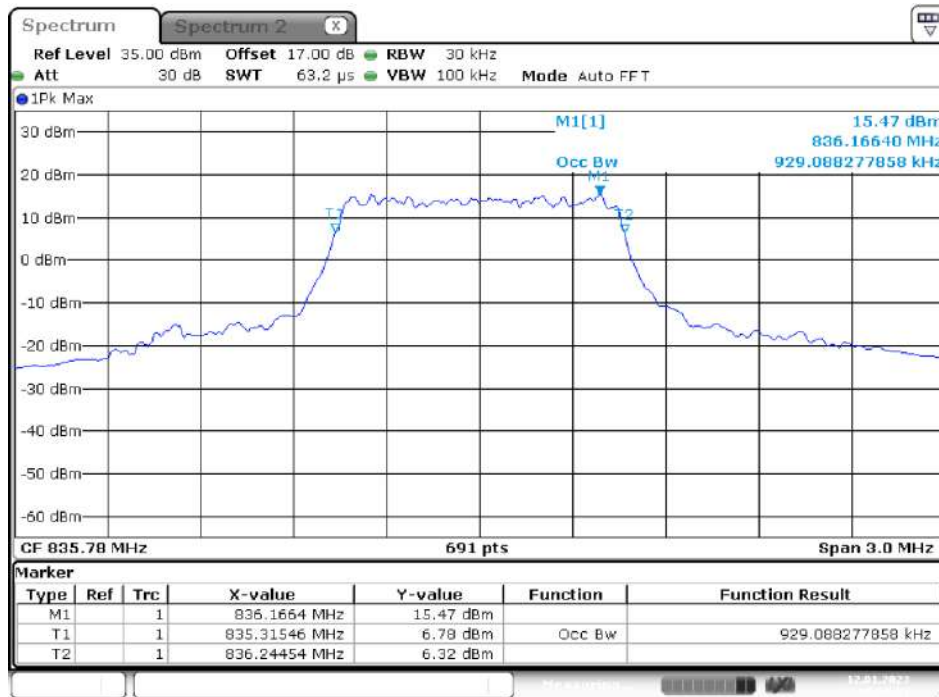
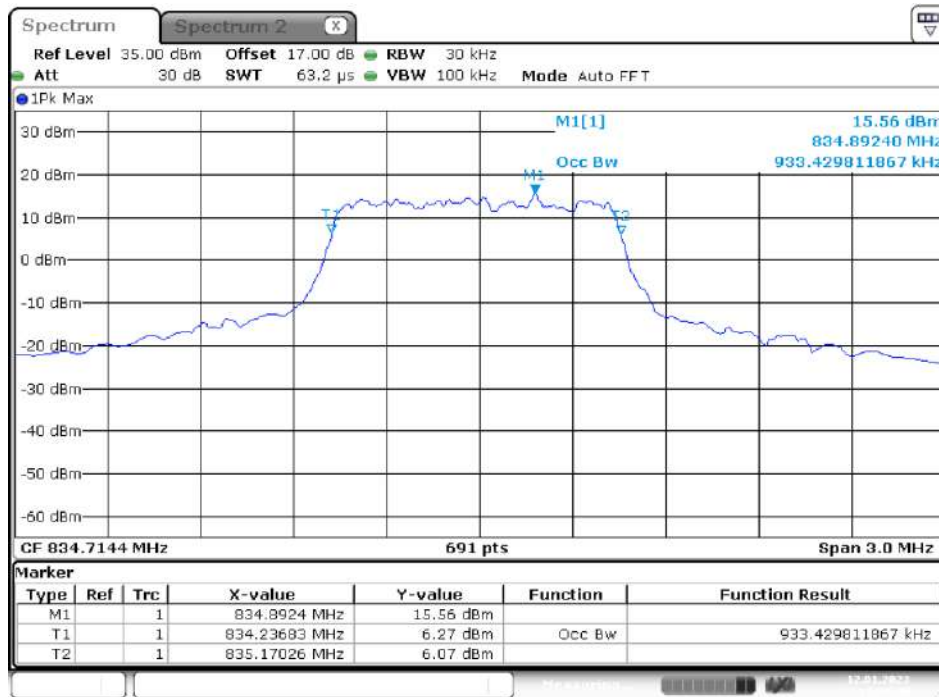


**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

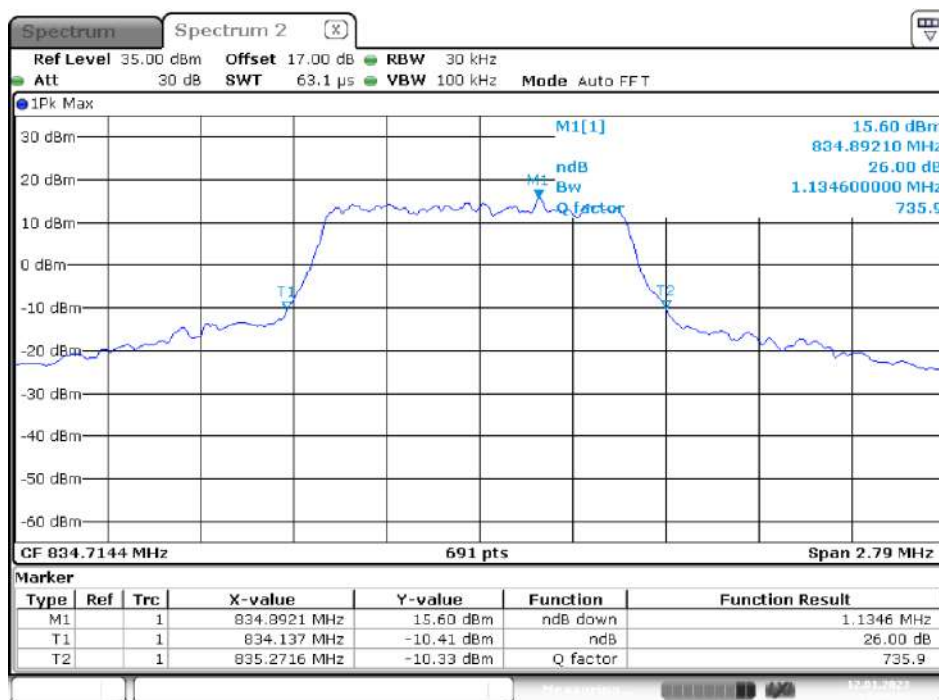
Date: 12.JAN.2023 10:56:23



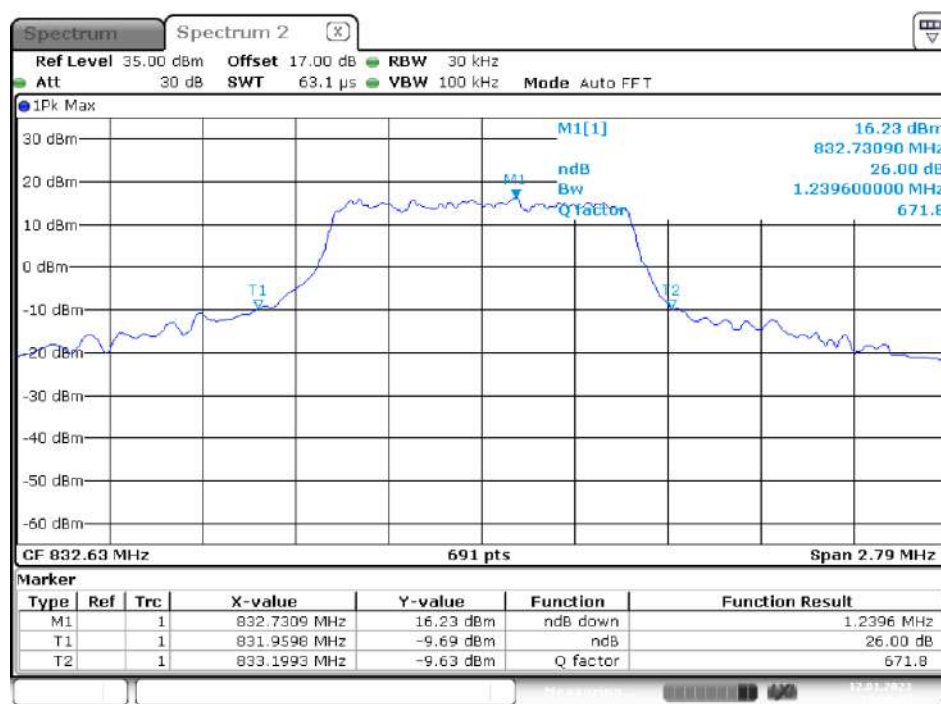
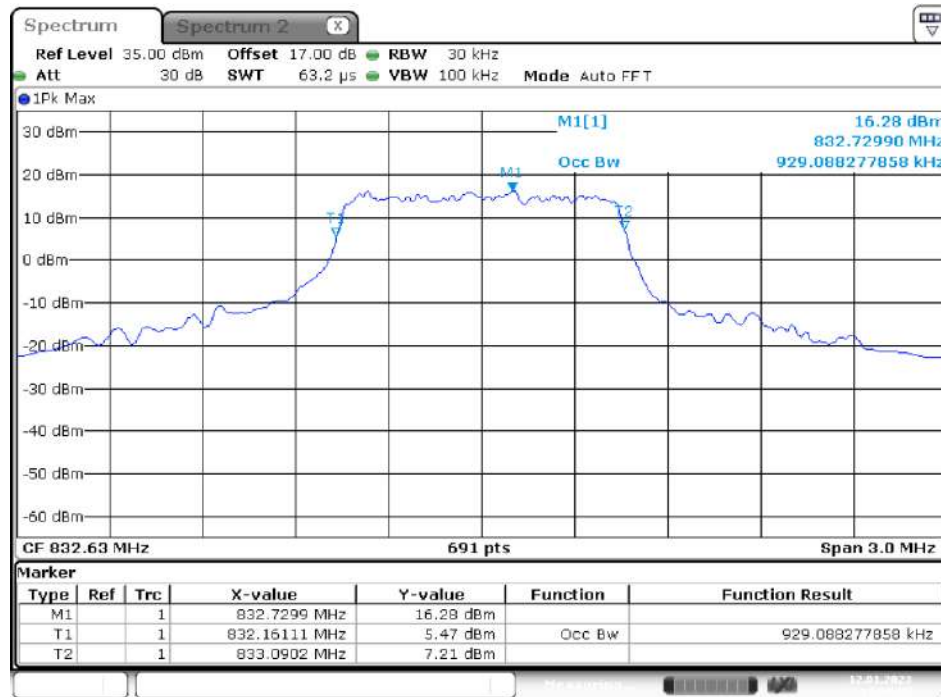
Date: 12.JAN.2023 10:42:46

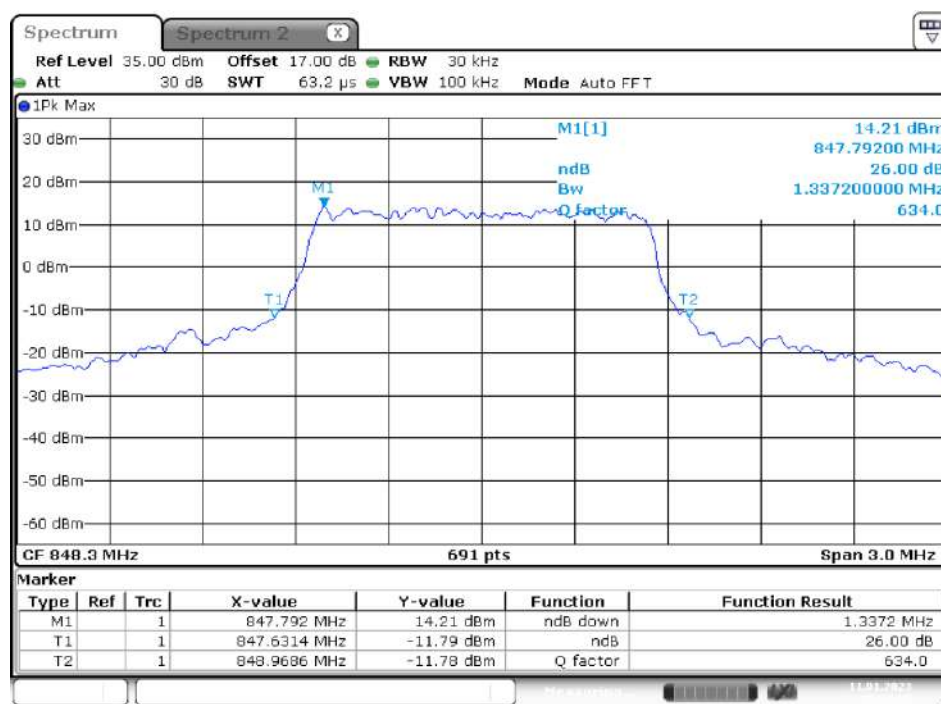
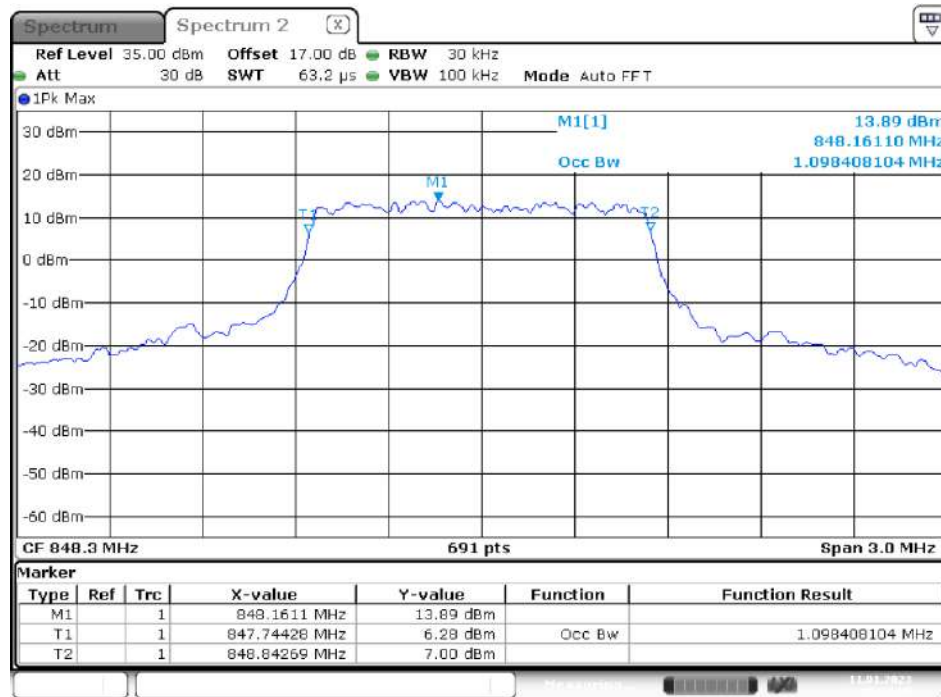
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

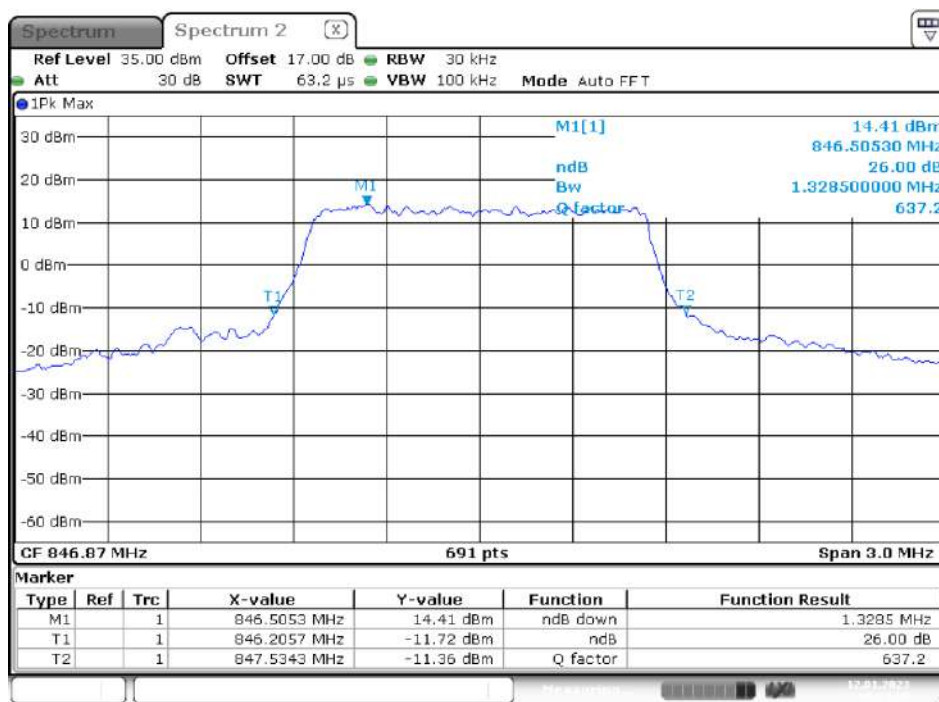
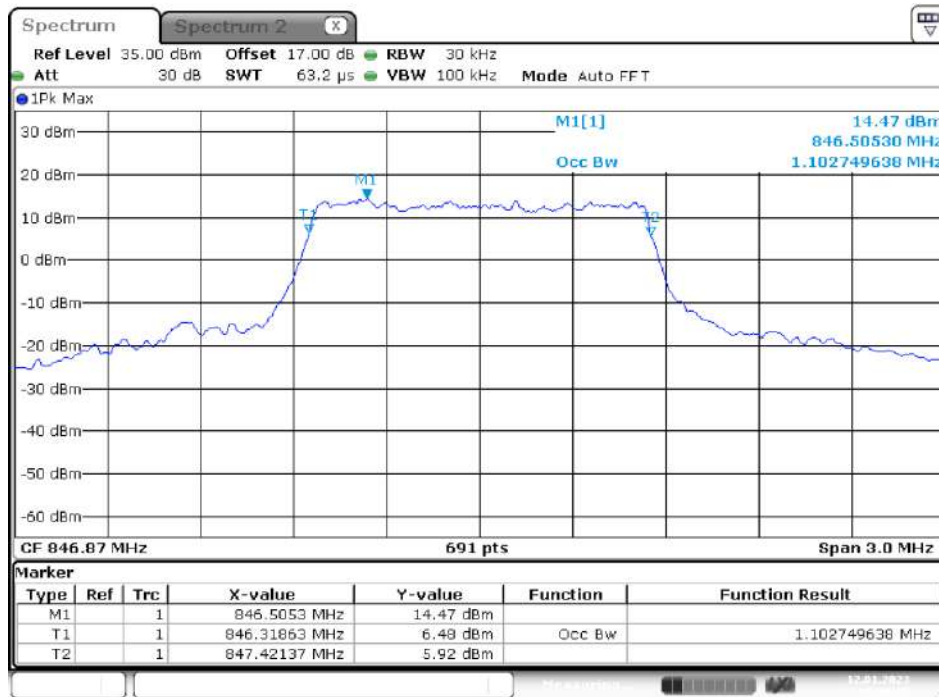
Date: 12.JAN.2023 11:29:48



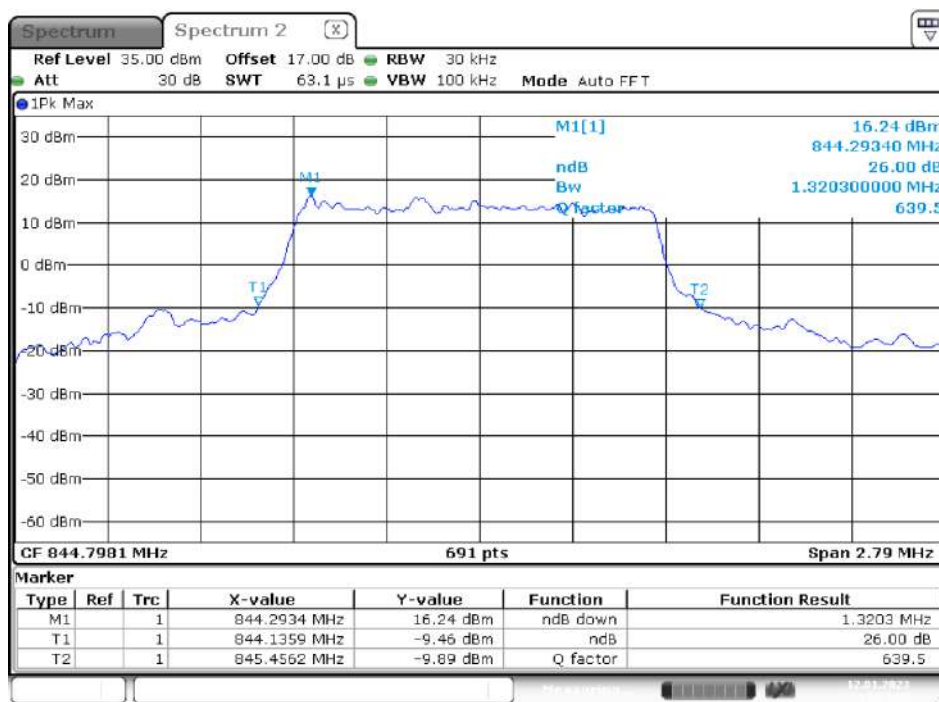
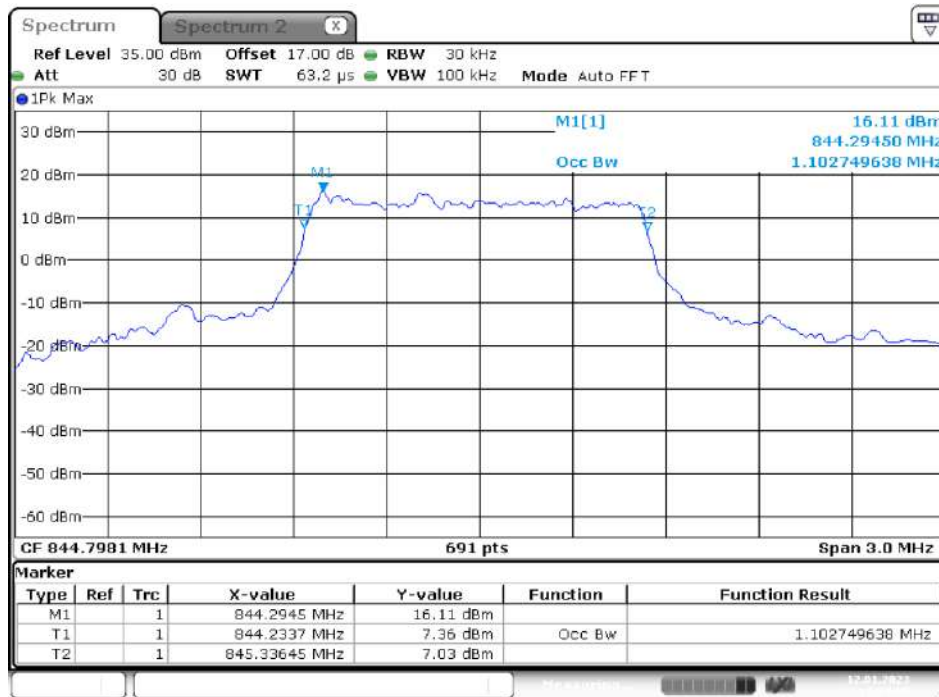
Date: 12.JAN.2023 11:29:14

**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

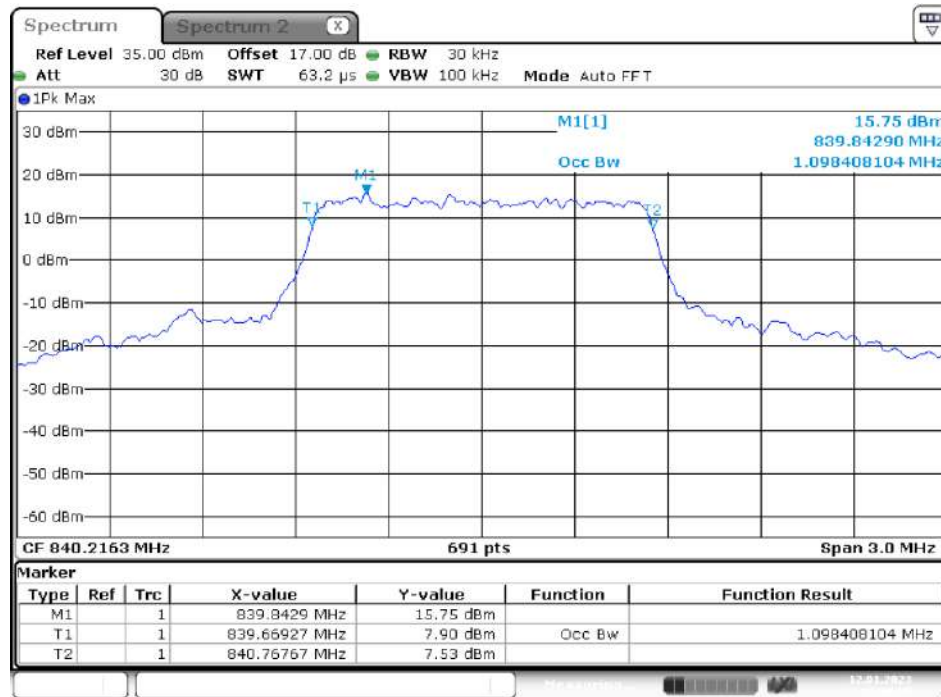
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

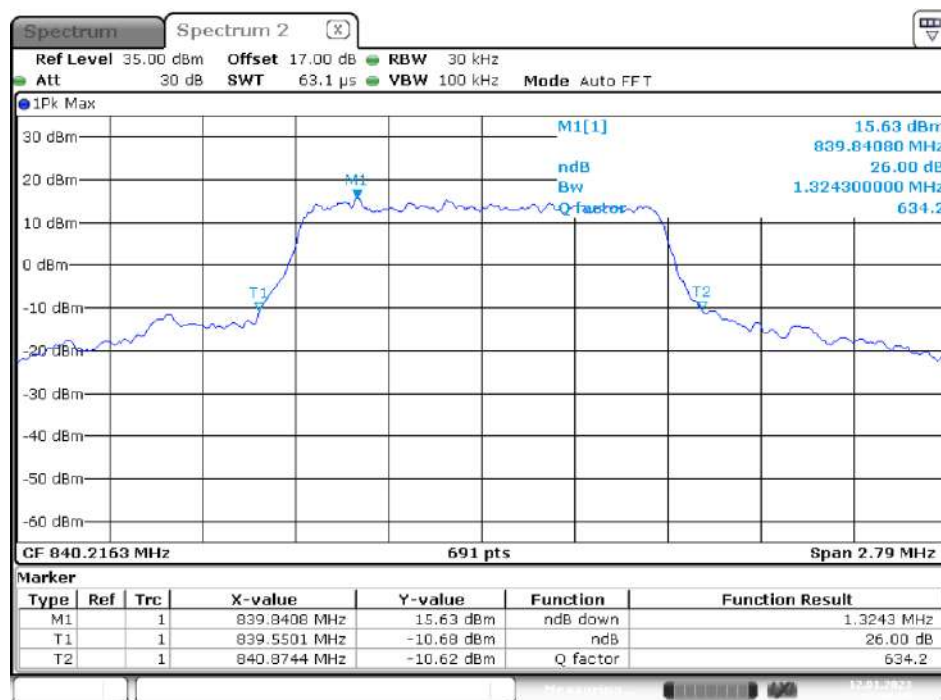
## QPSK (5.0MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, High channel



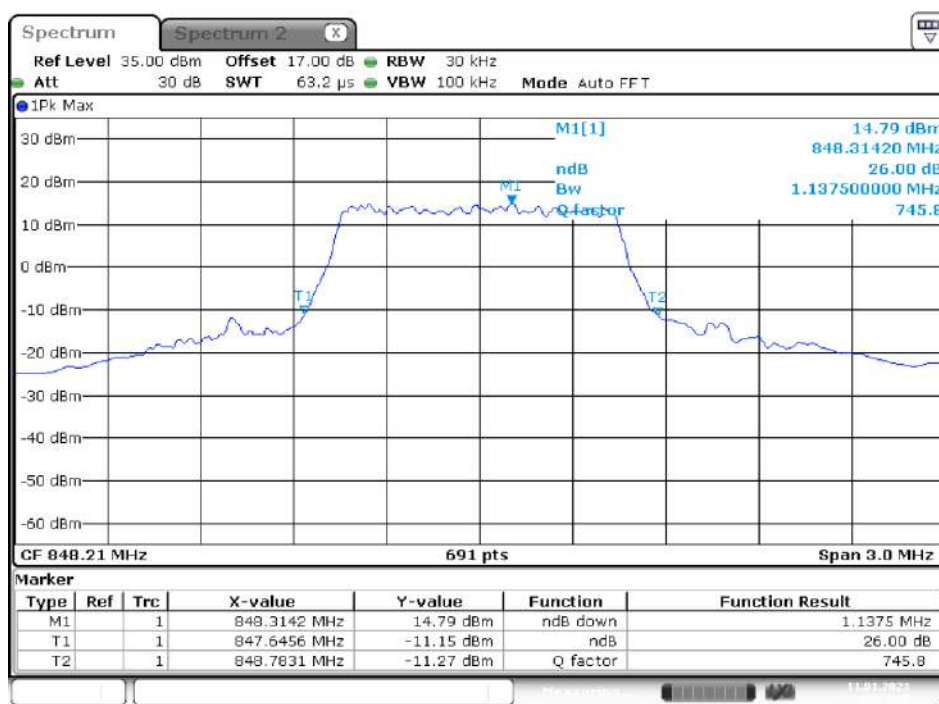
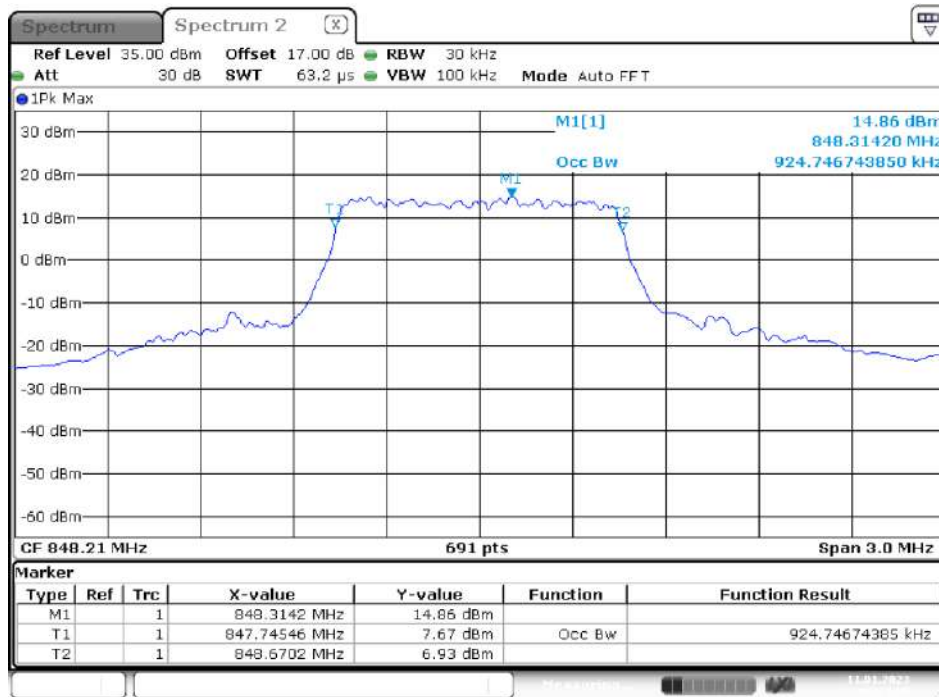


**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

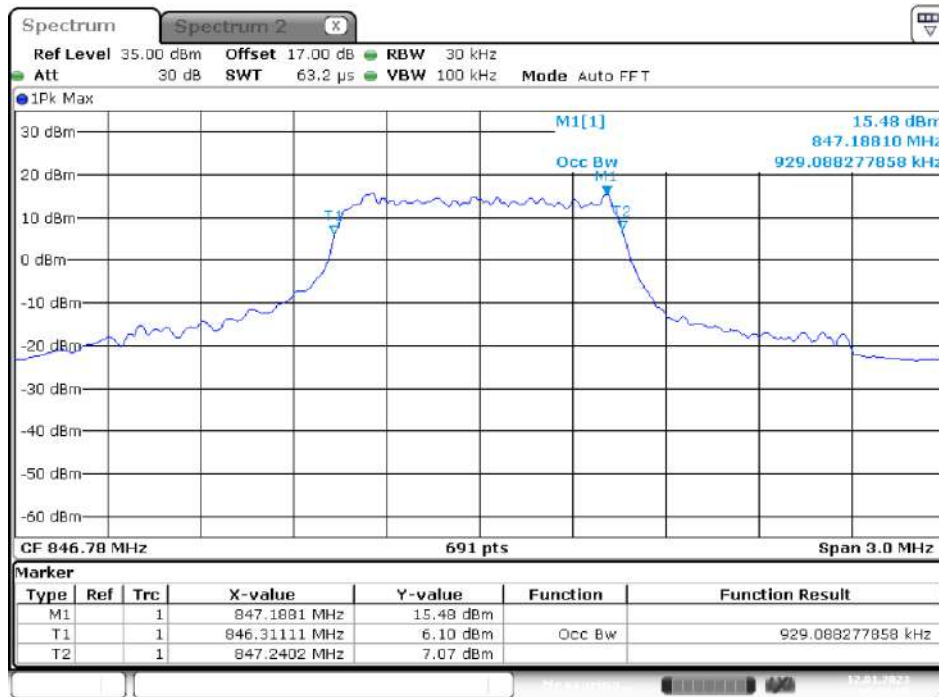
Date: 12.JAN.2023 12:48:36



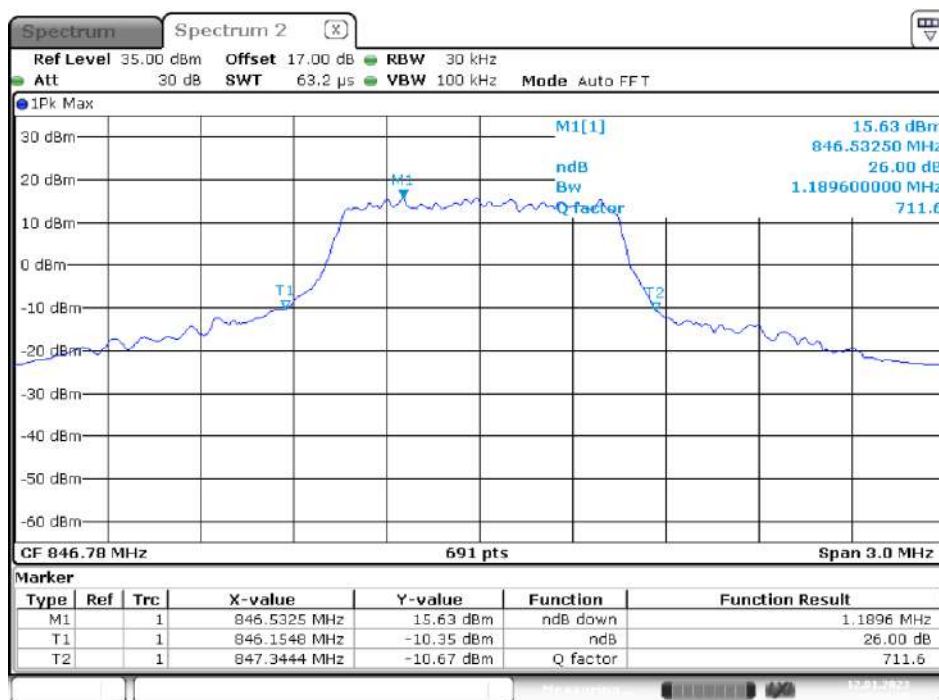
Date: 12.JAN.2023 12:48:08

**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

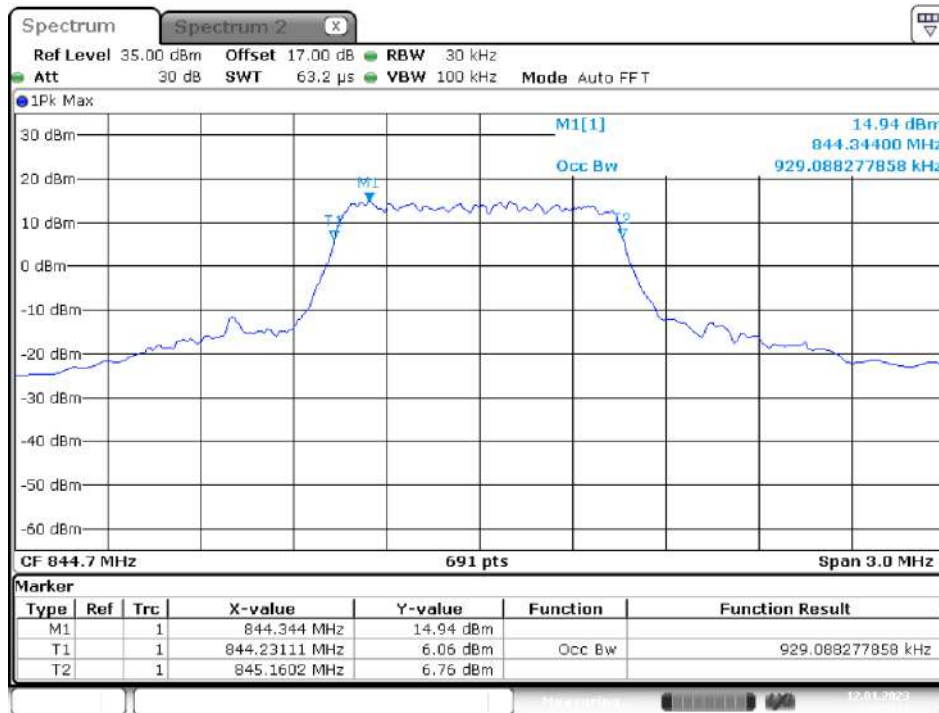


**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

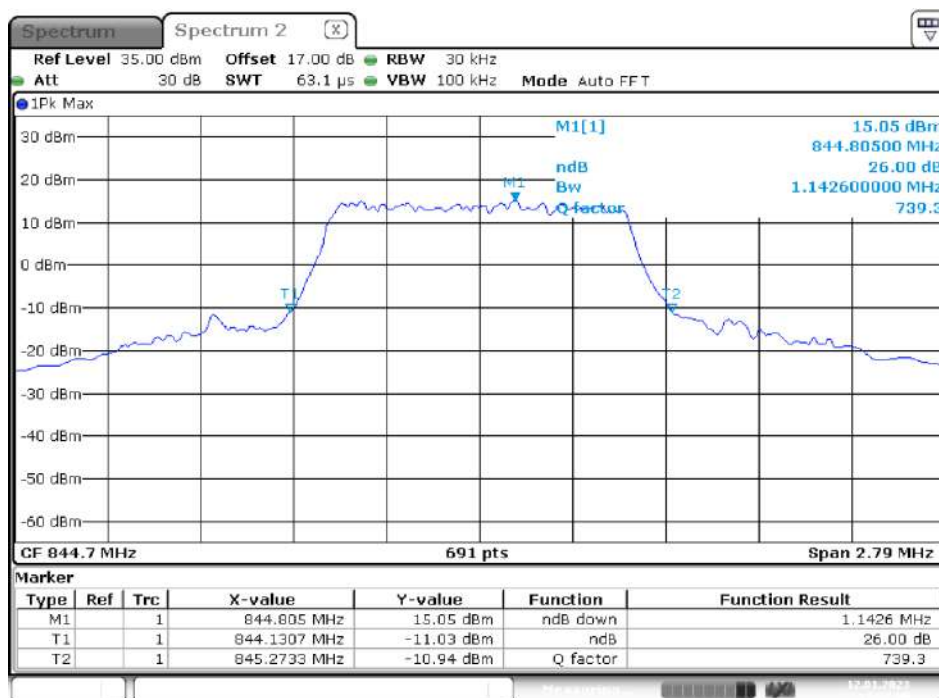
Date: 12.JAN.2023 10:57:38



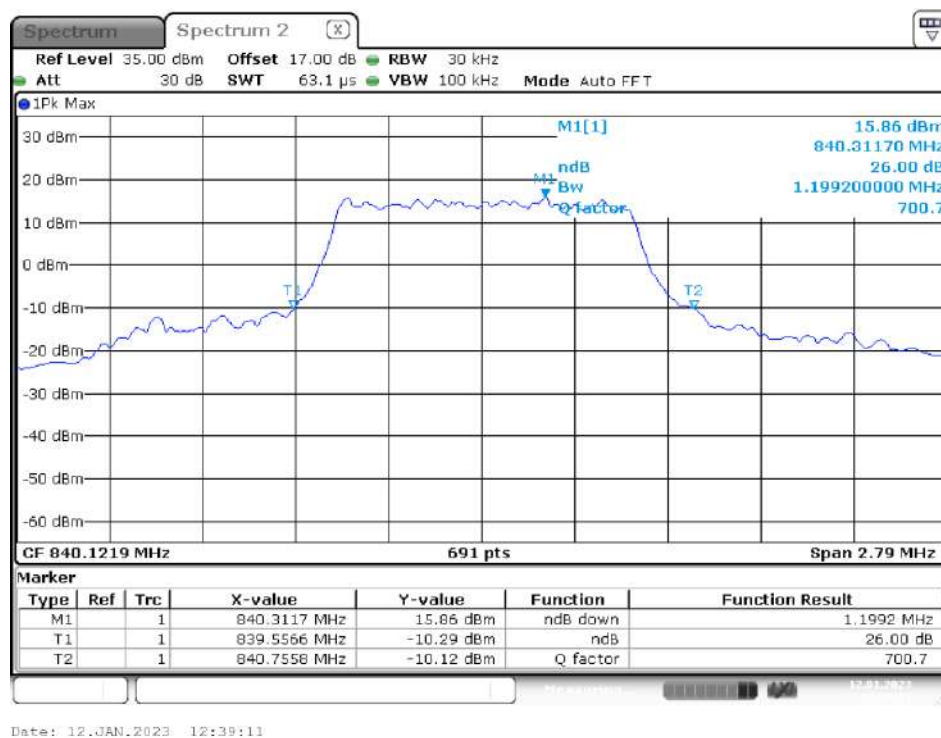
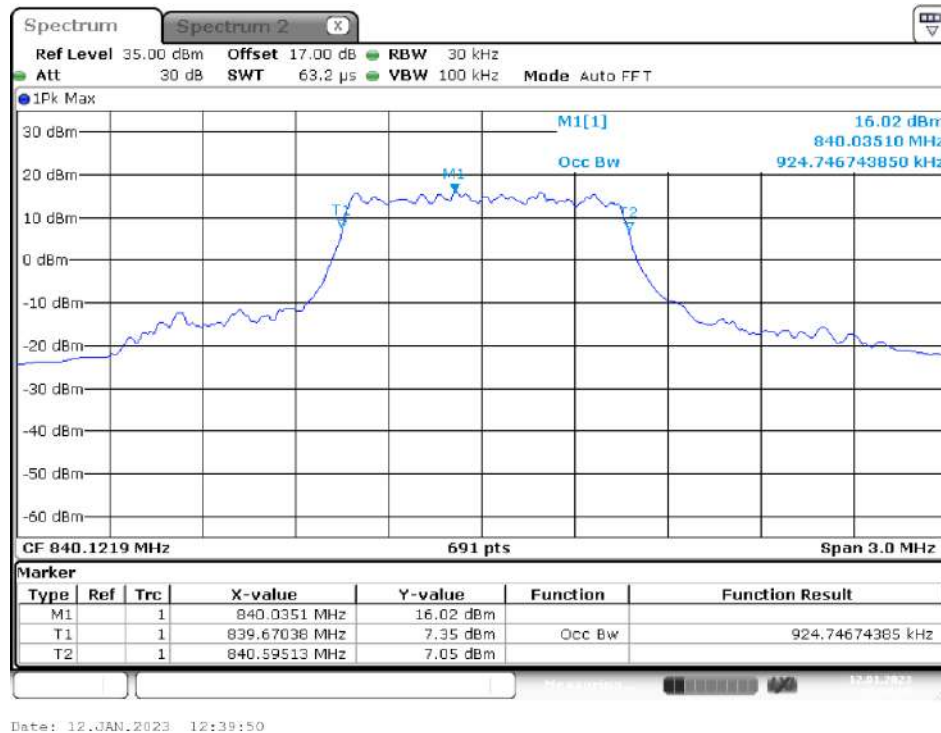
Date: 12.JAN.2023 10:45:25

