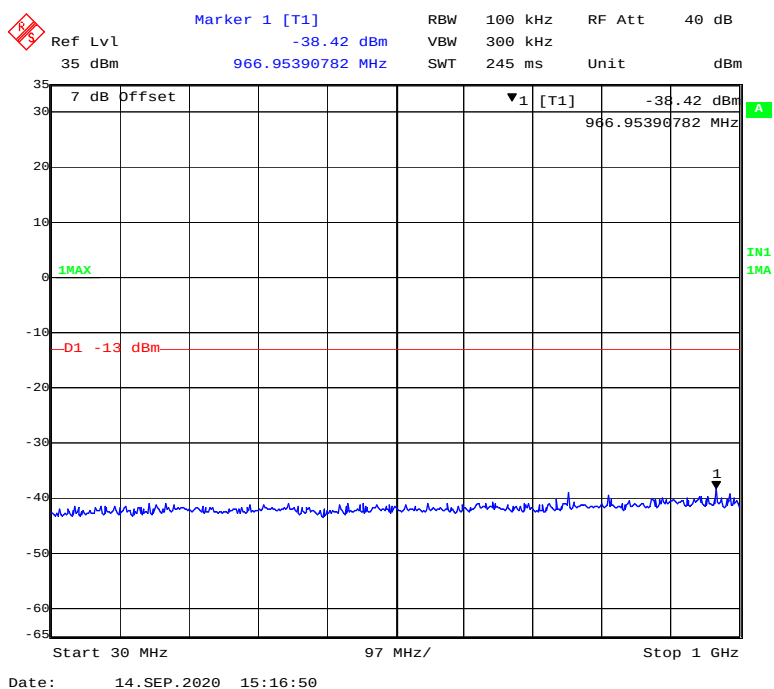
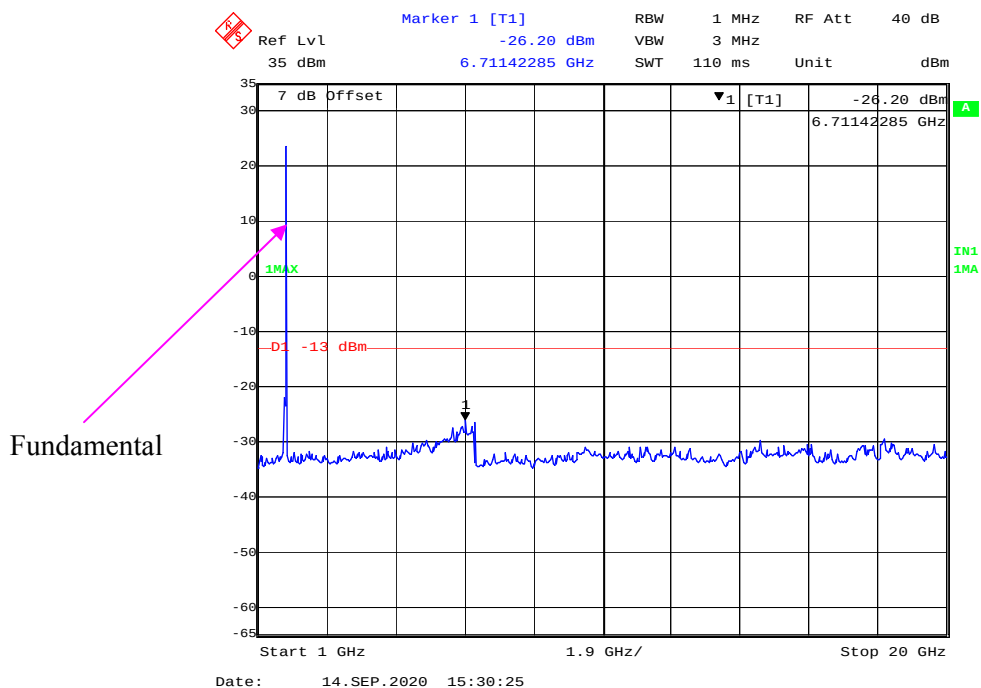
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (3 MHz, 16-QAM, High Channel)**

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

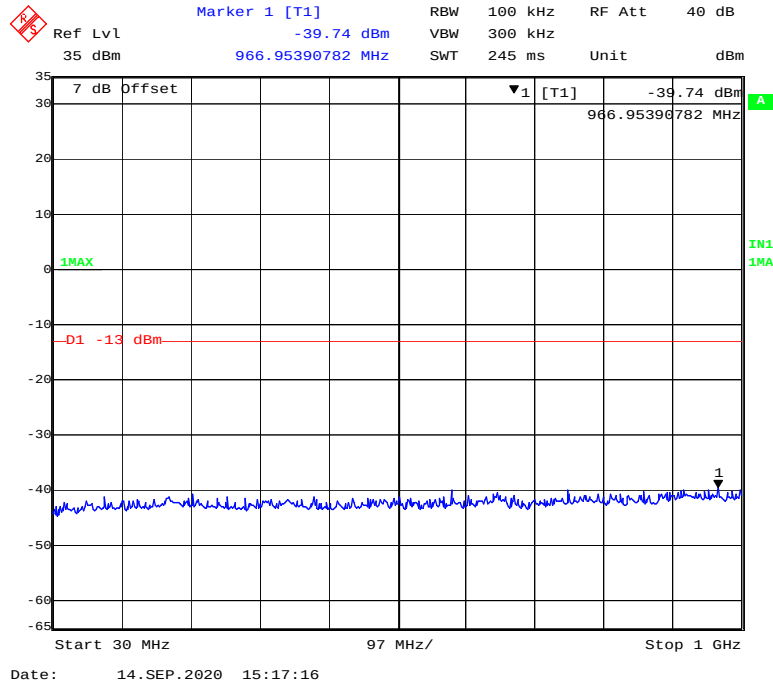


1 GHz – 20 GHz (5 MHz, QPSK, High Channel)

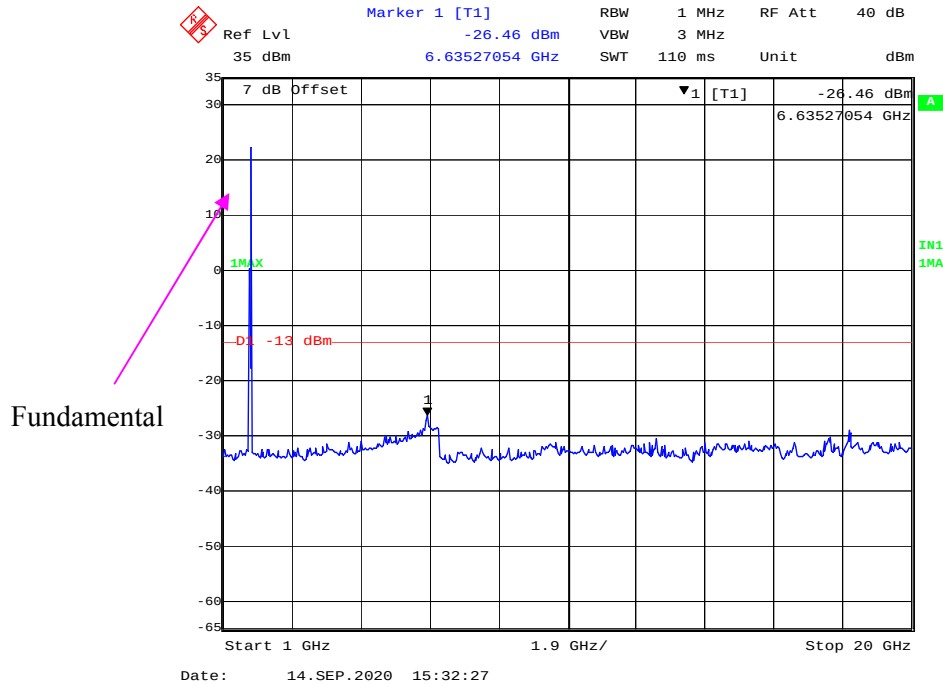


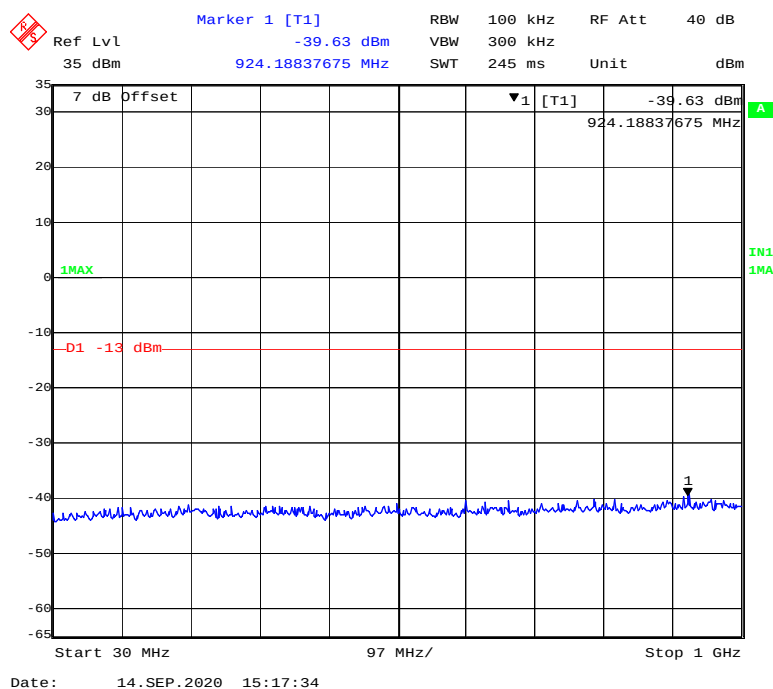
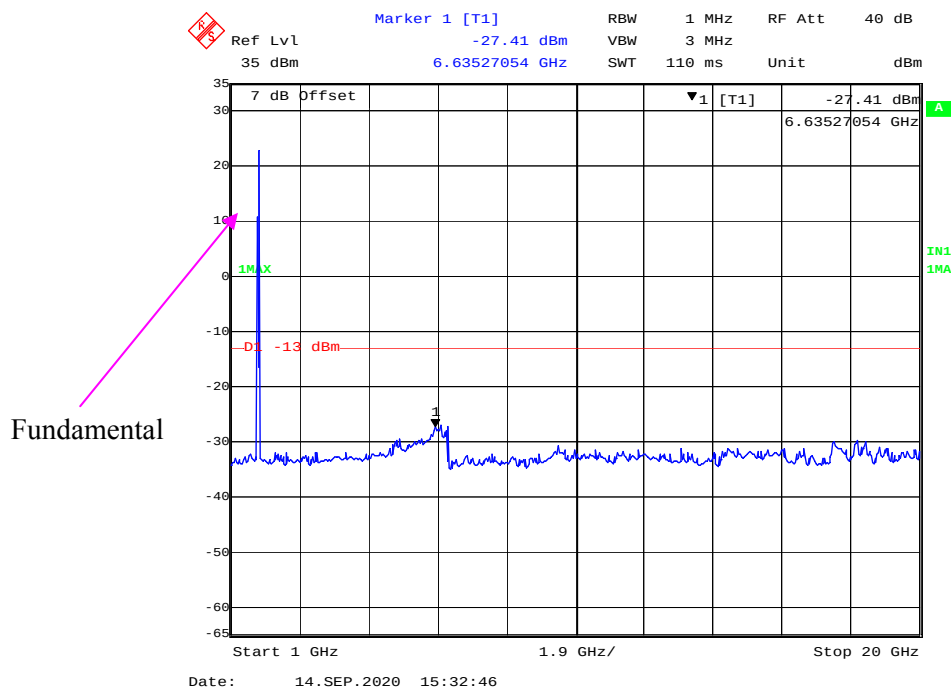
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (5 MHz, 16-QAM, High Channel)**

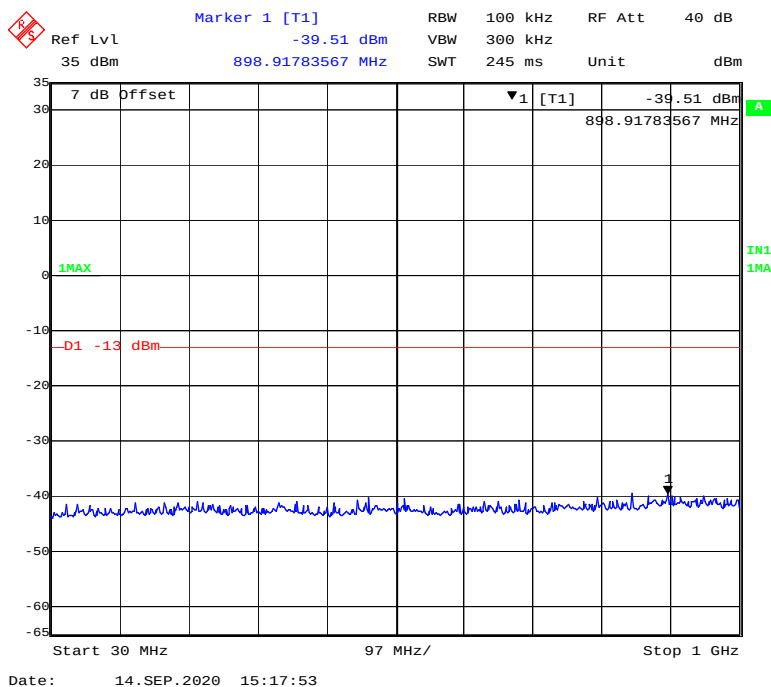
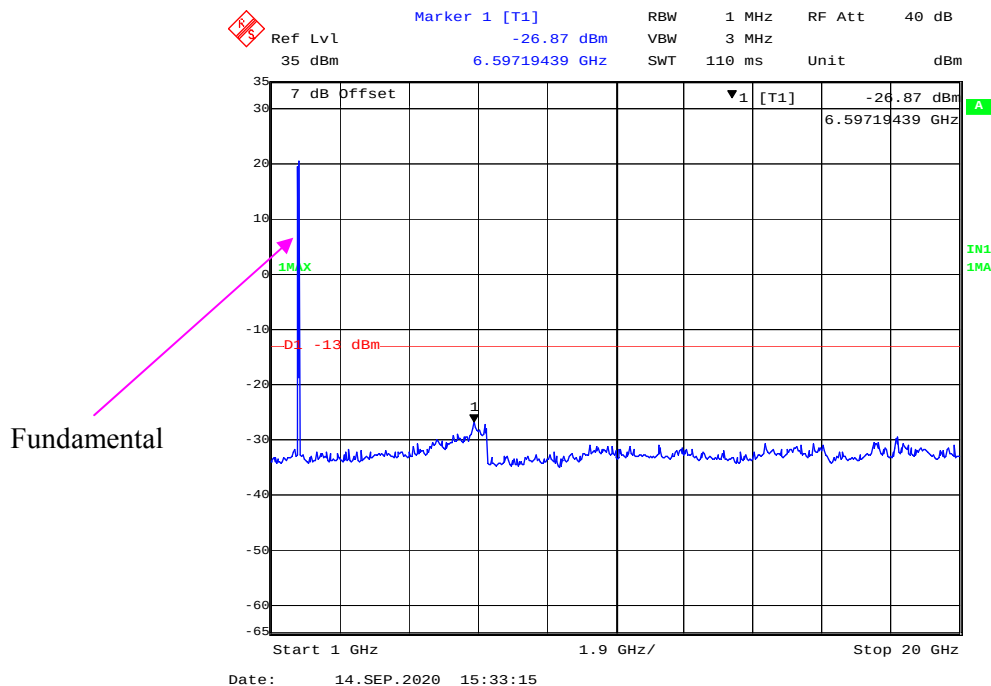
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)

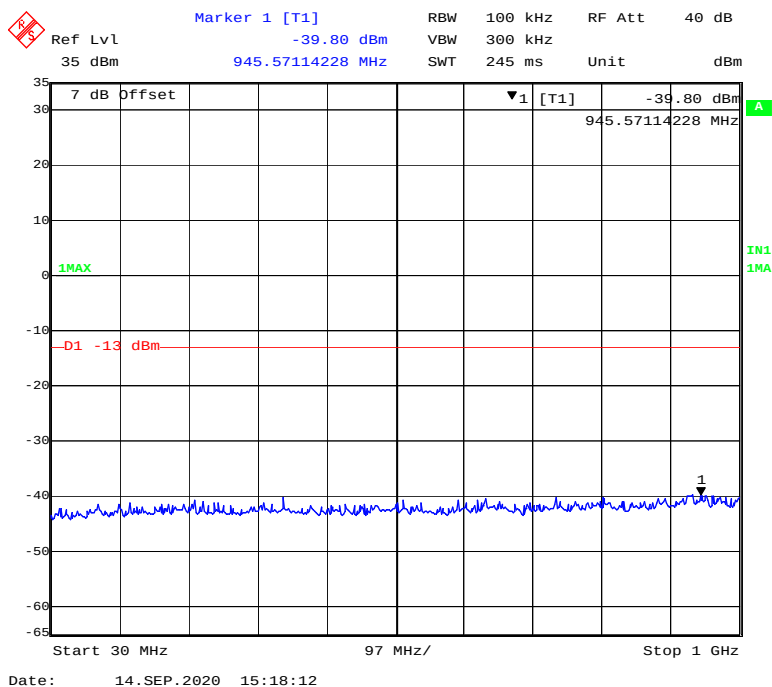
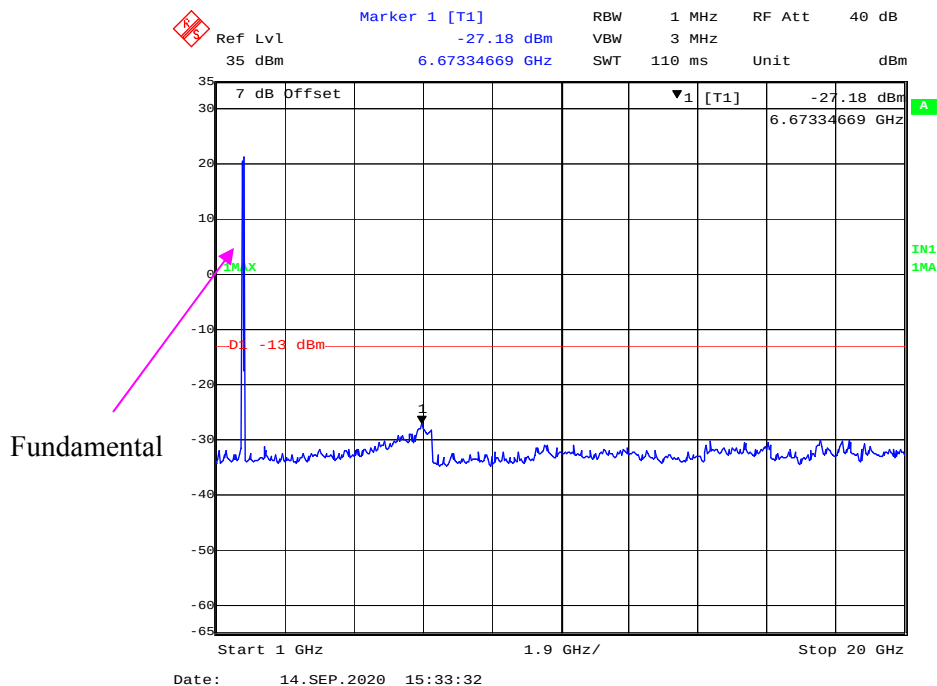


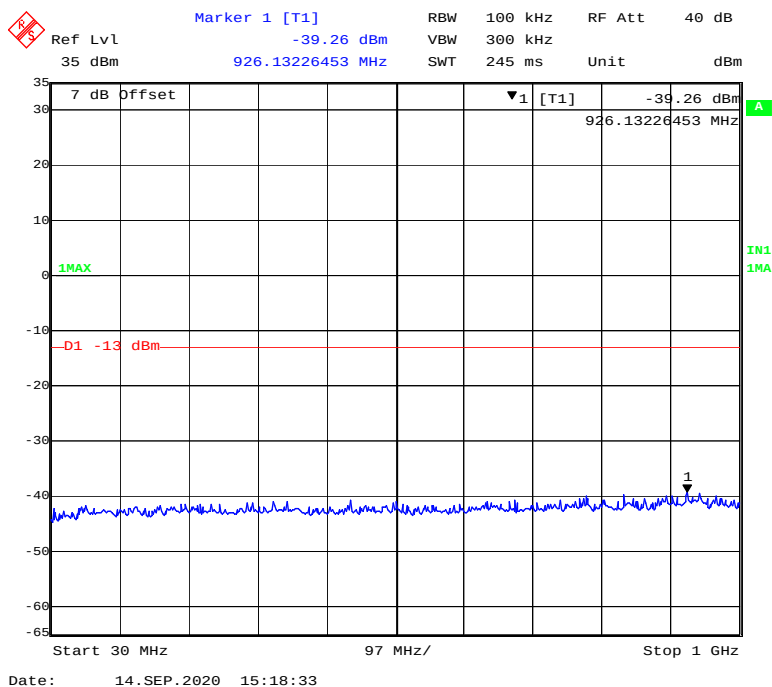
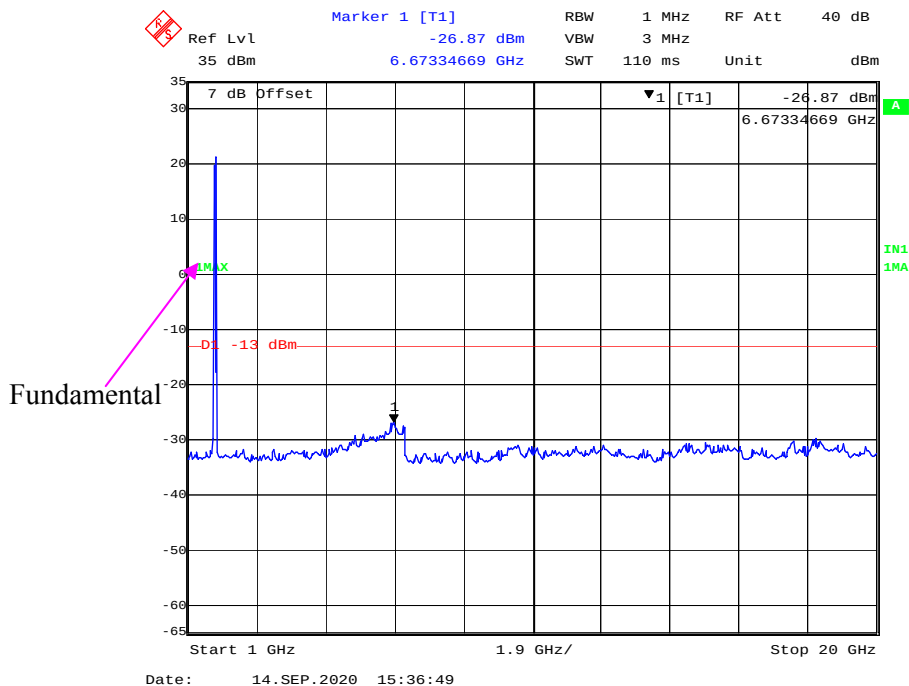
1 GHz – 20 GHz (10 MHz, QPSK, High Channel)

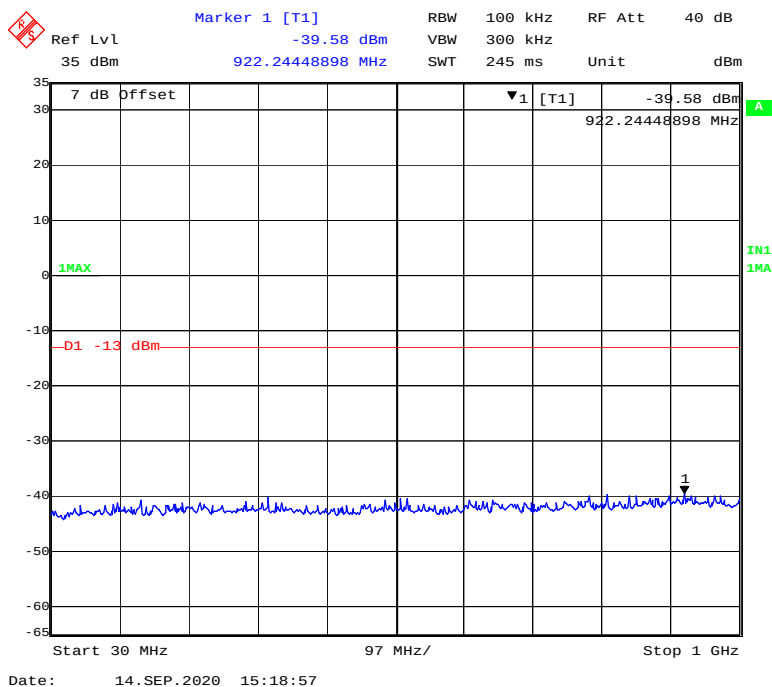
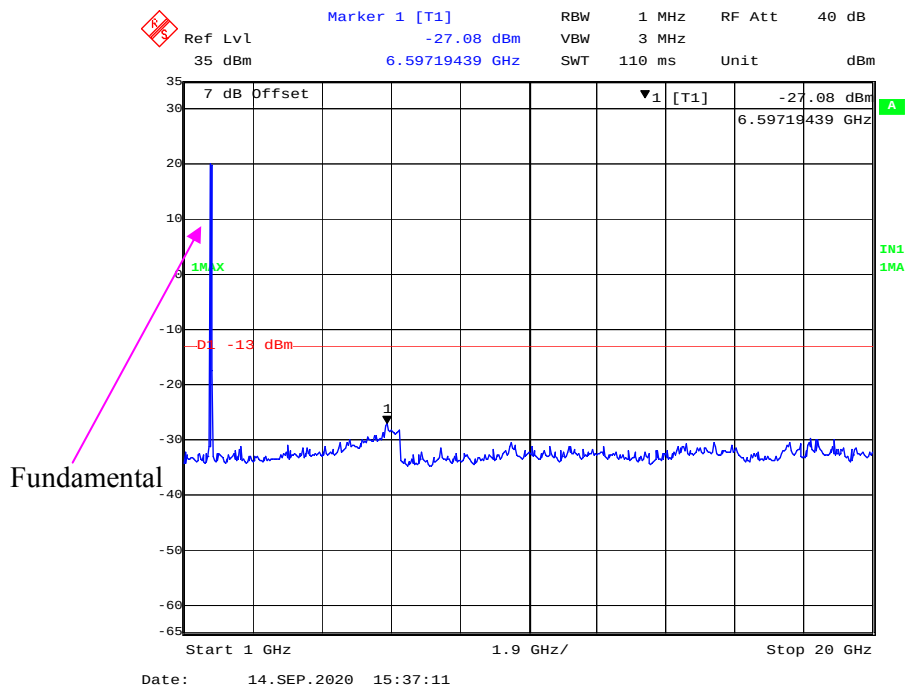


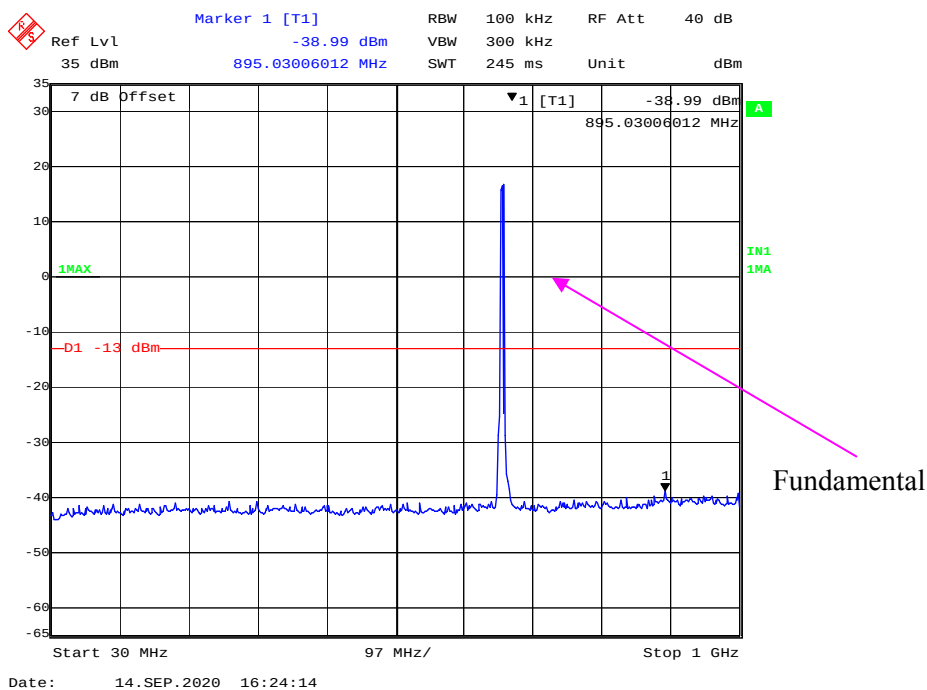
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (10 MHz, 16-QAM, High Channel)**

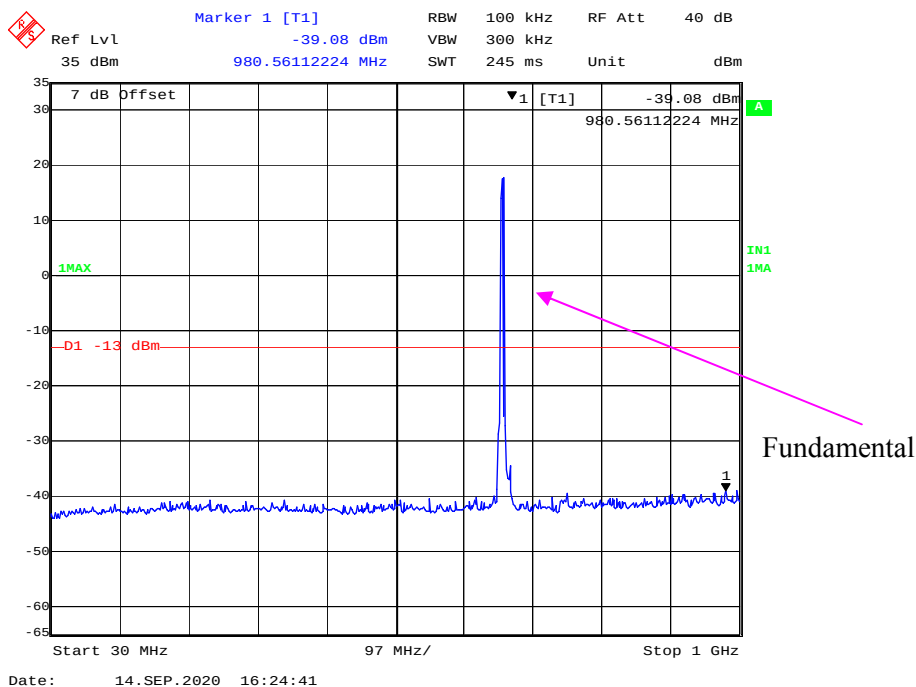
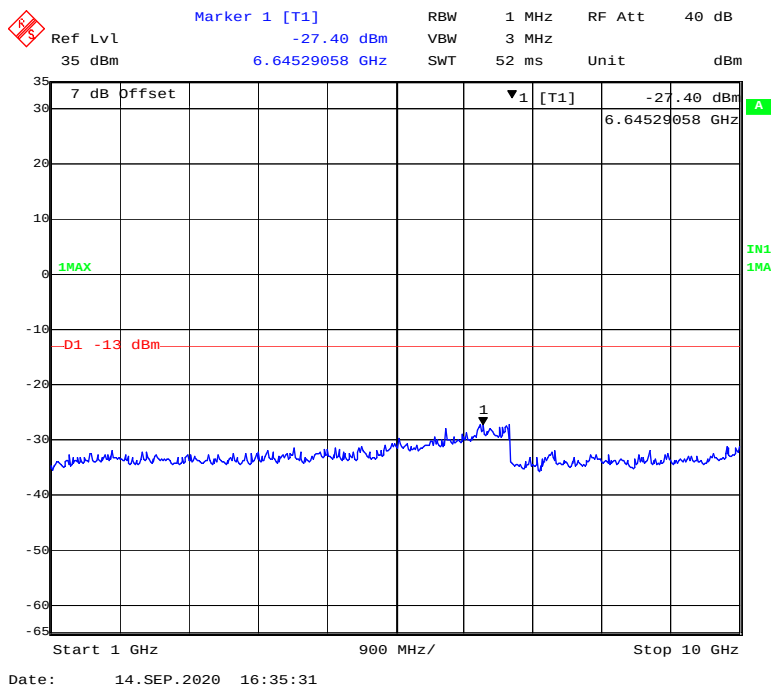
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)**1 GHz - 20 GHz (15 MHz, QPSK, High Channel)**

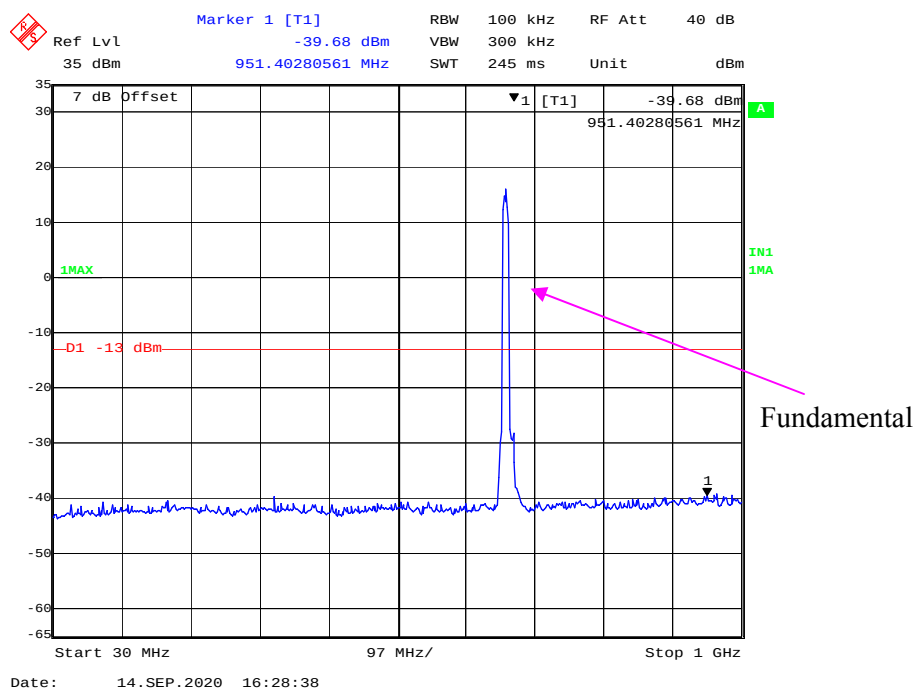
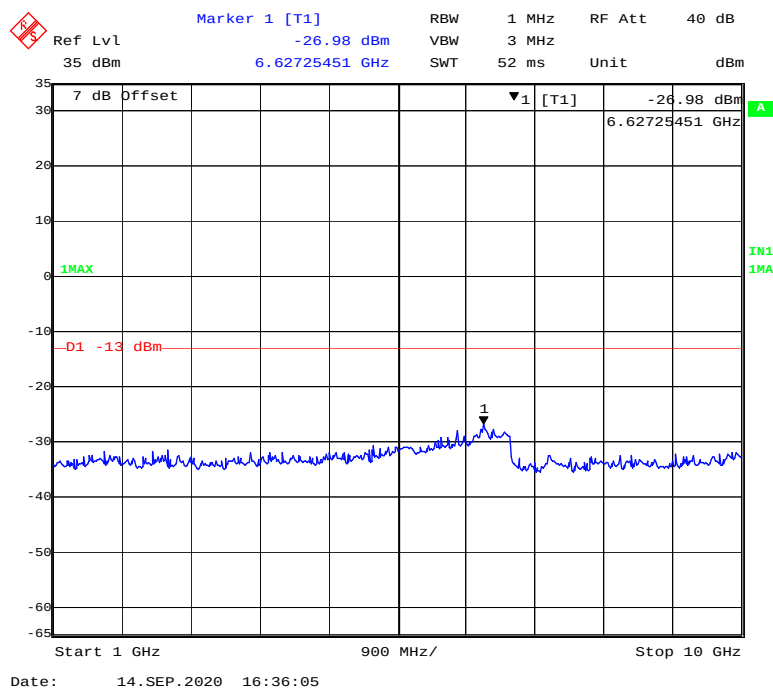
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (15 MHz, 16-QAM, High Channel)**

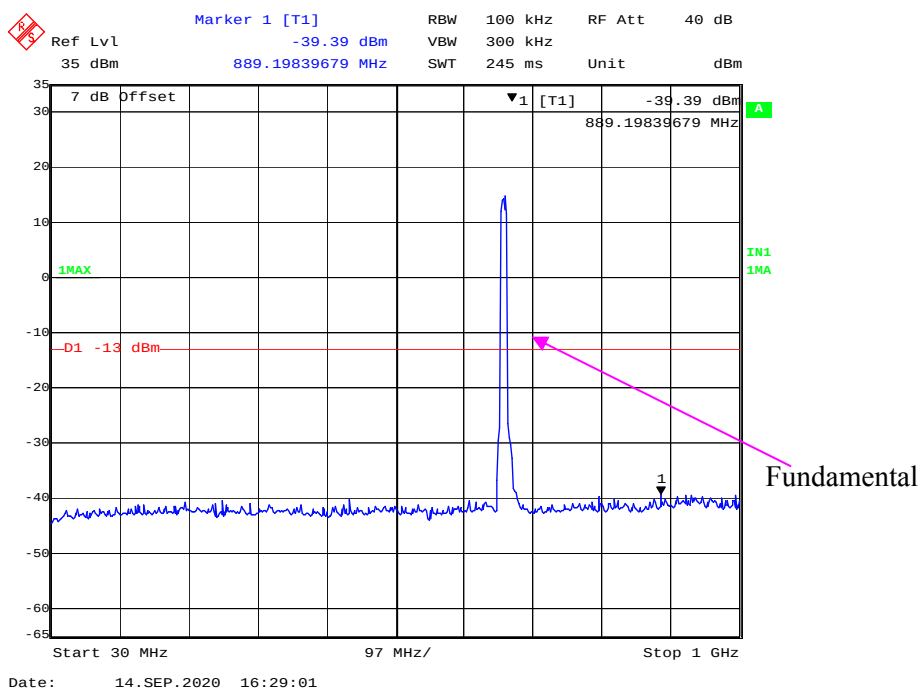
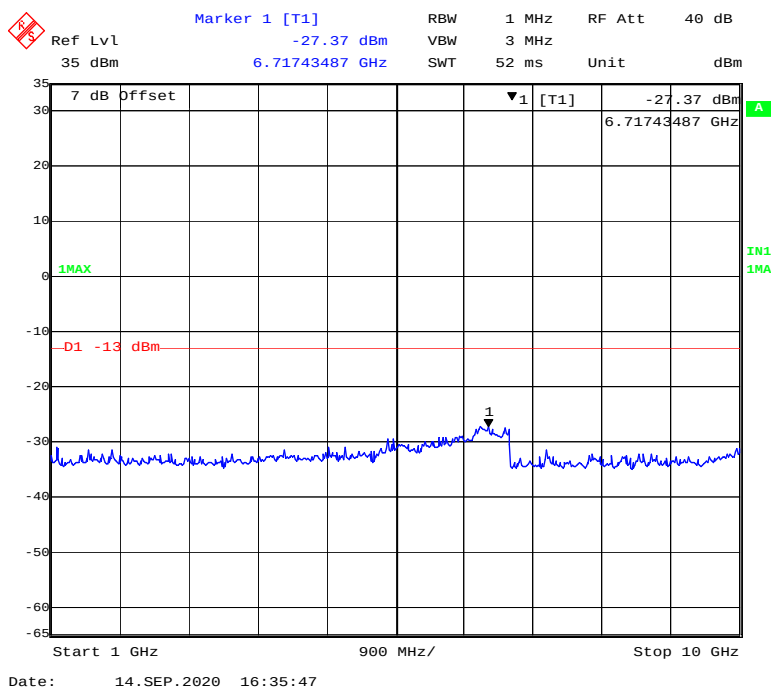
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)**1 GHz – 20 GHz (20 MHz, QPSK, High Channel)**

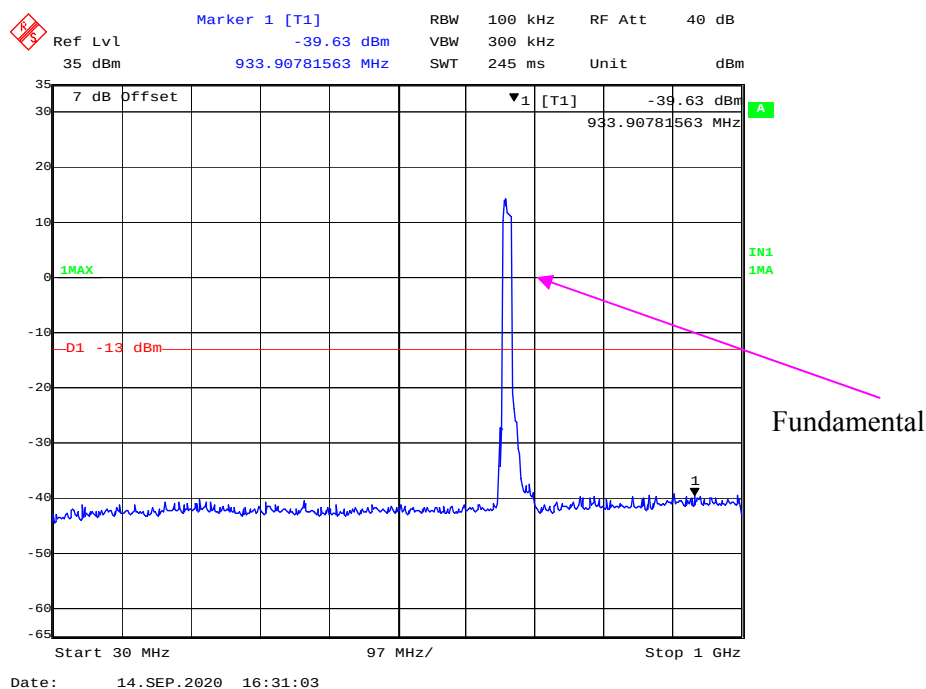
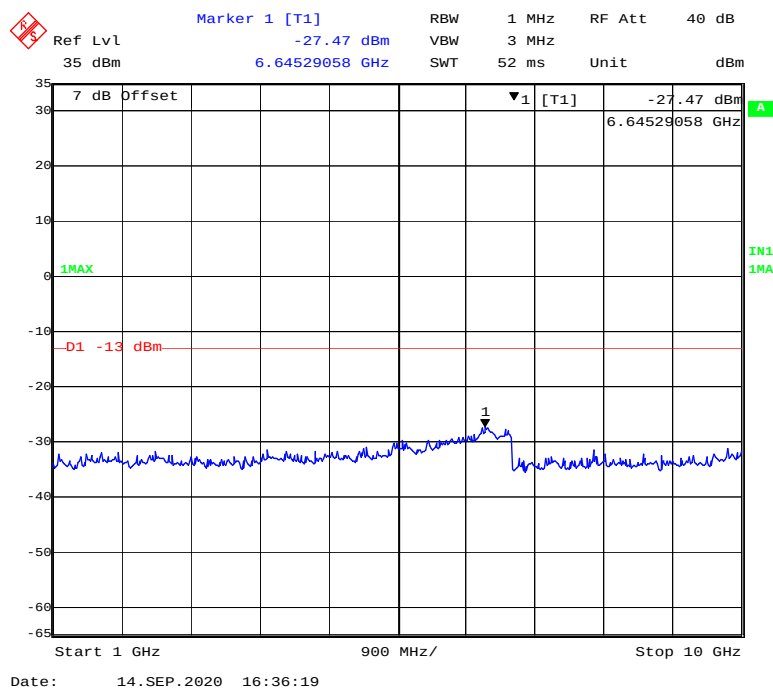
30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)**1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)**

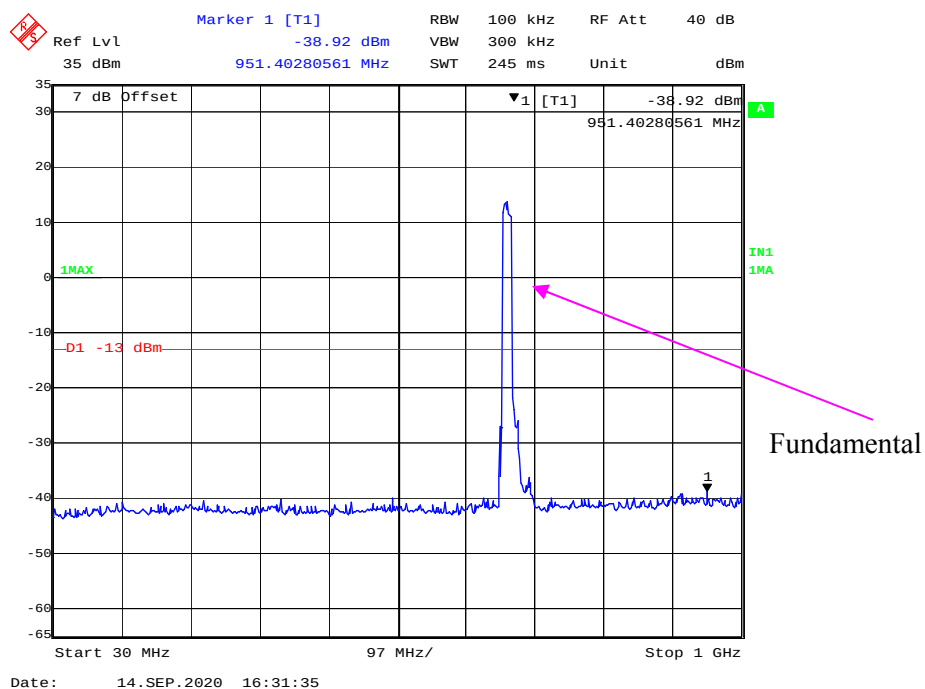
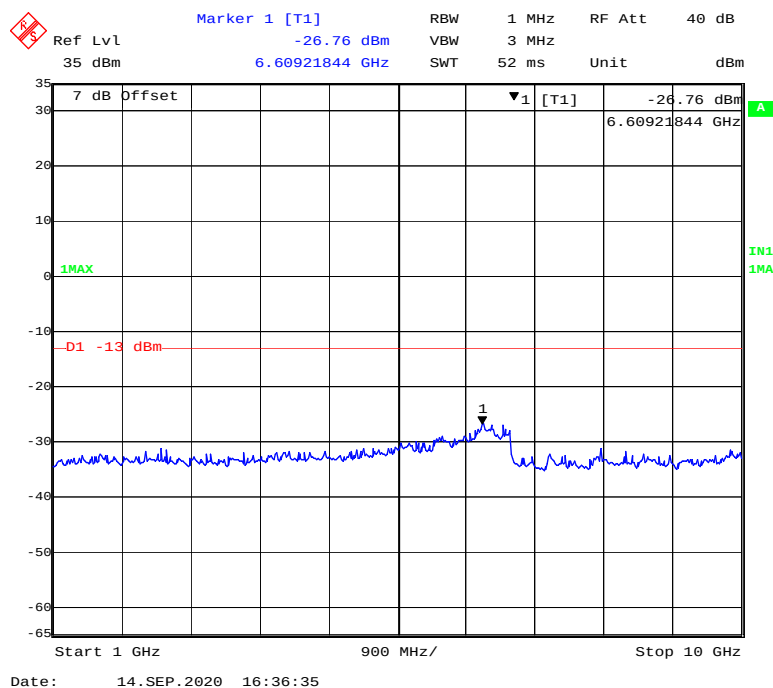
LTE Band 71:**30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)****1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)**

