

**Band 30, Bandwidth: 10MHz, Modulation: TM1.1-QPSK**

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26dB BW (MHz)
--	2355.0	ANT0	9.003	9.92
		ANT1	8.996	9.89

**Band 30, Bandwidth: 10MHz, Modulation: TM3.2-16QAM**

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26dB BW (MHz)
--	2355.0	ANT0	9.002	9.89
		ANT1	9.002	9.95

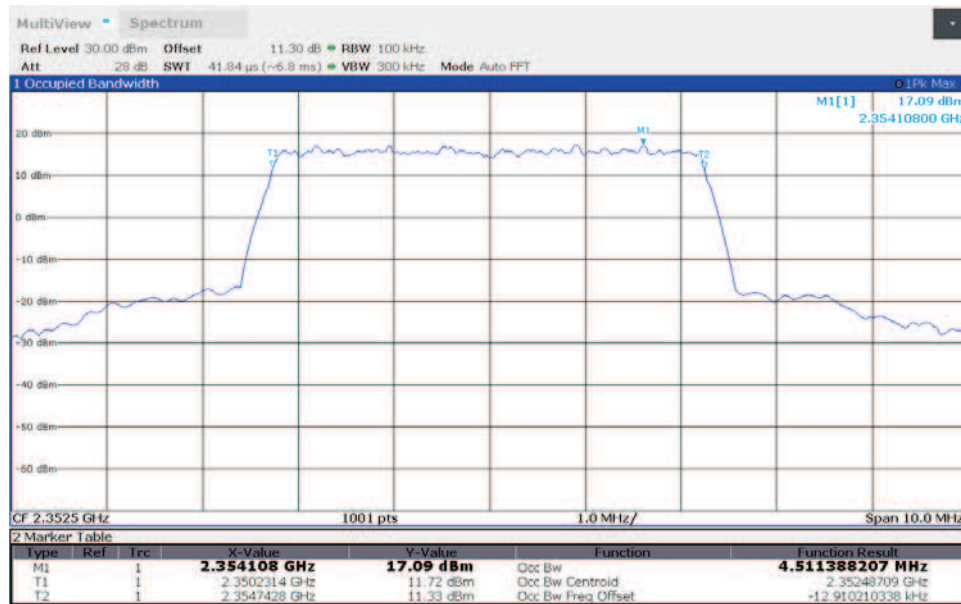
**Band 30, Bandwidth: 10MHz, Modulation: TM3.1-64QAM**

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26dB BW (MHz)
--	2355.0	ANT0	9.008	9.92
		ANT1	9.006	9.86

**Band 30, Bandwidth: 10MHz, Modulation: TM3.1a-256QAM**

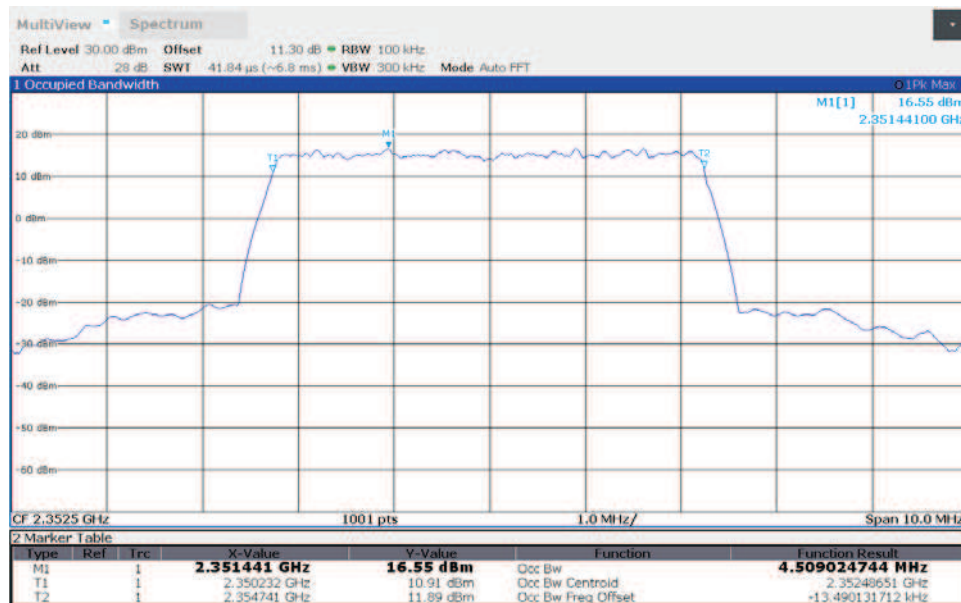
Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26dB BW (MHz)
--	2355.0	ANT0	8.991	9.86
		ANT1	8.988	9.86

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Occupied Bandwidth**



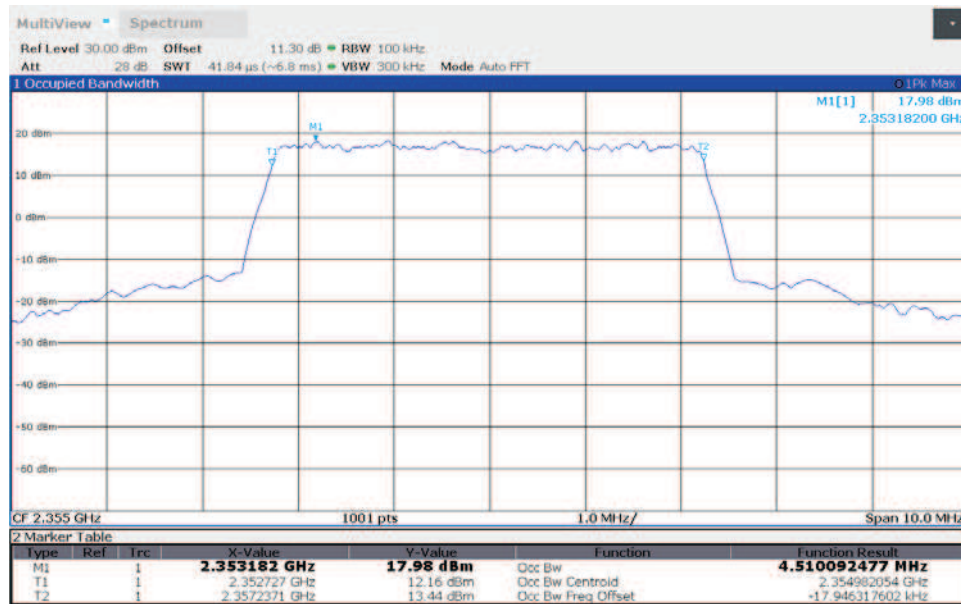
16:47:45 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Occupied Bandwidth**



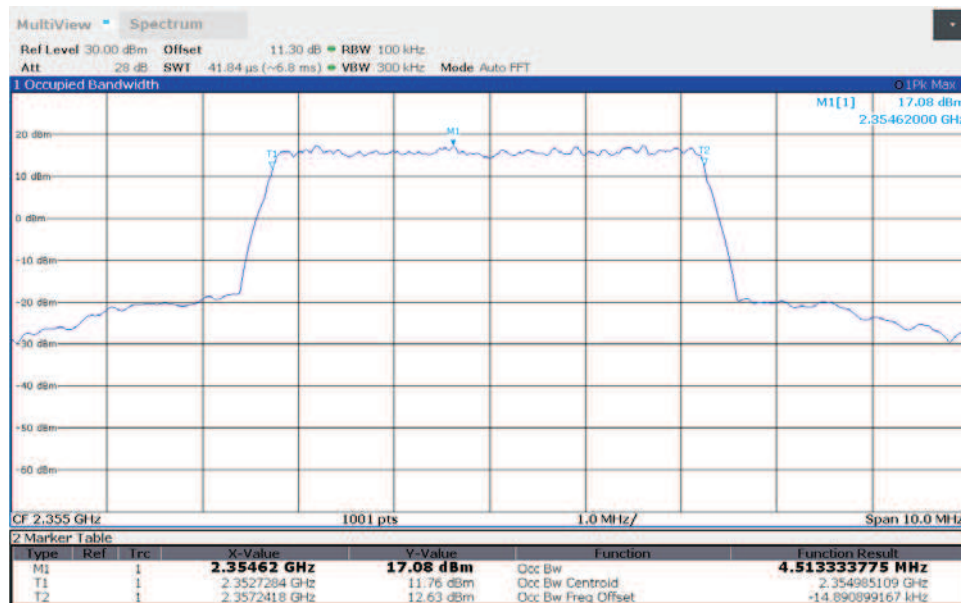
16:46:25 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, Occupied Bandwidth**



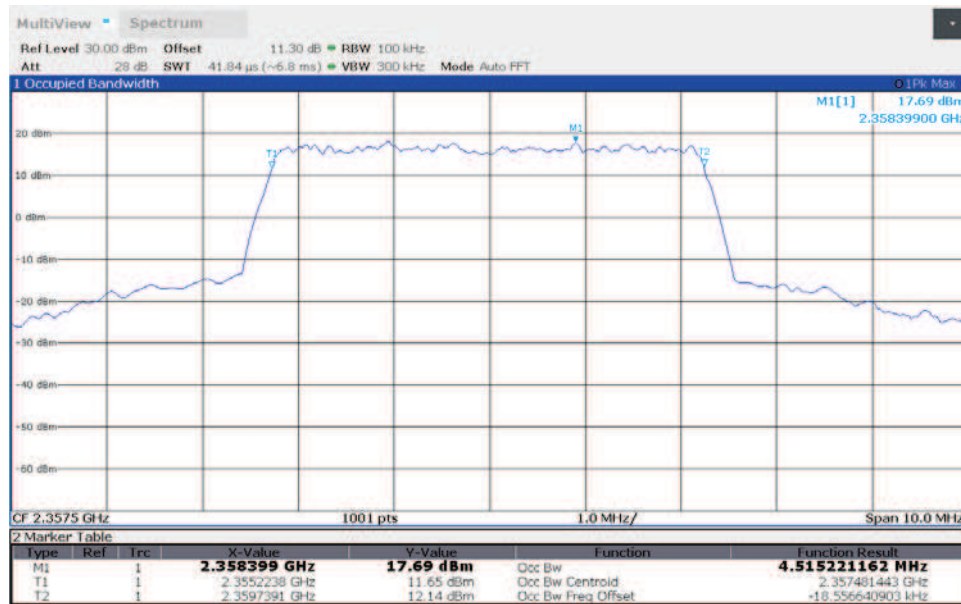
16:53:04 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, Occupied Bandwidth**



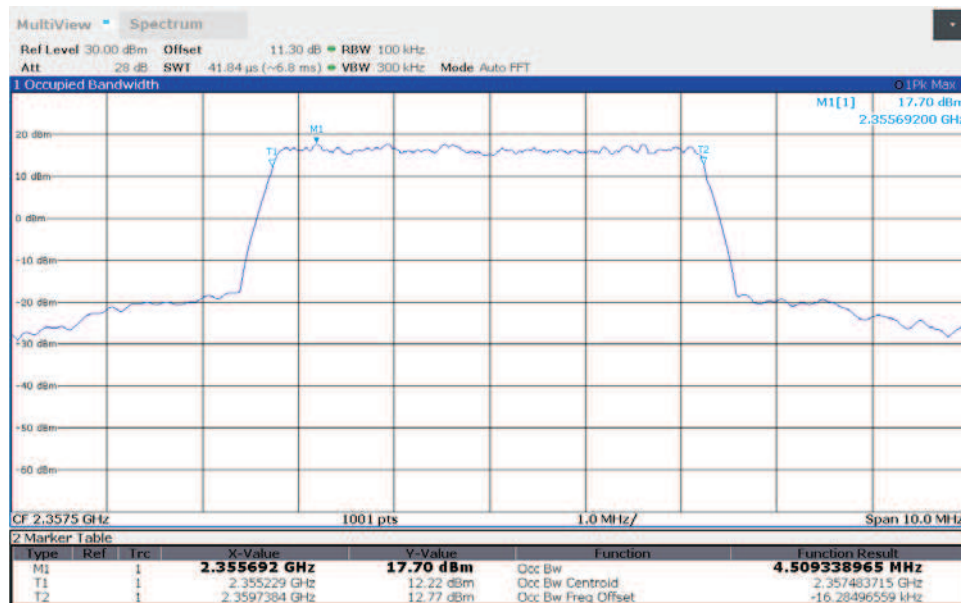
16:53:46 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Occupied Bandwidth**



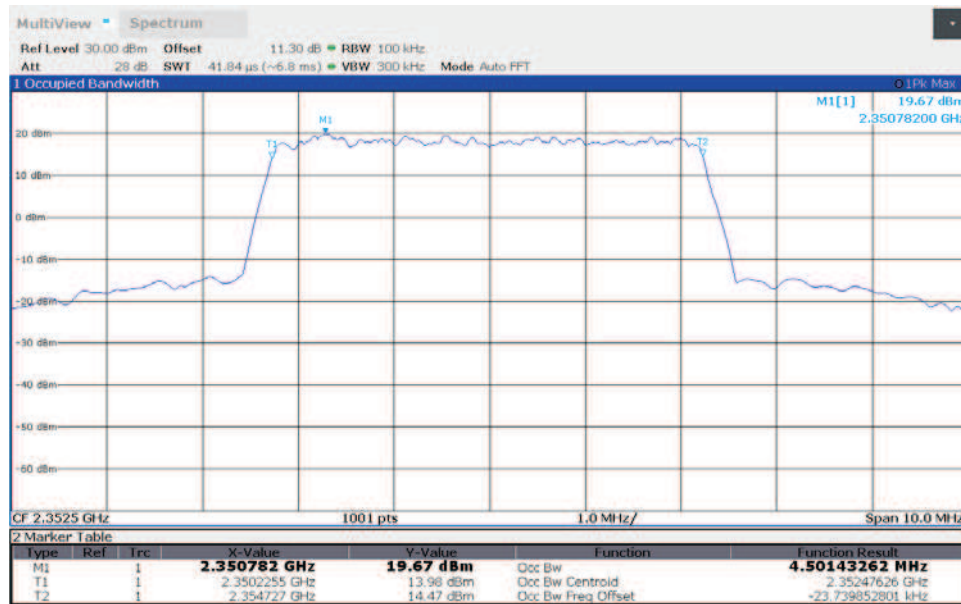
16:55:13 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Occupied Bandwidth**