**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

Date: 12.JAN.2023 11:31:11

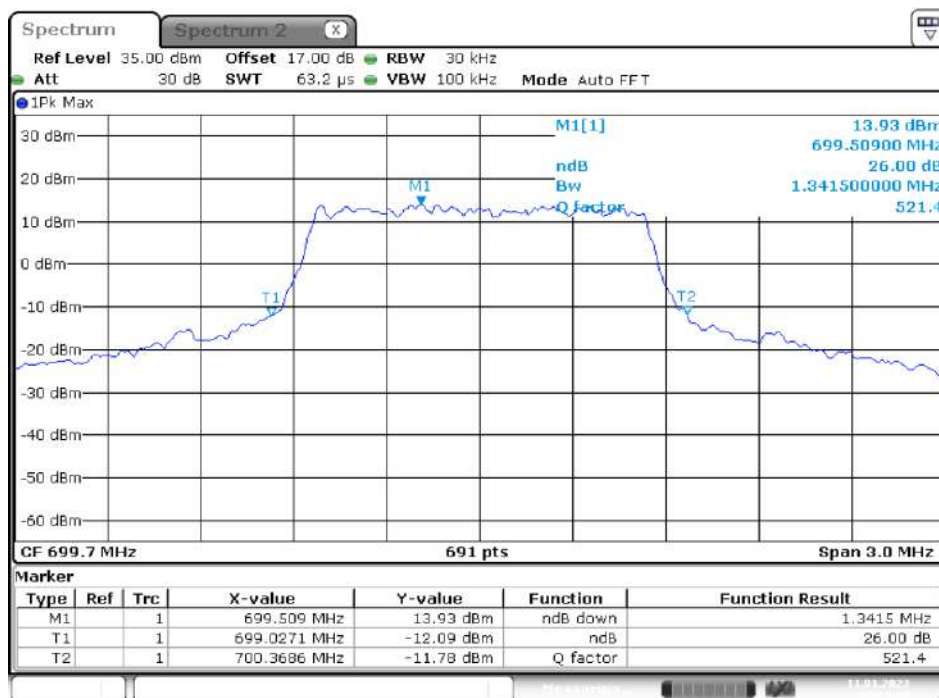
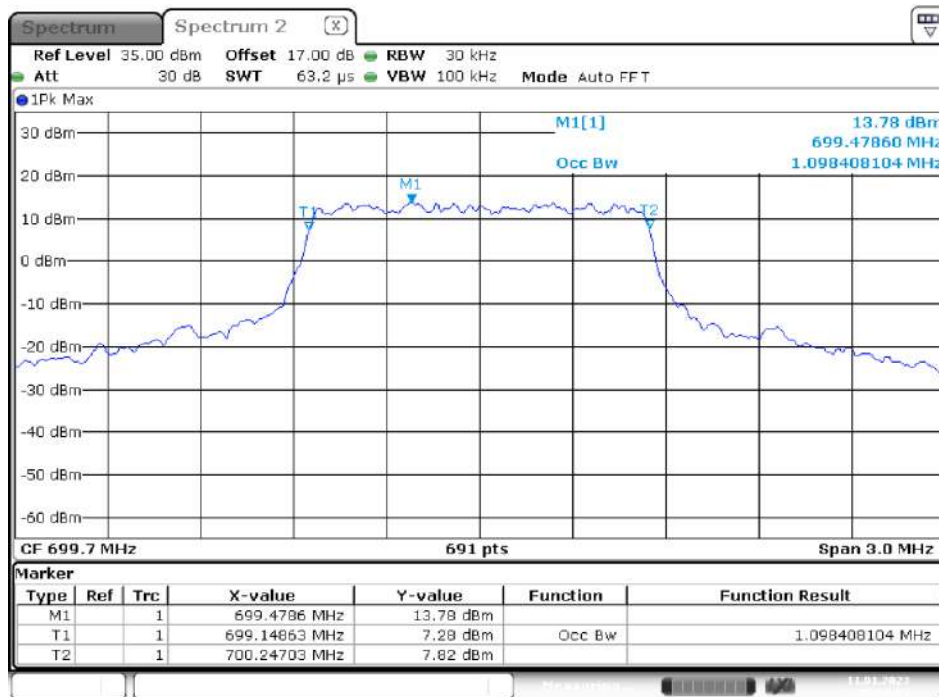


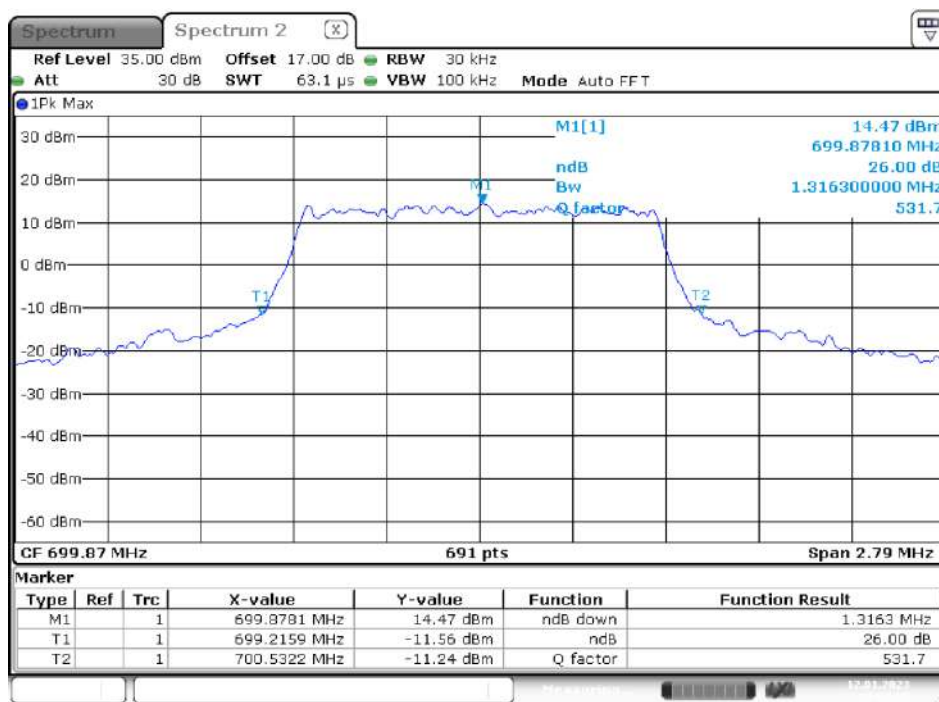
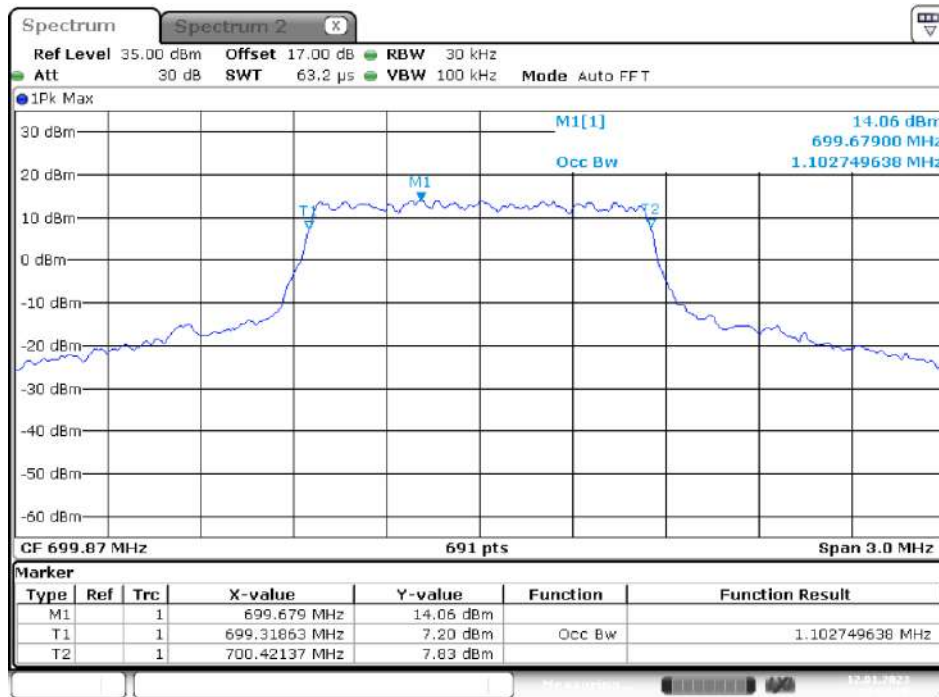
Date: 12.JAN.2023 11:32:00

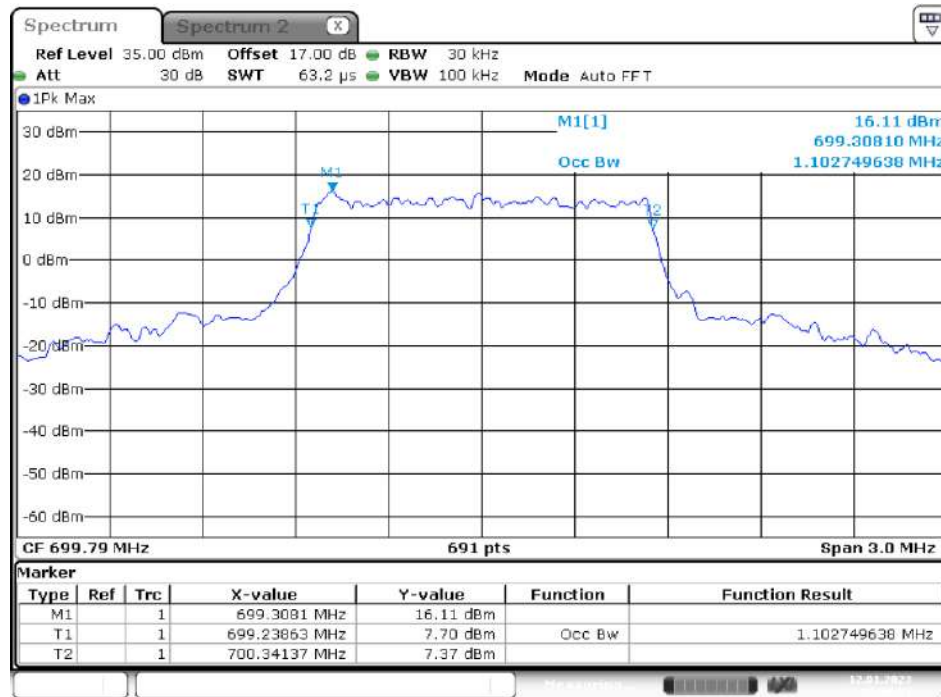
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

## LTE Band 12

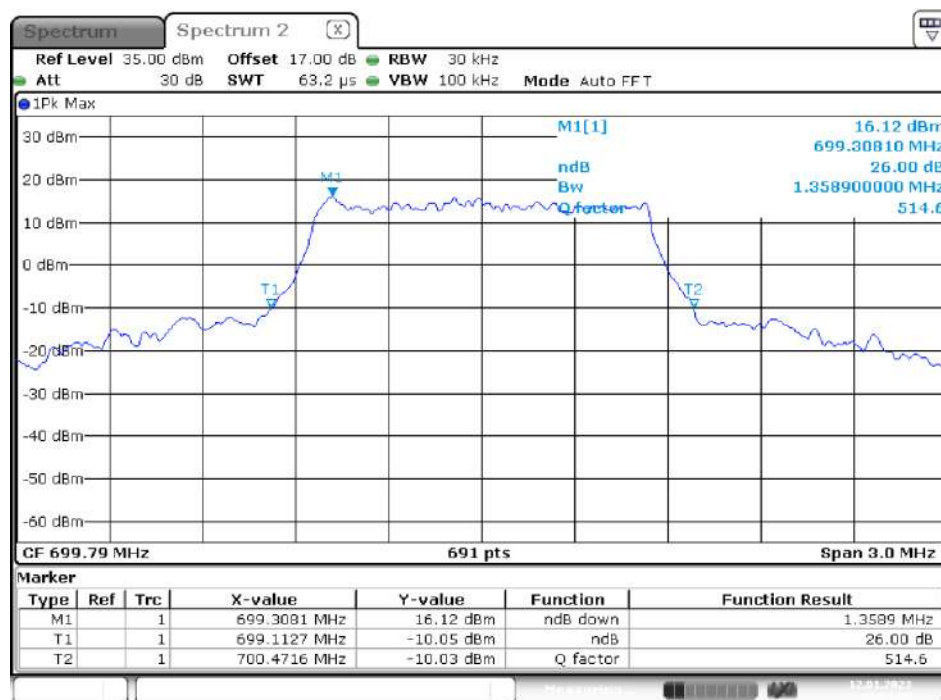
## QPSK (1.4 MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, Low channel



**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

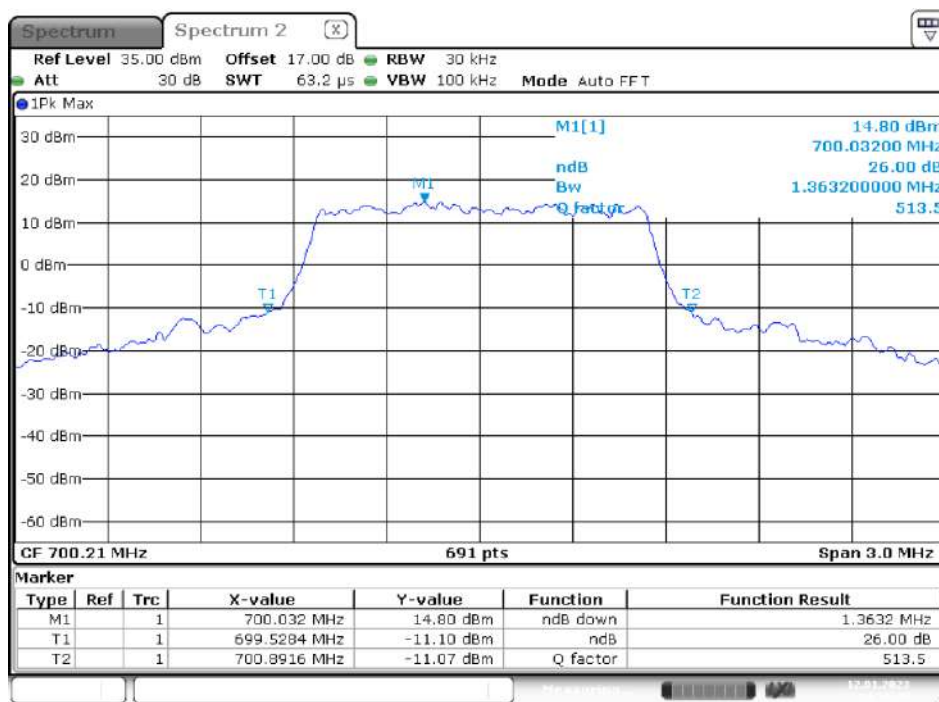
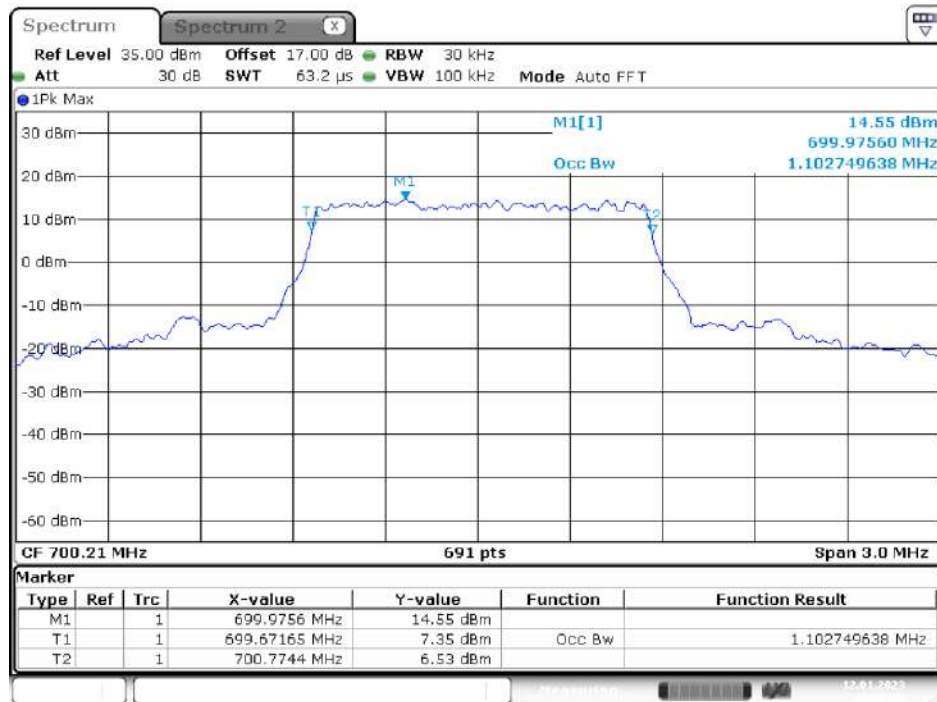
**QPSK (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

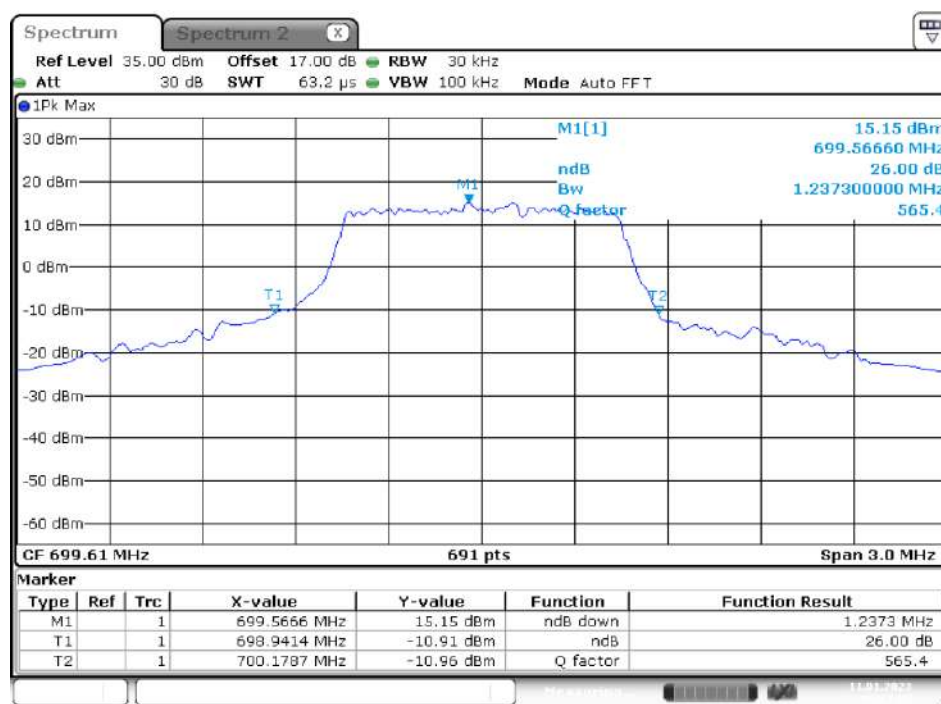
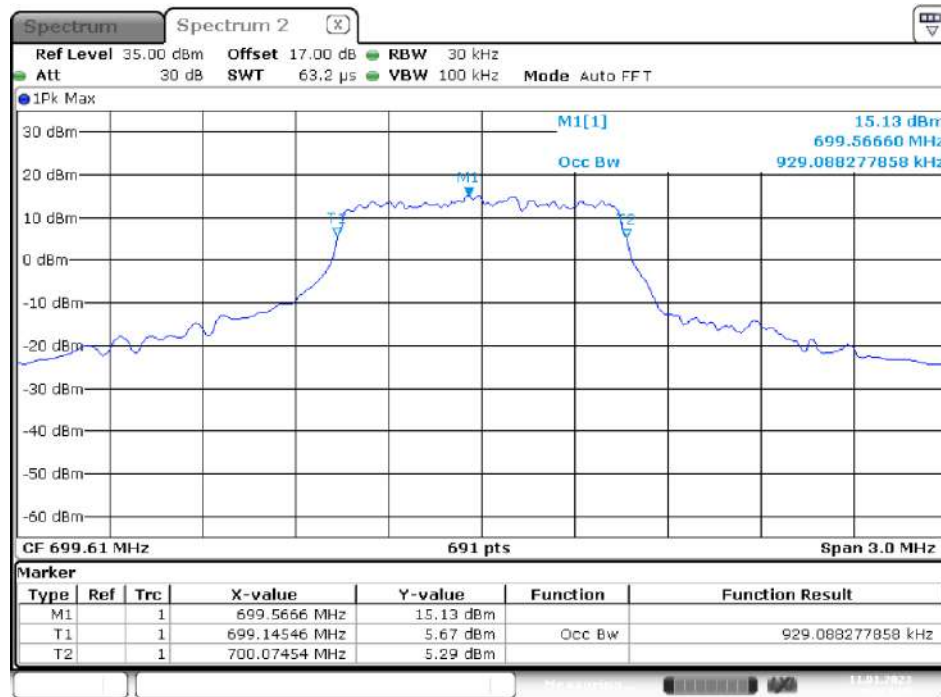
Date: 12.JAN.2023 13:50:51

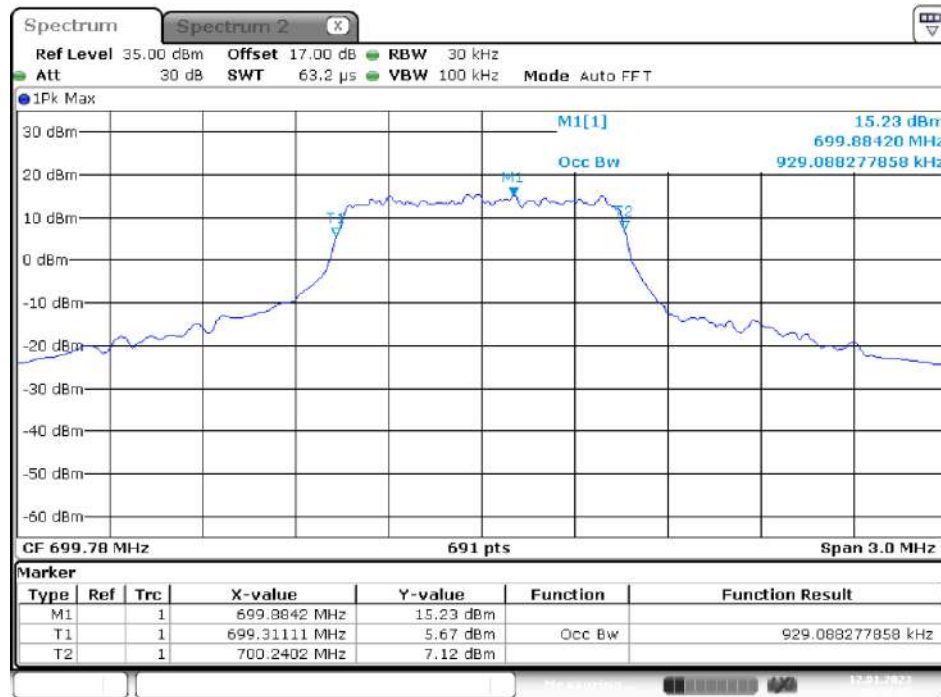


Date: 12.JAN.2023 13:51:23

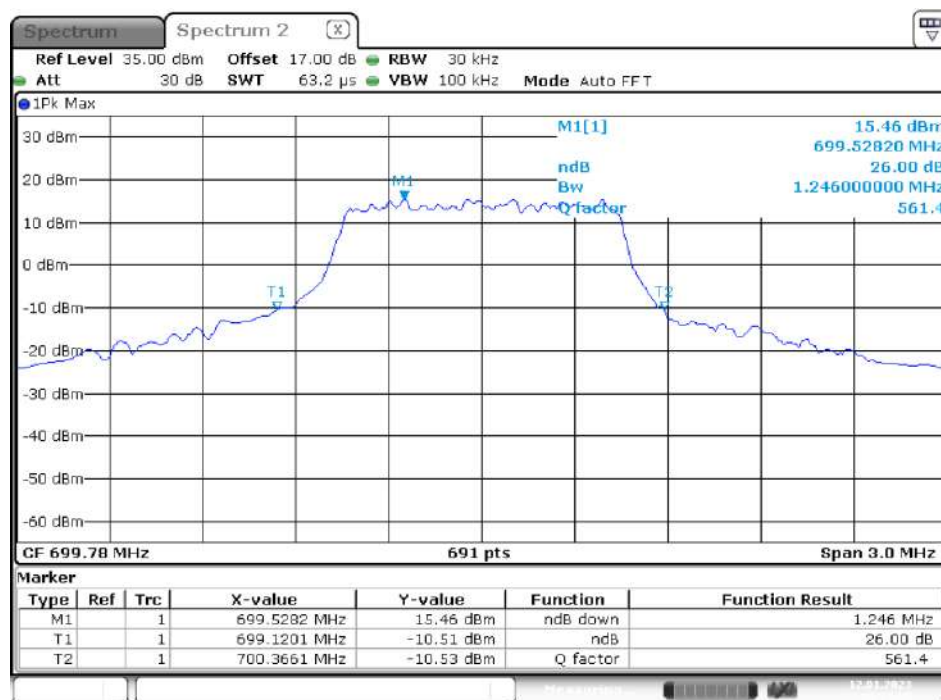


**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

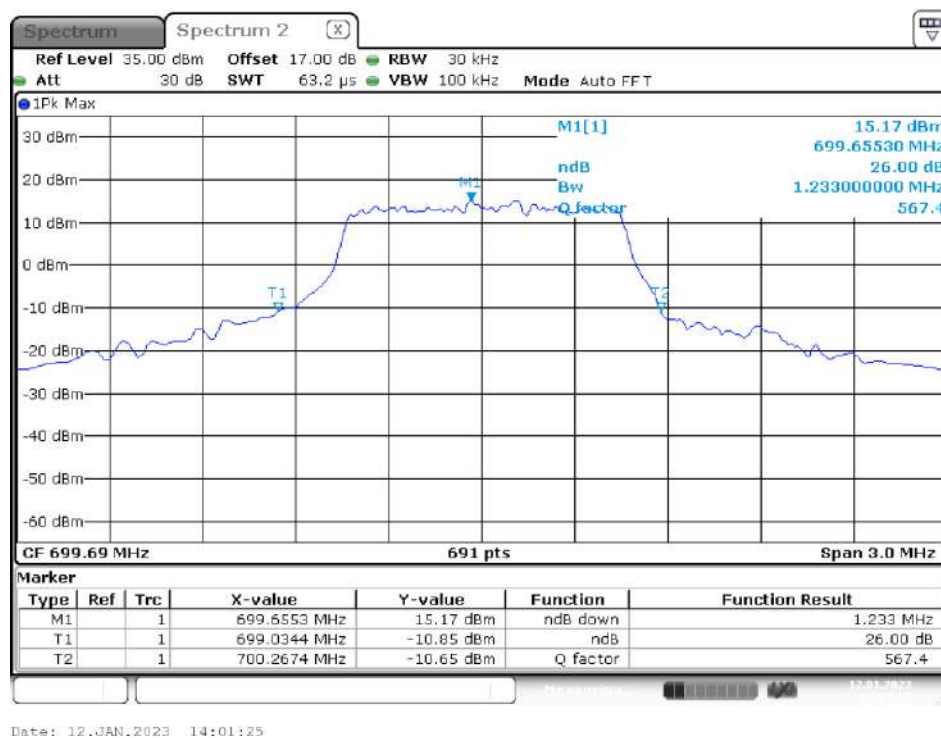
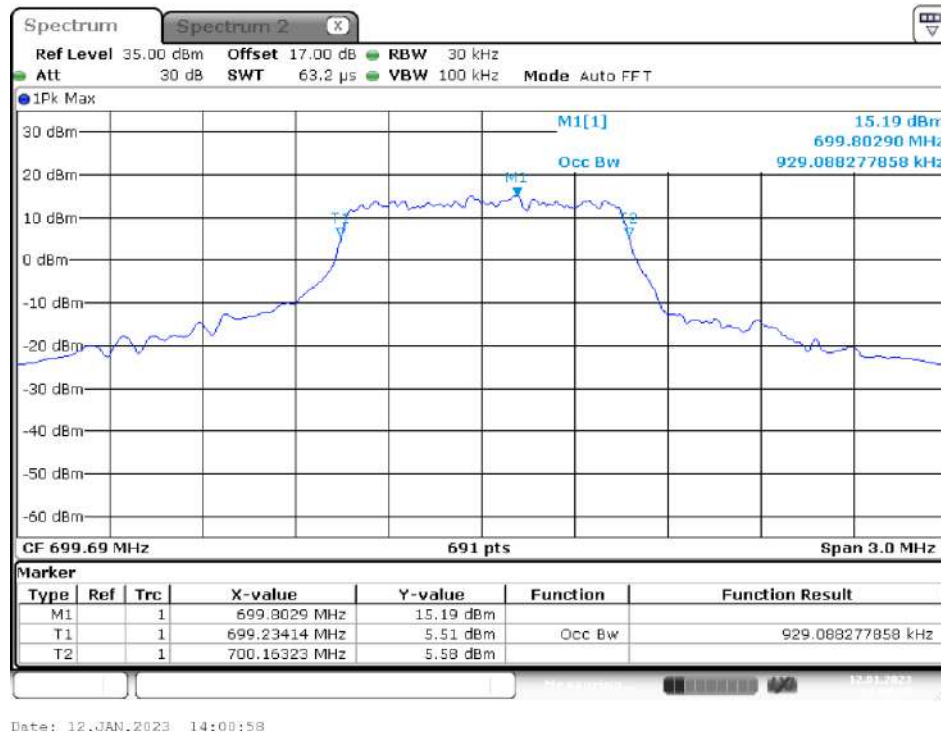
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

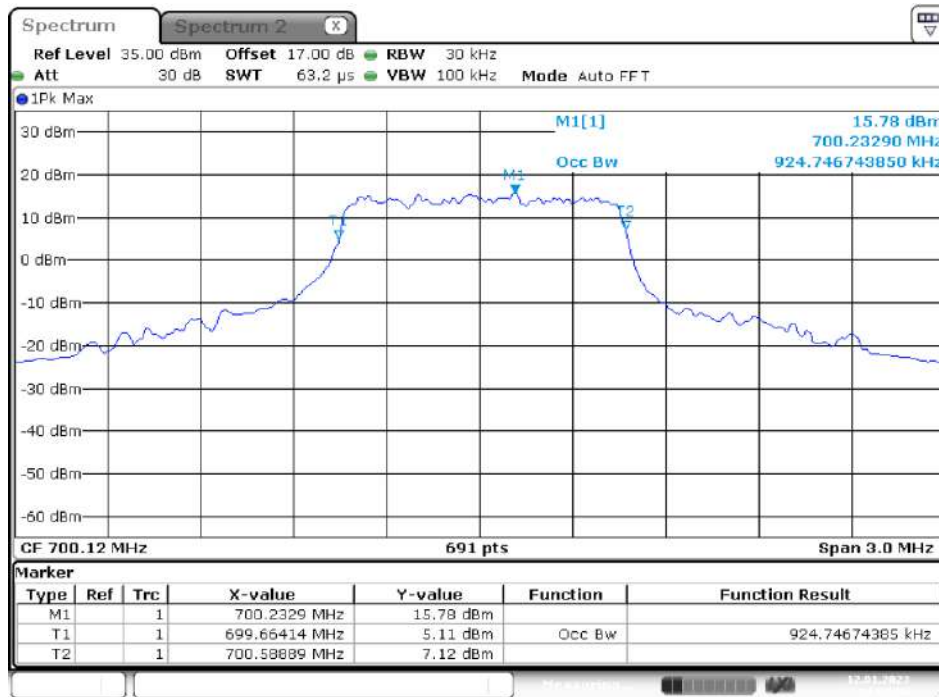
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

Date: 12.JAN.2023 13:12:05

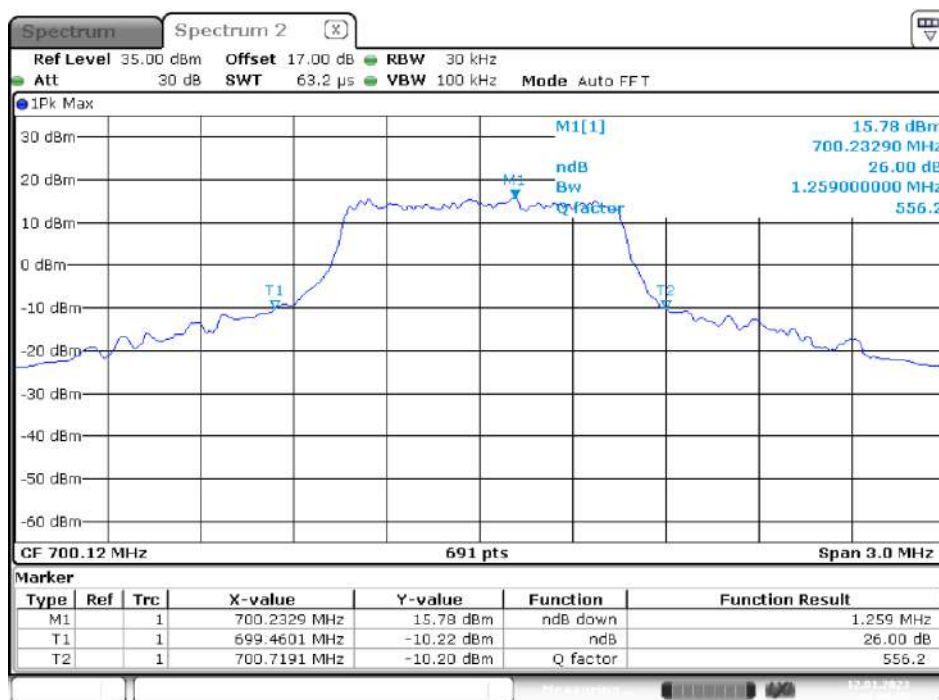


Date: 12.JAN.2023 13:11:35

**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

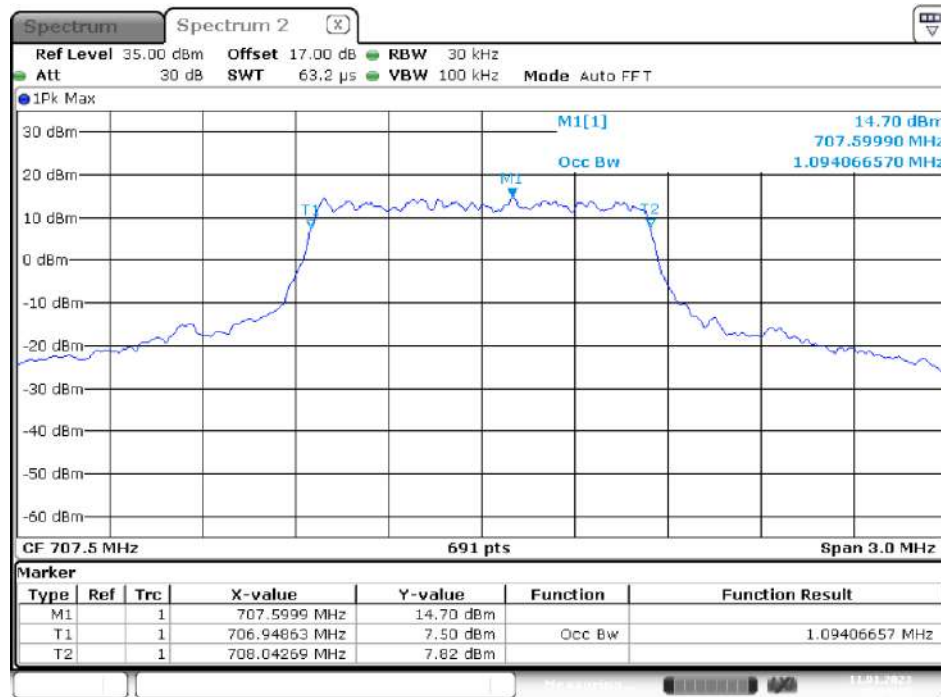
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

Date: 12.JAN.2023 14:07:55

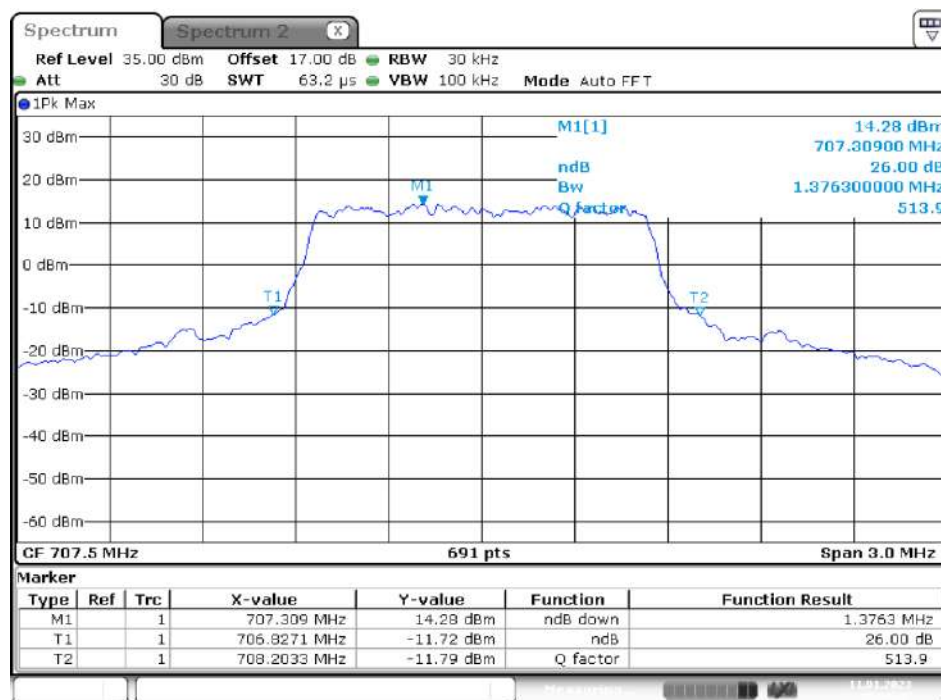


Date: 12.JAN.2023 14:08:23

## QPSK (1.4 MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, Middle channel



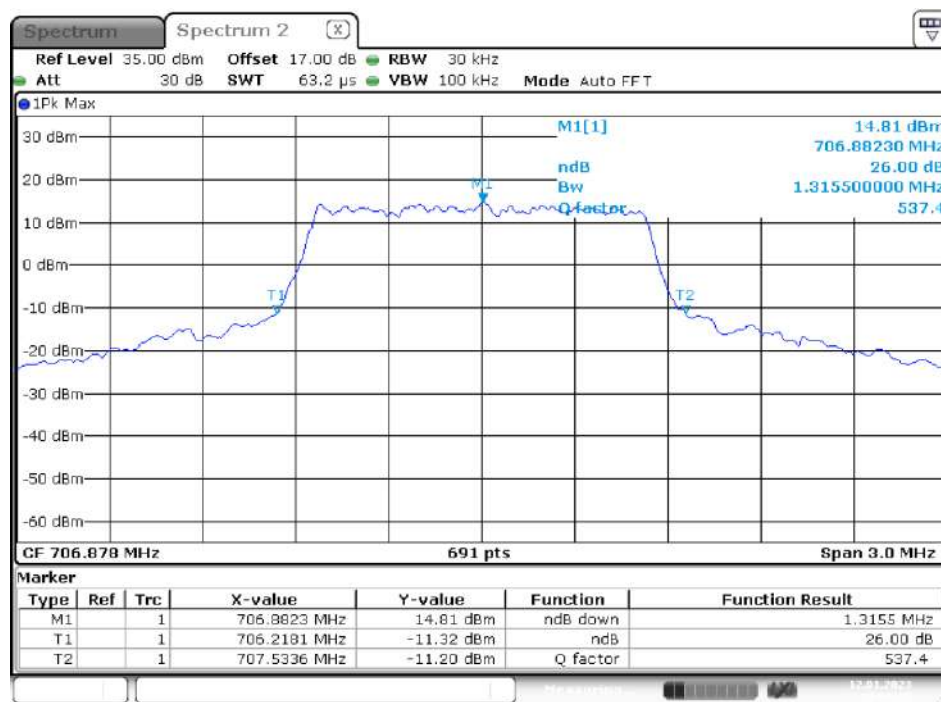
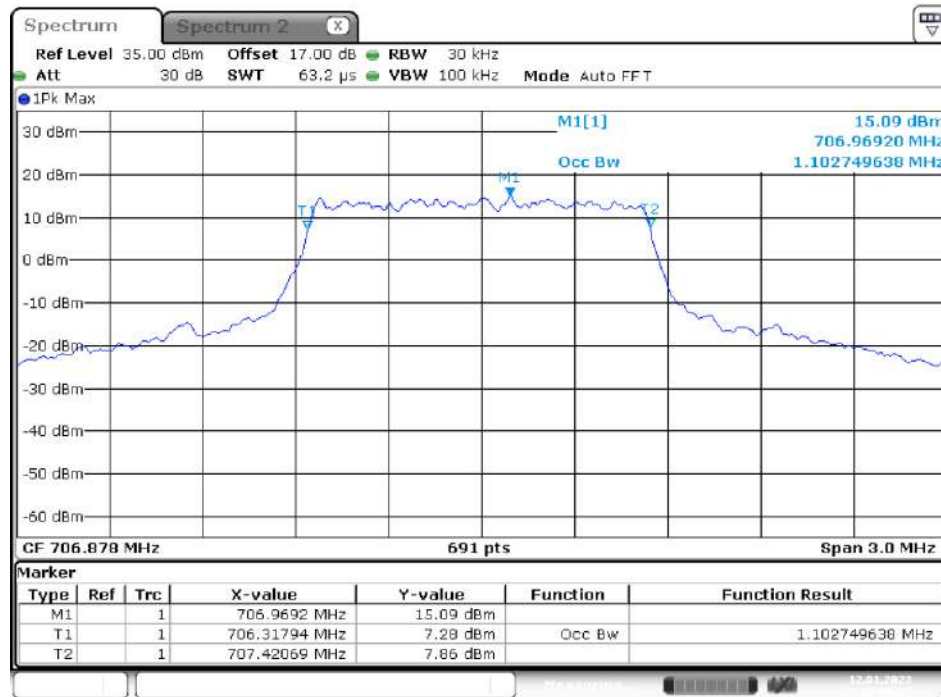
Date: 11.JAN.2023 15:19:12