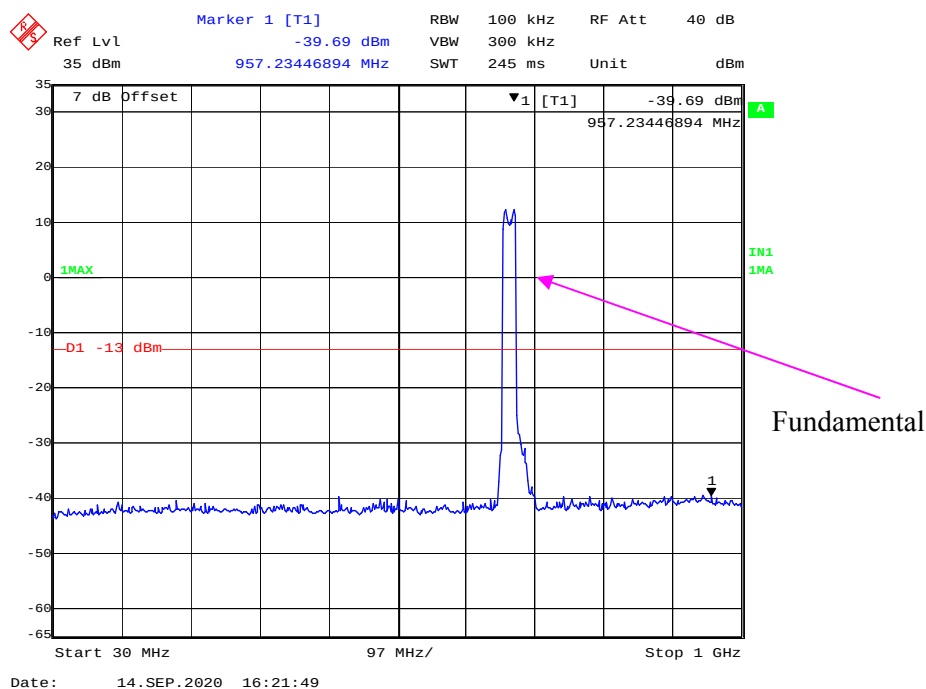
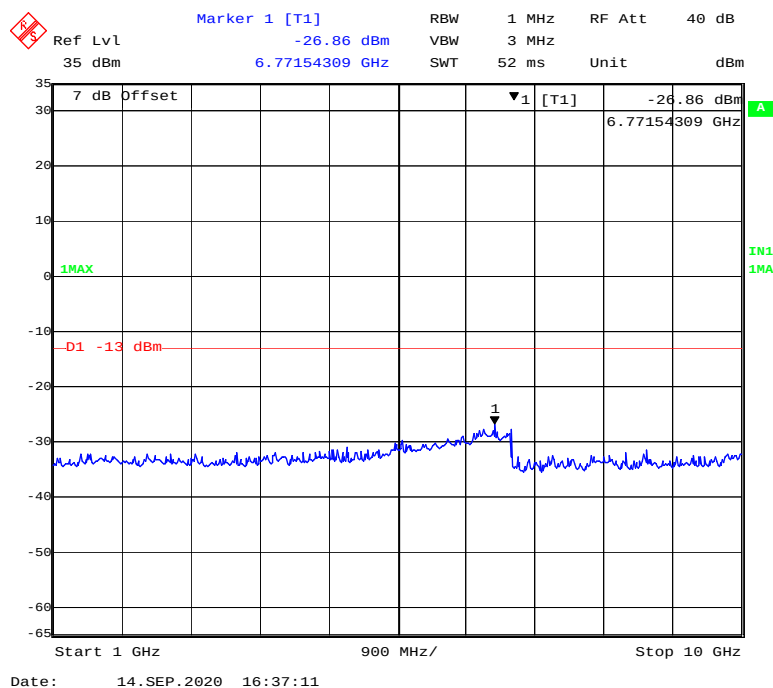
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)**

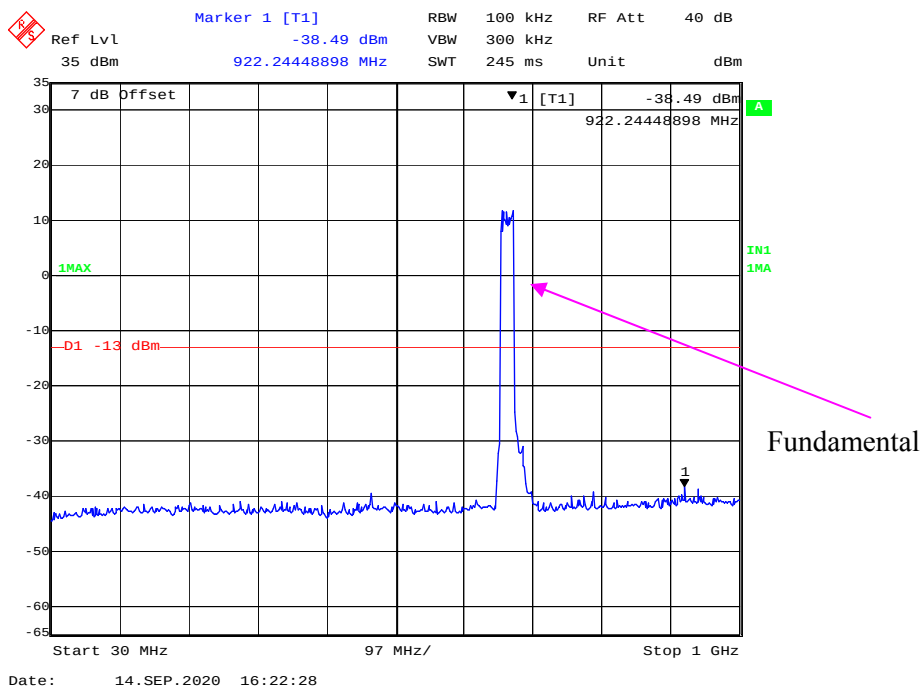
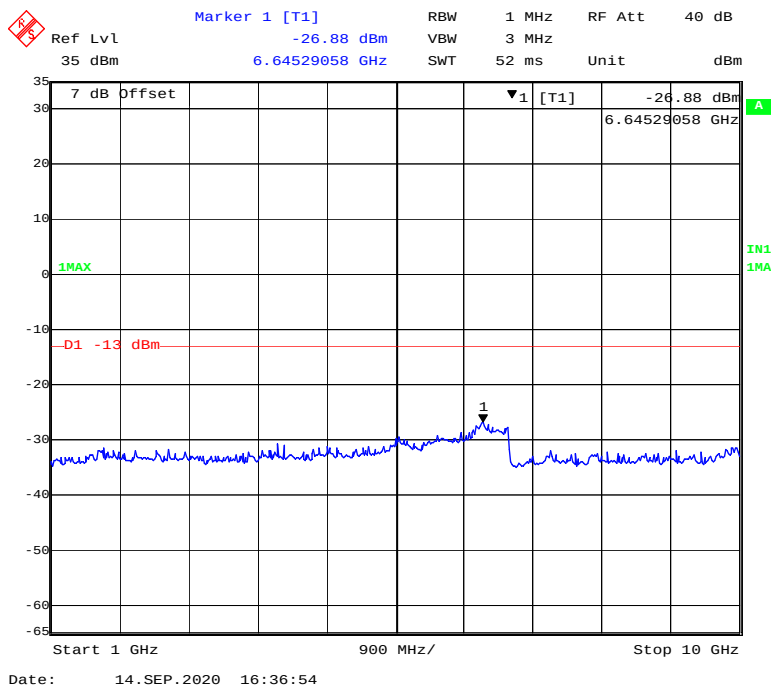
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)**1 GHz – 10GHz (10MHz, QPSK, Low Channel)**

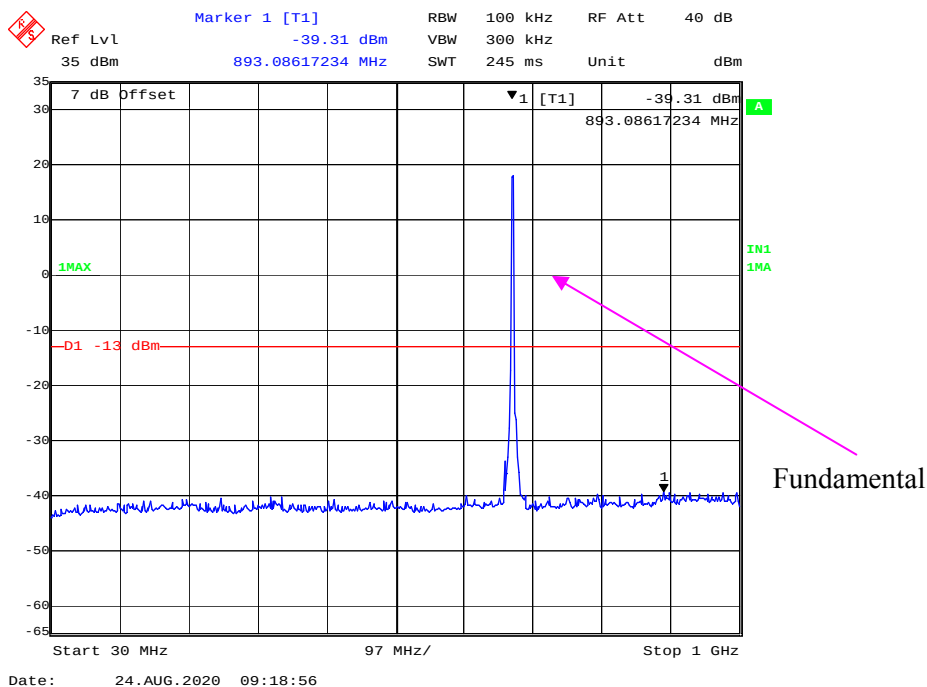
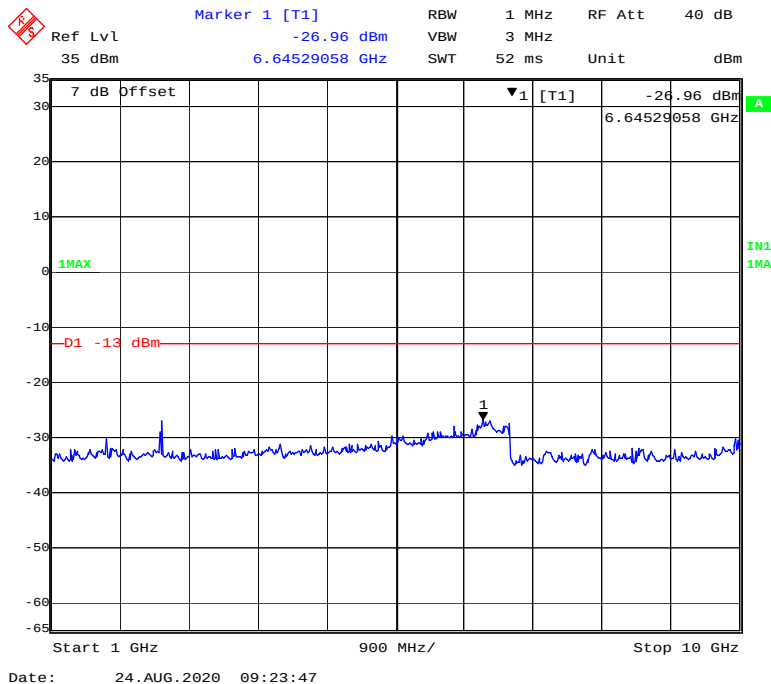
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, Low Channel)**

30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)**1 GHz – 10 GHz (15MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (15 MHz, 16-QAM, Low Channel)**

30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)**1 GHz – 10 GHz (20MHz, QPSK, Low Channel)**

30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)**1 GHz – 10 GHz (20 MHz, 16-QAM, Low Channel)**

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

Marker 1 [T1]

RBW 100 kHz RF Att 40 dB

VBW 300 kHz

SWT 245 ms Unit dBm

Ref Lvl 35 dBm

7 dB Offset

▼1 [T1] -39.79 dBm

939.73947896 MHz

1MAX

D1 -13 dBm

1

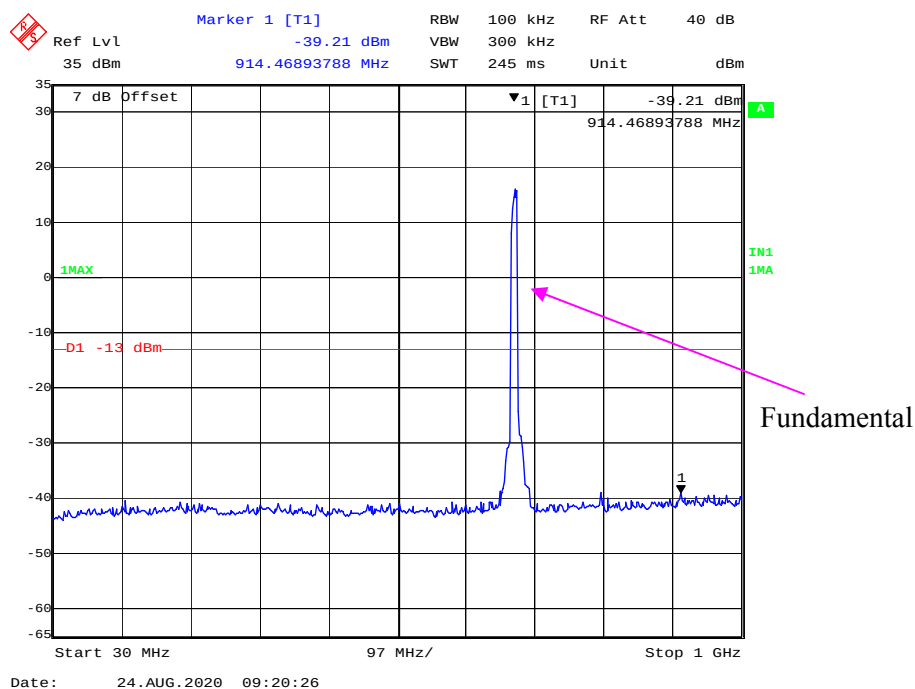
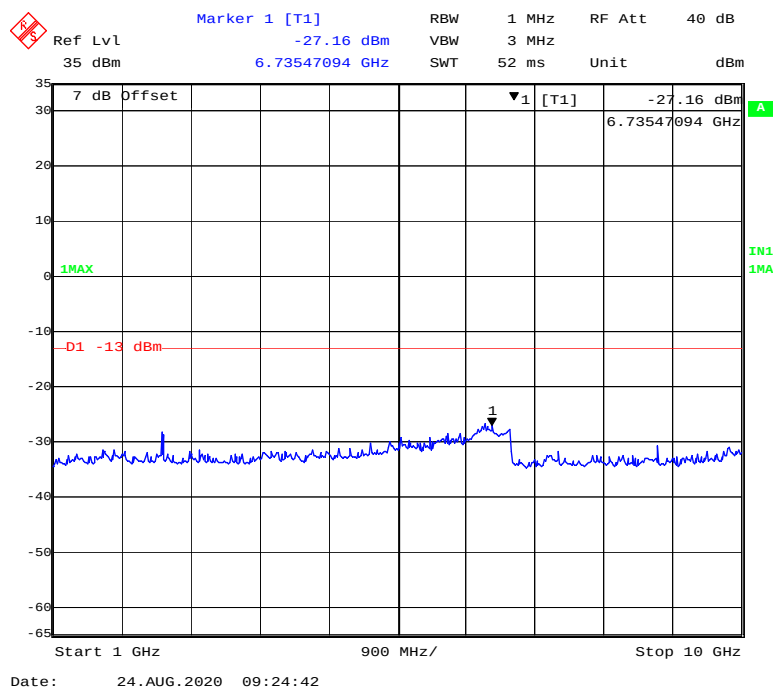
Start 30 MHz 97 MHz/ Stop 1 GHz

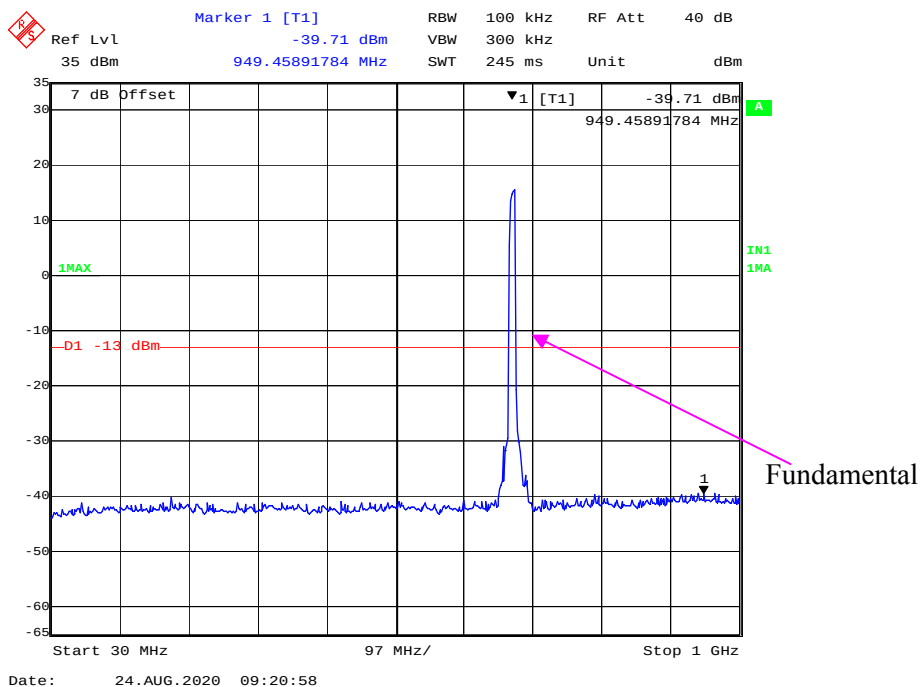
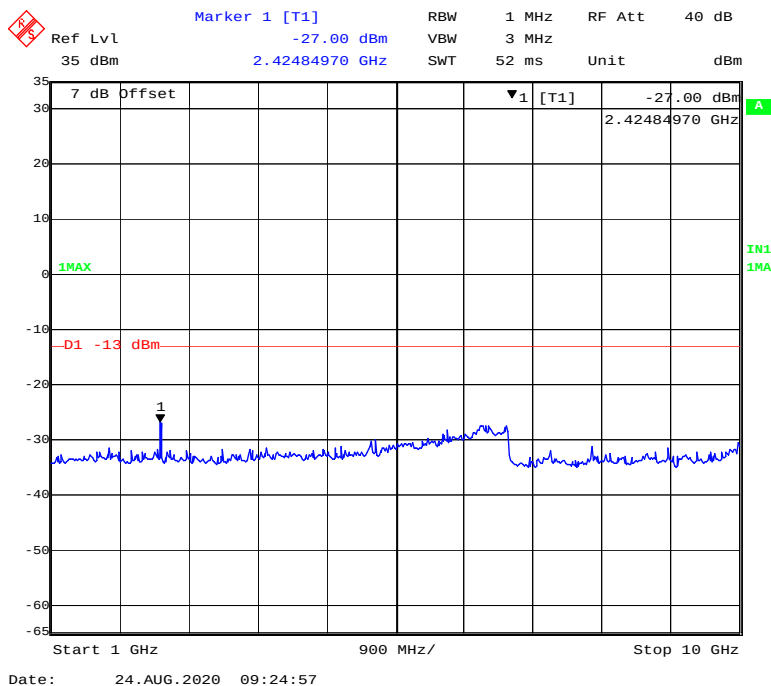
Date: 24.AUG.2020 09:19:25

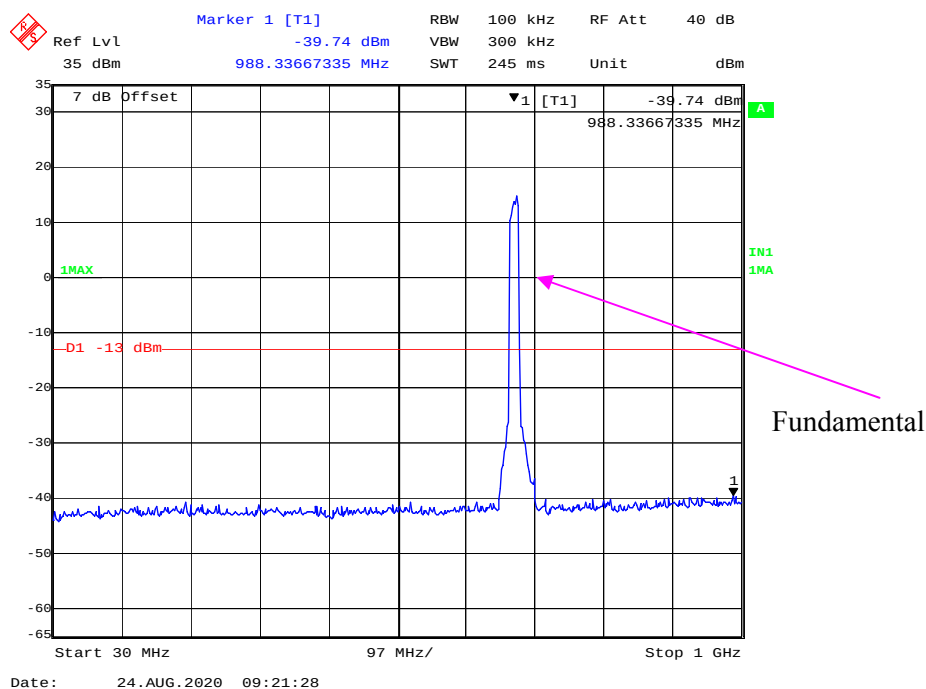
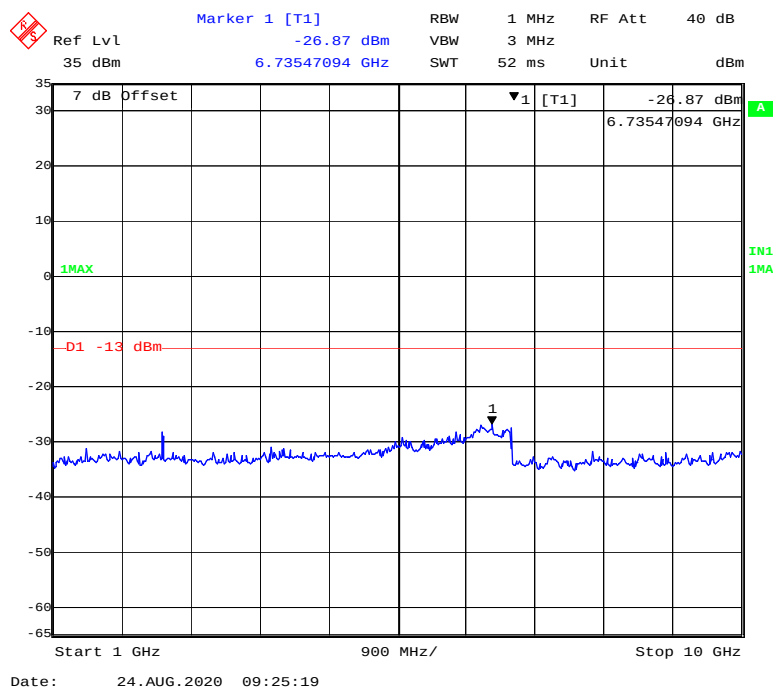
Ref Lvl 35 dBm
 Marker 1 [T1] -26.66 dBm
 RBW 1 MHz
 VBW 3 MHz
 SWT 52 ms
 RF Att 40 dB
 Unit dBm

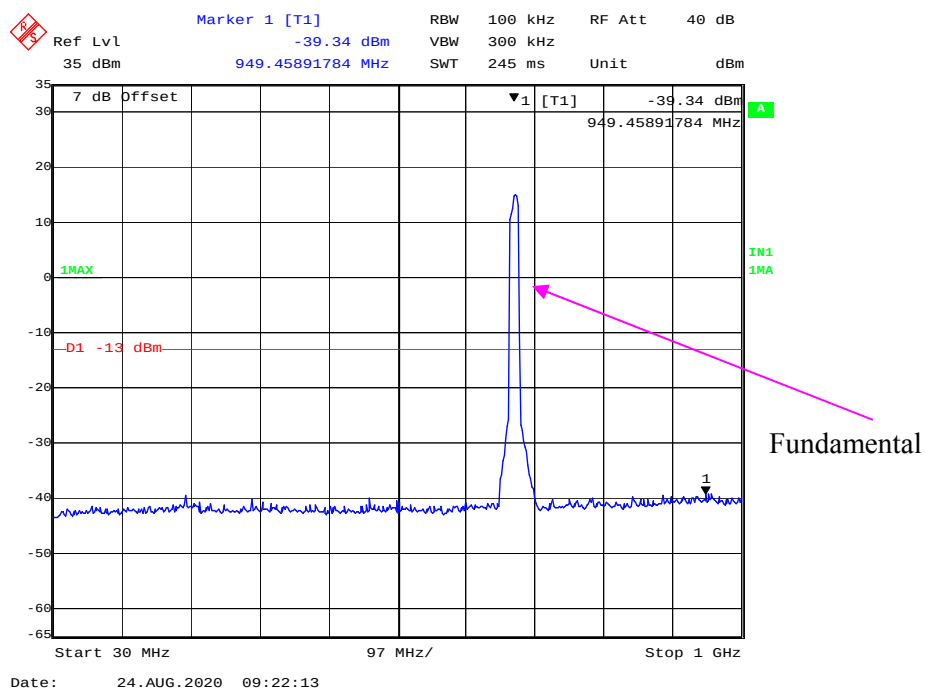
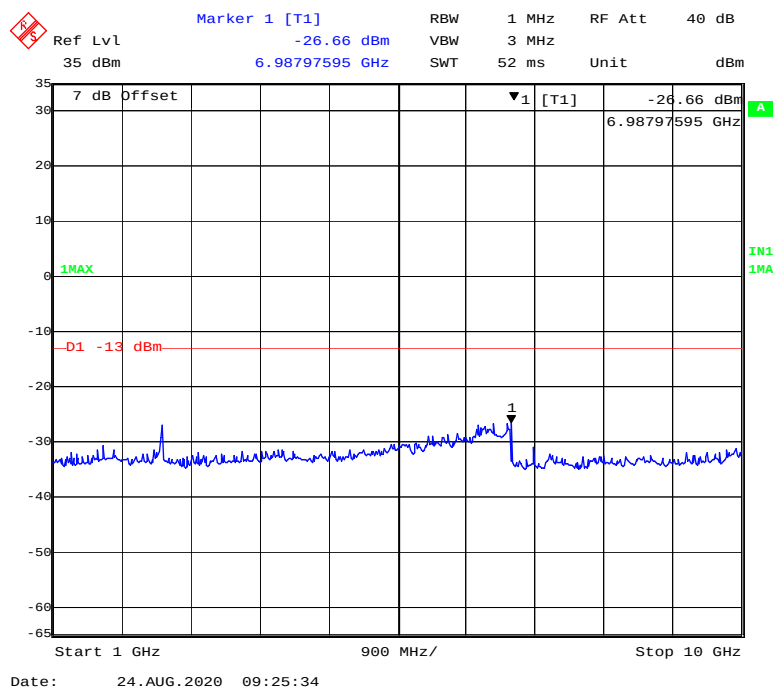
7 dB Offset
 1MAX
 D1 -13 dBm
 1
 Start 1 GHz
 900 MHz/
 Stop 10 GHz

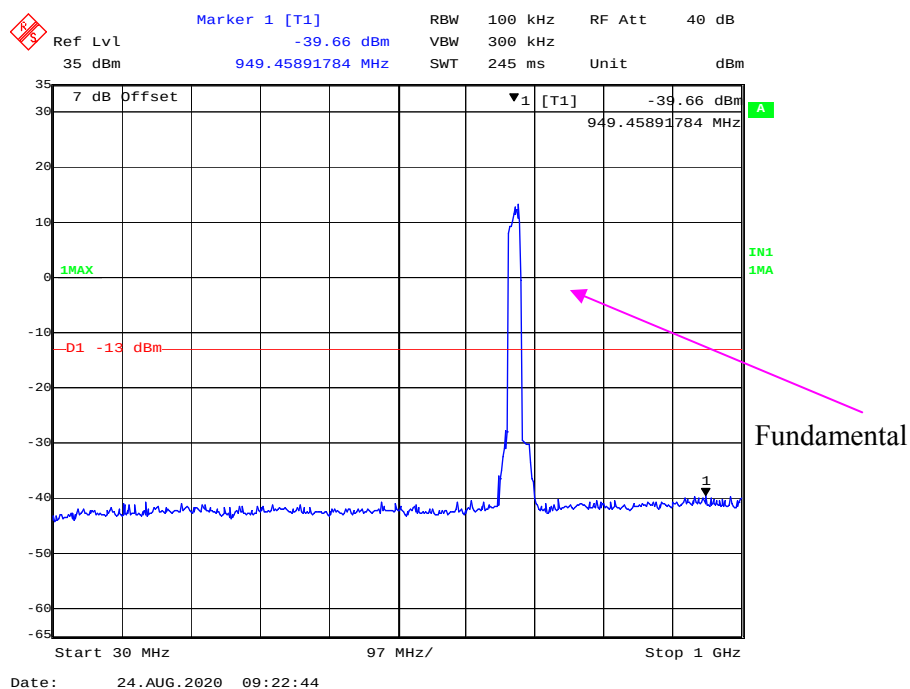
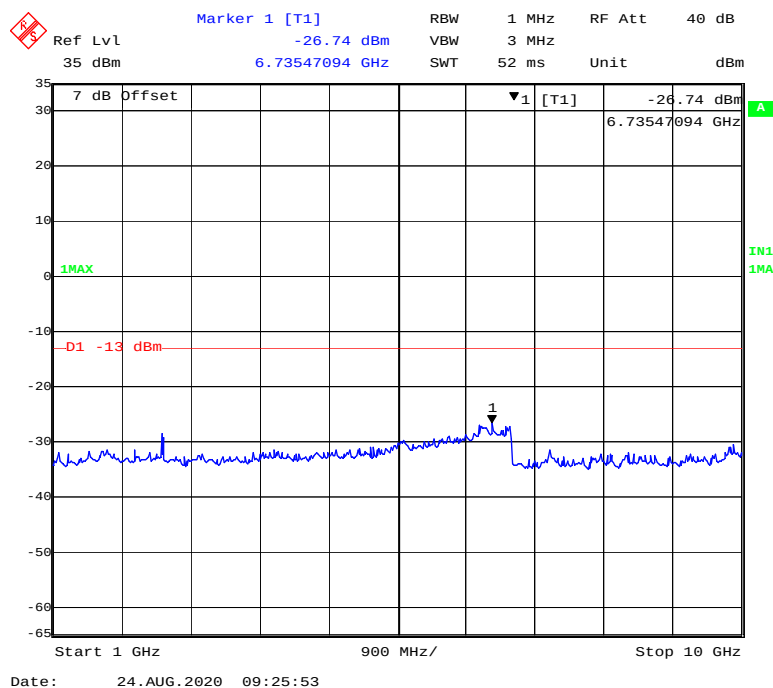
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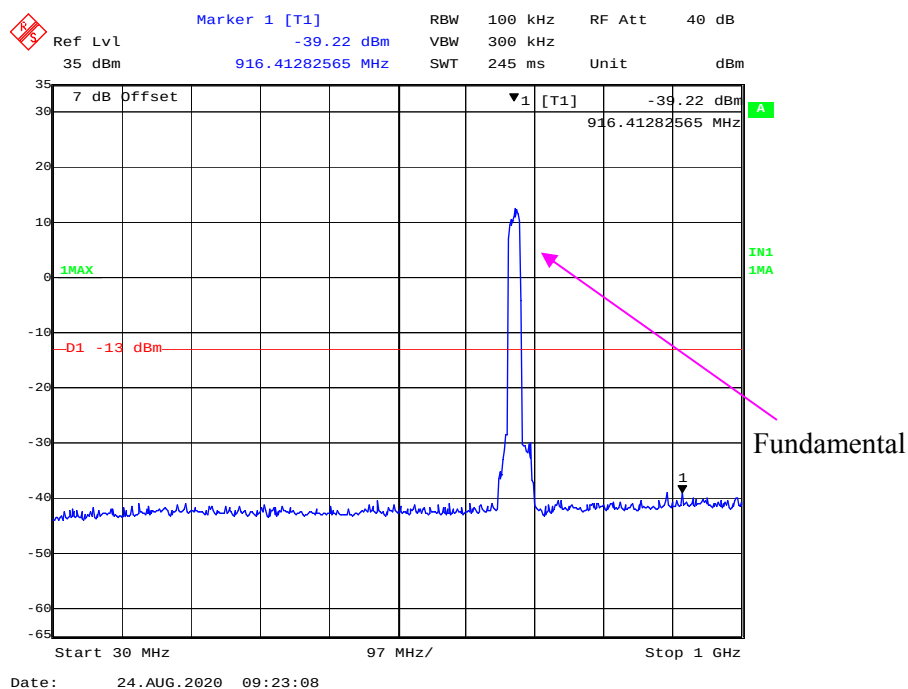
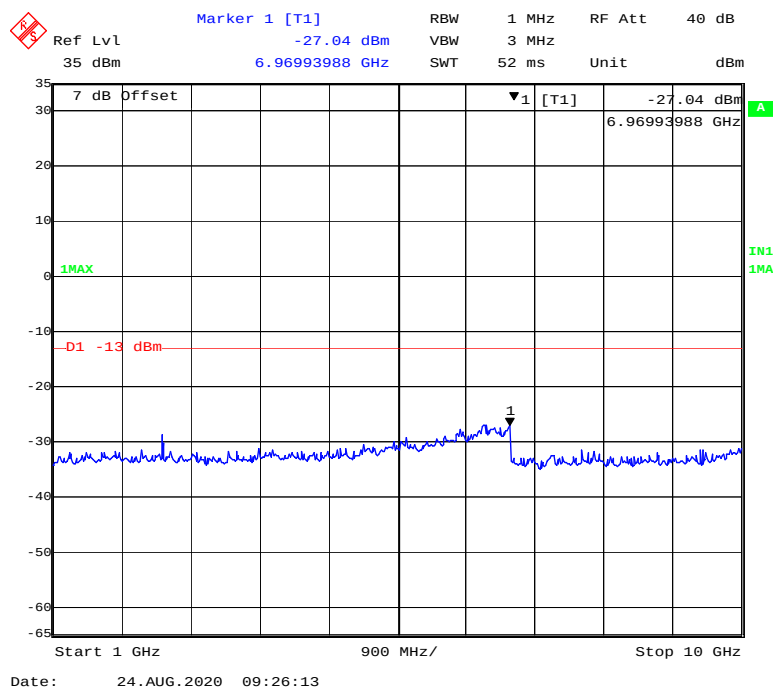
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)**1 GHz – 10GHz (10MHz, QPSK, Middle Channel)**

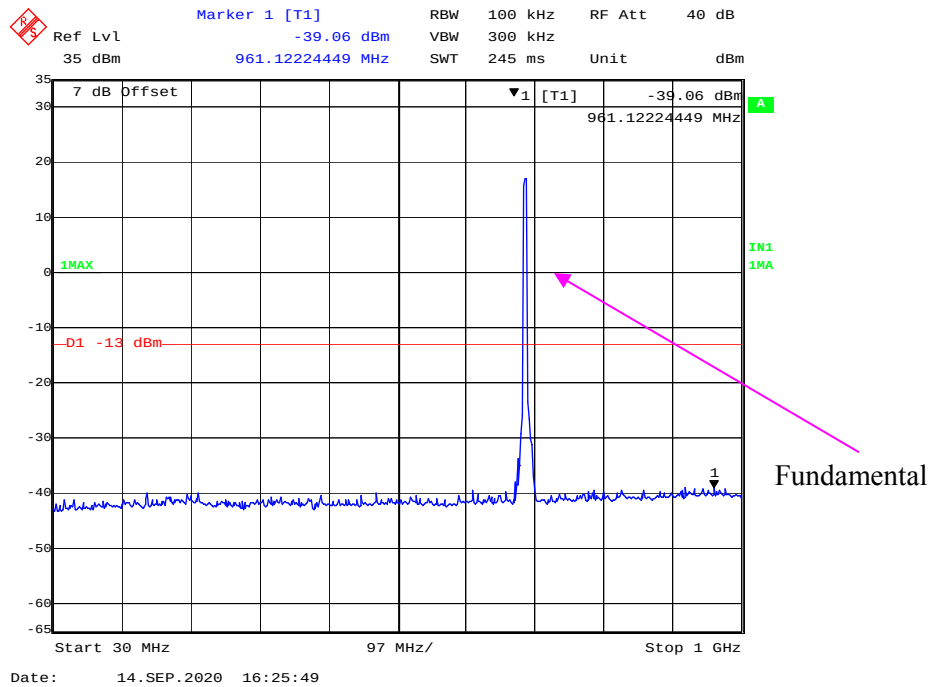
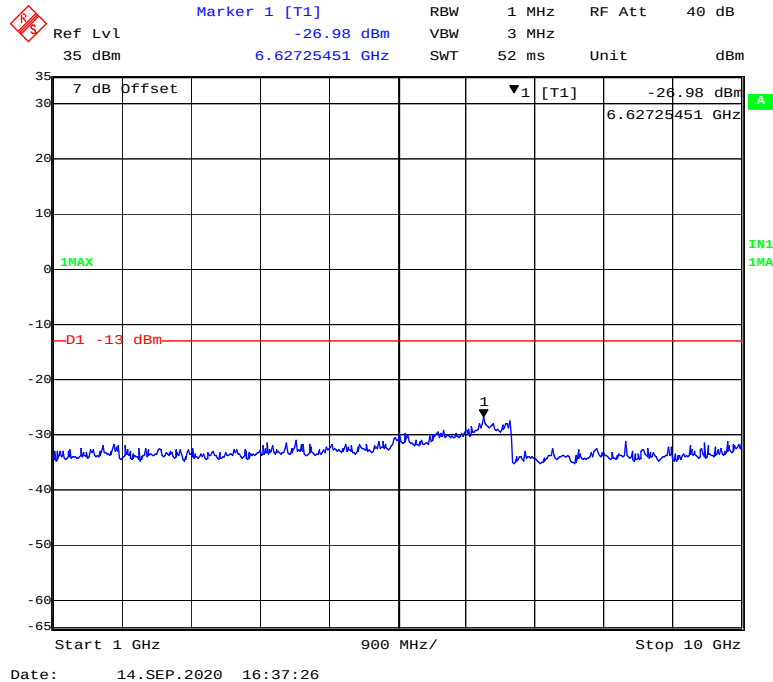
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)**

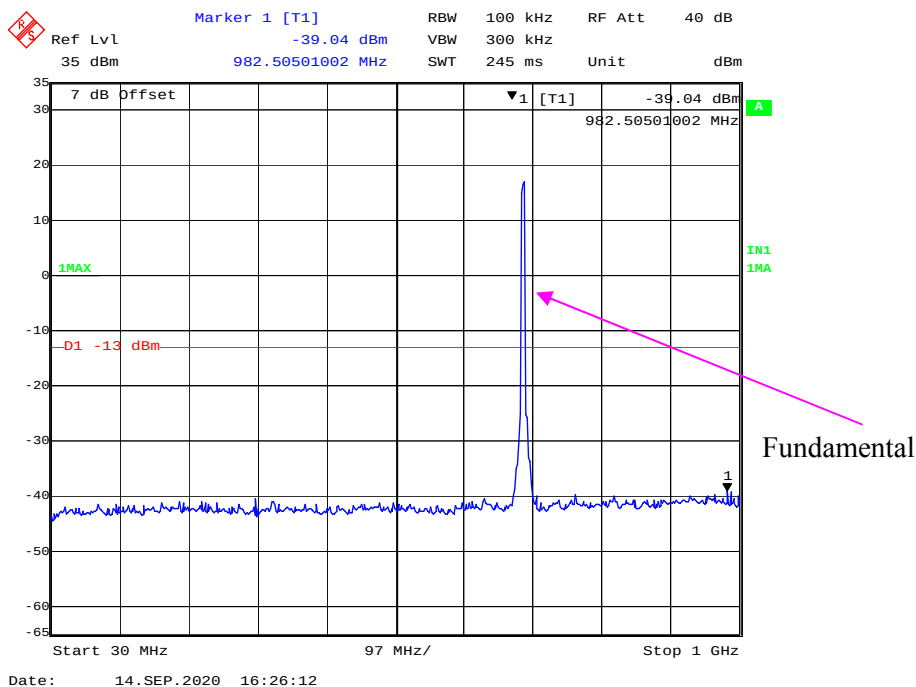
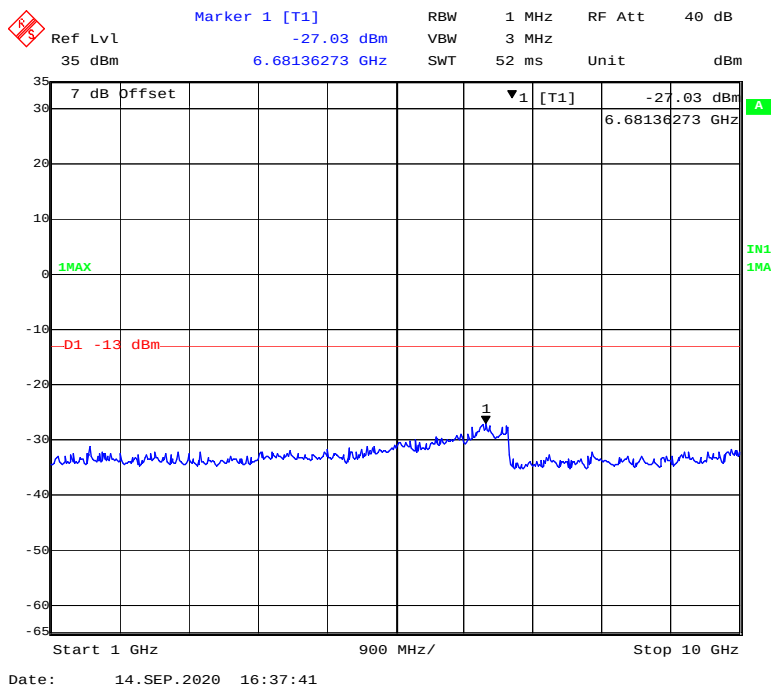
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (15MHz, QPSK, Middle Channel)**

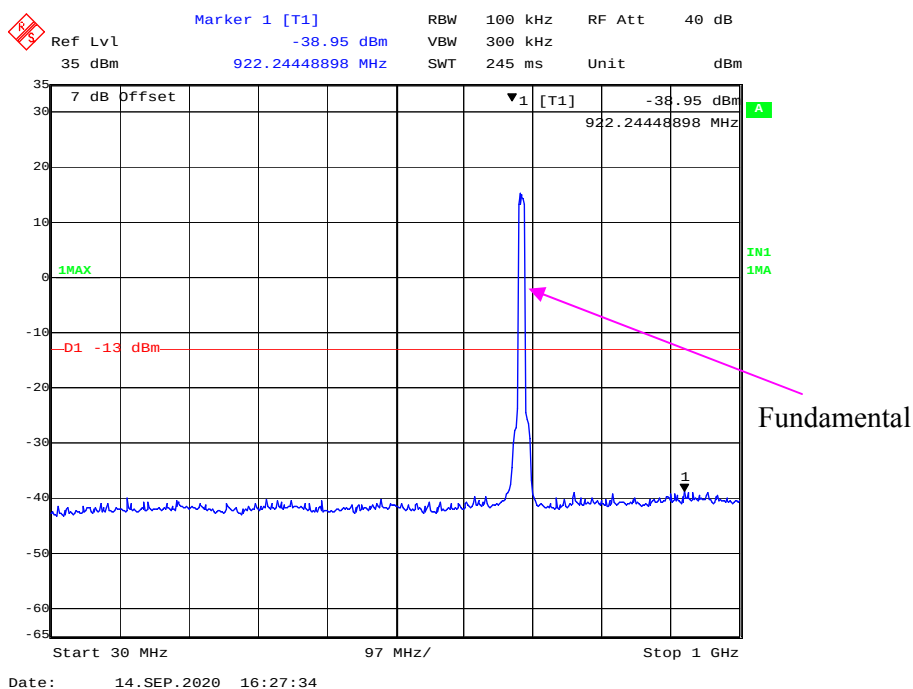
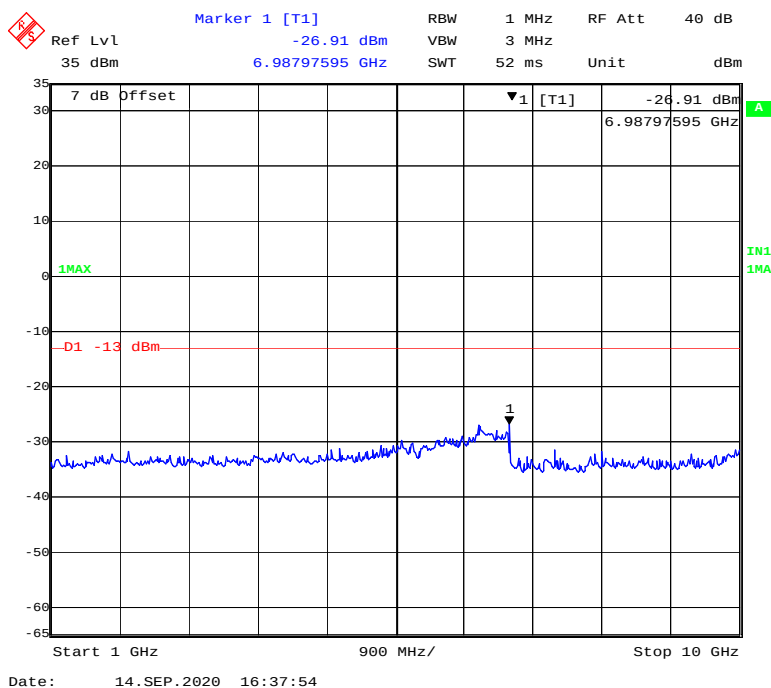
30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (15 MHz, 16-QAM, Middle Channel)**

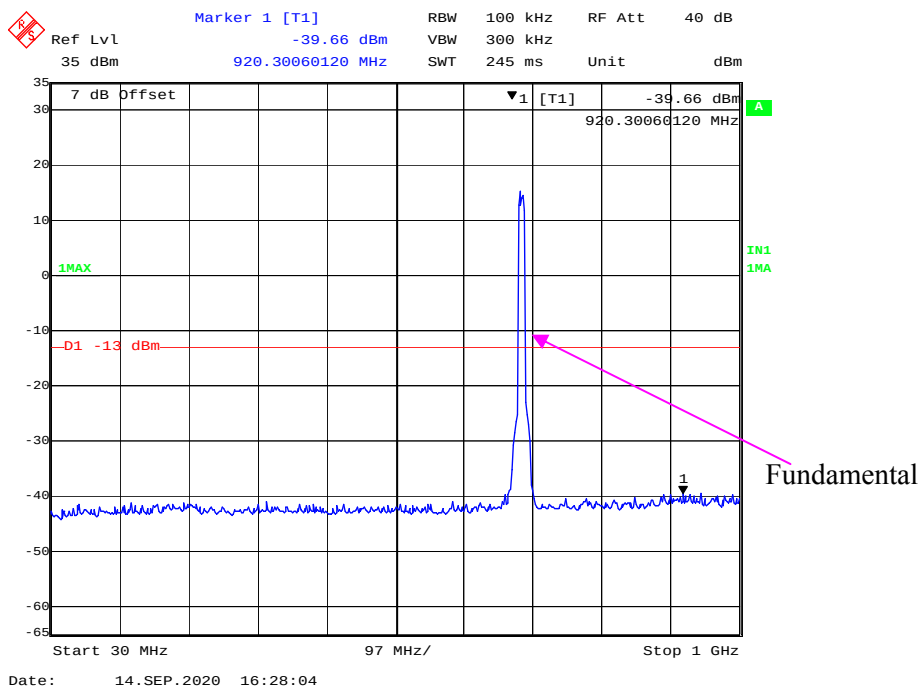
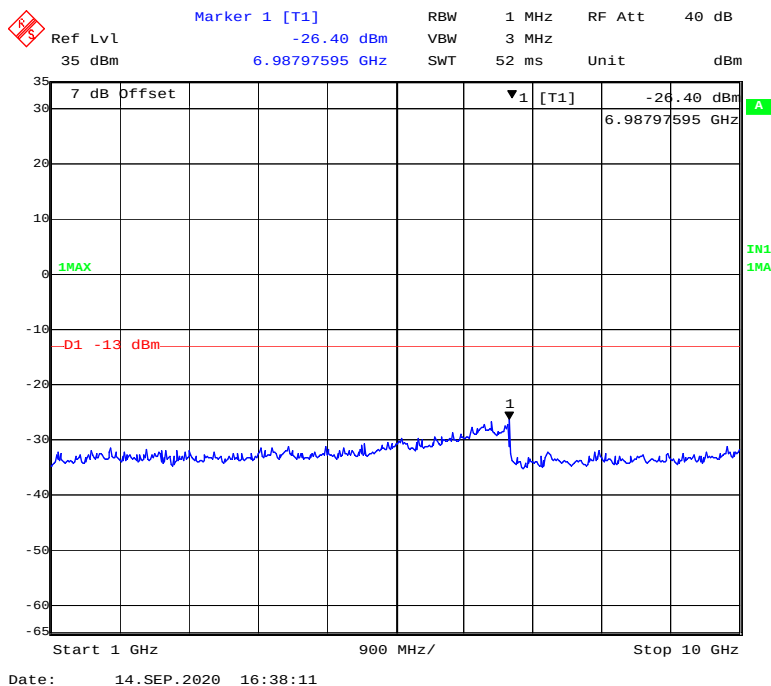
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)**1 GHz – 10 GHz (20MHz, QPSK, Middle Channel)**