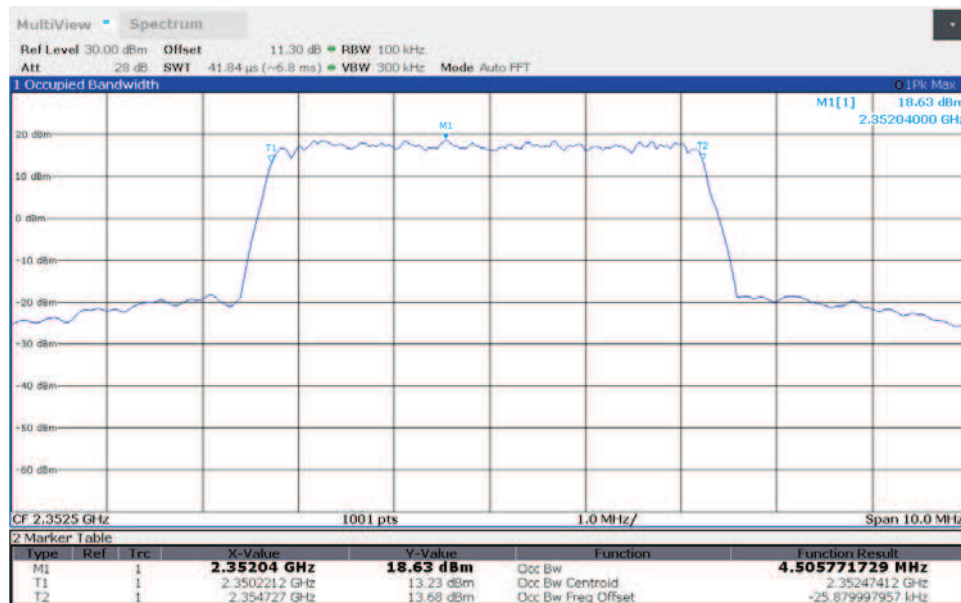
16:54:45 14.09.2020

**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Occupied Bandwidth**



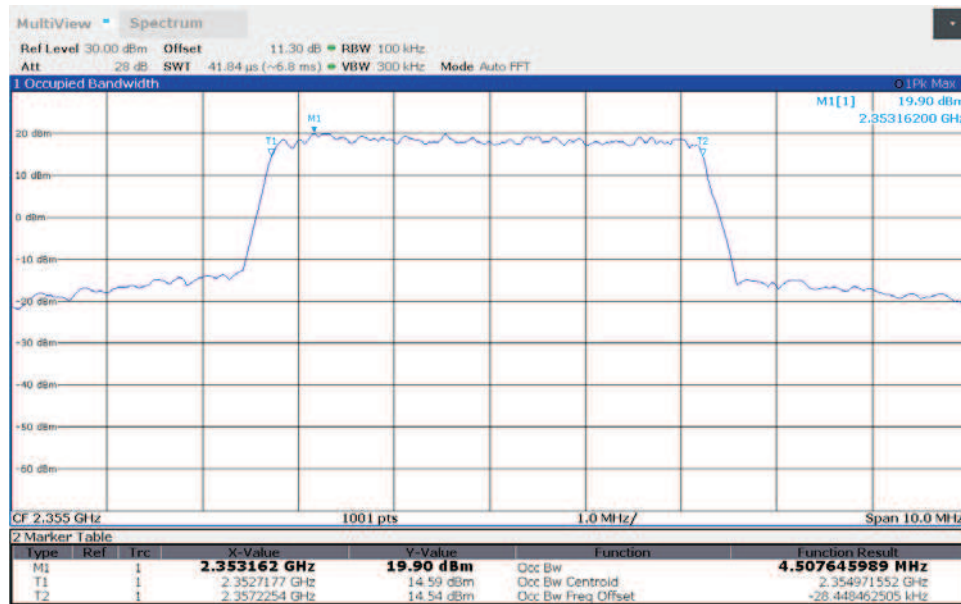
17:37:57 14.09.2020

**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Occupied Bandwidth**



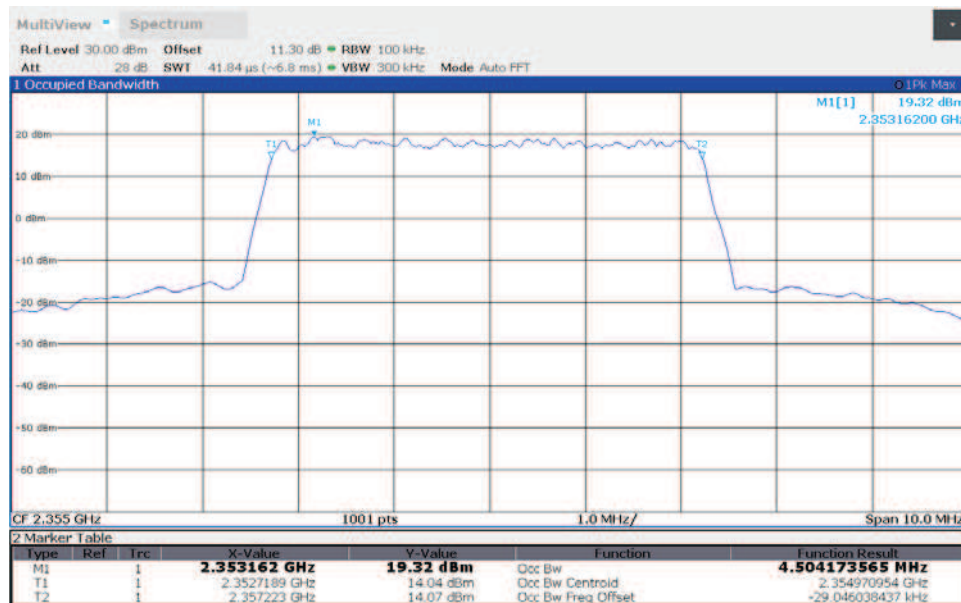
17:38:41 14.09.2020

**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, Occupied Bandwidth**



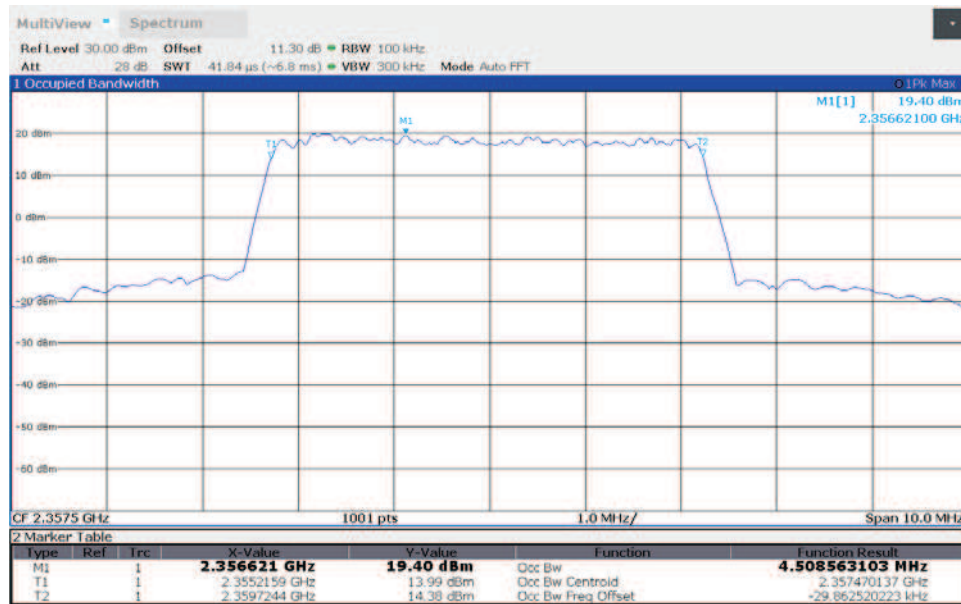
17:40:16 14.09.2020

**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, Occupied Bandwidth**



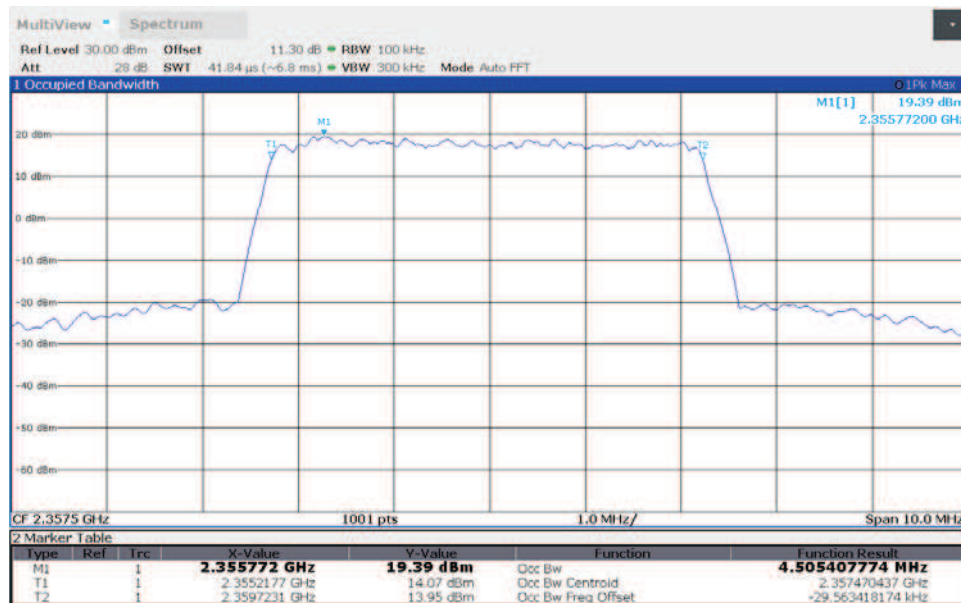
17:39:30 14.09.2020

**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Occupied Bandwidth**



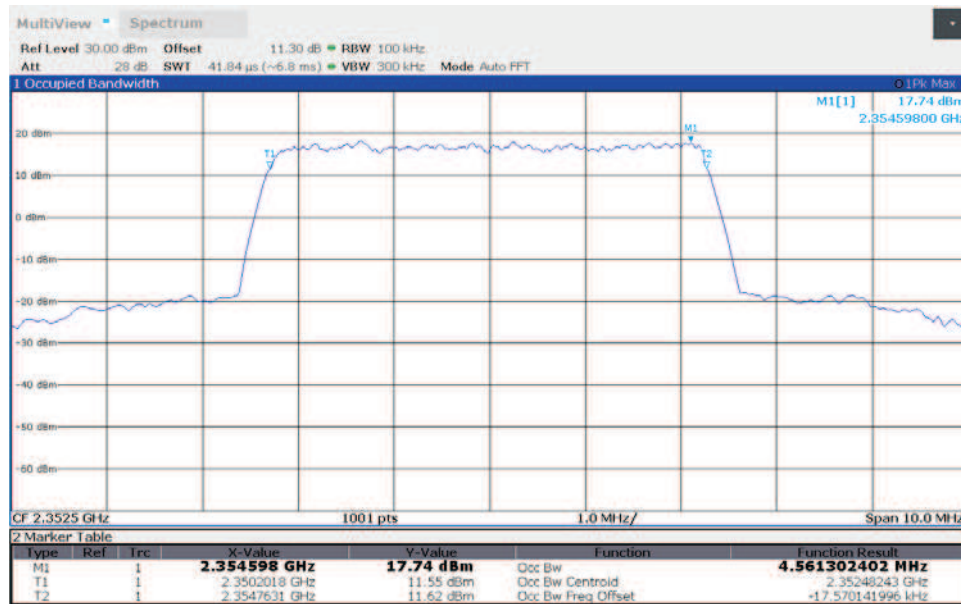
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**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Occupied Bandwidth**



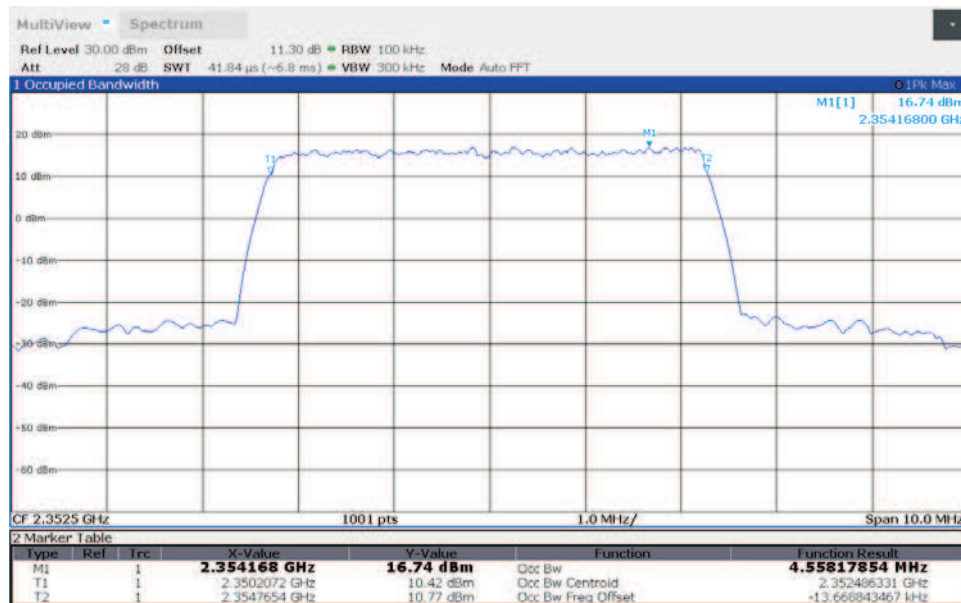
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**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Occupied Bandwidth**



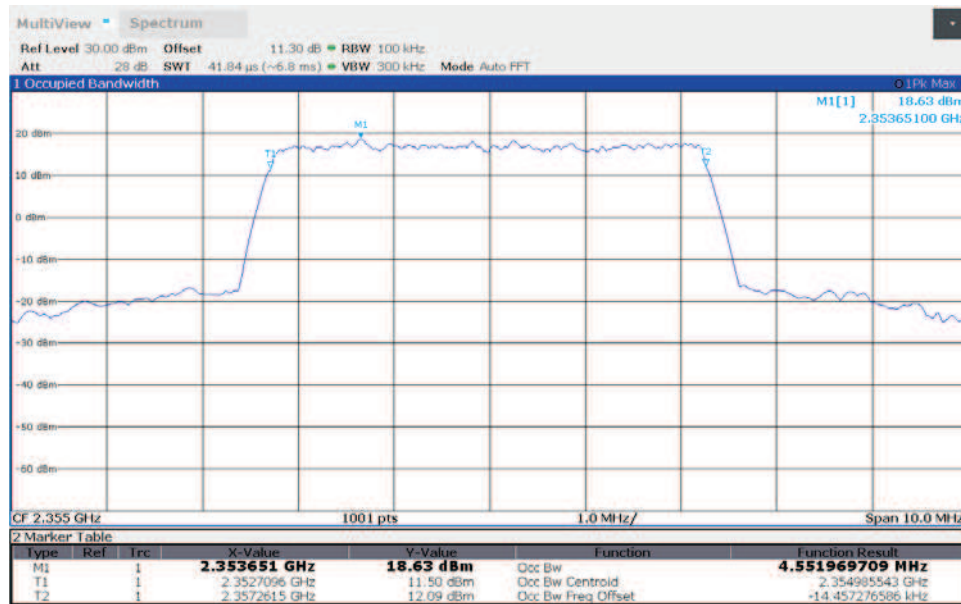
17:45:14 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Occupied Bandwidth**



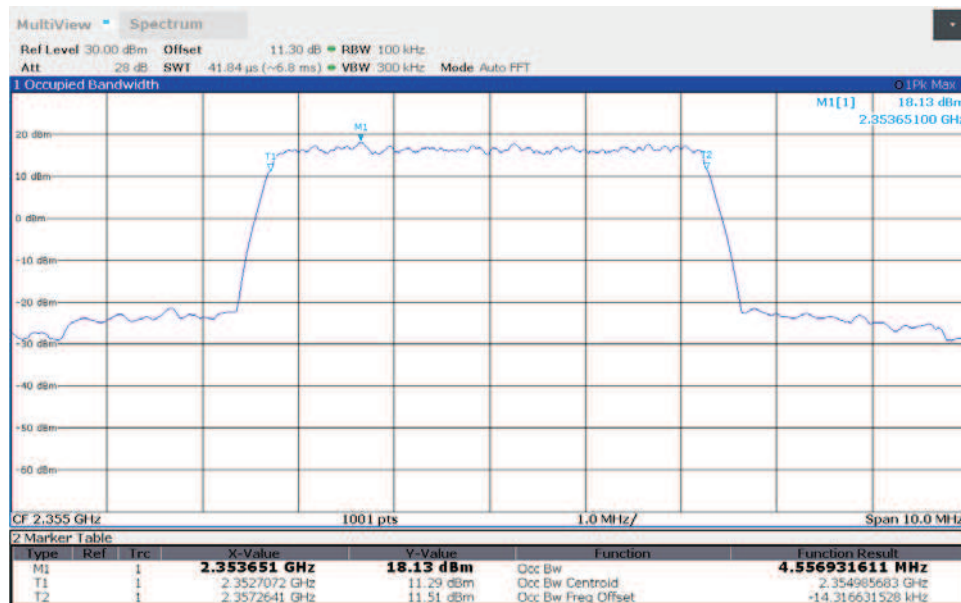
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**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, Occupied Bandwidth**



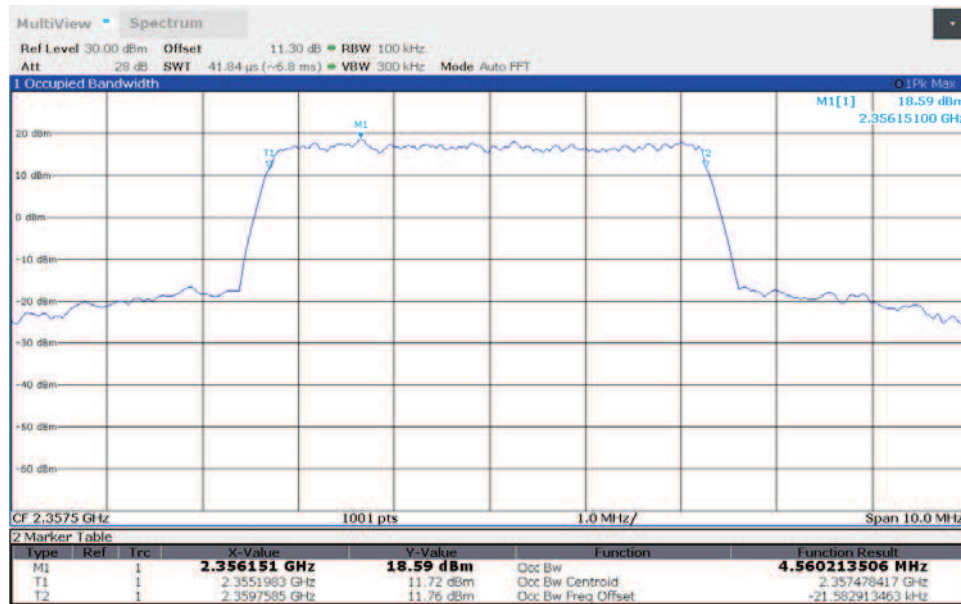
17:47:44 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, Occupied Bandwidth**



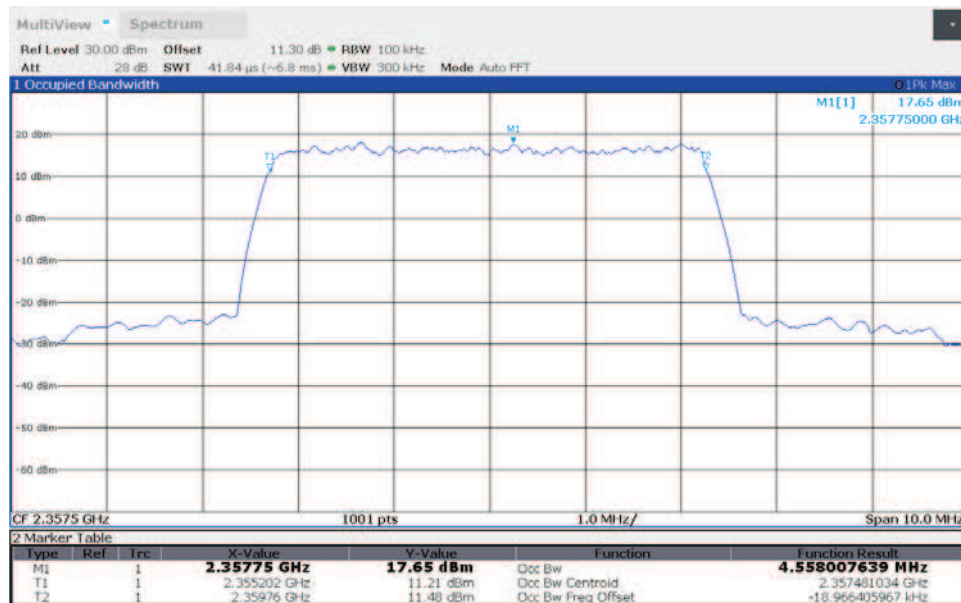
17:46:53 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Occupied Bandwidth**



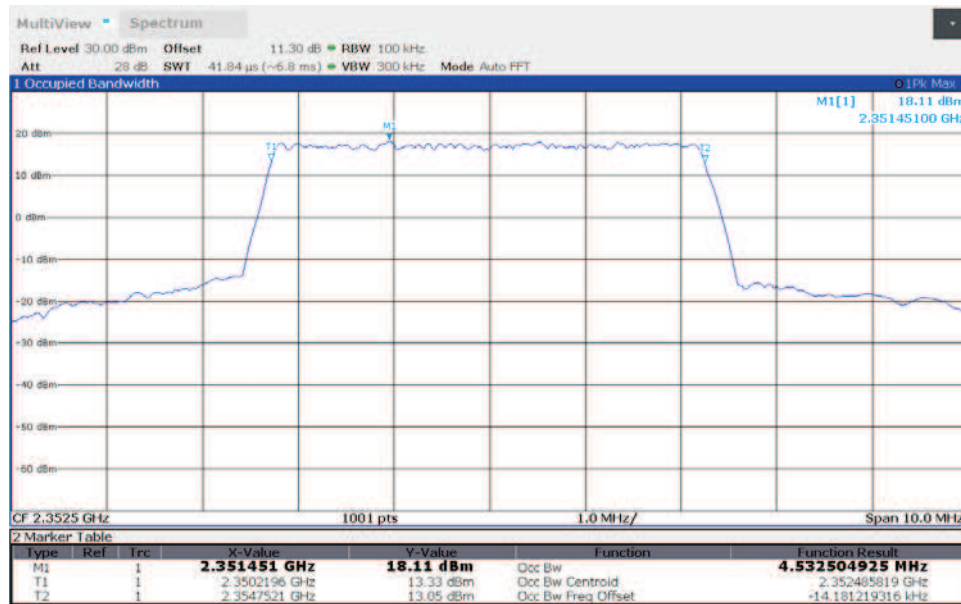
17:48:40 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Occupied Bandwidth**



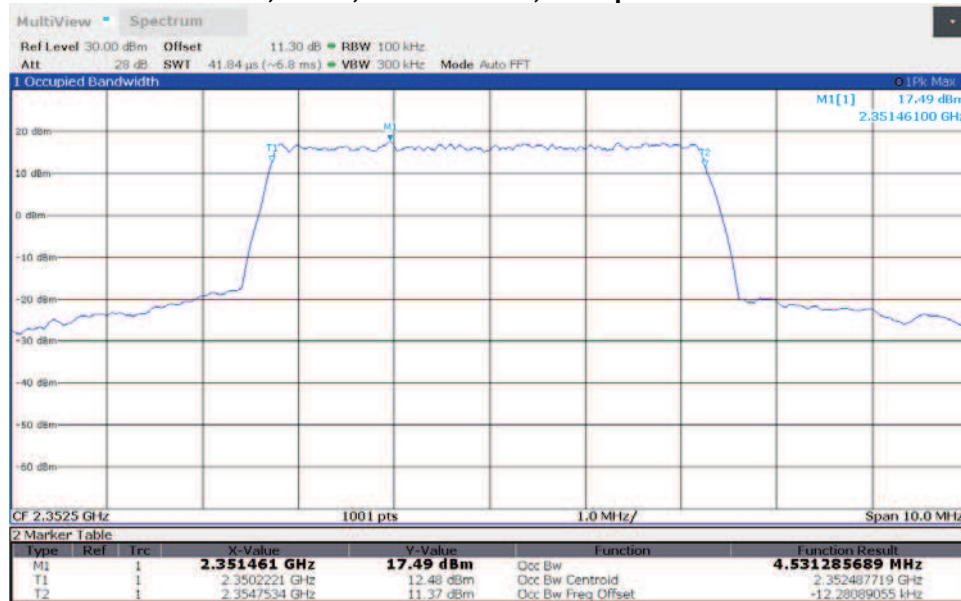
17:49:28 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Occupied Bandwidth**



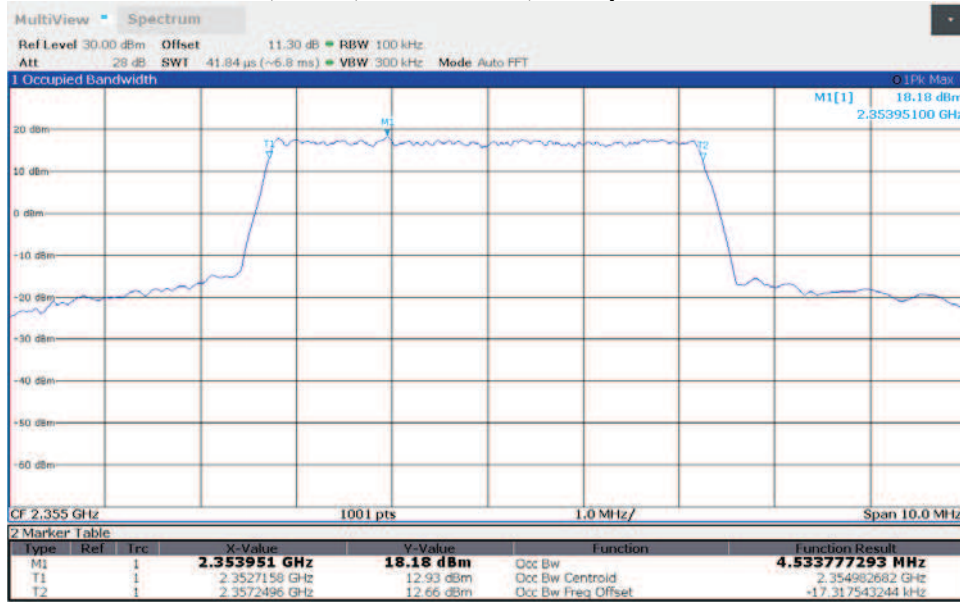
18:04:36 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Occupied Bandwidth**



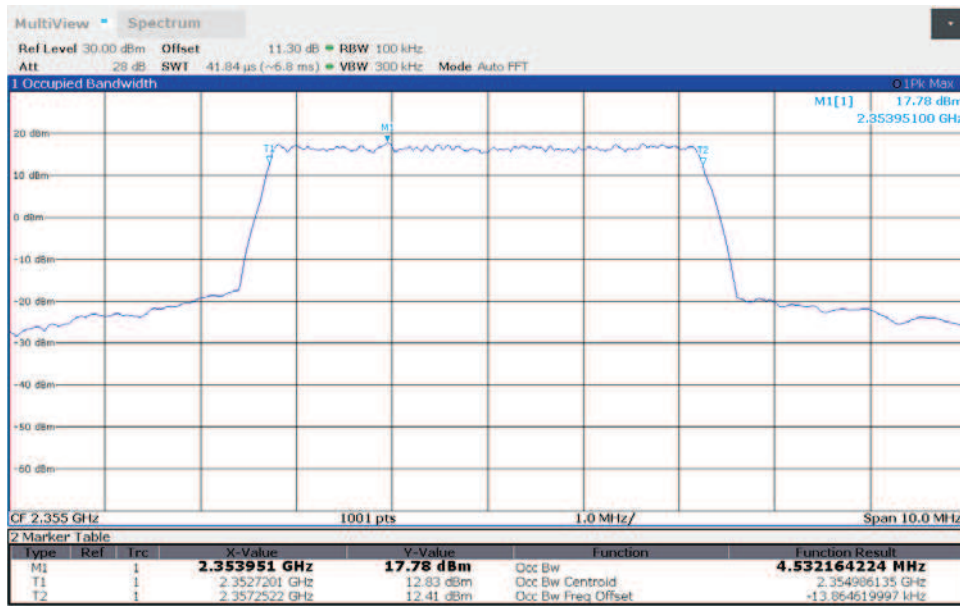
18:05:42 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, Occupied Bandwidth**



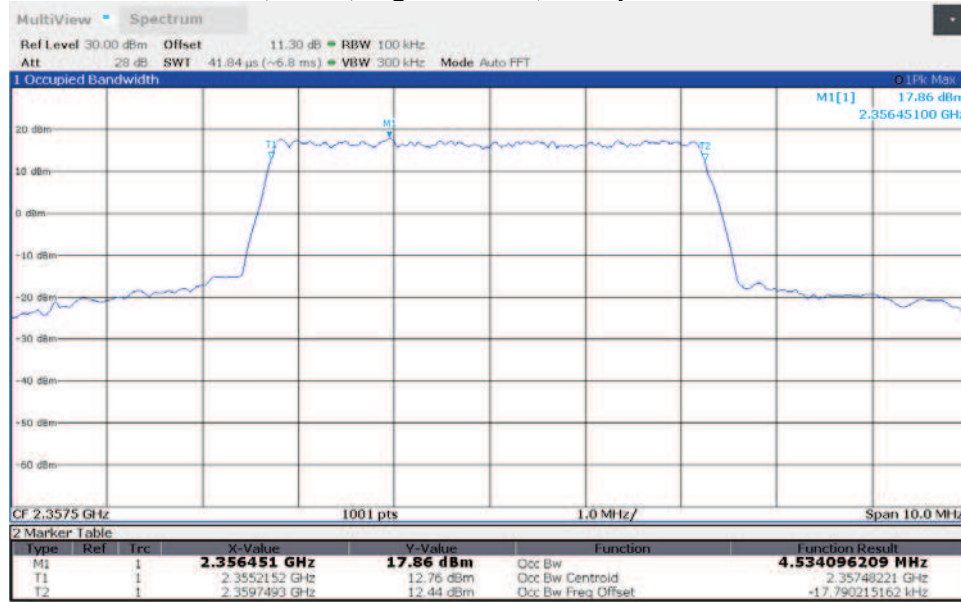
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**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, Occupied Bandwidth**



