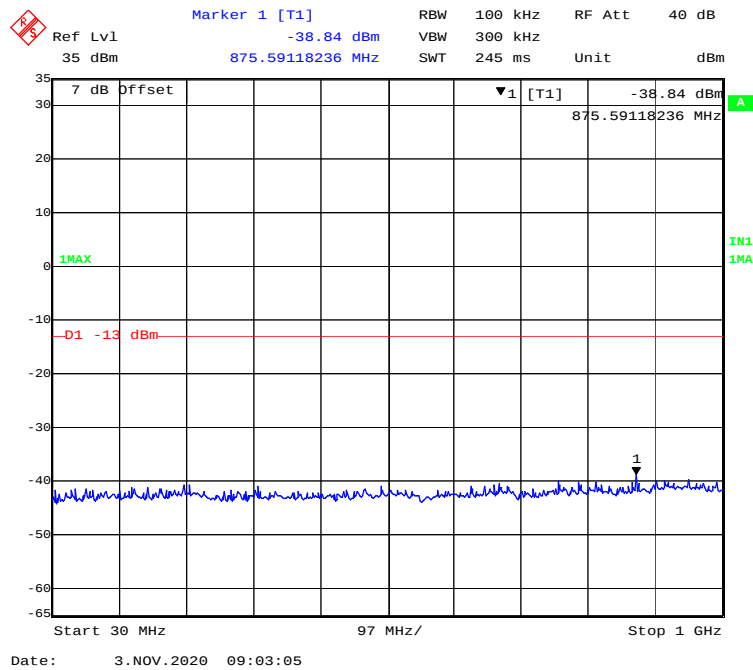
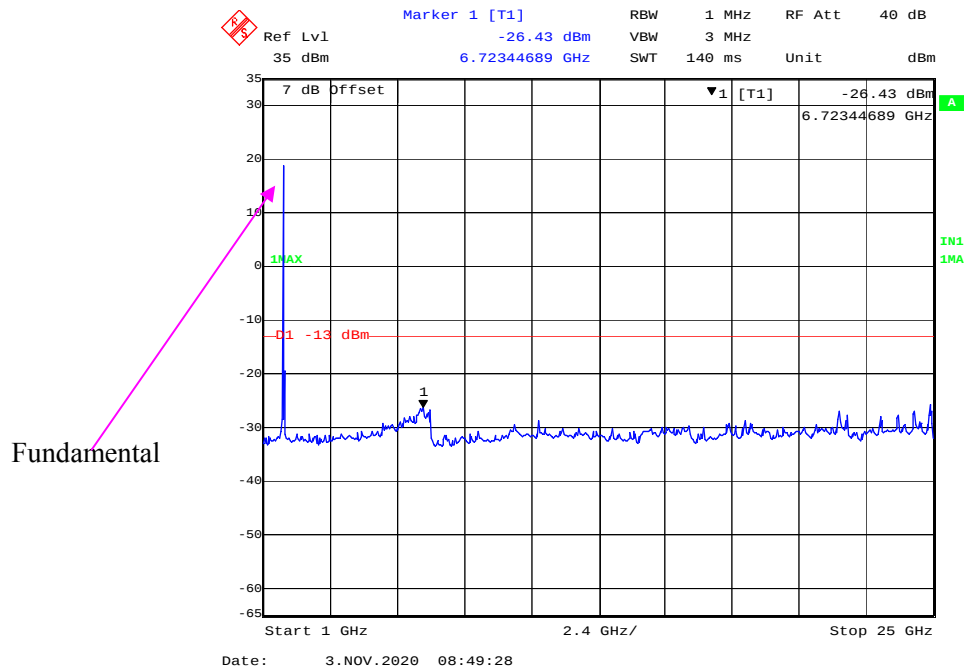


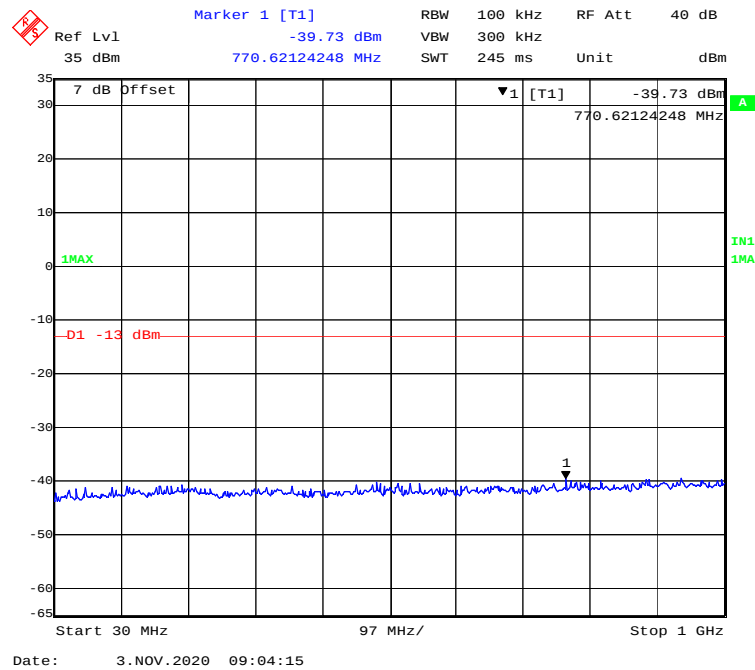
### 30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



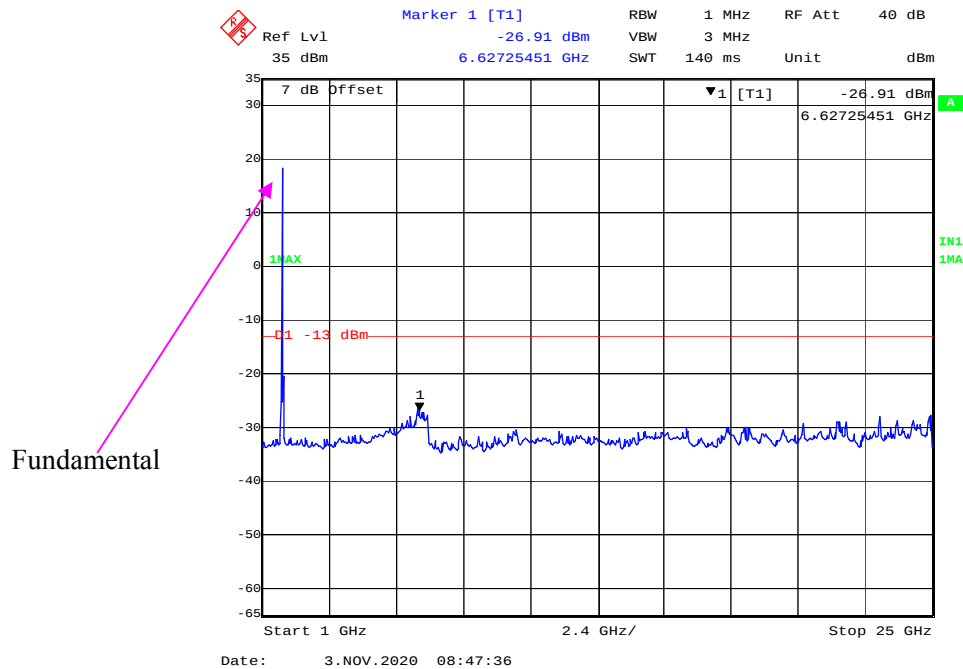
### 1 GHz – 25 GHz (15 MHz, 16-QAM, High Channel)



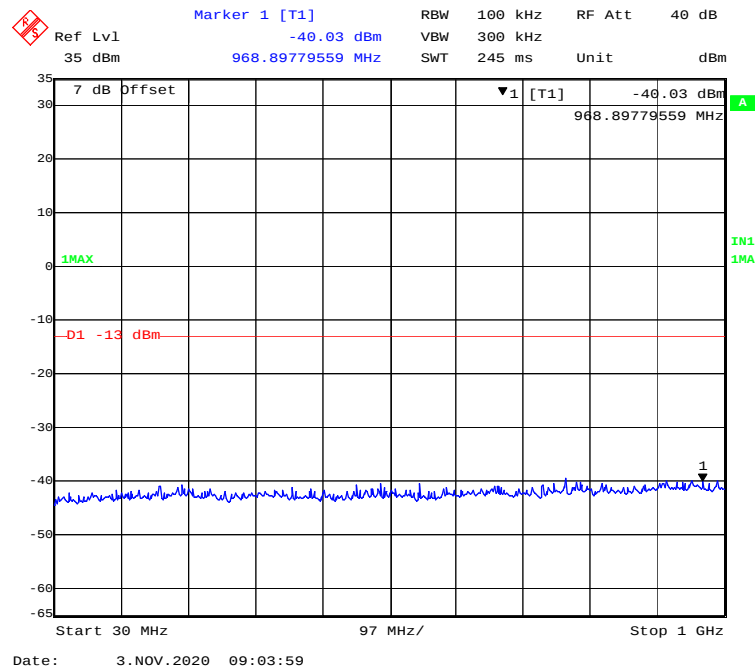
### 30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



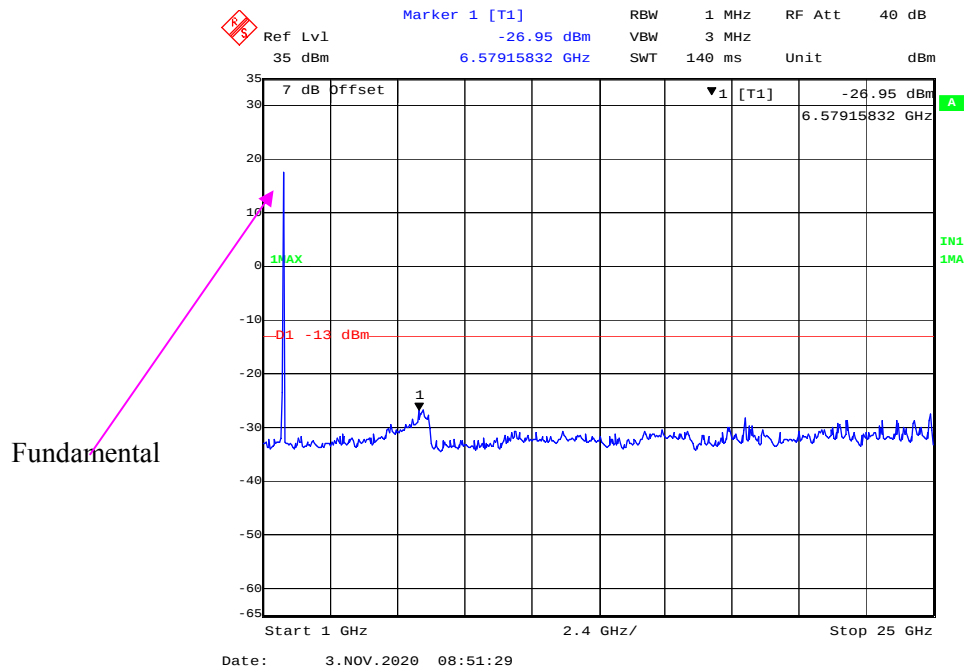
### 1 GHz – 25 GHz (20 MHz, QPSK, High Channel)

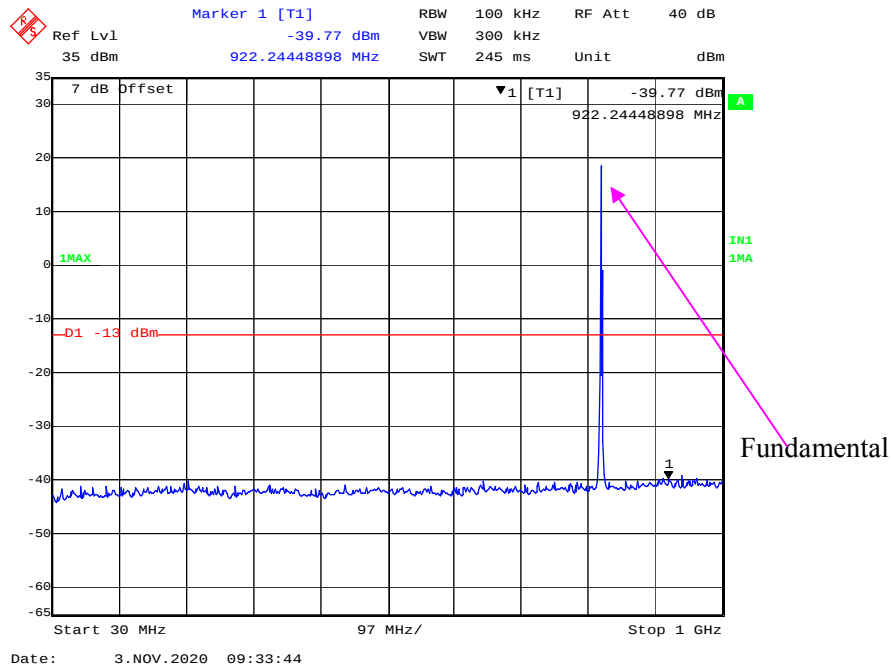
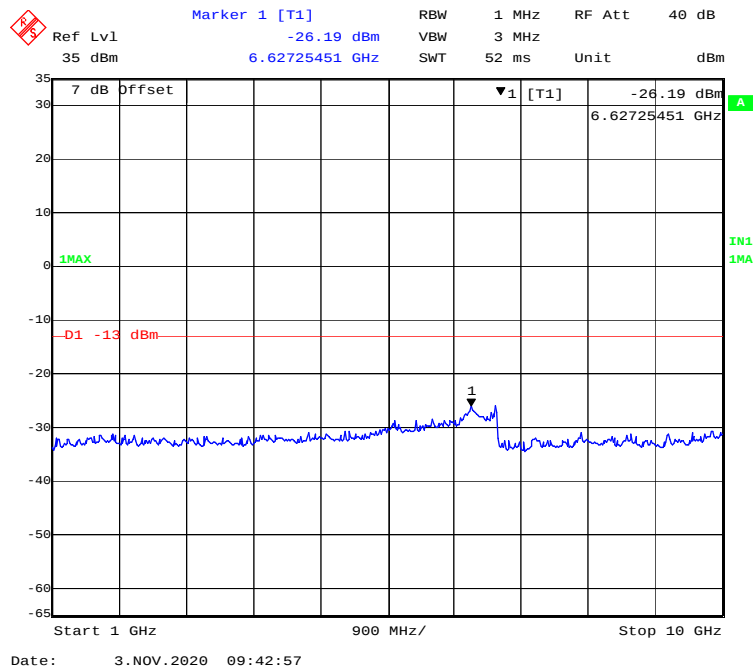


### 30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

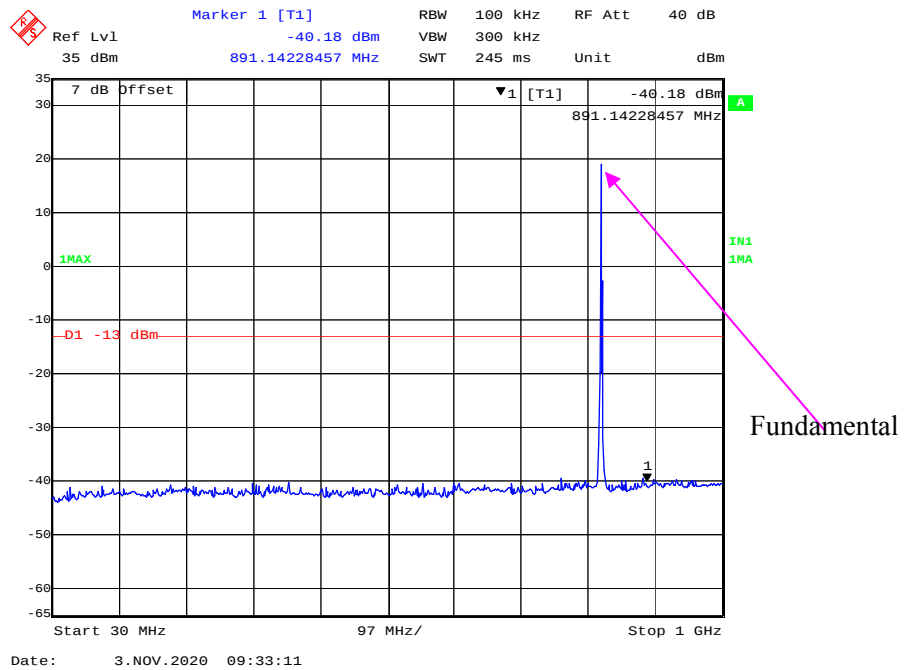


### 1 GHz – 25 GHz (20 MHz, 16-QAM, High Channel)

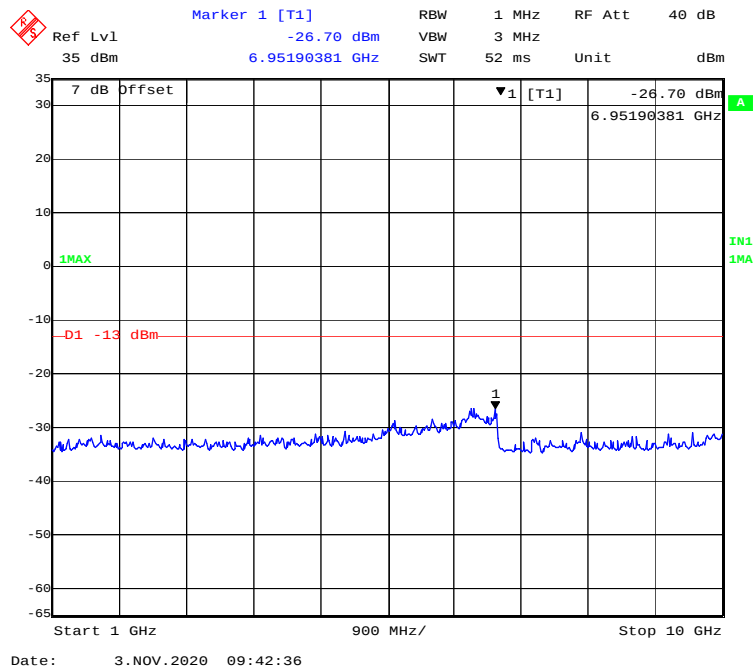


**LTE Band 5:****30 MHz - 1 GHz (QPSK, 1.4 MHz, Low Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, Low Channel)**

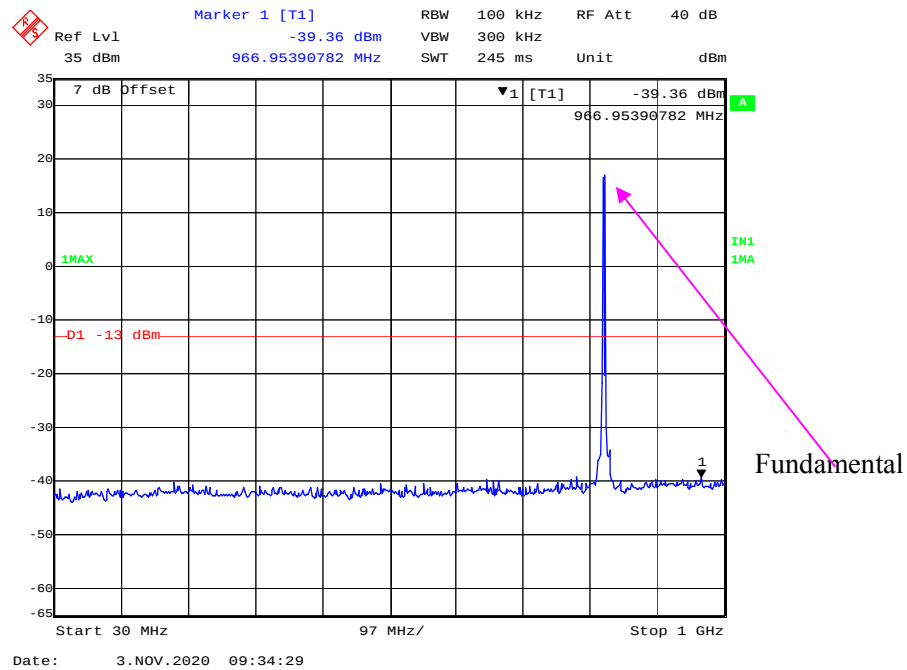
### 30 MHz - 1 GHz (16QAM, 1.4 MHz, Low Channel)



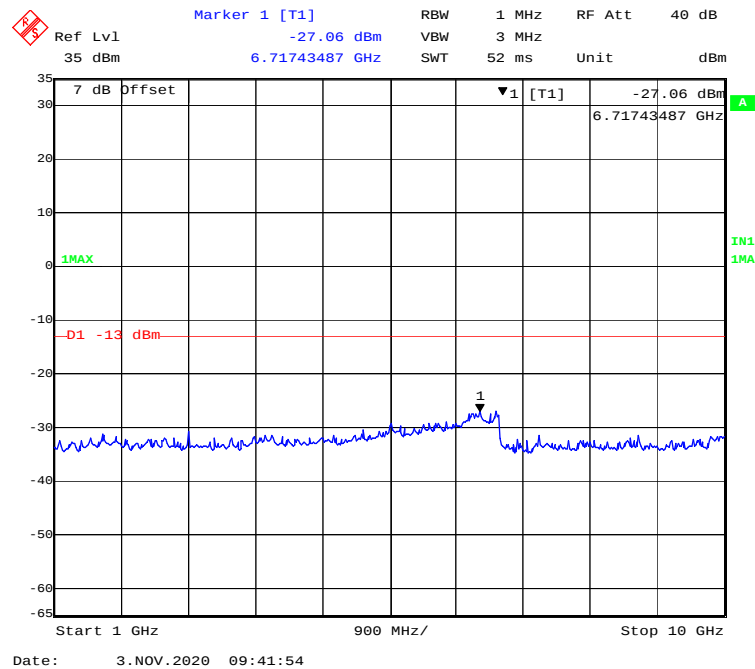
### 1 GHz – 10 GHz (16QAM, 1.4 MHz, Low Channel)



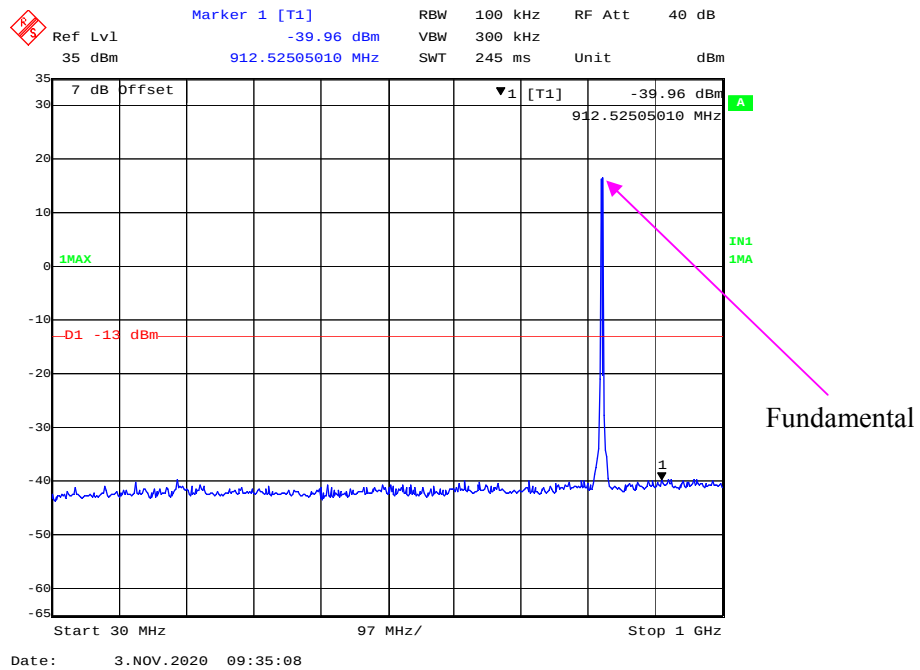
### 30 MHz - 1 GHz (QPSK, 3.0 MHz, Low Channel)



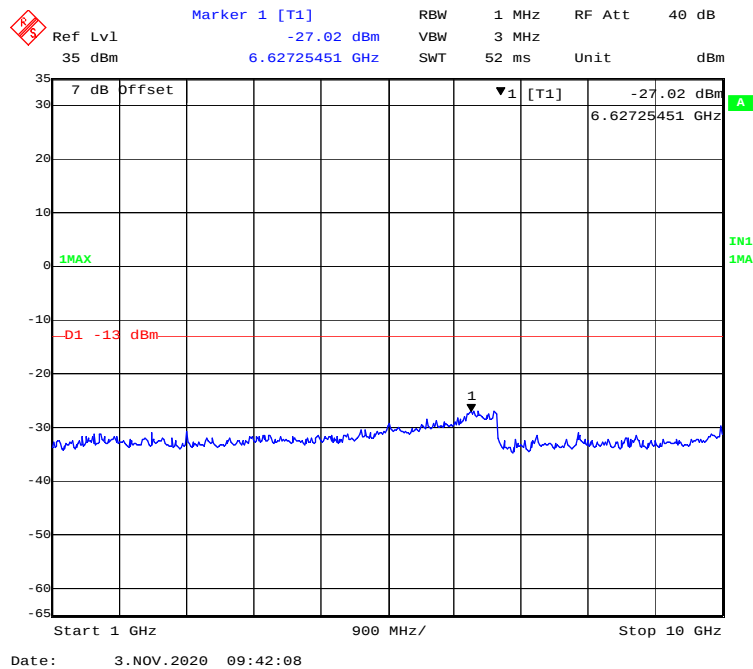
### 1 GHz – 10 GHz (QPSK, 3.0 MHz, Low Channel)



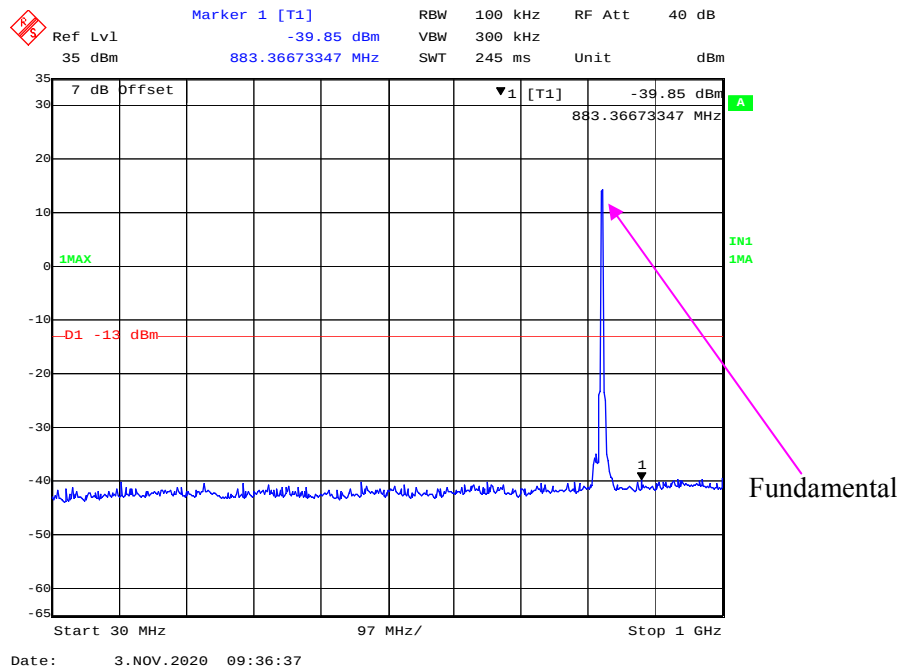
### 30 MHz - 1 GHz (16QAM, 3.0 MHz, Low Channel)



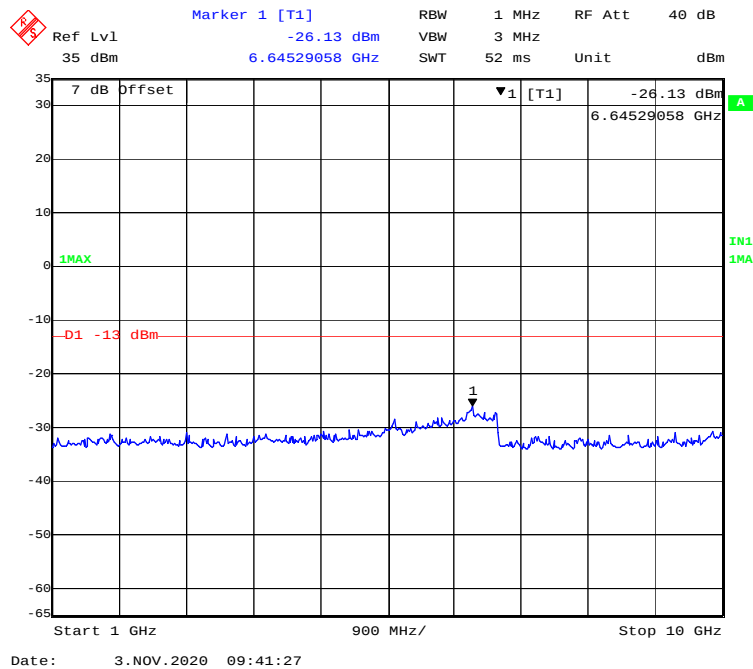
### 1 GHz – 10 GHz (16QAM, 3.0 MHz, Low Channel)



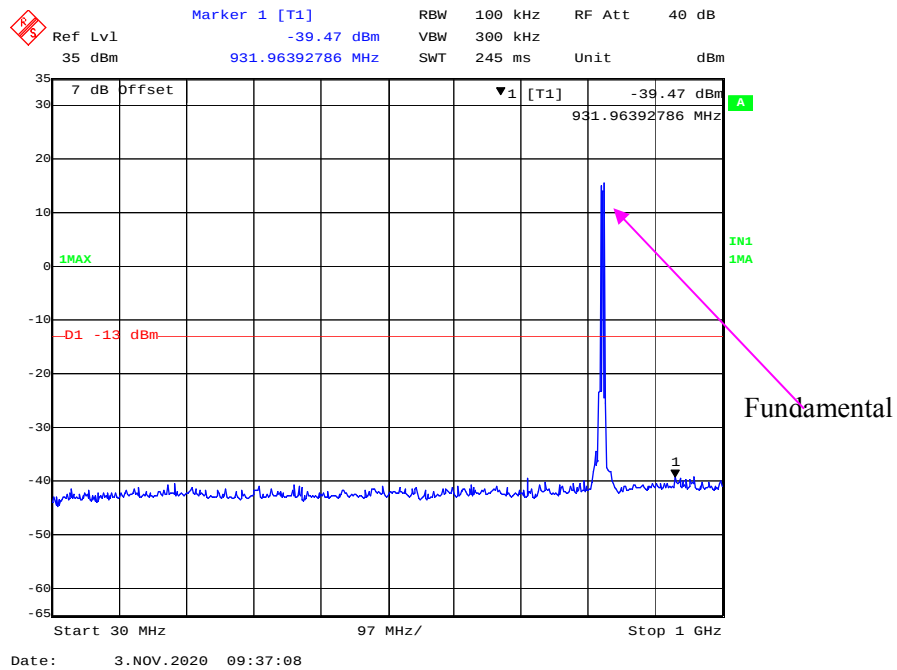
### 30 MHz - 1 GHz (QPSK, 5.0 MHz, Low Channel)



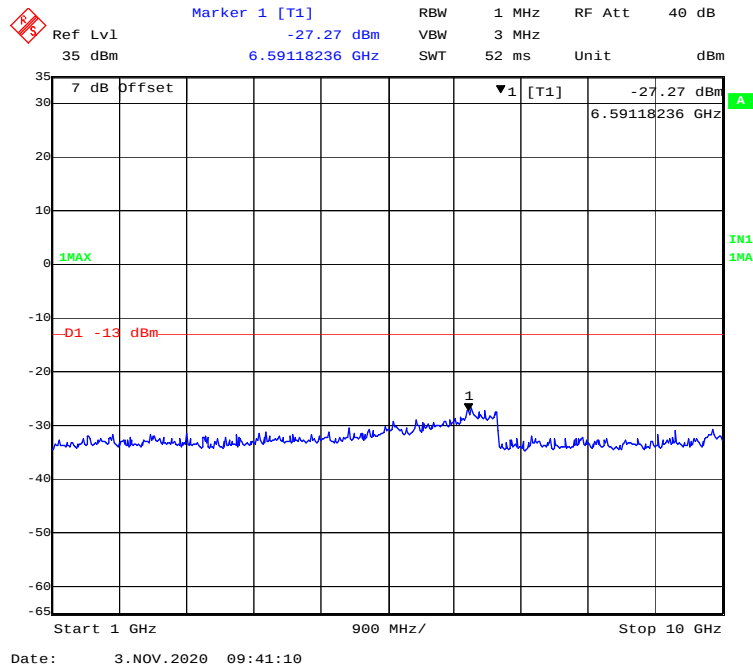
### 1 GHz – 10 GHz (QPSK, 5.0MHz, Low Channel)



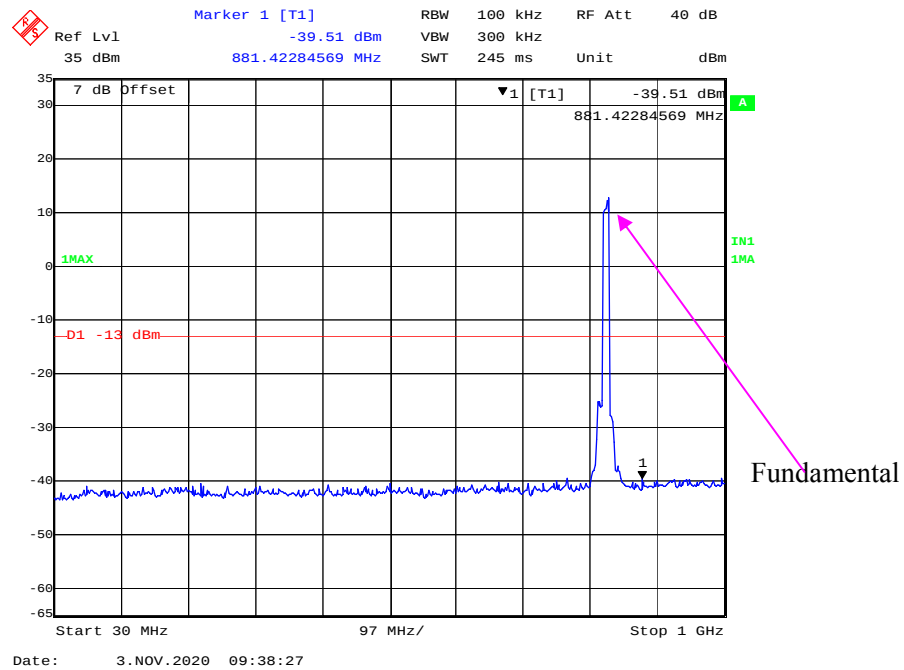
### 30 MHz - 1 GHz (16QAM, 5.0 MHz, Low Channel)



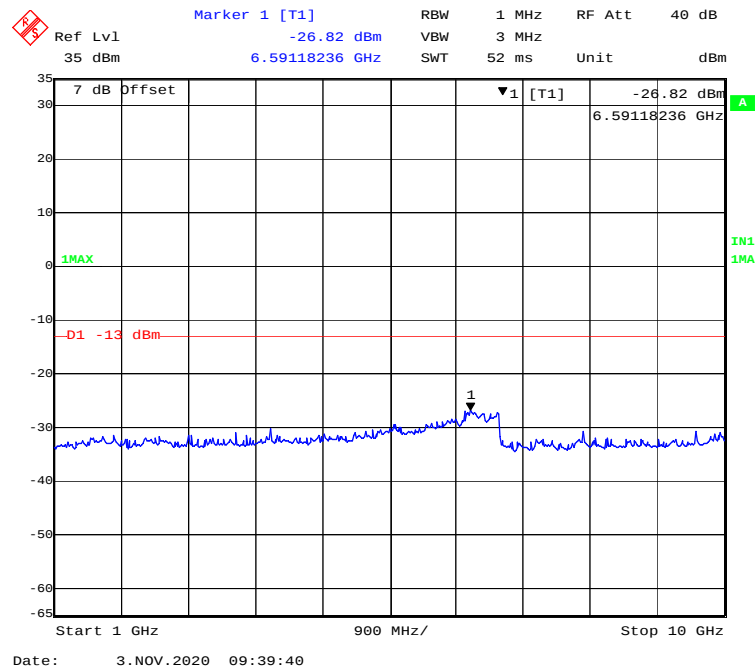
### 1 GHz – 10 GHz (16QAM, 5.0MHz, Low Channel)

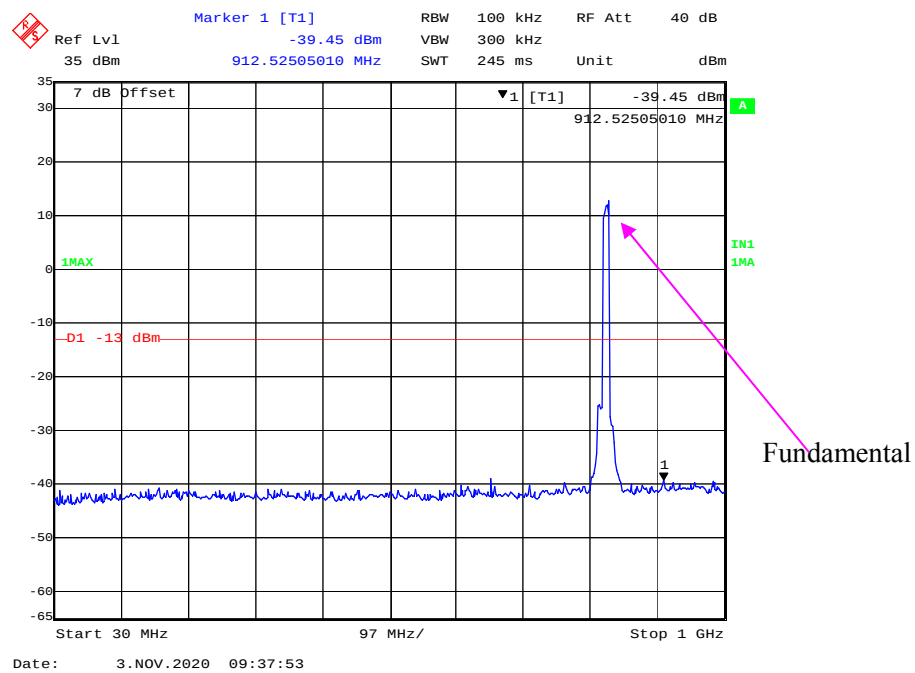
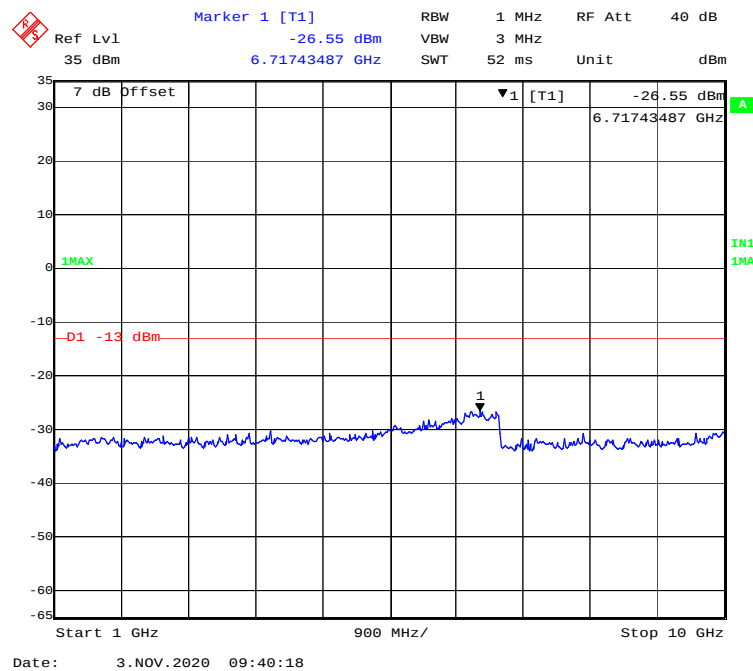


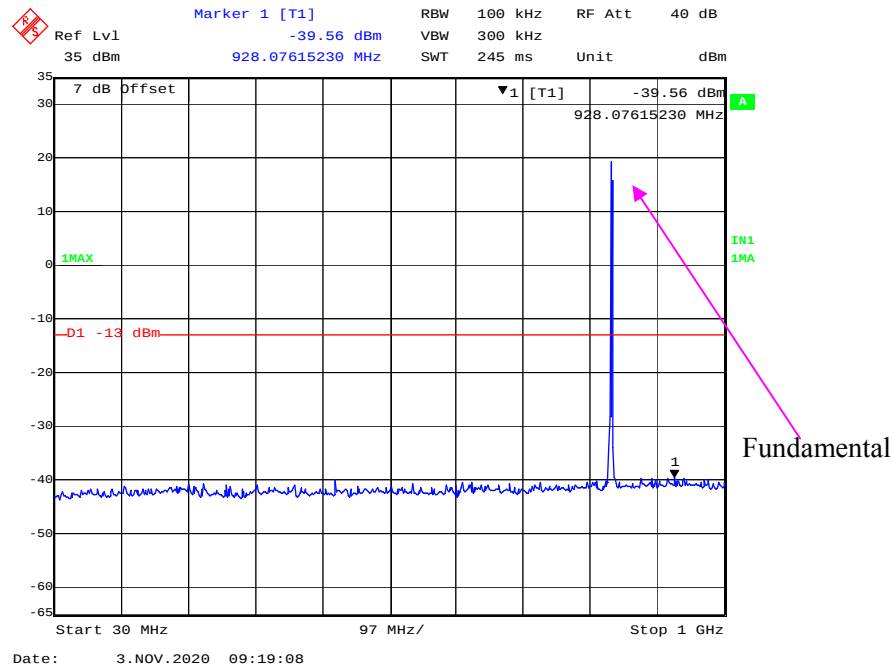
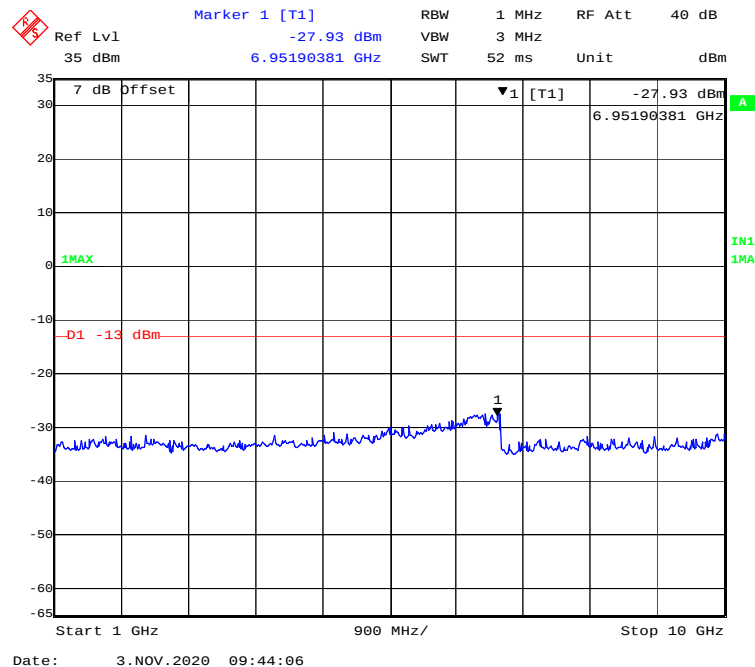
### 30 MHz - 1 GHz (QPSK, 10.0 MHz, Low Channel)

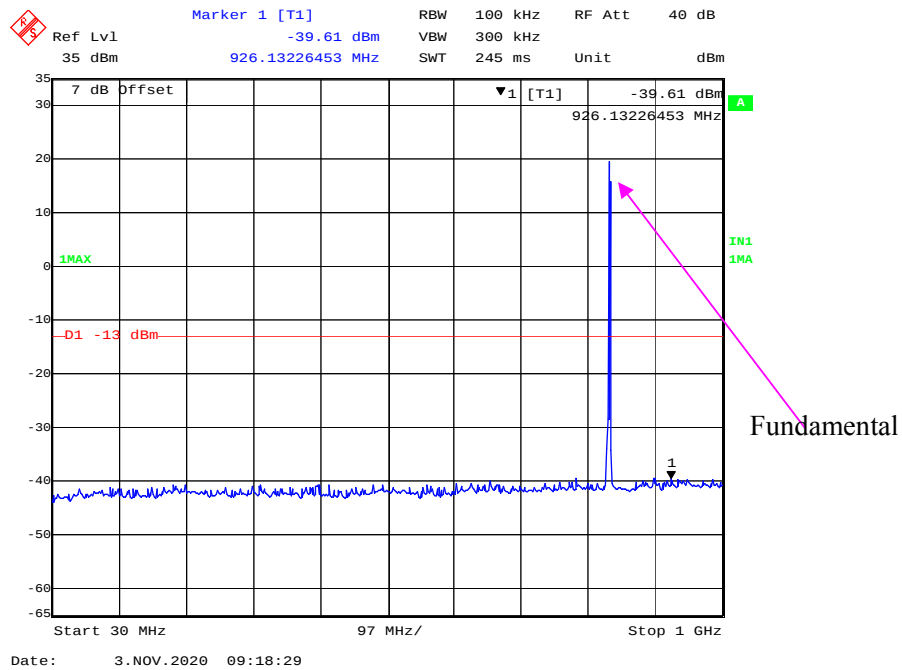
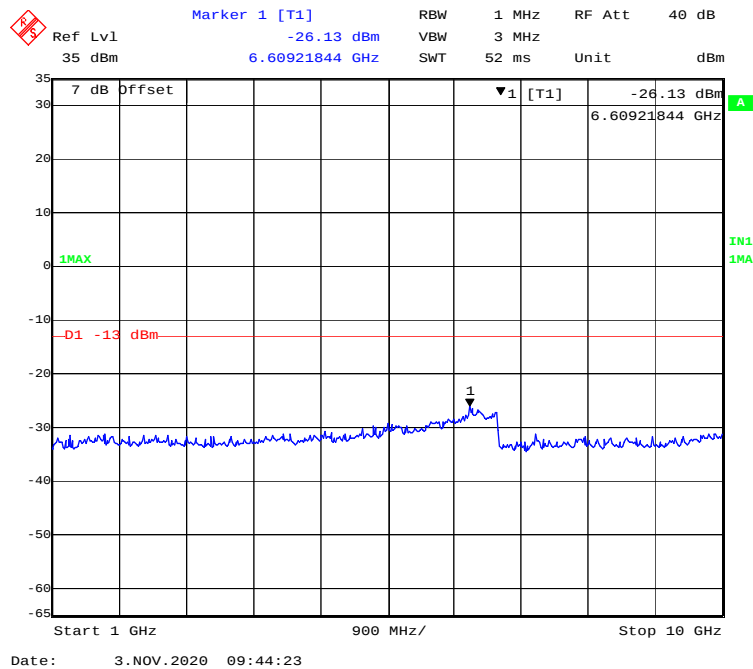


### 1 GHz - 10 GHz (QPSK, 10.0 MHz, Low Channel)

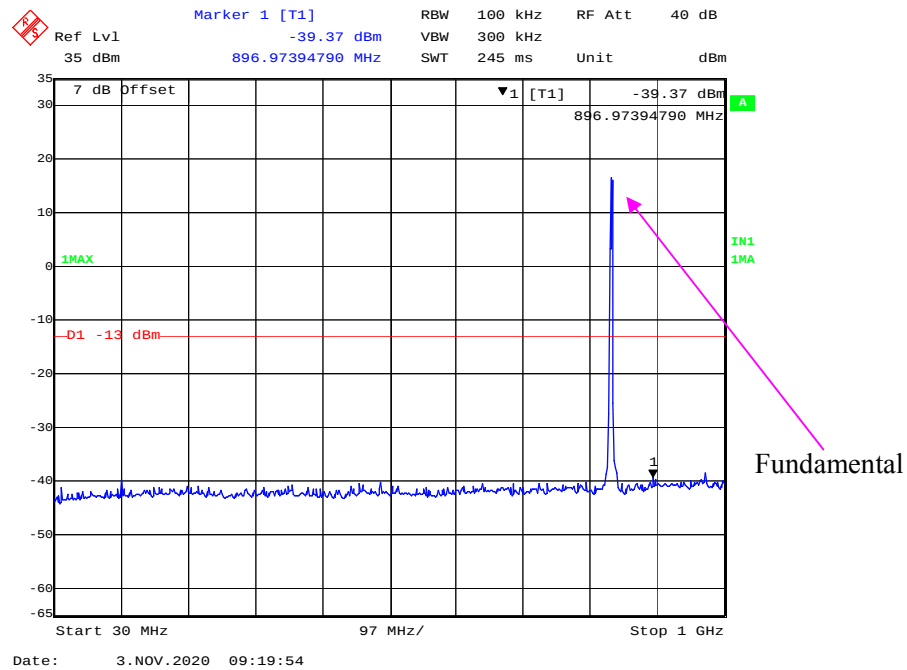


**30 MHz - 1 GHz (16QAM, 10.0 MHz, Low Channel)****1 GHz – 10 GHz (16QAM, 10.0 MHz, Low Channel)**

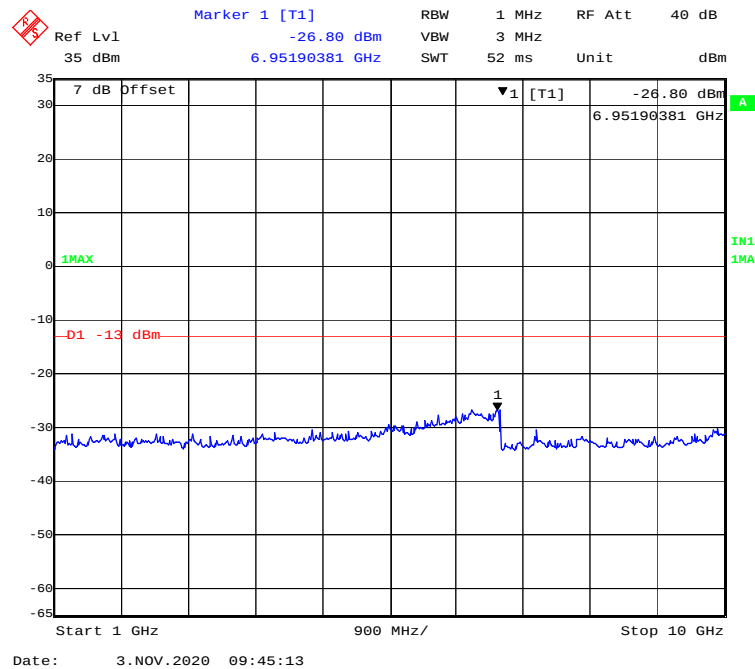
**30 MHz - 1 GHz (QPSK, 1.4 MHz, Middle Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, Middle Channel)**

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

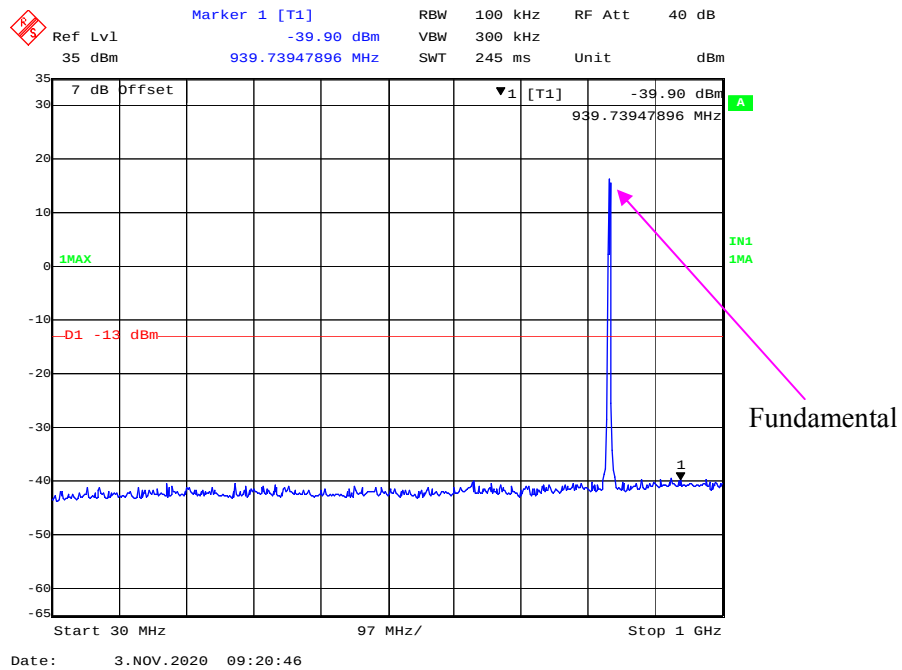
### 30 MHz - 1 GHz (QPSK, 3.0 MHz, Middle Channel)



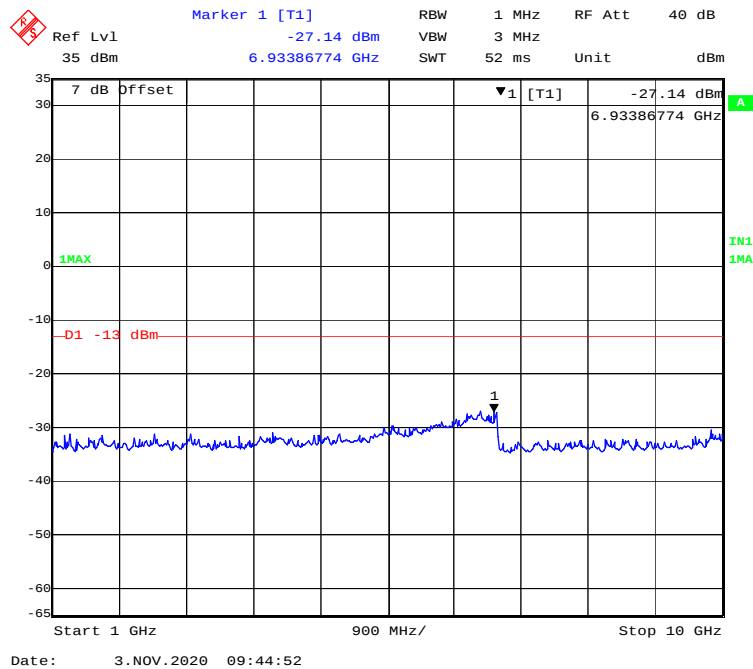
### 1 GHz – 10 GHz (QPSK, 3.0 MHz, Middle Channel)



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



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



Marker 1 [T1]

Ref Lvl -39.33 dBm

35 dBm 906.69338677 MHz

RBW 100 kHz

VBW 300 kHz

SWT 245 ms

Unit dBm

7 dB Offset

▼1 [T1]

-39.33 dBm

906.69338677 MHz

1MAX

D1 -13 dBm

1

Fundamental

Start 30 MHz

97 MHz/

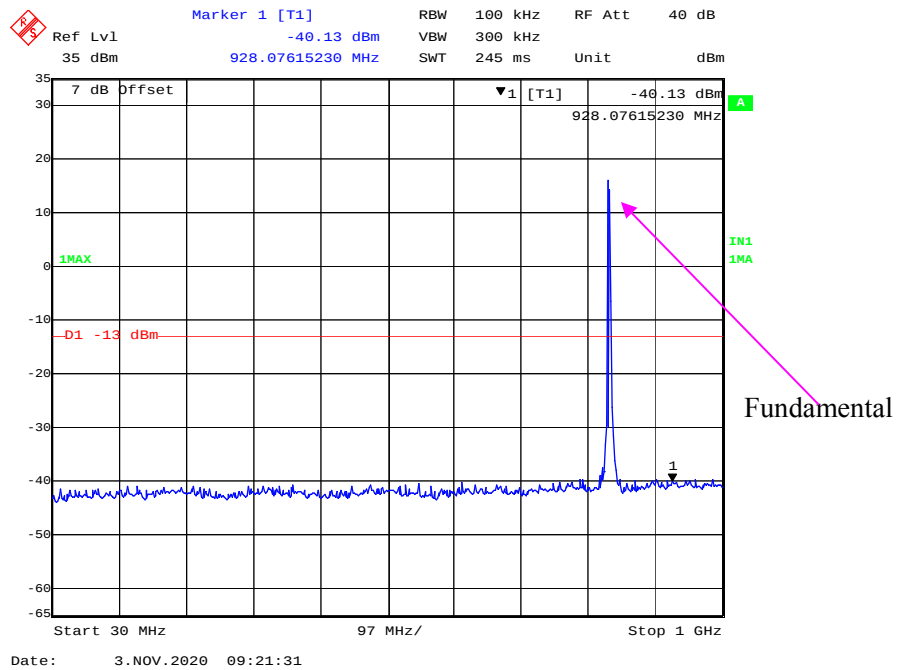
Stop 1 GHz

Date: 3.NOV.2020 09:22:15

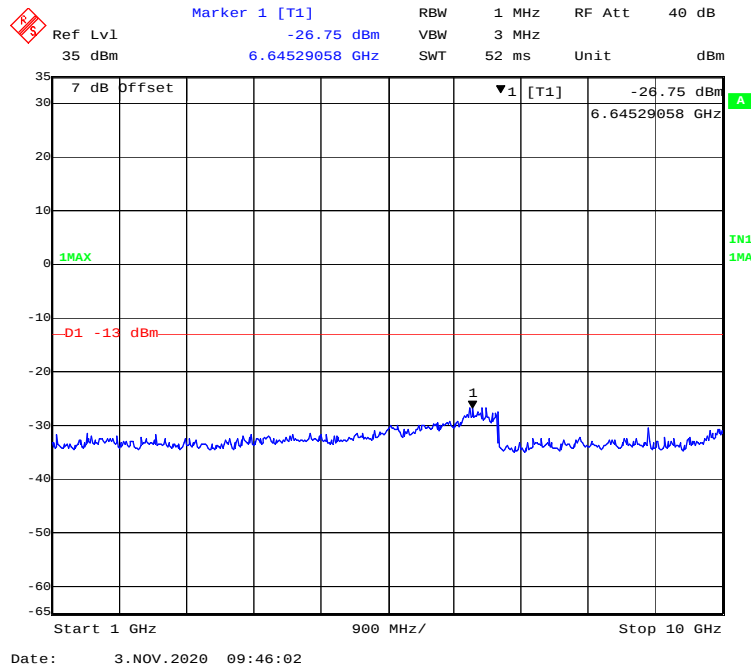
REF Lvl 35 dBm  
 Marker 1 [T1] -26.76 dBm  
 6.73547094 GHz  
 RBW 1 MHz  
 VBW 3 MHz  
 SWT 52 ms  
 RF Att 40 dB  
 Unit dBm

7 dB Offset  
 1MAX  
 -D1 -13 dBm  
 1  
 -26.76 dBm  
 6.73547094 GHz  
 Start 1 GHz  
 900 MHz/  
 Stop 10 GHz  
 Date: 3.NOV.2020 09:45:38

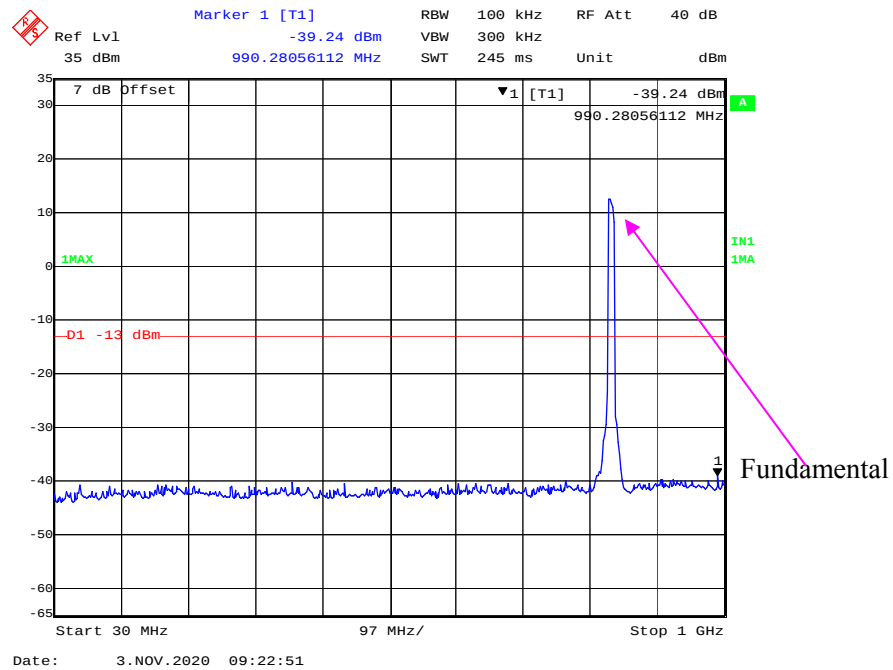
### 30 MHz - 1 GHz (16QAM, 5.0 MHz, Middle Channel)



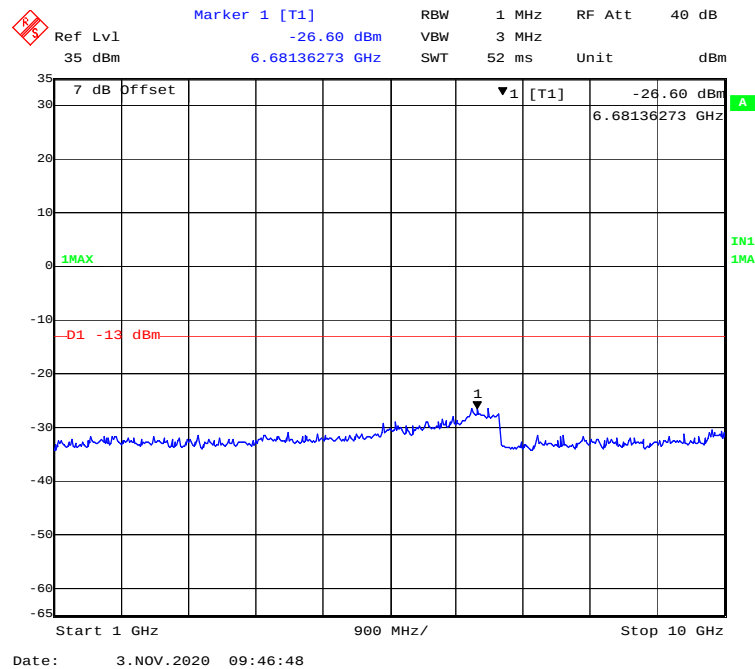
### 1 GHz – 10 GHz (16QAM, 5.0MHz, Middle Channel)



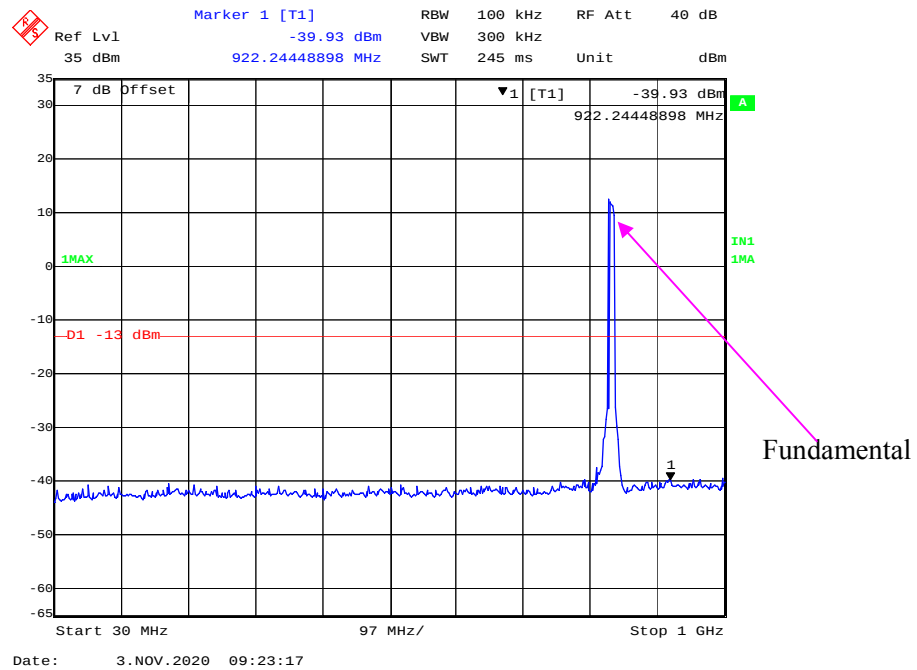
### 30 MHz - 1 GHz (QPSK, 10.0 MHz, Middle Channel)



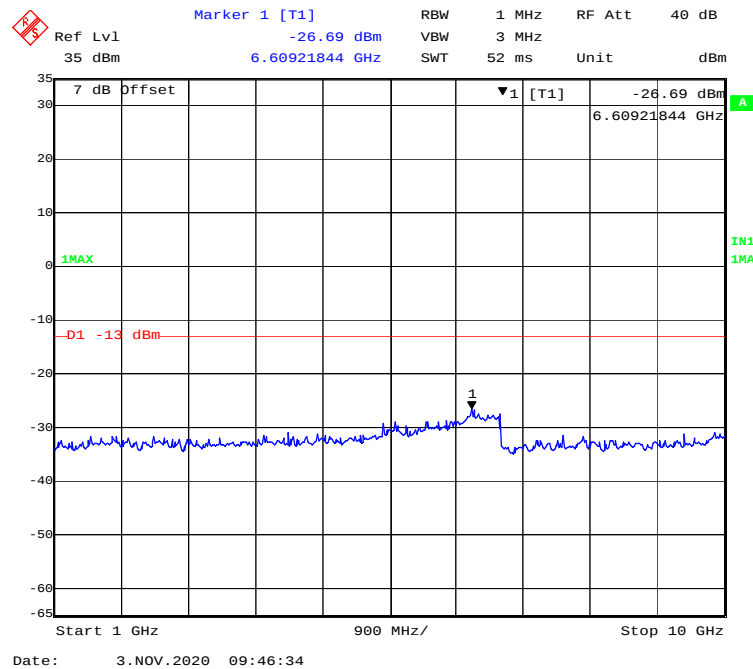
### 1 GHz – 10 GHz (QPSK, 10.0 MHz, Middle Channel)

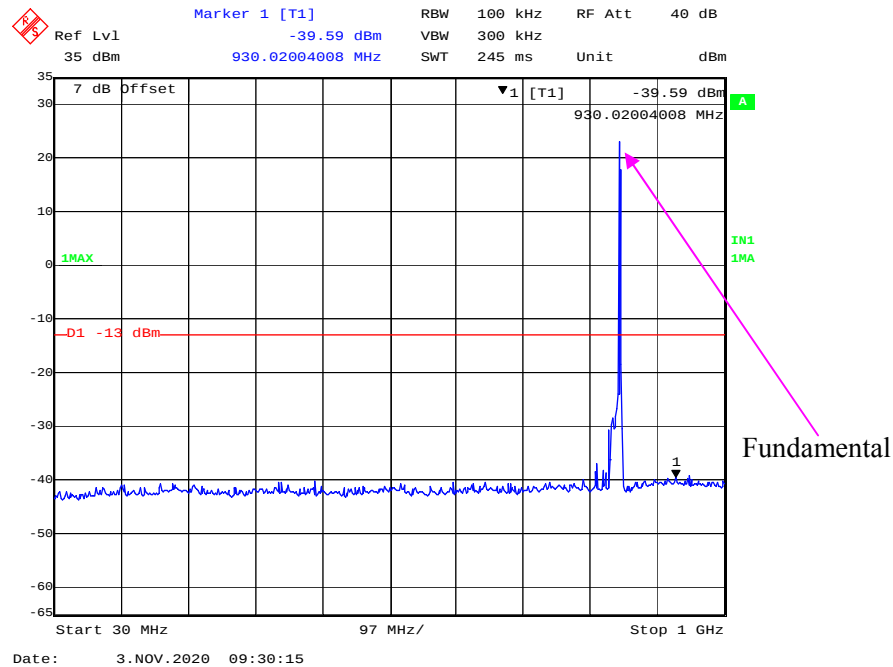
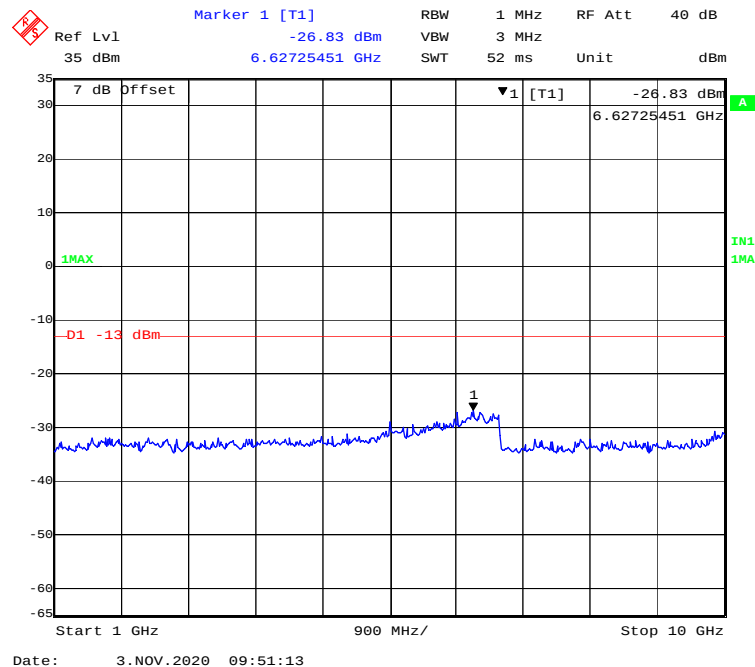


### 30 MHz - 1 GHz (16QAM, 10.0 MHz, Middle Channel)

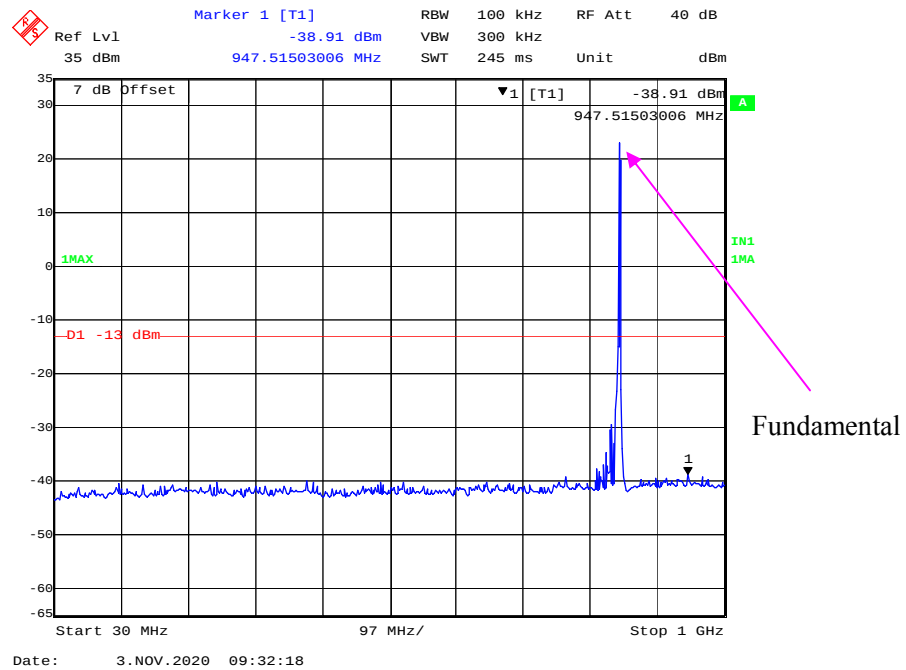


### 1 GHz – 10 GHz (16QAM, 10.0 MHz, Middle Channel)

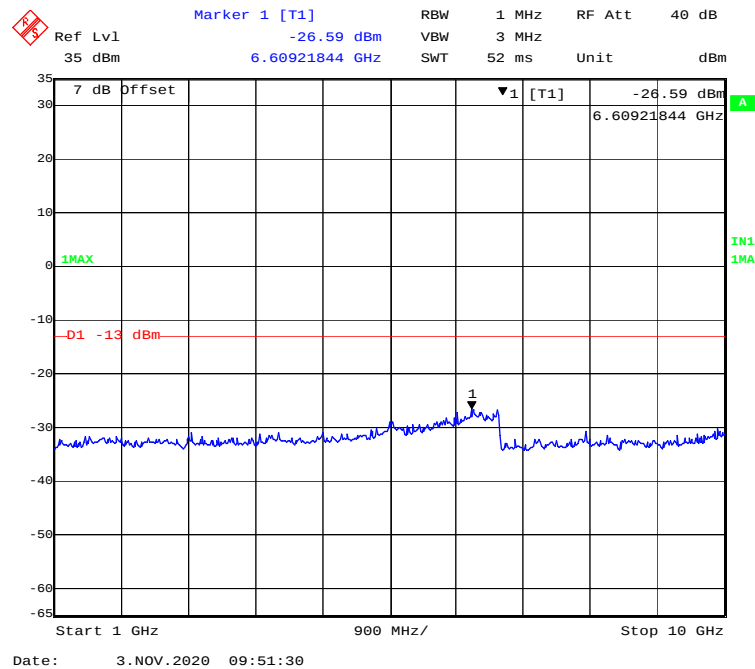


**30 MHz - 1 GHz (QPSK, 1.4 MHz, High Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, High Channel)**

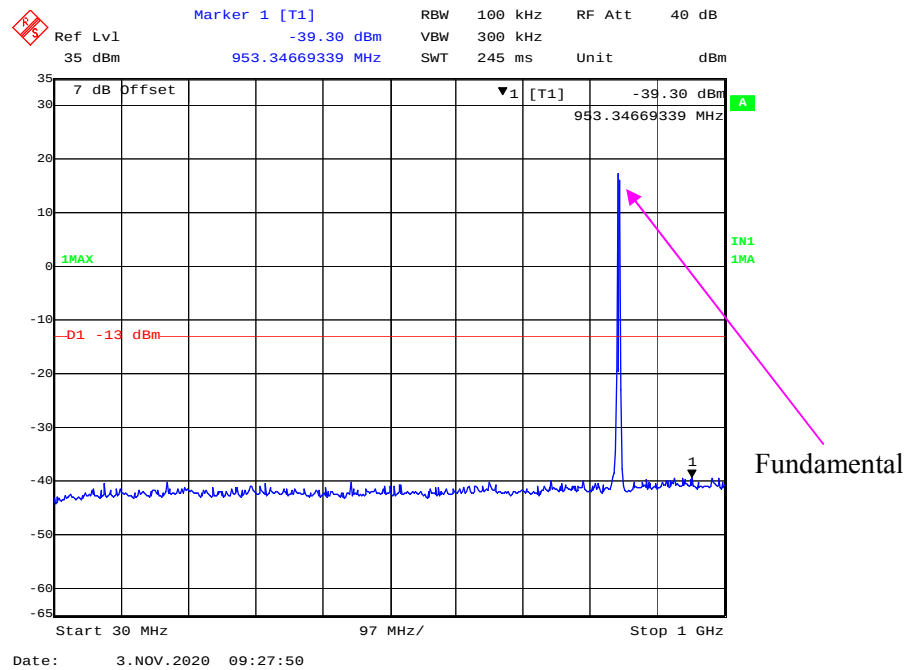
### 30 MHz - 1 GHz (16QAM, 1.4 MHz, High Channel)



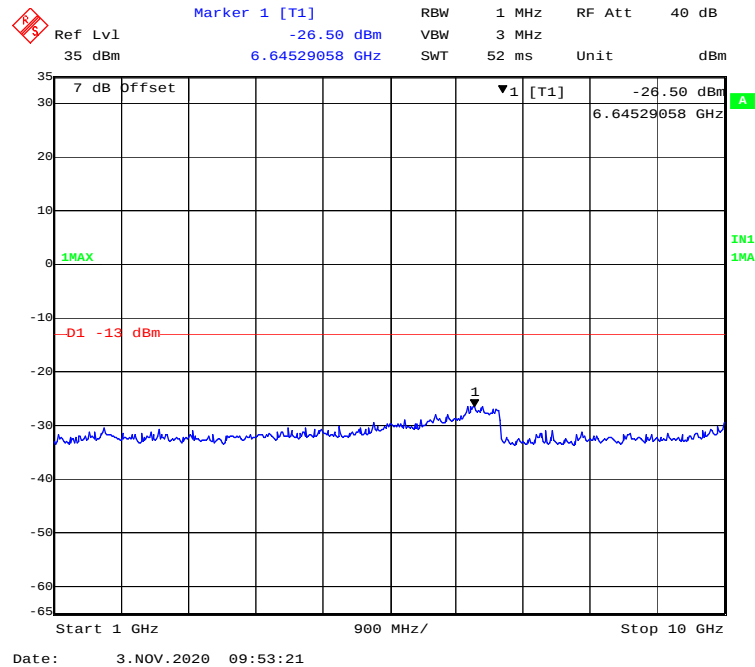
### 1 GHz – 10 GHz (16QAM, 1.4 MHz, High Channel)

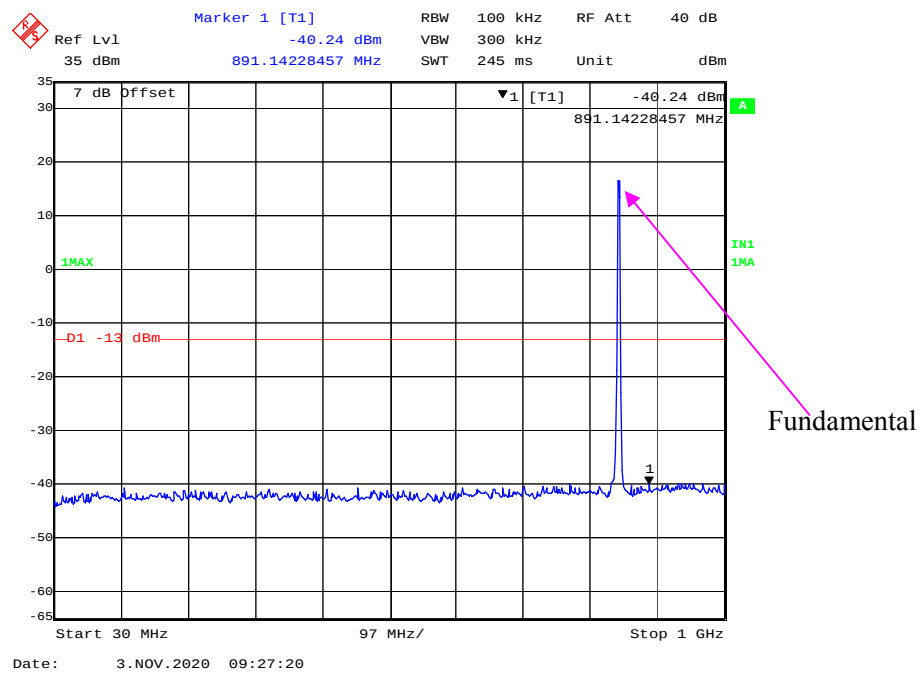
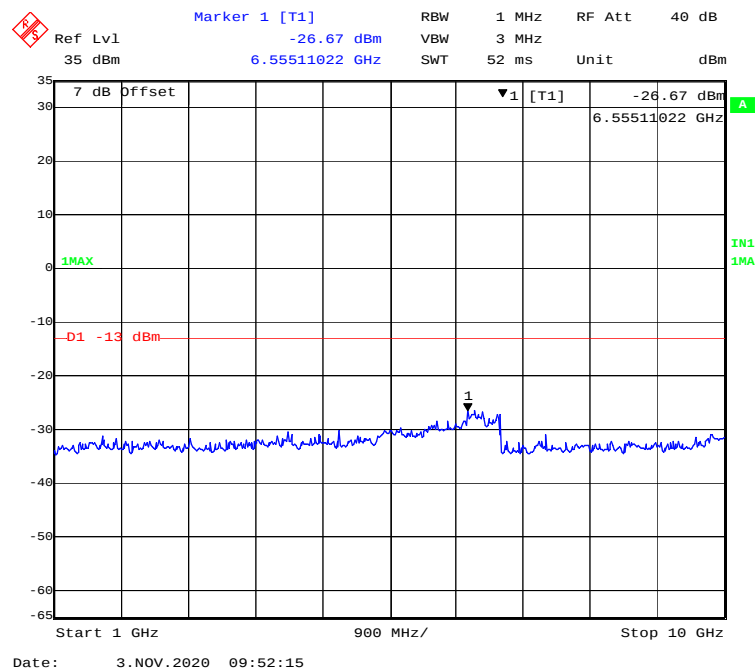


### 30 MHz - 1 GHz (QPSK, 3.0 MHz, High Channel)

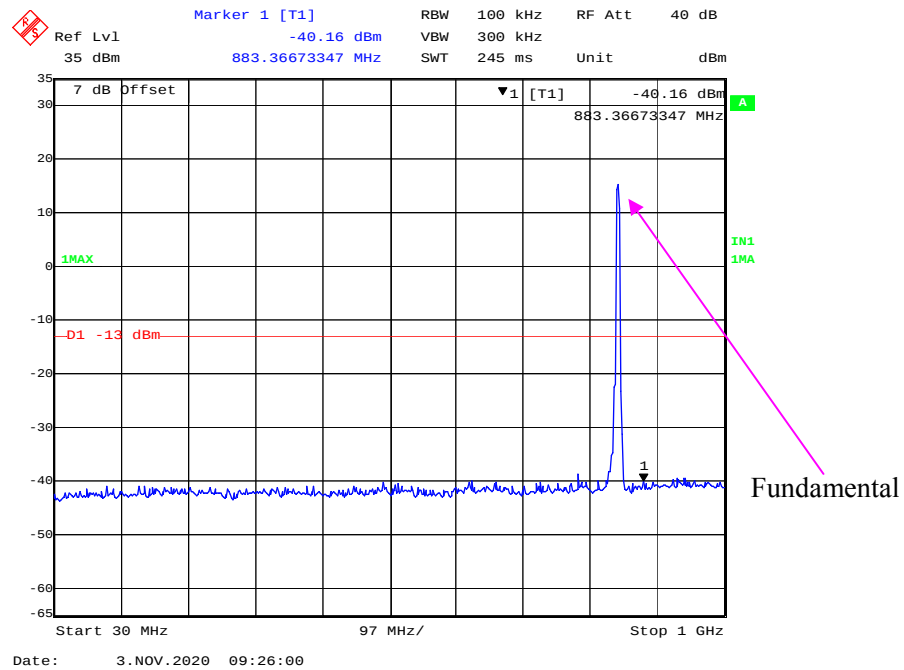


### 1 GHz – 10 GHz (QPSK, 3.0 MHz, High Channel)

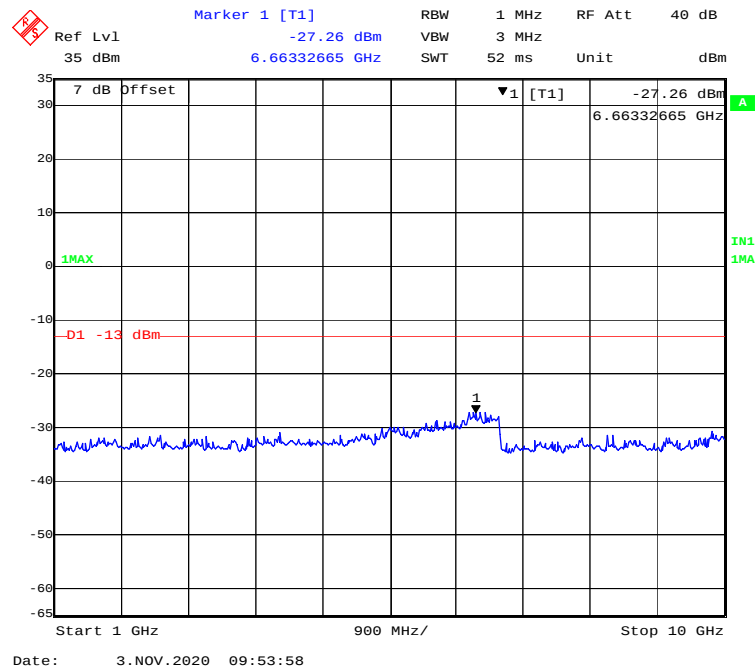


**30 MHz - 1 GHz (16QAM, 3.0 MHz, High Channel)****1 GHz – 10 GHz (16QAM, 3.0 MHz, High Channel)**

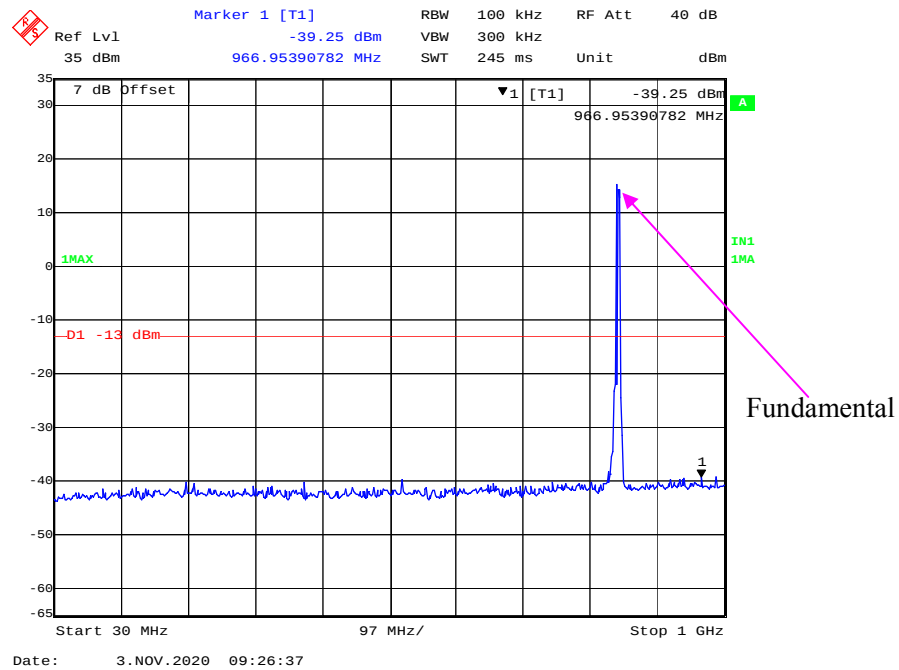
### 30 MHz - 1 GHz (QPSK, 5.0 MHz, High Channel)



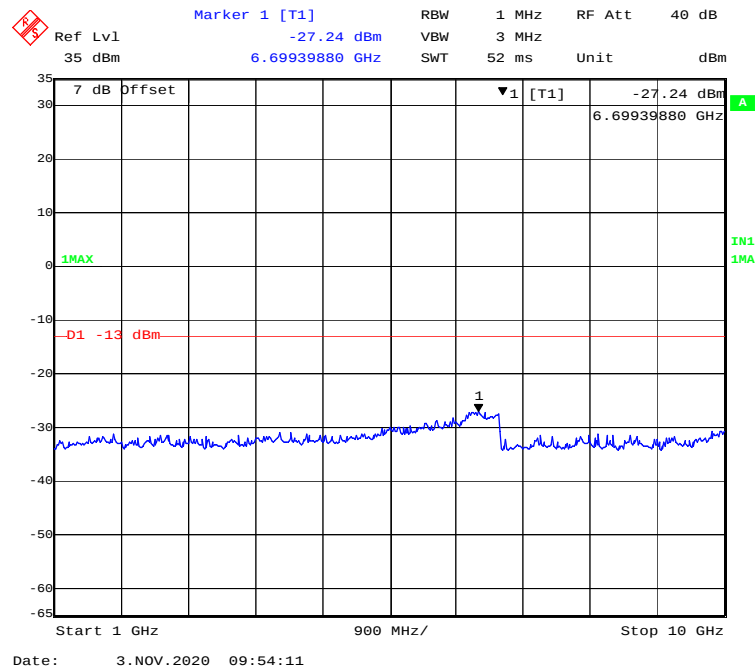
### 1 GHz – 10 GHz (QPSK, 5.0MHz, High Channel)



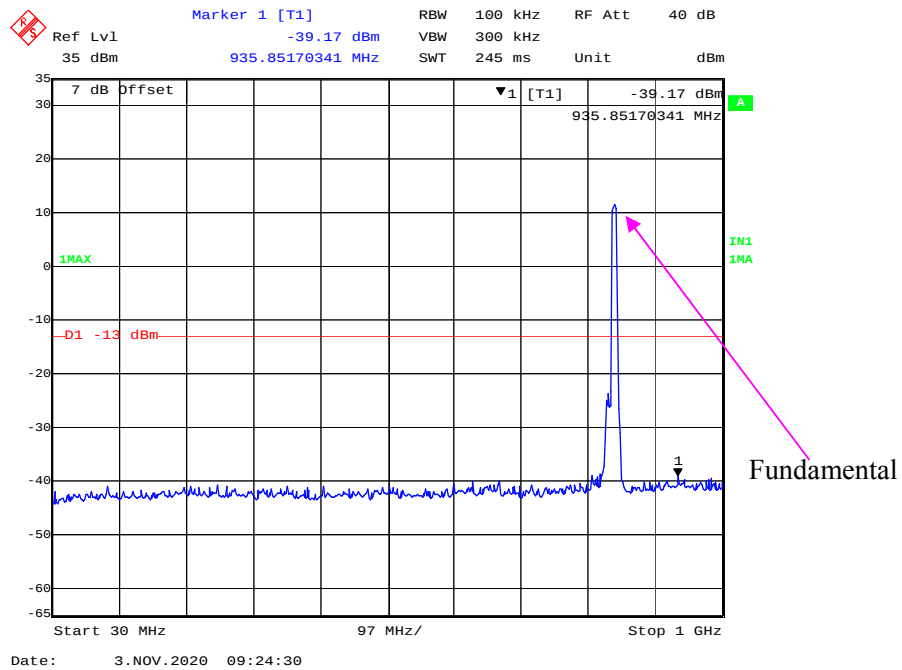
### 30 MHz - 1 GHz (16QAM, 5.0 MHz, High Channel)



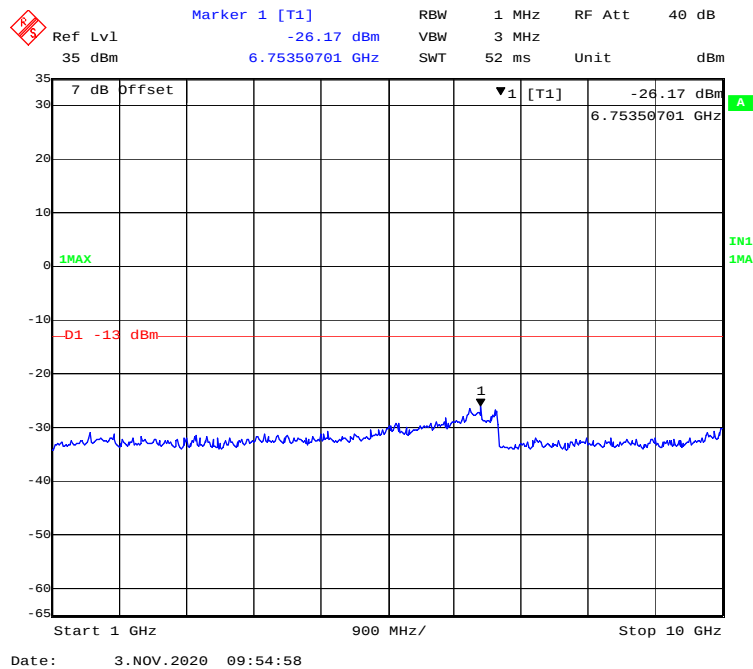
### 1 GHz – 10 GHz (16QAM, 5.0MHz, High Channel)



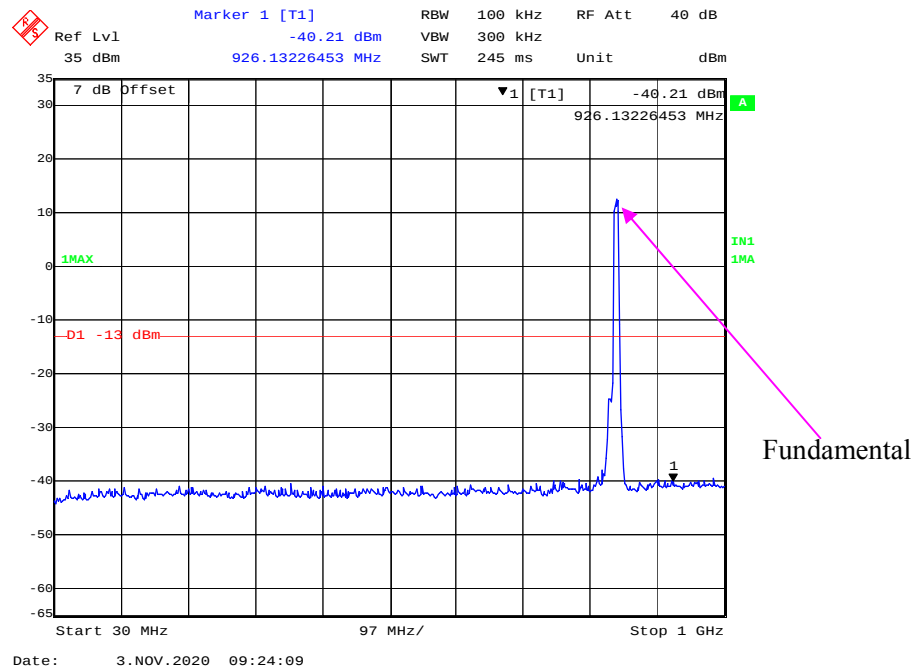
### 30 MHz - 1 GHz (QPSK, 10.0 MHz, High Channel)



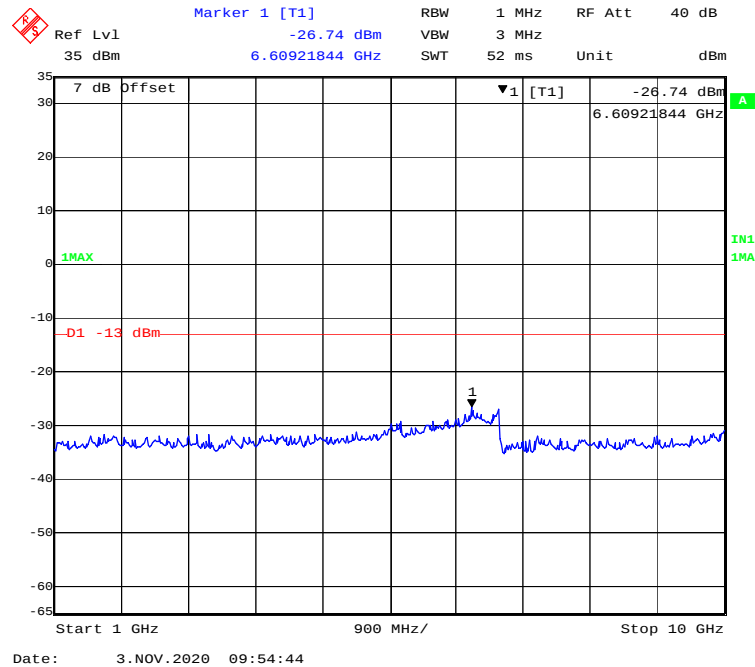
### 1 GHz – 10 GHz (QPSK, 10.0 MHz, High Channel)

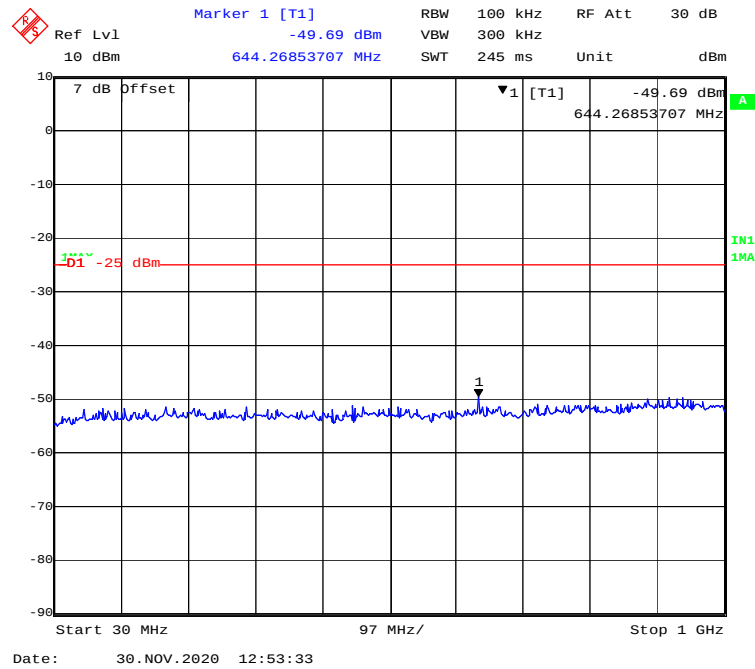
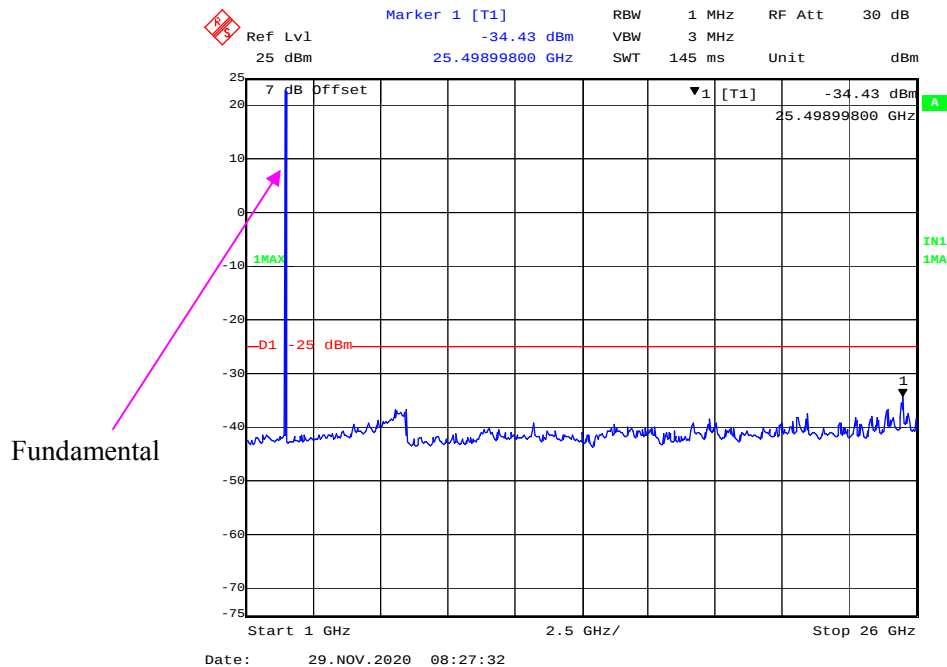


### 30 MHz - 1 GHz (16QAM, 10.0 MHz, High Channel)

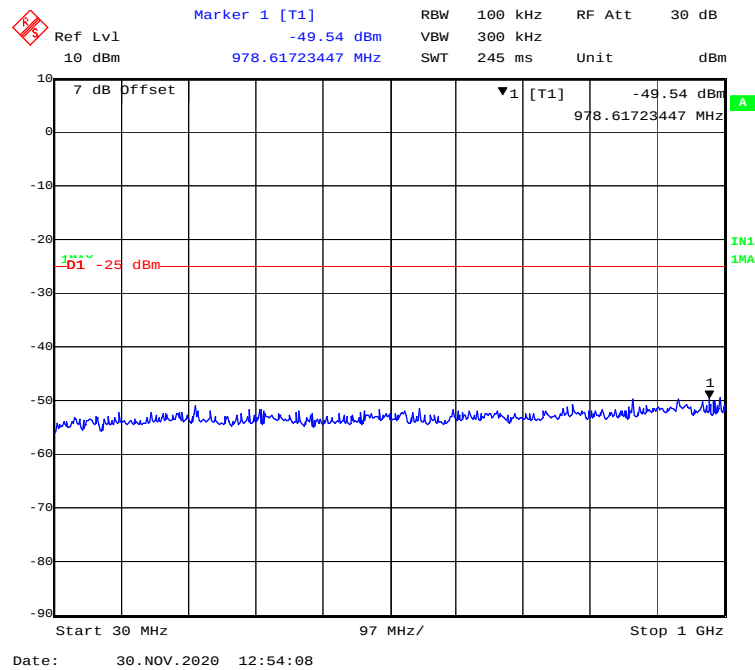


### 1 GHz – 10 GHz (16QAM, 10.0 MHz, High Channel)

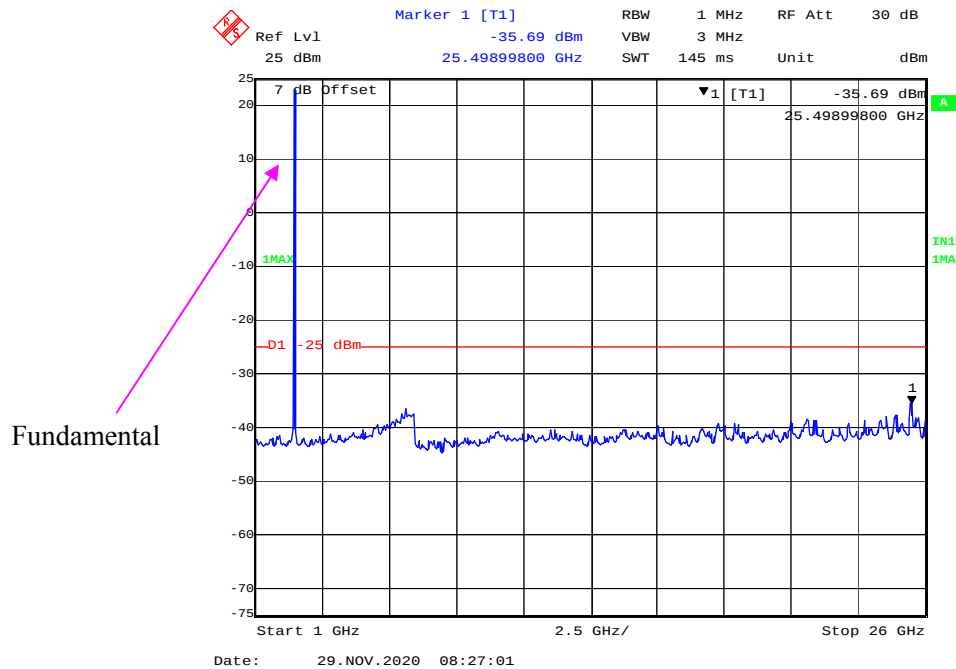


**LTE Band 7:****30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)****1 GHz – 26 GHz (5 MHz, QPSK, Low Channel)**

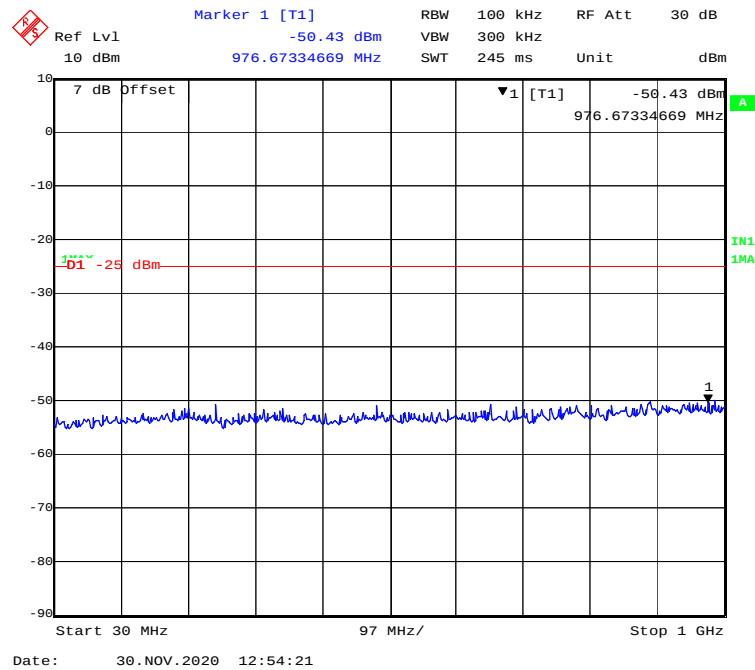
### 30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