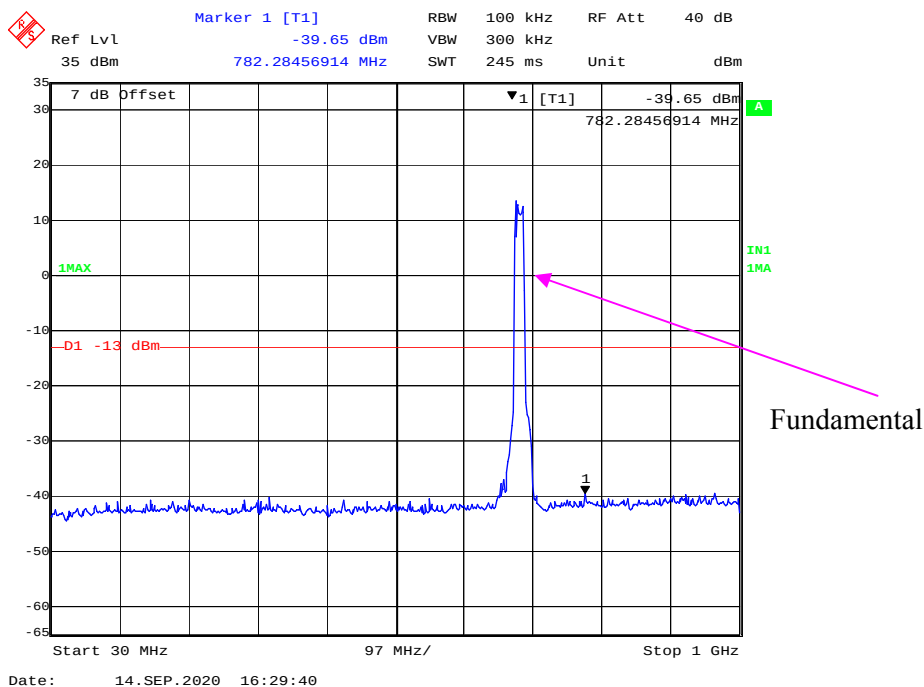
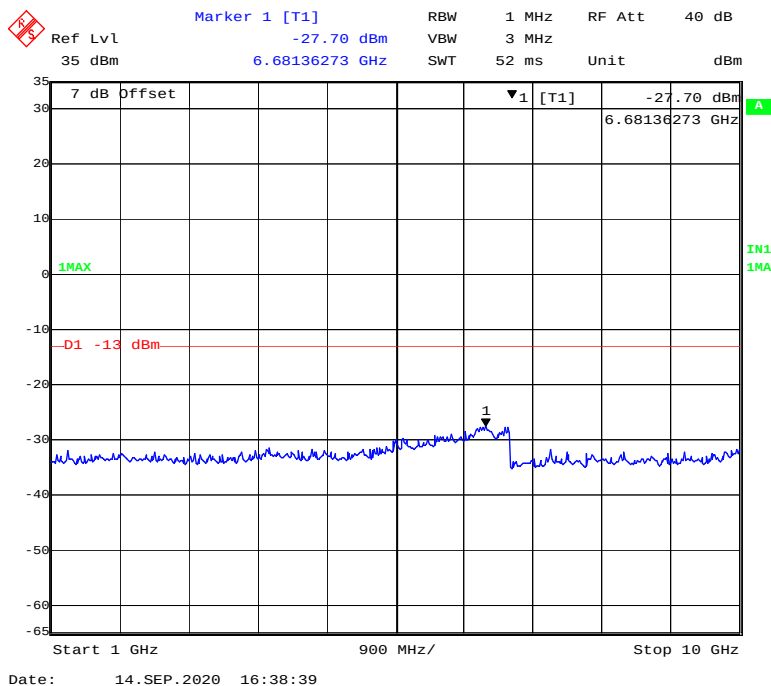
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)**1 GHz – 10 GHz (20 MHz, 16-QAM, Middle Channel)**

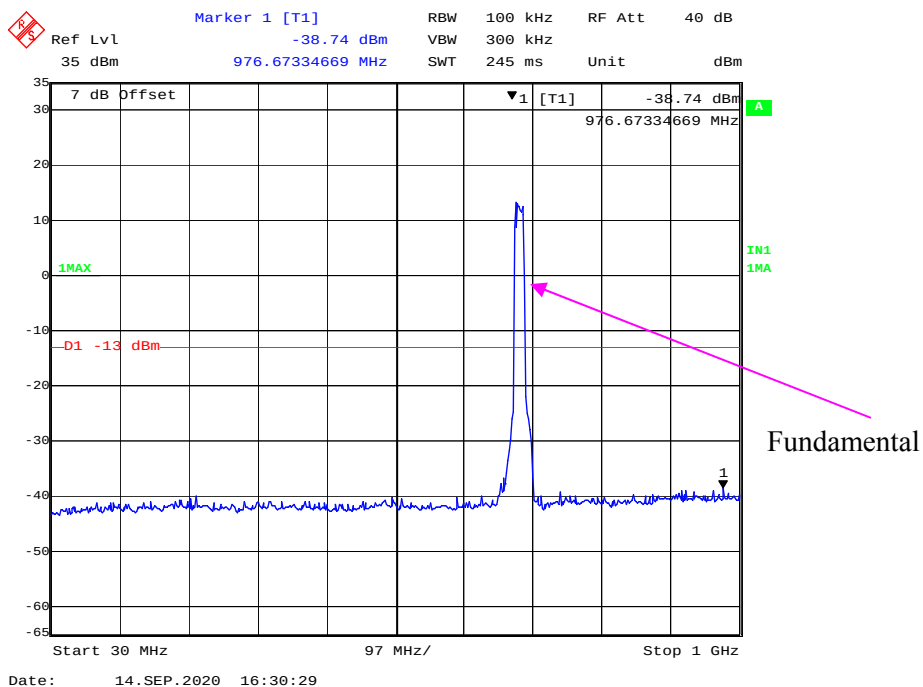
30 MHz - 1 GHz (5 MHz, QPSK, High Channel)**1 GHz – 10 GHz (5 MHz, QPSK, High Channel)**

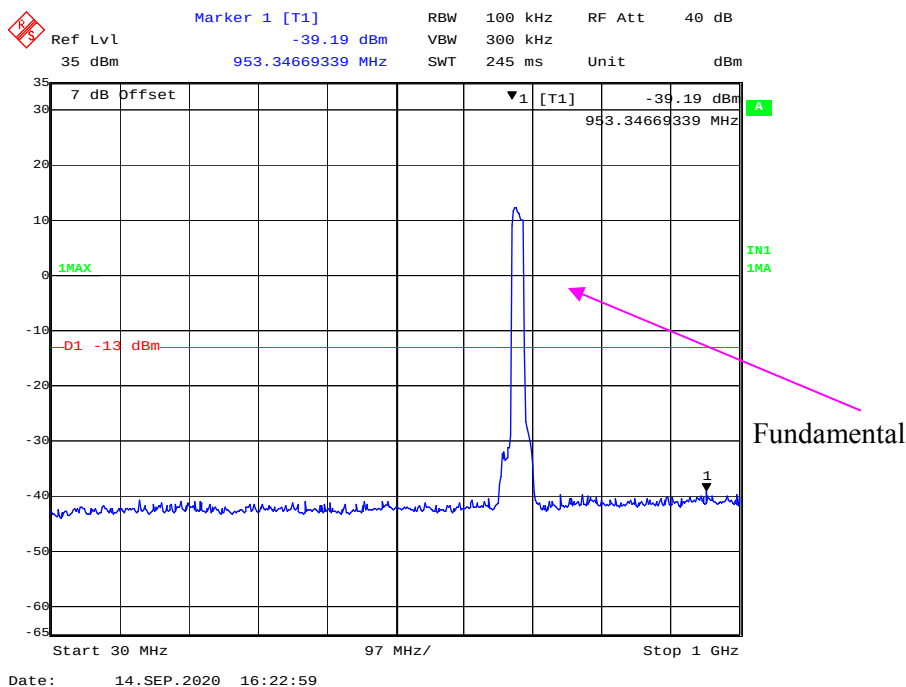
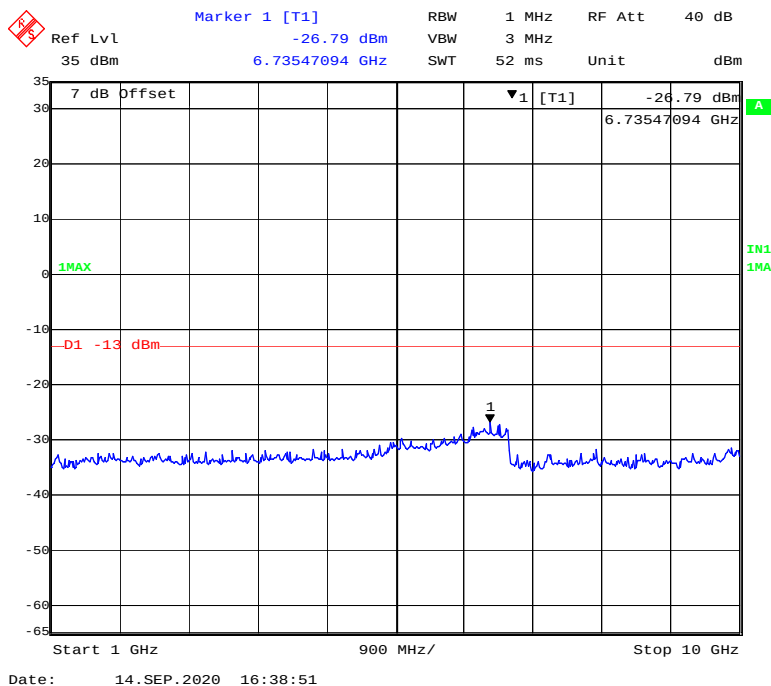
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)**

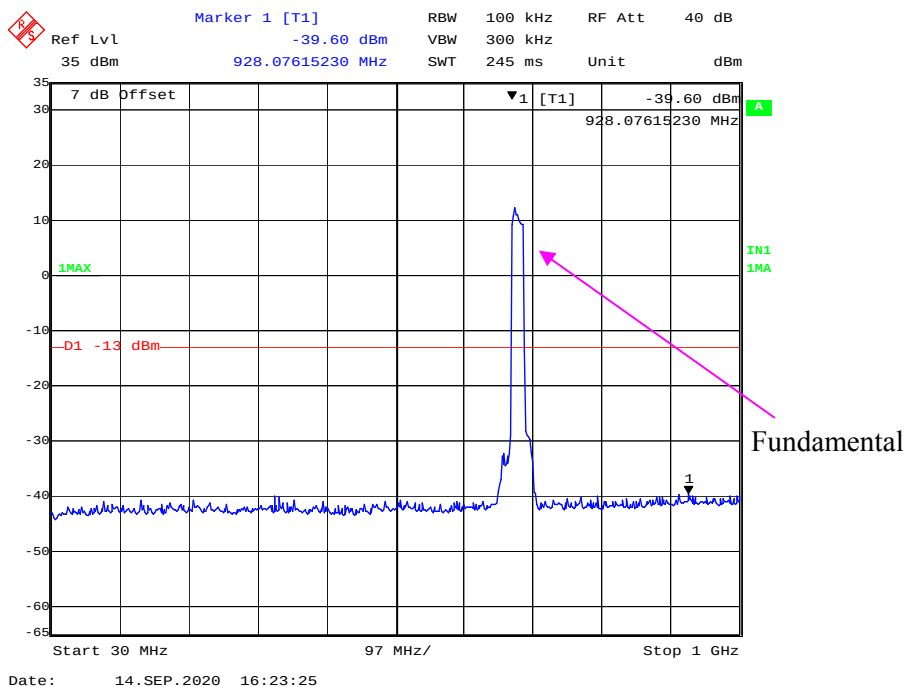
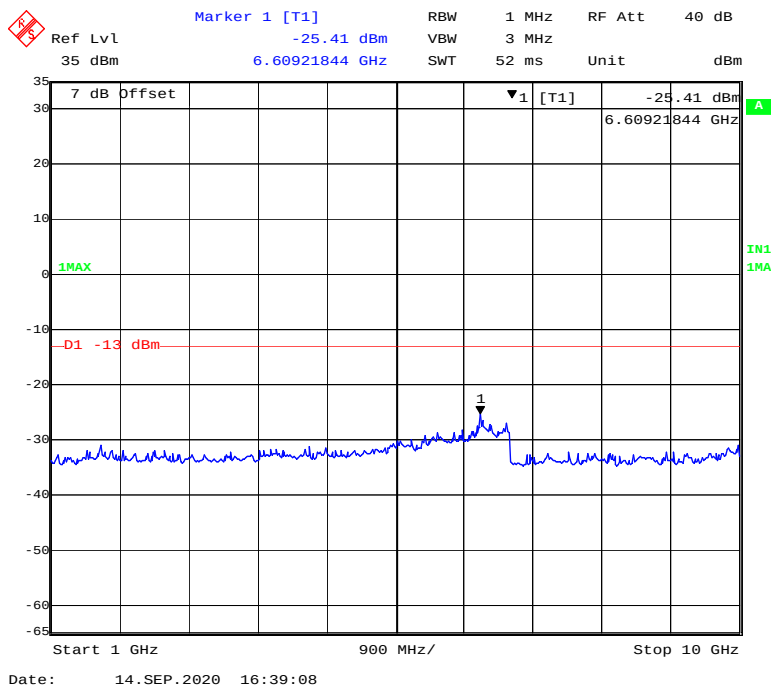
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)**1 GHz – 10GHz (10MHz, QPSK, High Channel)**

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

30 MHz - 1 GHz (15 MHz, QPSK, High Channel)**1 GHz – 10 GHz (15MHz, QPSK, High Channel)**

30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (15 MHz, 16-QAM, High Channel)**

30 MHz - 1 GHz (20 MHz, QPSK, High Channel)**1 GHz – 10 GHz (20MHz, QPSK, High Channel)**

30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)**1 GHz – 10 GHz (20 MHz, 16-QAM, High Channel)**

**FCC § 2.1053; § 22.917 (a); § 24.238 (a); §27.53 (c) (g) (h); § 90.543 -
SPURIOUS RADIATED EMISSIONS**

Applicable Standards

FCC § 2.1053, §22.917(a), § 24.238(a), §90.543 and § 27.53(h) (m)

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.

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.

According to FCC §27.53 (c) (g) (h), (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the 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, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(g)For operations in the 600 MHz band and the 698-746 MHz band, 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 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

According to §90.543, for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the 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, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

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:	23.2°C
Relative Humidity:	51 %
ATM Pressure:	101.3kPa

The testing was performed by CK Huang on 2020-09-16.

Test mode: Transmitting (Pre-scan with low, middle and high channels, and the worse case data as below)

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	53.19	46	150	H	-54.89	0.48	-1.87	-57.24	-13	44.24
335.30	52.79	108	150	V	-55.29	0.48	-1.87	-57.64	-13	44.64
1652.80	41.56	96	100	H	-71.76	0.84	8.44	-64.16	-13	51.16
1652.80	39.9	142	100	V	-73.42	0.84	8.44	-65.82	-13	52.82

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)			
WCDMA Mode, Middle channel										
335.30	52.09	115	150	H	-55.99	0.48	-1.87	-58.34	-13	45.34
335.30	52.46	37	150	V	-55.62	0.48	-1.87	-57.97	-13	44.97
1673.20	30.63	272	100	H	-72.76	0.84	8.48	-65.12	-13	52.12
1673.20	30.29	245	100	V	-73.10	0.84	8.48	-65.46	-13	52.46

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, High channel										
335.30	53.13	269	150	H	-54.95	0.48	-1.87	-57.3	-13	44.3
335.30	52.89	136	150	V	-55.19	0.48	-1.87	-57.54	-13	44.54
1693.20	39.17	251	100	H	-73.86	0.84	8.51	-66.19	-13	53.19
1693.20	39.53	152	100	V	-73.50	0.84	8.51	-65.83	-13	52.83

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	54.16	165	150	H	-50.47	0.58	-1.2	-52.25	-13	39.25
557.43	53.89	35	150	V	-50.74	0.58	-1.2	-52.52	-13	39.52
3704.80	36.74	321	200	H	-70.22	0.95	9.78	-61.39	-13	48.39
3704.80	37.94	274	100	V	-69.02	0.95	9.78	-60.19	-13	47.19

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, Middle channel										
557.43	53.76	350	150	H	-50.87	0.58	-1.2	-52.65	-13	39.65
557.43	53.19	90	150	V	-51.44	0.58	-1.2	-53.22	-13	40.22
3760.00	37.68	125	200	H	-69.1	0.95	9.74	-60.31	-13	47.31
3760.00	37.86	90	100	V	-68.92	0.95	9.74	-60.13	-13	47.13

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)			
WCDMA Mode, High channel										
557.43	53.19	127	150	H	-51.44	0.58	-1.2	-53.22	-13	40.22
557.43	52.76	90	150	V	-51.87	0.58	-1.2	-53.65	-13	40.65
3815.20	37.36	339	200	H	-69.24	0.96	9.71	-60.49	-13	47.49
3815.20	38.36	44	100	V	-68.24	0.96	9.71	-59.49	-13	46.49

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	58.36	193	150	H	-42.21	0.62	-1.69	-44.52	-13	31.52
711.18	59.49	298	150	V	-41.08	0.62	-1.69	-43.39	-13	30.39
3430.00	42.87	202	200	H	-65.03	0.93	9.83	-56.13	-13	43.13
3430.00	43.14	308	100	V	-64.76	0.93	9.83	-55.86	-13	42.86

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)			
WCDMA Mode, Middle channel										
711.18	59.47	153	150	H	-41.1	0.62	-1.69	-43.41	-13	30.41
711.18	59.16	312	150	V	-41.41	0.62	-1.69	-43.72	-13	30.72
3465.20	42.23	45	200	H	-65.52	0.93	9.87	-56.58	-13	43.58
3465.20	42.32	37	100	V	-65.43	0.93	9.87	-56.49	-13	43.49

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, High channel										
711.18	58.49	30	150	H	-42.08	0.62	-1.69	-44.39	-13	31.39
711.18	60.16	101	150	V	-40.41	0.62	-1.69	-42.72	-13	29.72
3500.00	41.80	200	200	H	-65.80	0.93	9.90	-56.83	-13	43.83
3500.00	41.44	60	100	V	-66.16	0.93	9.90	-57.19	-13	44.19

Note:

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

Test mode: Transmitting (Pre-scan with all the bandwidth, and worse case as below)

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										
584.11	58.16	230	100	H	-45.11	0.59	-0.86	-43.66	-13	30.66
584.11	57.96	339	200	V	-45.31	0.59	-0.86	-43.86	-13	30.86
3701.40	42.37	83	150	H	-64.59	0.95	9.78	-55.76	-13	42.76
3701.40	41.77	164	100	V	-65.19	0.95	9.78	-56.36	-13	43.36
16-QAM 1.4MHz Bandwidth Low Channel										
584.11	58.02	225	150	H	-45.25	0.59	-0.86	-43.8	-13	30.80
584.11	57.49	23	150	V	-45.78	0.59	-0.86	-44.33	-13	31.33
3701.40	41.37	360	200	H	-65.59	0.95	9.78	-56.76	-13	43.76
3701.40	42.15	66	200	V	-64.81	0.95	9.78	-55.98	-13	42.98

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										
584.11	57.81	94	100	H	-45.46	0.59	-0.86	-44.01	-13	31.01
584.11	57.49	259	200	V	-45.78	0.59	-0.86	-44.33	-13	31.33
3760.00	41.78	340	150	H	-65	0.95	9.74	-56.21	-13	43.21
3760.00	41.5	70	100	V	-65.28	0.95	9.74	-56.49	-13	43.49
16-QAM 1.4MHz Bandwidth Middle Channel										
584.11	57.09	254	150	H	-46.18	0.59	-0.86	-44.73	-13	31.73
584.11	57.68	224	150	V	-45.59	0.59	-0.86	-44.14	-13	31.14
3760.00	41.76	187	200	H	-65.02	0.95	9.74	-56.23	-13	43.23
3760.00	41.18	293	200	V	-65.6	0.95	9.74	-56.81	-13	43.81

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										
584.11	57.38	99	100	H	-45.89	0.59	-0.86	-44.44	-13	31.44
584.11	56.19	288	200	V	-47.08	0.59	-0.86	-45.63	-13	32.63
3818.60	41.66	201	150	H	-64.94	0.96	9.71	-56.19	-13	43.19
3818.60	40.32	260	100	V	-66.28	0.96	9.71	-57.53	-13	44.53
16-QAM 1.4MHz Bandwidth High Channel										
584.11	57.19	148	150	H	-46.08	0.59	-0.86	-44.63	-13	31.63
584.11	56.89	33	150	V	-46.38	0.59	-0.86	-44.93	-13	31.93
3818.60	41.76	322	200	H	-64.84	0.96	9.71	-56.09	-13	43.09
3818.60	40.69	160	200	V	-65.91	0.96	9.71	-57.16	-13	44.16

30 MHz ~ 20 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										
736.16	58.49	27	100	H	-42.5	0.62	-1.57	-40.31	-13	27.31
736.16	57.68	253	200	V	-43.31	0.62	-1.57	-41.12	-13	28.12
3421.40	43	356	150	H	-64.94	0.93	9.82	-56.05	-13	43.05
3421.40	43.37	258	100	V	-64.57	0.93	9.82	-55.68	-13	42.68
16-QAM 1.4MHz Bandwidth Low Channel										
736.16	58.19	85	150	H	-42.8	0.62	-1.57	-40.61	-13	27.61
736.16	58.69	349	150	V	-42.3	0.62	-1.57	-40.11	-13	27.11
3421.40	43.19	216	200	H	-64.75	0.93	9.82	-55.86	-13	42.86
3421.40	42.14	101	200	V	-65.8	0.93	9.82	-56.91	-13	43.91

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										
736.16	58.6	94	100	H	-42.39	0.62	-1.57	-40.2	-13	27.2
736.16	58.34	263	200	V	-42.65	0.62	-1.57	-40.46	-13	27.46
3465.00	42.25	252	150	H	-65.5	0.93	9.87	-56.56	-13	43.56
3465.00	42	103	100	V	-65.75	0.93	9.87	-56.81	-13	43.81
16-QAM 1.4MHz Bandwidth Middle Channel										
736.16	58.01	10	150	H	-42.98	0.62	-1.57	-40.79	-13	27.79
736.16	57.98	57	150	V	-43.01	0.62	-1.57	-40.82	-13	27.82
3465.00	42.03	92	200	H	-65.72	0.93	9.87	-56.78	-13	43.78
3465.00	41.79	150	200	V	-65.96	0.93	9.87	-57.02	-13	44.02

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										
736.16	57.69	185	100	H	-43.3	0.62	-1.57	-41.11	-13	28.11
736.16	58.03	133	200	V	-42.96	0.62	-1.57	-40.77	-13	27.77
3508.60	41.74	224	150	H	-65.83	0.93	9.90	-56.86	-13	43.86
3508.60	41.59	18	100	V	-65.98	0.93	9.90	-57.01	-13	44.01
16-QAM 1.4MHz Bandwidth High Channel										
736.16	57.98	82	150	H	-43.01	0.62	-1.57	-40.82	-13	27.82
736.16	56.19	230	150	V	-44.8	0.62	-1.57	-42.61	-13	29.61
3508.60	42.11	39	200	H	-65.46	0.93	9.90	-56.49	-13	43.49
3508.60	41.87	164	200	V	-65.7	0.93	9.90	-56.73	-13	43.73

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 Middle Channel										
342.82	49.38	97	100	H	-58.88	0.49	-1.81	-56.58	-13	43.58
342.82	49.68	83	200	V	-58.58	0.49	-1.81	-56.28	-13	43.28
1399.40	43.58	134	150	H	-70.59	0.82	7.92	-63.49	-13	50.49
1399.40	43.26	275	100	V	-70.91	0.82	7.92	-63.81	-13	50.81
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	50.19	352	150	H	-58.07	0.49	-1.91	-55.67	-13	42.67
342.82	49.68	264	150	V	-58.58	0.49	-1.91	-56.18	-13	43.18
1399.40	43.58	170	200	H	-70.59	0.82	7.92	-63.49	-13	50.49
1399.40	42.34	317	200	V	-71.83	0.82	7.92	-64.73	-13	51.73

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	49.25	34	100	H	-59.01	0.49	-1.81	-56.71	-13	43.71
342.82	49.16	338	200	V	-59.1	0.49	-1.81	-56.8	-13	43.80
1415.00	42.23	140	150	H	-71.97	0.82	7.96	-64.83	-13	51.83
1415.00	42.98	347	100	V	-71.22	0.82	7.96	-64.08	-13	51.08
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	49.05	139	150	H	-59.21	0.49	-1.91	-56.81	-13	43.81
342.82	49.76	245	150	V	-58.5	0.49	-1.91	-56.1	-13	43.10
1415.00	42.04	227	200	H	-72.16	0.82	7.96	-65.02	-13	52.02
1415.00	42.88	123	200	V	-71.32	0.82	7.96	-64.18	-13	51.18

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	50.26	239	100	H	-58	0.49	-1.81	-55.7	-13	42.70
342.82	48.93	306	200	V	-59.33	0.49	-1.81	-57.03	-13	44.03
1430.60	43.56	332	150	H	-70.67	0.82	8	-63.49	-13	50.49
1430.60	42.22	255	100	V	-72.01	0.82	8	-64.83	-13	51.83
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	50.49	10	150	H	-57.77	0.49	-1.91	-55.37	-13	42.37
342.82	51.69	334	150	V	-56.57	0.49	-1.91	-54.17	-13	41.17
1430.60	43.86	266	200	H	-70.37	0.82	8	-63.19	-13	50.19
1430.60	42.23	154	200	V	-72	0.82	8	-64.82	-13	51.82

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	57.69	356	200	H	-43.5	0.62	-1.50	-41.38	-13	28.38
749.01	56.86	17	200	V	-44.33	0.62	-1.50	-42.21	-13	29.21
1559.00	50.34	307	100	H	-63.62	0.83	8.29	-56.16	-13	43.16
1559.00	50.64	348	150	V	-63.32	0.83	8.29	-55.86	-13	42.86
16-QAM 5MHz Bandwidth Low Channel										
749.01	57.03	329	100	H	-44.16	0.62	-1.50	-42.04	-13	29.04
749.01	57.16	11	150	V	-44.03	0.62	-1.50	-41.91	-13	28.91
1559.00	50.81	316	150	H	-63.15	0.83	8.29	-55.69	-13	42.69
1559.00	50.49	183	200	V	-63.47	0.83	8.29	-56.01	-13	43.01

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	56.75	209	200	H	-44.44	0.62	-1.50	-42.32	-13	29.32
749.01	56.81	197	200	V	-44.38	0.62	-1.50	-42.26	-13	29.26
1564.00	47.53	126	100	H	-66.4	0.83	8.30	-58.93	-13	45.93
1564.00	49.37	260	150	V	-64.56	0.83	8.30	-57.09	-13	44.09
16-QAM 5MHz Bandwidth Middle Channel										
749.01	57.02	184	100	H	-44.17	0.62	-1.50	-42.05	-13	29.05
749.01	56.49	320	150	V	-44.7	0.62	-1.50	-42.58	-13	29.58
1564.00	47.97	324	150	H	-65.96	0.83	8.30	-58.49	-13	45.49
1564.00	48.44	19	200	V	-65.49	0.83	8.30	-58.02	-13	45.02

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 5MHz Bandwidth High Channel										
749.01	58.76	29	200	H	-42.43	0.62	-1.50	-40.31	-13	27.31
749.01	57.99	160	200	V	-43.2	0.62	-1.50	-41.08	-13	28.08
1569.00	47.22	13	100	H	-66.67	0.83	8.31	-59.19	-13	46.19
1569.00	45.92	348	150	V	-67.97	0.83	8.31	-60.49	-13	47.49
16-QAM 5MHz Bandwidth High Channel										
749.01	56.39	265	100	H	-44.8	0.62	-1.50	-42.68	-13	29.68
749.01	57.49	177	150	V	-43.7	0.62	-1.50	-41.58	-13	28.58
1569.00	46.92	341	150	H	-66.97	0.83	8.31	-59.49	-13	46.49
1569.00	46.22	243	200	V	-67.67	0.83	8.31	-60.19	-13	47.19

30 MHz ~ 10 GHz:**LTE Band 14:**

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										
760.16	57.19	41	100	H	-43.41	0.62	-1.65	-41.14	-13	28.14
760.16	57.09	159	200	V	-43.51	0.62	-1.65	-41.24	-13	28.24
1581.00	48.92	127	100	H	-64.89	0.83	8.33	-57.39	-40	17.39
1581.00	48.12	174	150	V	-65.69	0.83	8.33	-58.19	-40	18.19
16-QAM 5MHz Bandwidth Low Channel										
760.16	56.19	23	100	H	-44.41	0.62	-1.65	-42.14	-13	29.14
760.16	55.49	195	150	V	-45.11	0.62	-1.65	-42.84	-13	29.84
1581.00	48.82	211	100	H	-64.99	0.83	8.33	-57.49	-40	17.49
1581.00	49.35	29	200	V	-64.46	0.83	8.33	-56.96	-40	16.96

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										
760.16	54.69	212	100	H	-45.91	0.62	-1.65	-43.64	-13	30.64
760.16	53.97	33	200	V	-46.63	0.62	-1.65	-44.36	-13	31.36
1586.00	47.71	195	100	H	-66.06	0.83	8.34	-58.55	-40	18.55
1586.00	48.24	149	150	V	-65.53	0.83	8.34	-58.02	-40	18.02
16-QAM 5MHz Bandwidth Middle Channel										
760.16	54.19	239	100	H	-46.41	0.62	-1.65	-44.14	-13	31.14
760.16	53.82	170	150	V	-46.78	0.62	-1.65	-44.51	-13	31.51
1586.00	49.07	213	100	H	-64.7	0.83	8.34	-57.19	-40	17.19
1586.00	48.20	335	200	V	-65.57	0.83	8.34	-58.06	-40	18.06

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 High Channel										
760.16	54.36	62	100	H	-46.24	0.62	-1.65	-43.97	-13	30.97
760.16	53.79	330	200	V	-46.81	0.62	-1.65	-44.54	-13	31.54
1591.00	49.03	163	100	H	-64.71	0.83	8.35	-57.19	-40	17.19
1591.00	48.13	211	150	V	-65.61	0.83	8.35	-58.09	-40	18.09
16-QAM 5MHz Bandwidth High Channel										
760.16	53.76	140	100	H	-46.84	0.62	-1.65	-44.57	-13	31.57
760.16	54.06	95	150	V	-46.54	0.62	-1.65	-44.27	-13	31.27
1591.00	50.03	355	100	H	-63.71	0.83	8.35	-56.19	-40	16.19
1591.00	48.76	136	200	V	-64.98	0.83	8.35	-57.46	-40	17.46

30 MHz ~ 20 GHz:**LTE Band 66:**

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										
346.94	41.39	217	150	H	-66.98	0.49	-1.77	-64.72	-13	51.72
346.94	42.69	161	200	V	-65.68	0.49	-1.77	-63.42	-13	50.42
3421.40	57.66	79	100	H	-50.28	0.93	9.82	-41.39	-13	28.39
3421.40	56.86	78	100	V	-51.08	0.93	9.82	-42.19	-13	29.19
6842.80	51.39	252	150	H	-50.60	1.60	10.31	-41.89	-13	28.89
6842.80	52.89	266	200	V	-49.10	1.60	10.31	-40.39	-13	27.39
16-QAM 1.4MHz Bandwidth Low Channel										
346.94	41.39	252	200	H	-66.98	0.49	-1.77	-64.72	-13	51.72
346.94	40.89	72	150	V	-67.48	0.49	-1.77	-65.22	-13	52.22
3421.40	57.66	211	150	H	-50.28	0.93	9.82	-41.39	-13	28.39
3421.40	58.19	28	100	V	-49.75	0.93	9.82	-40.86	-13	27.86
6842.80	52.49	241	100	H	-49.50	1.60	10.31	-40.79	-13	27.79
6842.80	52.09	214	200	V	-49.90	1.60	10.31	-41.19	-13	28.19

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										
346.94	40.95	205	150	H	-67.42	0.49	-1.77	-65.16	-13	52.16
346.94	41.15	351	200	V	-67.22	0.49	-1.77	-64.96	-13	51.96
3490.00	57.46	184	100	H	-50.18	0.93	9.89	-41.22	-13	28.22
3490.00	57.19	359	100	V	-50.45	0.93	9.89	-41.49	-13	28.49
6980.00	51.56	10	150	H	-50.26	1.67	10.21	-41.72	-13	28.72
6980.00	51.69	126	200	V	-50.13	1.67	10.21	-41.59	-13	28.59
16-QAM 1.4MHz Bandwidth Middle Channel										
346.94	41.05	185	200	H	-67.32	0.49	-1.77	-65.06	-13	52.06
346.94	40.89	341	150	V	-67.48	0.49	-1.77	-65.22	-13	52.22
3490.00	57.15	2	150	H	-50.49	0.93	9.89	-41.53	-13	28.53
3490.00	56.63	13	100	V	-51.01	0.93	9.89	-42.05	-13	29.05
6980.00	51.82	278	100	H	-50.00	1.67	10.21	-41.46	-13	28.46
6980.00	52.17	63	200	V	-49.65	1.67	10.21	-41.11	-13	28.11

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										
346.94	41.36	332	150	H	-67.01	0.49	-1.77	-64.75	-13	51.75
346.94	42.65	153	200	V	-65.72	0.49	-1.77	-63.46	-13	50.46
3558.60	56.12	107	100	H	-51.3	0.93	9.87	-42.36	-13	29.36
3558.60	56.62	32	100	V	-50.8	0.93	9.87	-41.86	-13	28.86
7117.20	49.5	179	150	H	-51.97	1.70	10.18	-43.49	-13	30.49
7117.20	50.41	236	200	V	-51.06	1.70	10.18	-42.58	-13	29.58
16-QAM 1.4MHz Bandwidth High Channel										
346.94	42.16	233	200	H	-66.21	0.49	-1.77	-63.95	-13	50.95
346.94	41.69	70	150	V	-66.68	0.49	-1.77	-64.42	-13	51.42
3558.60	55.8	105	150	H	-51.62	0.93	9.87	-42.68	-13	29.68
3558.60	55.29	356	100	V	-52.13	0.93	9.87	-43.19	-13	30.19
7117.20	50.14	94	100	H	-51.33	1.70	10.18	-42.85	-13	29.85
7117.20	51.01	58	200	V	-50.46	1.70	10.18	-41.98	-13	28.98

30 MHz ~ 10 GHz:**LTE Band 71:**

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										
516.69	50.16	159	150	H	-53.59	0.58	-1.73	-51.28	-13	38.28
516.69	49.49	256	200	V	-54.26	0.58	-1.73	-51.95	-13	38.95
1331.00	46.94	326	100	H	-67.09	0.81	7.71	-60.19	-13	47.19
1331.00	48.64	3	100	V	-65.39	0.81	7.71	-58.49	-13	45.49
16-QAM 5MHz Bandwidth Low Channel										
516.69	49.76	294	200	H	-53.99	0.58	-1.73	-51.68	-13	38.68
516.69	50.19	35	150	V	-53.56	0.58	-1.73	-51.25	-13	38.25
1331.00	47.94	38	150	H	-66.09	0.81	7.71	-59.19	-13	46.19
1331.00	48.66	218	100	V	-65.37	0.81	7.71	-58.47	-13	45.47

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										
516.69	49.15	1	150	H	-54.6	0.58	-1.73	-52.29	-13	39.29
516.69	48.22	273	200	V	-55.53	0.58	-1.73	-53.22	-13	40.22
1361.00	47.39	350	100	H	-66.7	0.62	7.81	-59.51	-13	46.51
1361.00	47.44	357	100	V	-66.65	0.62	7.81	-59.46	-13	46.46
16-QAM 5MHz Bandwidth Middle Channel										
516.69	48.16	354	200	H	-55.59	0.58	-1.73	-53.28	-13	40.28
516.69	48.85	114	150	V	-54.9	0.58	-1.73	-52.59	-13	39.59
1361.00	47.71	351	150	H	-66.38	0.62	7.81	-59.19	-13	46.19
1361.00	47.92	17	100	V	-66.17	0.62	7.81	-58.98	-13	45.98

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 5MHz Bandwidth High Channel										
516.69	50.63	94	150	H	-53.12	0.58	-1.73	-50.81	-13	37.81
516.69	49.48	88	200	V	-54.27	0.58	-1.73	-51.96	-13	38.96
1391.00	48.59	56	100	H	-65.56	0.82	7.89	-58.49	-13	45.49
1391.00	49.39	114	100	V	-64.76	0.82	7.89	-57.69	-13	44.69
16-QAM 5MHz Bandwidth High Channel										
516.69	49.16	239	200	H	-54.59	0.58	-1.73	-52.28	-13	39.28
516.69	48.68	185	150	V	-55.07	0.58	-1.73	-52.76	-13	39.76
1391.00	48.59	317	150	H	-65.56	0.82	7.89	-58.49	-13	45.49
1391.00	49.12	217	100	V	-65.03	0.82	7.89	-57.96	-13	44.96

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 (c) (g) (h); § 90.543 - 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.

According to FCC §27.53 (c) (g) (h), (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the 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, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(g)For operations in the 600 MHz band and the 698-746 MHz band, 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 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

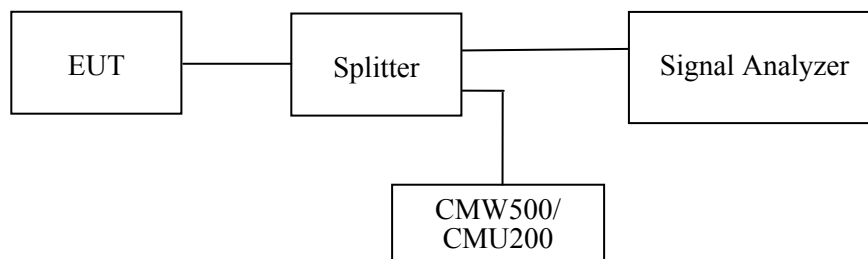
According to §90.543, for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

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

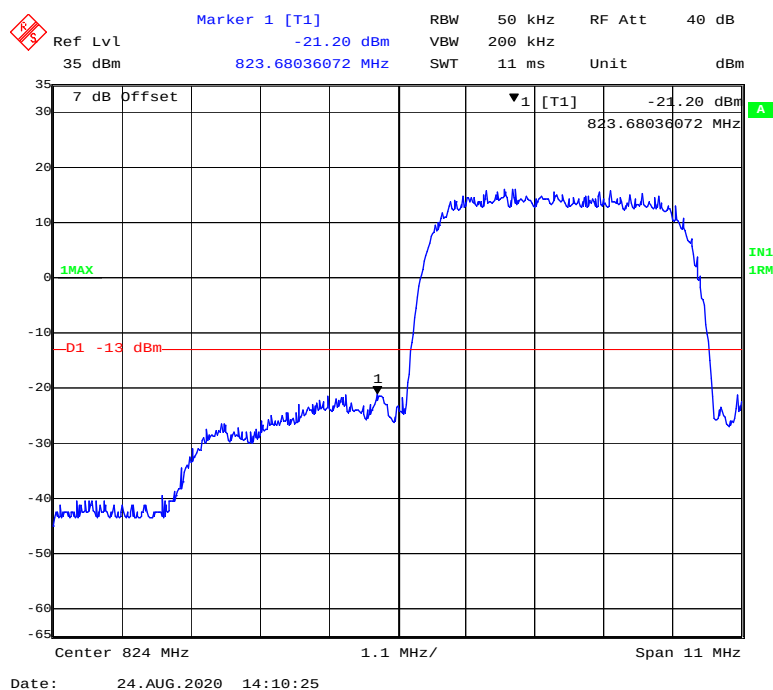
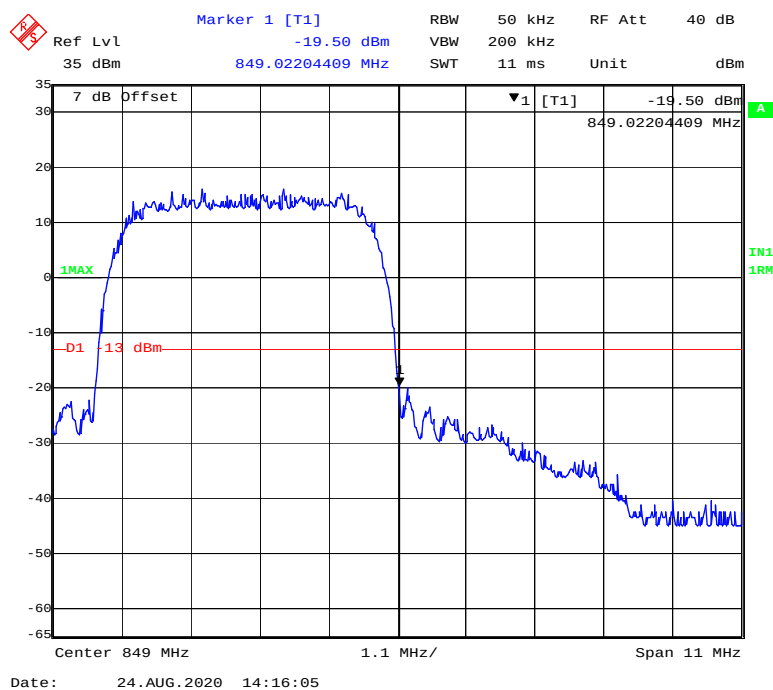
Temperature:	23.2°C-23.5°C
Relative Humidity:	51 %-53%
ATM Pressure:	101.1kPa-103.3kPa

The testing was performed by CK Huang from 2020-08-23 to 2020-08-24.

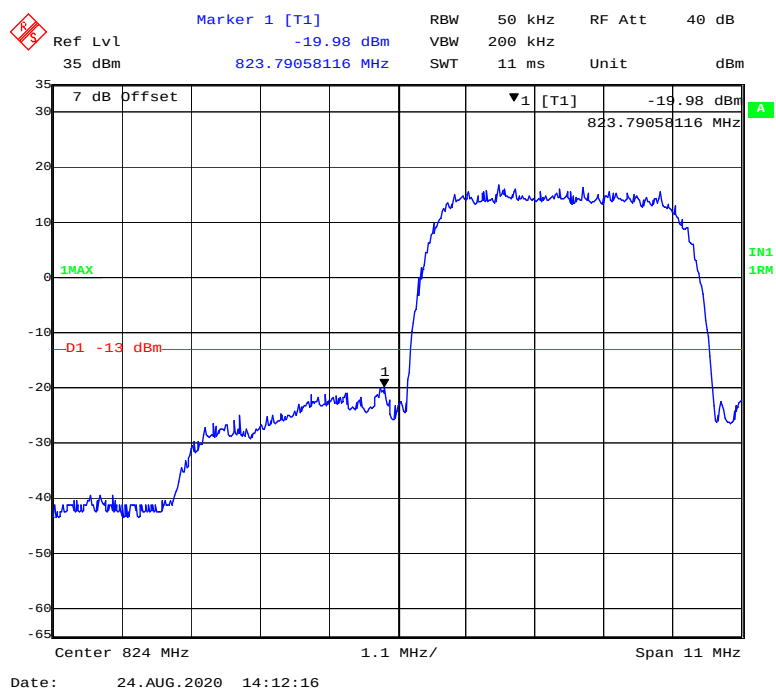
EUT operation mode: Transmitting

Test Result: Compliance.