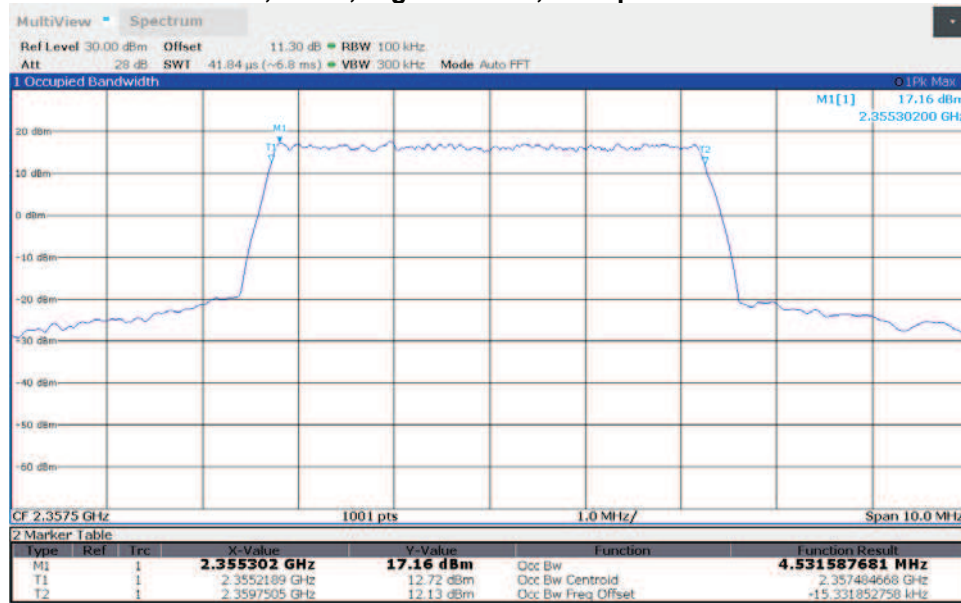
18:06:49 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Occupied Bandwidth**



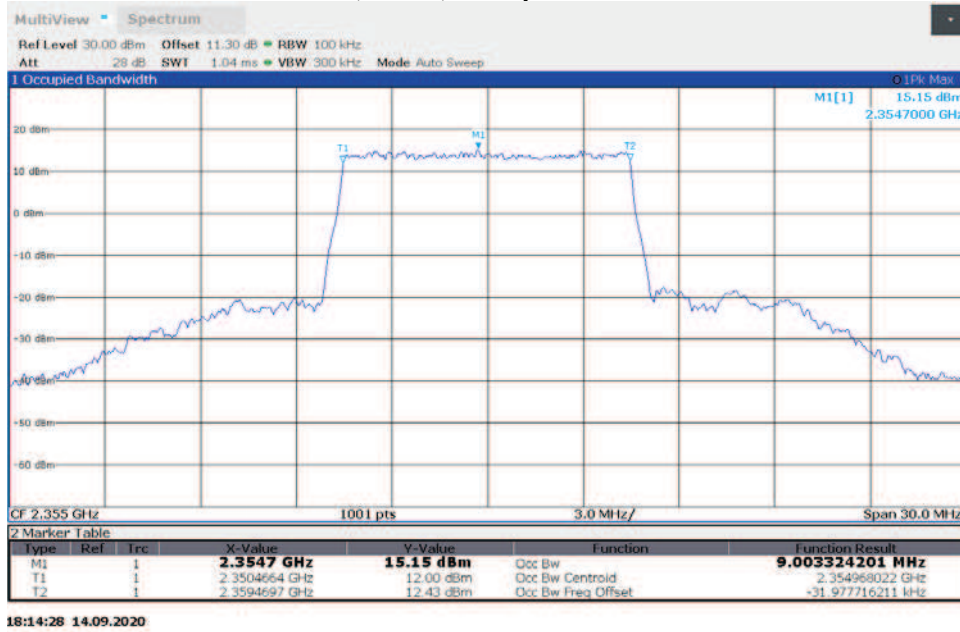
18:03:19 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Occupied Bandwidth**

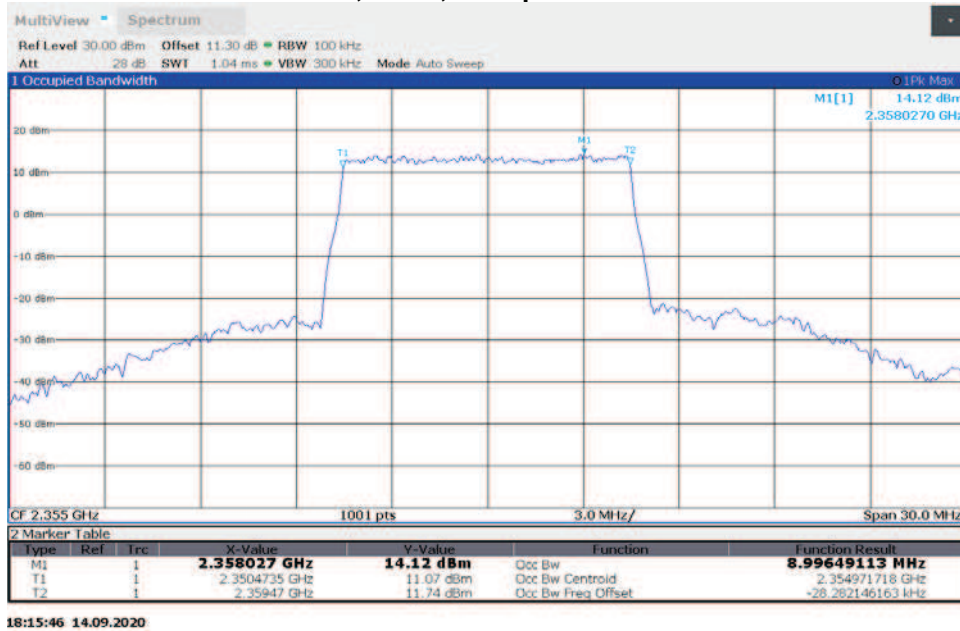


18:02:20 14.09.2020

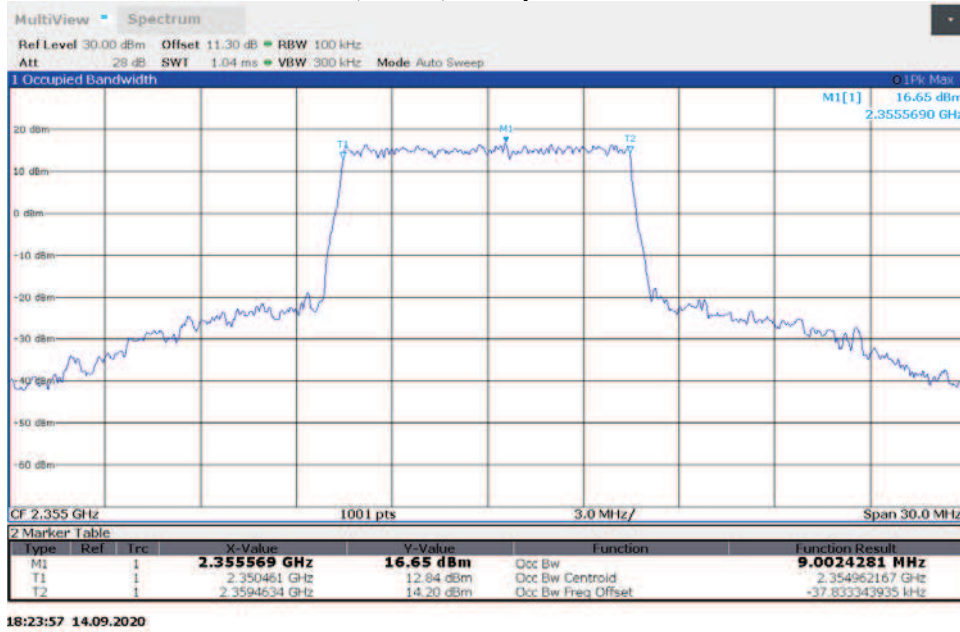
**TM1.1-QPSK\_10 MHz Bandwidth  
Band 30, ANT0, Occupied Bandwidth**



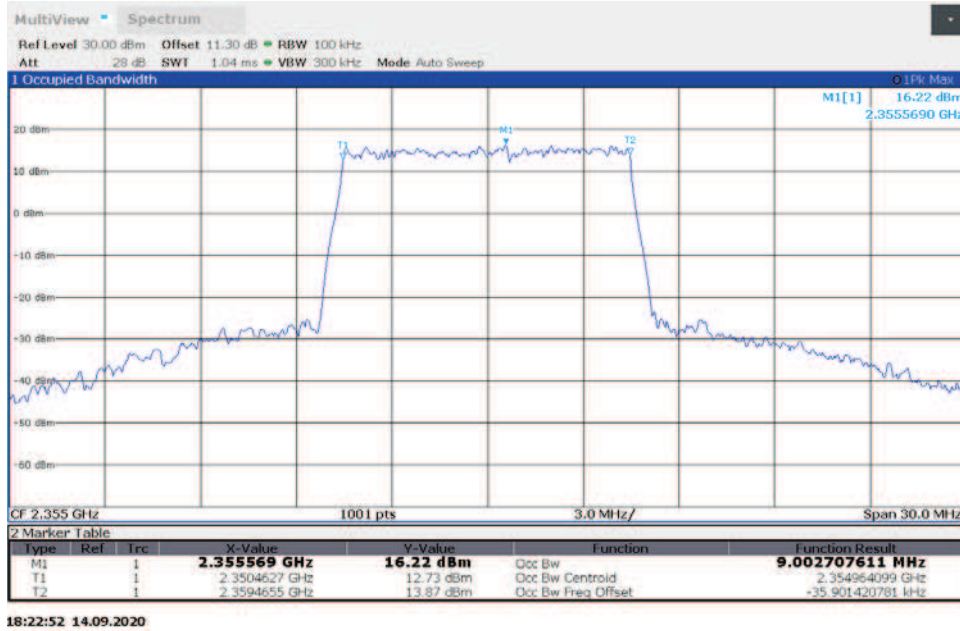
**TM1.1-QPSK\_10 MHz Bandwidth  
Band 30, ANT1, Occupied Bandwidth**



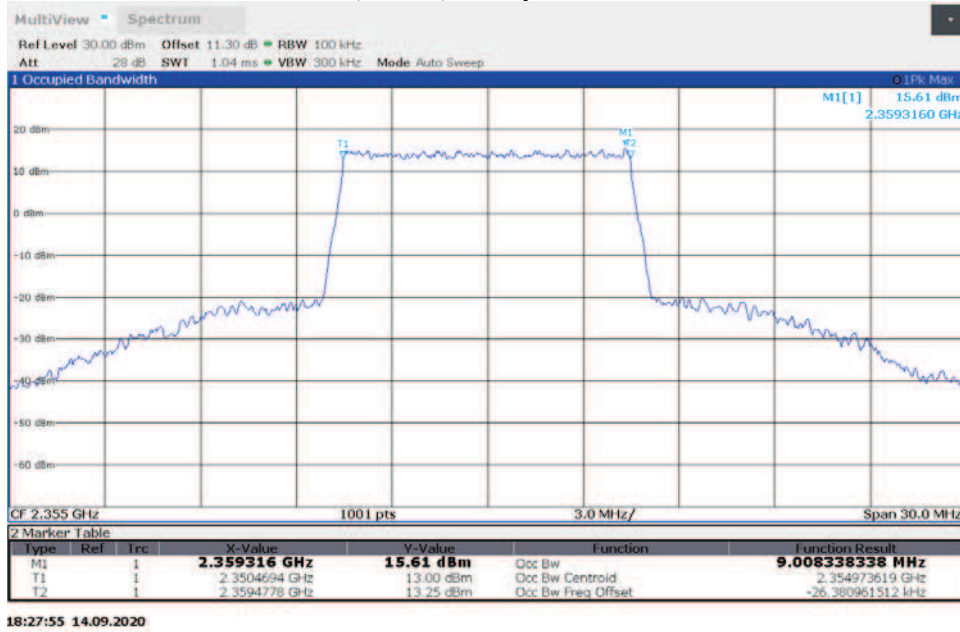
**TM3.2-16QAM\_10 MHz Bandwidth  
Band 30, ANT0, Occupied Bandwidth**



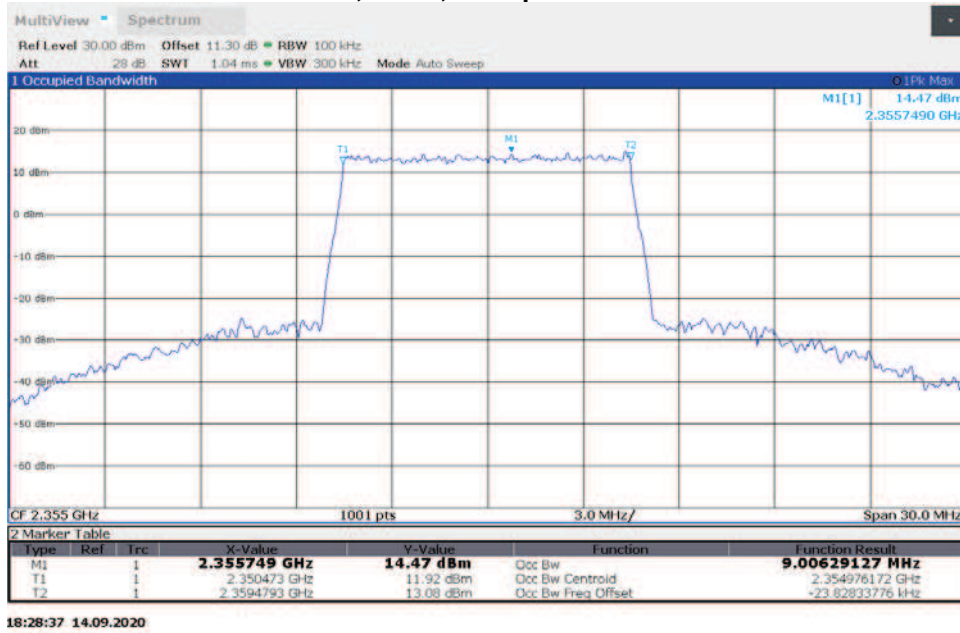
**TM3.2-16QAM\_10 MHz Bandwidth  
Band 30, ANT1, Occupied Bandwidth**



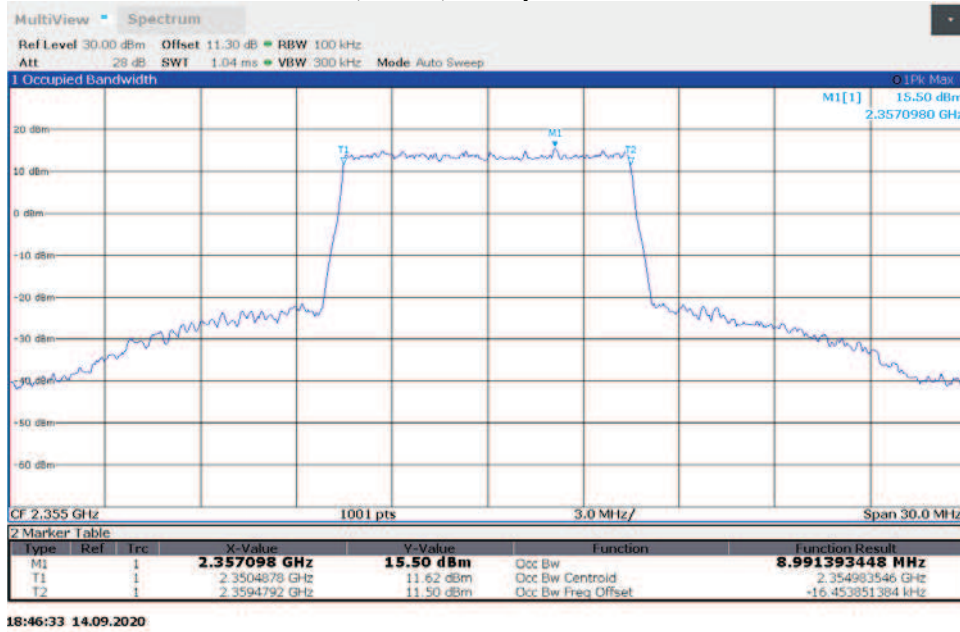
**TM3.1-64QAM\_10 MHz Bandwidth  
Band 30, ANT0, Occupied Bandwidth**



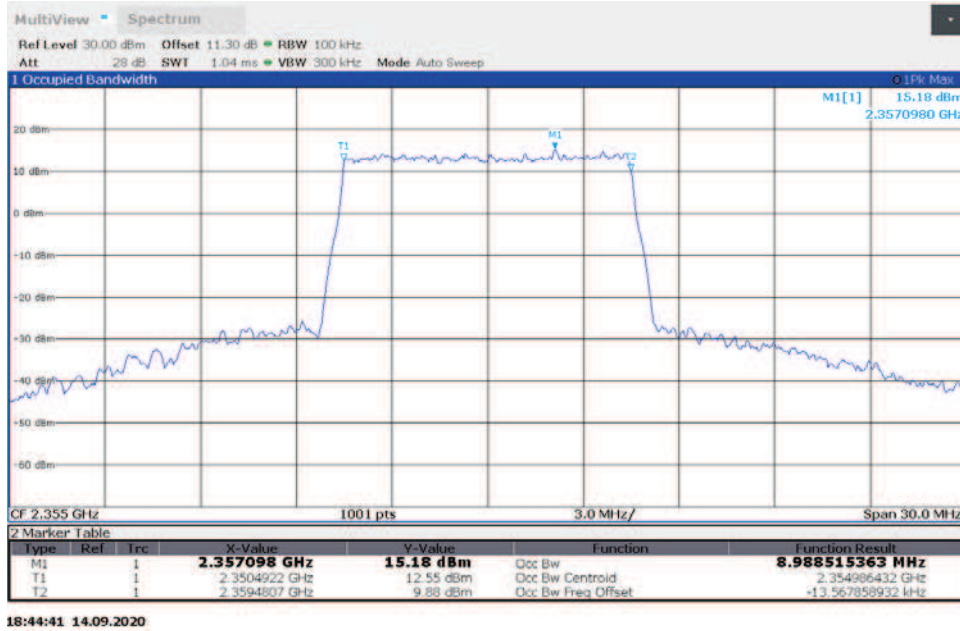
**TM3.1-64QAM\_10 MHz Bandwidth  
Band 30, ANT1, Occupied Bandwidth**



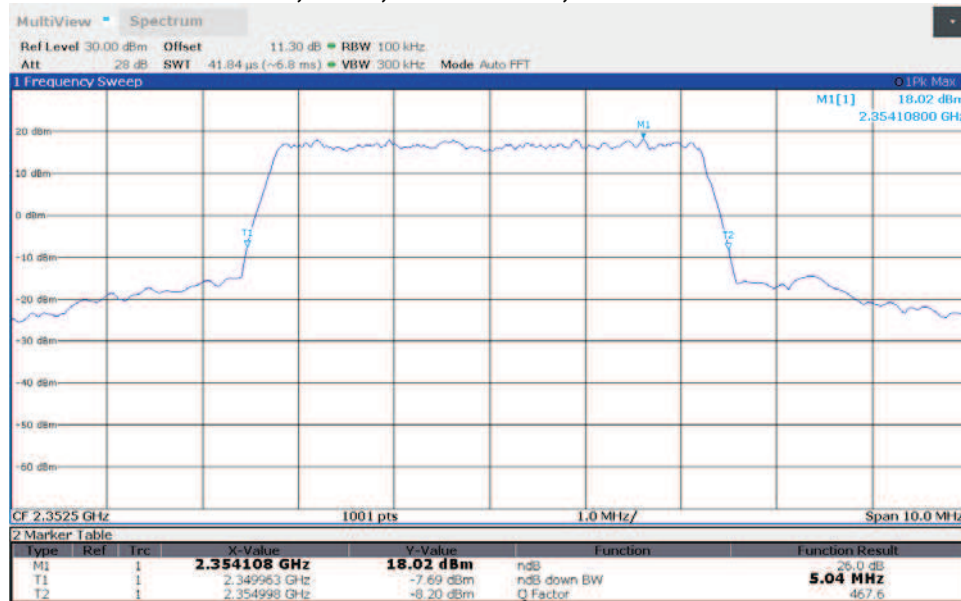
**TM3.1a-256QAM\_10 MHz Bandwidth  
Band 30, ANT0, Occupied Bandwidth**