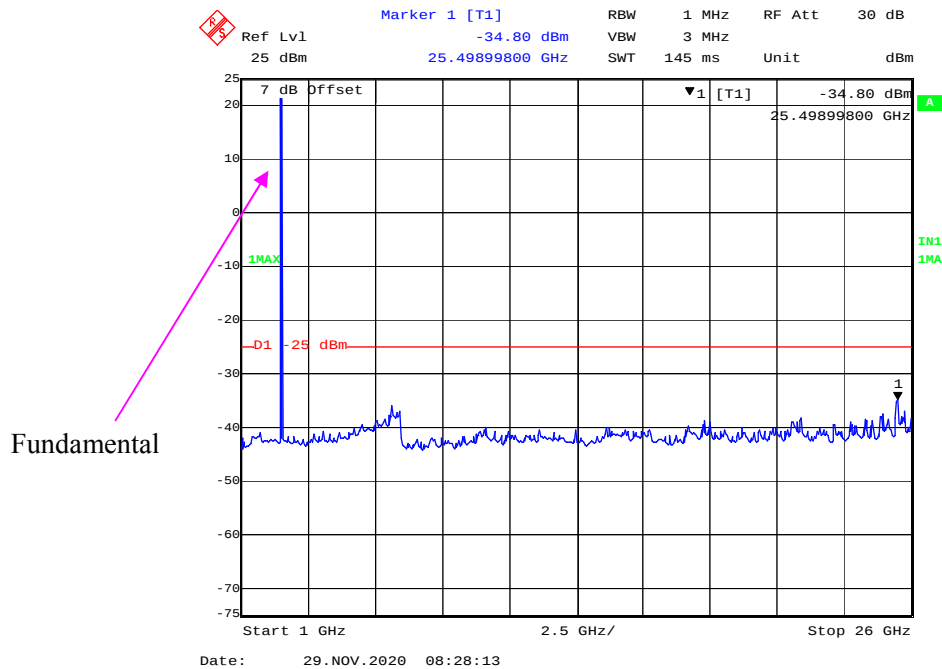
### 1 GHz - 26 GHz (5 MHz, 16-QAM, Low Channel)



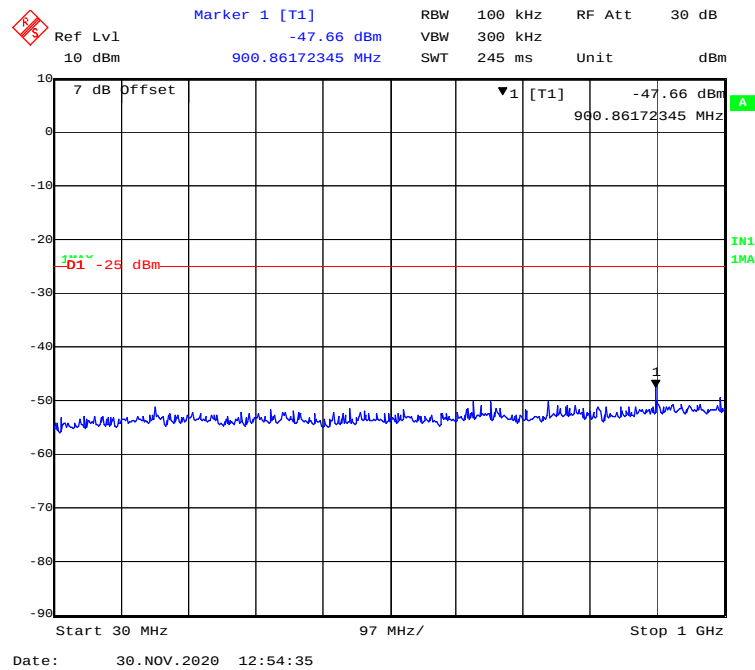
### 30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



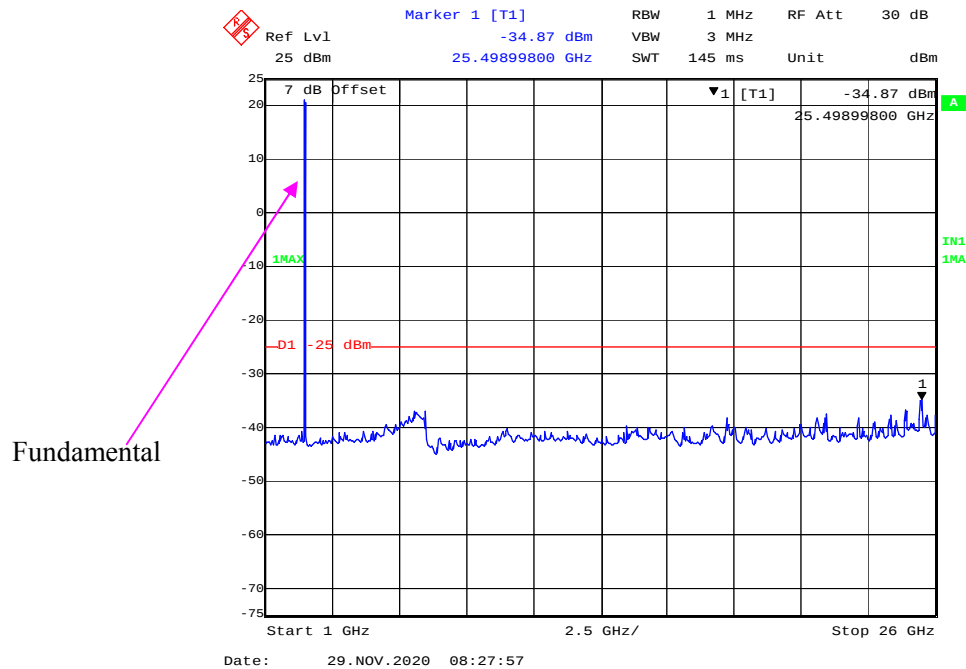
### 1 GHz - 26 GHz (10MHz, QPSK, Low Channel)

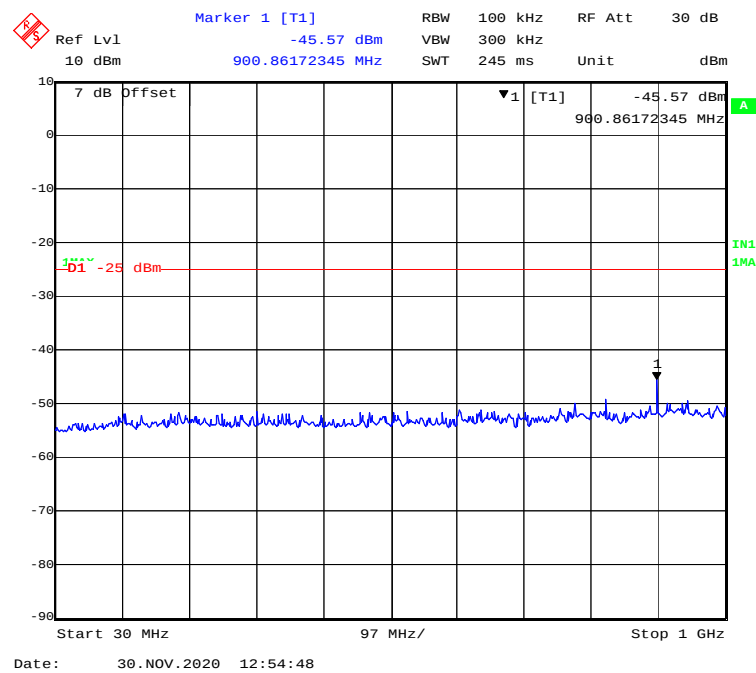
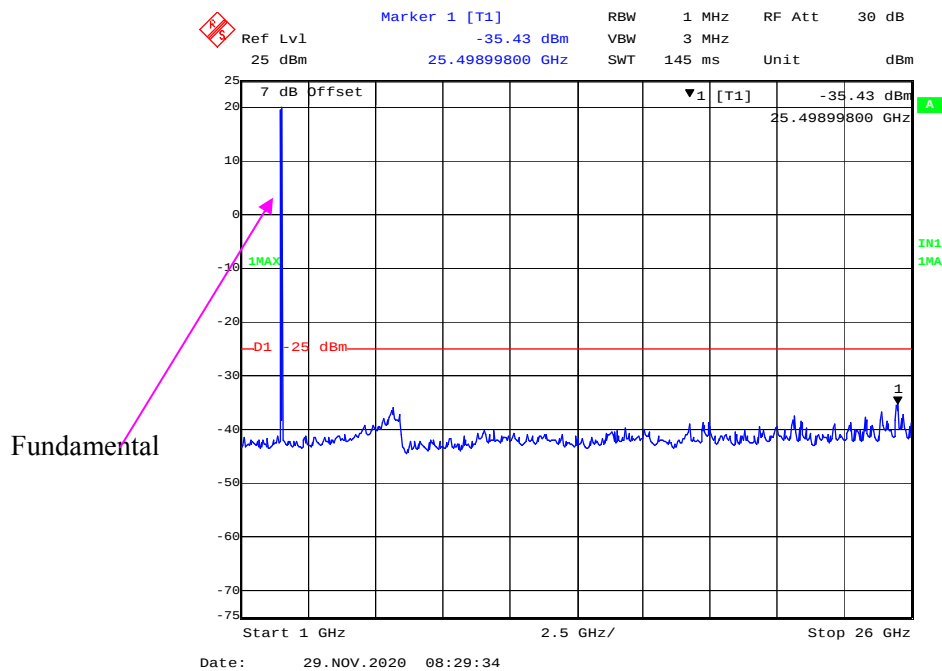


### 30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)

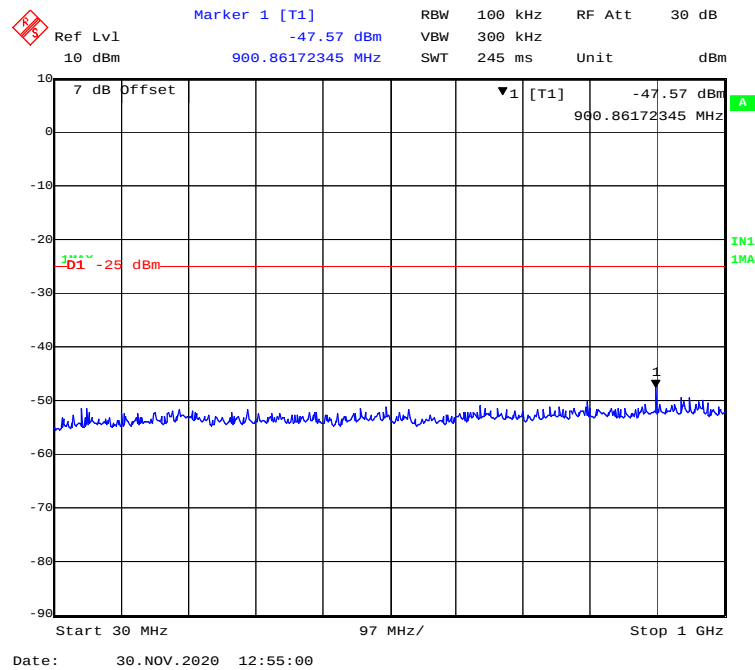


### 1 GHz – 26 GHz (10 MHz, 16-QAM, Low Channel)

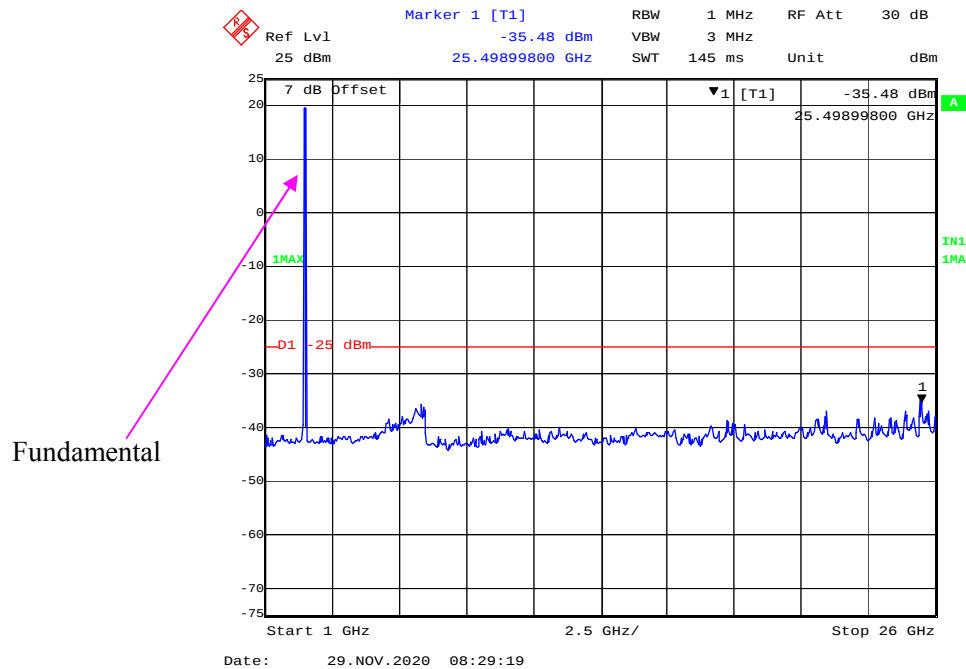


**30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)****1 GHz – 26 GHz (15MHz, QPSK, Low Channel)**

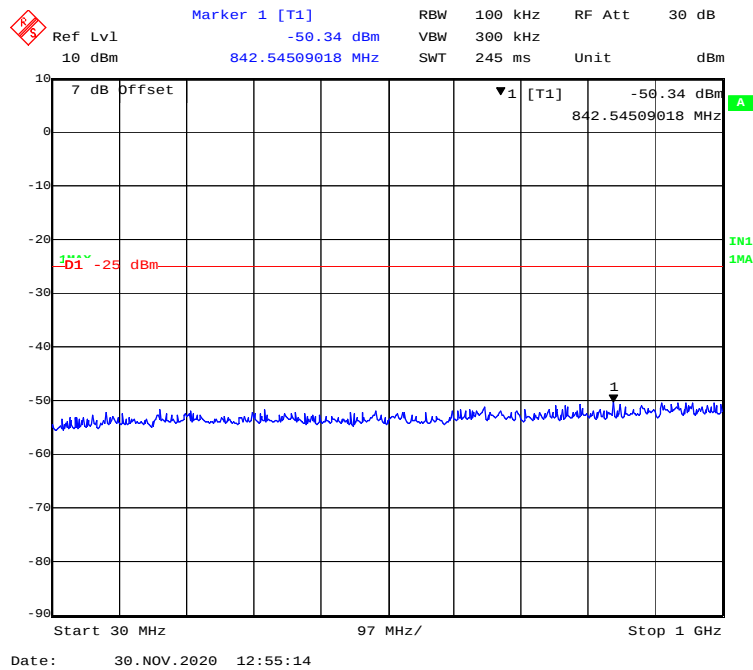
### 30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



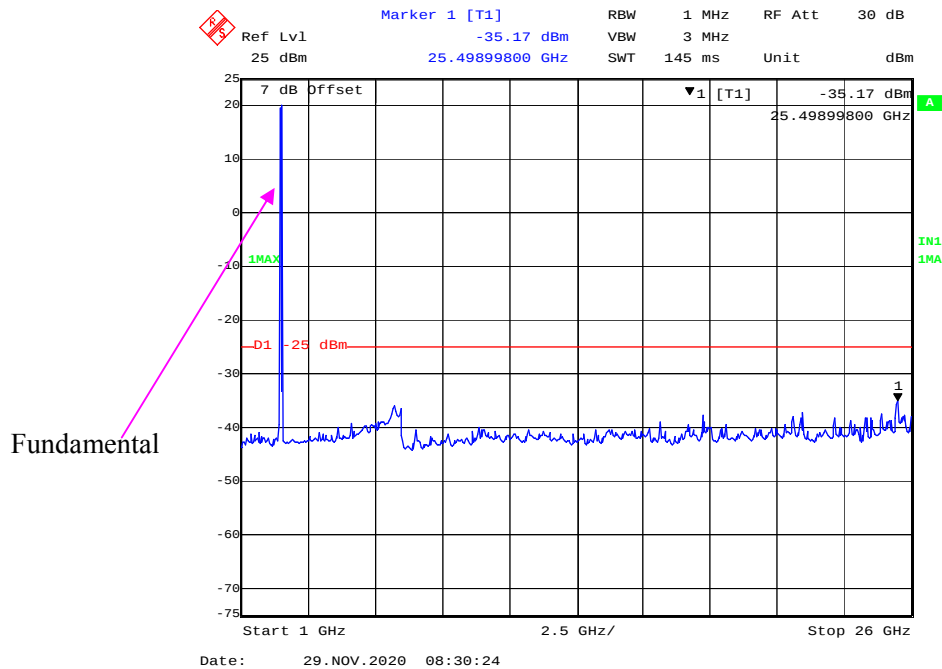
### 1 GHz – 26 GHz (15 MHz, 16-QAM, Low Channel)



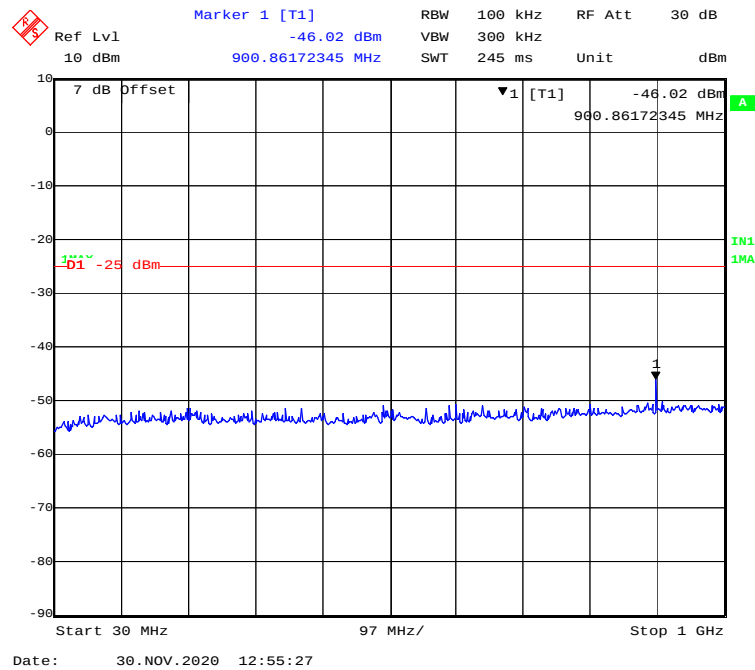
### 30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



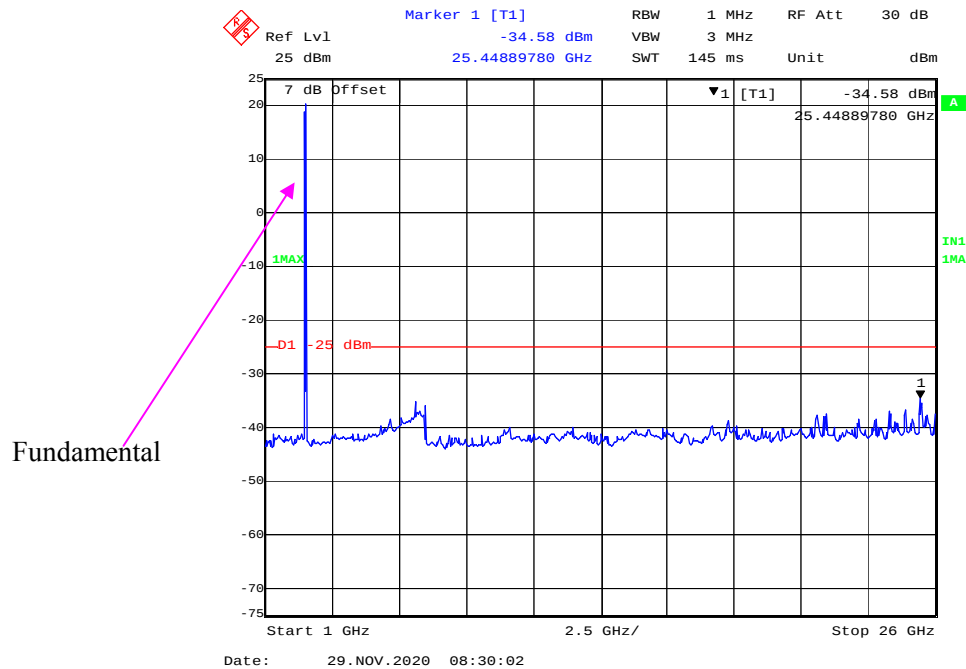
### 1 GHz – 26 GHz (20MHz, QPSK, Low Channel)



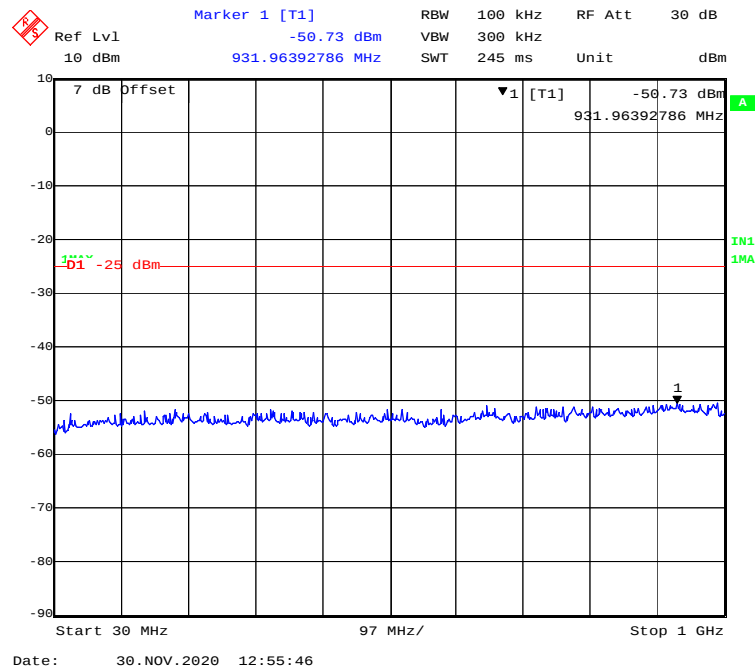
### 30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



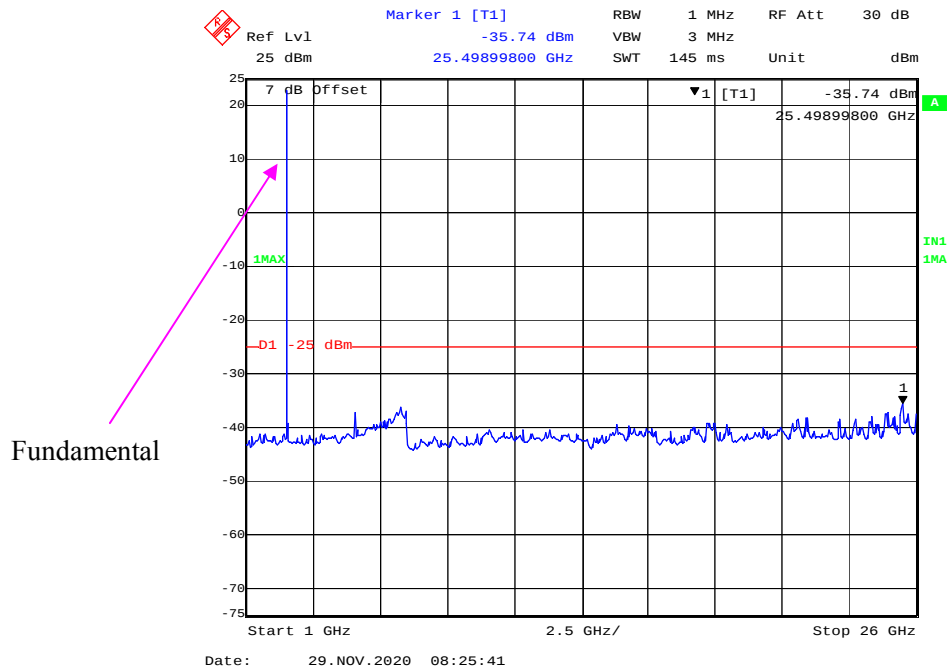
### 1 GHz – 26 GHz (20 MHz, 16-QAM, Low Channel)



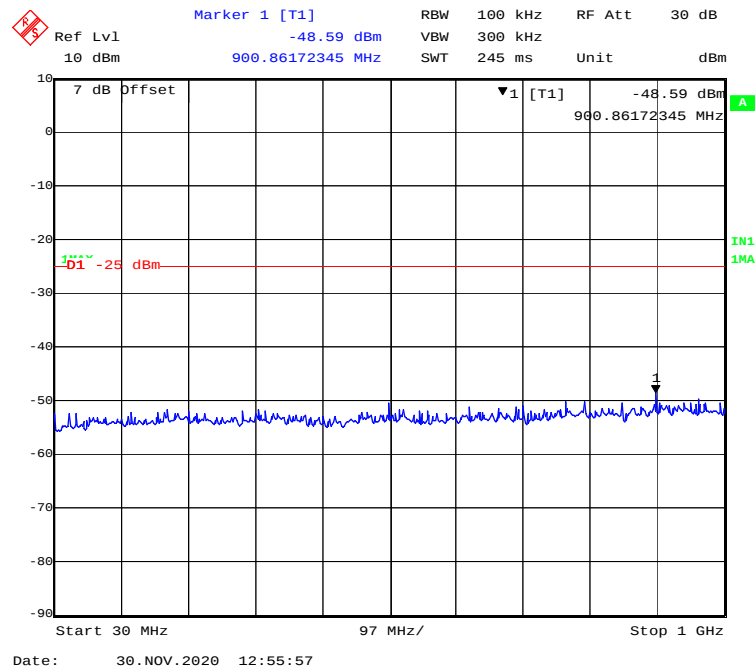
### 30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



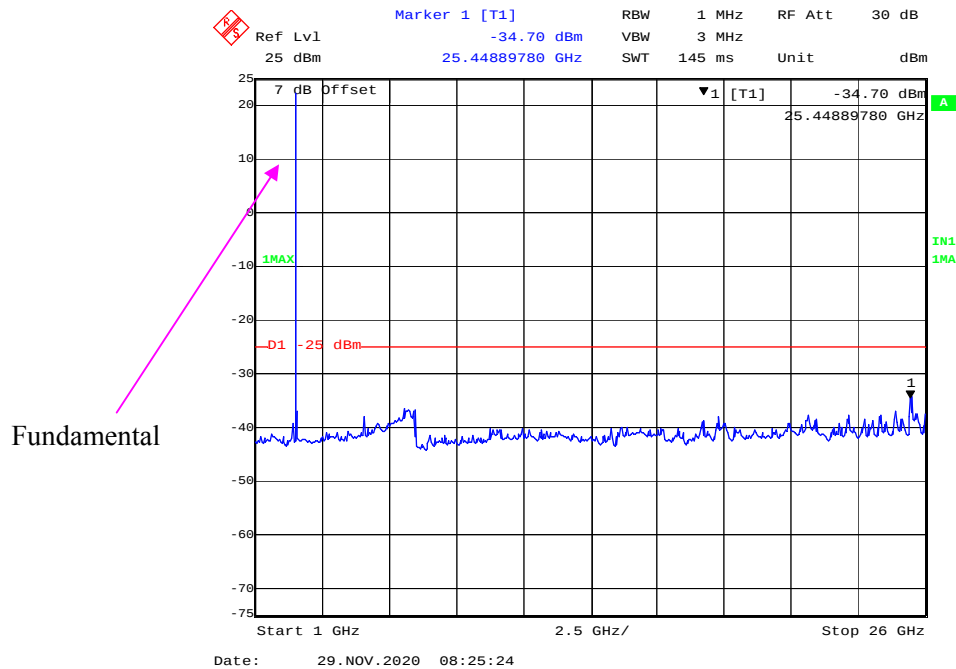
### 1 GHz – 26 GHz (5 MHz, QPSK, Middle Channel)



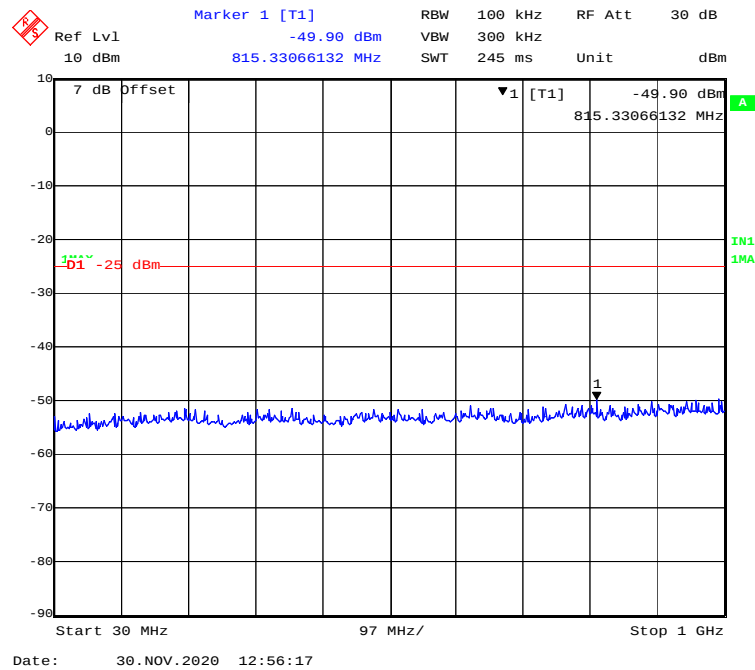
### 30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



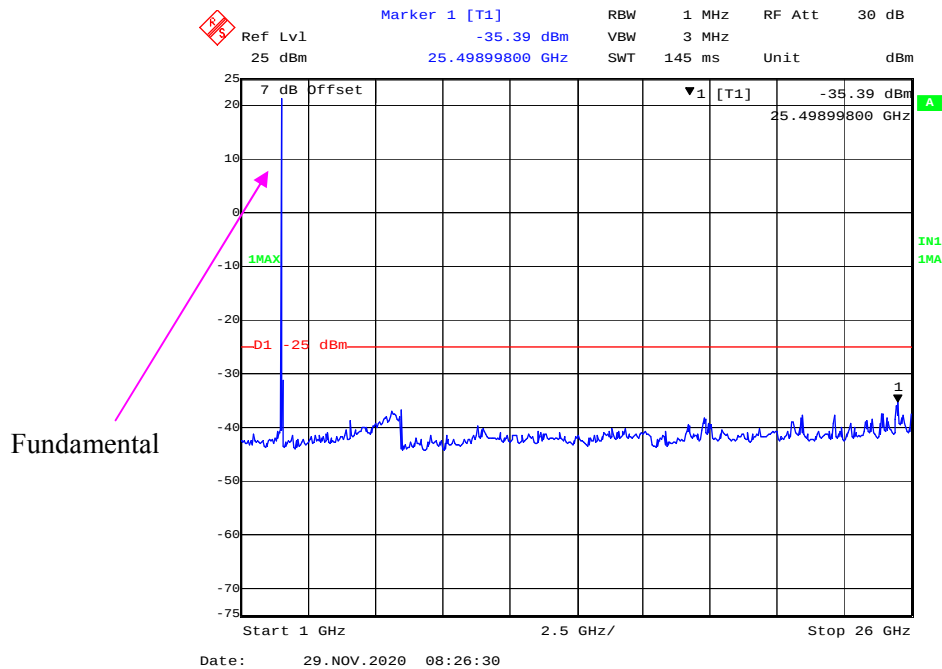
### 1 GHz – 26 GHz (5 MHz, 16-QAM, Middle Channel)



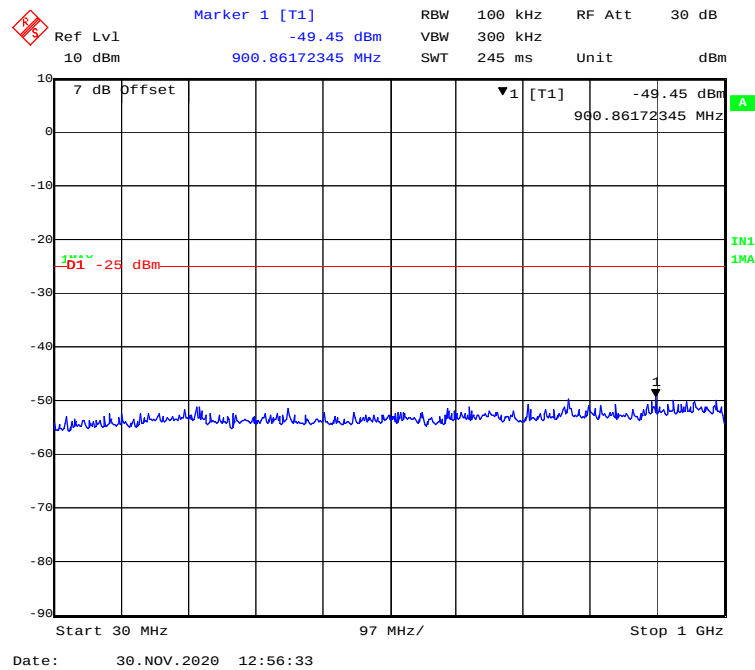
### 30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



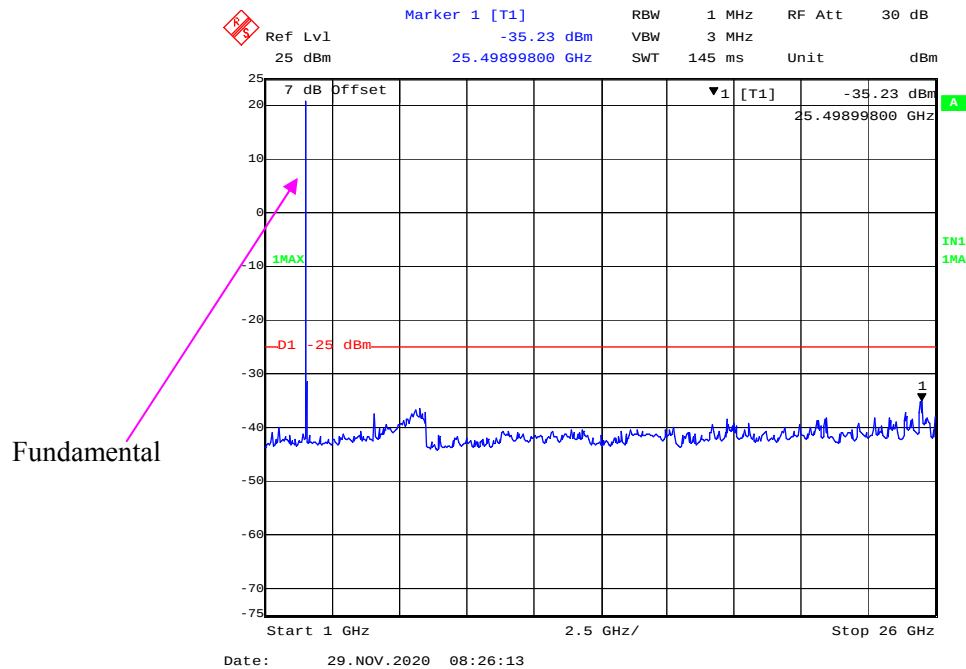
### 1 GHz – 26 GHz (10MHz, QPSK, Middle Channel)



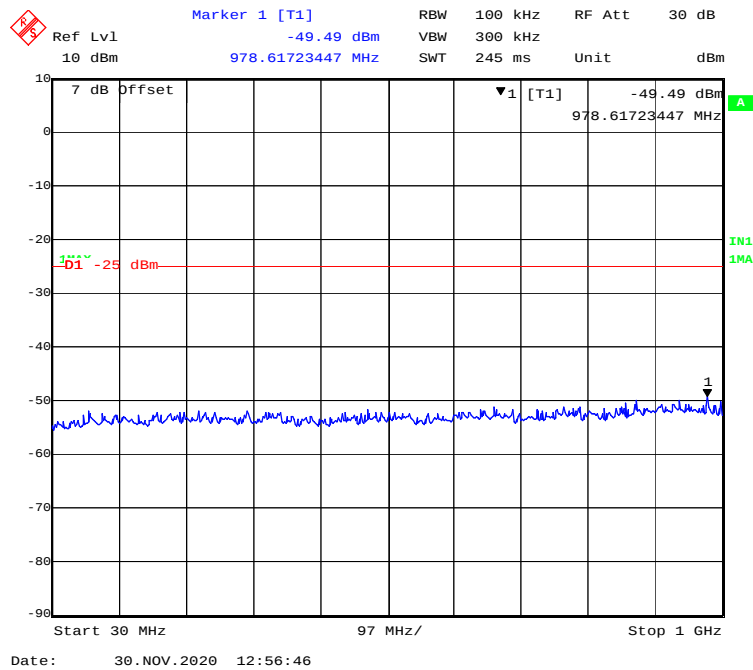
### 30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



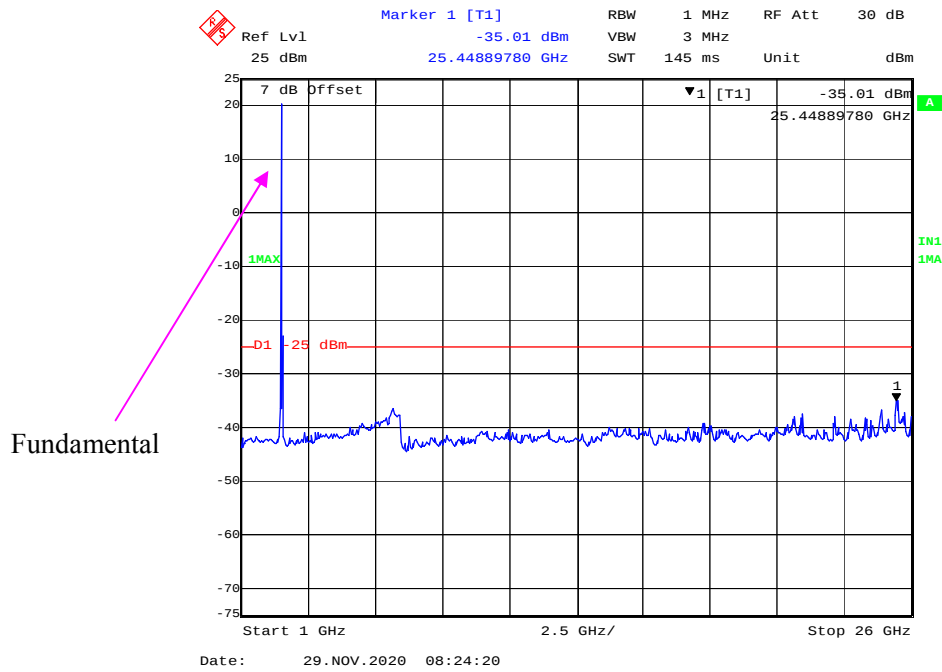
### 1 GHz – 26 GHz (10 MHz, 16-QAM, Middle Channel)



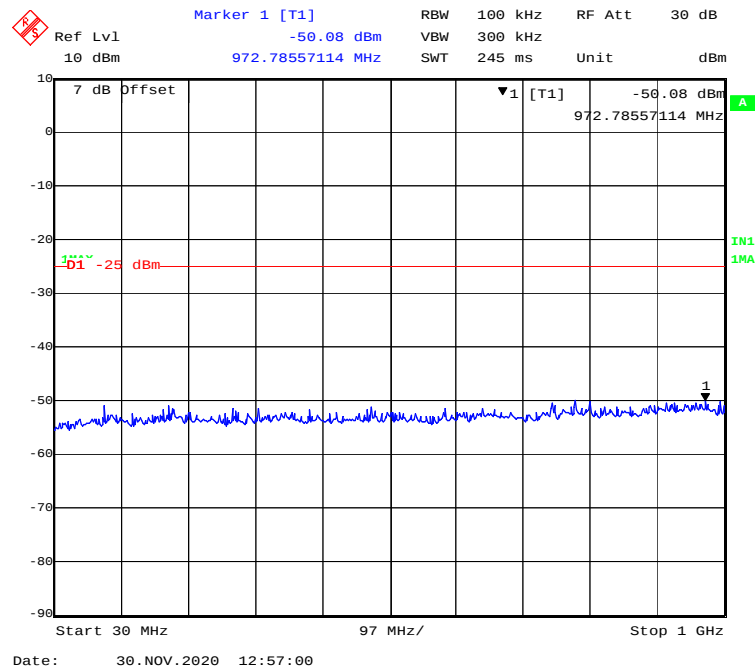
### 30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



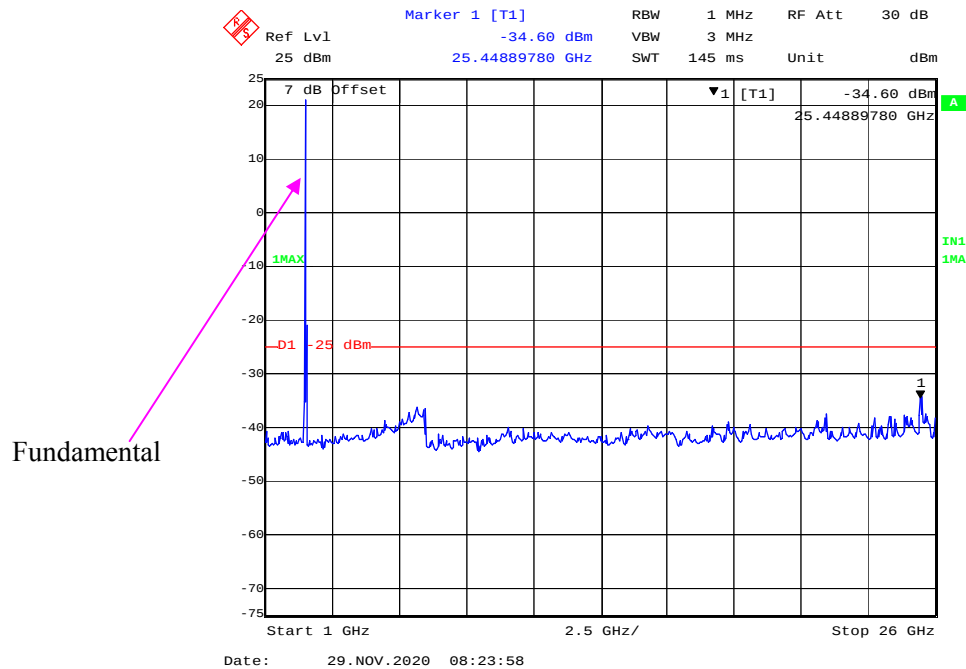
### 1 GHz – 26 GHz (15MHz, QPSK, Middle Channel)



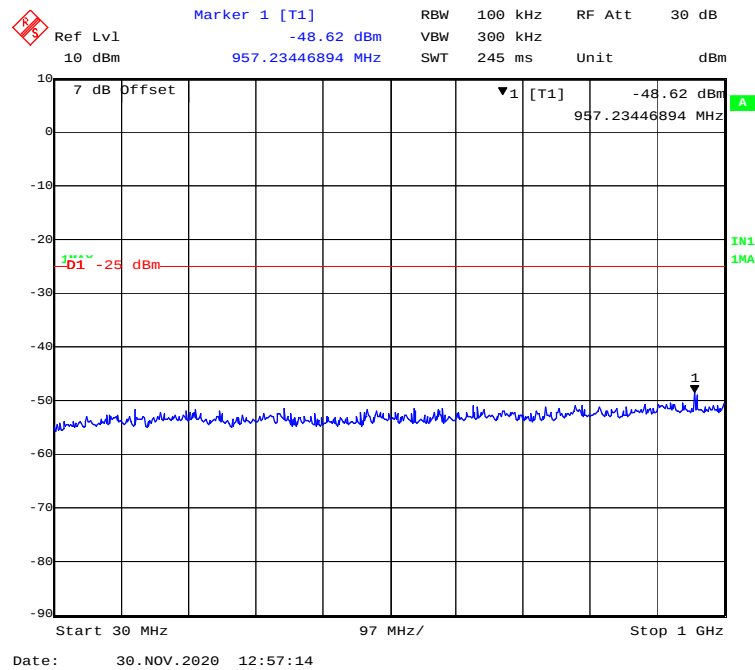
### 30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



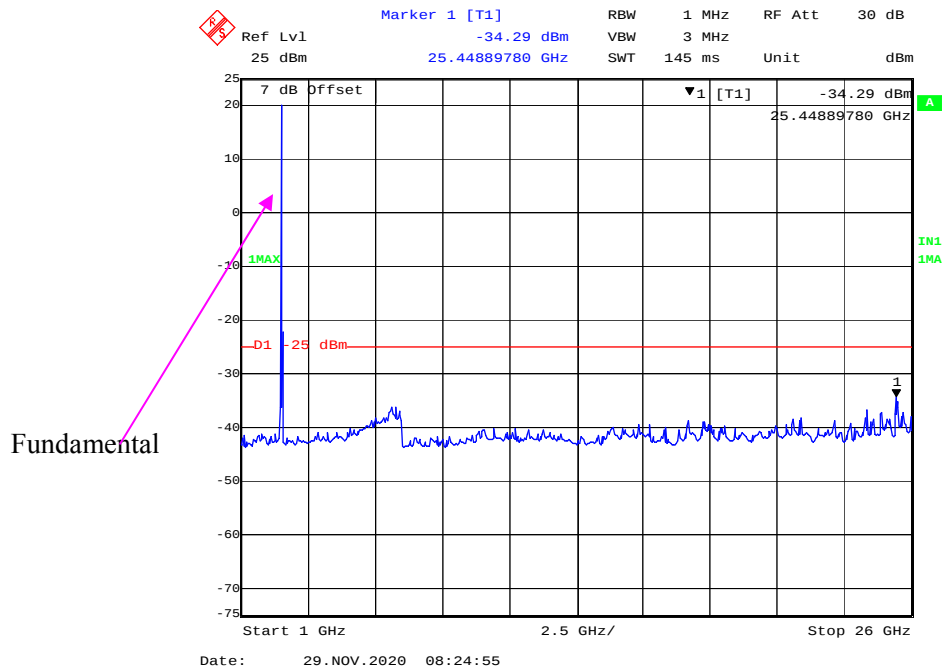
### 1 GHz – 26 GHz (15 MHz, 16-QAM, Middle Channel)



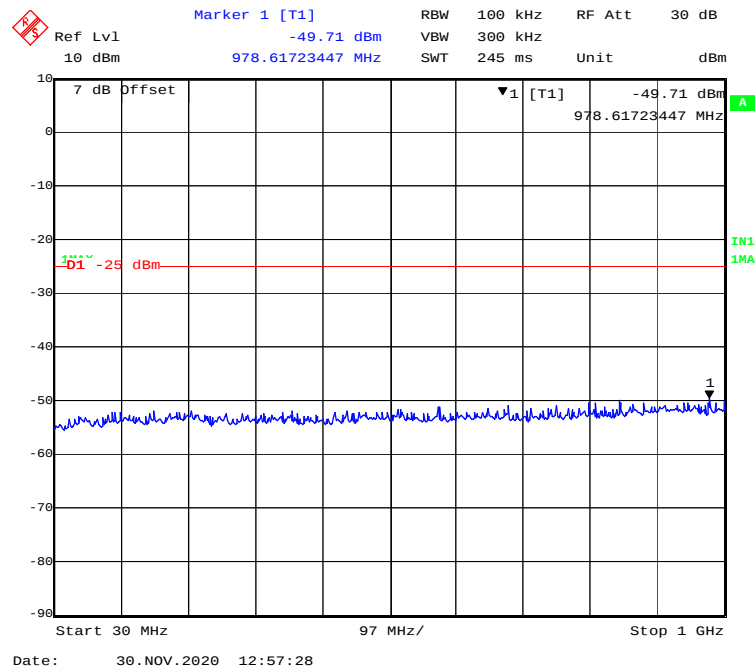
### 30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



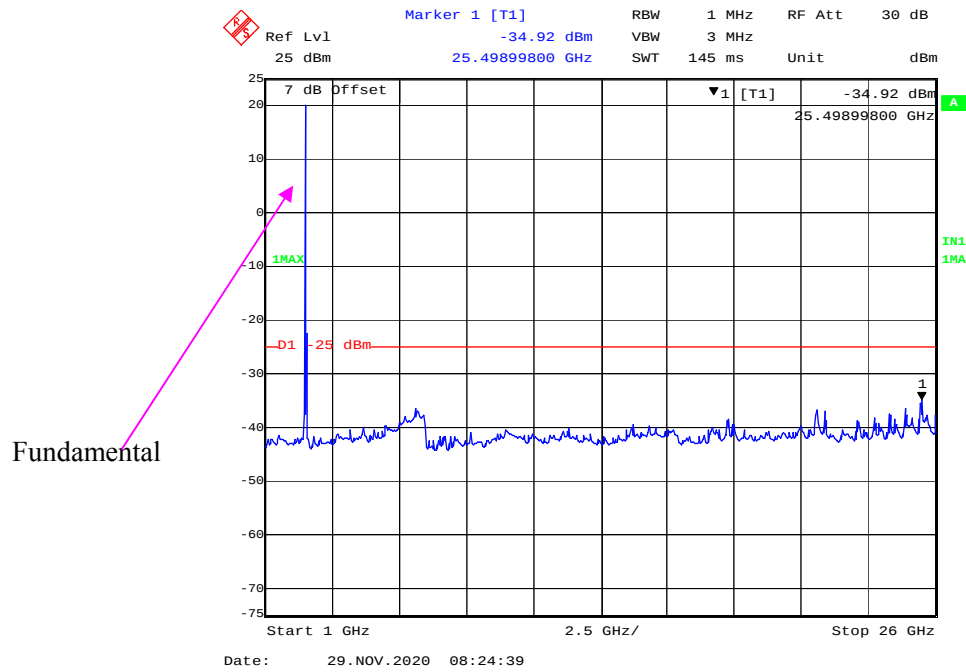
### 1 GHz – 26 GHz (20MHz, QPSK, Middle Channel)



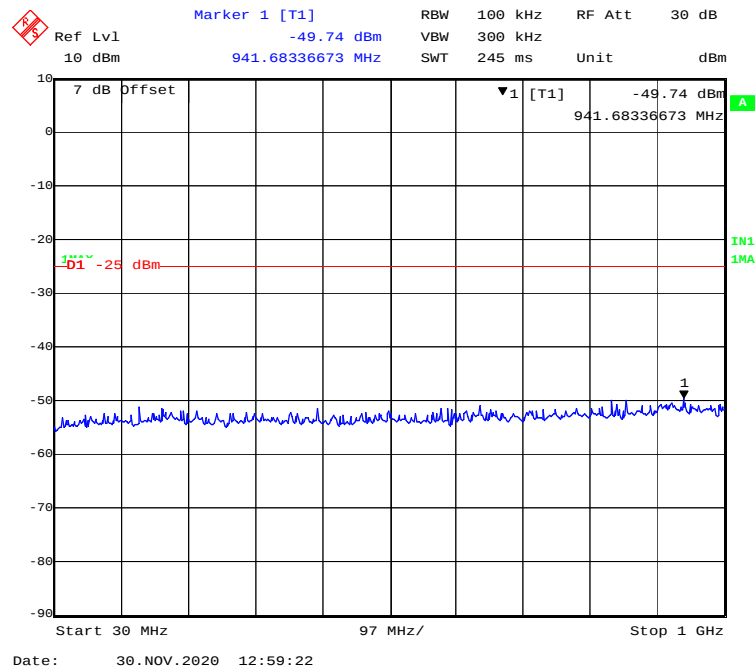
### 30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



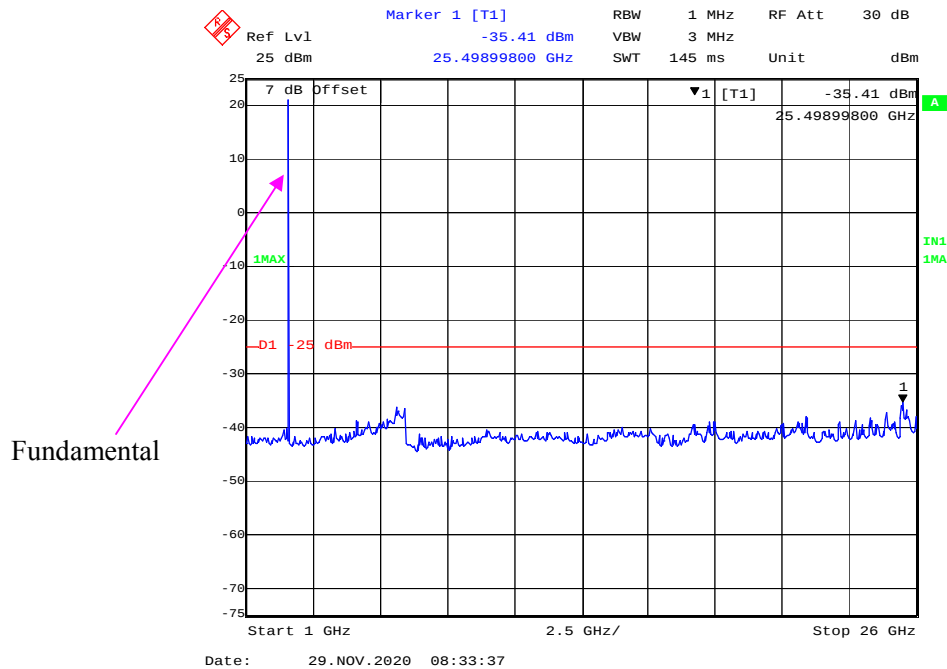
### 1 GHz – 26 GHz (20 MHz, 16-QAM, Middle Channel)



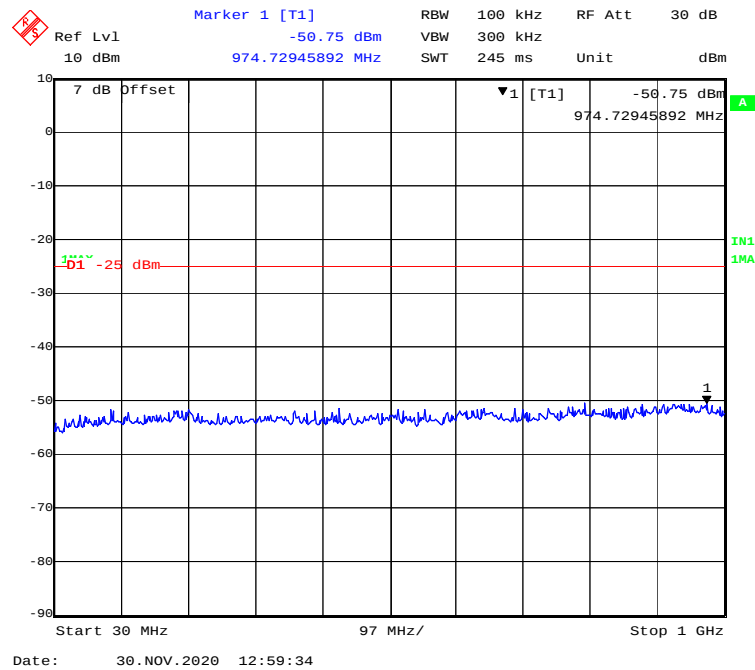
### 30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



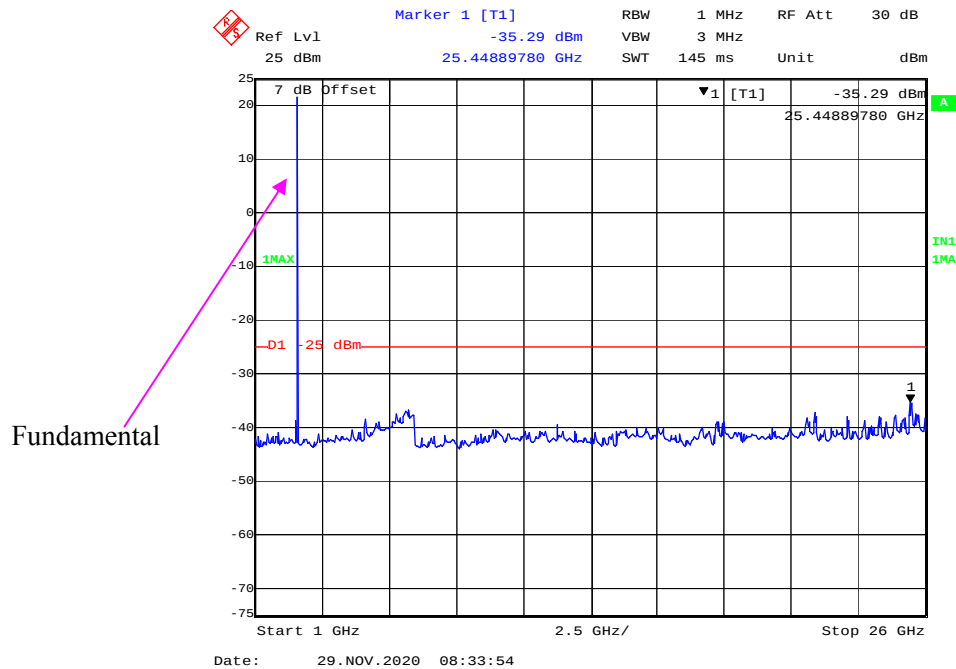
### 1 GHz – 26 GHz (5 MHz, QPSK, High Channel)



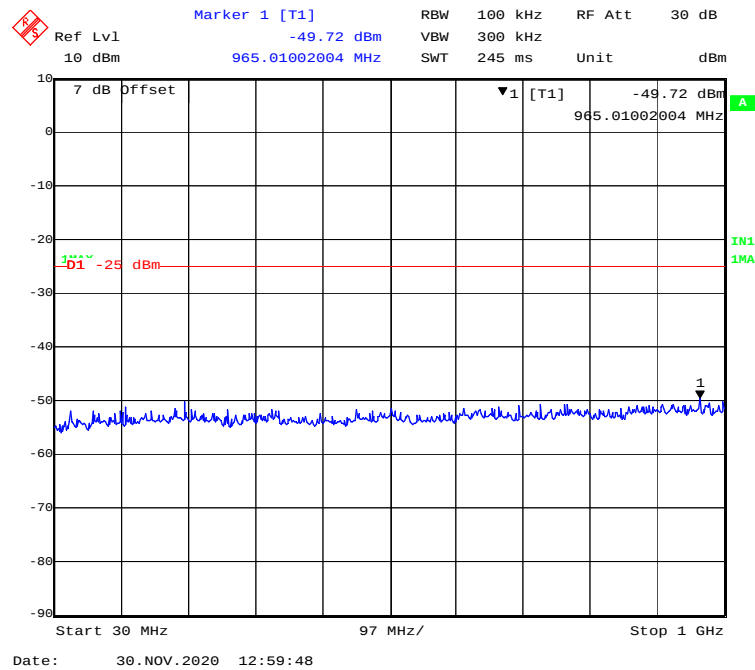
### 30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



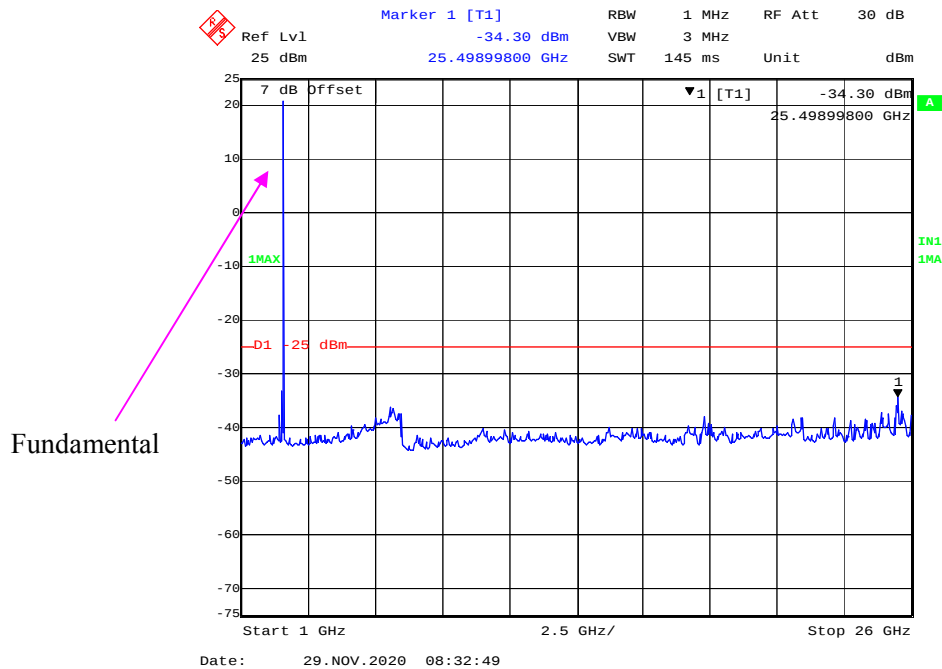
### 1 GHz – 26 GHz (5 MHz, 16-QAM, High Channel)



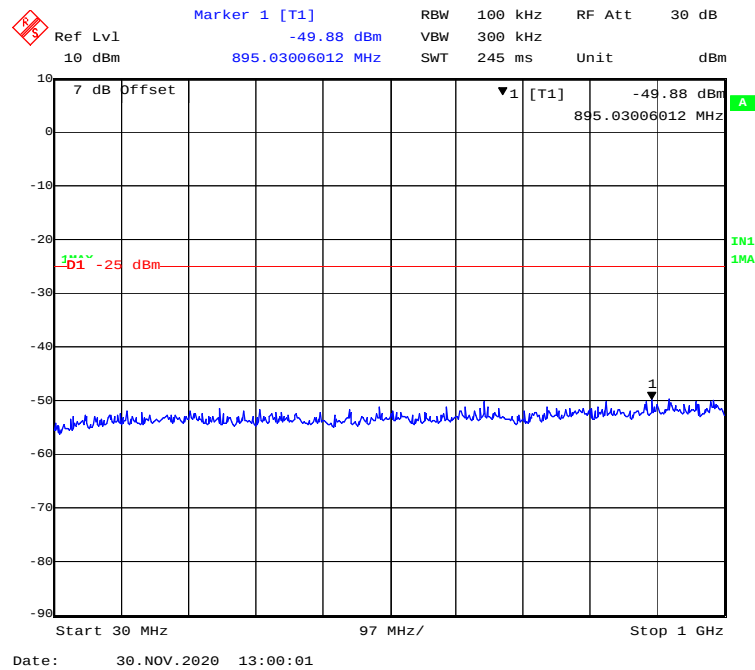
### 30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



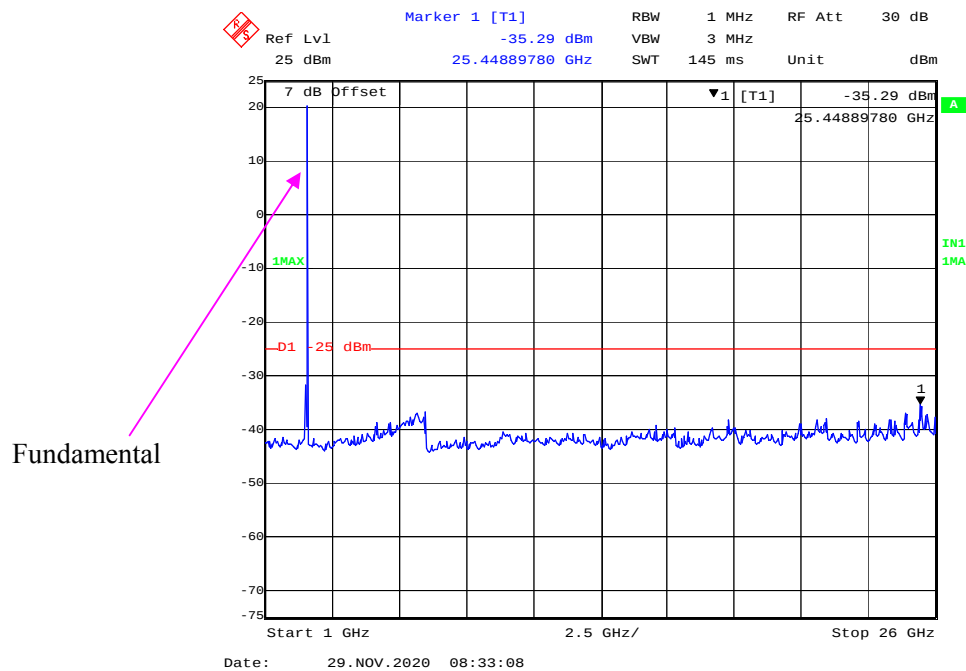
### 1 GHz – 26 GHz (10MHz, QPSK, High Channel)



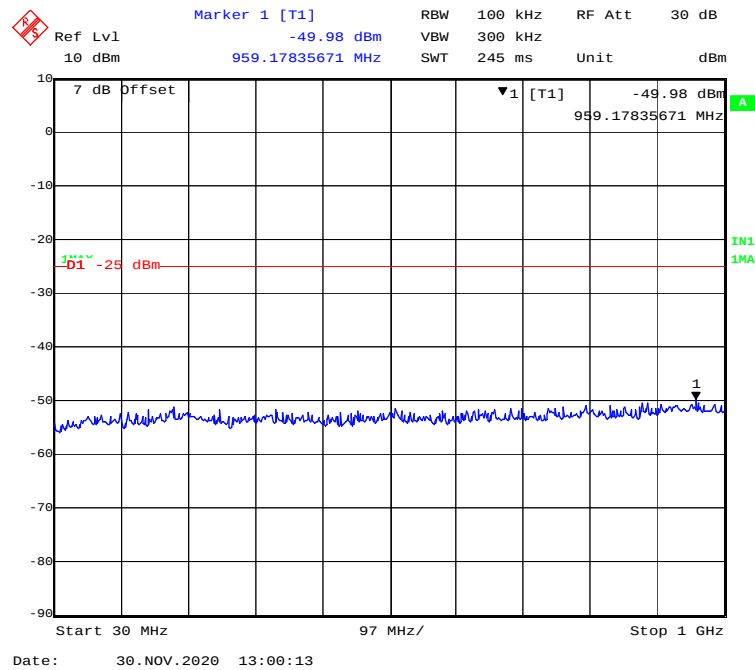
### 30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



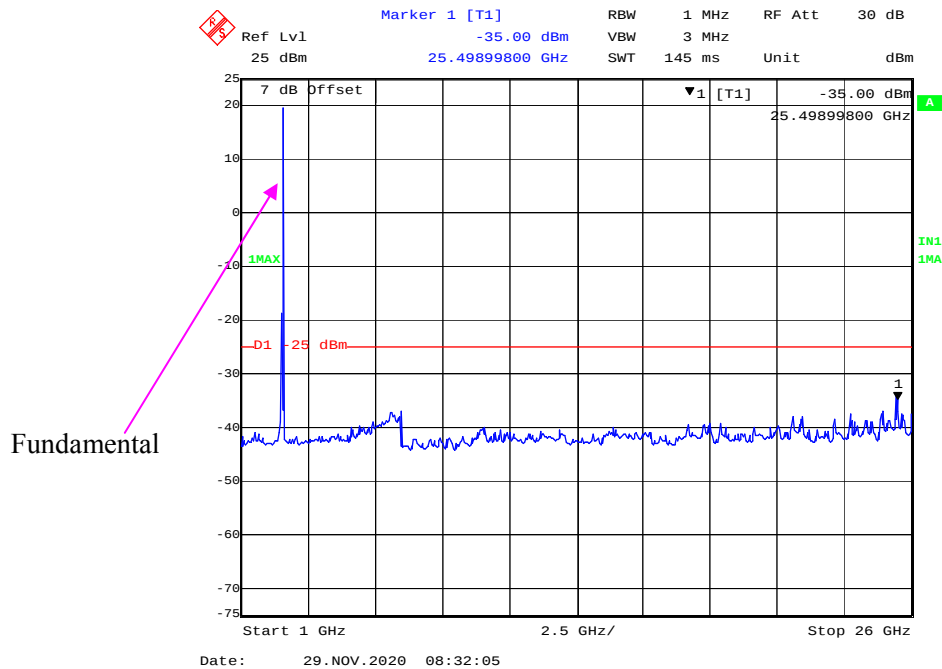
### 1 GHz – 26 GHz (10 MHz, 16-QAM, High Channel)



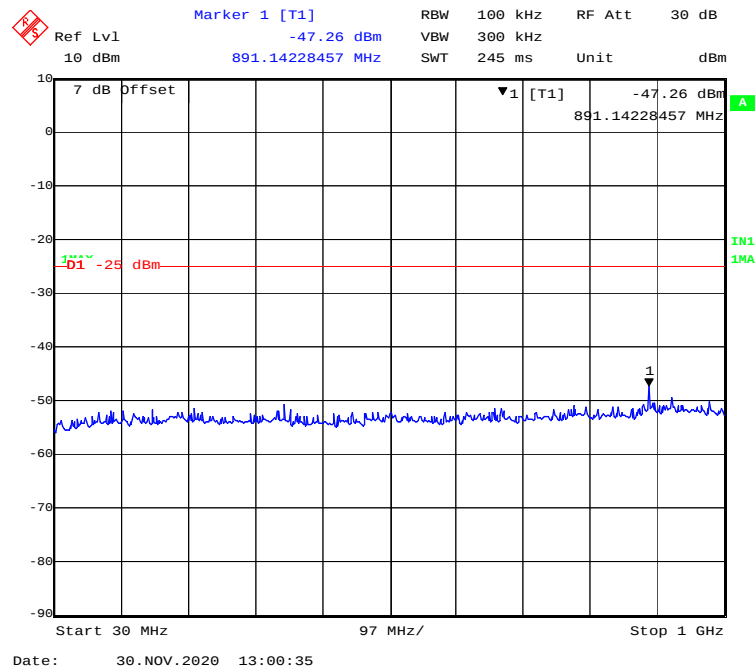
### 30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



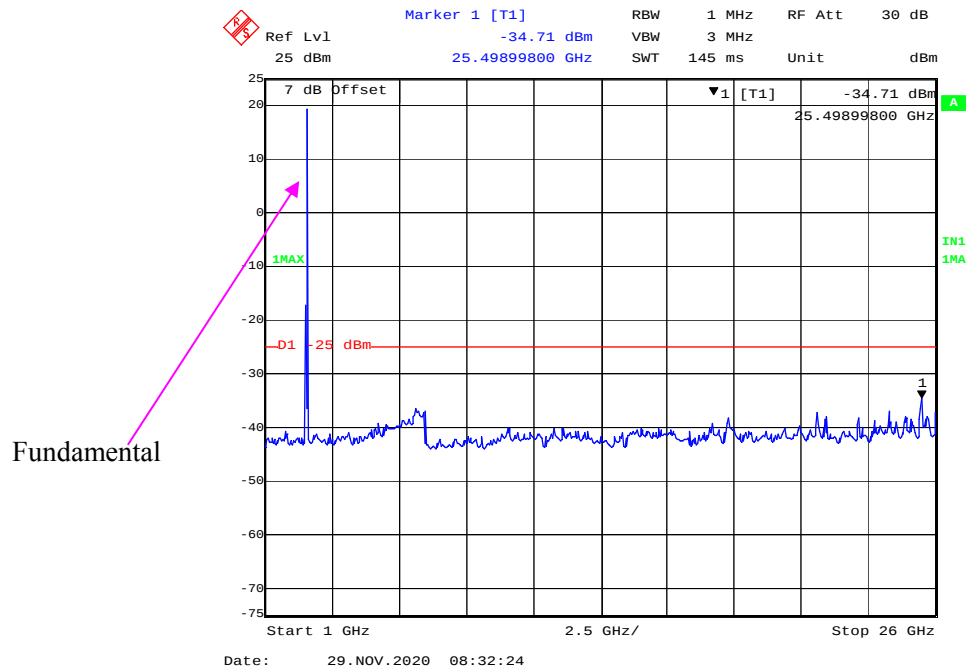
### 1 GHz – 26 GHz (15MHz, QPSK, High Channel)



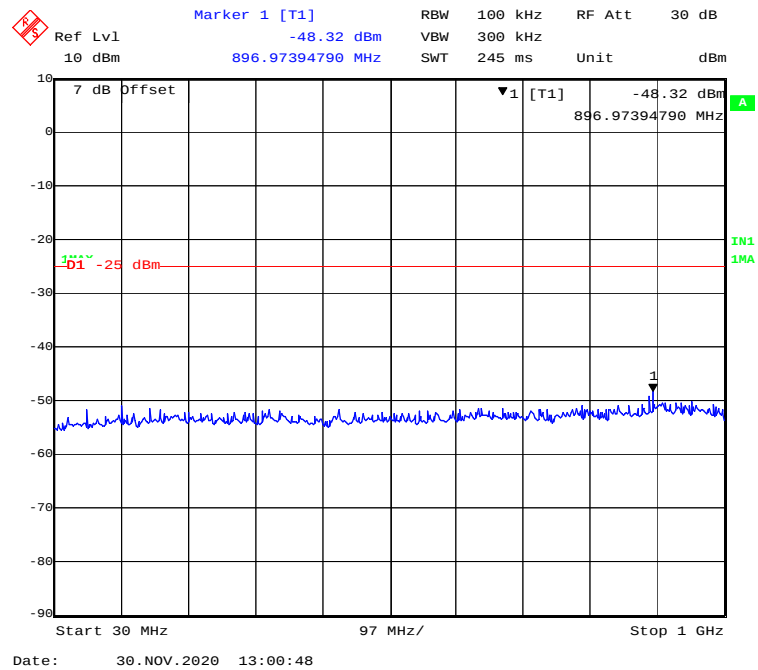
### 30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



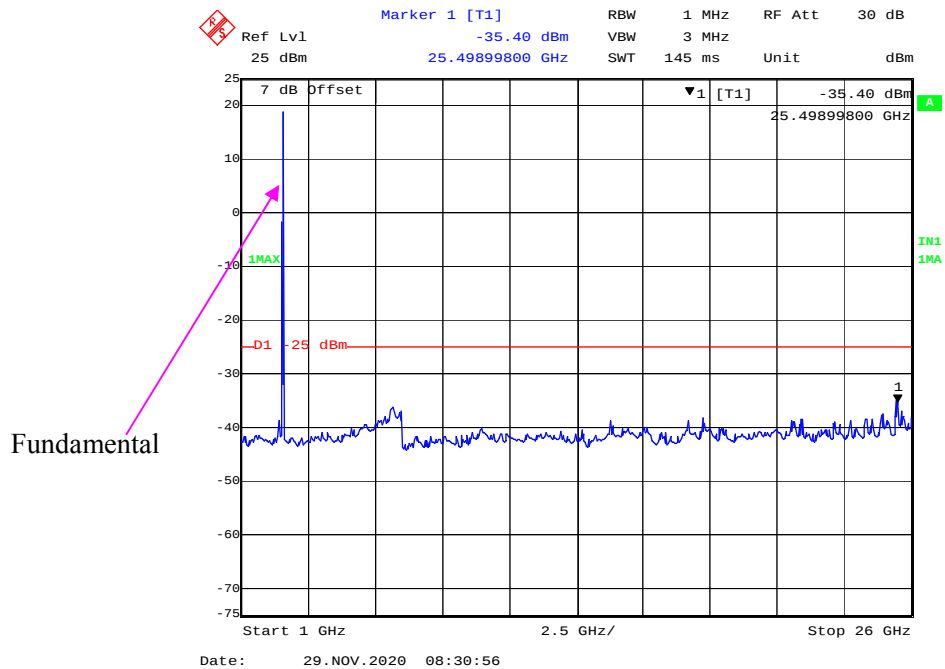
### 1 GHz – 26 GHz (15 MHz, 16-QAM, High Channel)



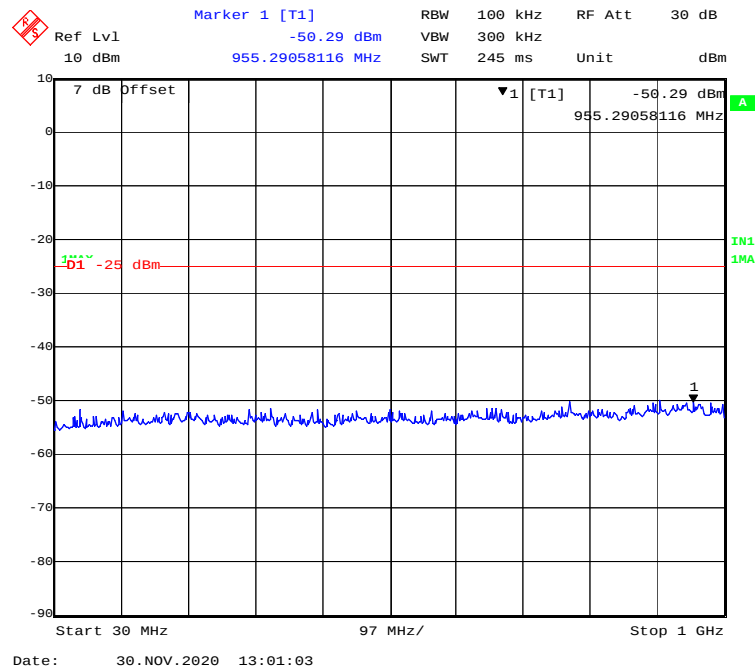
### 30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



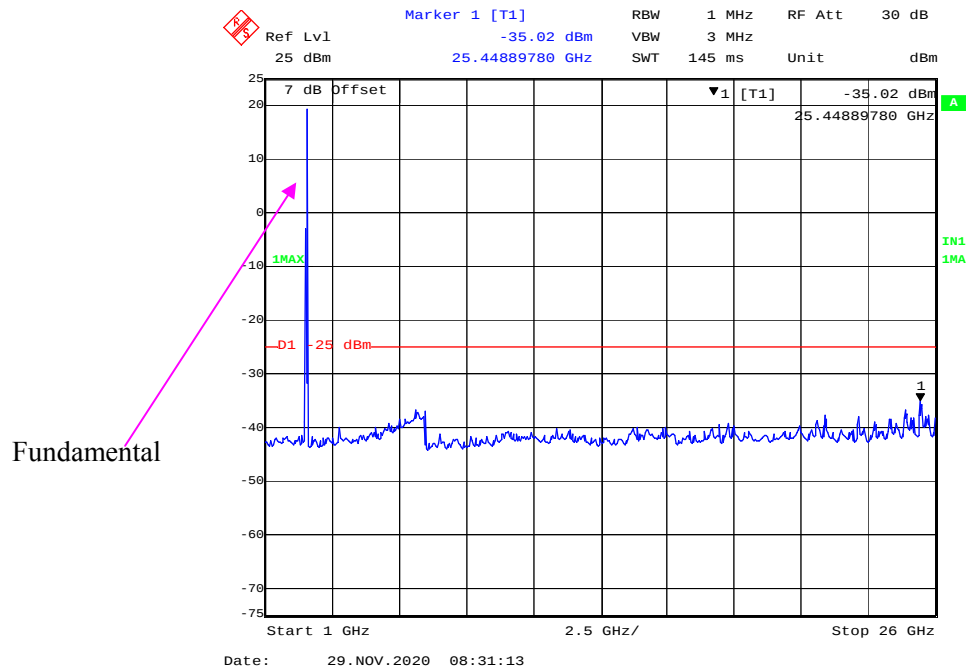
### 1 GHz – 26 GHz (20MHz, QPSK, High Channel)



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

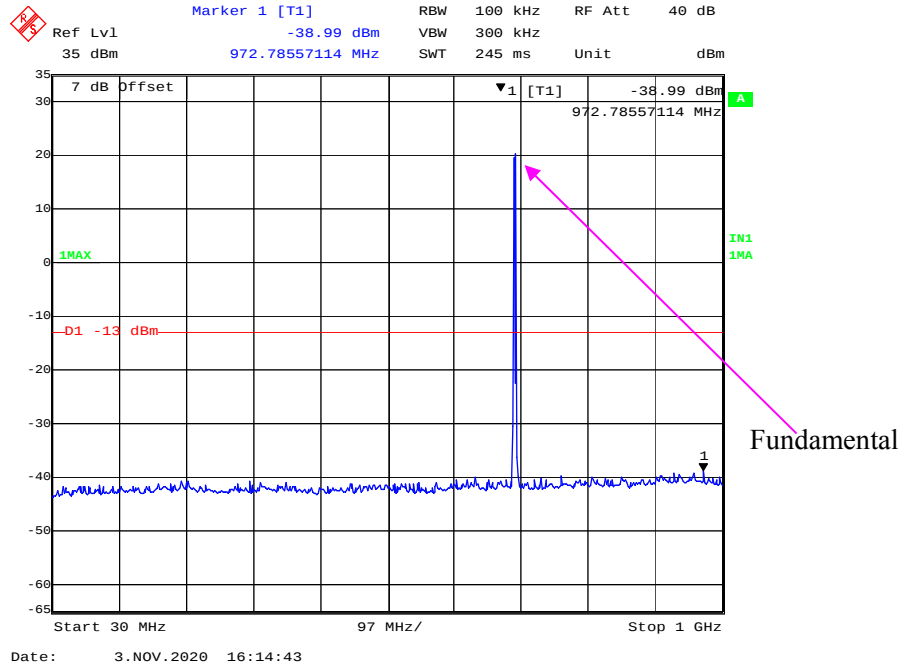


### 1 GHz – 26 GHz (20 MHz, 16-QAM, High Channel)

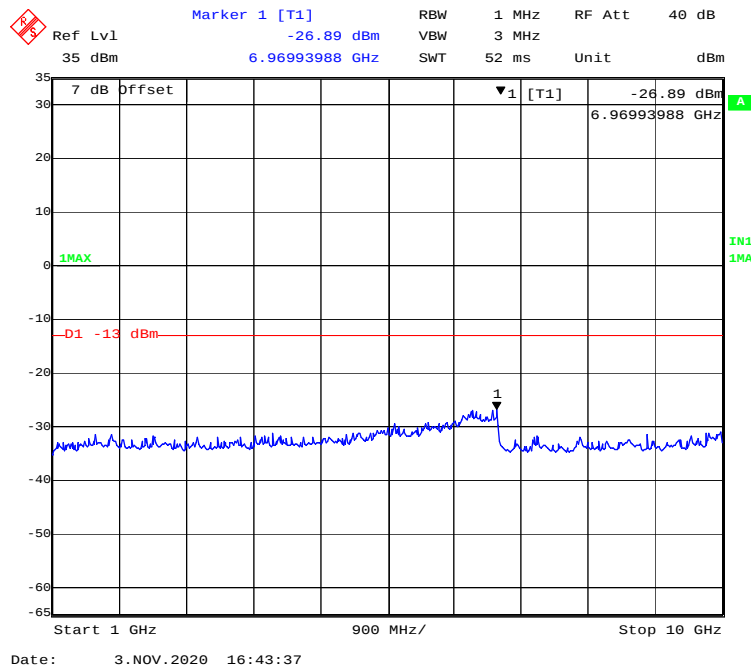


# LTE Band 12:

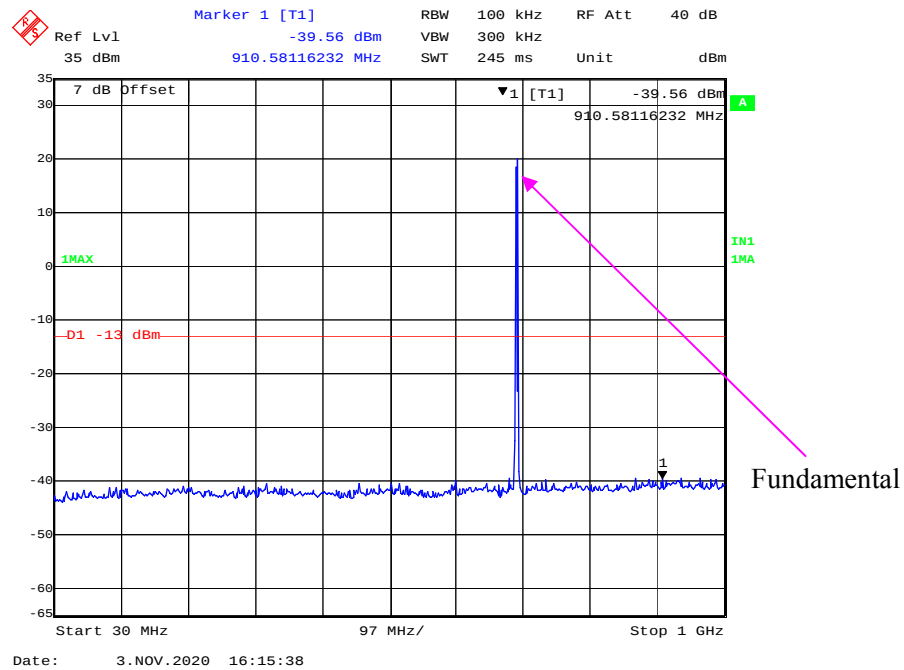
## 30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



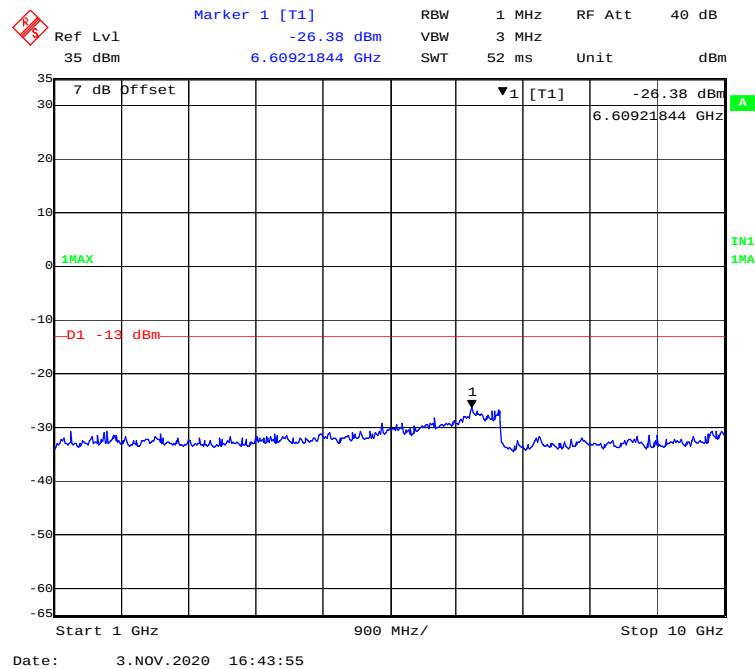
## 1 GHz – 10 GHz (1.4 MHz, QPSK, Low Channel)



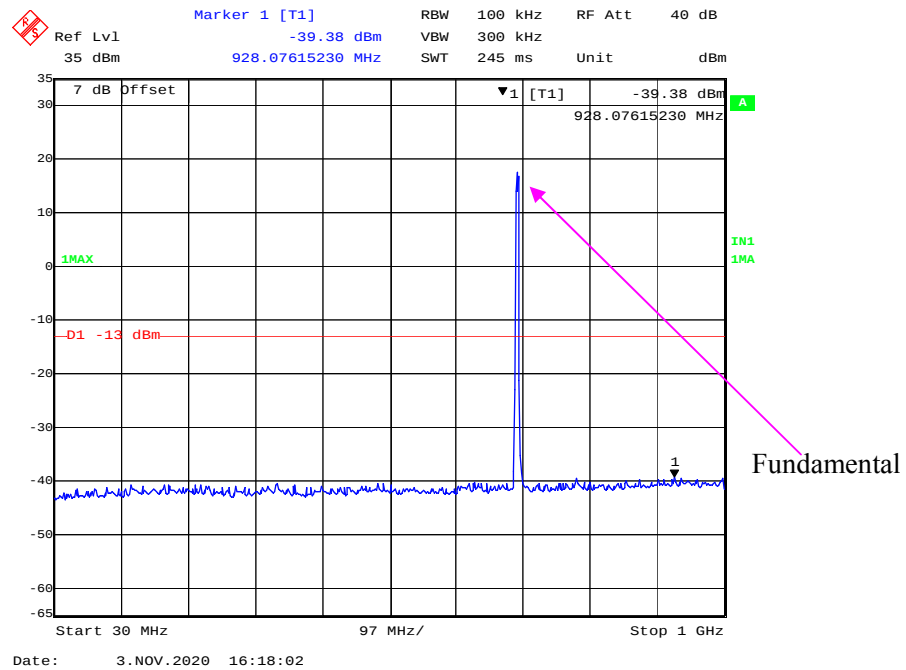
### 30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



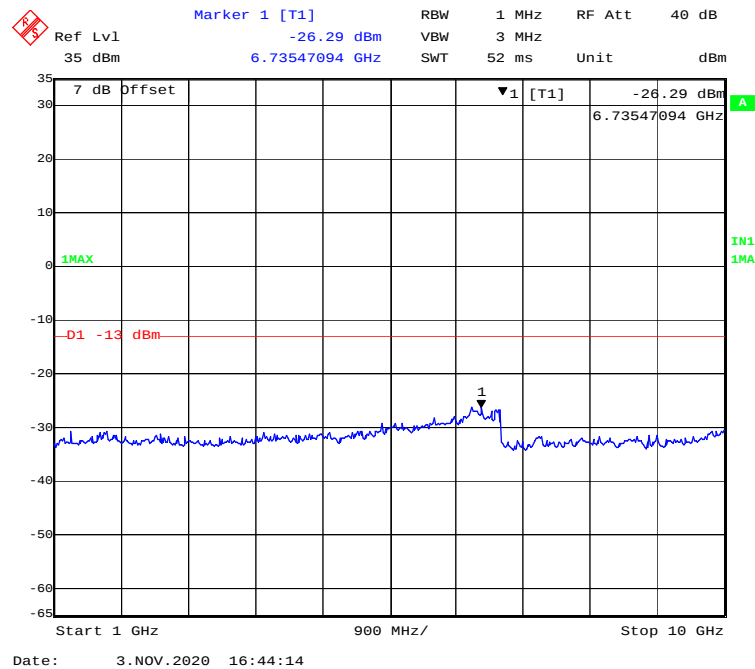
### 1 GHz – 10 GHz (1.4 MHz, 16-QAM, Low Channel)



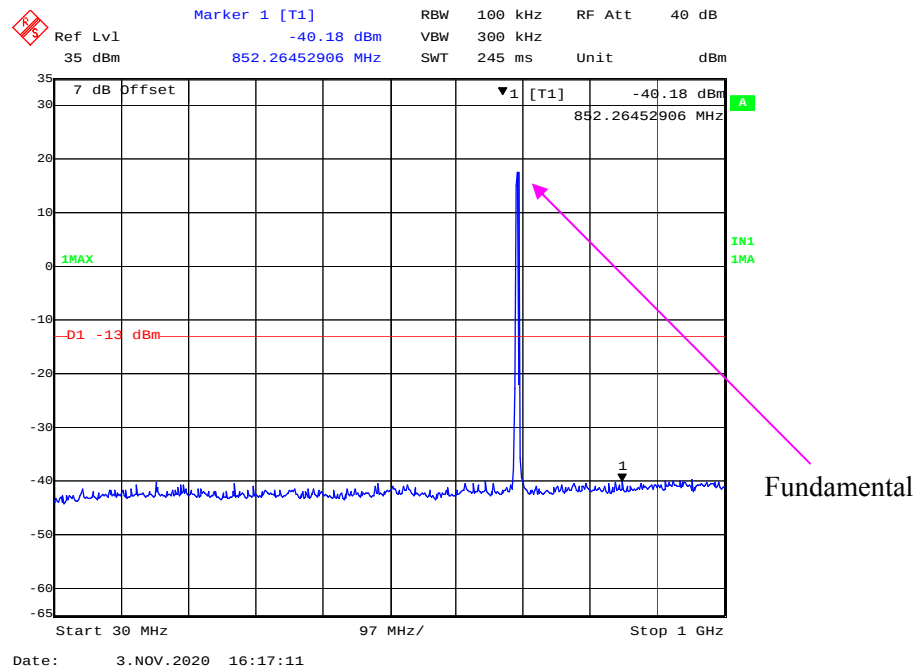
### 30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



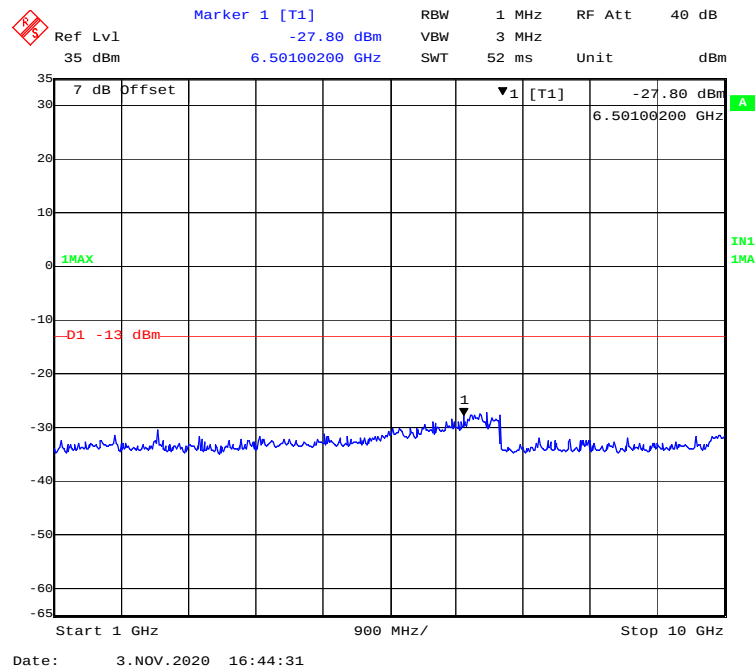
### 1 GHz – 10 GHz (3 MHz, QPSK, Low Channel)



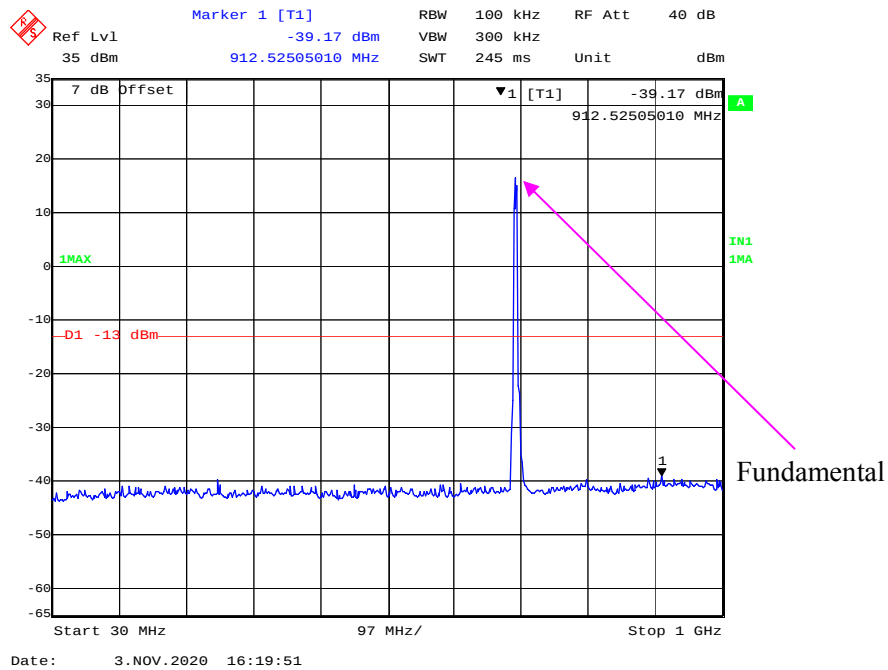
### 30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



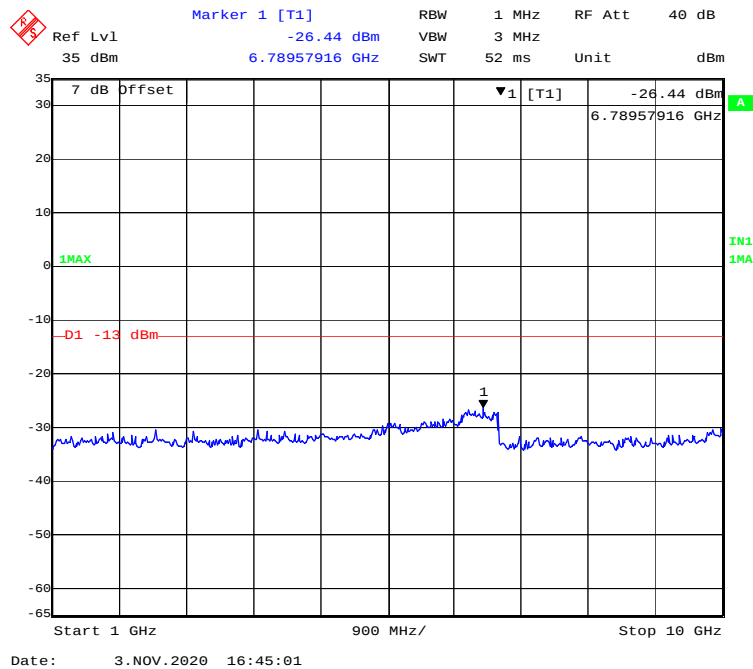
### 1 GHz - 10 GHz (3 MHz, 16-QAM, Low Channel)



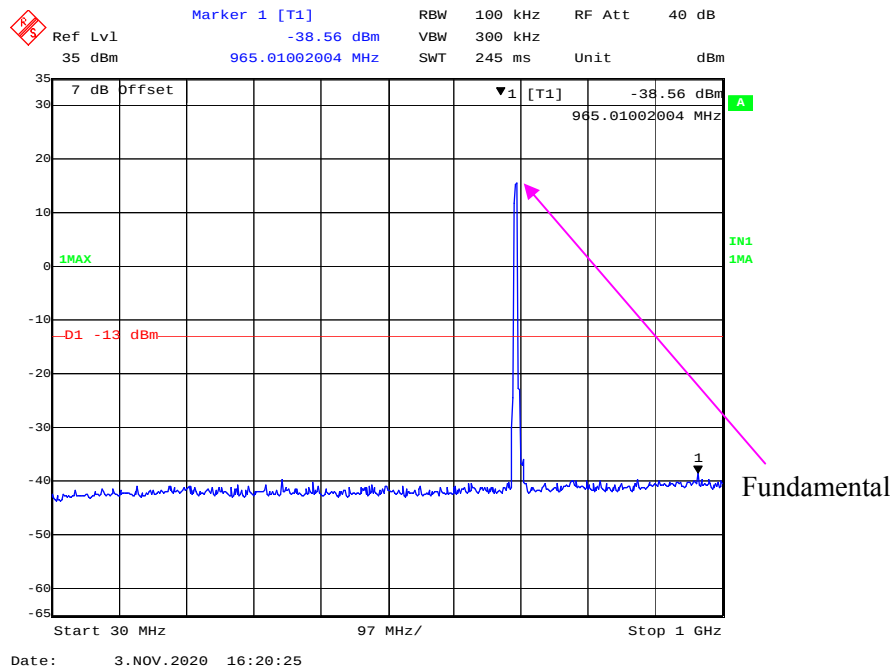
### 30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



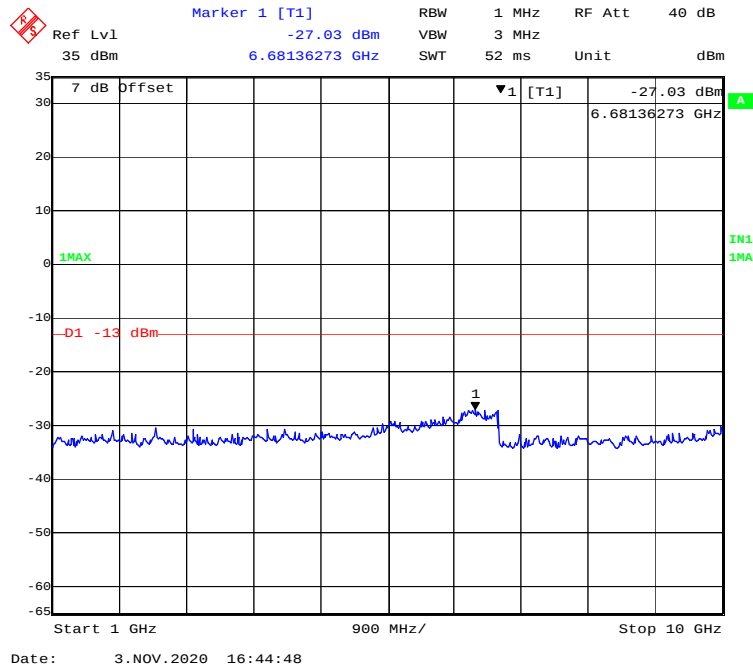
### 1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)