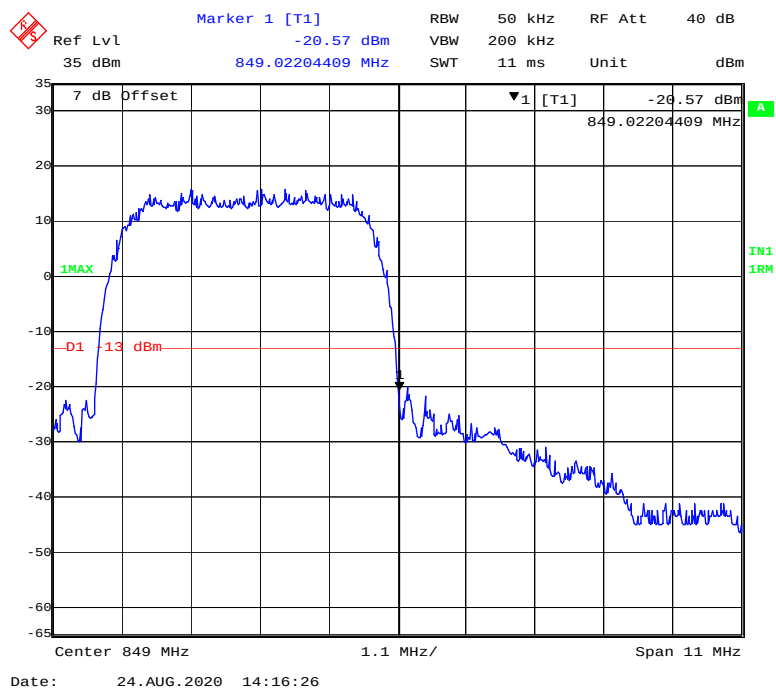
WCDMA Band V

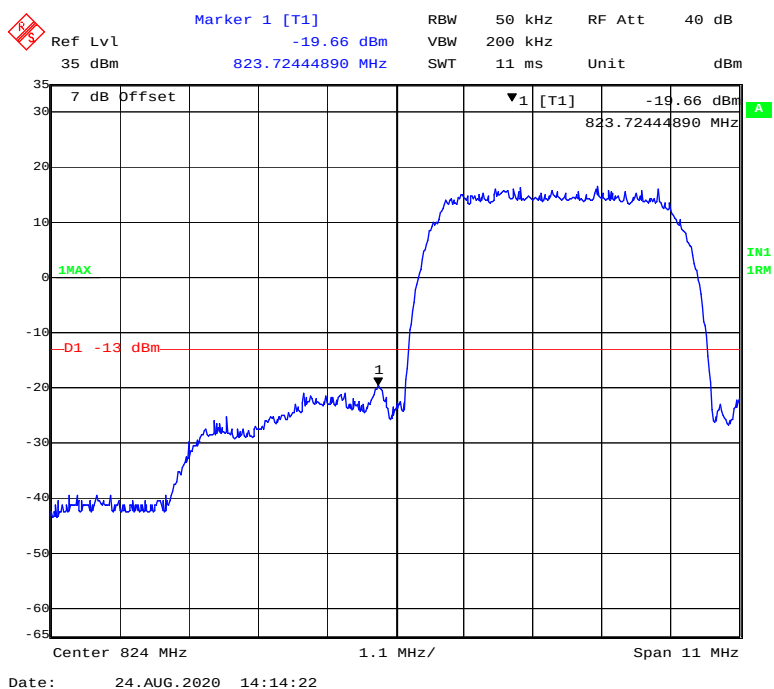
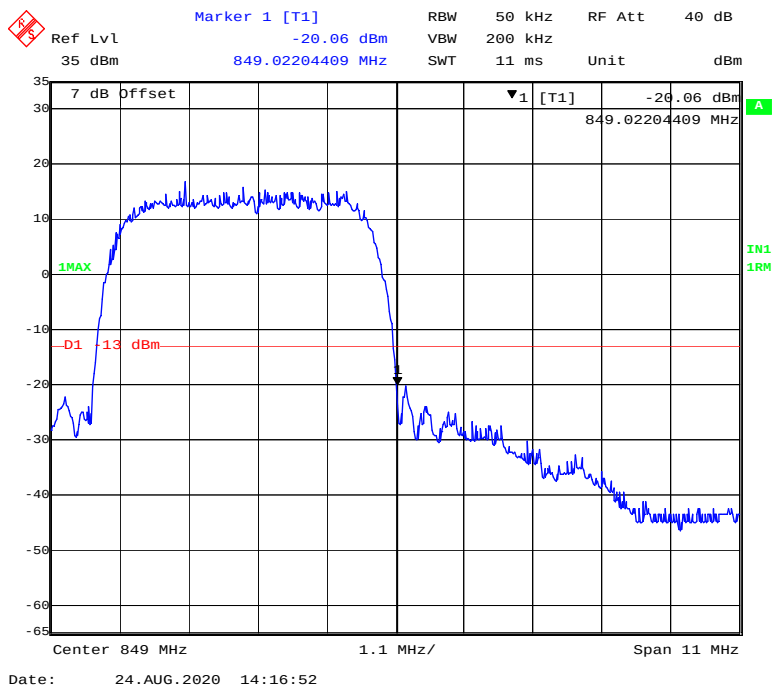
WCDMA (Rel 99) Mode, Left Band Edge**WCDMA (Rel 99) Mode, Right Band Edge**

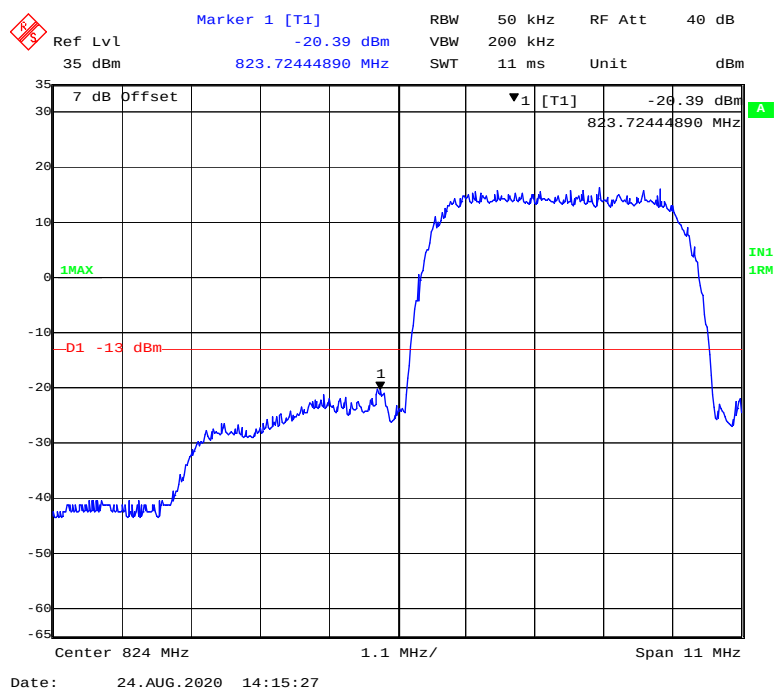
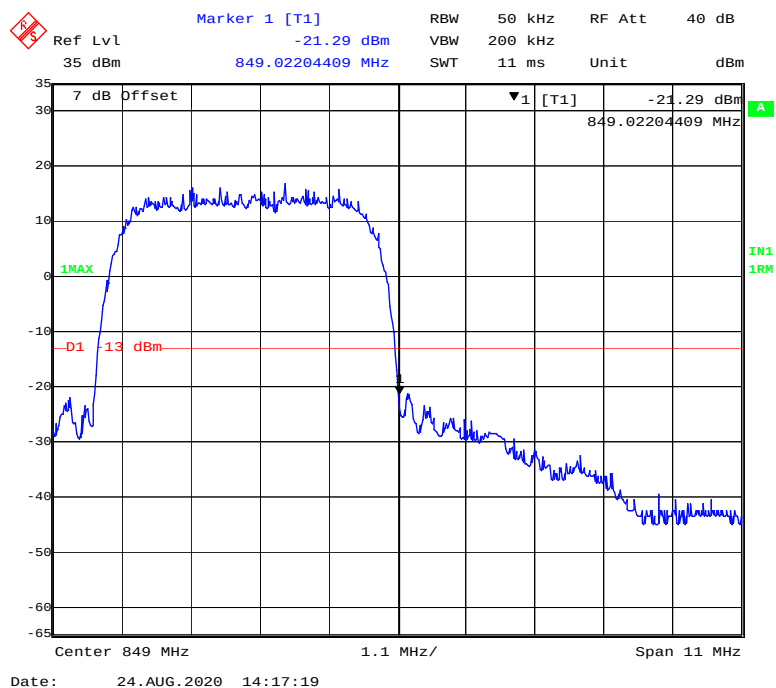
WCDMA (HSDPA) Mode, Left Band Edge

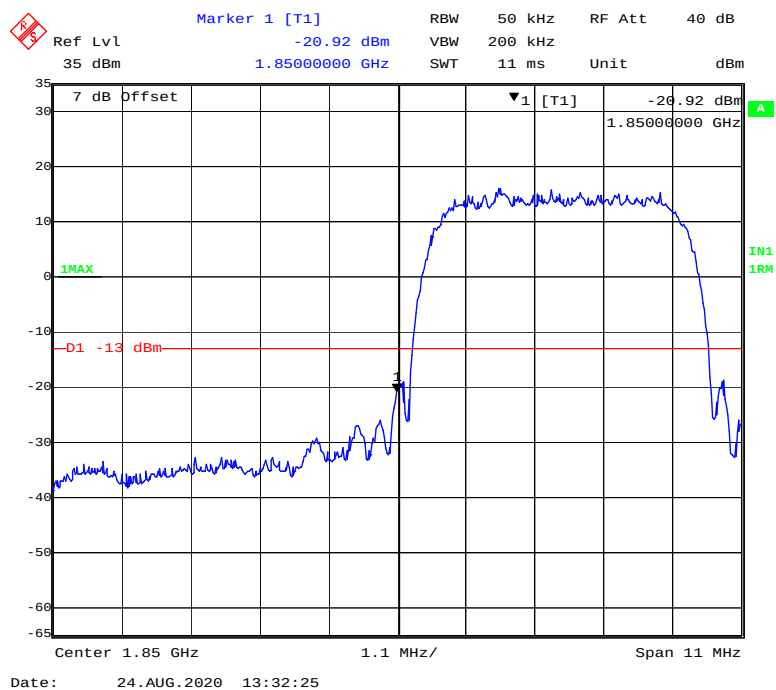
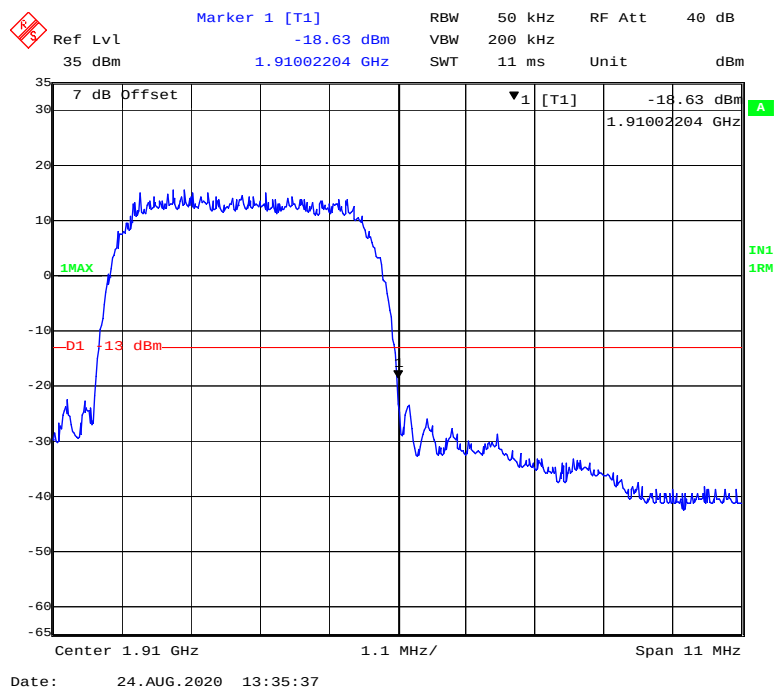


WCDMA (HSDPA) Mode, Right Band Edge

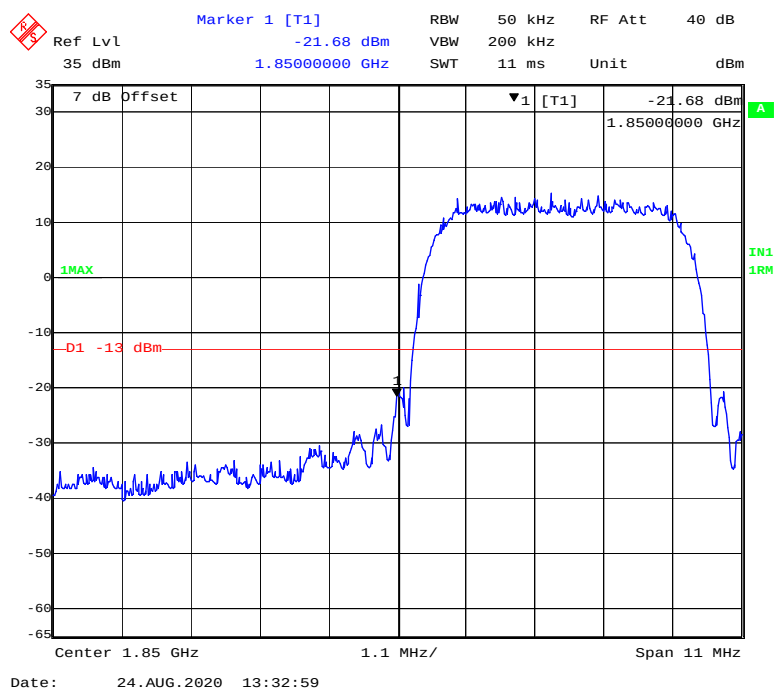


WCDMA (HSUPA) Mode, Left Band Edge**WCDMA (HSUPA) Mode, Right Band Edge**

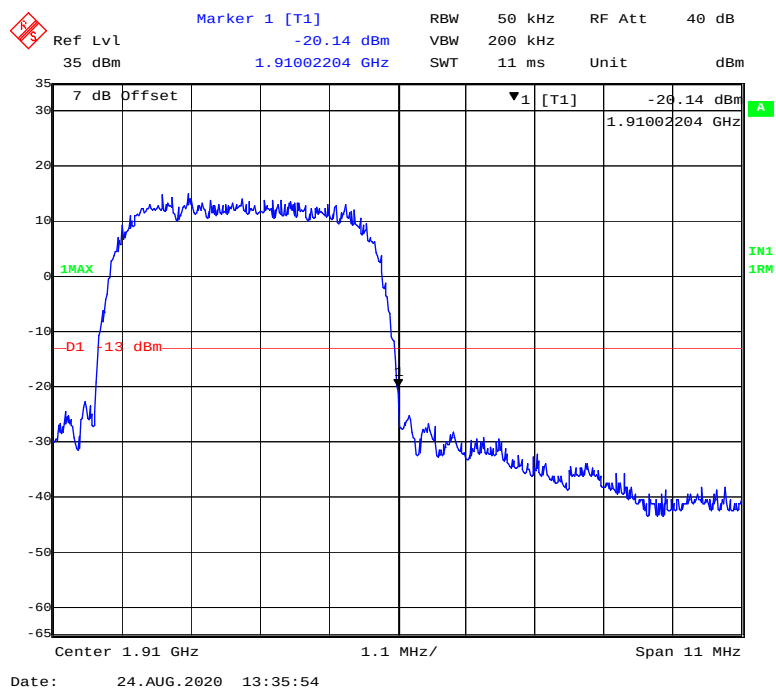
WCDMA (HSPA+) Mode, Left Band Edge**WCDMA (HSPA+) Mode, Right Band Edge**

WCDMA Band II**WCDMA (Rel99) Mode, Left Band Edge****WCDMA (Rel99) Mode, Right Band Edge**

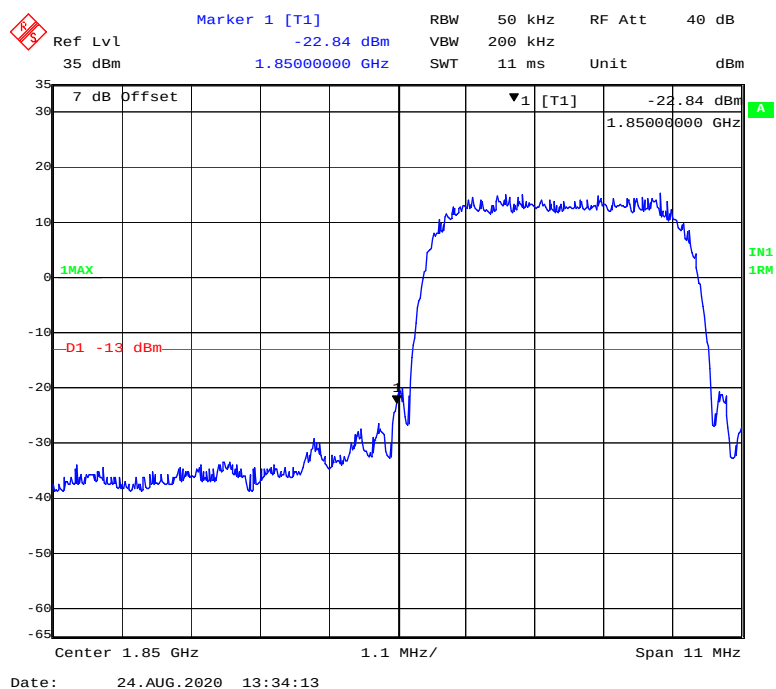
WCDMA (HSDPA) Mode, Left Band Edge



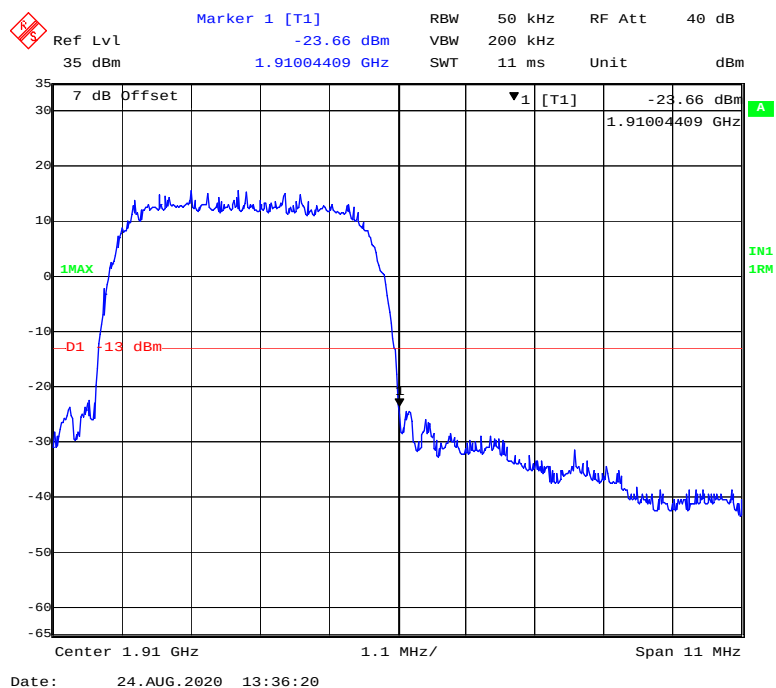
WCDMA (HSDPA) Mode, Right Band Edge



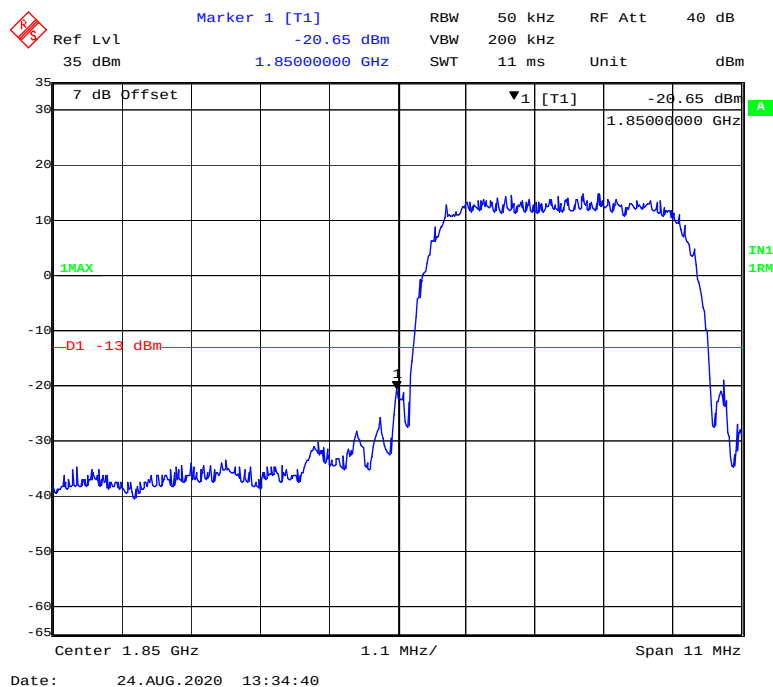
WCDMA (HSUPA) Mode, Left Band Edge



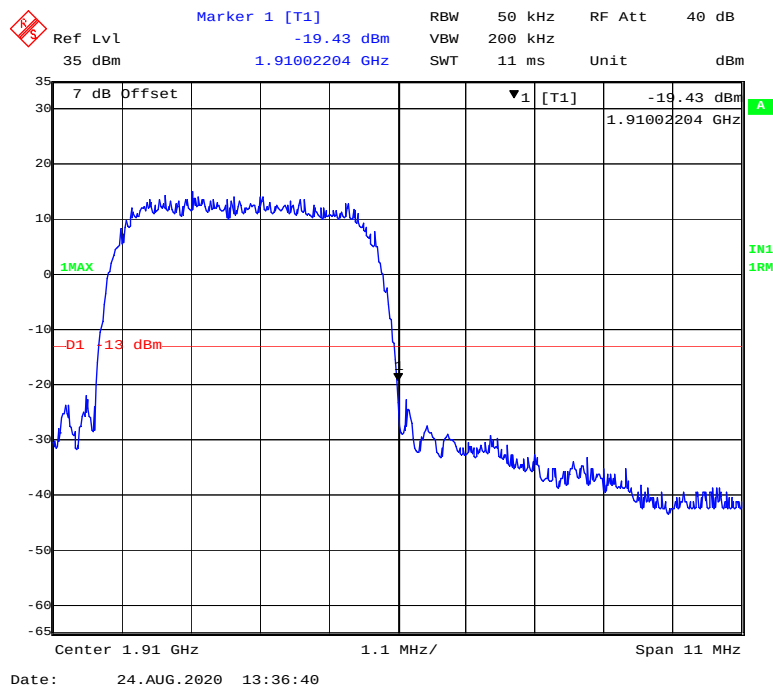
WCDMA (HSUPA) Mode, Right Band Edge

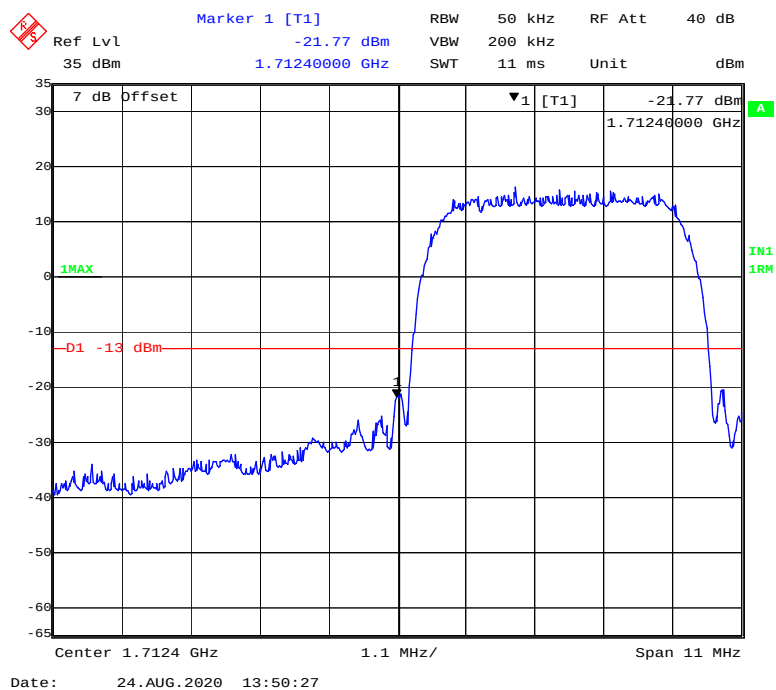
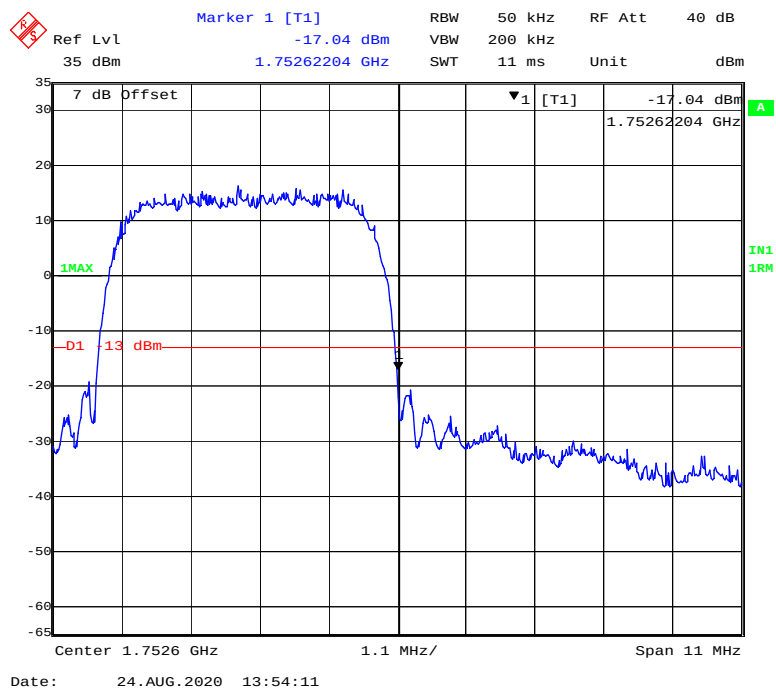


WCDMA (HSPA+) Mode, Left Band Edge

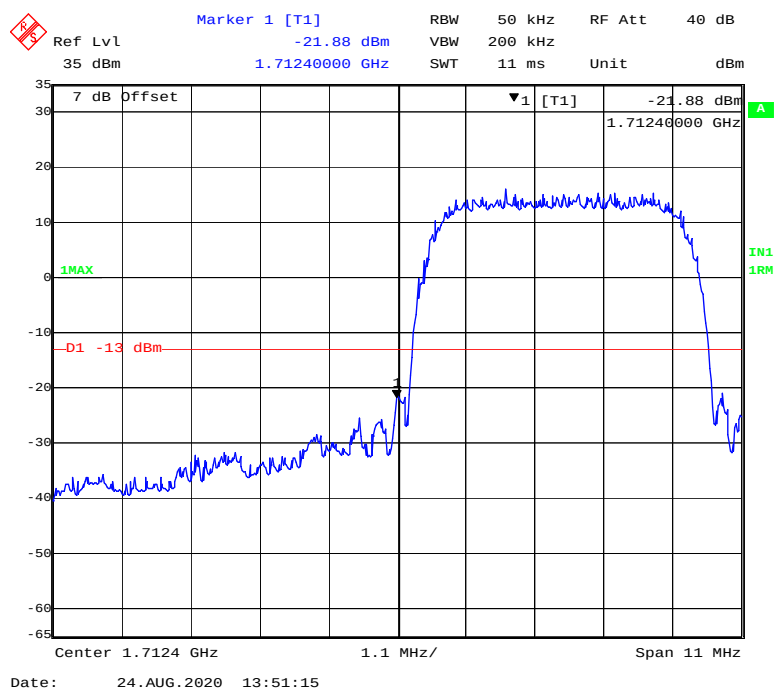


WCDMA (HSPA+) Mode, Right Band Edge

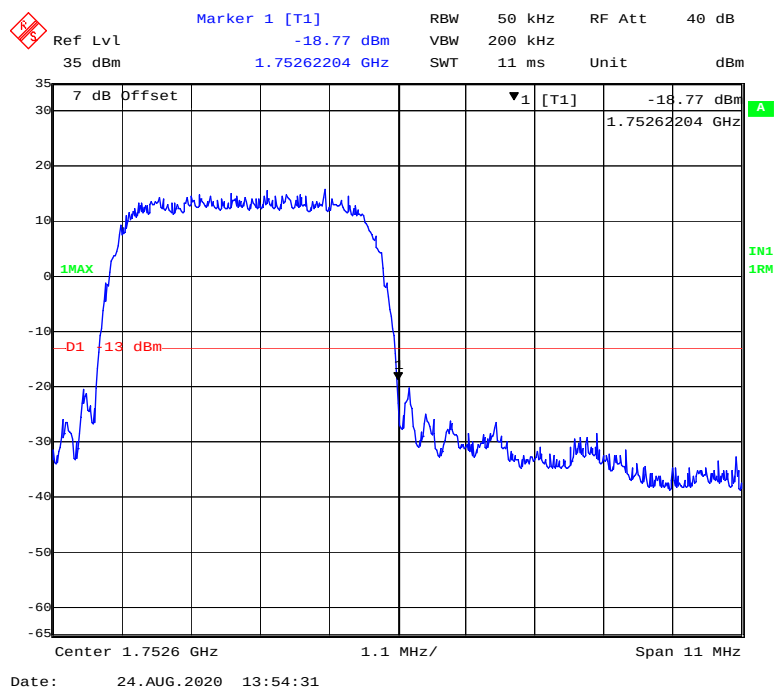


WCDMA Band IV**WCDMA (Rel99) Mode, Left Band Edge****WCDMA (Rel99) Mode, Right Band Edge**

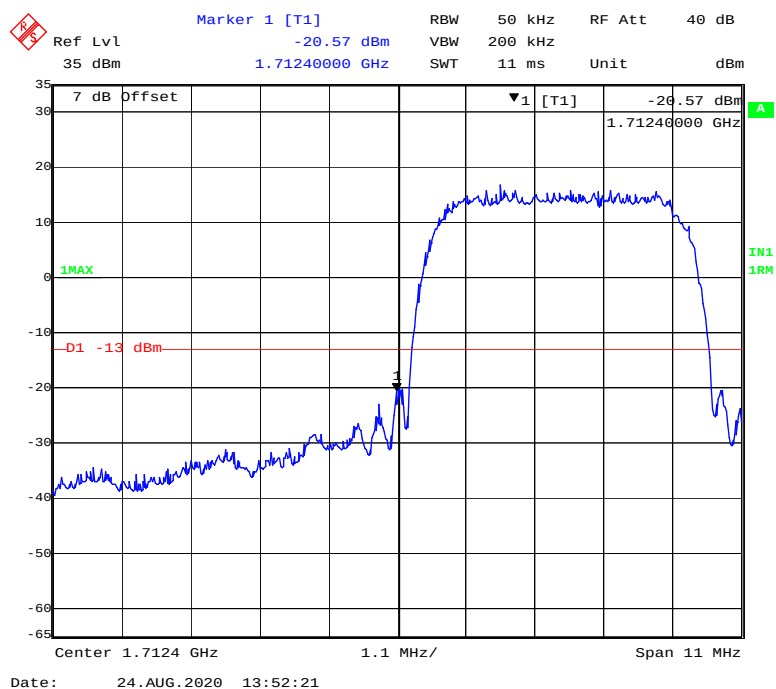
WCDMA (HSDPA) Mode, Left Band Edge



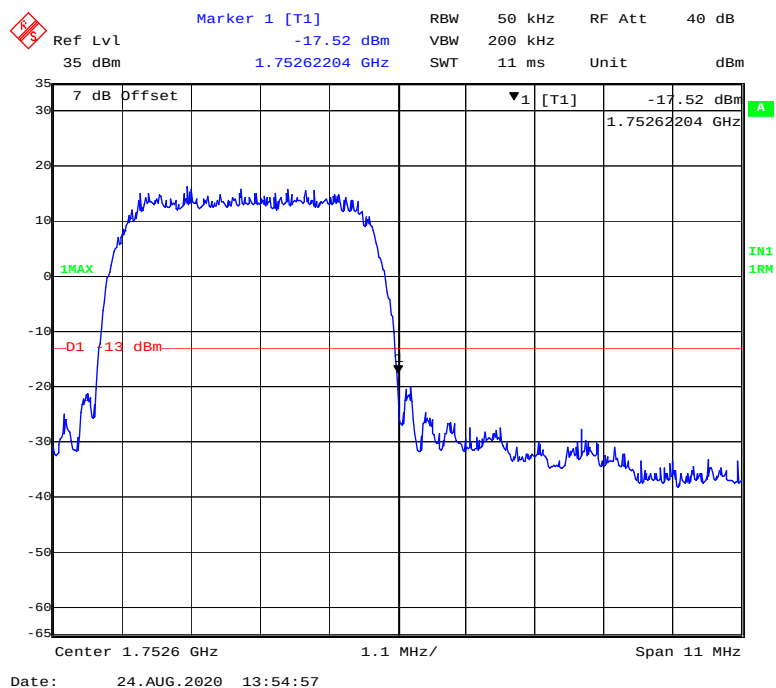
WCDMA (HSDPA) Mode, Right Band Edge

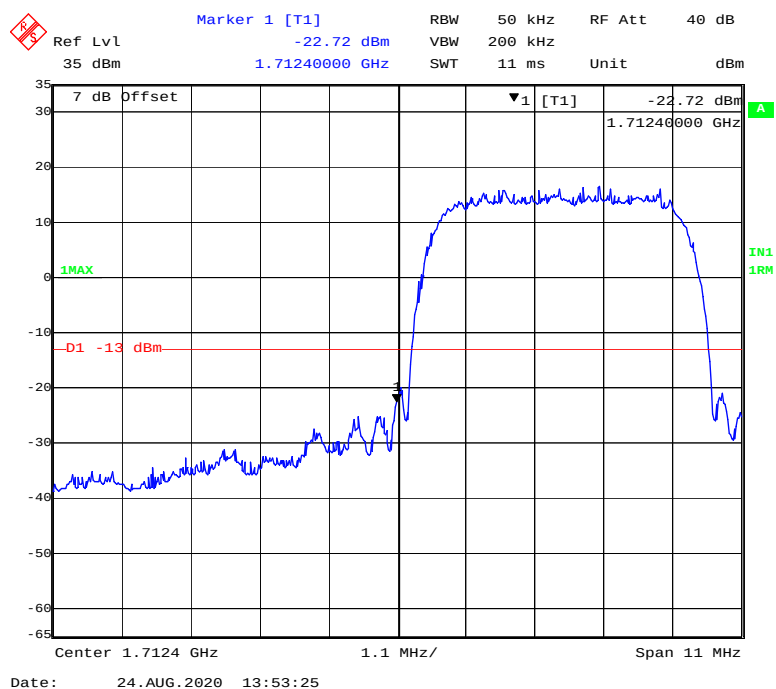
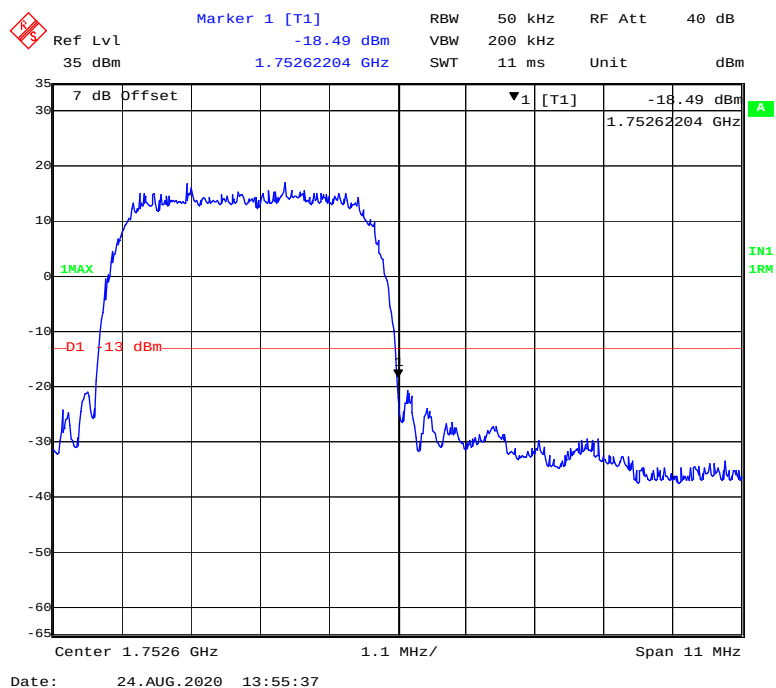


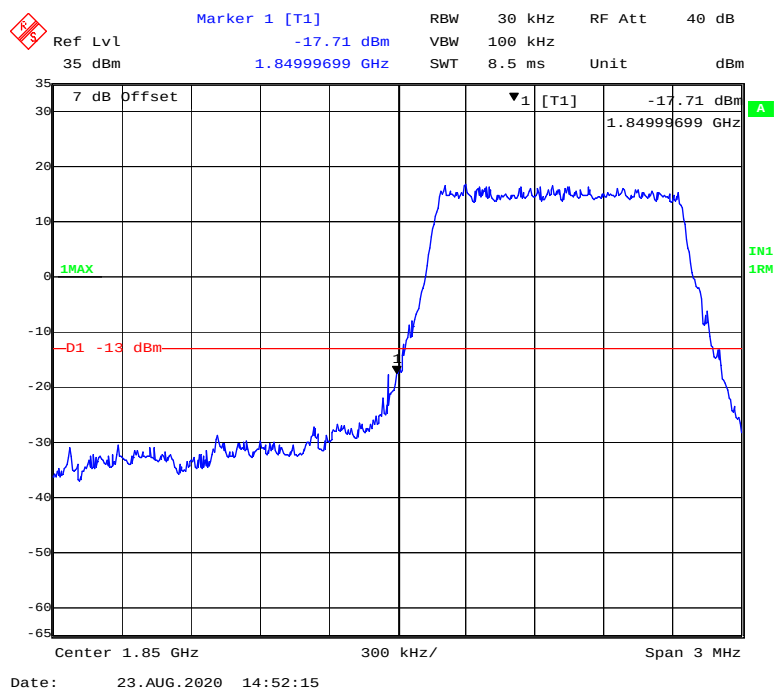
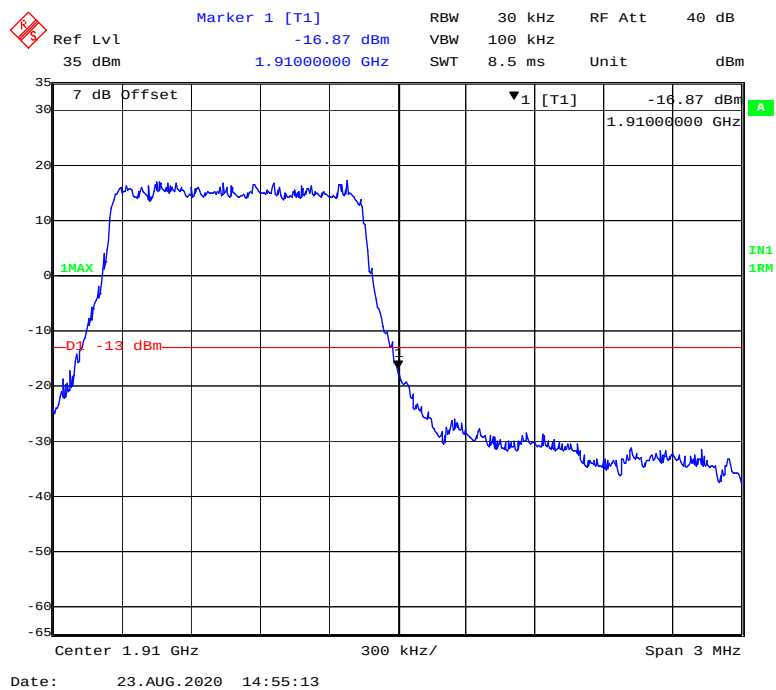
WCDMA (HSUPA) Mode, Left Band Edge



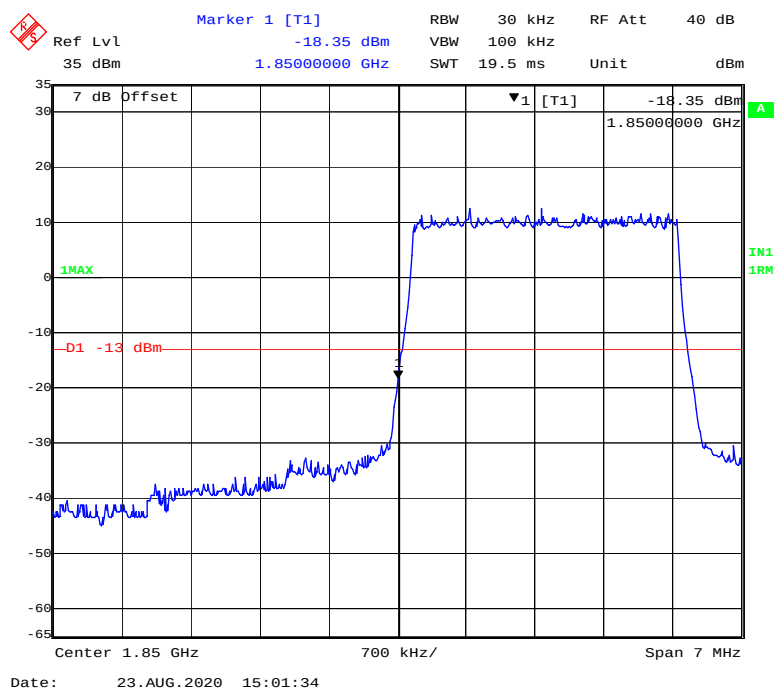
WCDMA (HSUPA) Mode, Right Band Edge



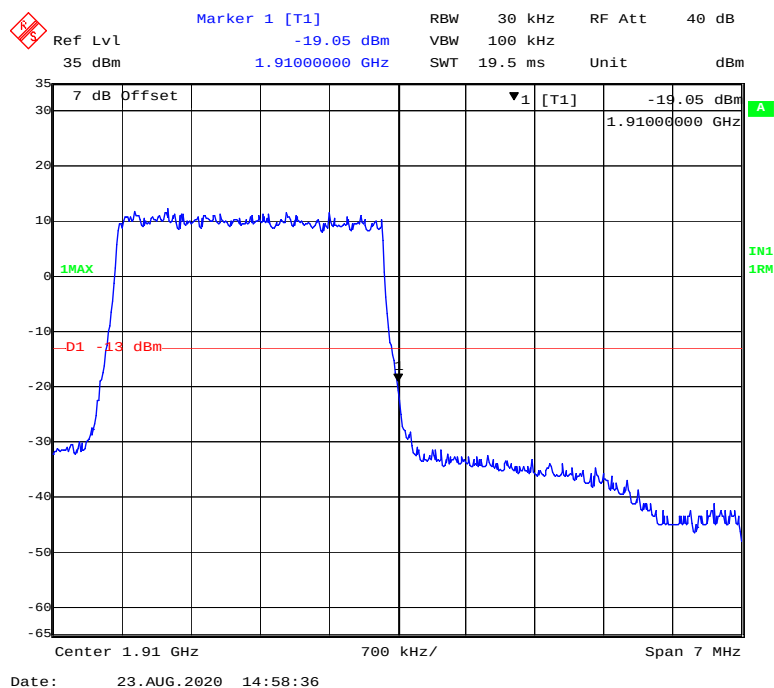
WCDMA (HSPA+) Mode, Left Band Edge**WCDMA (HSPA+) Mode, Right Band Edge**

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

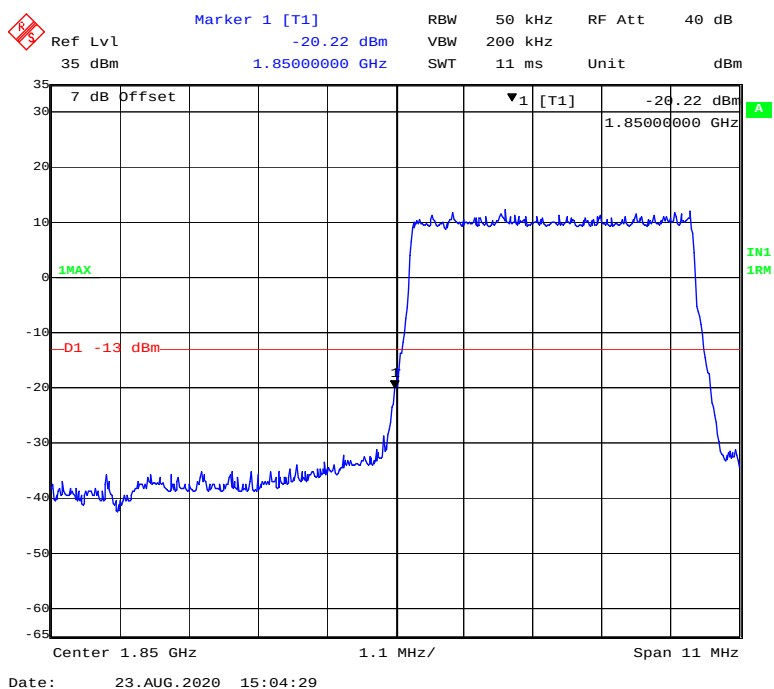
QPSK (3 MHz, FULL RB) - Left Band Edge



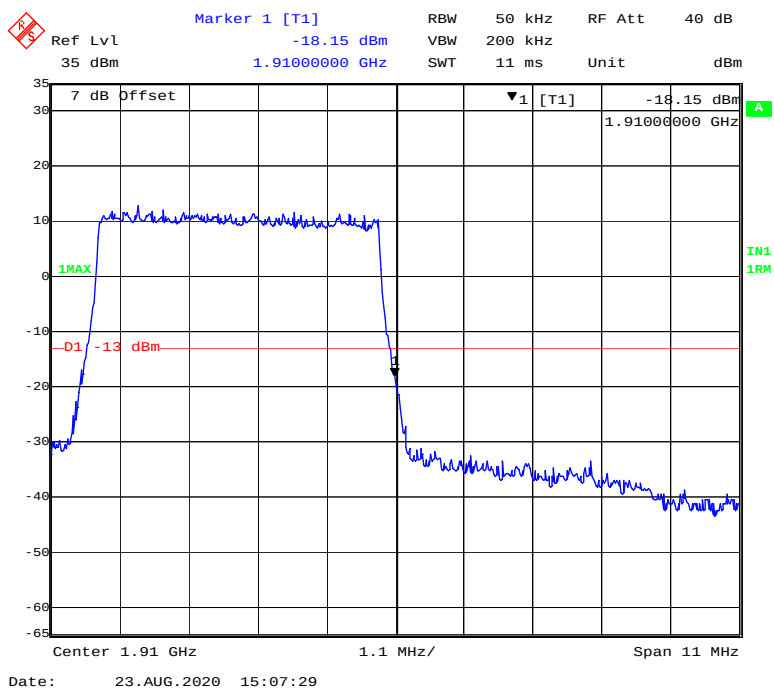
QPSK (3 MHz, FULL RB) - Right Band Edge

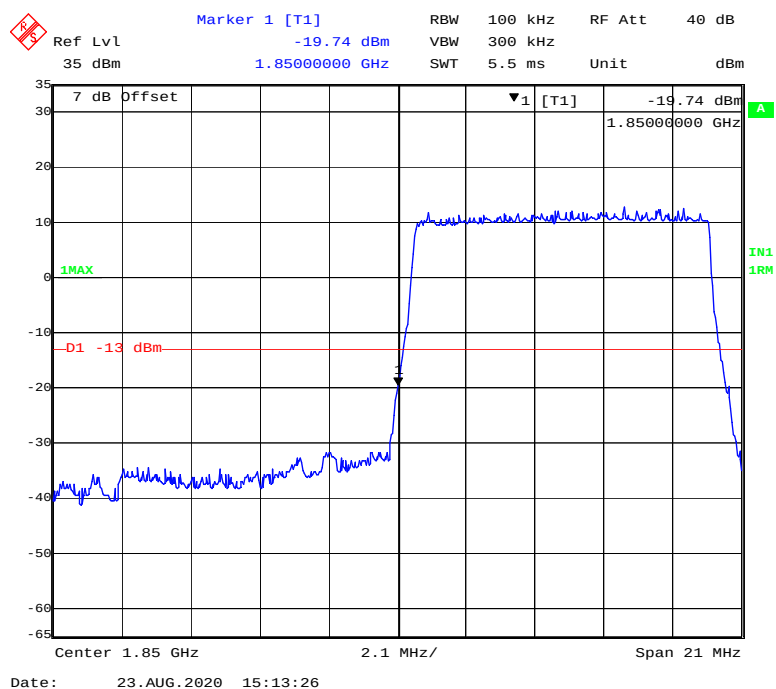
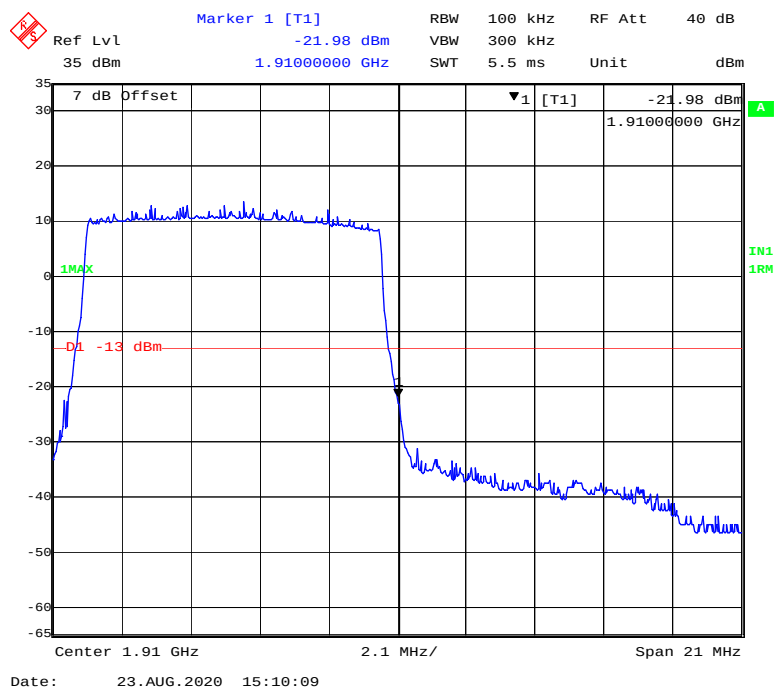