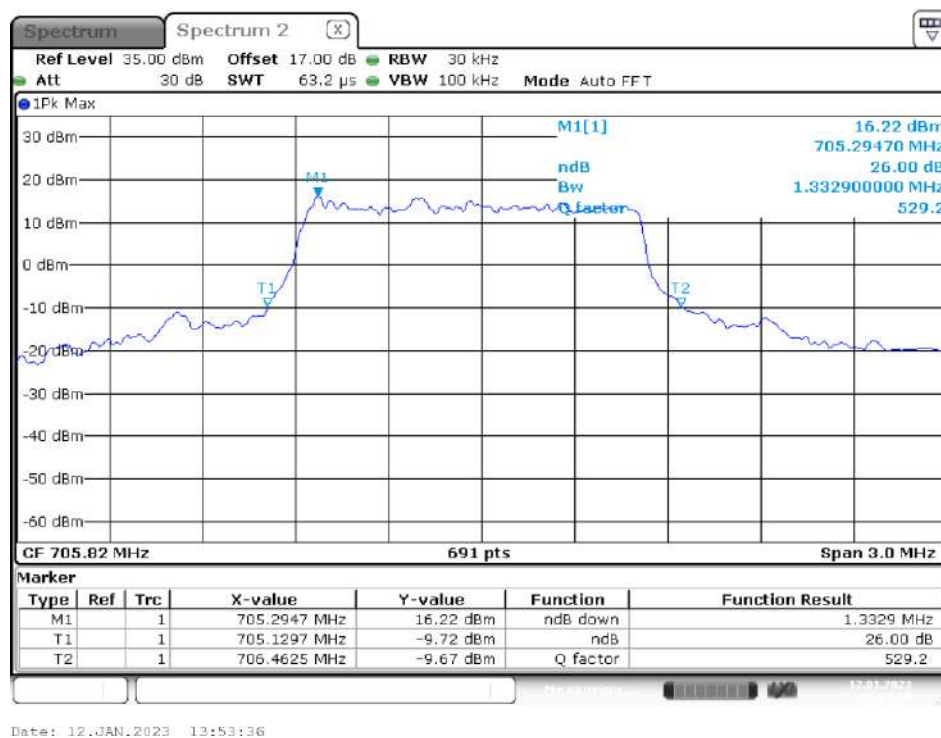
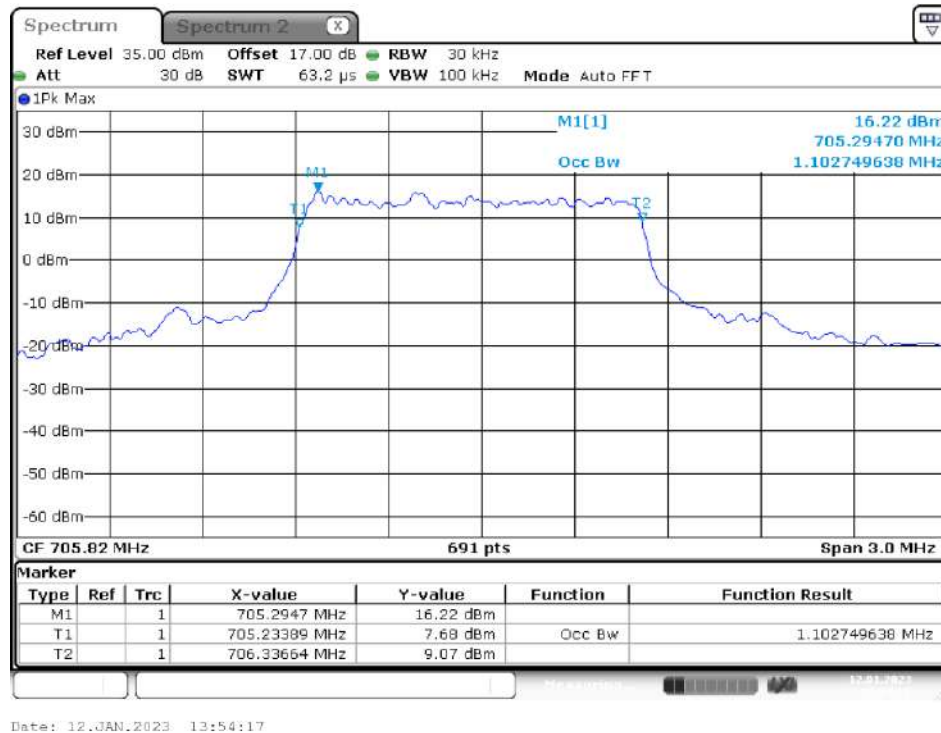
Date: 11.JAN.2023 15:18:42

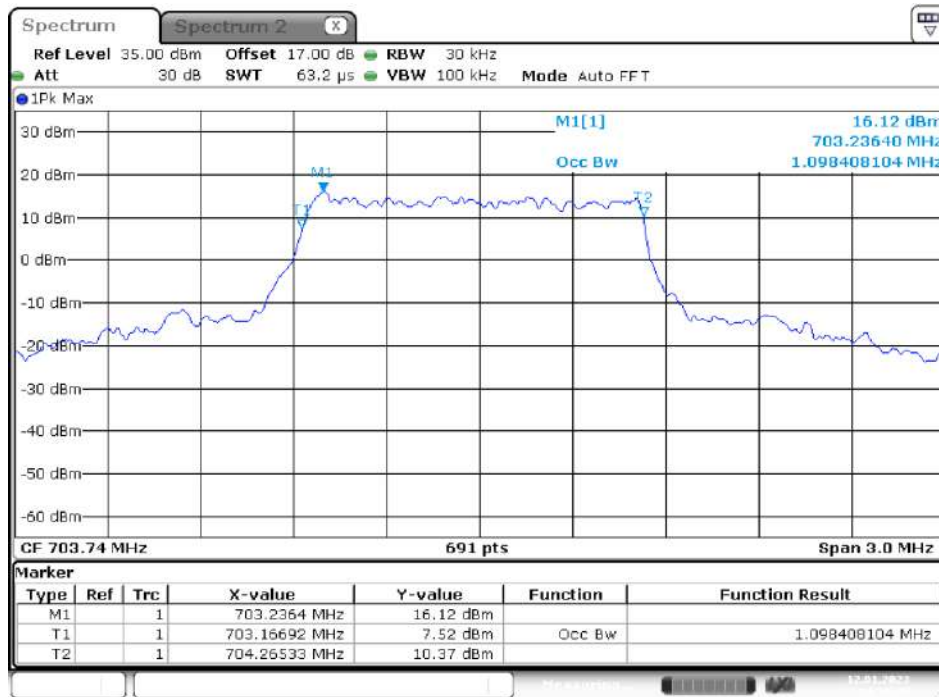


## QPSK (3.0 MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, Middle channel

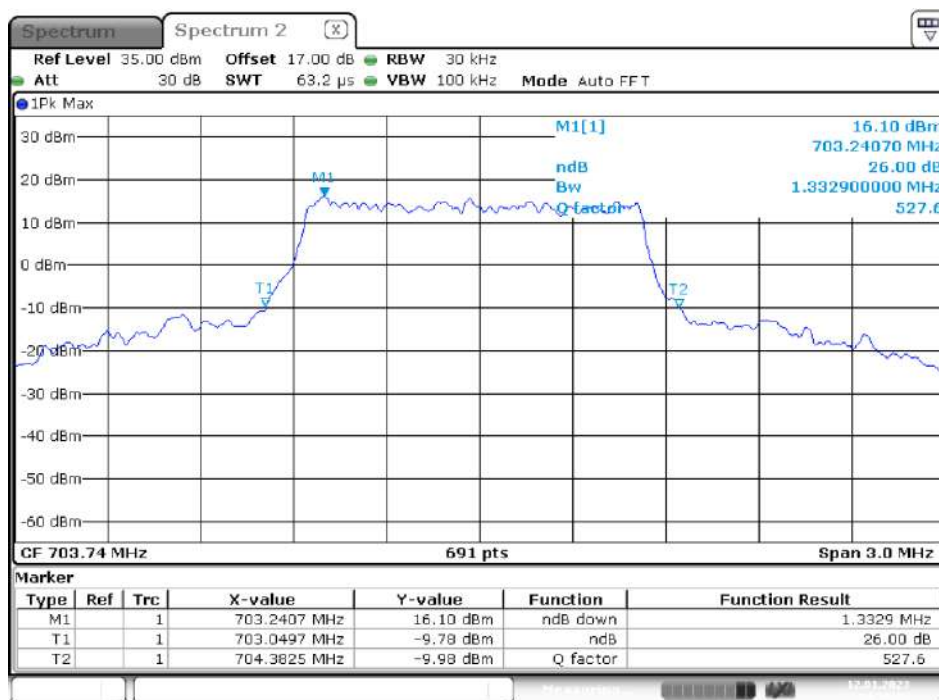


## QPSK (5.0MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, Middle channel

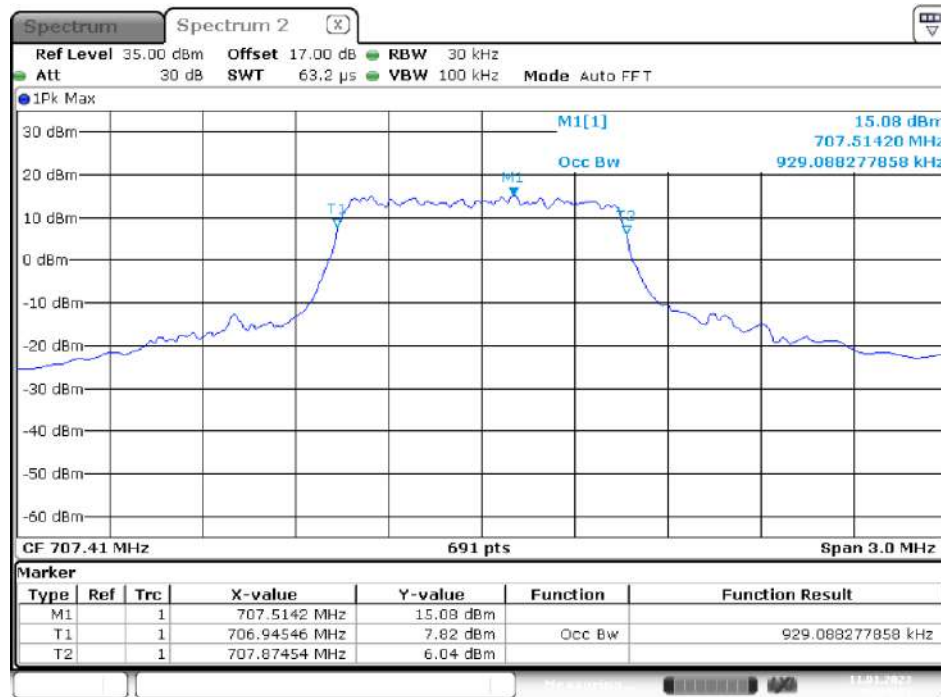


**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

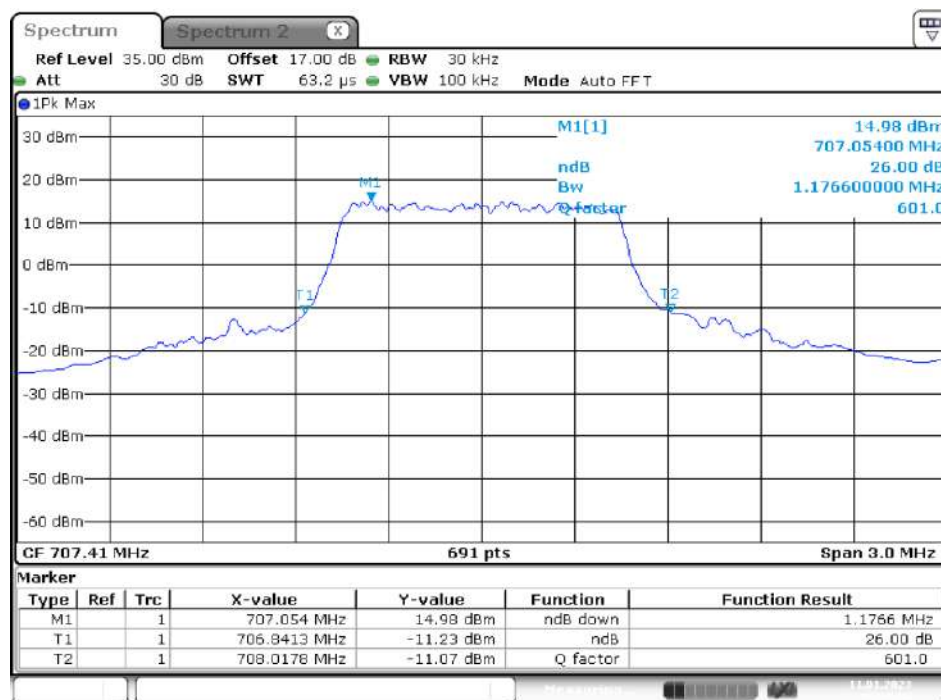
Date: 12.JAN.2023 14:18:44



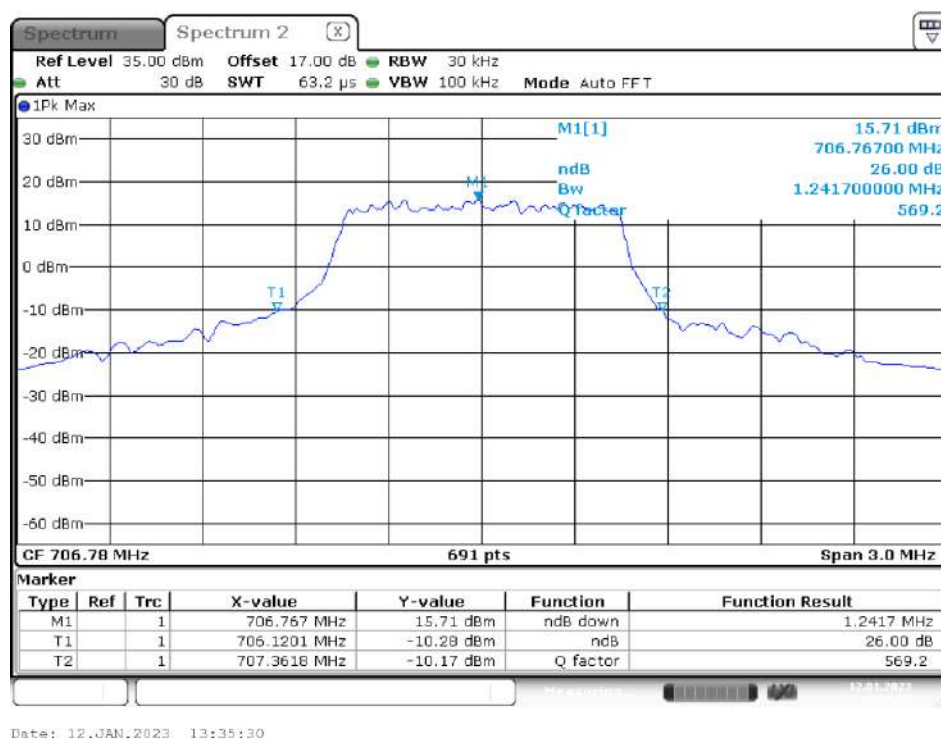
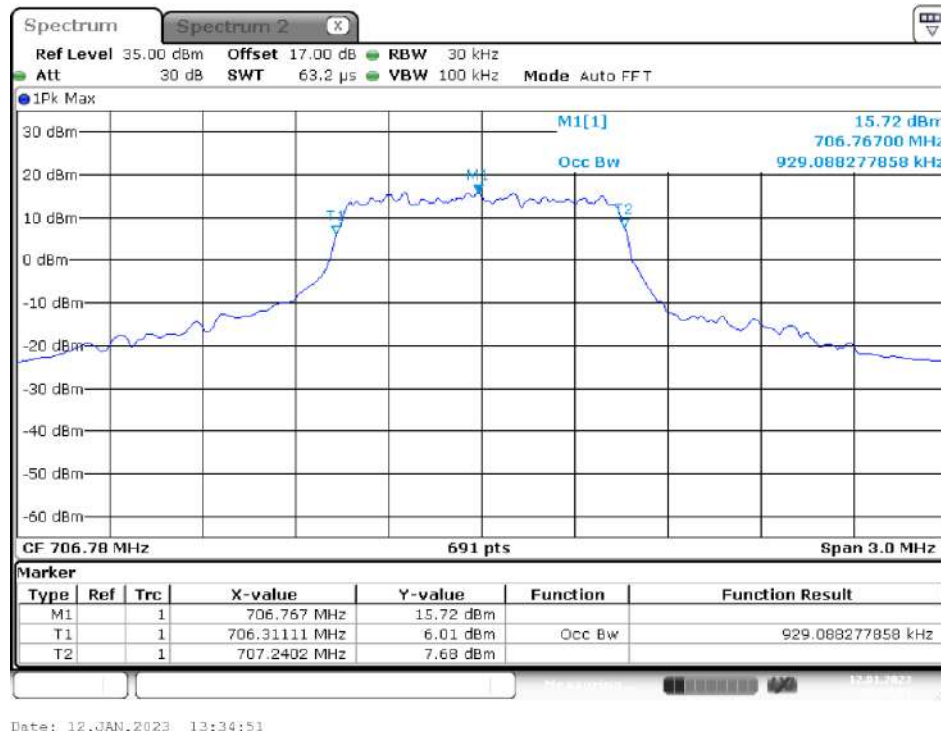
Date: 12.JAN.2023 14:18:14

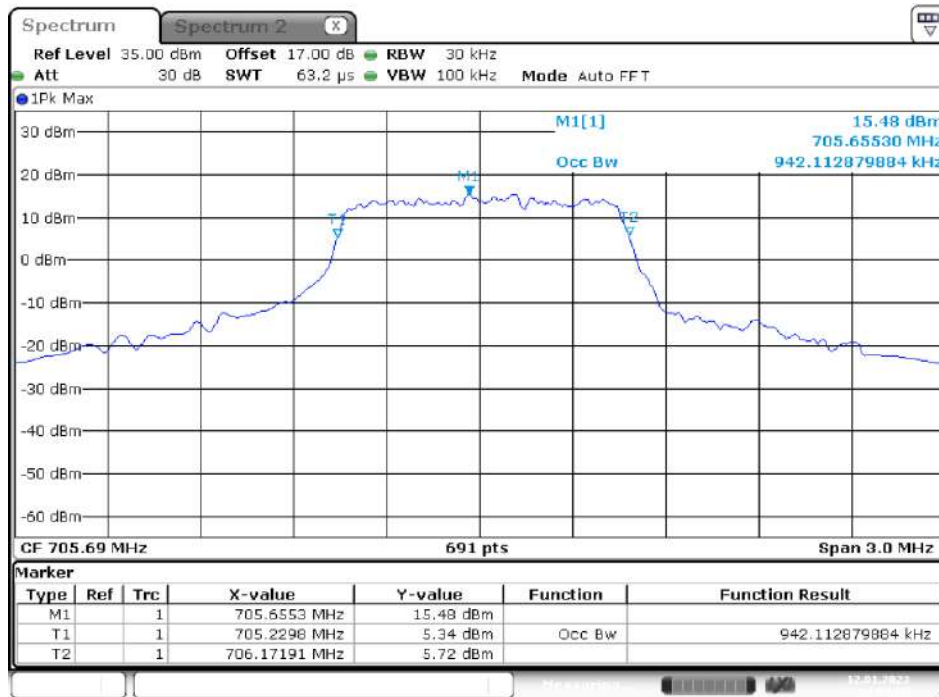
**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

Date: 11.JAN.2023 16:19:11

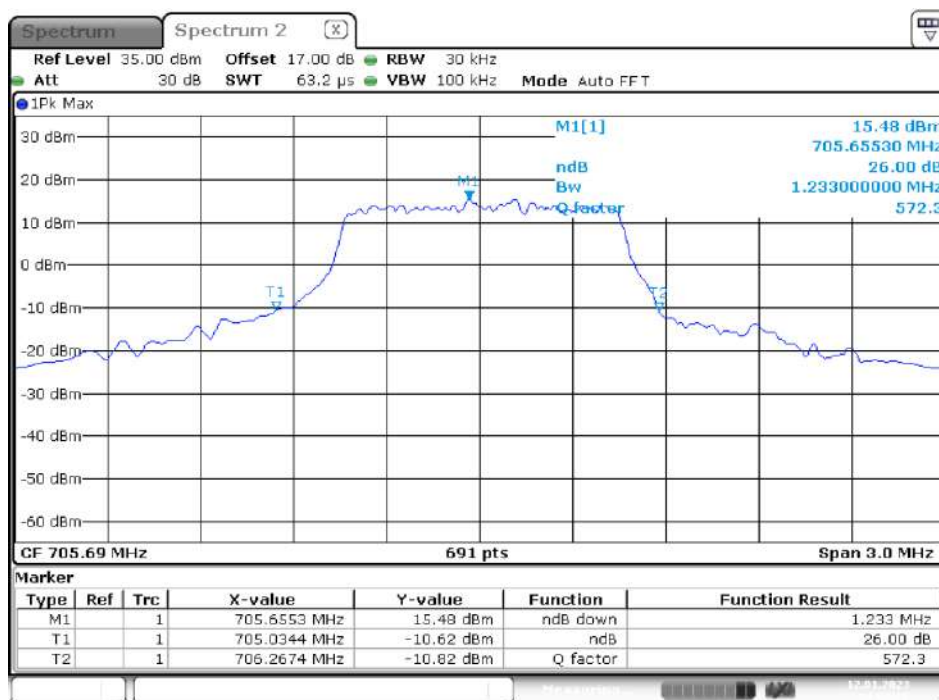


Date: 11.JAN.2023 16:18:54

**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

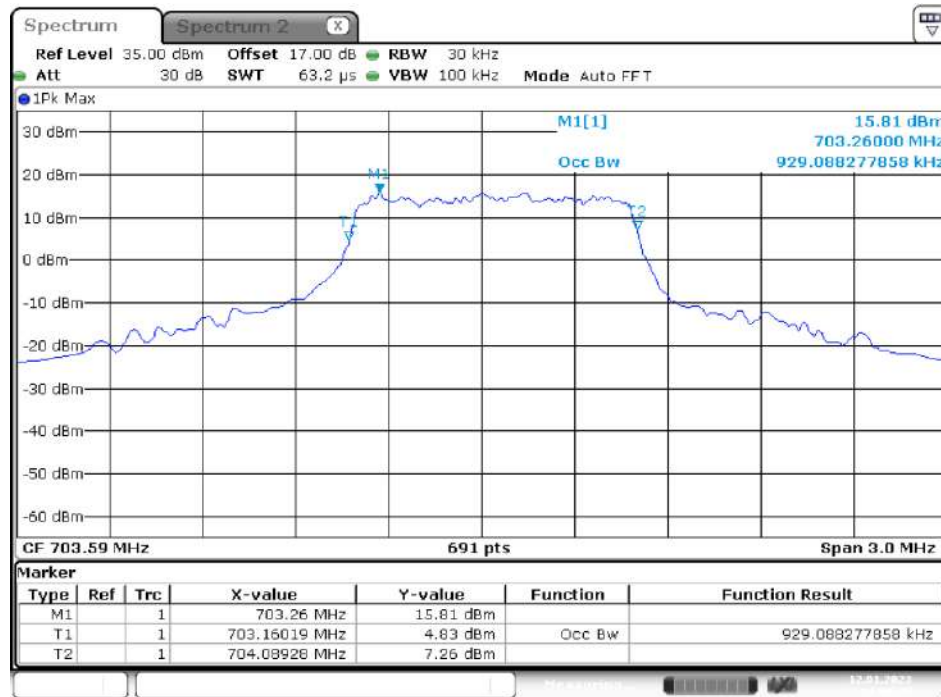
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

Date: 12.JAN.2023 14:03:03

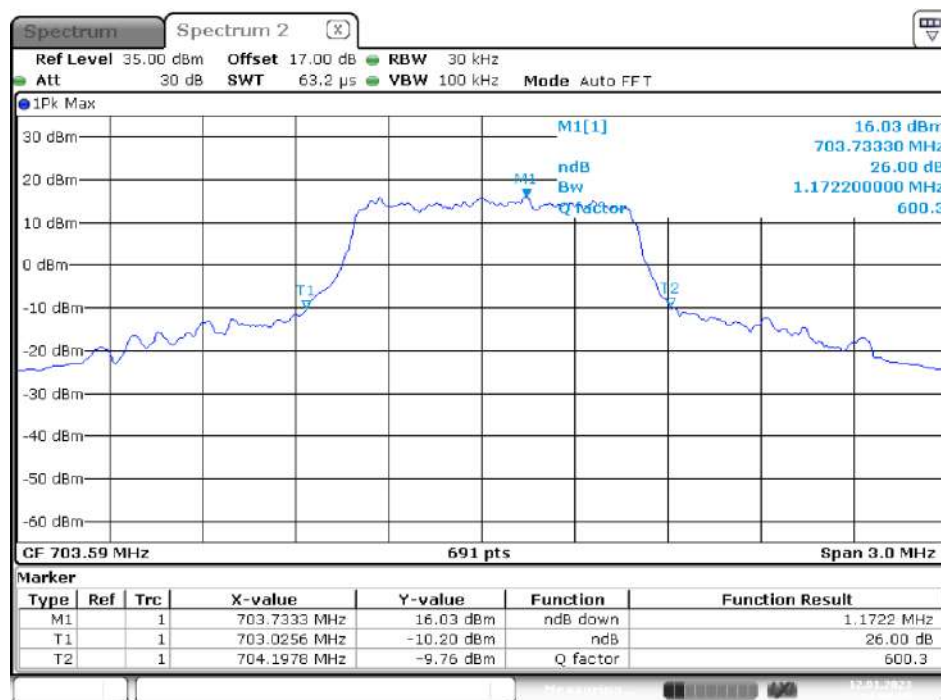


Date: 12.JAN.2023 14:02:17

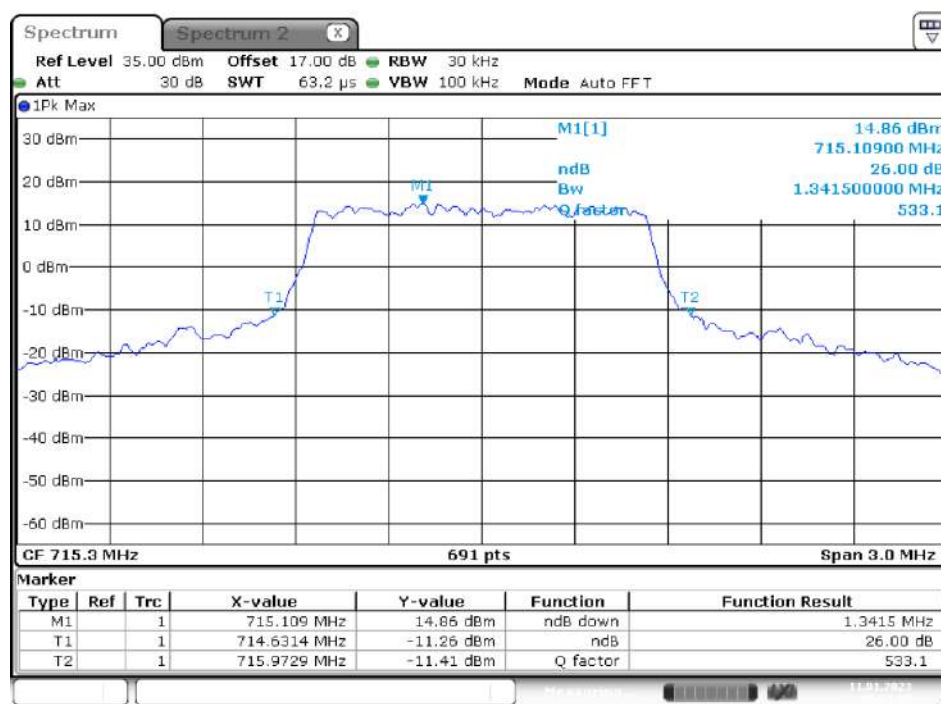
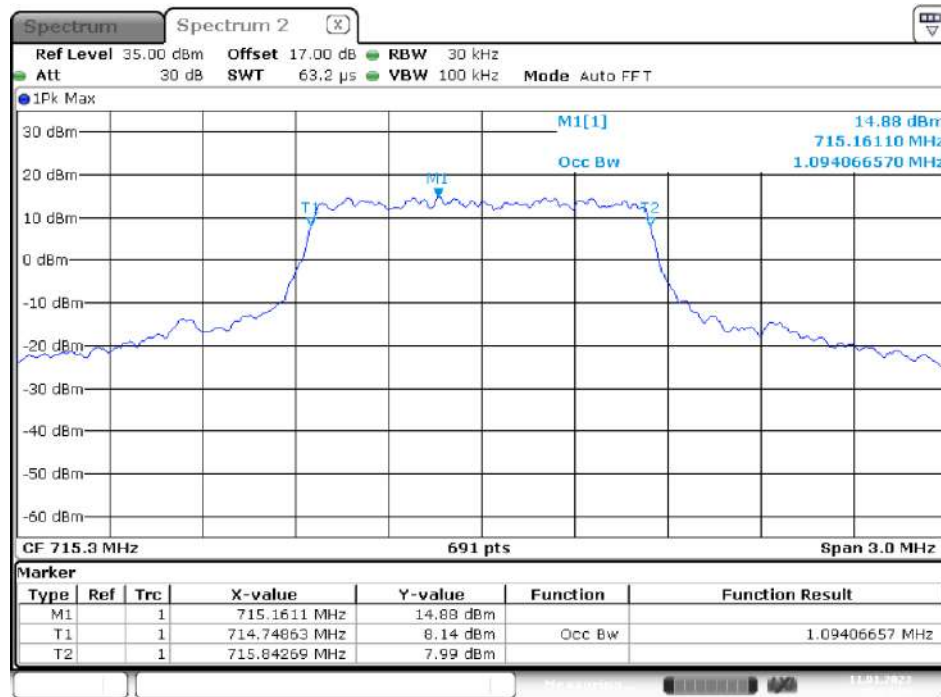


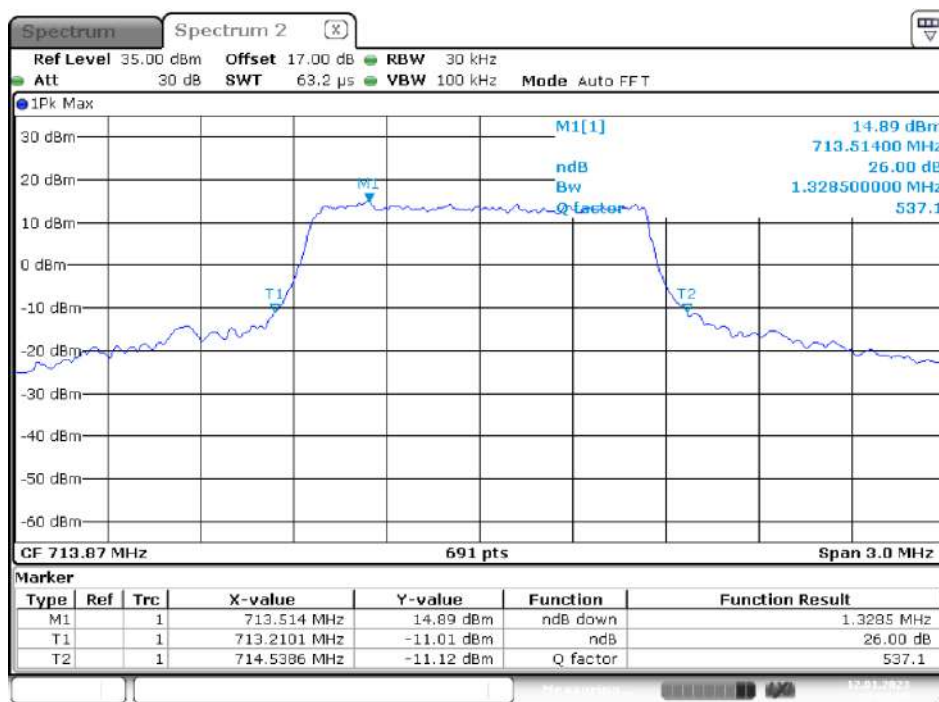
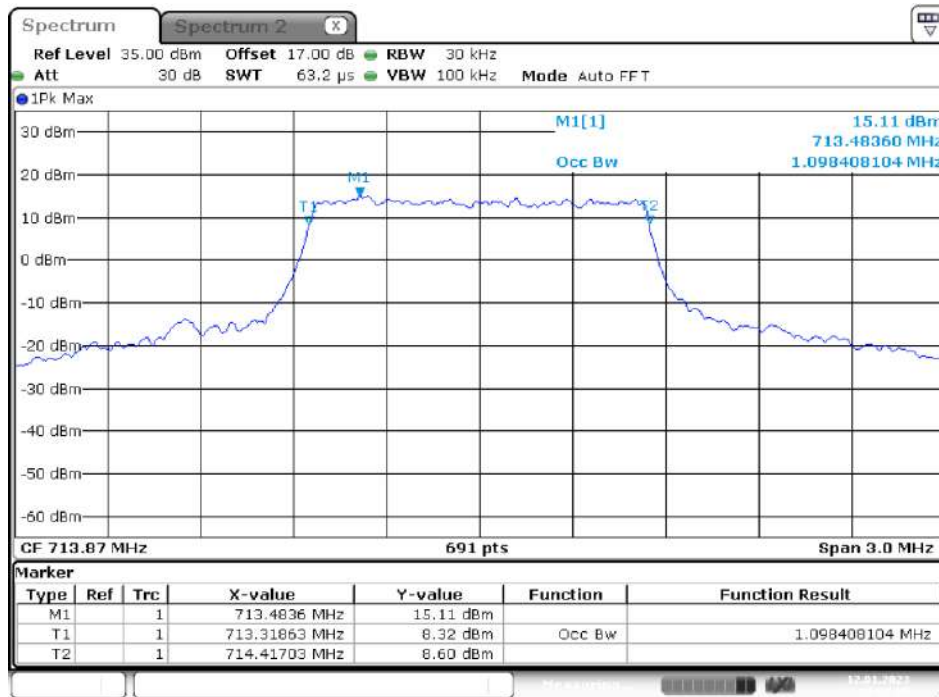
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

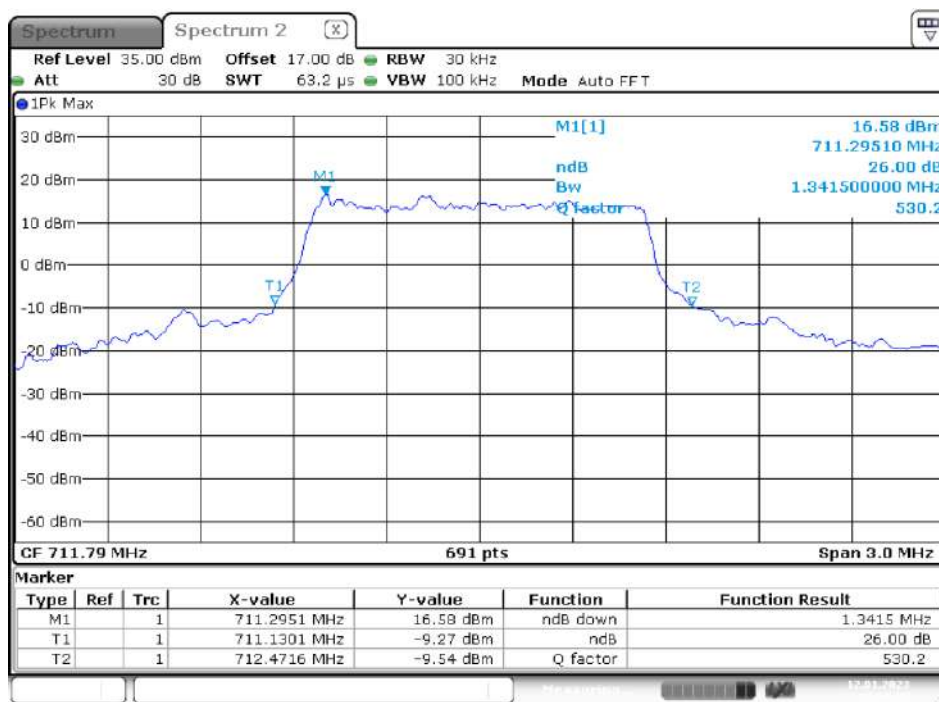
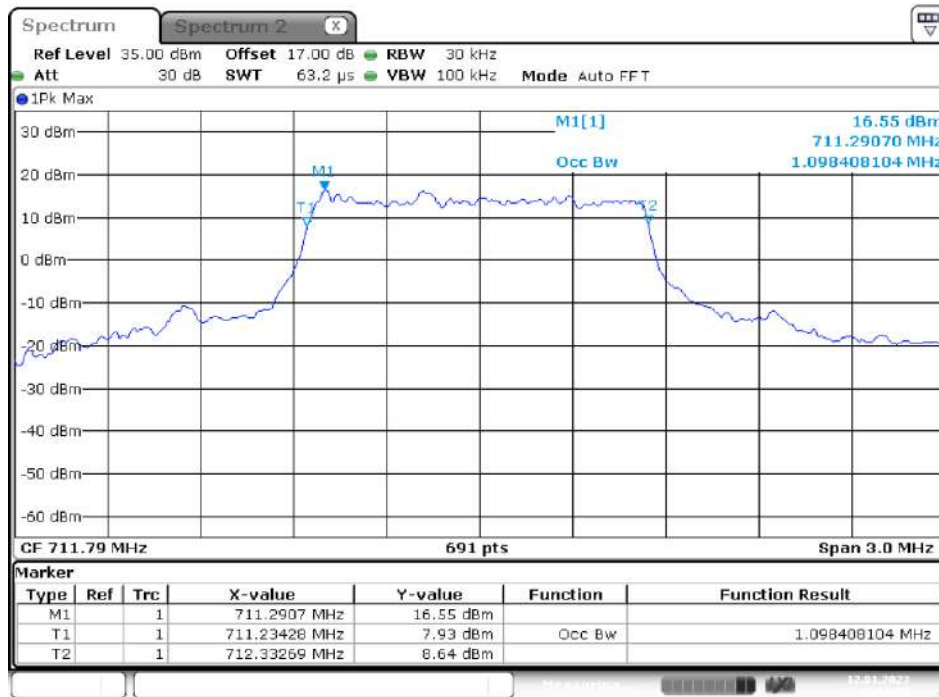
Date: 12.JAN.2023 14:09:44

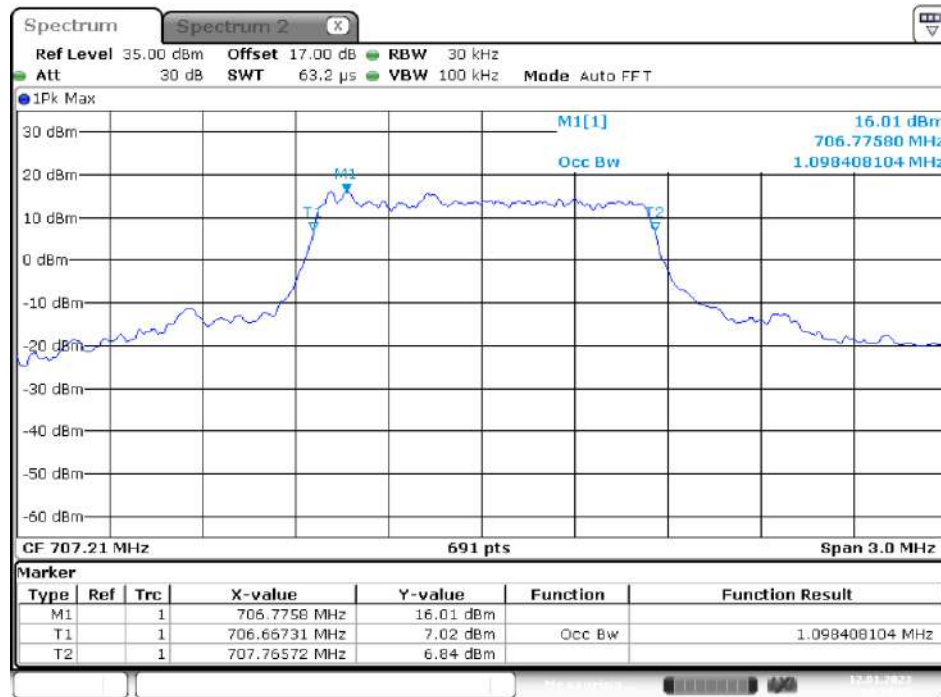


Date: 12.JAN.2023 14:09:09

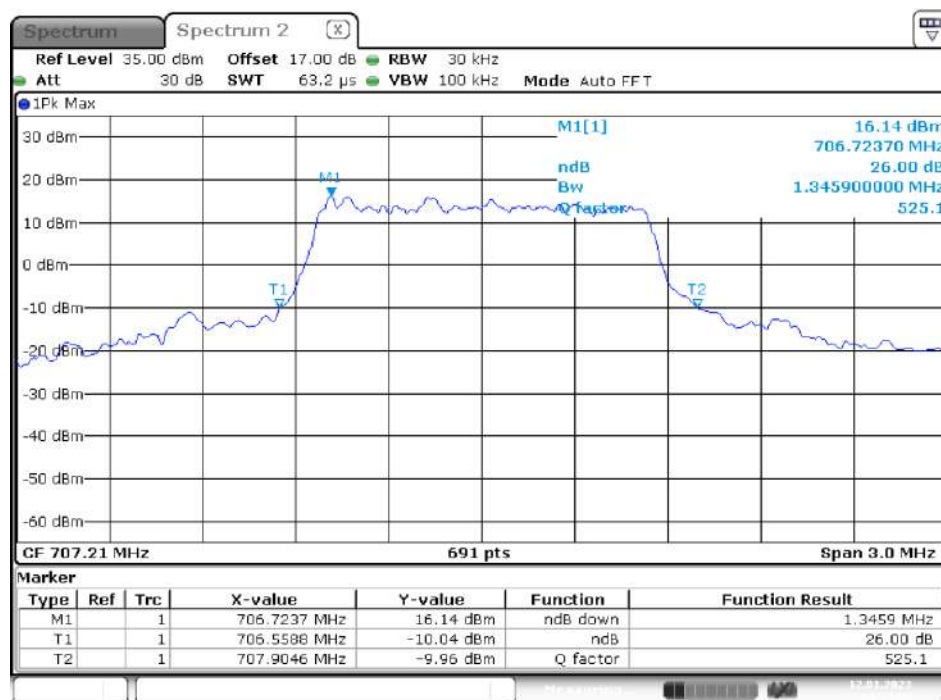
**QPSK (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

**QPSK (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

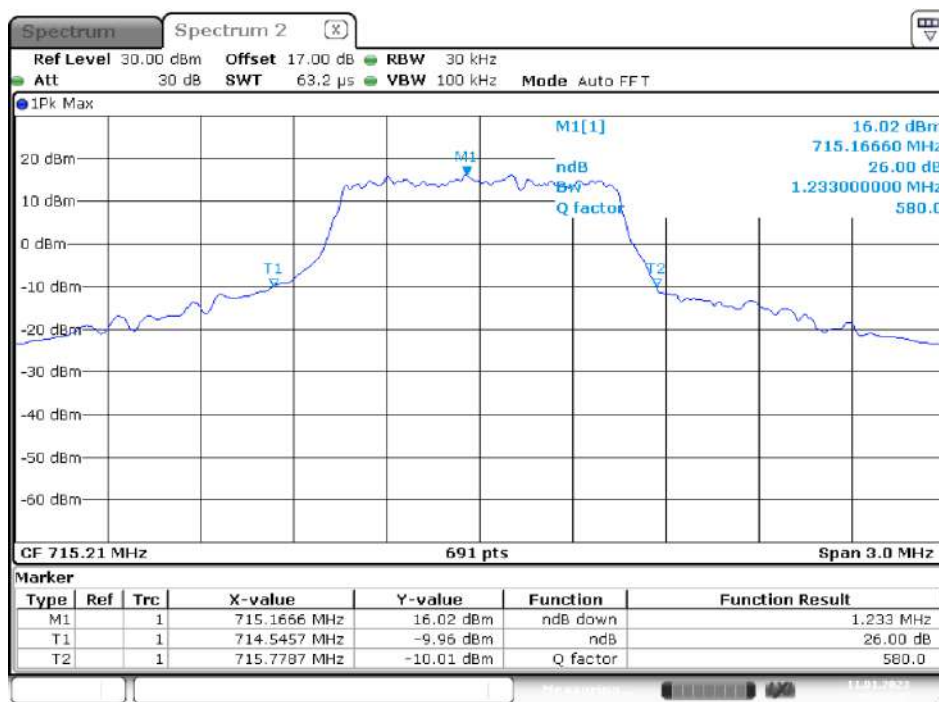
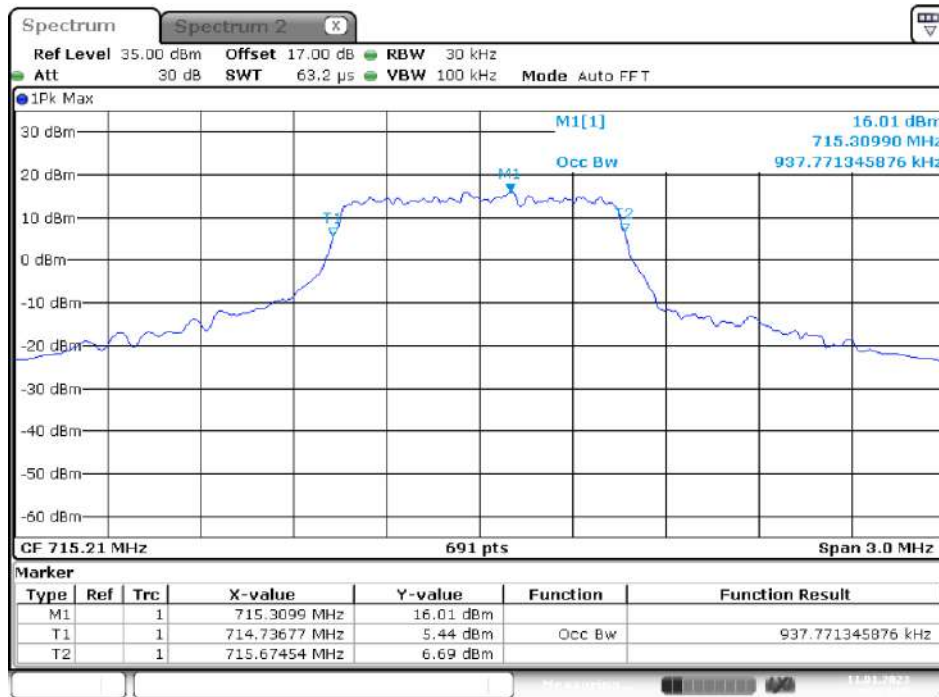
**QPSK (5.0MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

