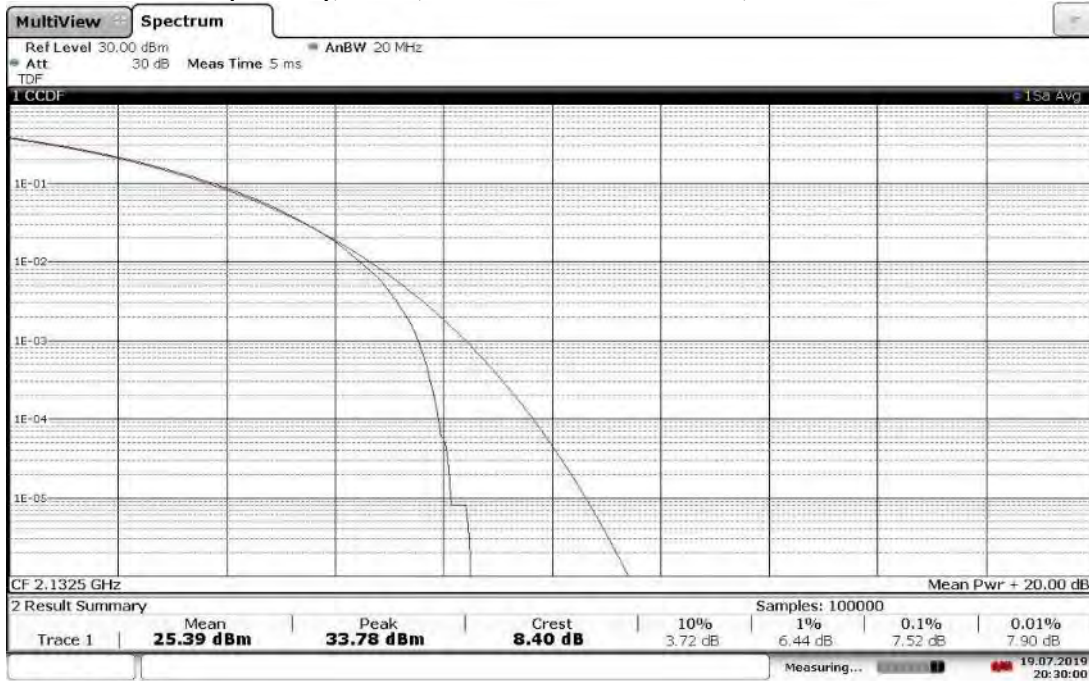
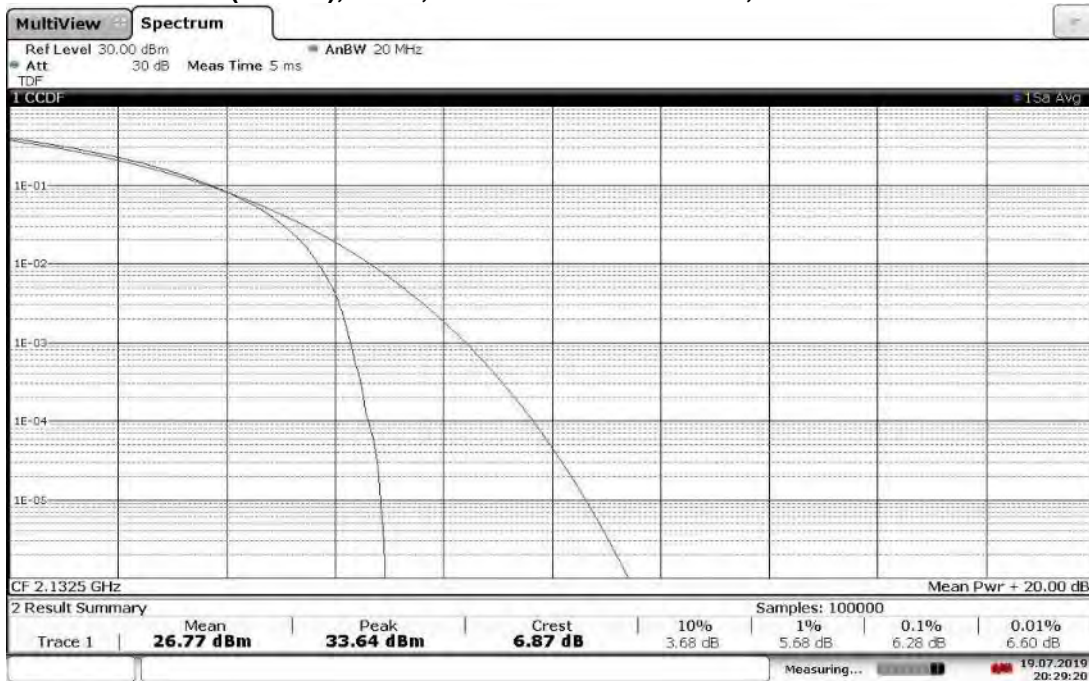


**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 2132.5 MHz, PAPR = 8.40 dB**



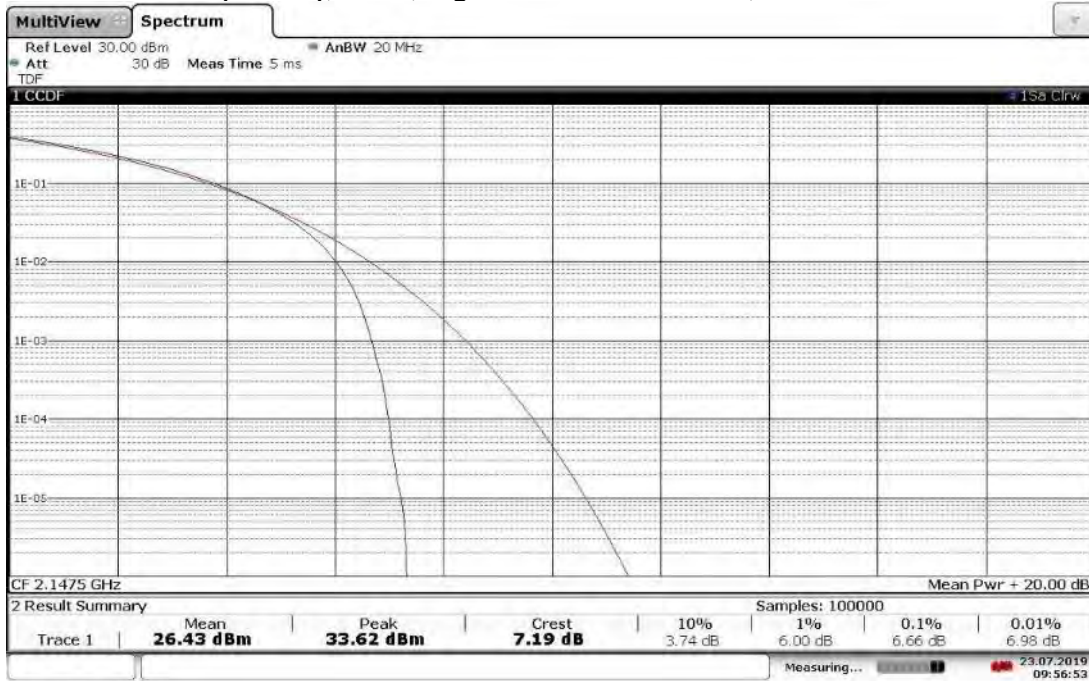
20:30:00 19.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 2132.5 MHz, PAPR = 6.87dB**