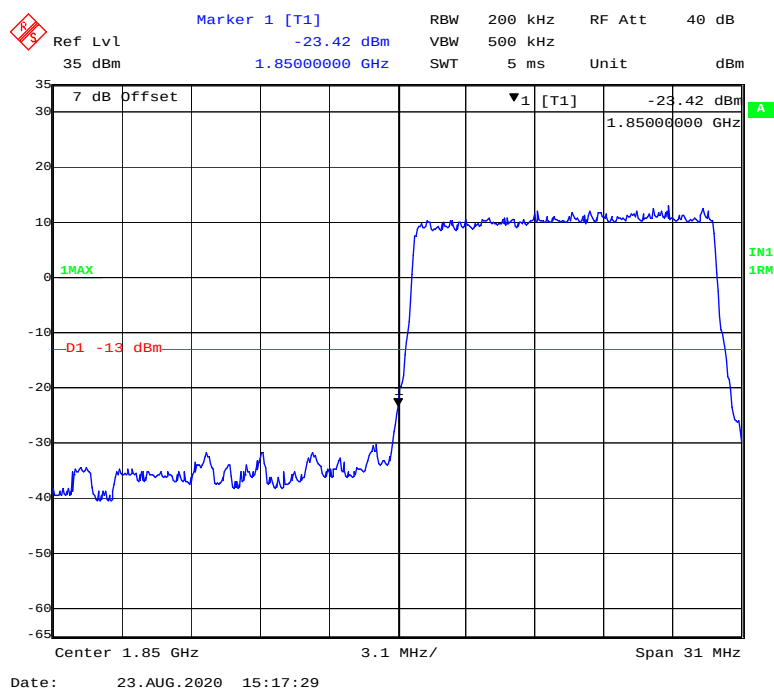
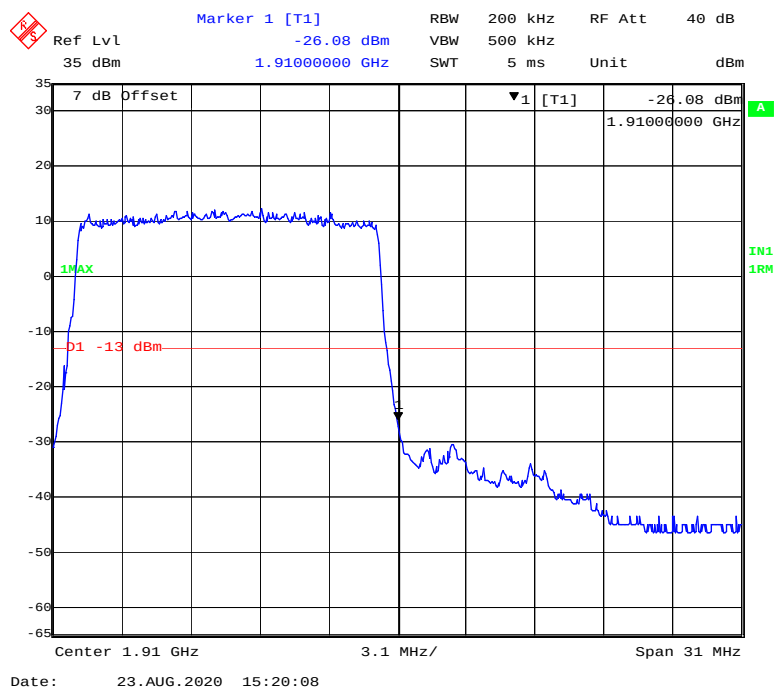
QPSK (5 MHz, FULL RB) - Left Band Edge

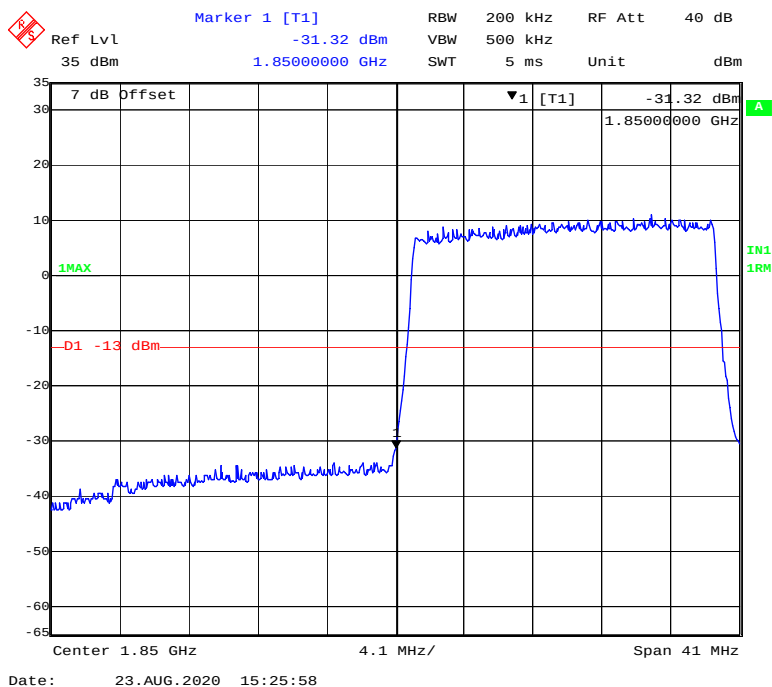
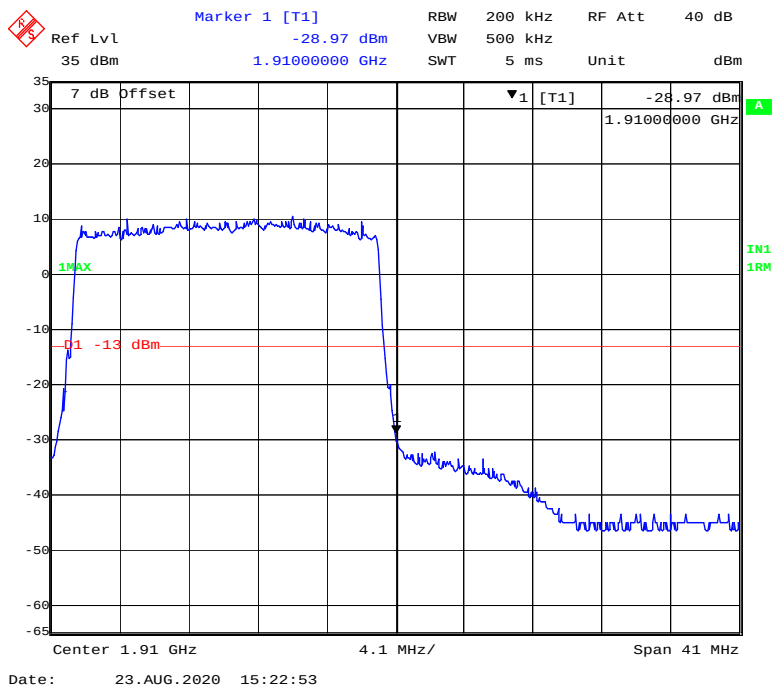


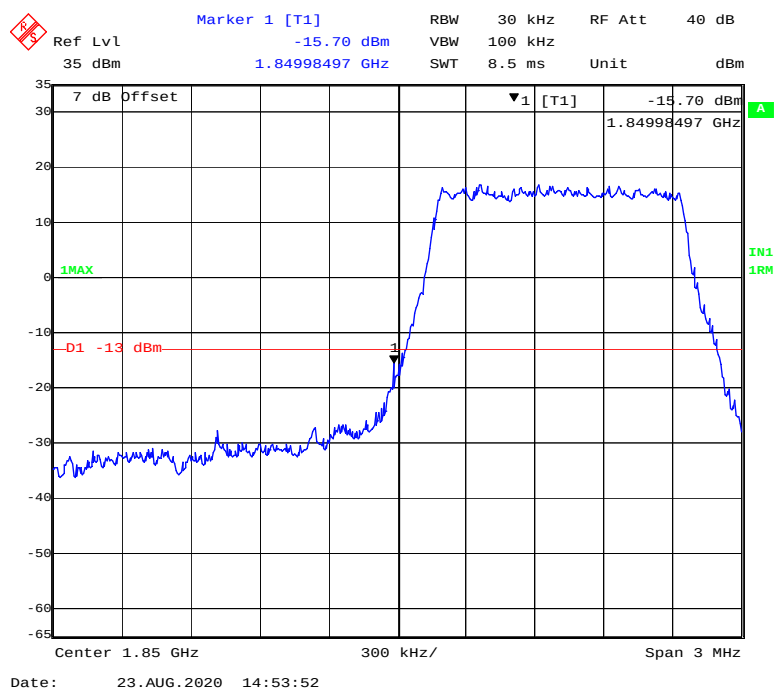
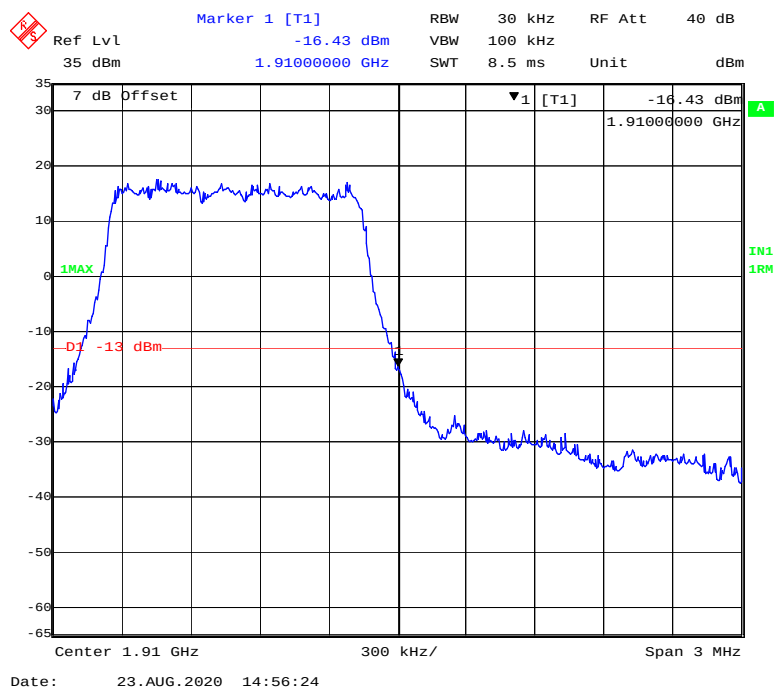
QPSK (5 MHz, FULL RB) - Right Band Edge

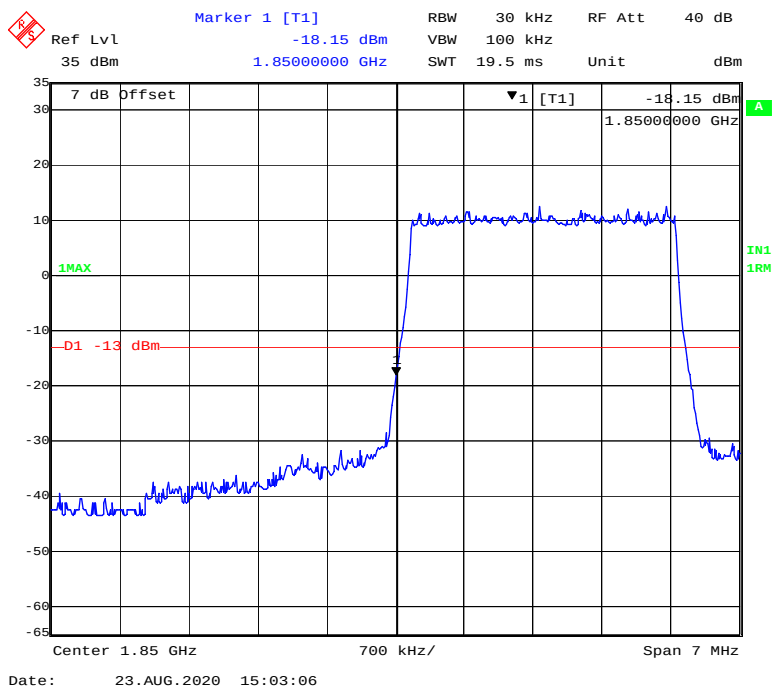
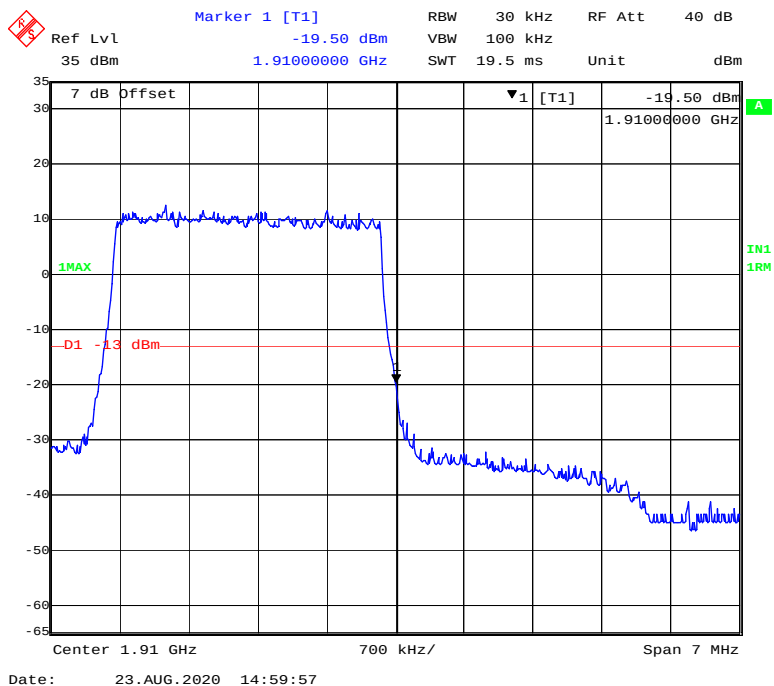


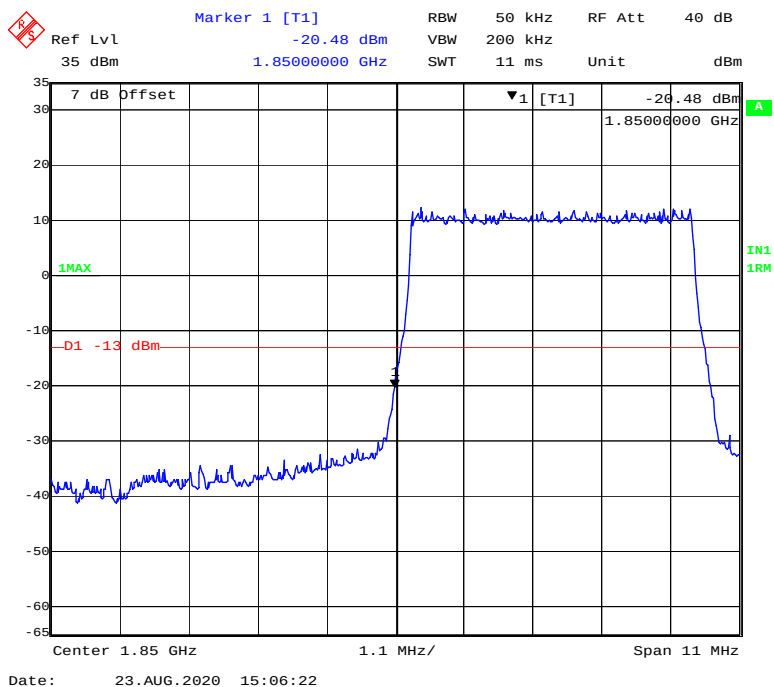
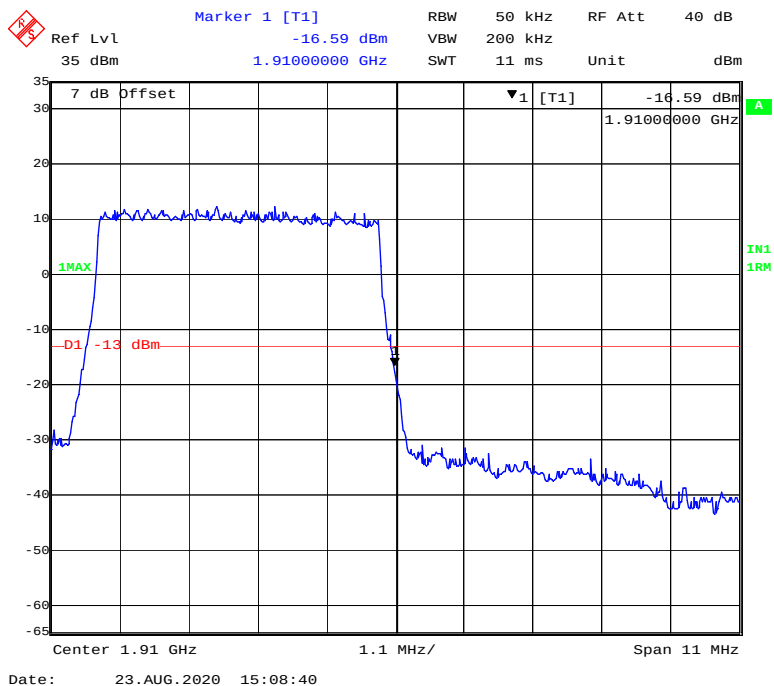
QPSK (10 MHz, FULL RB) - Left Band Edge**QPSK (10 MHz, FULL RB) - Right Band Edge**

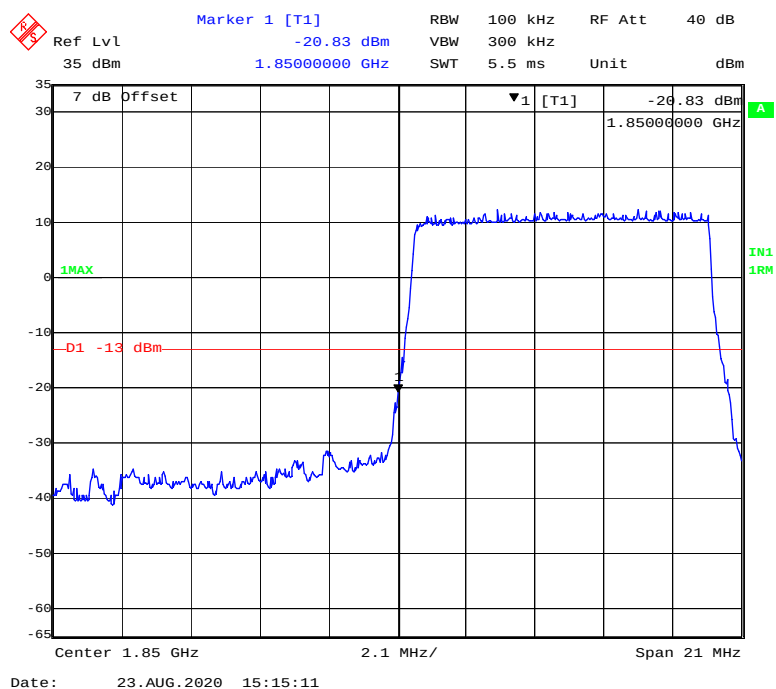
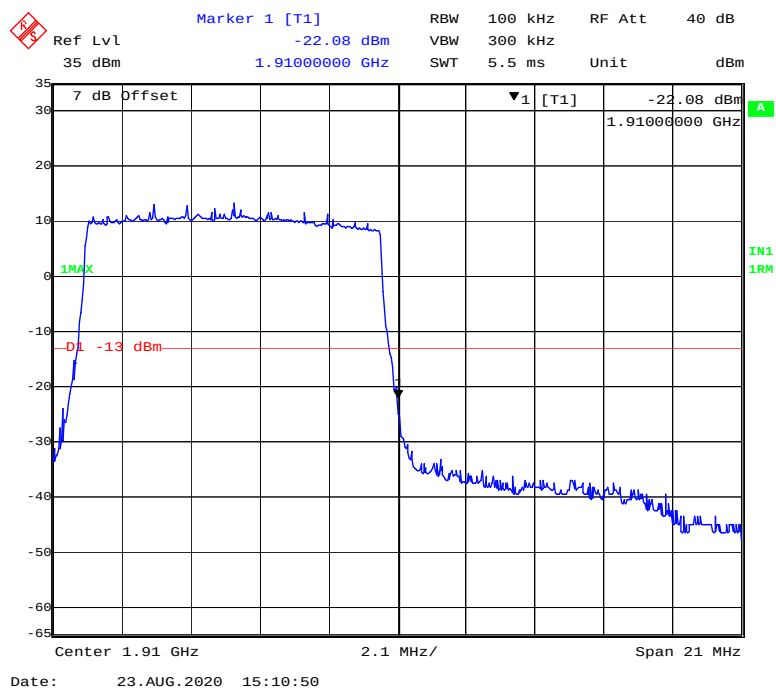
QPSK (15 MHz, FULL RB) - Left Band Edge**QPSK (15 MHz, FULL RB) - Right Band Edge**

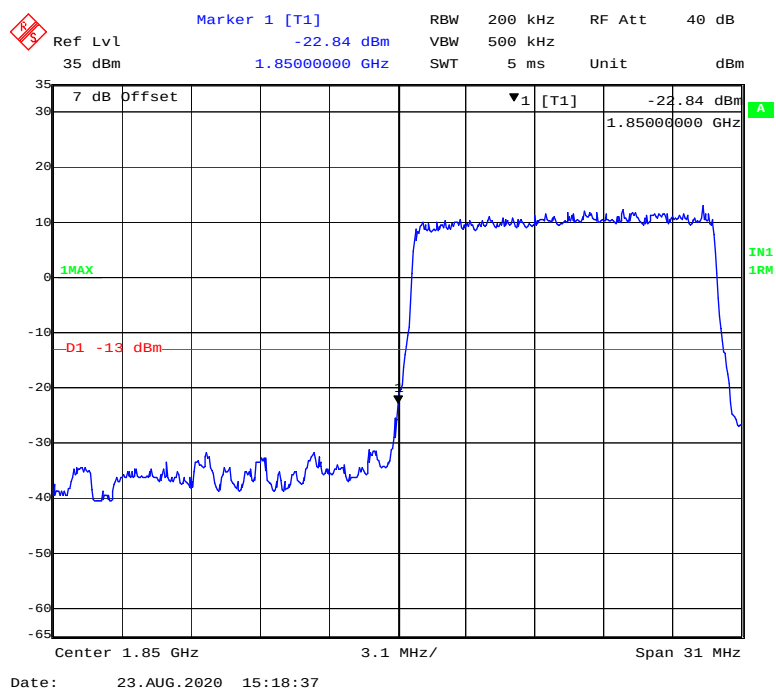
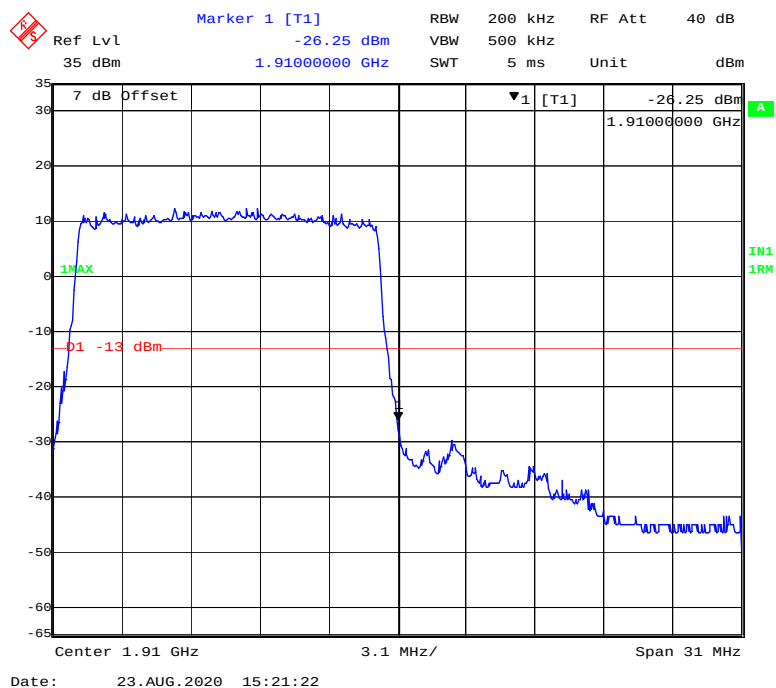
QPSK (20 MHz, FULL RB) - Left Band Edge**QPSK (20 MHz, FULL RB) - Right Band Edge**

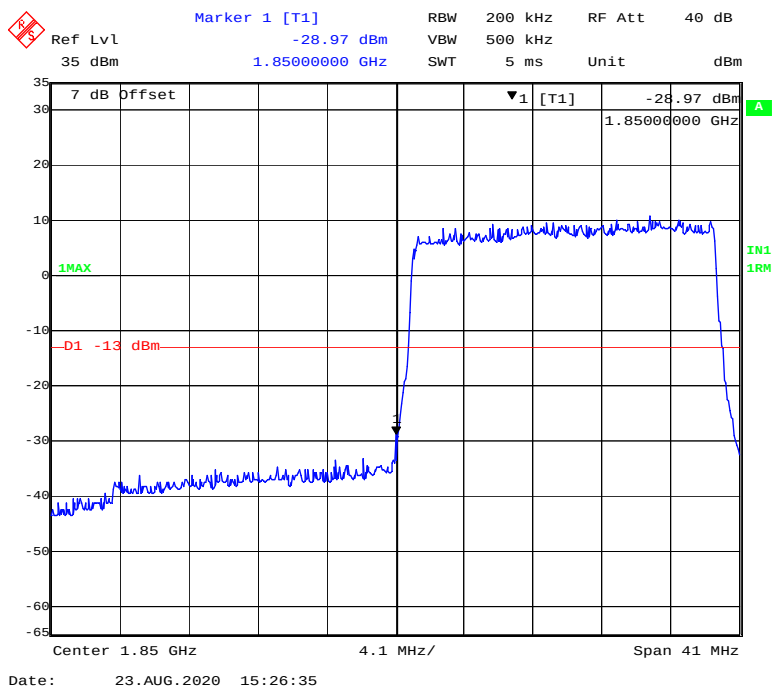
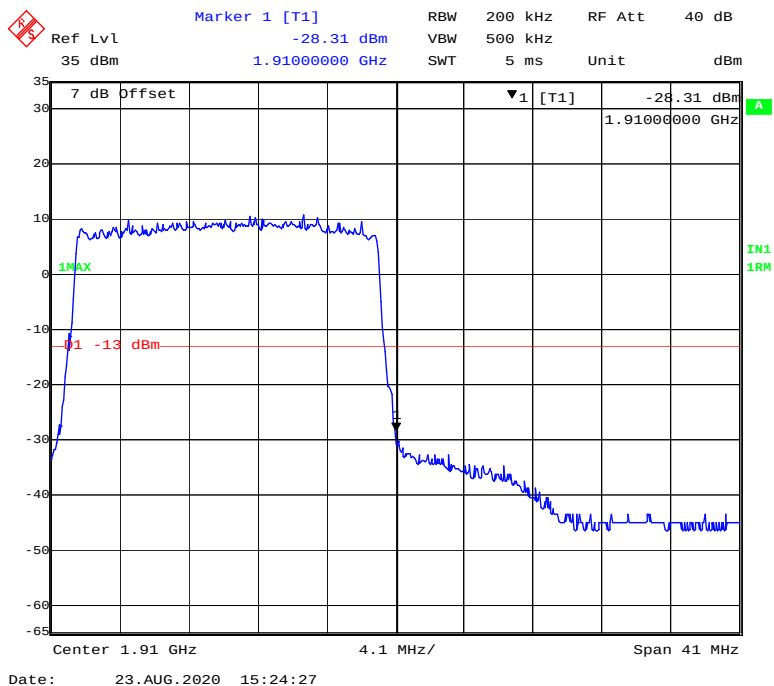
16-QAM (1.4 MHz, FULL RB) - Left Band Edge**16-QAM (1.4 MHz, FULL RB) - Right Band Edge**

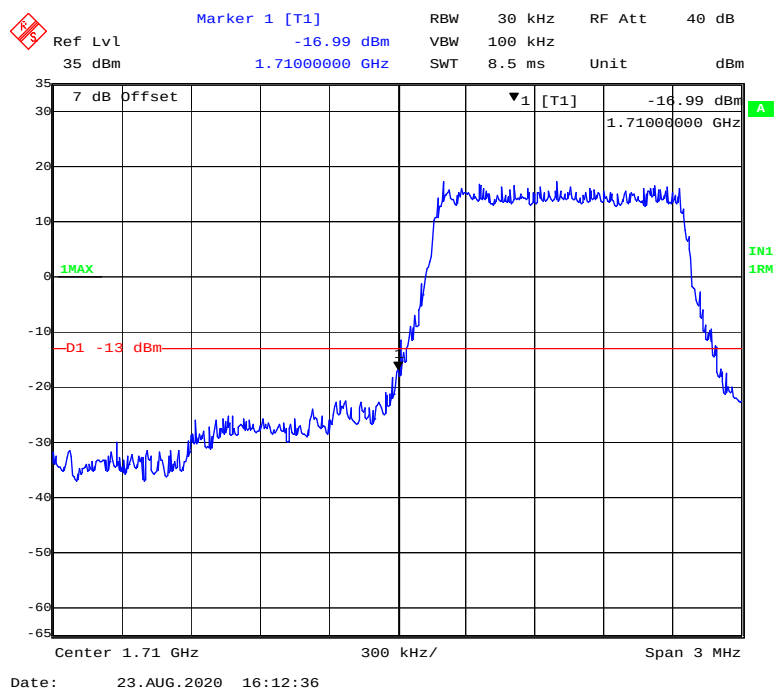
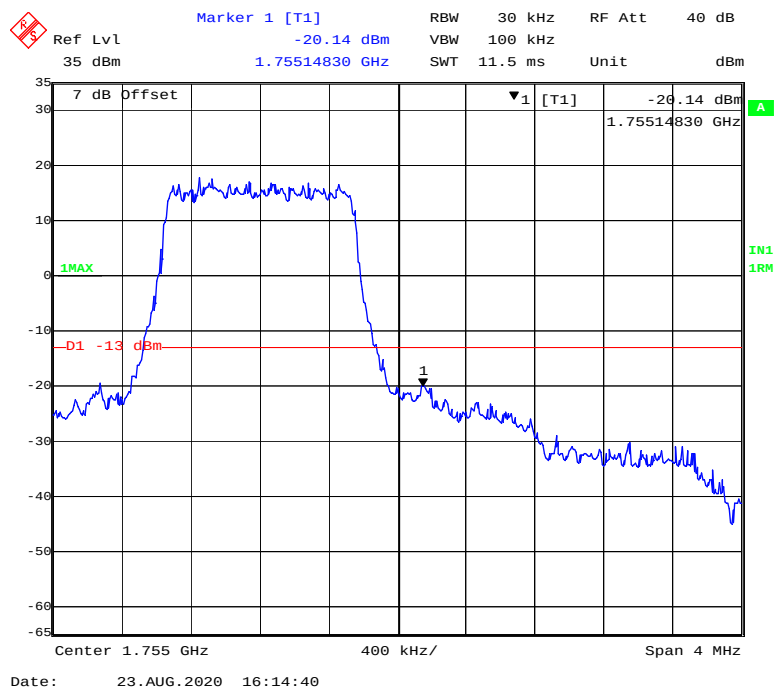
16-QAM (3 MHz, FULL RB) - Left Band Edge**16-QAM (3 MHz, FULL RB) - Right Band Edge**

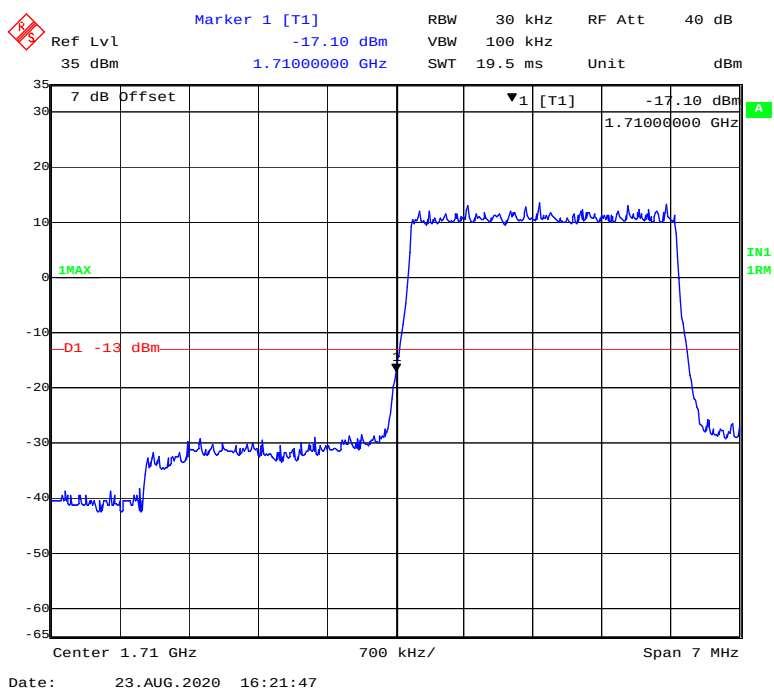
16-QAM (5 MHz, FULL RB) - Left Band Edge**16-QAM (5 MHz, FULL RB) - Right Band Edge**

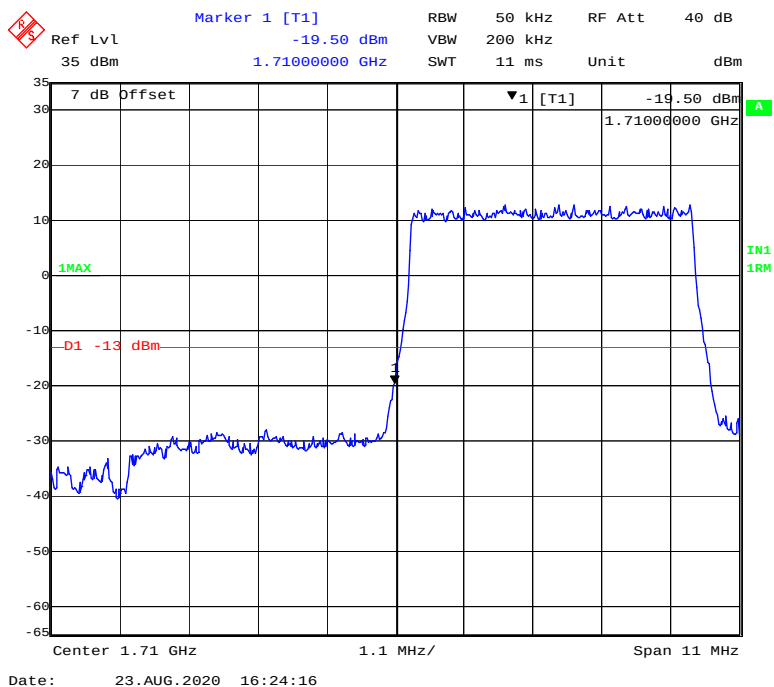
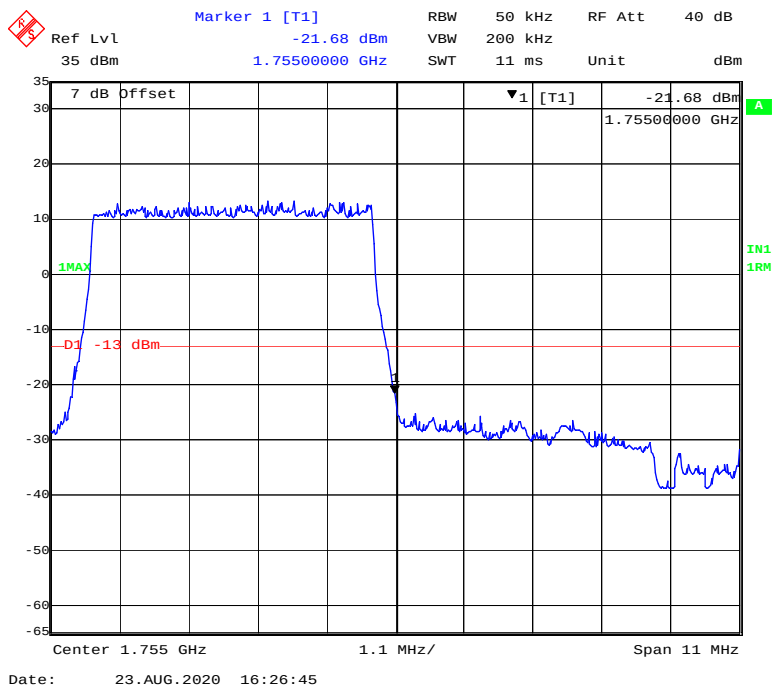
16-QAM (10 MHz, FULL RB) - Left Band Edge**16-QAM (10 MHz, FULL RB) - Right Band Edge**

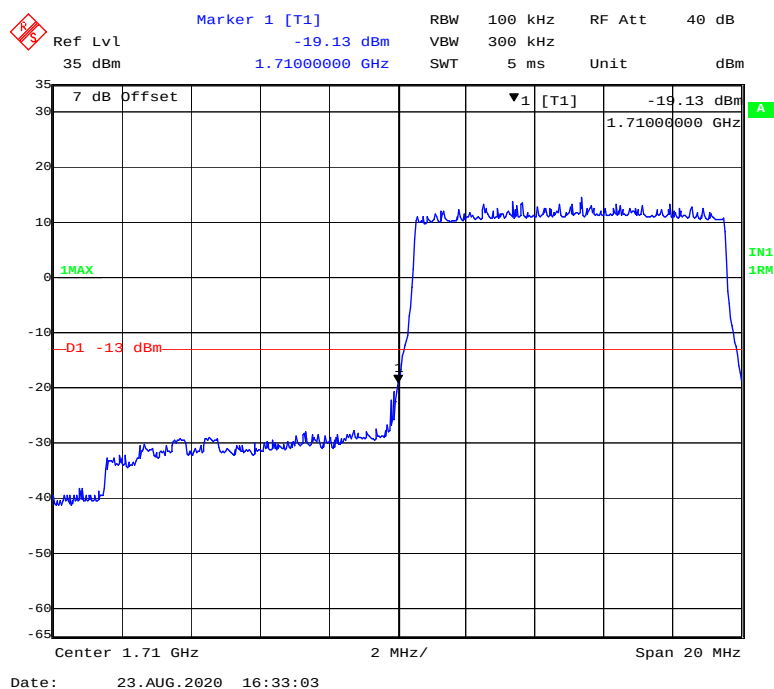
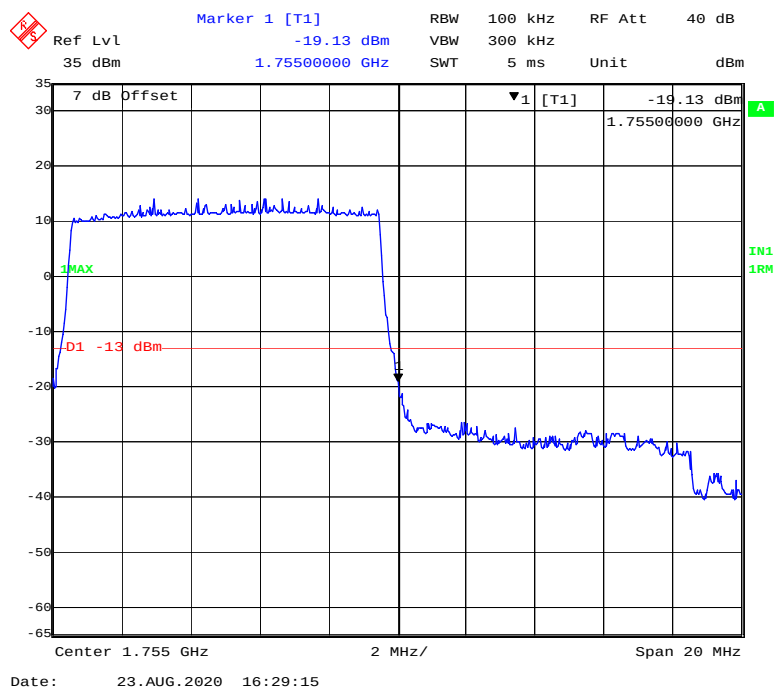
16-QAM (15 MHz, FULL RB) - Left Band Edge**16-QAM (15 MHz, FULL RB) - Right Band Edge**

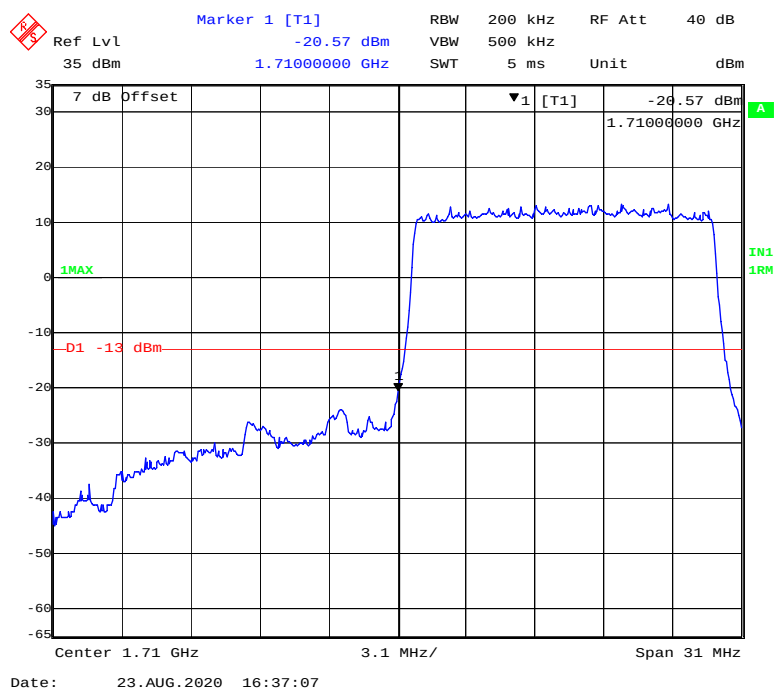
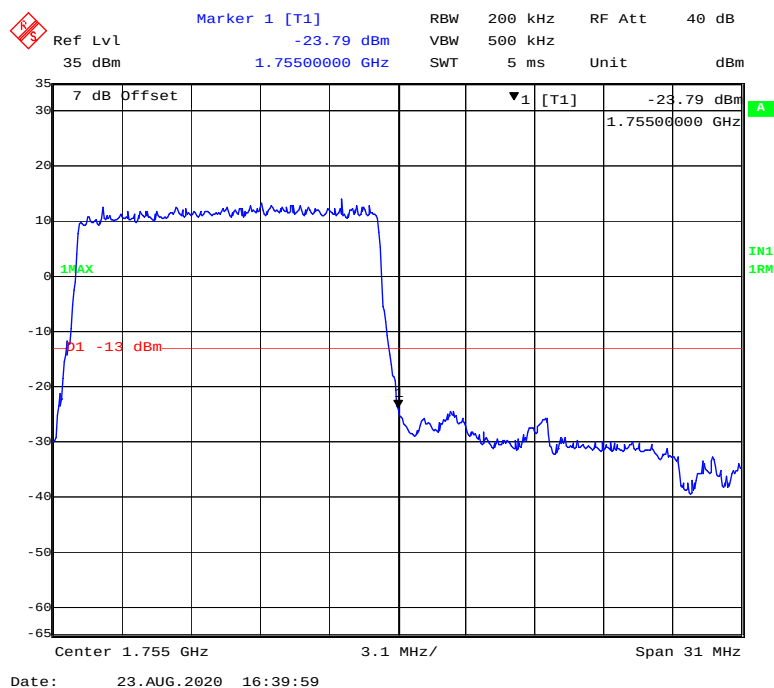
16-QAM (20 MHz, FULL RB) - Left Band Edge**16-QAM (20 MHz, FULL RB) - Right Band Edge**

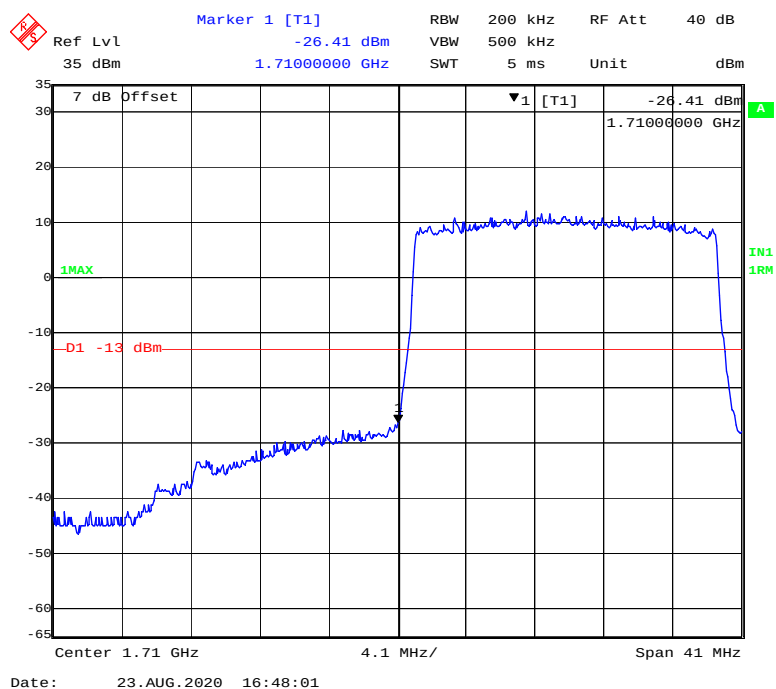
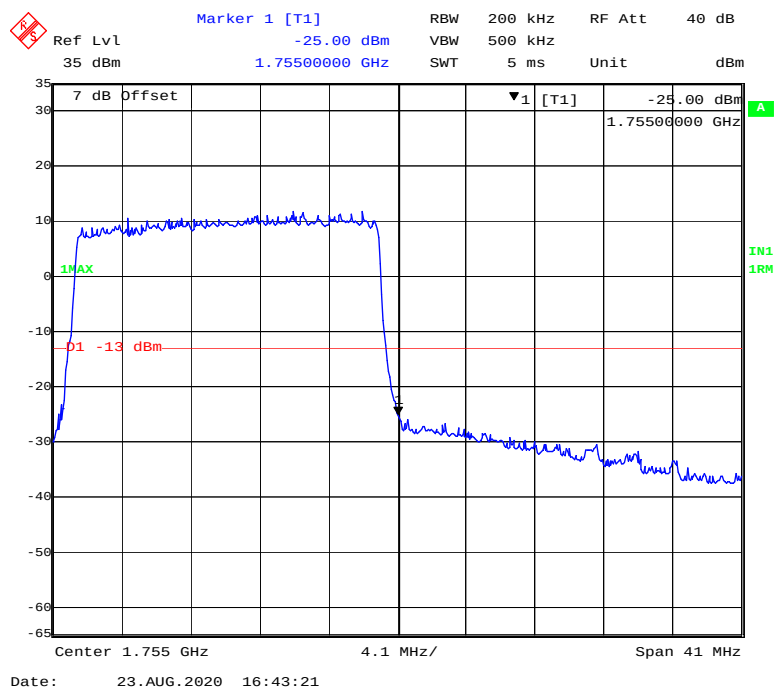
LTE Band 4:**QPSK (1.4 MHz, FULL RB) - Left Band Edge****QPSK (1.4 MHz, FULL RB) - Right Band Edge**