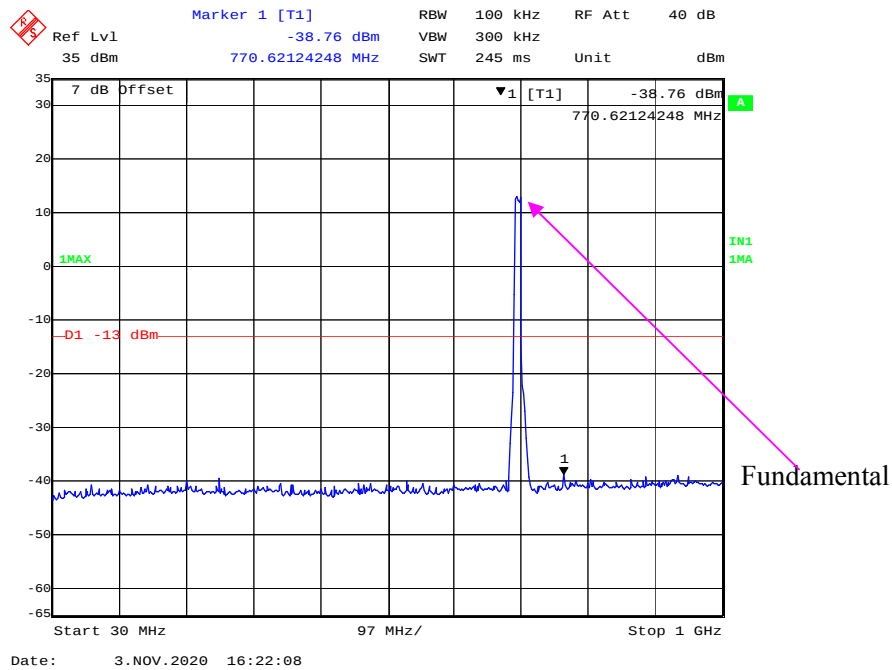
### 30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



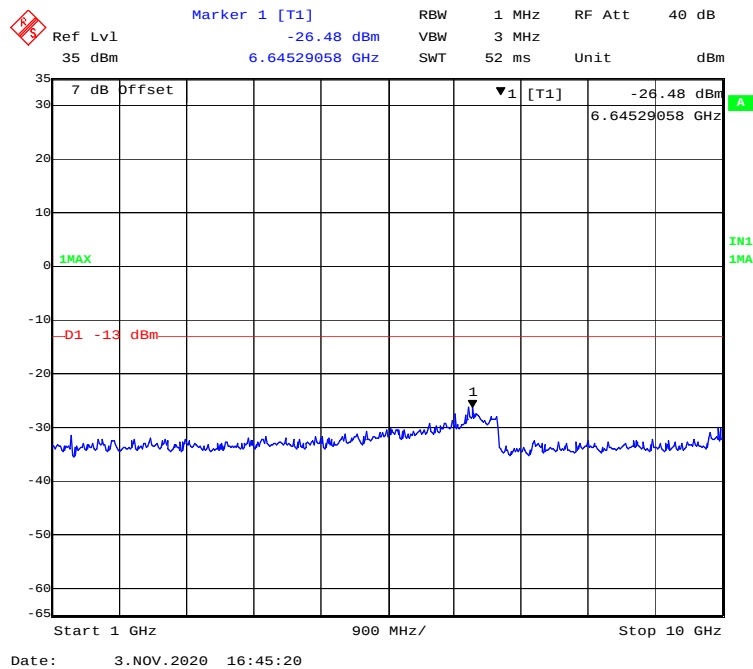
### 1 GHz - 10 GHz (5 MHz, 16-QAM, Low Channel)



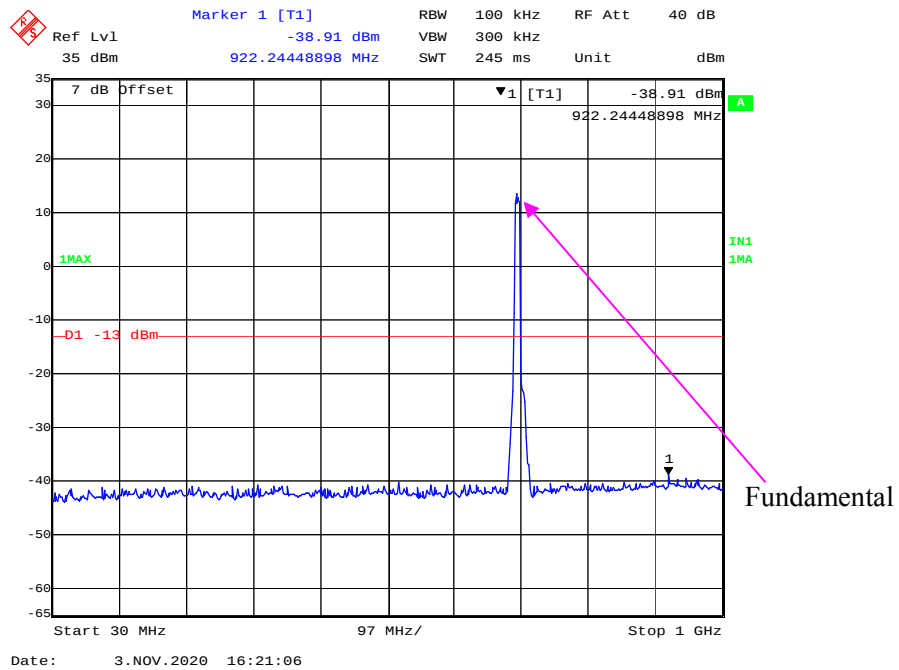
### 30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



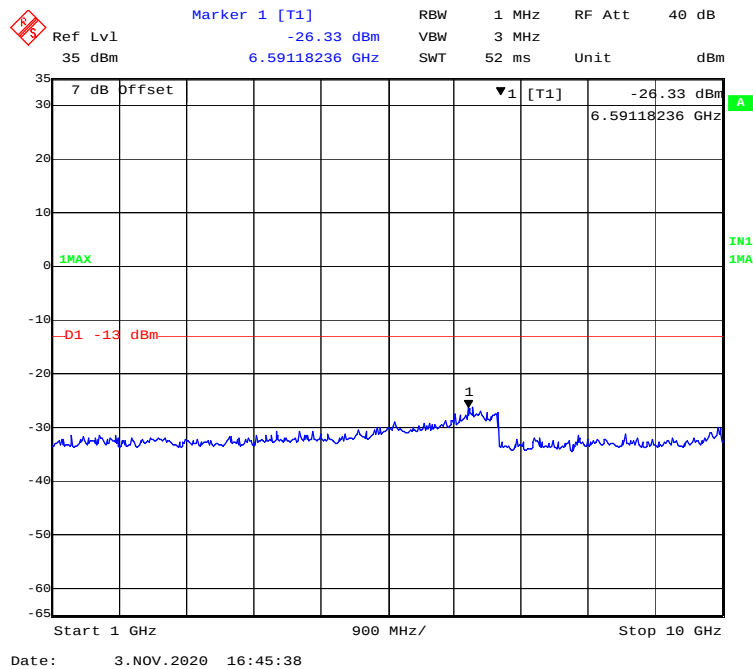
### 1 GHz – 10 GHz (10 MHz, QPSK, Low Channel)



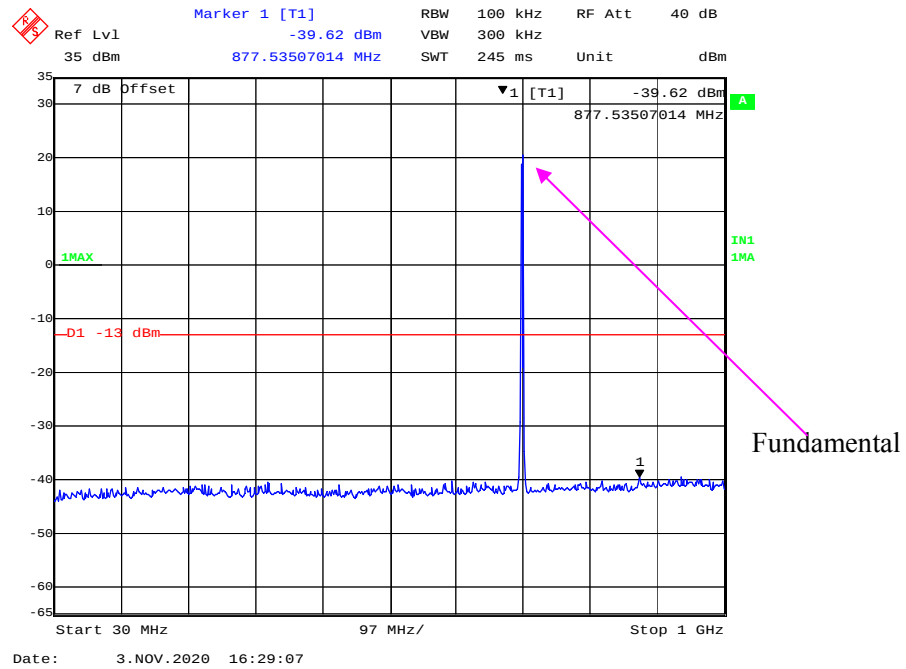
### 30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



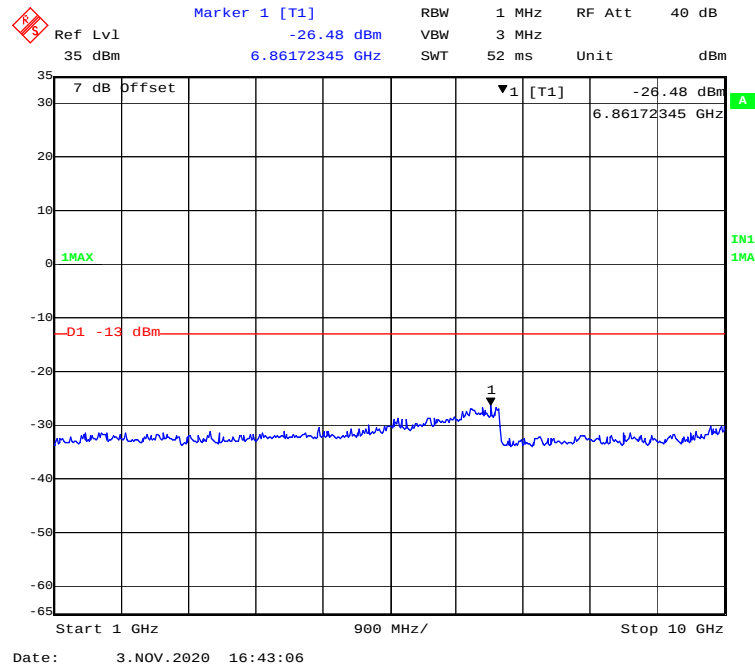
### 1 GHz – 10 GHz (10 MHz, 16-QAM, Low Channel)



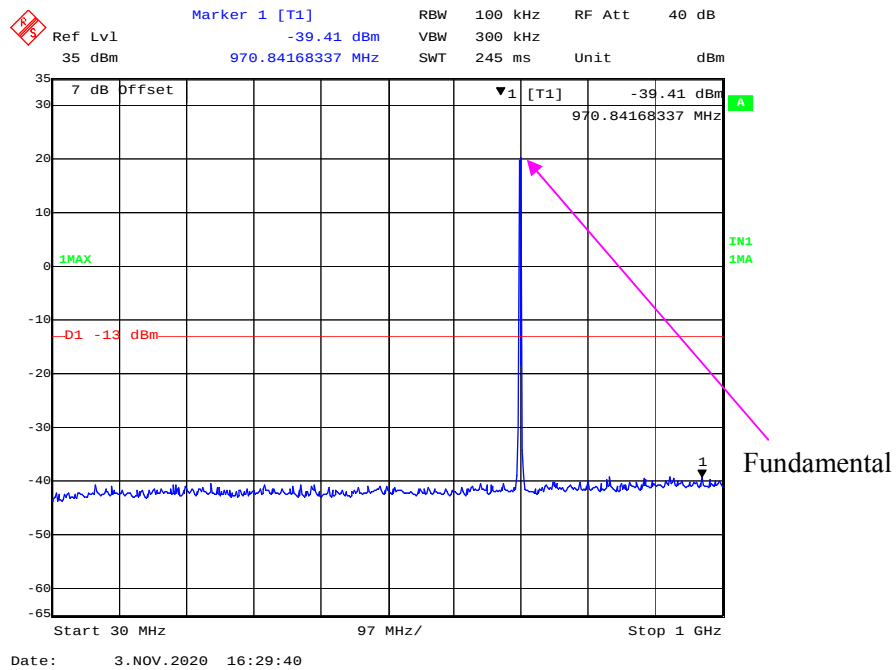
### 30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



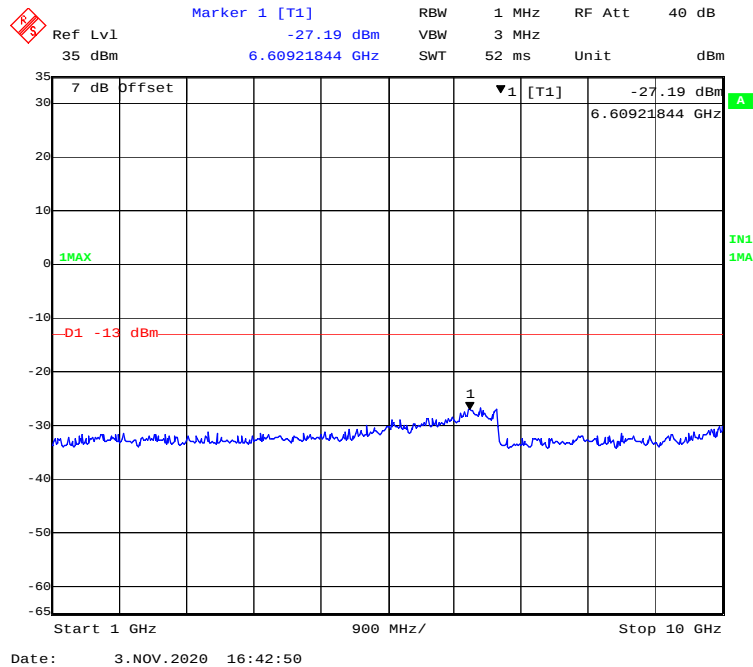
### 1 GHz – 10 GHz (1.4 MHz, QPSK, Middle Channel)



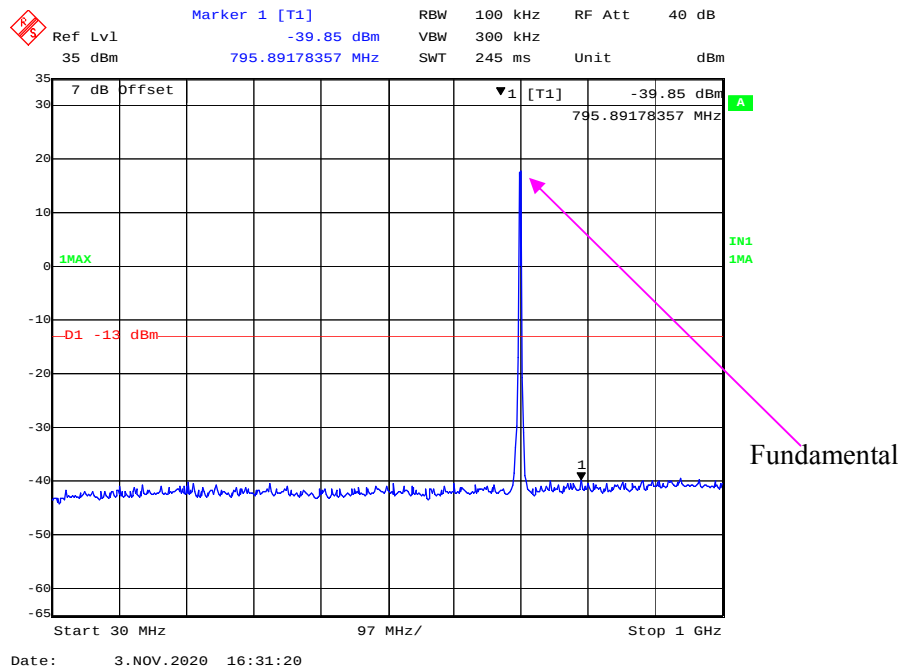
### 30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



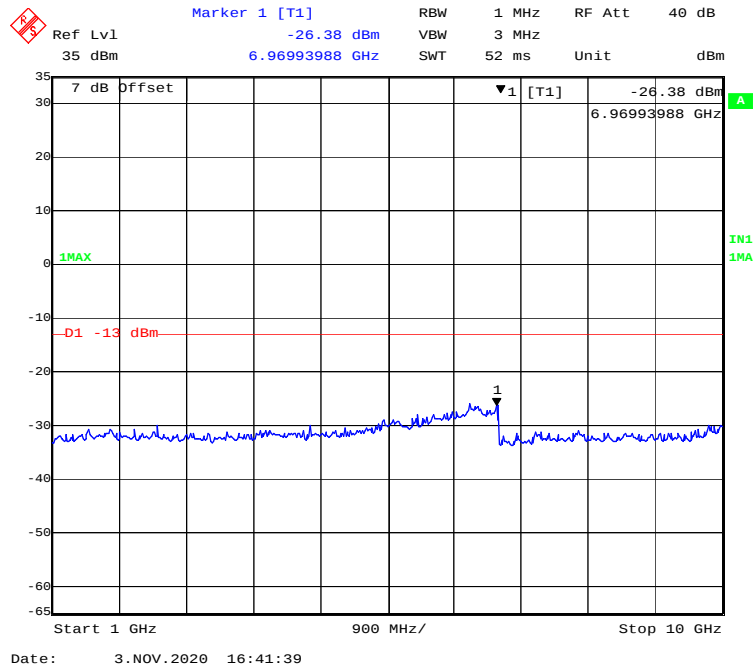
### 1 GHz – 10 GHz (1.4 MHz, 16-QAM, Middle Channel)



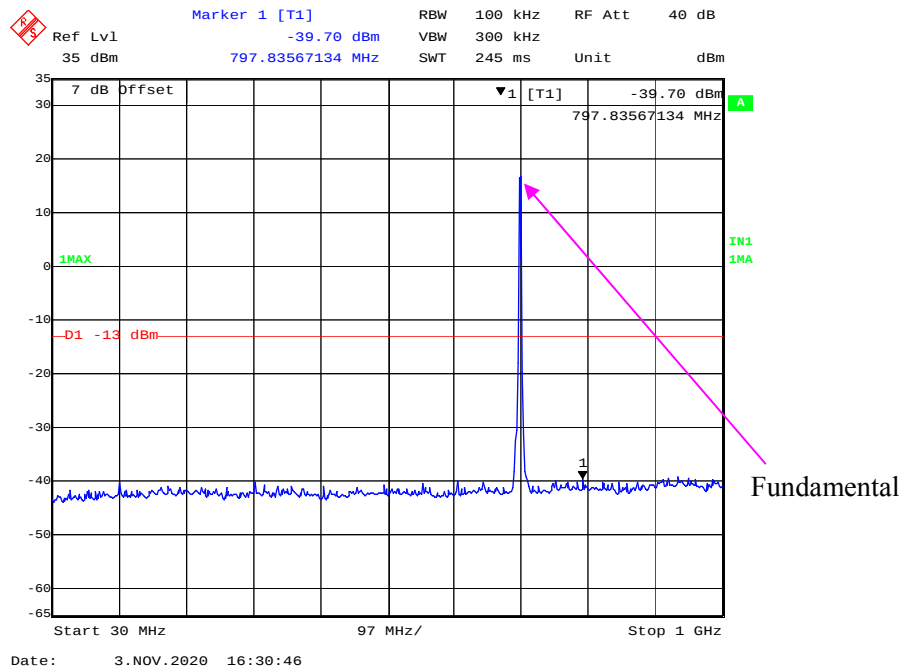
### 30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



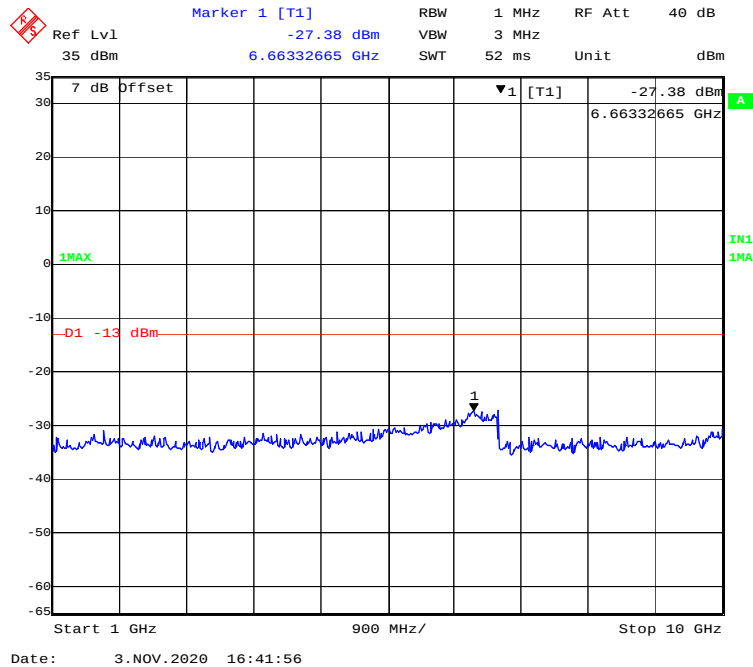
### 1 GHz – 10 GHz (3 MHz, QPSK, Middle Channel)



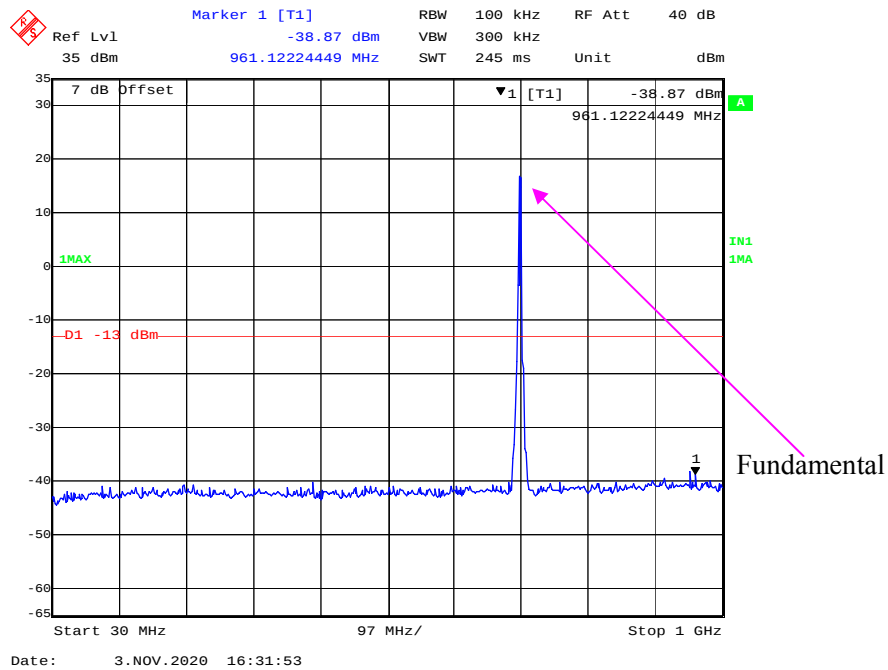
### 30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



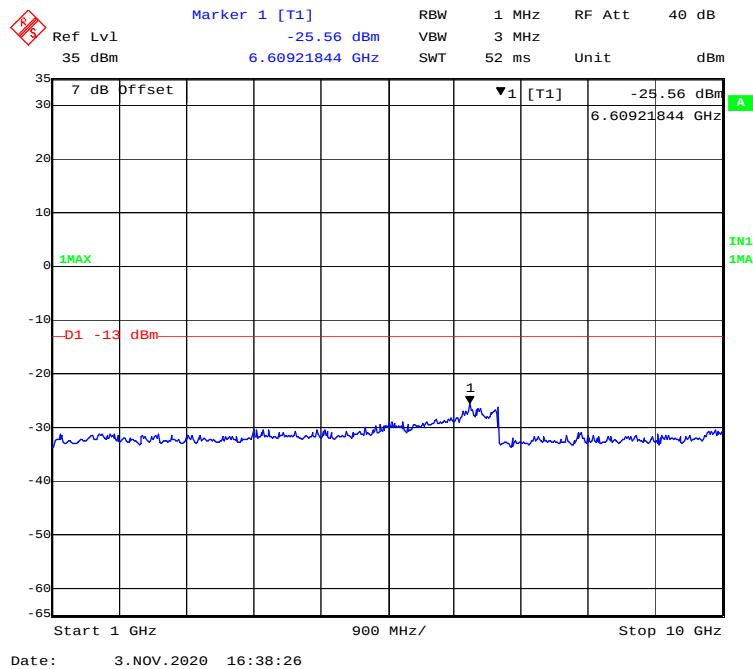
### 1 GHz – 10 GHz (3 MHz, 16-QAM, Middle Channel)



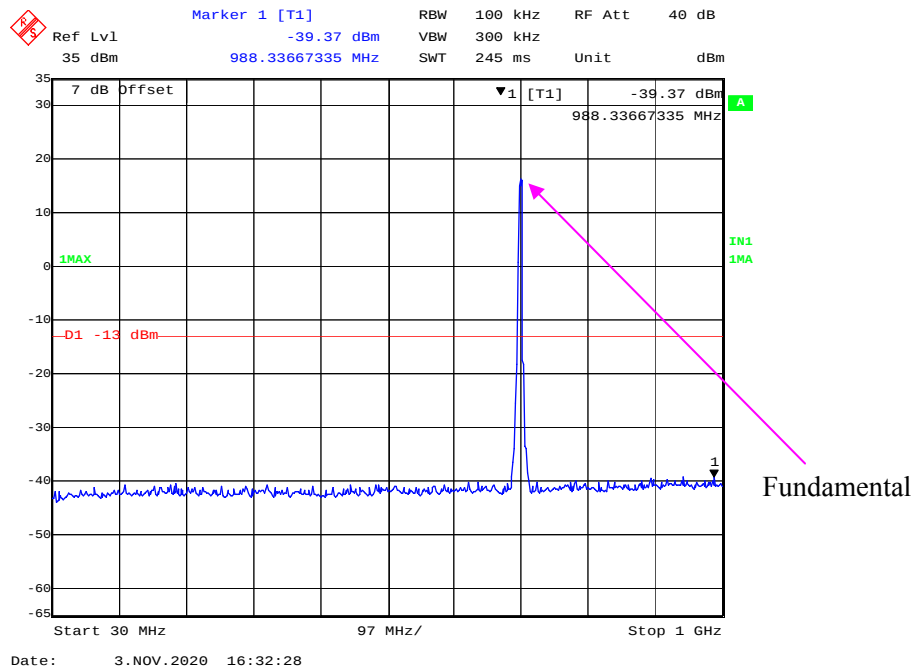
### 30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



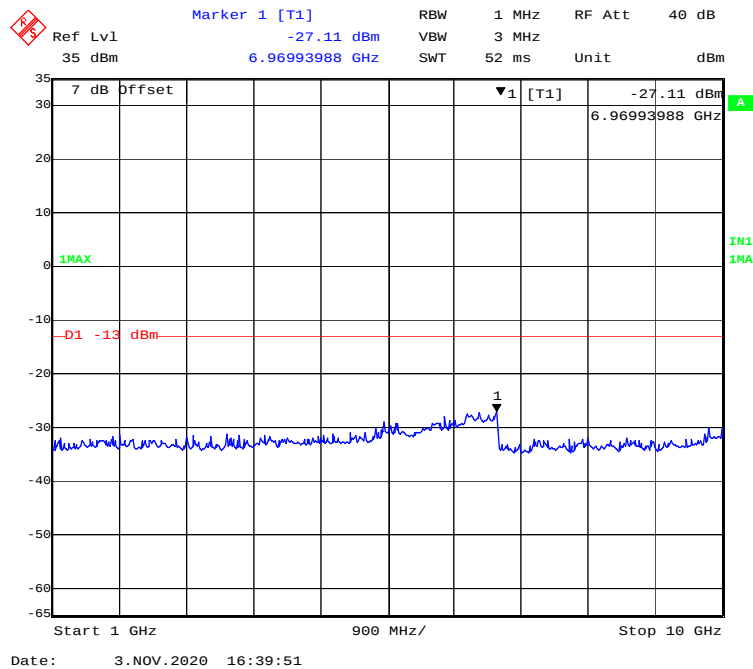
### 1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)



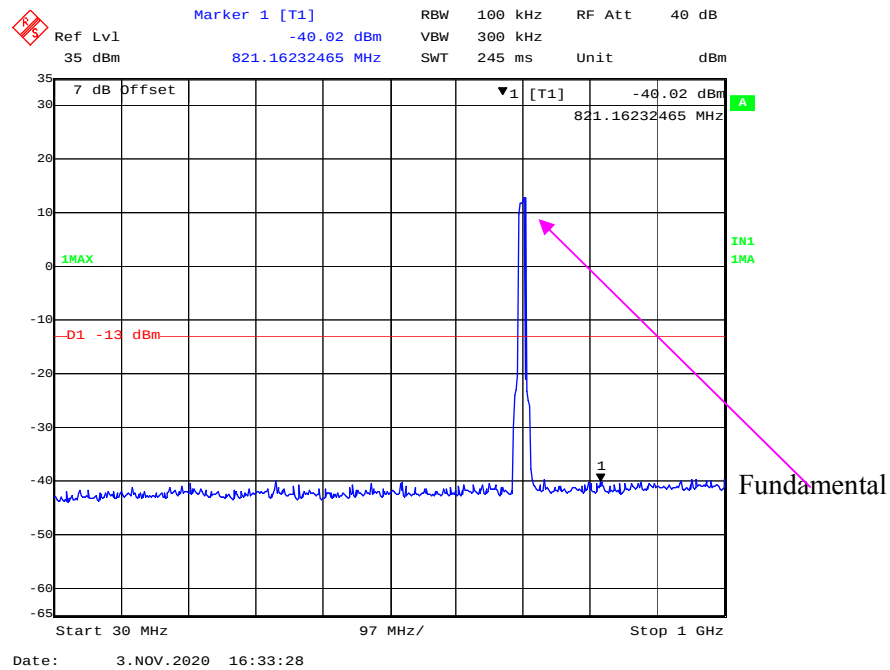
### 30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



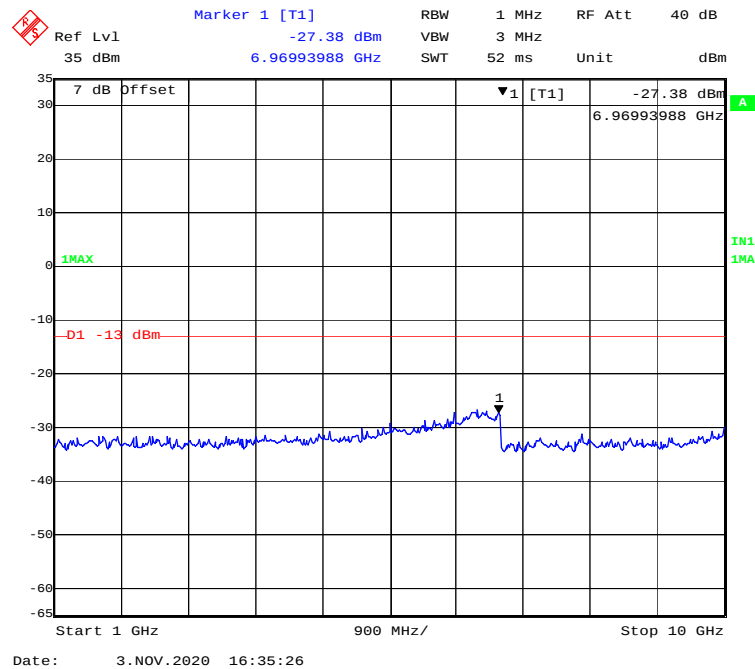
### 1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)



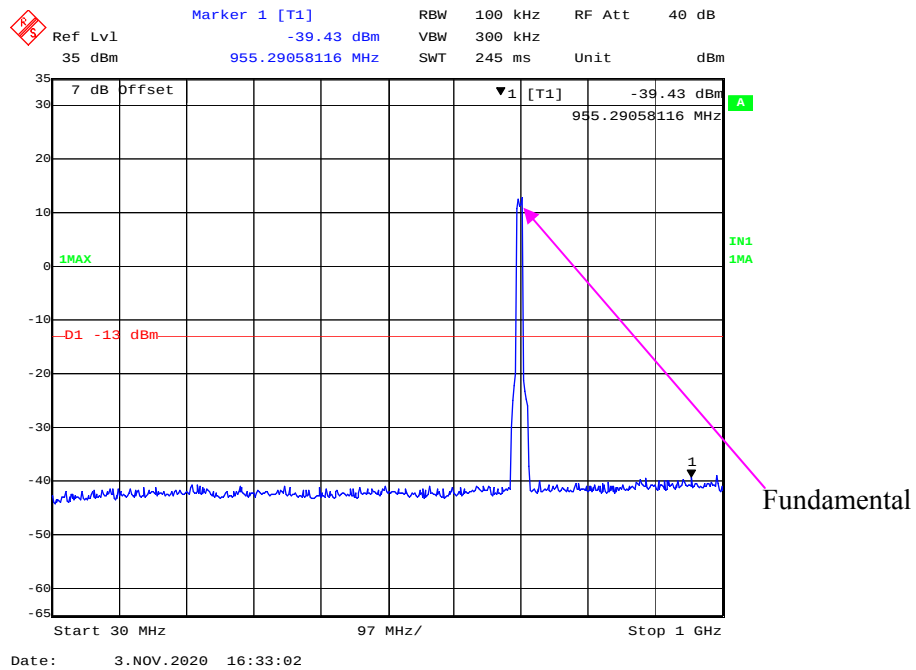
### 30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



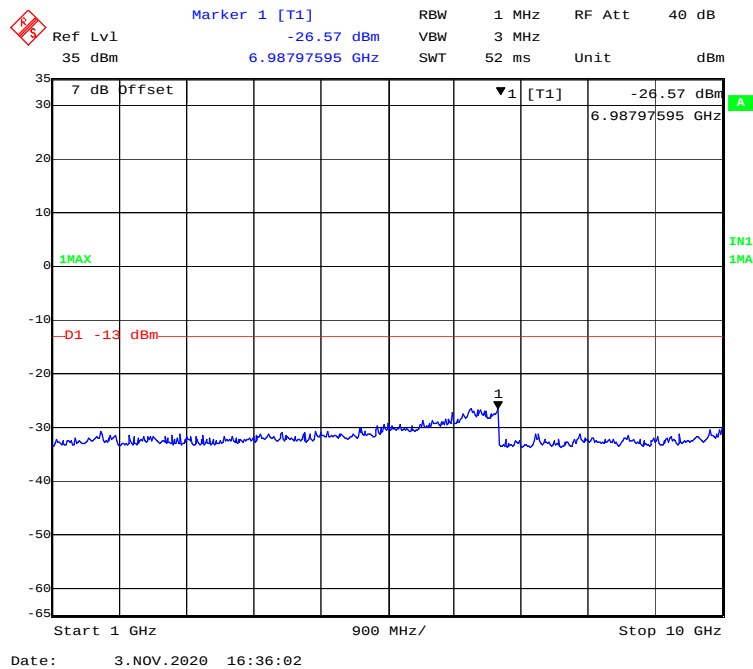
### 1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)



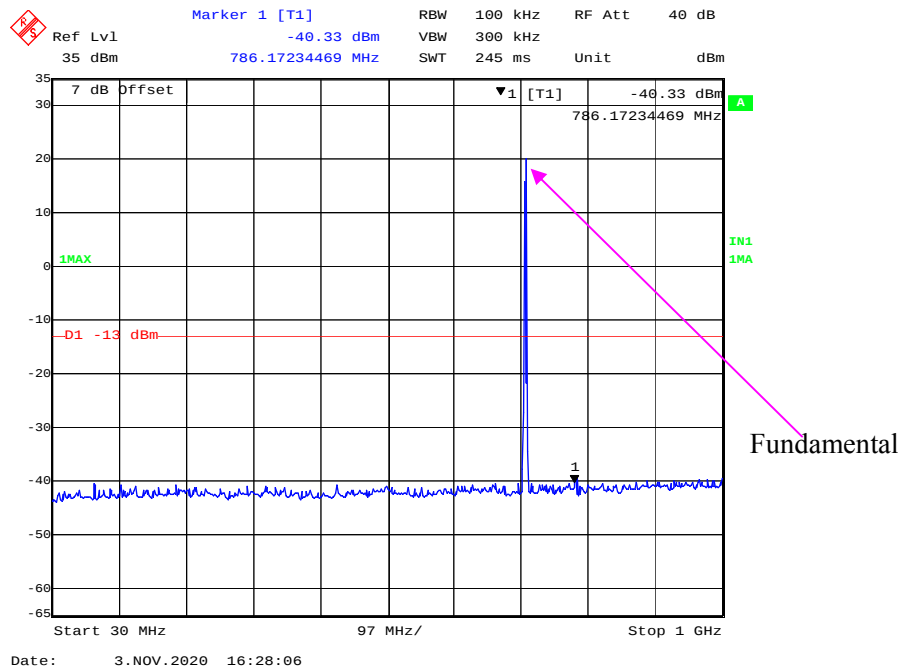
### 30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



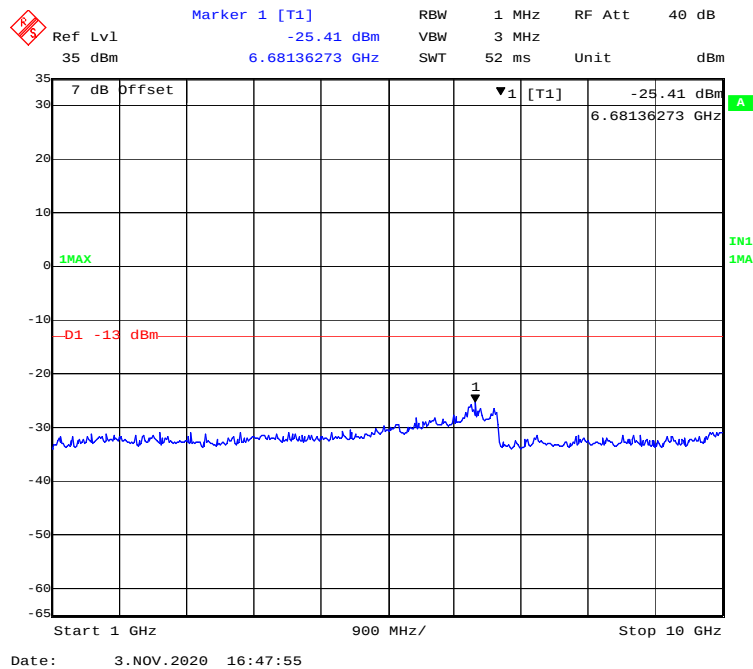
### 1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)



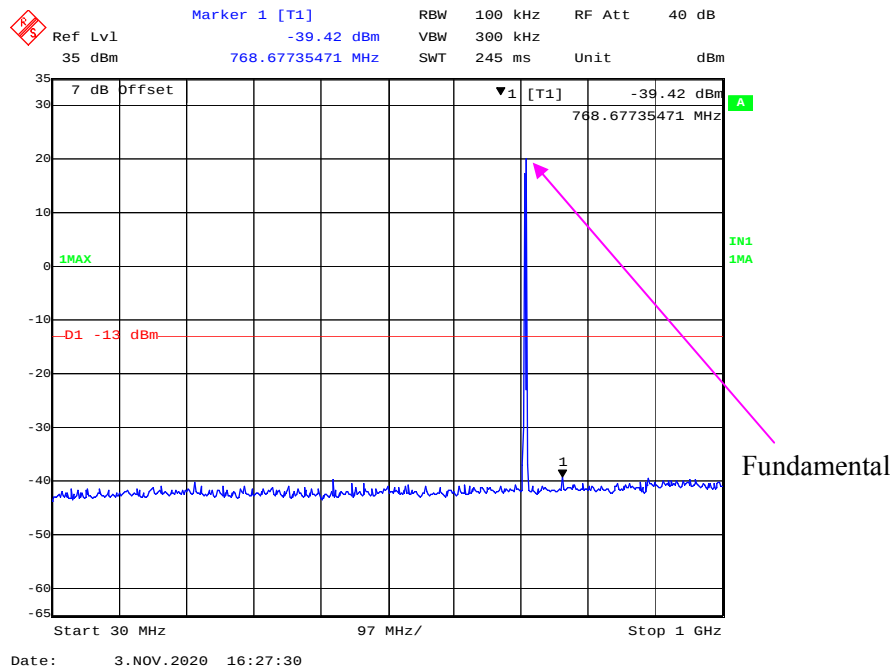
### 30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



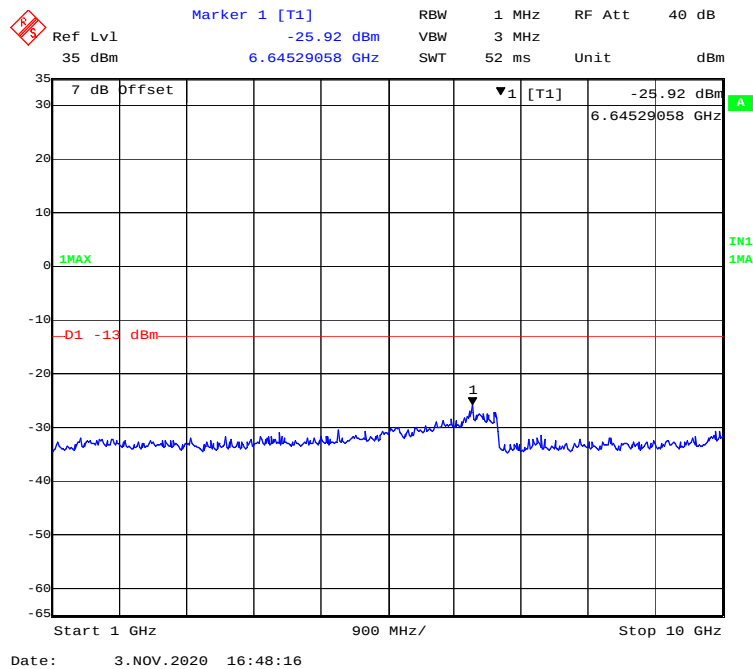
### 1 GHz – 10 GHz (1.4 MHz, QPSK, High Channel)



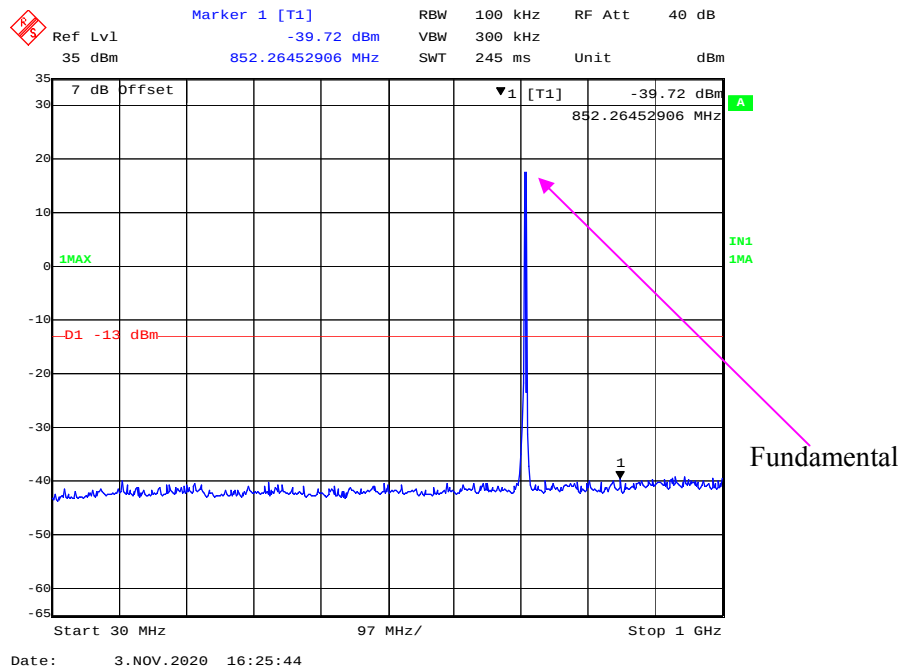
### 30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



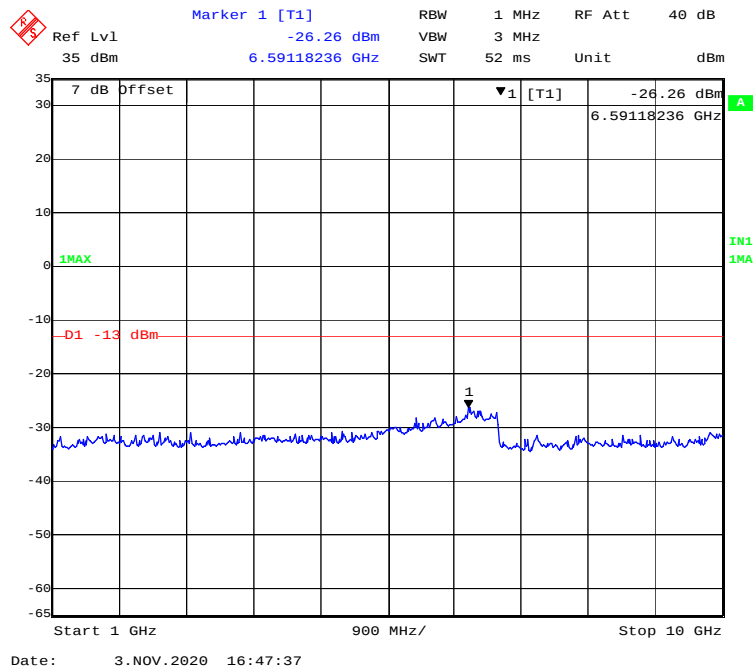
### 1 GHz – 10 GHz (1.4 MHz, 16-QAM, High Channel)



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



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



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

RBW 100 kHz  
 VBW 300 kHz  
 SWT 245 ms

RF Att 40 dB  
 Unit dBm

7 dB Offset

▼1 [T1] -39.64 dBm  
 782.28456914 MHz

1MAX

D1 -13 dBm

IN1 1MA

Fundamental

Start 30 MHz 97 MHz/ Stop 1 GHz

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

Marker 1 [T1]

Ref Lvl 35 dBm

RBW 1 MHz

RF Att 40 dB

VBW 3 MHz

SWT 52 ms

Unit dBm

7 dB Offset

▼1 [T1]

-27.17 dBm

6.73547094 GHz

1MAX

-D1 -13 dBm

1

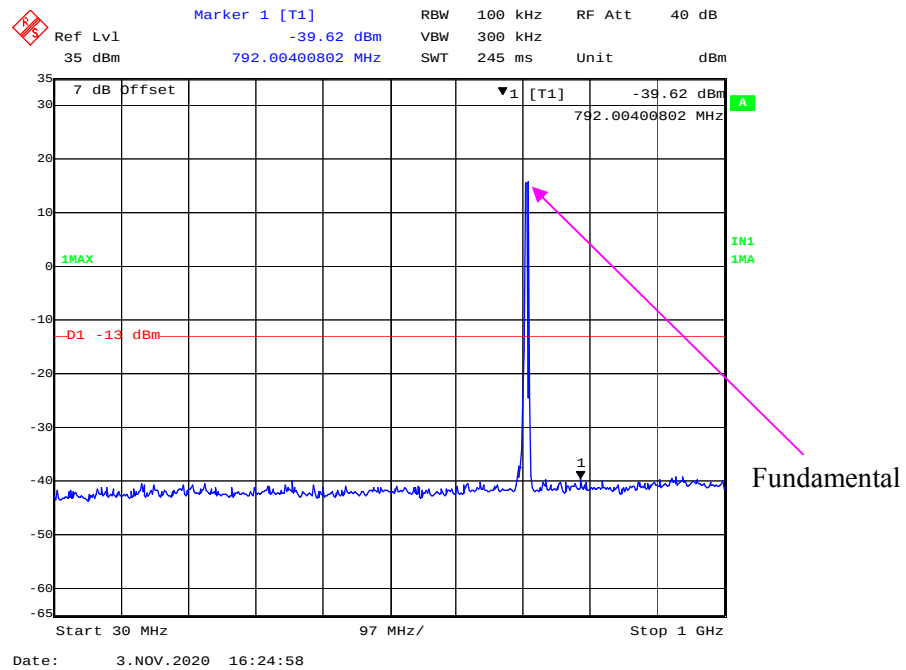
Start 1 GHz

900 MHz/

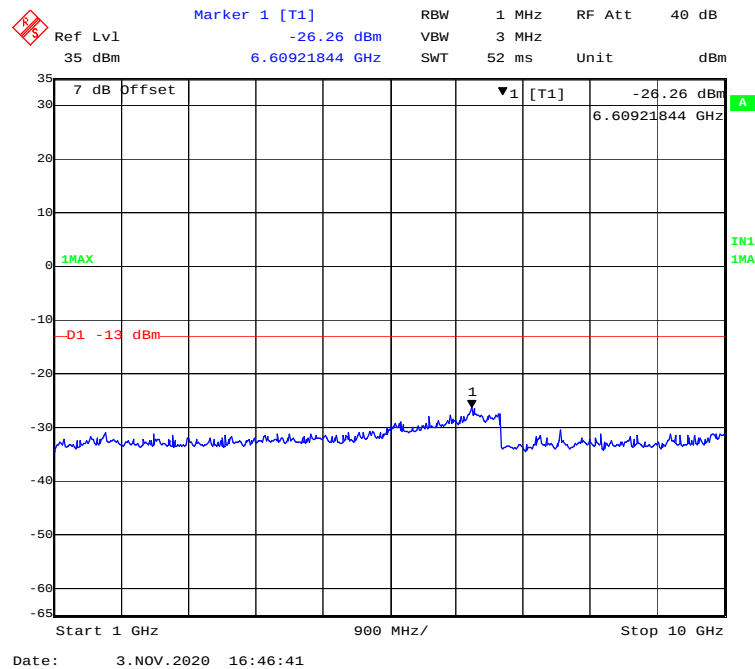
Stop 10 GHz

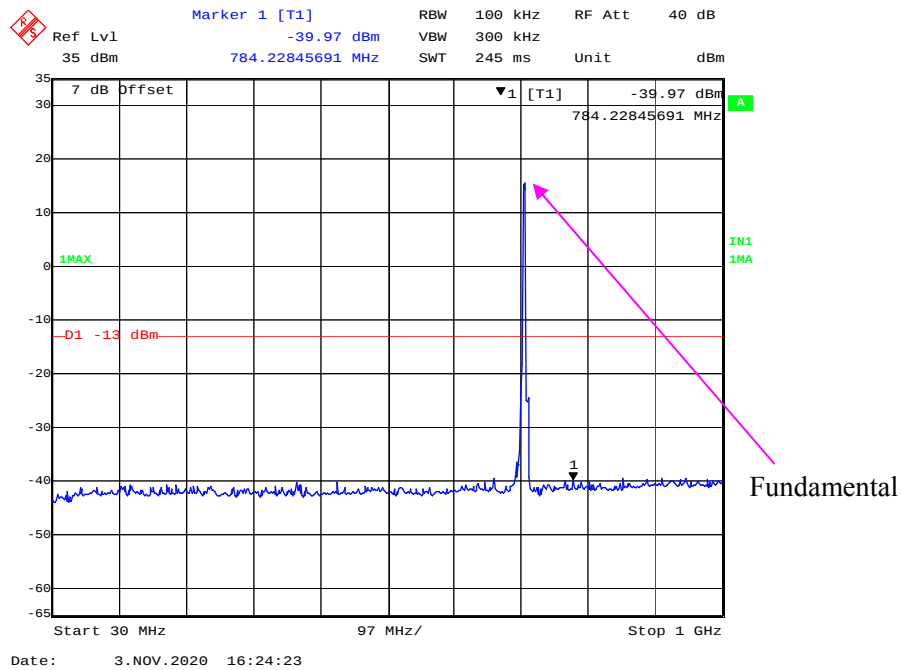
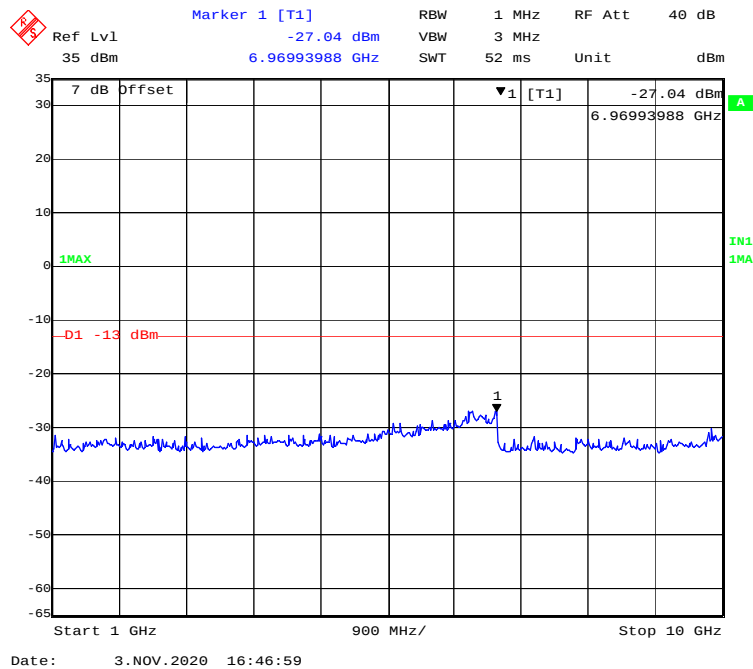
Date: 3.NOV.2020 16:47:17

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

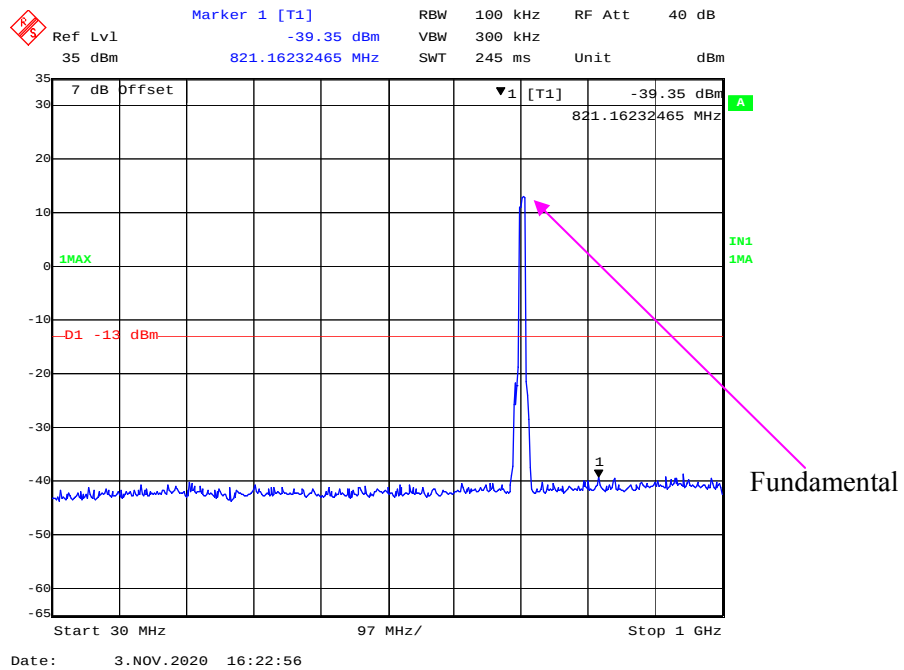


### 1 GHz – 10 GHz (5 MHz, QPSK, High Channel)

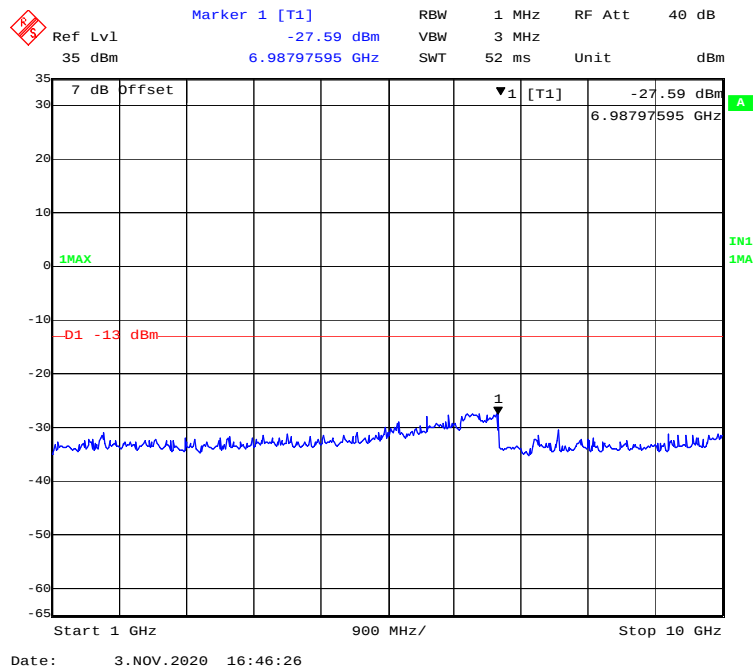


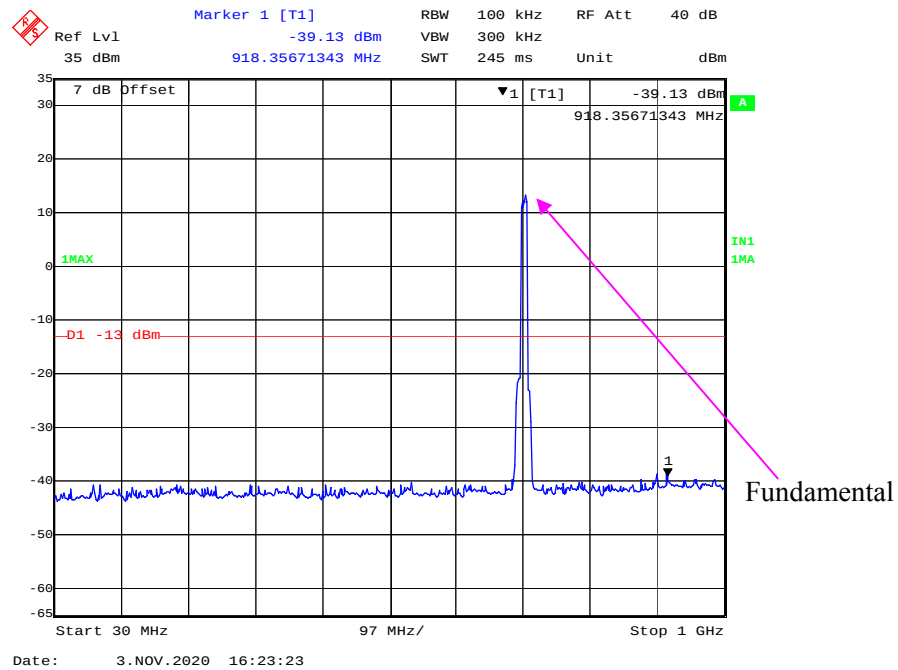
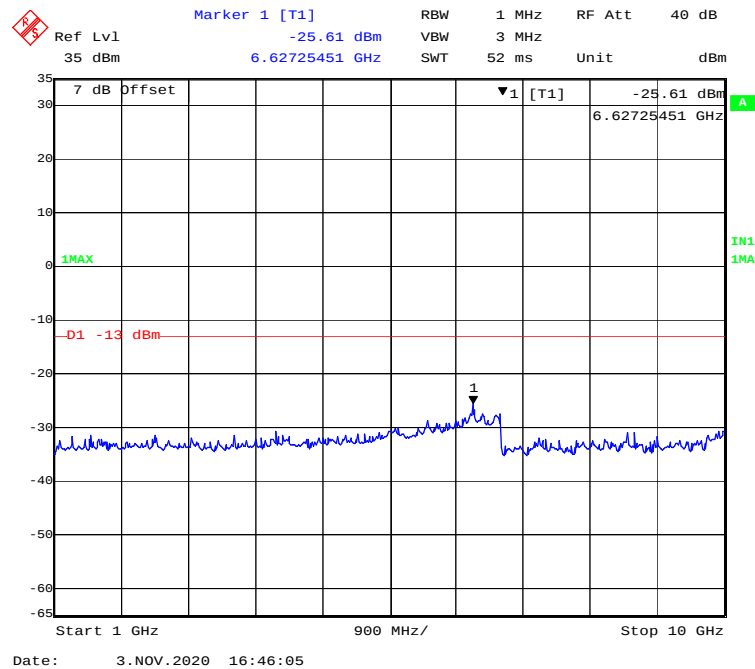
**30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)****1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)**

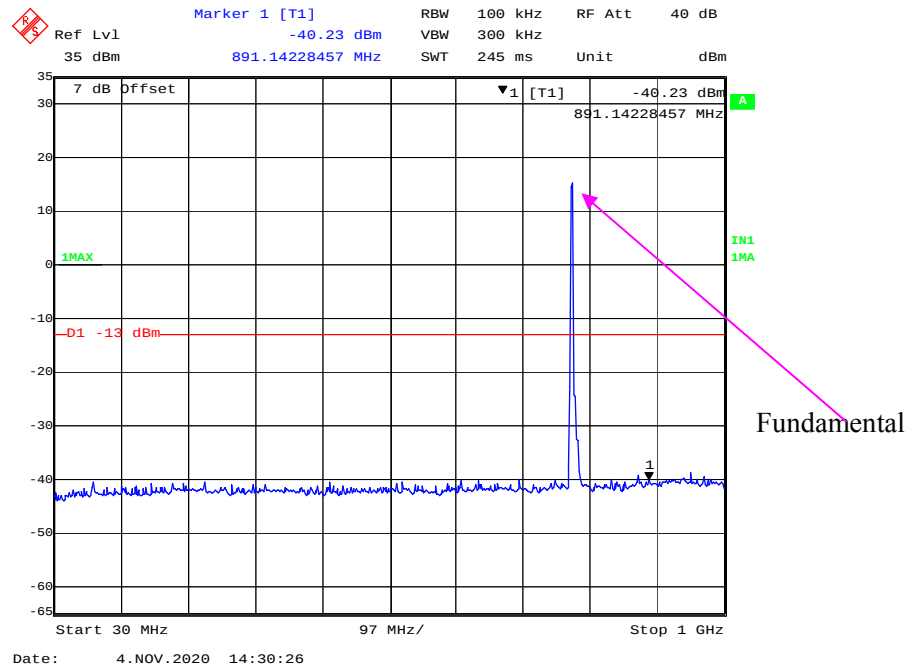
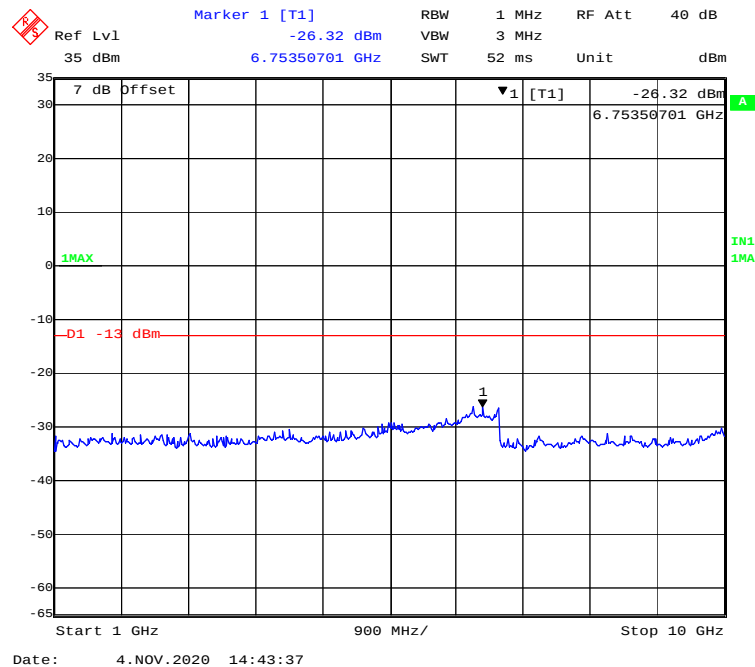
### 30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



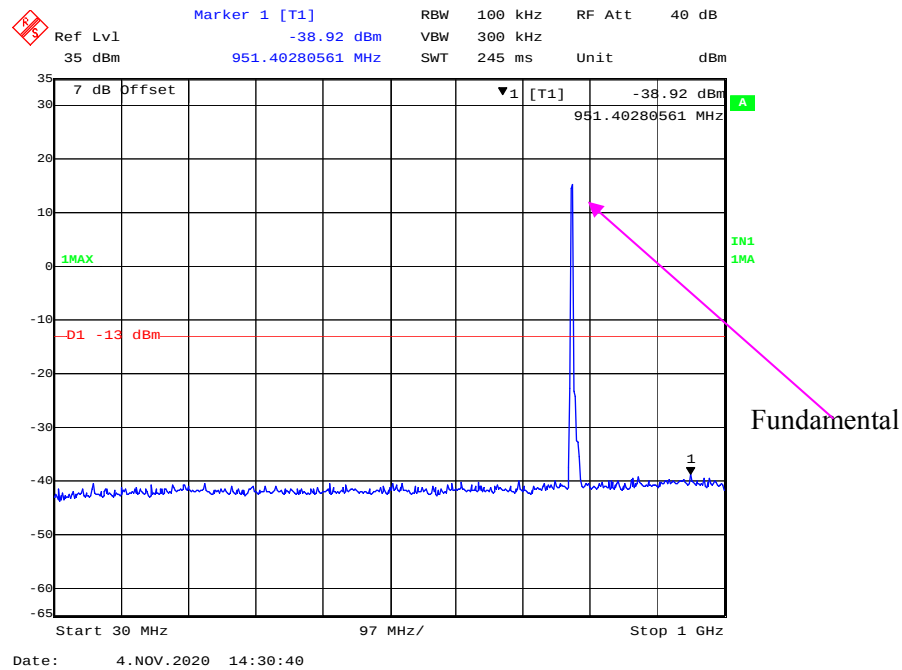
### 1 GHz – 10 GHz (10 MHz, QPSK, High Channel)



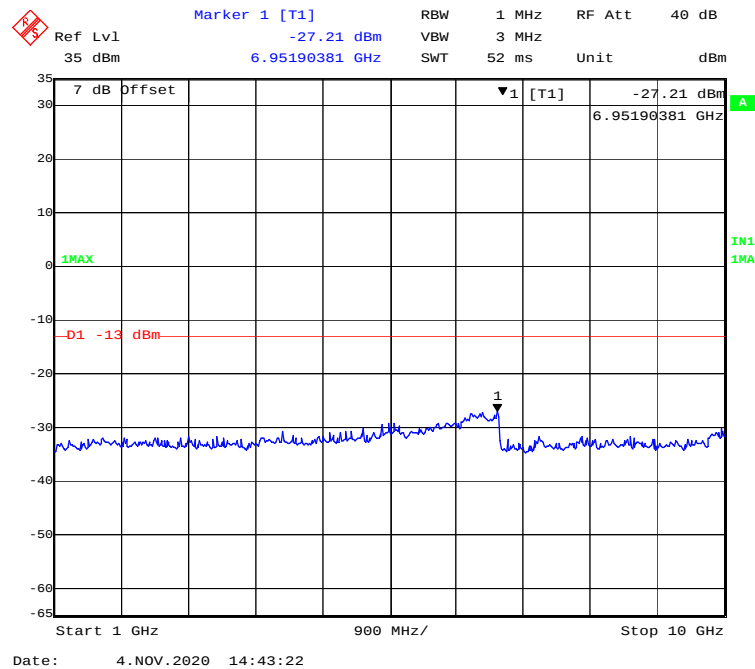
**30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)****1 GHz – 10 GHz (10 MHz, 16-QAM, High Channel)**

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

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



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



REF Lvl: 0.5 dBm  
 RBW: 10 kHz  
 VBW: 30 kHz  
 SWT: 300 ms  
 Unit: dBm  
 Ref Att: 20 dB  
 Marker 1 [T1]: -49.79 dBm  
 774.71142285 MHz  
 7 dB Offset  
 IN1 1MA  
 -35 dBm  
 Start 763 MHz  
 1.2 MHz/  
 Stop 775 MHz  
 Date: 4.NOV.2020 15:39:07

Ref Lvl 0.5 dBm RBW 10 kHz VBW 30 kHz SWT 300 ms RF Att 20 dB Unit dBm  
 Marker 1 [T1] -55.86 dBm 793.02404810 MHz  
 7 dB Offset  
 IN1 1MA  
 -35 dBm  
 -55.86 dBm  
 Start 793 MHz 1.2 MHz/ Stop 805 MHz  
 Date: 4.NOV.2020 16:01:05

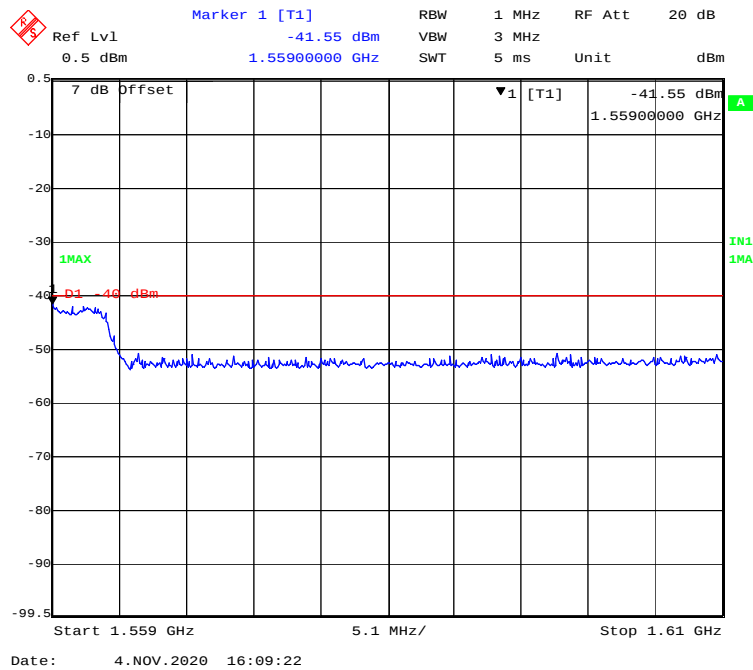
Ref Lvl 0.5 dBm  
 Marker 1 [T1] -55.89 dBm  
 RBW 10 kHz  
 VBW 30 kHz  
 SWT 300 ms  
 Unit dBm

7 dB Offset  
 793.02404810 MHz  
 -55.89 dBm  
 793.02404810 MHz  
 1MAX  
 -35 dBm  
 IN1  
 1MA

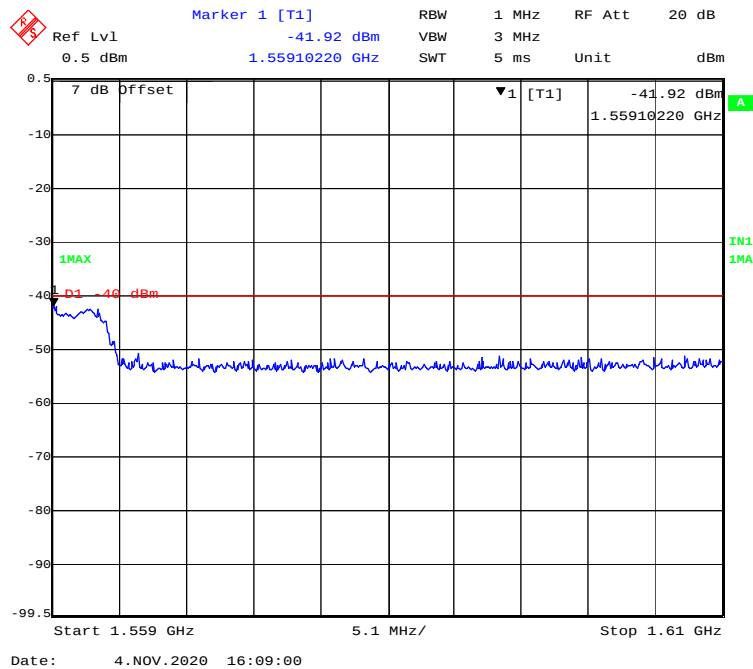
Start 793 MHz  
 1.2 MHz/  
 Stop 805 MHz

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

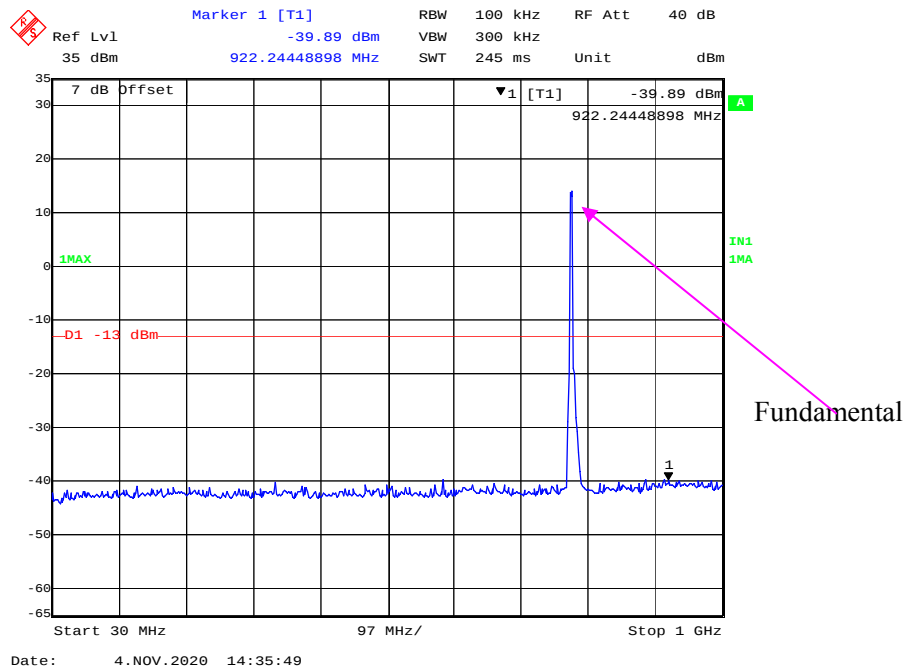
### 1559 MHz - 1610 MHz (5 MHz, QPSK, Low Channel)



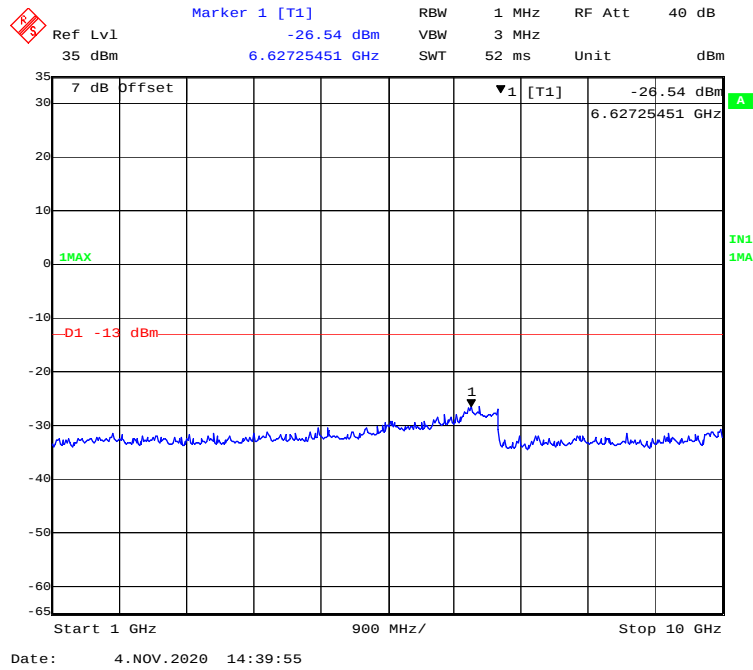
### 1559 MHz - 1610 MHz (5 MHz, 16-QAM, Low Channel)

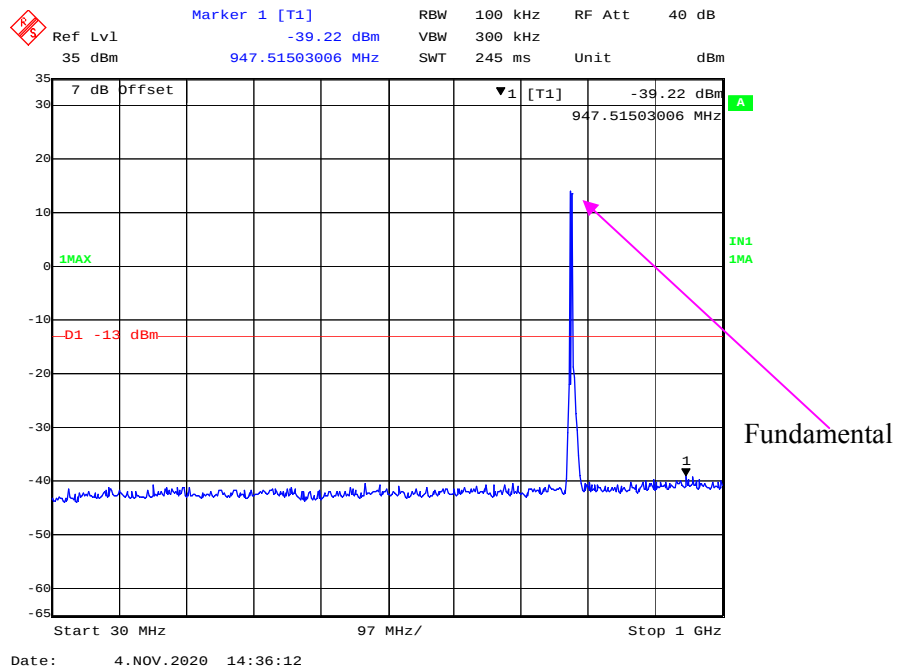
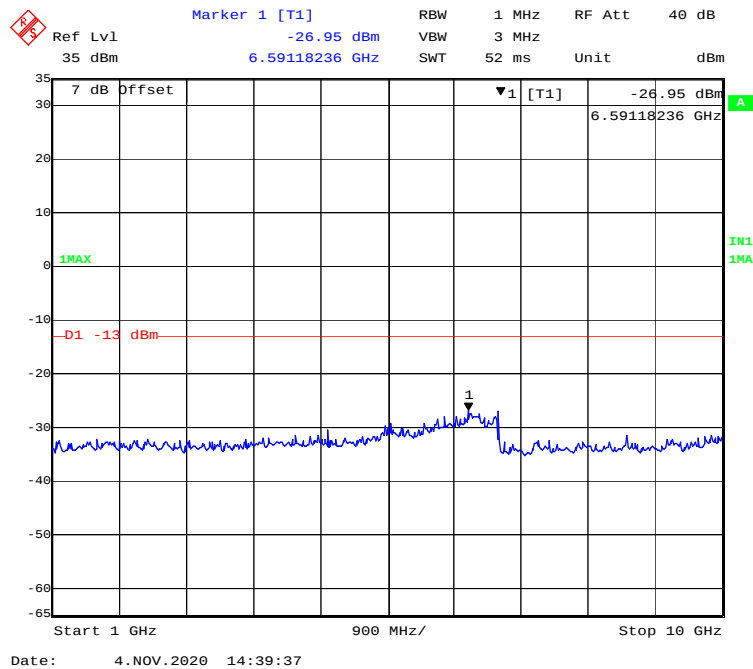


### 30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)

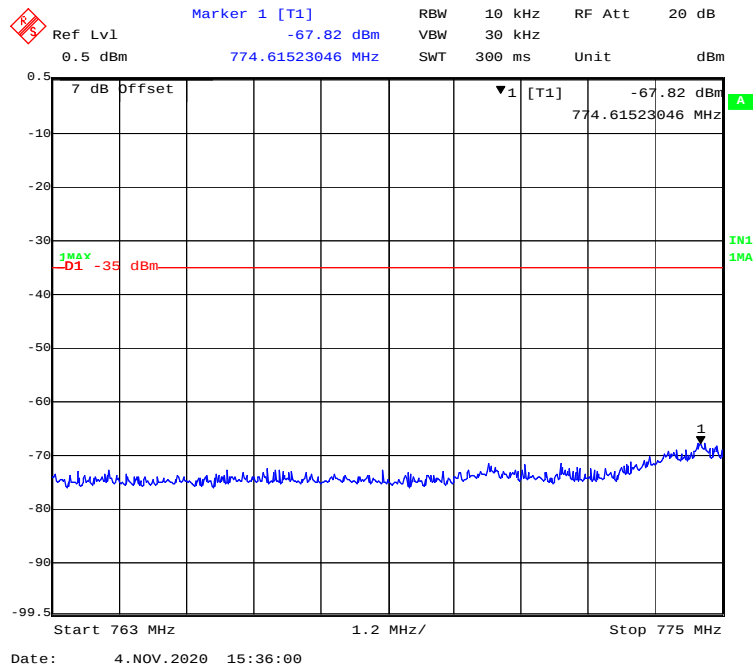


### 1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)

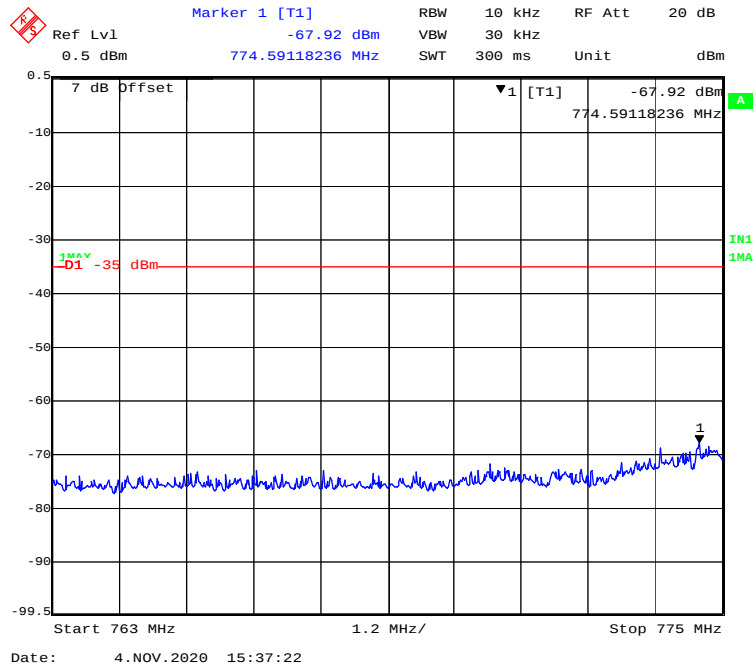


**30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)****1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)**

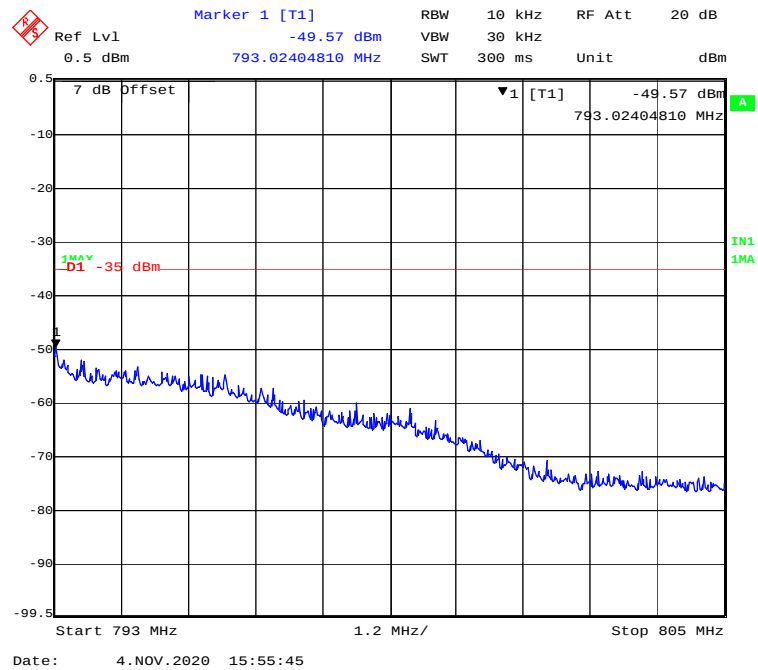
### 763 MHz - 775 MHz (5 MHz, QPSK, Middle Channel)



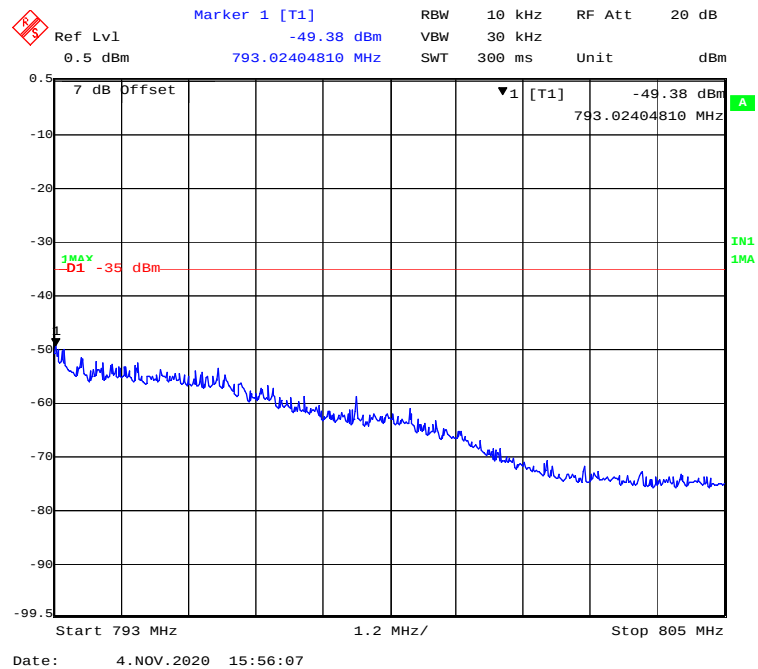
### 763 MHz - 775 MHz (5 MHz, 16-QAM, Middle Channel)

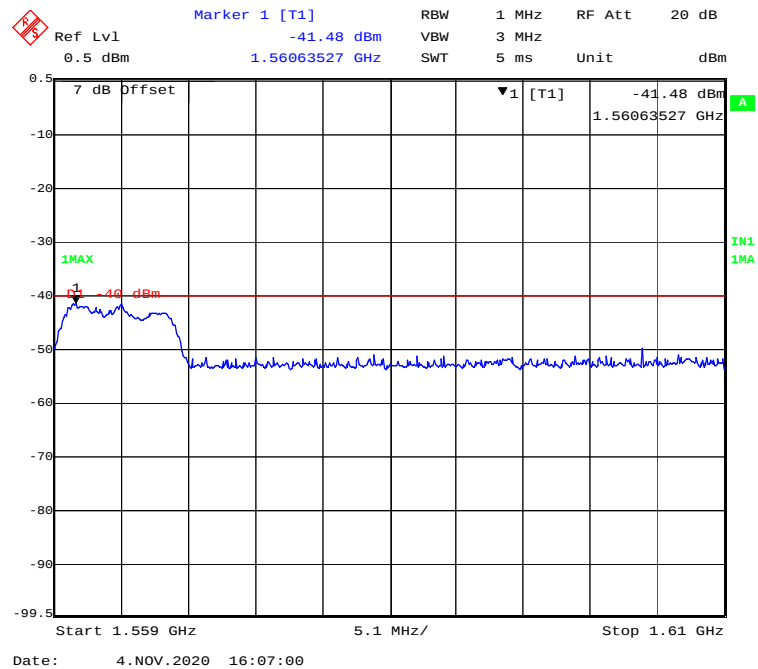


### 793 MHz - 805 MHz (5 MHz, QPSK, Middle Channel)

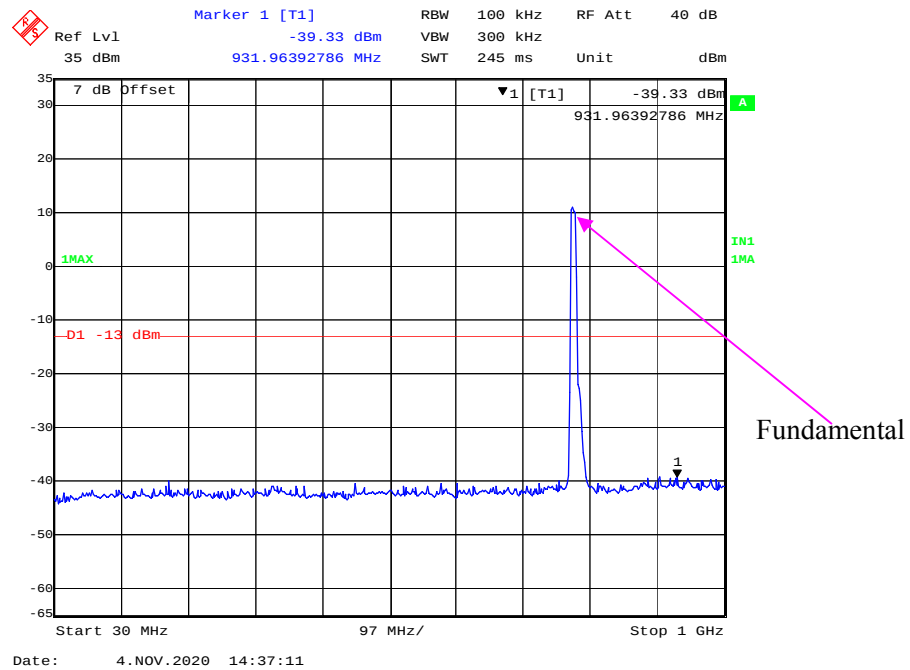


### 793 MHz - 805 MHz (5 MHz, 16-QAM, Middle Channel)

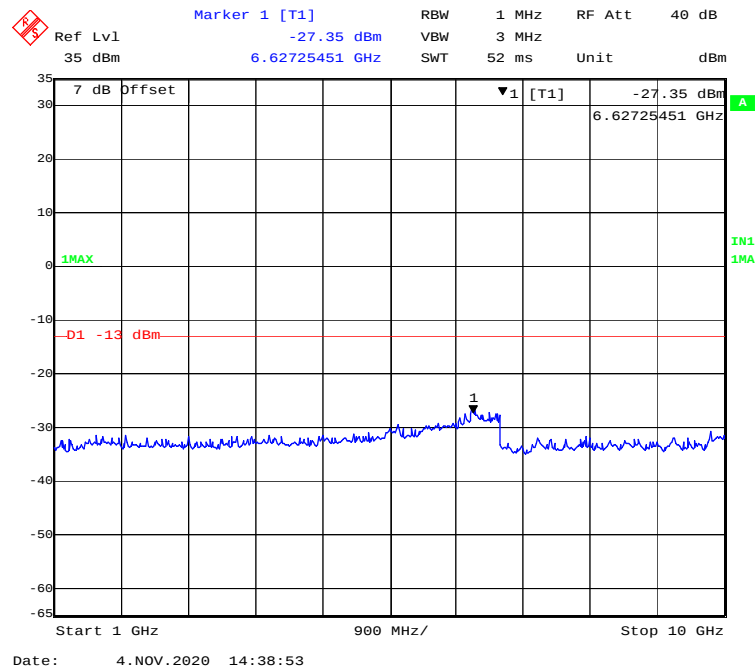


**1559 MHz - 1610 MHz (5 MHz, QPSK, Middle Channel)****1559 MHz - 1610 MHz (5 MHz, 16-QAM, Middle Channel)**

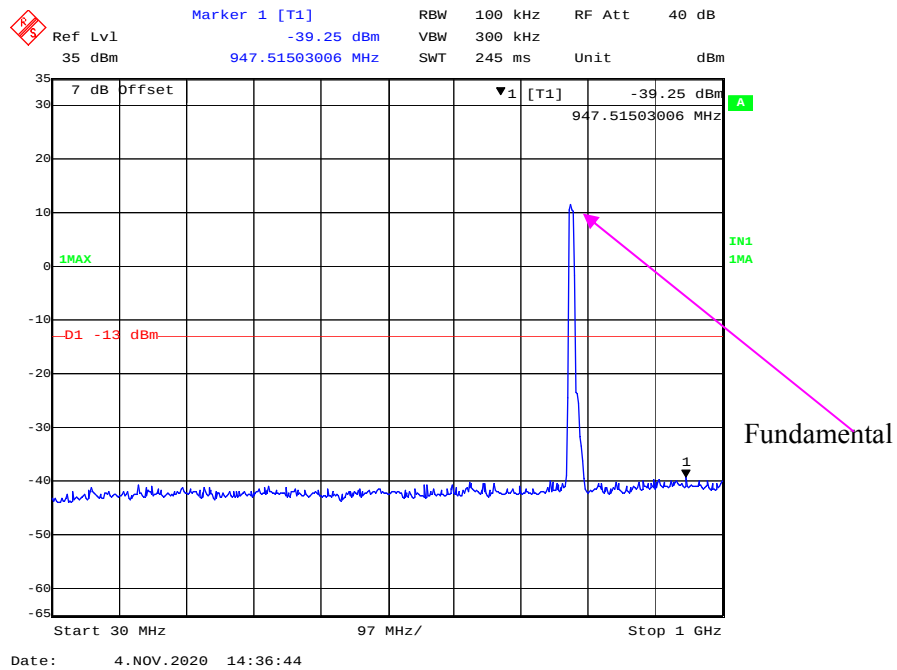
### 30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



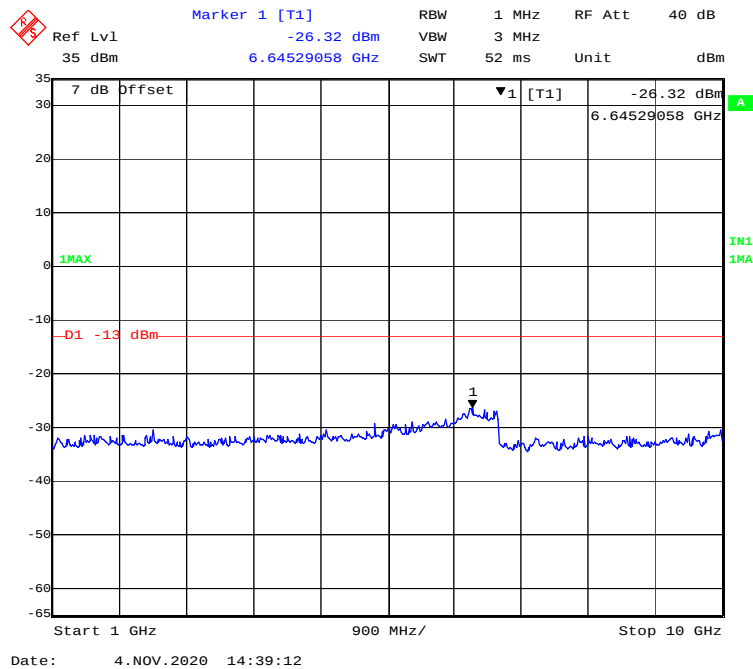
### 1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)

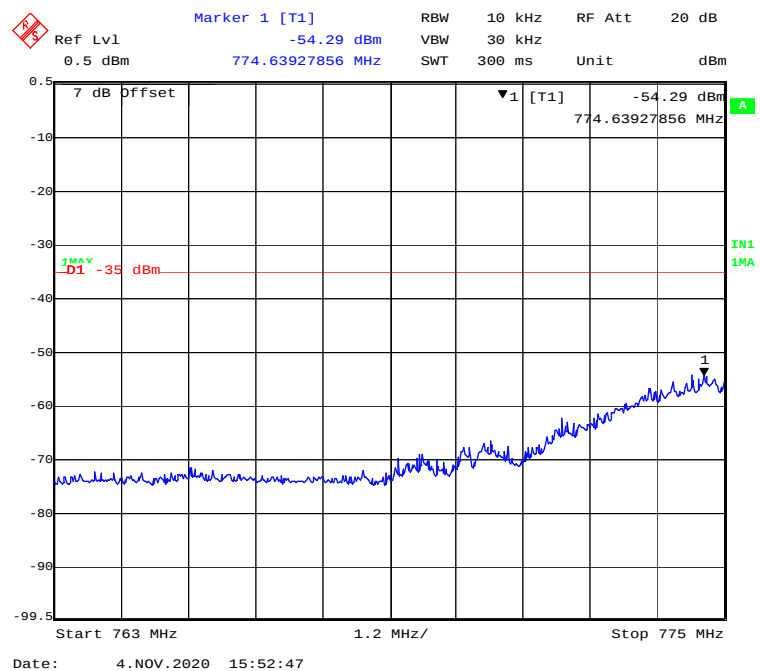
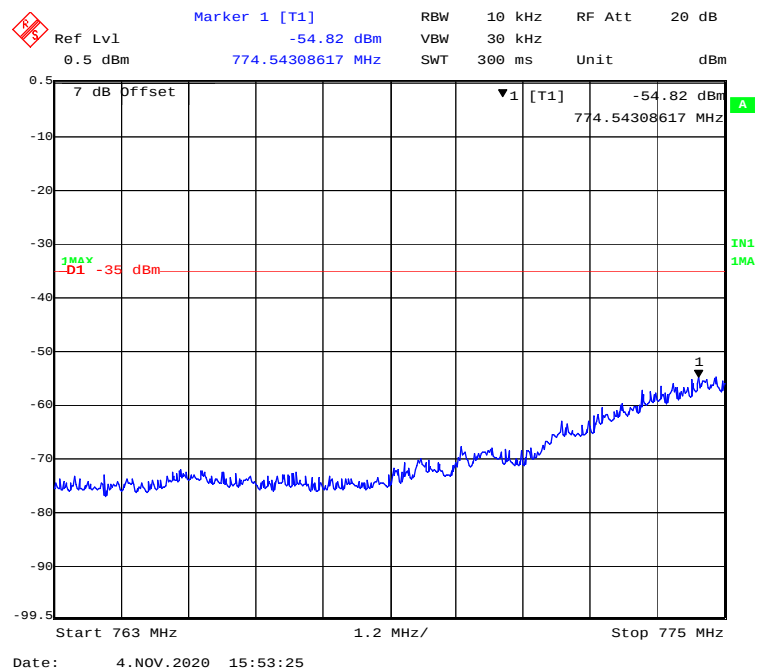


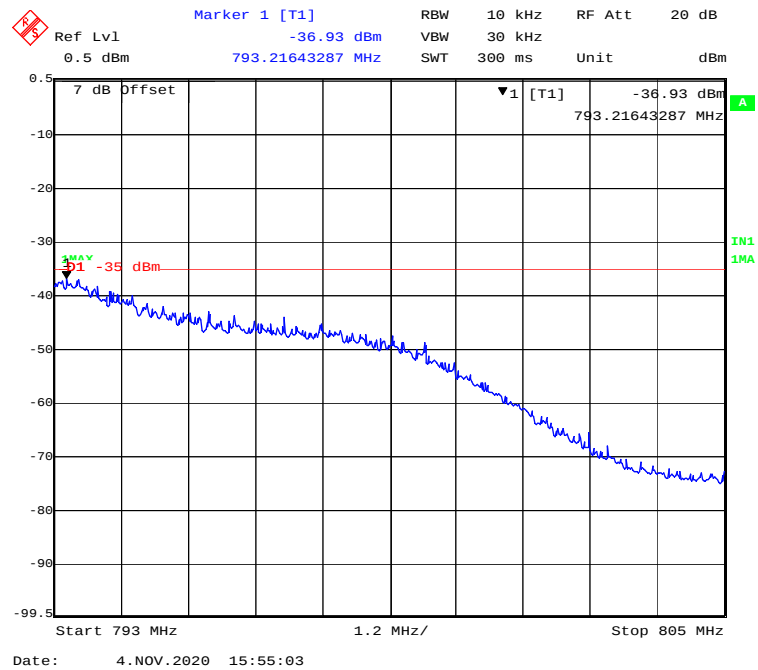
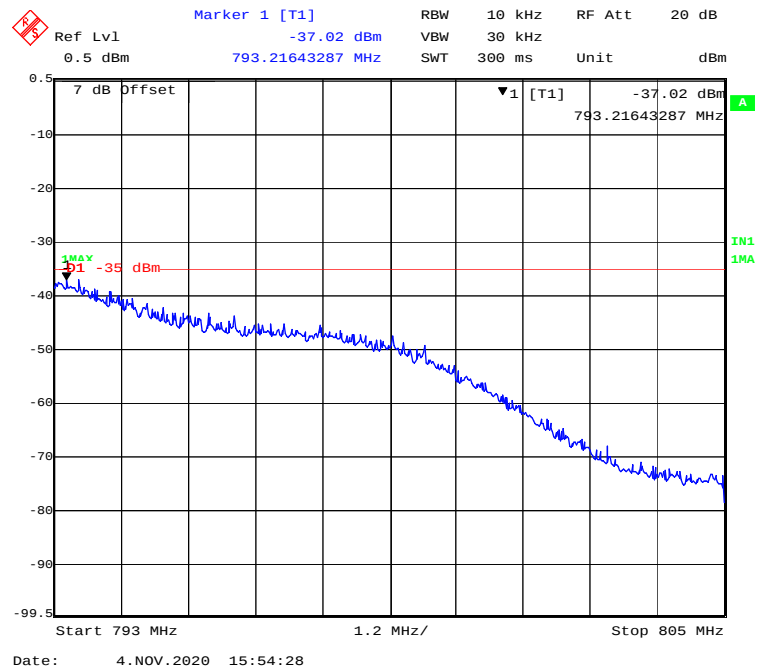
### 30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)