**TM3.1a-256QAM\_10 MHz Bandwidth  
Band 30, ANT1, Occupied Bandwidth**

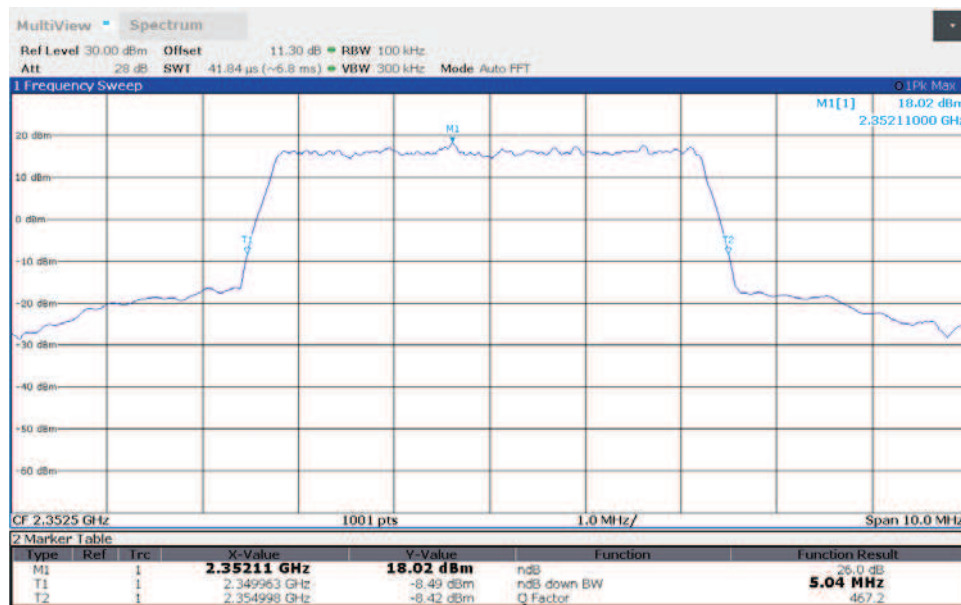


**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, 26dB Bandwidth**



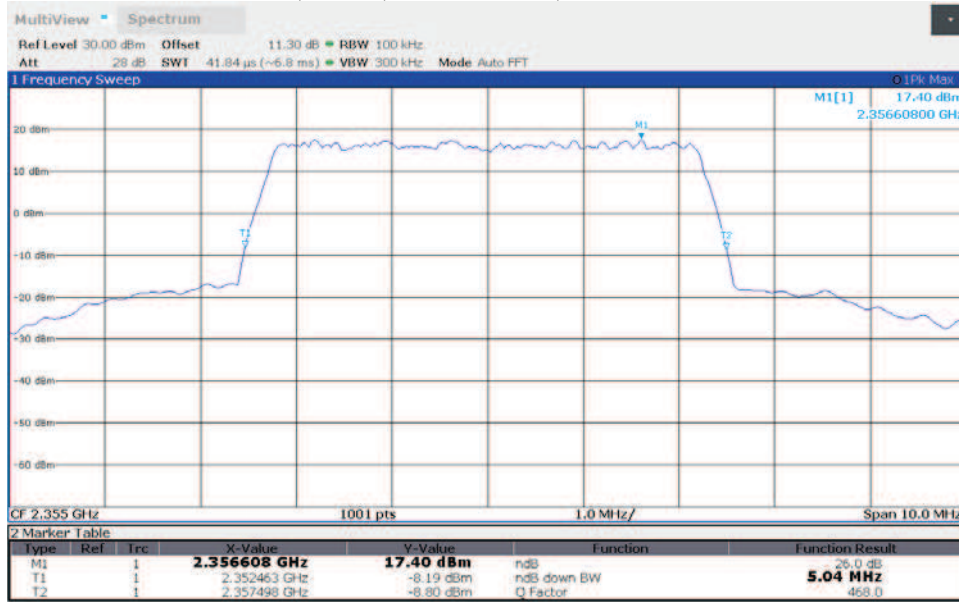
17:01:34 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, 26dB Bandwidth**

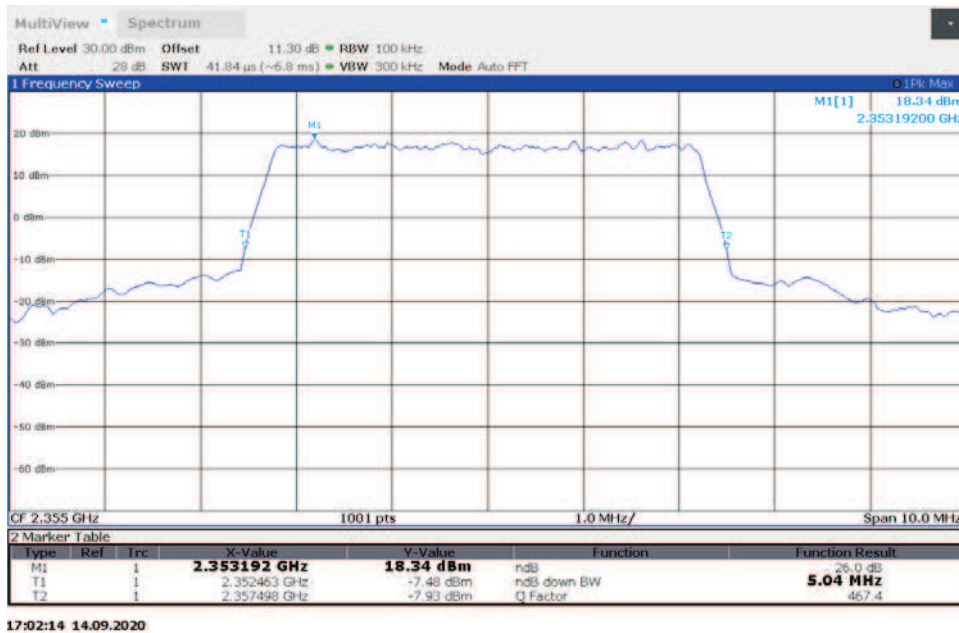


17:00:51 14.09.2020

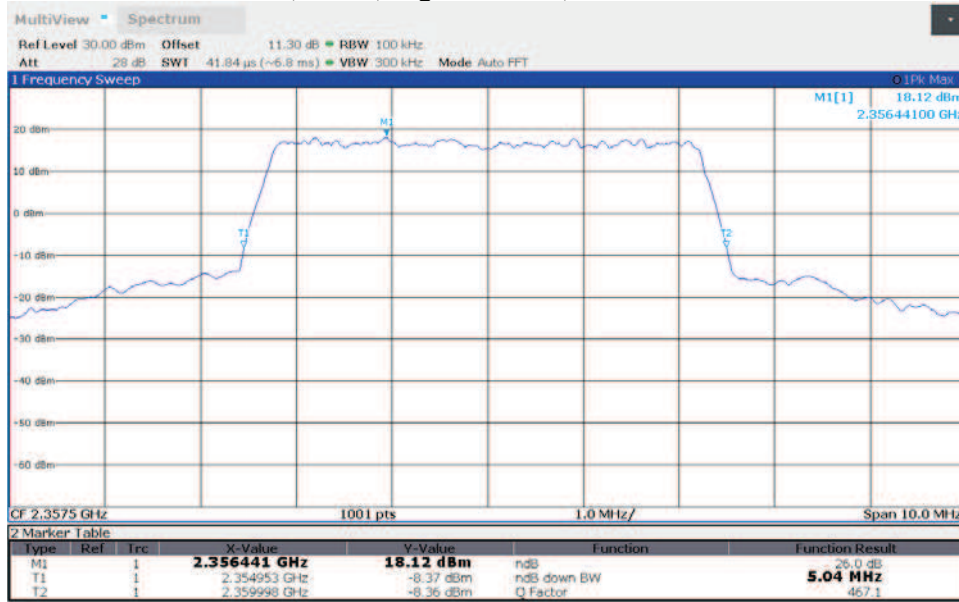
**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, 26dB Bandwidth**



**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, 26dB Bandwidth**

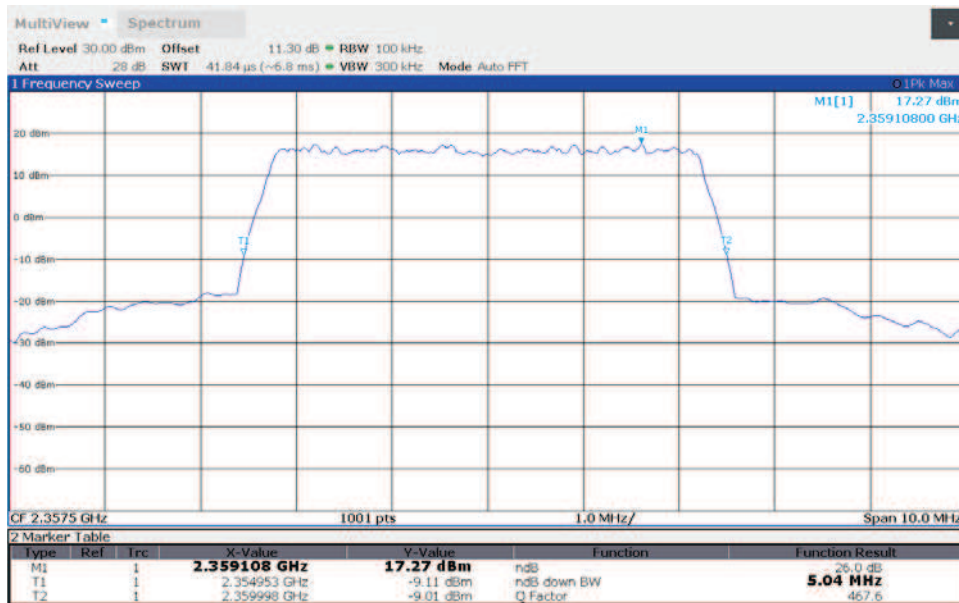


**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, 26dB Bandwidth**



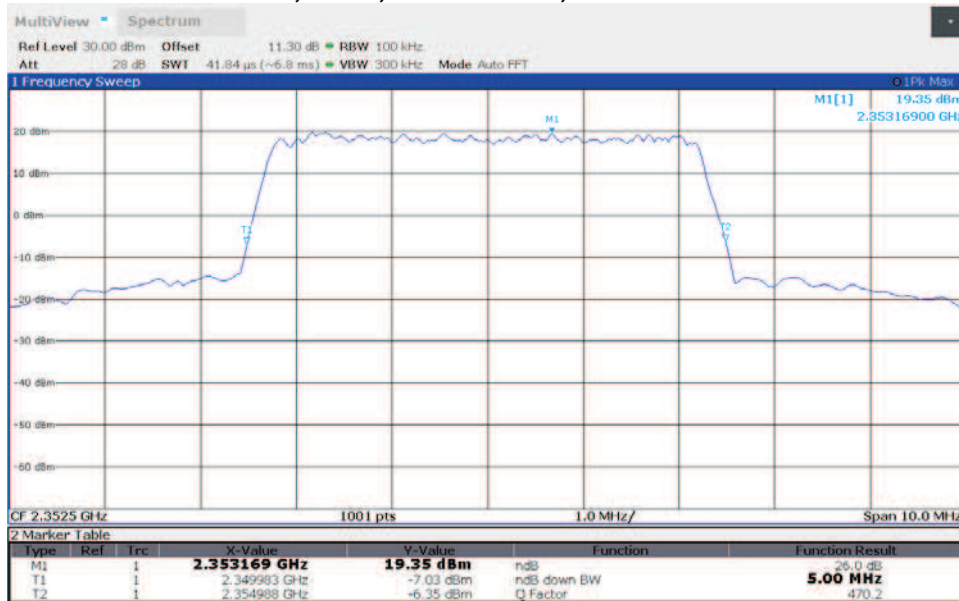
16:59:04 14.09.2020

**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, 26dB Bandwidth**



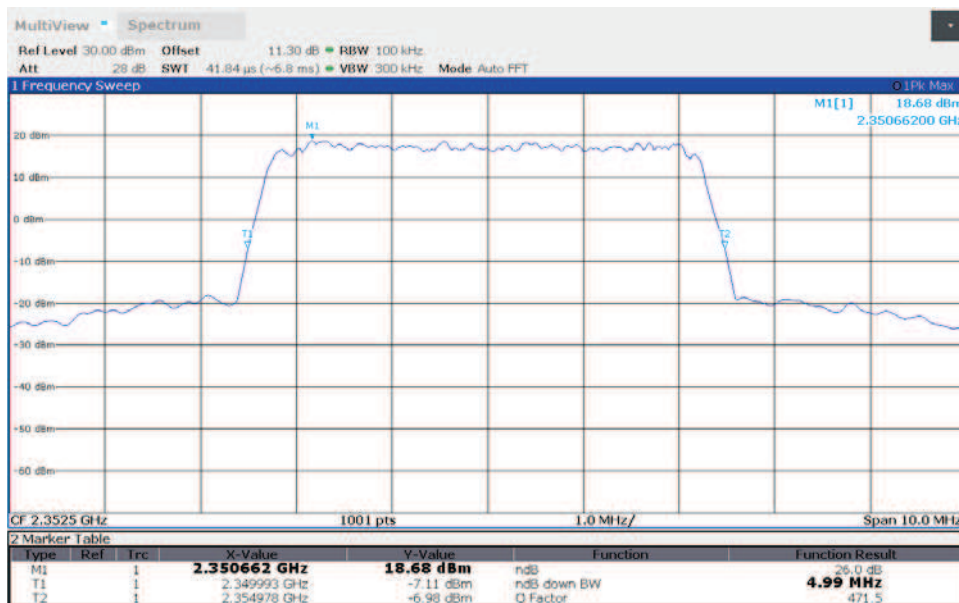
17:00:03 14.09.2020

**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, 26dB Bandwidth**



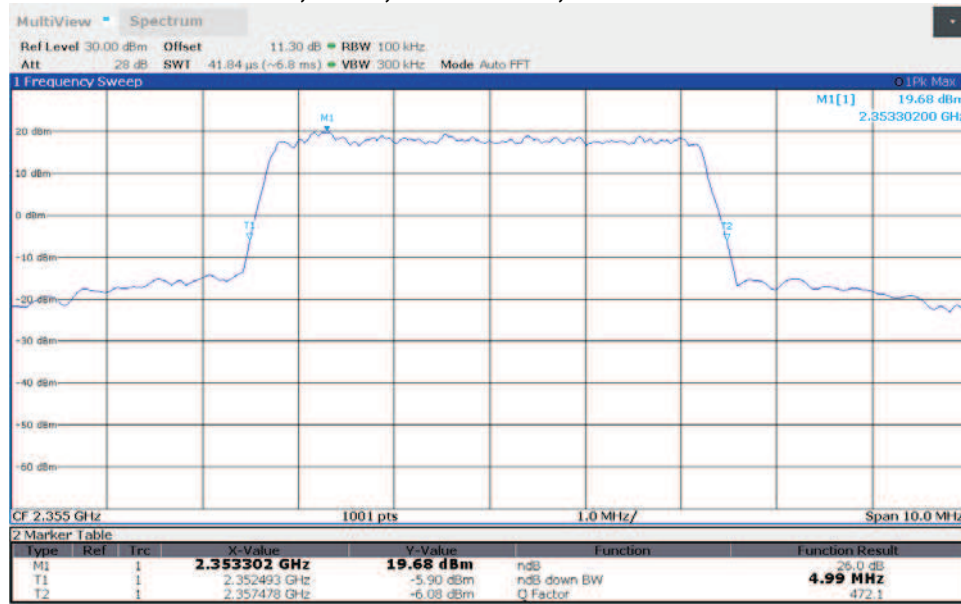
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**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, 26dB Bandwidth**



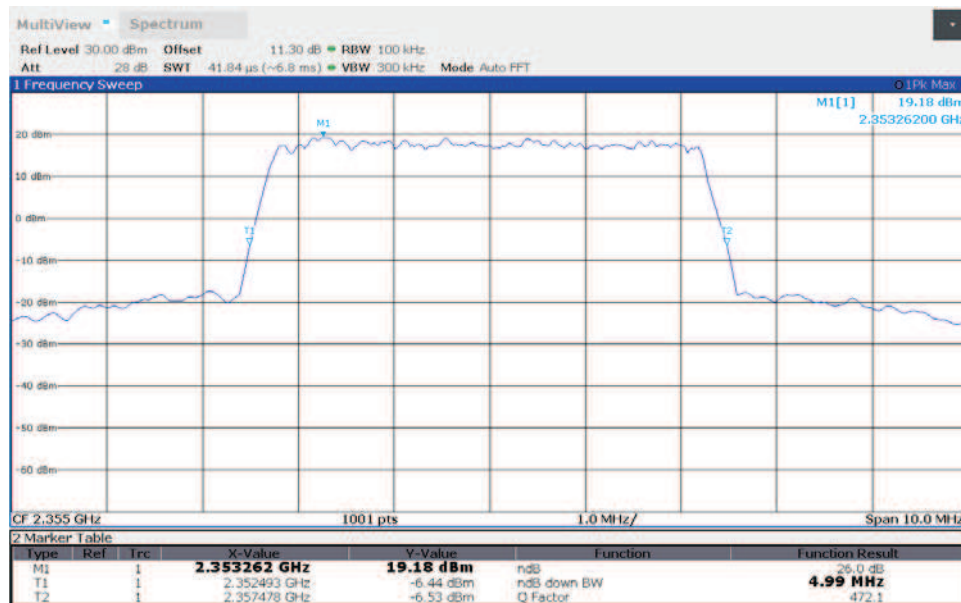
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**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, 26dB Bandwidth**



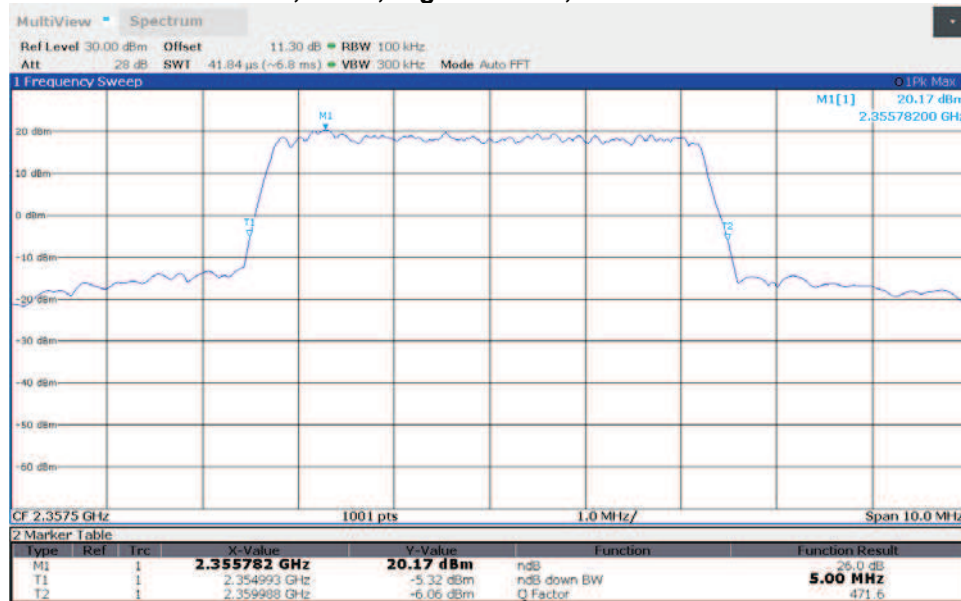
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**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, 26dB Bandwidth**



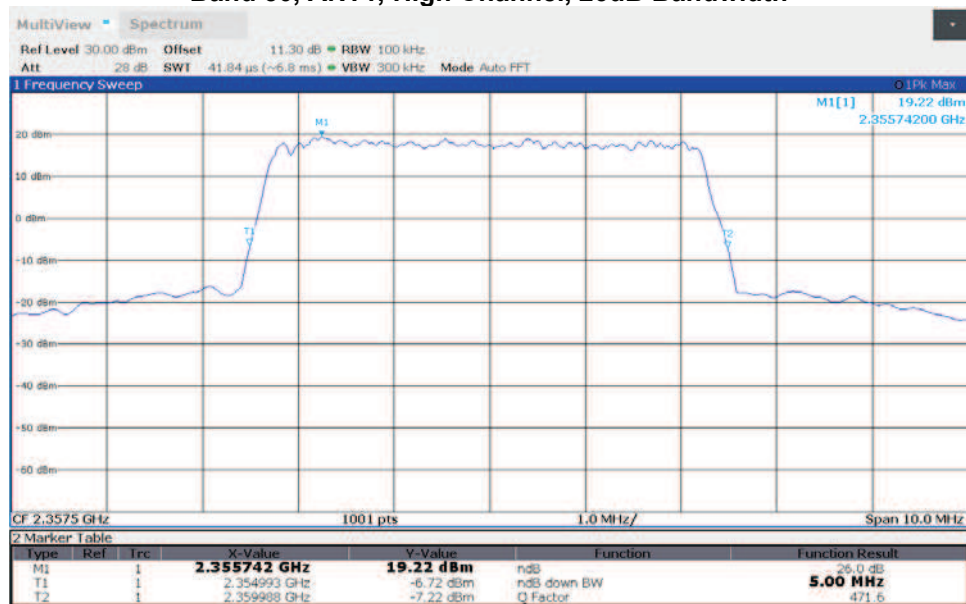
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**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, 26dB Bandwidth**



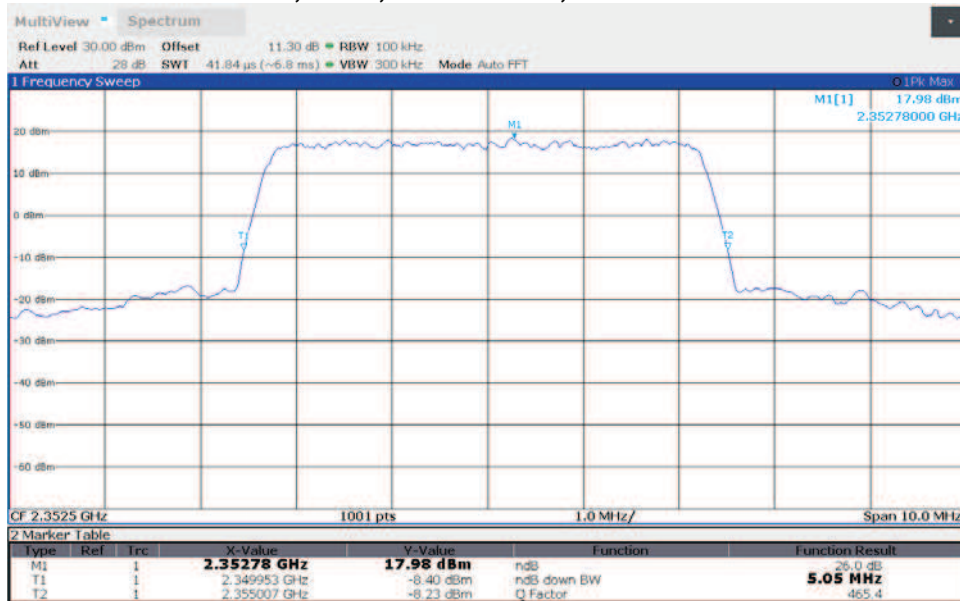
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**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, 26dB Bandwidth**