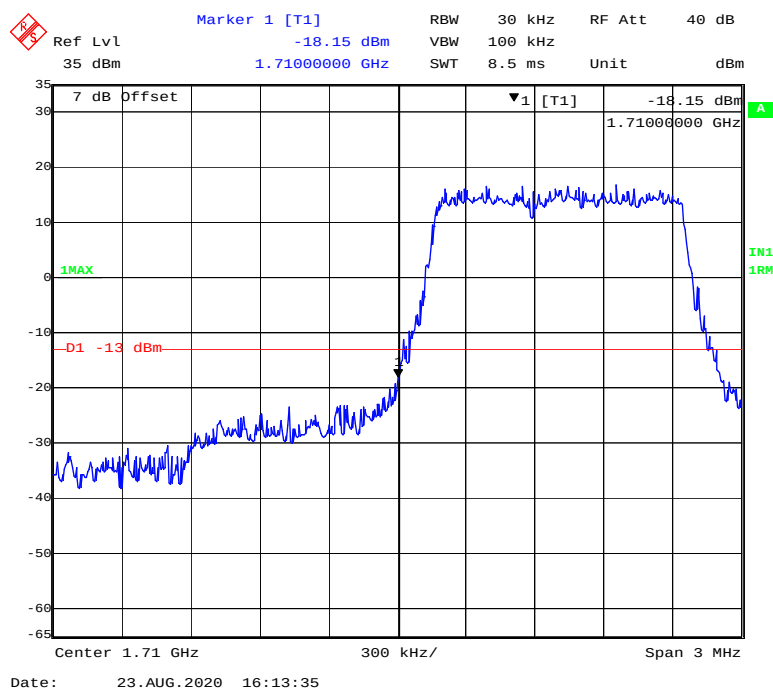
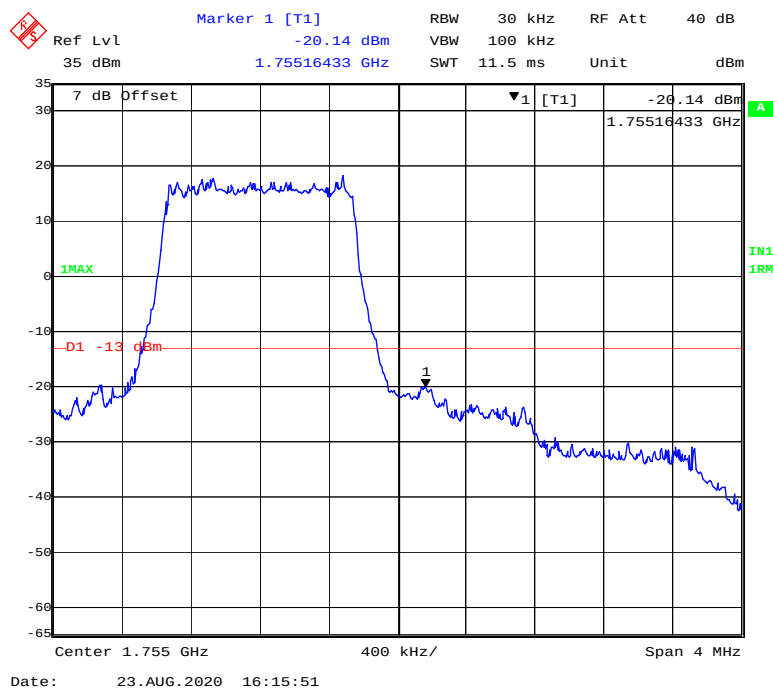
QPSK (3 MHz, FULL RB) - Left Band Edge**QPSK (3 MHz, FULL RB) - Right Band Edge**

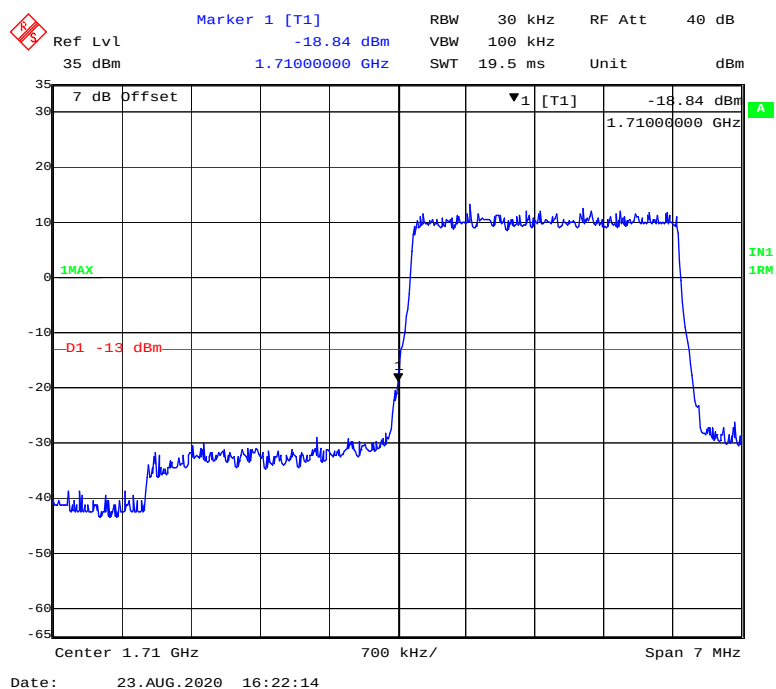
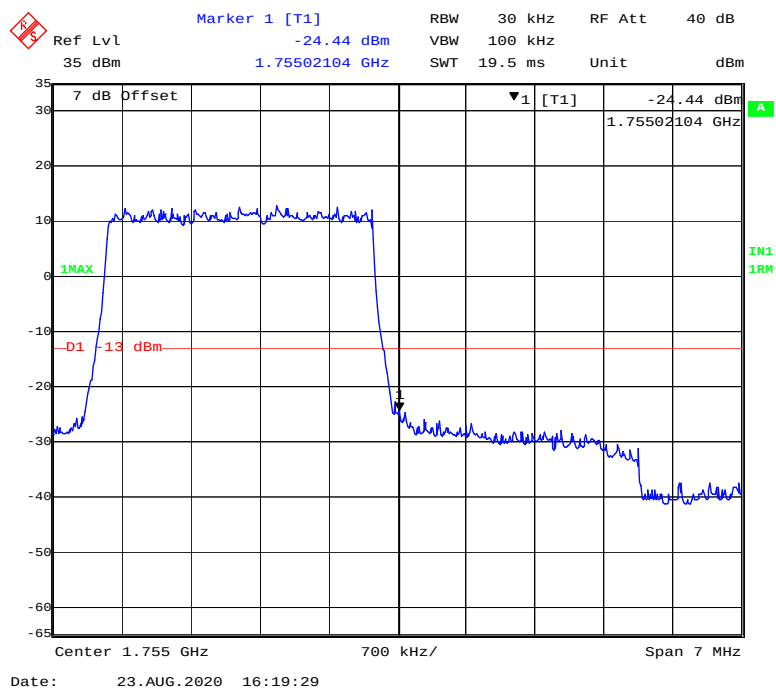
QPSK (5 MHz, FULL RB) - Left Band Edge**QPSK (5 MHz, FULL RB) - Right Band Edge**

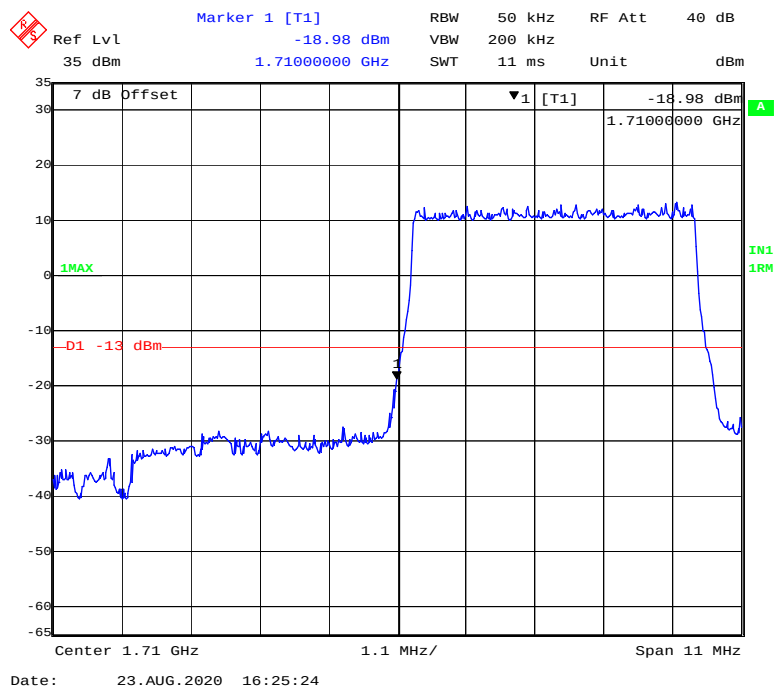
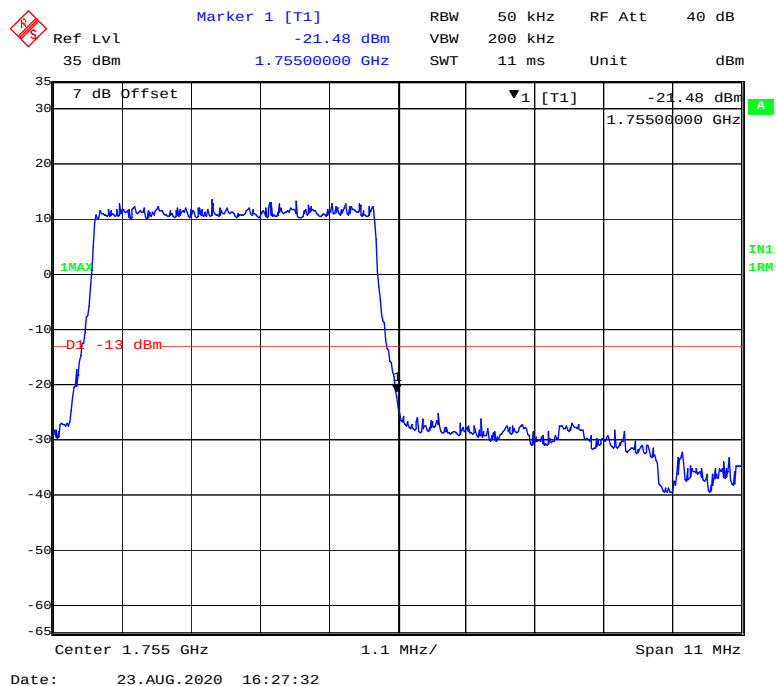
QPSK (10 MHz, FULL RB) - Left Band Edge**QPSK (10 MHz, FULL RB) - Right Band Edge**

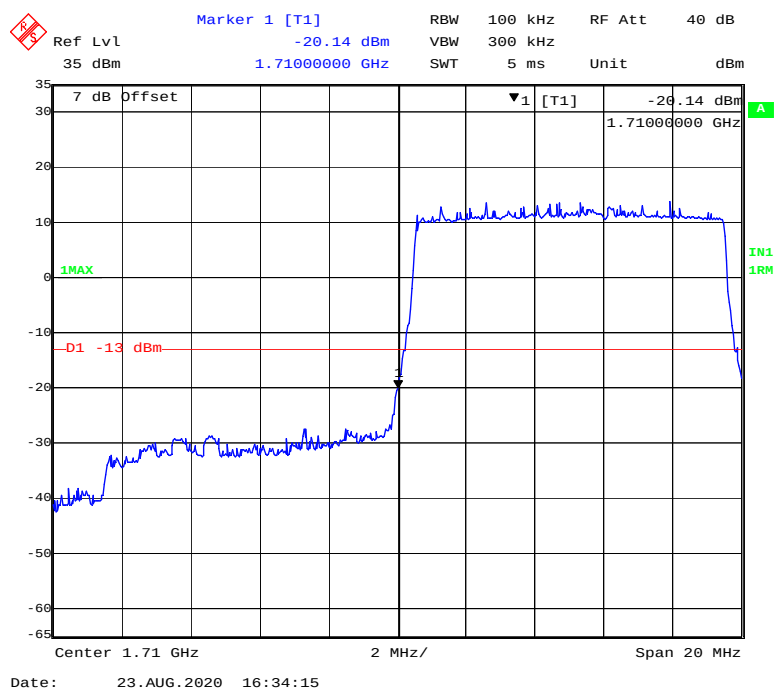
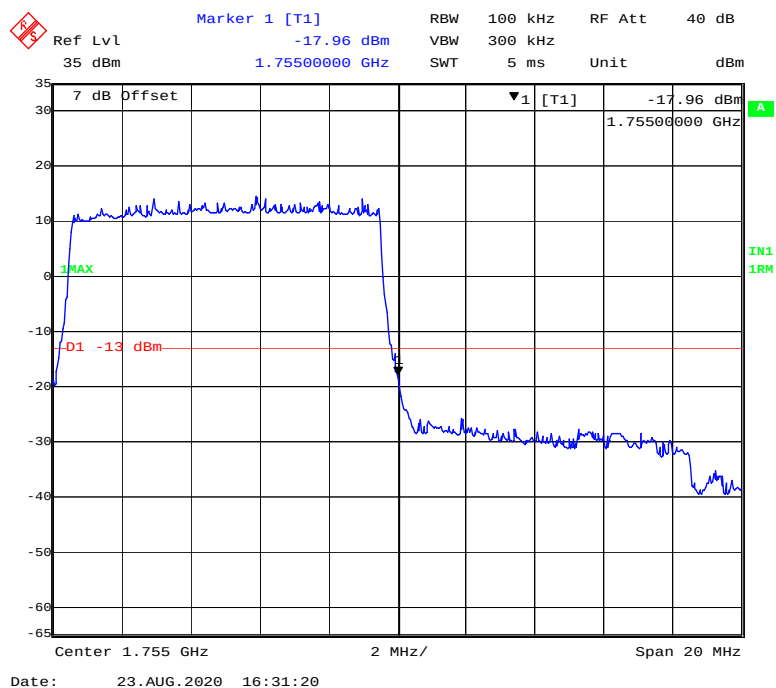
QPSK (15 MHz, FULL RB) - Left Band Edge**QPSK (15 MHz, FULL RB) - Right Band Edge**

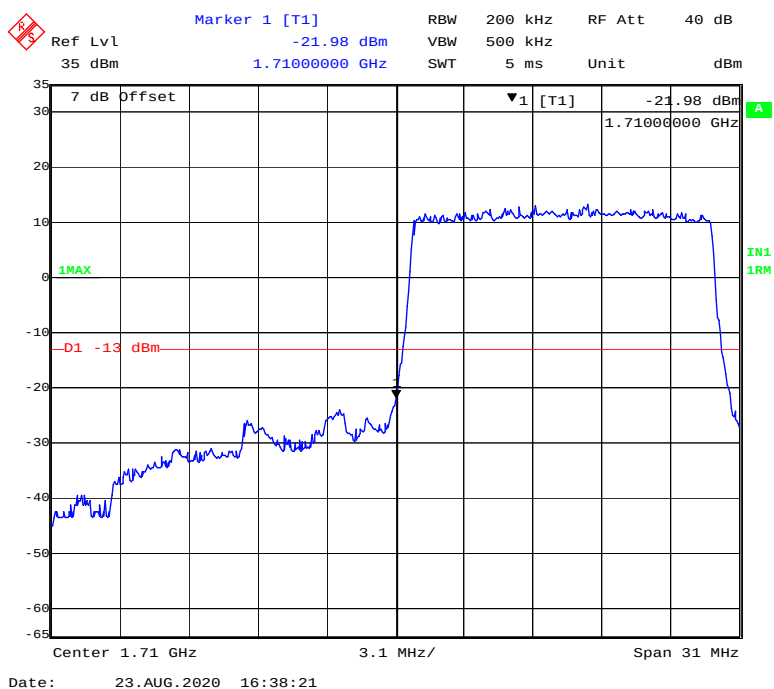
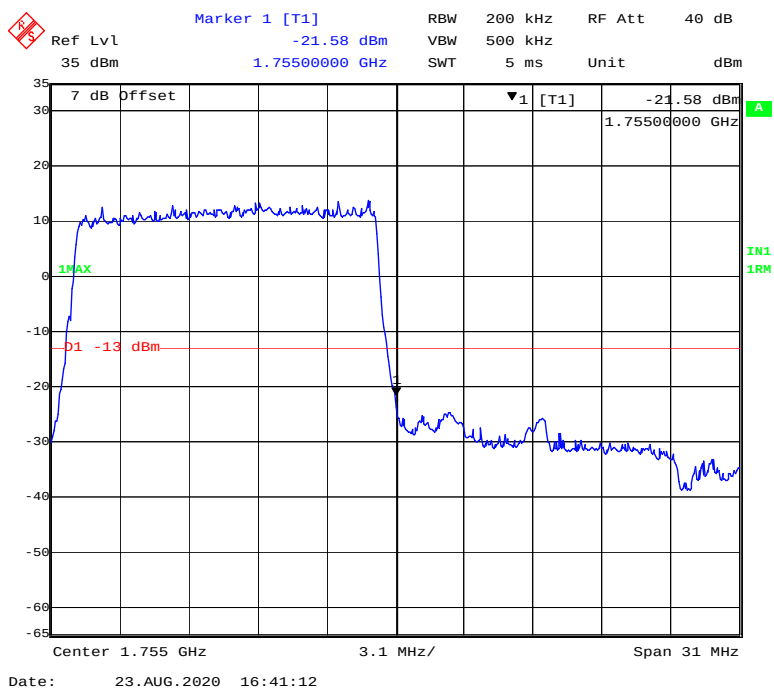
QPSK (20 MHz, FULL RB) - Left Band Edge**QPSK (20 MHz, FULL RB) - Right Band Edge**

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

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

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

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

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

Ref Lvl 35 dBm
 Marker 1 [T1] -26.08 dBm
 1.71000000 GHz
 RBW 200 kHz
 SWT 5 ms
 RF Att 40 dB
 Unit dBm

7 dB Offset
 ▼1 [T1] -26.08 dBm
 1.71000000 GHz
 1MAX
 D1 -13 dBm
 IN1 1RM
 Center 1.71 GHz
 4.1 MHz/
 Span 41 MHz
 Date: 23.AUG.2020 16:49:49

Marker 1 [T1]

Ref Lvl -25.45 dBm
35 dBm

RBW 200 kHz
VBW 500 kHz
SWT 5 ms

RF Att 40 dB
Unit dBm

7 dB Offset

▼1 [T1] -25.45 dBm
1.75500000 GHz

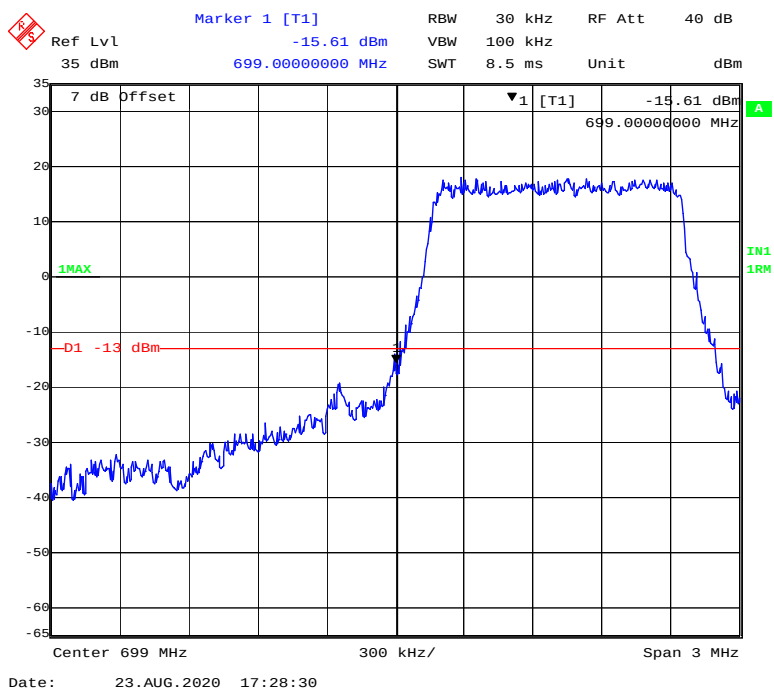
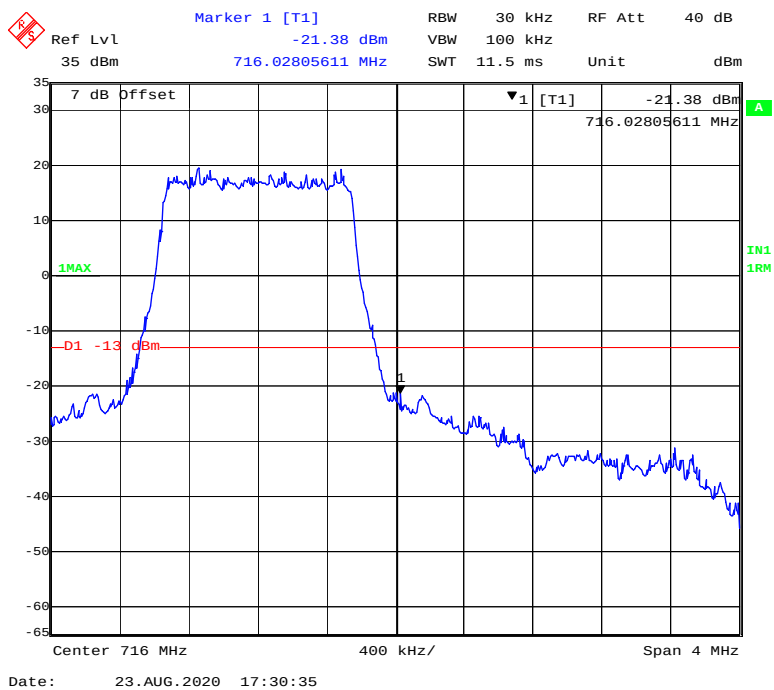
1MAX

01 -13 dBm

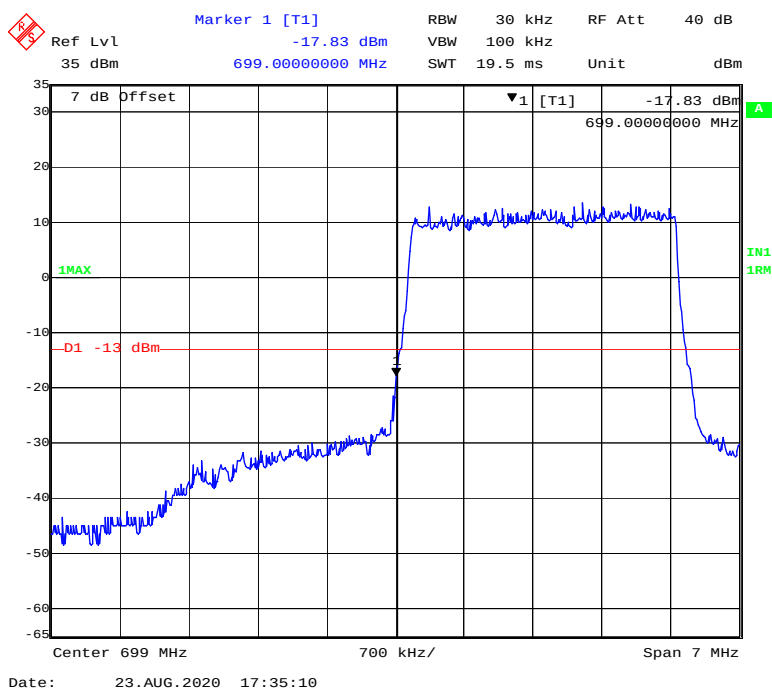
IN1 1RM

Center 1.755 GHz 4.1 MHz/ Span 41 MHz

Date: 23.AUG.2020 16:45:46

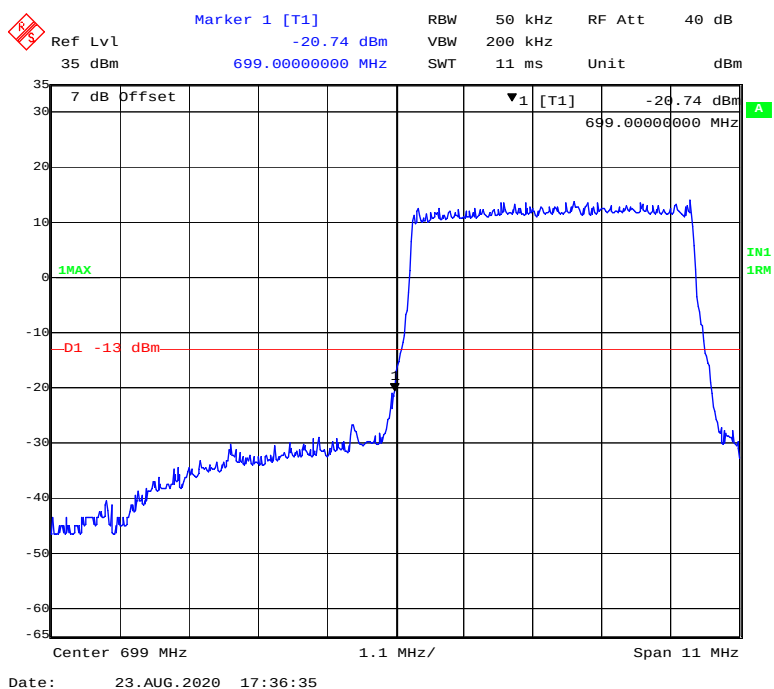
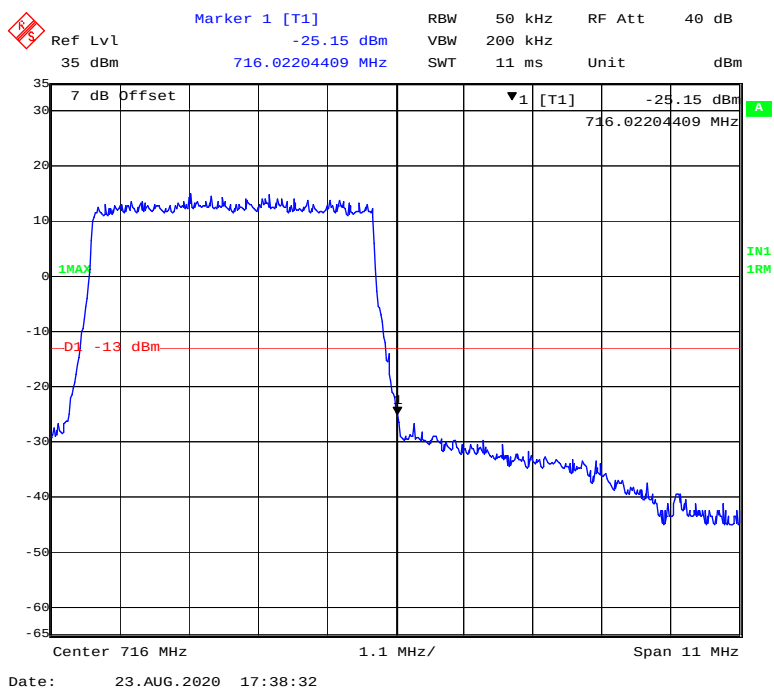
LTE Band 12:**QPSK (1.4 MHz, FULL RB) - Left Band Edge****QPSK (1.4 MHz, FULL RB) - Right Band Edge**

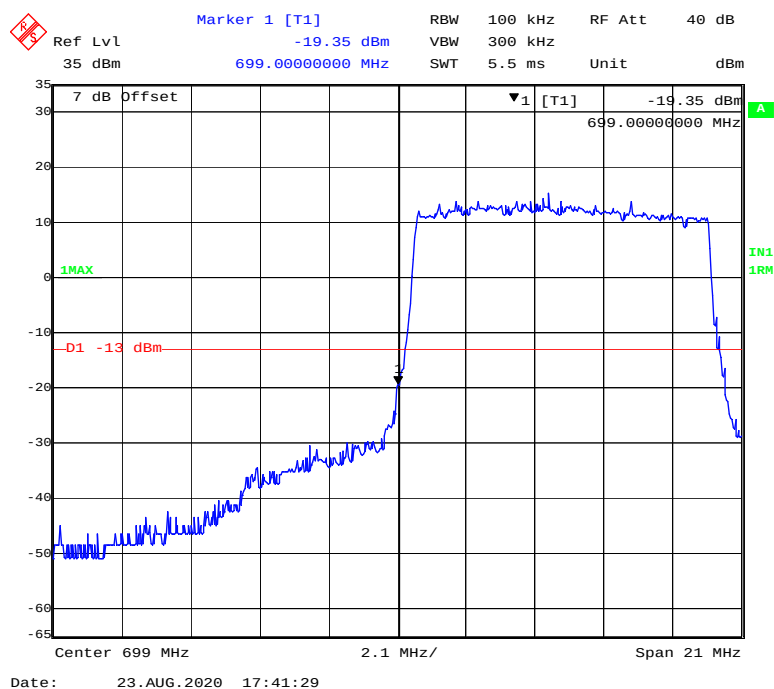
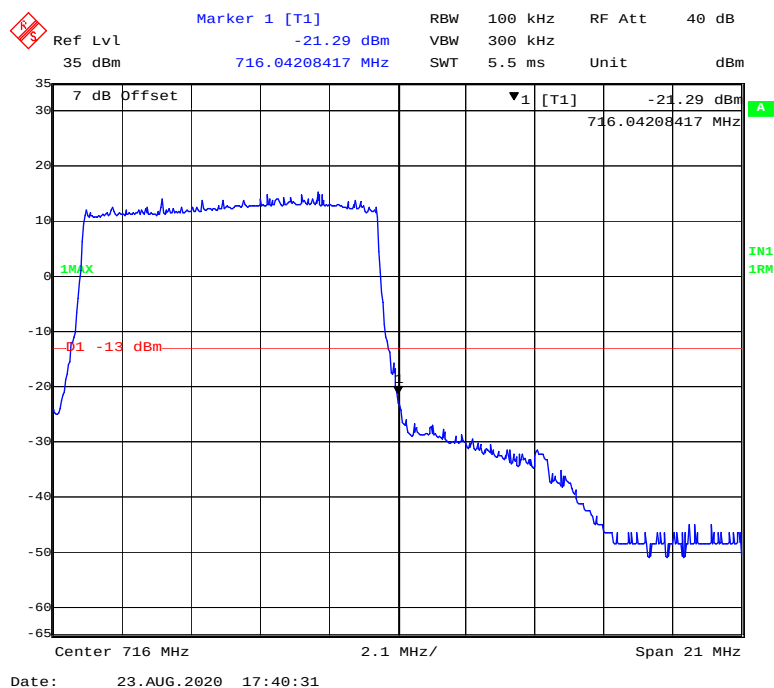
QPSK (3 MHz, FULL RB) - Left Band Edge

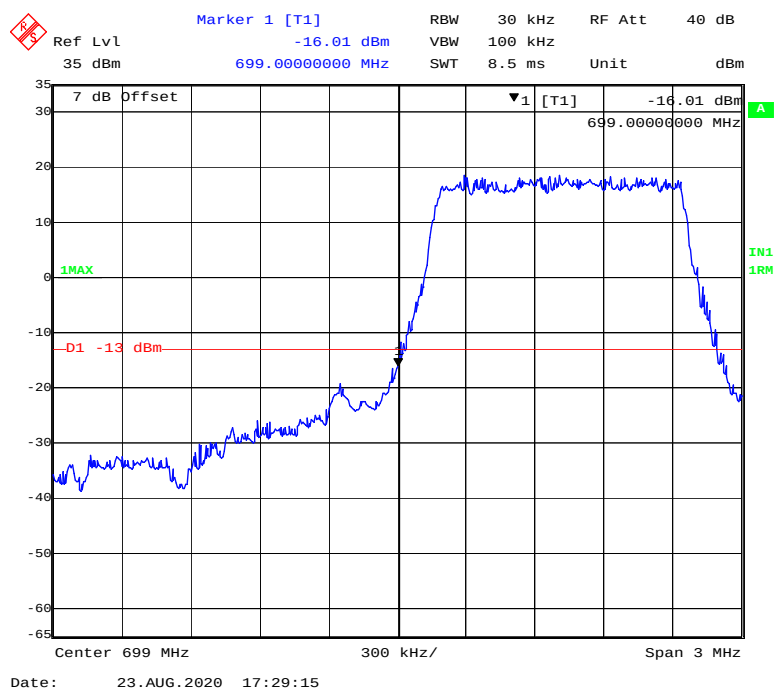
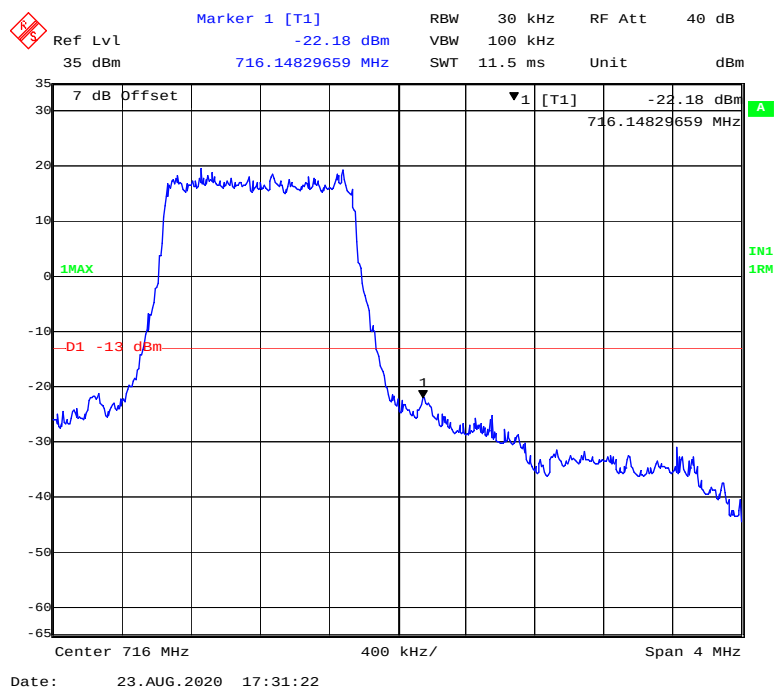


QPSK (3 MHz, FULL RB) - Right Band Edge



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

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

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

Ref Lvl 35 dBm Offset 7 dB
 Marker 1 [T1] -17.71 dBm
 RBW 30 kHz VBW 100 kHz RF Att 40 dB
 699.00000000 MHz SwT 19.5 ms Unit dBm

7 dB Offset
 ▼1 [T1] -17.71 dBm
 699.00000000 MHz
 1MAX
 D1 -13 dBm
 IN1
 1RM
 Center 699 MHz 700 kHz/ Span 7 MHz

Date: 23.AUG.2020 17:35:32

RBW 30 kHz RF Att 40 dB
 VBW 100 kHz
 SWT 19.5 ms Unit dBm

Marker 1 [T1]
 -27.31 dBm
 716.07815631 MHz

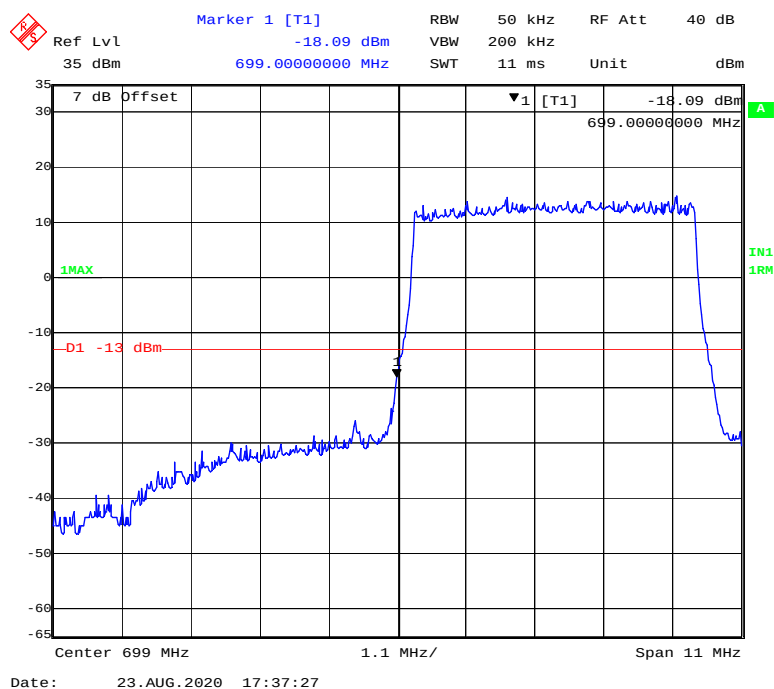
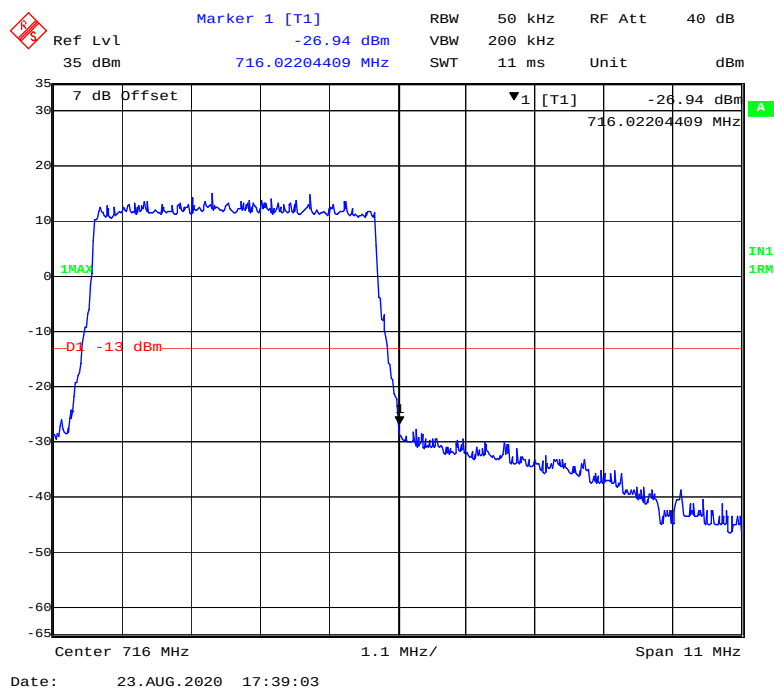
Ref Lvl 35 dBm
 7 dB Offset

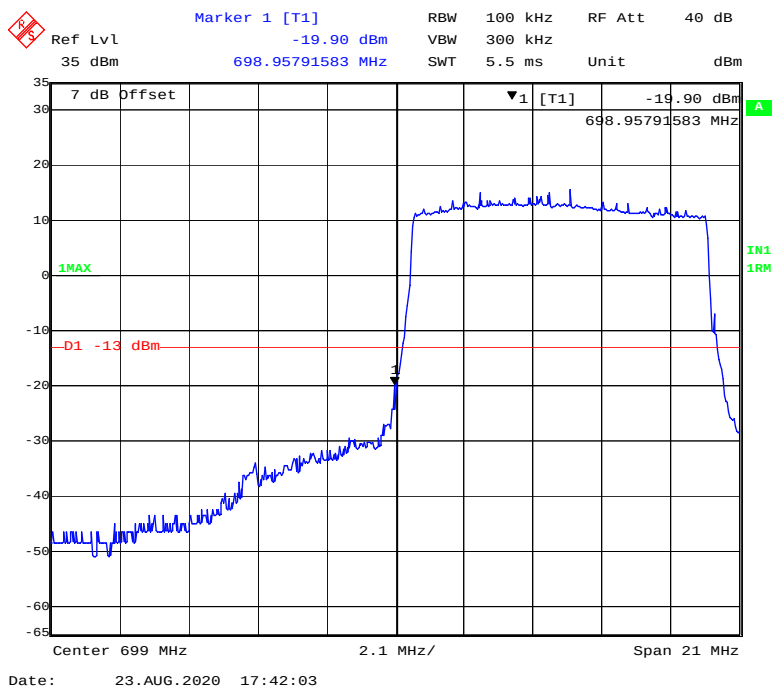
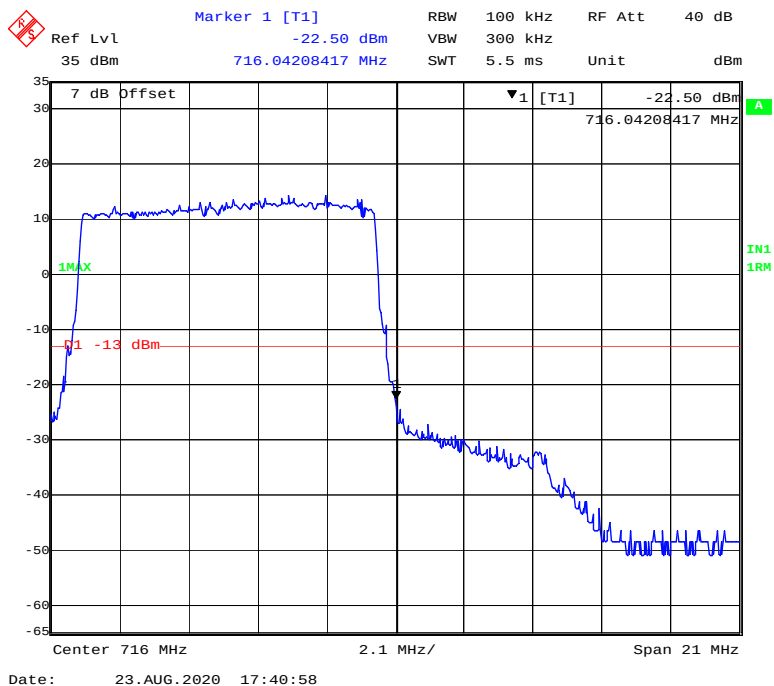
1MAX
 D1 -13 dBm
 1

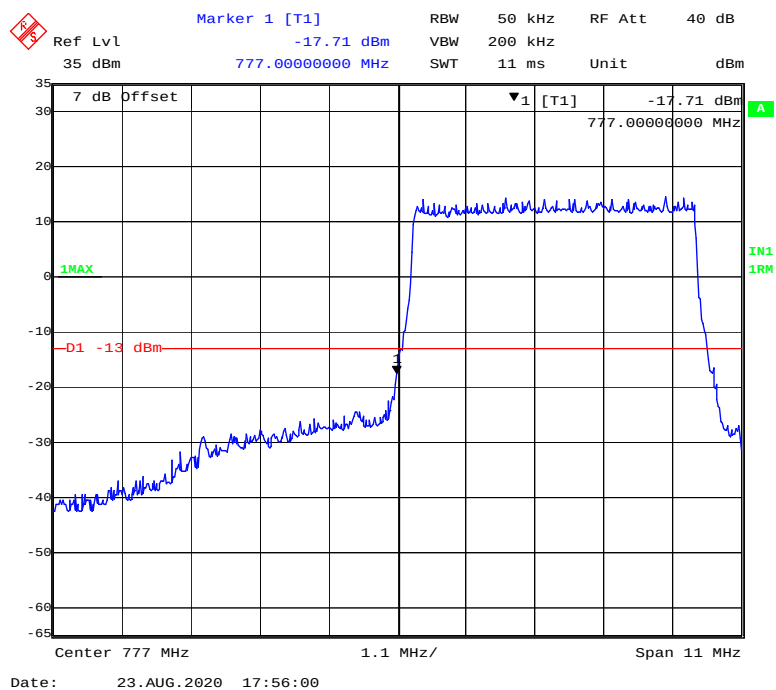
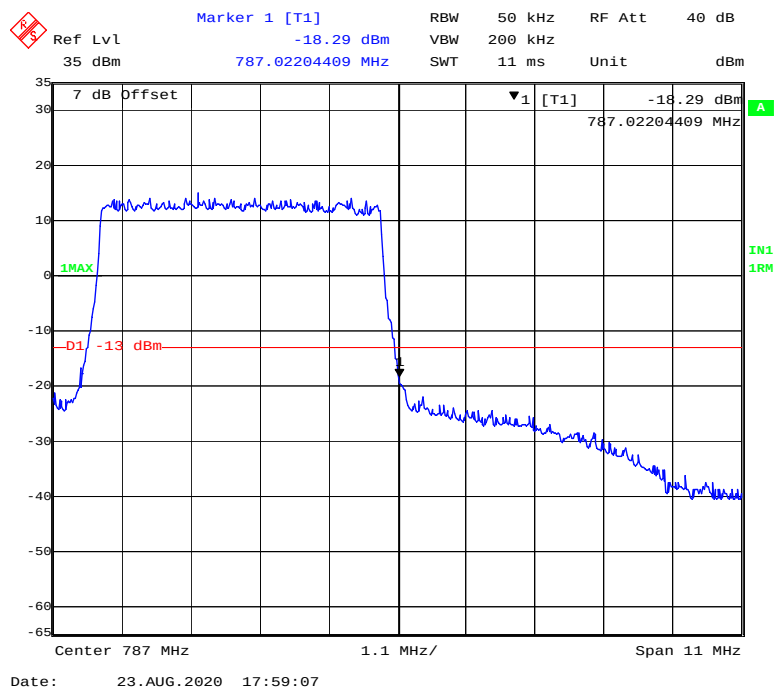
IN1
 1RM

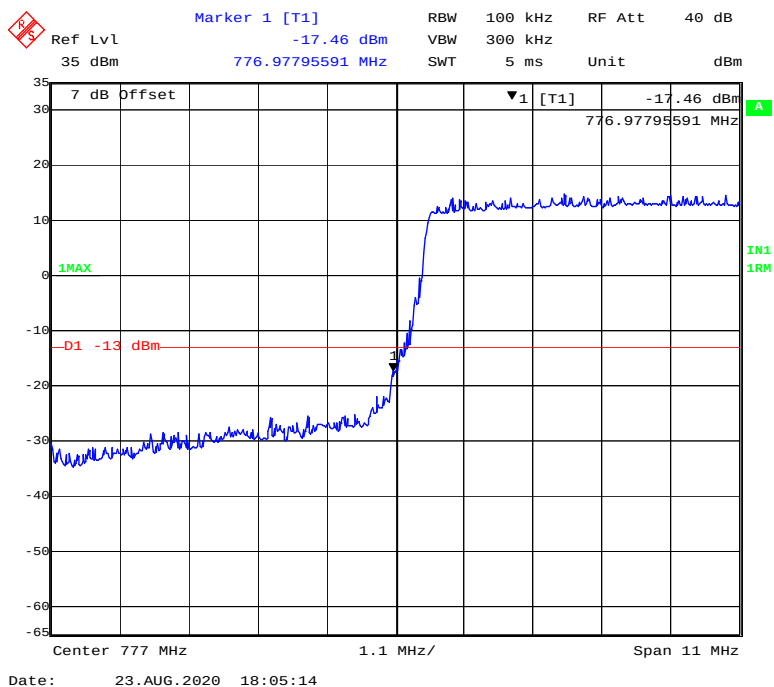
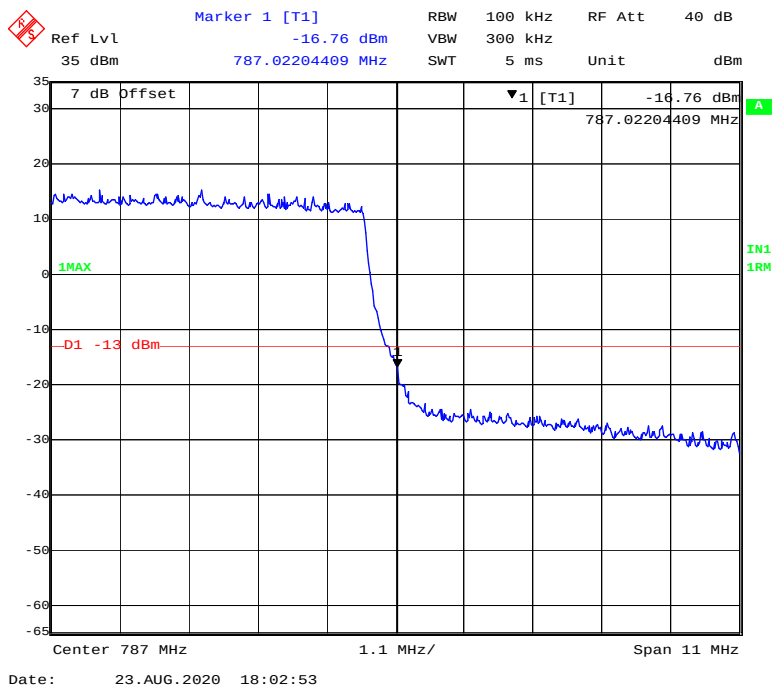
Center 716 MHz 700 kHz/ Span 7 MHz