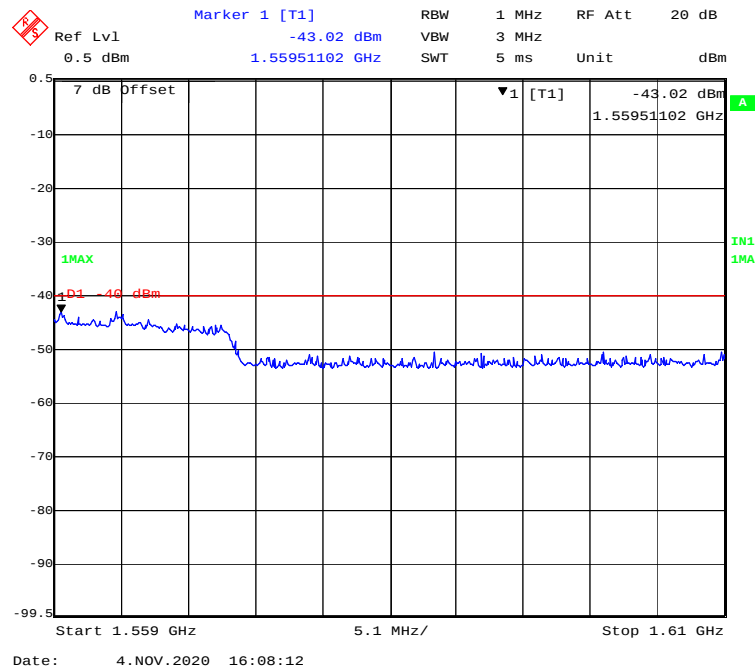
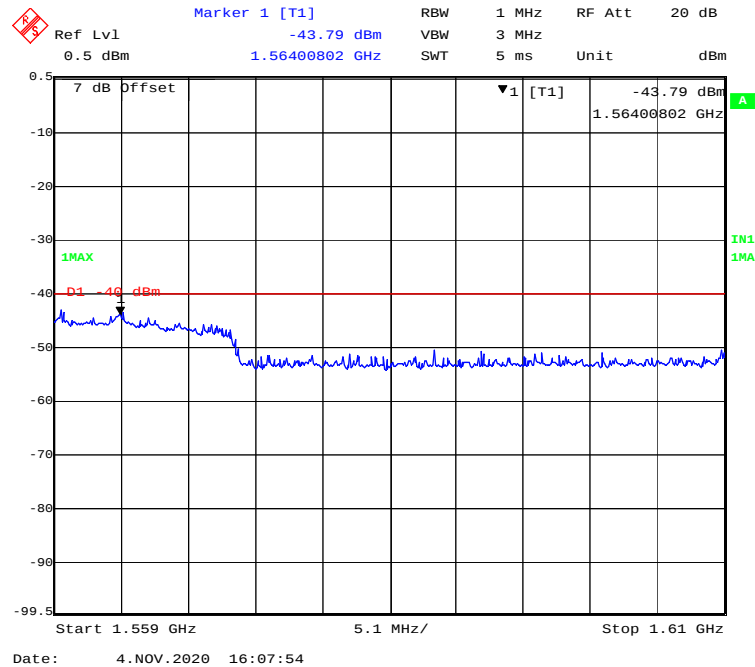


### 1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)

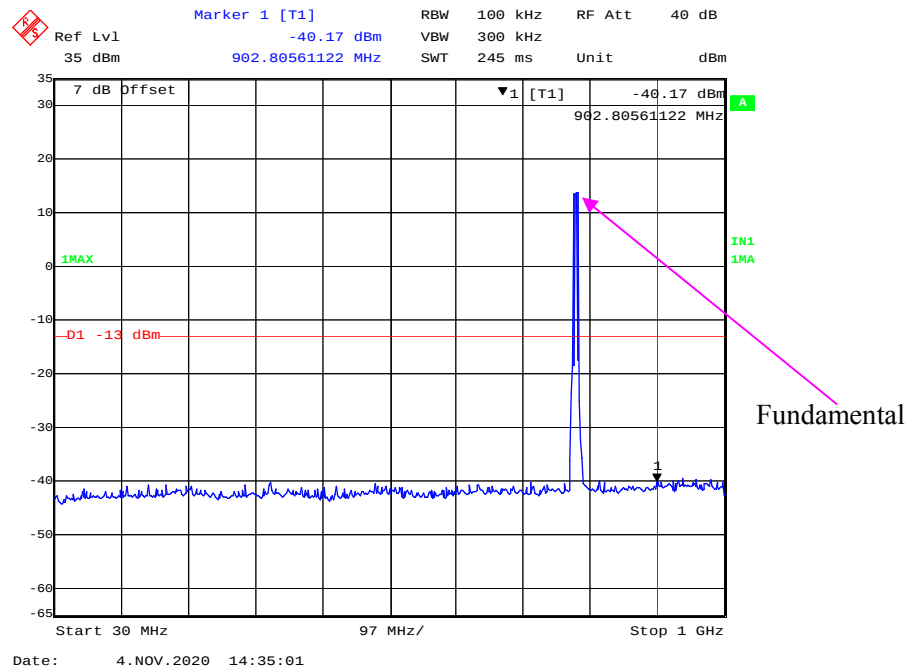


**763 MHz - 775 MHz (10 MHz, QPSK, Middle Channel)****763 MHz - 775 MHz (10 MHz, 16-QAM, Middle Channel)**

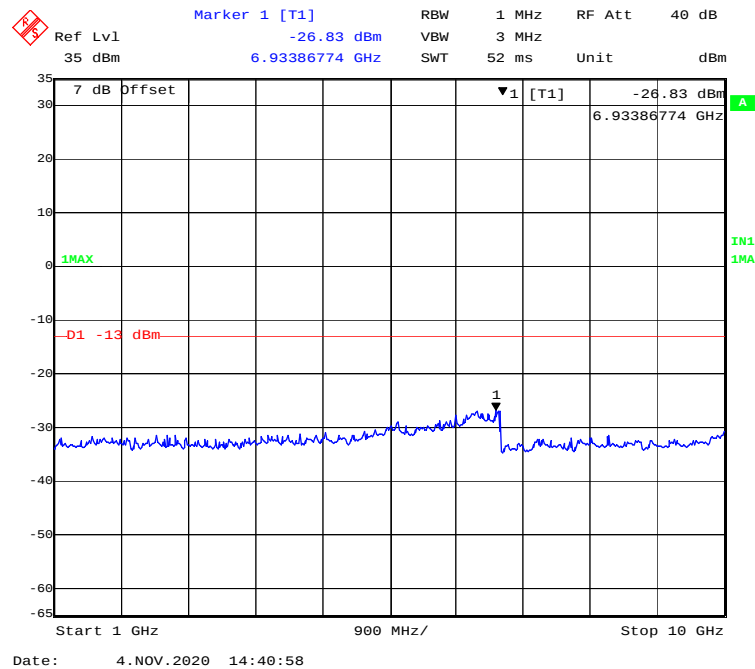
**793 MHz - 805 MHz (10 MHz, QPSK, Middle Channel)****793 MHz - 805 MHz (10 MHz, 16-QAM, Middle Channel)**

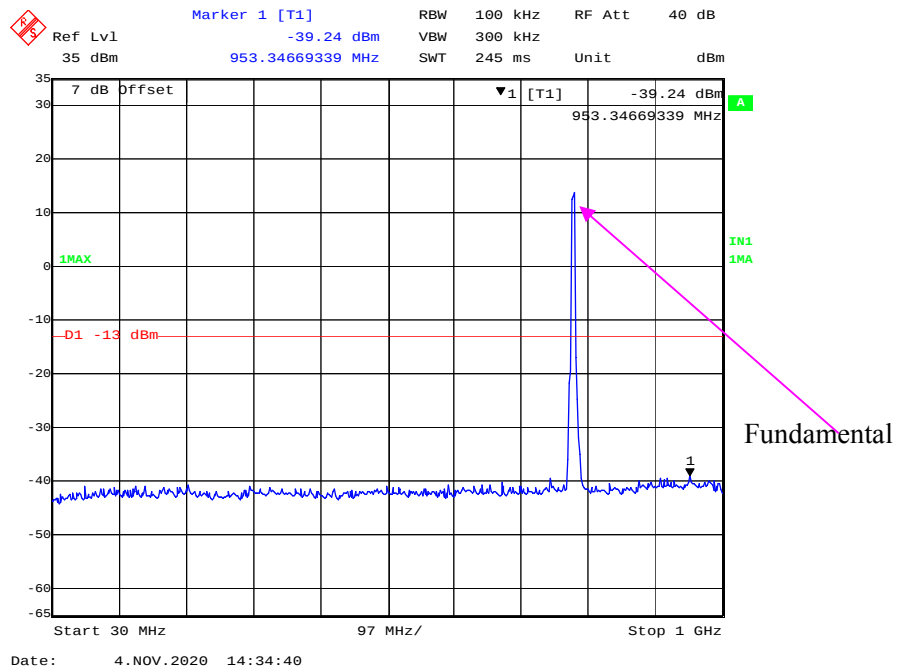
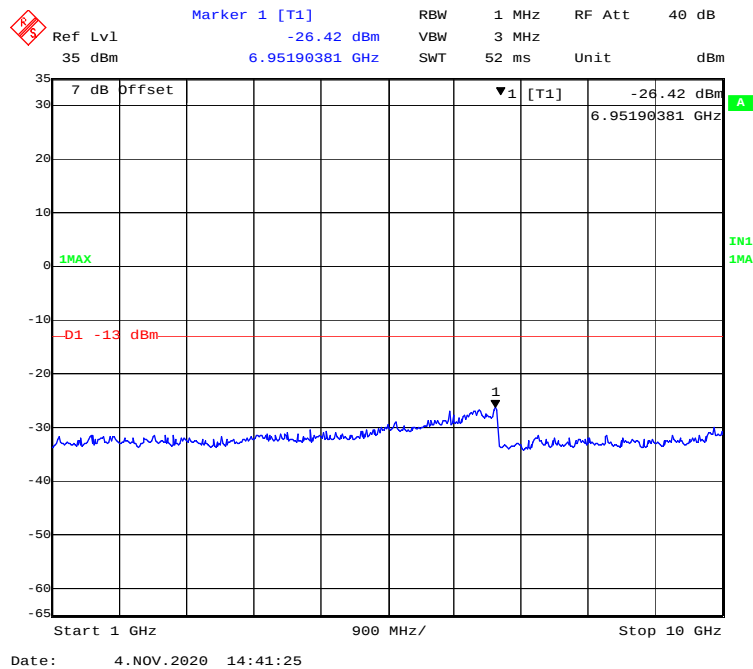
**1559 MHz - 1610 MHz (10 MHz, QPSK, Middle Channel)****1559 MHz - 1610 MHz (10 MHz, 16-QAM, Middle Channel)**

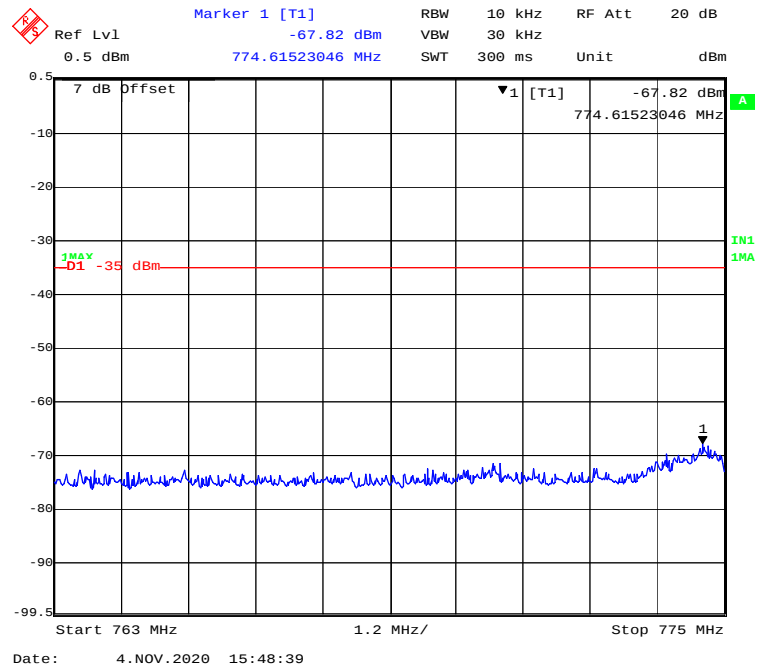
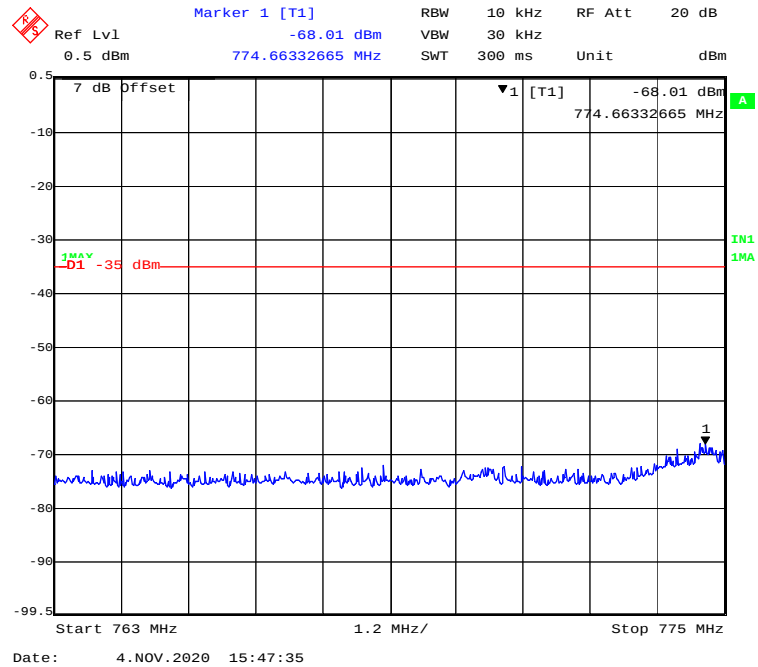
### 30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



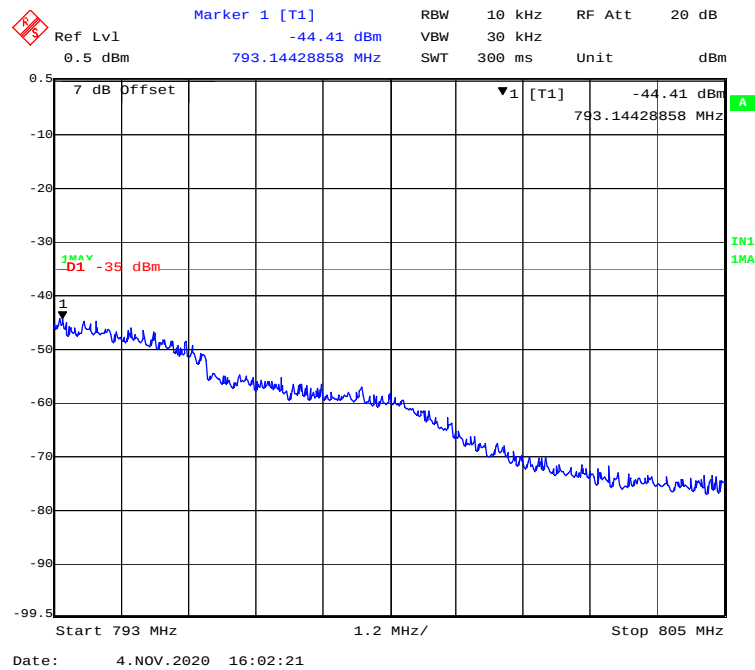
### 1 GHz – 10 GHz (5 MHz, QPSK, High Channel)



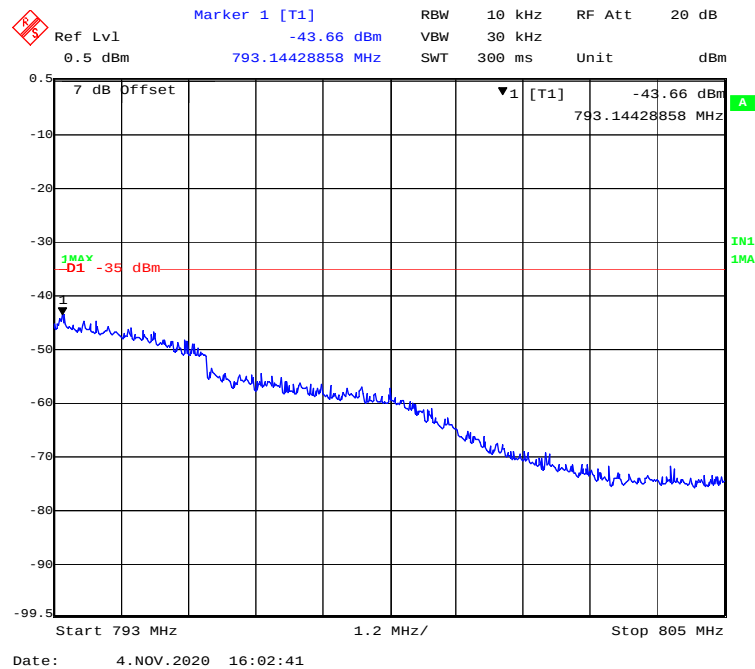
**30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)****1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)**

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

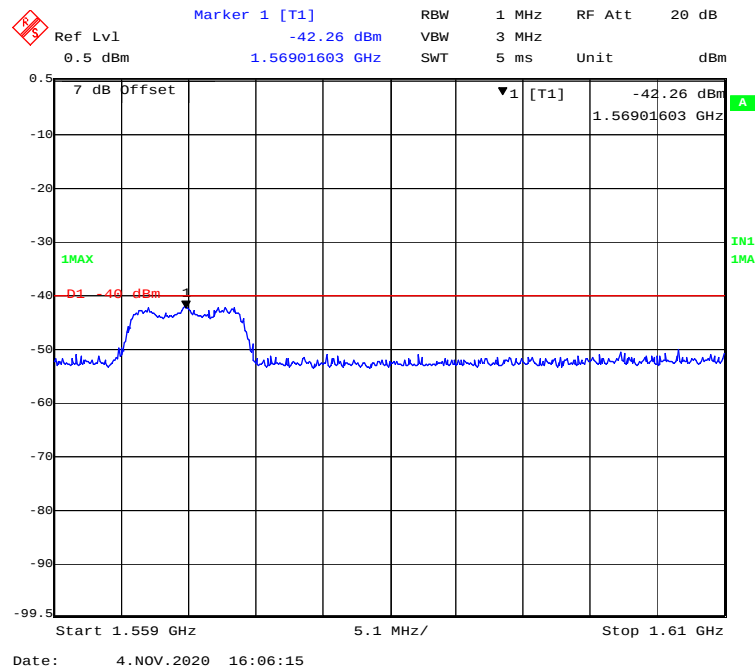
### 793 MHz - 805 MHz (5 MHz, QPSK, High Channel)



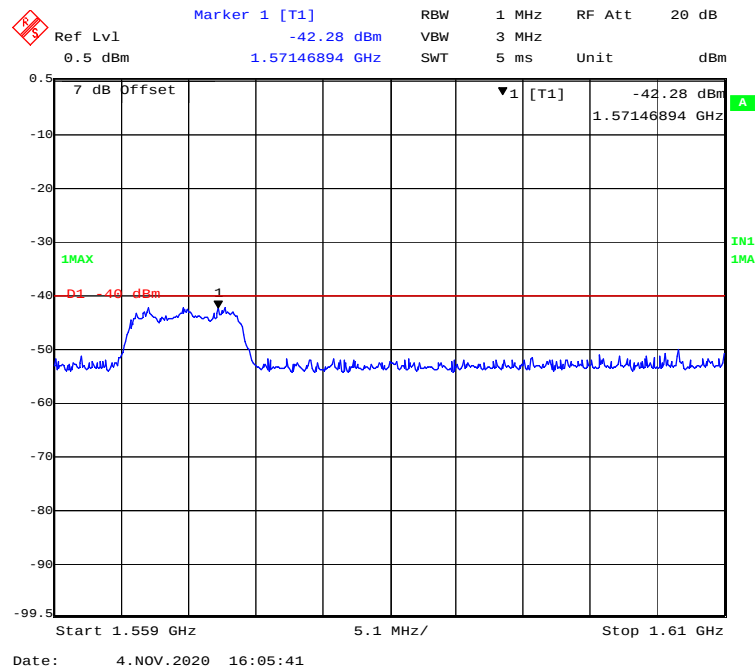
### 793 MHz - 805 MHz (5 MHz, 16-QAM, High Channel)



### 1559 MHz - 1610 MHz (5 MHz, QPSK, High Channel)

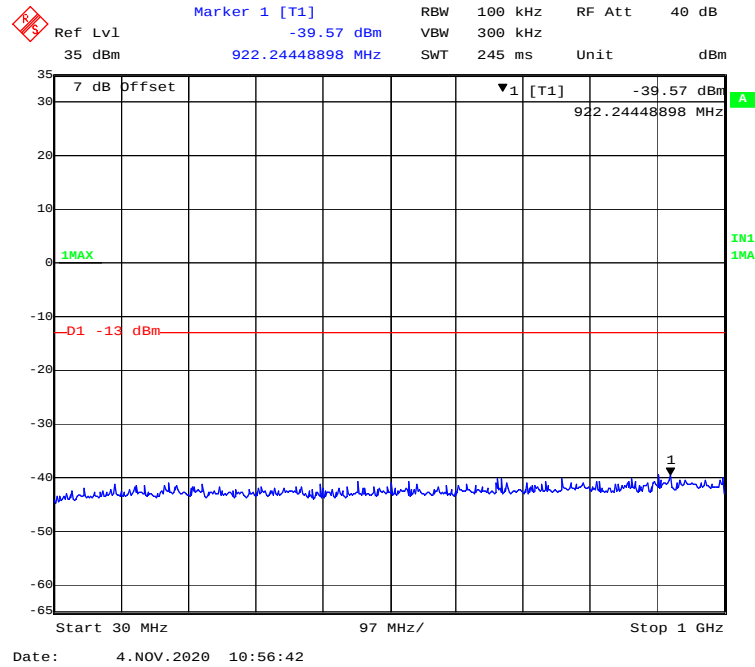


### 1559 MHz - 1610 MHz (5 MHz, 16-QAM, High Channel)

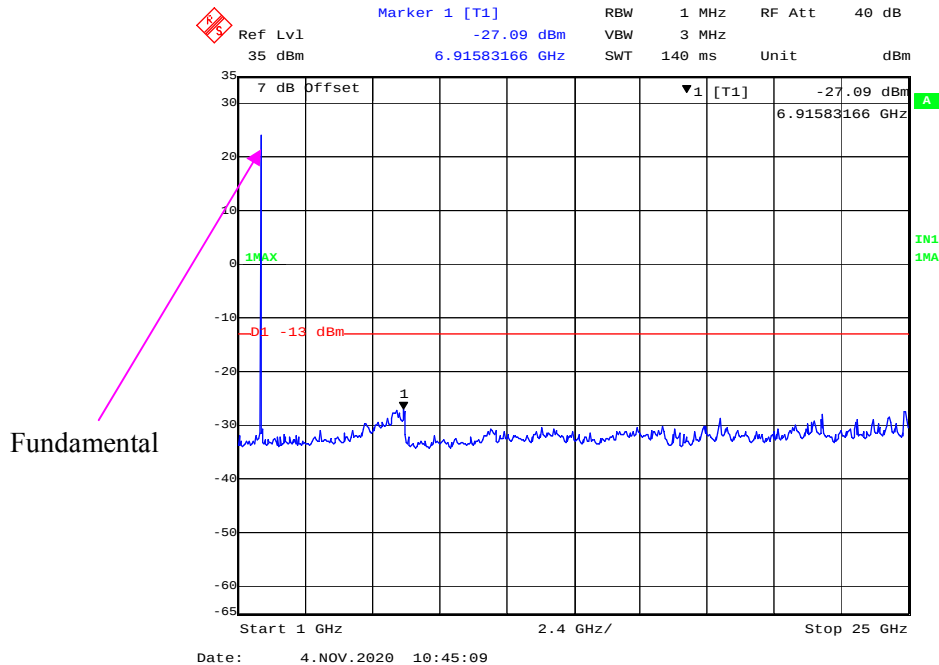


# LTE Band 25:

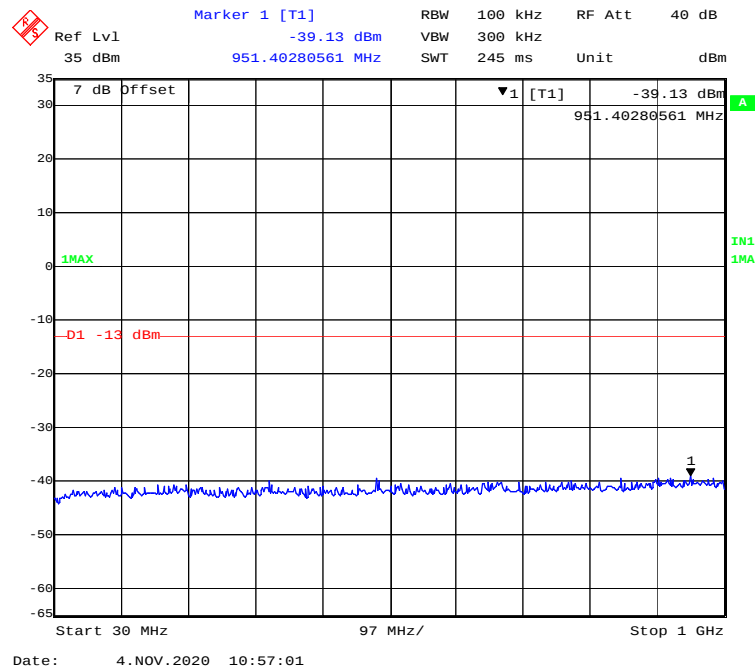
## 30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



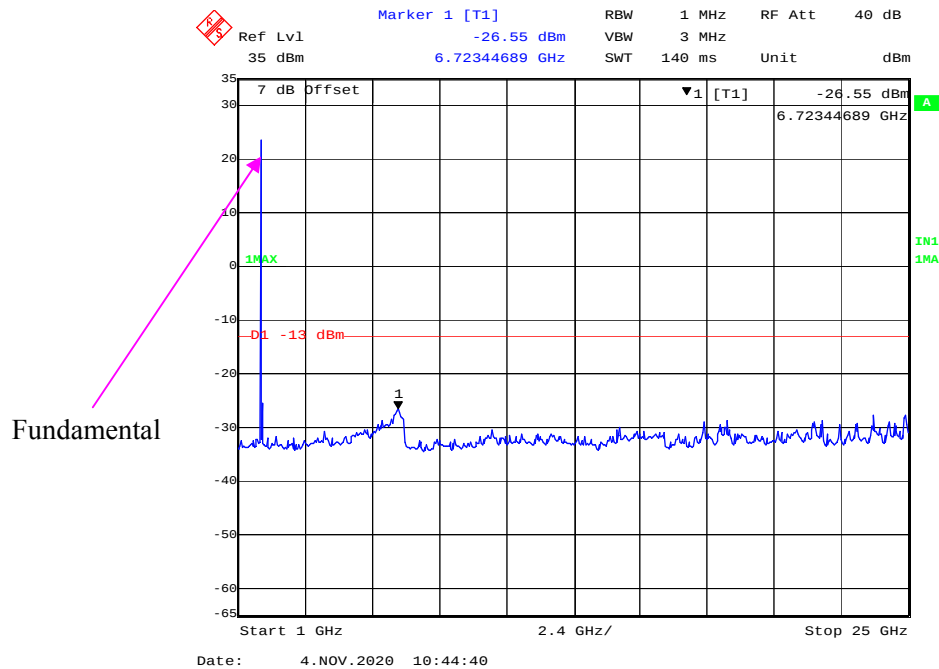
## 1 GHz – 25 GHz (1.4 MHz, QPSK, Low Channel)



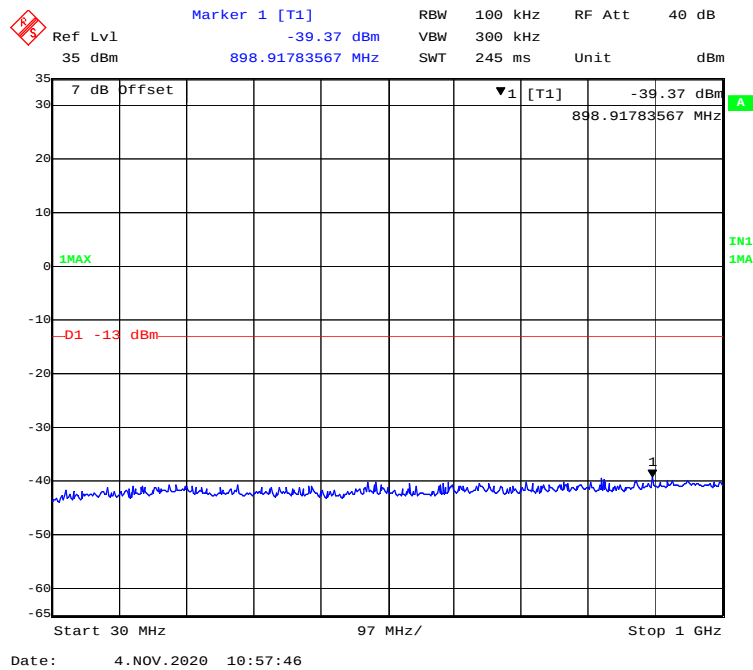
### 30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



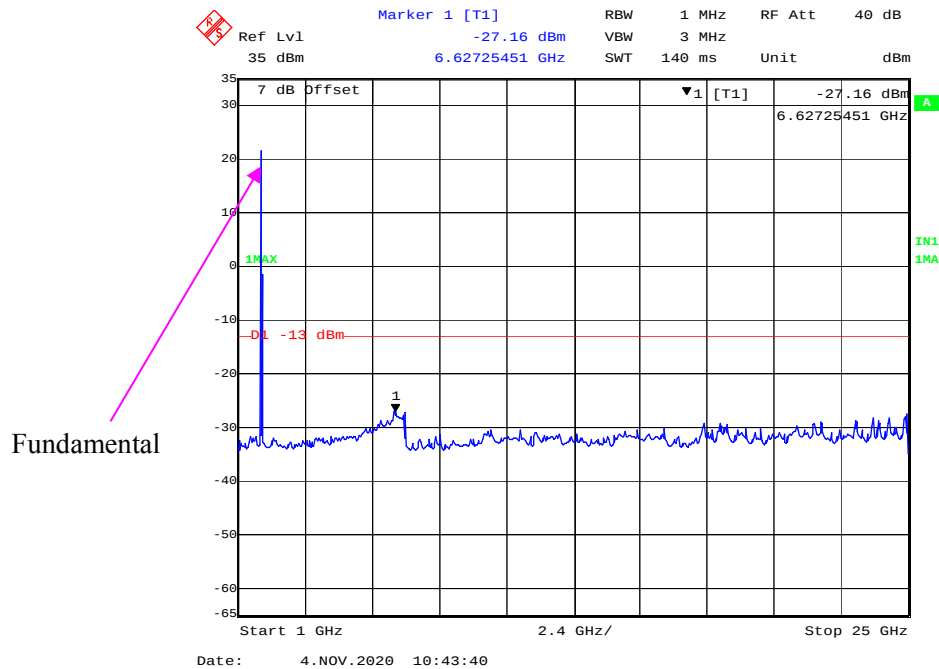
### 1 GHz – 25 GHz (1.4 MHz, 16-QAM, Low Channel)



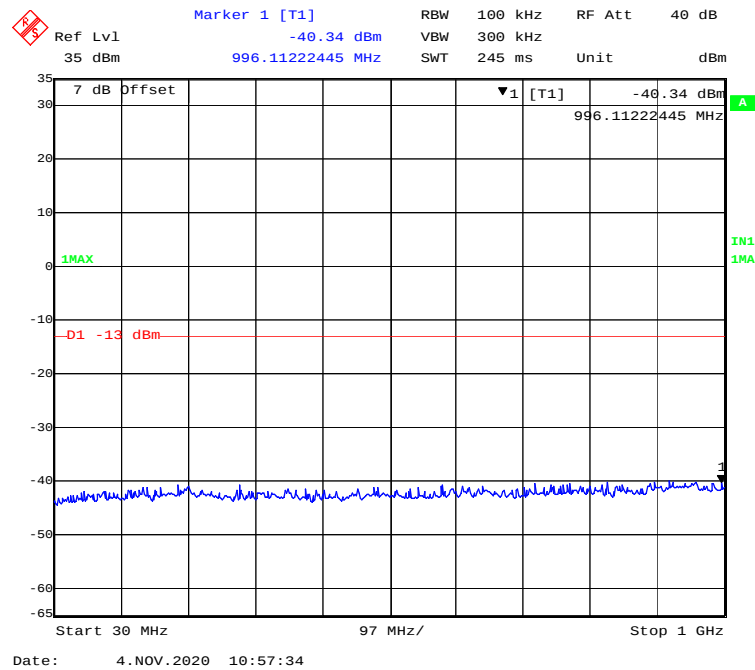
### 30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



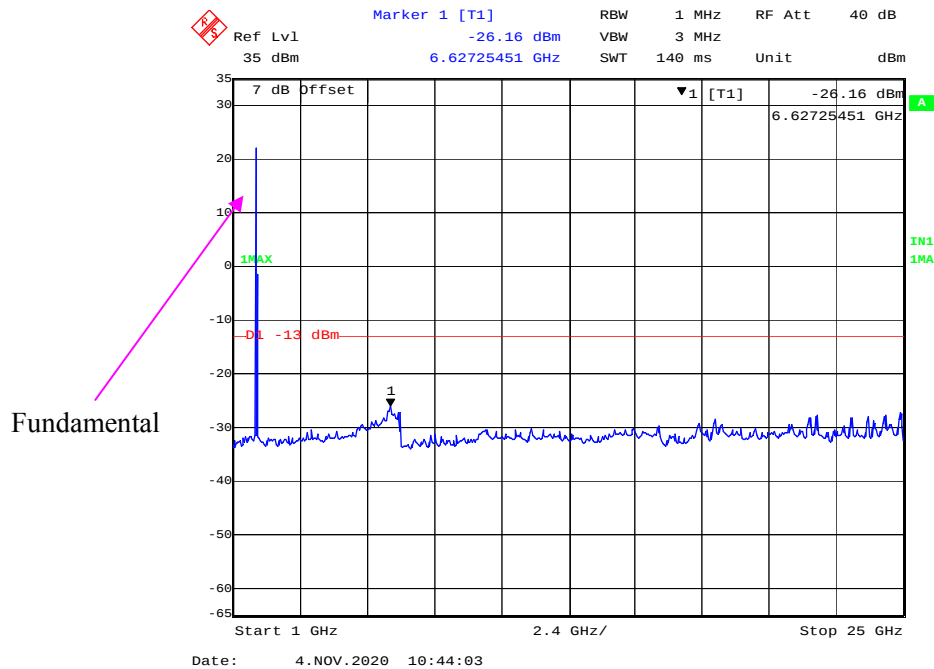
### 1 GHz – 25 GHz (3 MHz, QPSK, Low Channel)



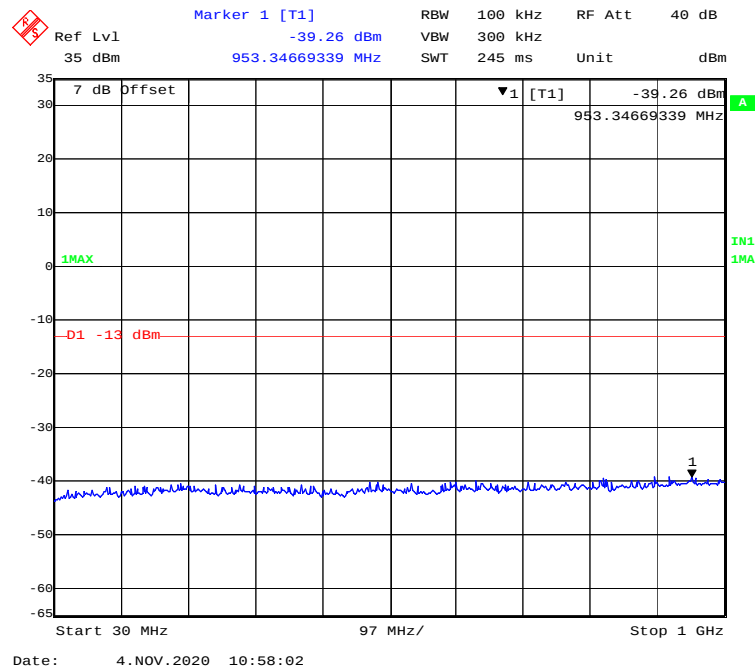
### 30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



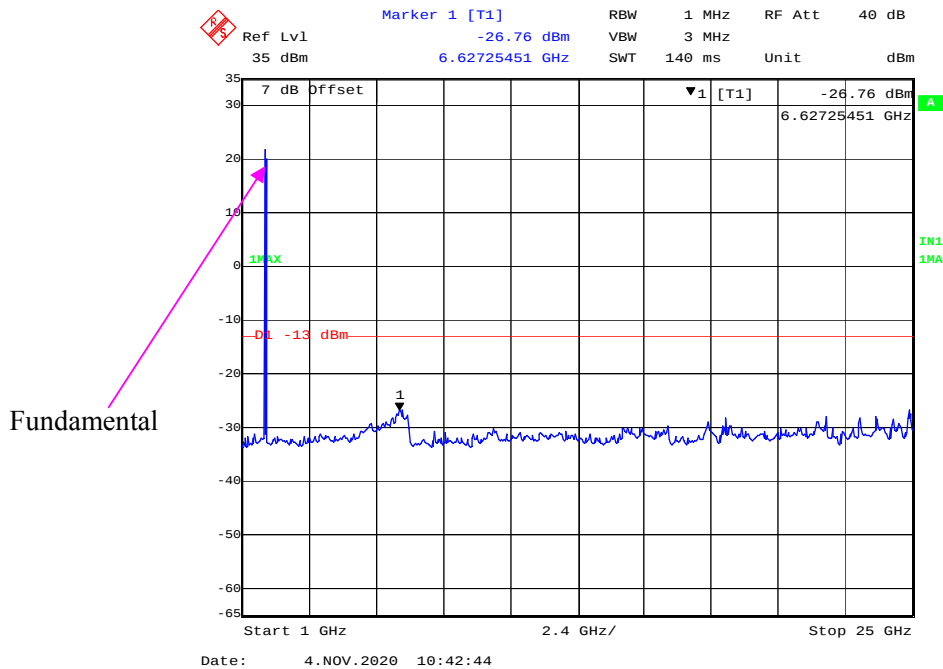
### 1 GHz - 25 GHz (3 MHz, 16-QAM, Low Channel)



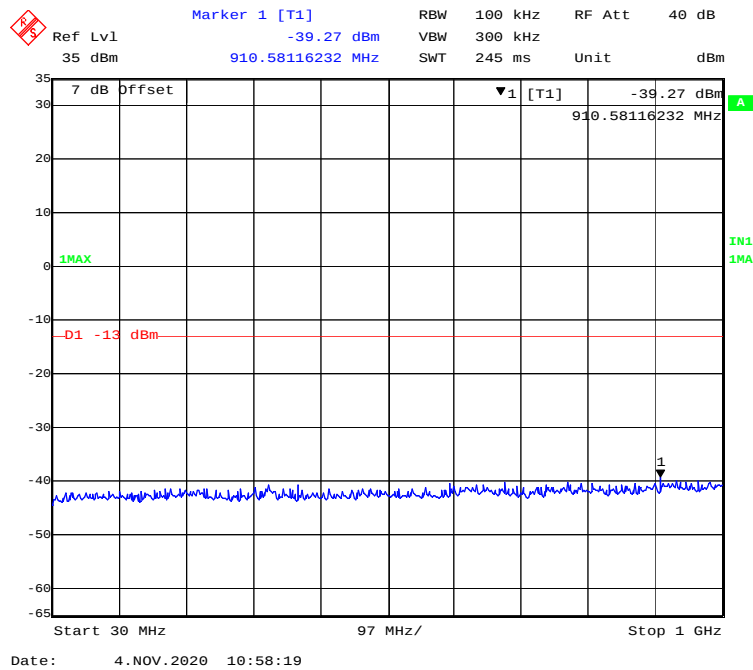
### 30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



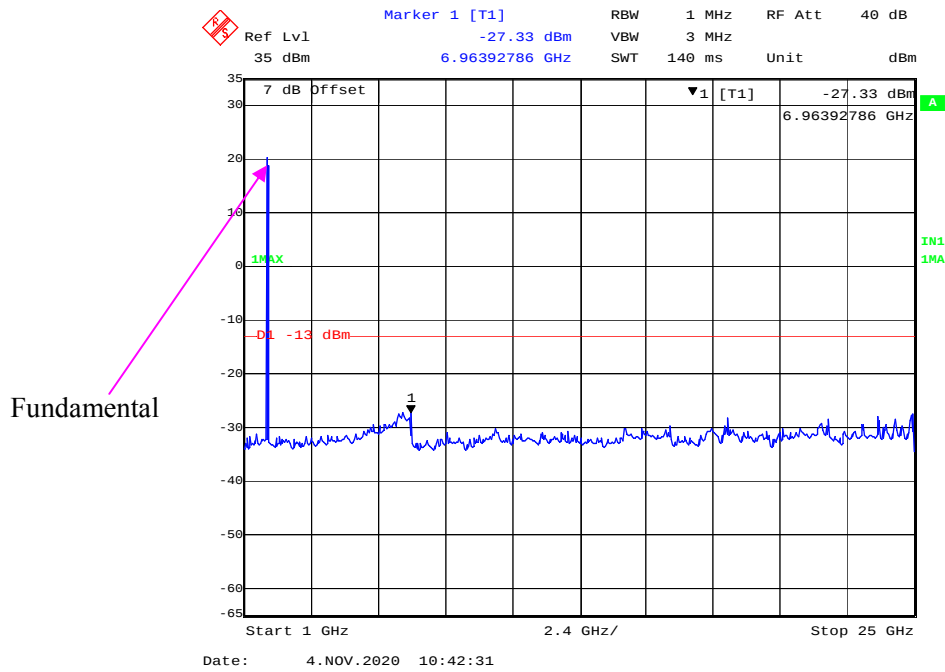
### 1 GHz – 25 GHz (5 MHz, QPSK, Low Channel)

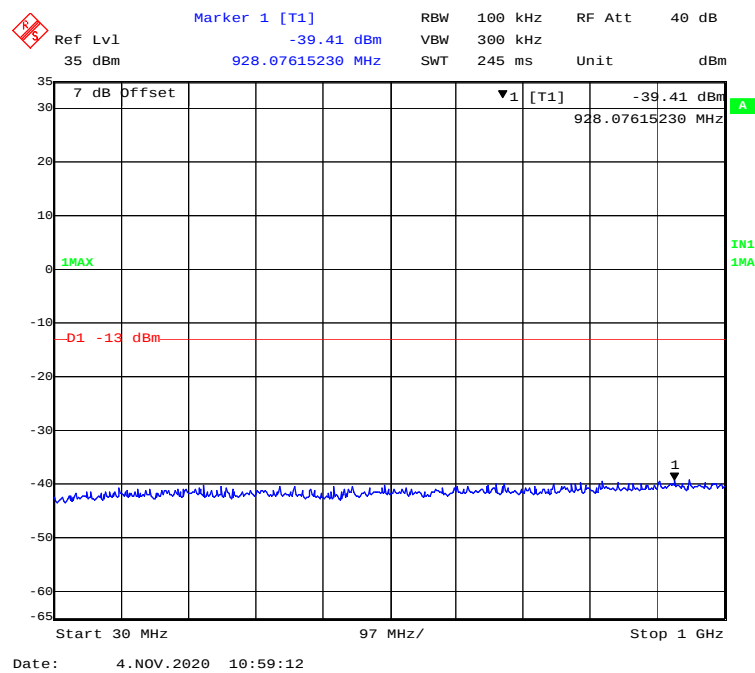
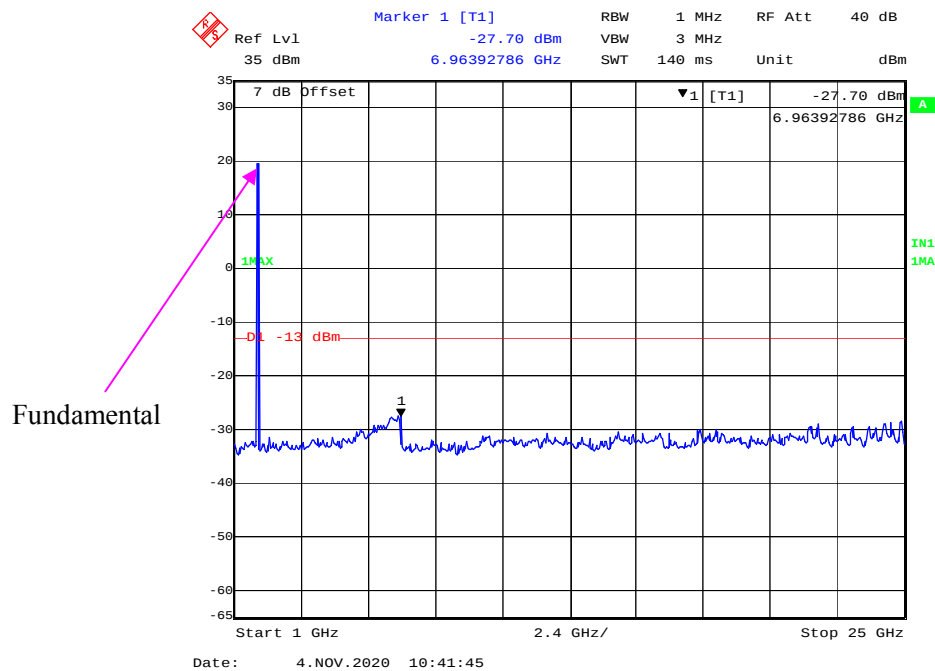


### 30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



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



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

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

Marker 1 [T1]  
 -40.20 dBm  
 951.40280561 MHz

7 dB Offset ▼1 [T1] -40.20 dBm  
 951.40280561 MHz

1MAX

-D1 -13 dBm

1

Start 30 MHz 97 MHz/ Stop 1 GHz

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

Ref Lvl 35 dBm

Marker 1 [T1] -26.64 dBm

RBW 1 MHz RF Att 40 dB

VBW 3 MHz

SWT 140 ms Unit dBm

7 dB Offset

▼1 [T1] -26.64 dBm

6.62725451 GHz

1MHz

D1 -13 dBm

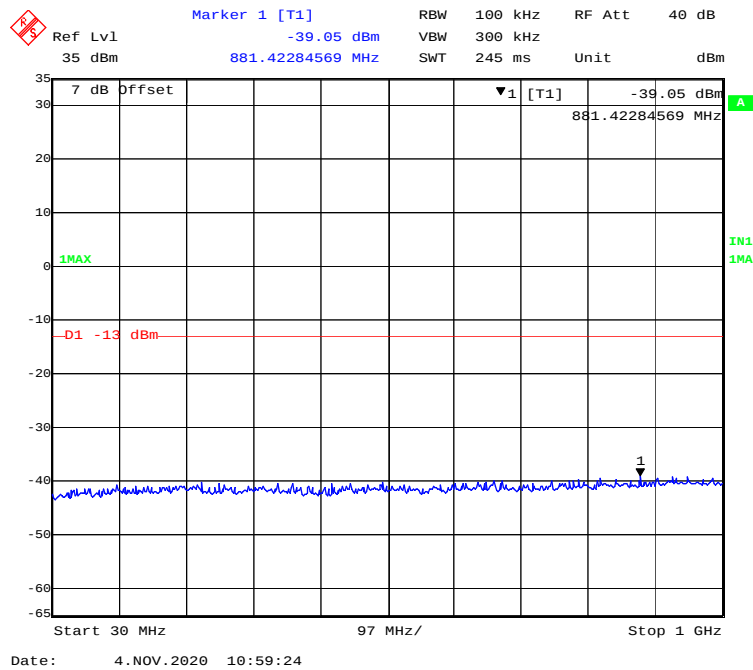
1

Fundamental

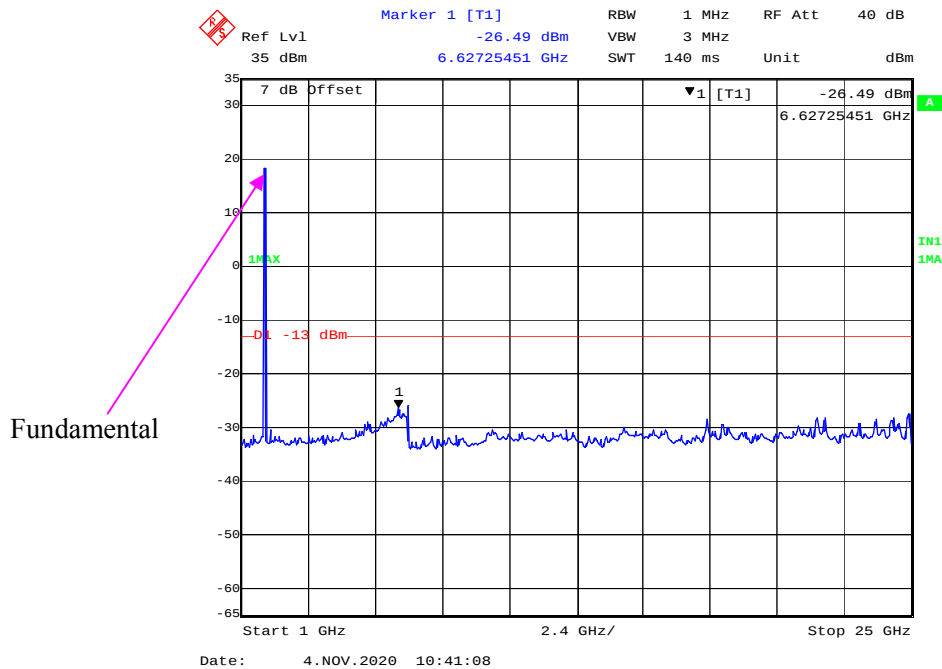
Start 1 GHz 2.4 GHz/ Stop 25 GHz

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

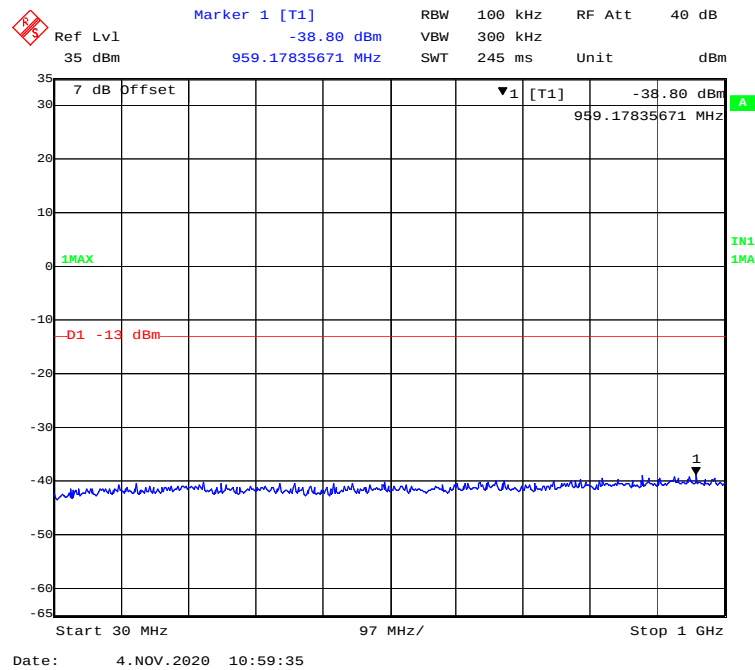
### 30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



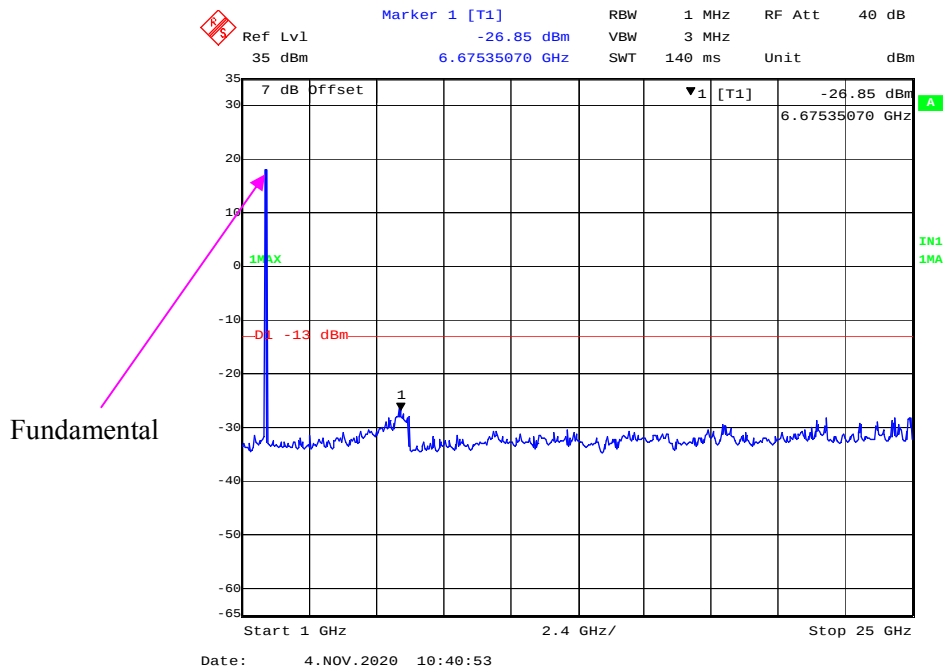
### 1 GHz – 25 GHz (15 MHz, QPSK, Low Channel)



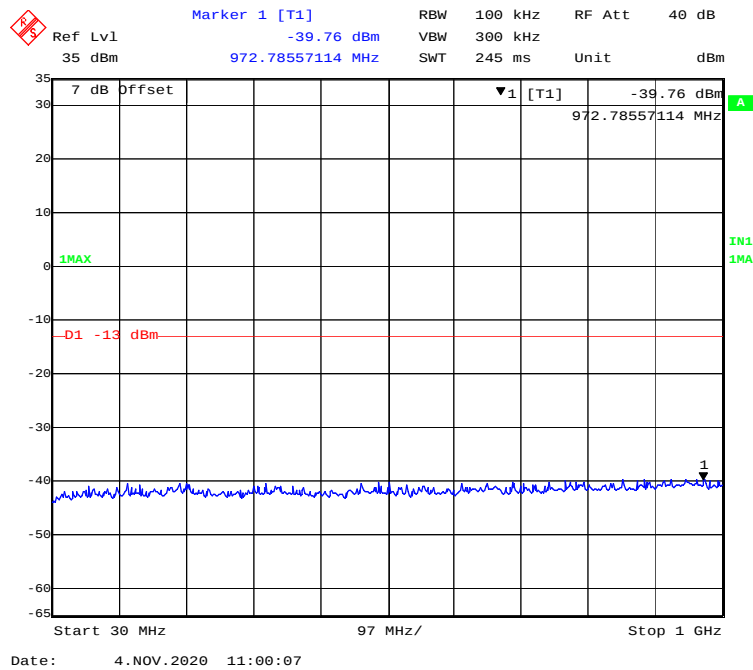
### 30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



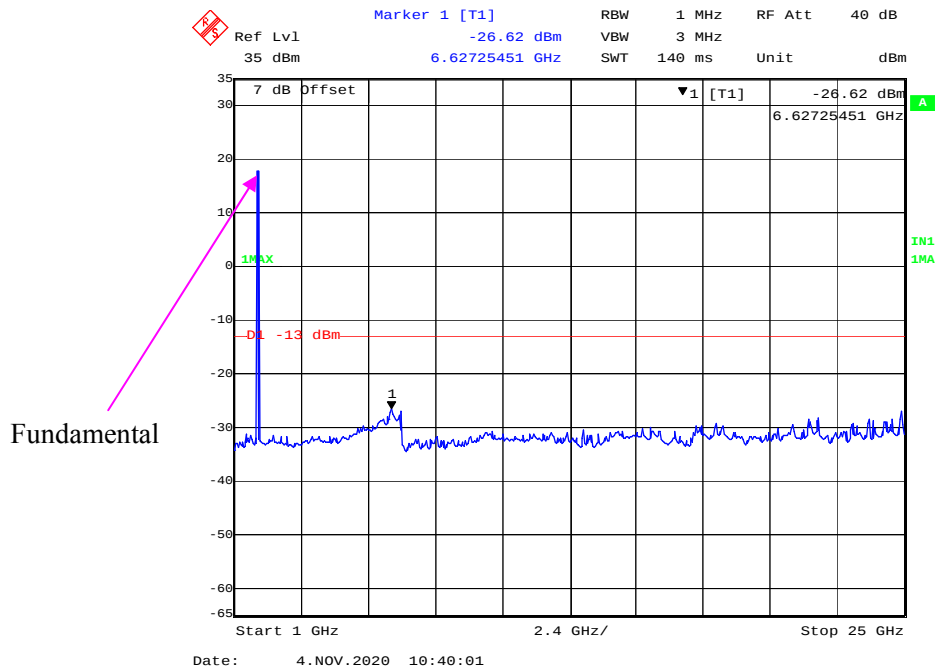
### 1 GHz – 25 GHz (15 MHz, 16-QAM, Low Channel)



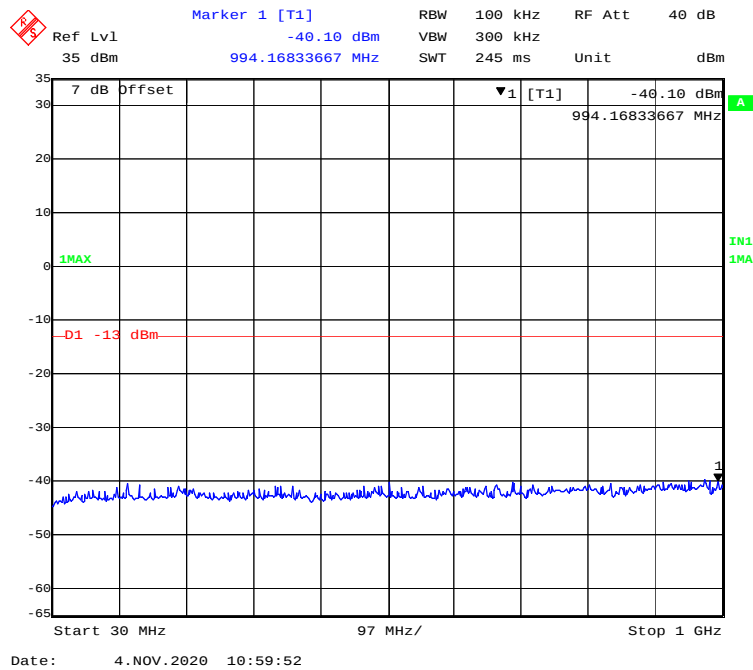
### 30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



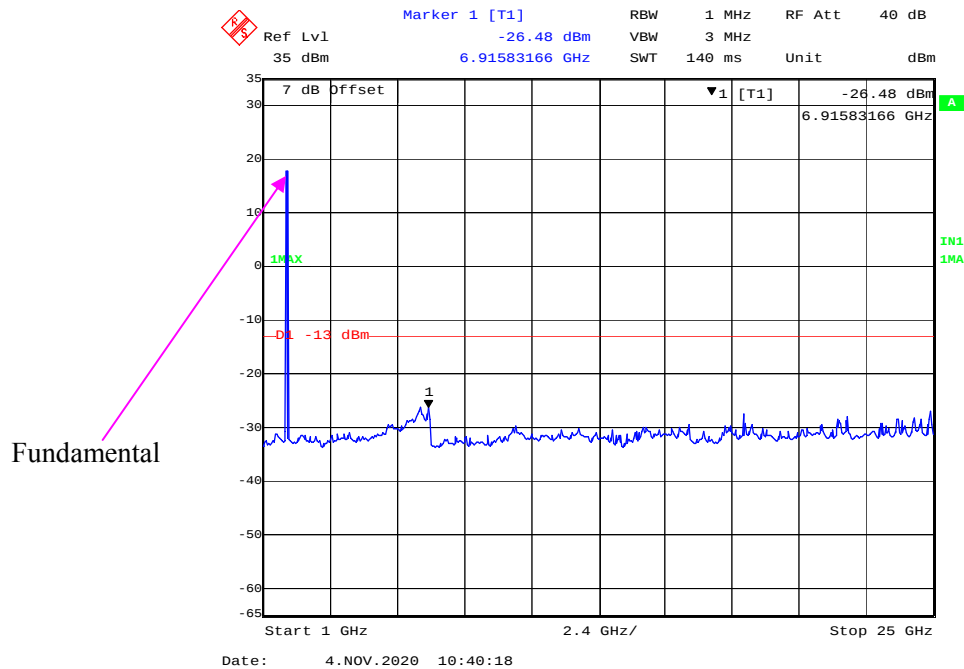
### 1 GHz – 25 GHz (20 MHz, QPSK, Low Channel)



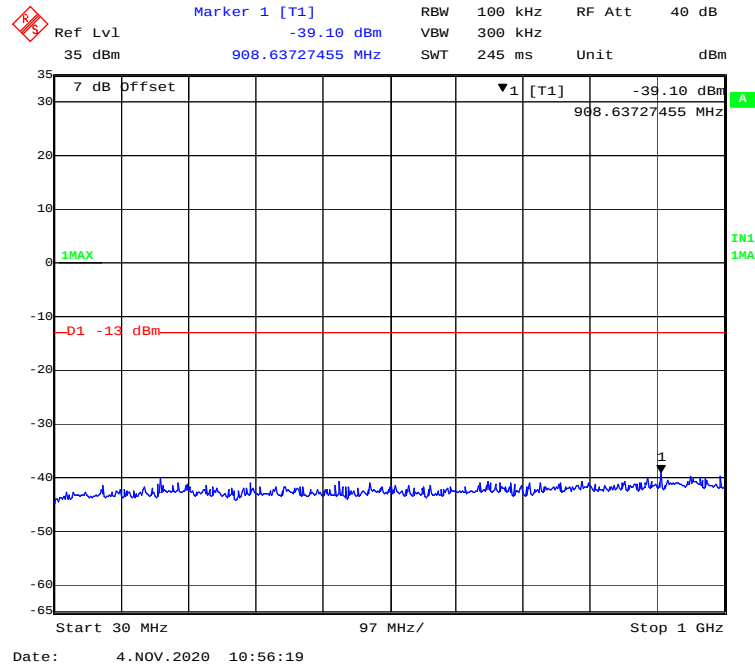
### 30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



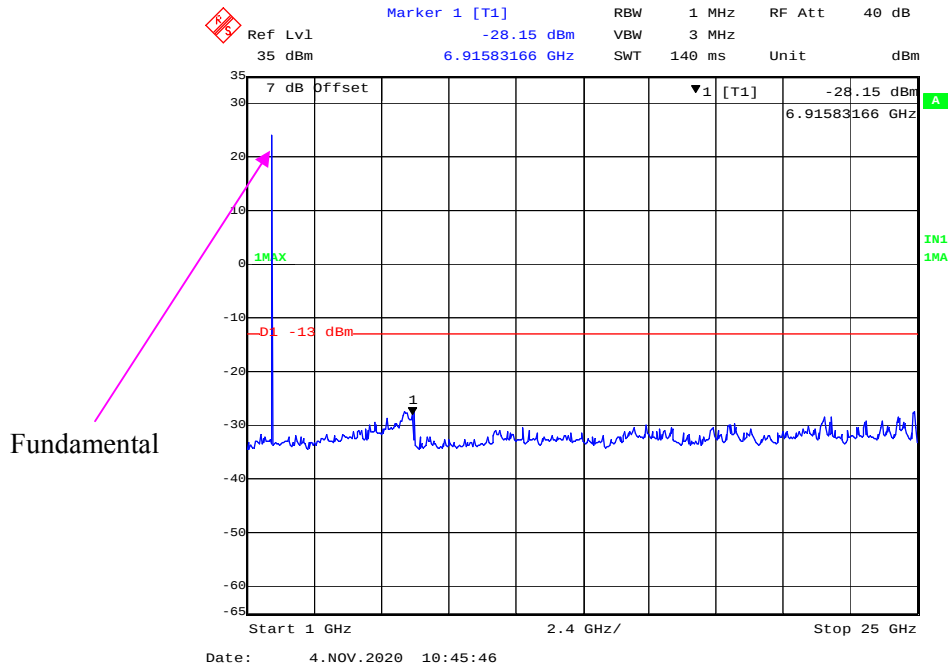
### 1 GHz – 25 GHz (20 MHz, 16-QAM, Low Channel)



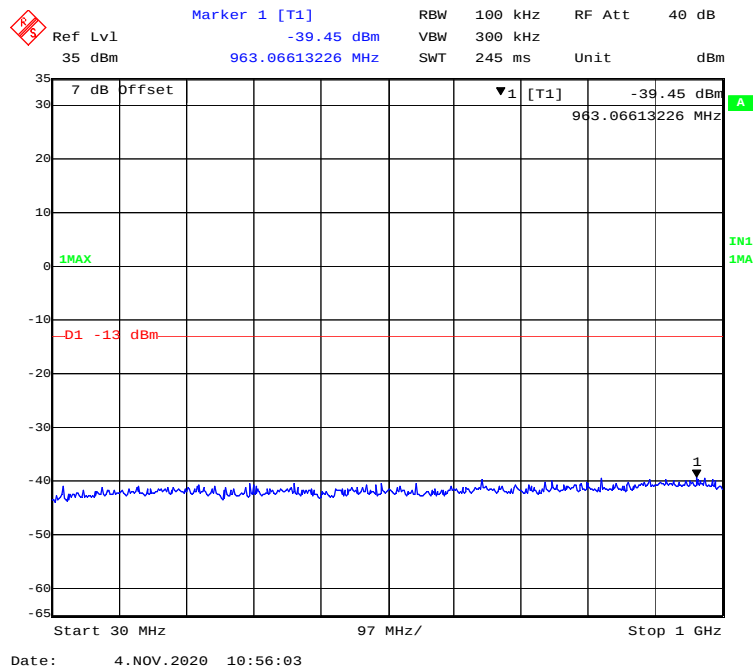
### 30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



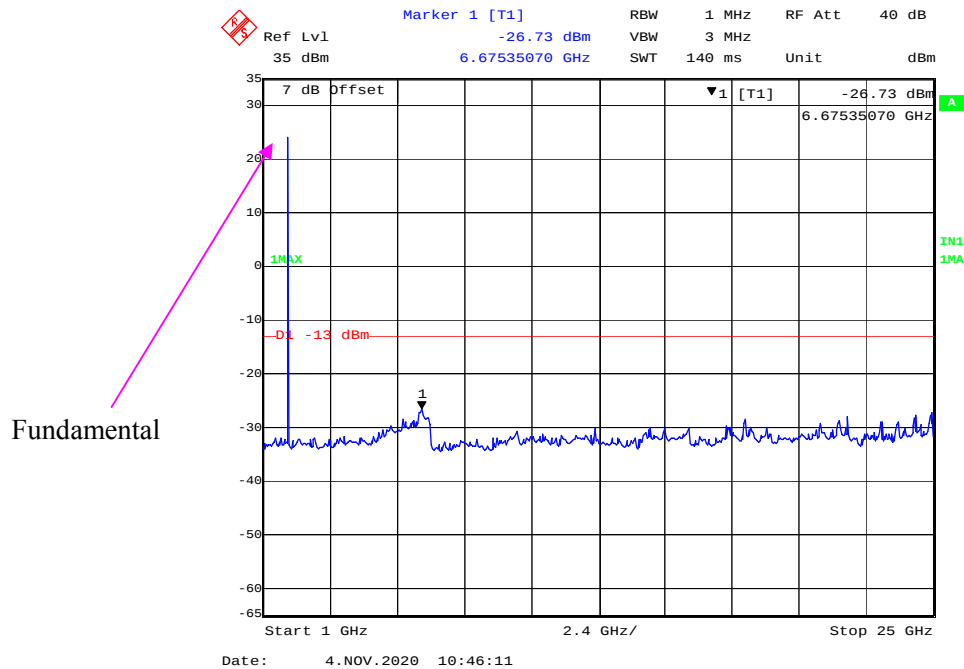
### 1 GHz – 25 GHz (1.4 MHz, QPSK, Middle Channel)



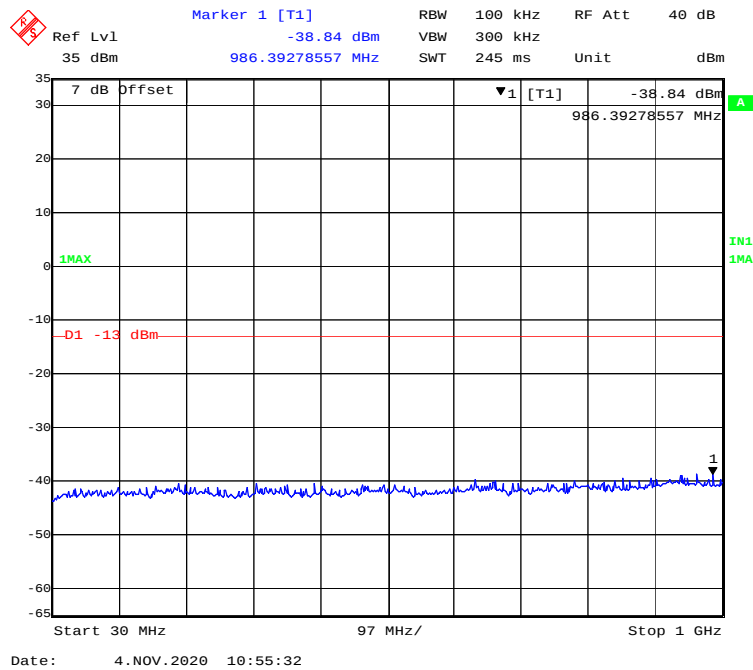
### 30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



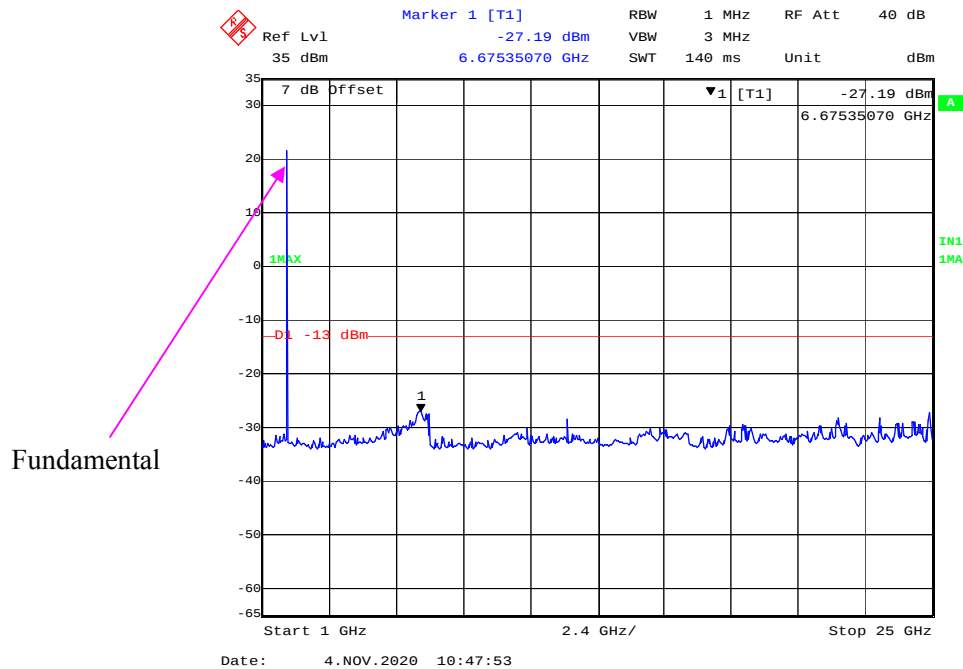
### 1 GHz – 25 GHz (1.4 MHz, 16-QAM, Middle Channel)



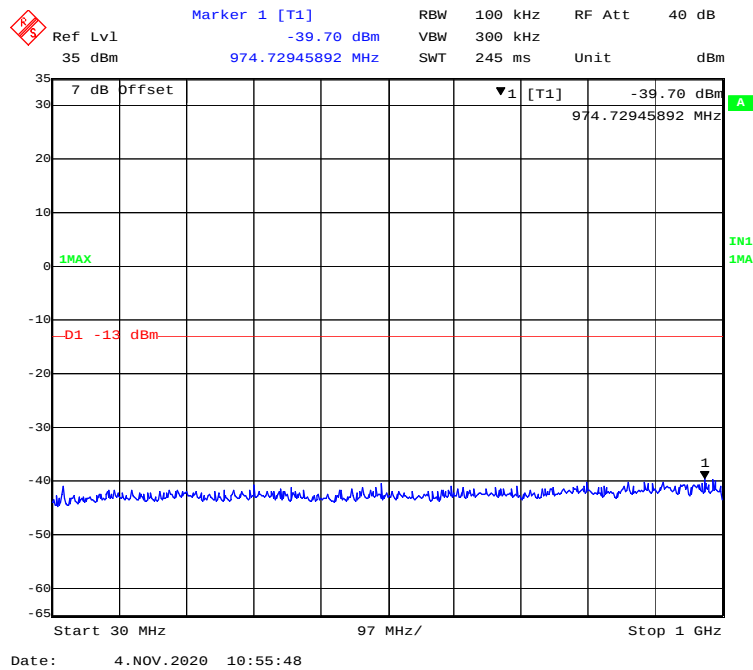
### 30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



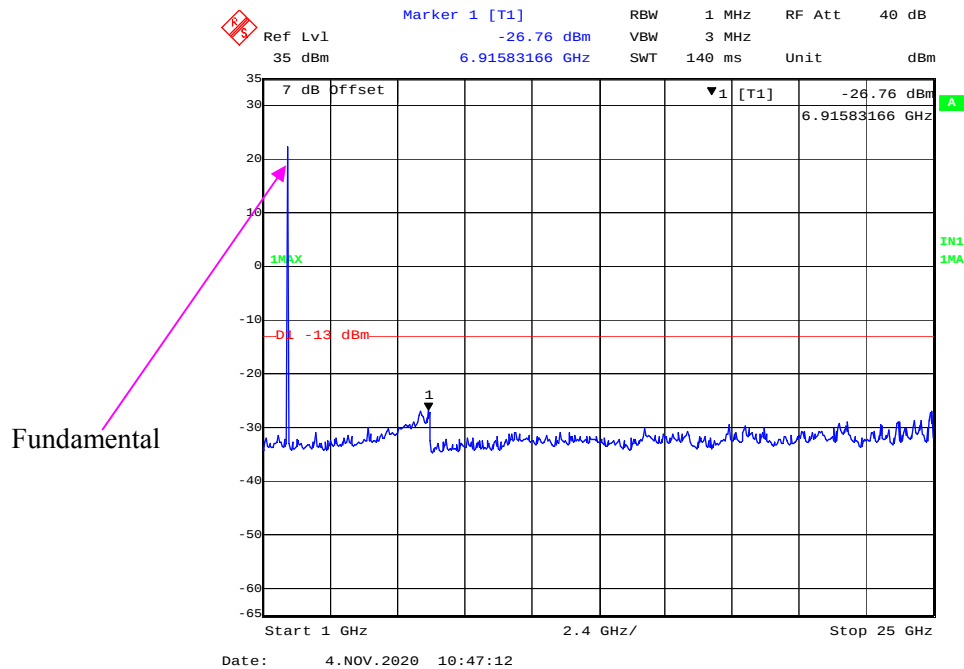
### 1 GHz – 25 GHz (3 MHz, QPSK, Middle Channel)



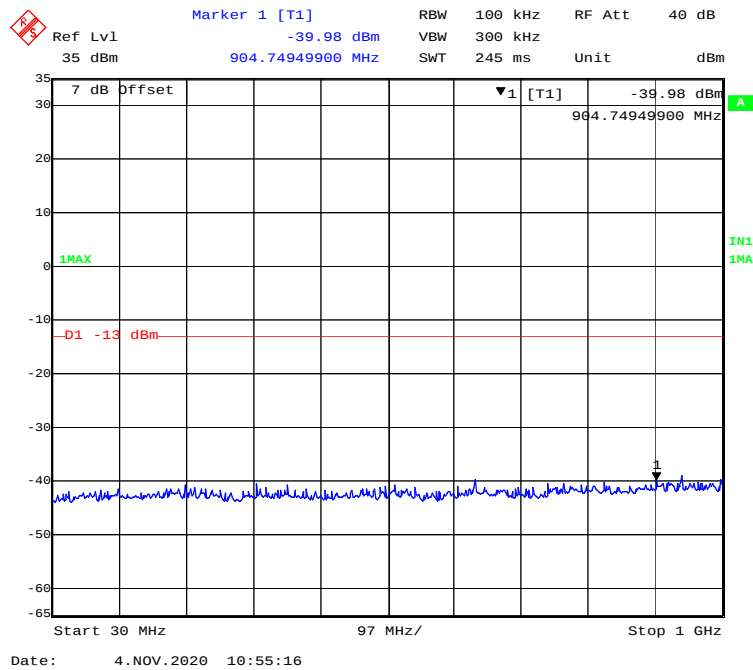
### 30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



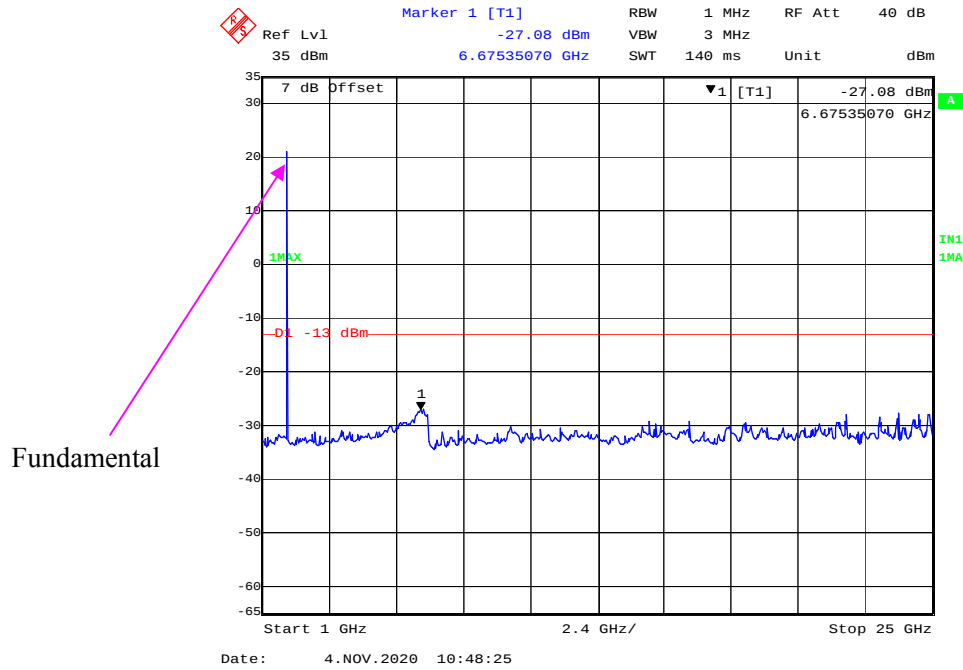
### 1 GHz – 25 GHz (3 MHz, 16-QAM, Middle Channel)



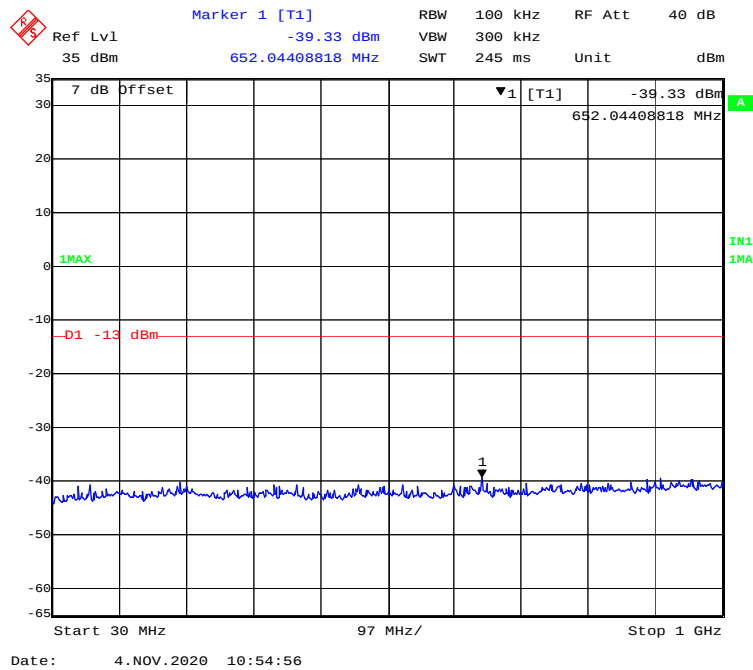
### 30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



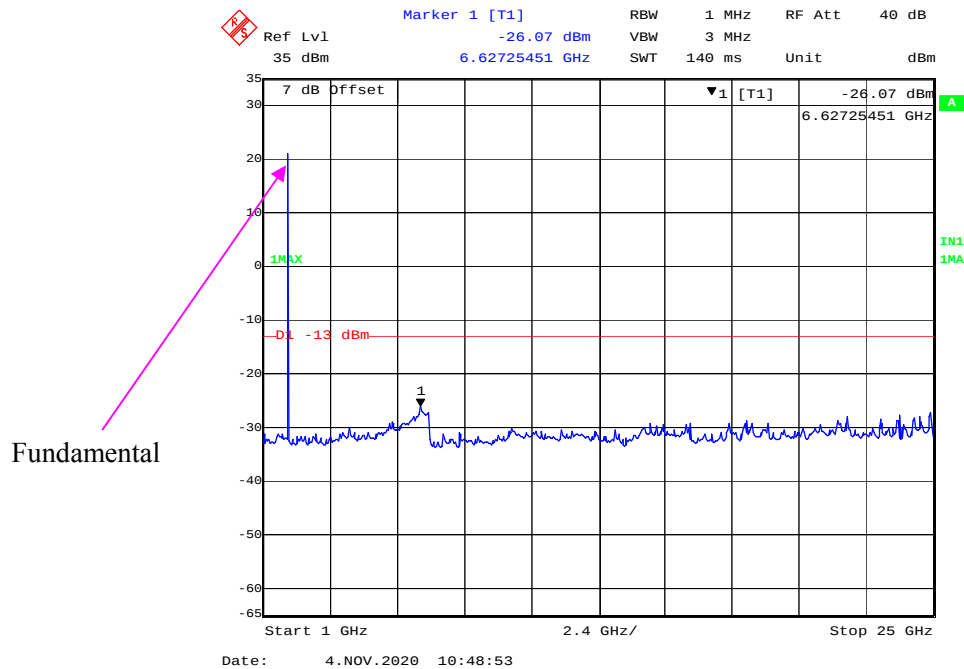
### 1 GHz – 25 GHz (5 MHz, QPSK, Middle Channel)



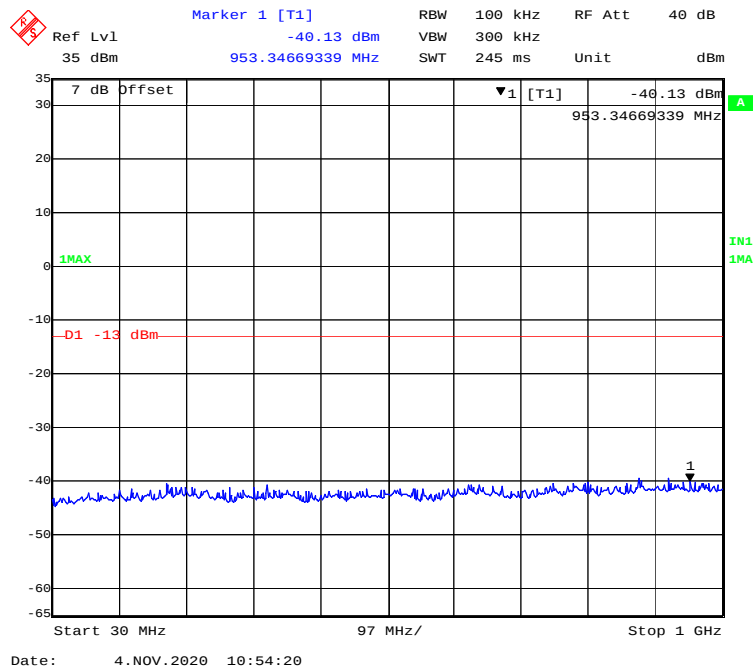
### 30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



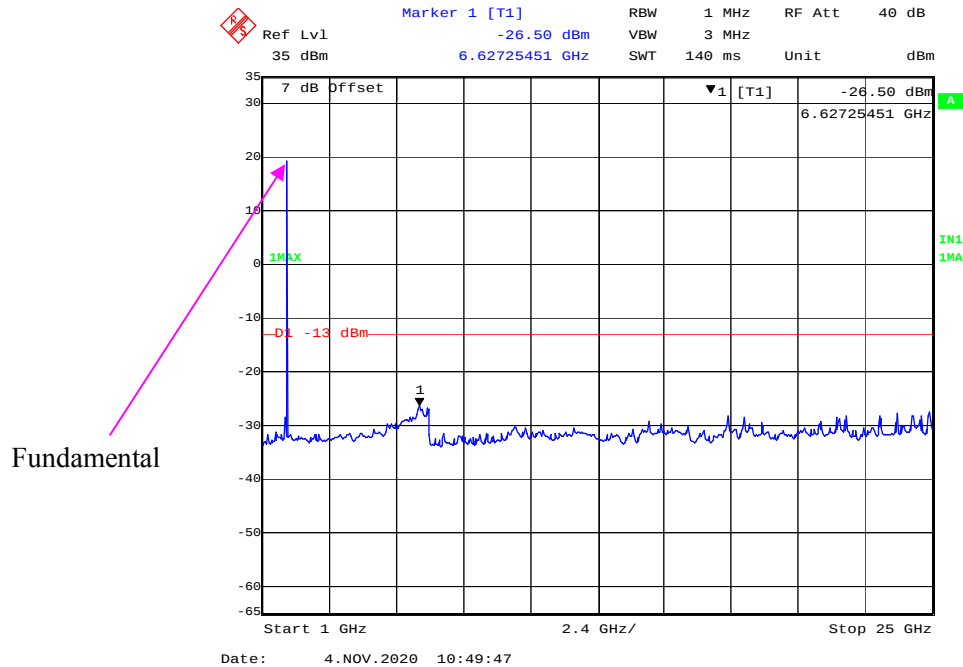
### 1 GHz – 25 GHz (5 MHz, 16-QAM, Middle Channel)



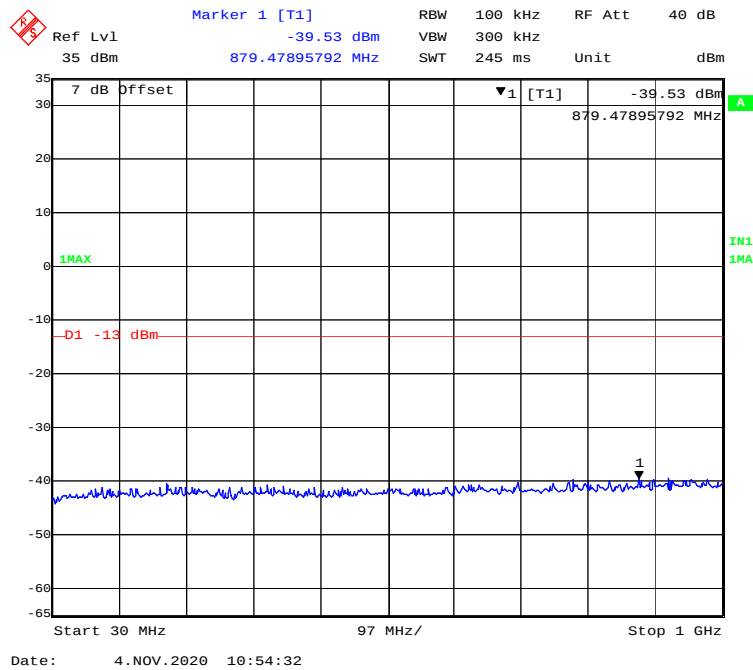
### 30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



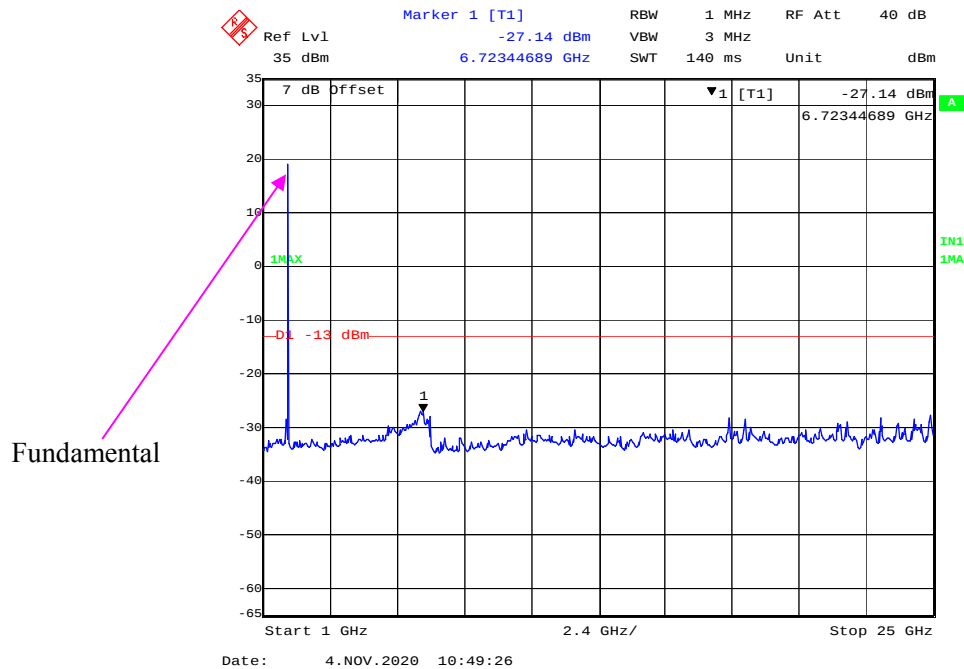
### 1 GHz – 25 GHz (10 MHz, QPSK, Middle Channel)



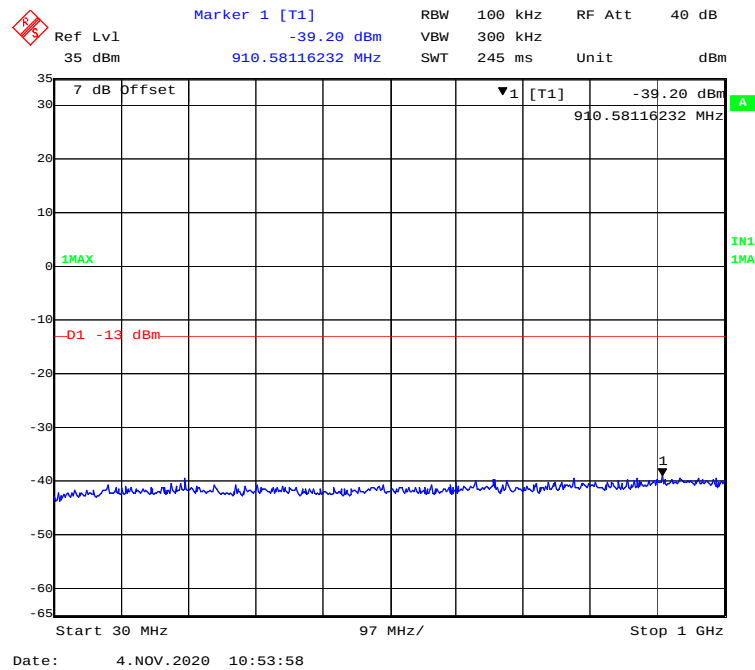
### 30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



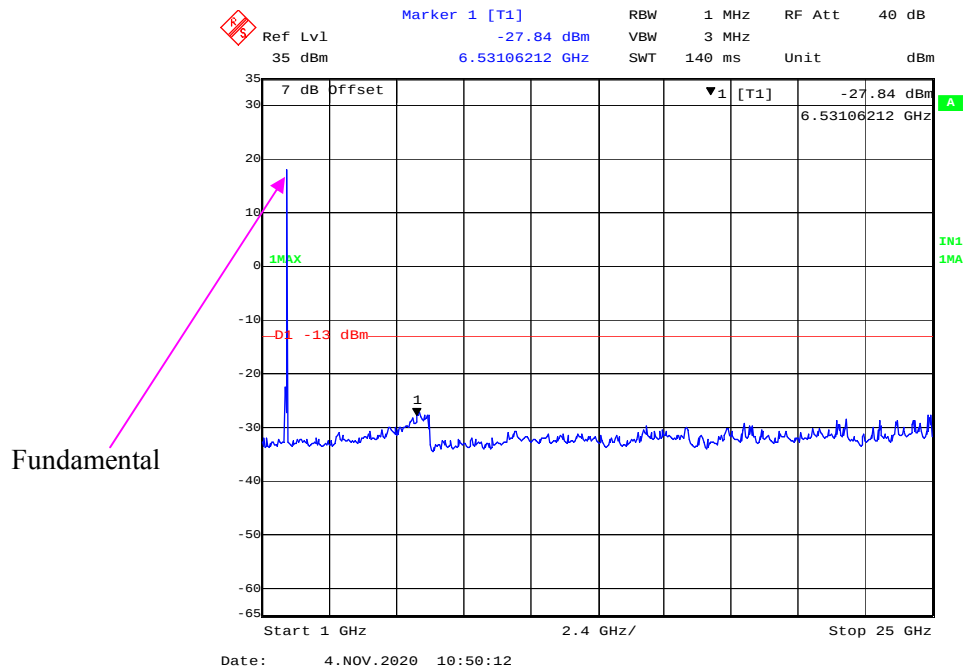
### 1 GHz – 25 GHz (10 MHz, 16-QAM, Middle Channel)



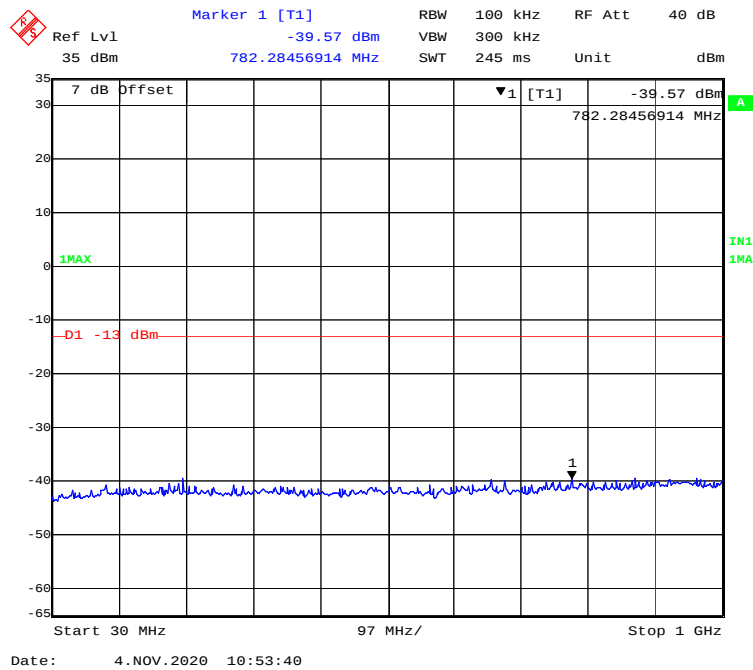
### 30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



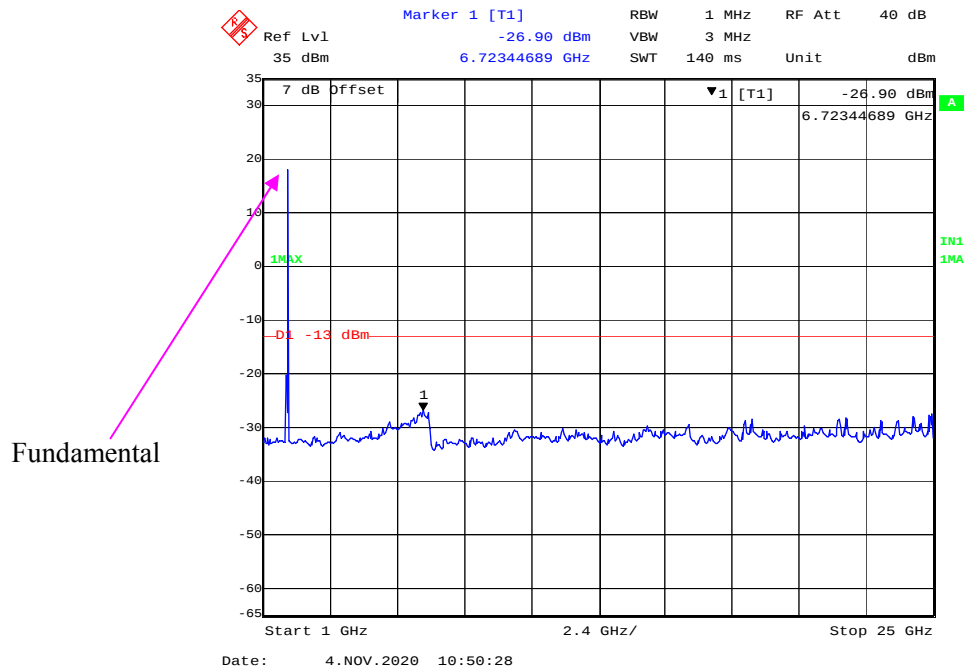
### 1 GHz – 25 GHz (15 MHz, QPSK, Middle Channel)

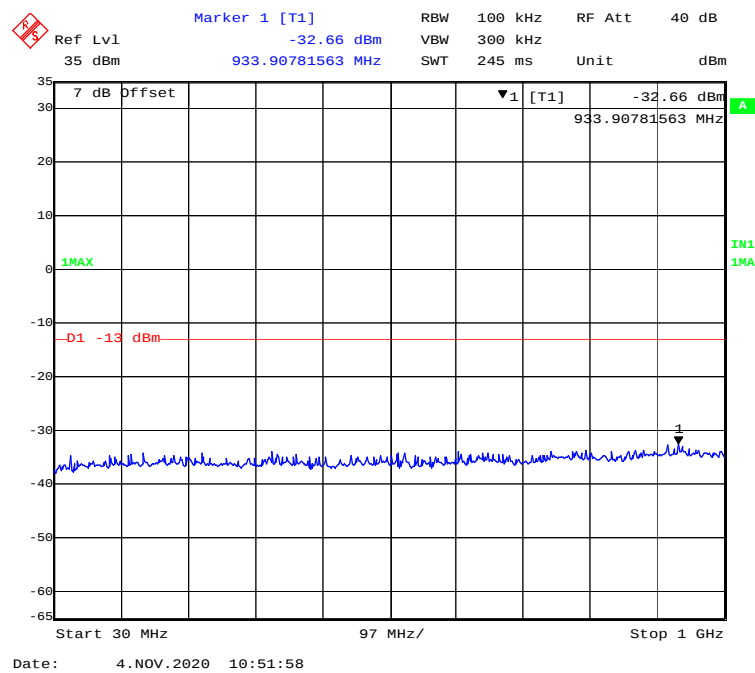
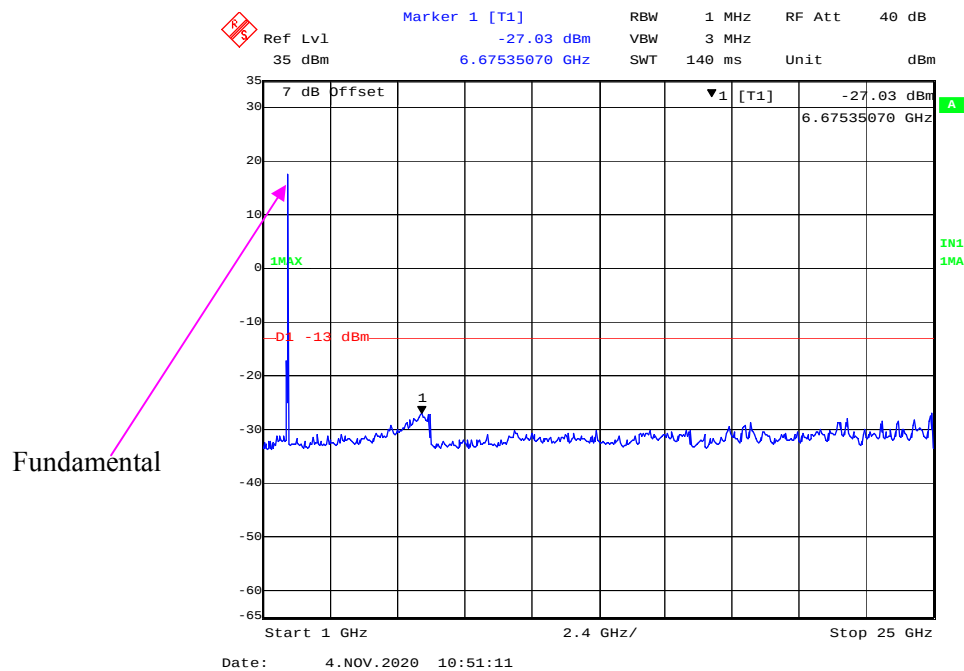


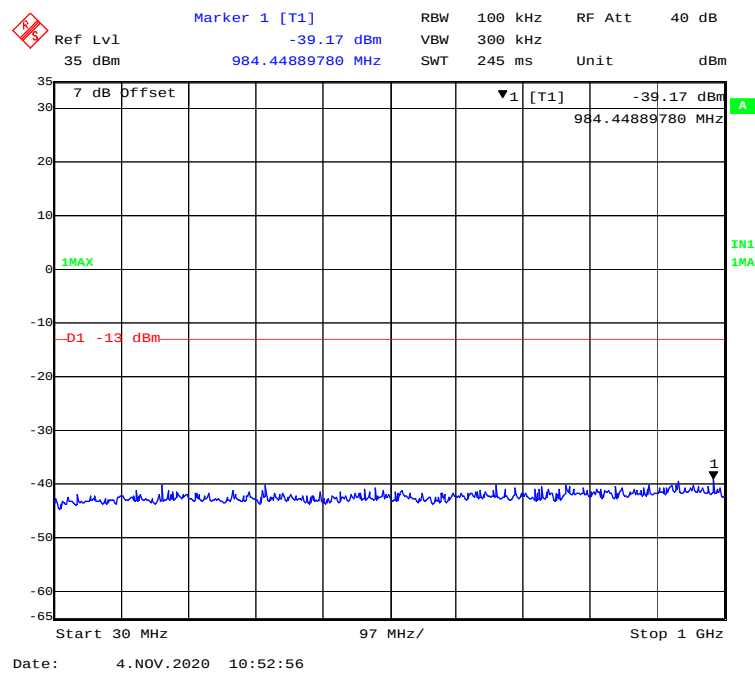
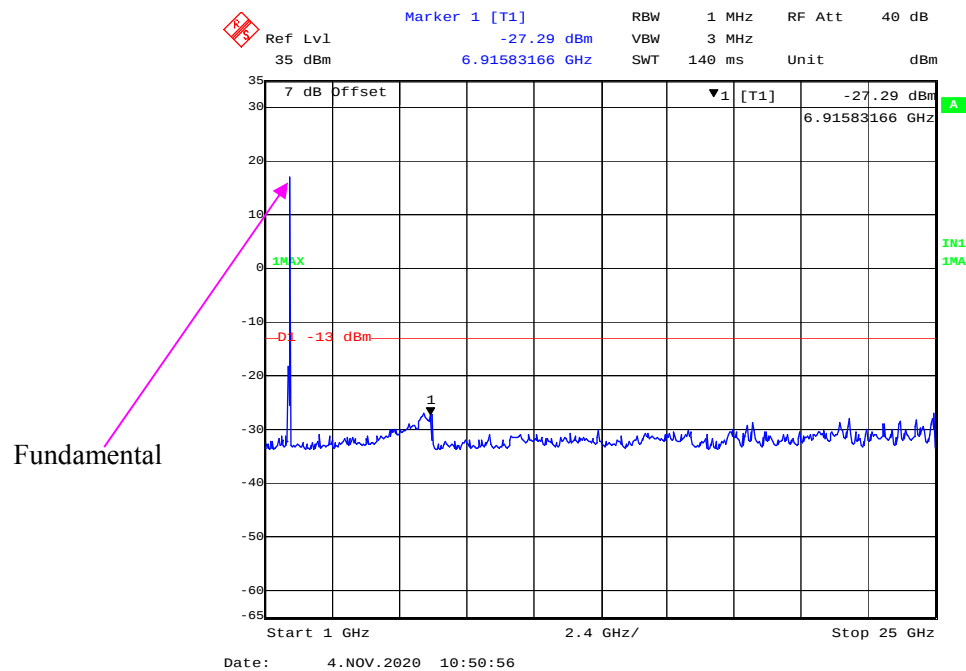
### 30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