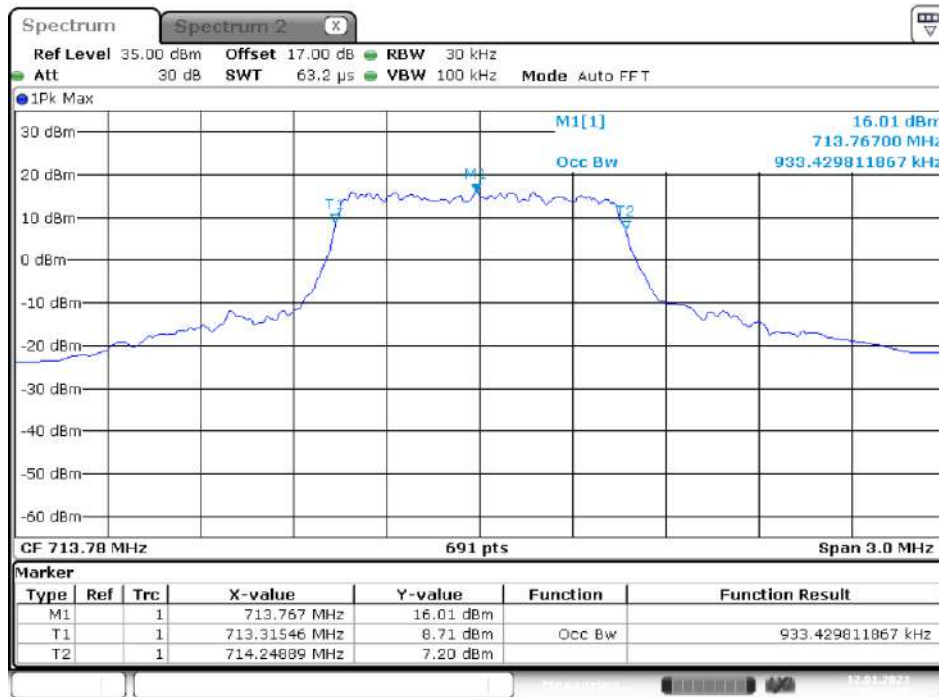
Date: 12.JAN.2023 14:14:13



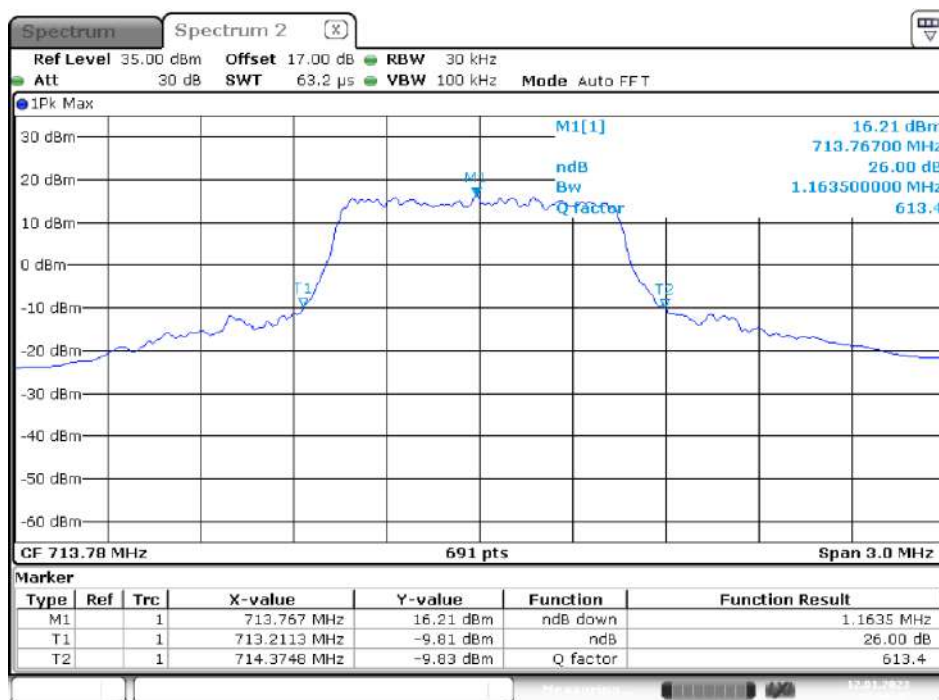
Date: 12.JAN.2023 14:13:35

**16-QAM (1.4 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

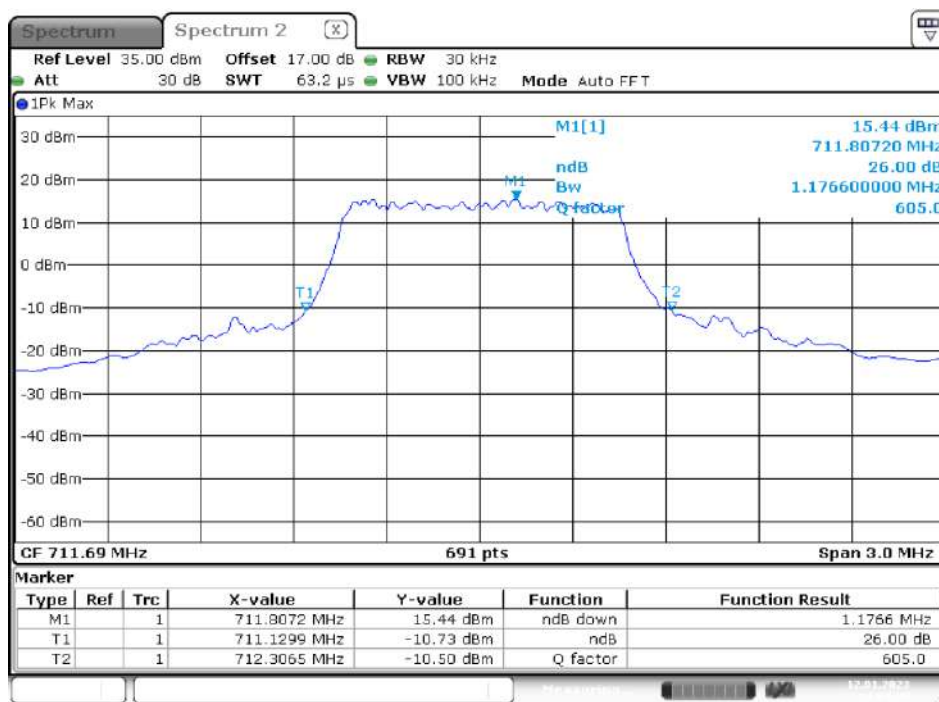
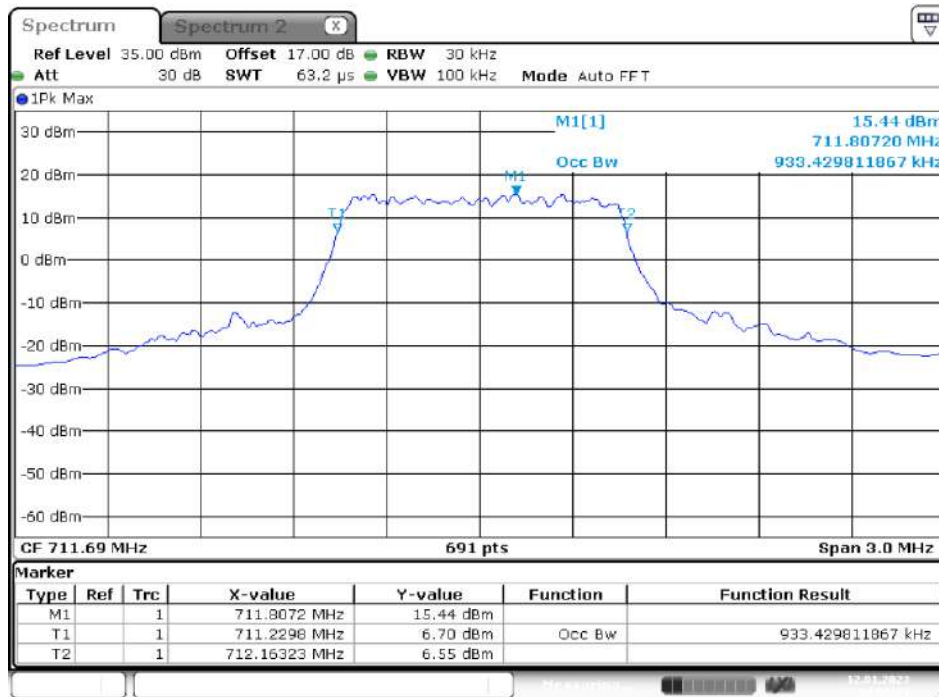


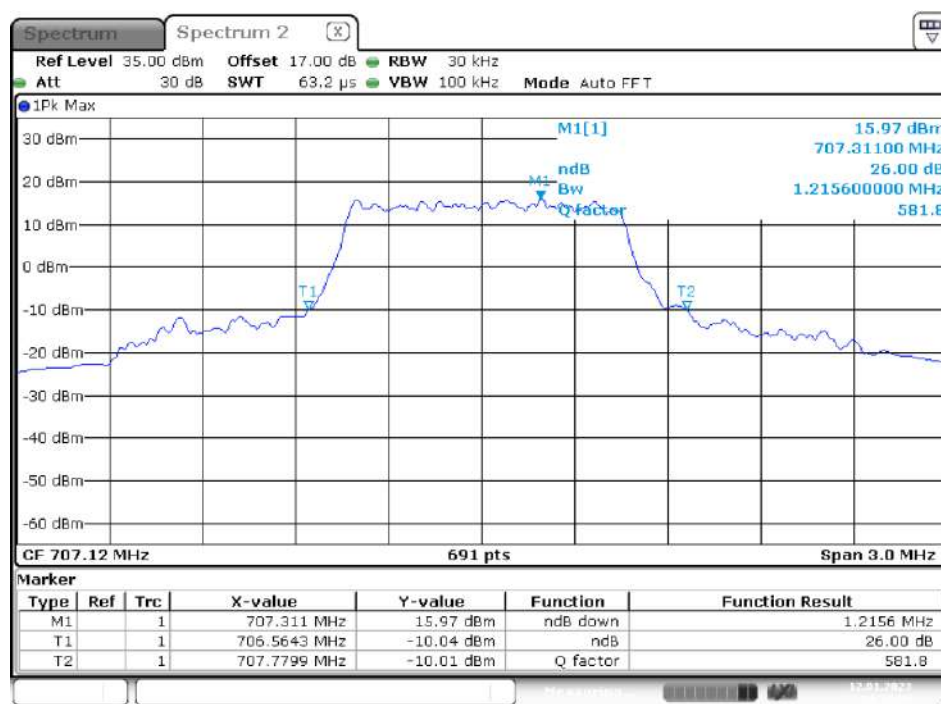
**16-QAM (3.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

Date: 12.JAN.2023 13:37:15



Date: 12.JAN.2023 13:36:47

**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

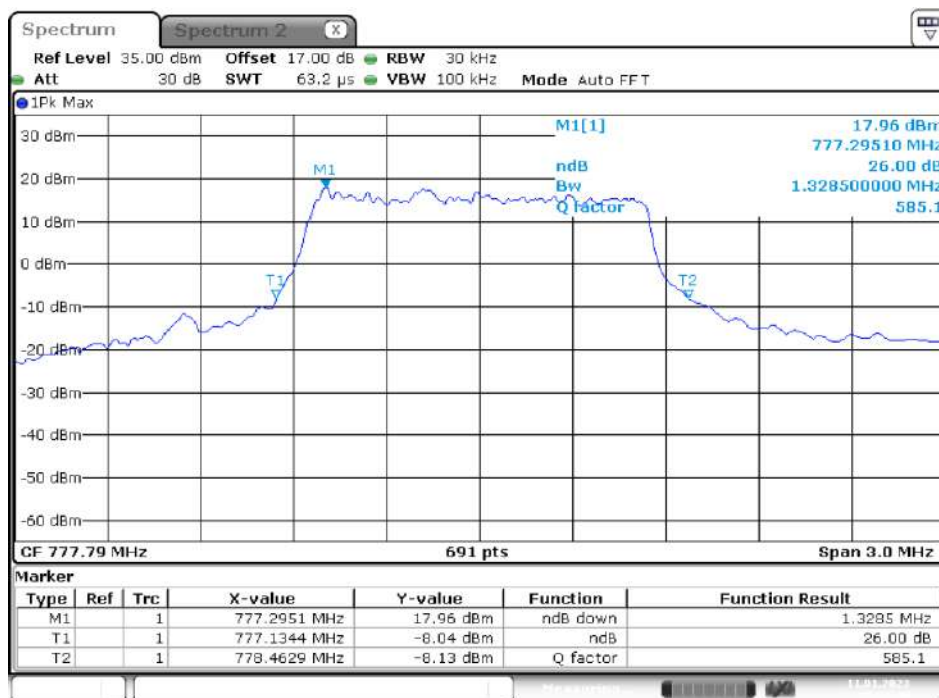
**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

## LTE Band 13

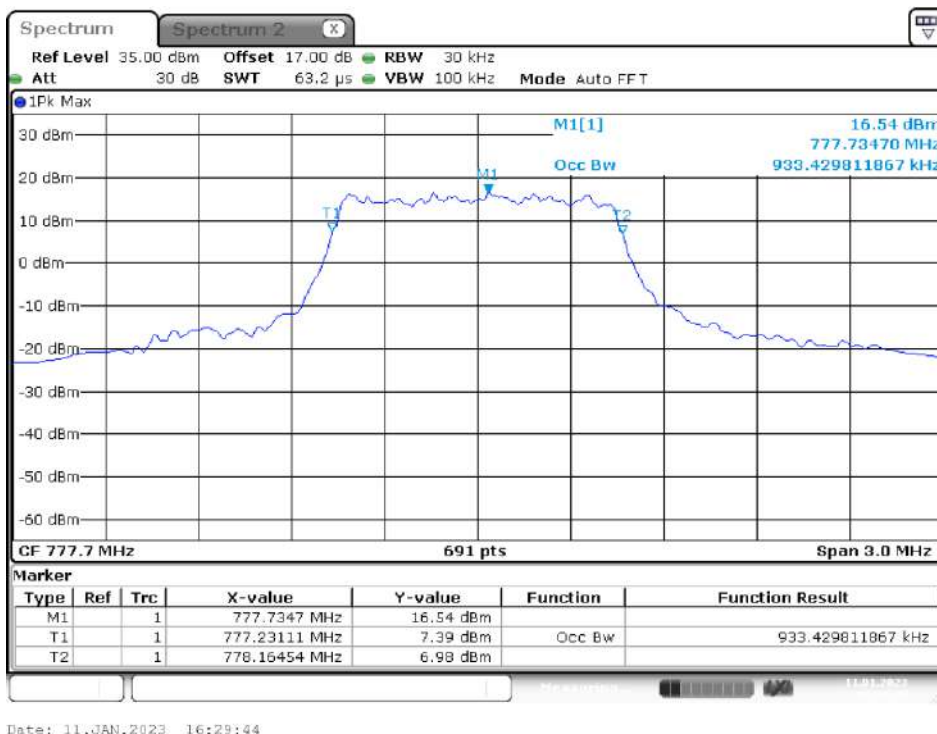
## QPSK (5.0 MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, Low channel



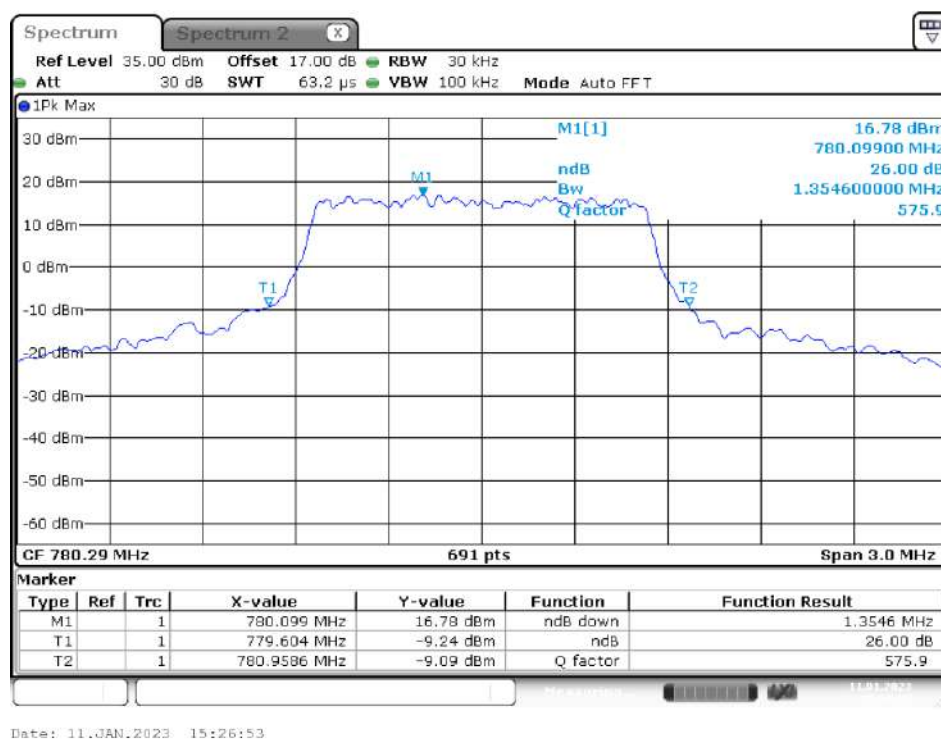
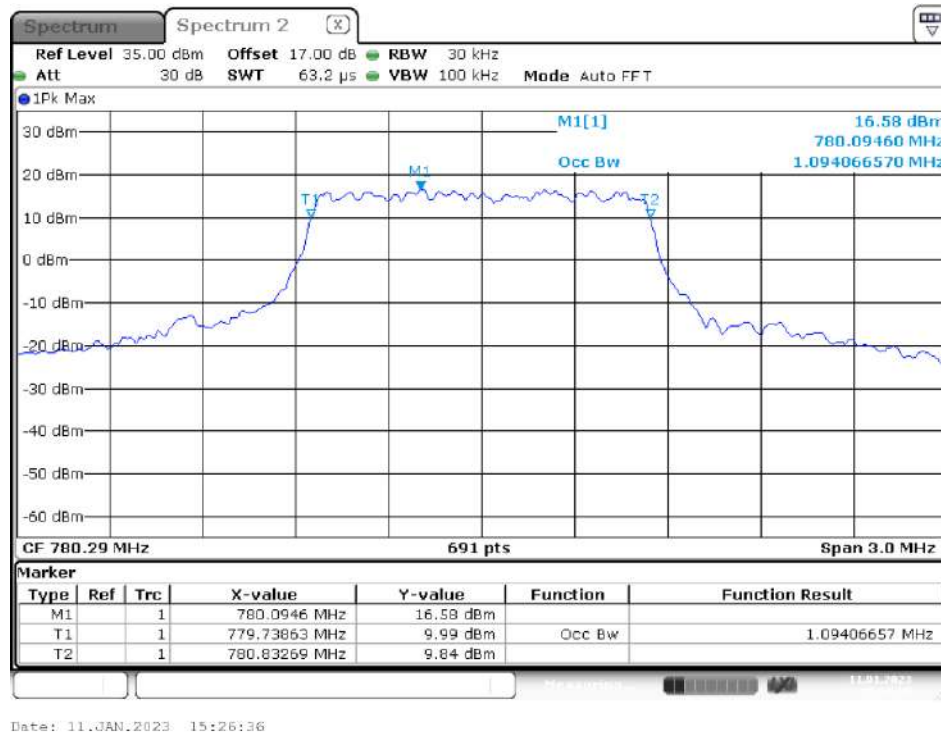
Date: 11.JAN.2023 15:32:20



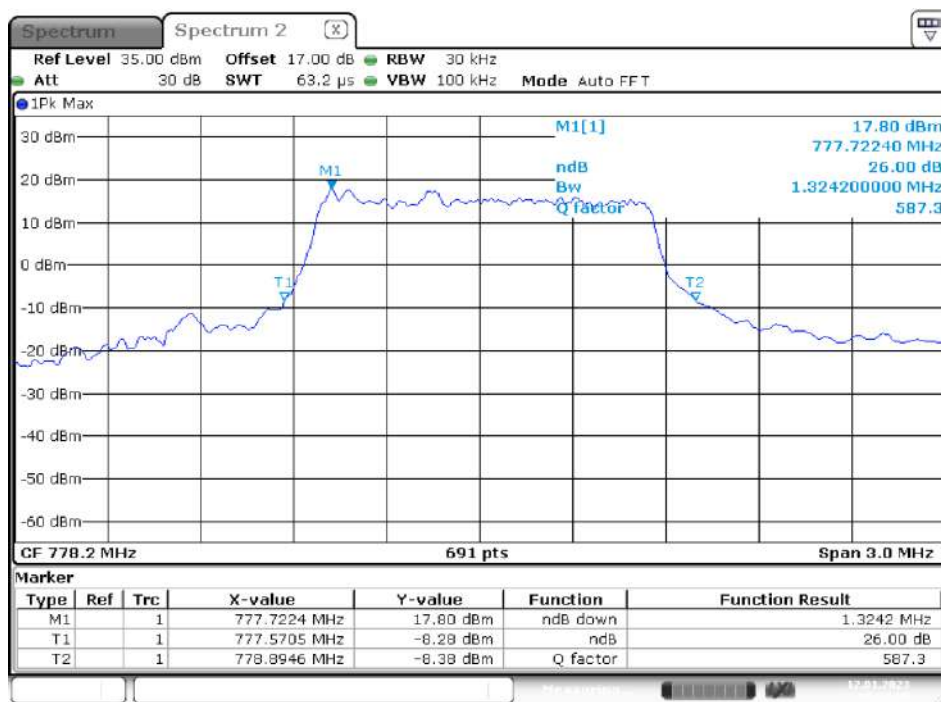
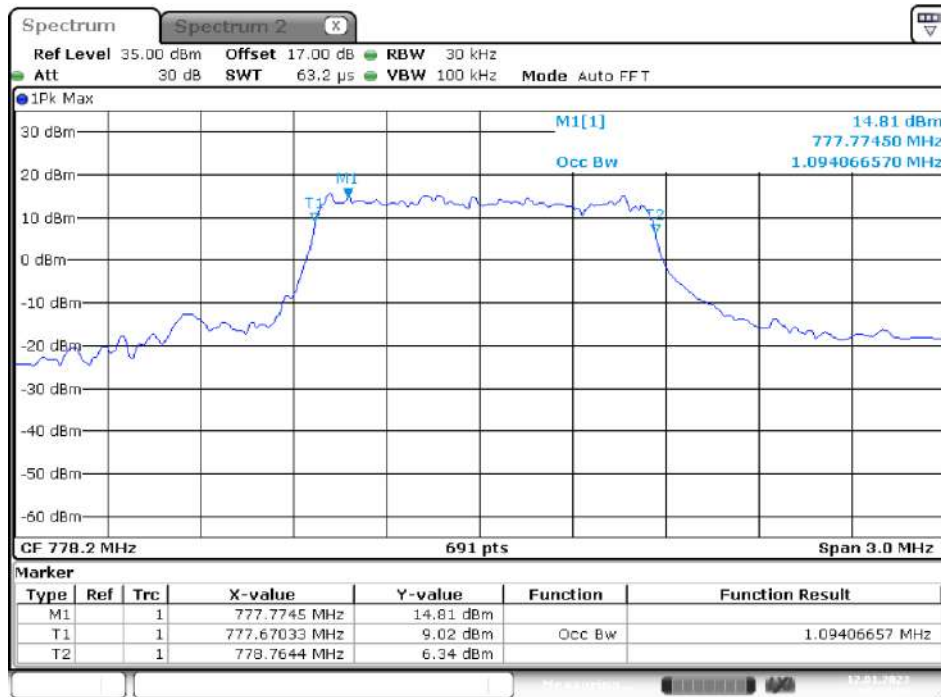
Date: 11.JAN.2023 15:31:40

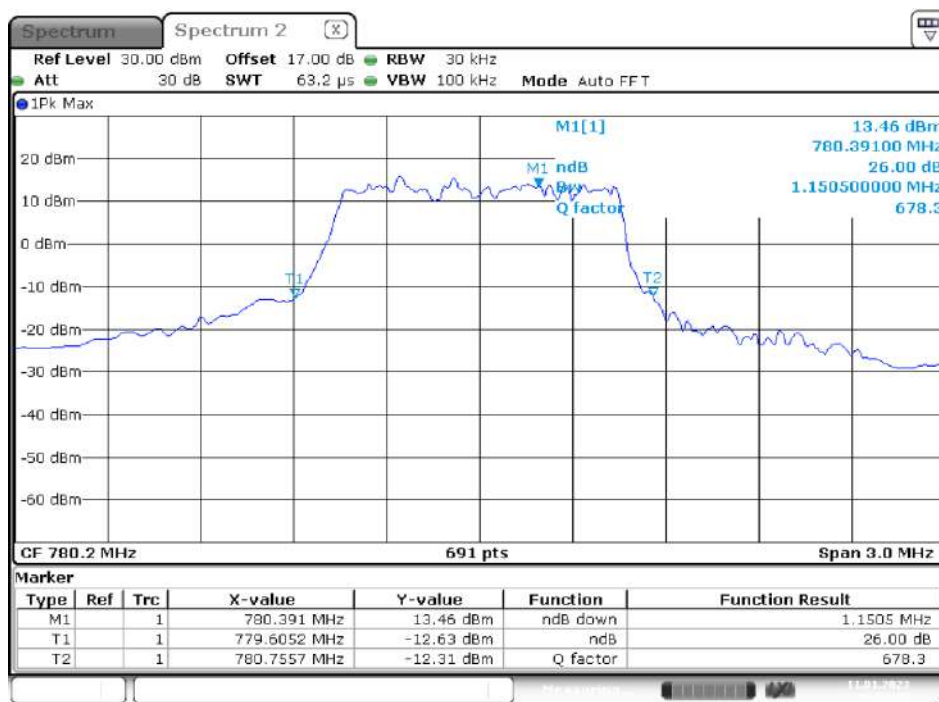
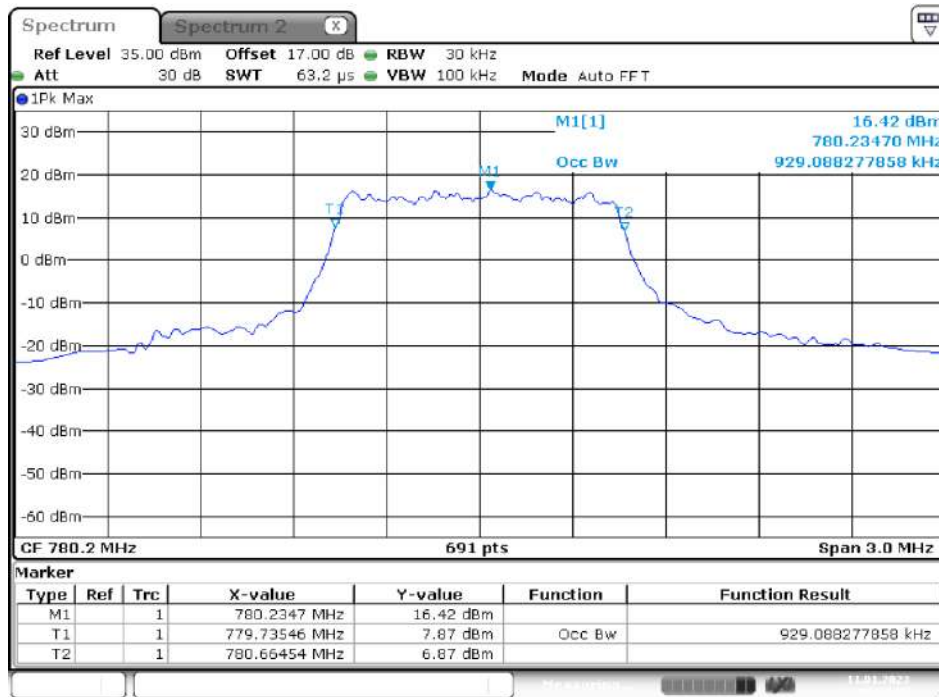
**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Low channel**

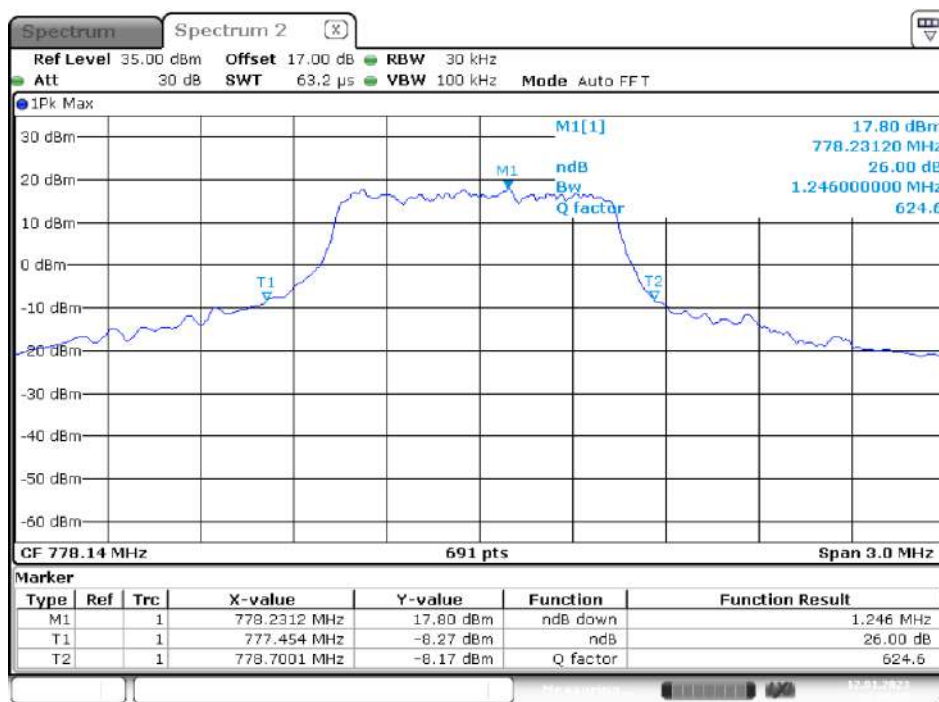
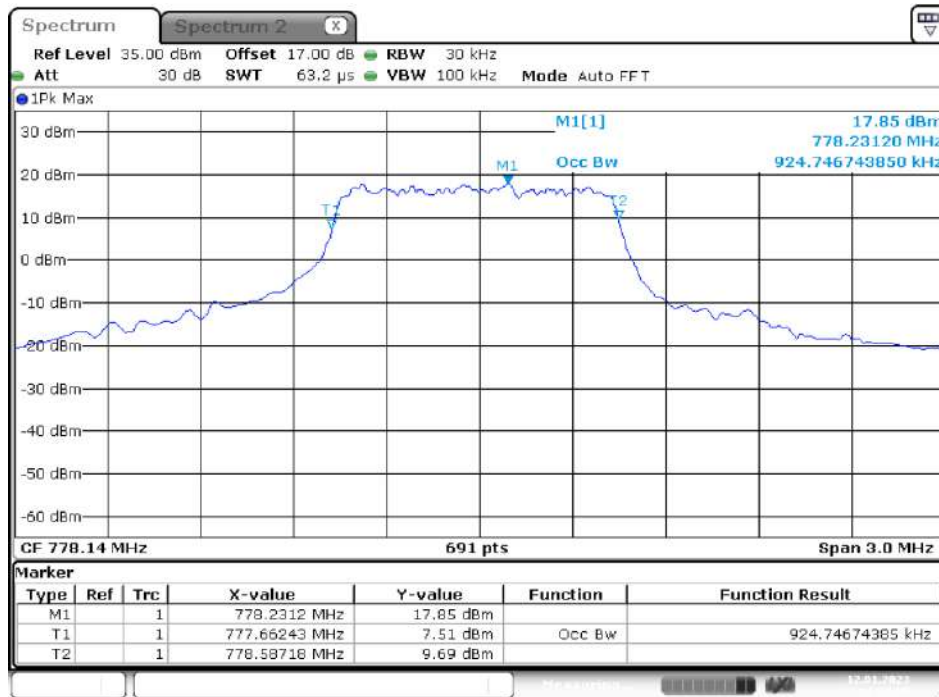
## QPSK (5.0MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, Middle channel



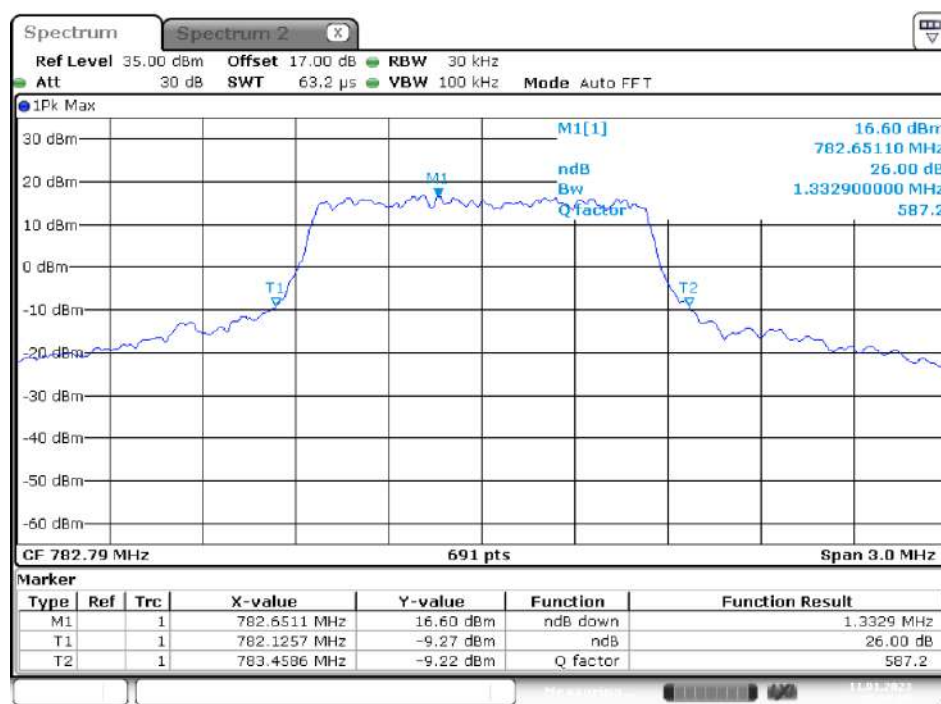
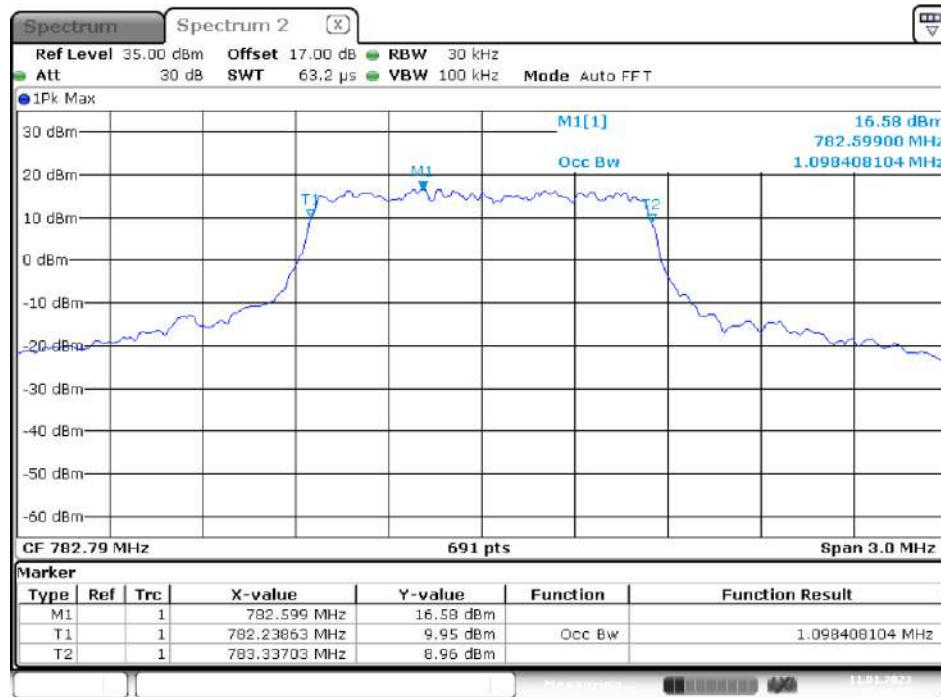


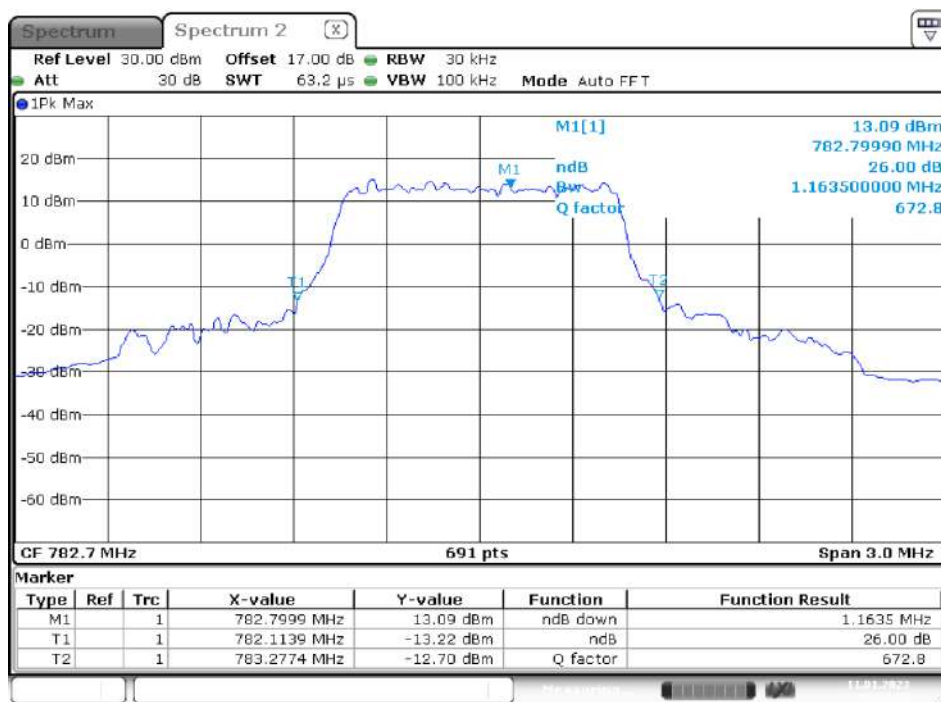
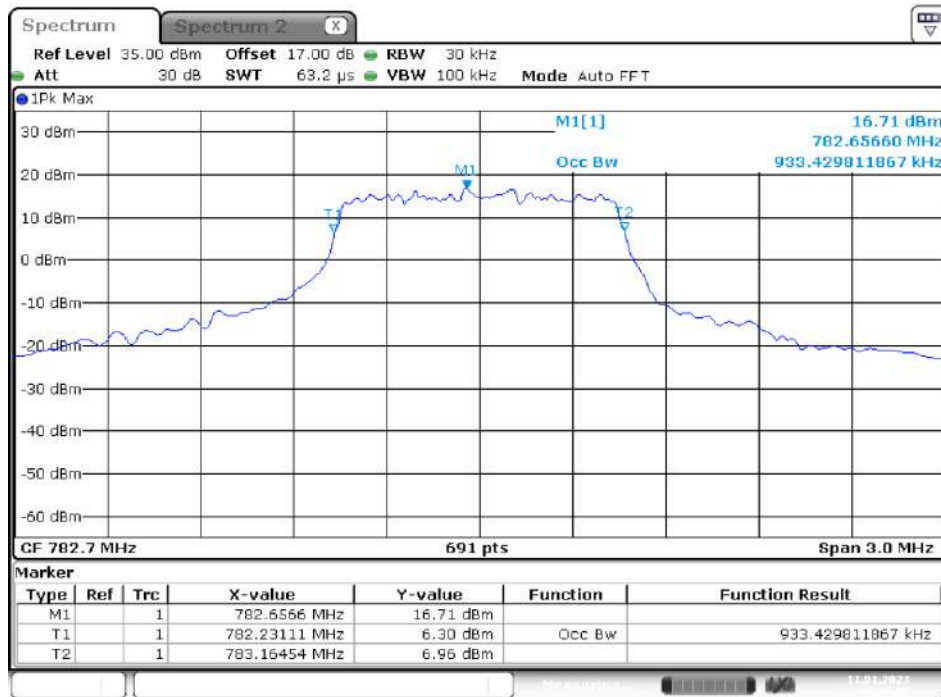
**QPSK (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

**16-QAM (10.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, Middle channel**

## QPSK (5.0MHz) - 99% Occupied &amp; 26 dB Emissions Bandwidth, High channel



**16-QAM (5.0 MHz) - 99% Occupied & 26 dB Emissions Bandwidth, High channel**

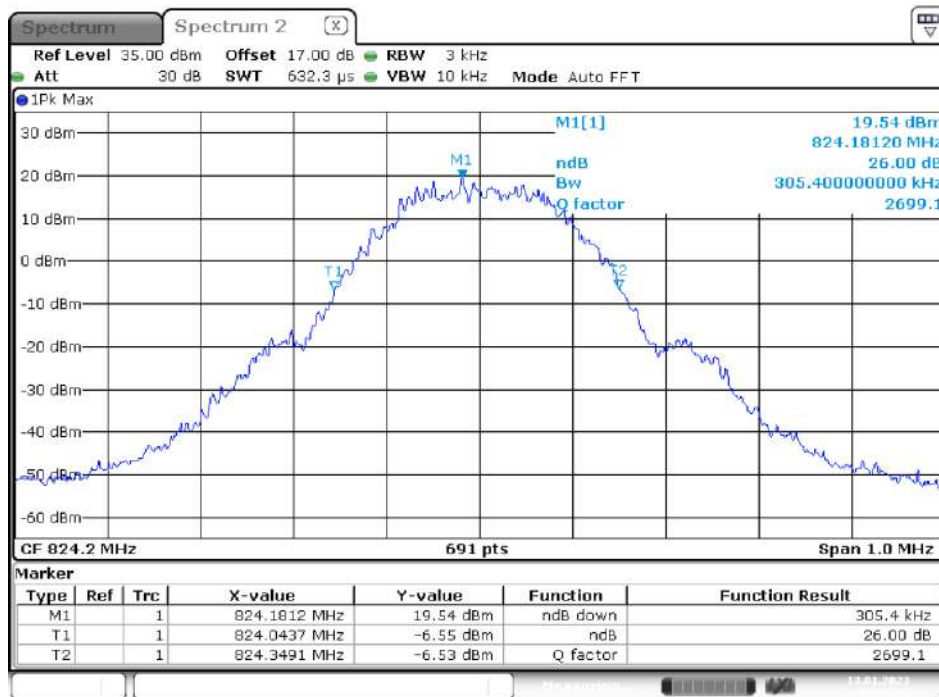
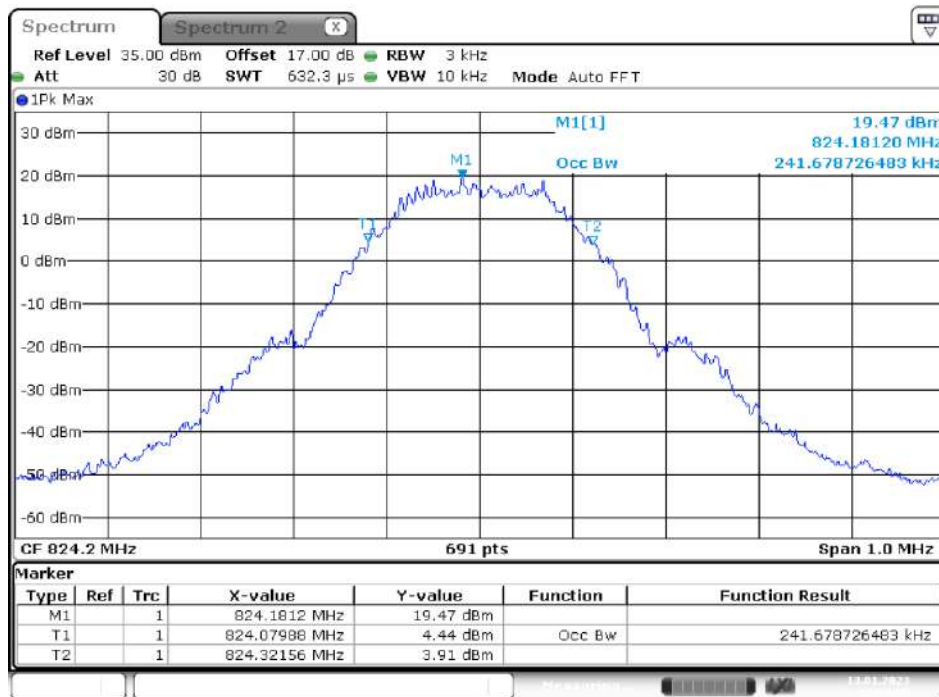
**Cellular Band**