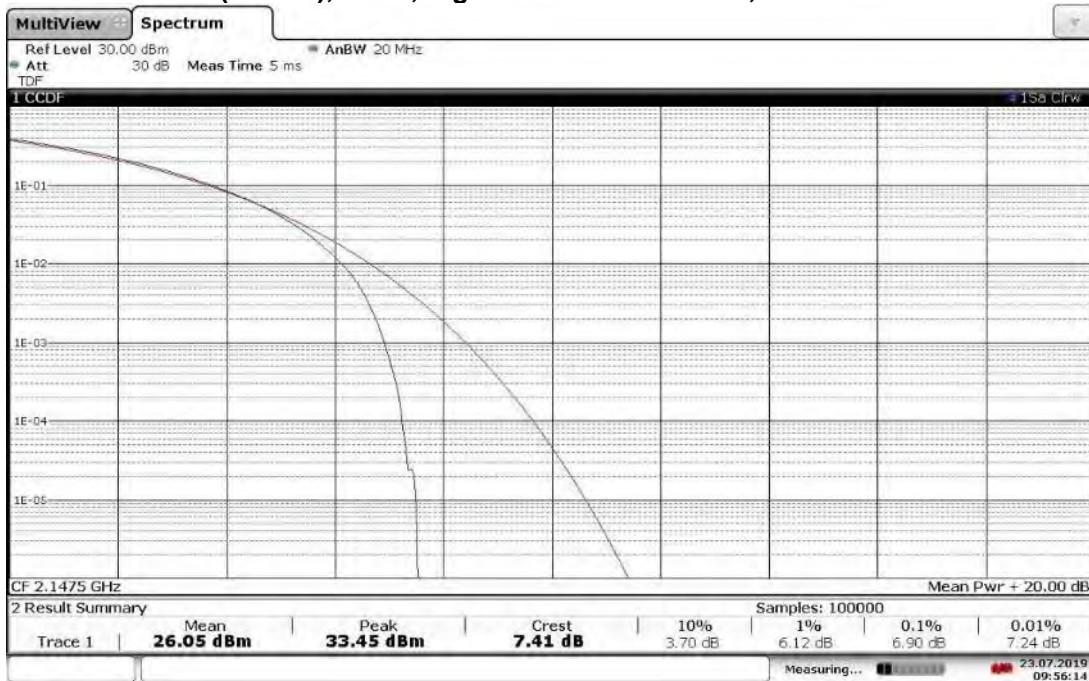
20:29:21 19.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 2147.5 MHz, PAPR = 7.19 dB



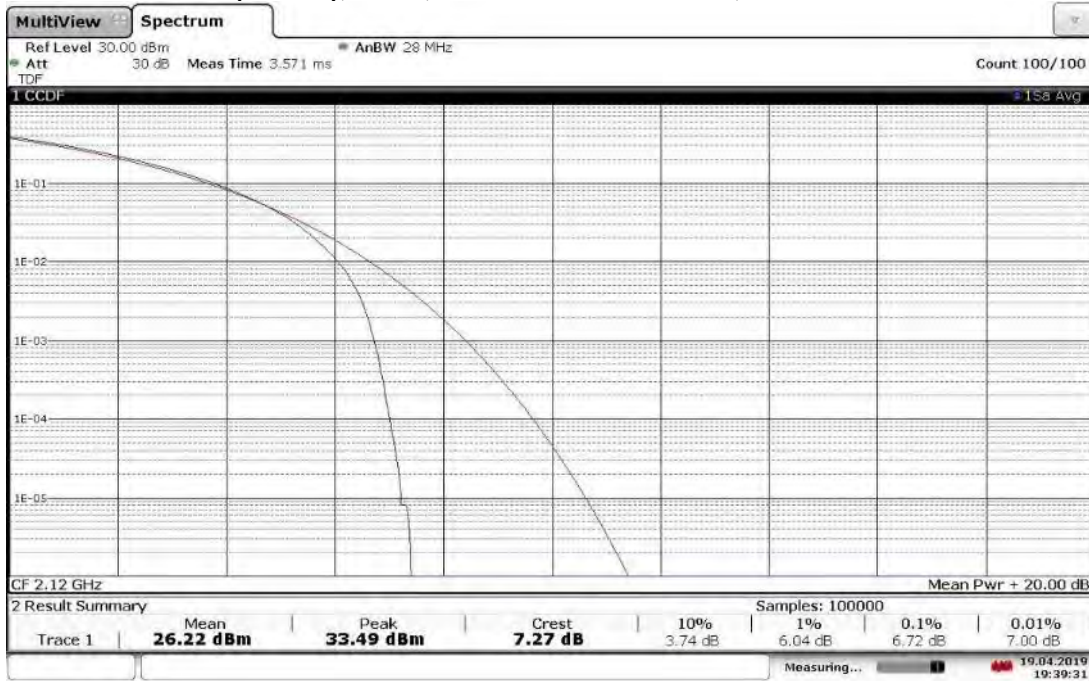
09:56:53 23.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 2147.5 MHz, PAPR = 7.41 dB



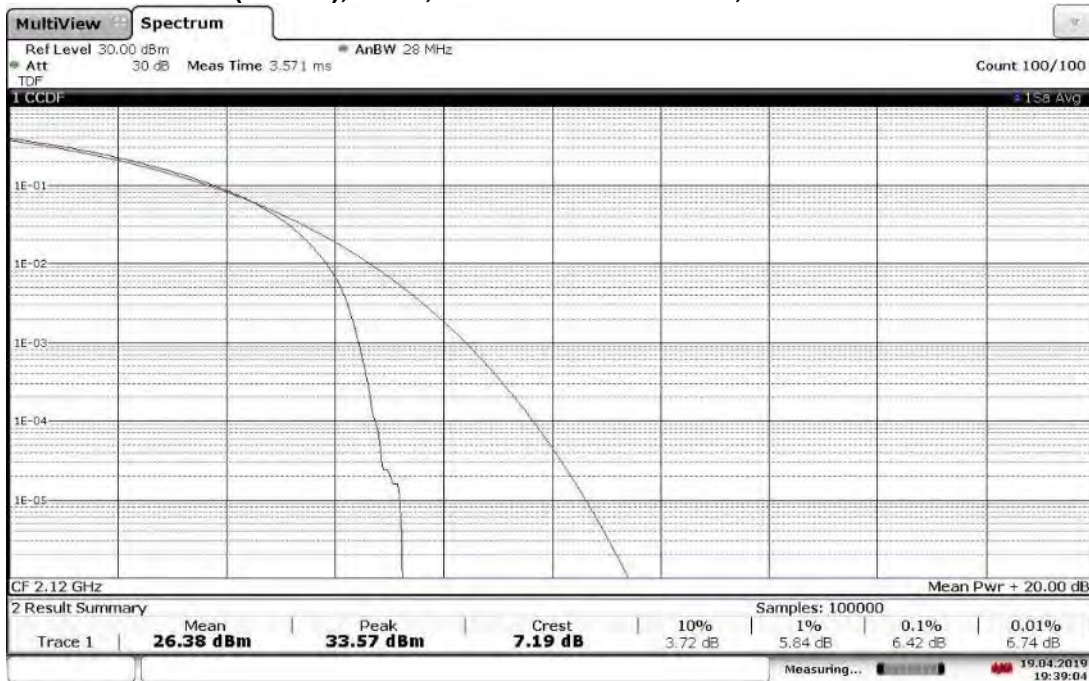
09:56:15 23.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 2120 MHz, PAPR = 7.27 dB