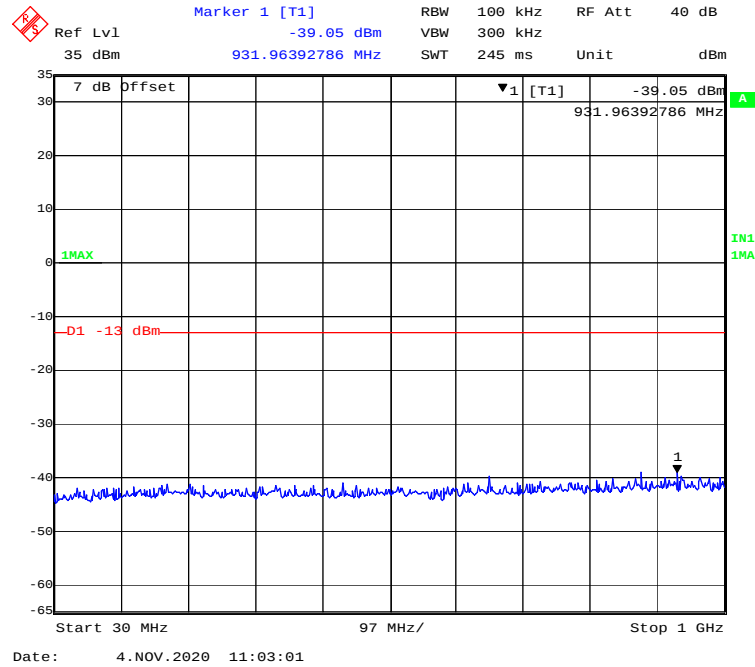
### 1 GHz – 25 GHz (15 MHz, 16-QAM, Middle Channel)



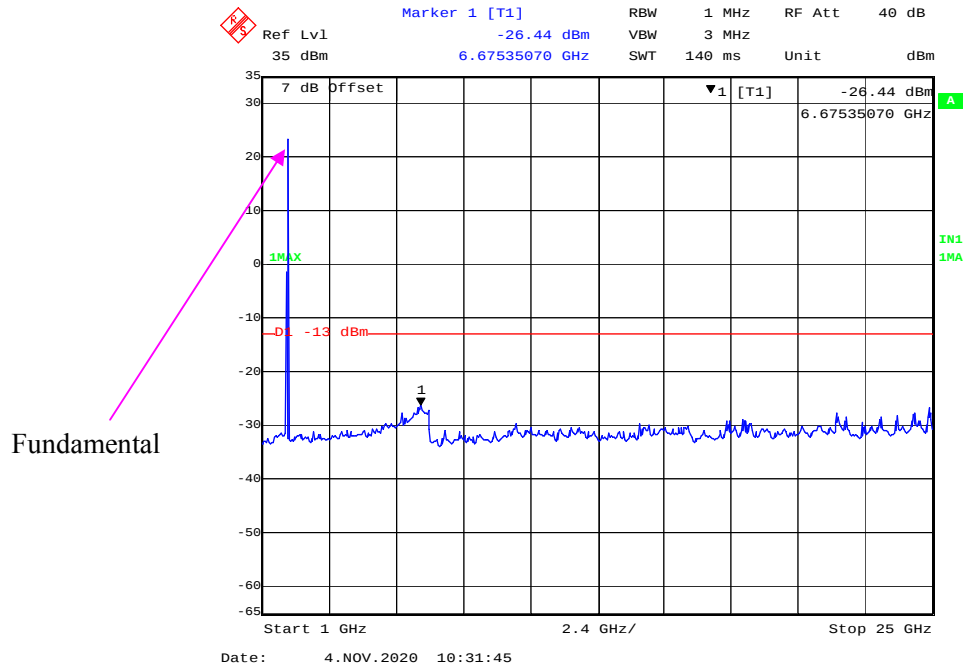
**30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)****1 GHz – 25 GHz (20 MHz, QPSK, Middle Channel)**

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

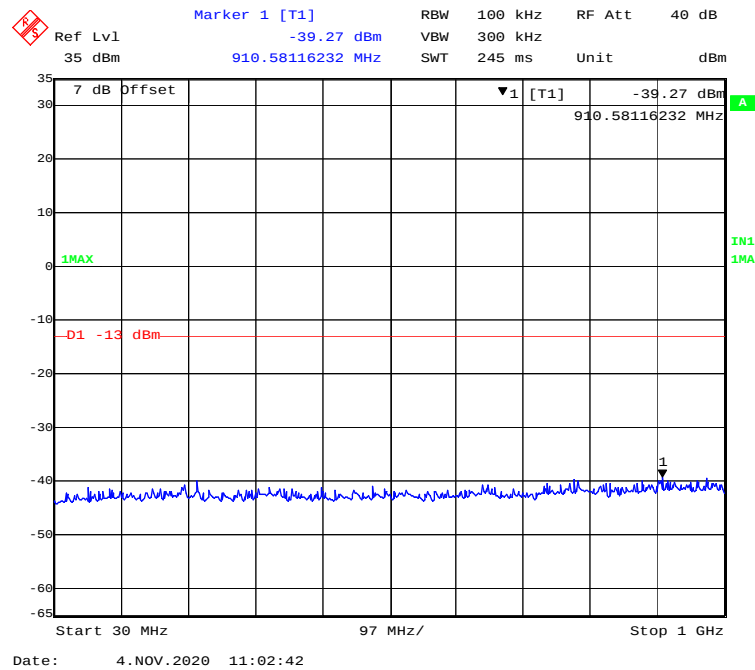
### 30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



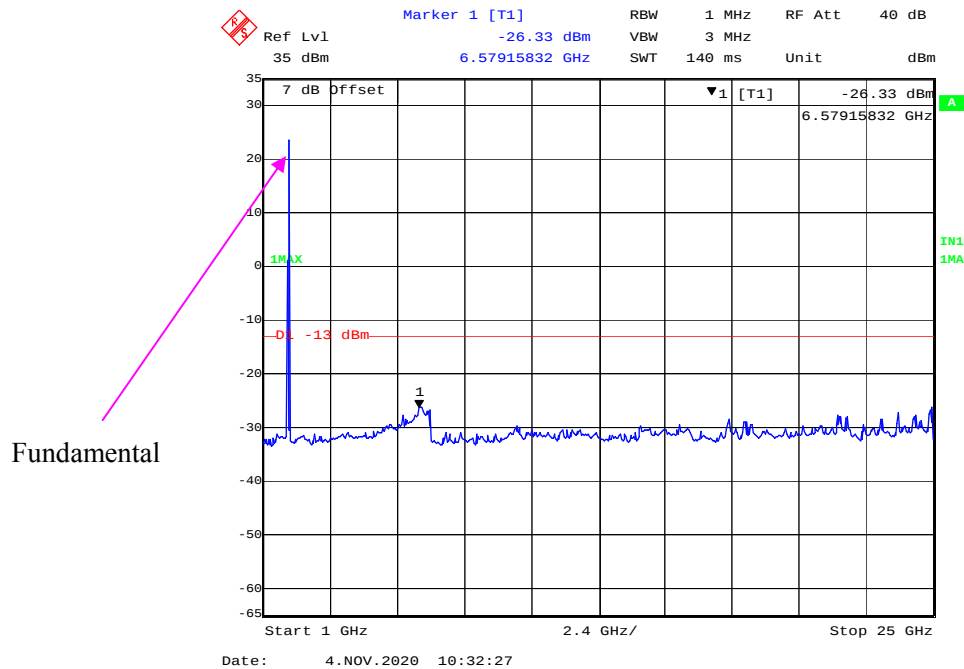
### 1 GHz – 25 GHz (1.4 MHz, QPSK, High Channel)



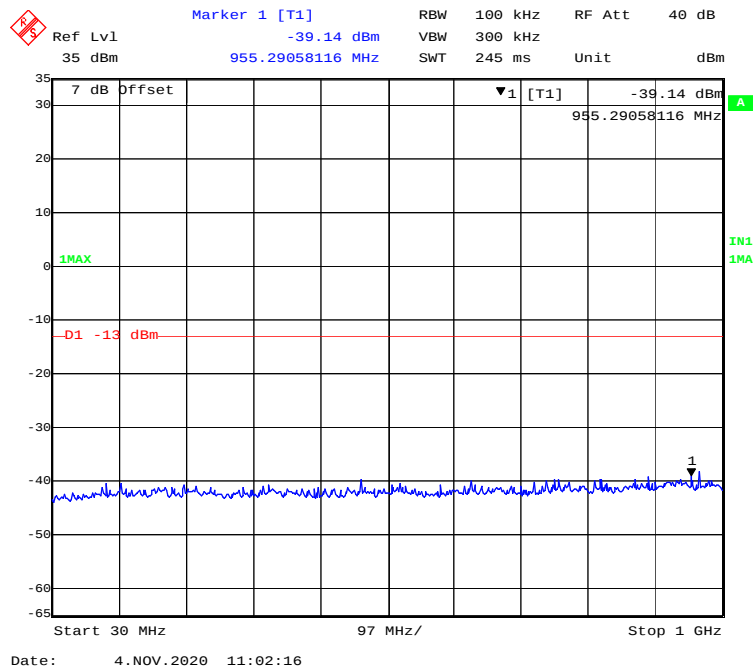
### 30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



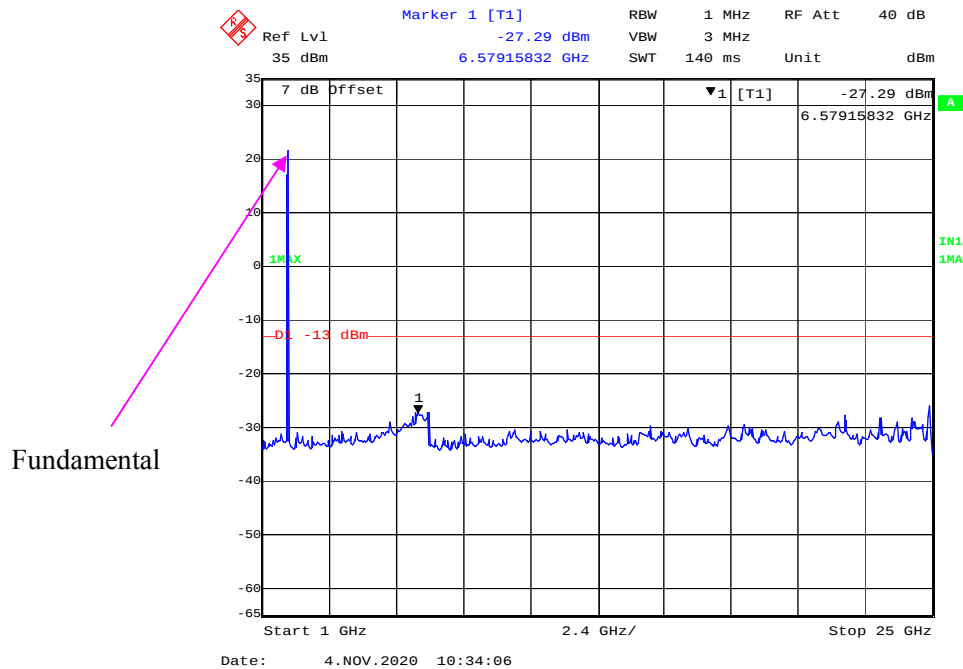
### 1 GHz – 25 GHz (1.4 MHz, 16-QAM, High Channel)



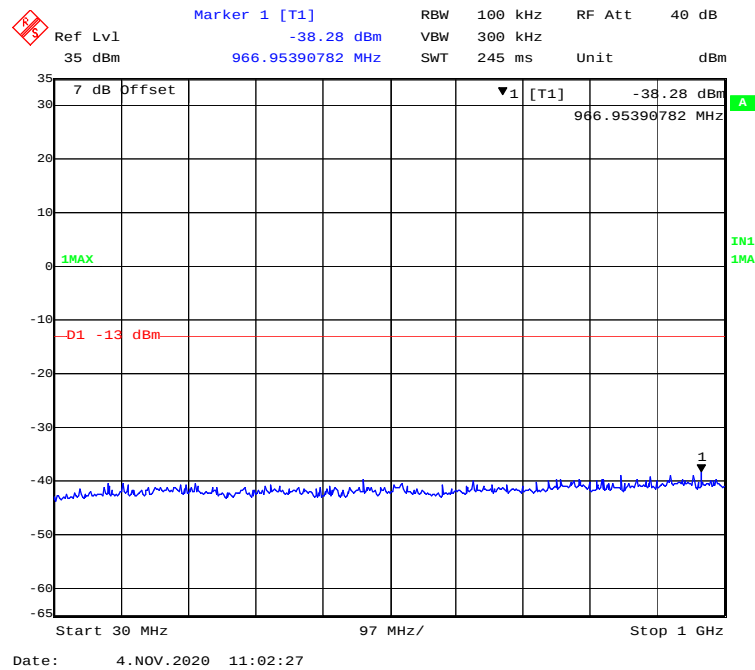
### 30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



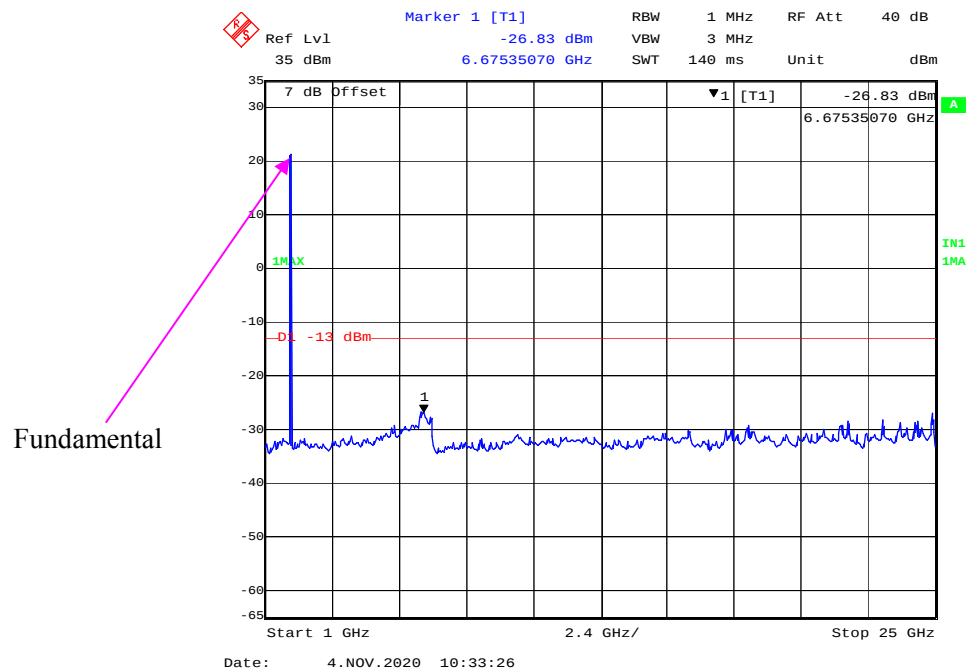
### 1 GHz – 25 GHz (3 MHz, QPSK, High Channel)



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



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



Ref Lvl 35 dBm

Marker 1 [T1] -26.93 dBm

RBW 1 MHz RF Att 40 dB

VBW 3 MHz

SWT 140 ms Unit dBm

7 dB Offset

▼1 [T1] -26.93 dBm

6.67535070 GHz

1MAX

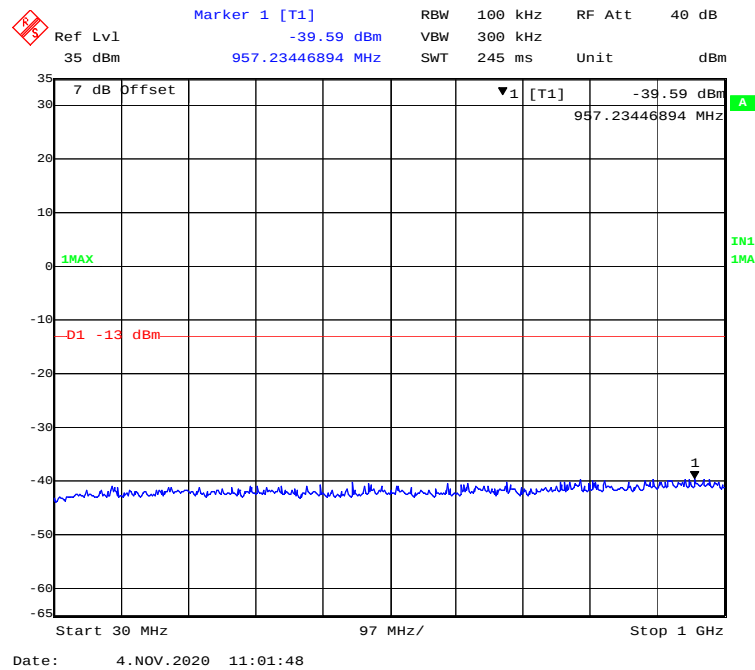
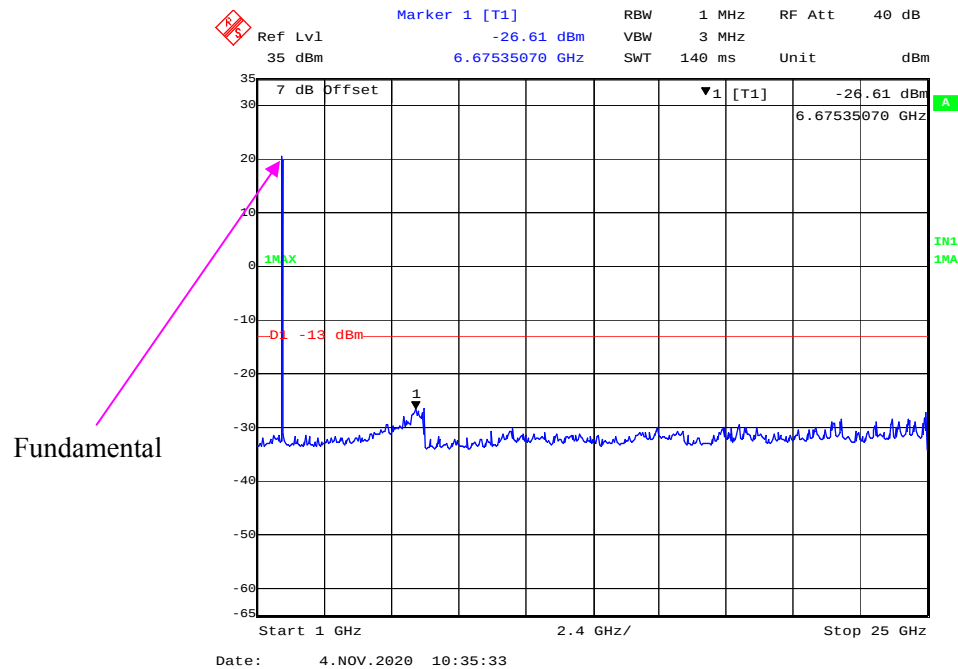
DL -13 dBm

1

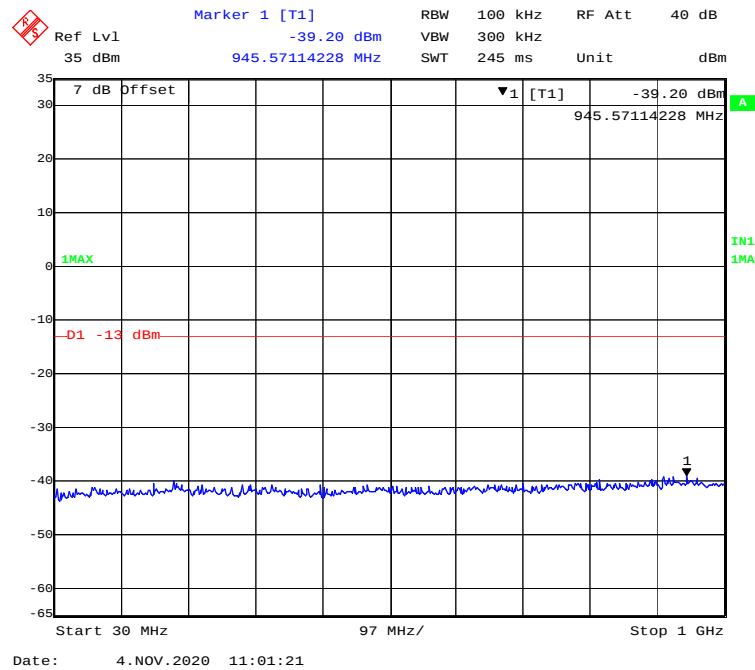
Fundamental

Start 1 GHz 2.4 GHz/ Stop 25 GHz

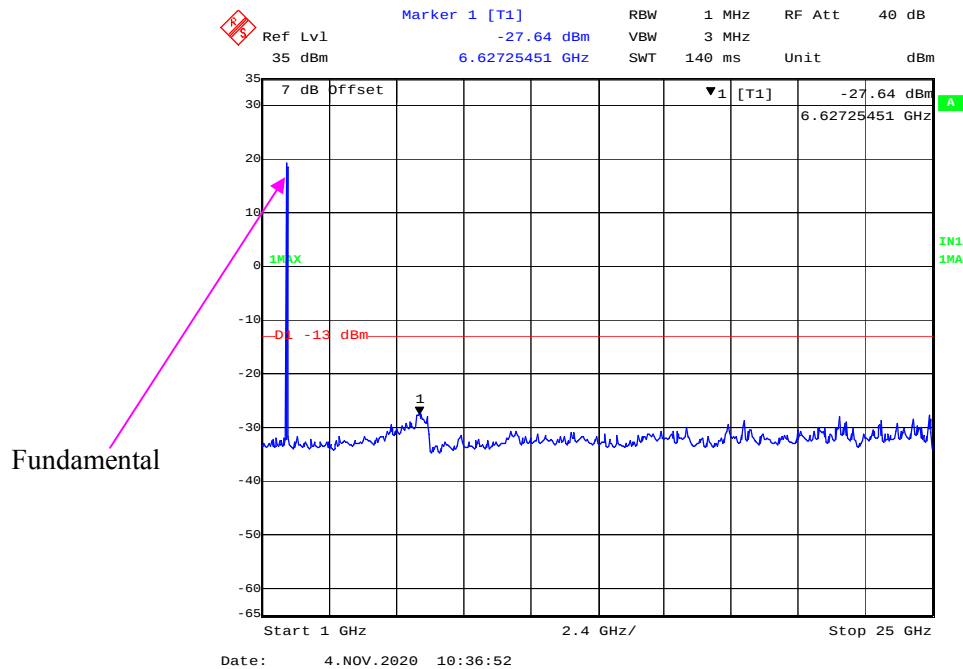
Date: 4.NOV.2020 10:35:01

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

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



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



Ref Lvl 35 dBm Marker 1 [T1] -39.85 dBm RBW 100 kHz RF Att 40 dB  
 35 dBm 943.62725451 MHz VBW 300 kHz Unit dBm  
 SWT 245 ms

7 dB Offset ▼1 [T1] -39.85 dBm  
 943.62725451 MHz

1MAX IN1 1MA

-D1 -13 dBm

1

Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 4.NOV.2020 11:01:36

Ref Lvl 35 dBm

Marker 1 [T1] -26.54 dBm

RBW 1 MHz

VBW 3 MHz

SWT 140 ms

Unit dBm

7 dB Offset

▼1 [T1] -26.54 dBm

6.62725451 GHz

1MAX

IN1 1MA

DI -13 dBm

1

Fundamental

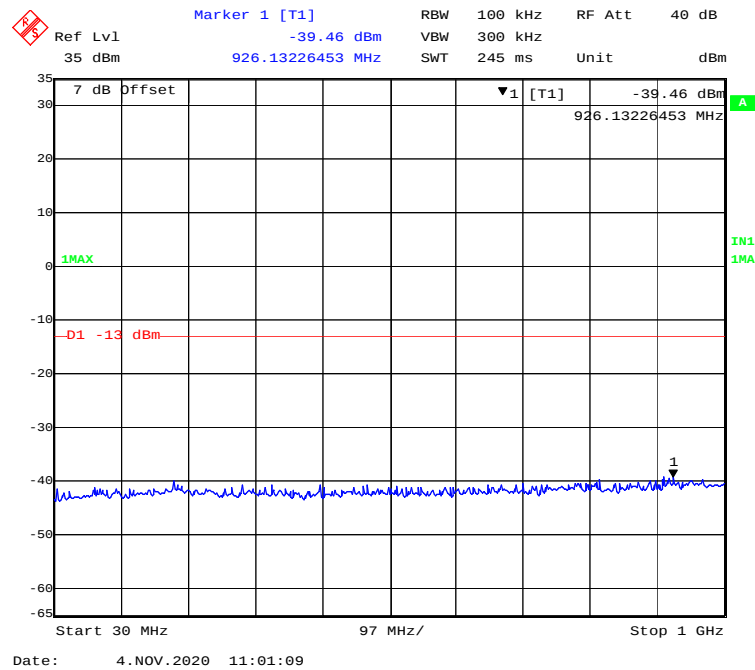
Start 1 GHz

2.4 GHz/

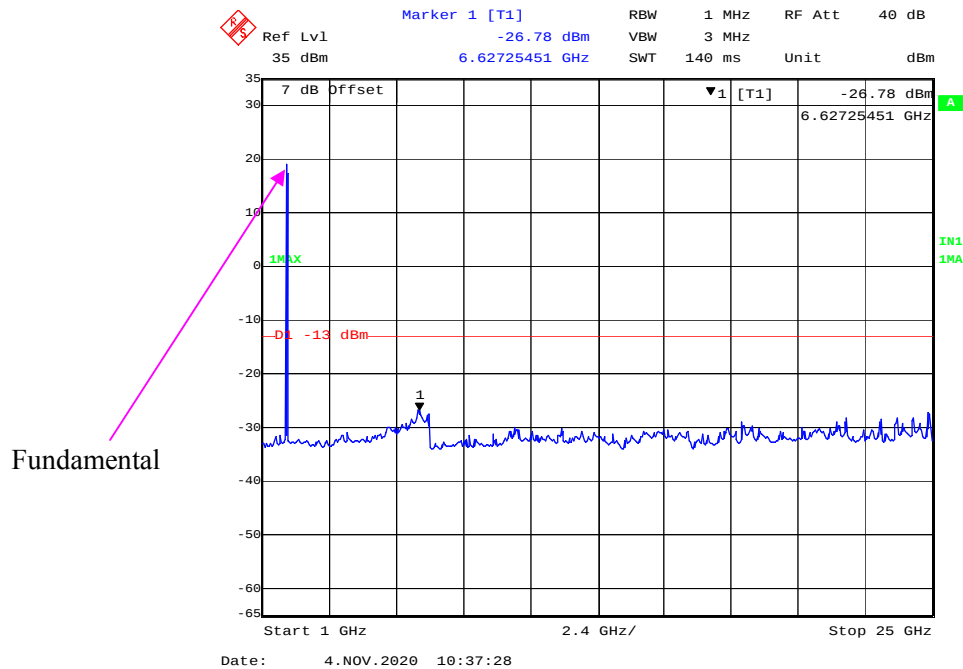
Stop 25 GHz

Date: 4.NOV.2020 10:36:25

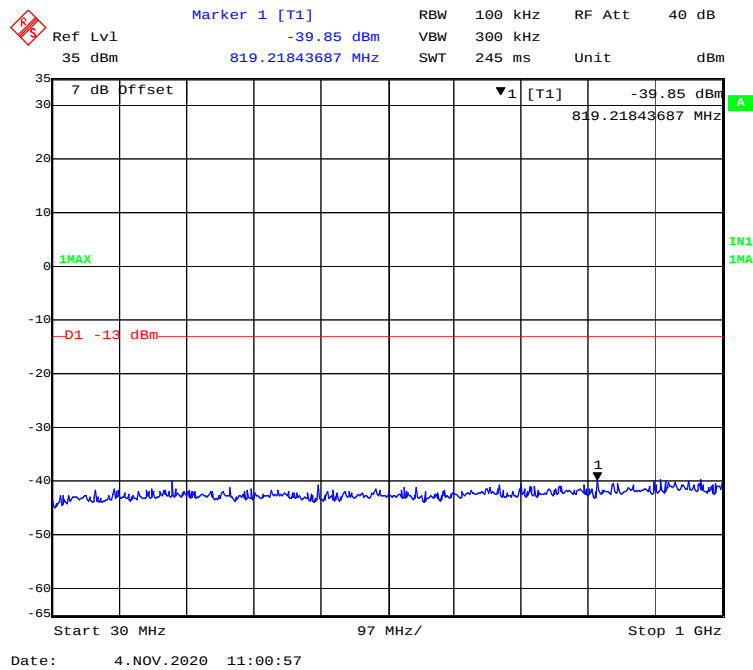
### 30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



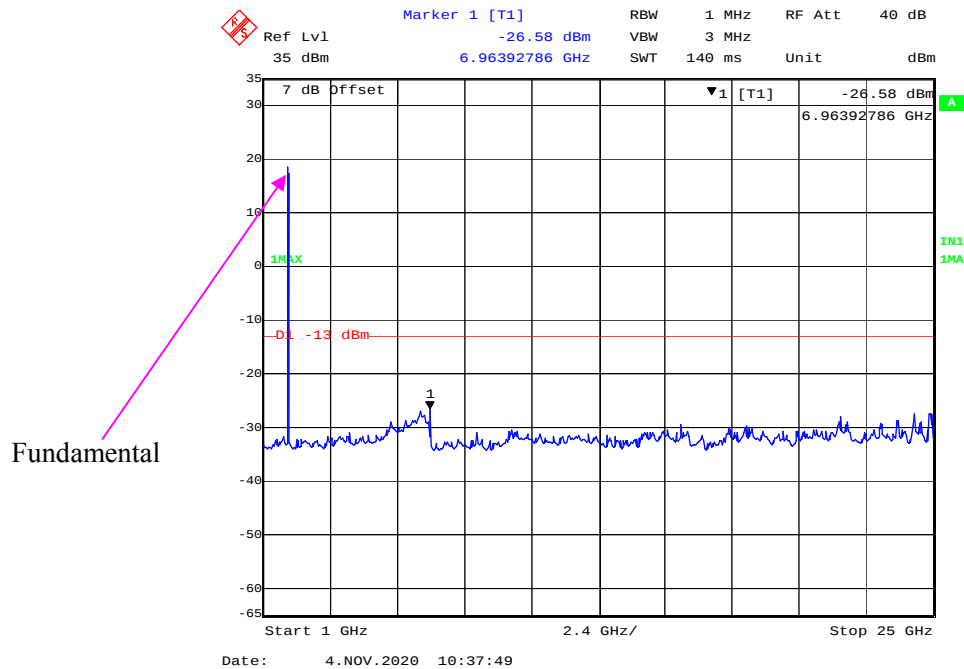
### 1 GHz – 25 GHz (15 MHz, QPSK, High Channel)



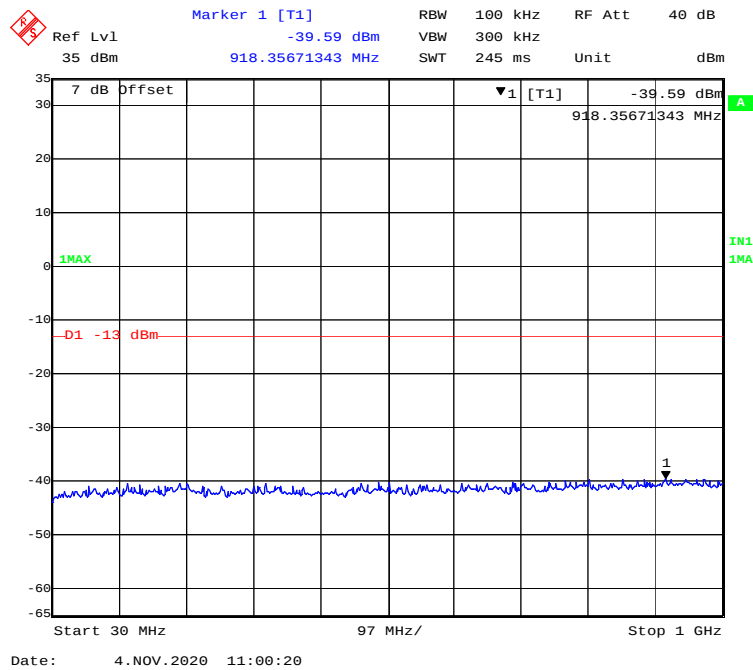
### 30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



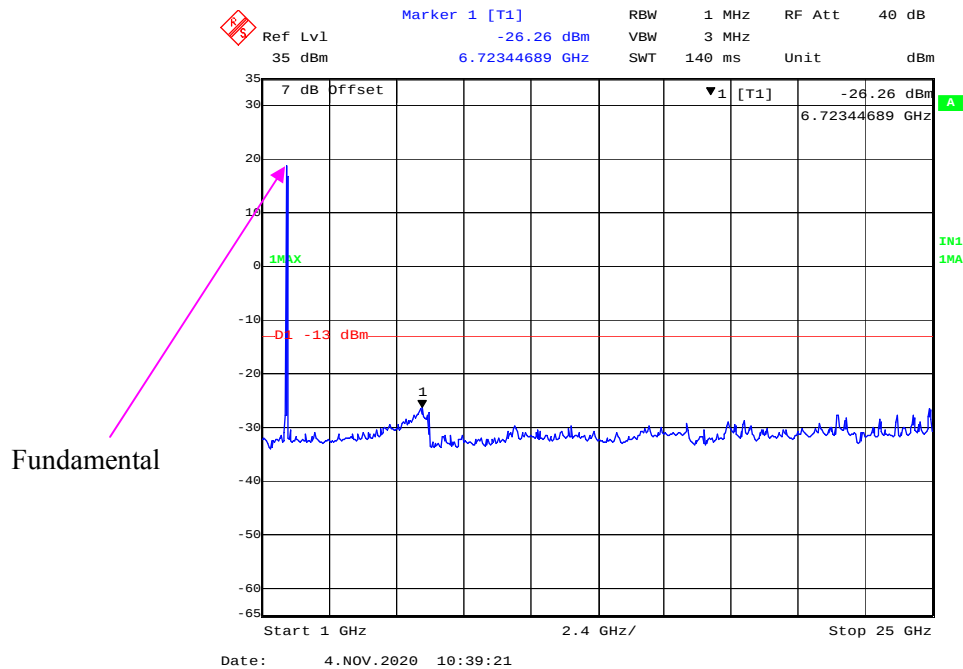
### 1 GHz – 25 GHz (15 MHz, 16-QAM, High Channel)



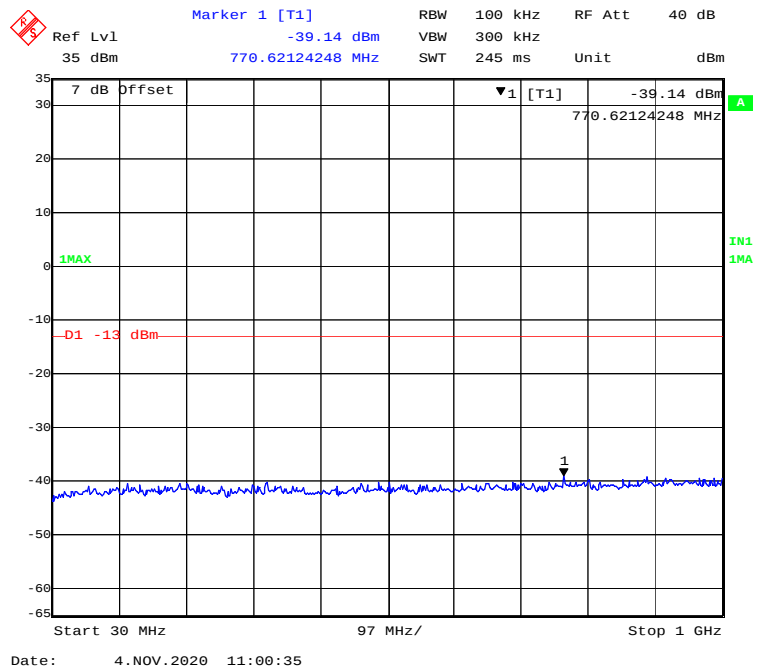
### 30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



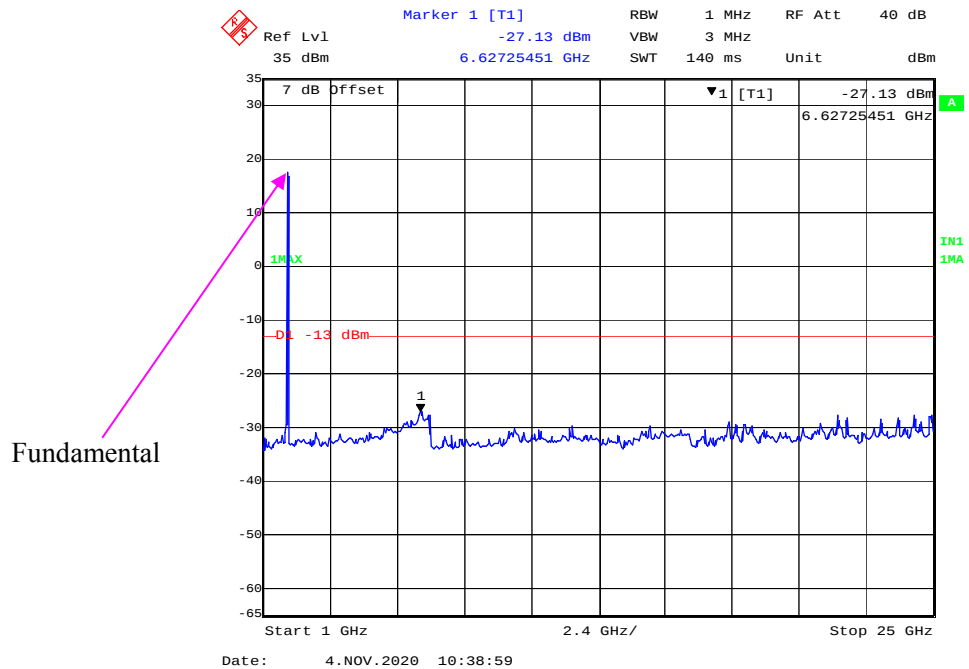
### 1 GHz – 25 GHz (20 MHz, QPSK, High Channel)

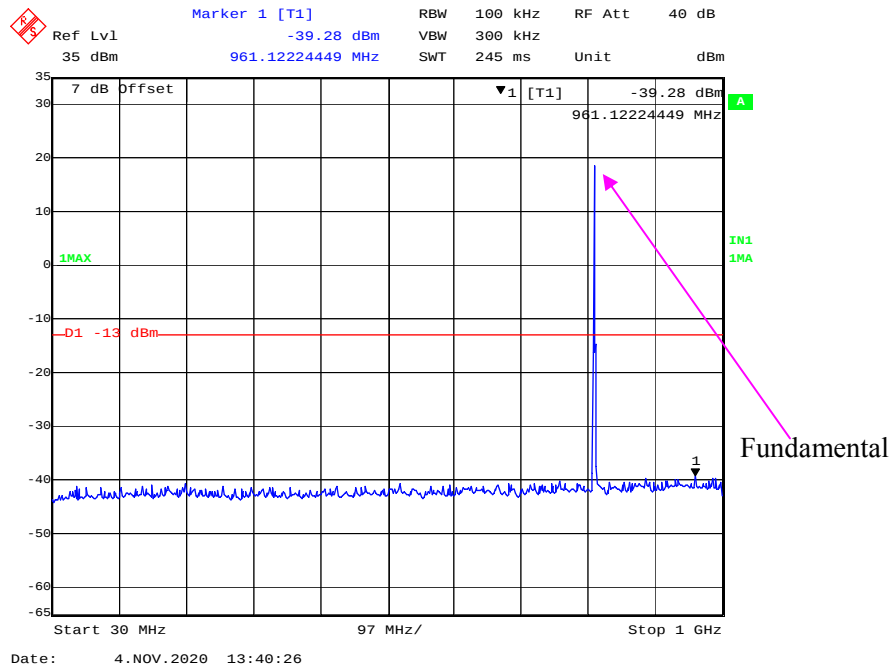
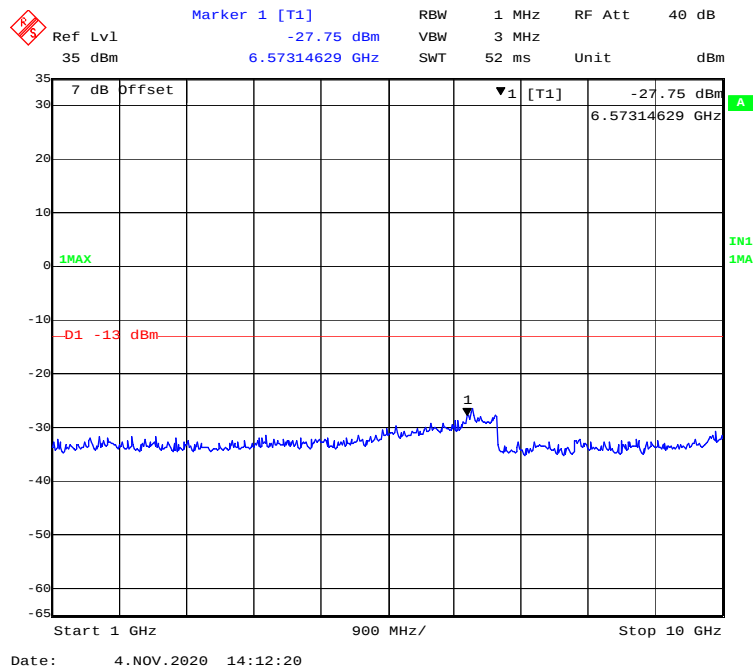


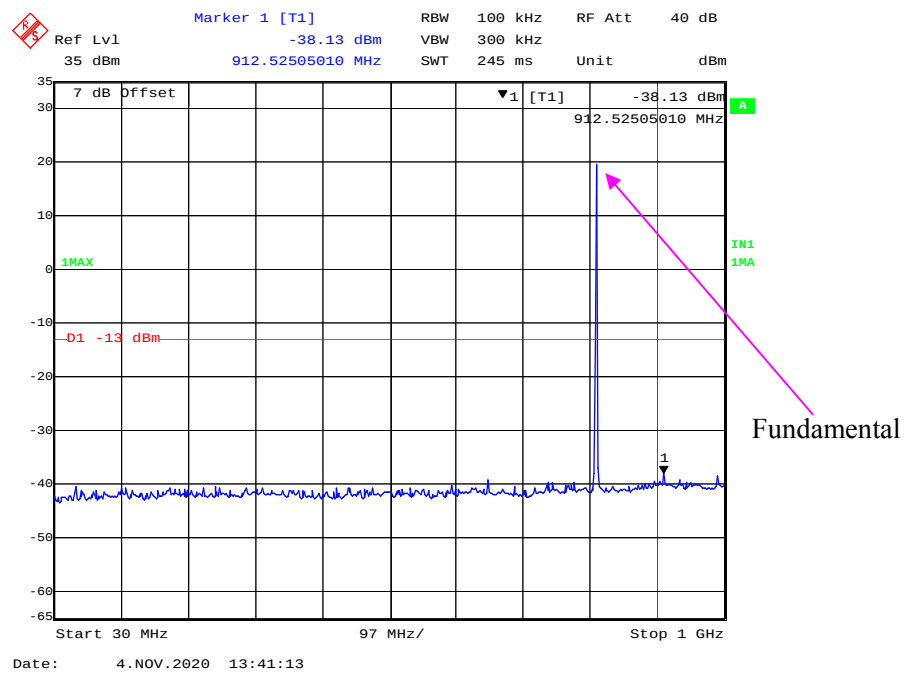
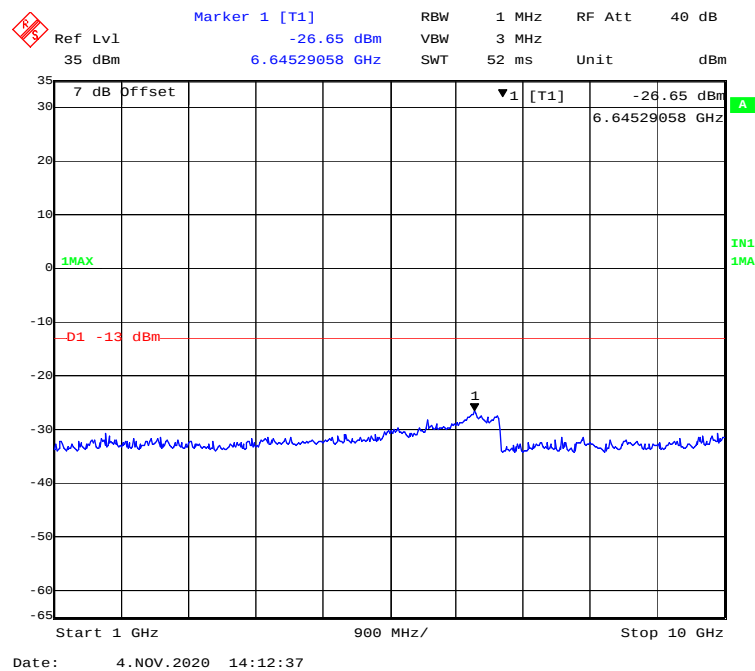
### 30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)



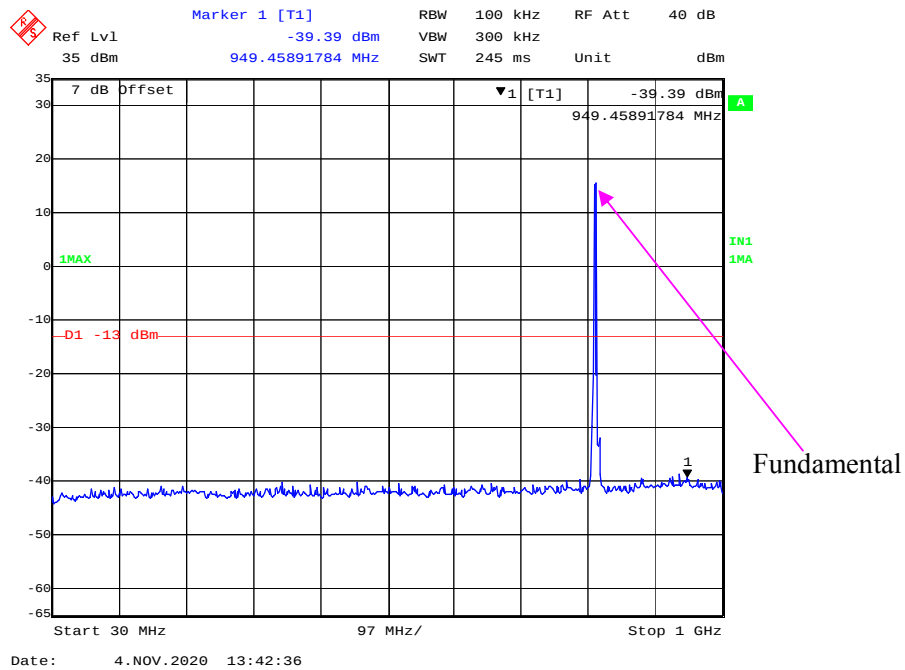
### 1 GHz – 25 GHz (20 MHz, 16-QAM, High Channel)



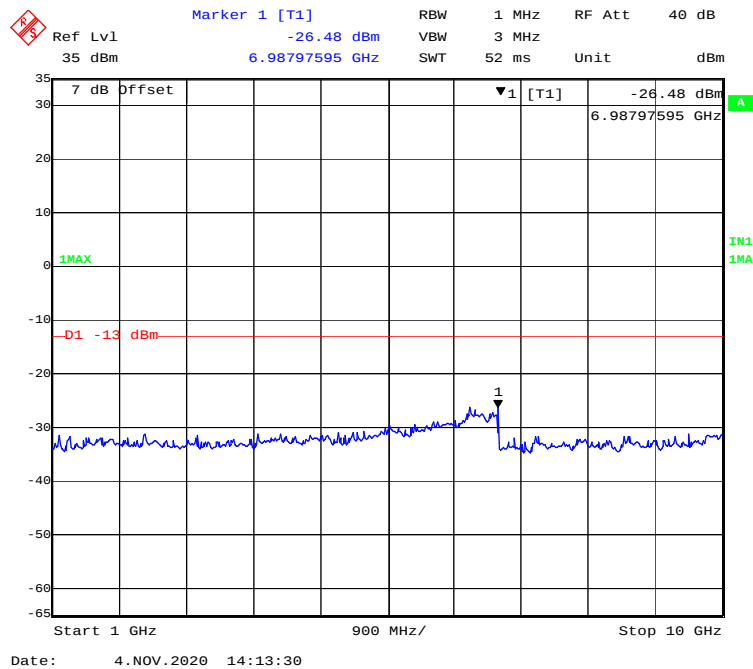
**LTE Band 26:****30 MHz - 1 GHz (QPSK, 1.4 MHz, Low Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, Low Channel)**

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

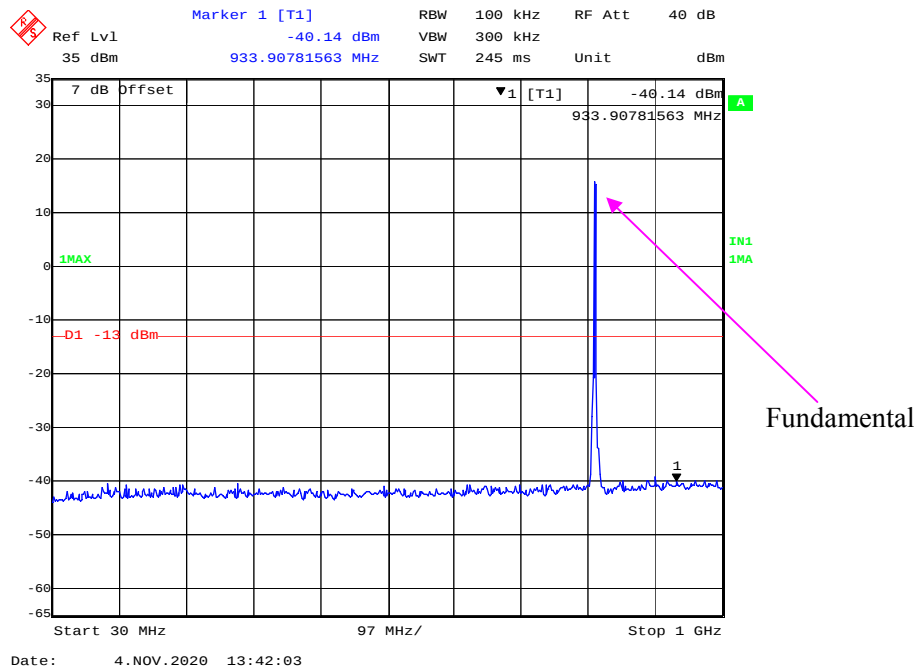
### 30 MHz - 1 GHz (QPSK, 3.0 MHz, Low Channel)



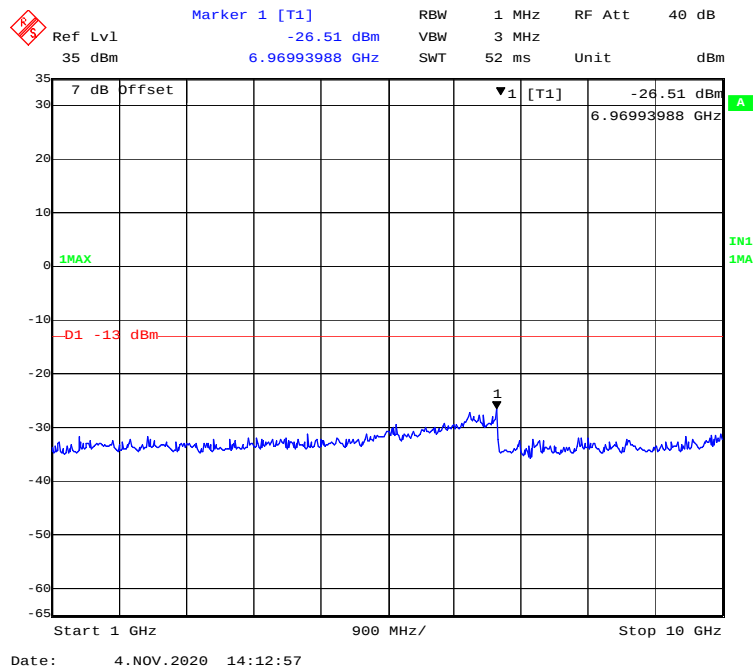
### 1 GHz – 10 GHz (QPSK, 3.0 MHz, Low Channel)



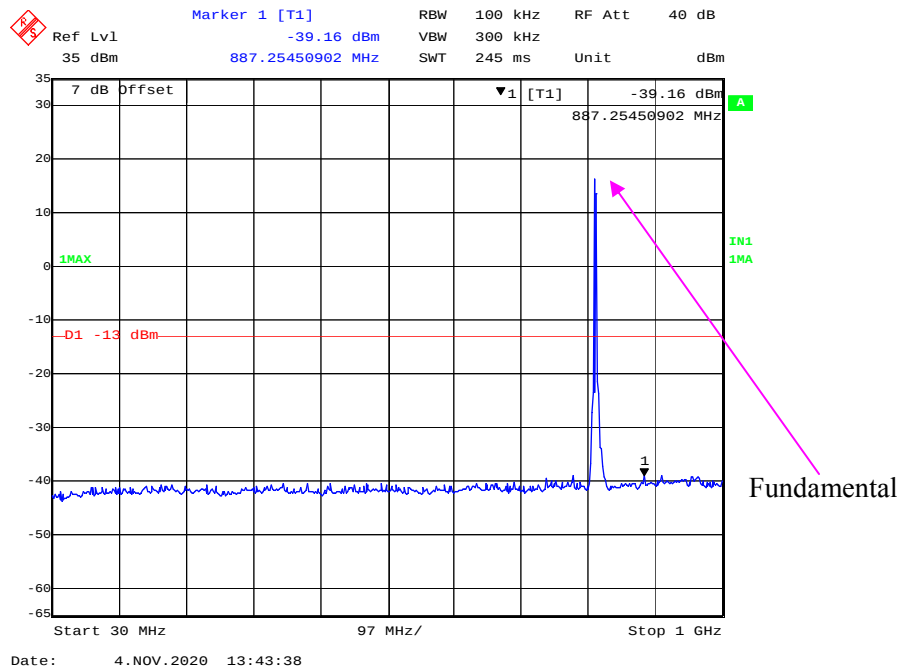
### 30 MHz - 1 GHz (16QAM, 3.0 MHz, Low Channel)



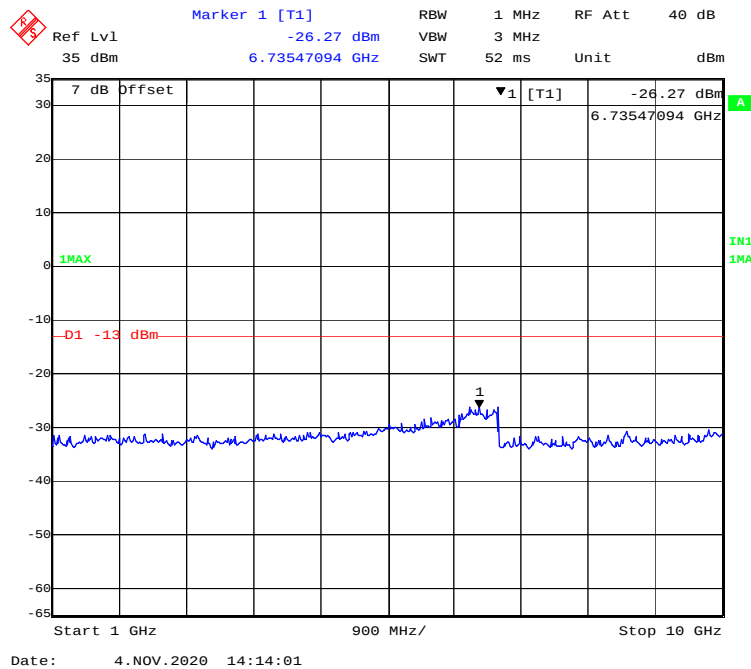
### 1 GHz – 10 GHz (16QAM, 3.0 MHz, Low Channel)



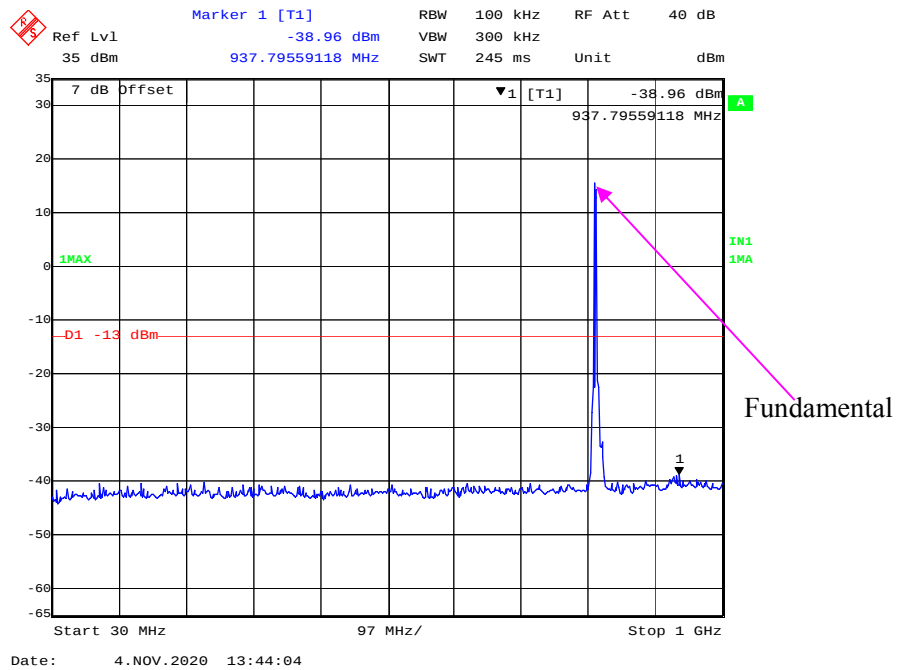
### 30 MHz - 1 GHz (QPSK, 5.0 MHz, Low Channel)



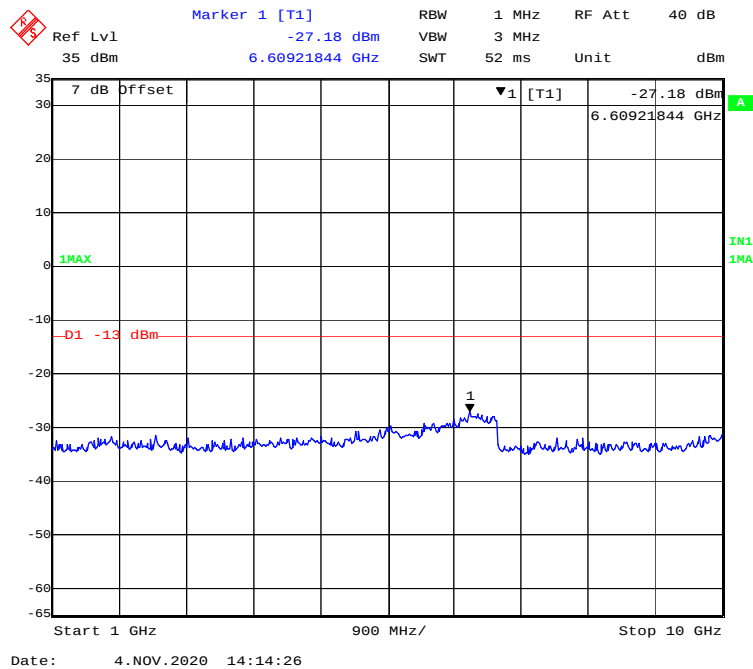
### 1 GHz – 10 GHz (QPSK, 5.0MHz, Low Channel)



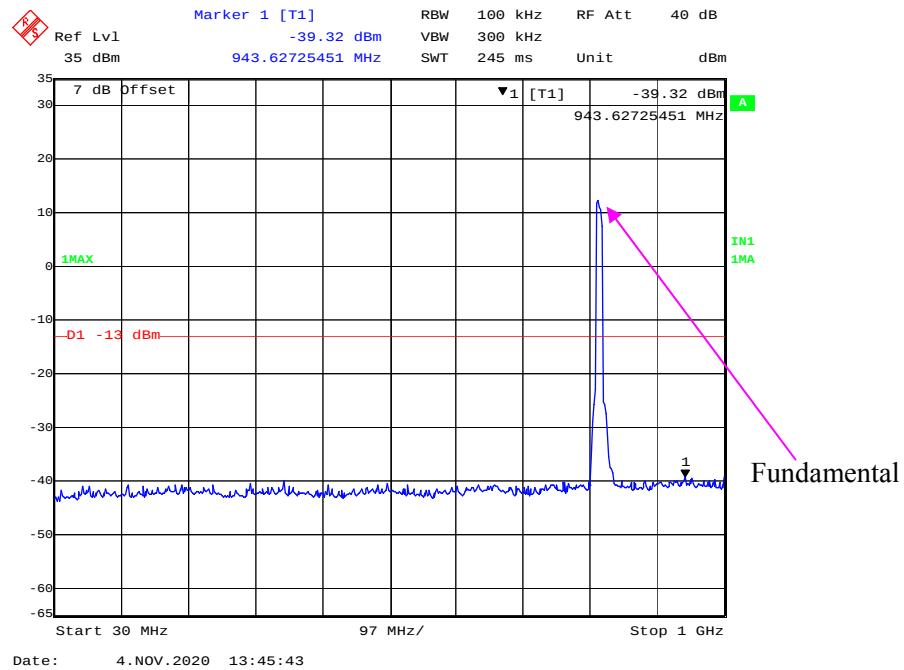
### 30 MHz - 1 GHz (16QAM, 5.0 MHz, Low Channel)



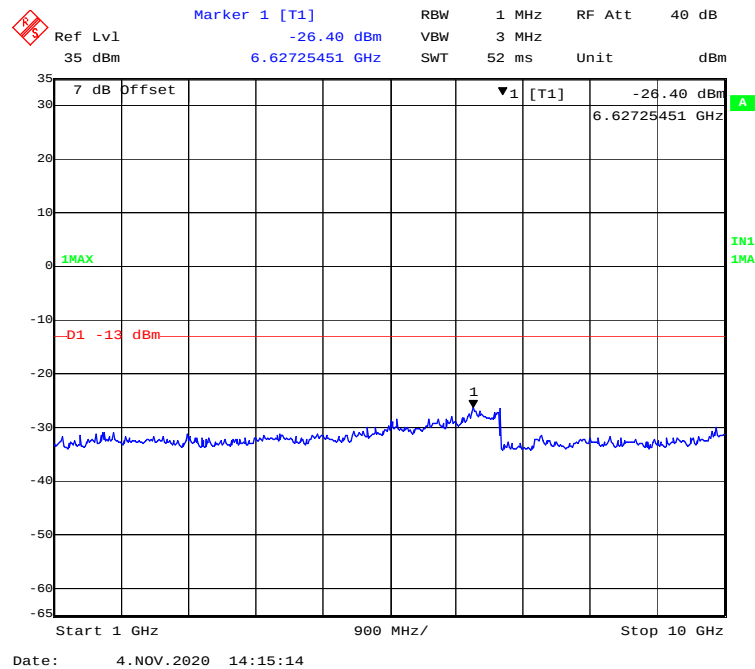
### 1 GHz – 10 GHz (16QAM, 5.0MHz, Low Channel)



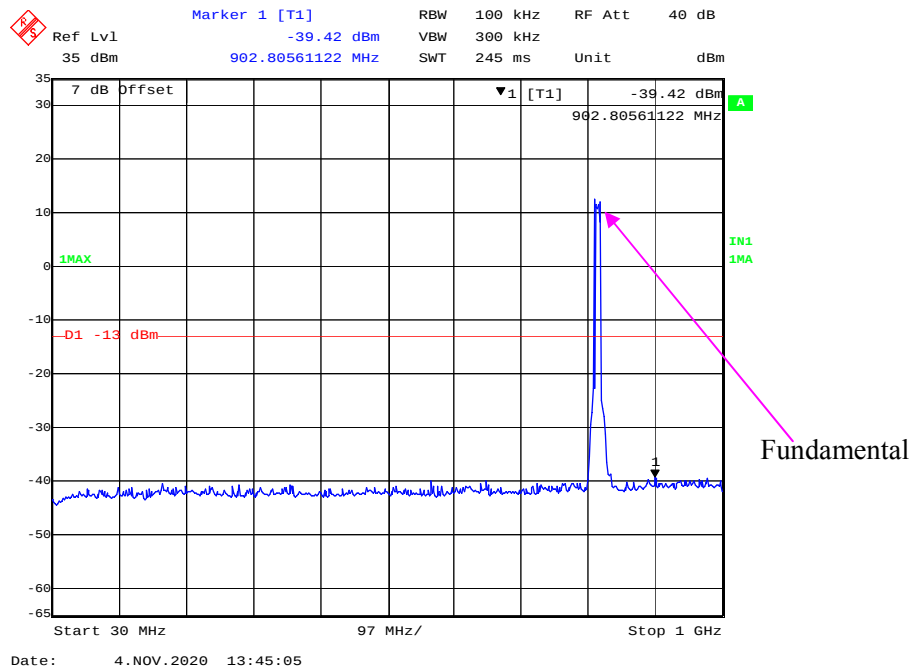
### 30 MHz - 1 GHz (QPSK, 10.0 MHz, Low Channel)



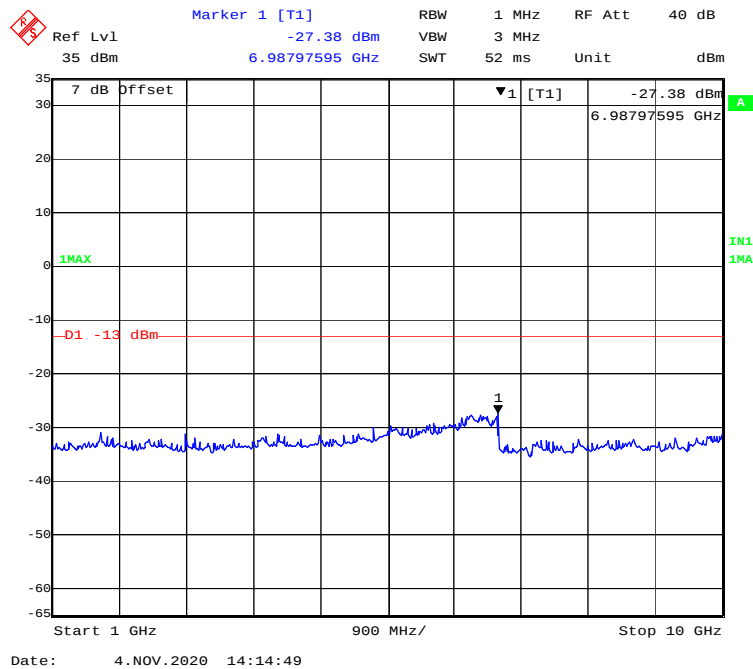
### 1 GHz – 10 GHz (QPSK, 10.0 MHz, Low Channel)

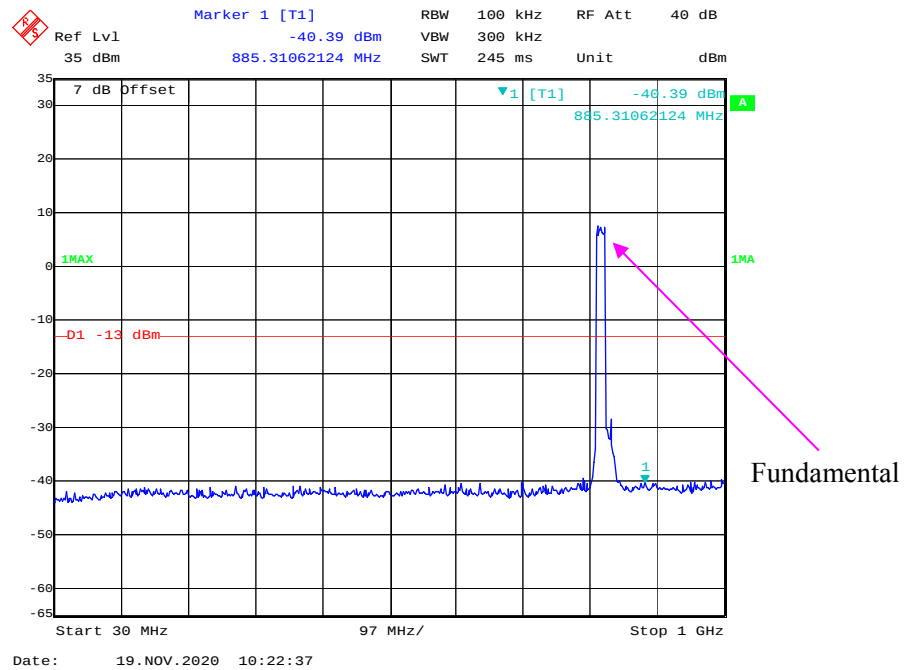
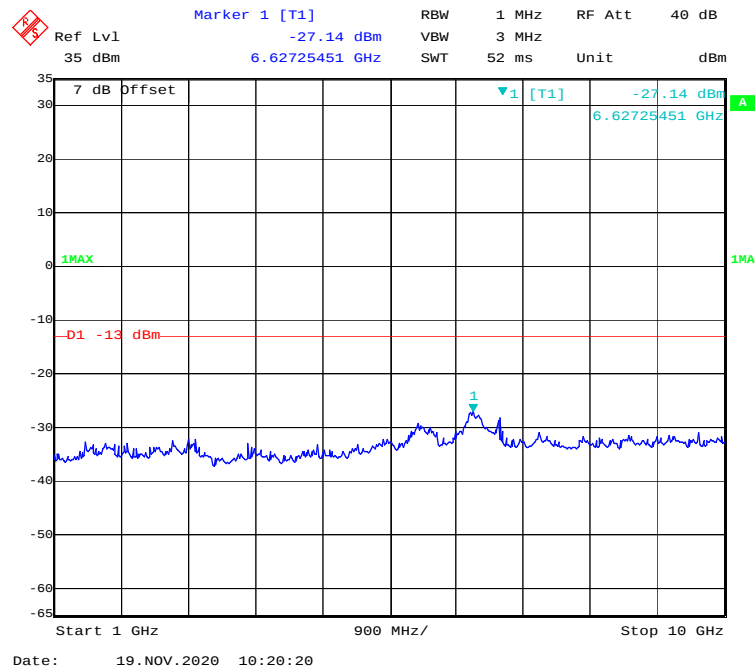


### 30 MHz - 1 GHz (16QAM, 10.0 MHz, Low Channel)

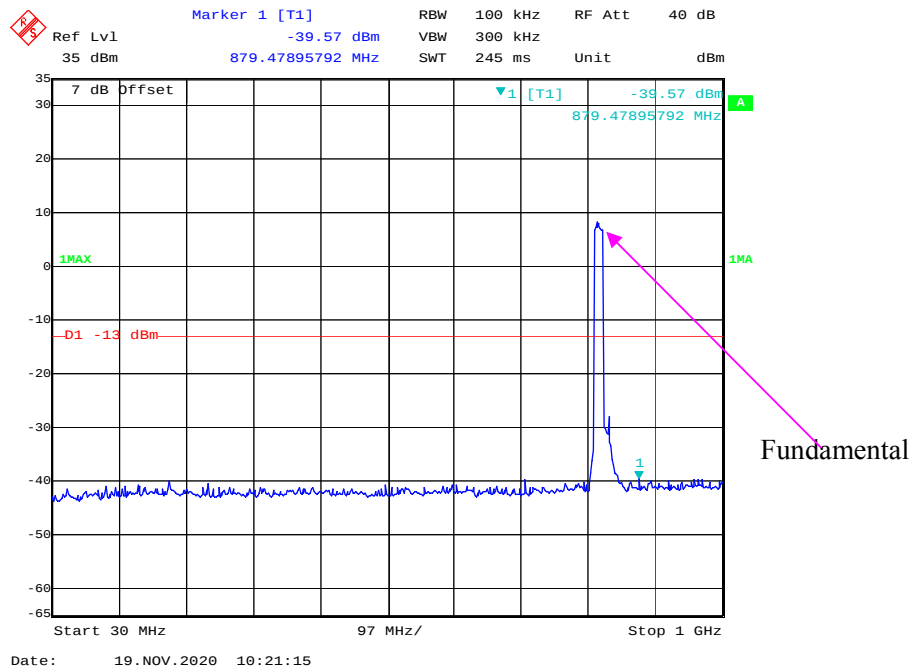


### 1 GHz – 10 GHz (16QAM, 10.0 MHz, Low Channel)

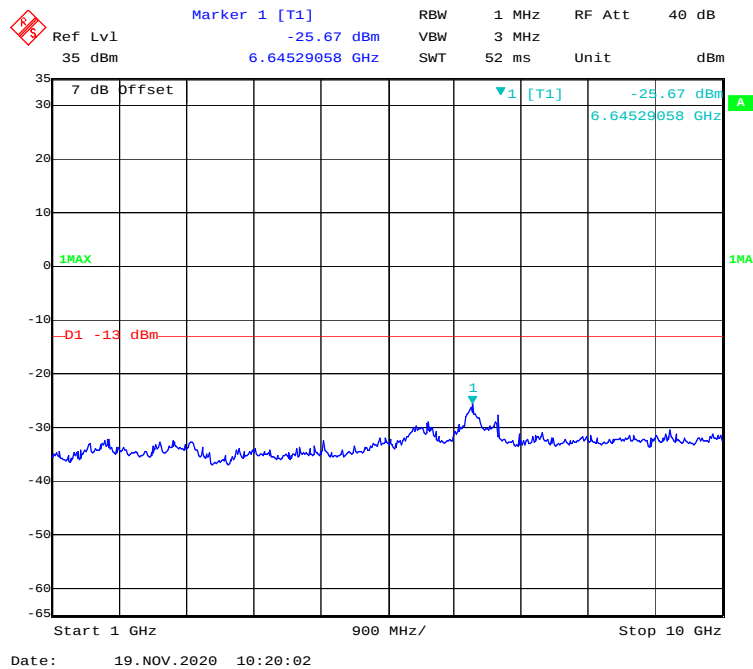


**30 MHz - 1 GHz (QPSK, 15.0 MHz, Low Channel)****1 GHz – 10 GHz (QPSK, 15.0 MHz, Low Channel)**

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



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



Marker 1 [T1] -40.16 dBm

Ref Lvl 35 dBm 35 dBm 924.18837675 MHz

RBW 100 kHz VBW 300 kHz SWT 245 ms Unit dBm

7 dB Offset

▼1 [T1] -40.16 dBm

924.18837675 MHz

1MAX

-D1 -13 dBm

IN1 IMA

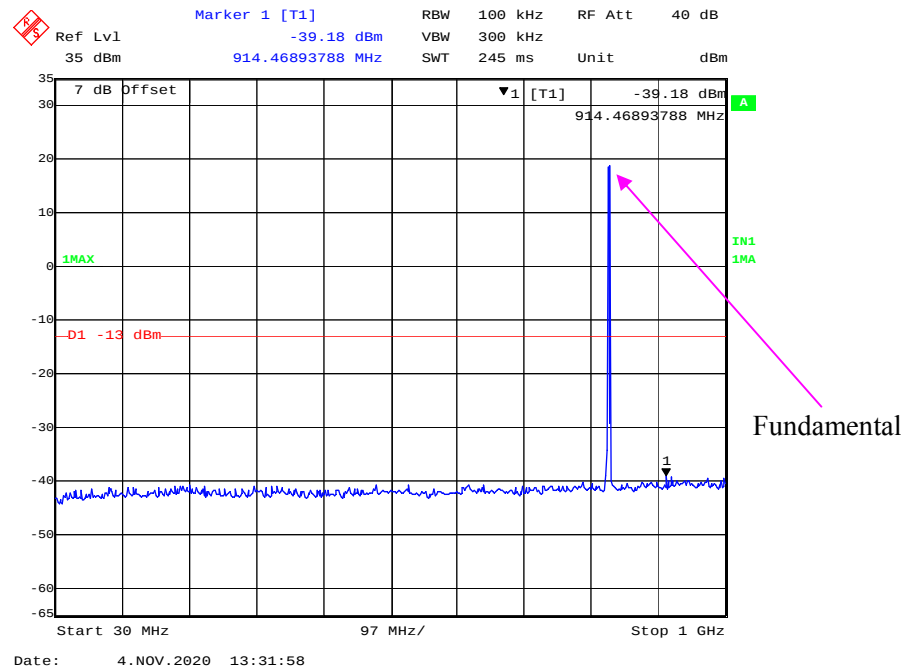
Fundamental

Start 30 MHz 97 MHz/ Stop 1 GHz

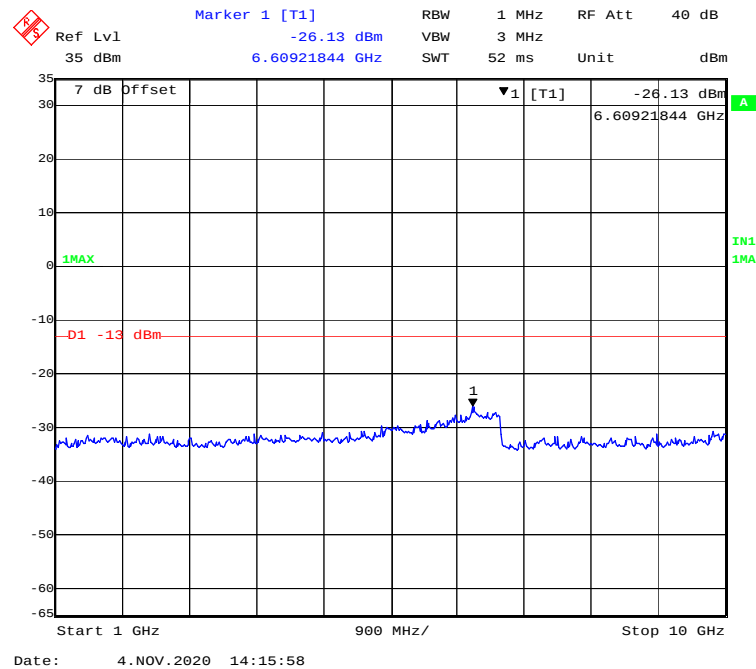
Date: 4.NOV.2020 13:32:37

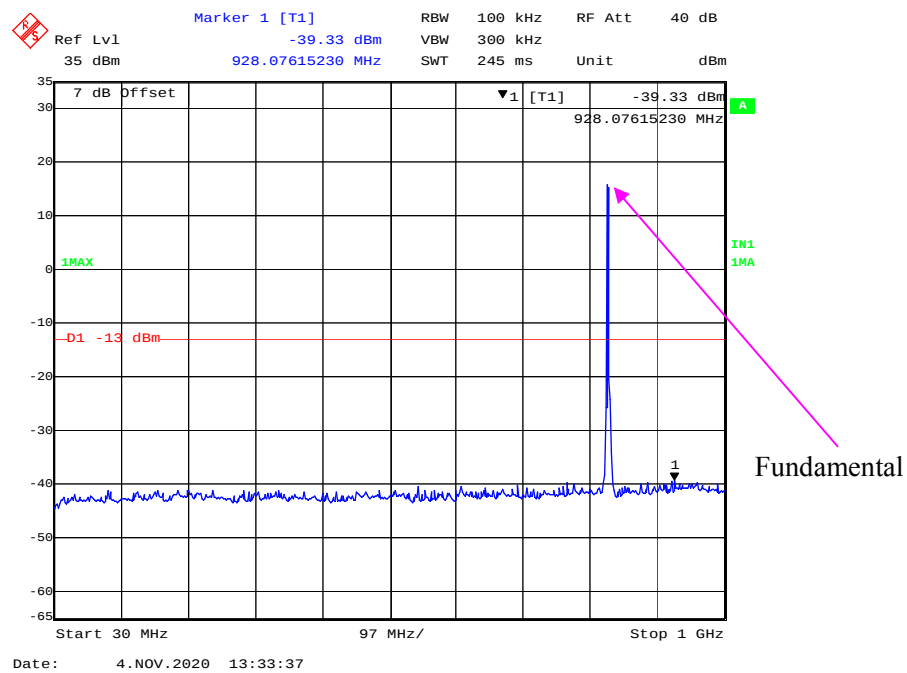
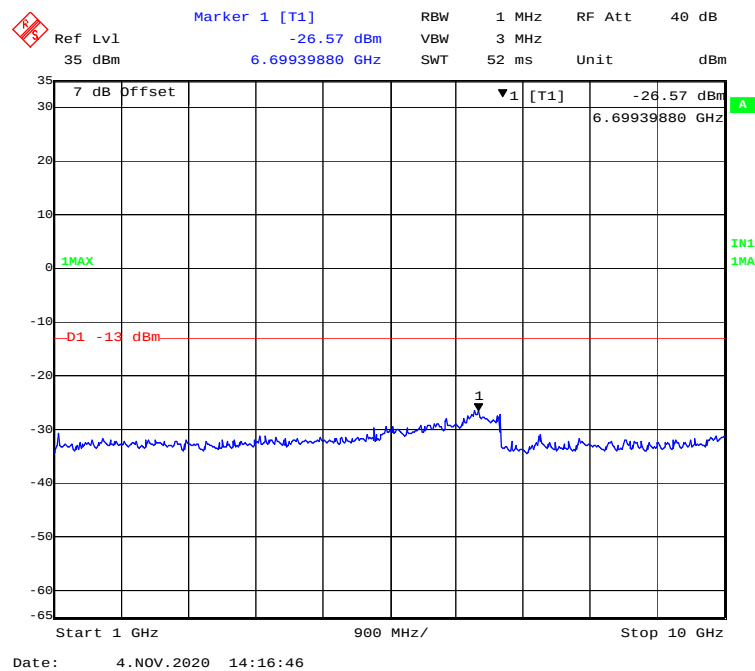
Ref Lvl 35 dBm  
 Marker 1 [T1] -27.66 dBm  
 RBW 1 MHz RF Att 40 dB  
 VBW 3 MHz  
 SWT 52 ms Unit dBm  
 6.62725451 GHz  
 7 dB Offset  
 1 [T1] -27.66 dBm  
 6.62725451 GHz  
 1MAX  
 -D1 -13 dBm  
 1  
 Start 1 GHz 900 MHz/ Stop 10 GHz  
 Date: 4.NOV.2020 14:15:41

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

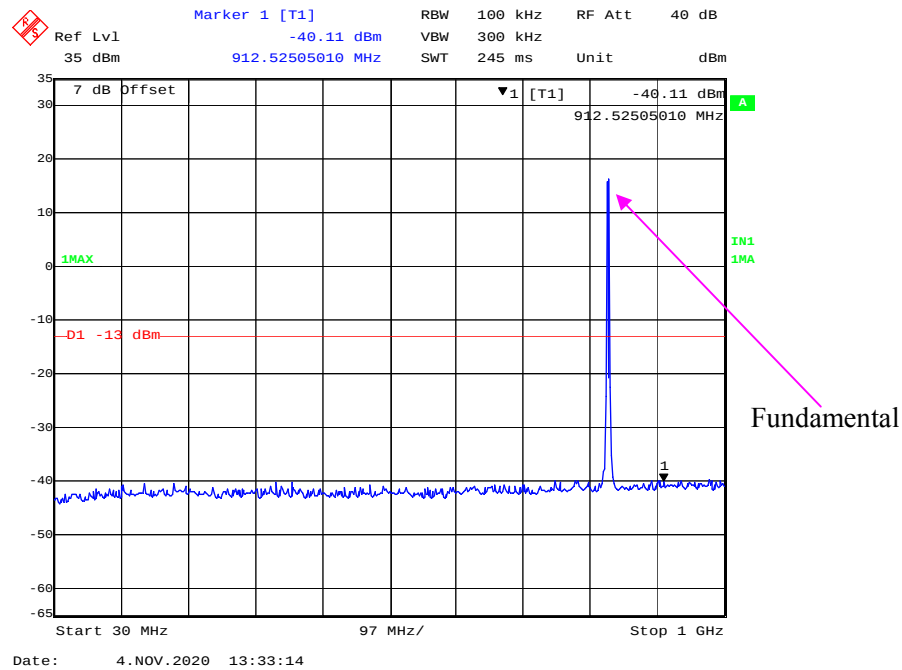


### 1 GHz – 10 GHz (16QAM, 1.4 MHz, Middle Channel)

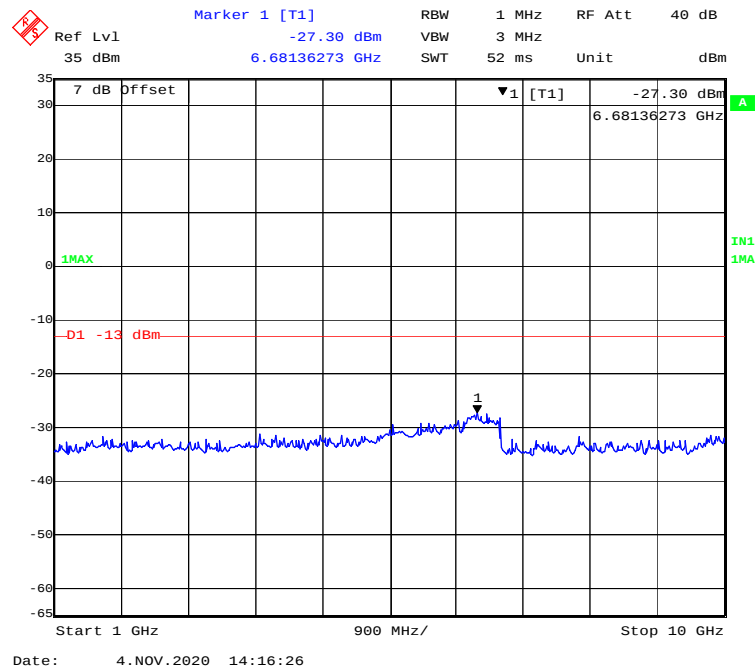


**30 MHz - 1 GHz (QPSK, 3.0 MHz, Middle Channel)****1 GHz – 10 GHz (QPSK, 3.0 MHz, Middle Channel)**

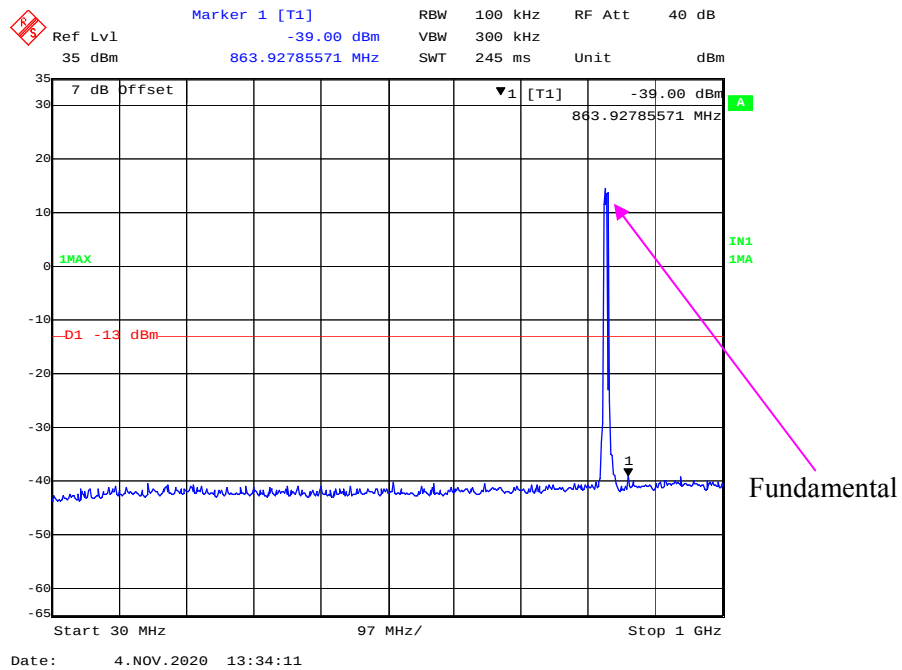
### 30 MHz - 1 GHz (16QAM, 3.0 MHz, Middle Channel)



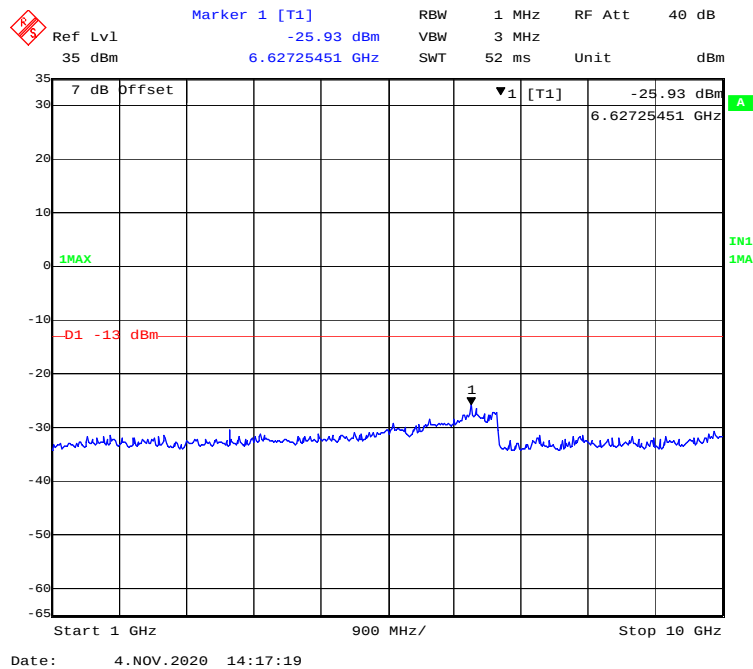
### 1 GHz – 10 GHz (16QAM, 3.0 MHz, Middle Channel)



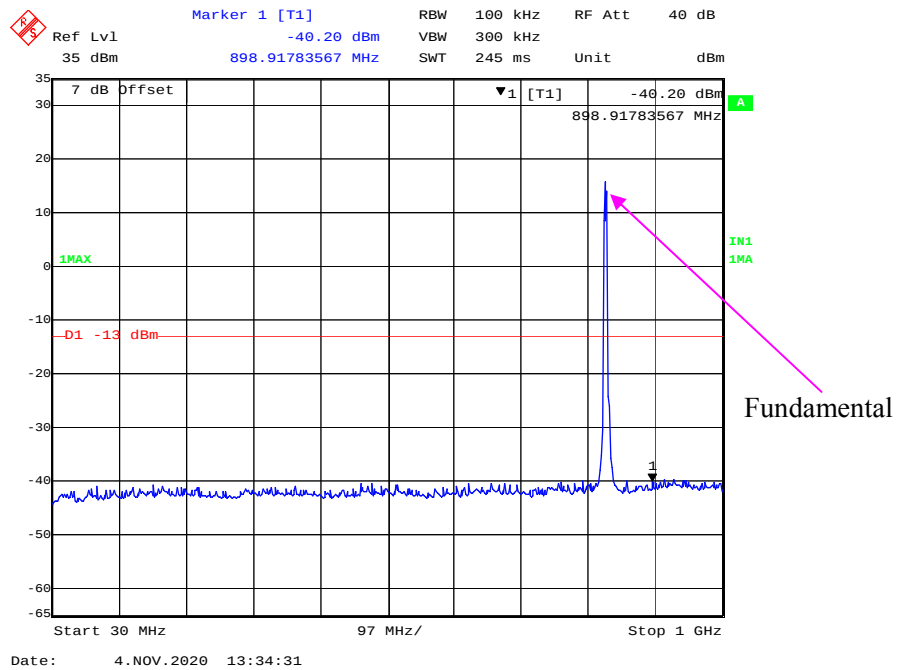
### 30 MHz - 1 GHz (QPSK, 5.0 MHz, Middle Channel)



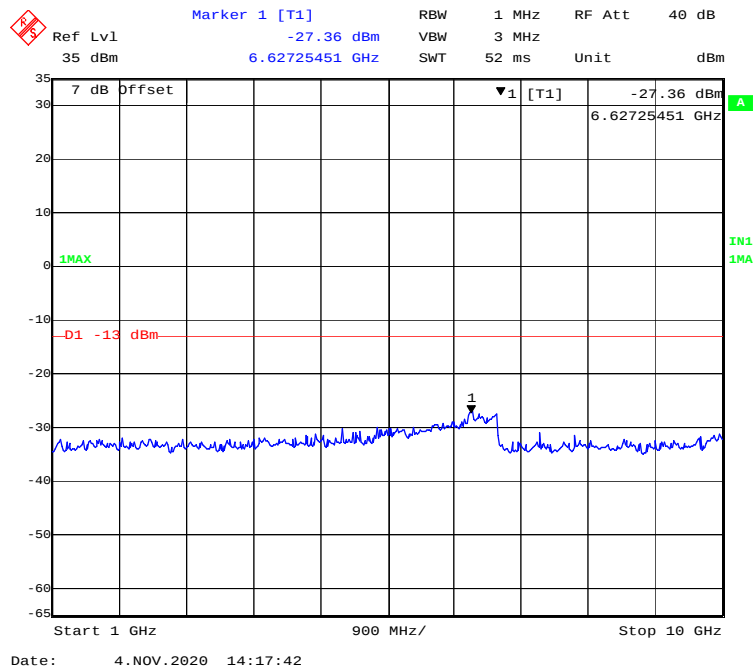
### 1 GHz – 10 GHz (QPSK, 5.0MHz, Middle Channel)



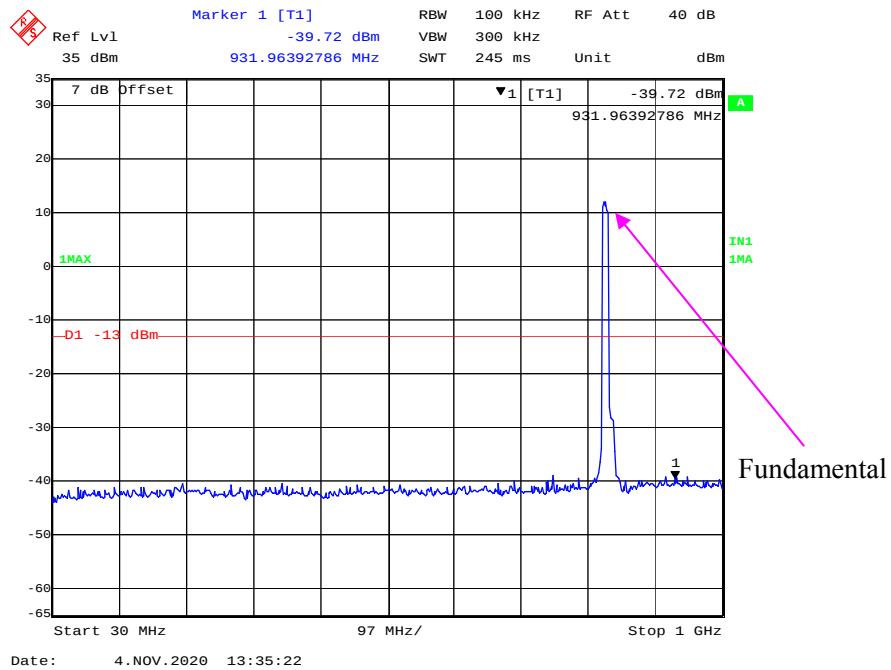
### 30 MHz - 1 GHz (16QAM, 5.0 MHz, Middle Channel)



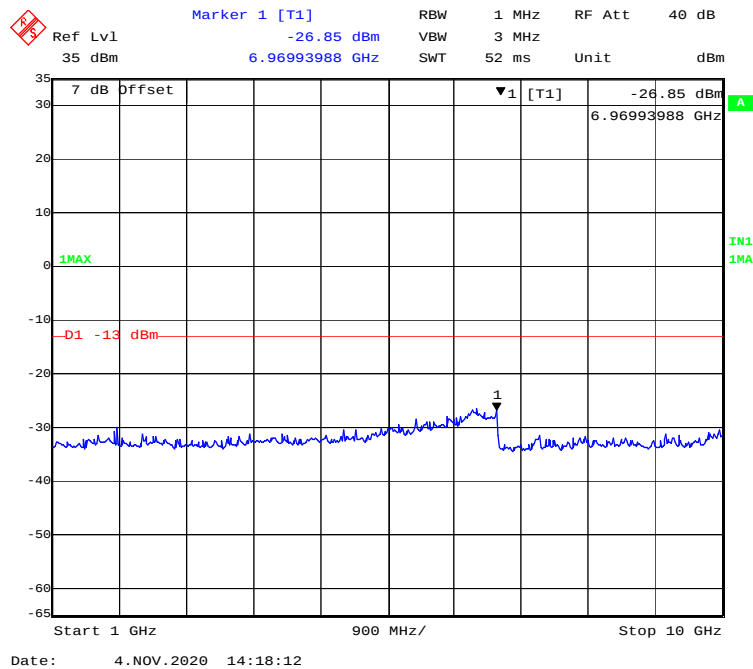
### 1 GHz – 10 GHz (16QAM, 5.0MHz, Middle Channel)

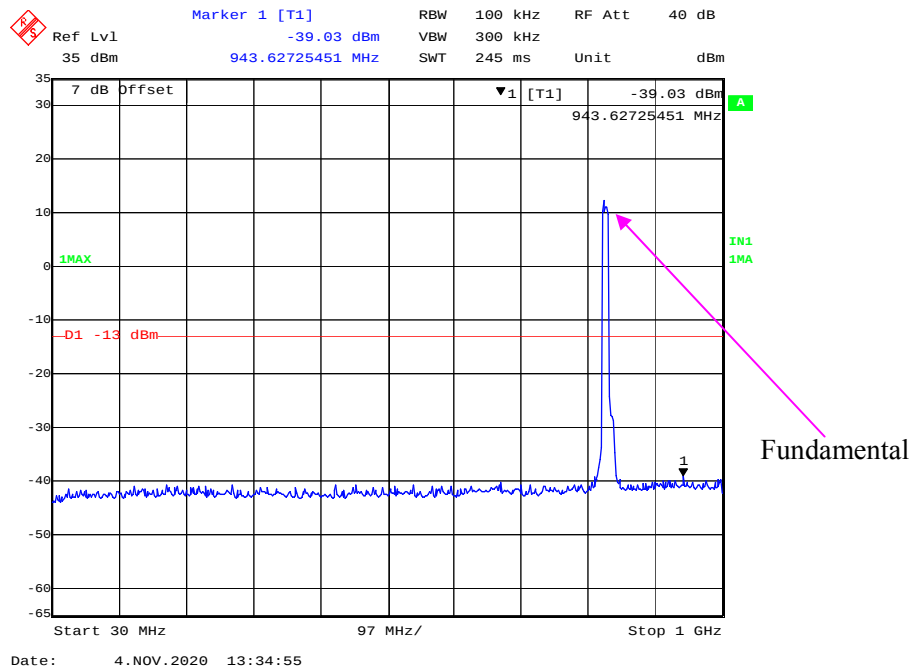
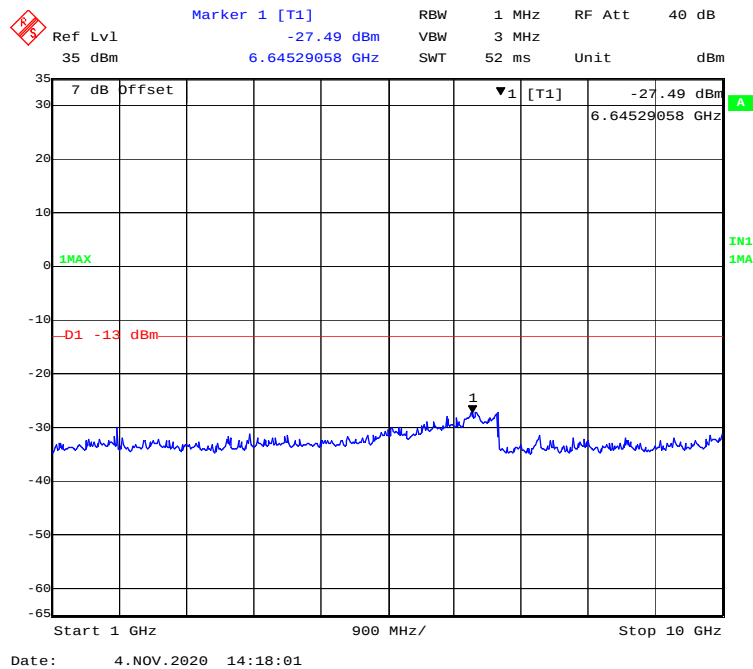