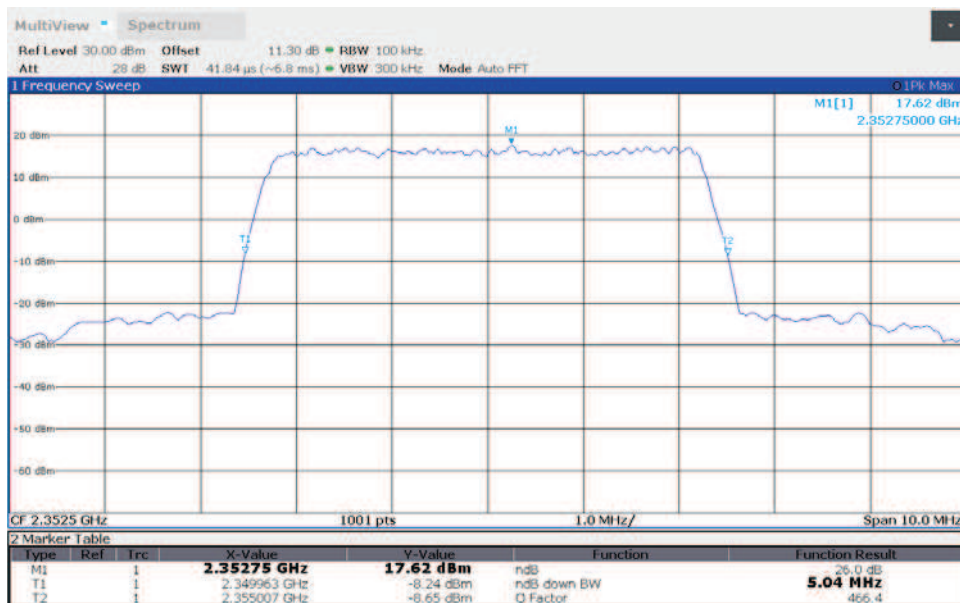
17:30:29 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, 26dB Bandwidth**



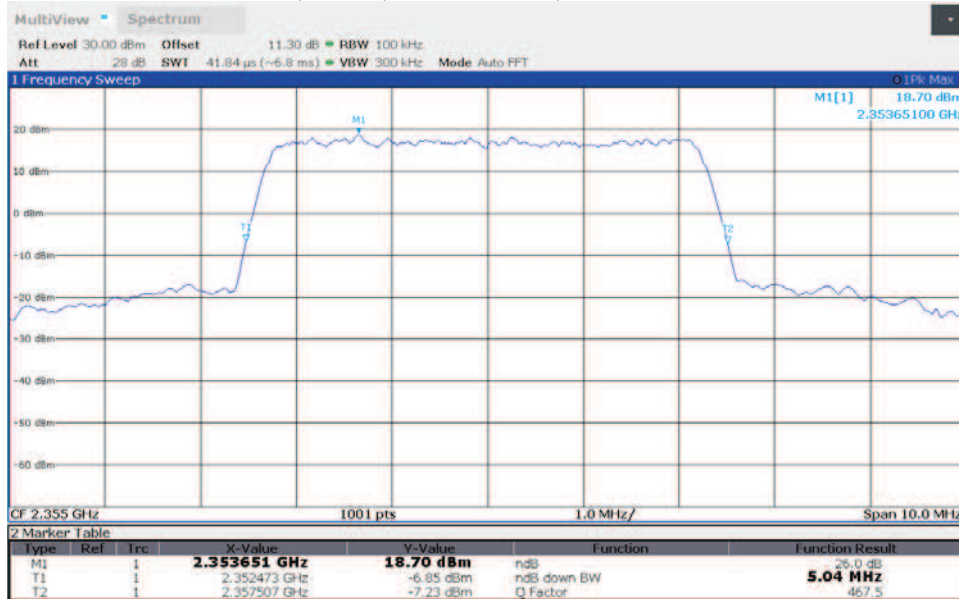
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**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, 26dB Bandwidth**



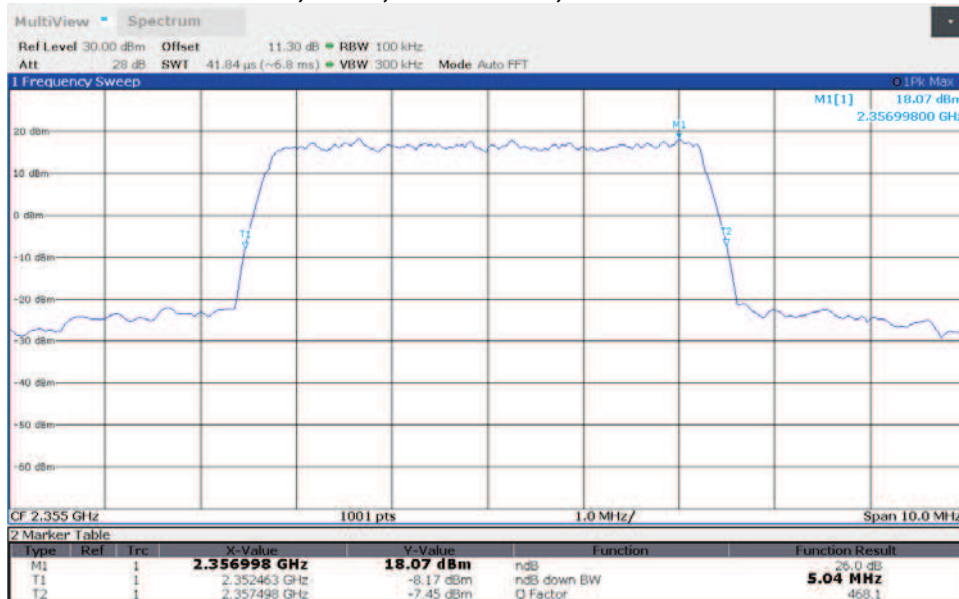
17:52:03 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, 26dB Bandwidth**



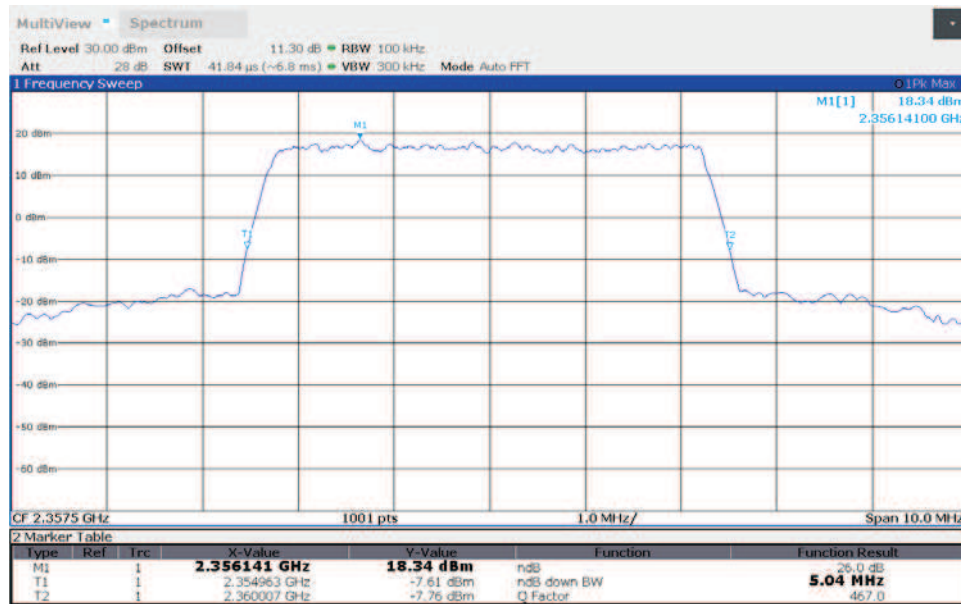
17:53:25 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, 26dB Bandwidth**



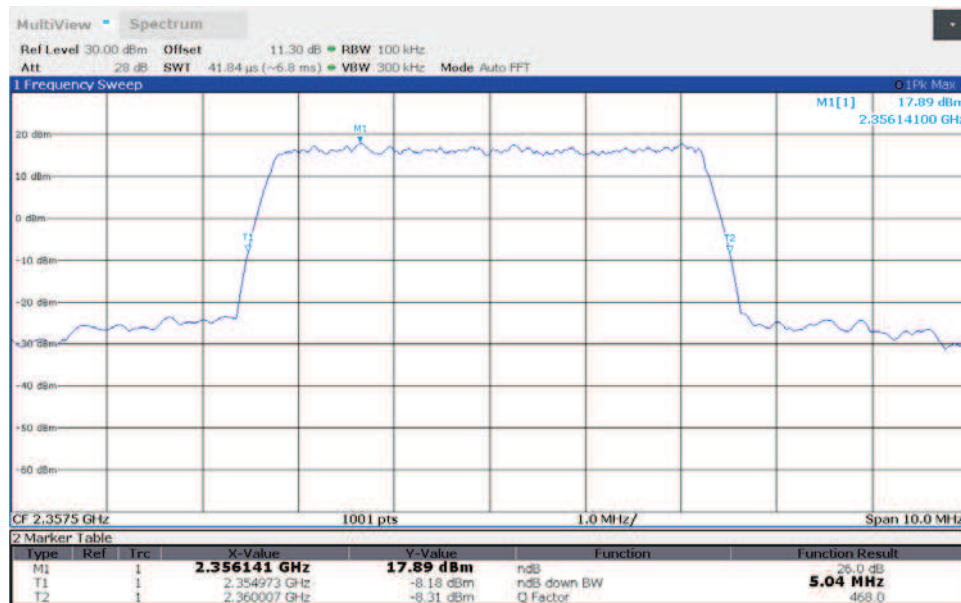
17:52:49 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, 26dB Bandwidth**



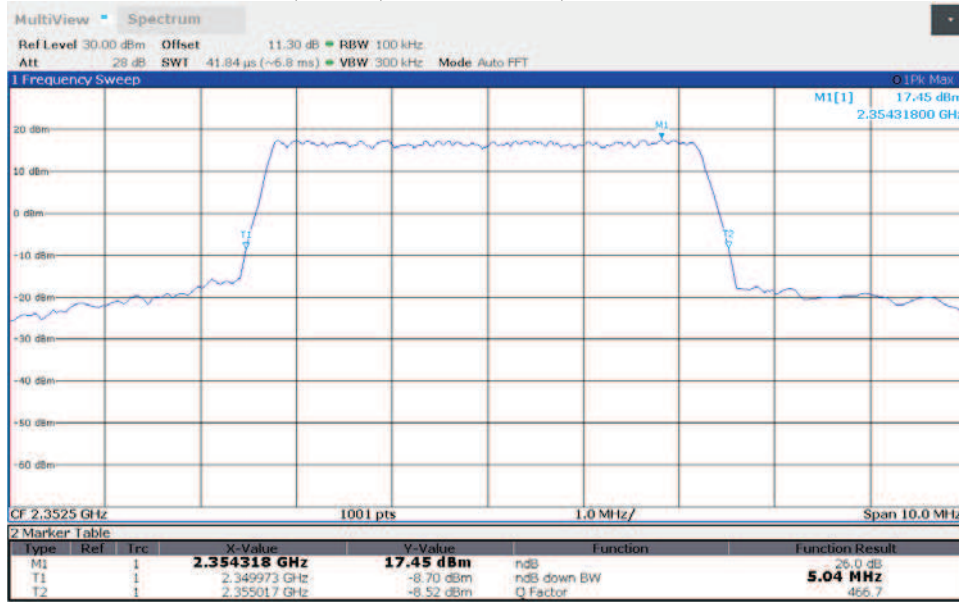
17:50:51 14.09.2020

**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, 26dB Bandwidth**



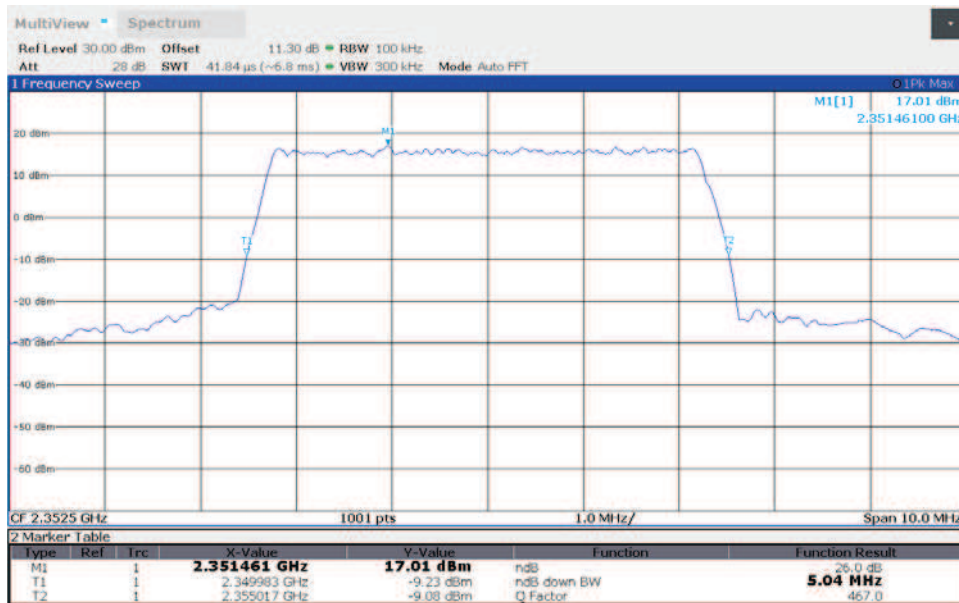
17:49:59 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, 26dB Bandwidth**



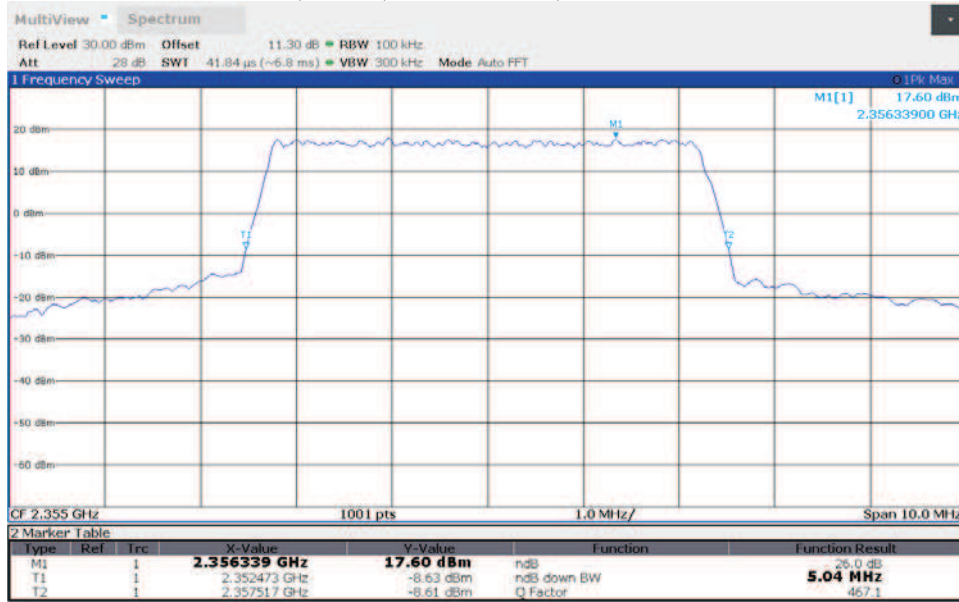
17:58:14 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, 26dB Bandwidth**

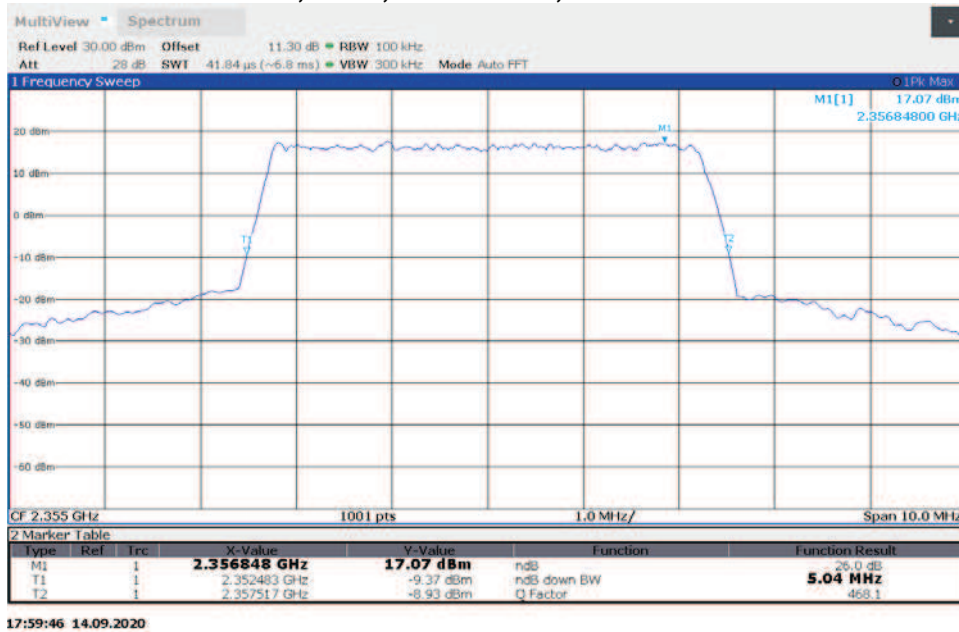


17:59:03 14.09.2020

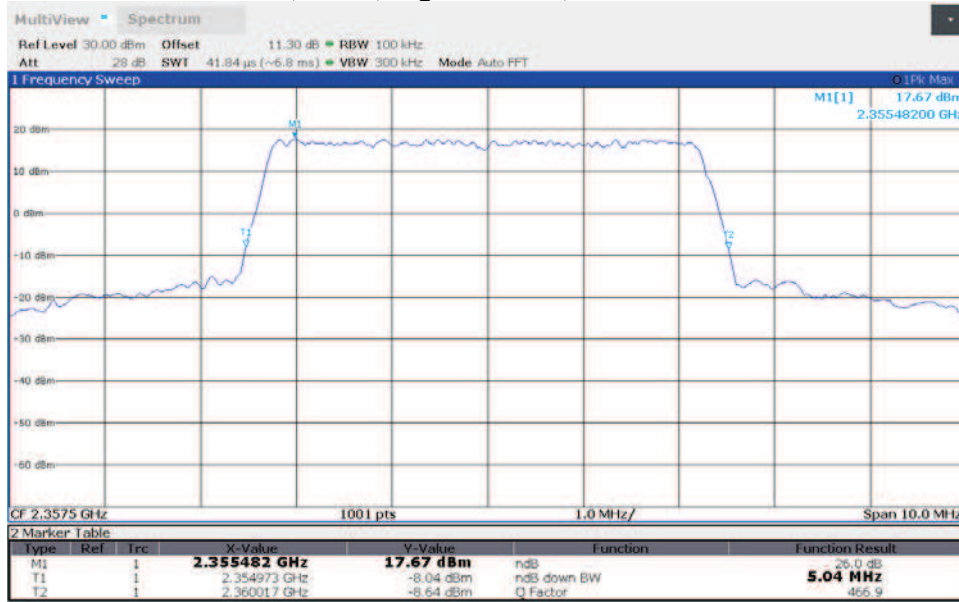
**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, Mid Channel, 26dB Bandwidth**