Mode	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
GPRS	824.2	0.241	0.305
	836.6	0.243	0.315
	848.8	0.241	0.315

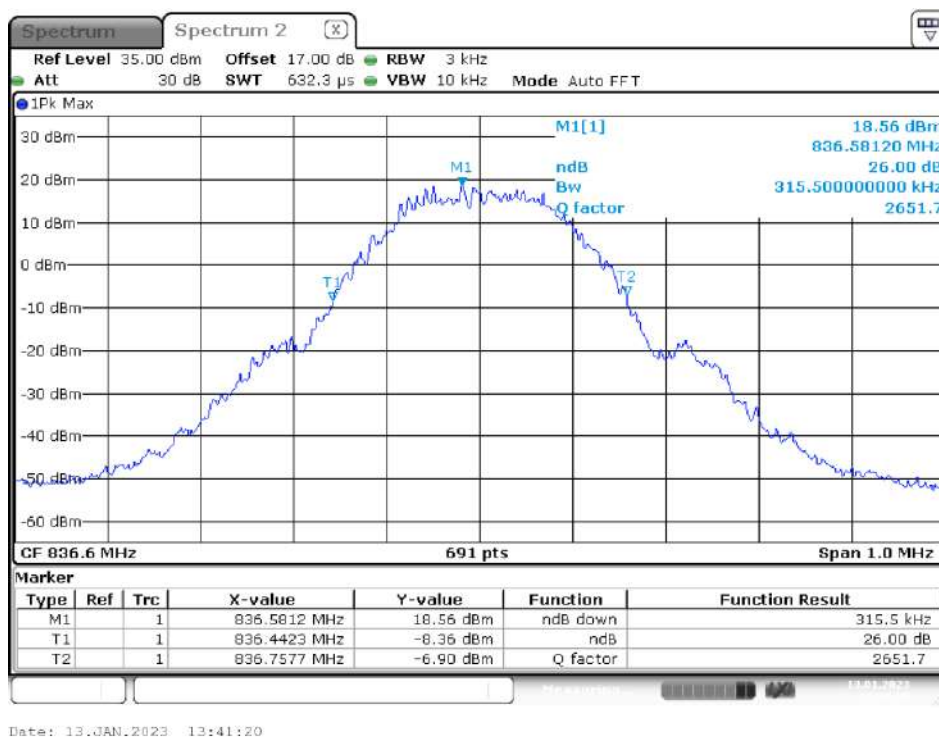
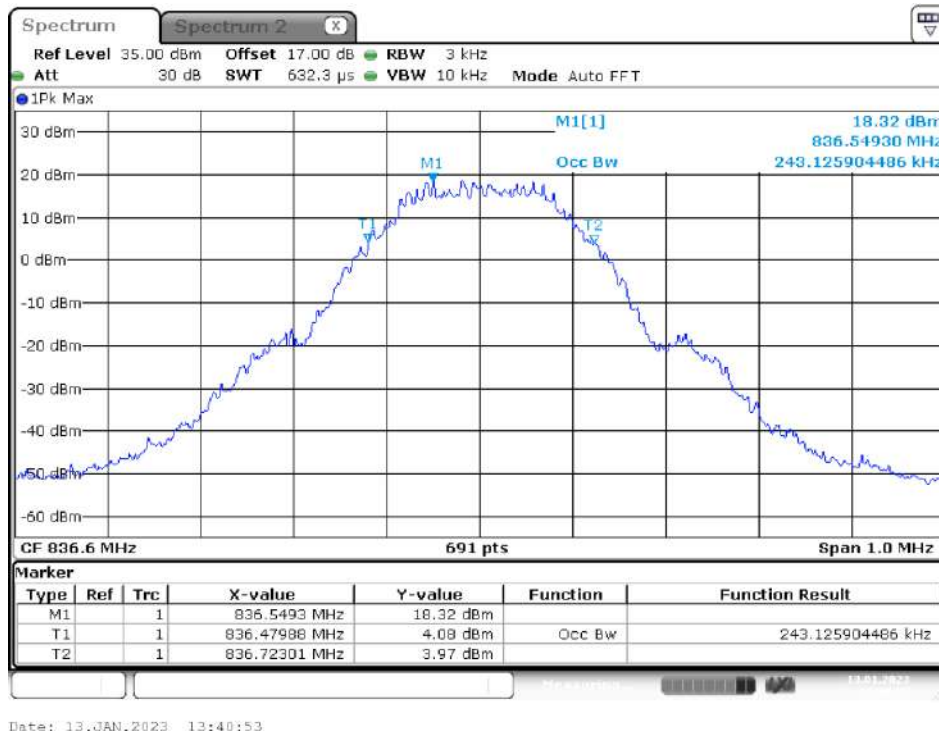
**PCS Band**

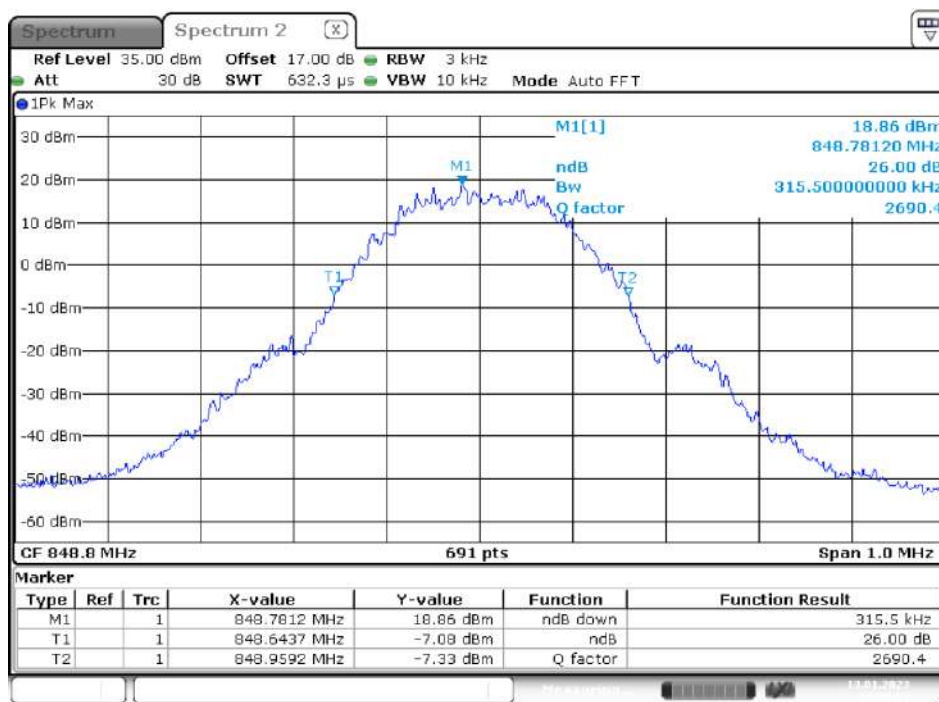
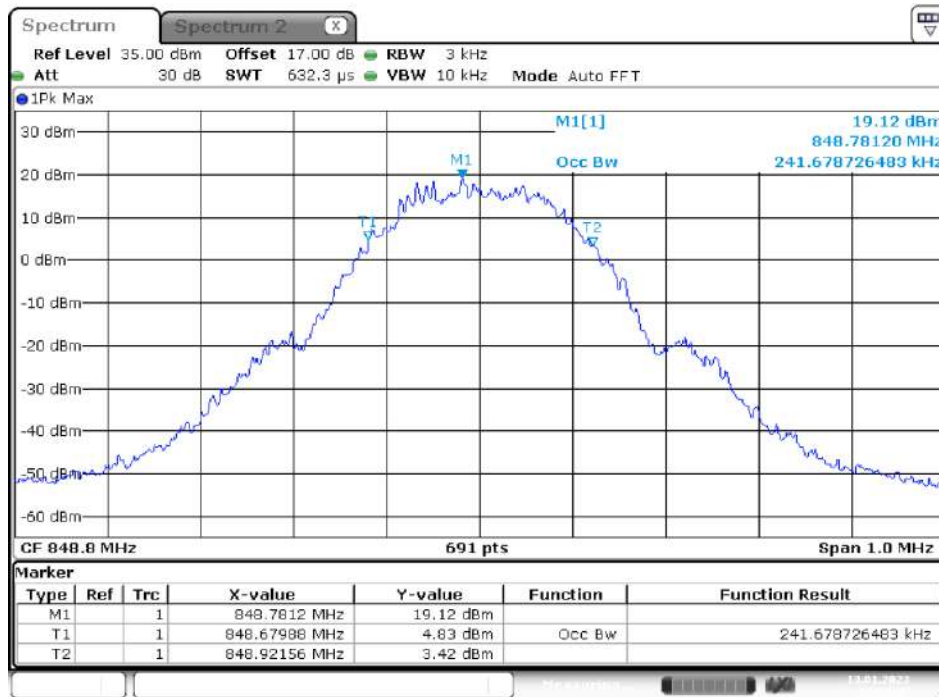
Mode	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
GPRS	1850.2	0.240	0.312
	1880.0	0.241	0.314
	1909.8	0.240	0.312

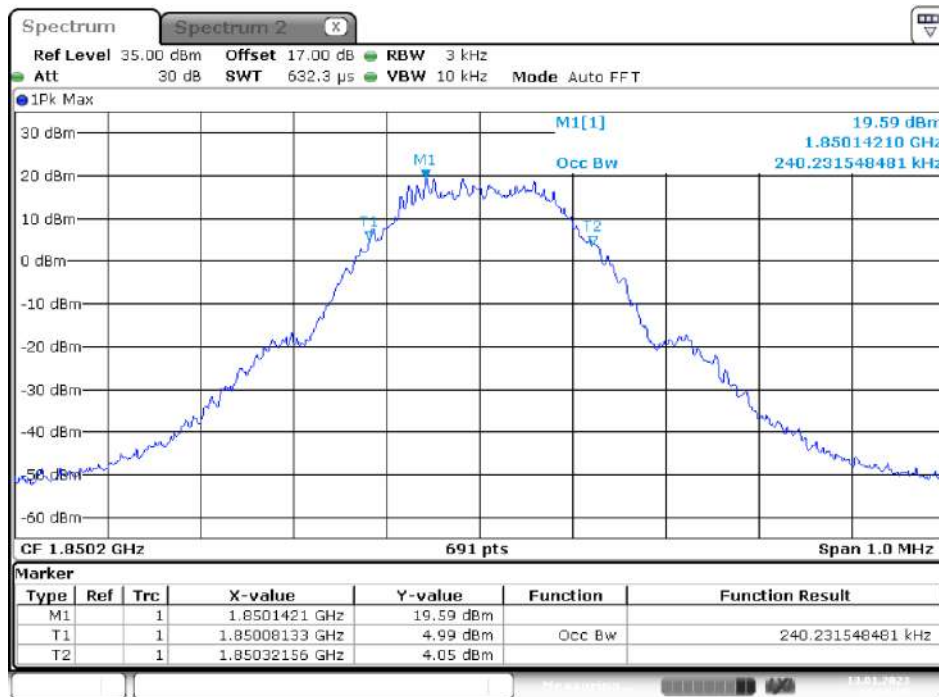


**Cellular Band****99% Occupied & 26 dB Emissions Bandwidth for GPRS Low channel**

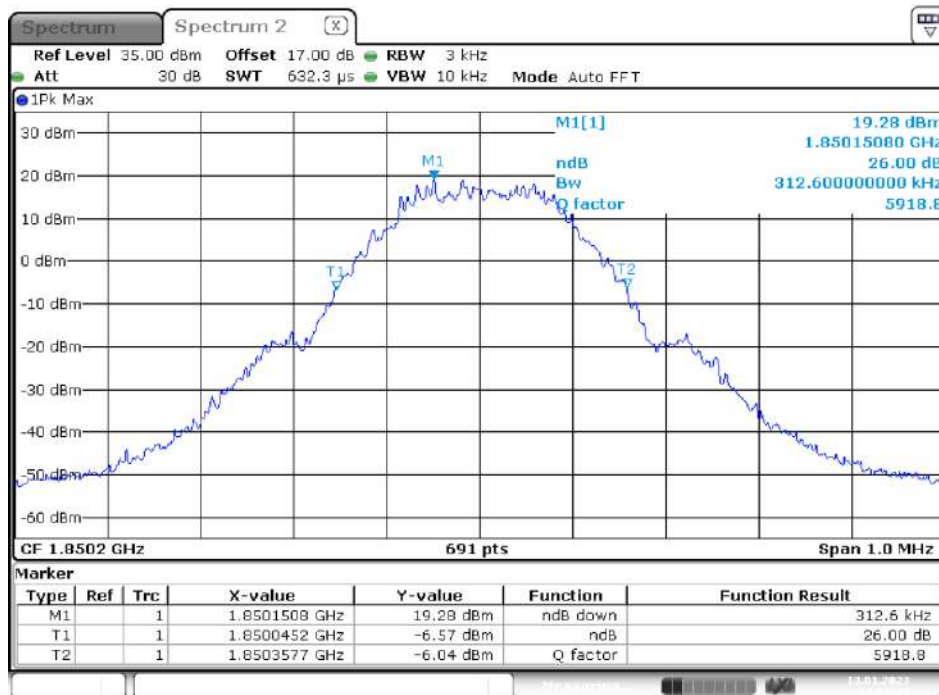
## 99% Occupied &amp; 26 dB Emissions Bandwidth for GPRS Middle channel



**99% Occupied & 26 dB Emissions Bandwidth for GPRS High channel**

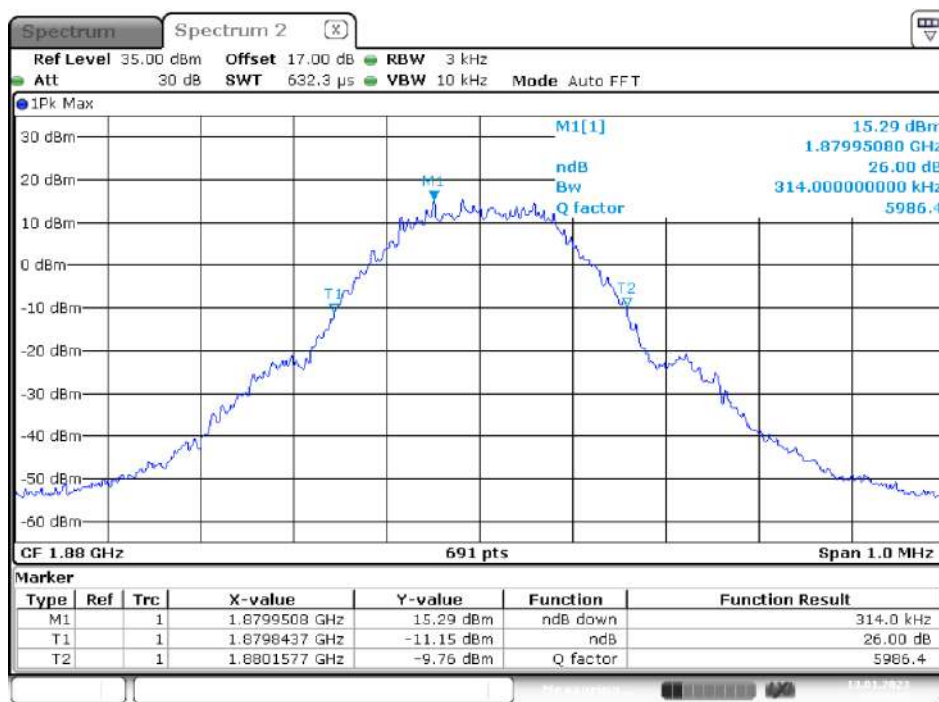
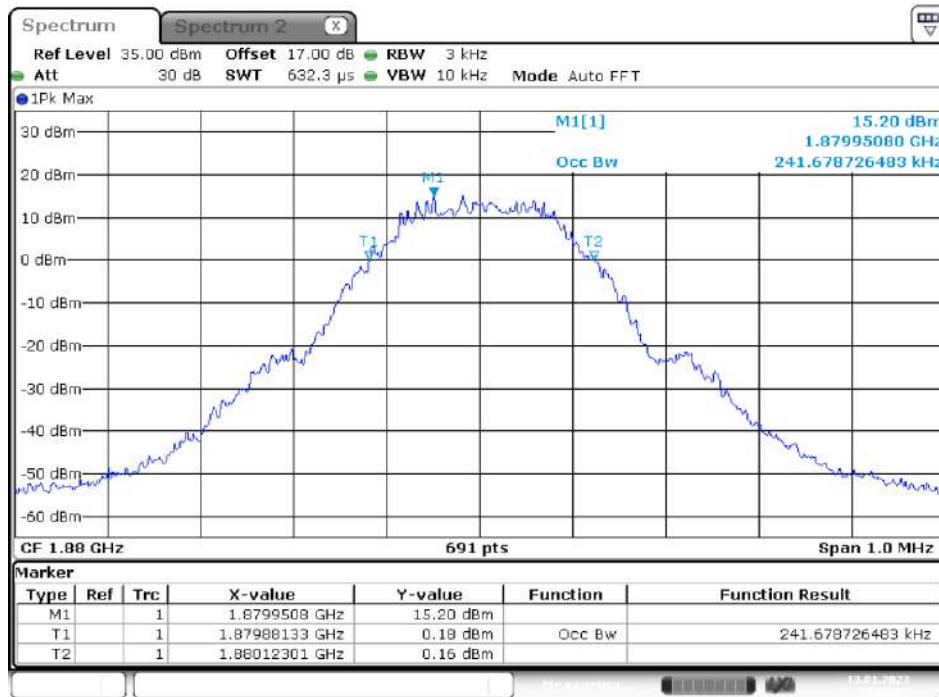
**PCS Band****99% Occupied & 26 dB Emissions Bandwidth for GPRS Low channel**

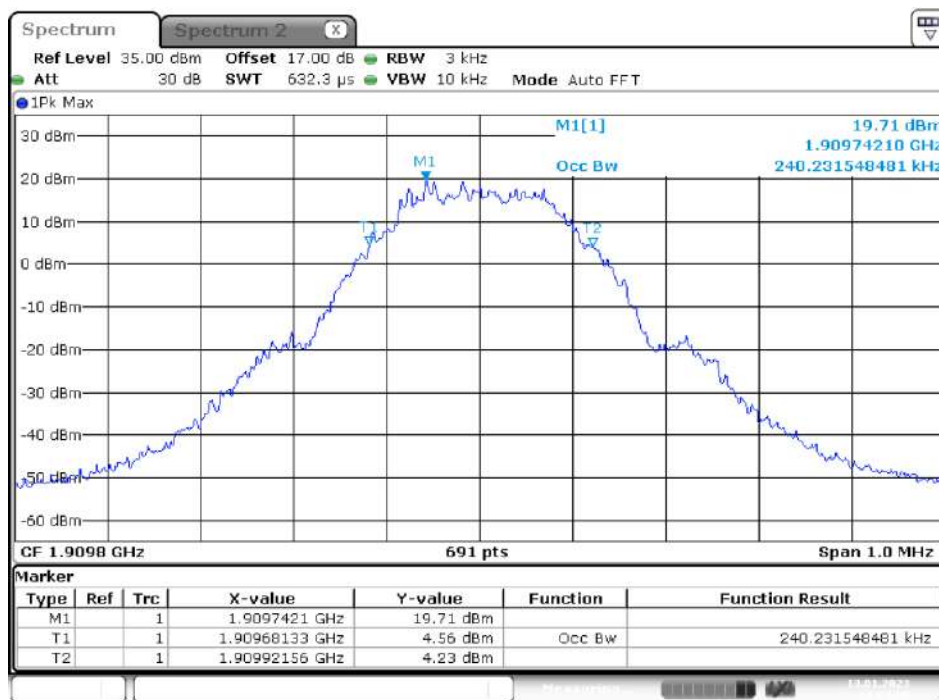
Date: 13.JAN.2023 13:56:20



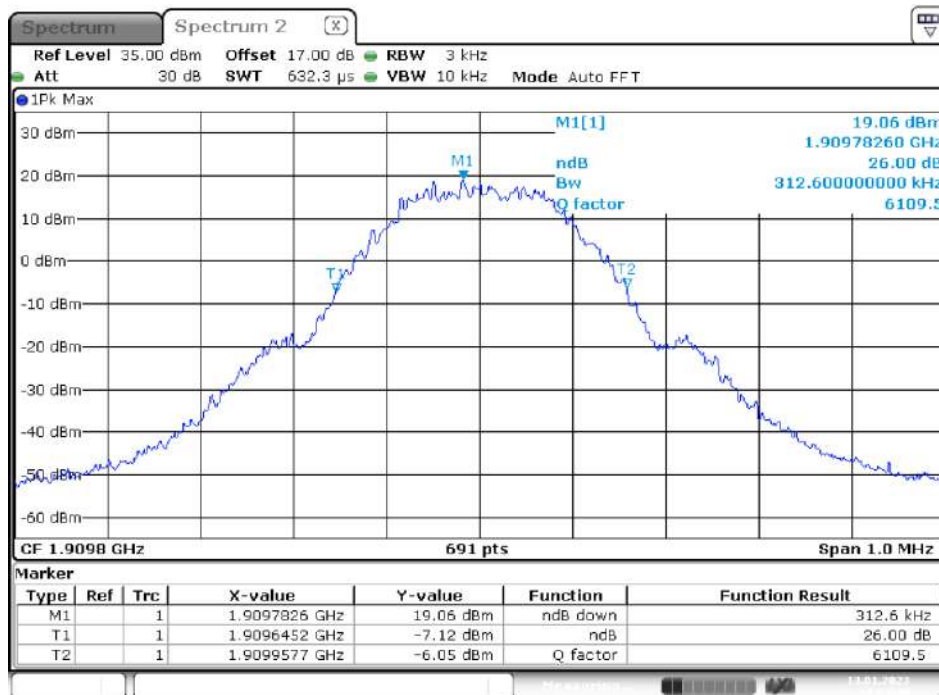
Date: 13.JAN.2023 13:56:42

## 99% Occupied &amp; 26 dB Emissions Bandwidth for GPRS Middle channel



**99% Occupied & 26 dB Emissions Bandwidth for GPRS High channel**

Date: 13.JAN.2023 14:01:20



Date: 13.JAN.2023 14:01:40



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**12.FCC§2.1051, §22.917(a) & §24.238(a) & §27.53 & RSS-130 ISSUE 2 CLAUSE 4.7 & RSS-132 ISSUE 3 CLAUSE 5.5 & RSS-133 ISSUE 6 CLAUSE 6.5 & RSS-139 ISSUE 3 CLAUSE 6.6– Spurious Emissions At Antenna Terminals**

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**12.1 Applicable Standard**

FCC § 2.1051, §22.917, § 24.238, § 27.53

IC RSS-130 Issue 2 clause 4.7 RSS-132 Issue 3 clause 5.5 RSS-133 Issue 6 clause 6.5 RSS-139 Issue 3 clause 6.6

**12.2 Test Procedure**

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. Sufficient scans were taken to show any out of band emissions up to 10<sup>th</sup> harmonic.

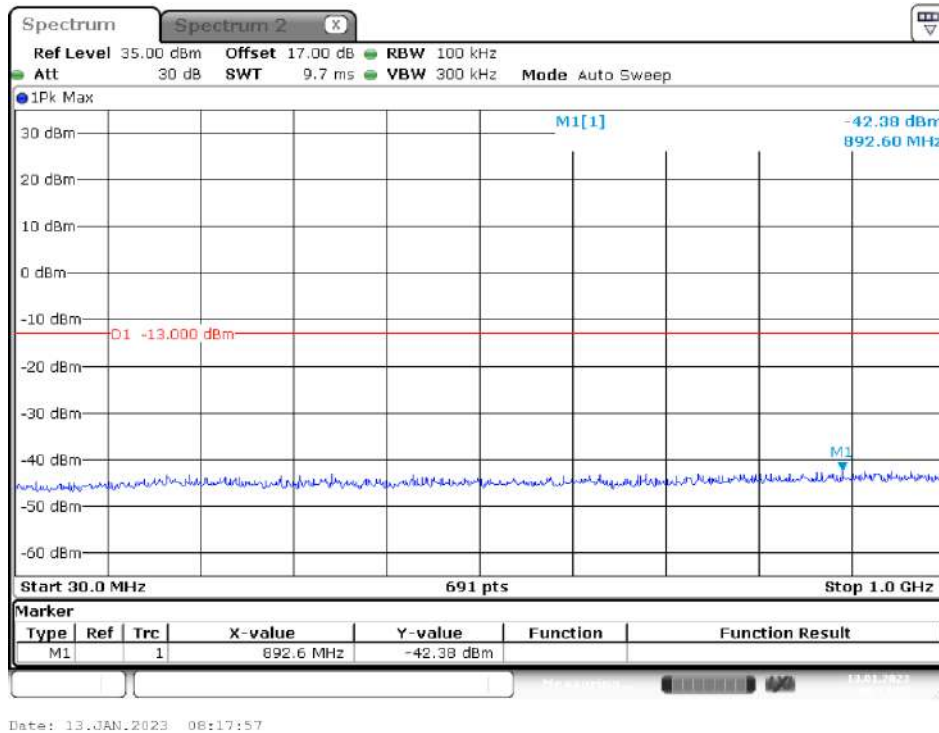
The resolution bandwidth of the spectrum analyzer was set at 100 kHz for below 1GHz & 1MHz for above 1GHz.

## 12.3 Test Results

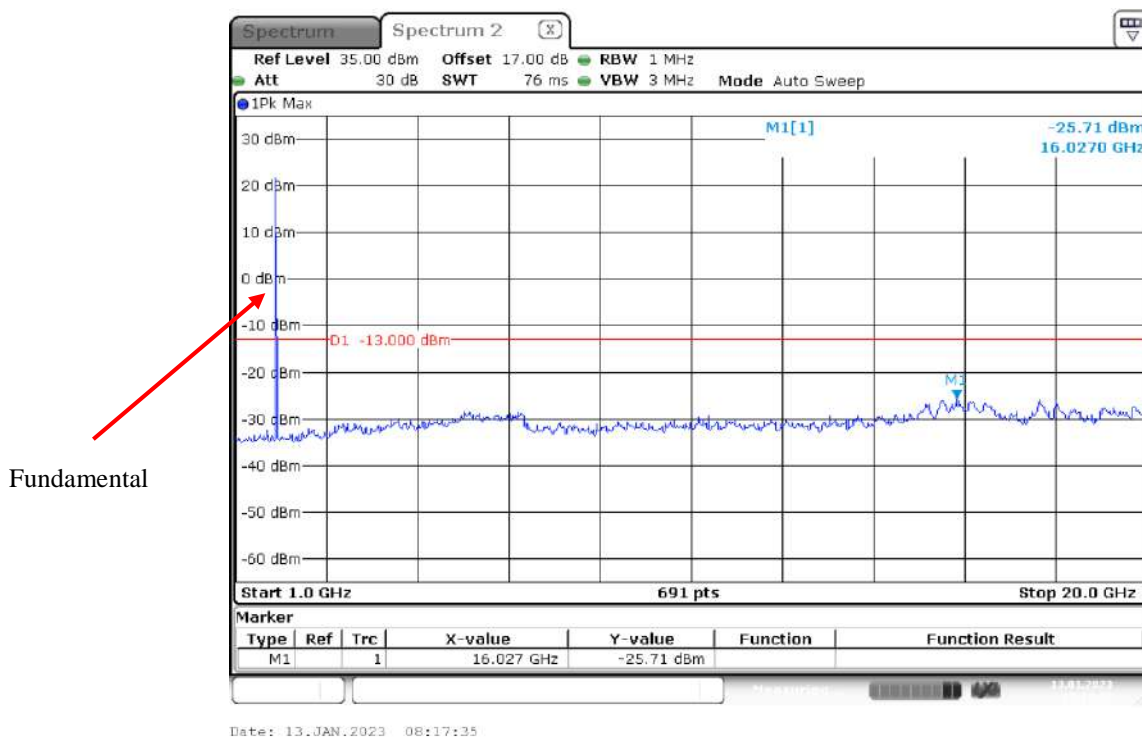
(Worst case is Resource Block & RB offset: RB1#0)

Please refer to the following plots

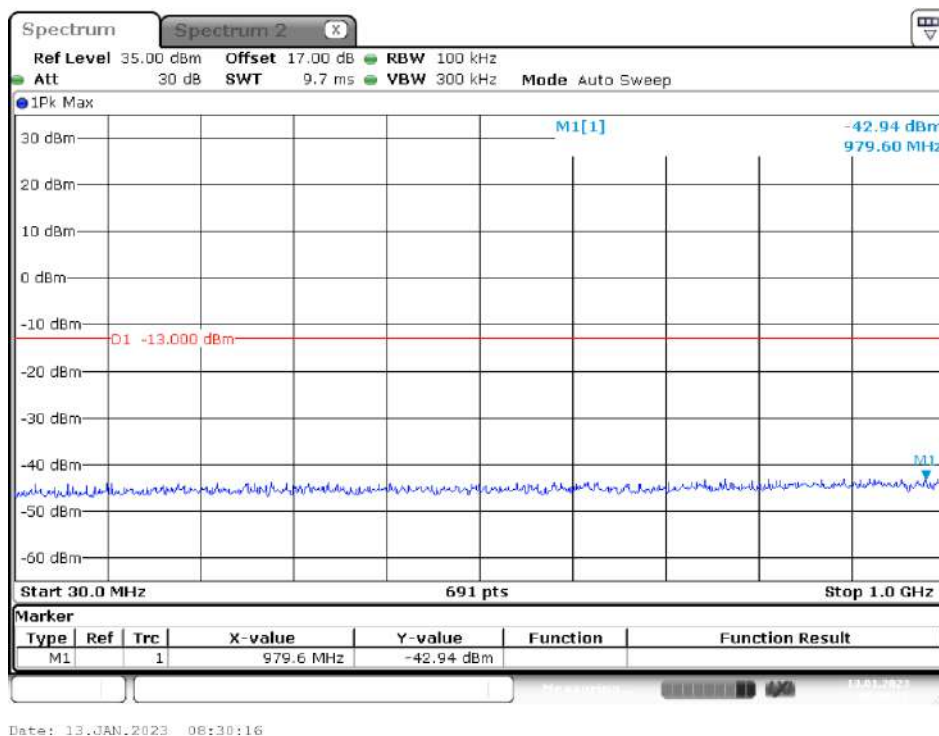
### LTE Band 2 30 MHz – 1 GHz (1.4 MHz, QPSK, Low Channel)



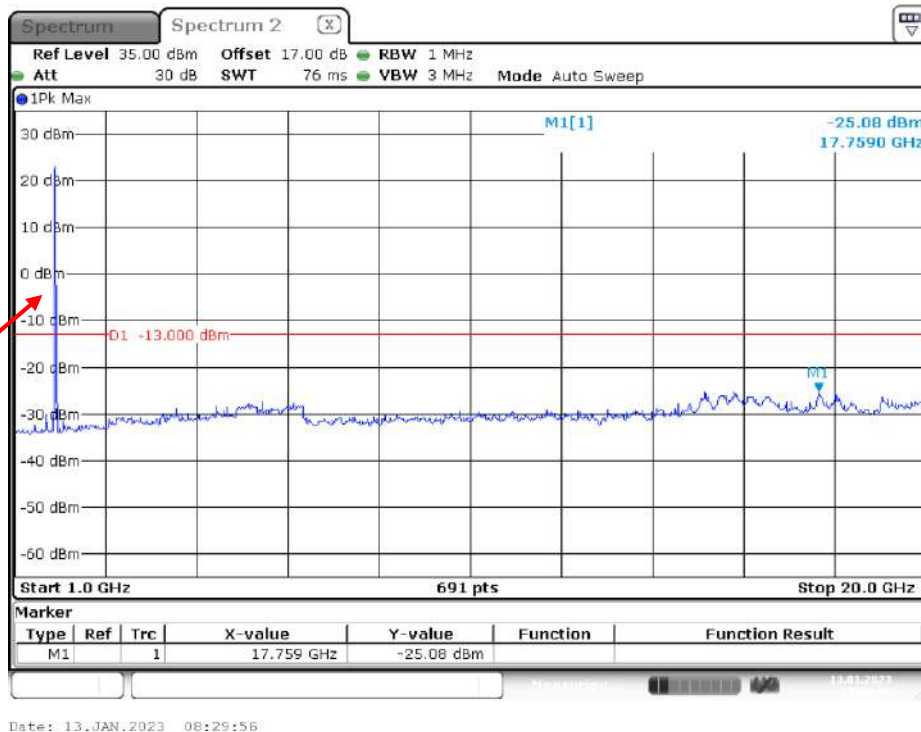
### 1 GHz – 20 GHz (1.4 MHz, QPSK, Low Channel)



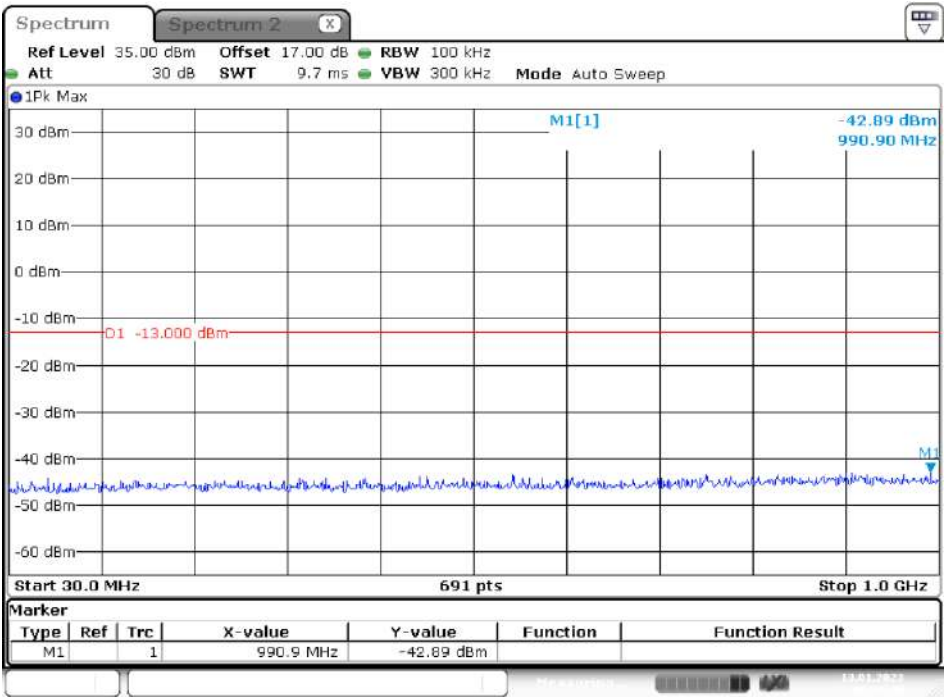
Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