### 30 MHz - 1 GHz (QPSK, 10.0 MHz, Middle Channel)

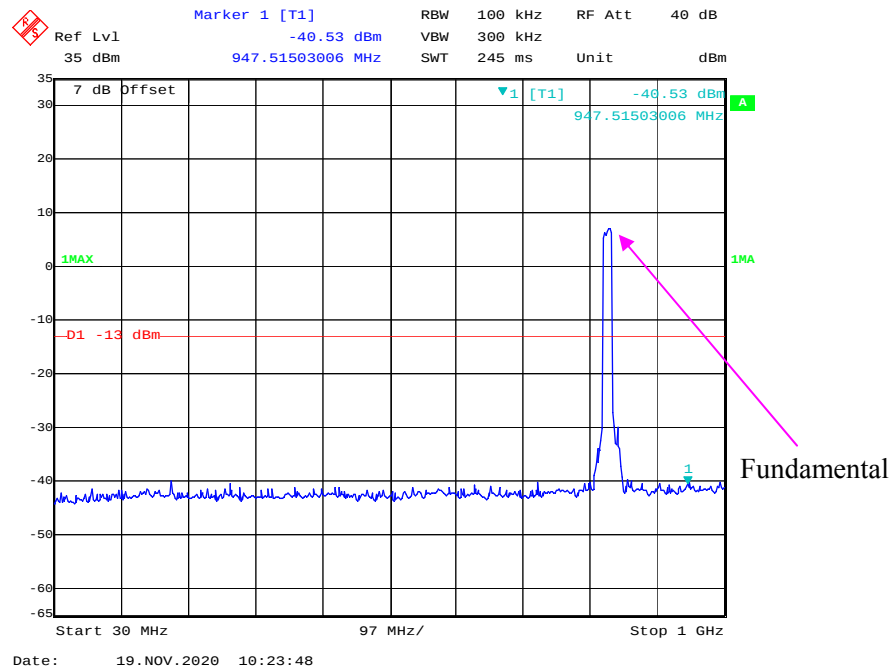


### 1 GHz – 10 GHz (QPSK, 10.0 MHz, Middle Channel)

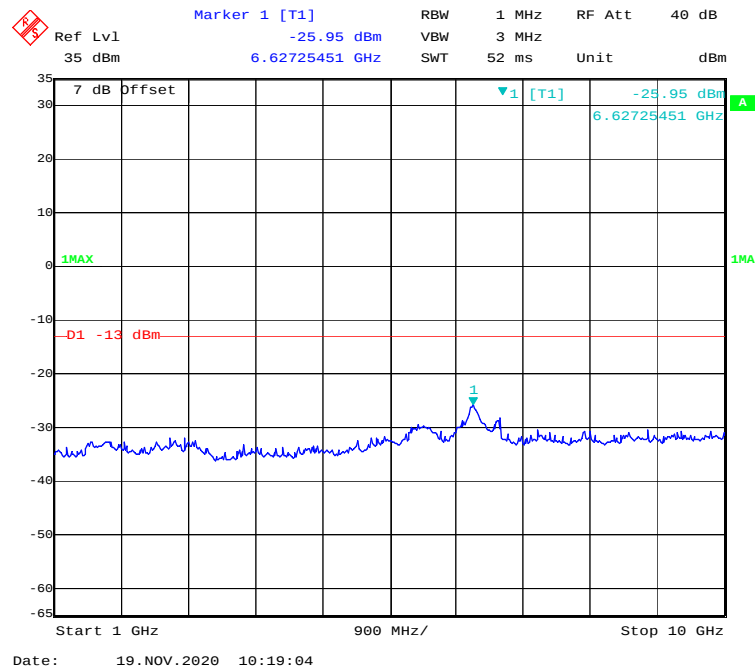


**30 MHz - 1 GHz (16QAM, 10.0 MHz, Middle Channel)****1 GHz – 10 GHz (16QAM, 10.0 MHz, Middle Channel)**

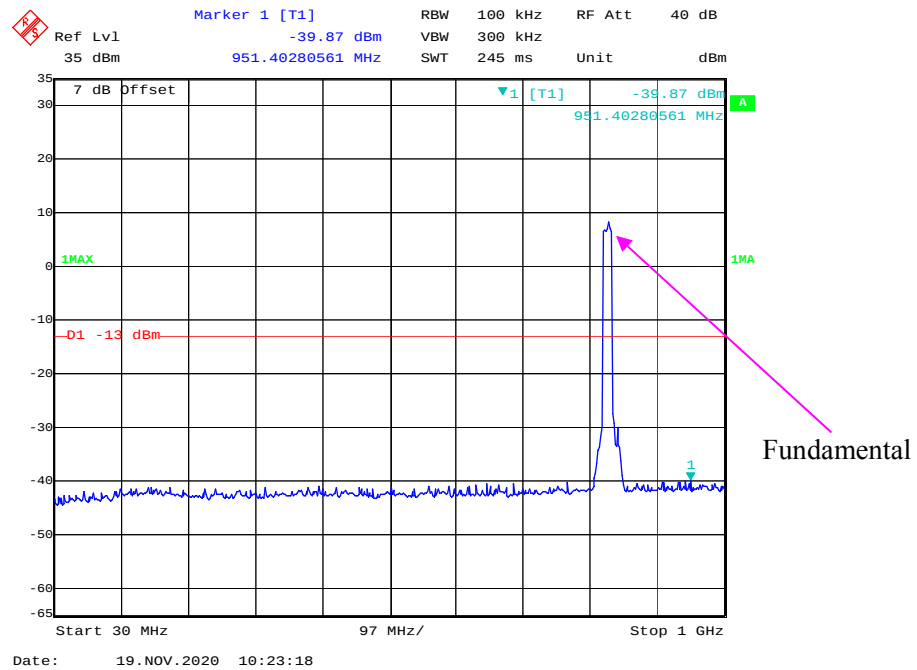
### 30 MHz - 1 GHz (QPSK, 15.0 MHz, Middle Channel)



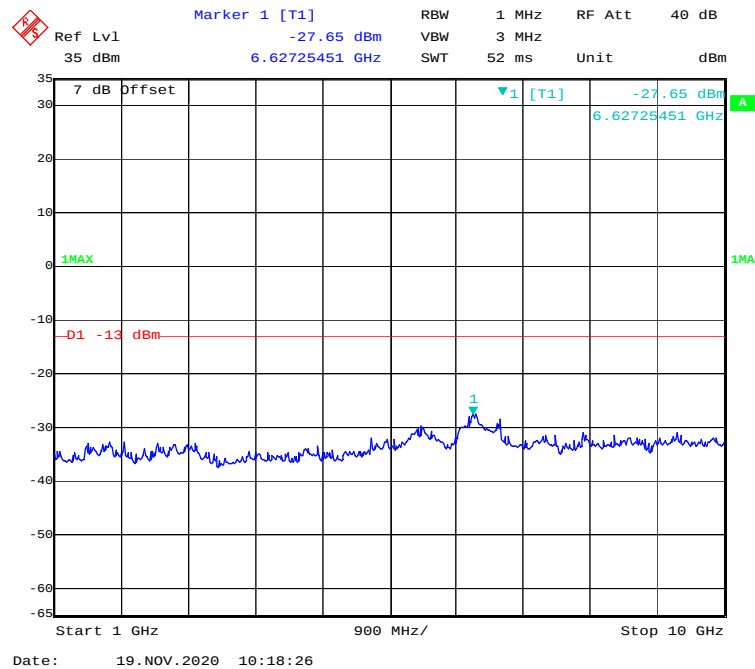
### 1 GHz – 10 GHz (QPSK, 15.0 MHz, Middle Channel)

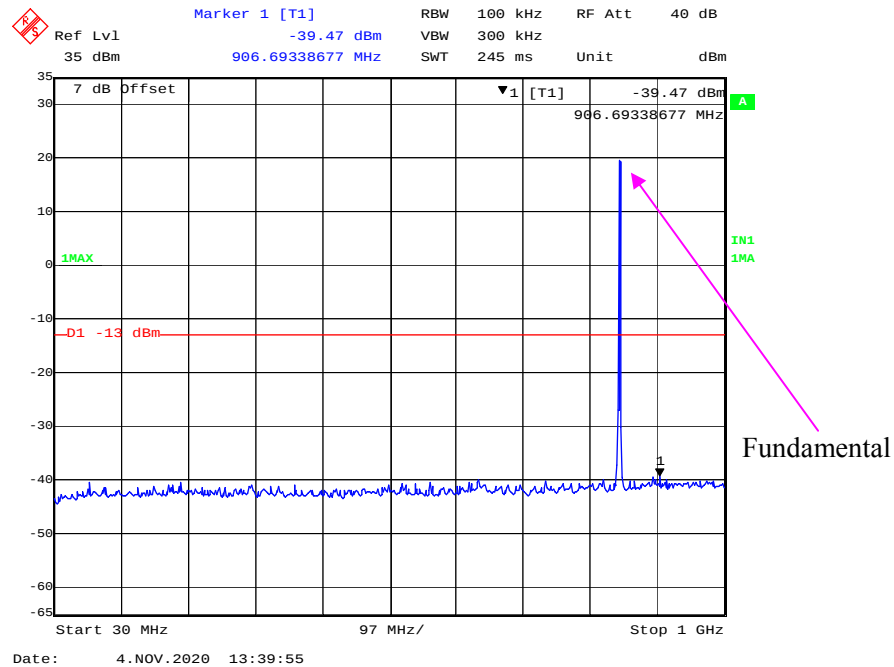
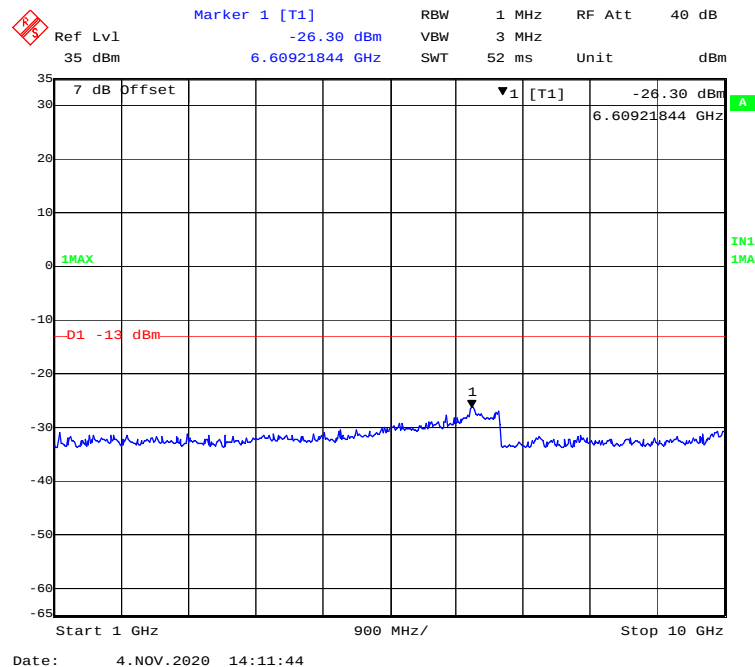


### 30 MHz - 1 GHz (16QAM, 15.0 MHz, Middle Channel)

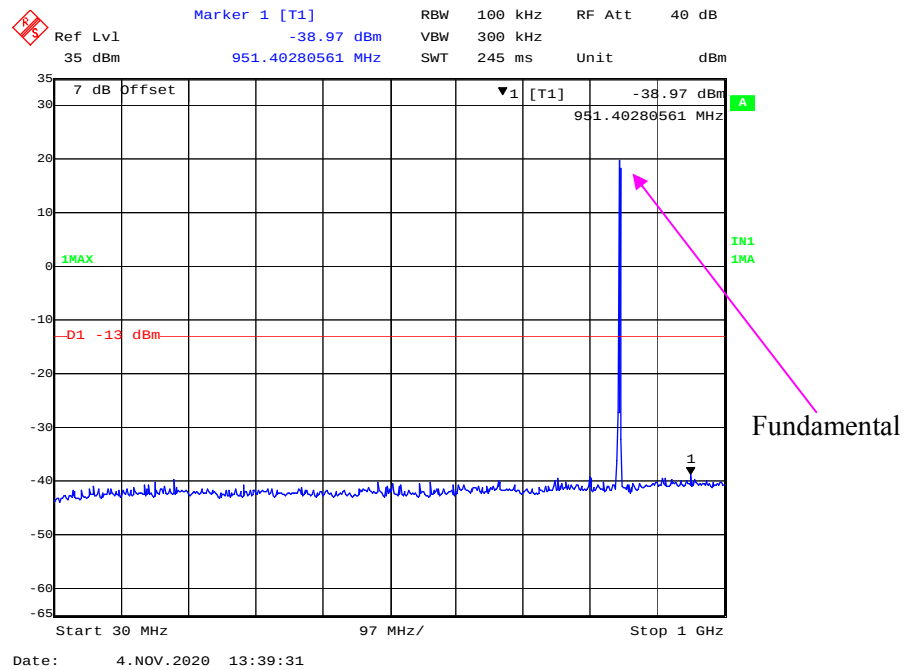


### 1 GHz – 10 GHz (16QAM, 15.0 MHz, Middle Channel)

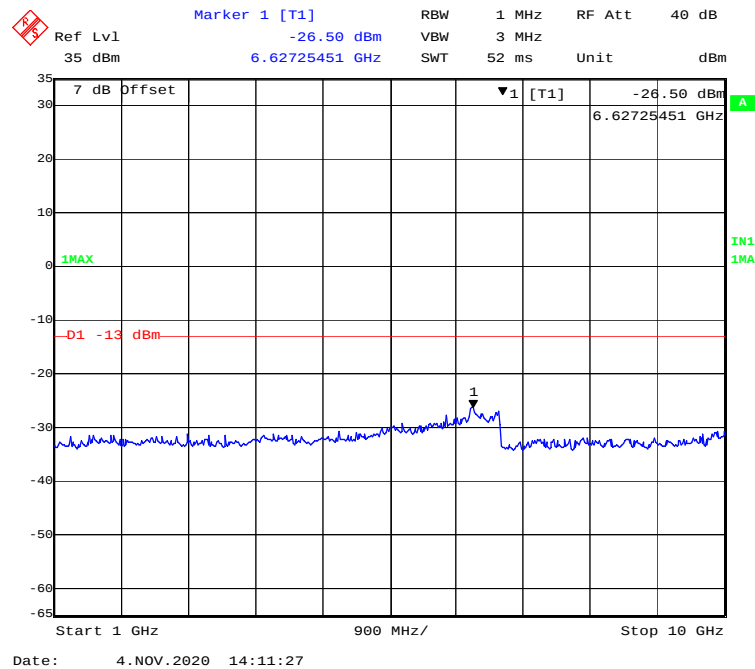


**30 MHz - 1 GHz (QPSK, 1.4 MHz, High Channel)****1 GHz – 10 GHz (QPSK, 1.4 MHz, High Channel)**

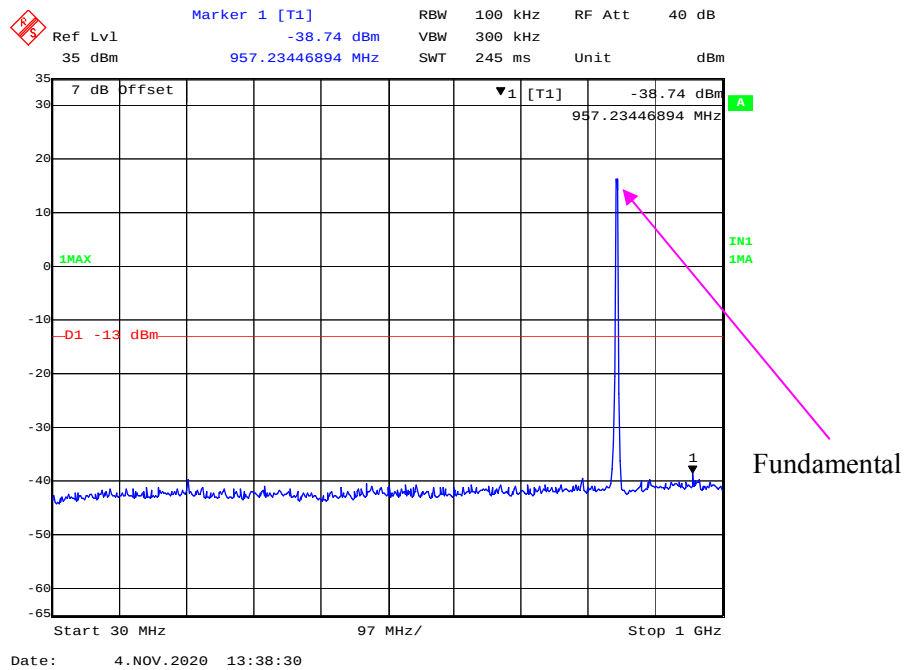
### 30 MHz - 1 GHz (16QAM, 1.4 MHz, High Channel)



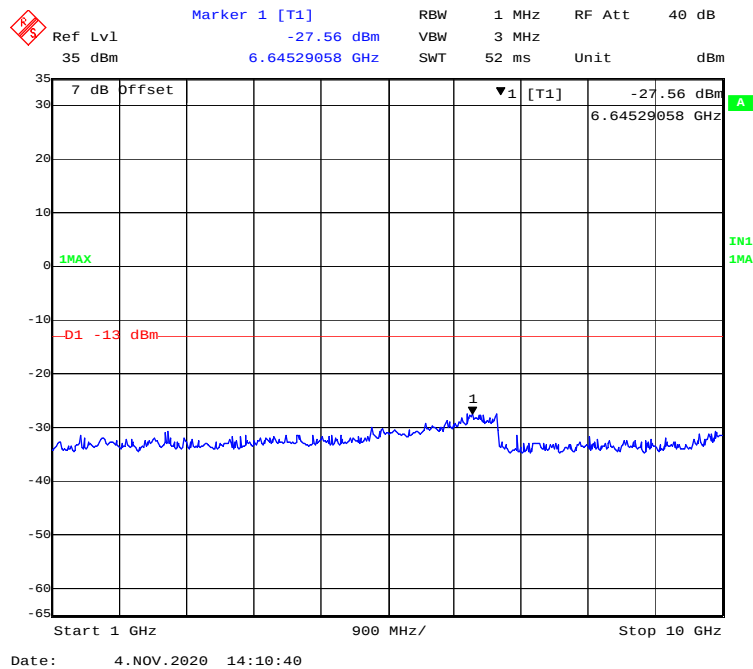
### 1 GHz – 10 GHz (16QAM, 1.4 MHz, High Channel)



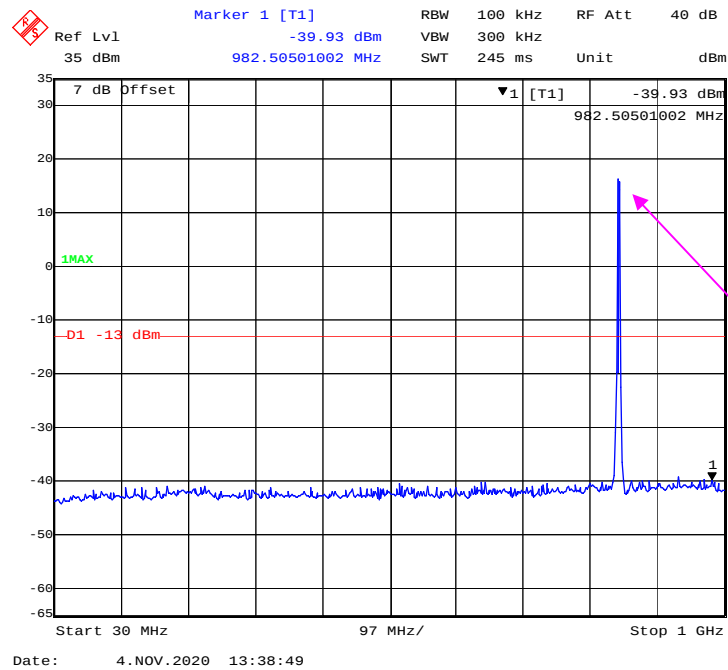
### 30 MHz - 1 GHz (QPSK, 3.0 MHz, High Channel)



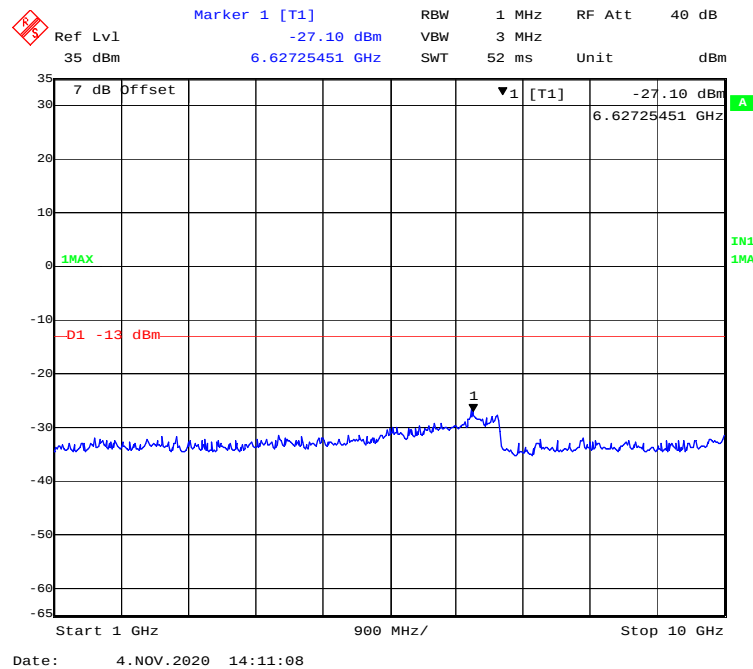
### 1 GHz – 10 GHz (QPSK, 3.0 MHz, High Channel)



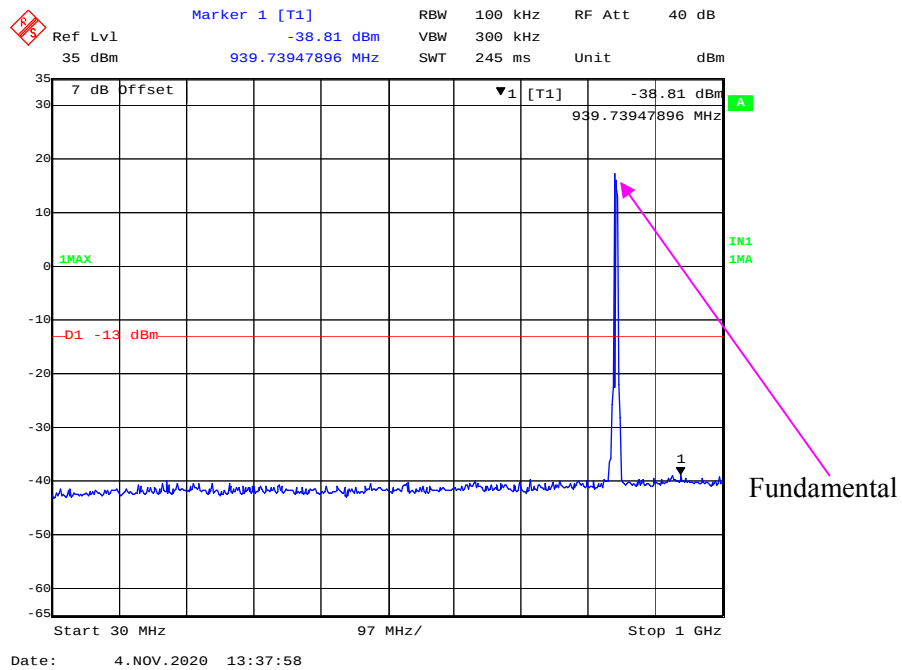
### 30 MHz - 1 GHz (16QAM, 3.0 MHz, High Channel)



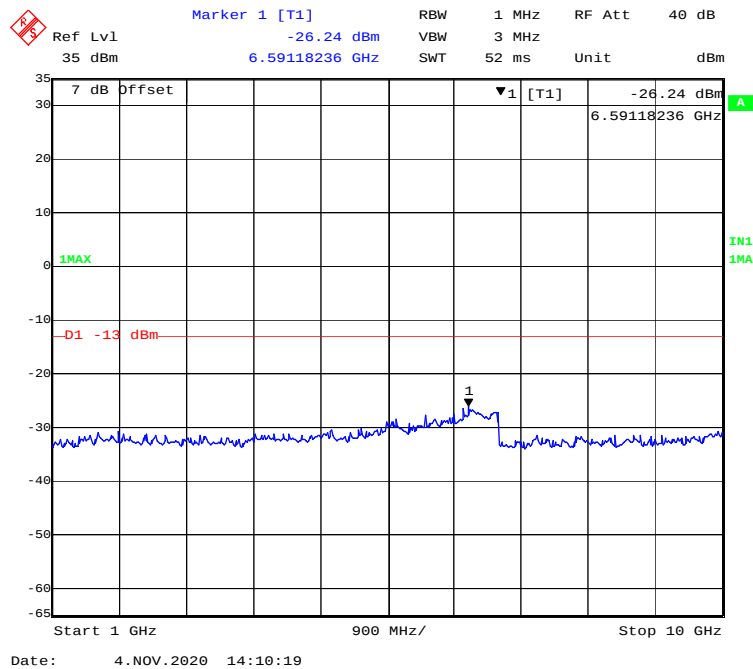
### 1 GHz – 10 GHz (16QAM, 3.0 MHz, High Channel)



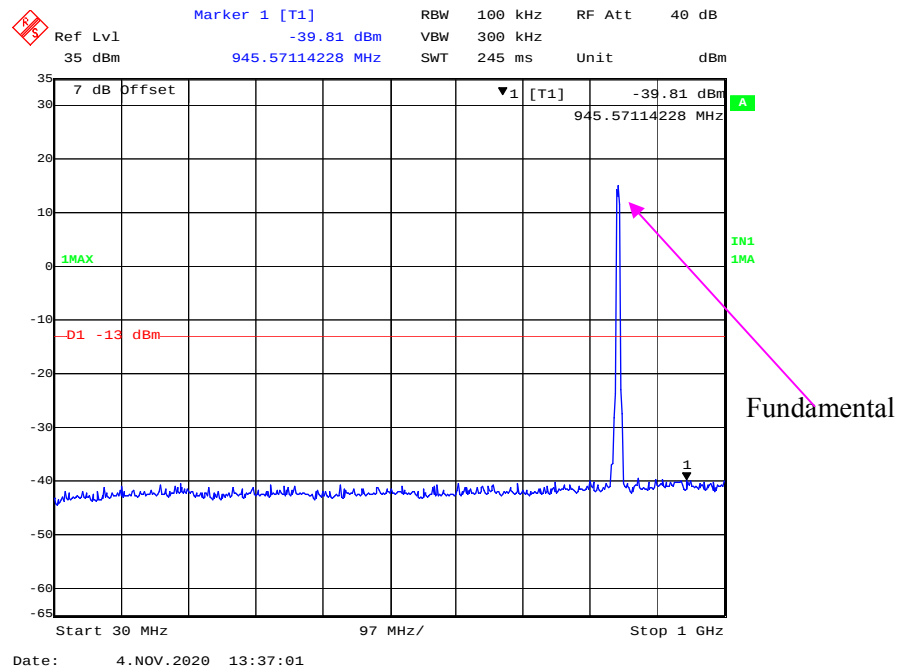
### 30 MHz - 1 GHz (QPSK, 5.0 MHz, High Channel)



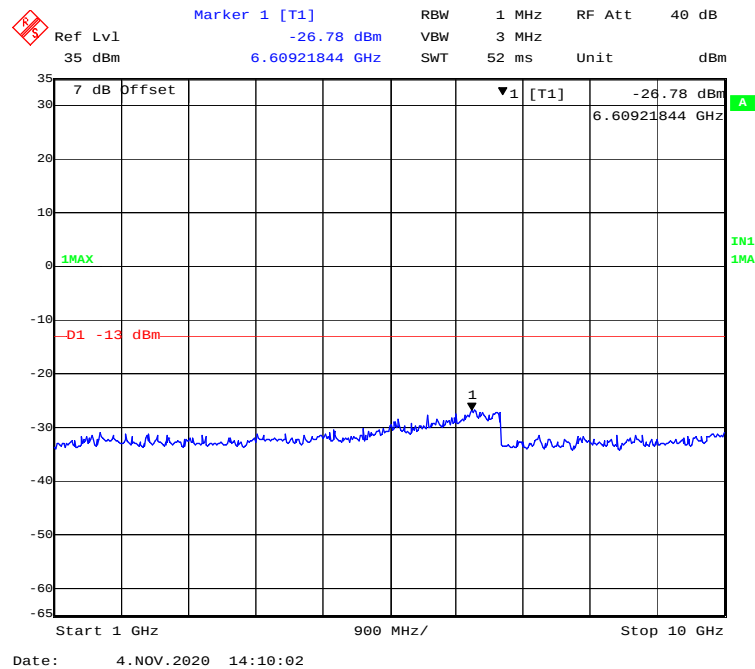
### 1 GHz – 10 GHz (QPSK, 5.0MHz, High Channel)

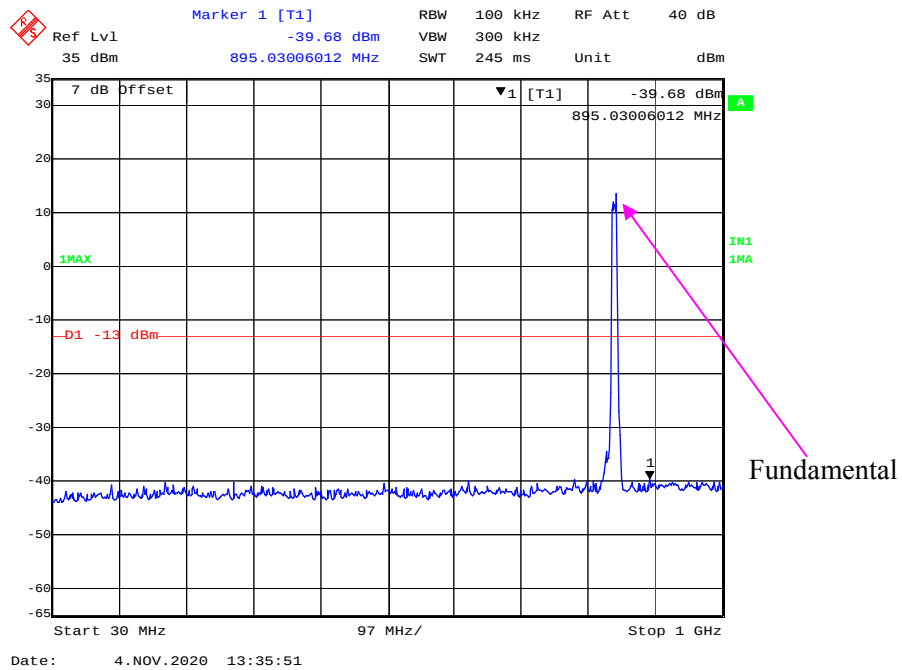
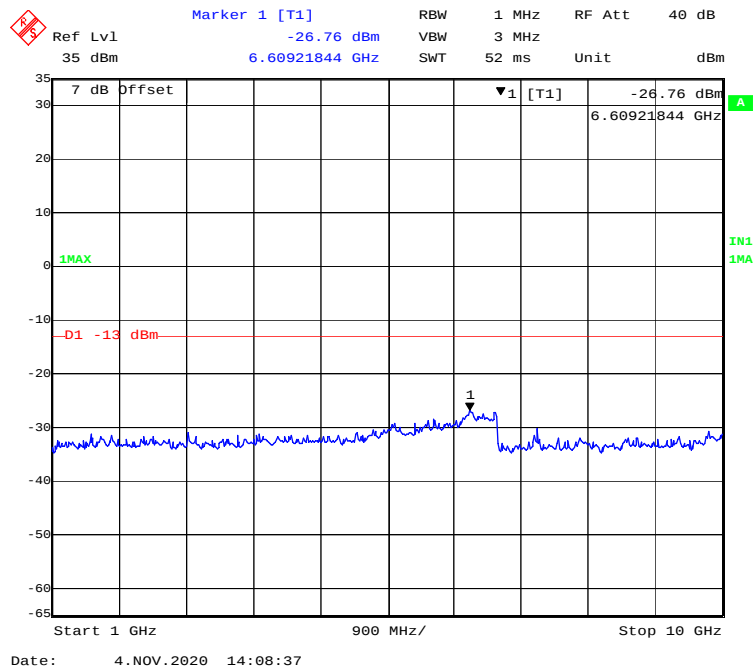


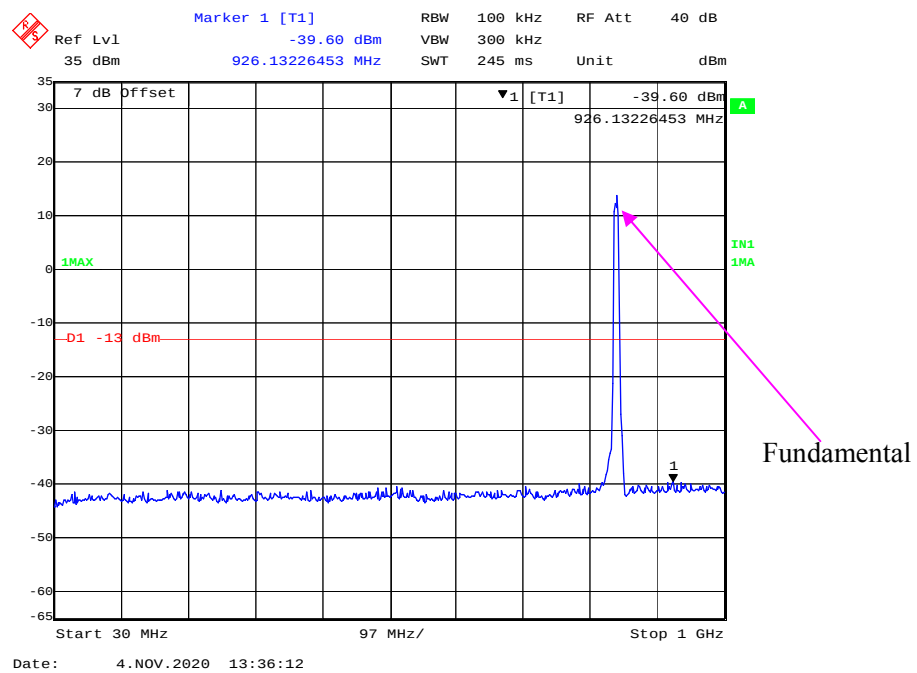
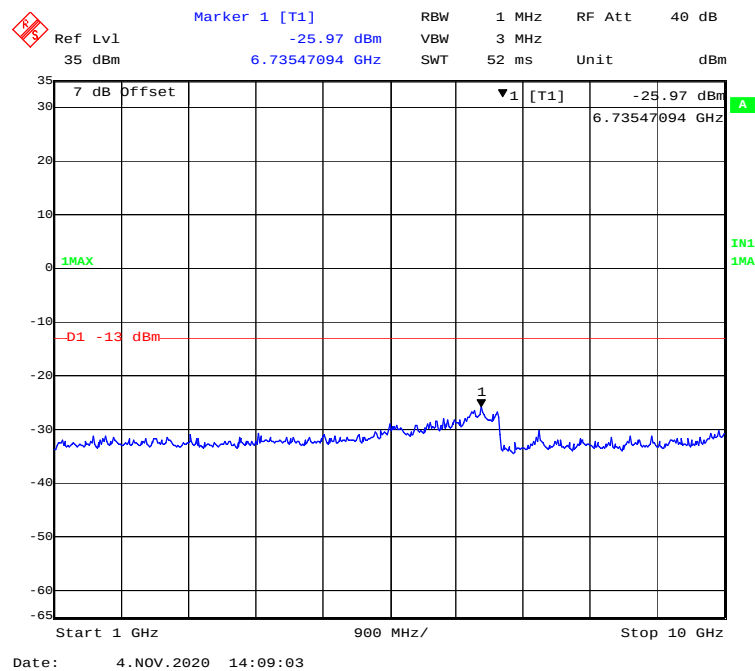
### 30 MHz - 1 GHz (16QAM, 5.0 MHz, High Channel)



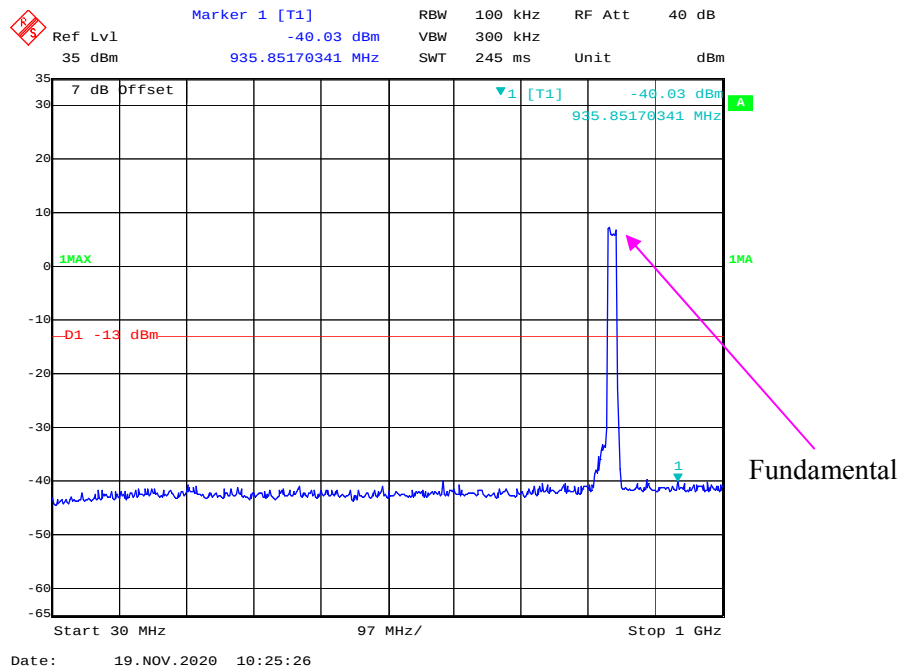
### 1 GHz – 10 GHz (16QAM, 5.0MHz, High Channel)



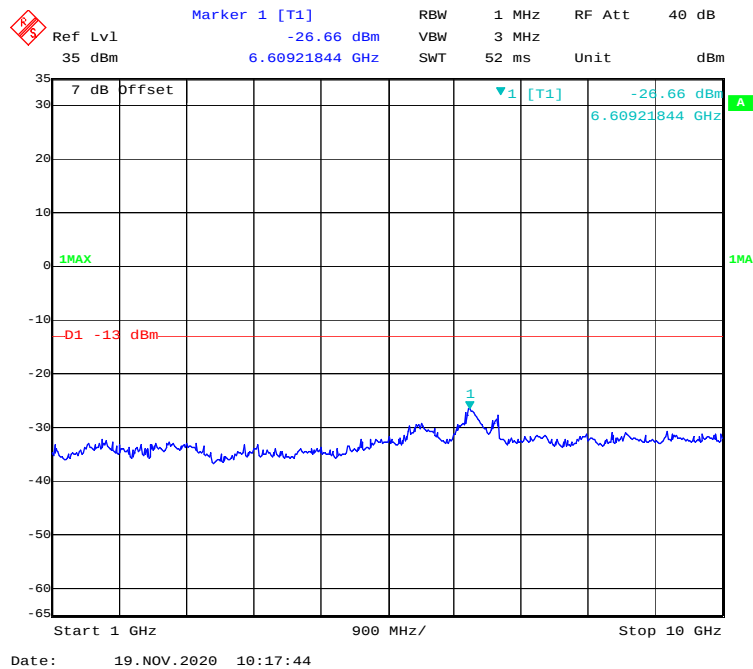
**30 MHz - 1 GHz (QPSK, 10.0 MHz, High Channel)****1 GHz – 10 GHz (QPSK, 10.0 MHz, High Channel)**

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

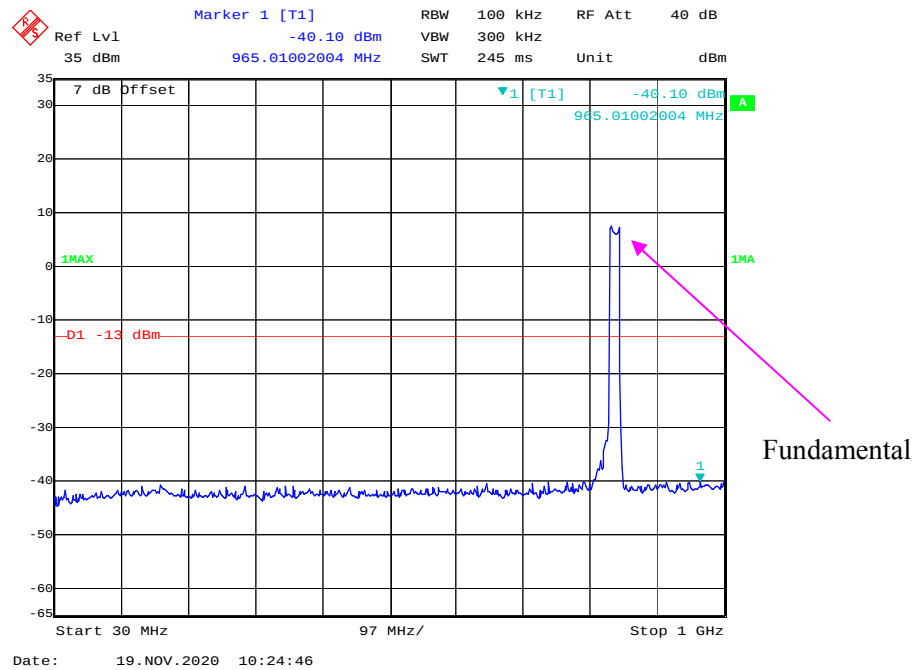
### 30 MHz - 1 GHz (QPSK, 15.0 MHz, High Channel)



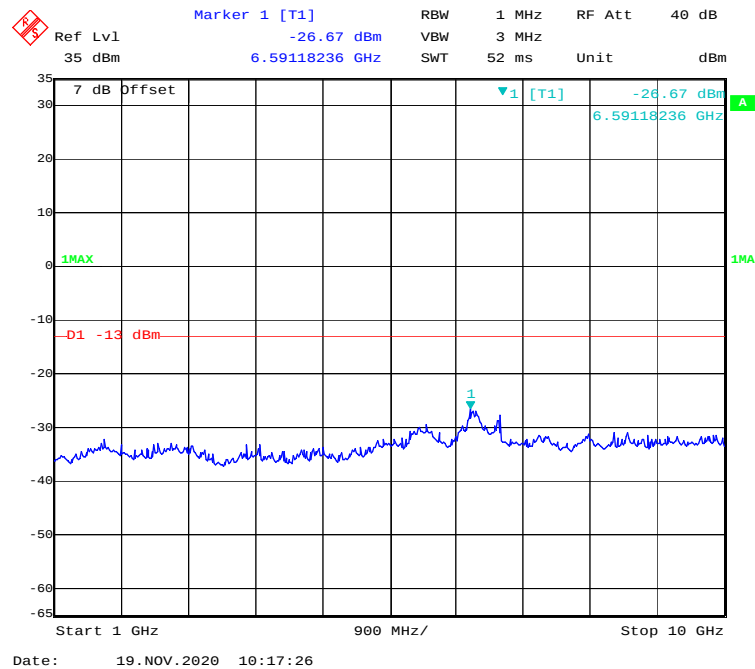
### 1 GHz – 10 GHz (QPSK, 15.0 MHz, High Channel)



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



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



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

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### **Applicable Standards**

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

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

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

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

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

### **Test Procedure**

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

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

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

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

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

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

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

|                           |                 |
|---------------------------|-----------------|
| <b>Temperature:</b>       | 23.9~25.3 °C    |
| <b>Relative Humidity:</b> | 49~53 %         |
| <b>ATM Pressure:</b>      | 100.7~101.9 kPa |

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

Test mode: Transmitting

**30 MHz ~ 10 GHz:**

**WCDMA Band V**

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

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

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

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

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

**Note:**

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

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

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

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

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

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

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

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

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

**30 MHz ~ 10 GHz:**  
**LTE Band 5:**

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

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

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

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

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

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

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

**30 MHz ~ 10 GHz:**  
**LTE Band 12:**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Note:**

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

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

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

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

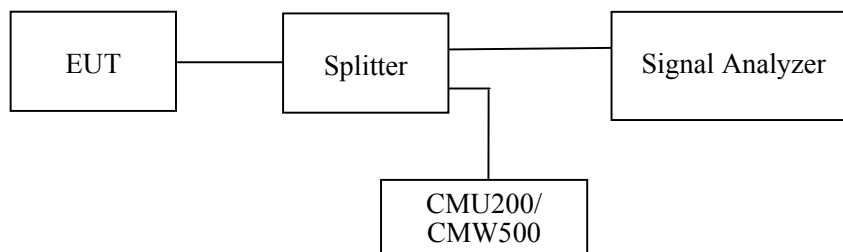
For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$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

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

**Test Procedure**

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

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

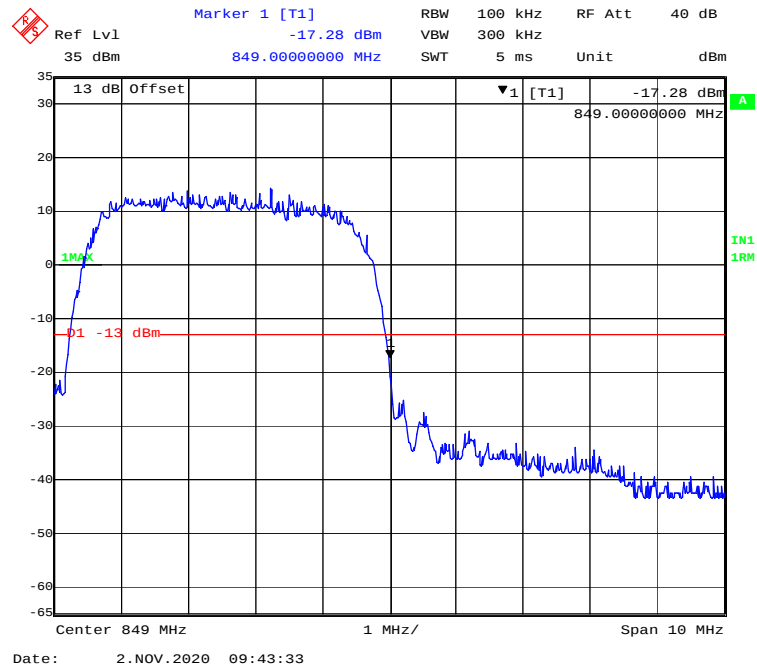
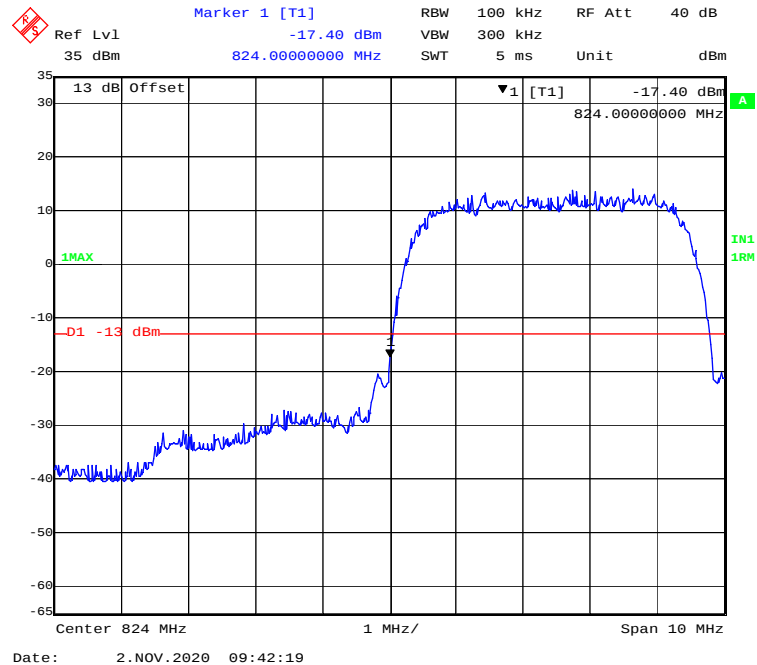
**Test Data****Environmental Conditions**

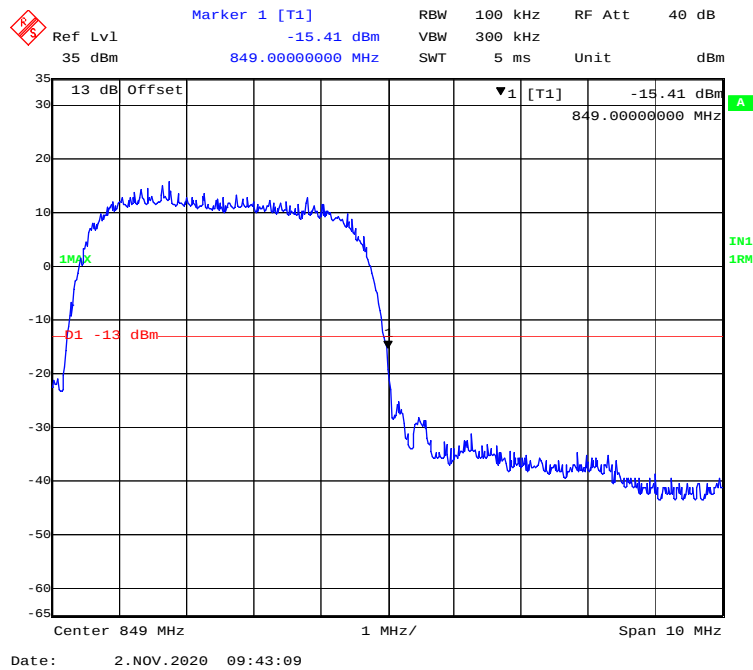
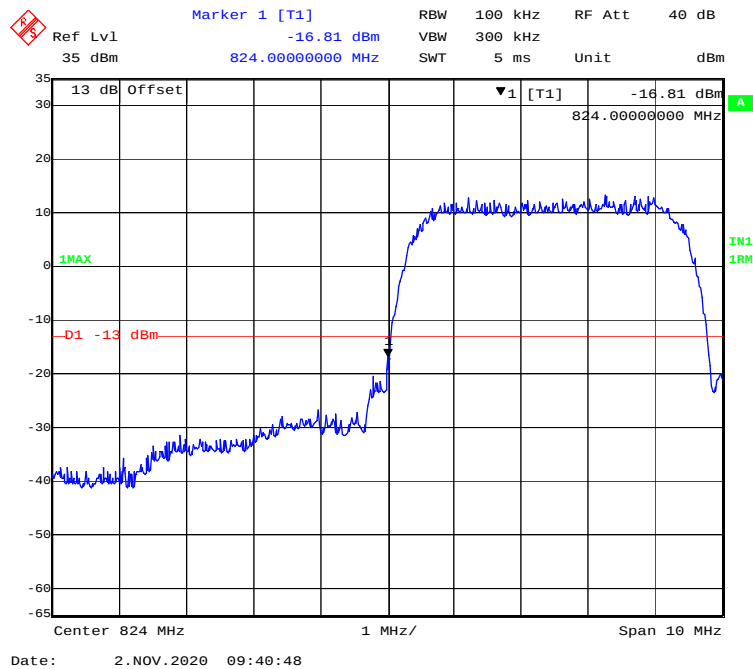
|                           |                 |
|---------------------------|-----------------|
| <b>Temperature:</b>       | 23.9~25.4 °C    |
| <b>Relative Humidity:</b> | 49~53 %         |
| <b>ATM Pressure:</b>      | 100.7~101.9 kPa |

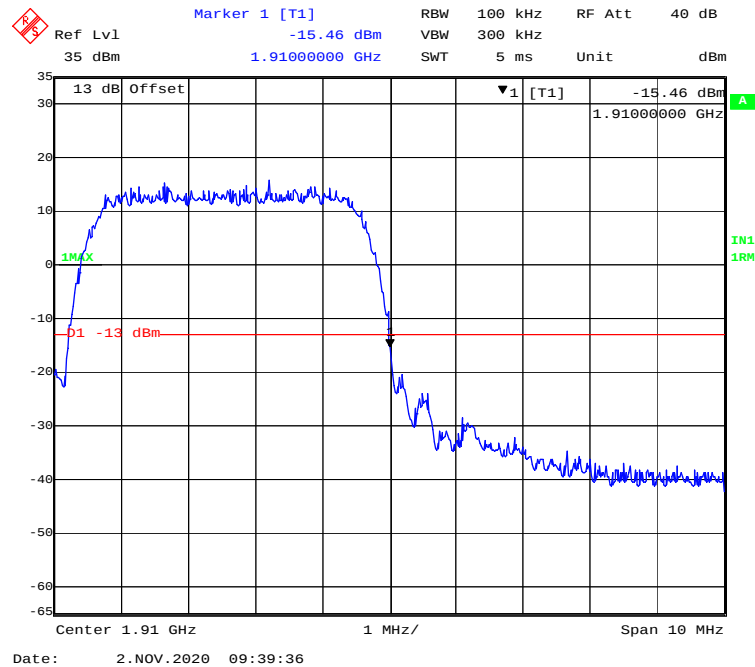
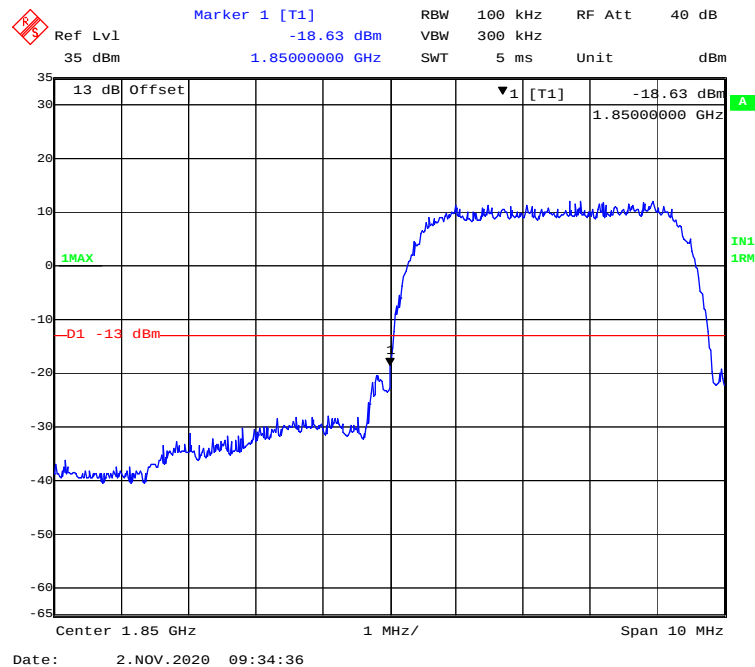
The testing was performed by Jack Jiao from 2020-11-02 to 2020-11-19.

EUT operation mode: Transmitting

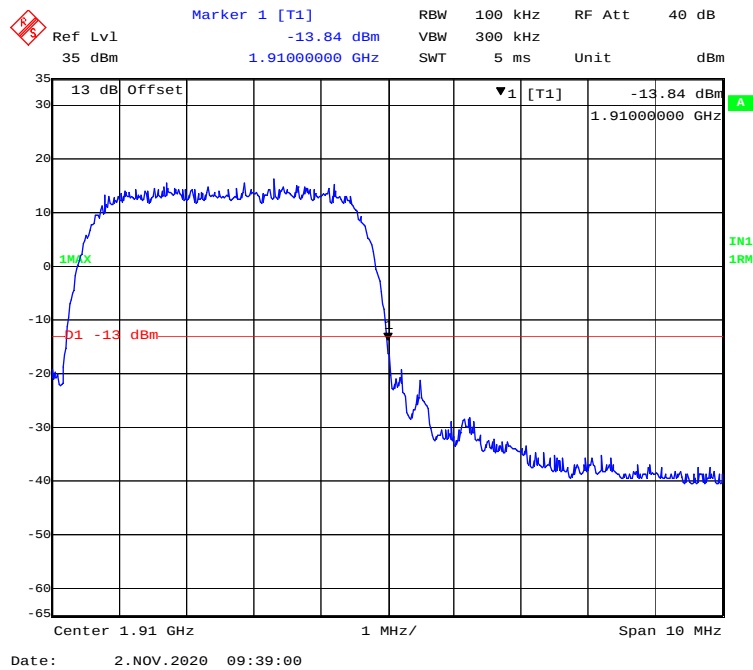
Test Result: Compliant.

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

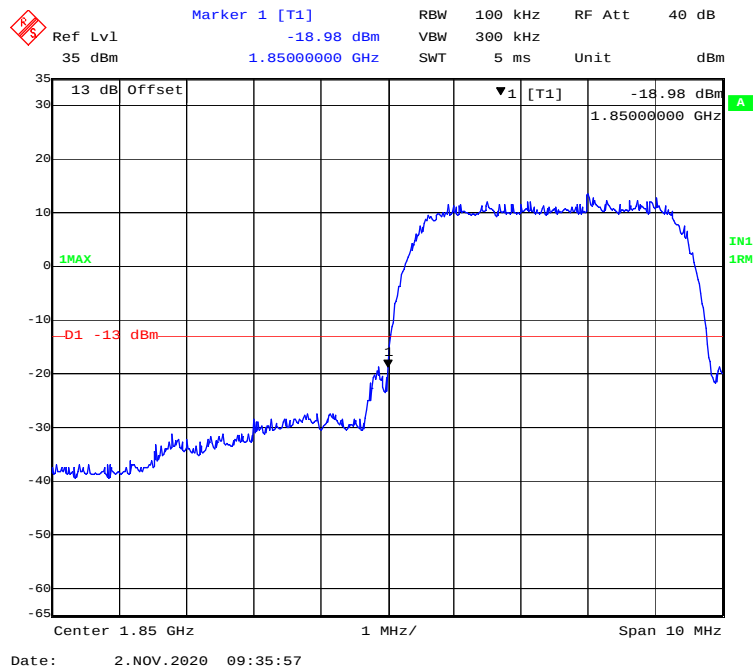
**WCDMA (HSDPA) Mode, Right Band Edge****WCDMA (HSDPA) Mode, Left Band Edge**

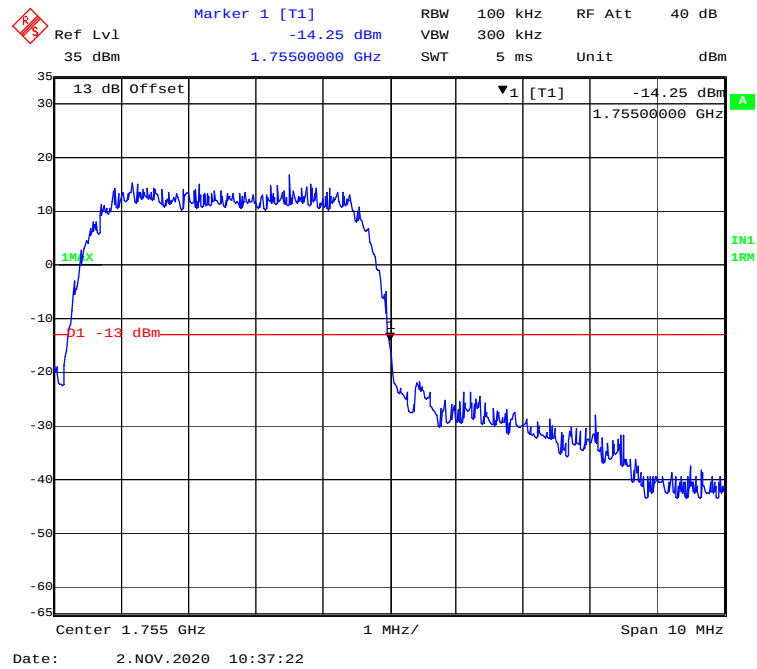
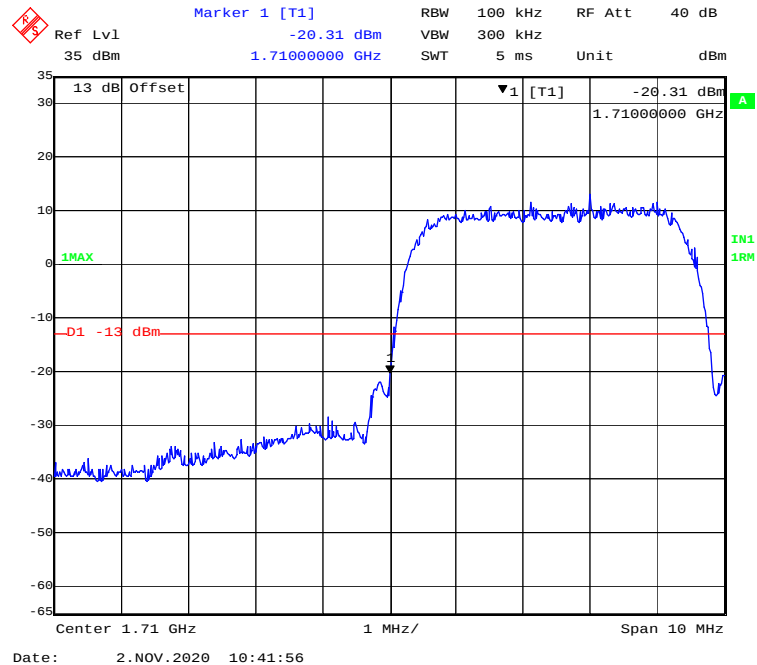
**WCDMA Band II****WCDMA (Rel 99) Mode, Right Band Edge****WCDMA (Rel 99) Mode, Left Band Edge**

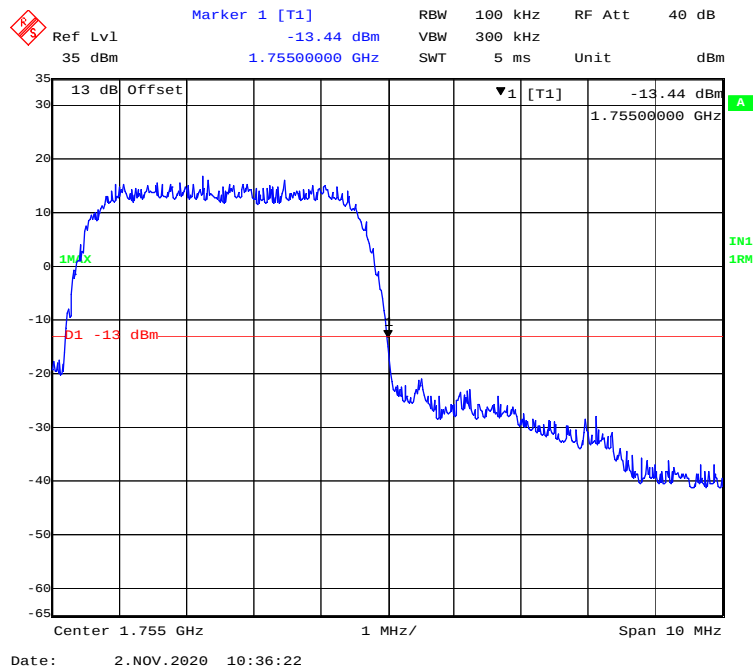
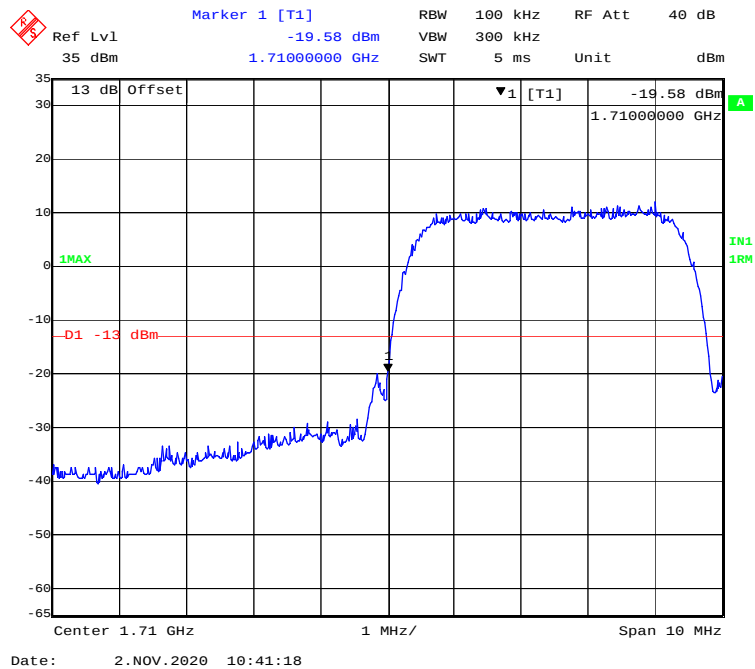
### WCDMA (HSDPA) Mode, Right Band Edge

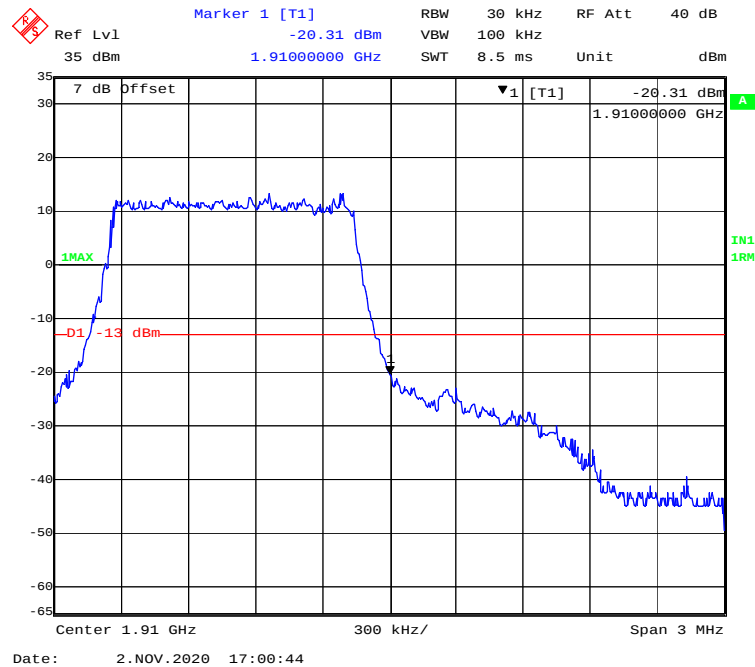
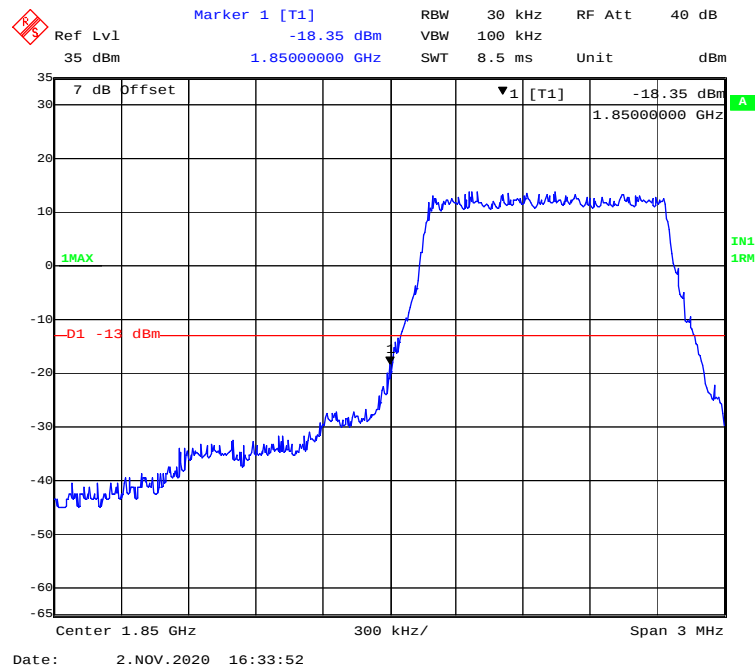


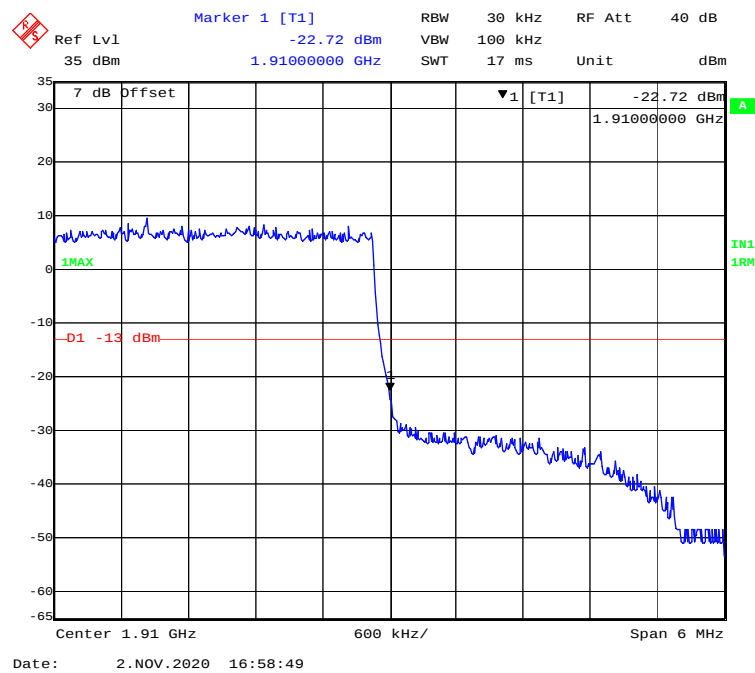
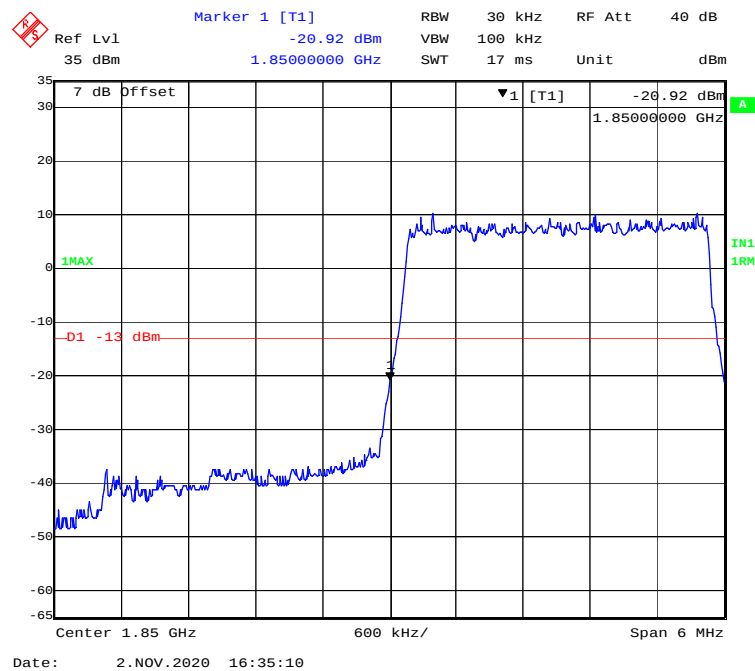
### WCDMA (HSDPA) Mode, Left Band Edge



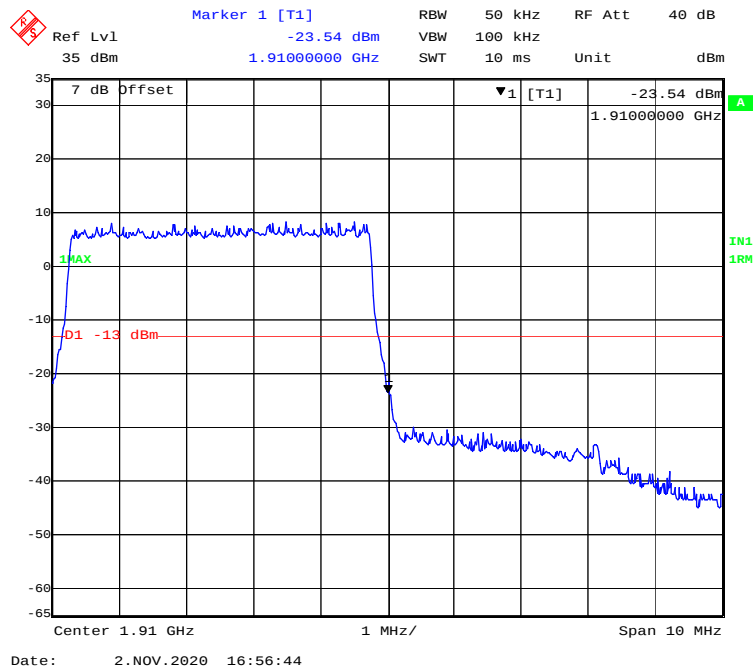
**WCDMA Band IV****WCDMA (Rel 99) Mode, Right Band Edge****WCDMA (Rel 99) Mode, Left Band Edge**

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

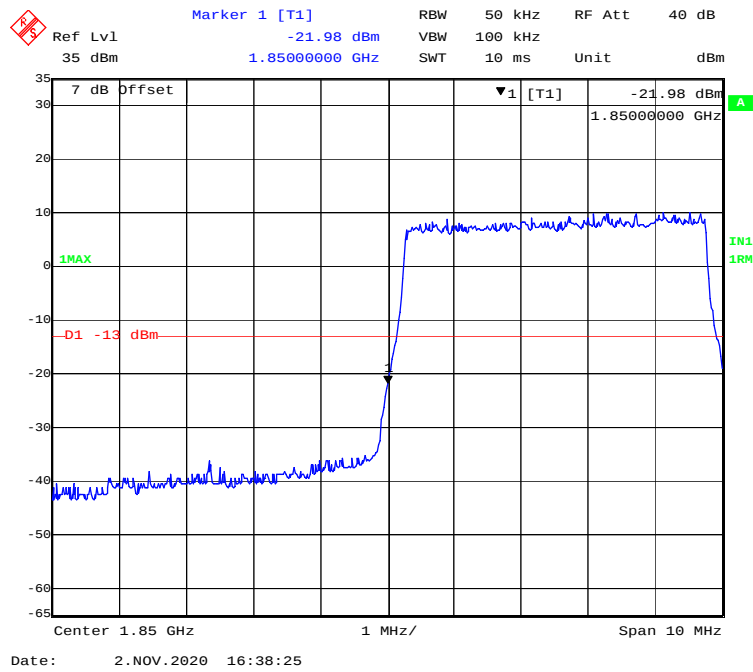
**LTE Band 2:****QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

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

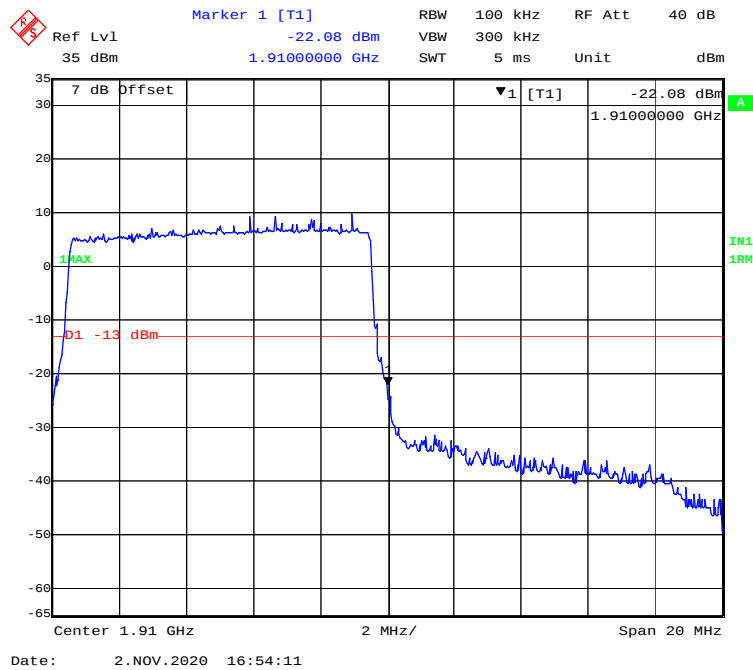
### QPSK (5 MHz, FULL RB) - Right Band Edge



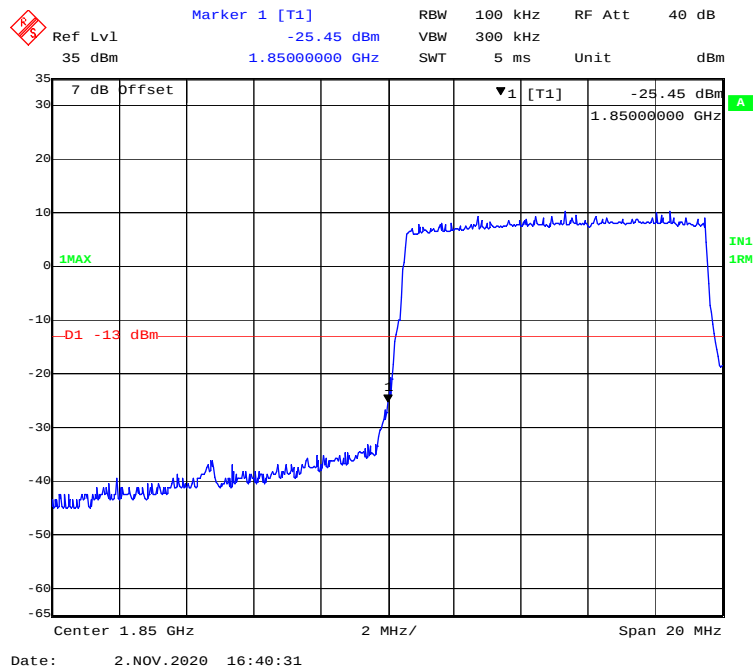
### QPSK (5 MHz, FULL RB) - Left Band Edge



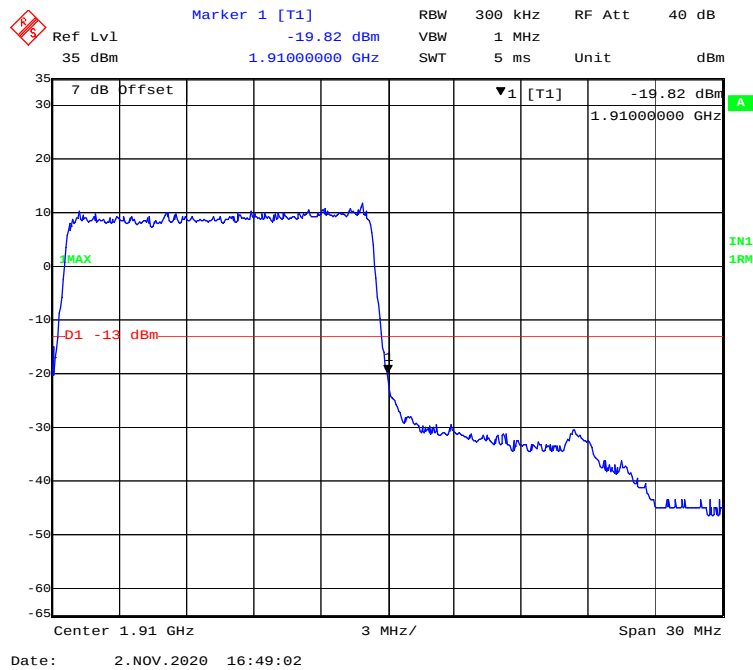
### QPSK (10 MHz, FULL RB) - Right Band Edge



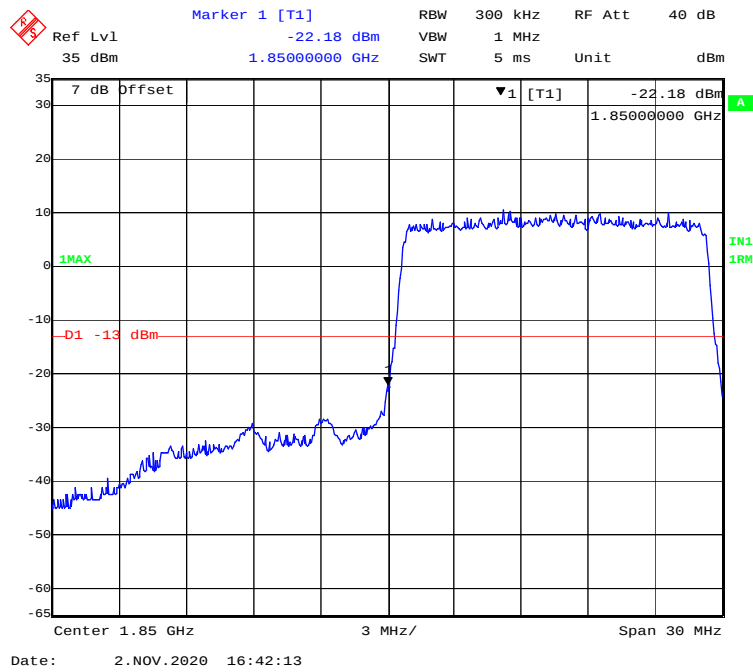
### QPSK (10 MHz, FULL RB) - Left Band Edge



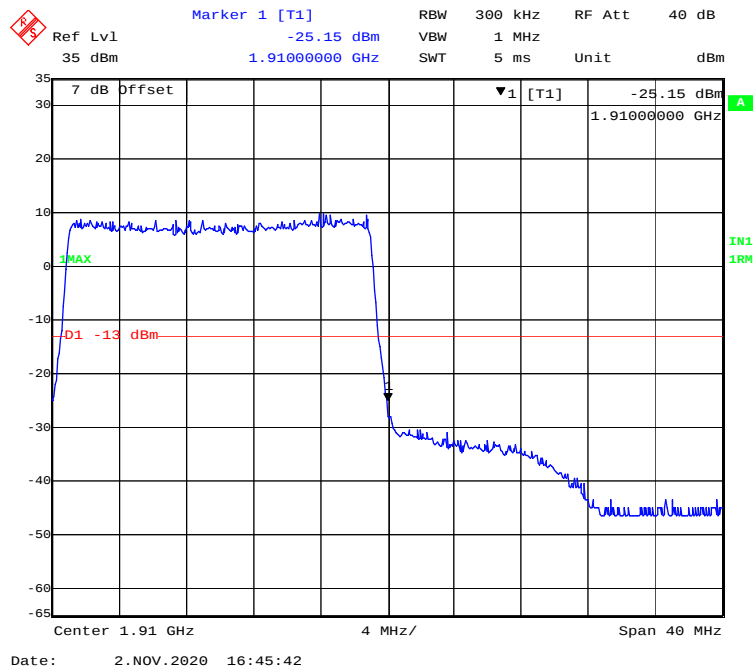
### QPSK (15 MHz, FULL RB) - Right Band Edge



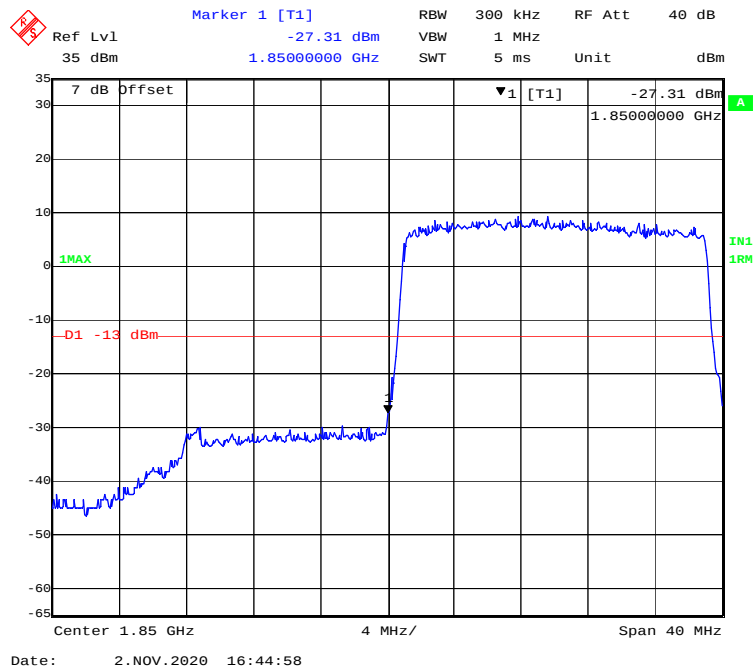
### QPSK (15 MHz, FULL RB) - Left Band Edge

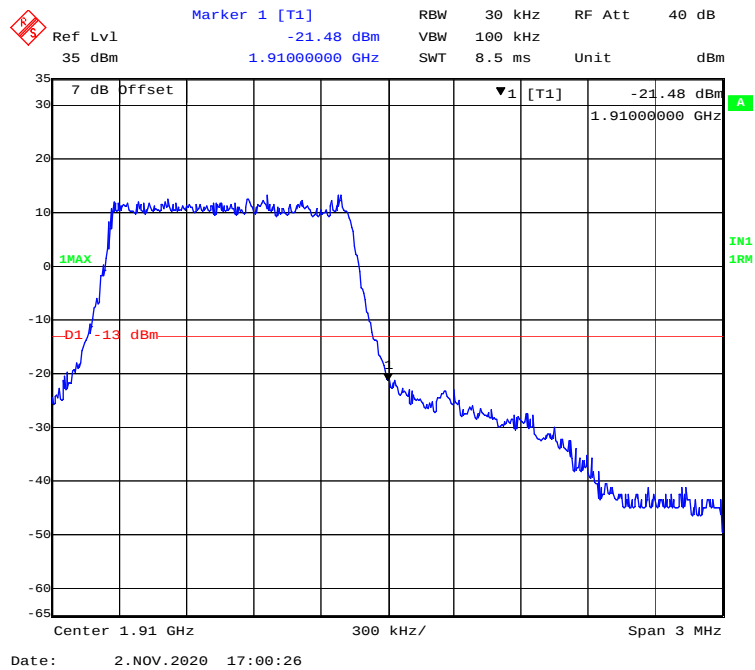
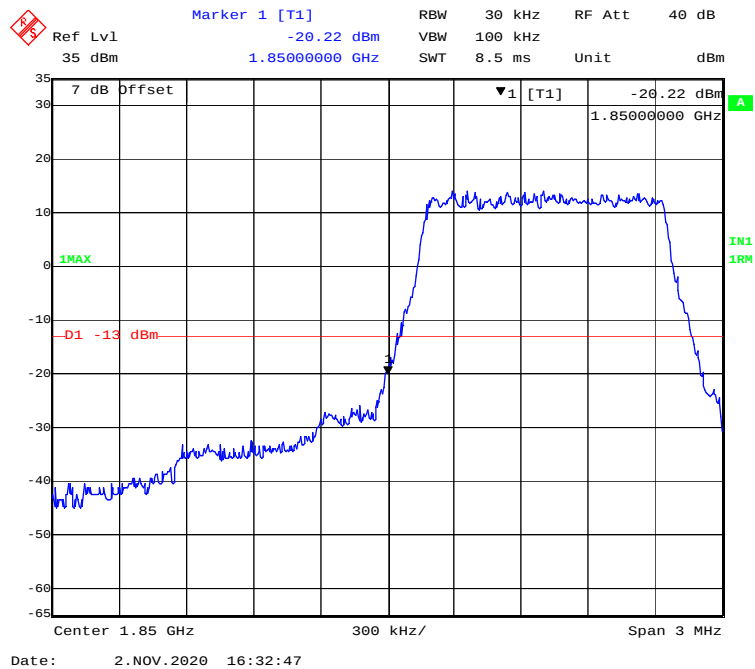


### QPSK (20 MHz, FULL RB) - Right Band Edge

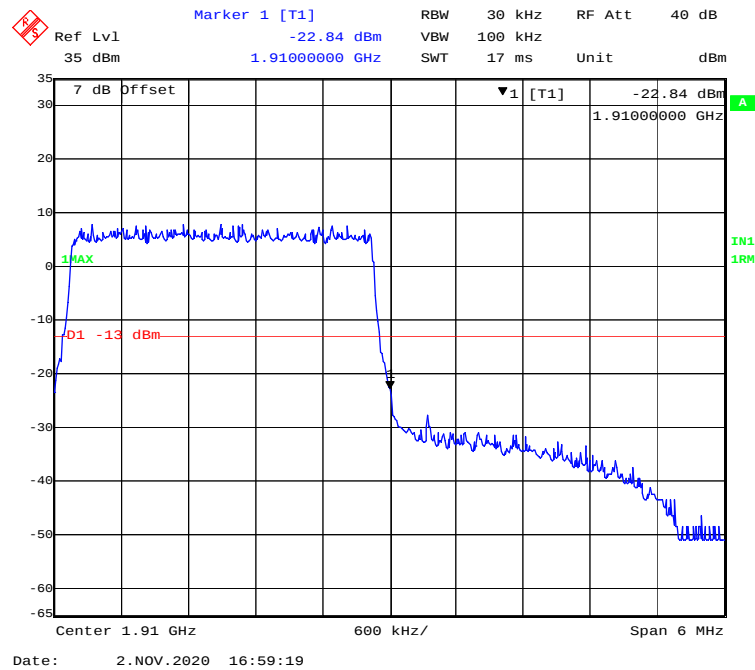


### QPSK (20 MHz, FULL RB) - Left Band Edge

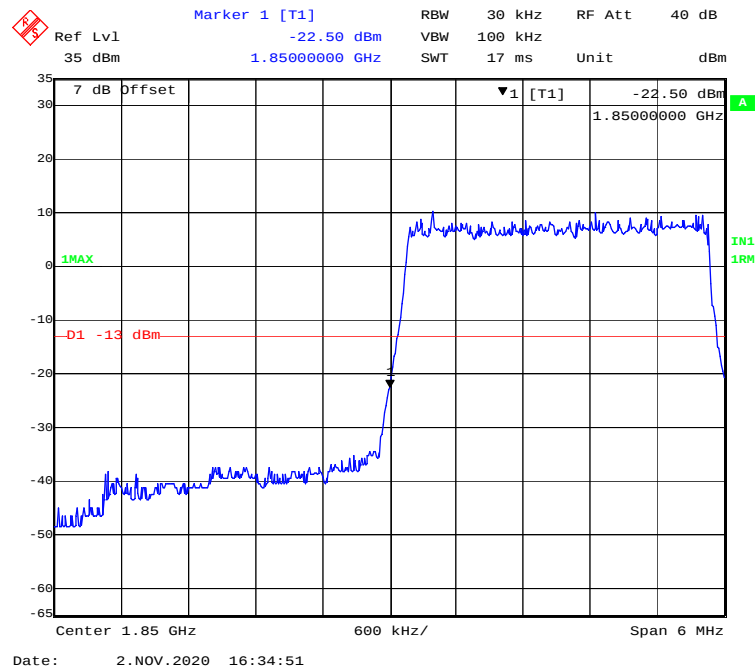


**16-QAM (1.4 MHz, FULL RB) - Right Band Edge****16-QAM (1.4 MHz, FULL RB) - Left Band Edge**

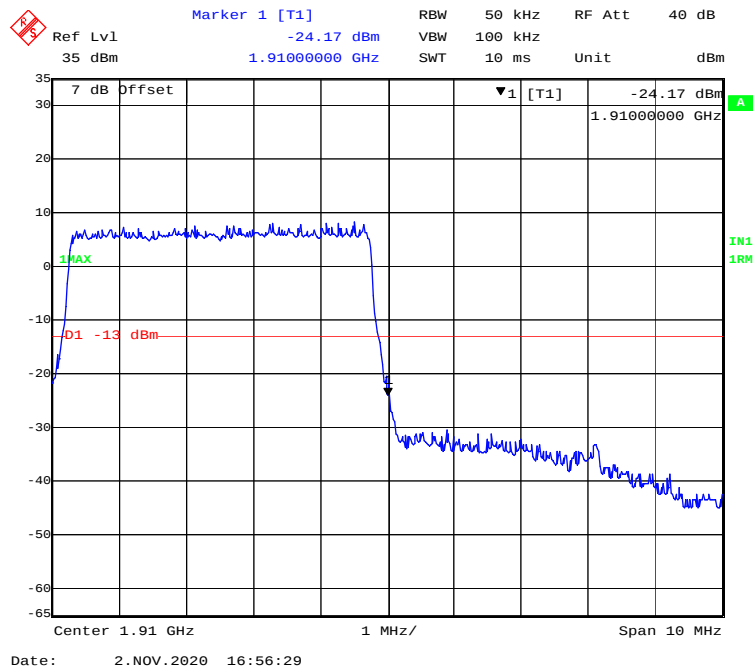
### 16-QAM (3 MHz, FULL RB) - Right Band Edge



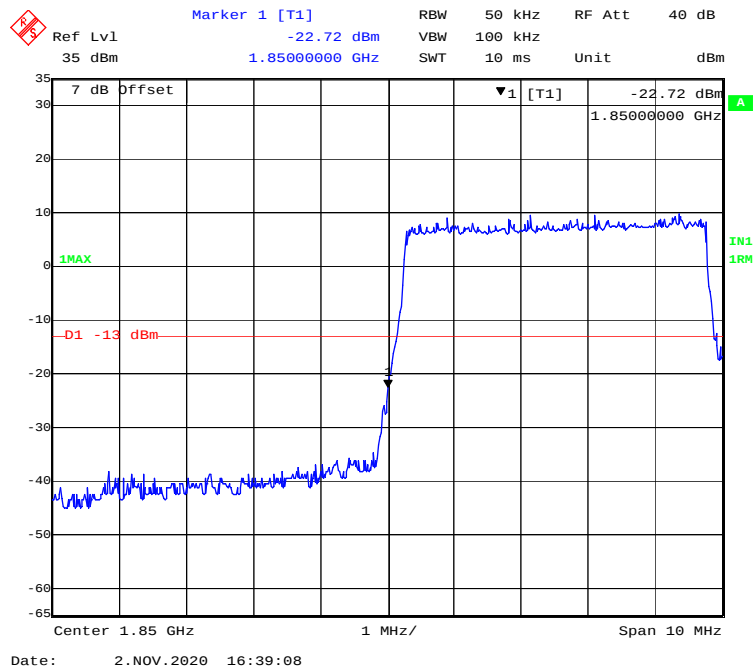
### 16-QAM (3 MHz, FULL RB) - Left Band Edge



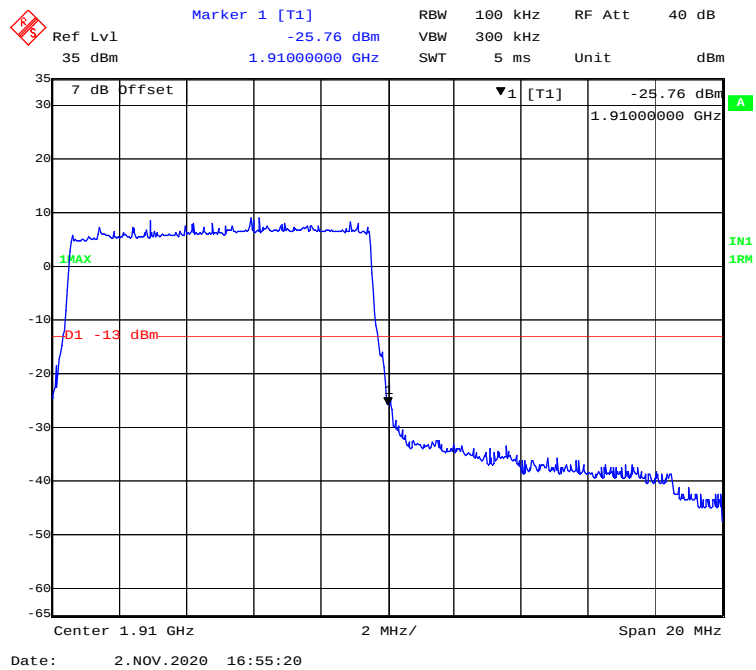
### 16-QAM (5 MHz, FULL RB) - Right Band Edge



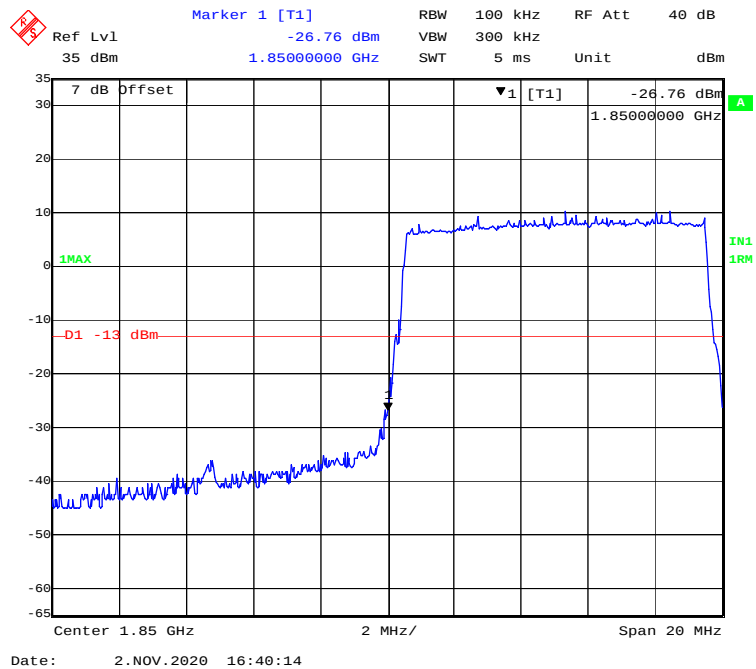
### 16-QAM (5 MHz, FULL RB) - Left Band Edge



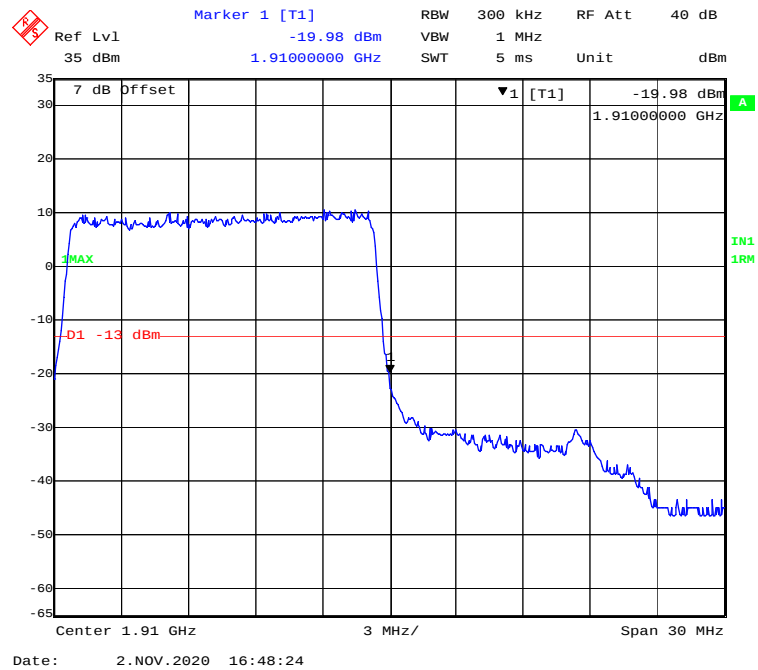
### 16-QAM (10 MHz, FULL RB) - Right Band Edge



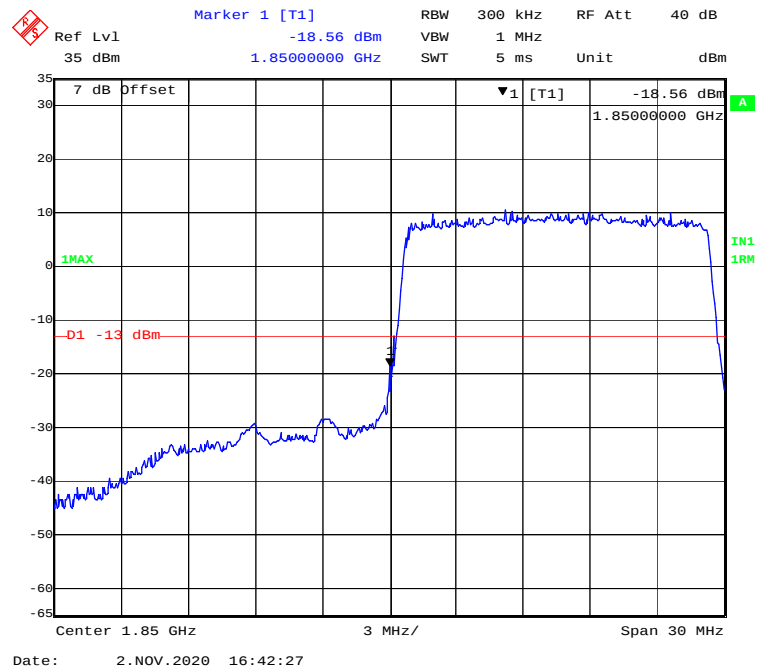
### 16-QAM (10 MHz, FULL RB) - Left Band Edge



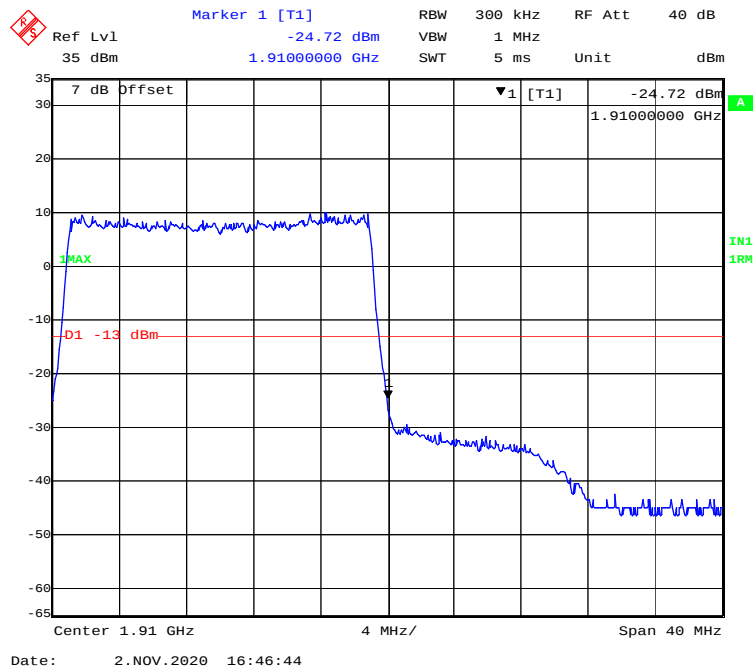
### 16-QAM (15 MHz, FULL RB) - Right Band Edge



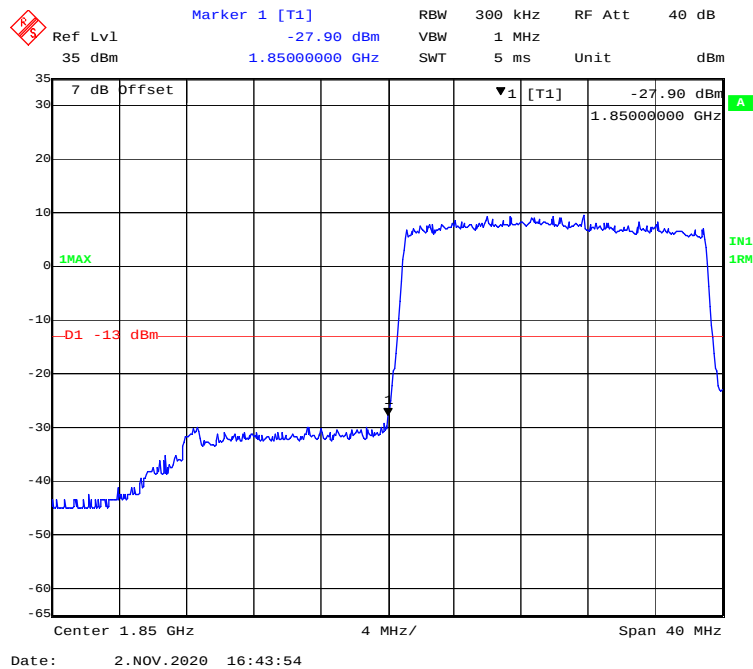
### 16-QAM (15 MHz, FULL RB) - Left Band Edge