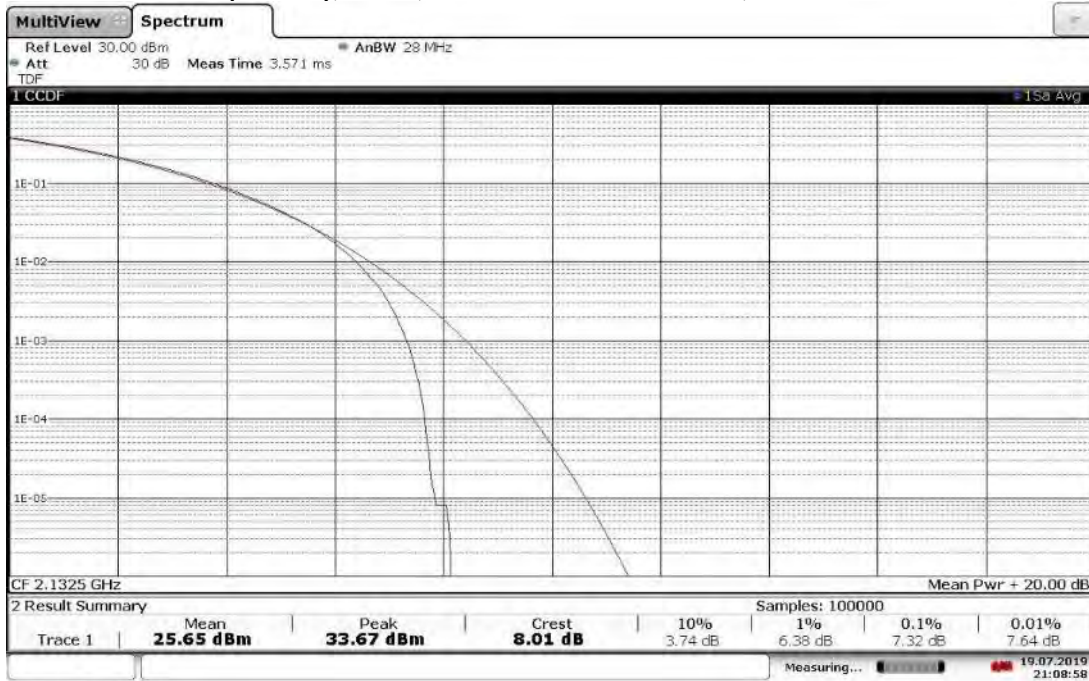
19:39:32 19.04.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 2120 MHz, PAPR = 7.19 dB



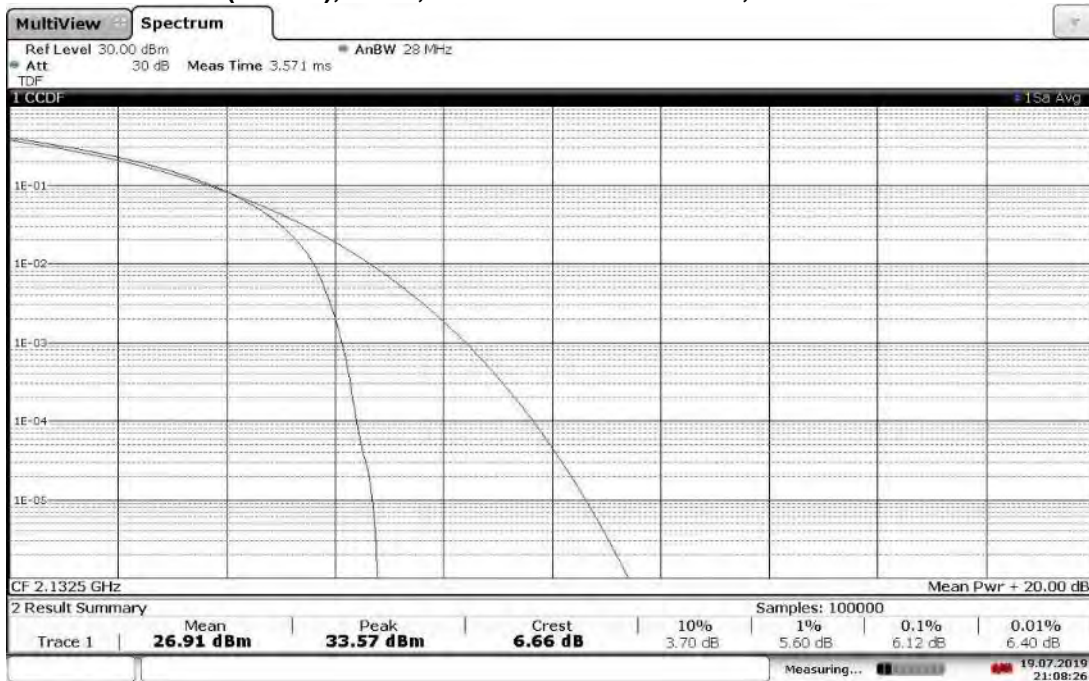
19:39:05 19.04.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 2132.5 MHz, PAPR = 8.01 dB