**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, Mid Channel, 26dB Bandwidth**

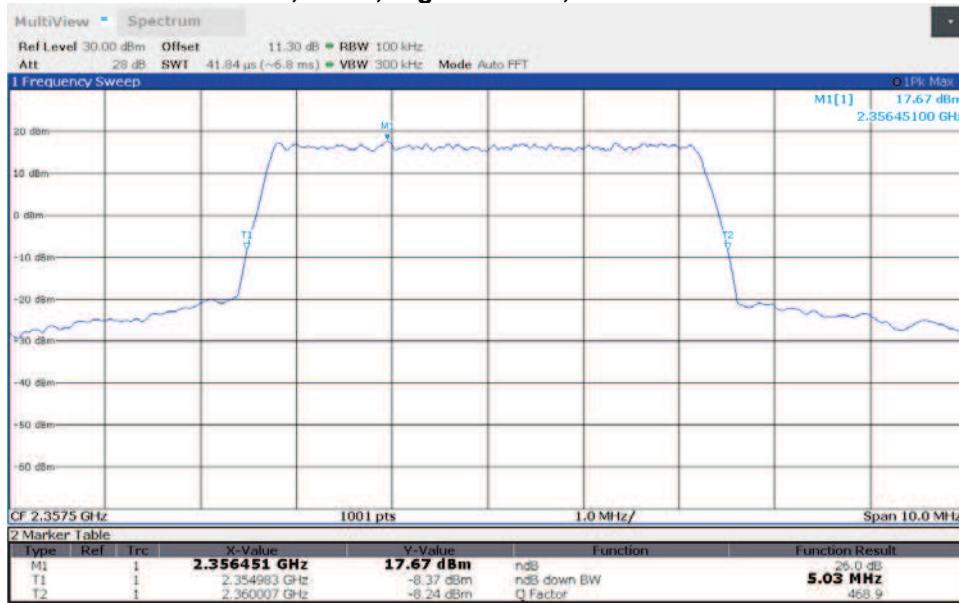


**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, 26dB Bandwidth**



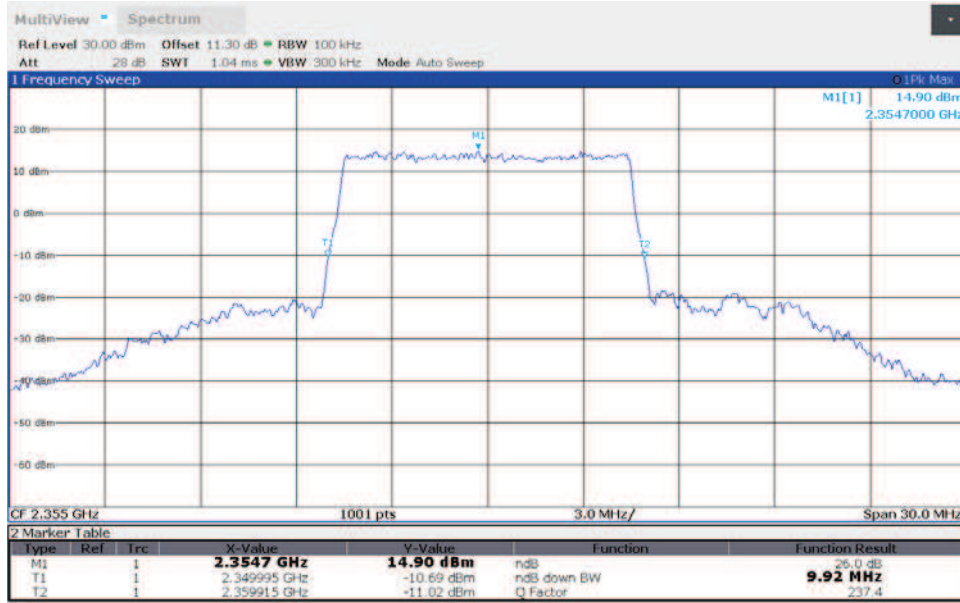
18:00:48 14.09.2020

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, 26dB Bandwidth**



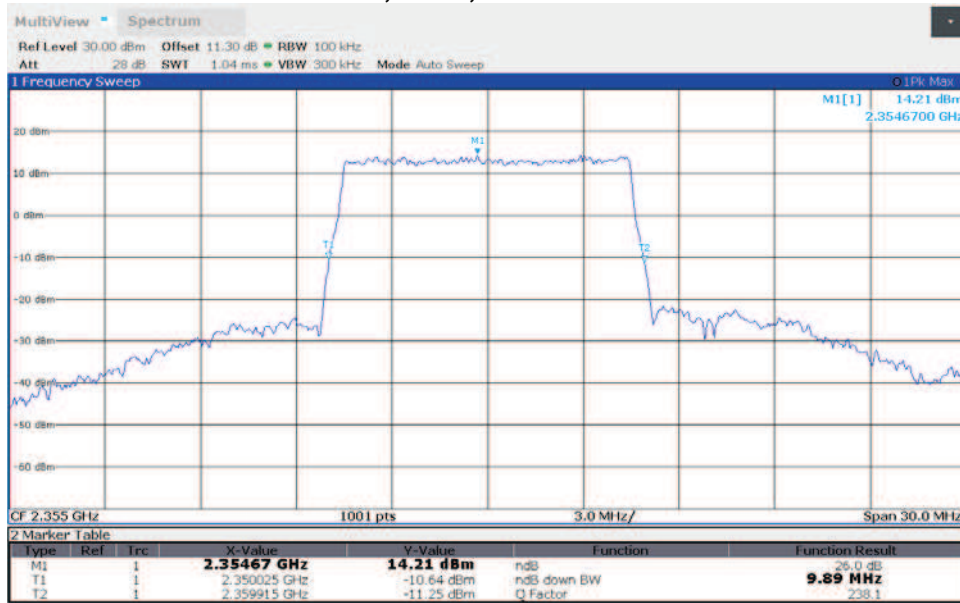
18:01:30 14.09.2020

**TM1.1-QPSK\_10 MHz Bandwidth  
Band 30, ANT0, 26dB Bandwidth**



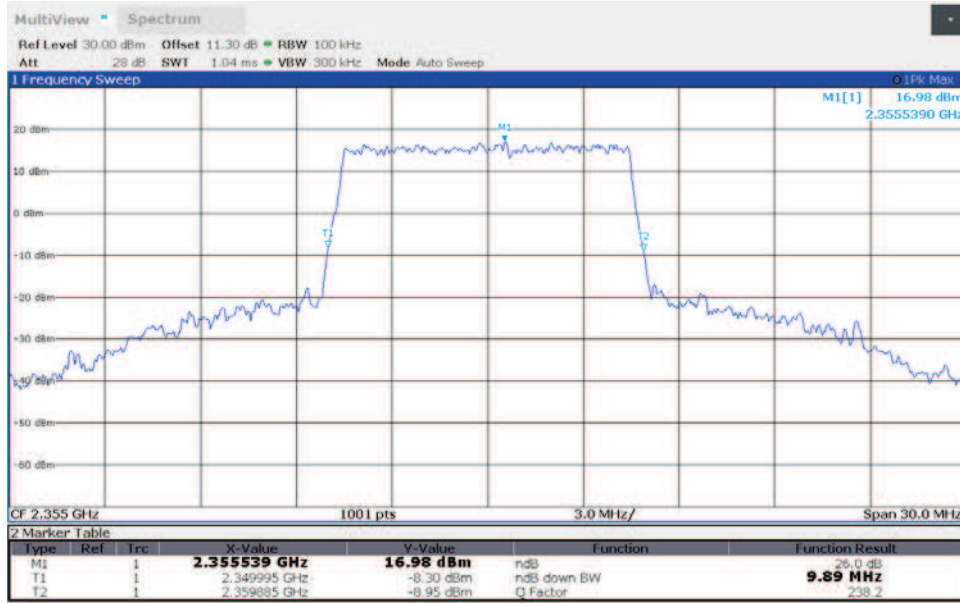
18:17:03 14.09.2020

**TM1.1-QPSK\_10 MHz Bandwidth  
Band 30, ANT1, 26dB Bandwidth**



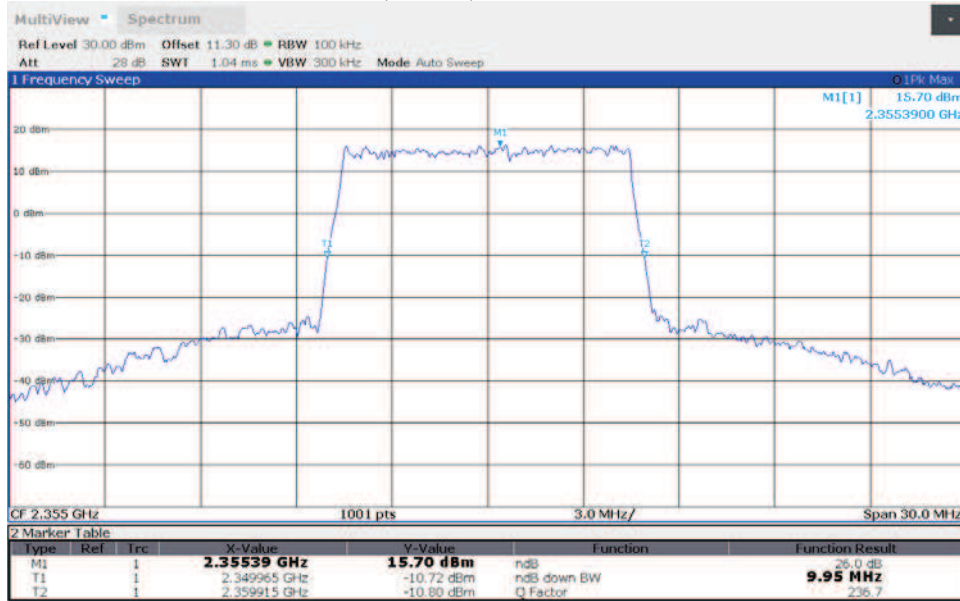
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**TM3.2-16QAM\_10 MHz Bandwidth  
Band 30, ANT0, 26dB Bandwidth**



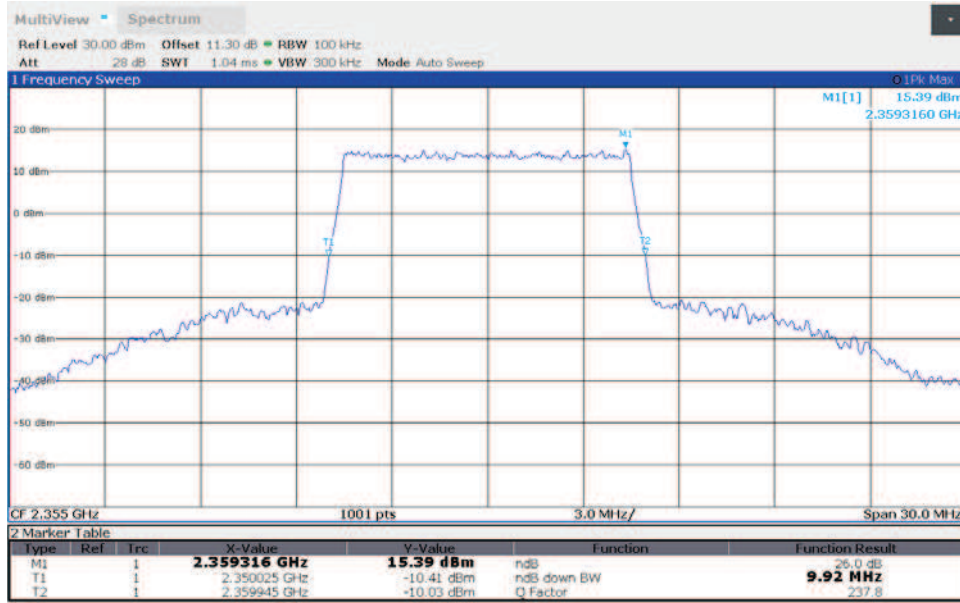
18:20:41 14.09.2020

**TM3.2-16QAM\_10 MHz Bandwidth  
Band 30, ANT1, 26dB Bandwidth**



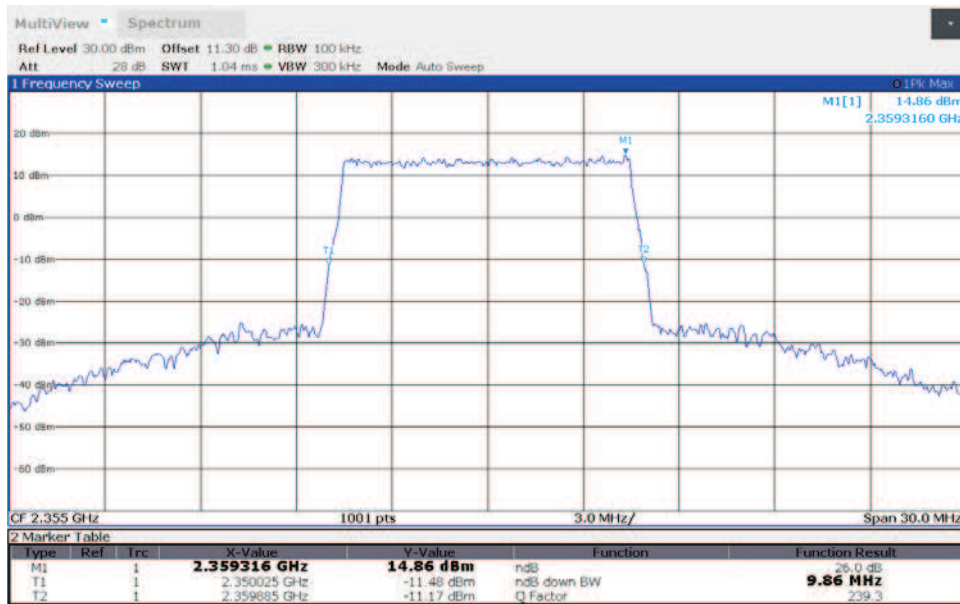
18:22:02 14.09.2020

**TM3.1-64QAM\_10 MHz Bandwidth  
Band 30, ANT0, 26dB Bandwidth**



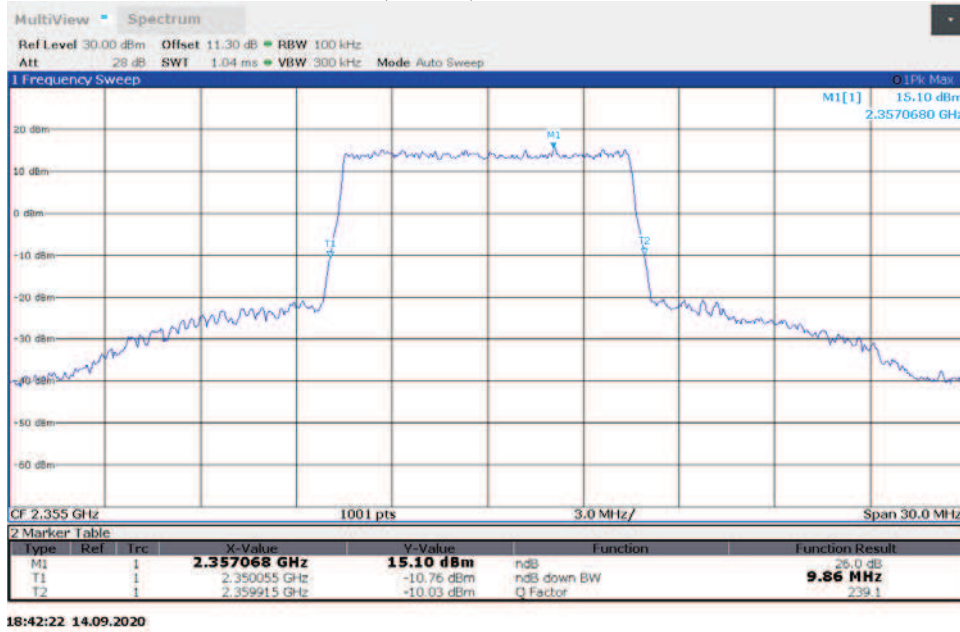
18:29:51 14.09.2020

**TM3.1-64QAM\_10 MHz Bandwidth  
Band 30, ANT1, 26dB Bandwidth**

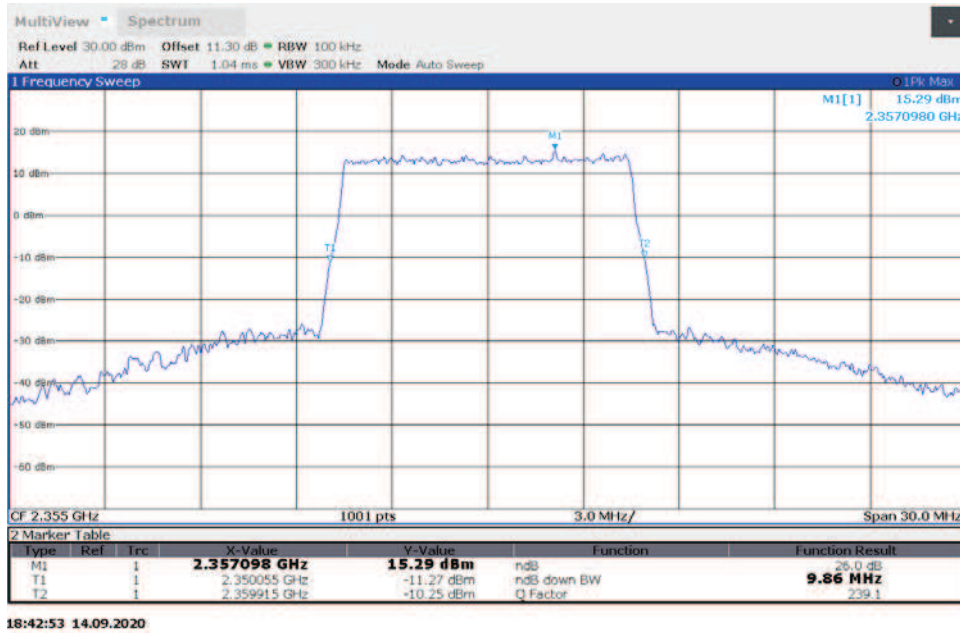


18:29:09 14.09.2020

**TM3.1a-256QAM\_10 MHz Bandwidth  
Band 30, ANT0, 26dB Bandwidth**



**TM3.1a-256QAM\_10 MHz Bandwidth  
Band 30, ANT1, 26dB Bandwidth**



Test Personnel: Minh Ly  
 Supervising/Reviewing  
 Engineer:  
 (Where Applicable) \_\_\_\_\_

Test Date: 09/14/2020

Product Standard: FCC Part 27  
 Input Voltage: 56 VDC (POE)

Limit Applied: See report section 8.3

Pretest Verification w/  
 Ambient Signals or  
 BB Source: N/A

Ambient Temperature: 25°C

Relative Humidity: 42 %

Atmospheric Pressure: 29.9 in Hg

## 9 Band Edge Compliance

### 9.1 Requirement:

§27.53(a) For operations in the 2305-2320 MHz band and the 2345-2360 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power P (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:

For base and fixed stations' operations in the 2305-2320 MHz band and the 2345-2360 MHz band:

(i) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, and not less than  $75 + 10 \log (P)$  dB on all frequencies between 2320 and 2345 MHz;

(ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $70 + 10 \log (P)$  dB on all frequencies between 2287.5 and 2300 MHz,  $72 + 10 \log (P)$  dB on all frequencies between 2285 and 2287.5 MHz, and  $75 + 10 \log (P)$  dB below 2285 MHz;

(iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2362.5 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2362.5 and 2365 MHz,  $70 + 10 \log (P)$  dB on all frequencies between 2365 and 2367.5 MHz,  $72 + 10 \log (P)$  dB on all frequencies between 2367.5 and 2370 MHz, and  $75 + 10 \log (P)$  dB above 2370 MHz.

### 9.2 Procedure:

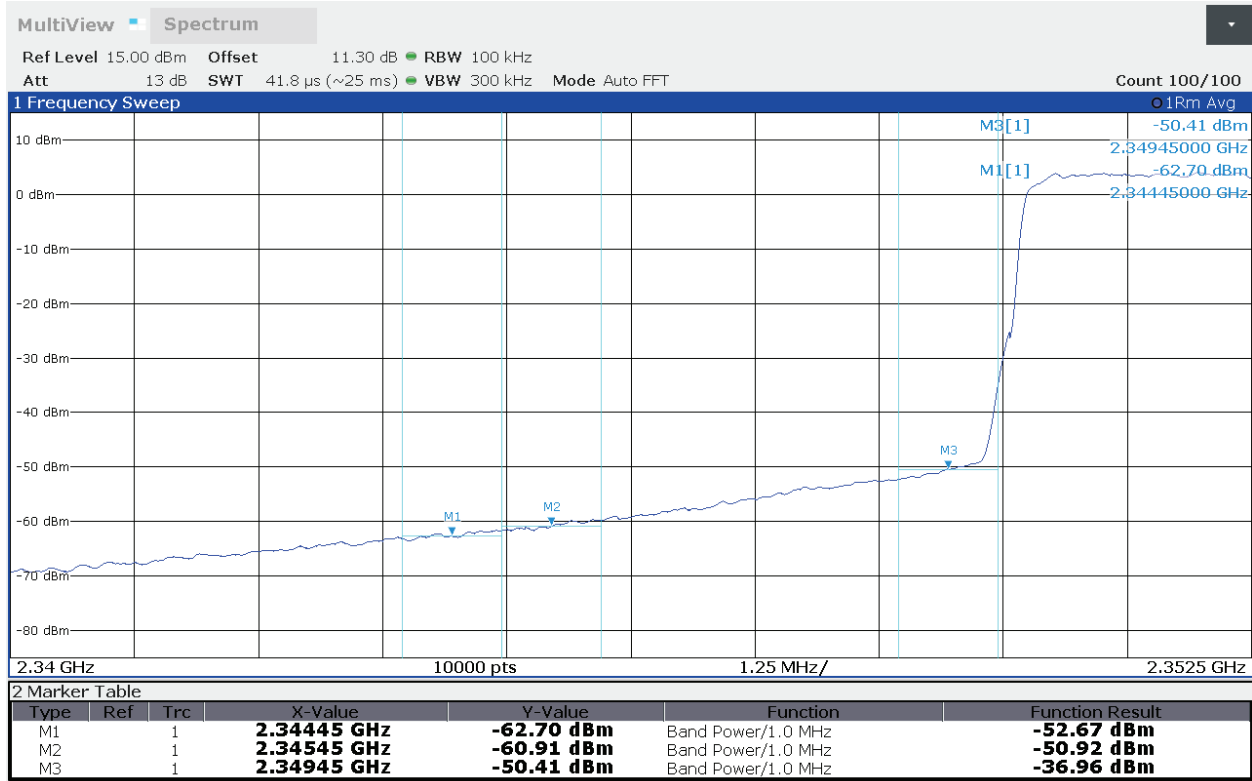
The procedure described in FCC Publication 971168 D01 Power Meas License Digital Systems v03r01 was used. Tests are performed in accordance with ANSI C63.26 Section 5.7.

§27.53(a)(5) Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.*, 1 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

### 9.3 Results:

The sample tested was found to Comply.