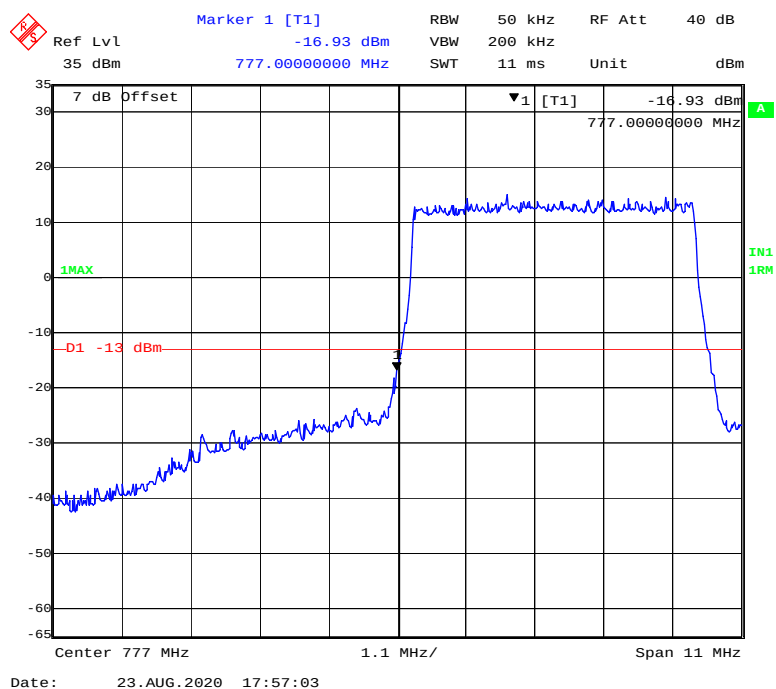
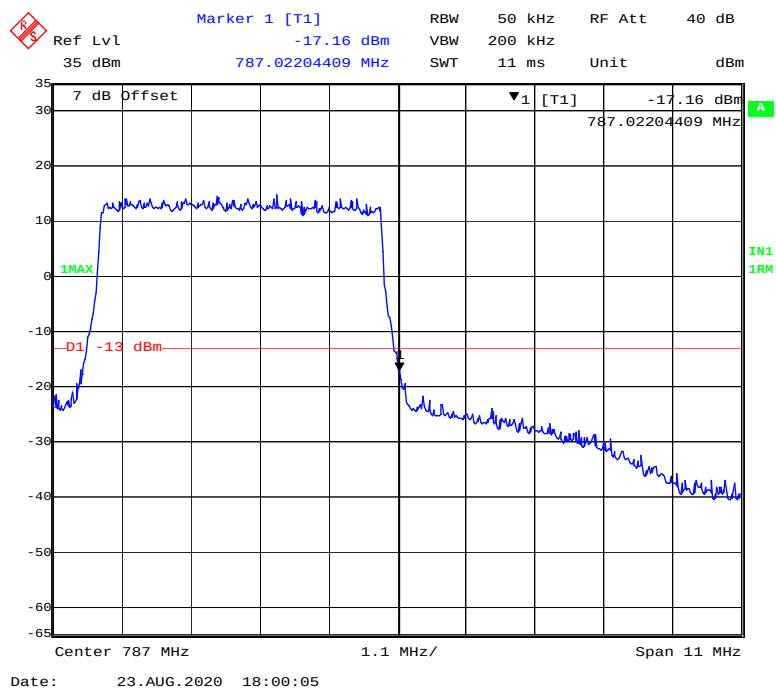
Date: 23.AUG.2020 17:33:42

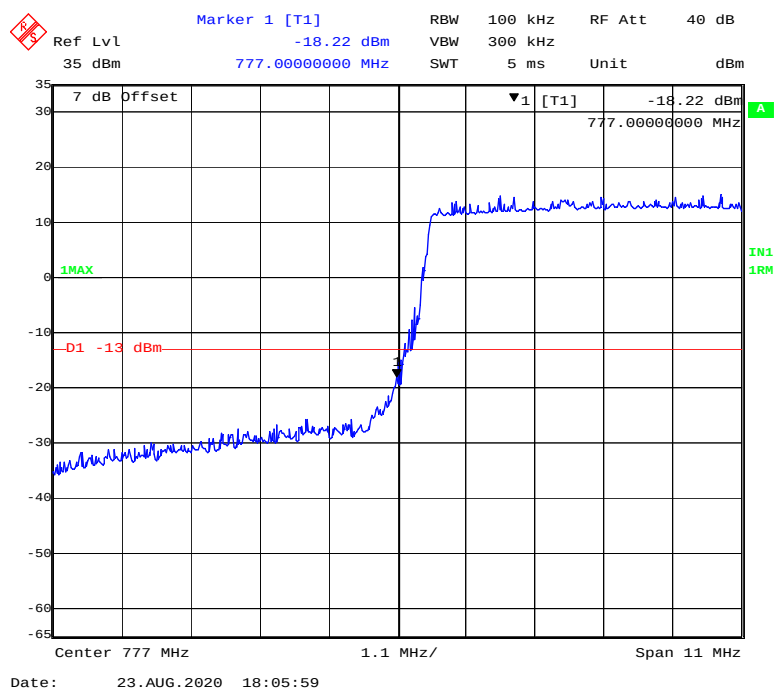
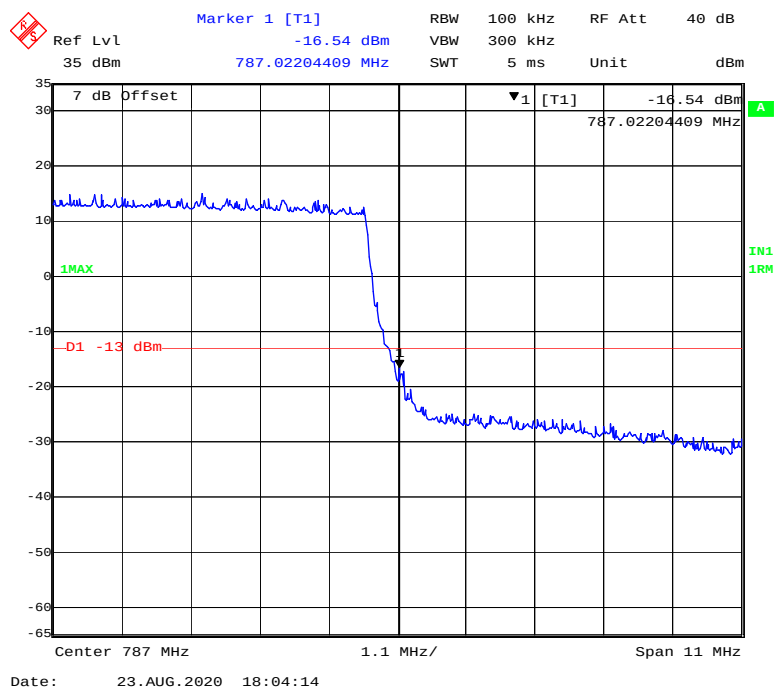
16-QAM (5 MHz, FULL RB) - Left Band Edge**16-QAM (5 MHz, FULL RB) - Right Band Edge**

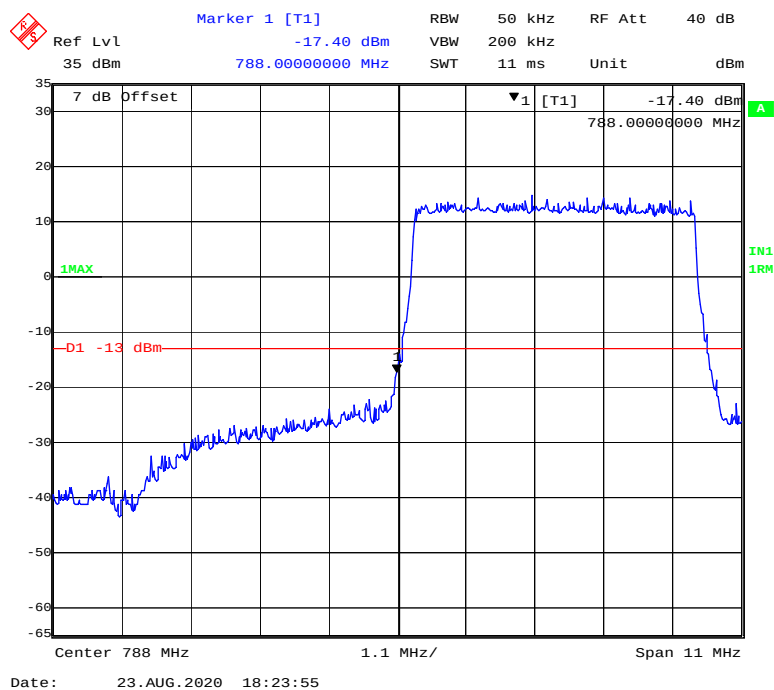
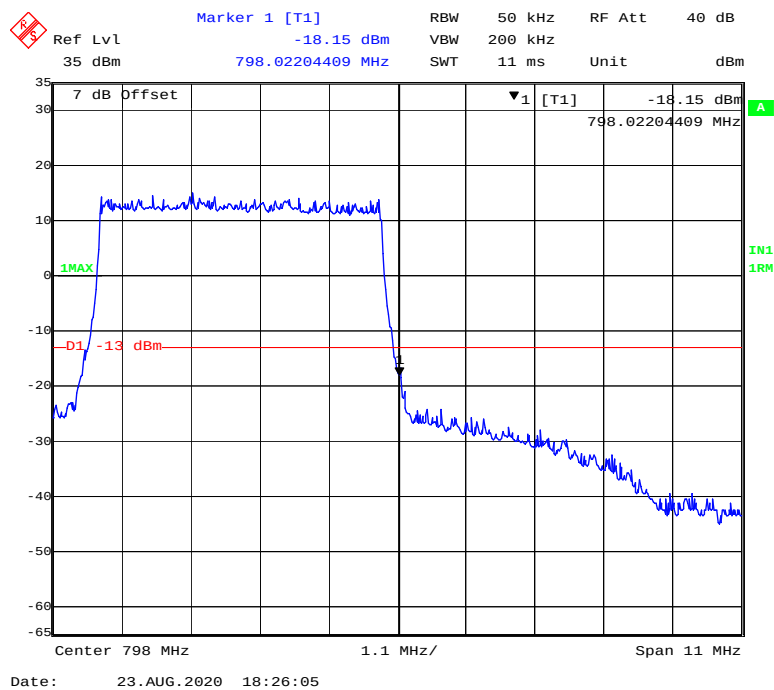
16-QAM (10 MHz, FULL RB) - Left Band Edge**16-QAM (10 MHz, FULL RB) - Right Band Edge**

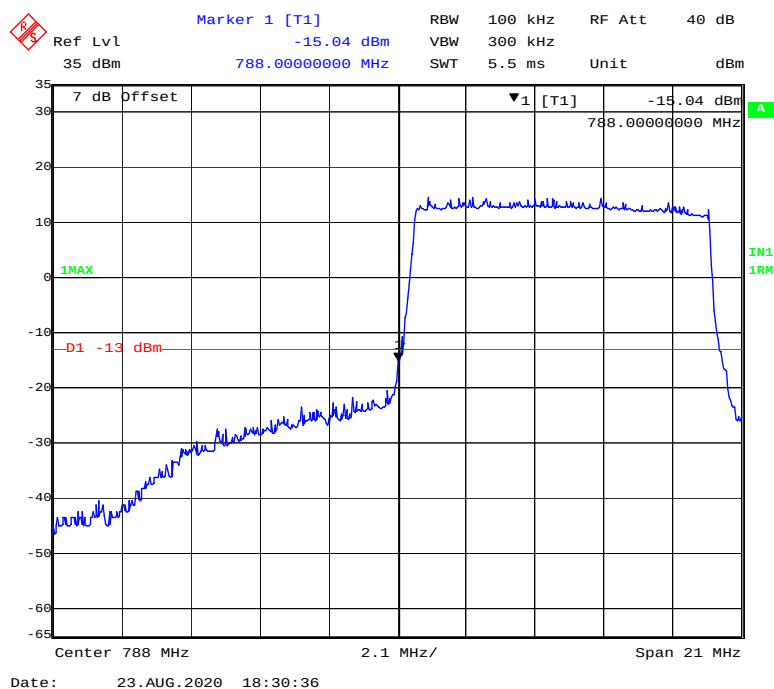
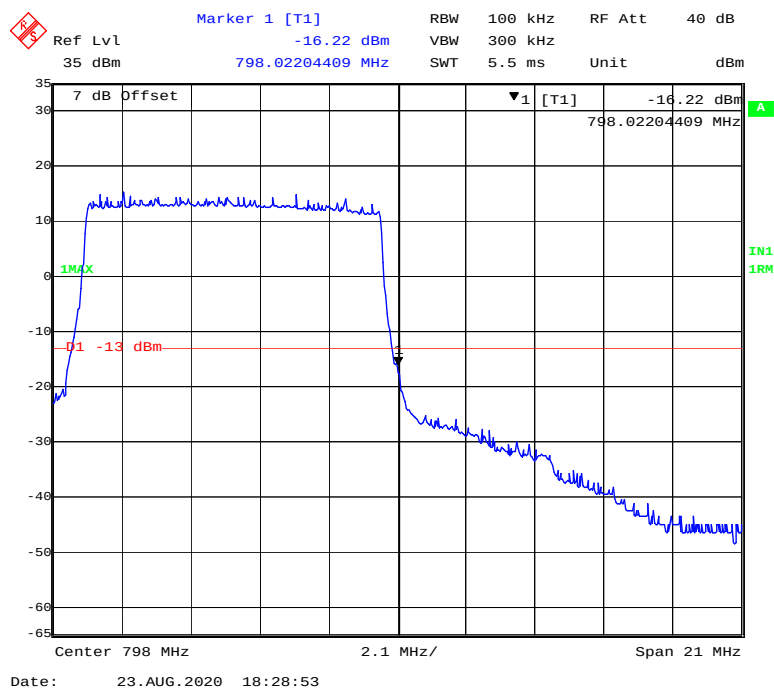
LTE Band 13:**QPSK (5 MHz, FULL RB) - Left Band Edge****QPSK (5 MHz, FULL RB) - Right Band Edge**

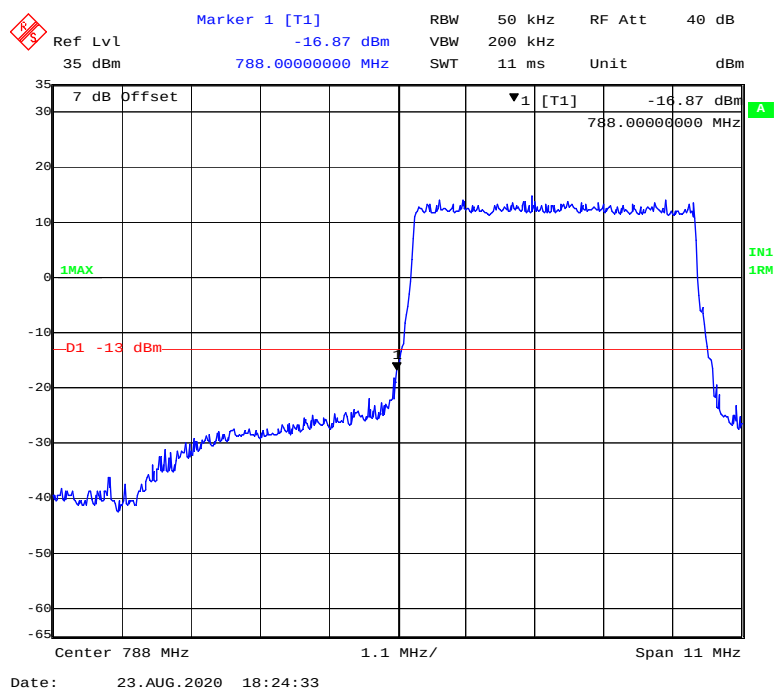
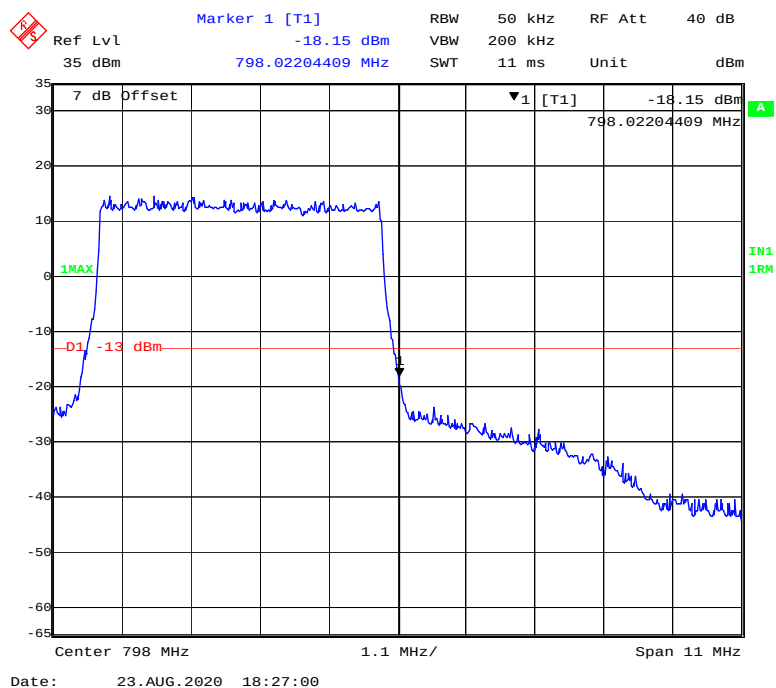
QPSK (10 MHz, FULL RB) - Left Band Edge**QPSK (10 MHz, FULL RB) - Right Band Edge**

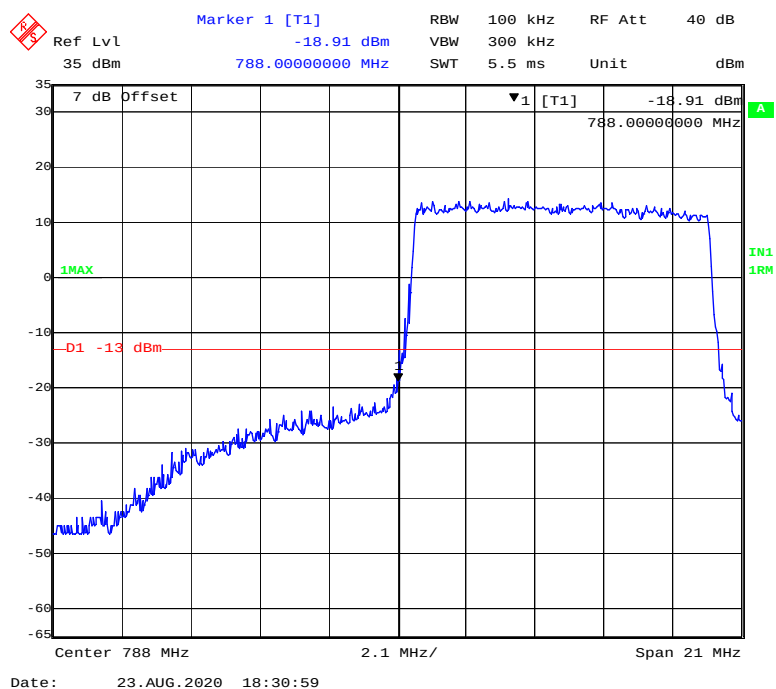
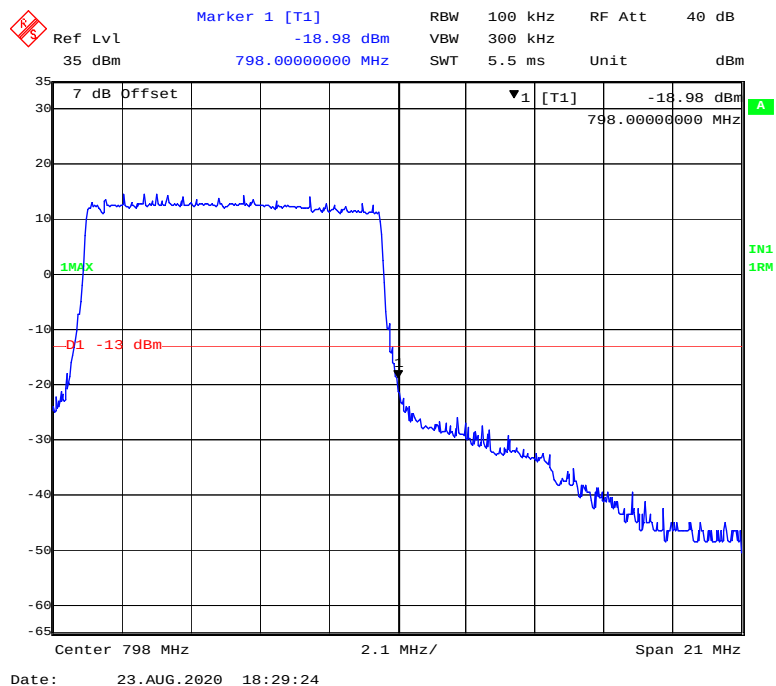
16-QAM (5 MHz, FULL RB) - Left Band Edge**16-QAM (5 MHz, FULL RB) - Right Band Edge**

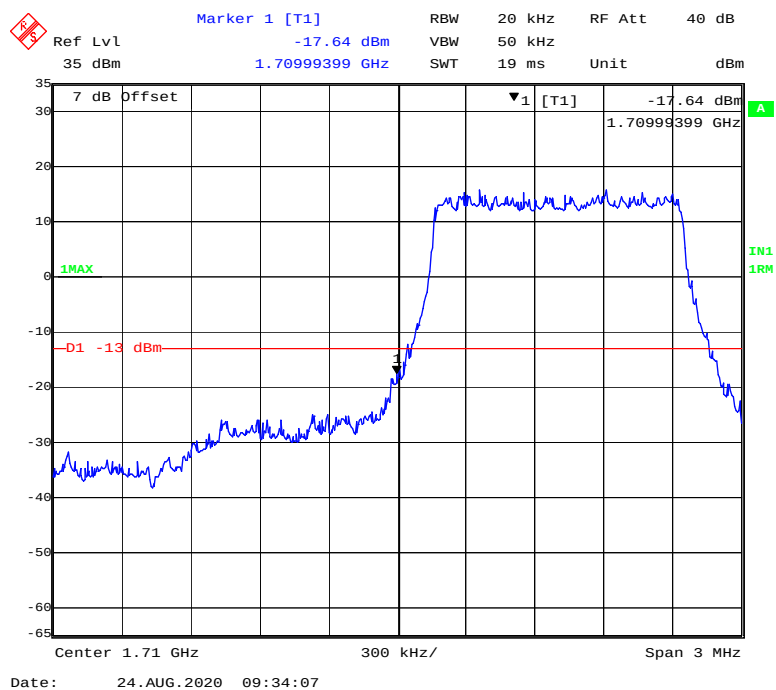
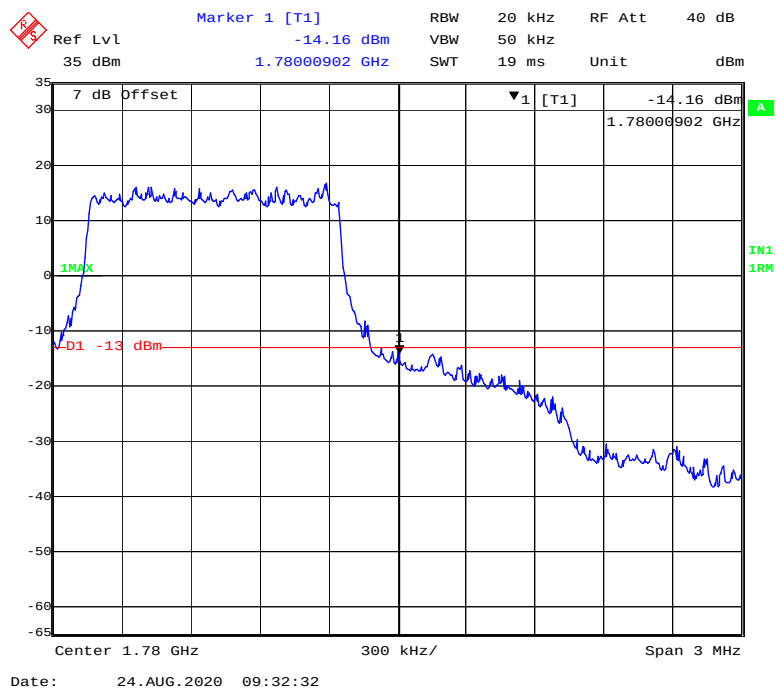
16-QAM (10 MHz, FULL RB) - Left Band Edge**16-QAM (10 MHz, FULL RB) - Right Band Edge**

LTE Band 14:**QPSK (5 MHz, FULL RB) - Left Band Edge****QPSK (5 MHz, FULL RB) - Right Band Edge**

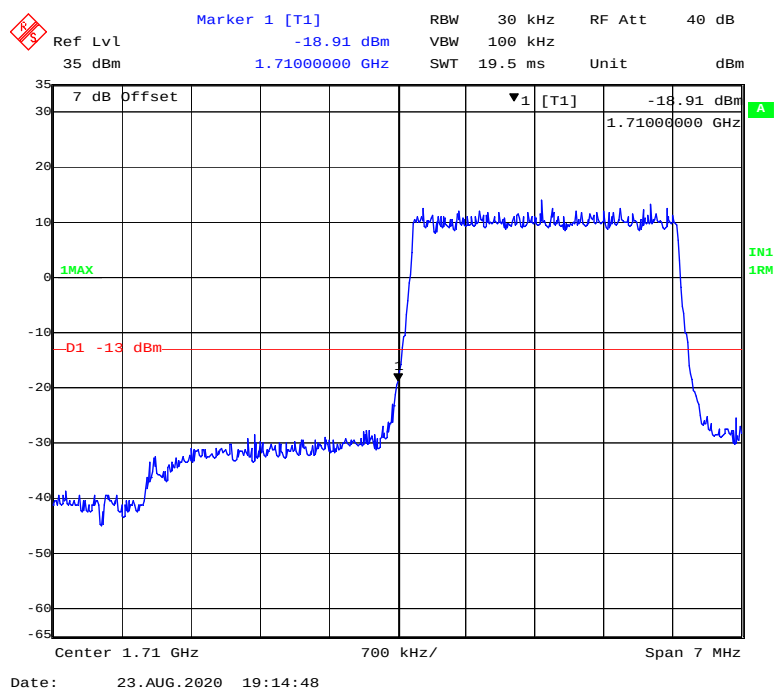
QPSK (10 MHz, FULL RB) - Left Band Edge**QPSK (10 MHz, FULL RB) - Right Band Edge**

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

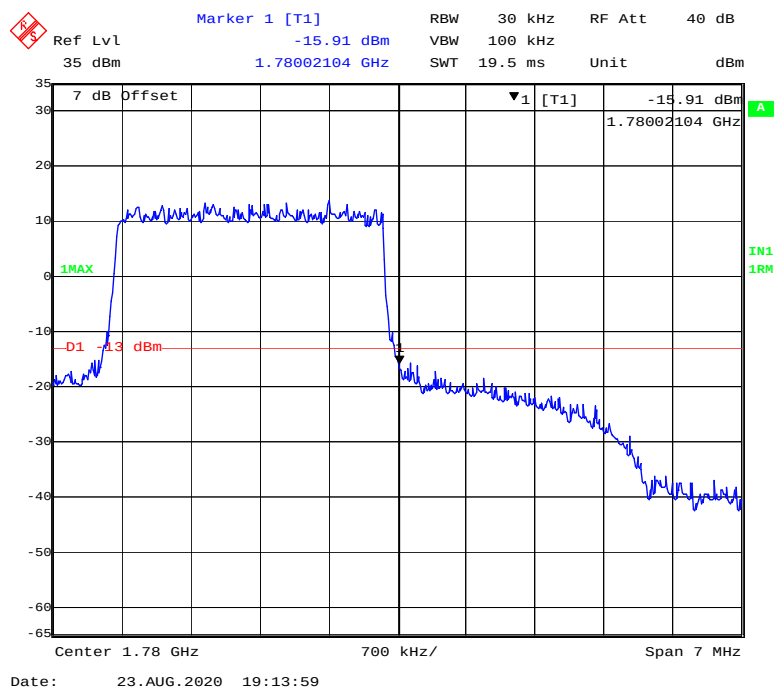
16-QAM (10 MHz, FULL RB) - Left Band Edge**16-QAM (10 MHz, FULL RB) - Right Band Edge**

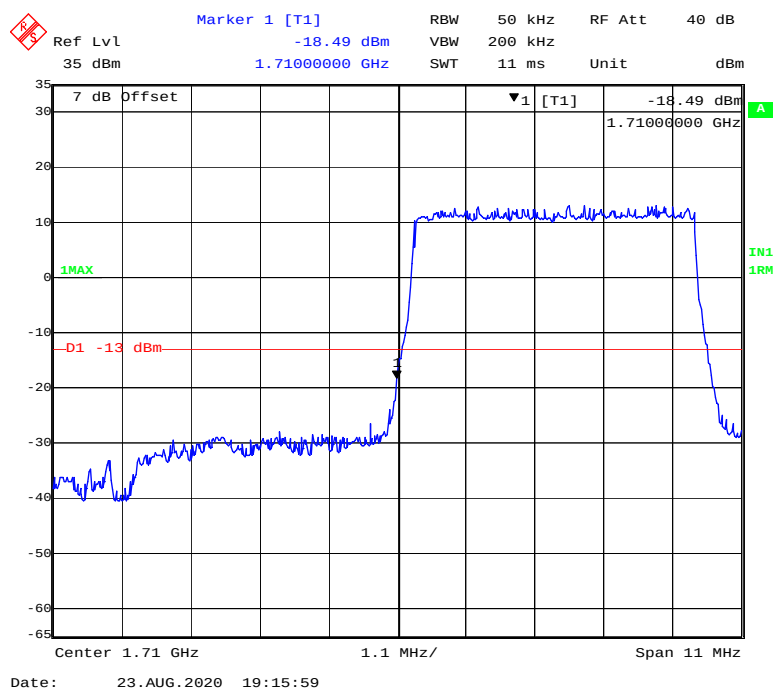
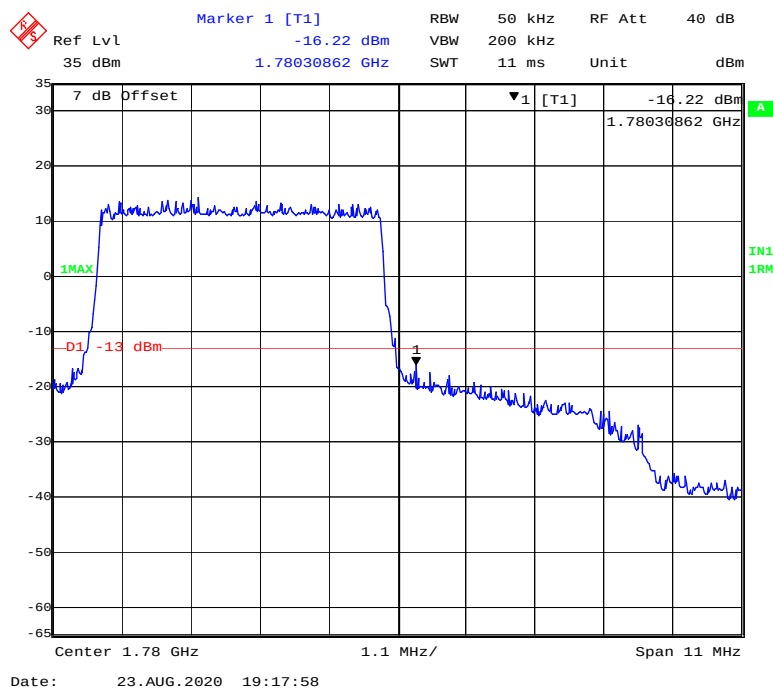
LTE Band 66:**QPSK (1.4 MHz, FULL RB) - Left Band Edge****QPSK (1.4 MHz, FULL RB) - Right Band Edge**

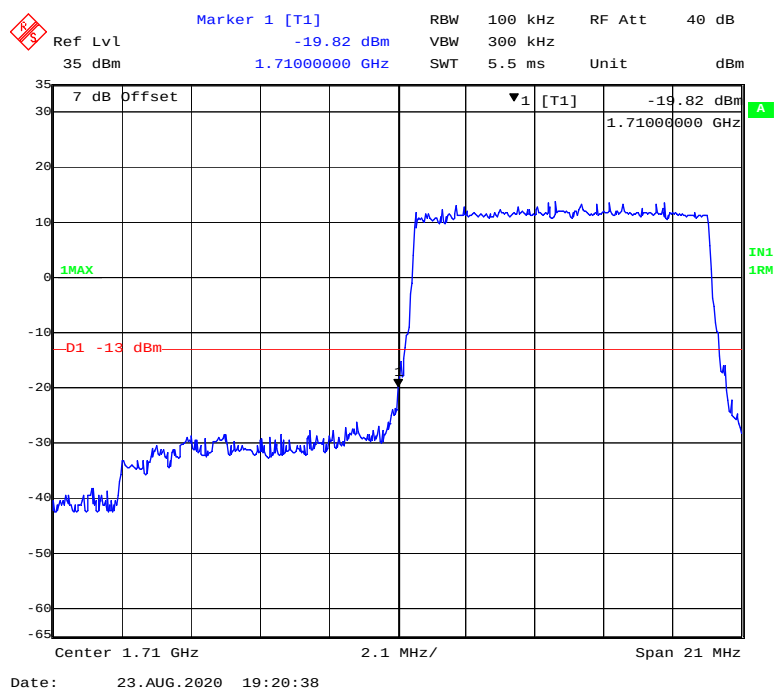
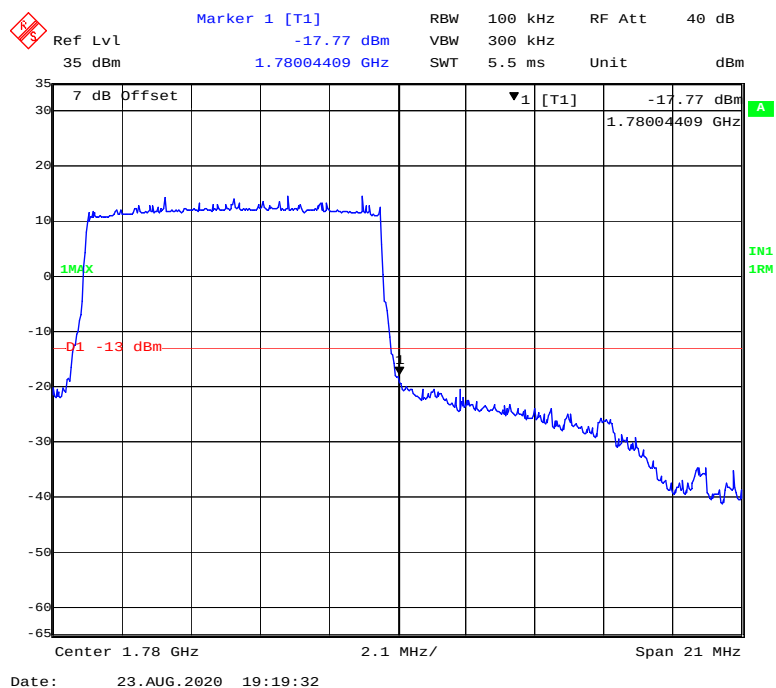
QPSK (3 MHz, FULL RB) - Left Band Edge

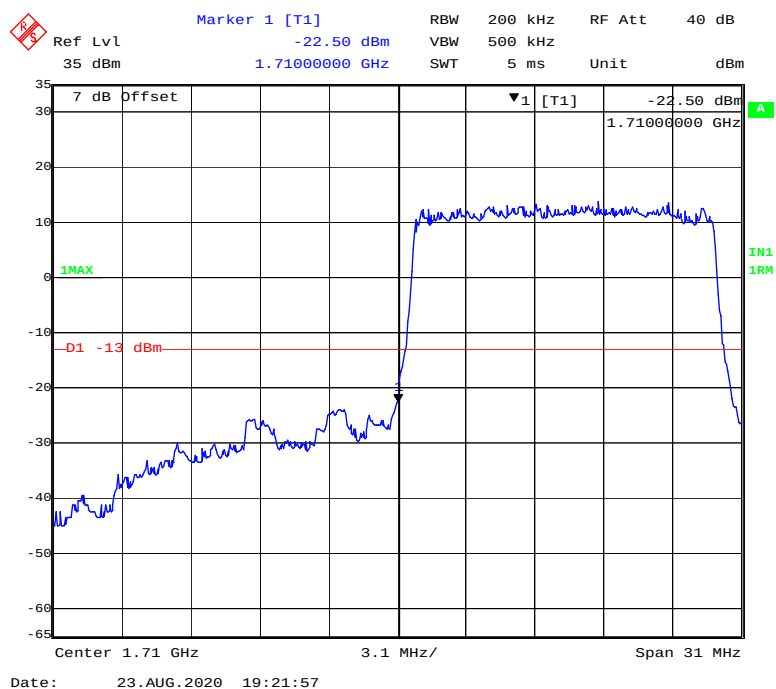
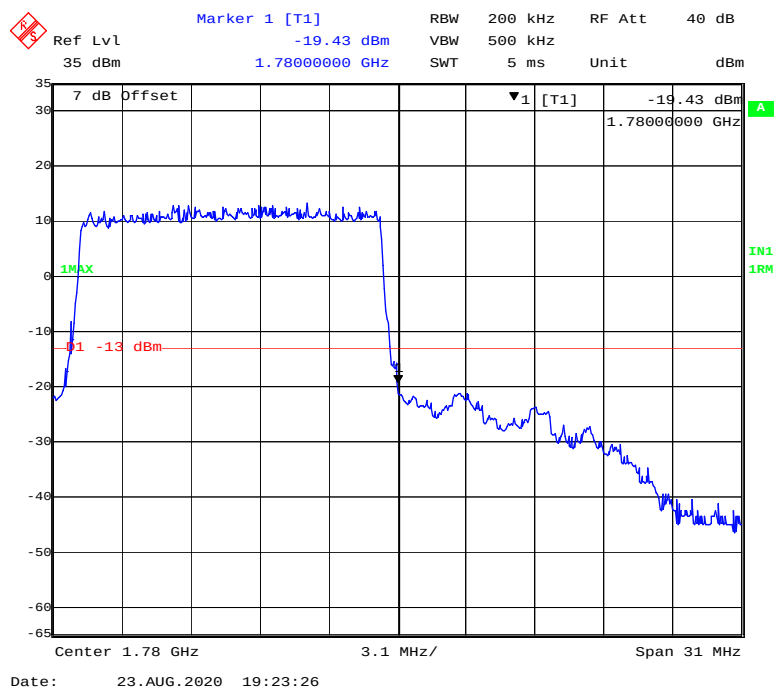


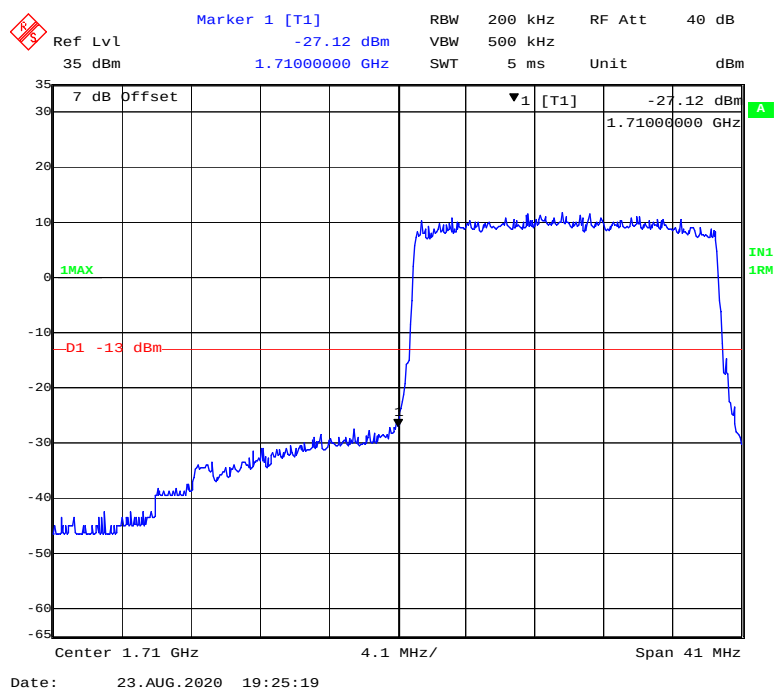
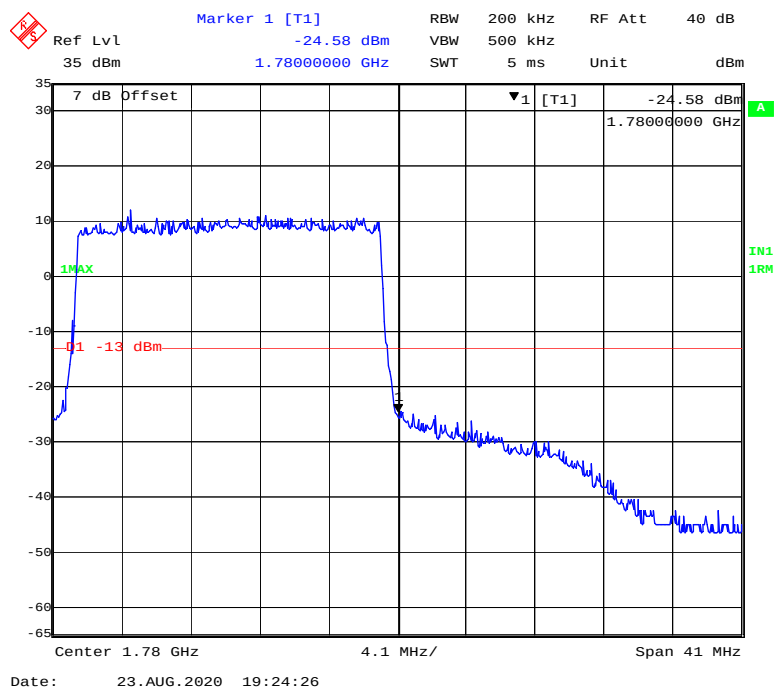
QPSK (3 MHz, FULL RB) - Right Band Edge

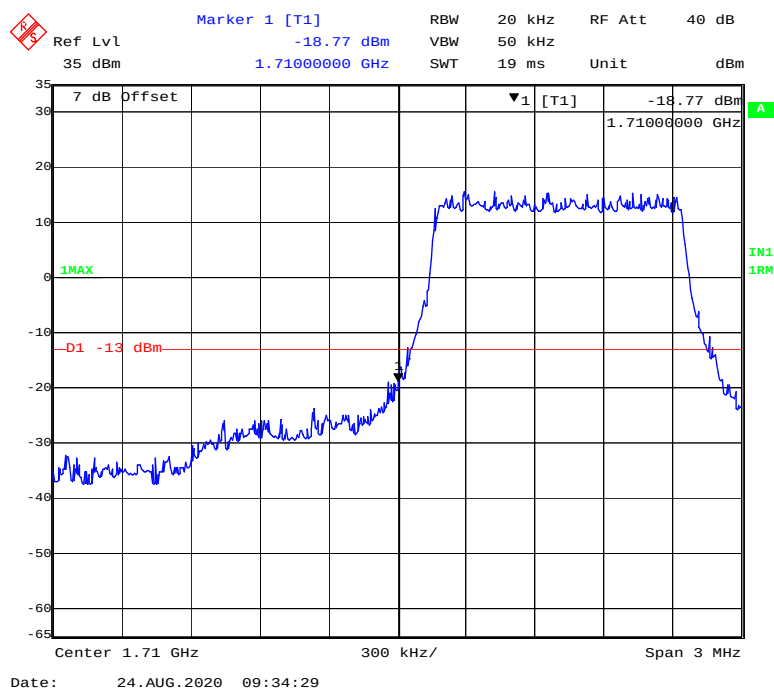
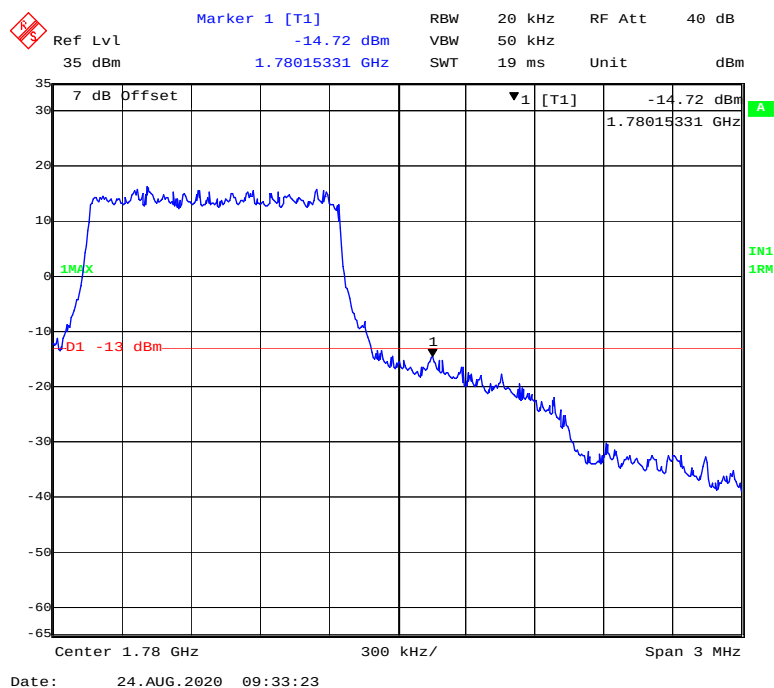


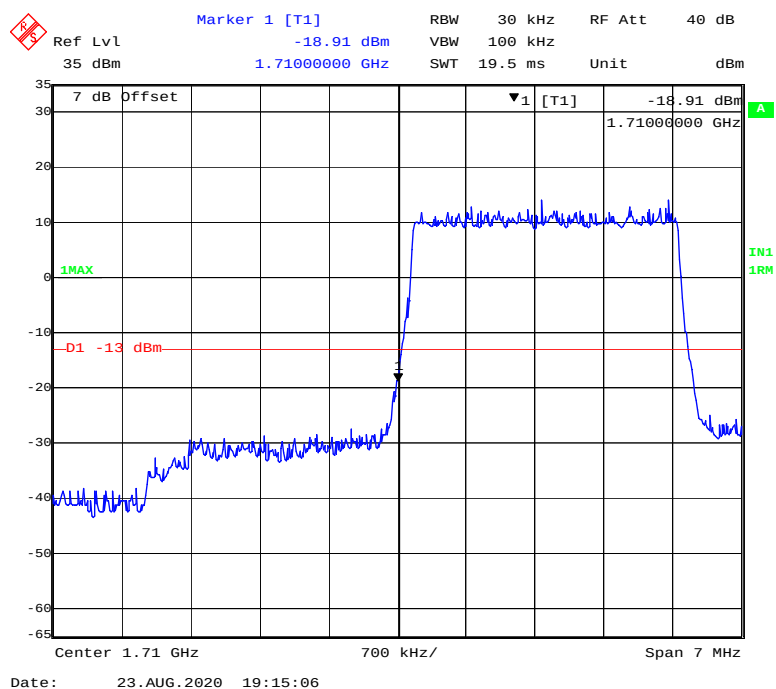
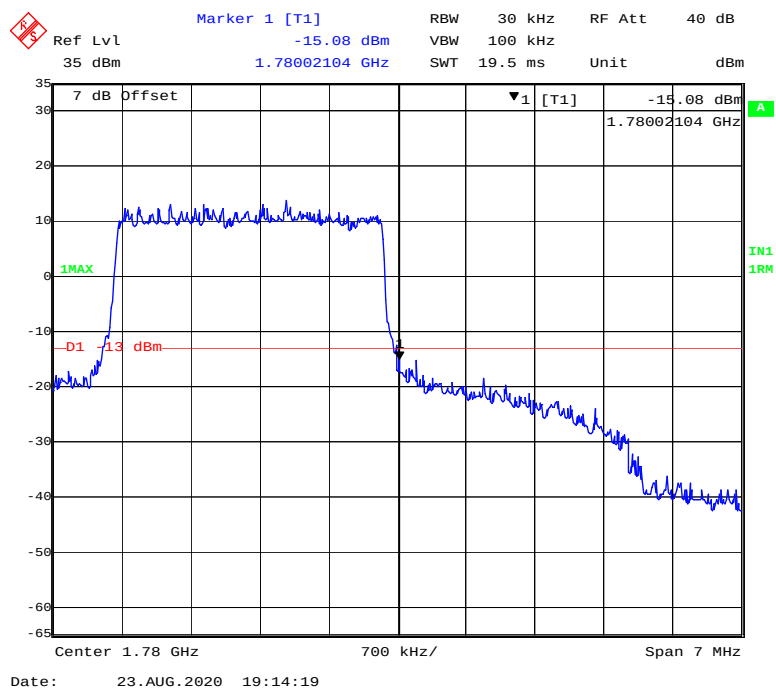
QPSK (5 MHz, FULL RB) - Left Band Edge**QPSK (5 MHz, FULL RB) - Right Band Edge**