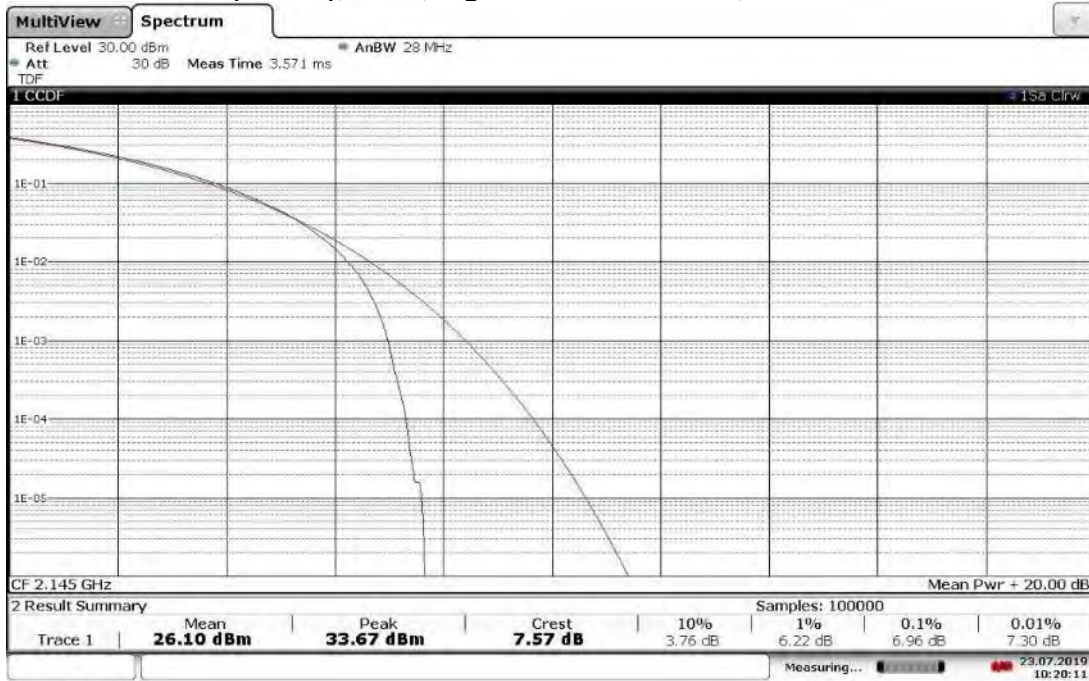
21:08:58 19.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 2132.5 MHz, PAPR = 6.66 dB



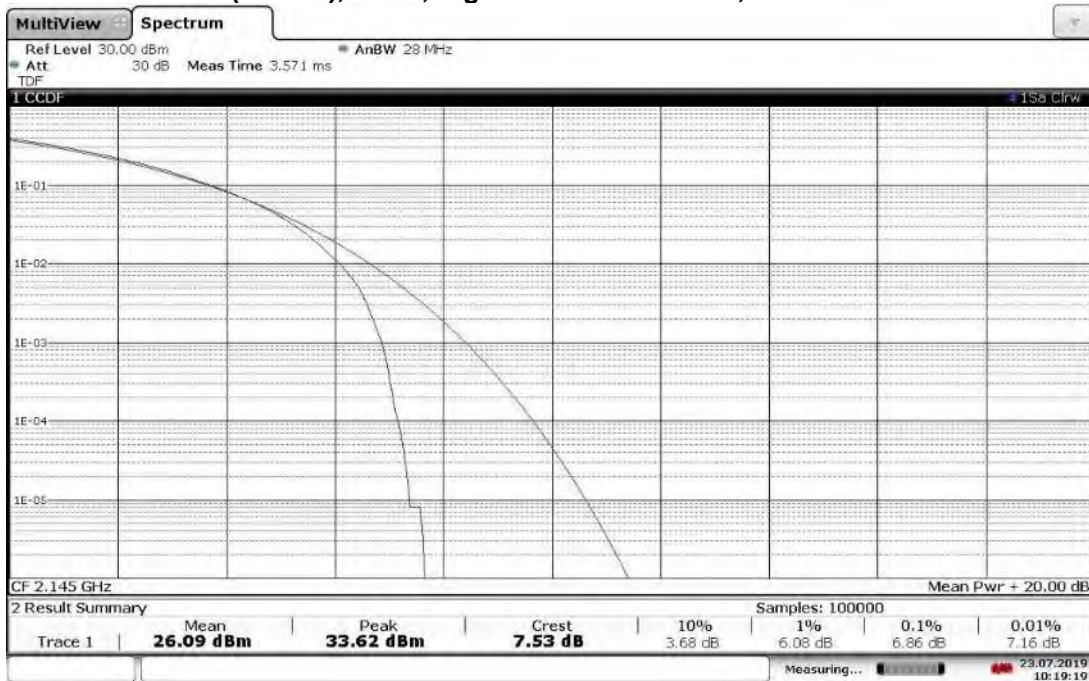
21:08:26 19.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 2145 MHz, PAPR = 7.57 dB**



10:20:12 23.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 2145 MHz, PAPR = 7.53 dB**



10:19:19 23.07.2019

Test Personnel:	<u>Kouma Sinn <i>KPS</i></u>	Test Date:	<u>04/10/2019, 04/11/2019, 04/16/2019, 04/19/2019, 04/27/2019, 04/30/2019, 07/18/2019, 07/19/2019, 07/23/2019</u>
Supervising/Reviewing Engineer: (Where Applicable)	<u>N/A</u>	Limit Applied:	<u>See report section 7.3</u>
Product Standard:	<u>FCC Part 27</u>	Ambient Temperature:	<u>22, 23, 23, 22, 20, 22, 21, 21, 21 °C</u>
Input Voltage:	<u>48 VDC (POE)</u>	Relative Humidity:	<u>21, 15, 20, 47, 42, 35, 64, 71, 71 %</u>
Pretest Verification w/ Ambient Signals or BB Source:	<u>N/A</u>	Atmospheric Pressure:	<u>1004, 1013, 1001, 1000, 996, 1017, 1005, 1005, 1001 mbars</u>

Deviations, Additions, or Exclusions: None

8 26 dB Bandwidth and Occupied Bandwidth

8.1 Method

Tests are performed in accordance with ANSI C63.26 and CFR47 FCC Parts 2.1049 and 27.

TEST SITE: EMC Lab

The EMC Lab has one Semi-anechoic Chamber and one Shielded Chamber. AC Mains Power is available at 120, 230, and 277 Single Phase; 208, 400, and 480 3-Phase. Large reference ground-planes are installed in the general lab area to facilitate EMC work not requiring a shielded environment.

8.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
CEN001'	DC-40GHz attenuator 20dB	Centric RF	C411-20	CEN001	02/01/2019	02/01/2020
CBLHF2012-2M-1'	2m 9kHz-40GHz Coaxial Cable - SET1	Huber & Suhner	SF102	252675001	02/01/2019	02/01/2020
ROS005-1'	Signal and Spectrum Analyzer	Rohde & Schwarz	FSW43	100646	10/15/2018	10/15/2019
DS40'	Temp, humidity, pressure gauge	Digi Sense	68000-49	181717625	11/06/2018	11/06/2019

Software Utilized:

Name	Manufacturer	Version
None	--	--

8.3 Results:

The sample tested was found to Comply.

§27.53(h)(3): 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.