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

Fundamental

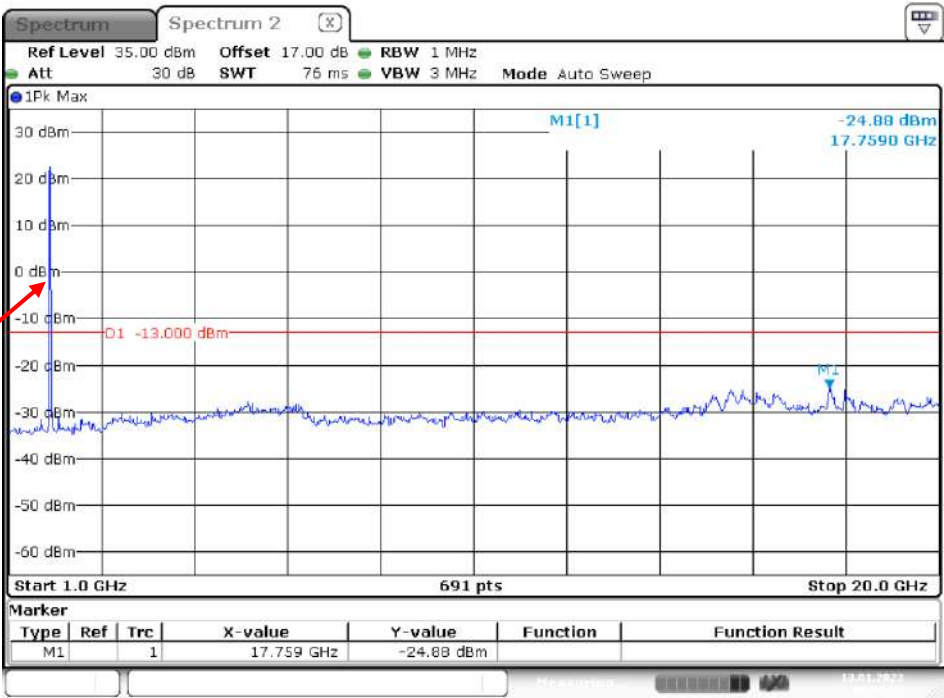


30 MHz – 1 GHz (5 MHz, QPSK, Low Channel)



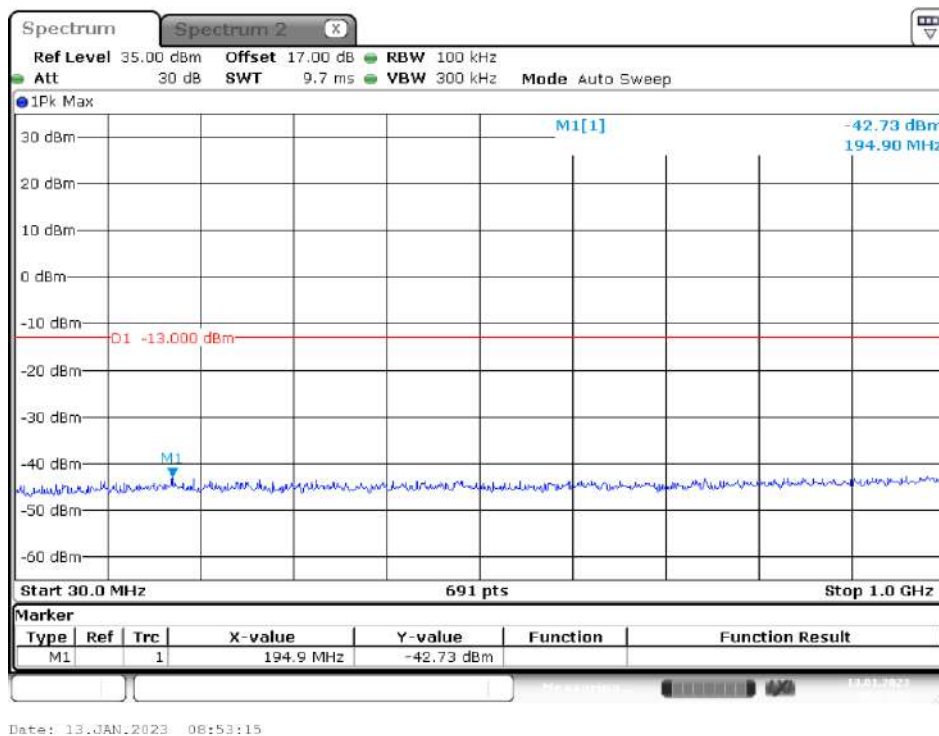
Date: 13.JAN.2023 08:41:40

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

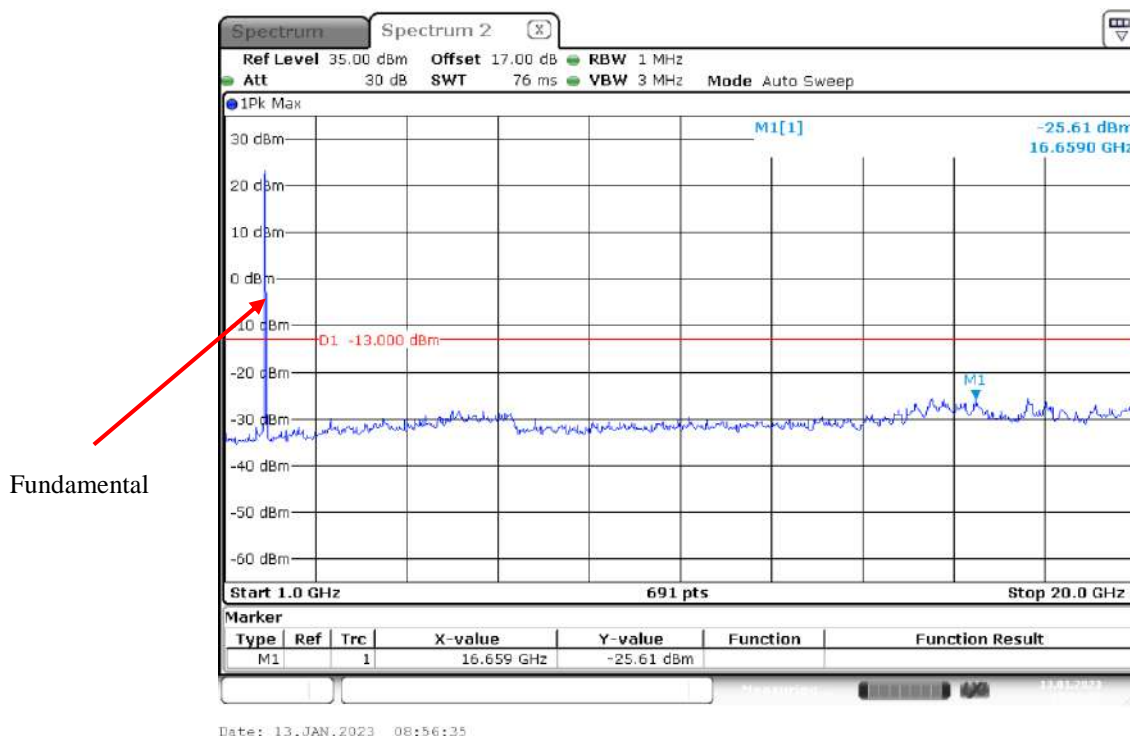


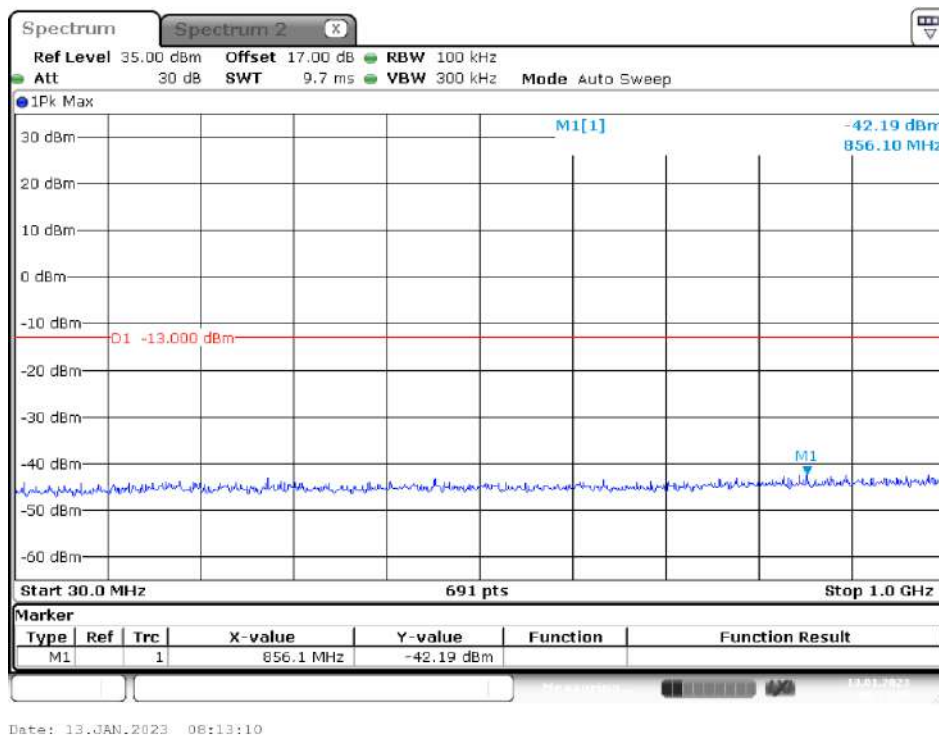
Fundamental

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

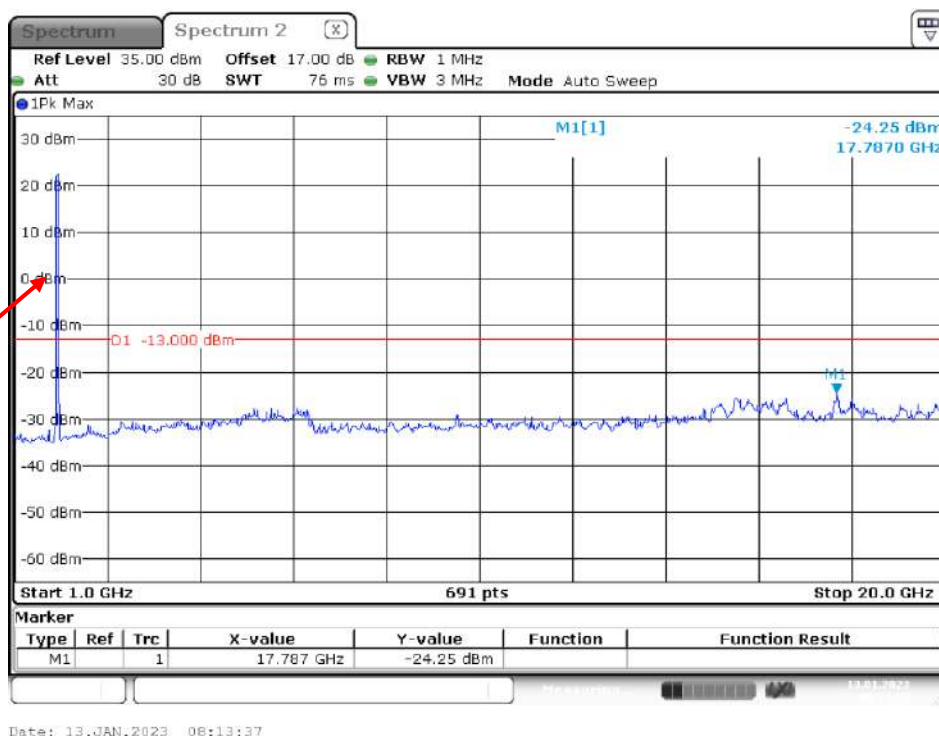


## 1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)

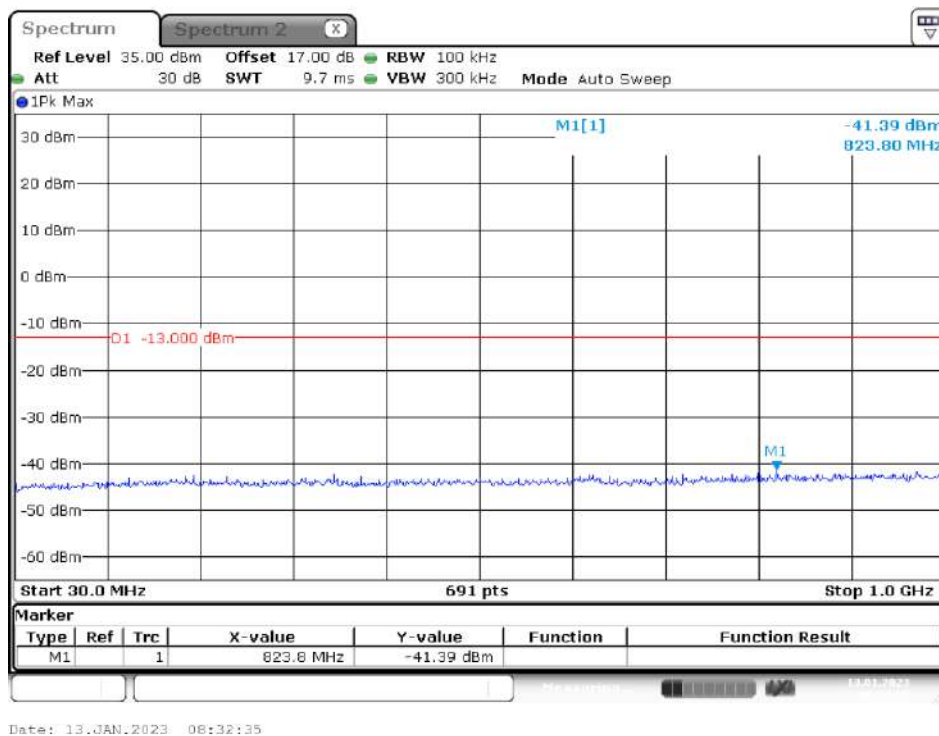


**30 MHz – 1 GHz (1.4 MHz, QPSK, Middle Channel)****1 GHz – 20 GHz (1.4 MHz, QPSK, Middle Channel)**

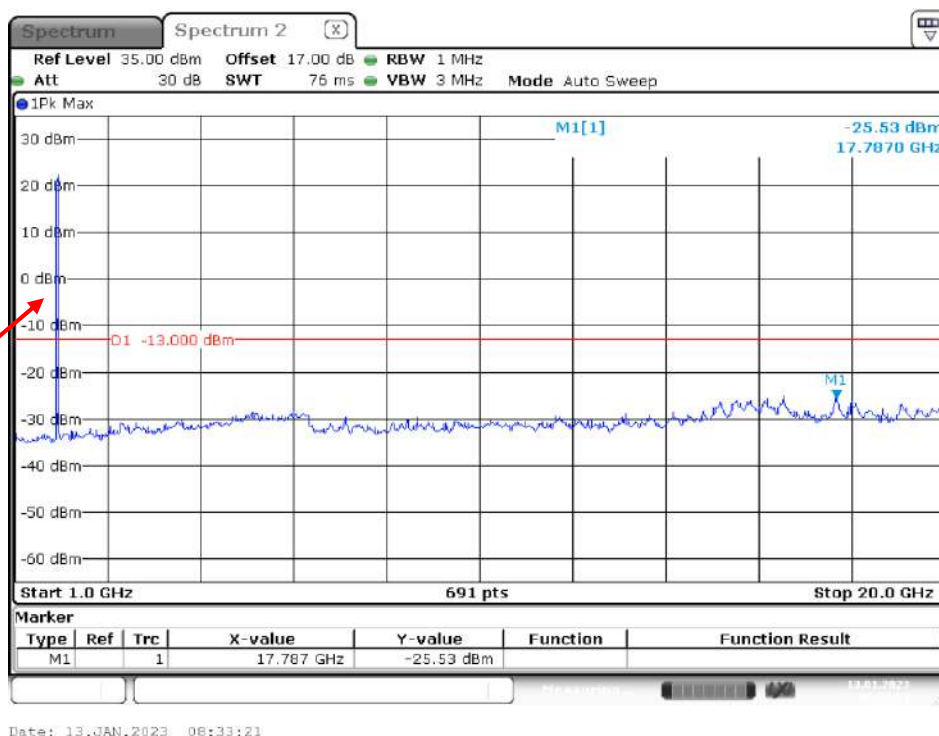
Fundamental

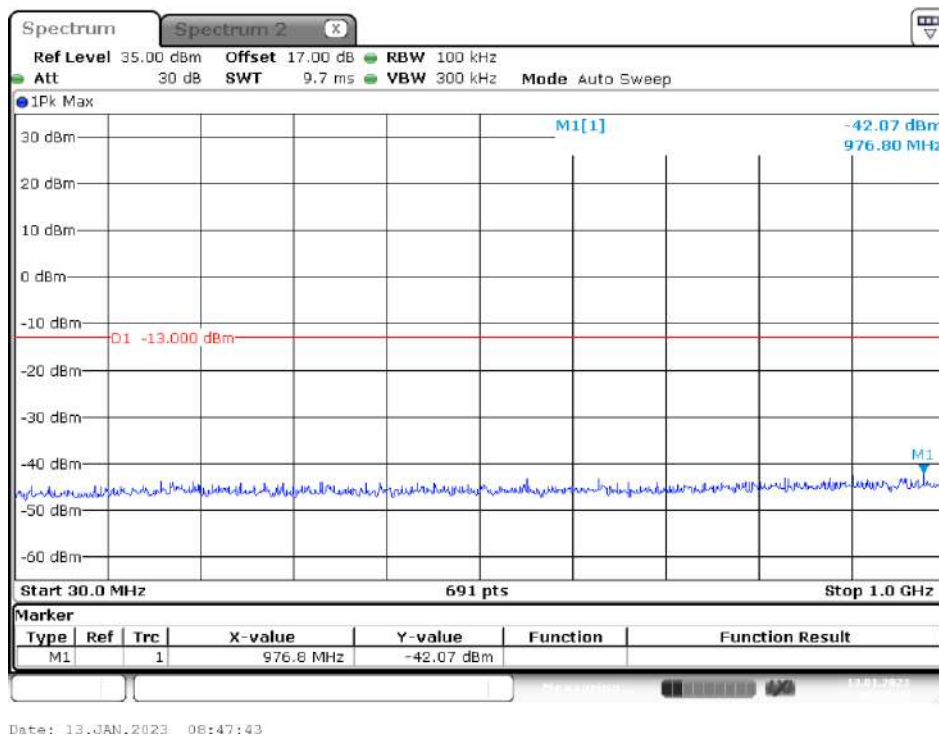




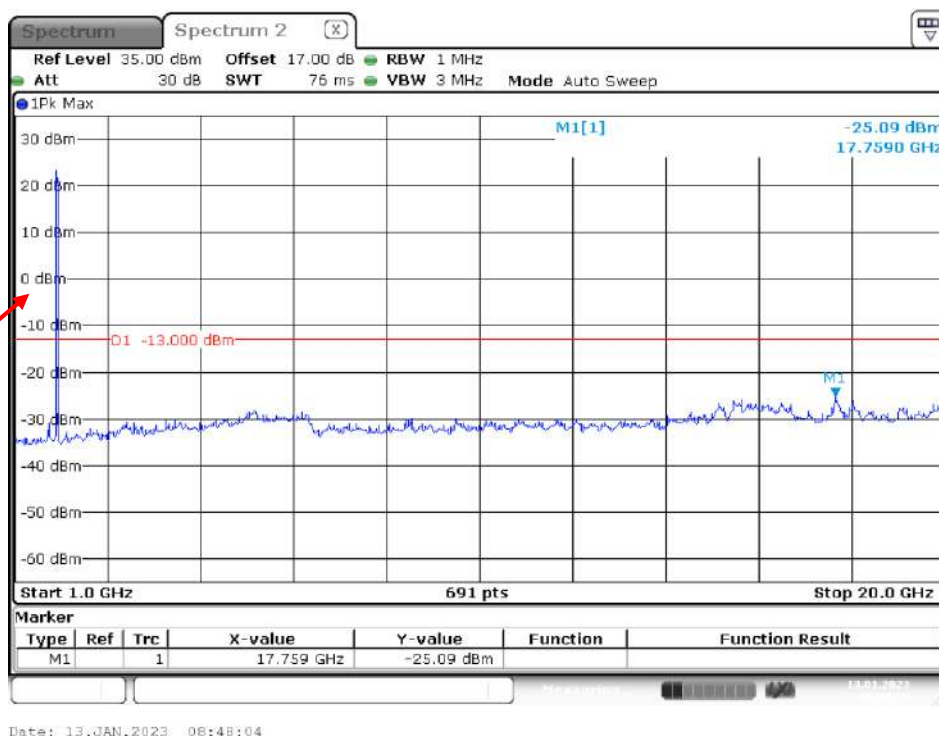
**30 MHz – 1 GHz (3 MHz, QPSK, Middle Channel)****1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)**

Fundamental

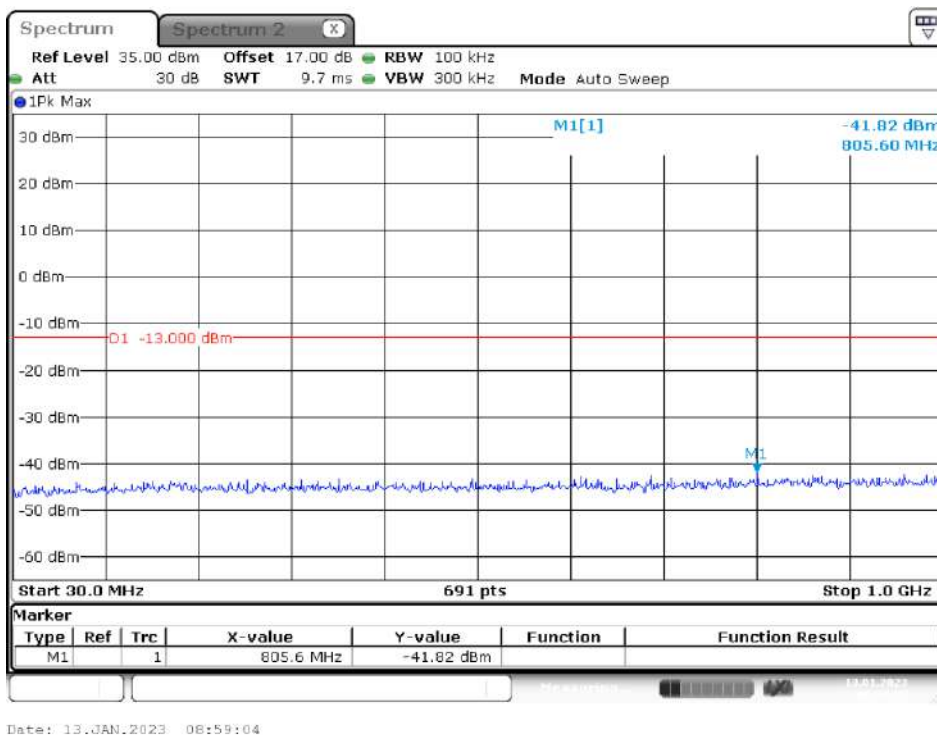


**30 MHz – 1 GHz (5 MHz, QPSK, Middle Channel)****1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)**

Fundamental

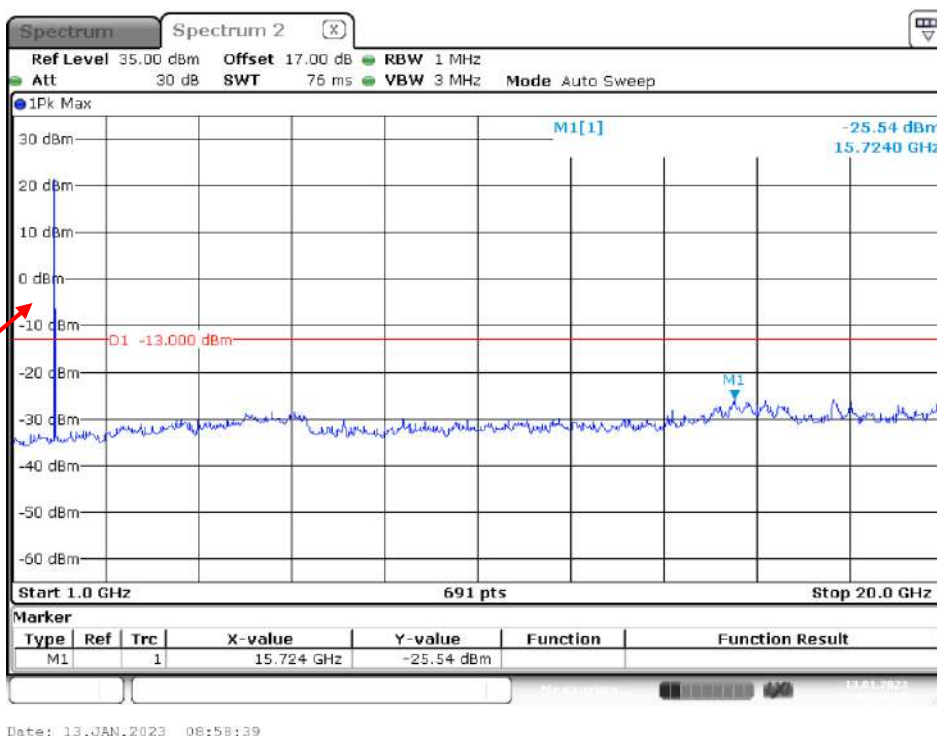


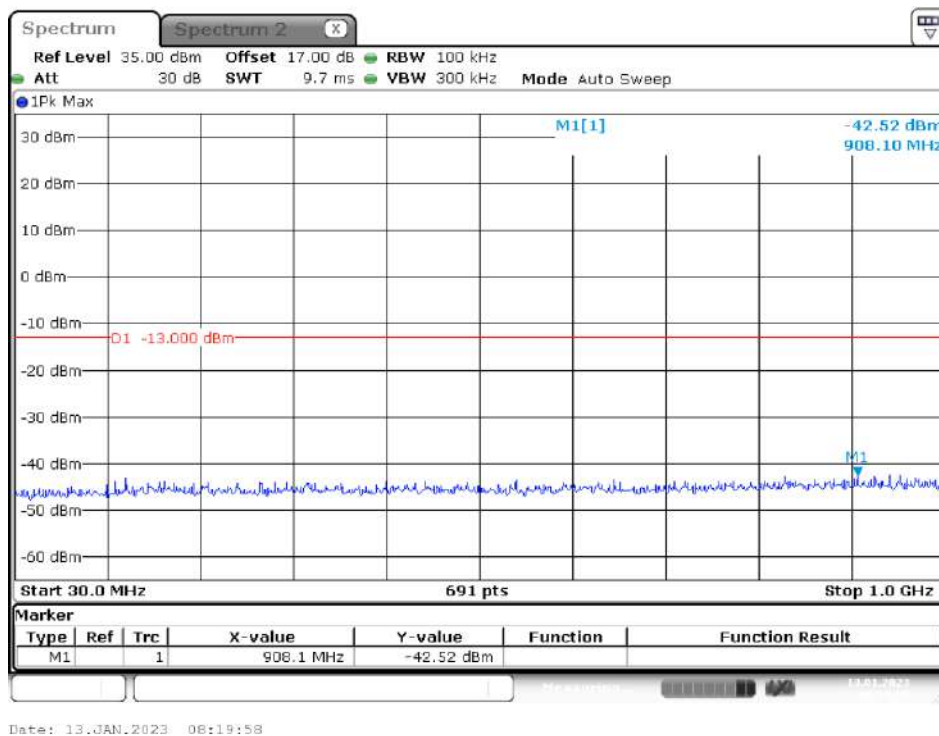
## 30 MHz – 1 GHz (10 MHz, QPSK, Middle Channel)



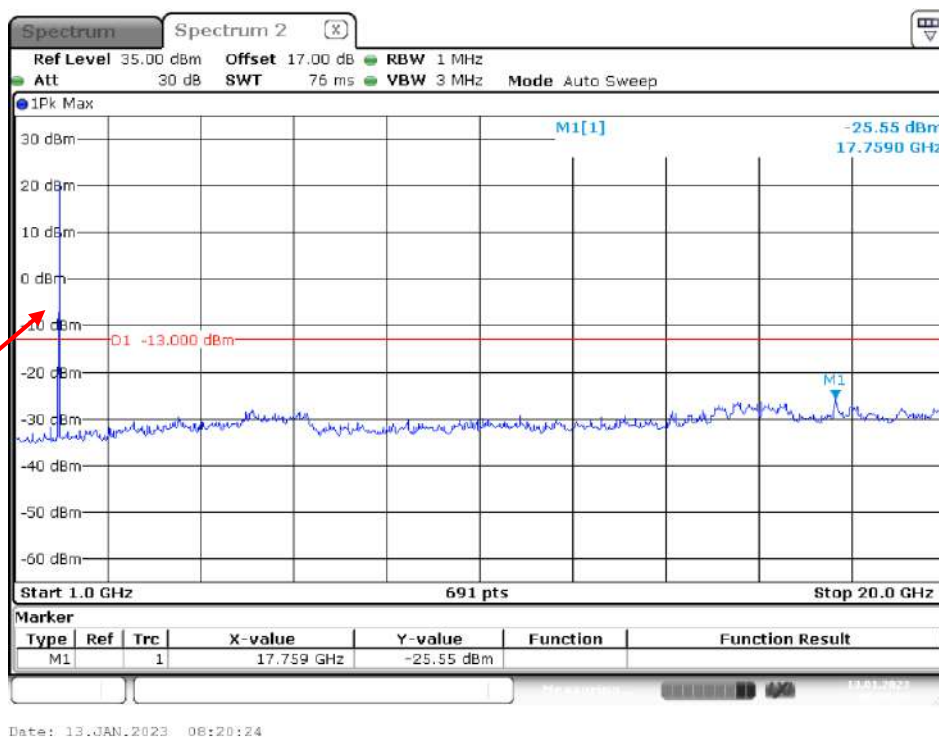
## 1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)

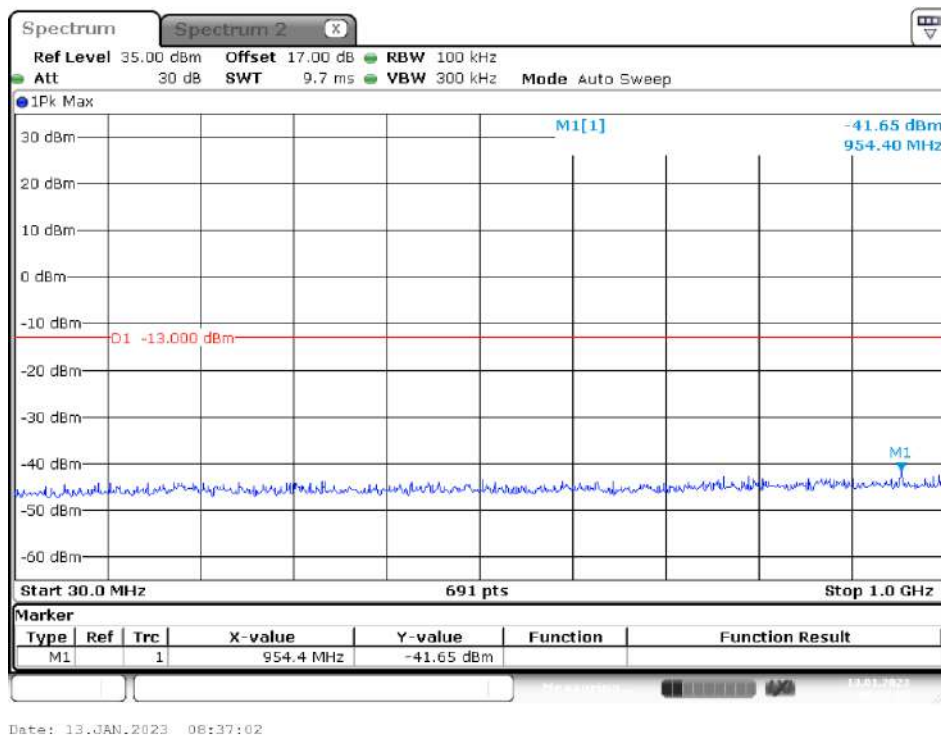
Fundamental



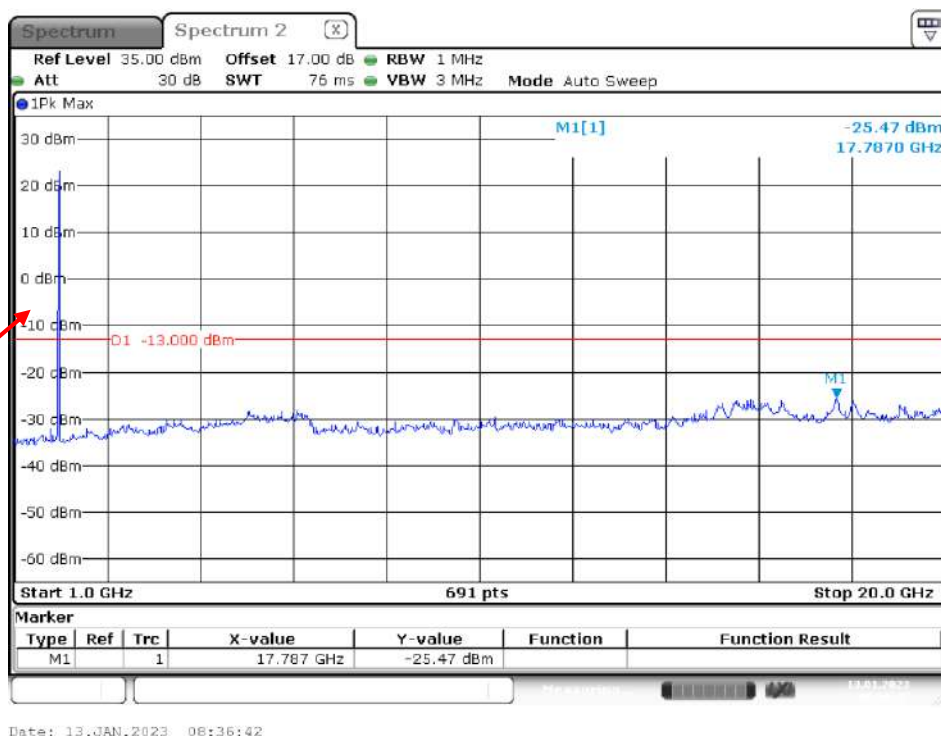
**30 MHz – 1 GHz (1.4 MHz, QPSK, High Channel)****1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)**

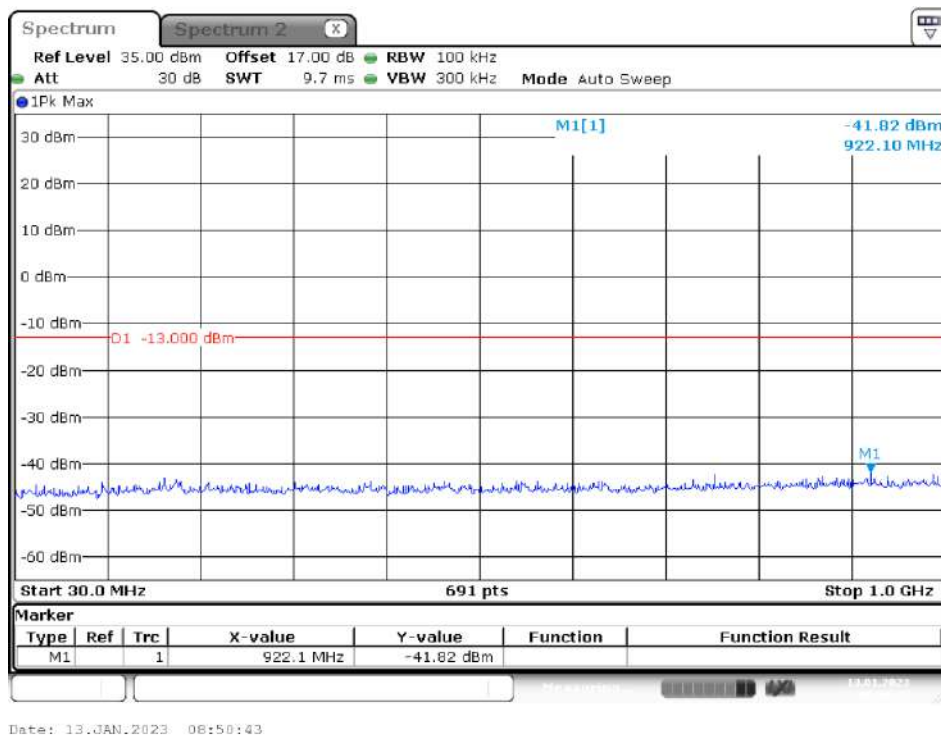
Fundamental



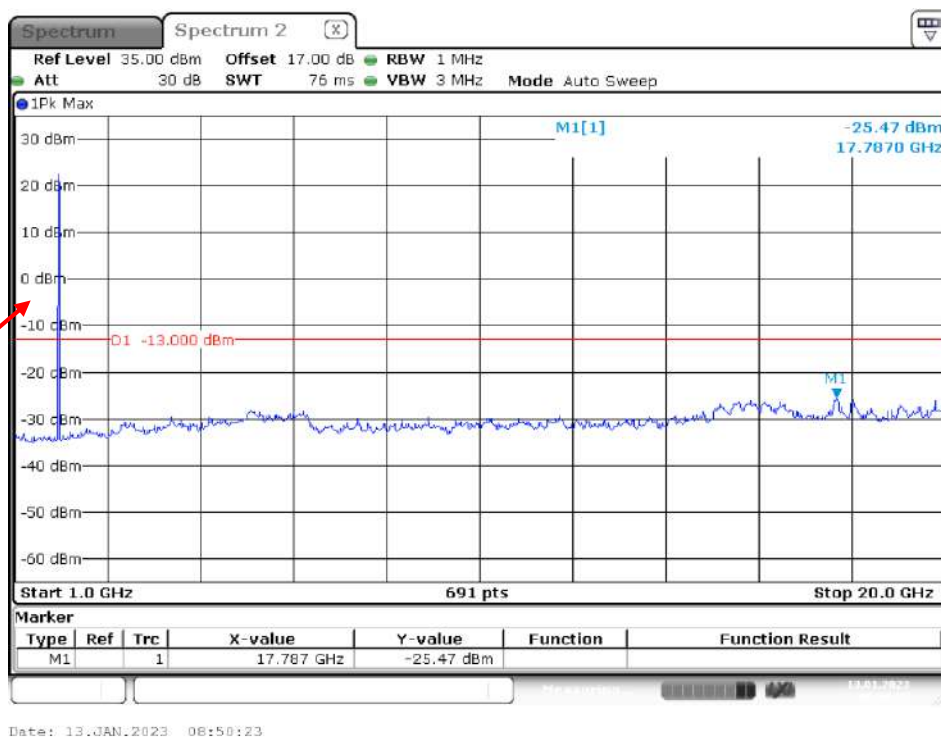
**30 MHz – 1 GHz (3 MHz, QPSK, High Channel)****1 GHz – 20 GHz (3 MHz, QPSK, High Channel)**

Fundamental



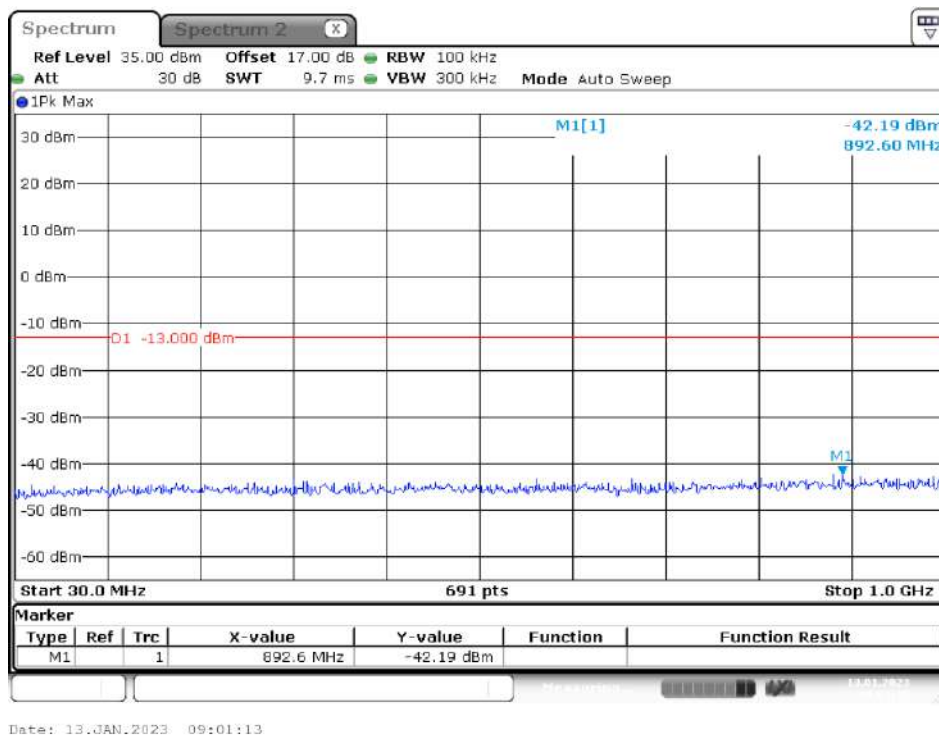
**30 MHz – 1 GHz (5 MHz, QPSK, High Channel)****1 GHz – 20 GHz (5 MHz, QPSK, High Channel)**

Fundamental

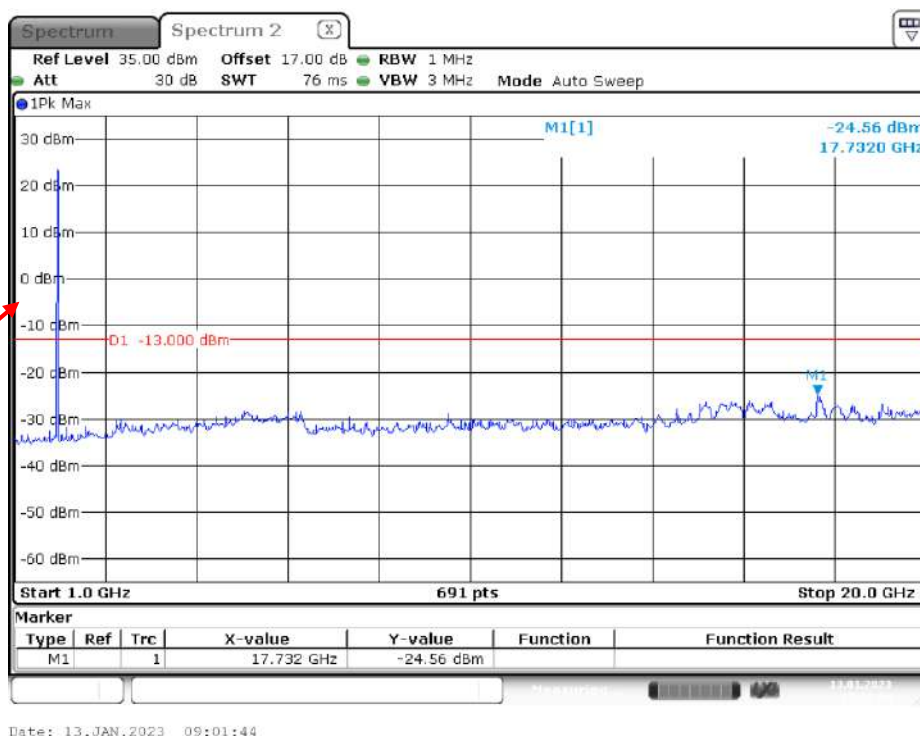




## 30 MHz – 1 GHz (10 MHz, QPSK, High Channel)



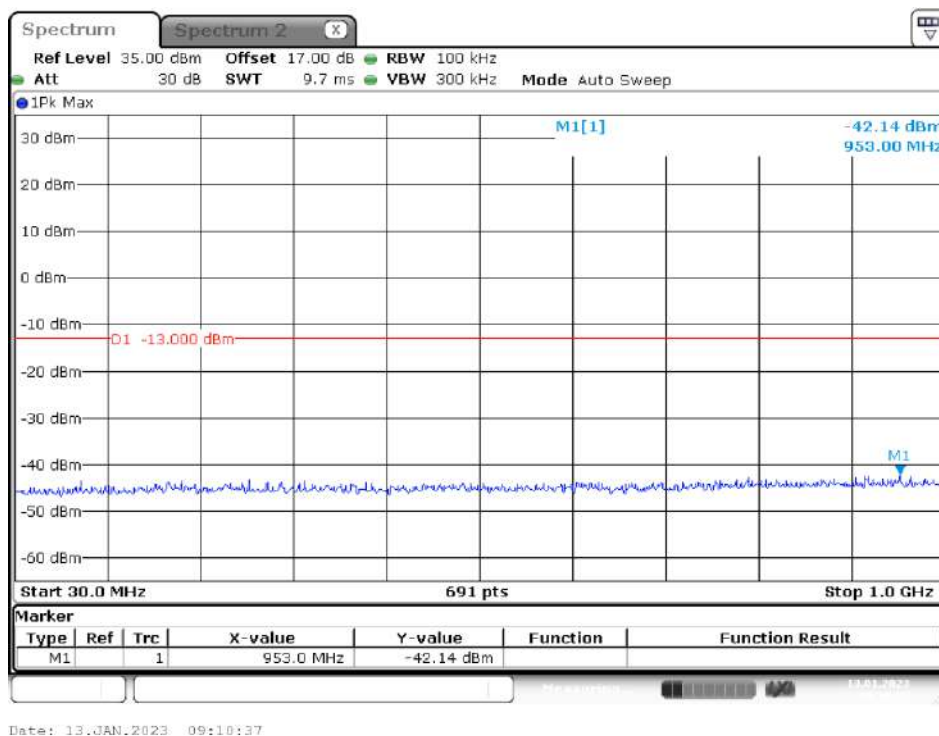
## 1 GHz – 20 GHz (10 MHz, QPSK, High Channel)