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

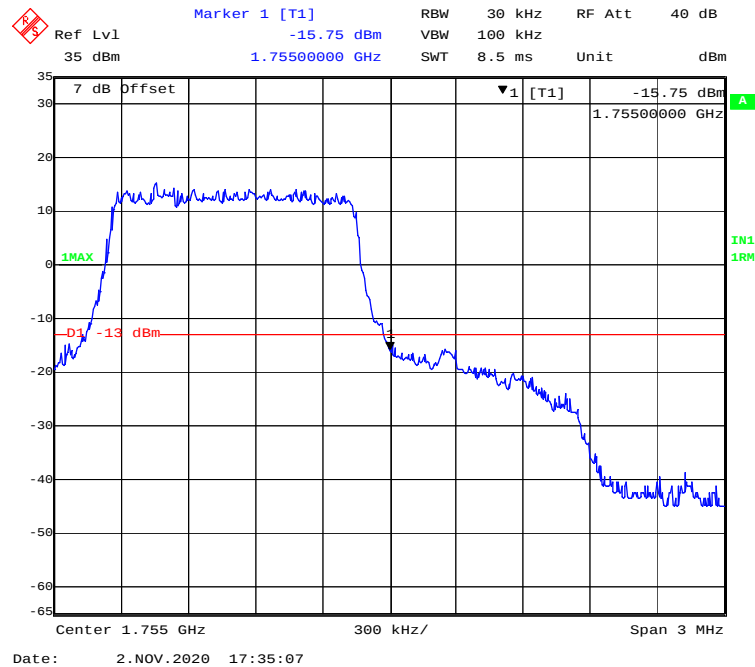


### 16-QAM (20 MHz, FULL RB) - Left Band Edge

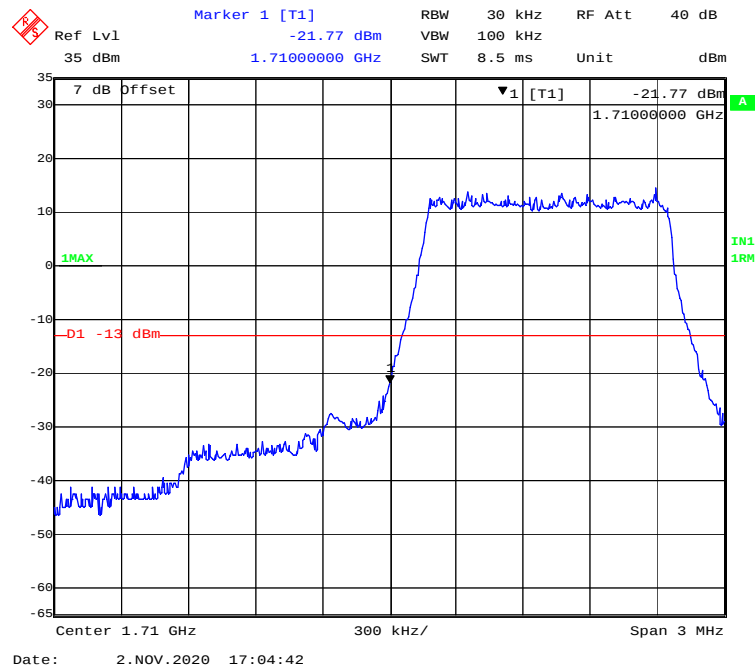


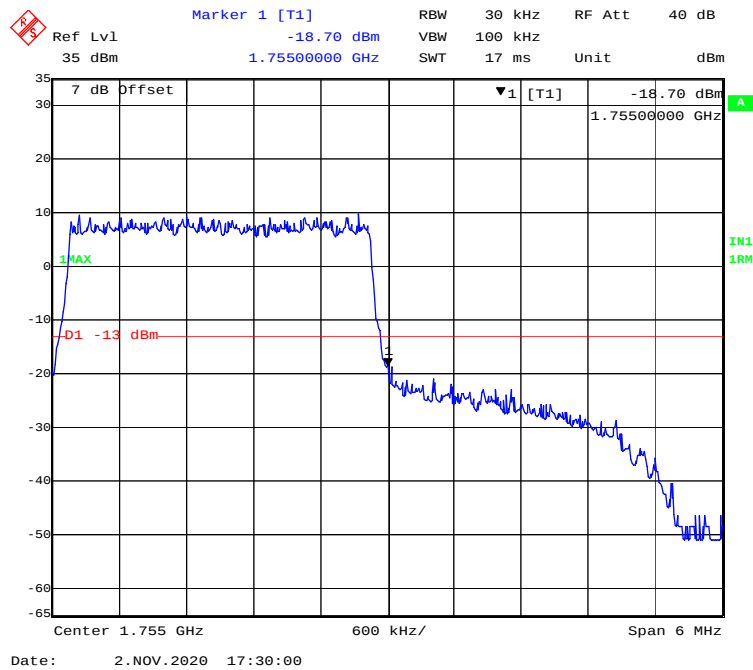
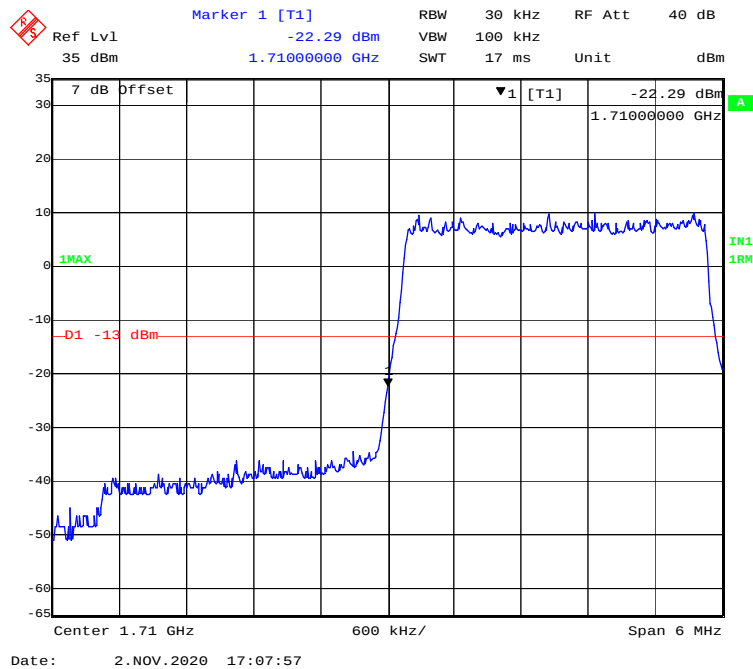
# LTE Band 4:

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

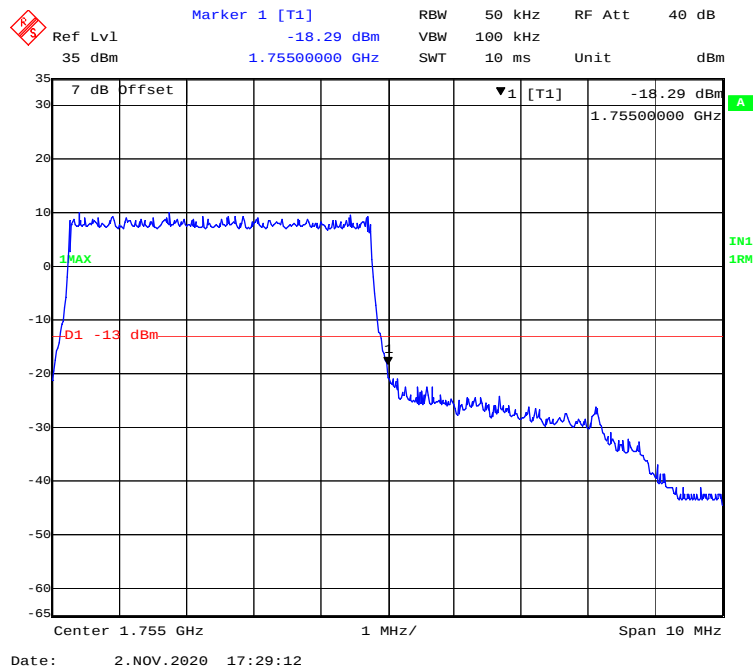


## QPSK (1.4 MHz, FULL RB) - Left Band Edge

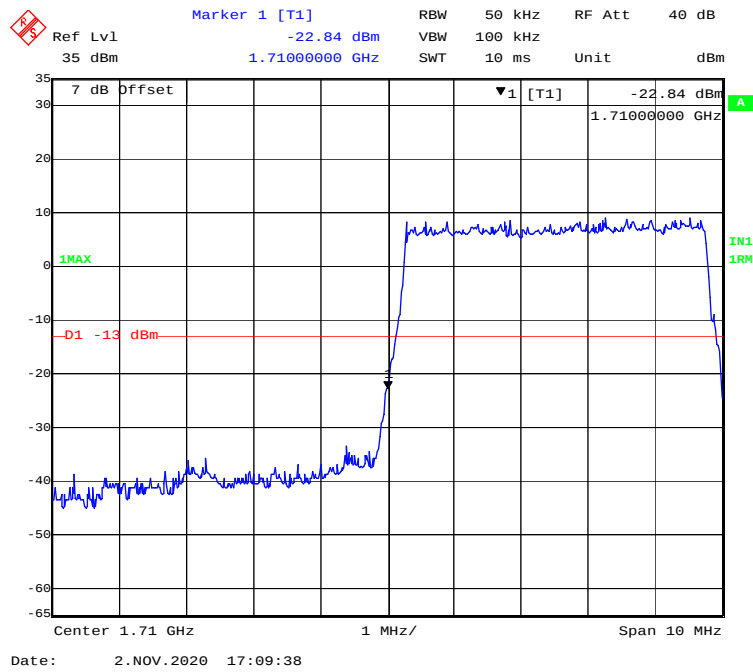


**QPSK (3 MHz, FULL RB) - Right Band Edge****QPSK (3 MHz, FULL RB) - Left Band Edge**

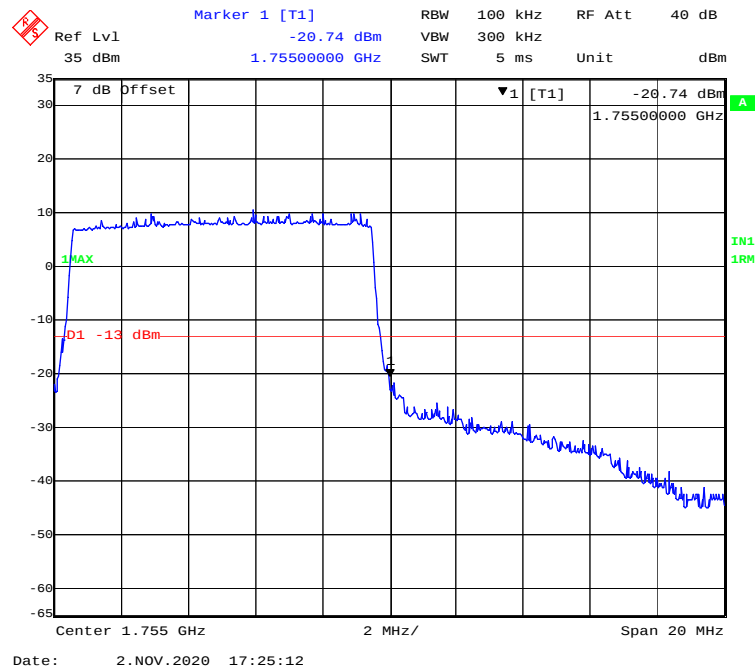
### QPSK (5 MHz, FULL RB) - Right Band Edge



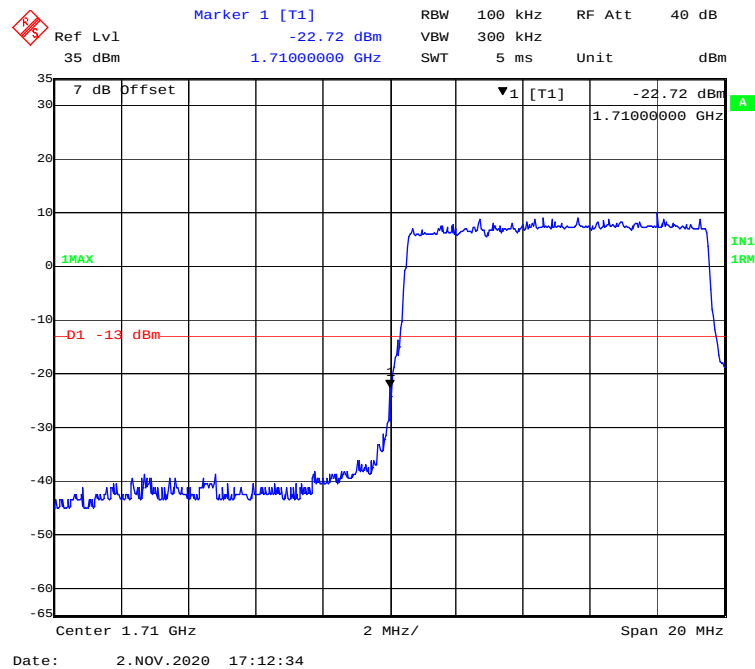
### QPSK (5 MHz, FULL RB) - Left Band Edge



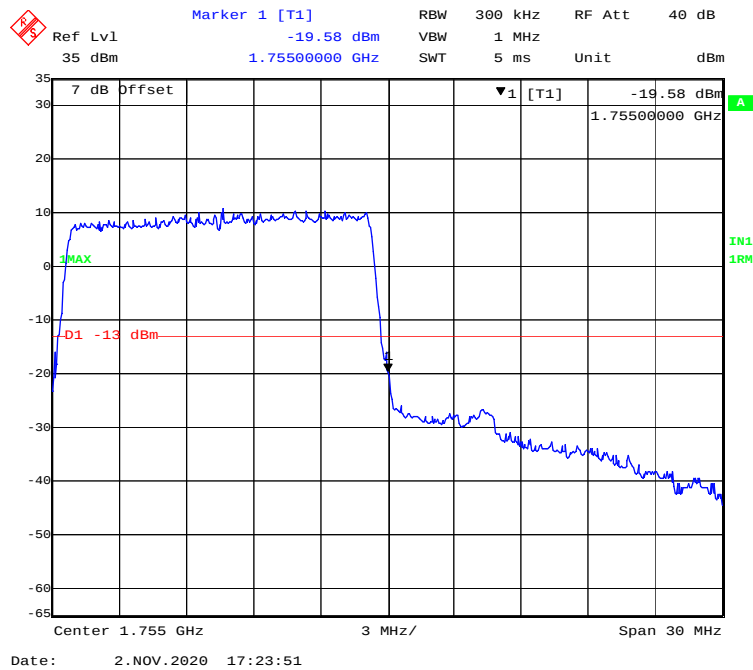
### QPSK (10 MHz, FULL RB) - Right Band Edge



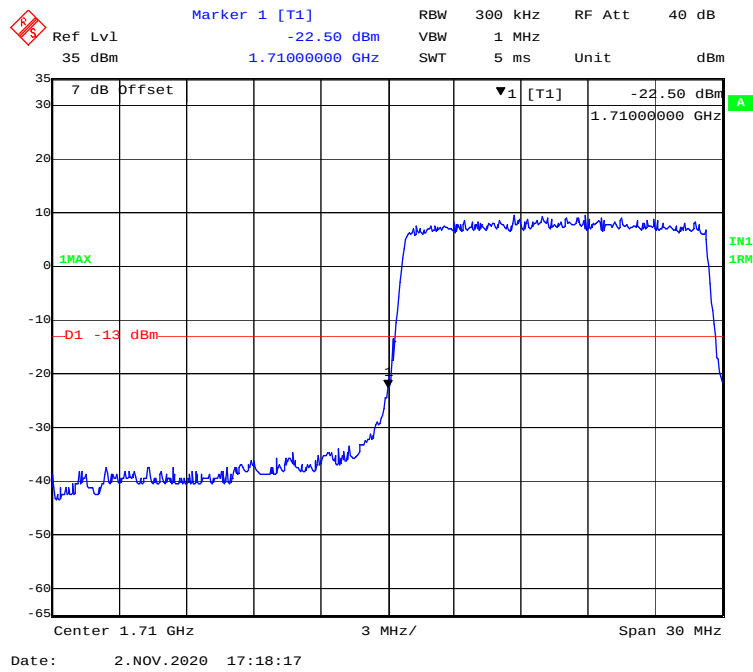
### QPSK (10 MHz, FULL RB) - Left Band Edge

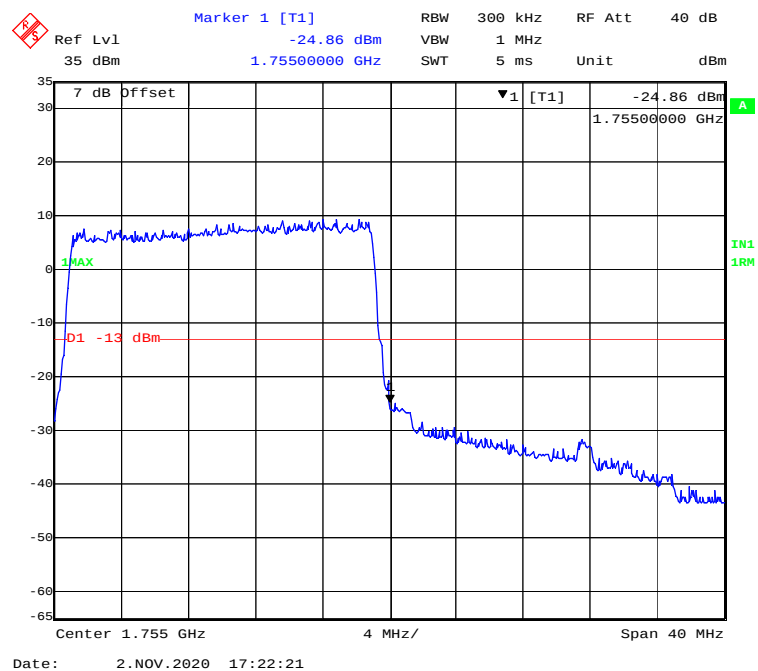
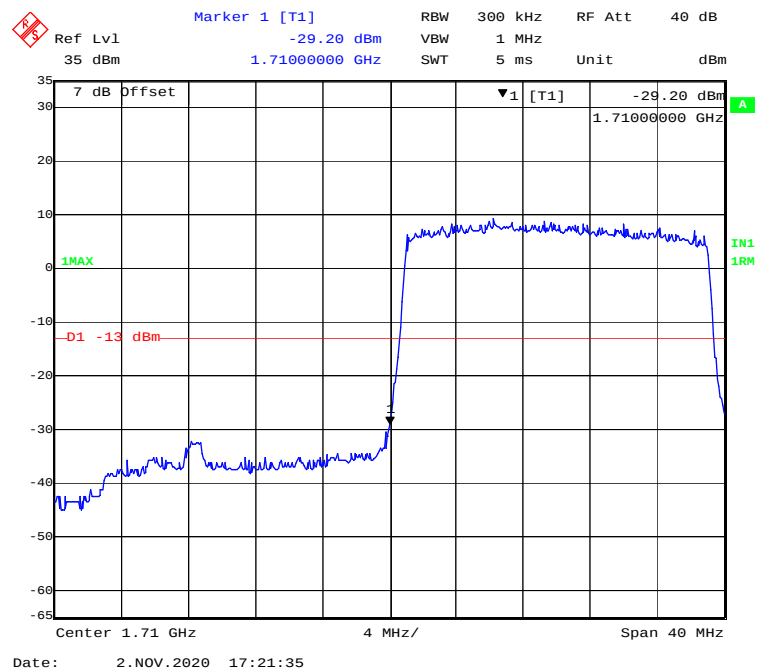


### QPSK (15 MHz, FULL RB) - Right Band Edge

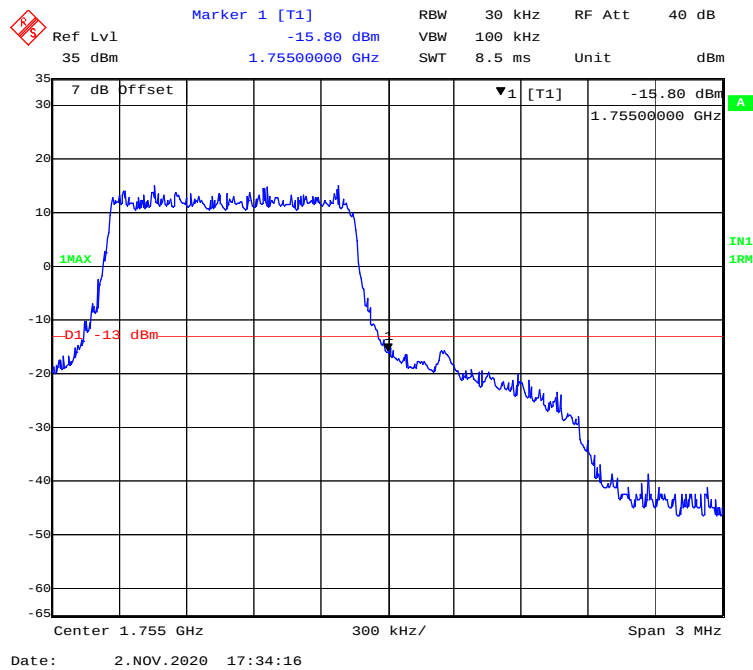


### QPSK (15 MHz, FULL RB) - Left Band Edge

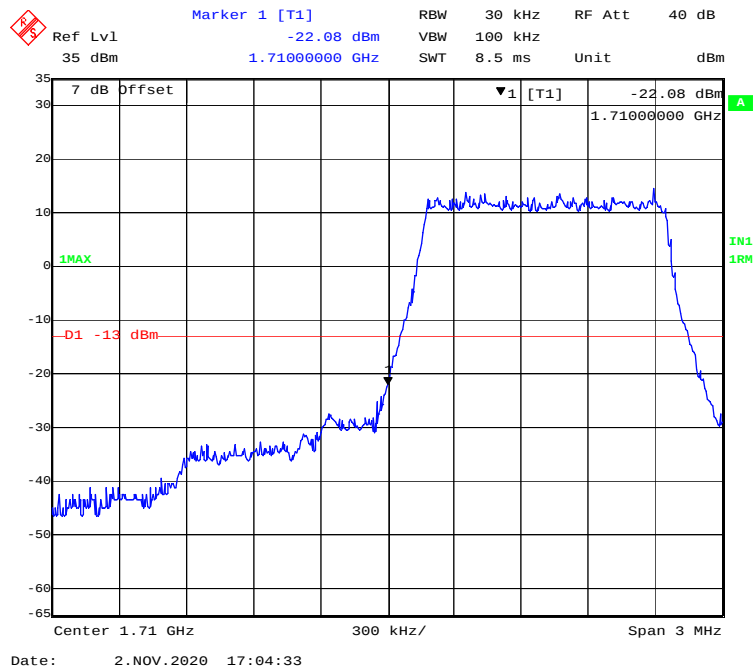


**QPSK (20 MHz, FULL RB) - Right Band Edge****QPSK (20 MHz, FULL RB) - Left Band Edge**

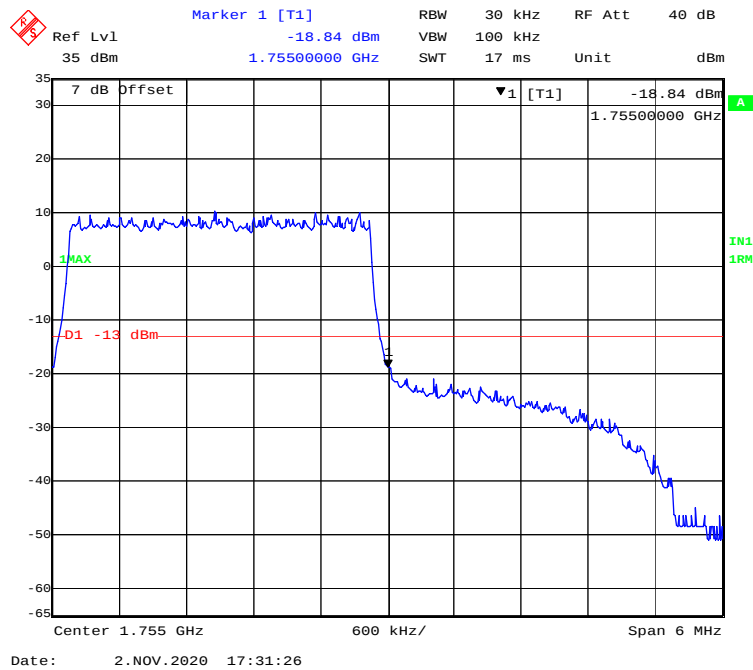
### 16-QAM (1.4 MHz, FULL RB) - Right Band Edge



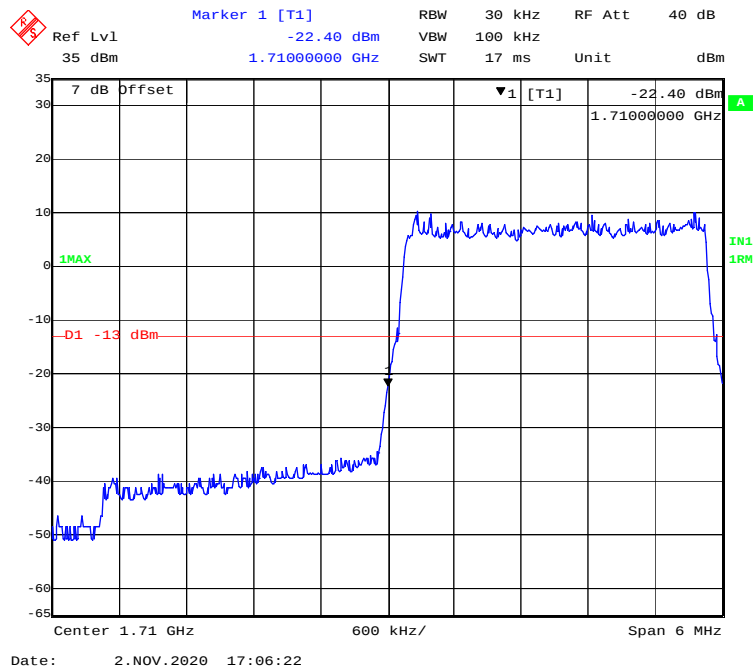
### 16-QAM (1.4 MHz, FULL RB) - Left Band Edge



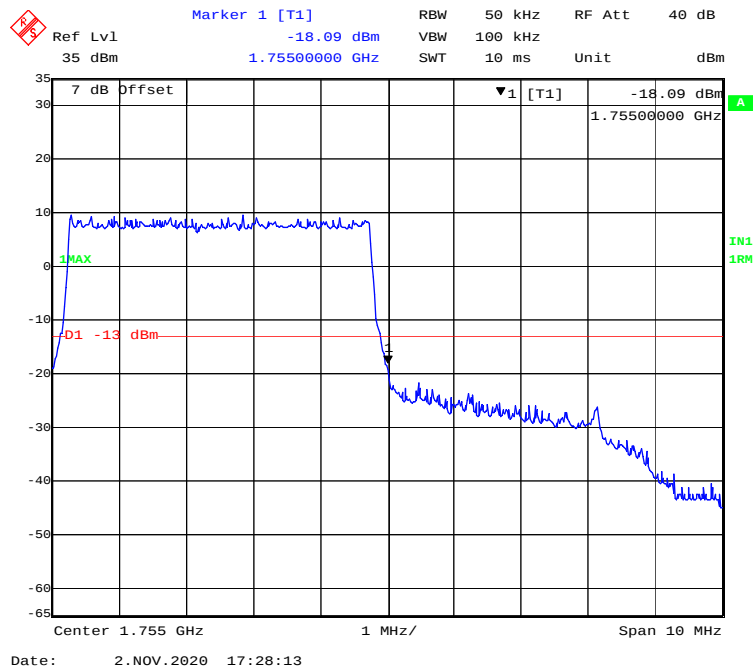
### 16-QAM (3 MHz, FULL RB) - Right Band Edge



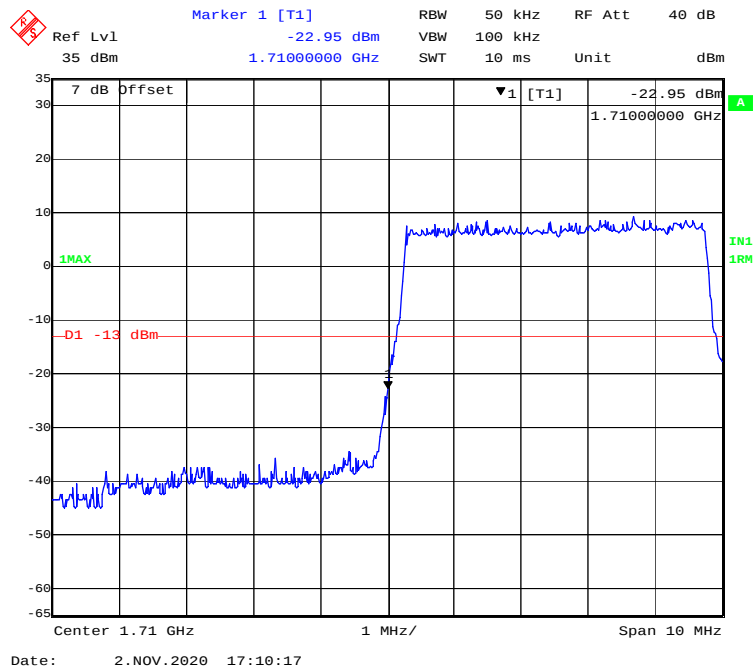
### 16-QAM (3 MHz, FULL RB) - Left Band Edge

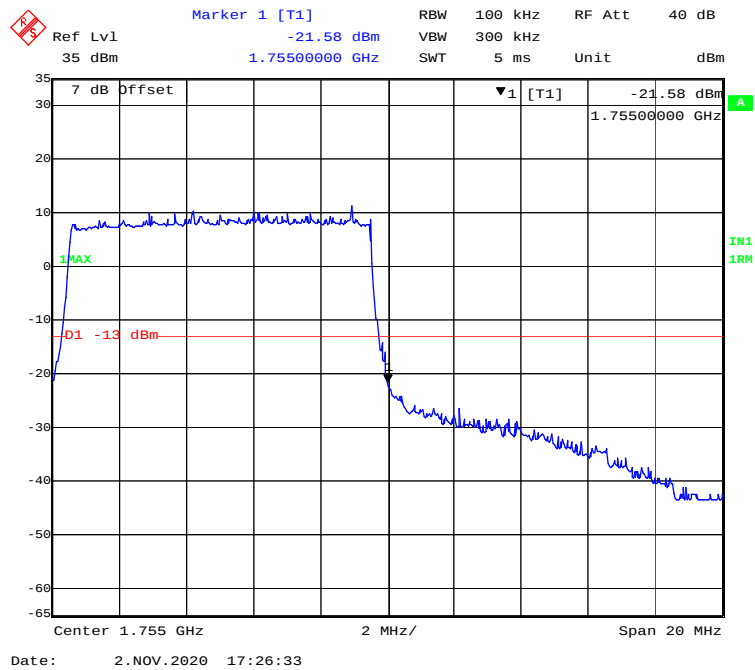
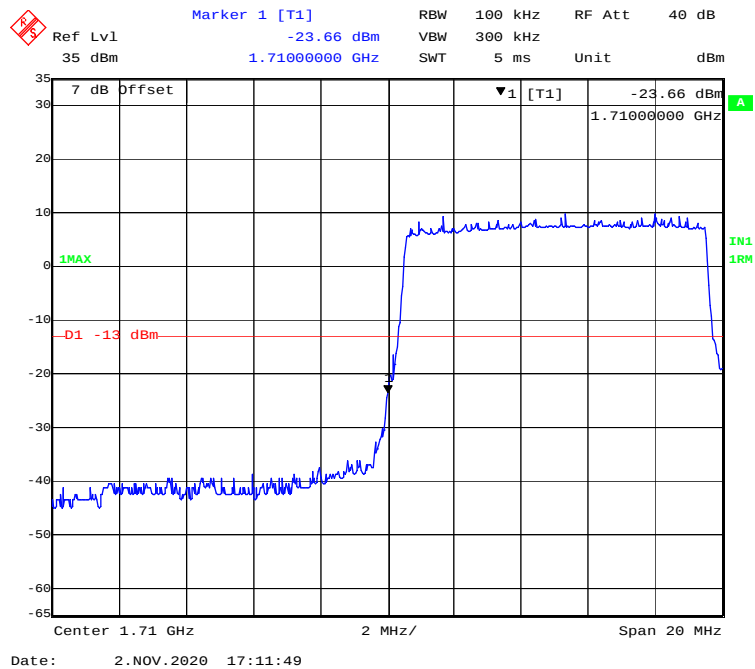


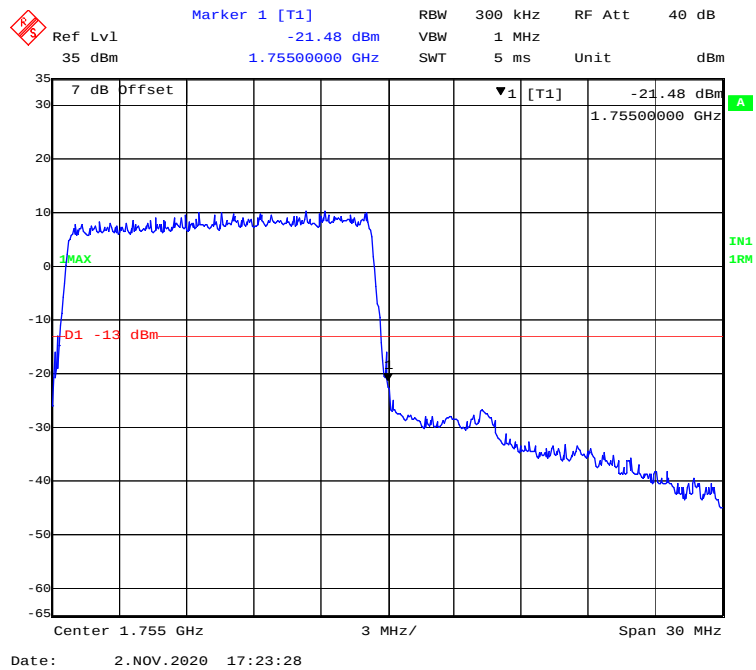
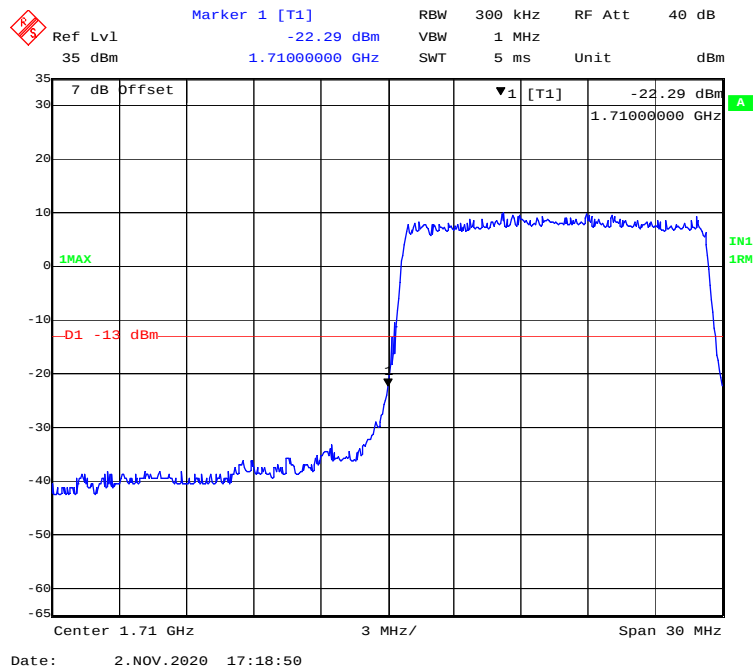
### 16-QAM (5 MHz, FULL RB) - Right Band Edge



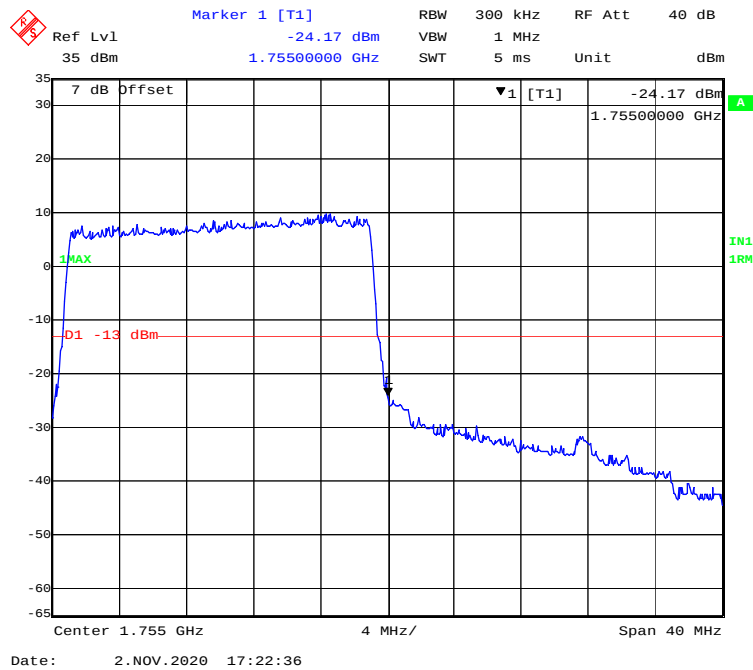
### 16-QAM (5 MHz, FULL RB) - Left Band Edge



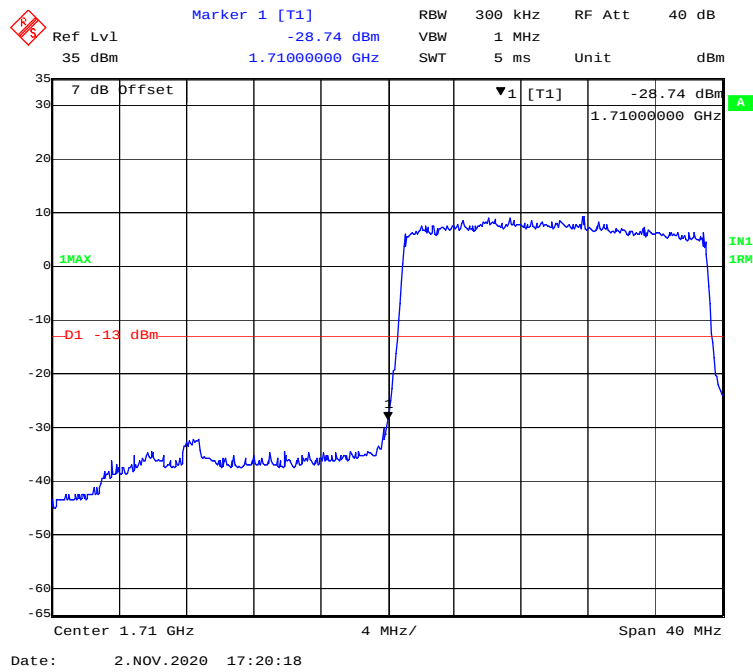
**16-QAM (10 MHz, FULL RB) - Right Band Edge****16-QAM (10 MHz, FULL RB) - Left Band Edge**

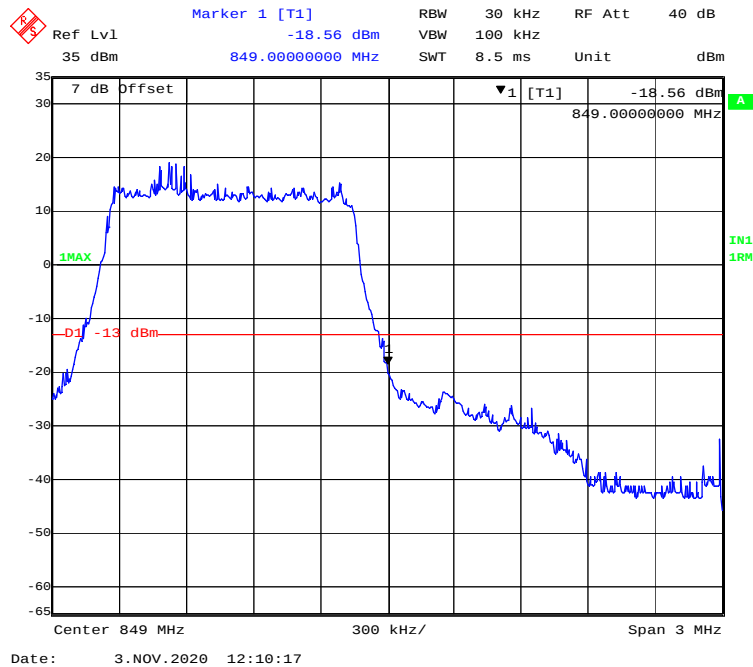
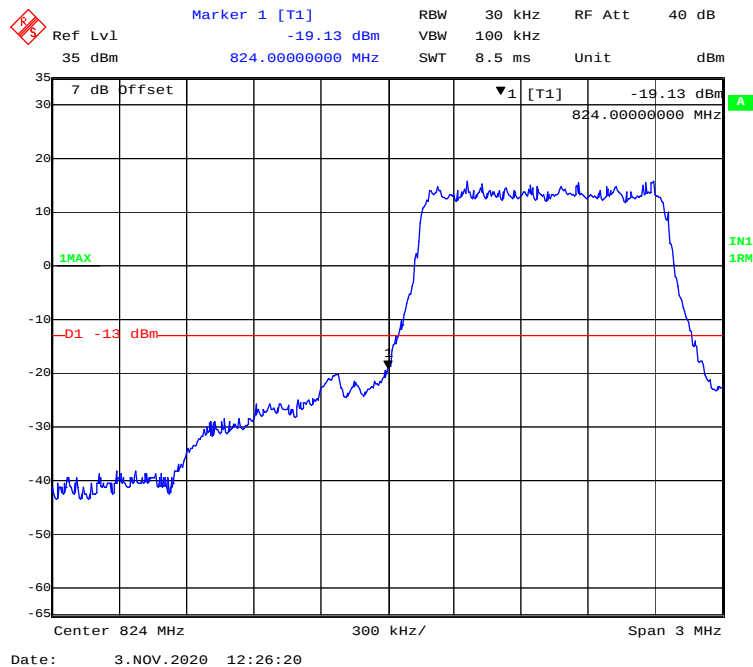
**16-QAM (15 MHz, FULL RB) - Right Band Edge****16-QAM (15 MHz, FULL RB) - Left Band Edge**

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

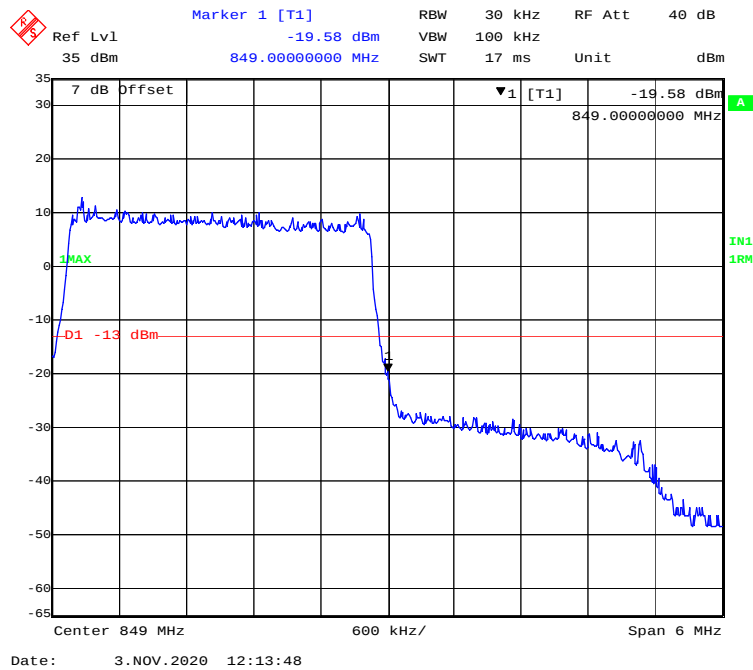


### 16-QAM (20 MHz, FULL RB) - Left Band Edge

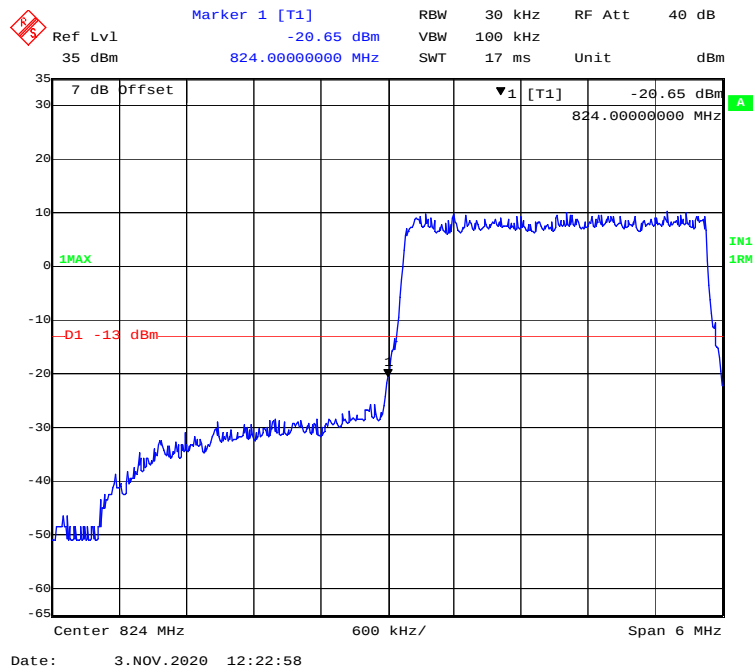


**LTE Band 5:****QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

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



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



Ref Lvl 35 dBm  
 RBW 50 kHz  
 VBW 100 kHz  
 SWT 10 ms  
 RF Att 40 dB  
 Unit dBm

Marker 1 [T1]  
 -21.29 dBm  
 849.00000000 MHz

7 dB Offset  
 ▼1 [T1]  
 -21.29 dBm  
 849.00000000 MHz

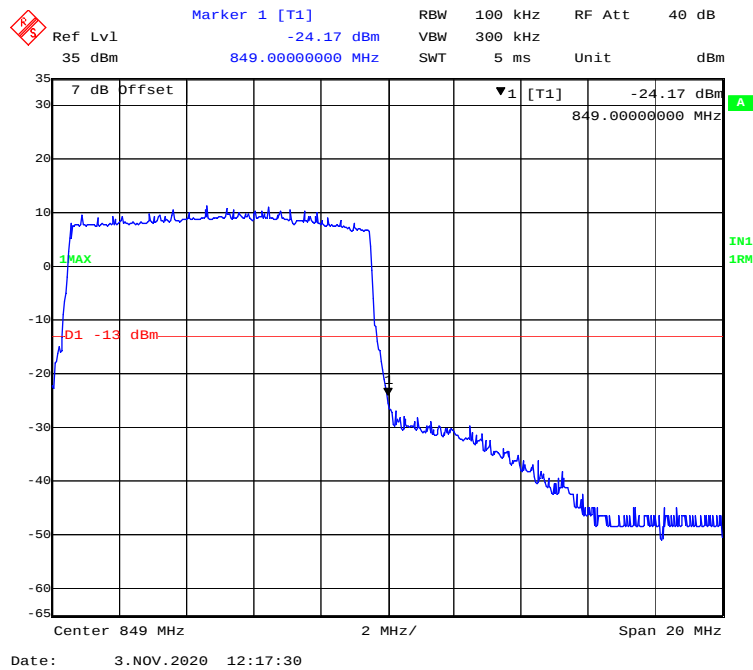
IN1 1RM  
 D1 -13 dBm

Center 849 MHz  
 1 MHz/  
 Span 10 MHz

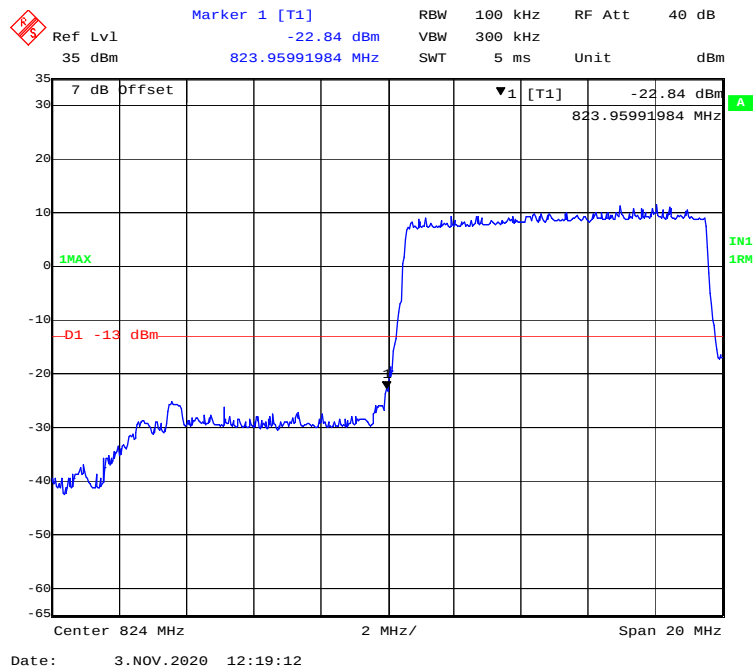
Date: 3.NOV.2020 12:14:54

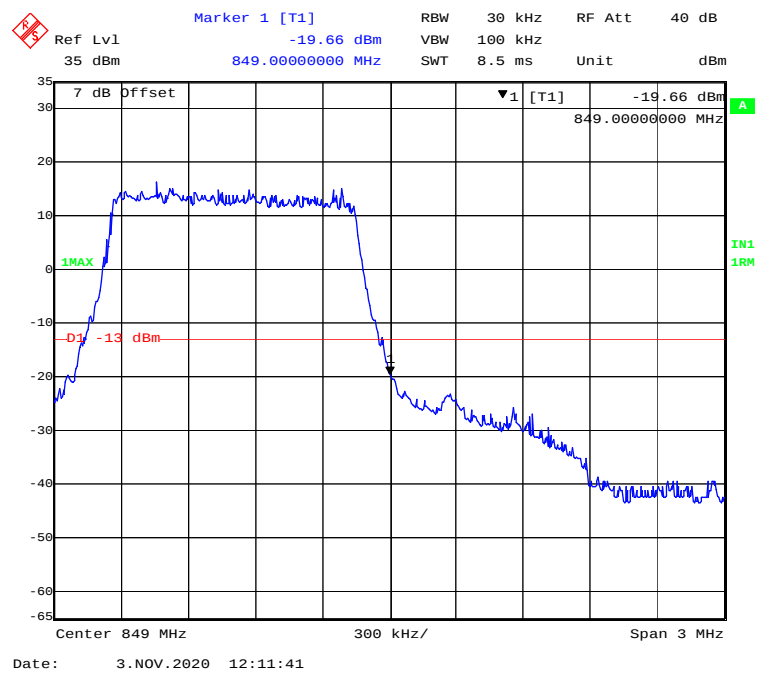
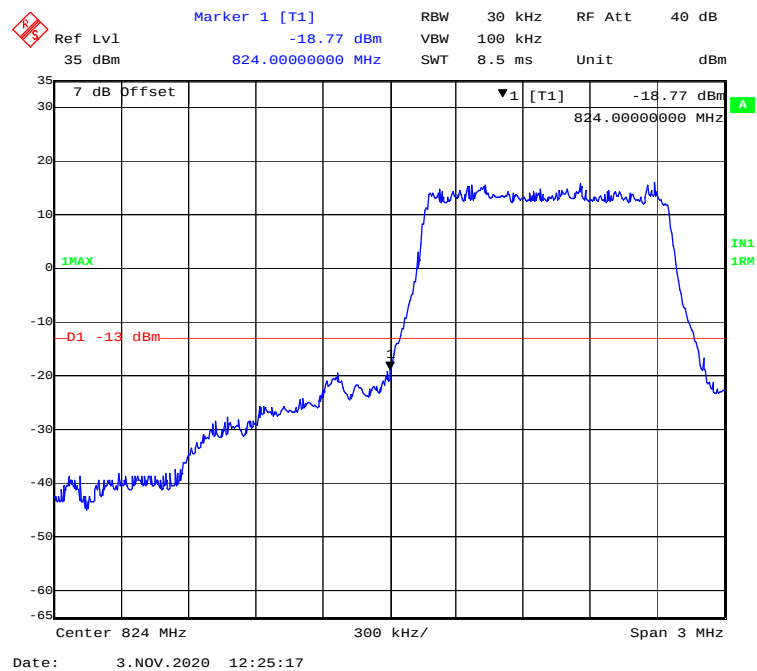
A screenshot of a spectrum analyzer interface. The main plot shows a signal spectrum with a blue trace. The signal is centered at 824 MHz, as indicated by the 'Center 824 MHz' label at the bottom. The frequency span is 10 MHz, labeled 'Span 10 MHz' at the bottom right. The frequency resolution is 1 MHz, labeled '1 MHz/' at the bottom center. The signal level is approximately -10 dBm, with a red horizontal line indicating a reference level at -13 dBm. The signal is labeled 'IN1' and '1RM'. The interface includes various settings: 'Ref Lvl' 35 dBm, 'RBW' 50 kHz, 'VBW' 100 kHz, 'SWT' 10 ms, 'RF Att' 40 dB, and 'Unit' dBm. A 'Marker 1 [T1]' is placed on the signal trace at -20.06 dBm. The plot also shows a '7 dB Offset' and a '1MAX' label. The date and time are displayed at the bottom left: 'Date: 3.NOV.2020 12:22:08'.

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

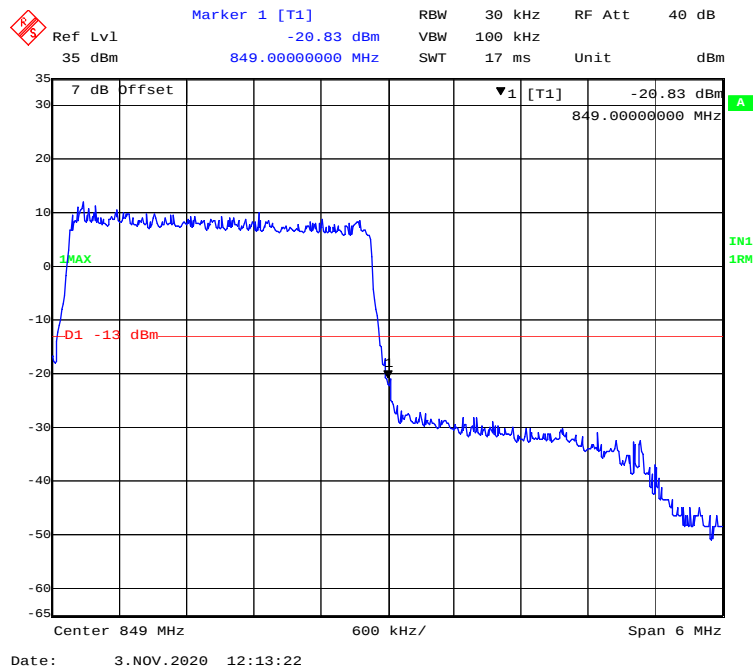


### QPSK (10.0 MHz, FULL RB) - Left Band Edge

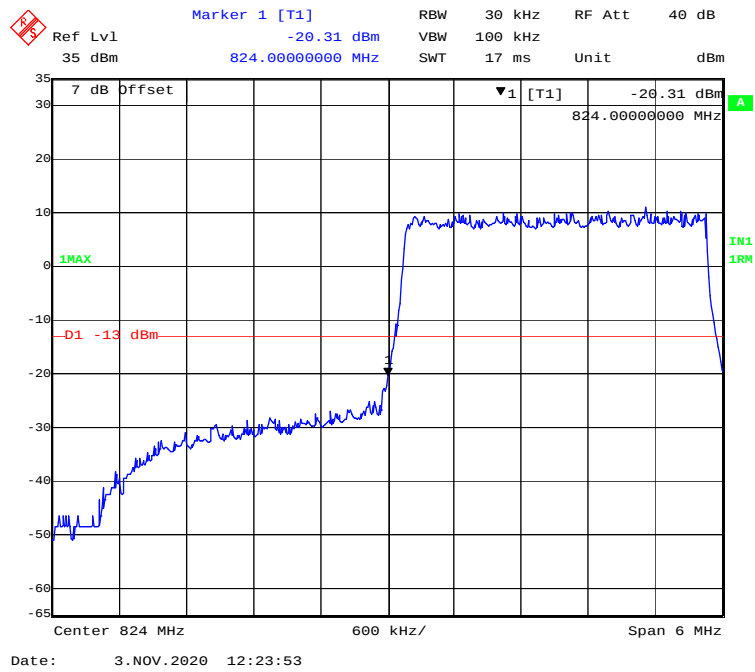


**16-QAM (1.4 MHz, FULL RB) - Right Band Edge****16-QAM (1.4 MHz, FULL RB) - Left Band Edge**

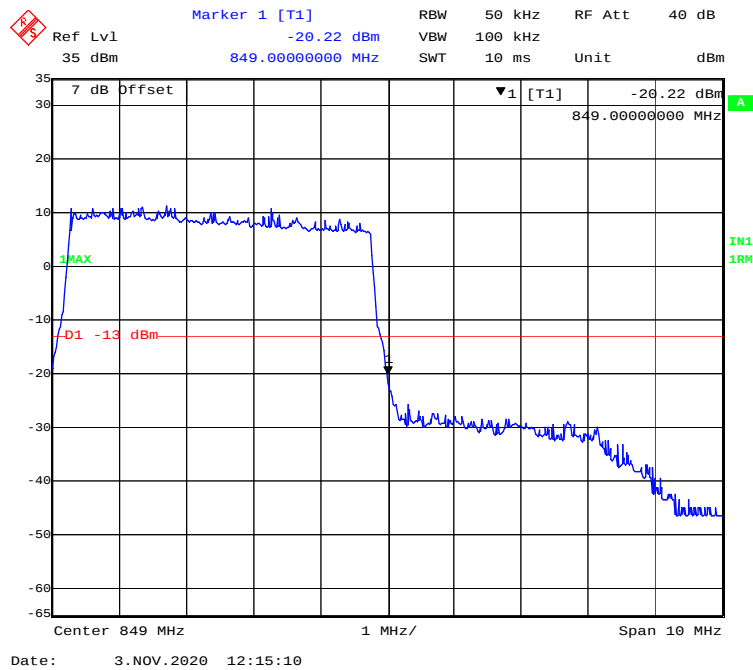
### 16-QAM (3.0 MHz, FULL RB) - Right Band Edge



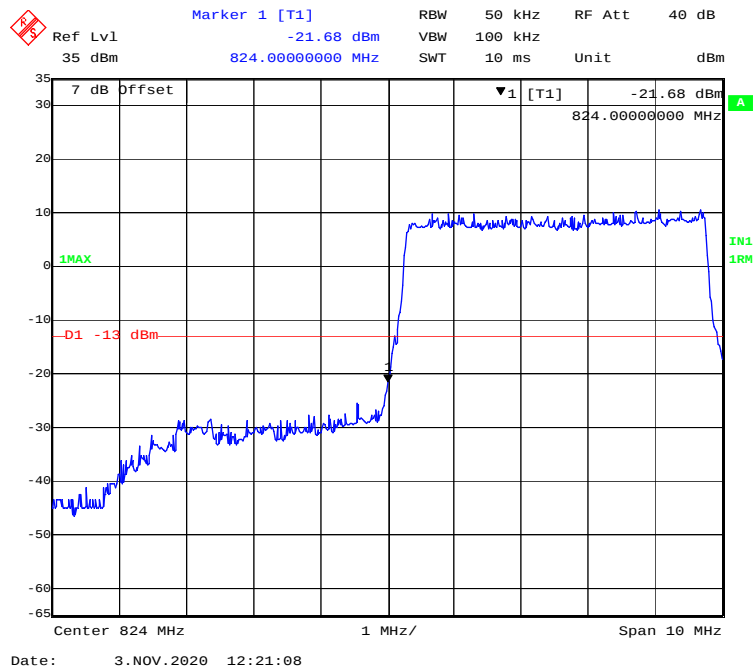
### 16-QAM (3.0 MHz, FULL RB) - Left Band Edge



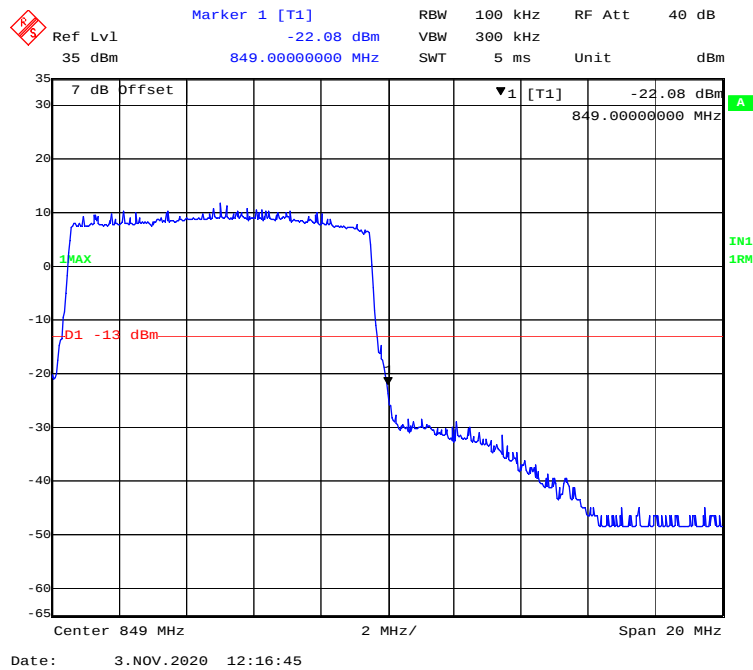
### 16-QAM (5.0 MHz, FULL RB) - Right Band Edge



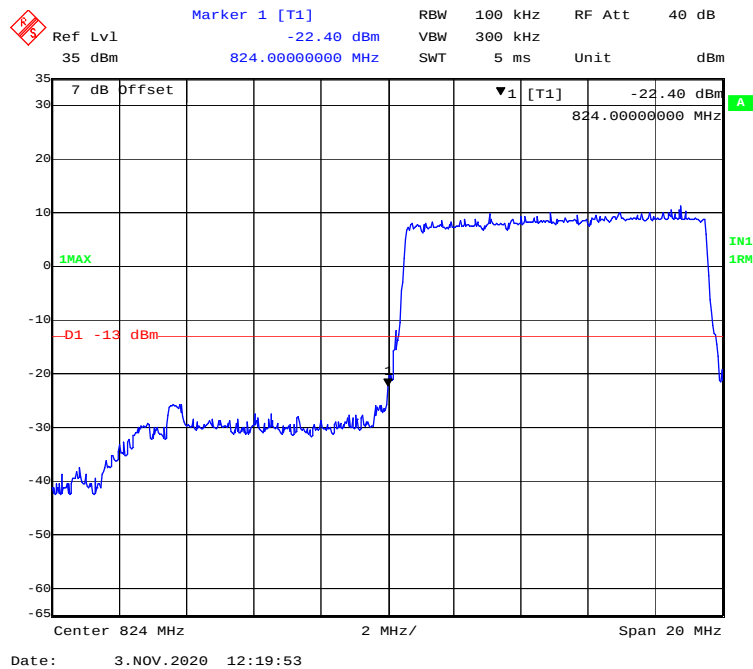
### 16-QAM (5.0 MHz, FULL RB) - Left Band Edge



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

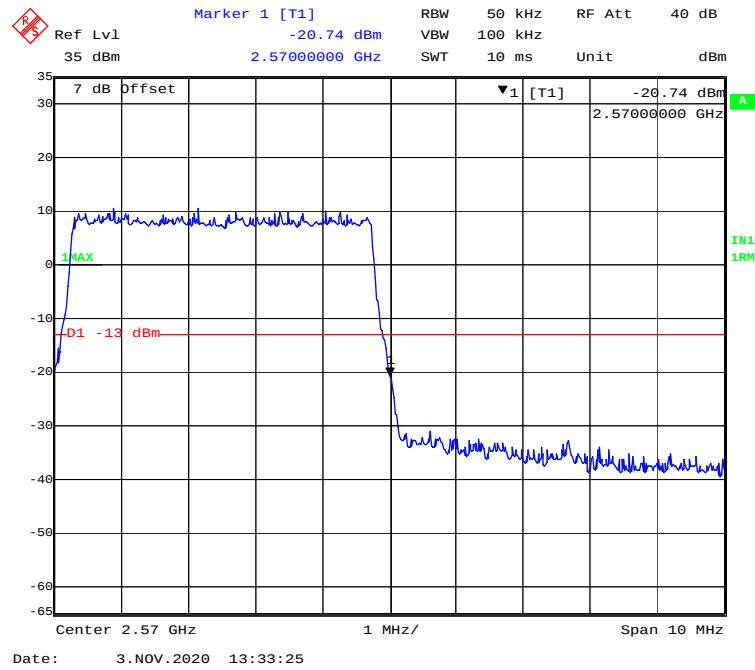


### 16-QAM (10.0 MHz, FULL RB) - Left Band Edge

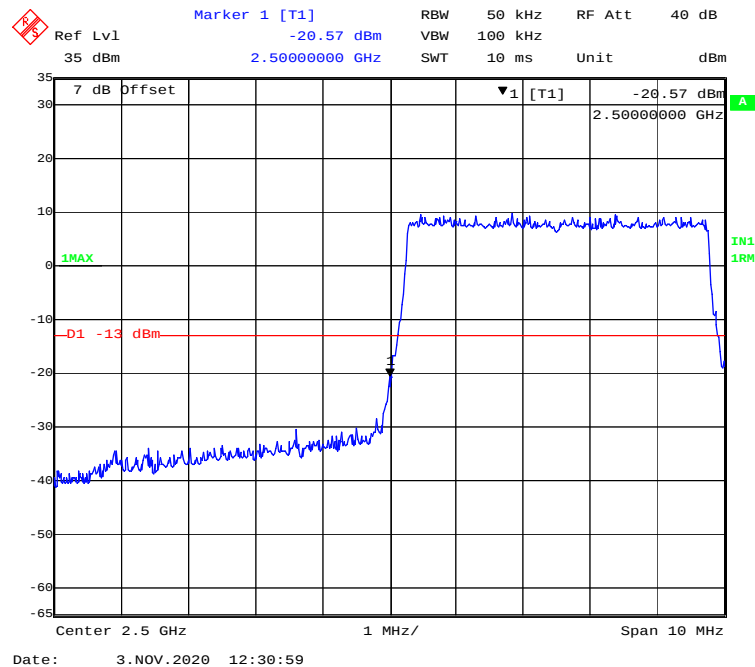


# LTE Band 7:

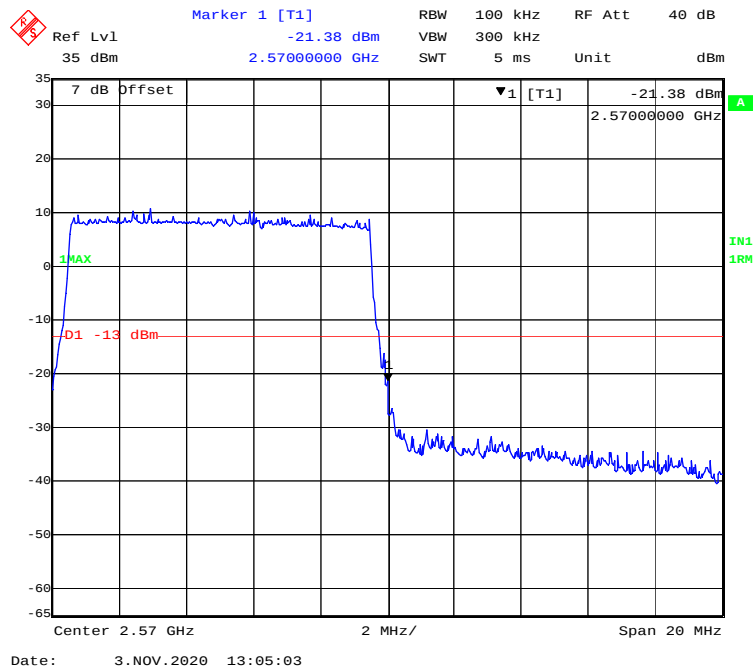
## QPSK (5 MHz, FULL RB) - Right Band Edge



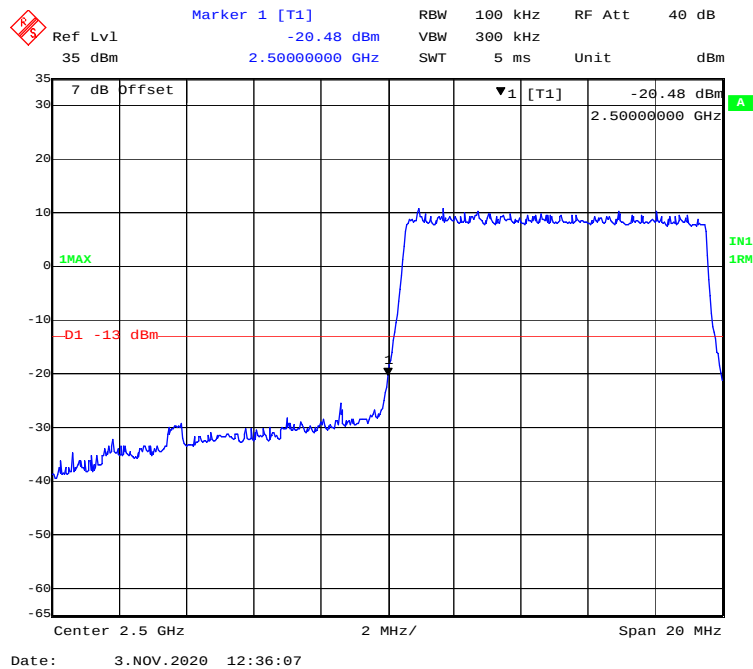
## QPSK (5 MHz, FULL RB) - Left Band Edge



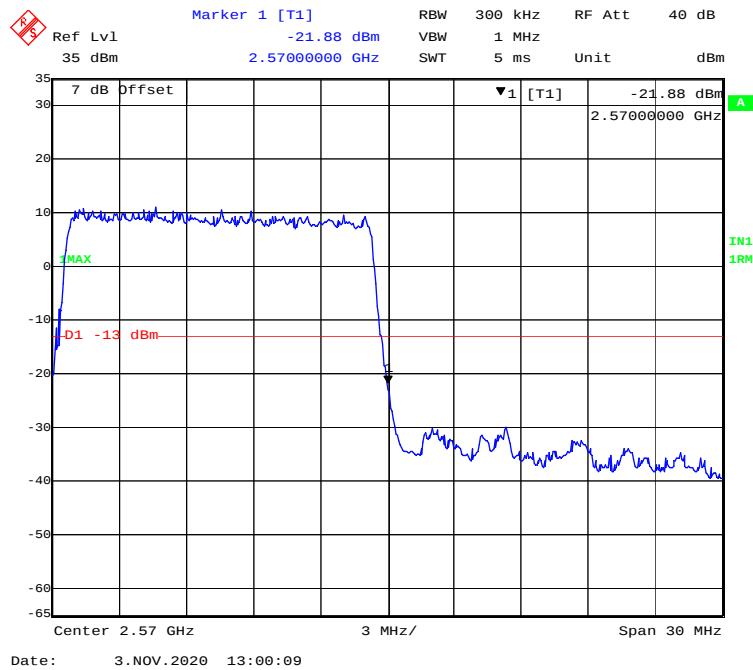
### QPSK (10 MHz, FULL RB) - Right Band Edge



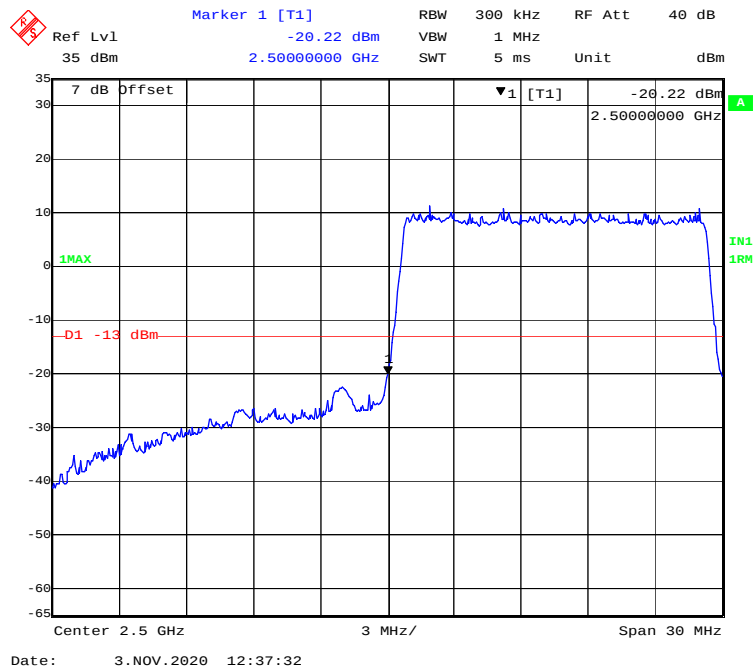
### QPSK (10 MHz, FULL RB) - Left Band Edge



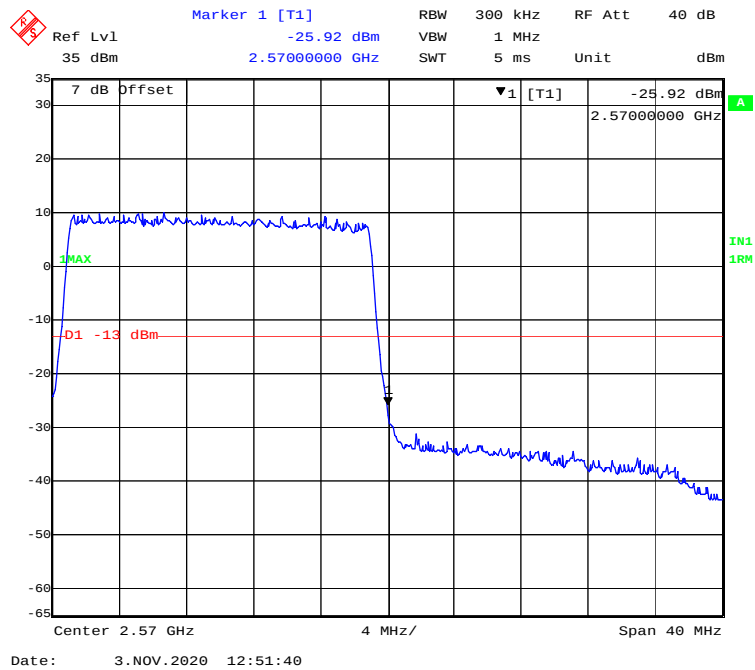
### QPSK (15 MHz, FULL RB) - Right Band Edge



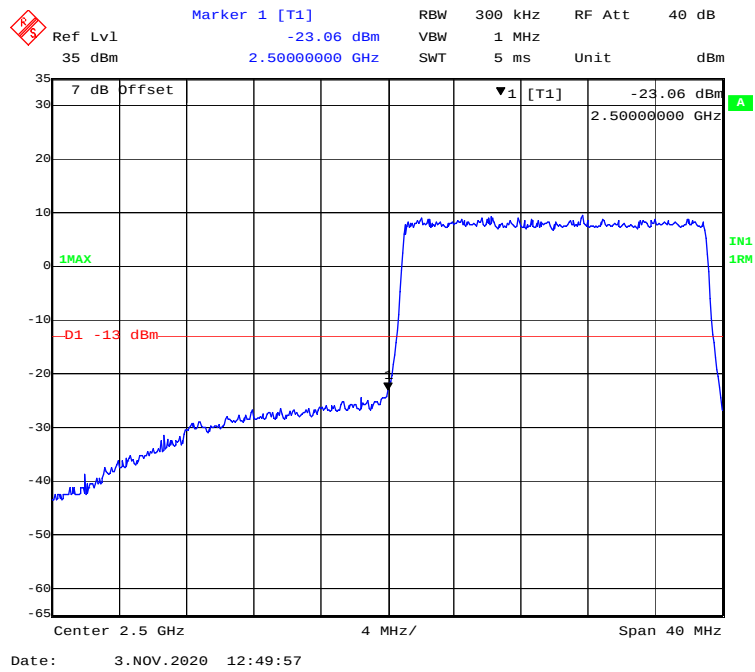
### QPSK (15 MHz, FULL RB) - Left Band Edge



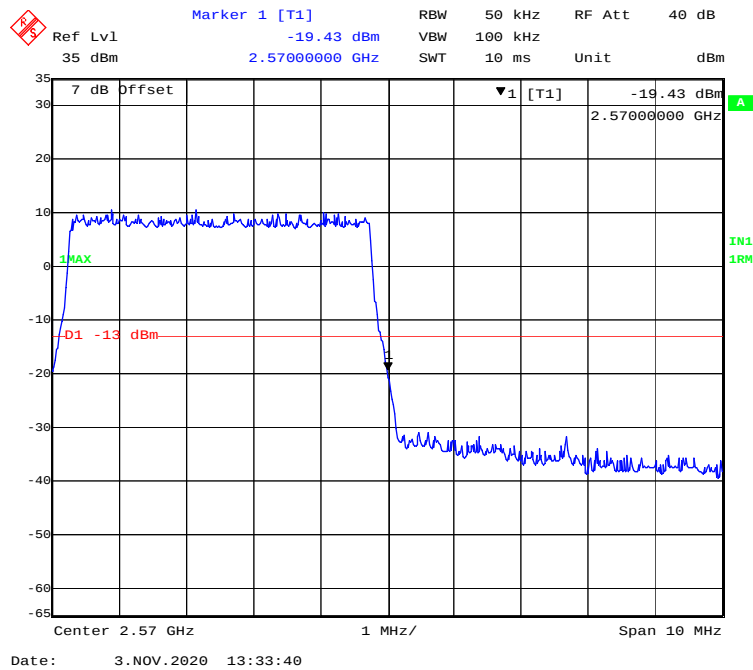
### QPSK (20 MHz, FULL RB) - Right Band Edge



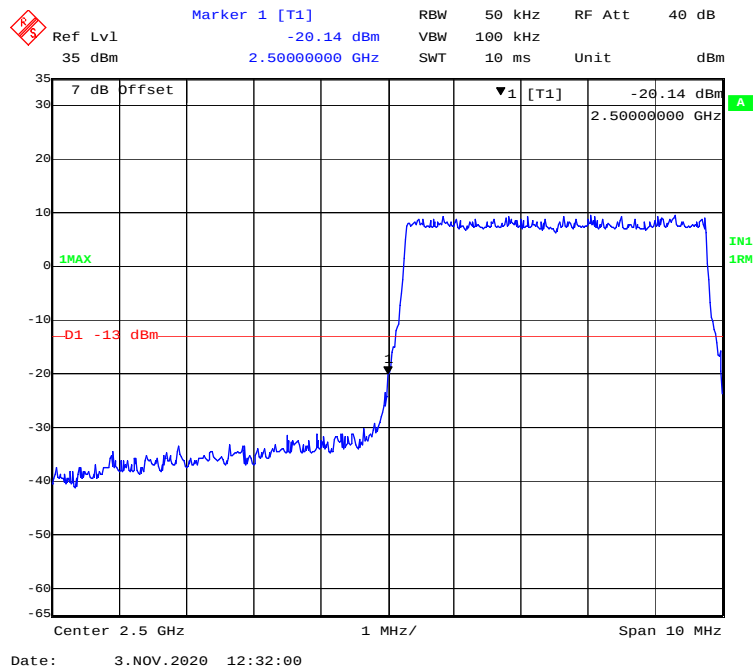
### QPSK (20 MHz, FULL RB) - Left Band Edge

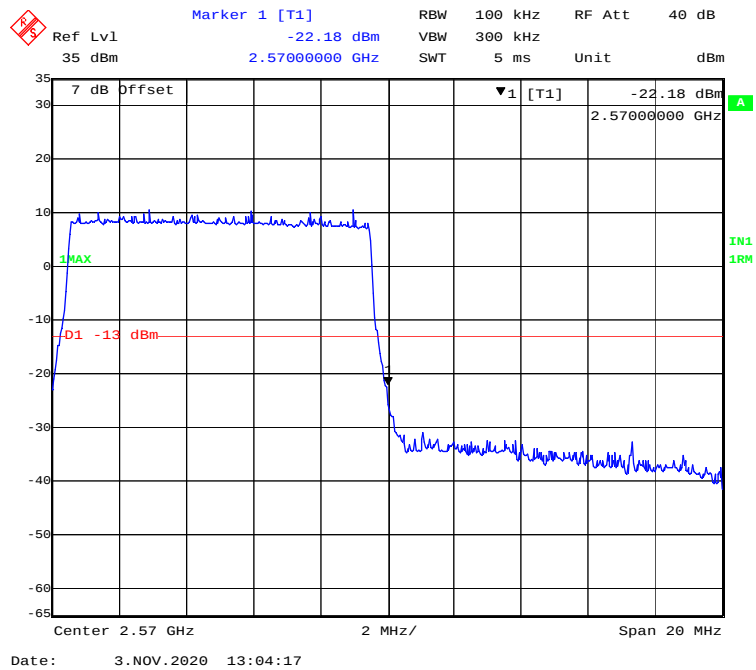
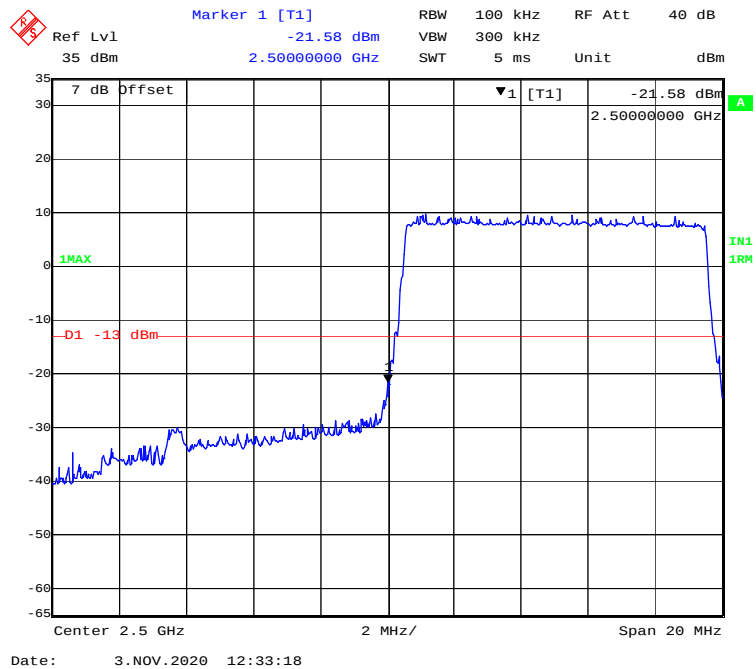


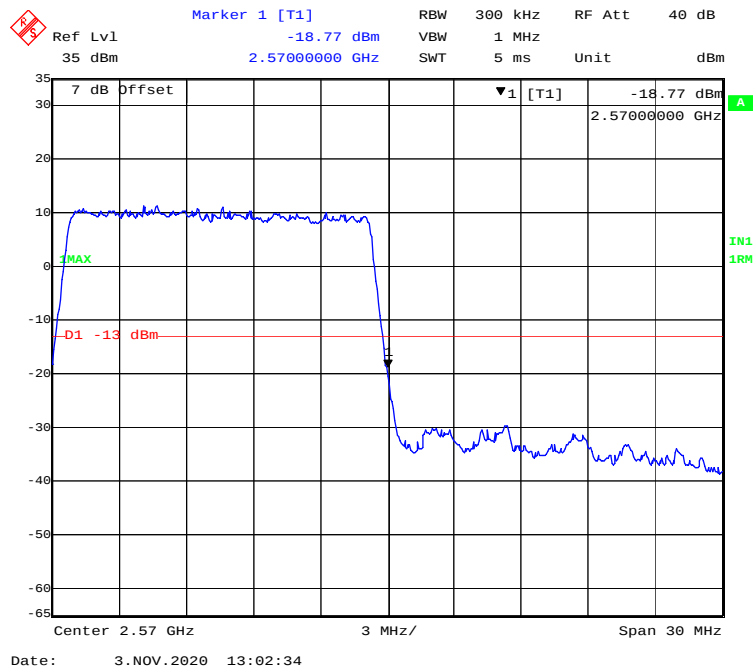
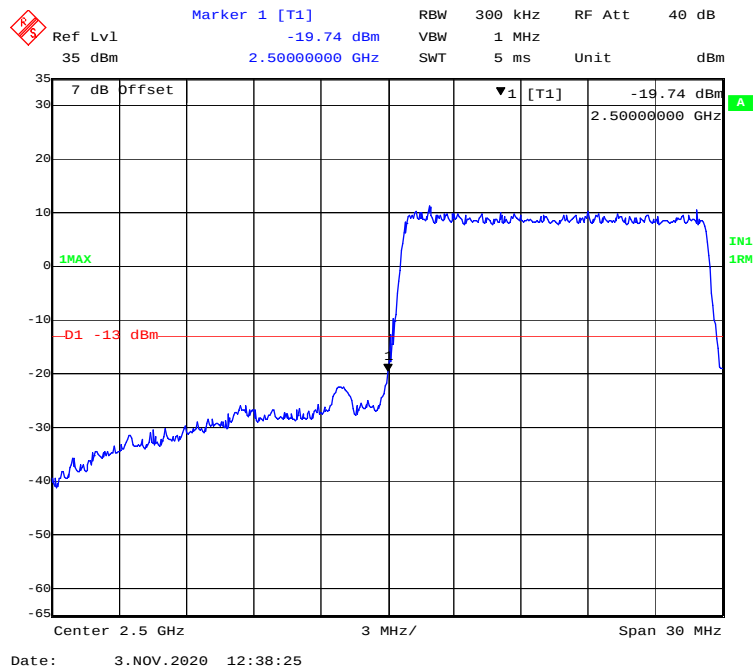
### 16-QAM (5 MHz, FULL RB) - Right Band Edge

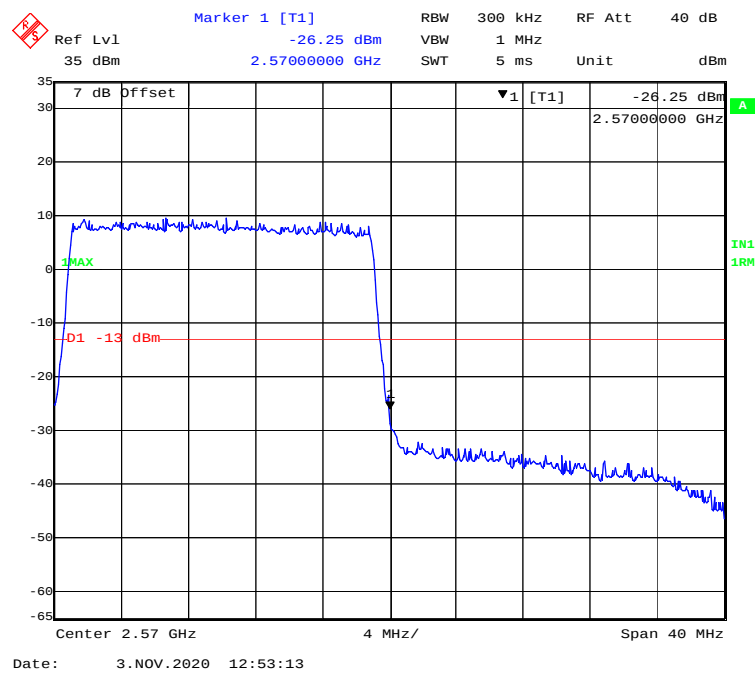
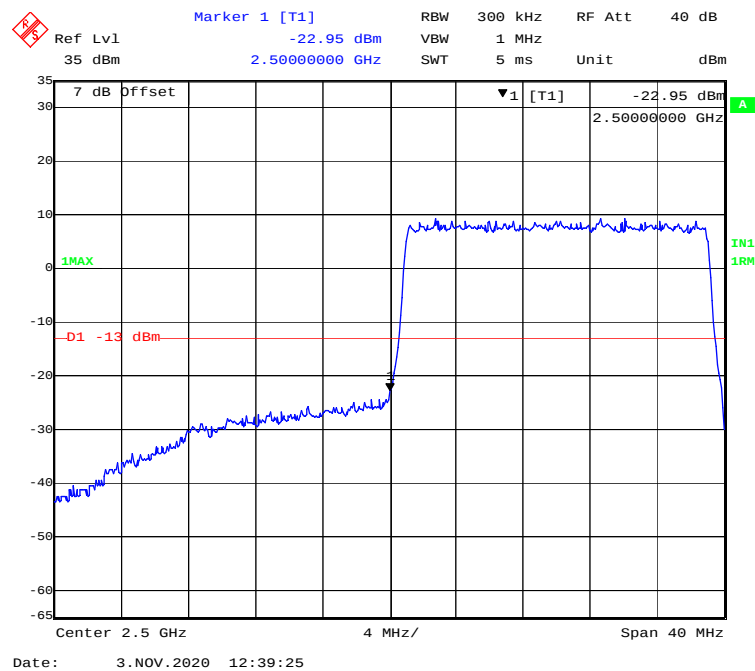


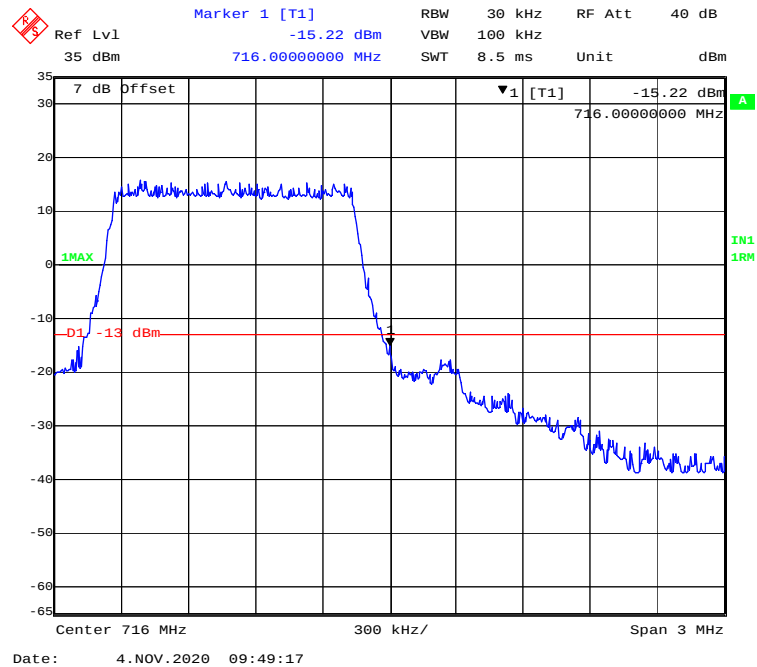
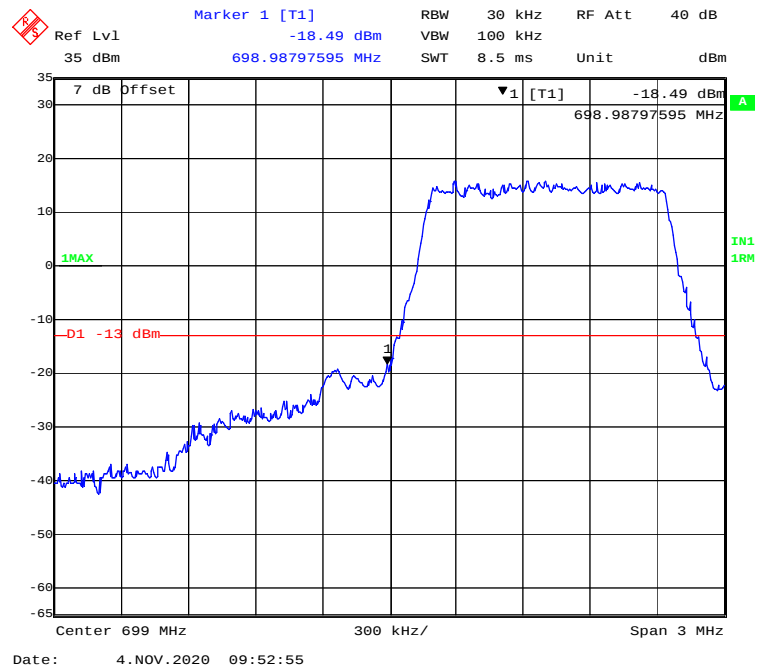
### 16-QAM (5 MHz, FULL RB) - Left Band Edge



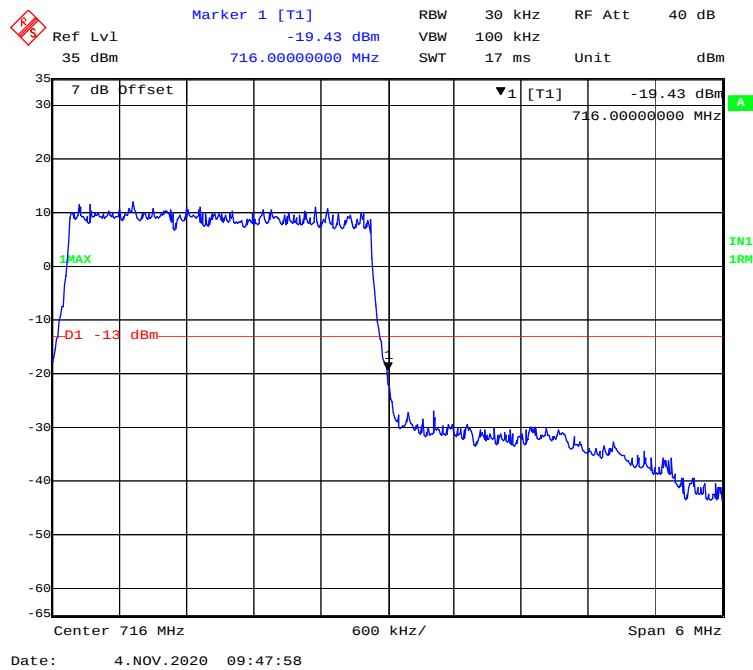
**16-QAM (10 MHz, FULL RB) - Right Band Edge****16-QAM (10 MHz, FULL RB) - Left Band Edge**

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

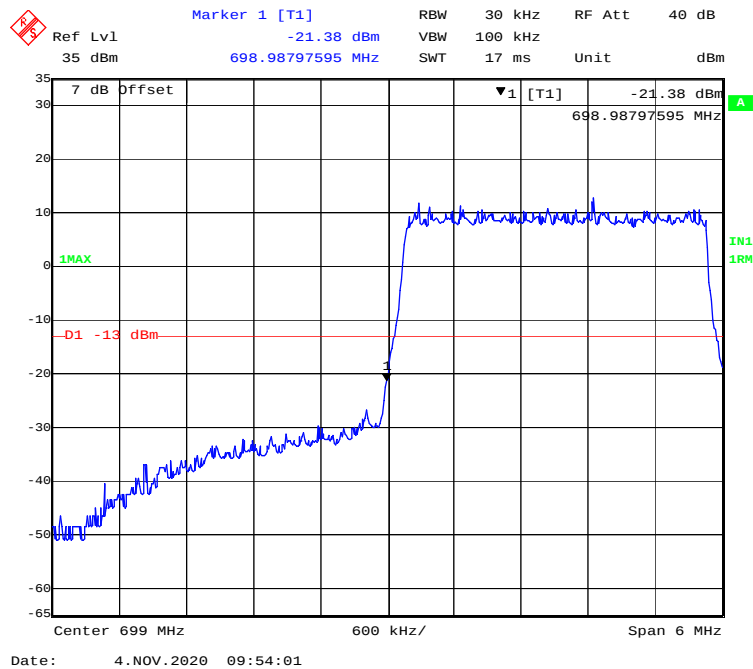
**16-QAM (20 MHz, FULL RB) - Right Band Edge****16-QAM (20 MHz, FULL RB) - Left Band Edge**

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

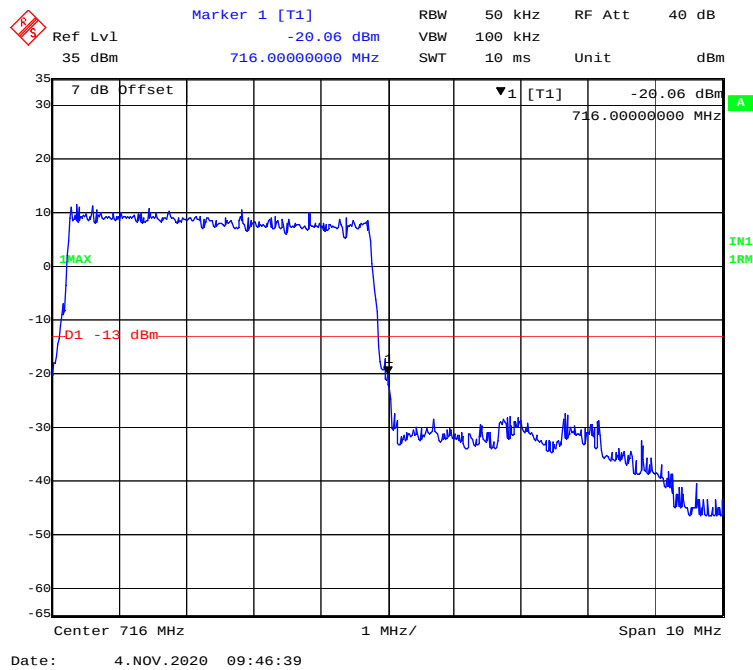
### QPSK (3 MHz, FULL RB) - Right Band Edge



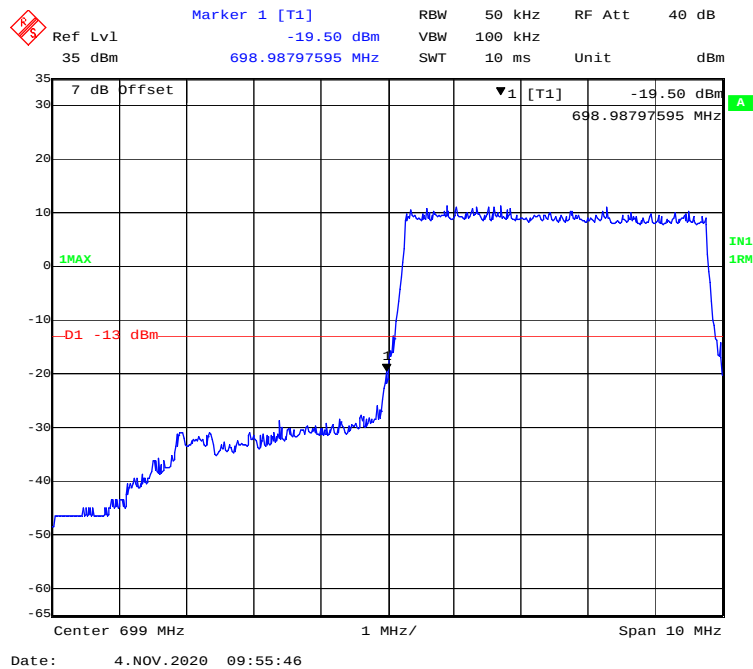
### QPSK (3 MHz, FULL RB) - Left Band Edge



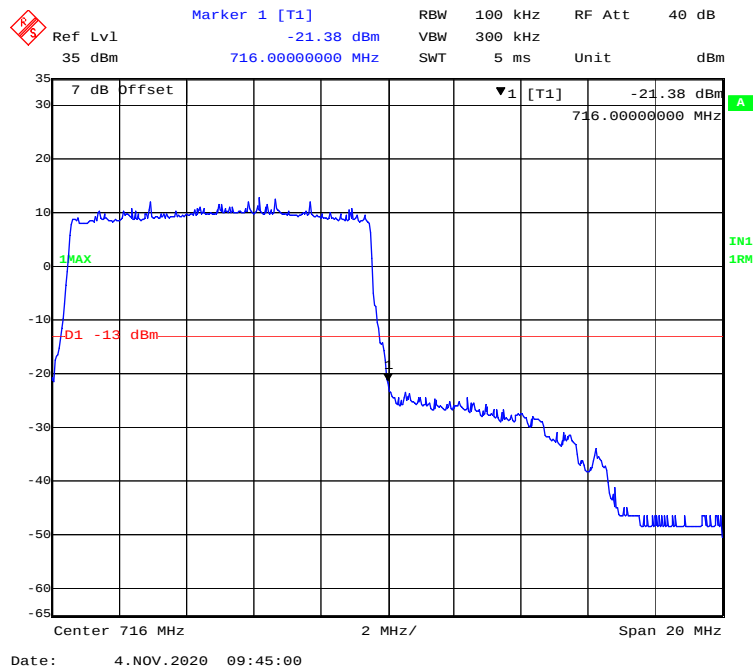
### QPSK (5 MHz, FULL RB) - Right Band Edge