§2.1049: The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Intertek

Report Number: 103866582BOX-24a

Issued: 08/14/2019

Band 4, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2112.50	ANT0	4.531	5.21
		ANT1	4.541	5.01
Mid	2132.50	ANT0	4.523	5.03
		ANT1	4.562	5.42
High	2152.50	ANT0	4.544	5.43
		ANT1	4.526	5.04

Band 4, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2115.00	ANT0	8.999	9.95
		ANT1	8.992	9.98
Mid	2132.50	ANT0	8.990	9.96
		ANT1	9.046	10.39
High	2150.00	ANT0	8.993	9.84
		ANT1	8.967	9.97

Band 4, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2117.50	ANT0	13.510	14.77
		ANT1	13.475	14.72
Mid	2132.50	ANT0	13.485	14.80
		ANT1	13.562	15.81
High	2147.50	ANT0	13.527	14.84
		ANT1	13.467	14.93

Band 4, Bandwidth: 20 MHz, Modulation: TM1.1-QPSK

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2120.00	ANT0	17.939	19.39
		ANT1	17.907	19.31
Mid	2132.50	ANT0	17.929	19.66
		ANT1	17.920	20.00
High	2145.00	ANT0	17.926	19.59
		ANT1	17.865	19.58

Band 4, Bandwidth: 5 MHz, Modulation: TM3.2-16QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2112.50	ANT0	4.544	5.14
		ANT1	4.556	5.23
Mid	2132.50	ANT0	4.509	4.98
		ANT1	4.516	5.01
High	2152.50	ANT0	4.500	4.99
		ANT1	4.502	4.96

Band 4, Bandwidth: 10 MHz, Modulation: TM3.2-16QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2115.00	ANT0	9.014	9.91
		ANT1	8.985	9.91
Mid	2132.50	ANT0	8.958	9.85

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		ANT1	8.979	9.81
High	2150.00	ANT0	9.014	9.83
		ANT1	8.985	9.87

Intertek

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Issued: 08/14/2019

Band 4, Bandwidth: 15 MHz, Modulation: TM3.2-16QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2117.50	ANT0	13.524	14.48
		ANT1	13.453	14.47
Mid	2132.50	ANT0	13.436	14.65
		ANT1	13.451	14.79
High	2147.50	ANT0	13.535	14.61
		ANT1	13.503	14.70

Band 4, Bandwidth: 20 MHz, Modulation: TM3.2-16QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2120.00	ANT0	17.945	19.11
		ANT1	17.892	19.51
Mid	2132.50	ANT0	17.928	19.53
		ANT1	17.890	19.65
High	2145.00	ANT0	17.934	19.22
		ANT1	17.913	19.30

Band 4, Bandwidth: 5 MHz, Modulation: TM3.1-64QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2112.50	ANT0	4.567	4.99
		ANT1	4.520	5.08
Mid	2132.50	ANT0	4.533	4.97
		ANT1	4.613	5.63
High	2152.50	ANT0	4.544	5.05
		ANT1	4.543	5.04

Band 4, Bandwidth: 10 MHz, Modulation: TM3.1-64QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2115.00	ANT0	8.996	9.90
		ANT1	9.022	9.92
Mid	2132.50	ANT0	8.980	9.84
		ANT1	9.033	10.05
High	2150.00	ANT0	8.985	9.92
		ANT1	8.991	9.90

Band 4, Bandwidth: 15 MHz, Modulation: TM3.1-64QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2117.50	ANT0	13.518	14.59
		ANT1	13.501	14.65
Mid	2132.50	ANT0	13.484	14.86
		ANT1	13.521	15.17
High	2147.50	ANT0	13.471	14.77
		ANT1	13.457	14.84

Band 4, Bandwidth: 20 MHz, Modulation: TM3.1-64QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2120.00	ANT0	17.865	19.53
		ANT1	17.913	19.46
Mid	2132.50	ANT0	17.927	19.67

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		ANT1	17.943	19.62
High	2145.00	ANT0	17.879	19.65
		ANT1	17.937	19.60

Intertek

Report Number: 103866582BOX-24a

Issued: 08/14/2019

Band 4, Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2112.50	ANT0	4.553	5.04
		ANT1	4.551	5.08
Mid	2132.50	ANT0	4.539	5.06
		ANT1	4.566	5.27
High	2152.50	ANT0	4.546	5.05
		ANT1	4.534	5.05

Band 4, Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2115.00	ANT0	8.967	9.85
		ANT1	9.007	9.84
Mid	2132.50	ANT0	8.995	9.85
		ANT1	8.997	9.95
High	2150.00	ANT0	9.006	9.85
		ANT1	9.005	9.89

Band 4, Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2117.50	ANT0	13.445	14.70
		ANT1	13.505	14.73
Mid	2132.50	ANT0	13.502	14.63
		ANT1	13.464	14.47
High	2147.50	ANT0	13.467	14.80
		ANT1	13.499	14.94

Band 4, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM

Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2120.00	ANT0	17.848	19.42
		ANT1	17.928	19.49
Mid	2132.50	ANT0	17.919	19.63
		ANT1	17.971	19.65
High	2145.00	ANT0	17.922	19.57
		ANT1	17.892	19.42

8.4 Setup Photograph:



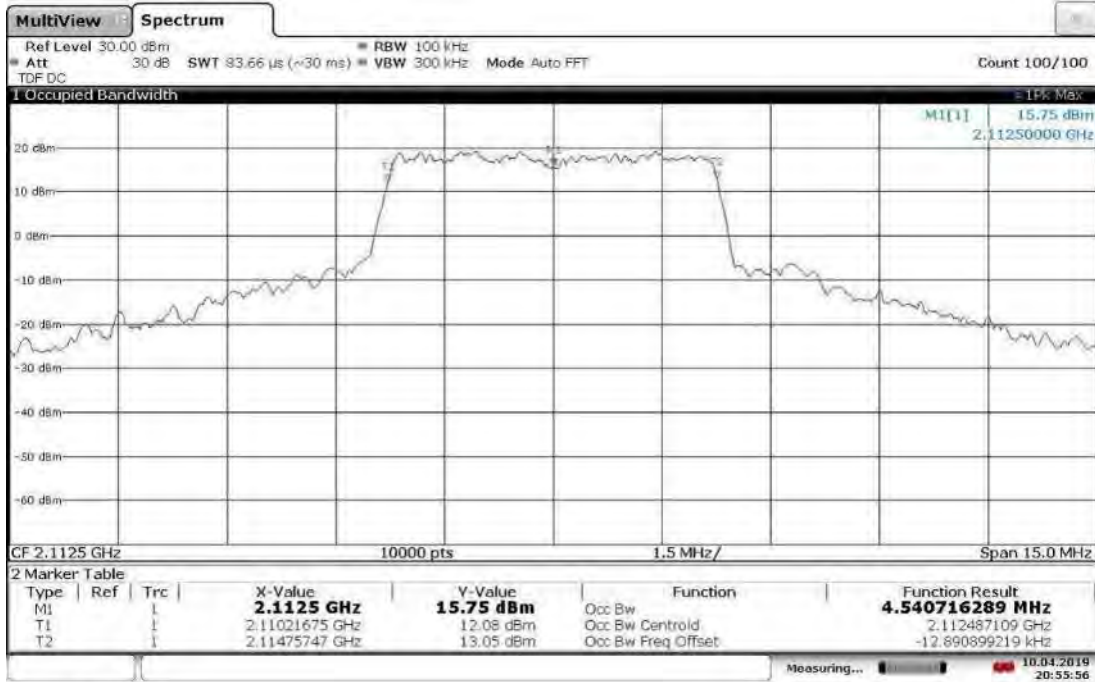
8.5 Plots/Data:

TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth



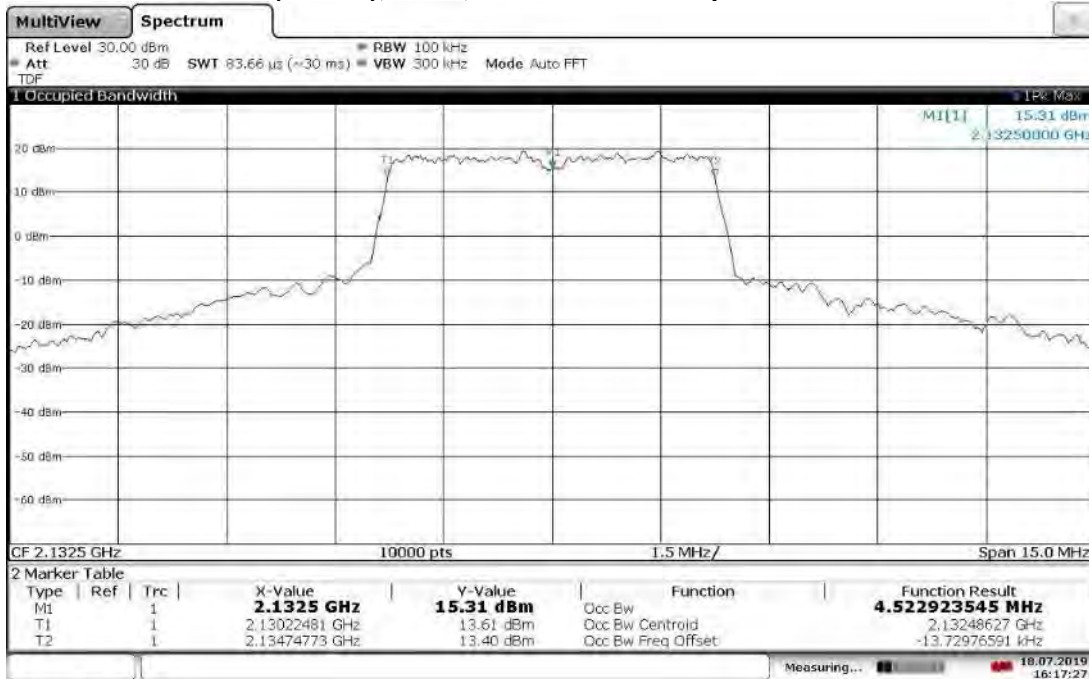
20:54:46 10.04.2019

TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth



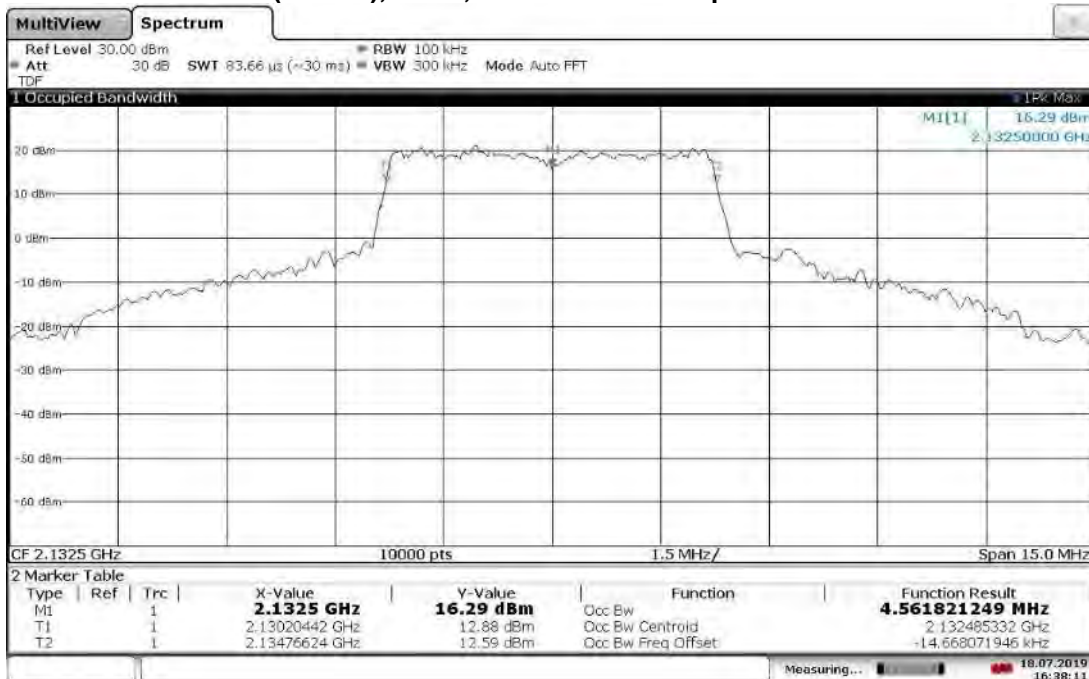
20:55:57 10.04.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