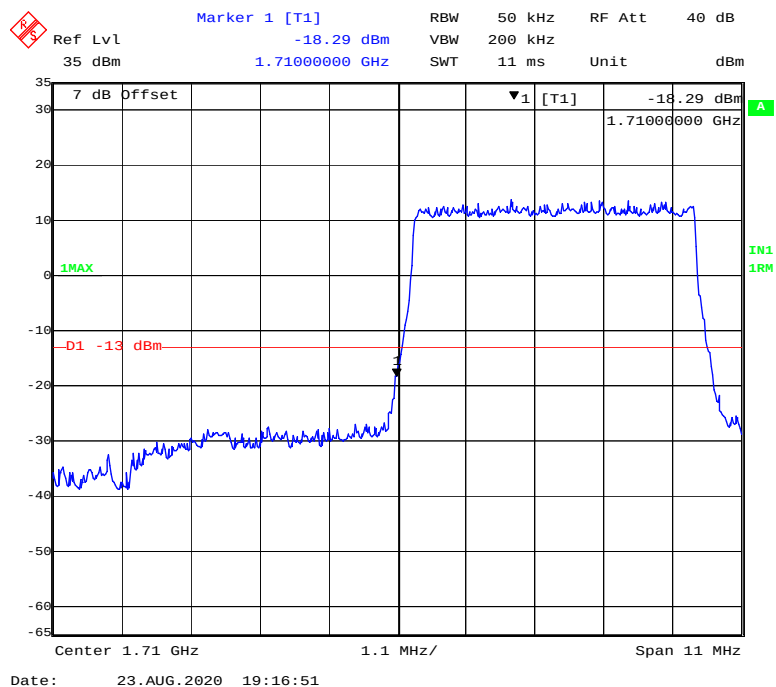
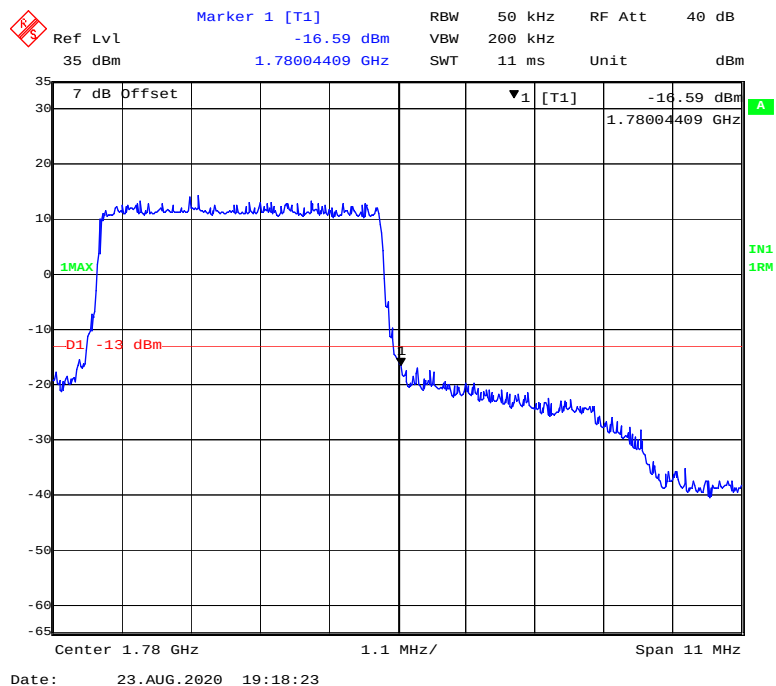
QPSK (10 MHz, FULL RB) - Left Band Edge**QPSK (10 MHz, FULL RB) - Right Band Edge**

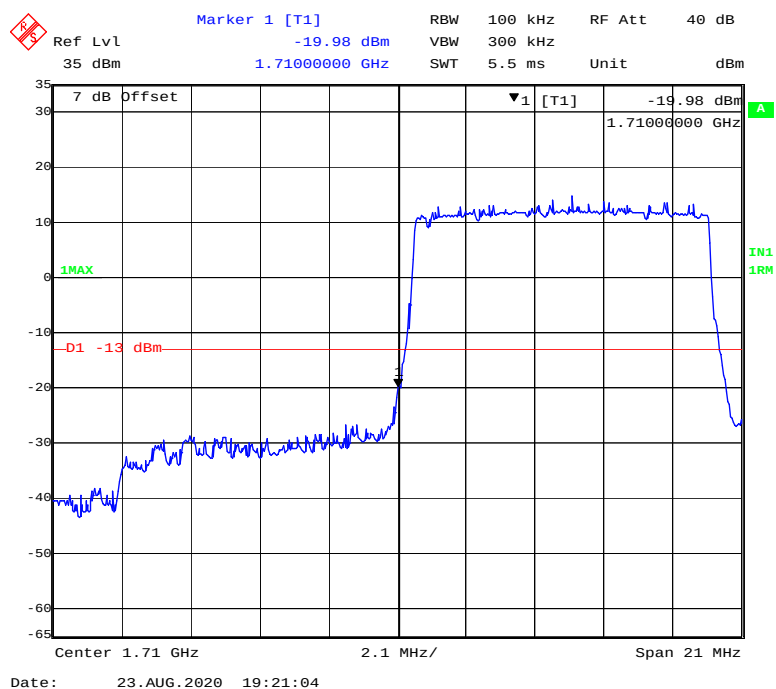
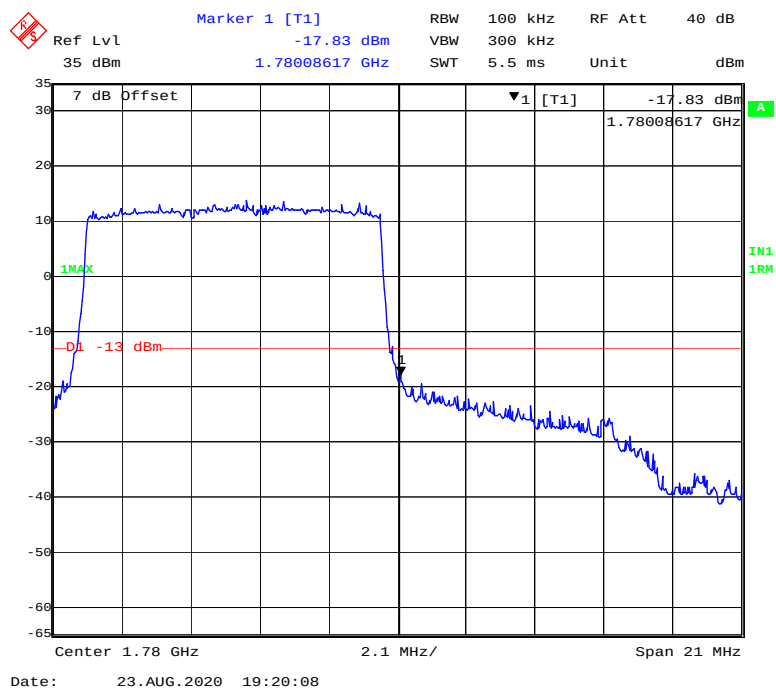
QPSK (15 MHz, FULL RB) - Left Band Edge**QPSK (15 MHz, FULL RB) - Right Band Edge**

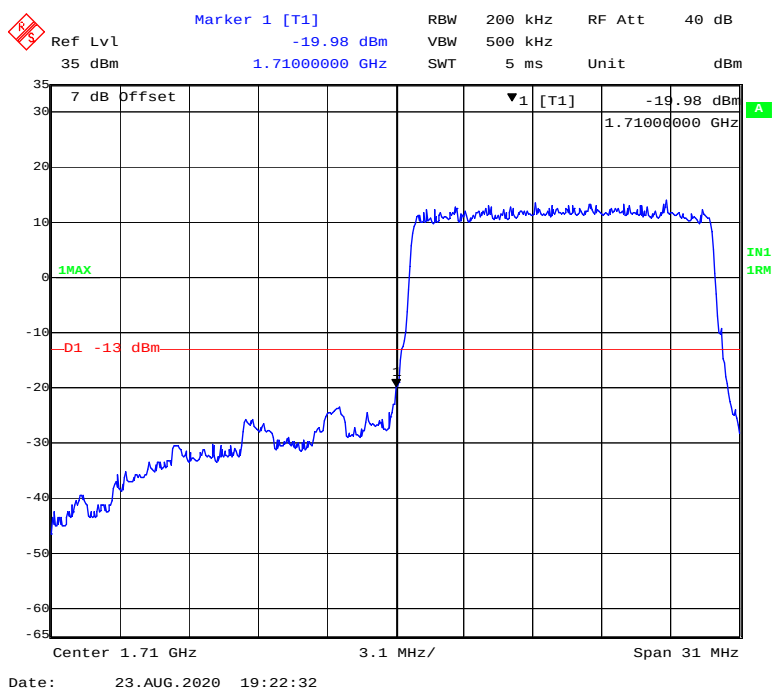
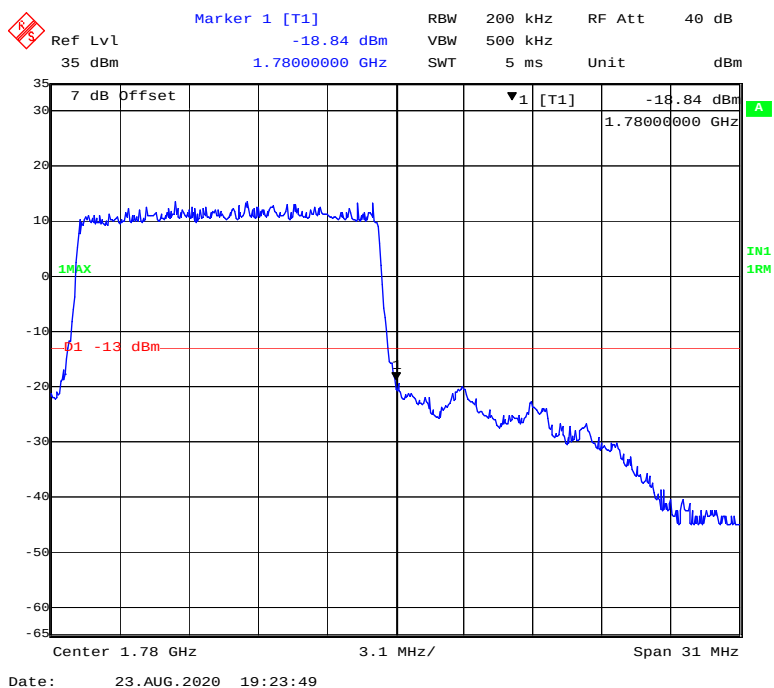
QPSK (20 MHz, FULL RB) - Left Band Edge**QPSK (20 MHz, FULL RB) - Right Band Edge**

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

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

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

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

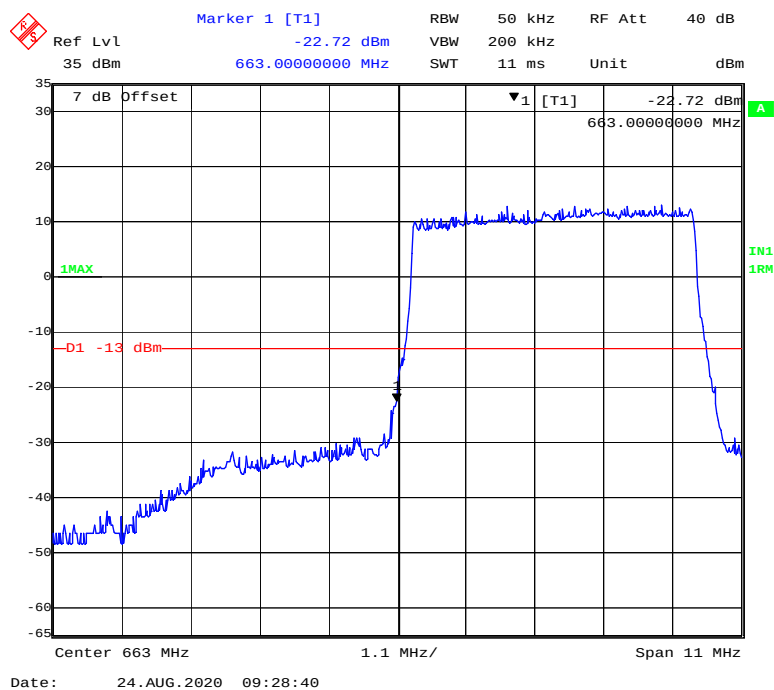
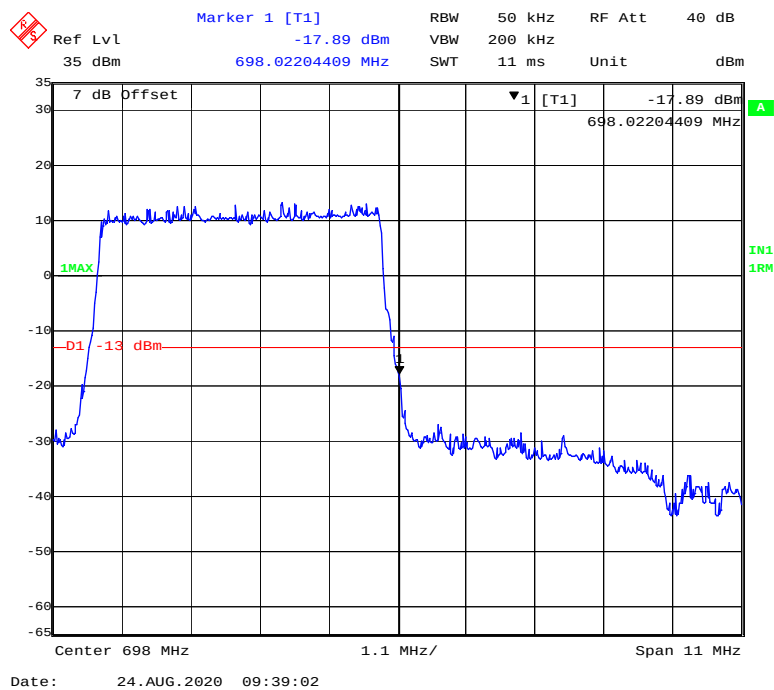
16-QAM (15 MHz, FULL RB) - Left Band Edge**16-QAM (15 MHz, FULL RB) - Right Band Edge**

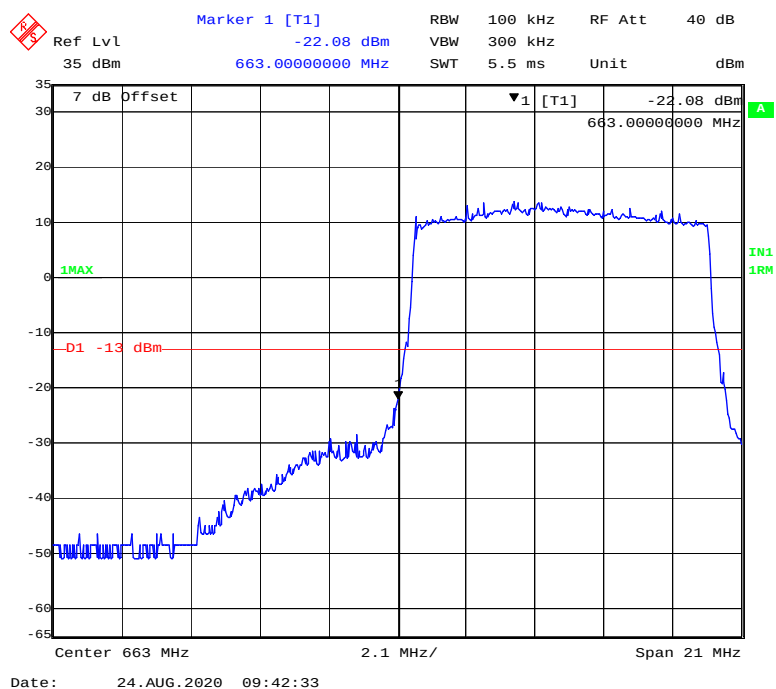
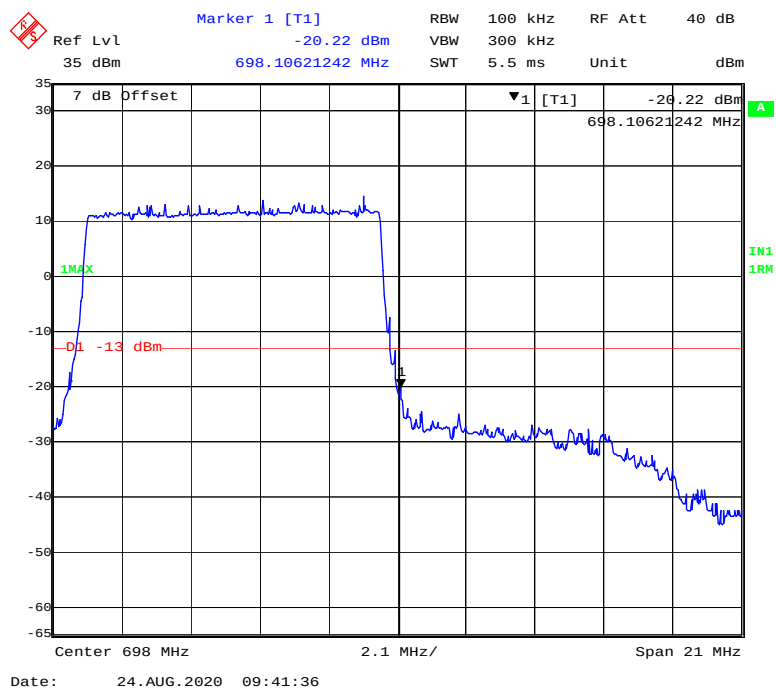
Ref Lvl 35 dBm
 Offset 7 dB
 Marker 1 [T1] -27.70 dBm
 1.71000000 GHz
 RBW 200 kHz
 VBW 500 kHz
 SWT 5 ms
 RF Att 40 dB
 Unit dBm

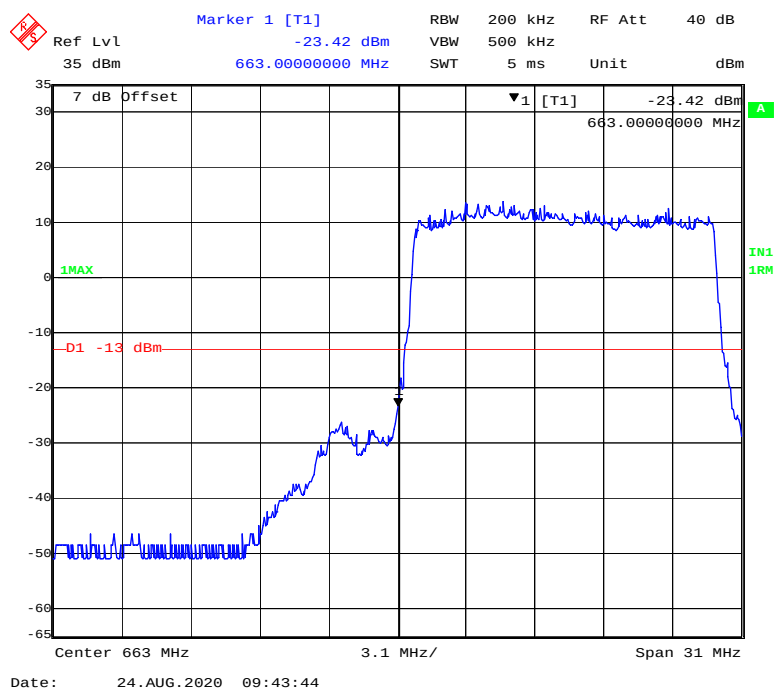
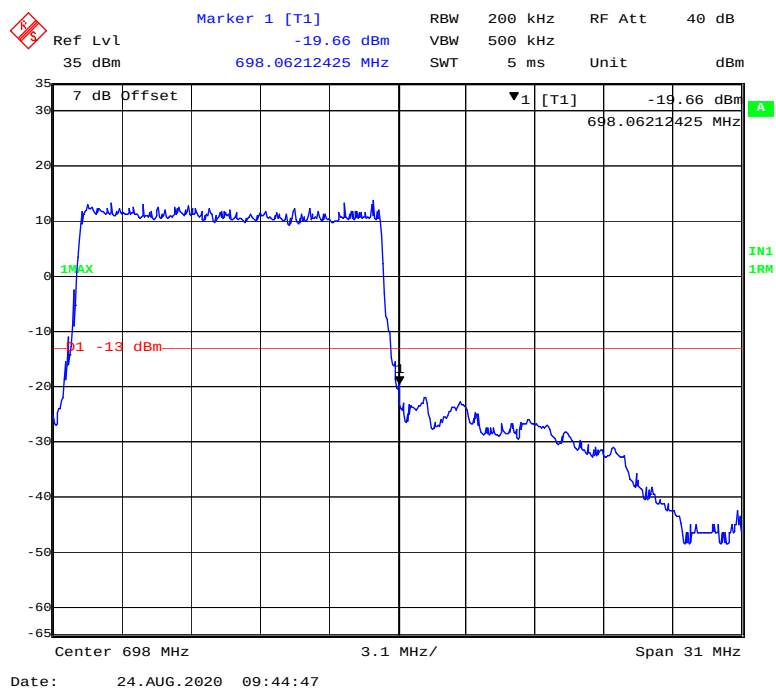
7 dB Offset
 ▼1 [T1] -27.70 dBm
 1.71000000 GHz
 IN1
 1RM
 D1 -13 dBm
 INMAX
 Center 1.71 GHz
 4.1 MHz/
 Span 41 MHz

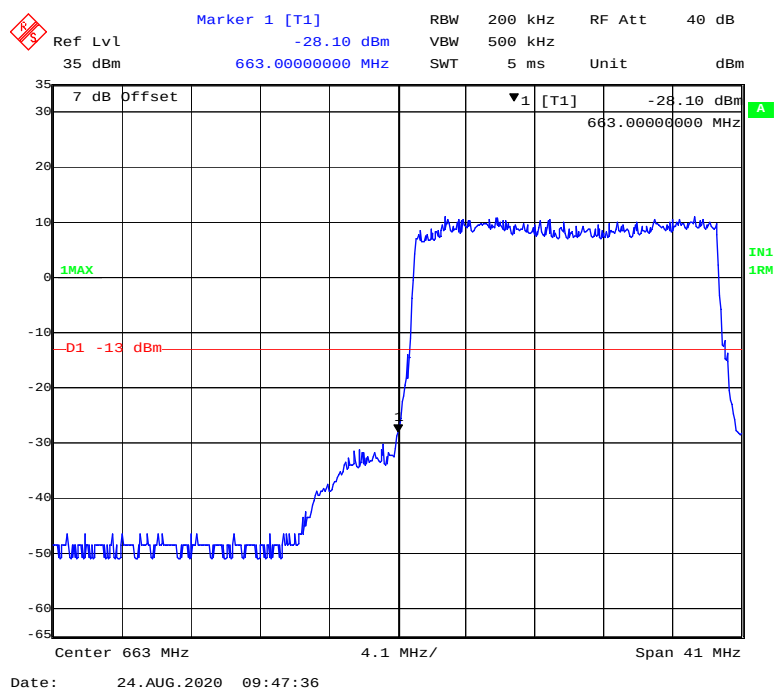
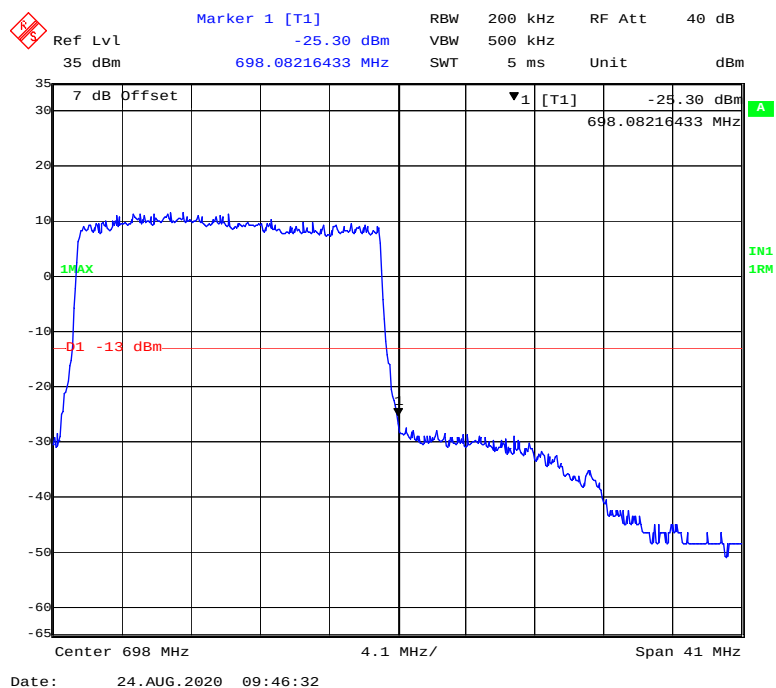
Date: 23.AUG.2020 19:25:45

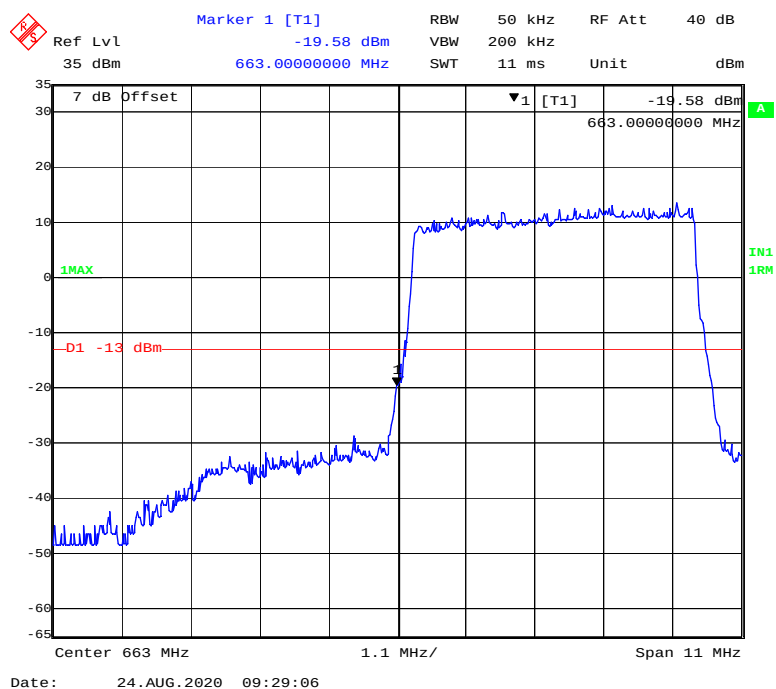
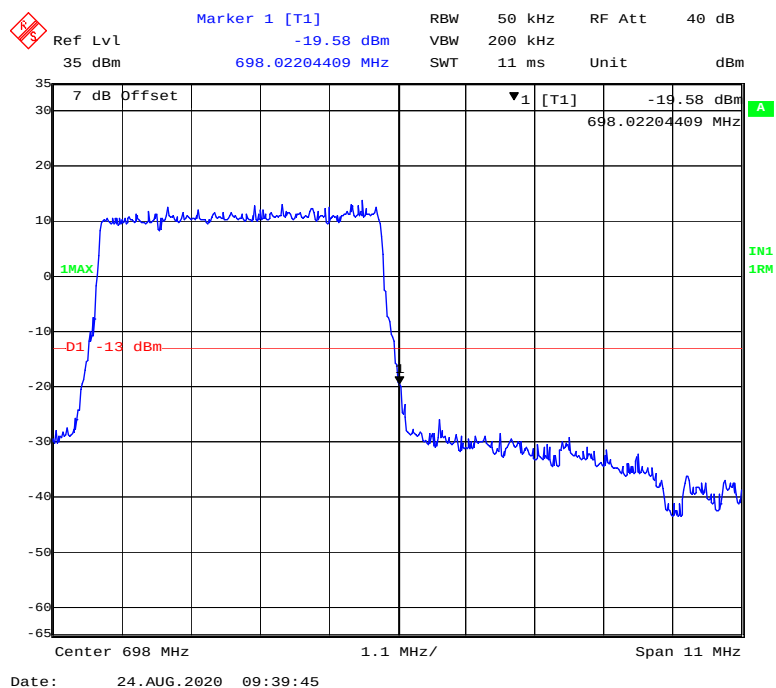
The screenshot displays a spectrum analyzer interface. At the top, a red 'A' icon is visible. The main display area shows a blue trace of a signal. A red horizontal line is drawn across the plot at -13 dBm, labeled 'D1 -13 dBm'. A blue trace starts at approximately -25 dBm, rises to a plateau around -10 dBm, and then drops sharply to a lower level around -30 dBm. A green '1MAX' label is positioned near the start of the trace. A green '1RM' label is positioned near the end of the trace. The x-axis is labeled 'Center 1.78 GHz' and 'Span 41 MHz'. The y-axis is labeled 'dBm' and ranges from -65 to 35. The top status bar shows various parameters: 'Ref Lvl 35 dBm', 'Marker 1 [T1] -23.79 dBm', 'RBW 200 kHz', 'VBW 500 kHz', 'SWT 5 ms', 'Unit dBm', and 'RF Att 40 dB'. The bottom status bar shows the date and time: 'Date: 23.AUG.2020 19:24:46'.

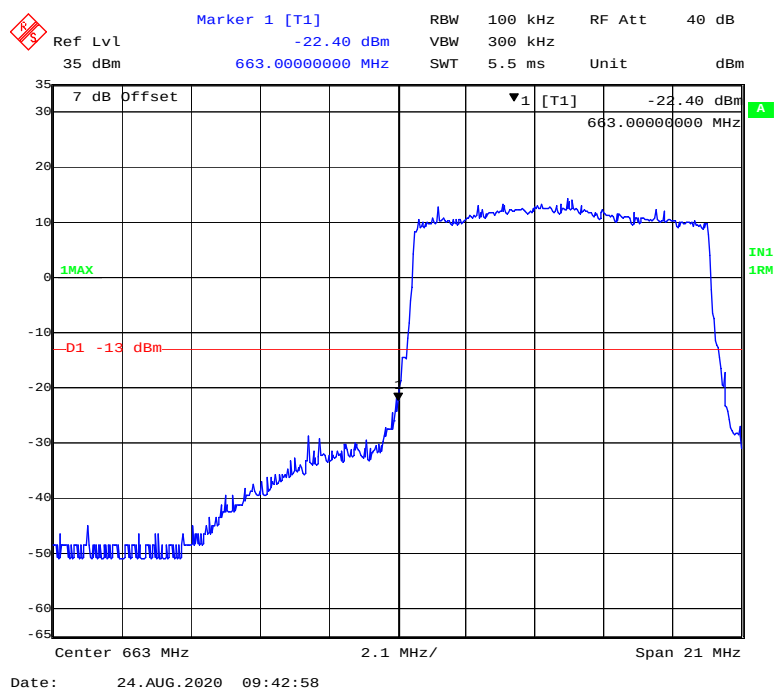
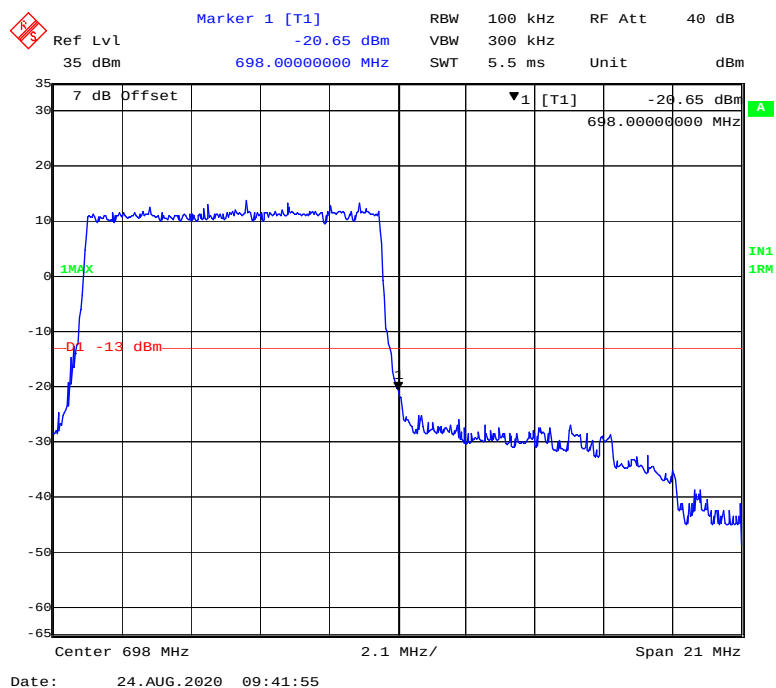
LTE Band 71:**QPSK (5 MHz, FULL RB) - Left Band Edge****QPSK (5 MHz, FULL RB) - Right Band Edge**

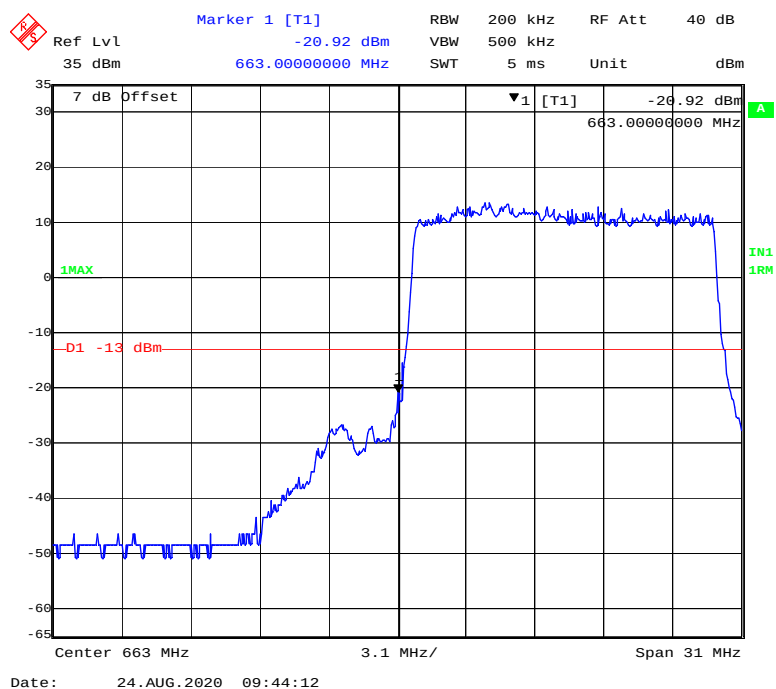
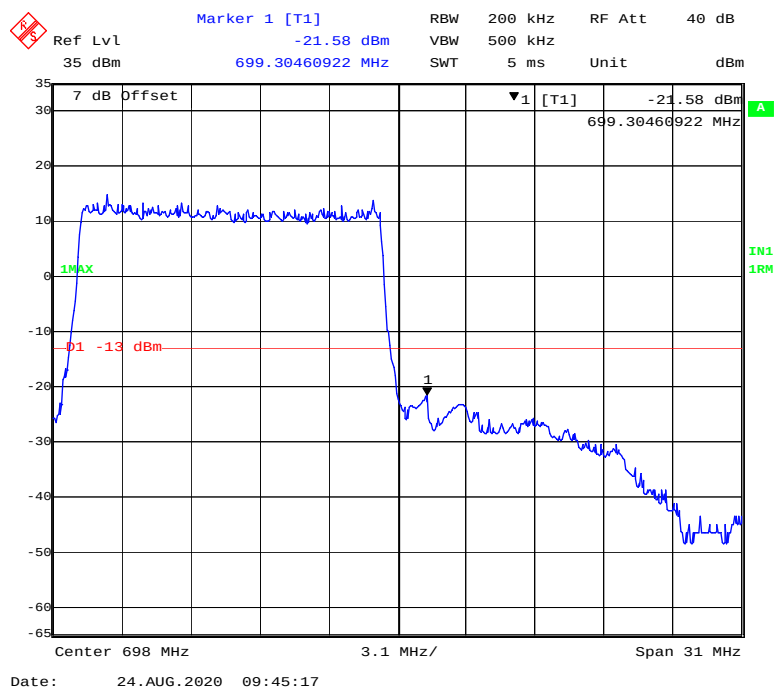
QPSK (10 MHz, FULL RB) - Left Band Edge**QPSK (10 MHz, FULL RB) - Right Band Edge**

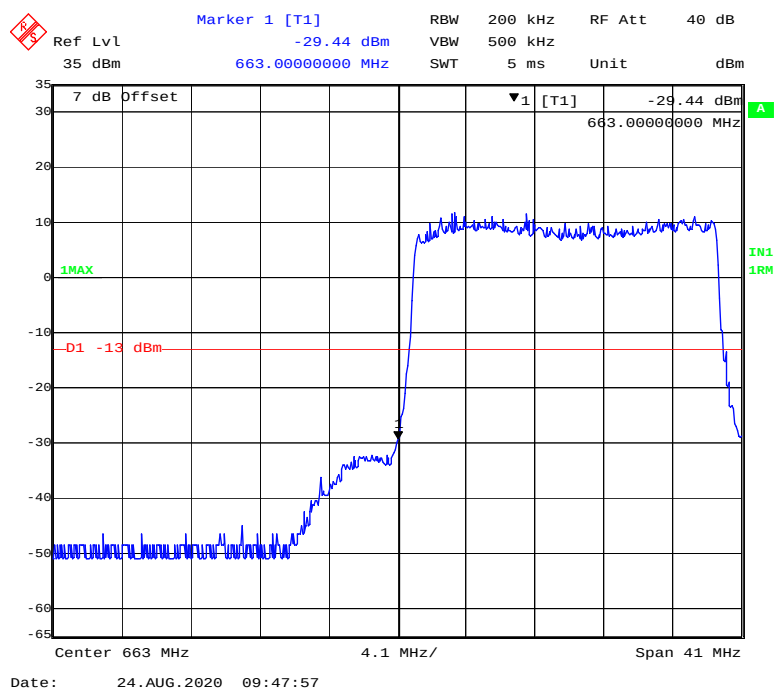
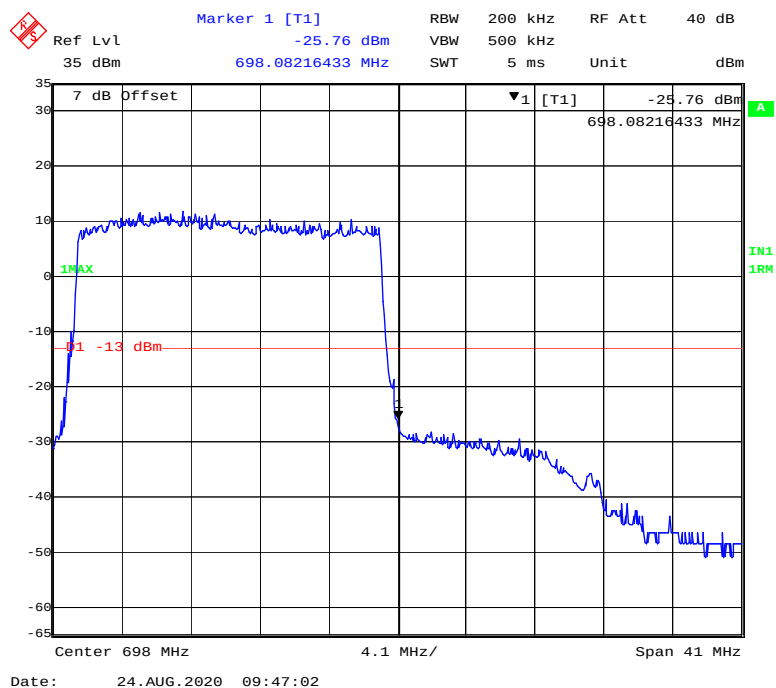
QPSK (15 MHz, FULL RB) - Left Band Edge**QPSK (15 MHz, FULL RB) - Right Band Edge**

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

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

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

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

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

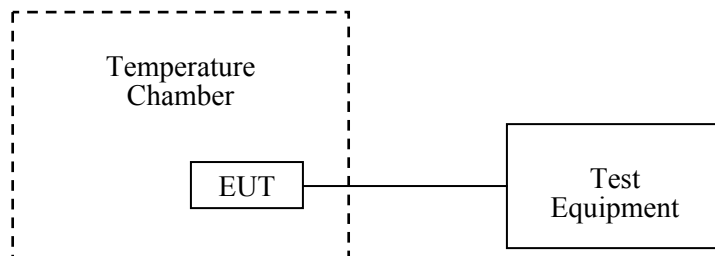
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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:	23.2°C
Relative Humidity:	51 %
ATM Pressure:	101.3kPa

The testing was performed by CK Huang on 2020-09-18.

EUT operation mode: Transmitting

Test Result: Compliance.

WCDMA Band V:

Middle Channel, $f_o = 836.6$ MHz				
Temperature (°C)	Power Supplied (V_{AC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	120	28	0.033469	2.5
-20		26	0.017930	2.5
-10		18	0.011953	2.5
0		15	0.017930	2.5
10		10	0.011953	2.5
20		8	0.009563	2.5
30		9	0.010758	2.5
40		6	0.007172	2.5
50		10	0.011953	2.5
20	V min.= 108	11	0.013148	2.5
20	V max.= 132	9	0.010758	2.5

WCDMA Band II:

WCDMA Mode, Middle Channel, $f_0=1880.0$ MHz				
Temperature (°C)	Power Supplied (V_{AC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	120	29	0.015426	2.5
-20		18	0.009574	2.5
-10		16	0.008511	2.5
0		17	0.009043	2.5
10		13	0.006915	2.5
20		8	0.004255	2.5
30		11	0.005851	2.5
40		12	0.006383	2.5
50		15	0.007979	2.5
20	V min.= 108	13	0.006915	2.5
20	V max.= 132	18	0.009574	2.5

WCDMA Band IV:

WCDMA Mode, Low Channel & High Channel					
Temperature	Power Supplied	F_L	F_H	F_L Limit	F_H Limit
(°C)	(V_{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	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
20	V min.= 108	1710.4237	1754.7604	1710	1755
20	V max.= 132	1710.3446	1754.7654	1710	1755

LTE Band 2:

Middle Channel, f_0 =1880.0 MHz (QPSK) /Channel Bandwidth:20MHz				
Temperature (°C)	Power Supplied (V _{AC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	120	19	0.0227	2.5
-20		16	0.0191	2.5
-10		15	0.0179	2.5
0		12	0.0143	2.5
10		12	0.0143	2.5
20		7	0.0084	2.5
30		5	0.0060	2.5
40		8	0.0096	2.5
50		9	0.0108	2.5
20	V min.= 108	12	0.0143	2.5
20	V max.= 132	11	0.0132	2.5

Middle Channel, f_0 =1880.0 MHz (16-QAM) /Channel Bandwidth:20MHz				
Temperature (°C)	Power Supplied (V _{AC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	120	19	0.0227	2.5
-20		18	0.0215	2.5
-10		16	0.0191	2.5
0		14	0.0167	2.5
10		8	0.0096	2.5
20		13	0.0155	2.5
30		11	0.0132	2.5
40		9	0.0108	2.5
50		8	0.0096	2.5
20	V min.= 108	10	0.0120	2.5
20	V max.= 132	12	0.0143	2.5

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_{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	1710.0496	1754.9497	1710	1755
-20		1710.0507	1754.9493	1710	1755
-10		1710.0502	1754.9502	1710	1755
0		1710.0496	1754.9487	1710	1755
10		1710.0509	1754.9486	1710	1755
20		1710.0489	1754.9499	1710	1755
30		1710.0495	1754.9497	1710	1755
40		1710.049	1754.9496	1710	1755
50		1710.0503	1754.9502	1710	1755
20	V min.= 108	1710.0496	1754.9499	1710	1755
20	V max.= 132	1710.0500	1754.9517	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_{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	1710.0500	1754.9496	1710	1755
-20		1710.0496	1754.9505	1710	1755
-10		1710.0500	1754.9497	1710	1755
0		1710.0503	1754.9496	1710	1755
10		1710.0501	1754.9495	1710	1755
20		1710.0510	1754.9497	1710	1755
30		1710.0501	1754.9496	1710	1755
40		1710.0495	1754.9489	1710	1755
50		1710.0509	1754.9511	1710	1755
20	V min.= 108	1710.0494	1754.9481	1710	1755
20	V max.= 132	1710.0492	1754.9485	1710	1755

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_{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	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.= 108	699.1607	715.8477	699	716
20	V max.= 132	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_{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	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.= 108	699.2466	715.7896	699	716
20	V max.= 132	699.3991	715.8825	699	716

LTE Band 13:

Low Channel & High Channel (QPSK) /Channel Bandwidth:5MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	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.= 108	777.2187	786.8166	777	787
20	V max.= 132	777.2960	786.7631	777	787

Low Channel & High Channel (16-QAM) /Channel Bandwidth:5MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	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.= 108	777.1161	786.8745	777	787
20	V max.= 132	777.0812	786.9427	777	787

LTE Band 14:

Middle Channel, $f_0 = 793.0$ MHz (QPSK) /Channel Bandwidth:10MHz				
Temperature (°C)	Power Supplied (V _{AC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	120	18	0.0227	2.5
-20		17	0.0214	2.5
-10		15	0.0189	2.5
0		14	0.0177	2.5
10		9	0.0113	2.5
20		10	0.0126	2.5
30		9	0.0113	2.5
40		6	0.0076	2.5
50		8	0.0101	2.5
20	V min.= 108	11	0.0139	2.5
20	V max.= 132	12	0.0151	2.5

Middle Channel, $f_0 = 793.0$ MHz (16-QAM) /Channel Bandwidth:10MHz				
Temperature (°C)	Power Supplied (V _{AC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	120	20	0.0252	2.5
-20		19	0.0240	2.5
-10		17	0.0214	2.5
0		13	0.0164	2.5
10		9	0.0113	2.5
20		12	0.0151	2.5
30		8	0.0101	2.5
40		8	0.0101	2.5
50		11	0.0139	2.5
20	V min.= 108	13	0.0164	2.5
20	V max.= 132	12	0.0151	2.5

LTE Band 66:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	1710.3084	1779.8528	1710	1780
-20		1710.1568	1779.6455	1710	1780
-10		1710.3777	1779.6378	1710	1780
0		1710.2150	1779.7302	1710	1780
10		1710.3983	1779.8041	1710	1780
20		1710.1486	1779.6540	1710	1780
30		1710.3324	1779.8900	1710	1780
40		1710.0226	1779.6564	1710	1780
50		1710.3603	1779.7889	1710	1780
20	V min.= 108	1710.0901	1779.7330	1710	1780
20	V max.= 132	1710.3713	1779.9420	1710	1780

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	1710.1268	1779.8090	1710	1780
-20		1710.3717	1779.9497	1710	1780
-10		1710.1695	1779.7702	1710	1780
0		1710.2809	1779.7619	1710	1780
10		1710.2543	1779.8056	1710	1780
20		1710.3048	1779.9417	1710	1780
30		1710.0889	1779.7344	1710	1780
40		1710.3745	1779.6850	1710	1780
50		1710.3126	1779.8461	1710	1780
20	V min.= 108	1710.1582	1779.9074	1710	1780
20	V max.= 132	1710.3015	1779.6364	1710	1780

LTE Band 71:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	663.3862	697.7649	663	698
-20		663.3819	697.7659	663	698
-10		663.3829	697.7692	663	698
0		663.3610	697.7639	663	698
10		663.3991	697.7655	663	698
20		663.3374	697.7697	663	698
30		663.3742	697.7664	663	698
40		663.4258	697.7639	663	698
50		663.4215	697.7616	663	698
20	V min.= 108	663.4237	697.7604	663	698
20	V max.= 132	663.3446	697.7654	663	698

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	Power Supplied	F _L	F _H	F _L Limit	F _H Limit
(°C)	(V _{AC})	(MHz)	(MHz)	(MHz)	(MHz)
-30	120	663.3862	697.7649	663	698
-20		663.3819	697.7659	663	698
-10		663.3829	697.7692	663	698
0		663.3610	697.7639	663	698
10		663.3991	697.7655	663	698
20		663.3374	697.7697	663	698
30		663.3742	697.7664	663	698
40		663.4258	697.7639	663	698
50		663.4215	697.7616	663	698
20	V min.= 108	663.4237	697.7604	663	698
20	V max.= 132	663.3446	697.7654	663	698

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