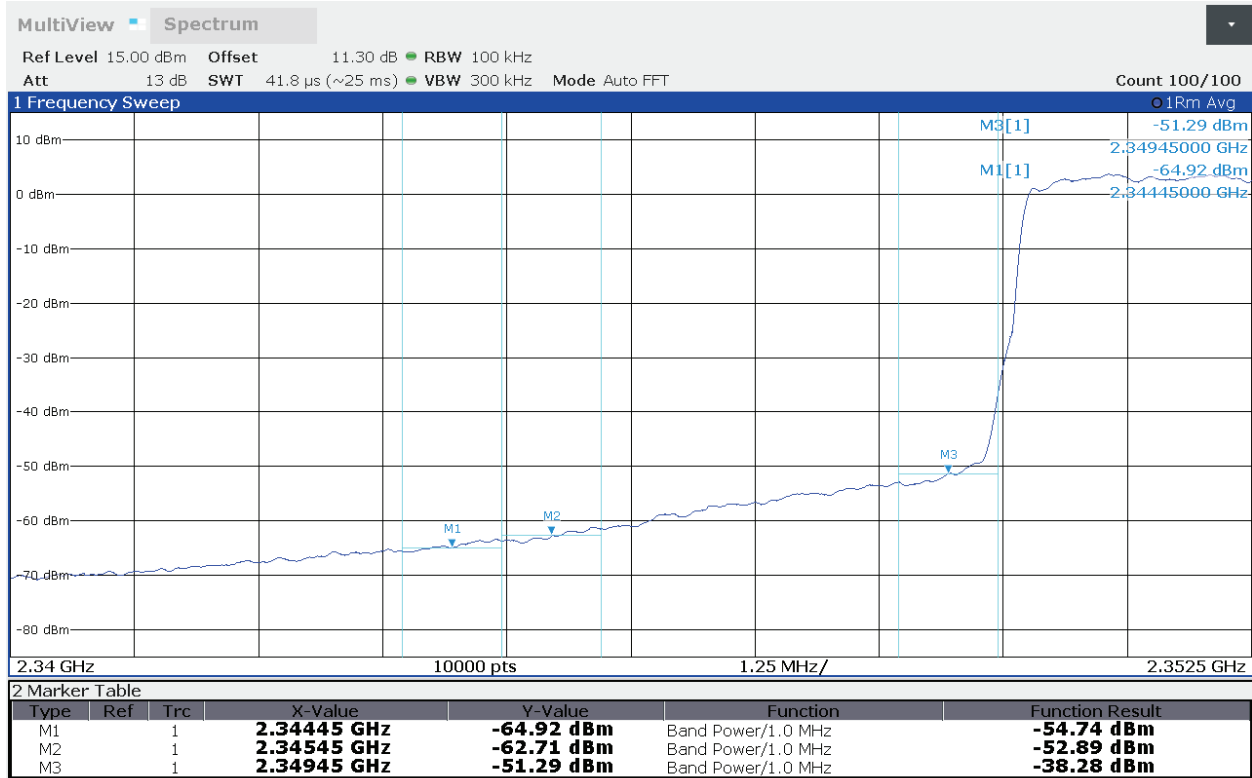
**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Lower Band Edge**



18:27:59 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-52.67	-45.0	-7.67
		2345.45	-50.92	-13.0	-37.92
		2349.45	-36.96	-13.0	-23.96

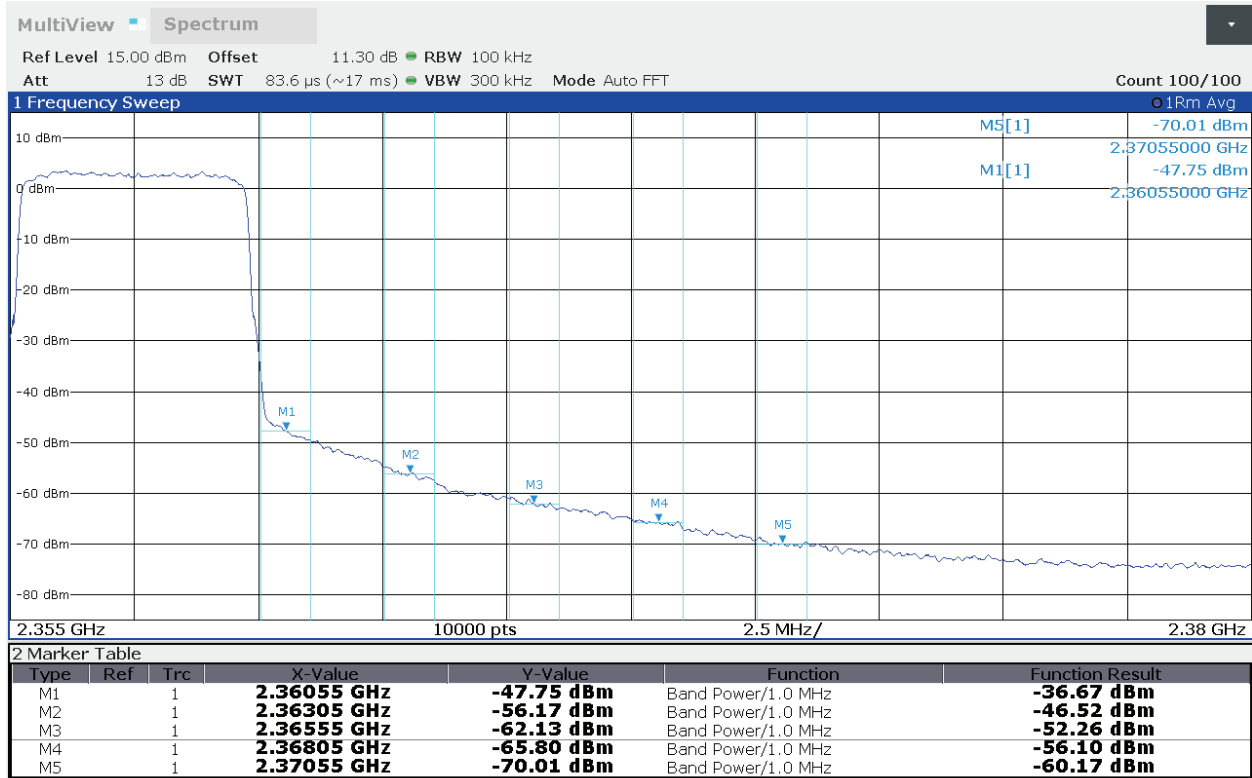
**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Lower Band Edge**



18:28:17 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-54.74	-45.0	-9.74
		2345.45	-52.89	-13.0	-39.89
		2349.45	-38.28	-13.0	-25.28

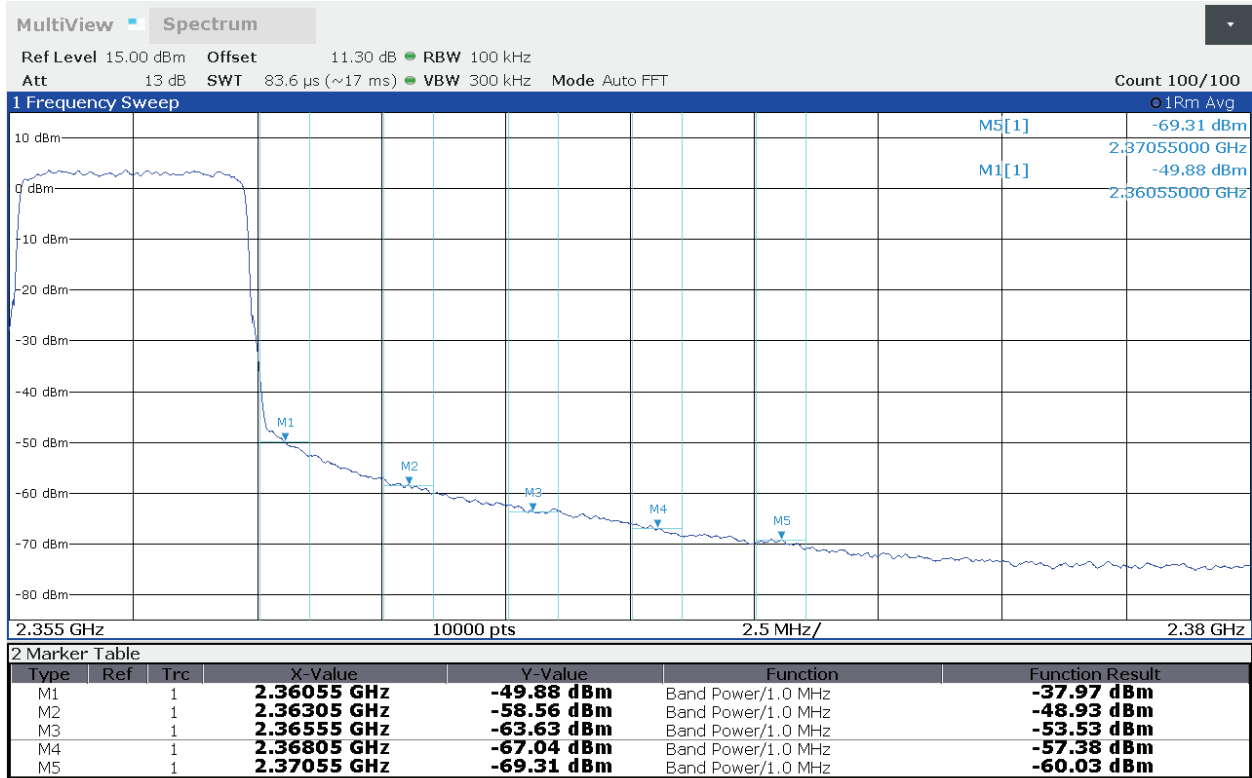
**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Upper Band Edge**



18:01:38 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-36.67	-13.0	-23.67
		2363.05	-46.52	-25.0	-21.52
		2365.55	-52.26	-40.0	-12.26
		2368.05	-56.10	-42.0	-14.10
		2370.55	-60.17	-45.0	-15.17

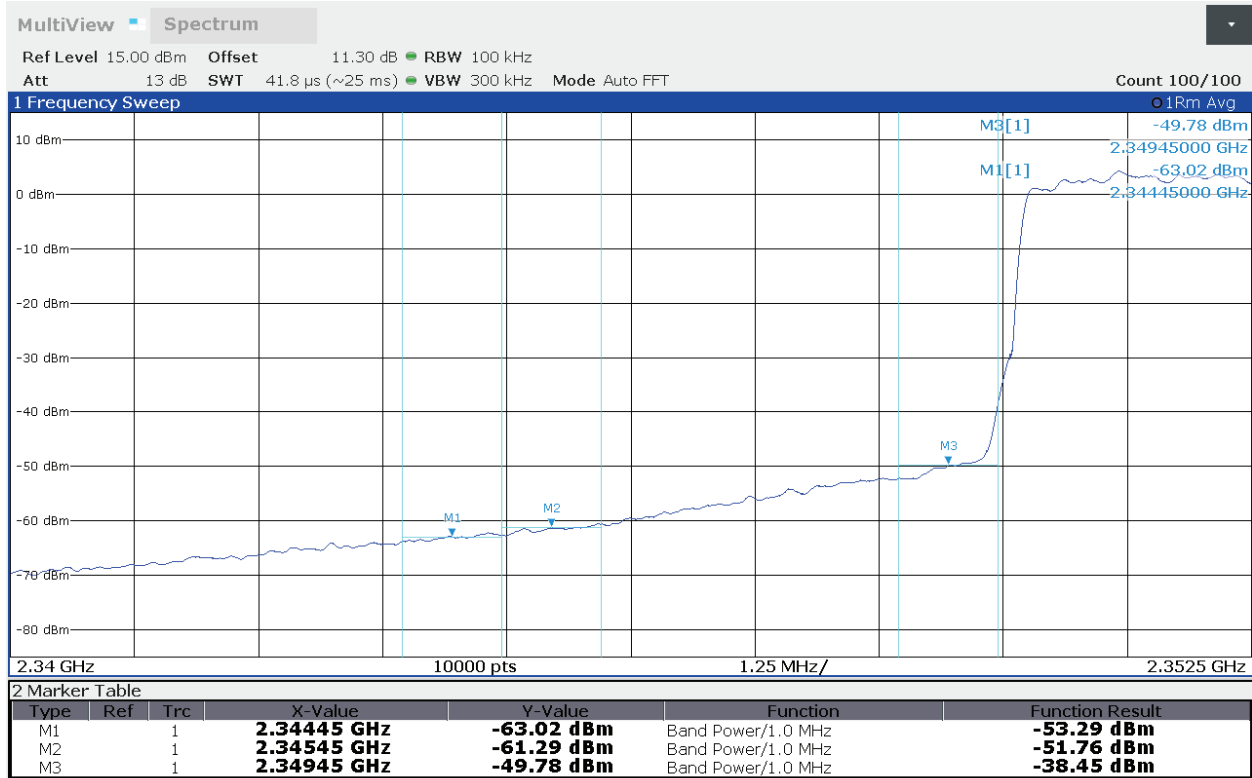
**TM1.1-QPSK\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Upper Band Edge**



18:01:18 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-37.97	-13.0	-24.97
		2363.05	-48.93	-25.0	-23.93
		2365.55	-53.53	-40.0	-13.53
		2368.05	-57.38	-42.0	-15.38
		2370.55	-60.03	-45.0	-15.03

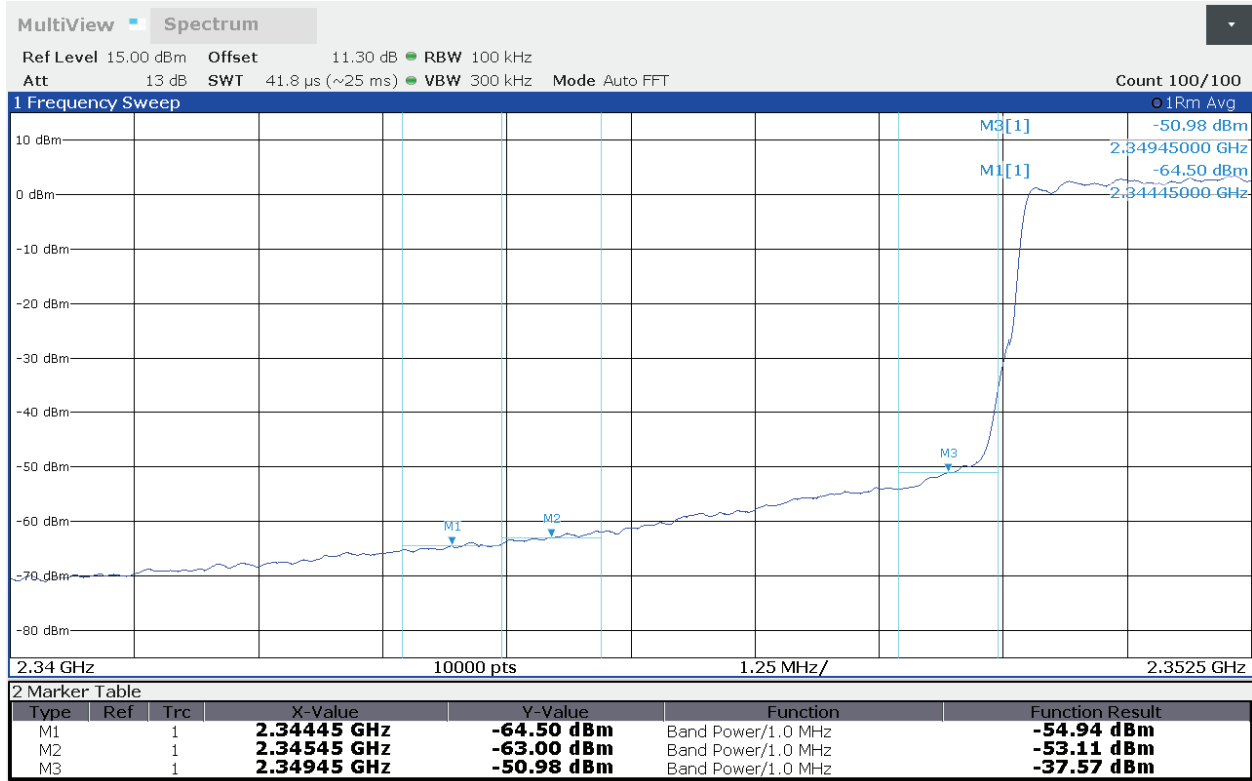
**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Lower Band Edge**



18:36:37 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-53.29	-45.0	-8.29
		2345.45	-51.76	-13.0	-38.76
		2349.45	-38.45	-13.0	-25.45

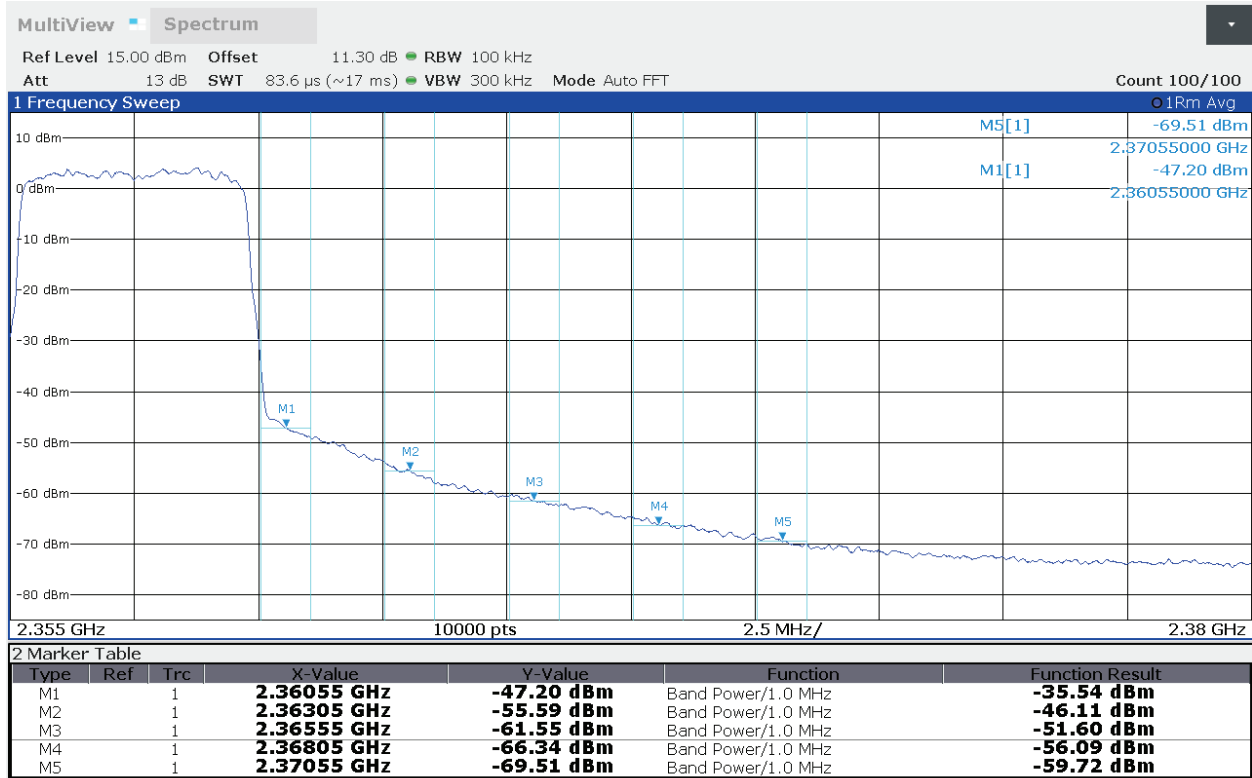
**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Lower Band Edge**



18:36:14 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-54.94	-45.0	-9.94
		2345.45	-53.11	-13.0	-40.11
		2349.45	-37.57	-13.0	-24.57

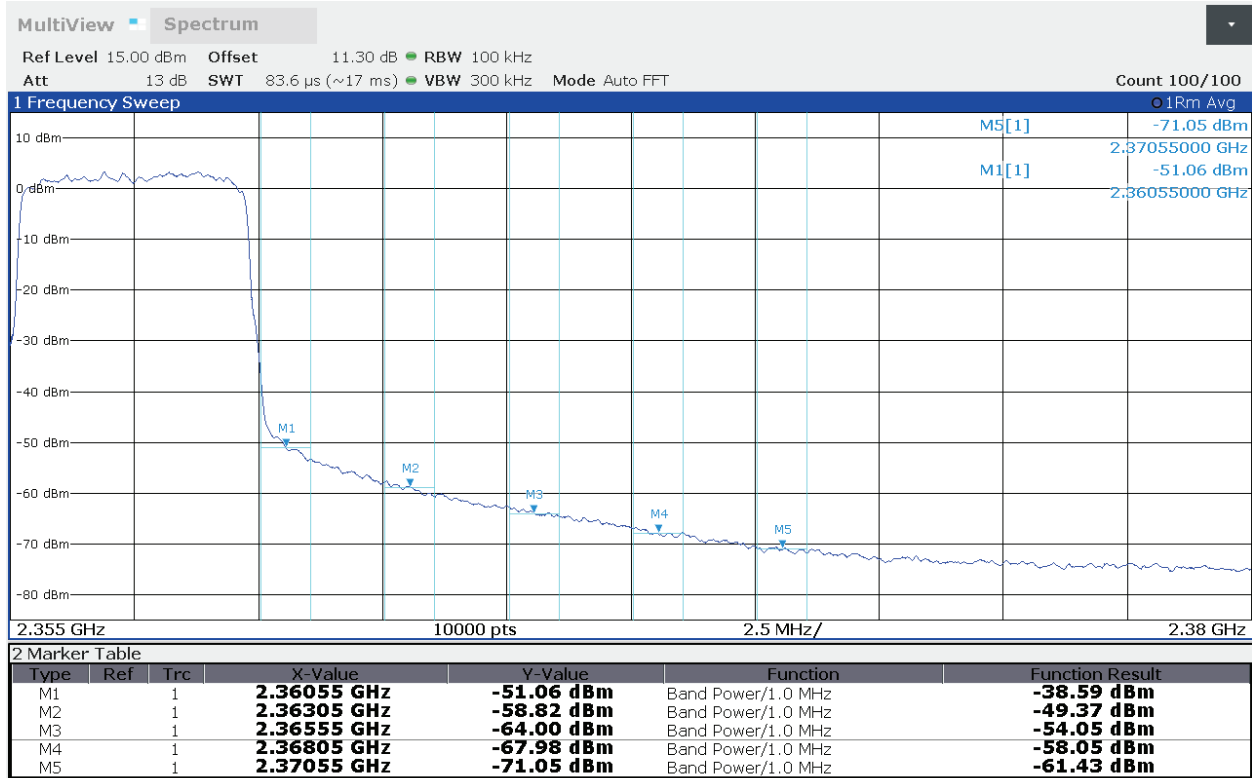
**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Upper Band Edge**



18:09:37 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-35.54	-13.0	-22.54
		2363.05	-46.11	-25.0	-21.11
		2365.55	-51.60	-40.0	-11.60
		2368.05	-56.09	-42.0	-14.09
		2370.55	-59.72	-45.0	-14.72

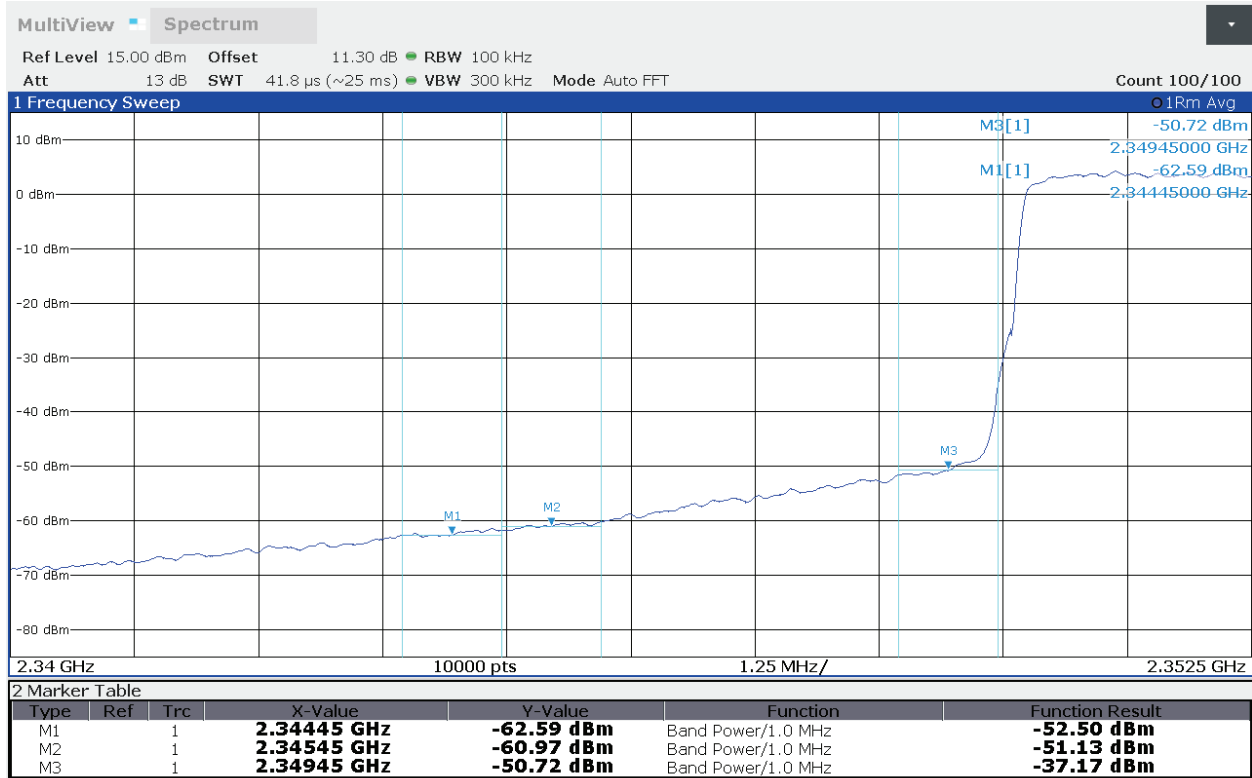
**TM3.2-16QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Upper Band Edge**