Fundamental

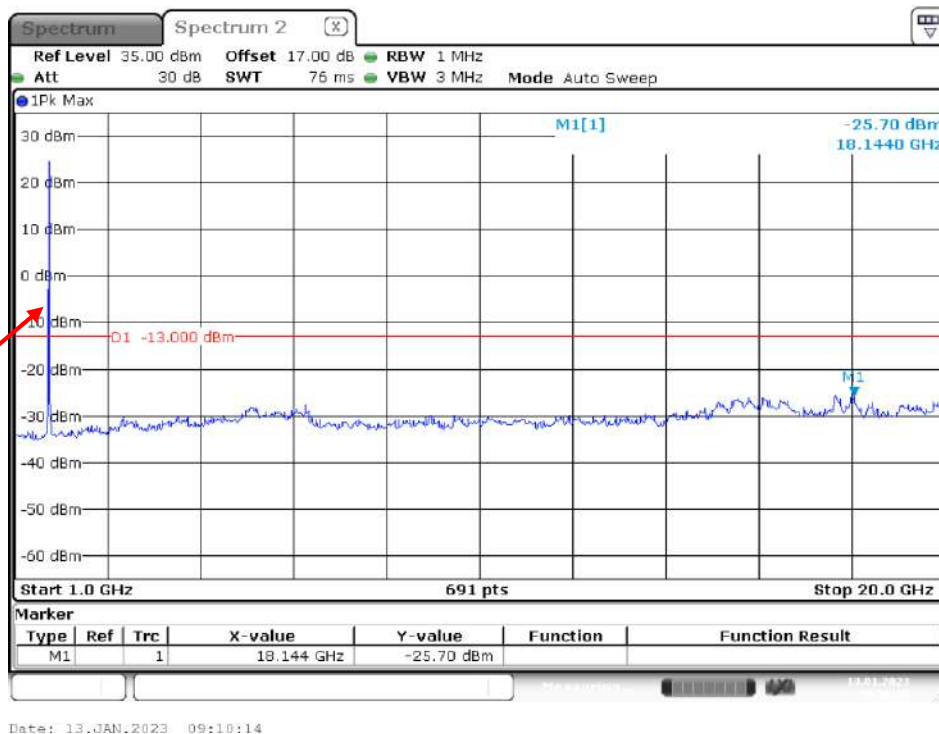
### LTE Band 4

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

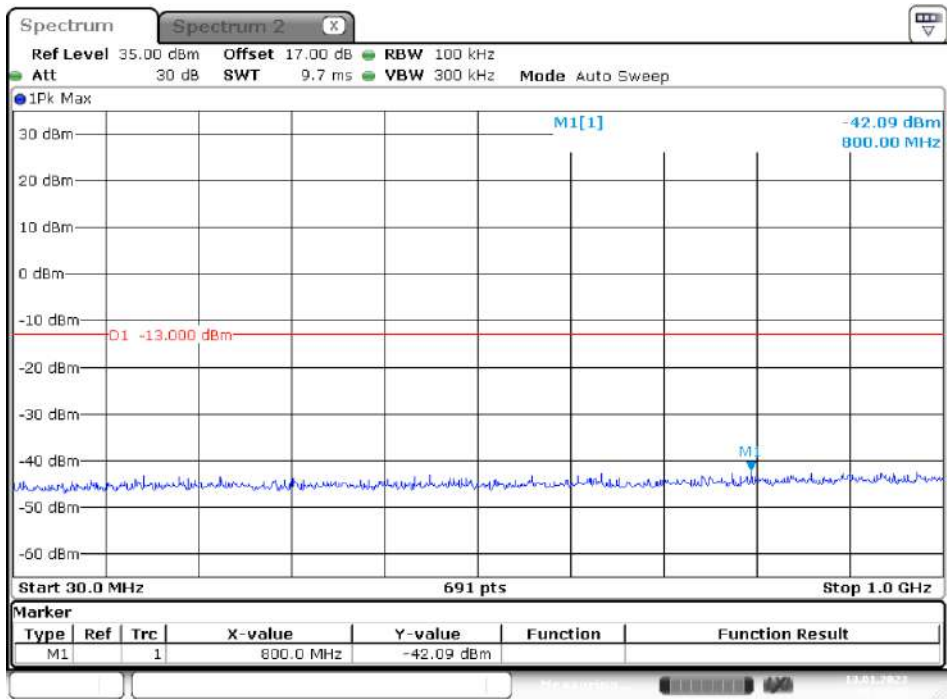


#### 1 GHz – 20 GHz (1.4 MHz, QPSK, Low Channel)

Fundamental

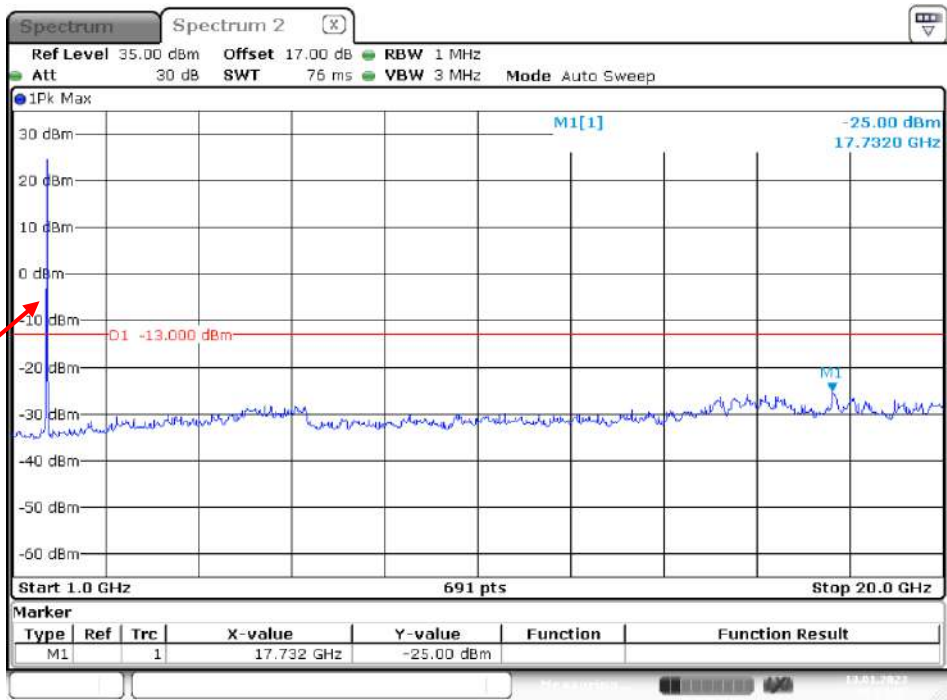


30 MHz – 1 GHz (3 MHz, QPSK, Low Channel)



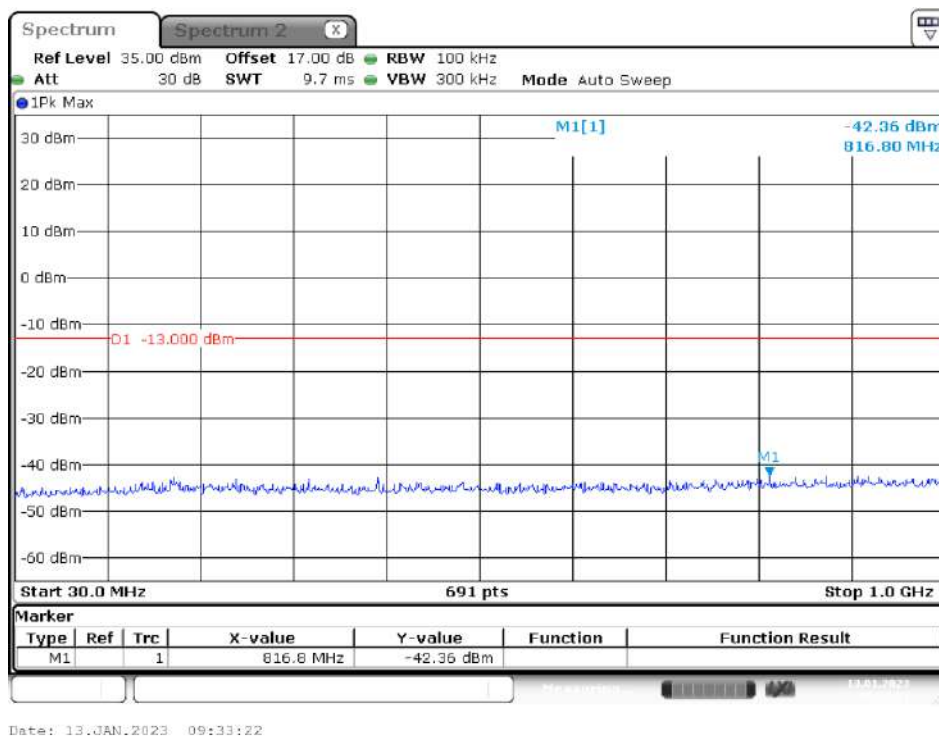
Date: 13.JAN.2023 09:22:46

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

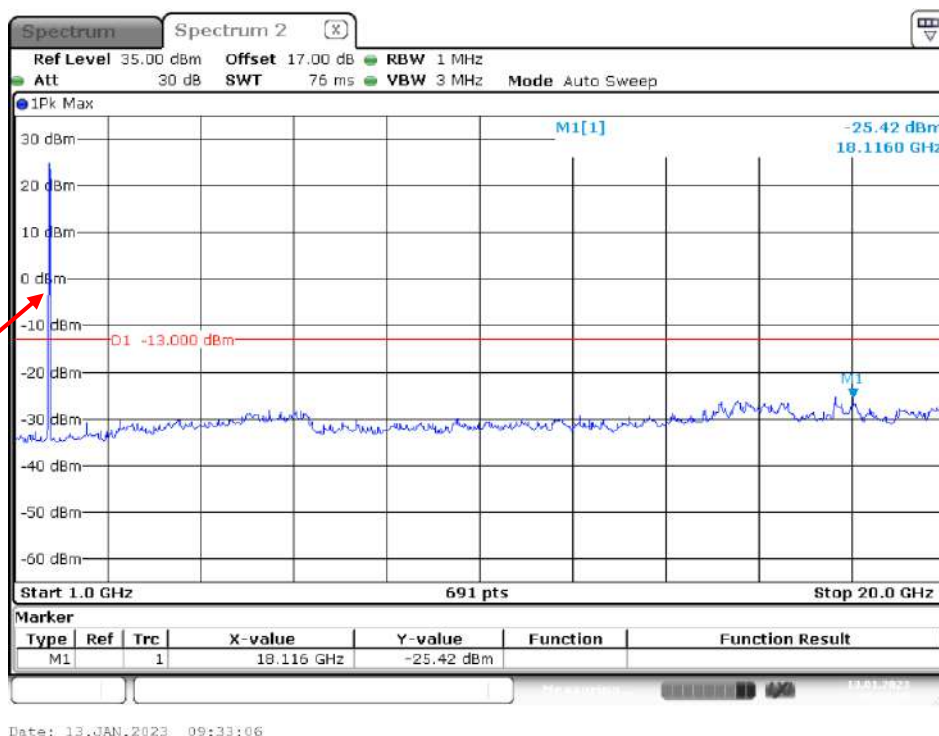


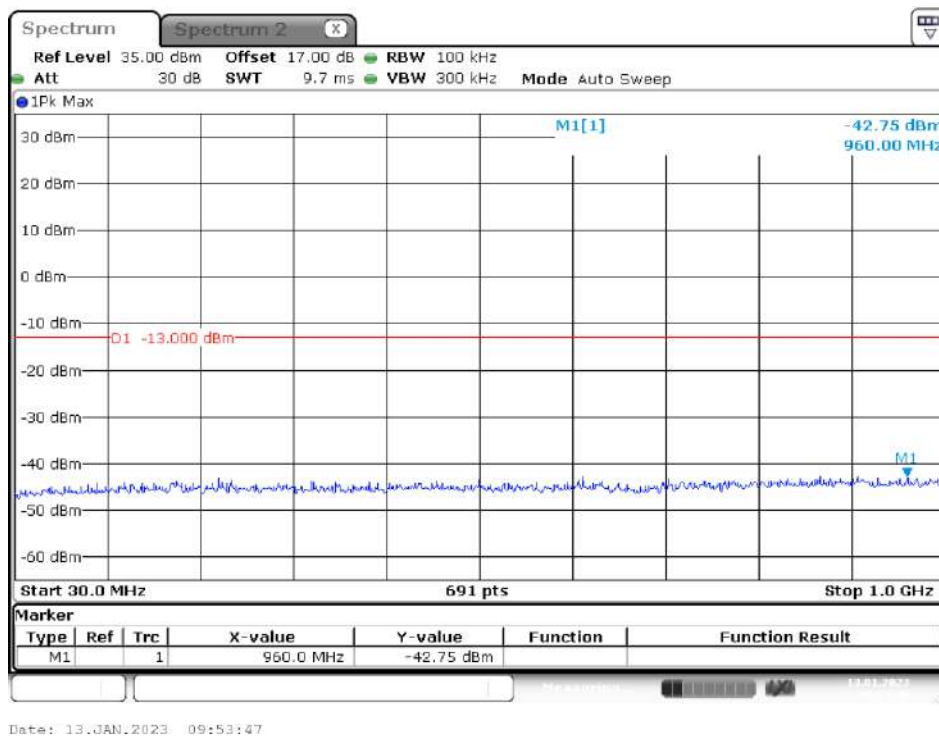
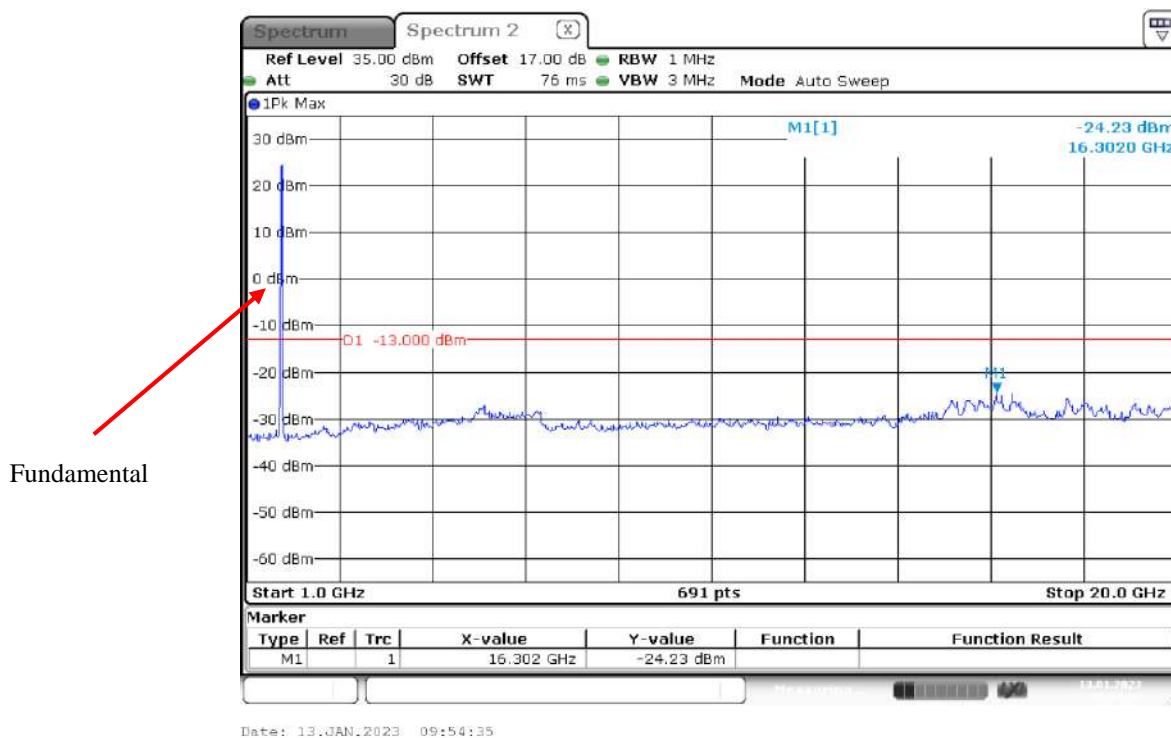
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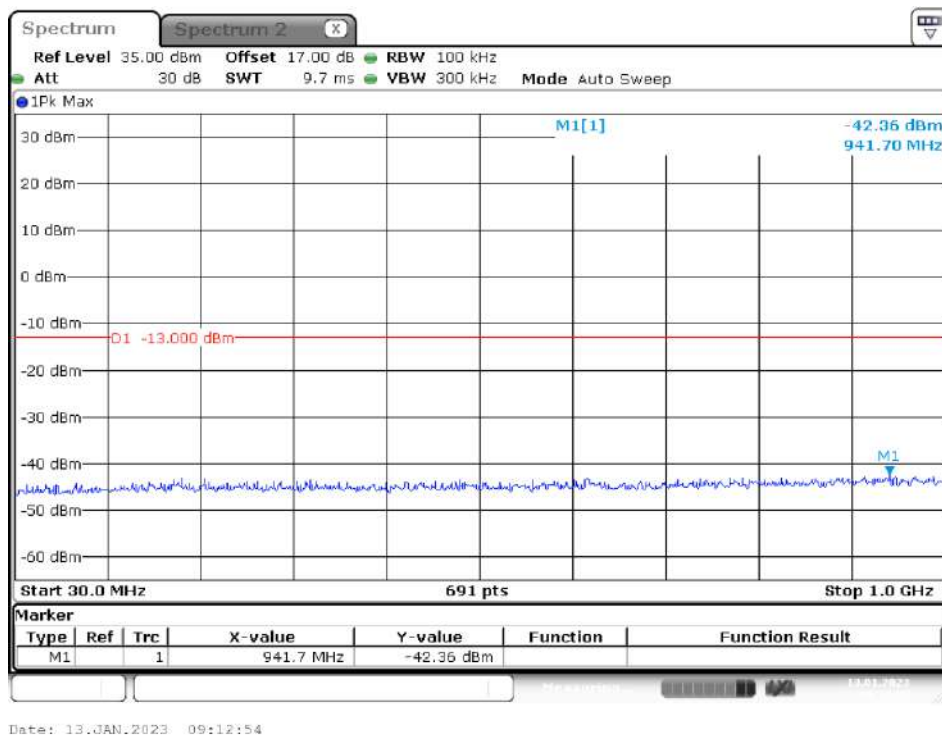
Fundamental

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

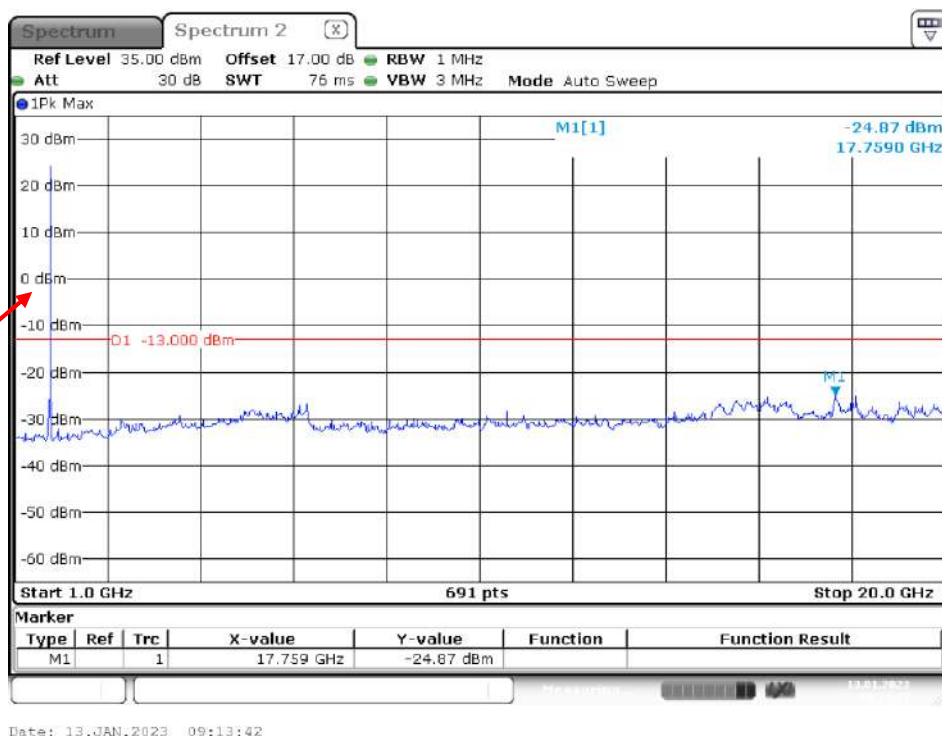
Fundamental



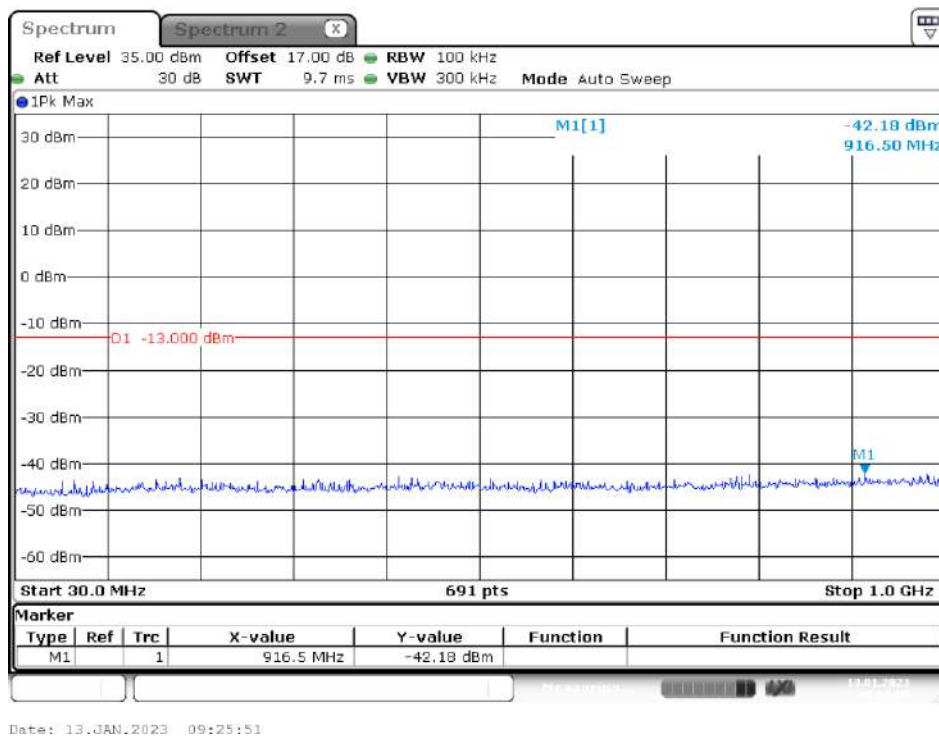
**30 MHz – 1 GHz (10 MHz, QPSK, Low Channel)****1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)**

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

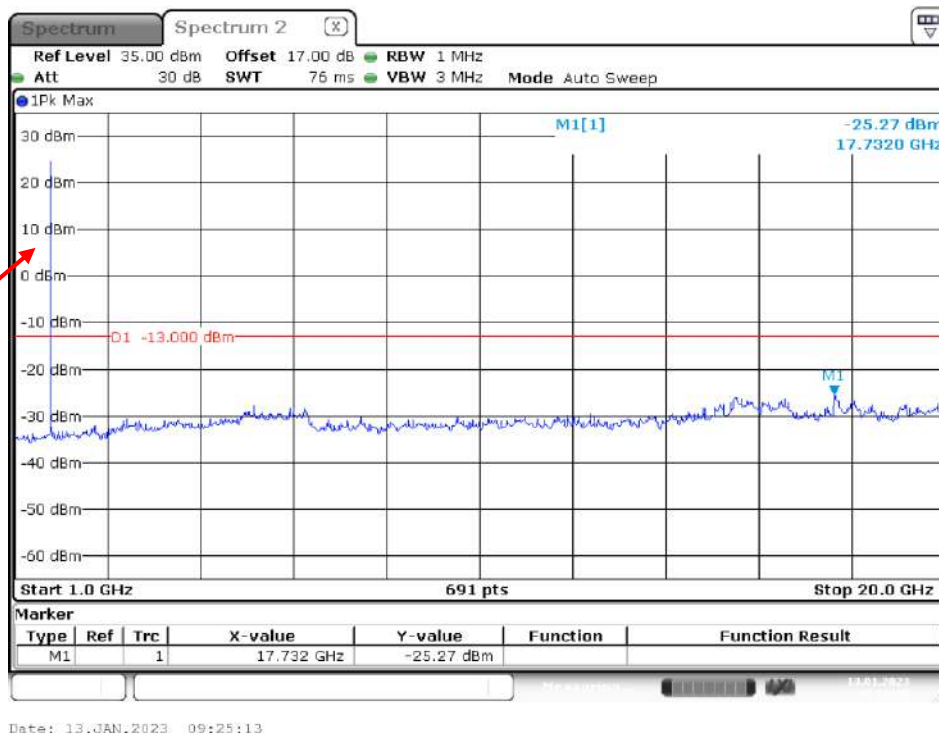
Fundamental

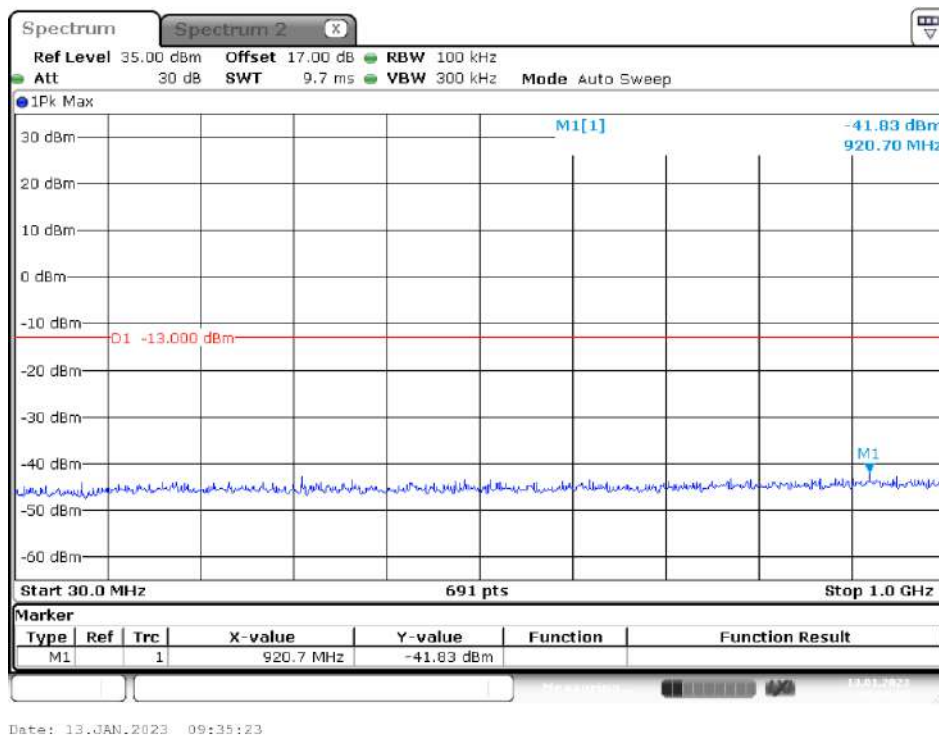




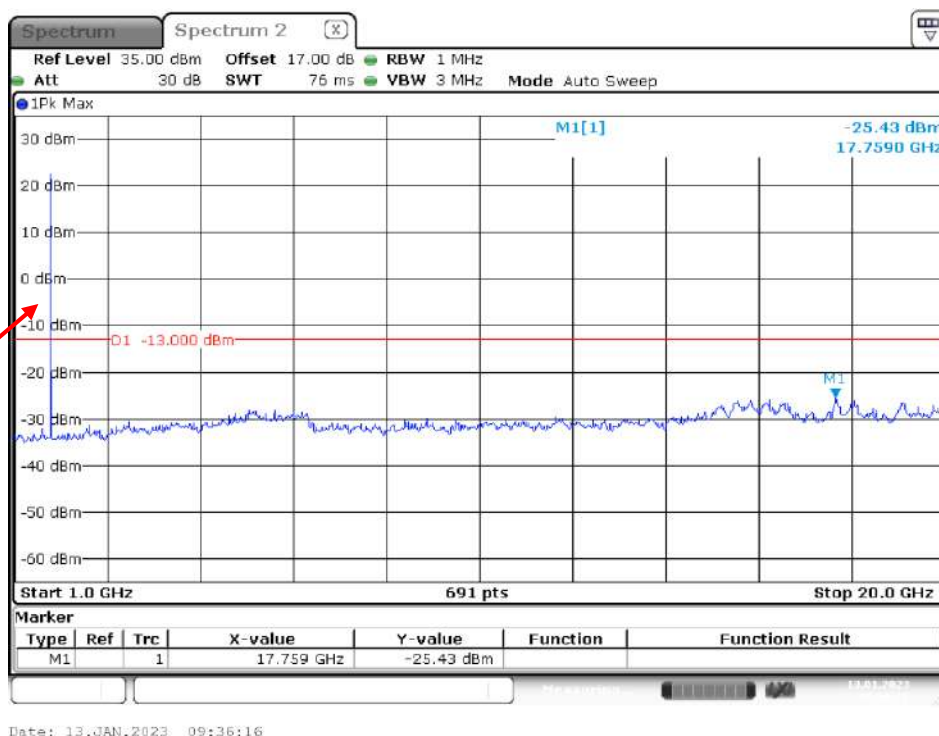
**30 MHz – 1 GHz (3 MHz, QPSK, Middle Channel)****1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)**

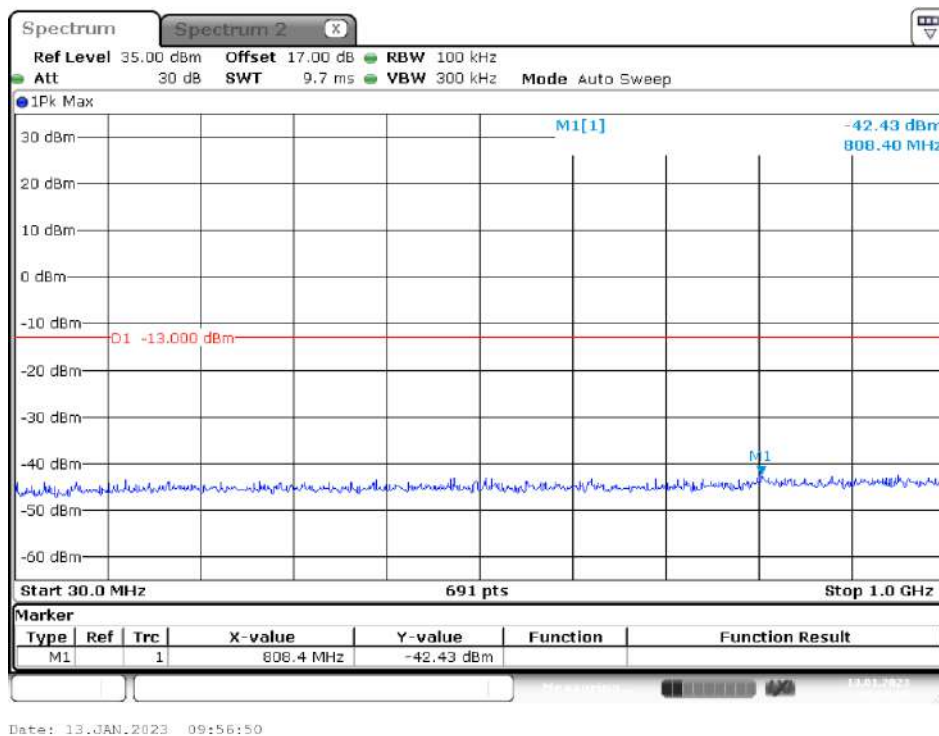
Fundamental



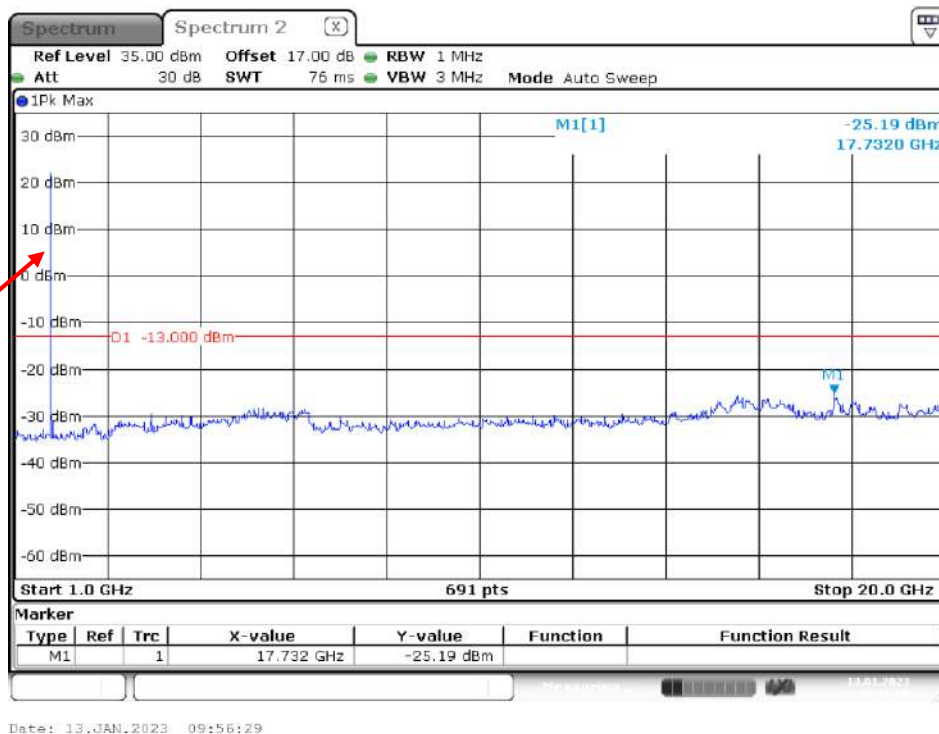
**30 MHz – 1 GHz (5 MHz, QPSK, Middle Channel)****1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)**

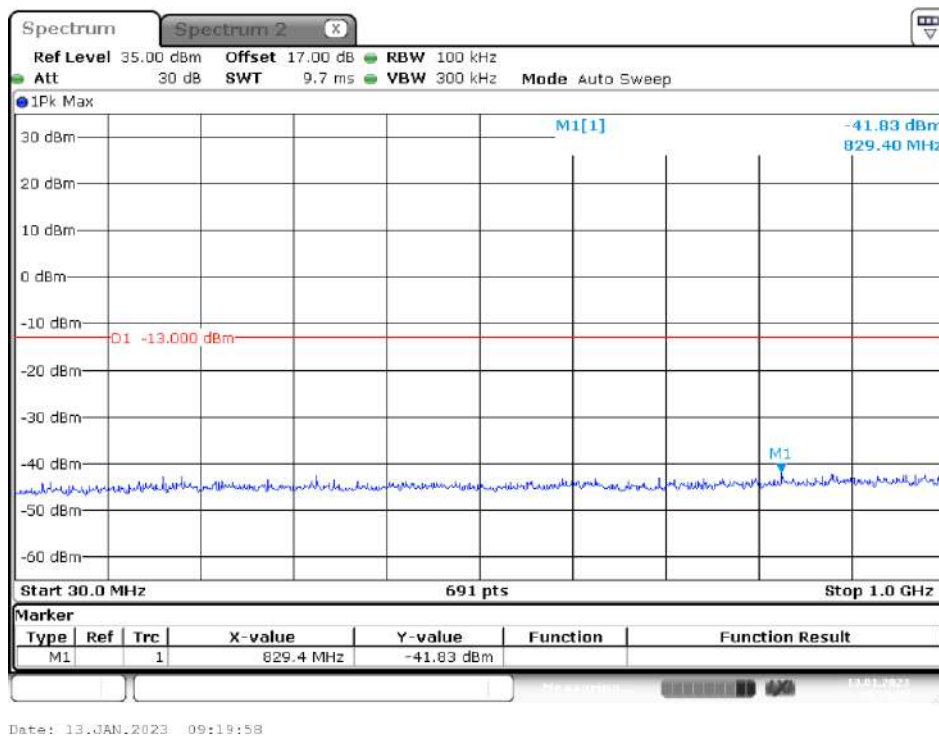
Fundamental



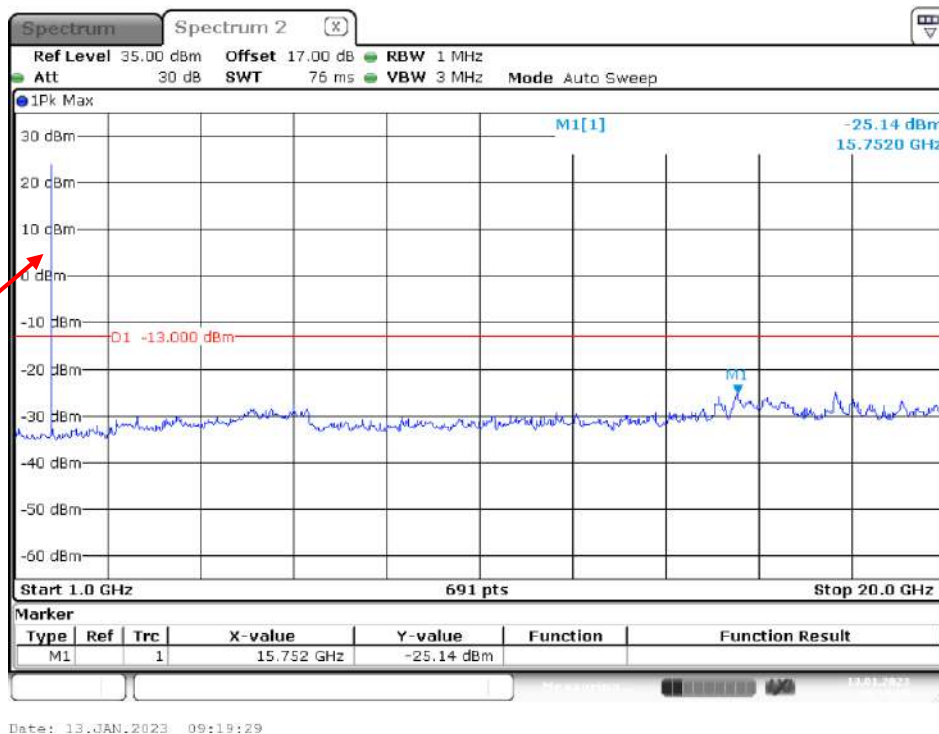
**30 MHz – 1 GHz (10 MHz, QPSK, Middle Channel)****1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)**

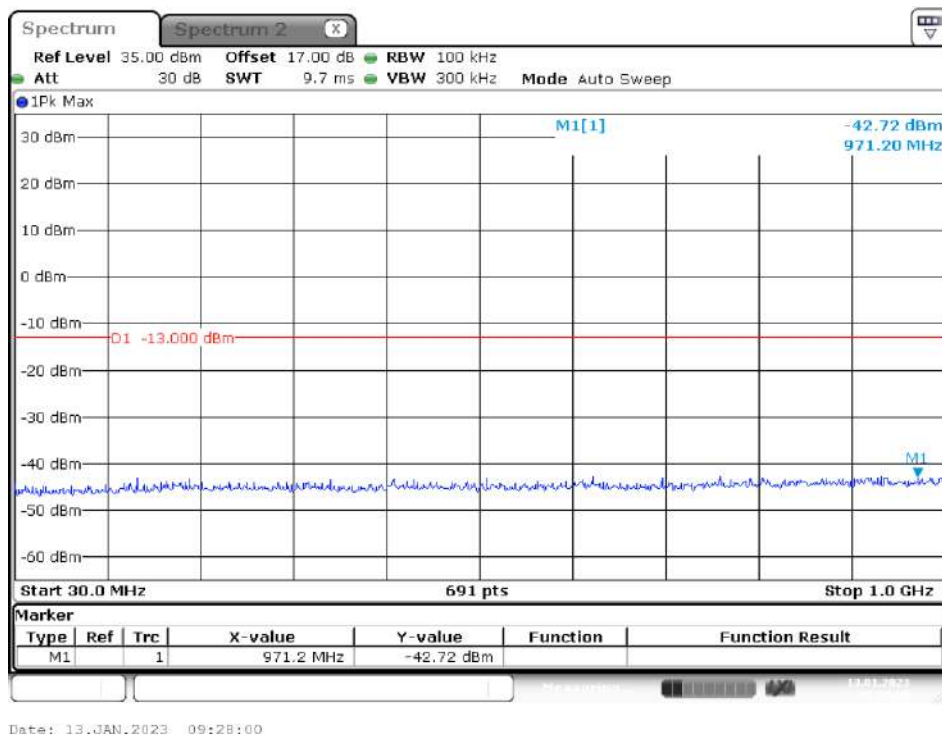
Fundamental



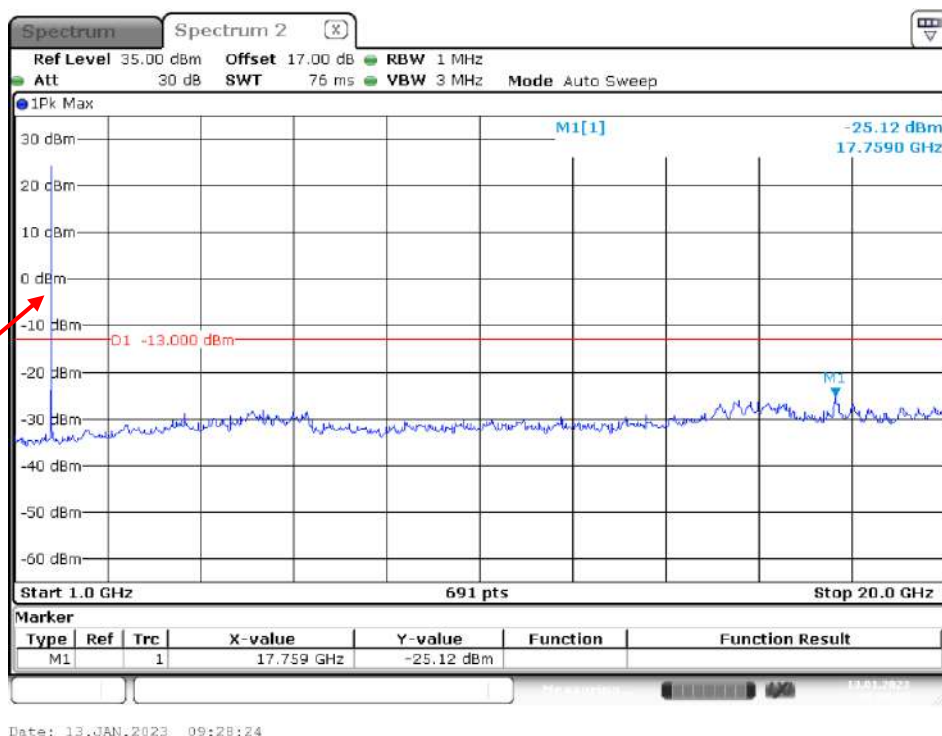
**30 MHz – 1 GHz (1.4 MHz, QPSK, High Channel)****1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)**

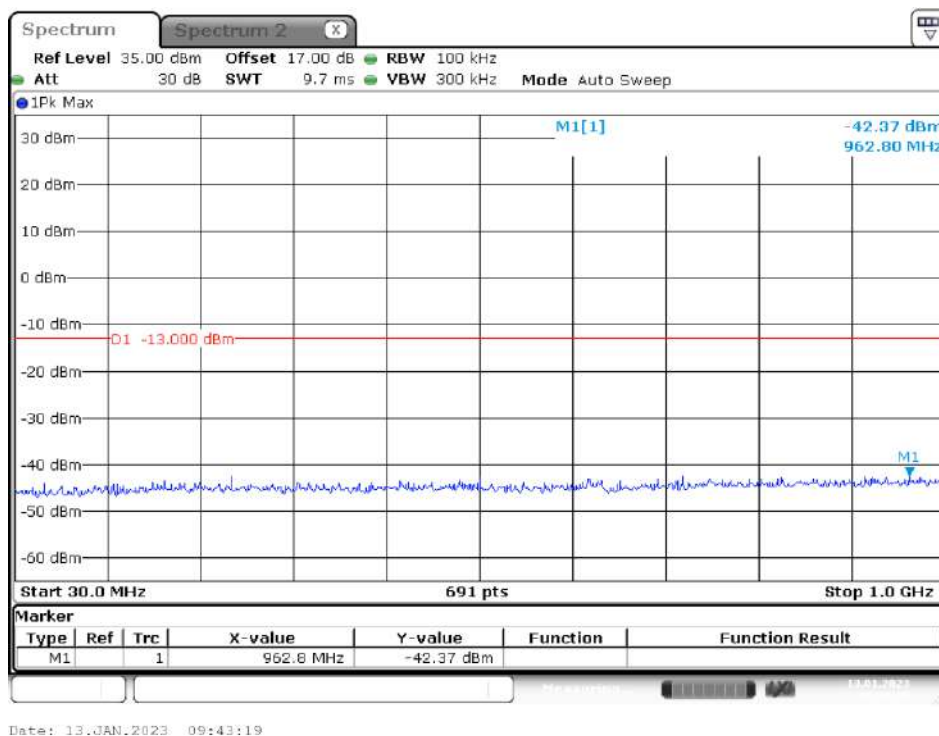
Fundamental



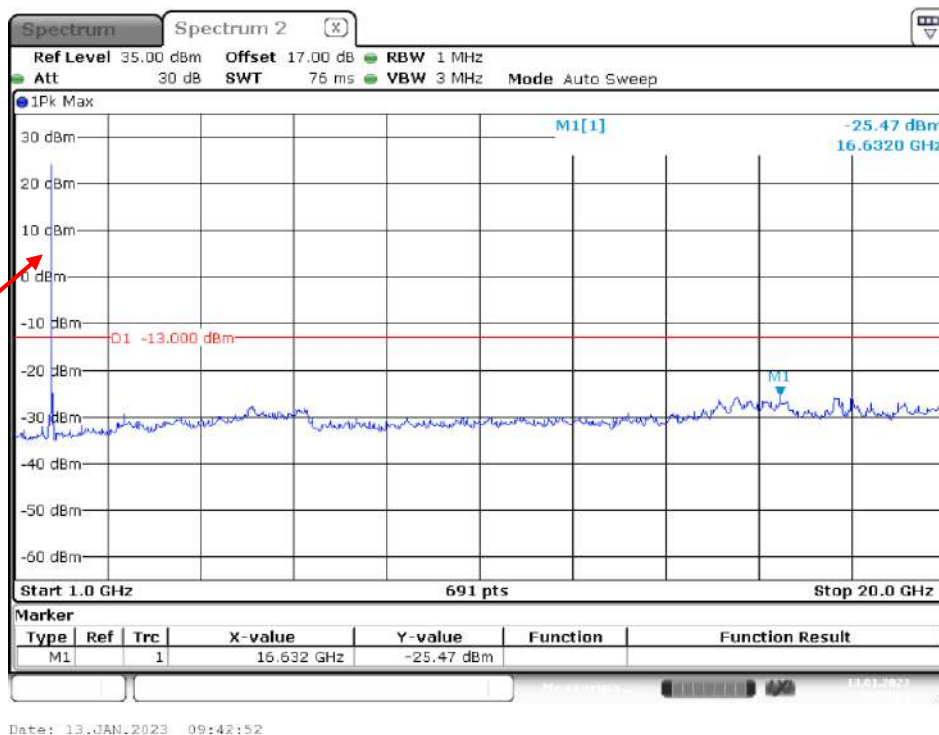
**30 MHz – 1 GHz (3 MHz, QPSK, High Channel)****1 GHz – 20 GHz (3 MHz, QPSK, High Channel)**

Fundamental



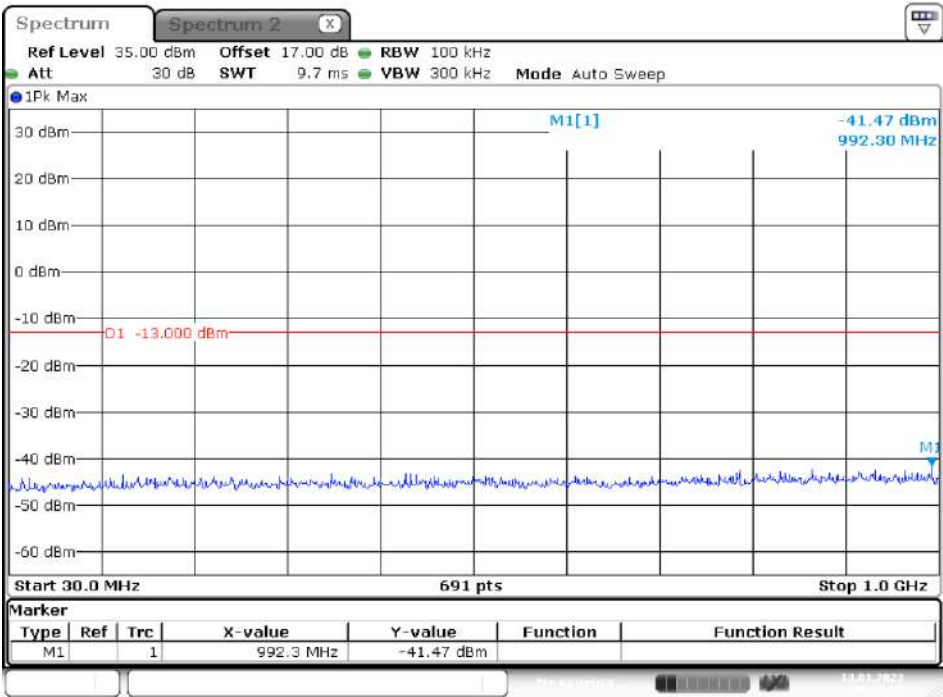
**30 MHz – 1 GHz (5 MHz, QPSK, High Channel)****1 GHz – 20 GHz (5 MHz, QPSK, High Channel)**

Fundamental





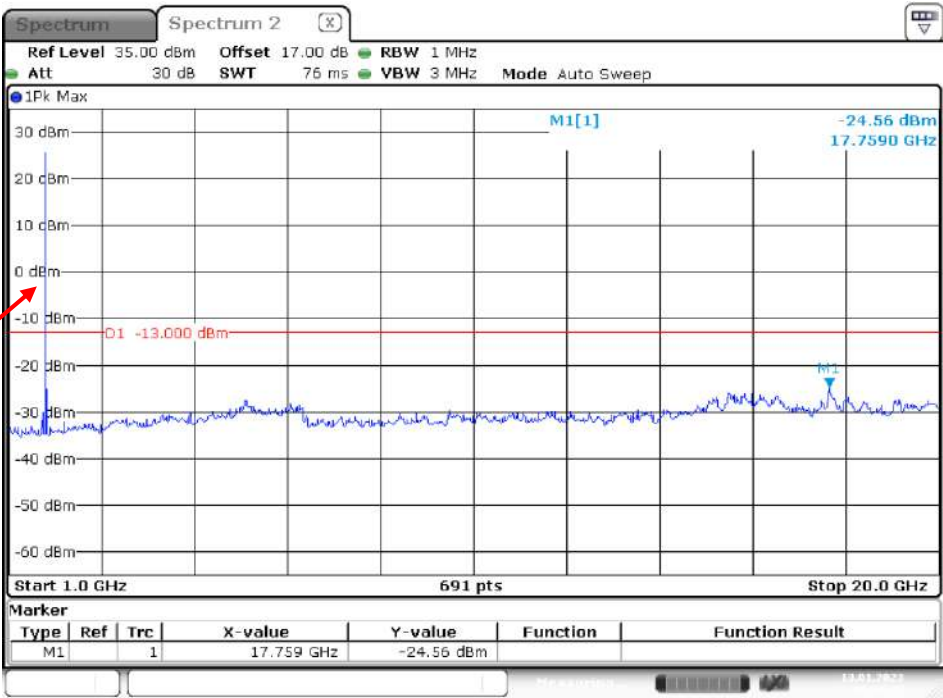
30 MHz – 1 GHz (10 MHz, QPSK, High Channel)