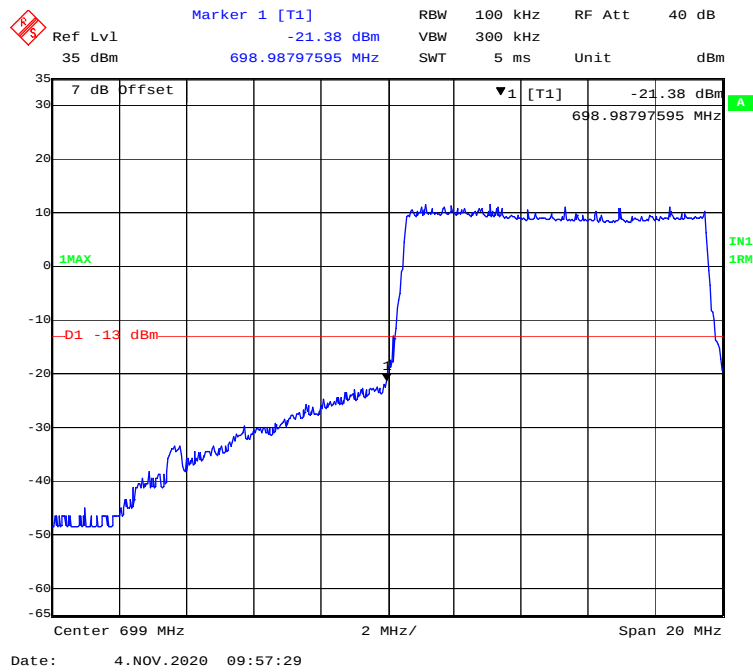
### QPSK (5 MHz, FULL RB) - Left Band Edge



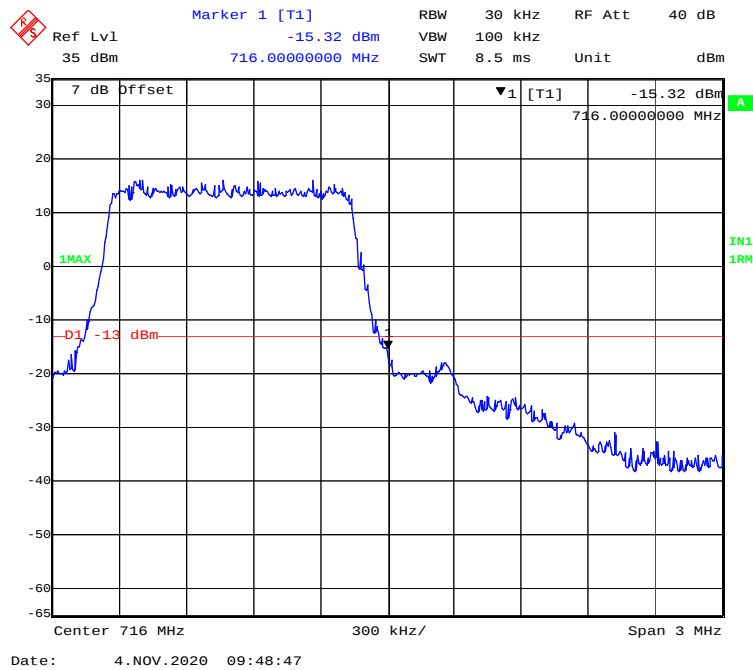
### QPSK (10 MHz, FULL RB) - Right Band Edge



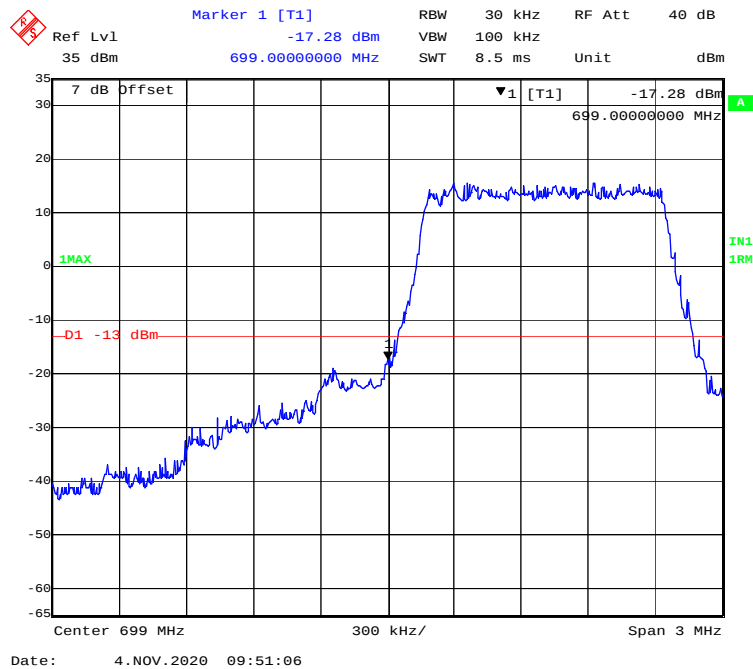
### QPSK (10 MHz, FULL RB) - Left Band Edge



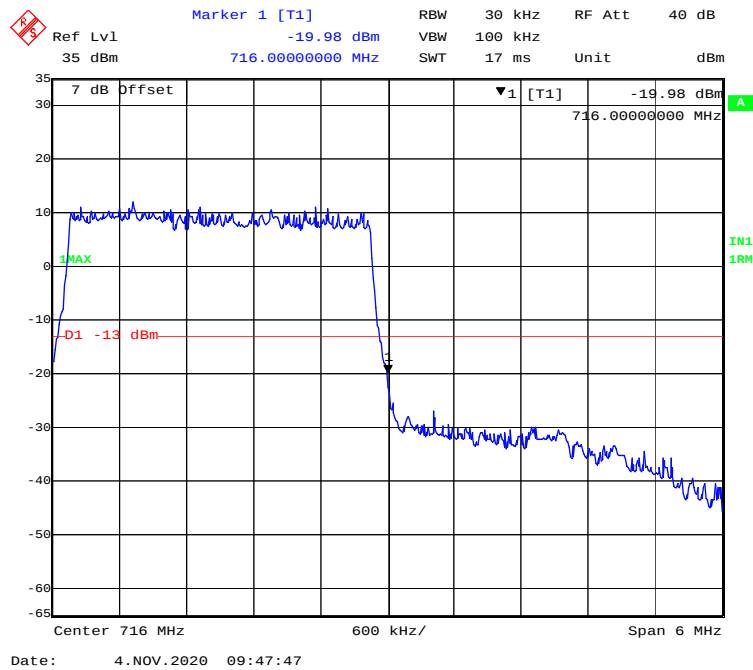
### 16-QAM (1.4 MHz, FULL RB) - Right Band Edge



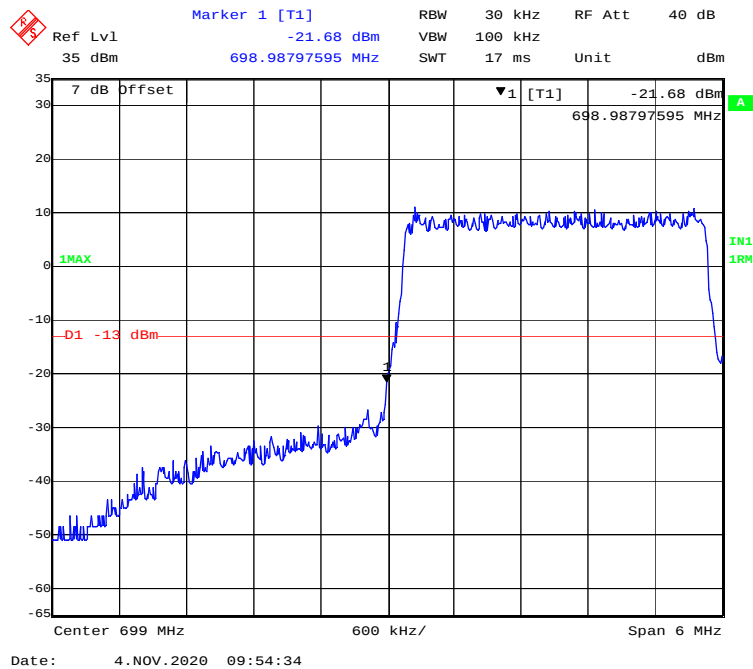
### 16-QAM (1.4 MHz, FULL RB) - Left Band Edge



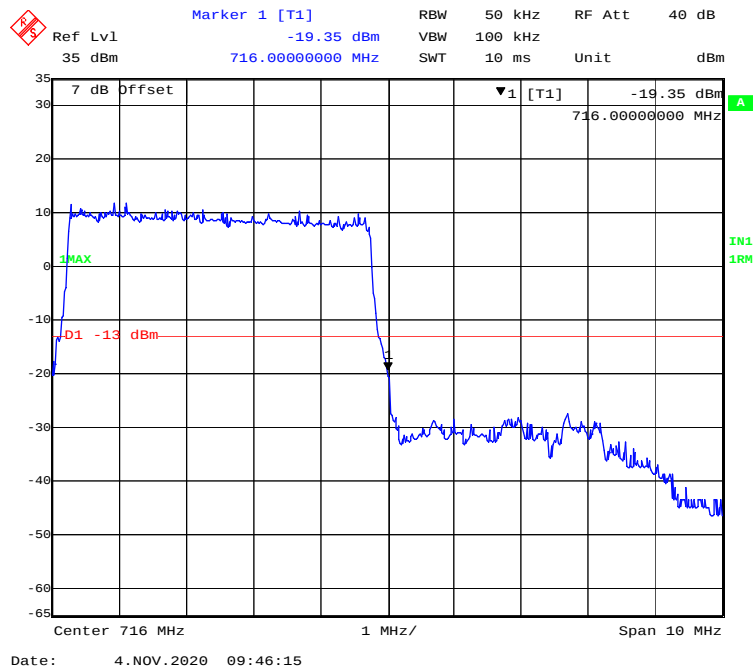
### 16-QAM (3 MHz, FULL RB) - Right Band Edge



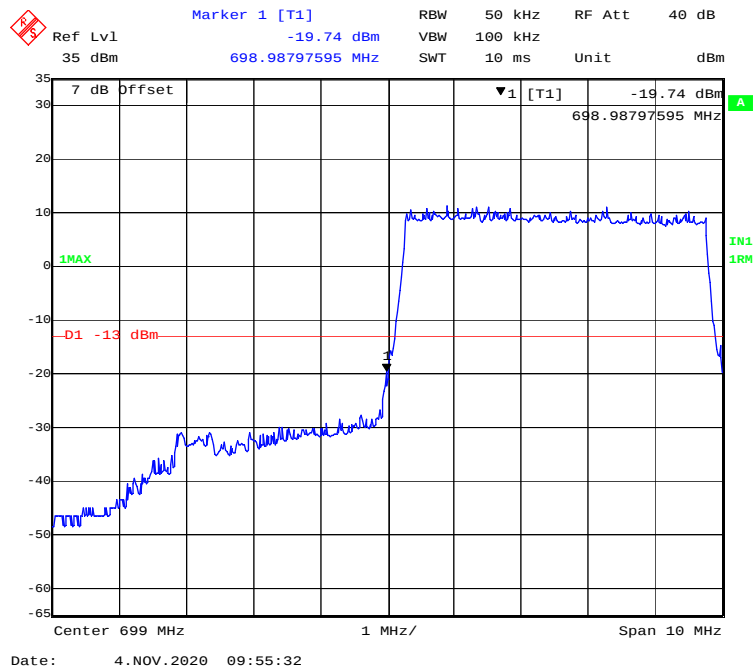
### 16-QAM (3 MHz, FULL RB) - Left Band Edge



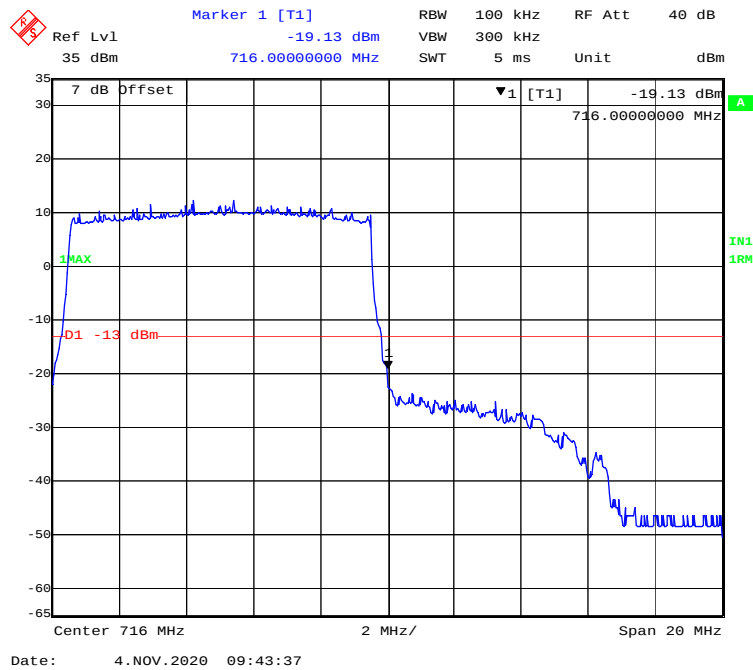
### 16-QAM (5 MHz, FULL RB) - Right Band Edge



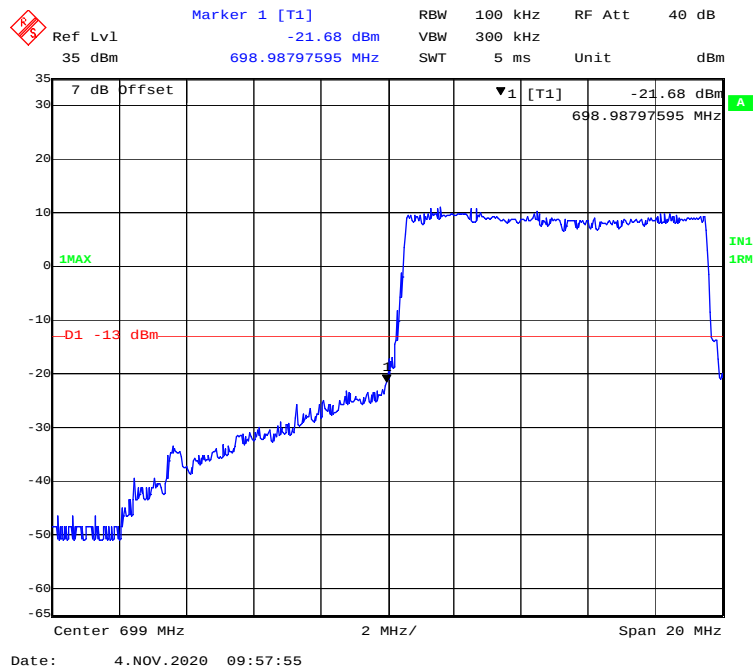
### 16-QAM (5 MHz, FULL RB) - Left Band Edge

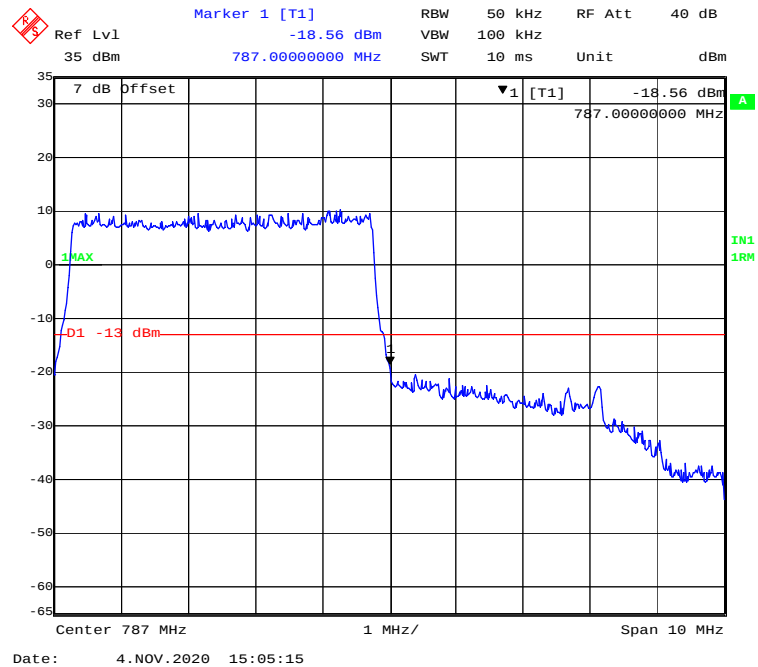
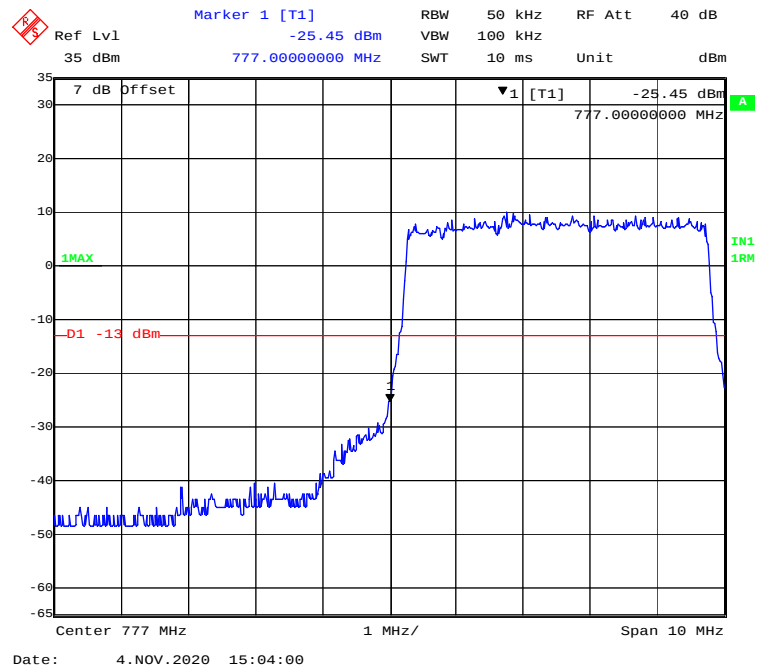


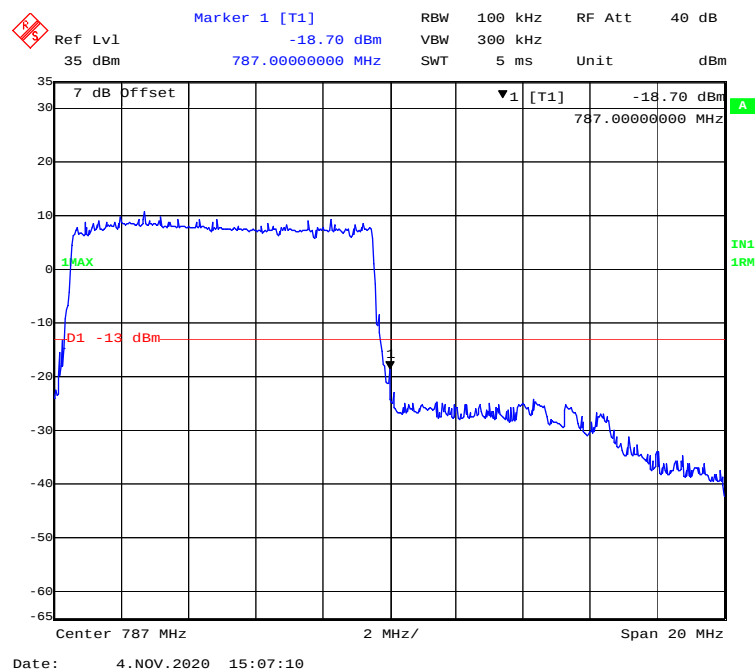
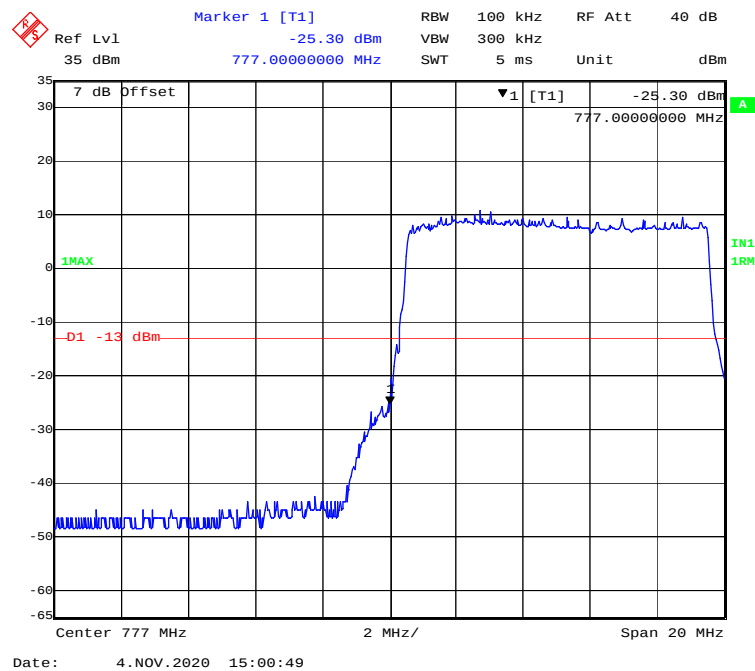
### 16-QAM (10 MHz, FULL RB) - Right Band Edge



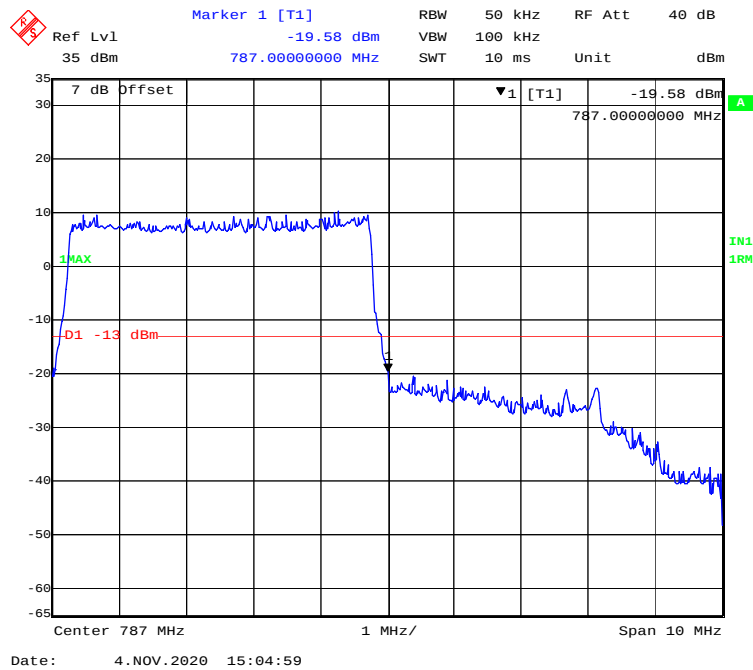
### 16-QAM (10 MHz, FULL RB) - Left Band Edge



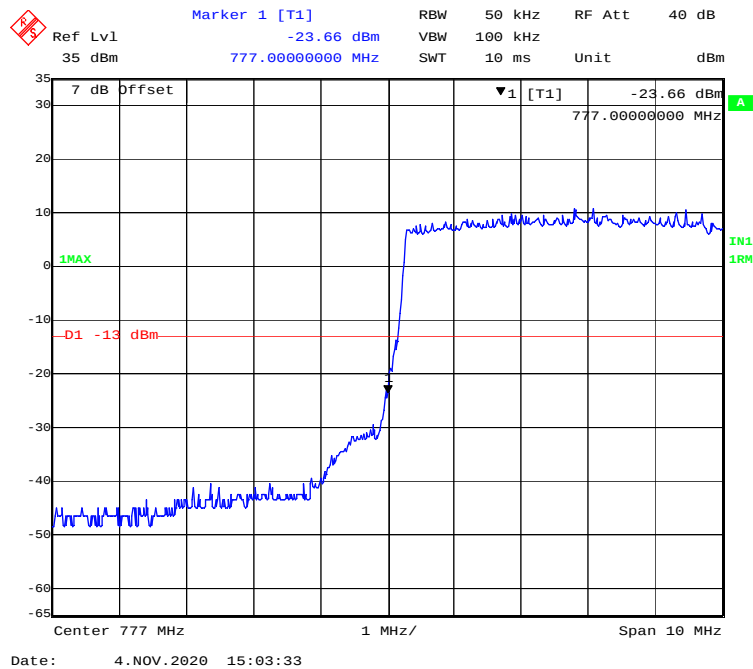
**LTE Band 13:****QPSK (5 MHz, FULL RB) - Right Band Edge****QPSK (5 MHz, FULL RB) - Left Band Edge**

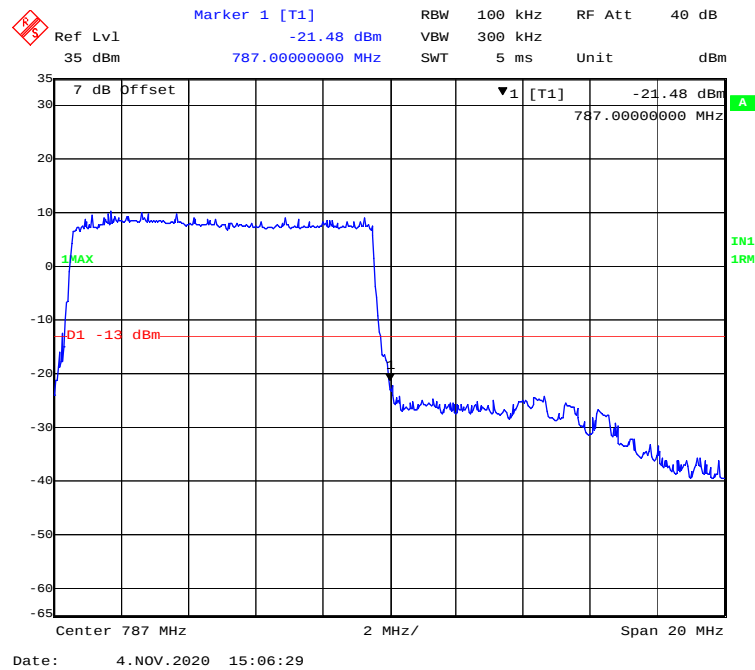
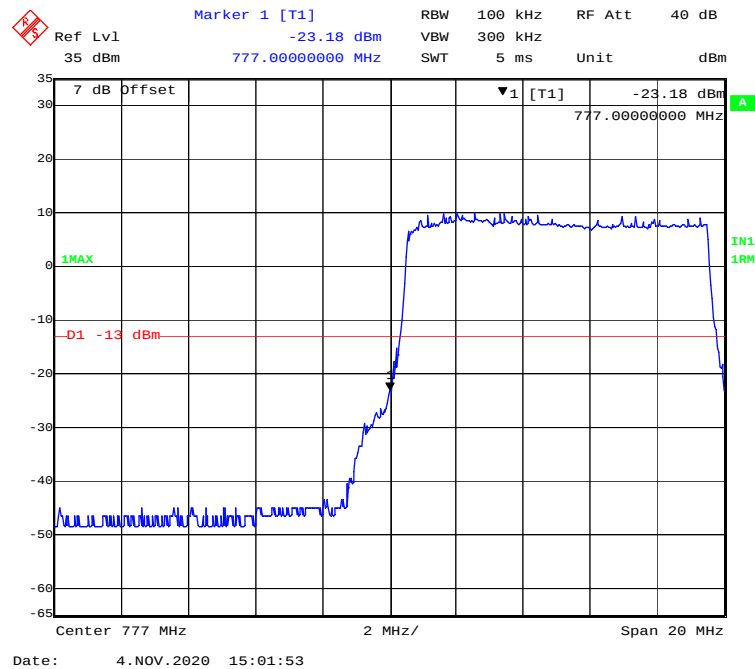
**QPSK (10 MHz, FULL RB) - Right Band Edge****QPSK (10 MHz, FULL RB) - Left Band Edge**

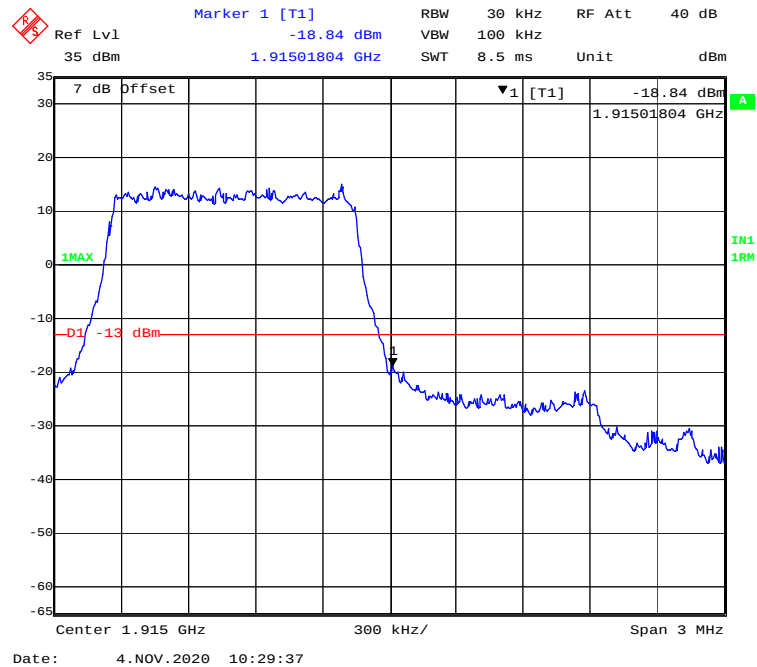
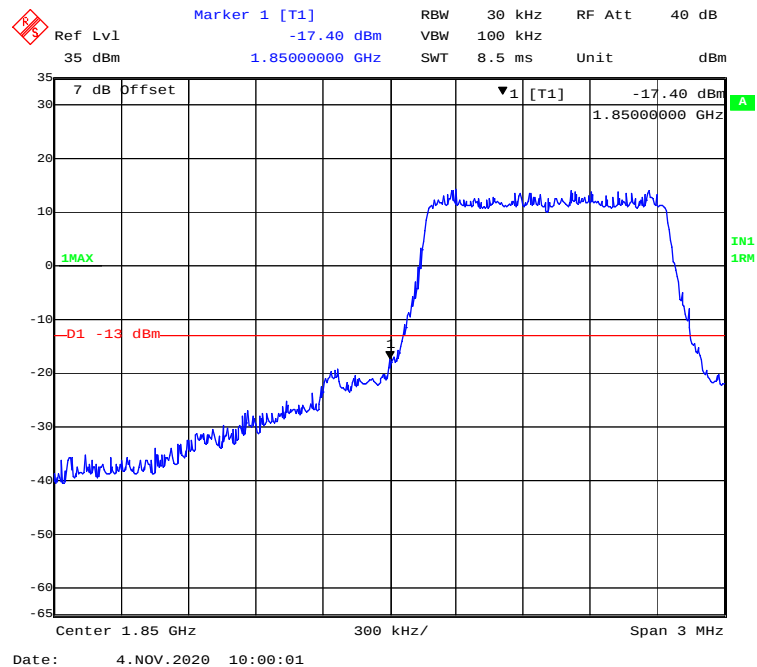
### 16-QAM (5 MHz, FULL RB) - Right Band Edge



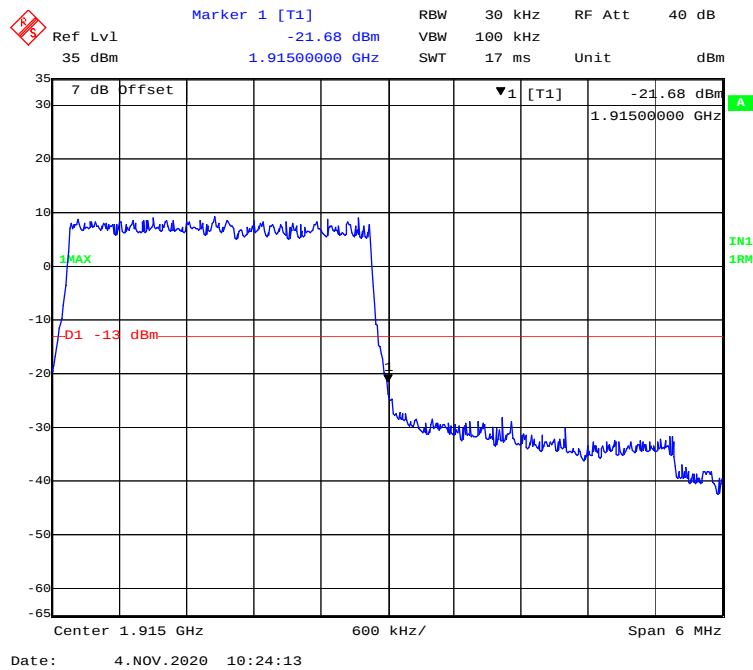
### 16-QAM (5 MHz, FULL RB) - Left Band Edge



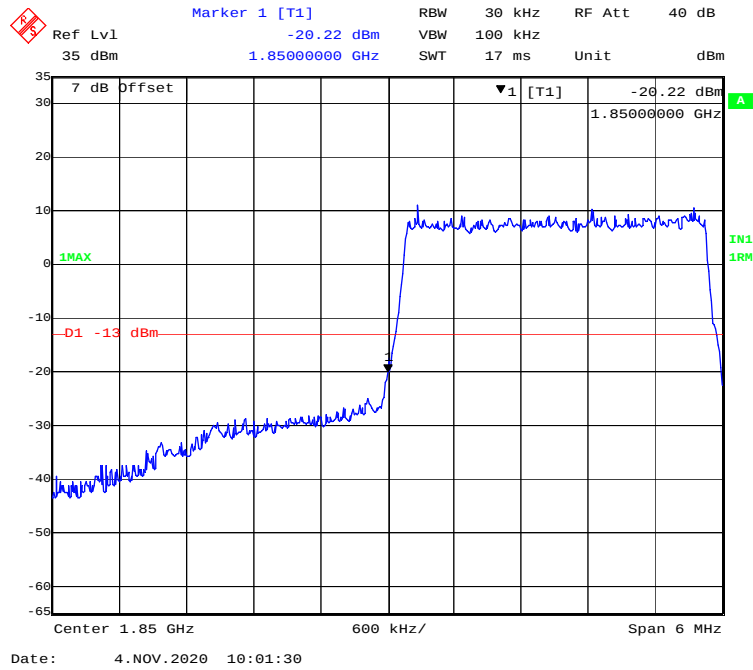
**16-QAM (10 MHz, FULL RB) - Right Band Edge****16-QAM (10 MHz, FULL RB) - Left Band Edge**

**LTE Band 25:****QPSK (1.4 MHz, FULL RB) - Right Band Edge****QPSK (1.4 MHz, FULL RB) - Left Band Edge**

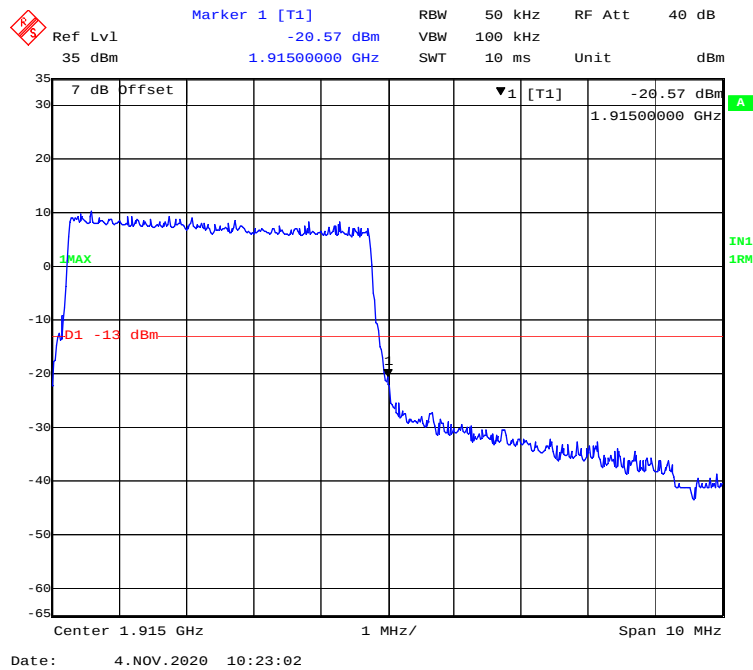
### QPSK (3 MHz, FULL RB) - Right Band Edge



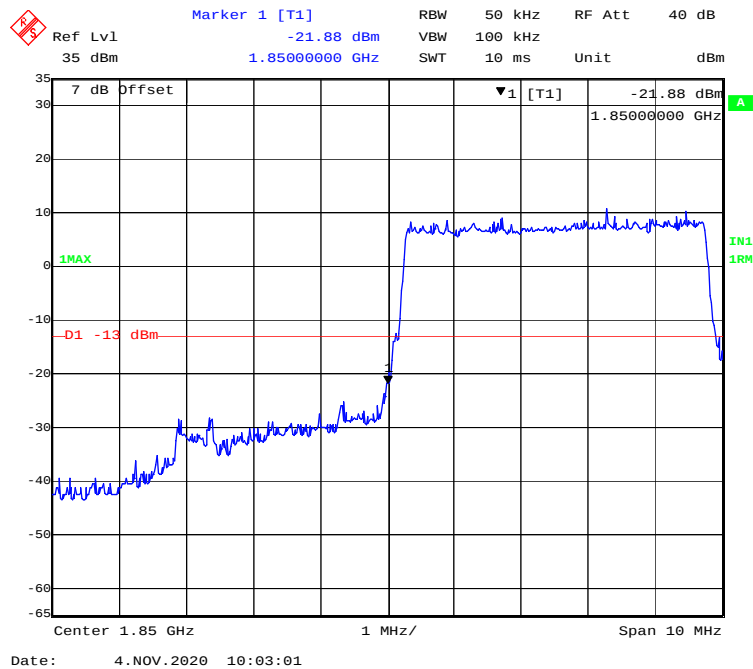
### QPSK (3 MHz, FULL RB) - Left Band Edge

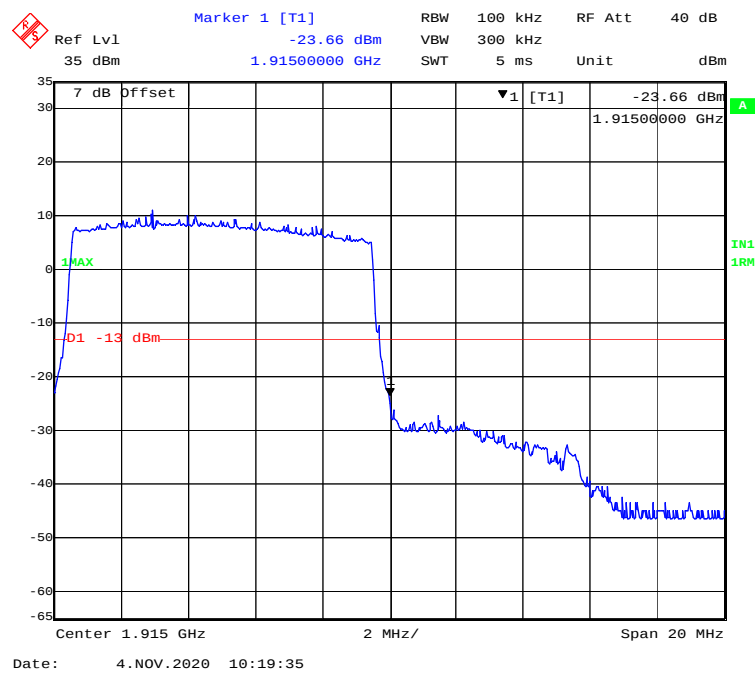
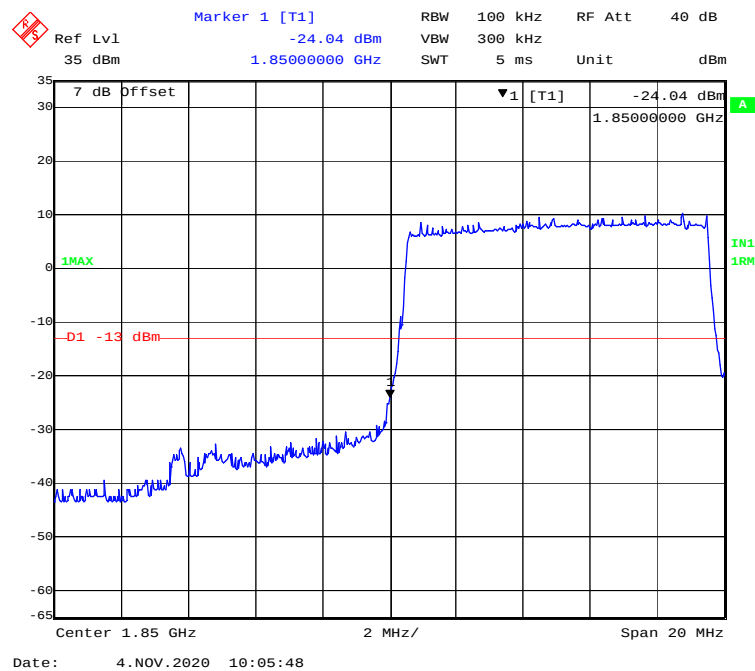


### QPSK (5 MHz, FULL RB) - Right Band Edge

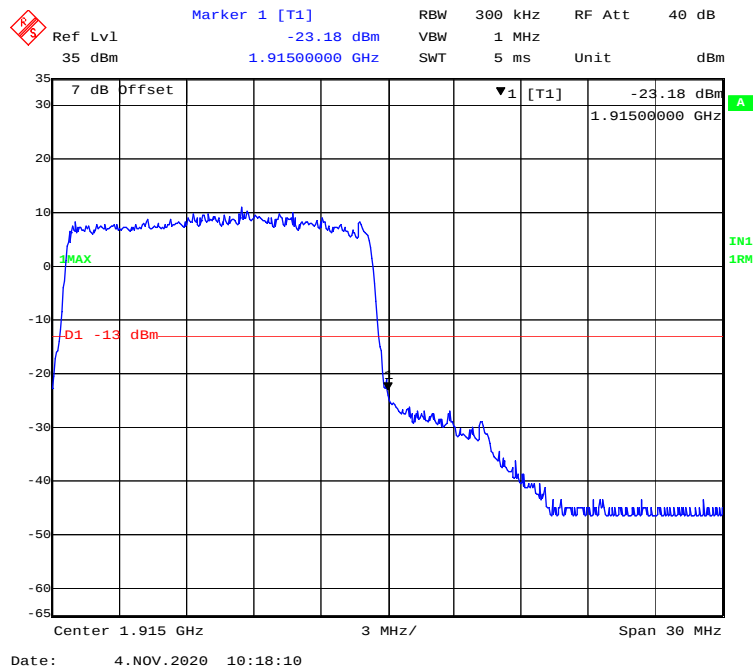


### QPSK (5 MHz, FULL RB) - Left Band Edge

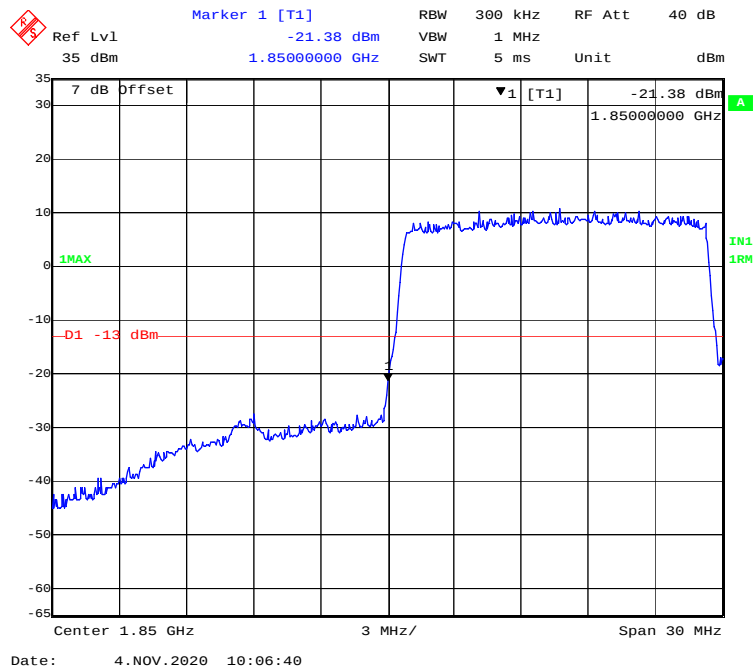


**QPSK (10 MHz, FULL RB) - Right Band Edge****QPSK (10 MHz, FULL RB) - Left Band Edge**

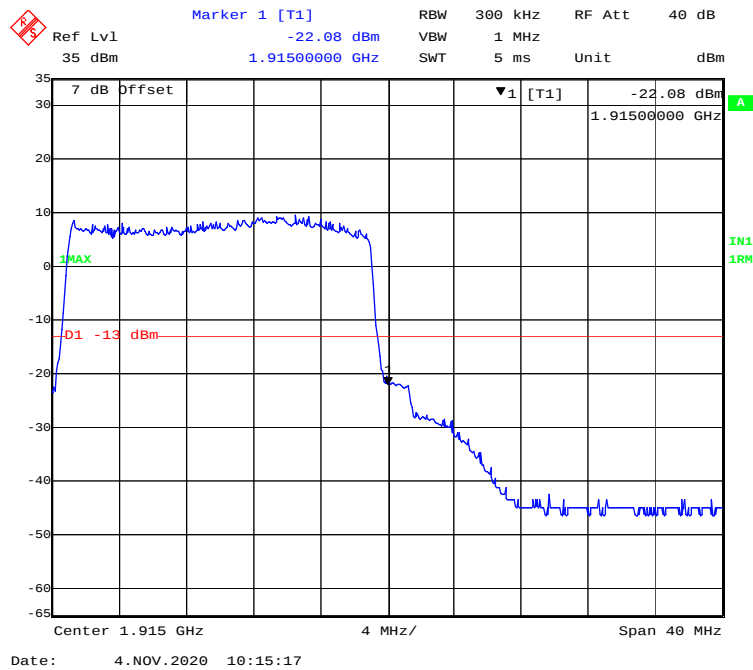
### QPSK (15 MHz, FULL RB) - Right Band Edge



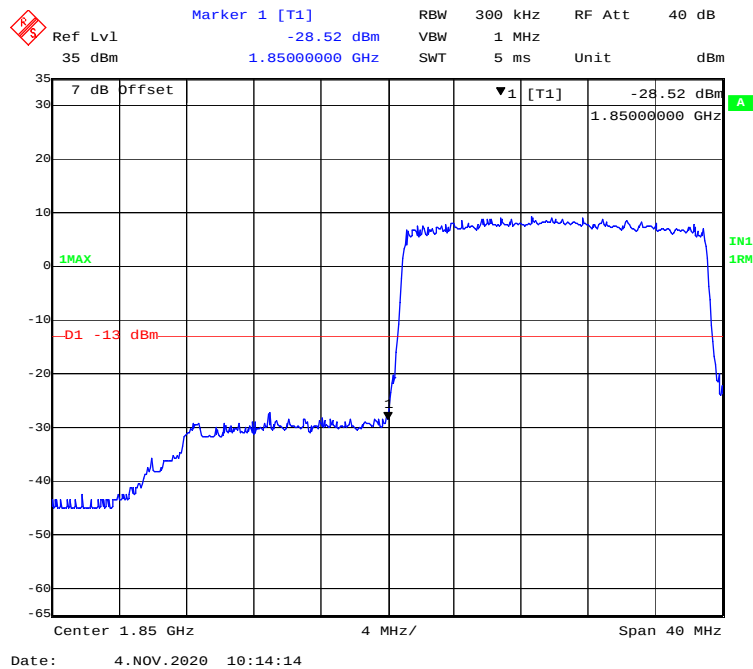
### QPSK (15 MHz, FULL RB) - Left Band Edge



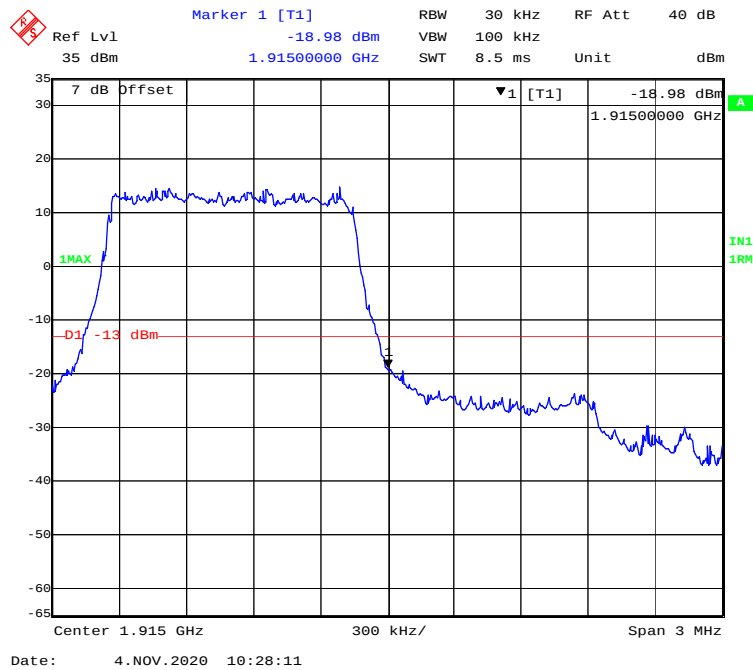
### QPSK (20 MHz, FULL RB) - Right Band Edge



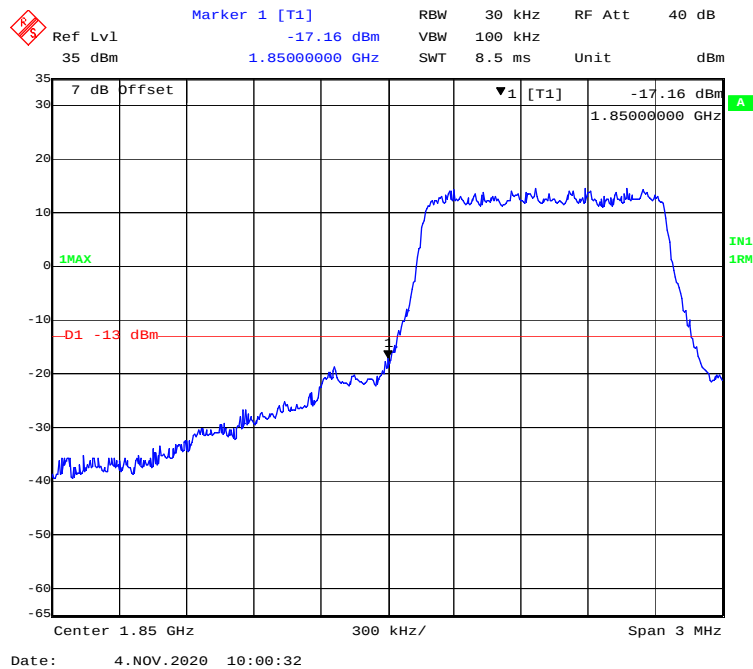
### QPSK (20 MHz, FULL RB) - Left Band Edge



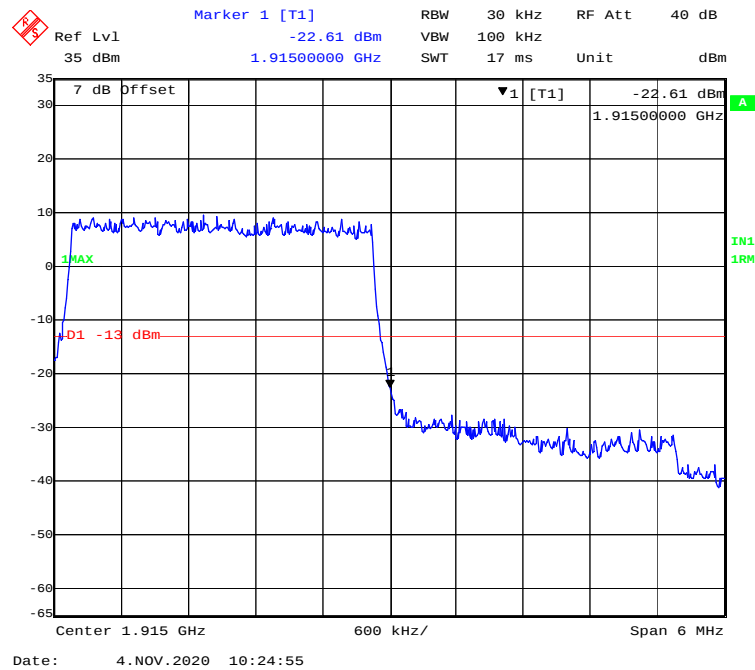
### 16-QAM (1.4 MHz, FULL RB) - Right Band Edge



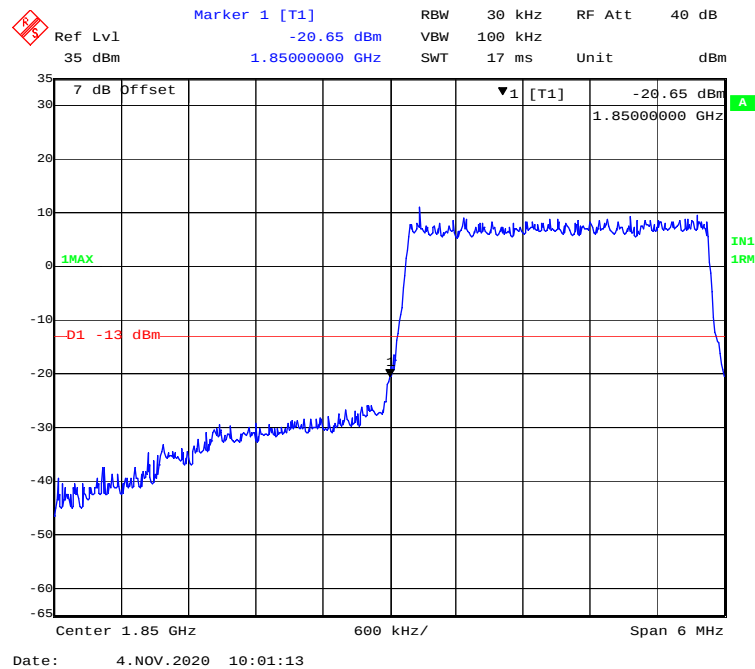
### 16-QAM (1.4 MHz, FULL RB) - Left Band Edge

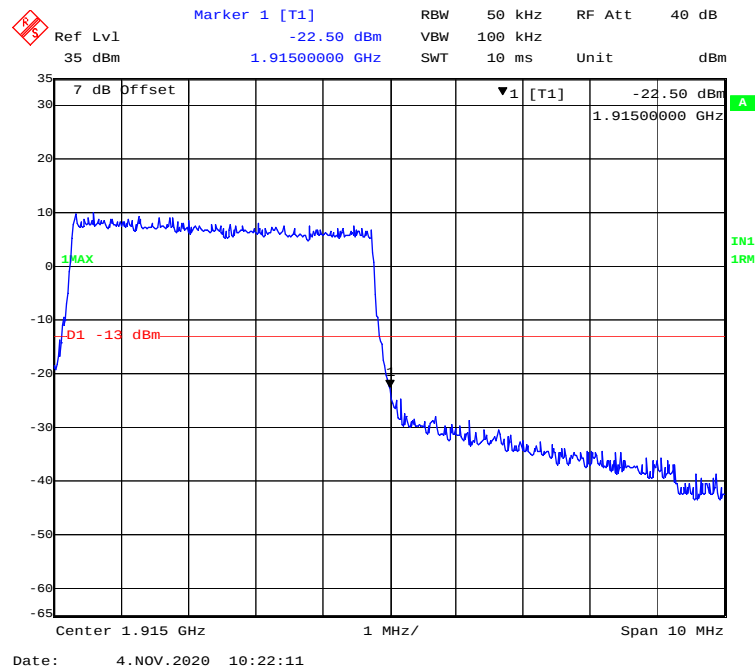
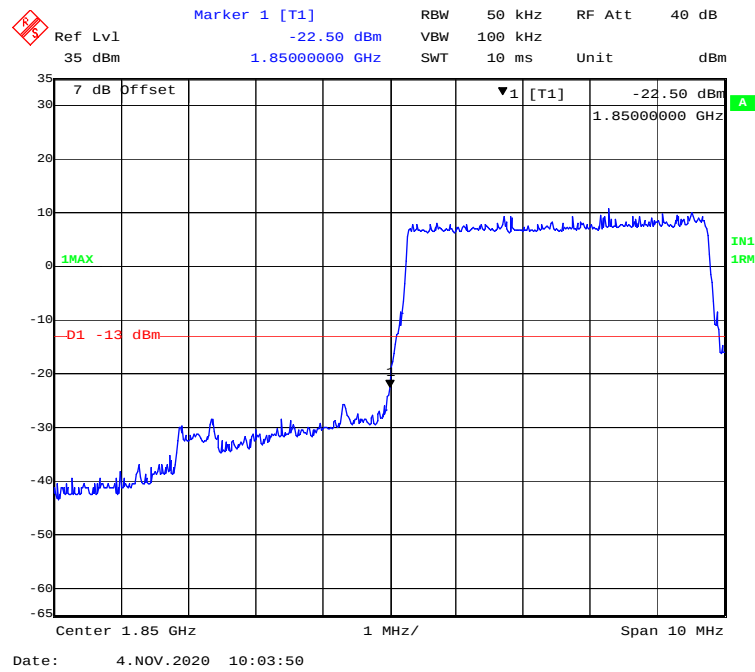


### 16-QAM (3 MHz, FULL RB) - Right Band Edge

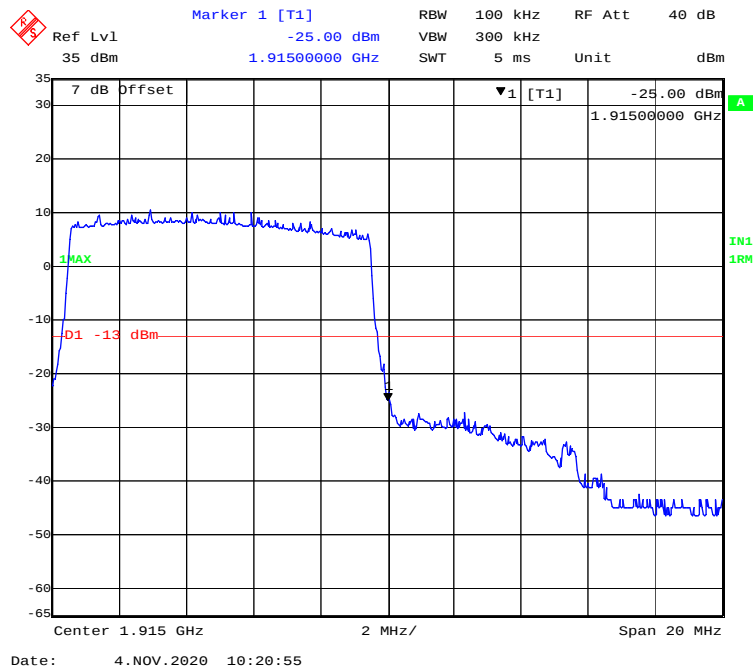


### 16-QAM (3 MHz, FULL RB) - Left Band Edge

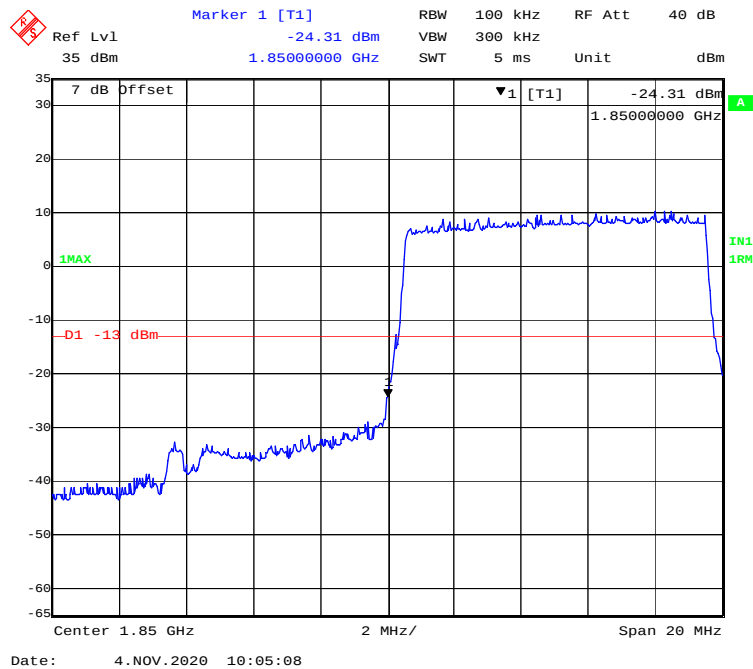


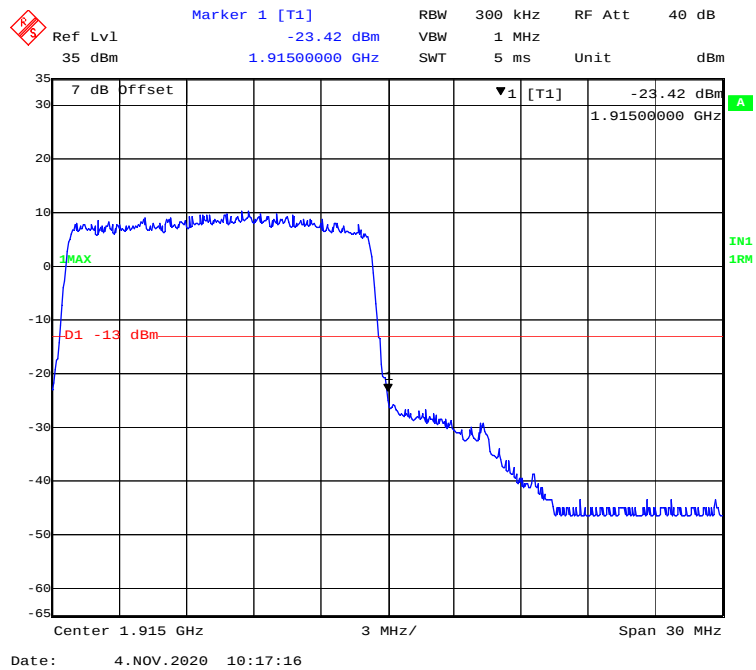
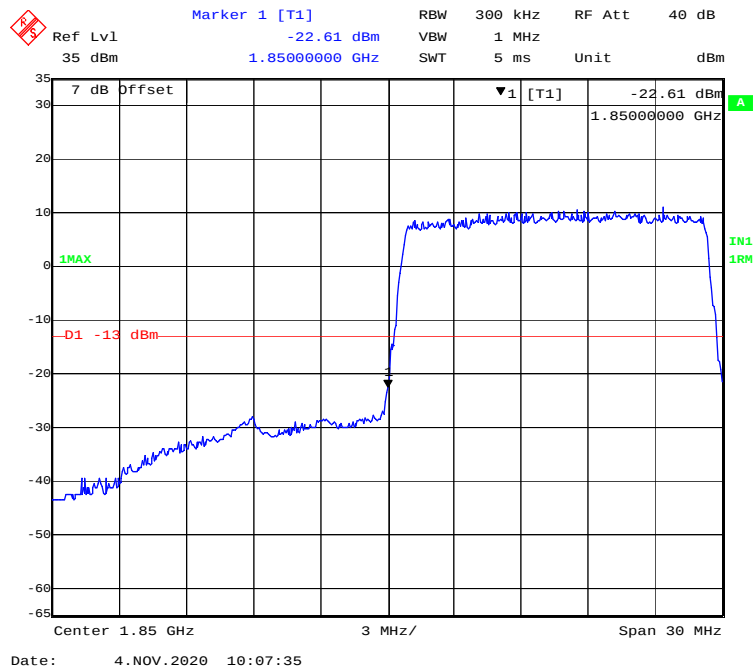
**16-QAM (5 MHz, FULL RB) - Right Band Edge****16-QAM (5 MHz, FULL RB) - Left Band Edge**

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

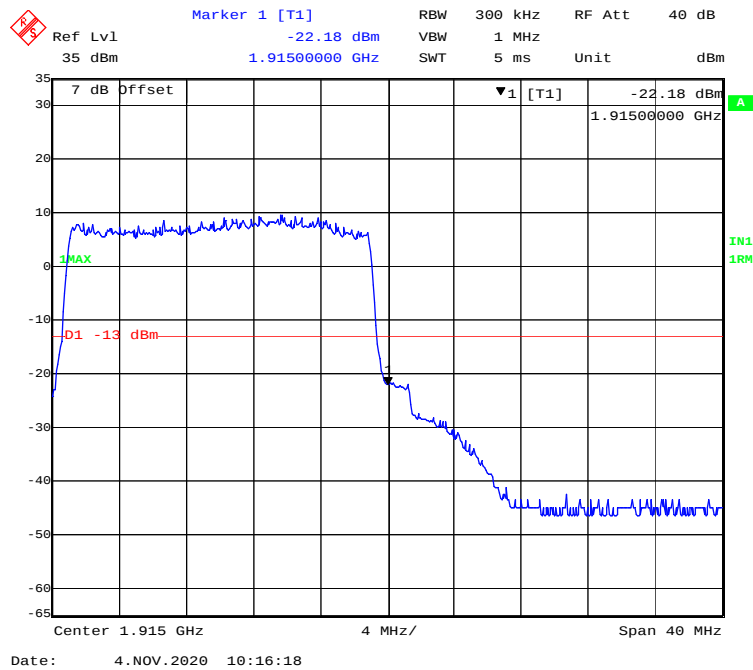


### 16-QAM (10 MHz, FULL RB) - Left Band Edge

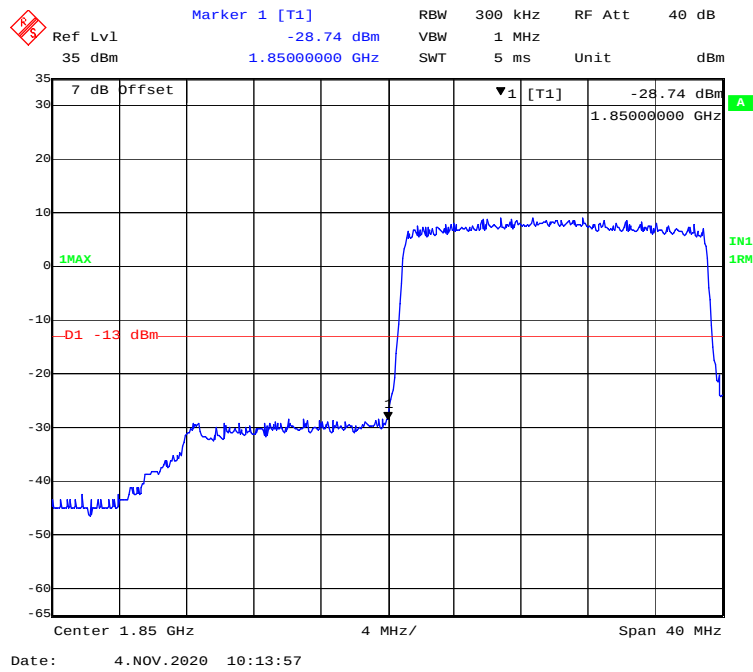


**16-QAM (15 MHz, FULL RB) - Right Band Edge****16-QAM (15 MHz, FULL RB) - Left Band Edge**

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

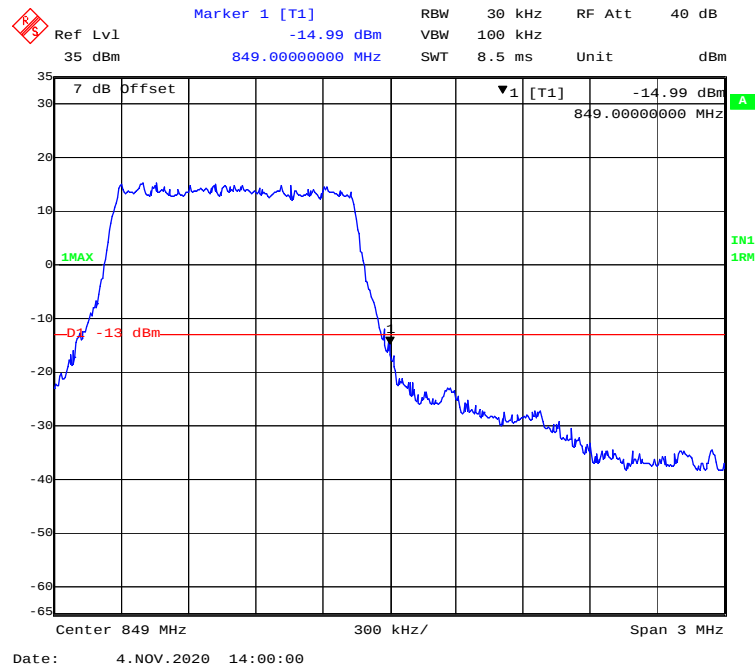


### 16-QAM (20 MHz, FULL RB) - Left Band Edge

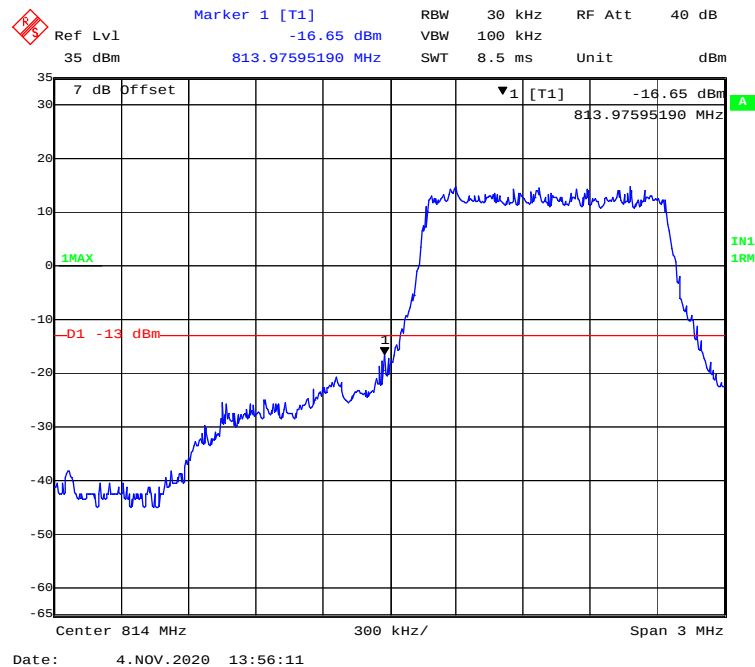


# LTE Band 26:

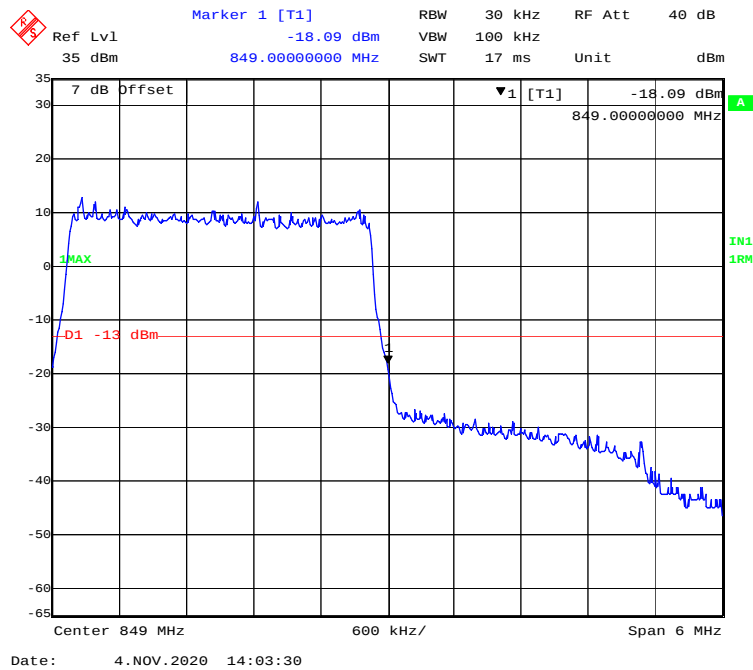
## QPSK (1.4 MHz, FULL RB) - Right Band Edge



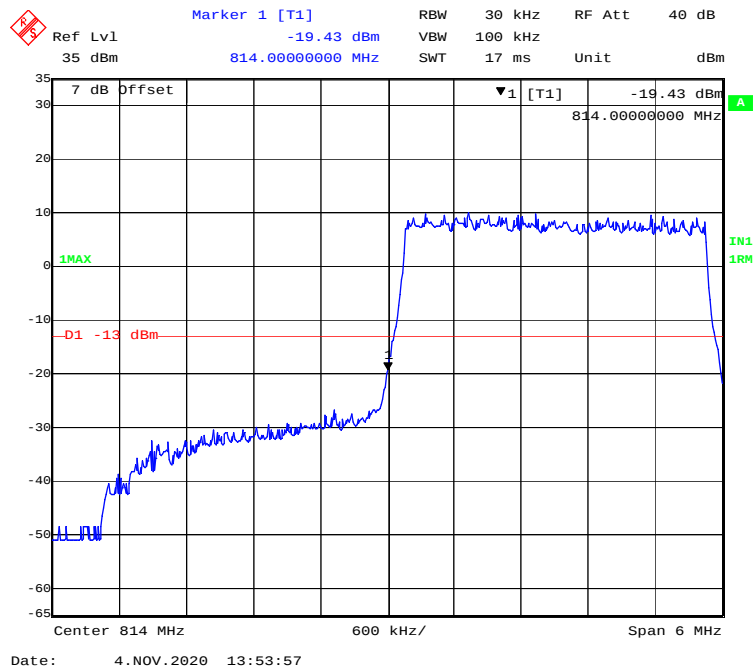
## QPSK (1.4 MHz, FULL RB) - Left Band Edge



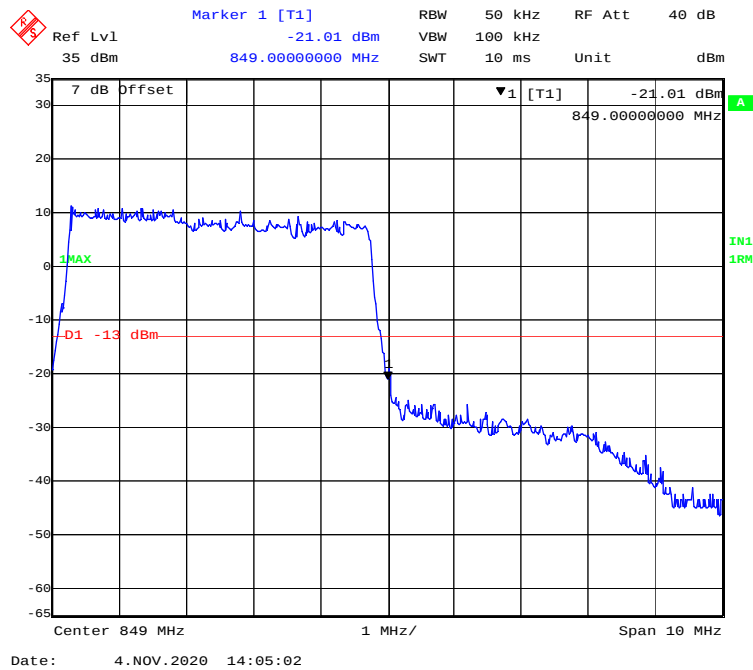
### QPSK (3 MHz, FULL RB) - Right Band Edge



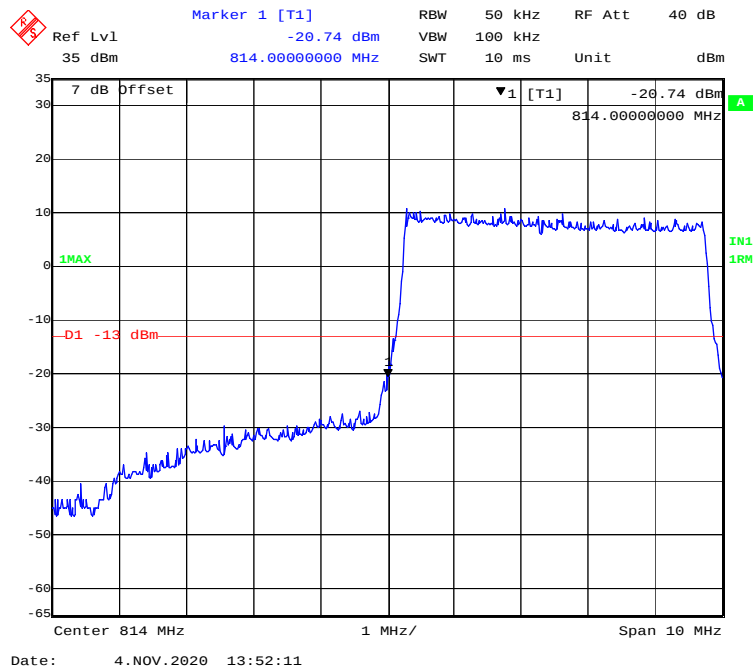
### QPSK (3 MHz, FULL RB) - Left Band Edge



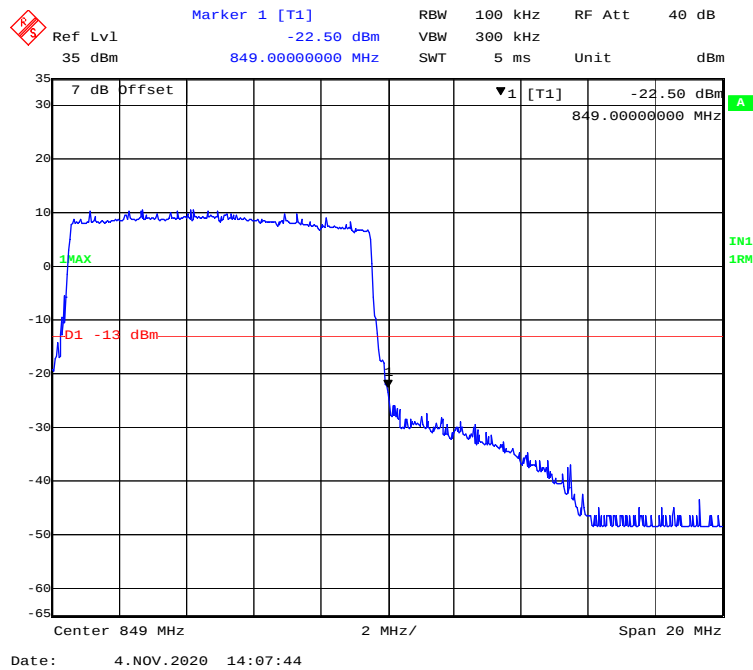
### QPSK (5 MHz, FULL RB) - Right Band Edge



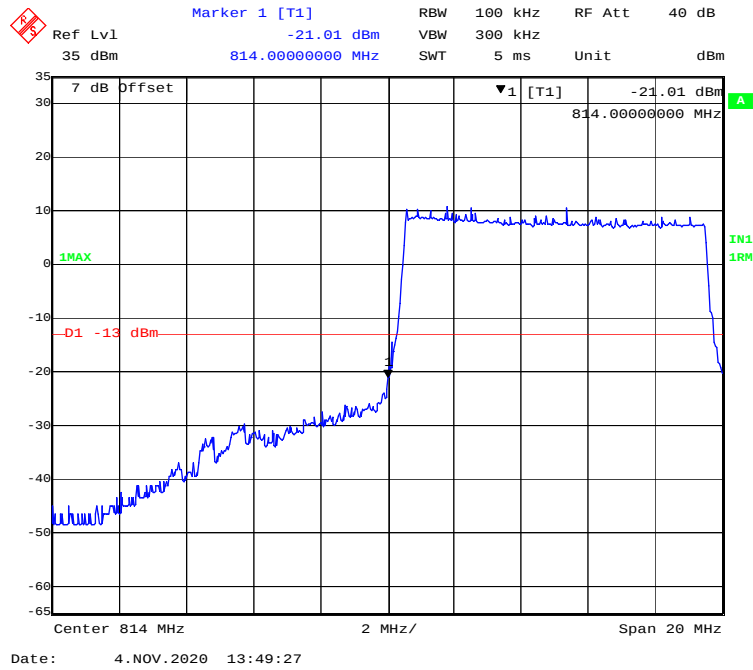
### QPSK (5 MHz, FULL RB) - Left Band Edge



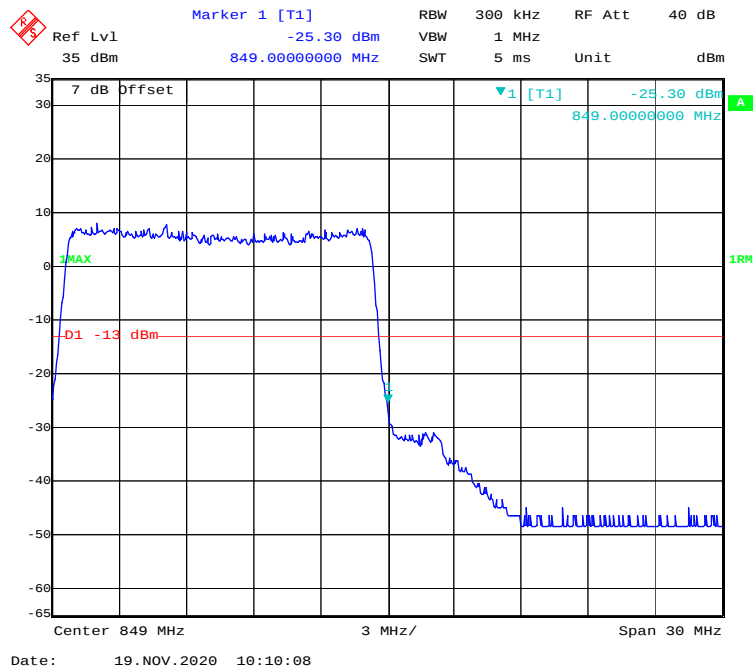
### QPSK (10 MHz, FULL RB) - Right Band Edge



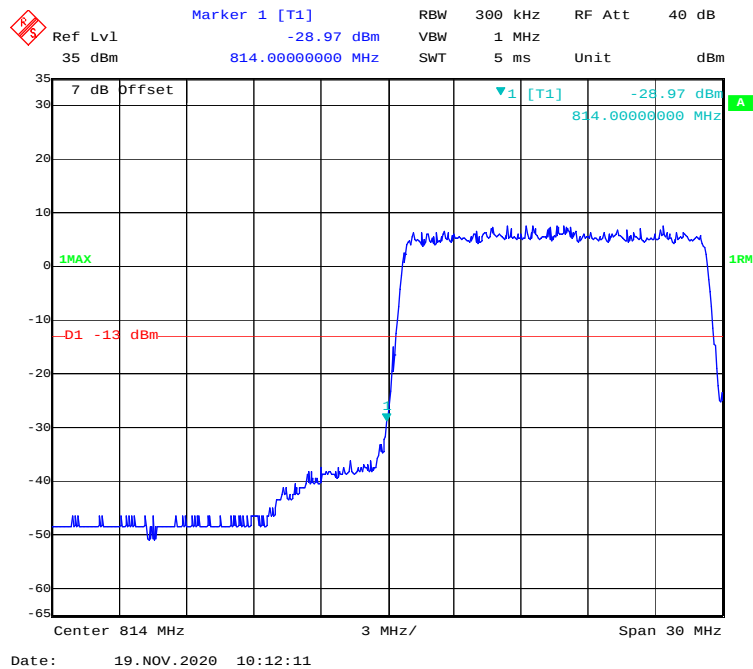
### QPSK (10 MHz, FULL RB) - Left Band Edge



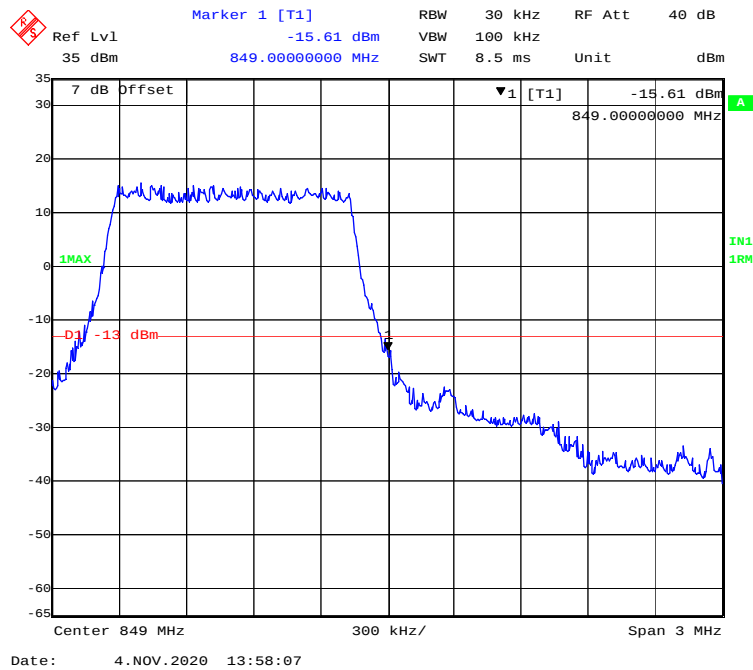
### QPSK (15 MHz, FULL RB) - Right Band Edge



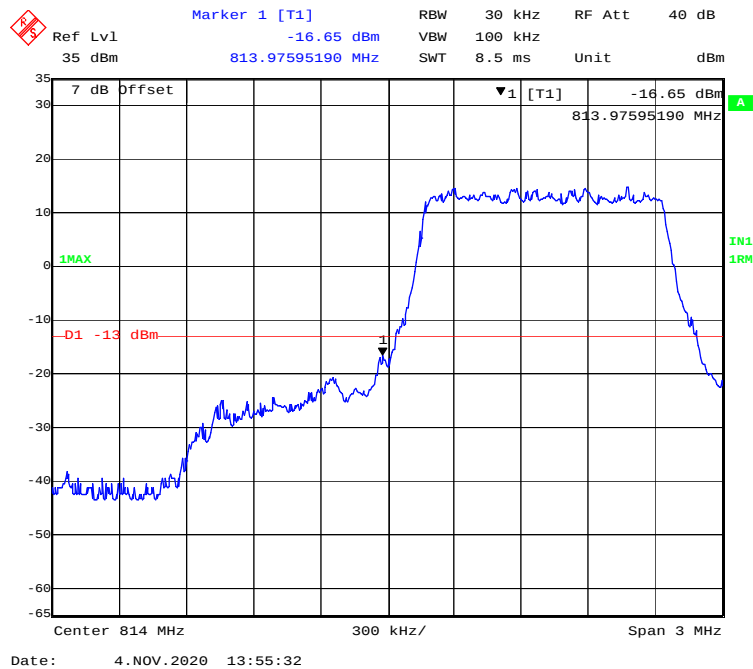
### QPSK (15 MHz, FULL RB) - Left Band Edge

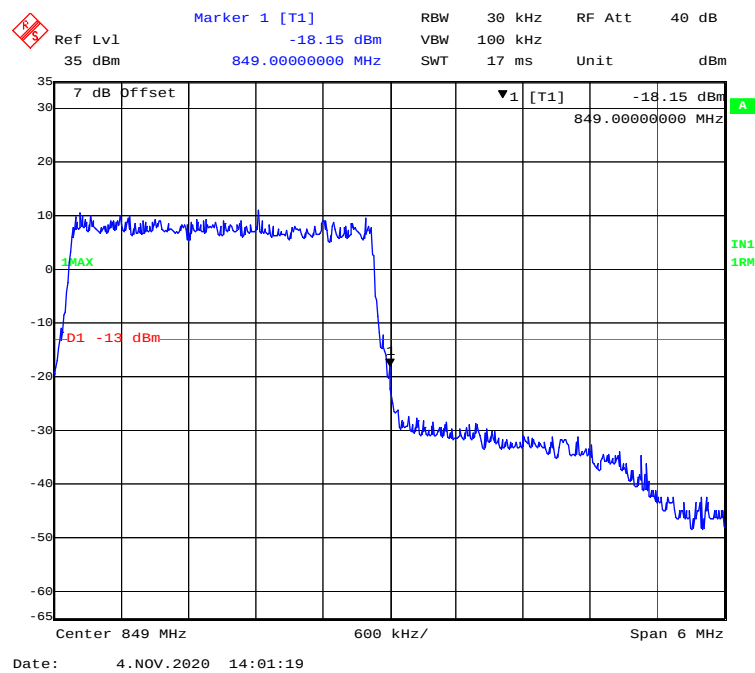
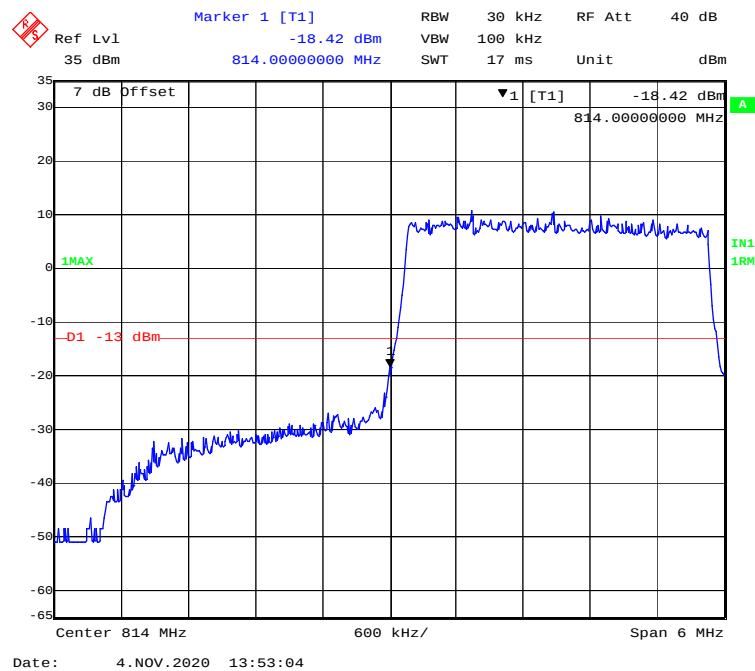


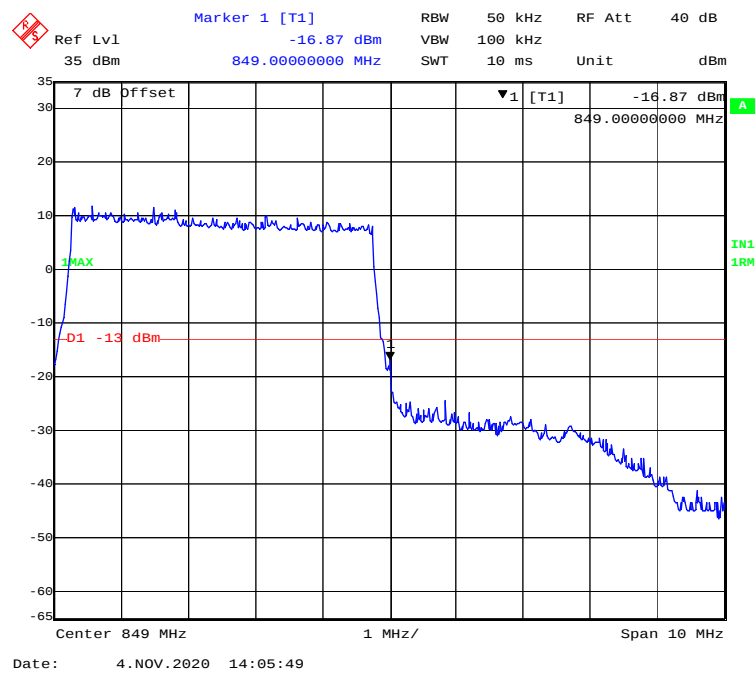
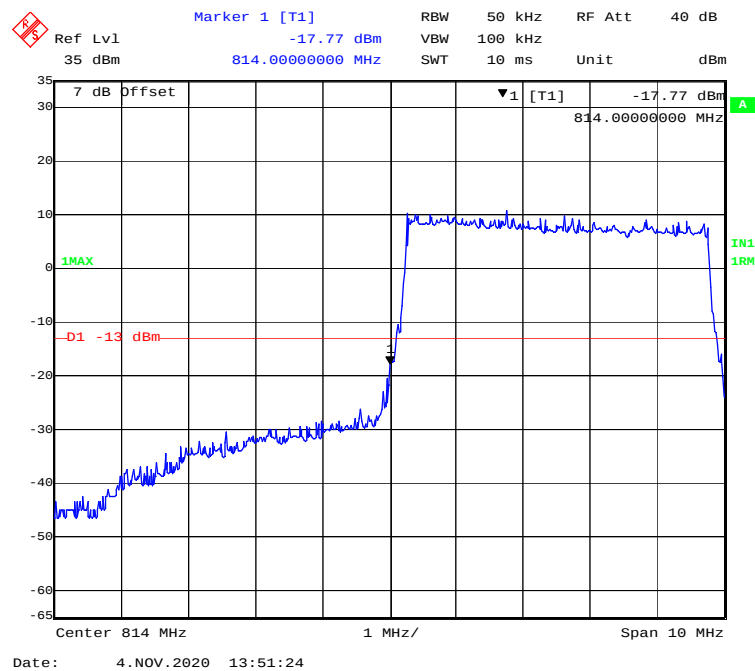
### 16-QAM (1.4 MHz, FULL RB) - Right Band Edge



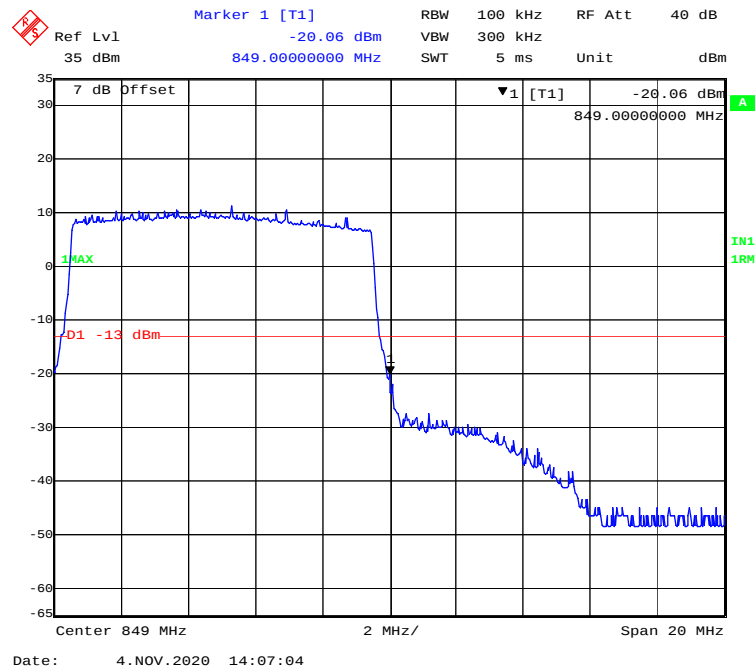
### 16-QAM (1.4 MHz, FULL RB) - Left Band Edge



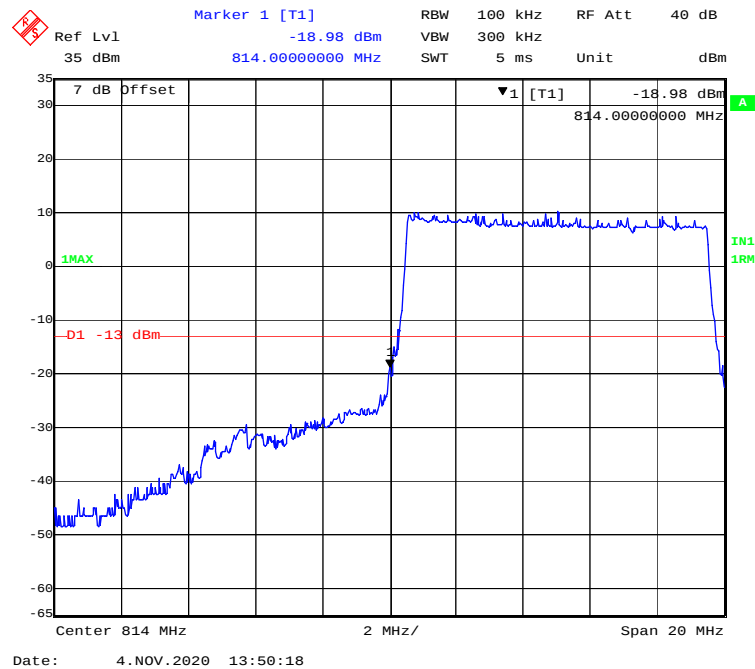
**16-QAM (3 MHz, FULL RB) - Right Band Edge****16-QAM (3 MHz, FULL RB) - Left Band Edge**

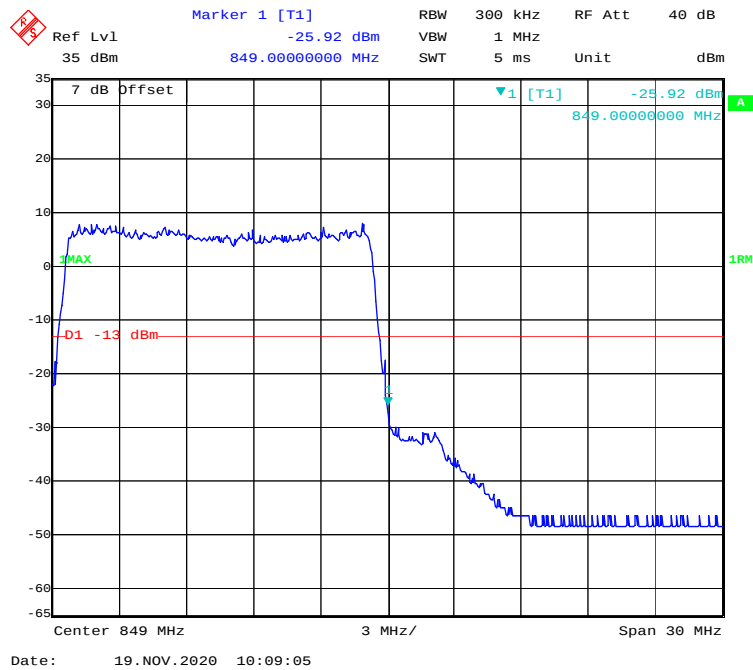
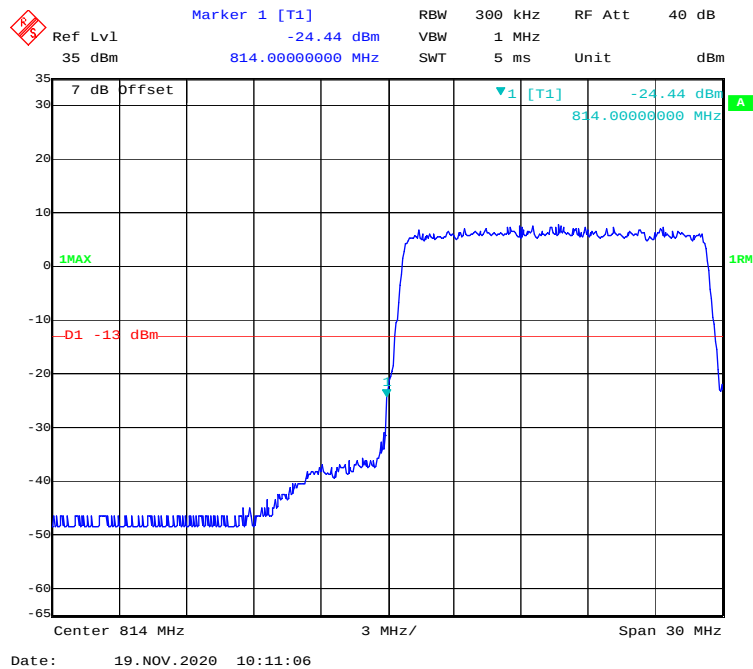
**16-QAM (5 MHz, FULL RB) - Right Band Edge****16-QAM (5 MHz, FULL RB) - Left Band Edge**

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



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



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

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

### Applicable Standards

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

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

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

**Frequency Tolerance for Transmitters in the Public Mobile Services**

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

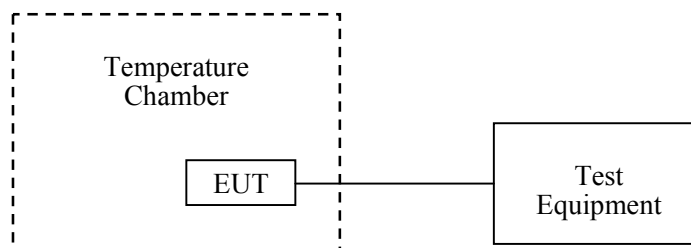
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

### Test Procedure

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

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

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



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

|                           |                 |
|---------------------------|-----------------|
| <b>Temperature:</b>       | 23.9~25.3 °C    |
| <b>Relative Humidity:</b> | 49~53 %         |
| <b>ATM Pressure:</b>      | 100.7~101.9 kPa |

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

EUT operation mode: Transmitting

Test Result: Compliant.

**DC 7.40V from battery:**

**WCDMA Band V:**

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

**WCDMA Band II:**

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

**WCDMA Band IV:**

| <b>WCDMA Mode, Low Channel &amp; High Channel</b> |                           |                      |                      |                            |                            |
|---------------------------------------------------|---------------------------|----------------------|----------------------|----------------------------|----------------------------|
| <b>Temperature</b>                                | <b>Power<br/>Supplied</b> | <b>F<sub>L</sub></b> | <b>F<sub>H</sub></b> | <b>F<sub>L</sub> Limit</b> | <b>F<sub>H</sub> Limit</b> |
| <b>(°C)</b>                                       | <b>(V<sub>DC</sub>)</b>   | <b>(MHz)</b>         | <b>(MHz)</b>         | <b>(MHz)</b>               | <b>(MHz)</b>               |
| -30                                               | 7.40                      | 1710.3862            | 1754.7649            | 1710                       | 1755                       |
| -20                                               |                           | 1710.3819            | 1754.7659            | 1710                       | 1755                       |
| -10                                               |                           | 1710.3829            | 1754.7692            | 1710                       | 1755                       |
| 0                                                 |                           | 1710.3610            | 1754.7639            | 1710                       | 1755                       |
| 10                                                |                           | 1710.3991            | 1754.7655            | 1710                       | 1755                       |
| 20                                                |                           | 1710.3374            | 1754.7697            | 1710                       | 1755                       |
| 30                                                |                           | 1710.3742            | 1754.7664            | 1710                       | 1755                       |
| 40                                                |                           | 1710.4258            | 1754.7639            | 1710                       | 1755                       |
| 50                                                |                           | 1710.4215            | 1754.7616            | 1710                       | 1755                       |
| 25                                                | V min.= 6.66              | 1710.4237            | 1754.7604            | 1710                       | 1755                       |
| 25                                                | V max.= 8.14              | 1710.3446            | 1754.7654            | 1710                       | 1755                       |

**LTE Band 2:**

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

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

**LTE Band 4:**

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

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

**LTE Band 5:**

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

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

**LTE Band 7:**

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

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

**LTE Band 12:**

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

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

**LTE Band 13:**

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

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

**LTE Band 25:**

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

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

**LTE Band 26:**

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

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

### **Declarations**

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

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

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

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

5: This report cannot be reproduced except in full, without prior written approval of the Company.

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**\*\*\*\*\* END OF REPORT \*\*\*\*\***