18:10:03 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-38.59	-13.0	-25.59
		2363.05	-49.37	-25.0	-24.37
		2365.55	-54.05	-40.0	-14.05
		2368.05	-58.05	-42.0	-16.05
		2370.55	-61.43	-45.0	-16.43

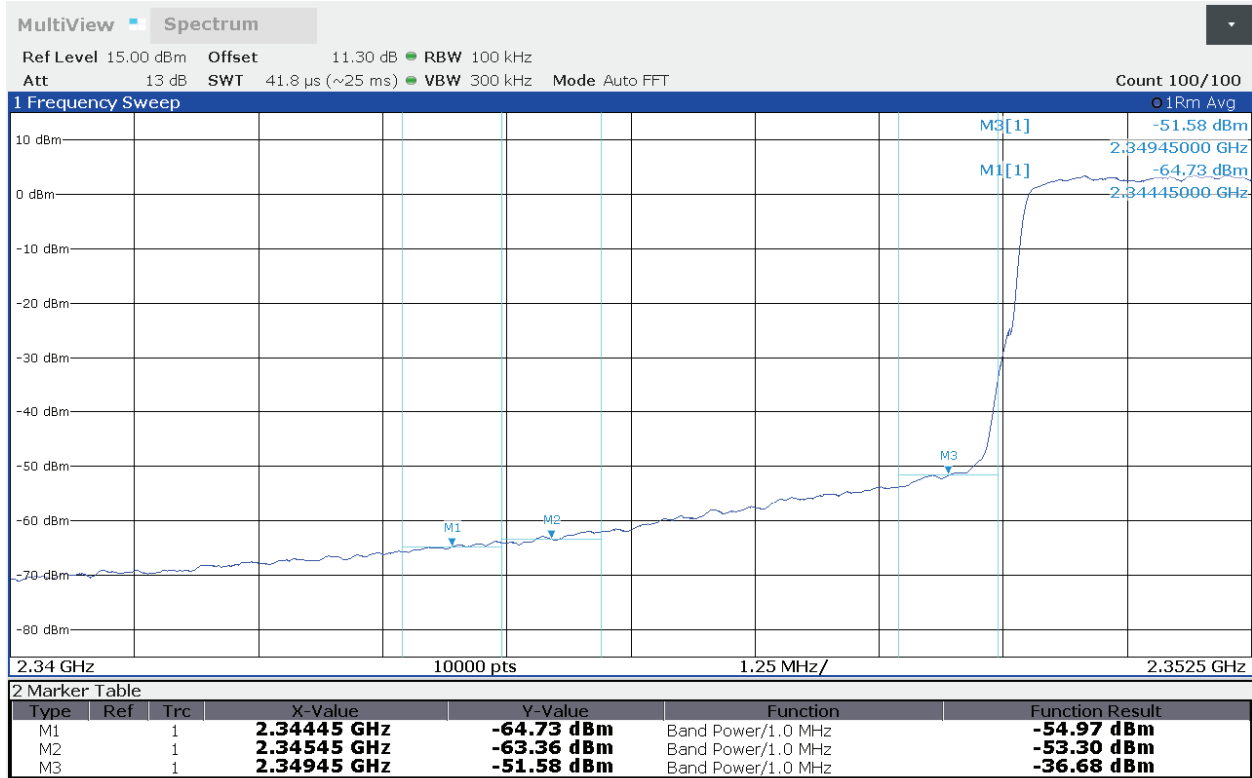
**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Lower Band Edge**



19:01:35 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-52.5	-45.0	-7.50
		2345.45	-51.13	-13.0	-38.13
		2349.45	-37.17	-13.0	-24.17

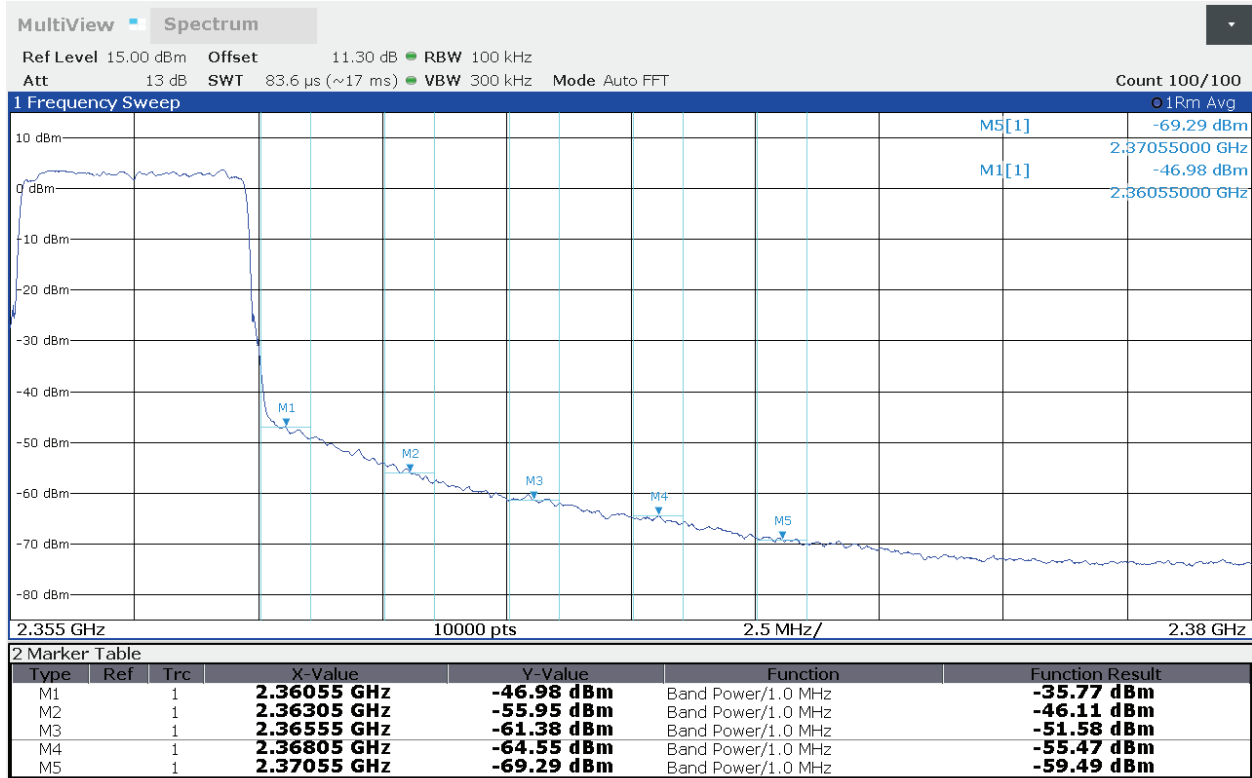
**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Lower Band Edge**



19:01:53 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-54.97	-45.0	-9.97
		2345.45	-53.30	-13.0	-40.30
		2349.45	-36.68	-13.0	-23.68

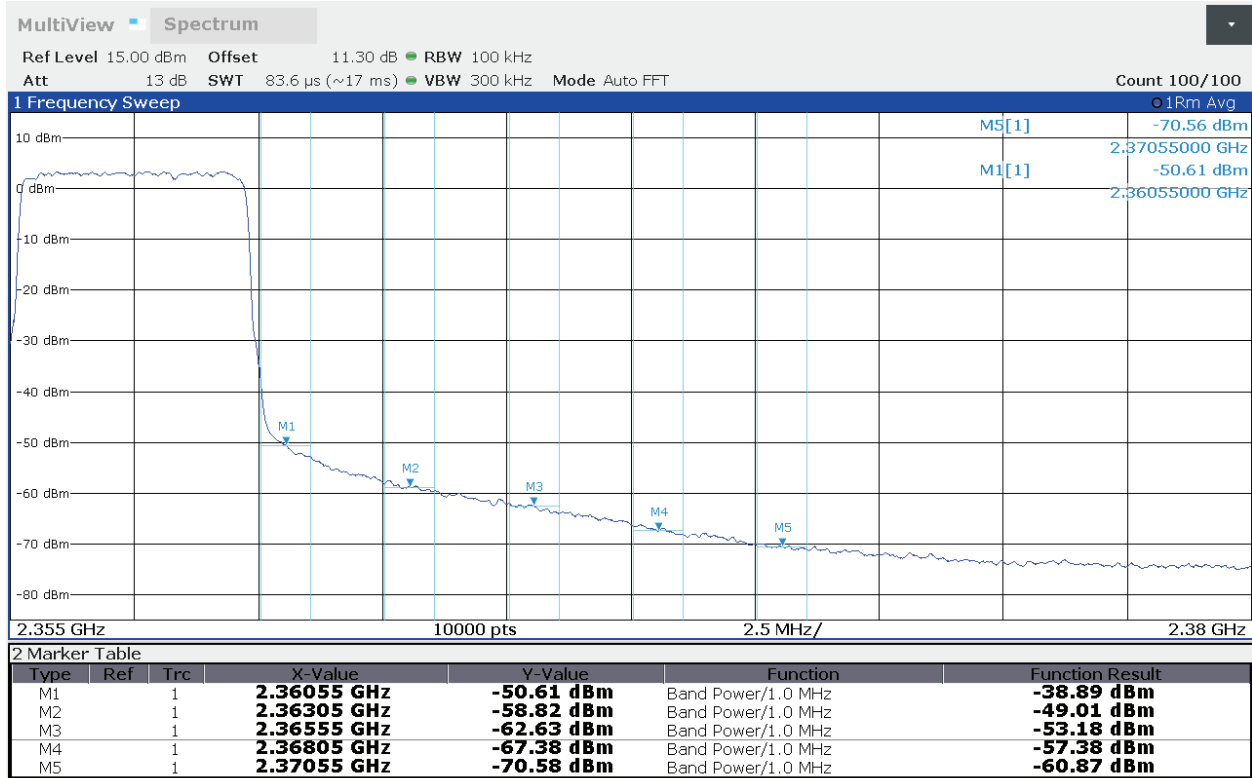
**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Upper Band Edge**



18:14:37 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-35.77	-13.0	-22.77
		2363.05	-46.11	-25.0	-21.11
		2365.55	-51.58	-40.0	-11.58
		2368.05	-55.47	-42.0	-13.47
		2370.55	-59.49	-45.0	-14.49

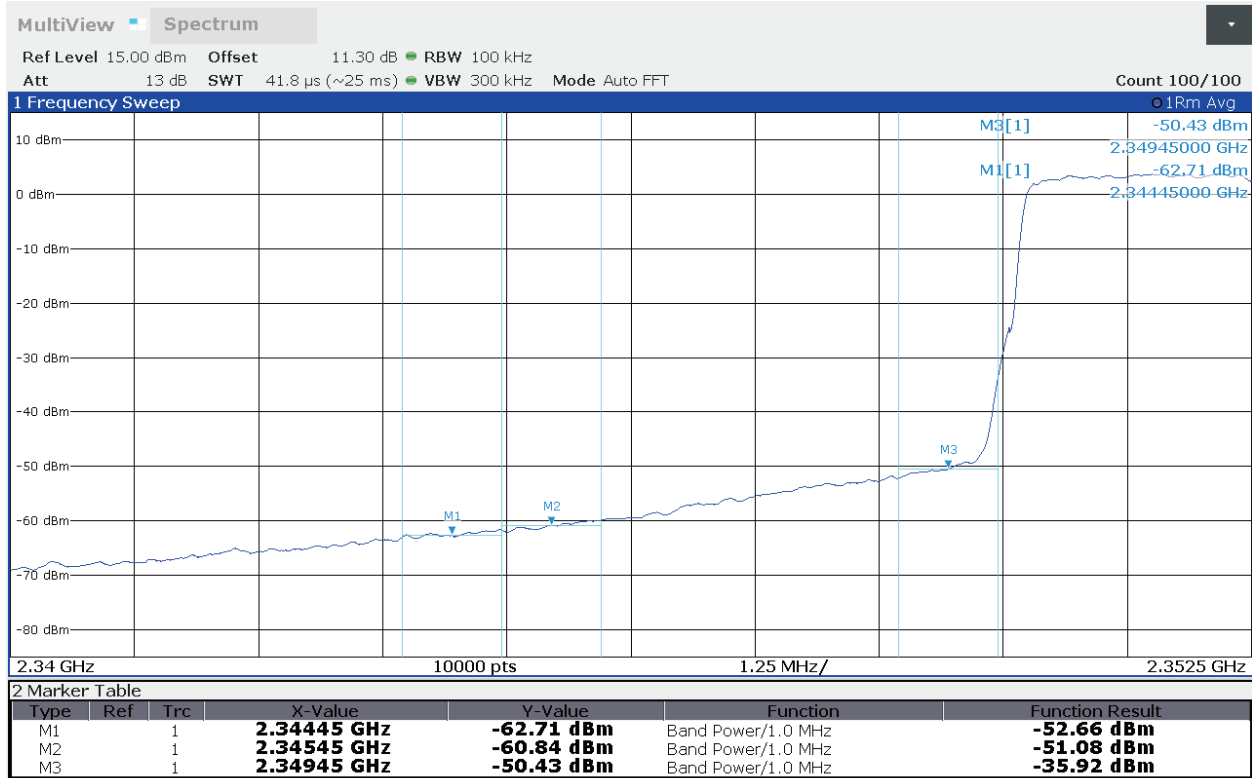
**TM3.1-64QAM\_5 MHz Bandwidth  
Band 30, ANT1, High Channel, Upper Band Edge**



18:14:18 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-38.89	-13.0	-25.89
		2363.05	-49.01	-25.0	-24.01
		2365.55	-53.18	-40.0	-13.18
		2368.05	-57.38	-42.0	-15.38
		2370.55	-60.87	-45.0	-15.87

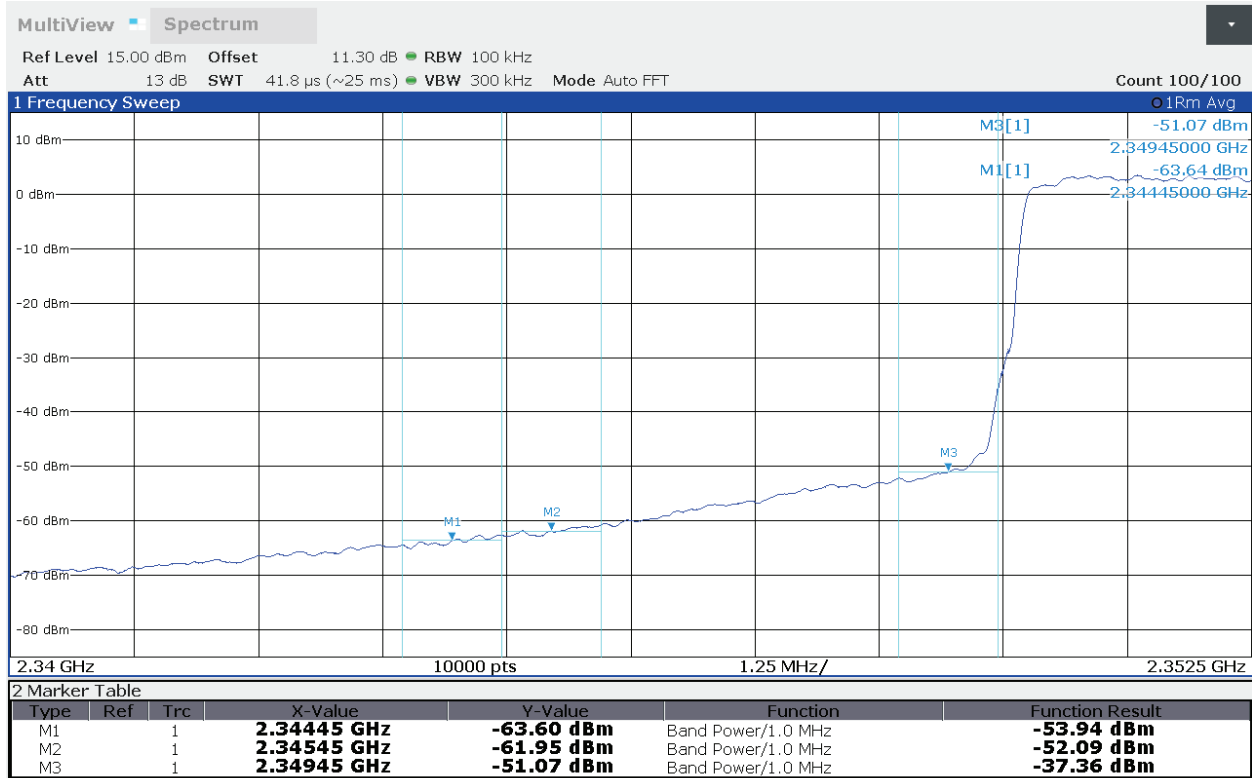
**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, Low Channel, Lower Band Edge**



18:23:29 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-52.66	-45.0	-7.66
		2345.45	-51.08	-13.0	-38.08
		2349.45	-35.92	-13.0	-22.92

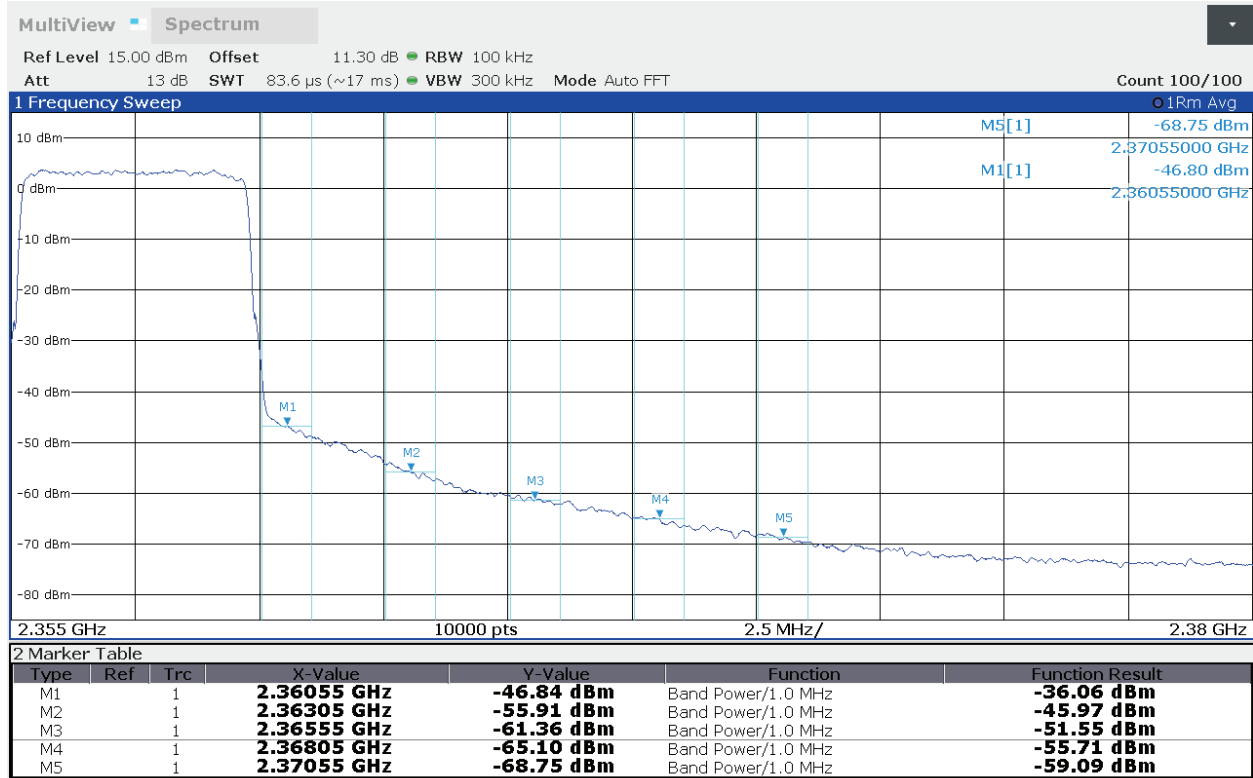
**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT1, Low Channel, Lower Band Edge**



18:23:05 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2352.5	2344.45	-53.94	-45.0	-8.94
		2345.45	-52.09	-13.0	-39.09
		2349.45	-37.36	-13.0	-24.36

**TM3.1a-256QAM\_5 MHz Bandwidth  
Band 30, ANT0, High Channel, Upper Band Edge**



18:20:42 03.11.2020

Bandwidth	Tx Frequency (MHz)	Measured Freq (MHz)	Amplitude (dBm)	Limit (dBm)	Margin (dB)
5MHz	2357.5	2360.55	-36.06	-13.0	-23.06
		2363.05	-45.97	-25.0	-20.97
		2365.55	-51.55	-40.0	-11.55
		2368.05	-55.71	-42.0	-13.71
		2370.55	-59.09	-45.0	-14.09