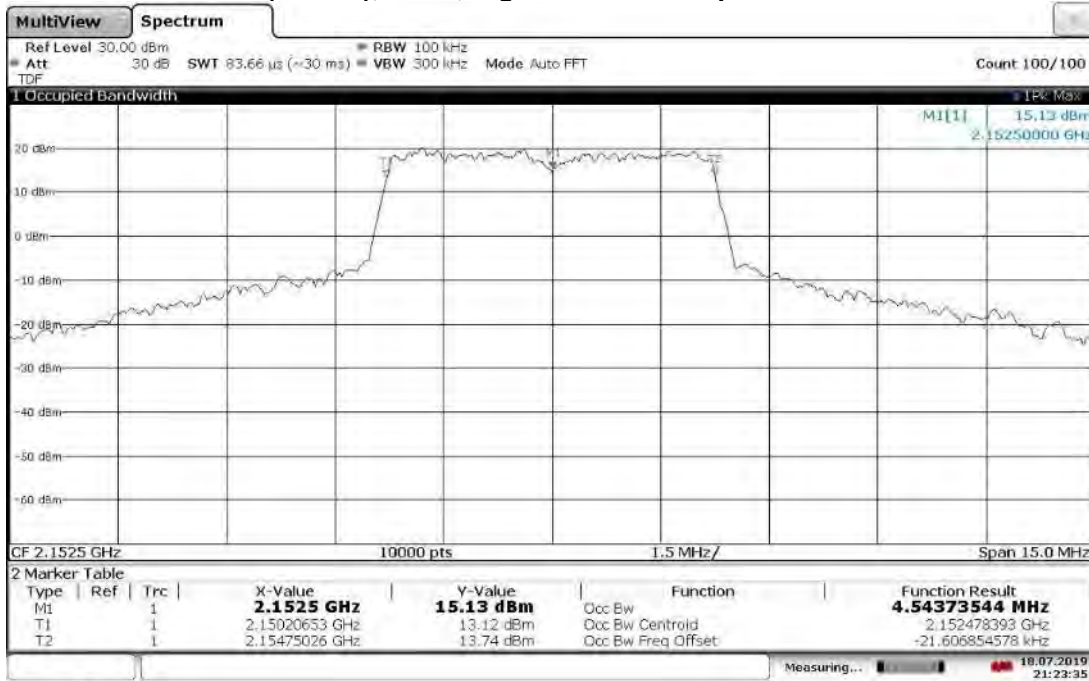
16:17:27 18.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



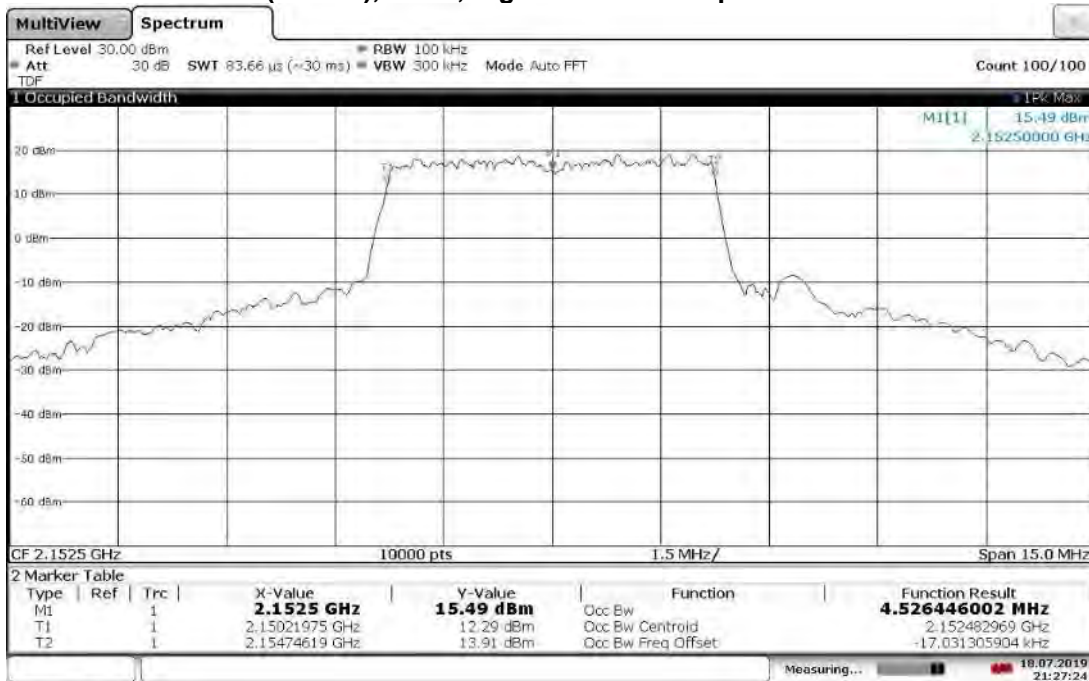
16:38:11 18.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



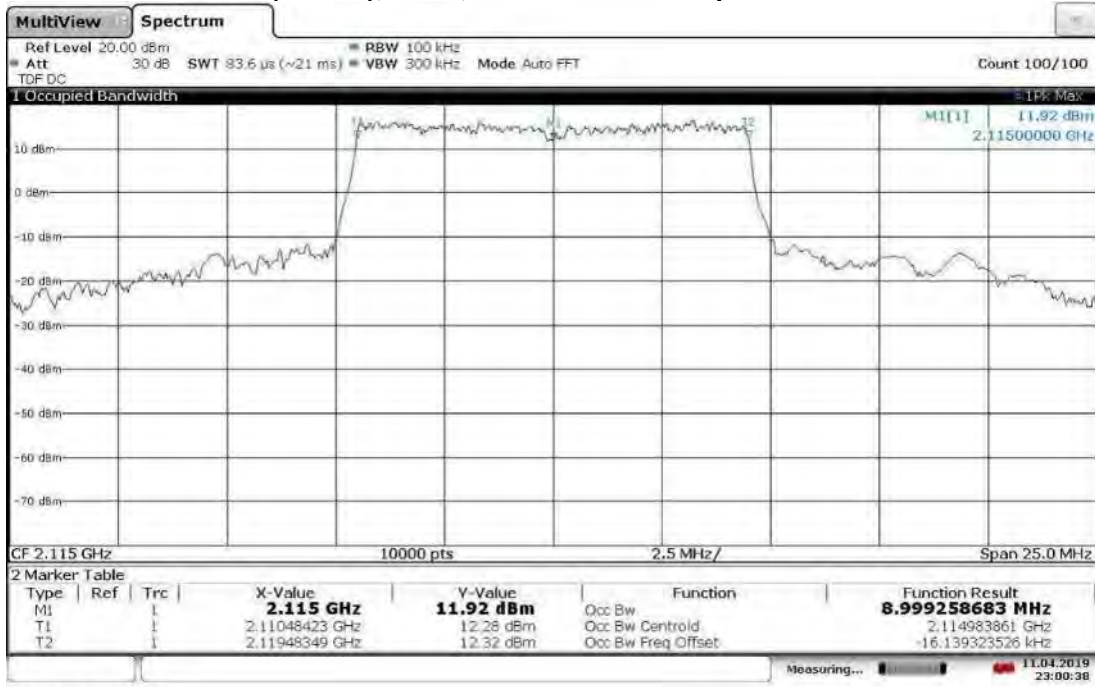
21:23:36 18.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