Date: 13.JAN.2023 09:58:22

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

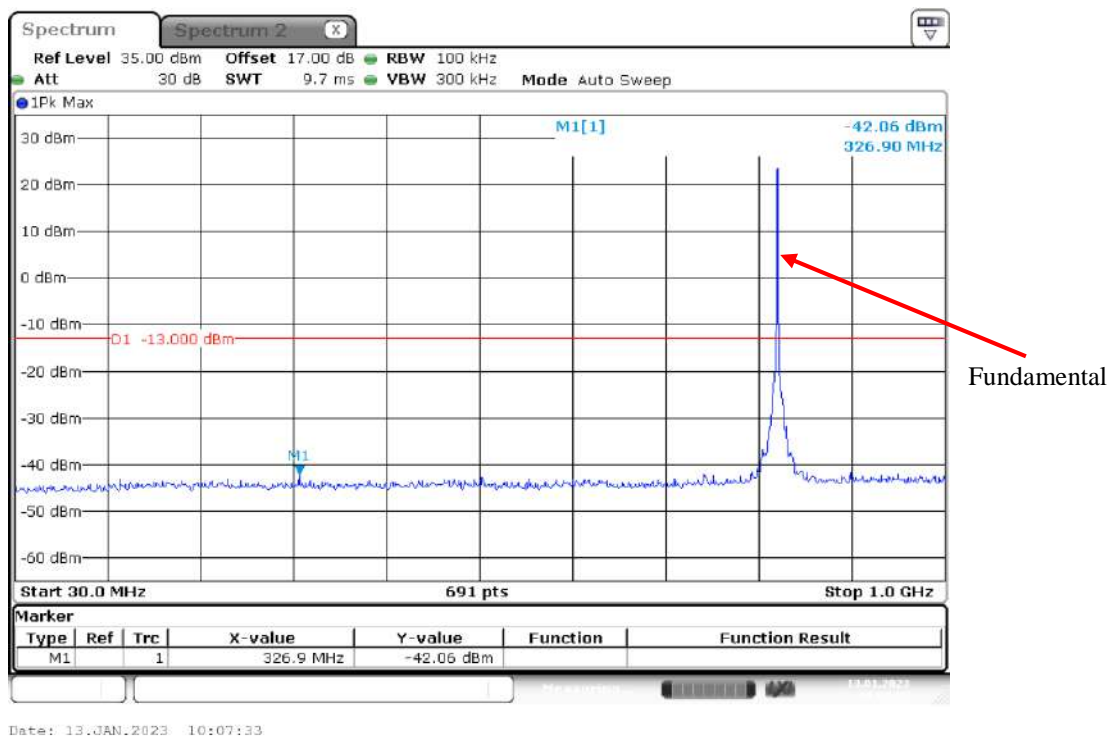
Fundamental



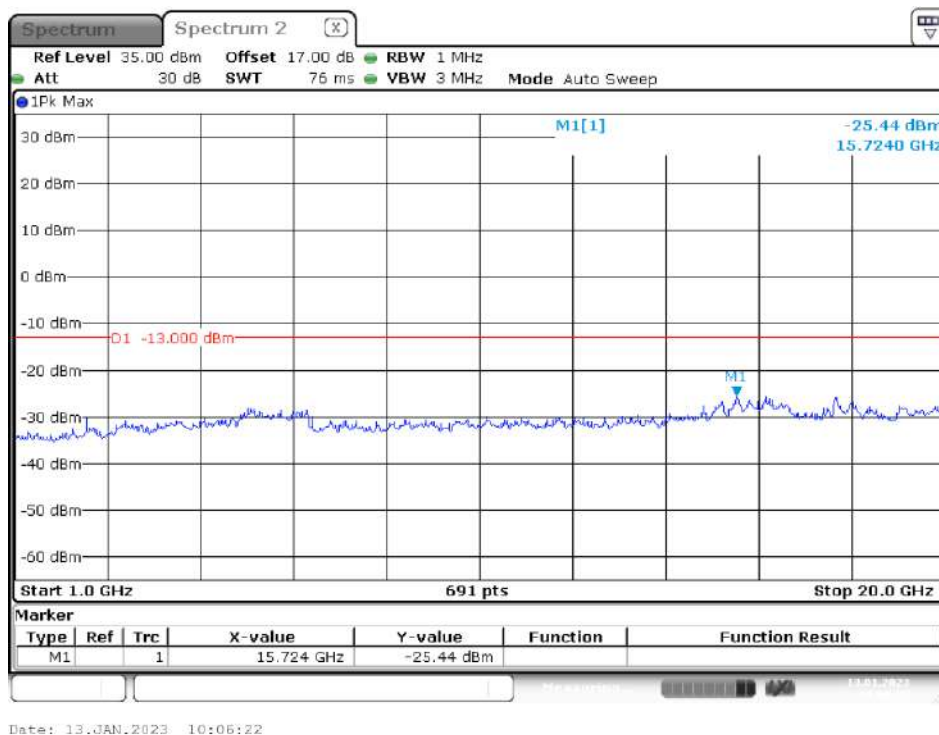
Date: 13.JAN.2023 09:58:44

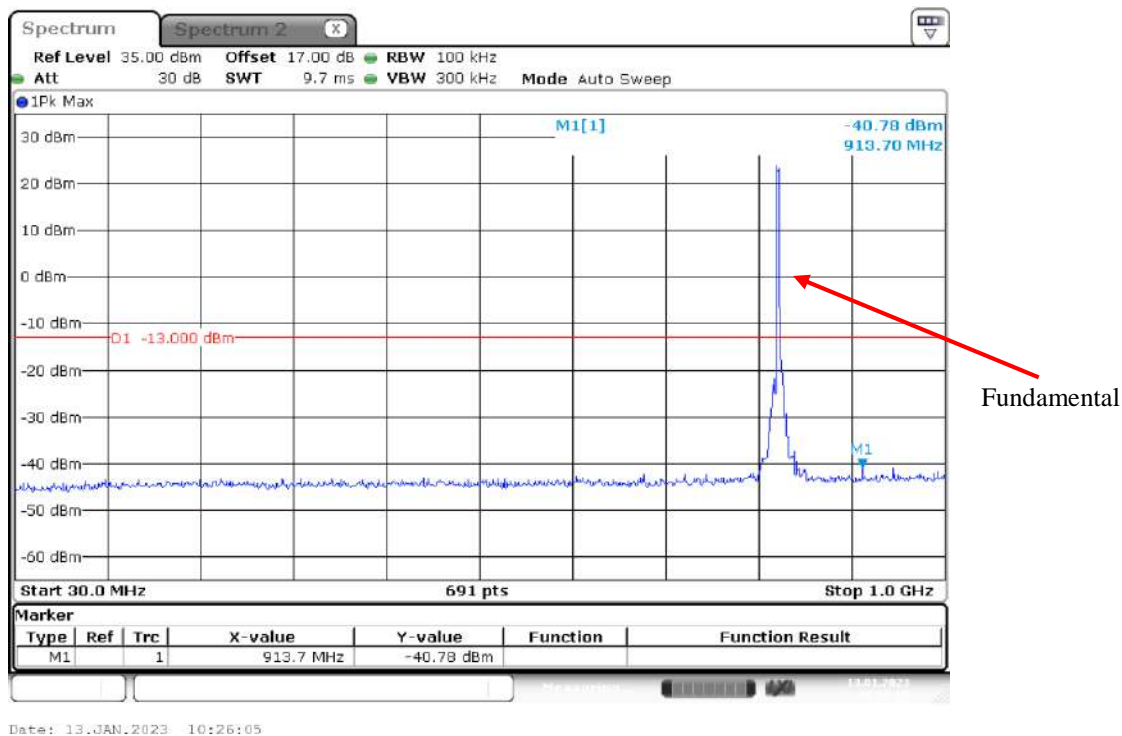
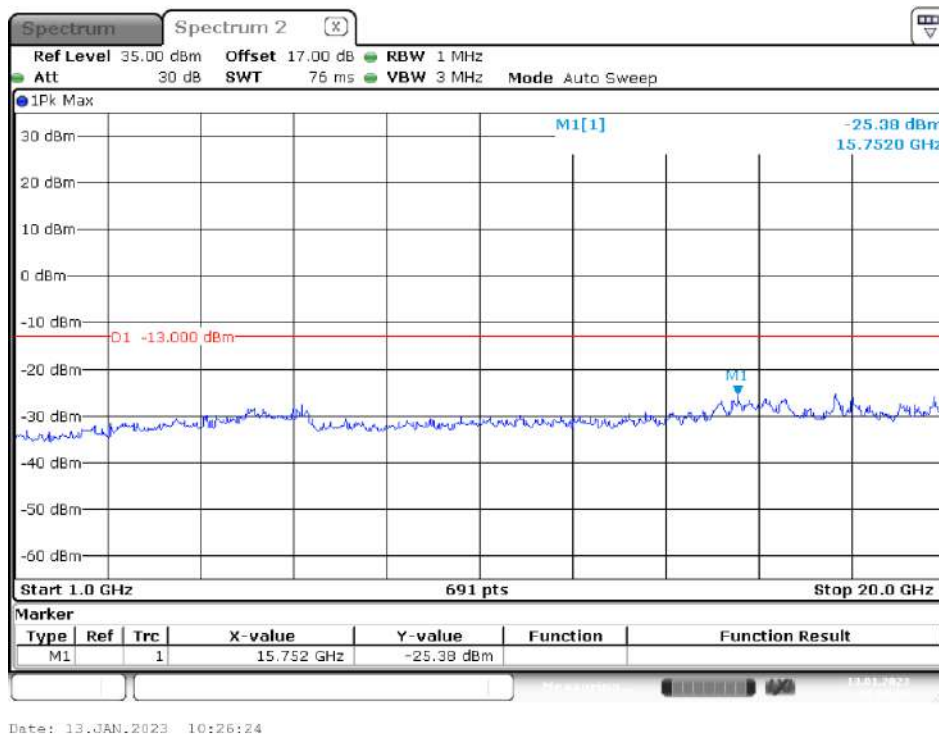
## LTE Band 5

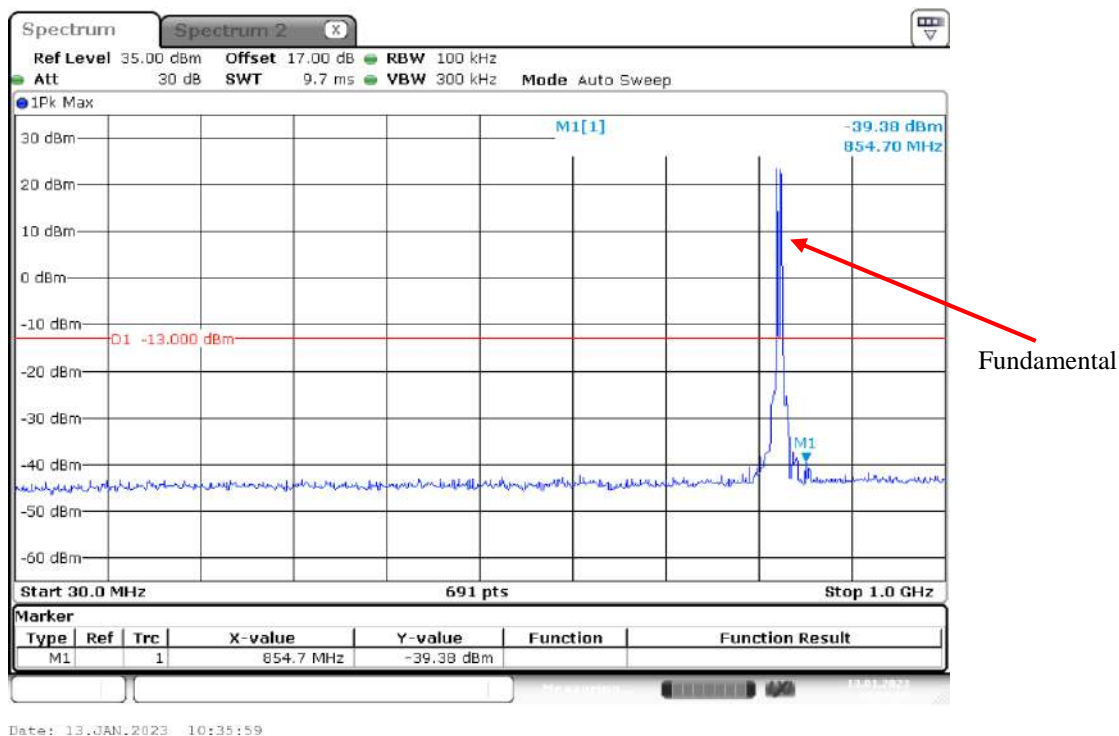
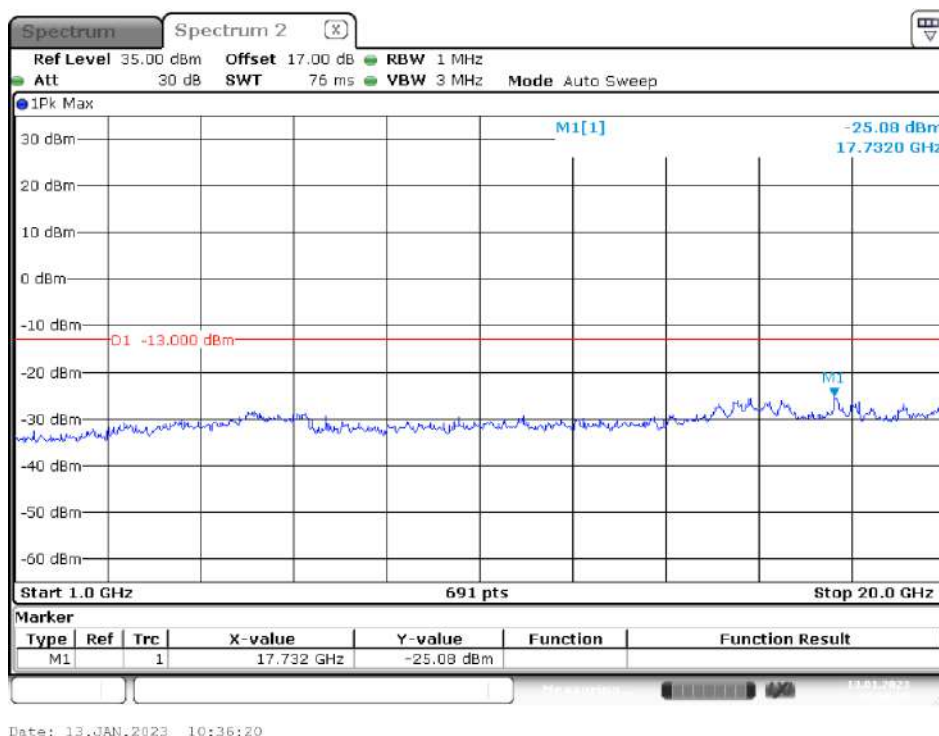
### 30 MHz – 1 GHz (QPSK, 1.4 MHz, Low Channel)

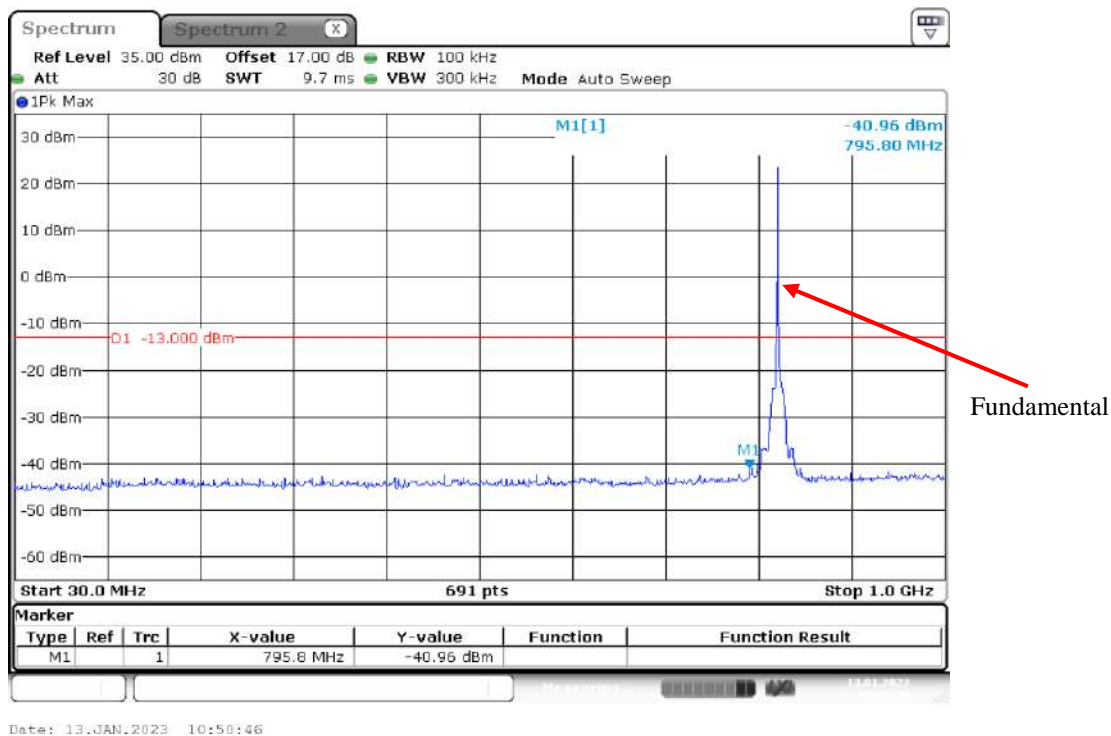
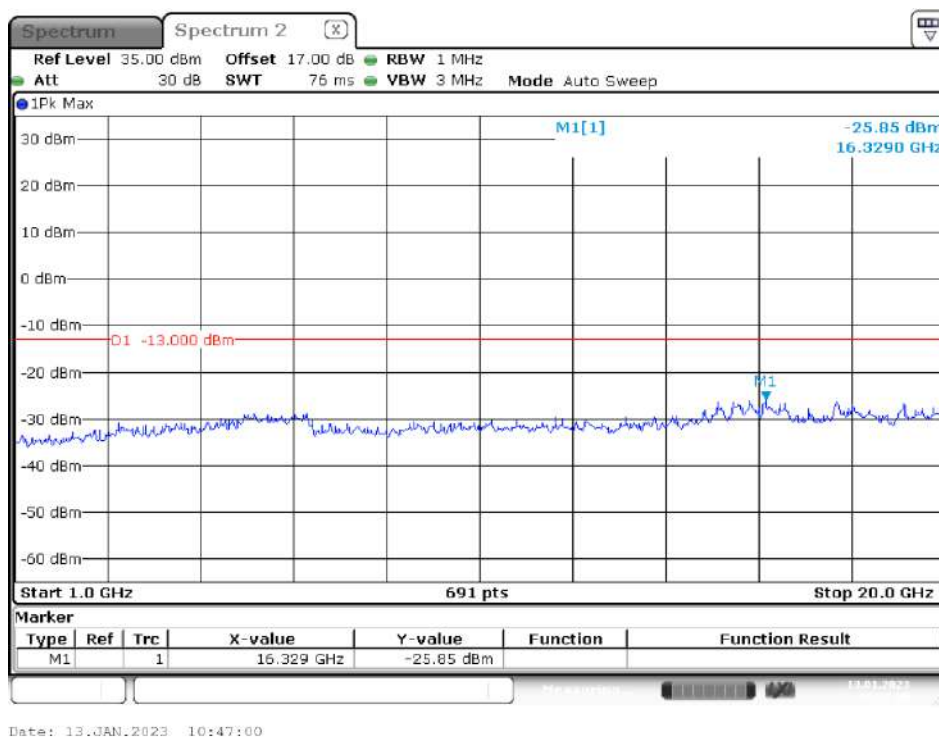


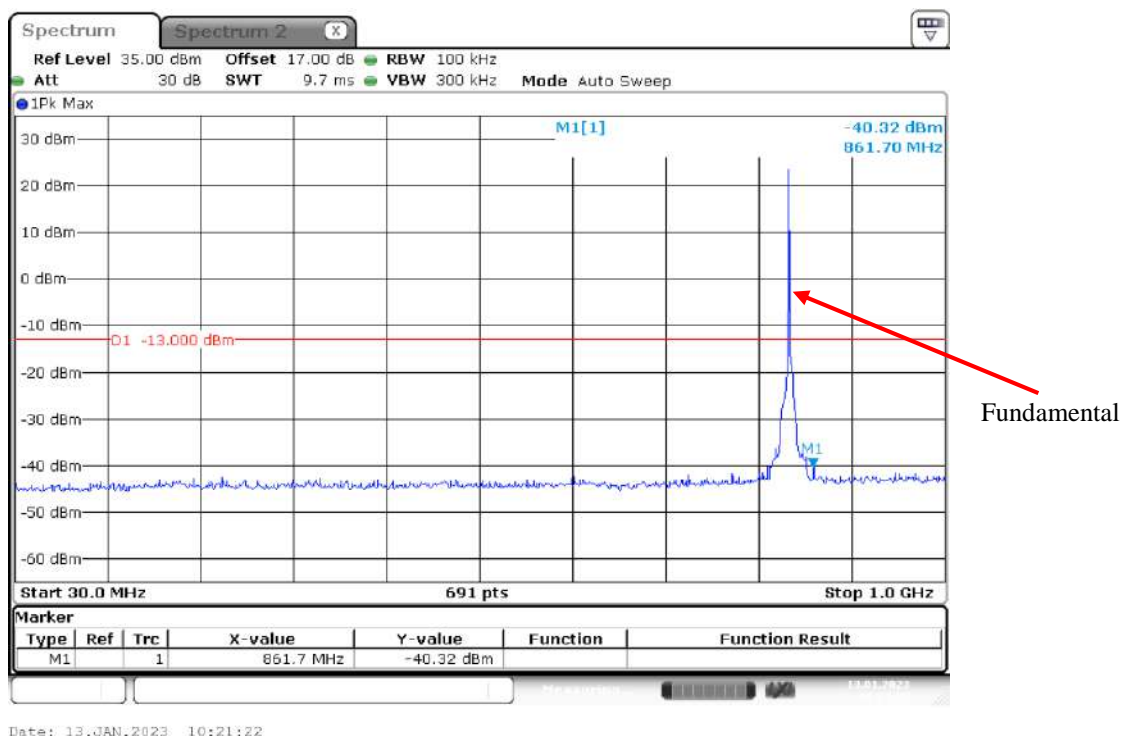
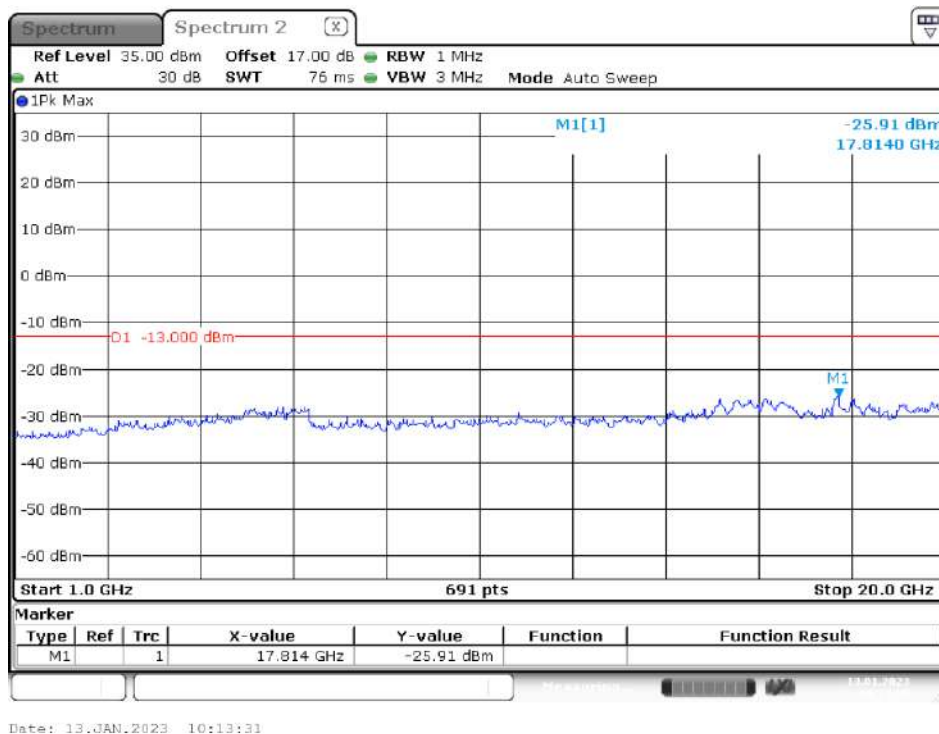
### 1 GHz – 20 GHz (QPSK, 1.4 MHz, Low Channel)



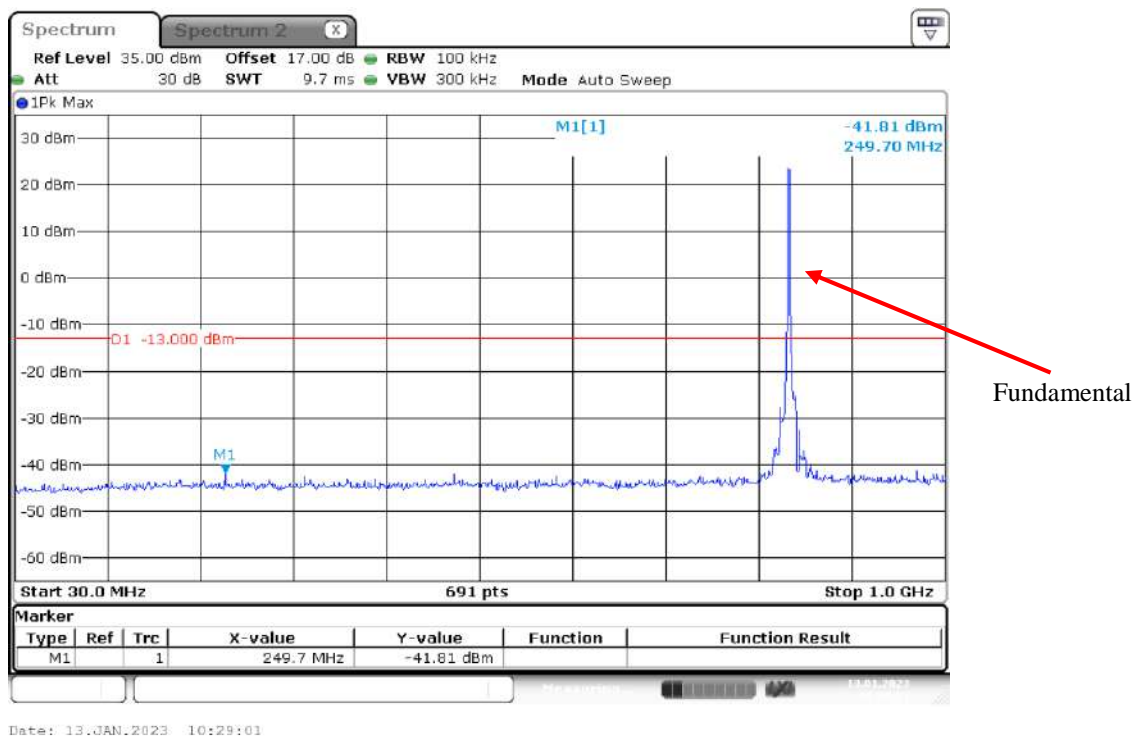
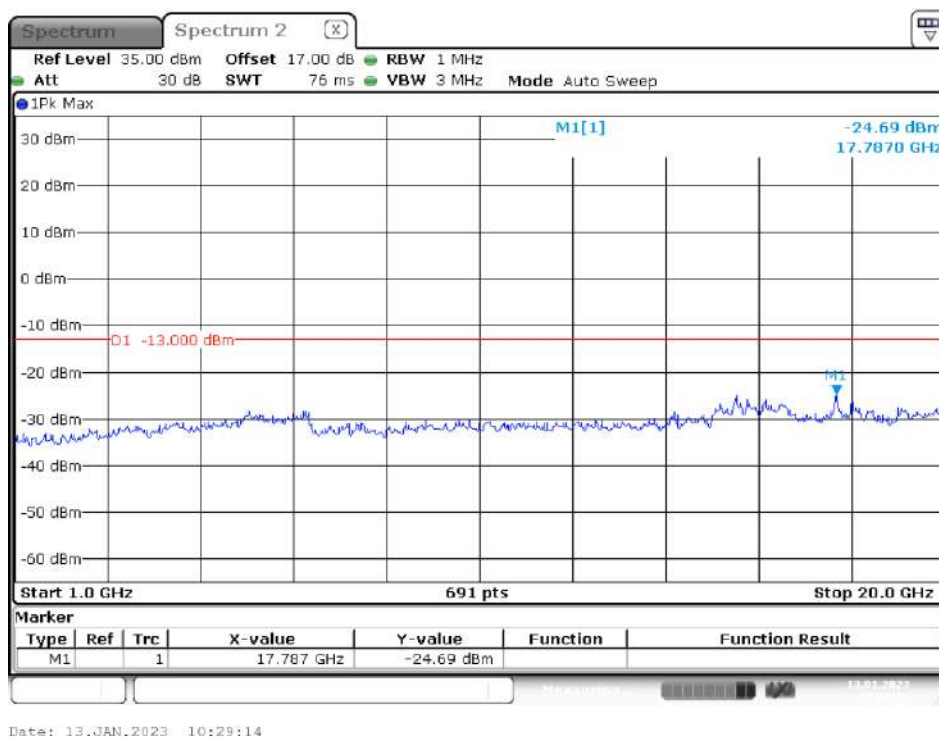
**30 MHz – 1 GHz (QPSK, 3.0 MHz, Low Channel)****1 GHz – 20 GHz (QPSK, 3.0 MHz, Low Channel)**

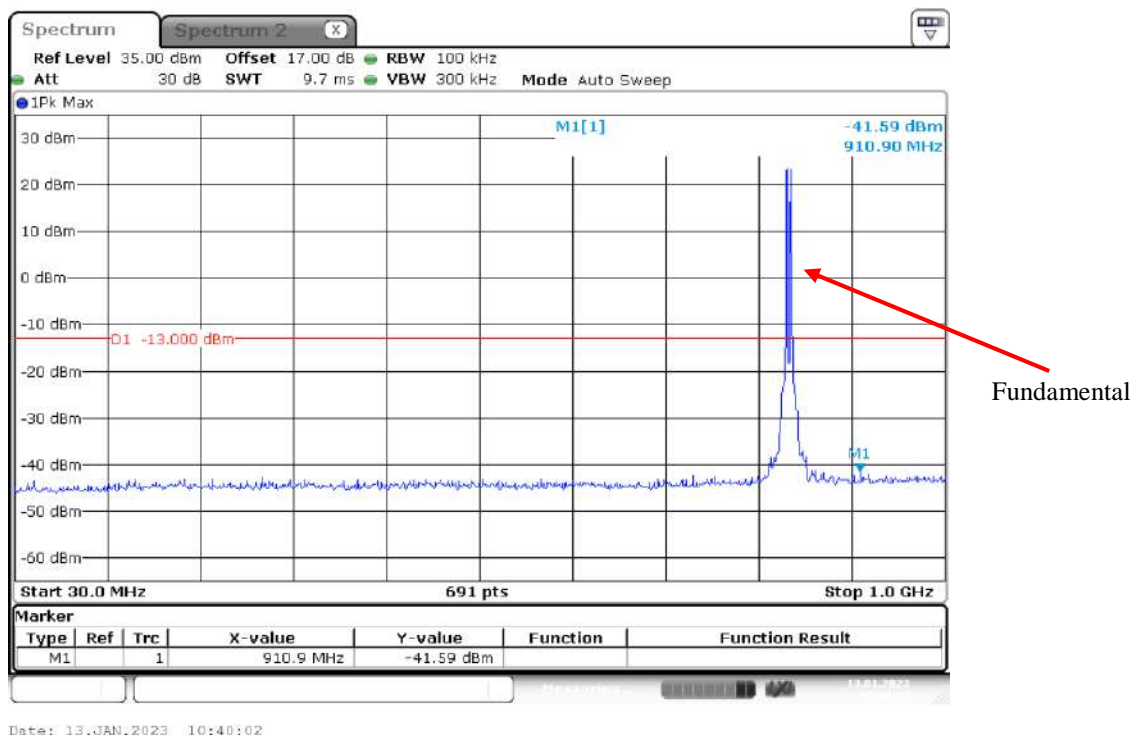
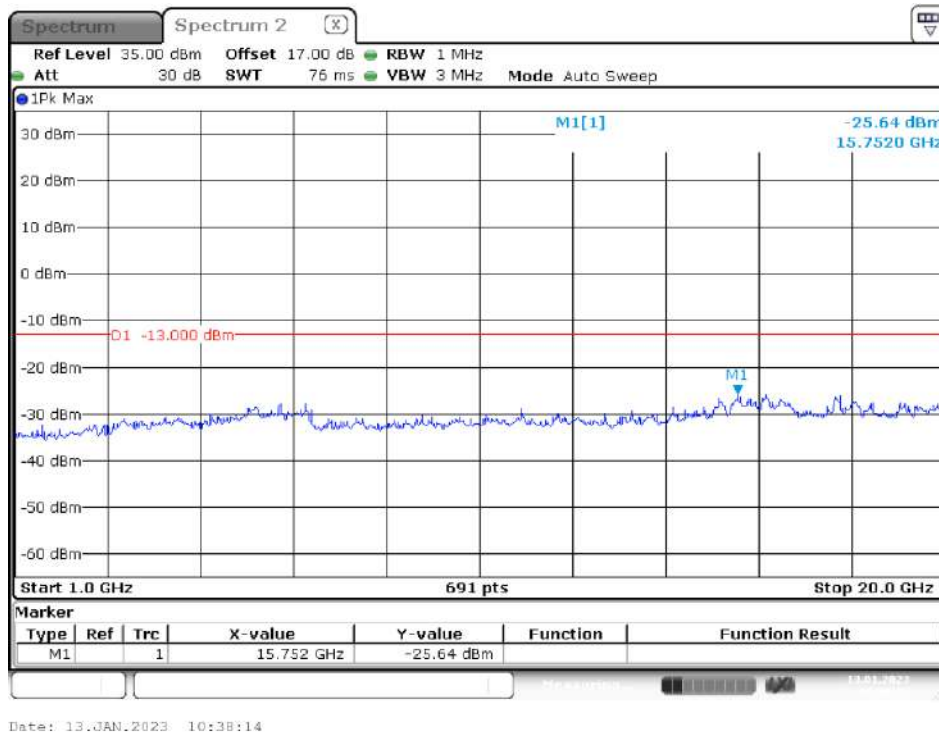
**30 MHz – 1 GHz (QPSK, 5.0 MHz, Low Channel)****1 GHz – 20 GHz (QPSK, 5.0MHz, Low Channel)**

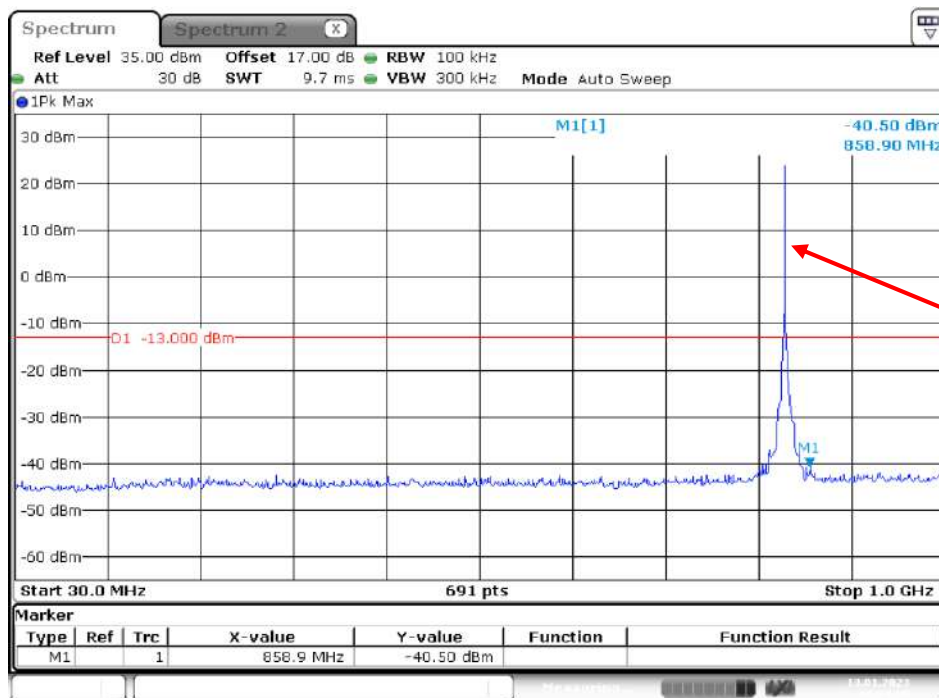
**30 MHz – 1 GHz (QPSK, 10.0 MHz, Low Channel)****1 GHz – 20 GHz (QPSK, 10.0 MHz, Low Channel)**

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



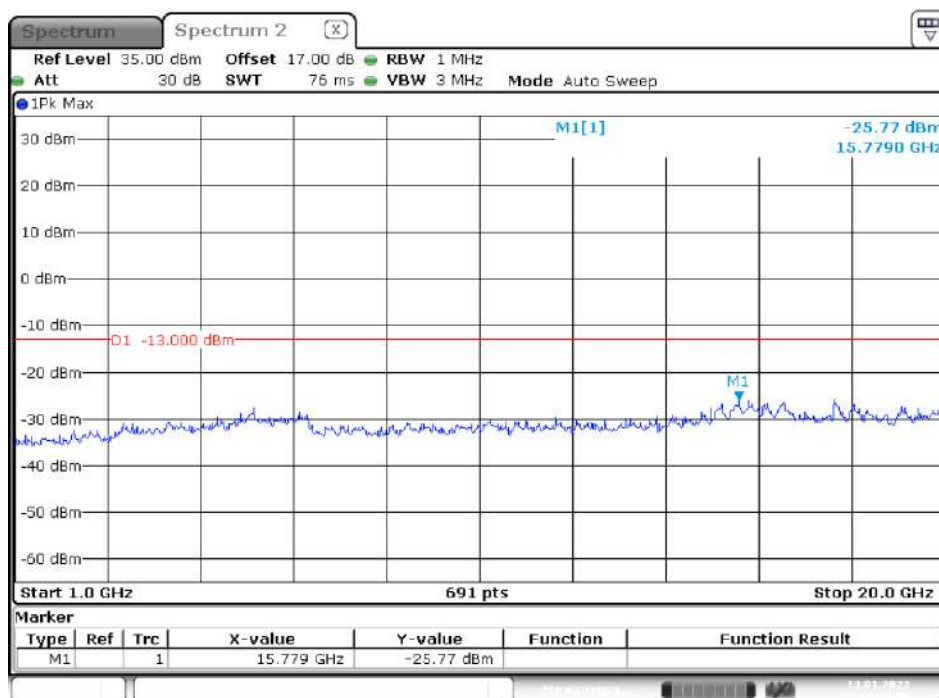
**30 MHz – 1 GHz (QPSK, 3.0 MHz, Middle Channel)****1 GHz – 20 GHz (QPSK, 3.0 MHz, Middle Channel)**

**30 MHz – 1 GHz (QPSK, 5.0 MHz, Middle Channel)****1 GHz – 20 GHz (QPSK, 5.0MHz, Middle Channel)**

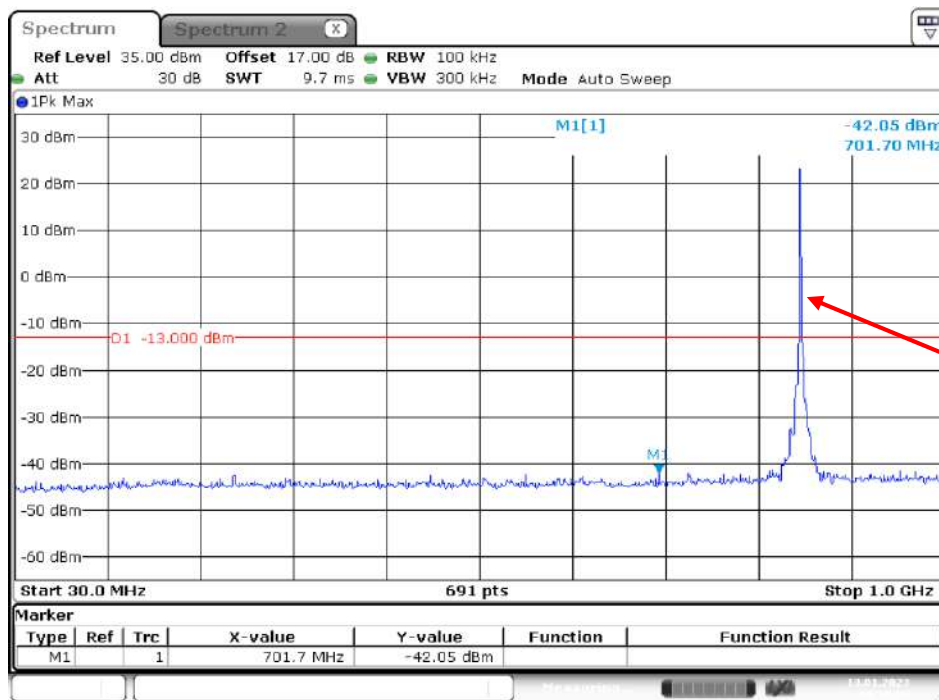
**30 MHz – 1 GHz (QPSK, 10.0 MHz, Middle Channel)**

Date: 13.JAN.2023 10:54:28

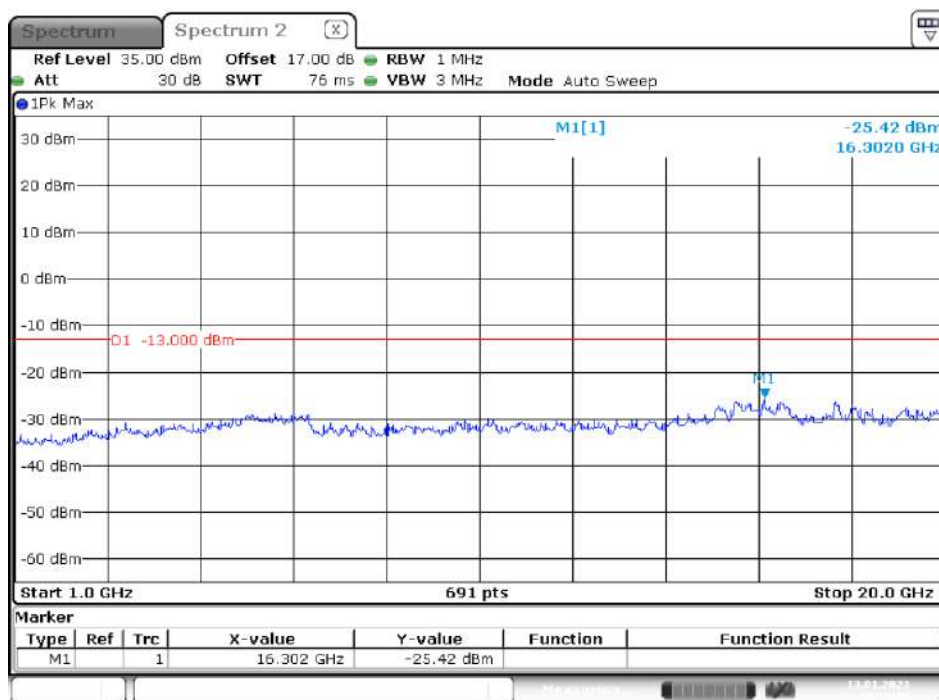
Fundamental

**1 GHz – 20 GHz (QPSK, 10.0 MHz, Middle Channel)**

Date: 13.JAN.2023 10:54:46

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

Date: 13.JAN.2023 10:18:05

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

Date: 13.JAN.2023 10:15:17