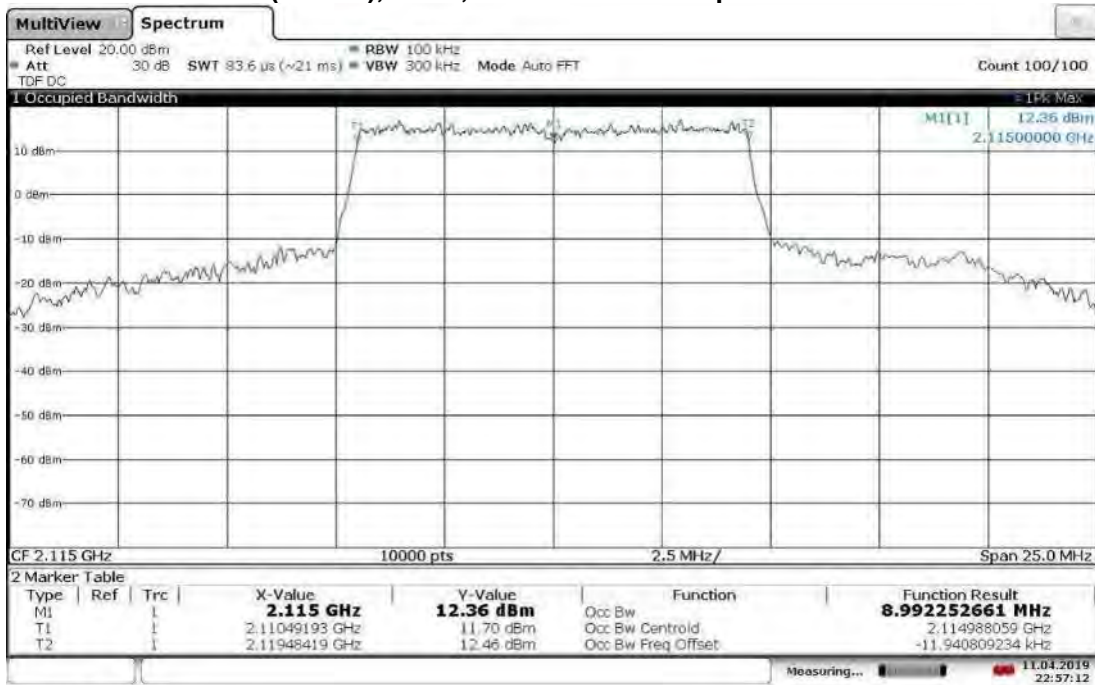
21:27:24 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



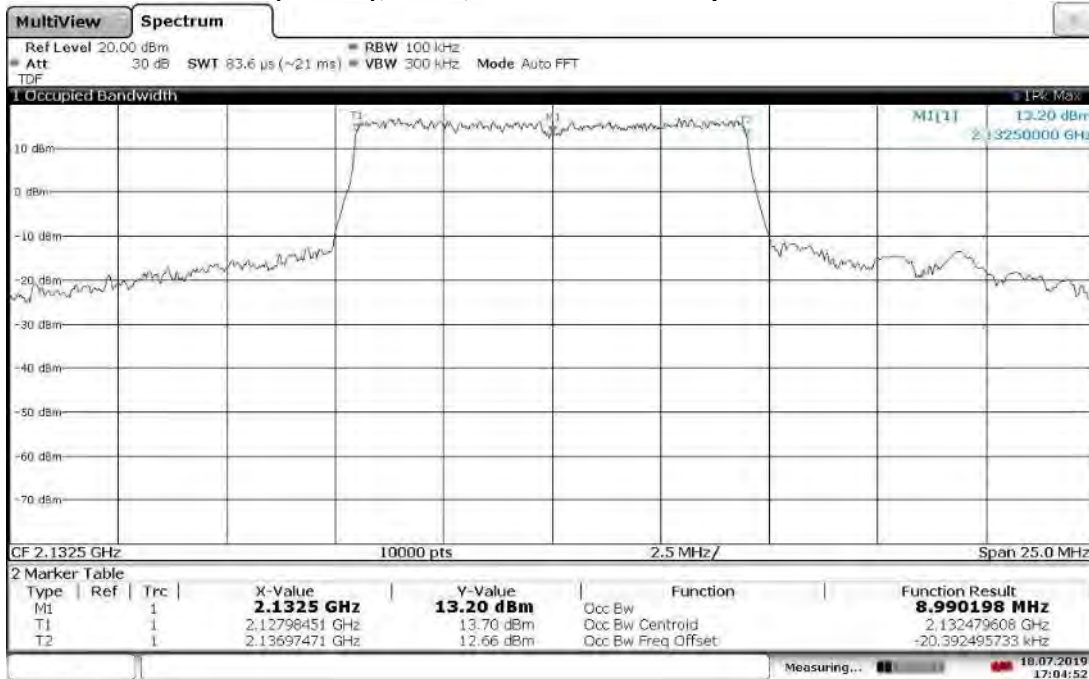
23:00:39 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



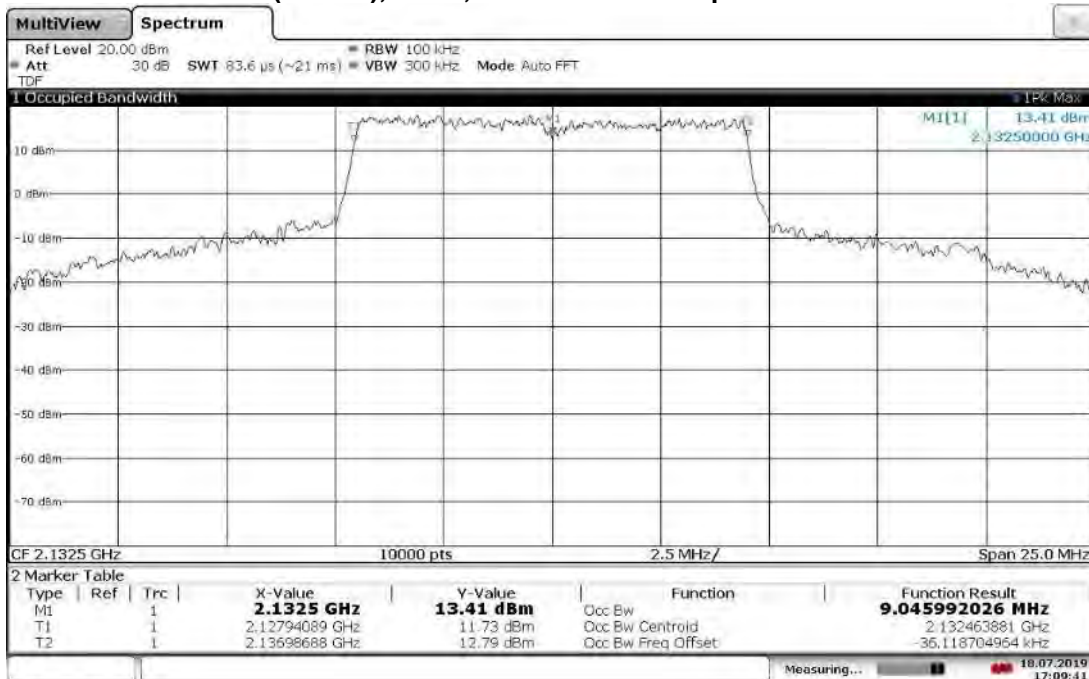
22:57:13 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



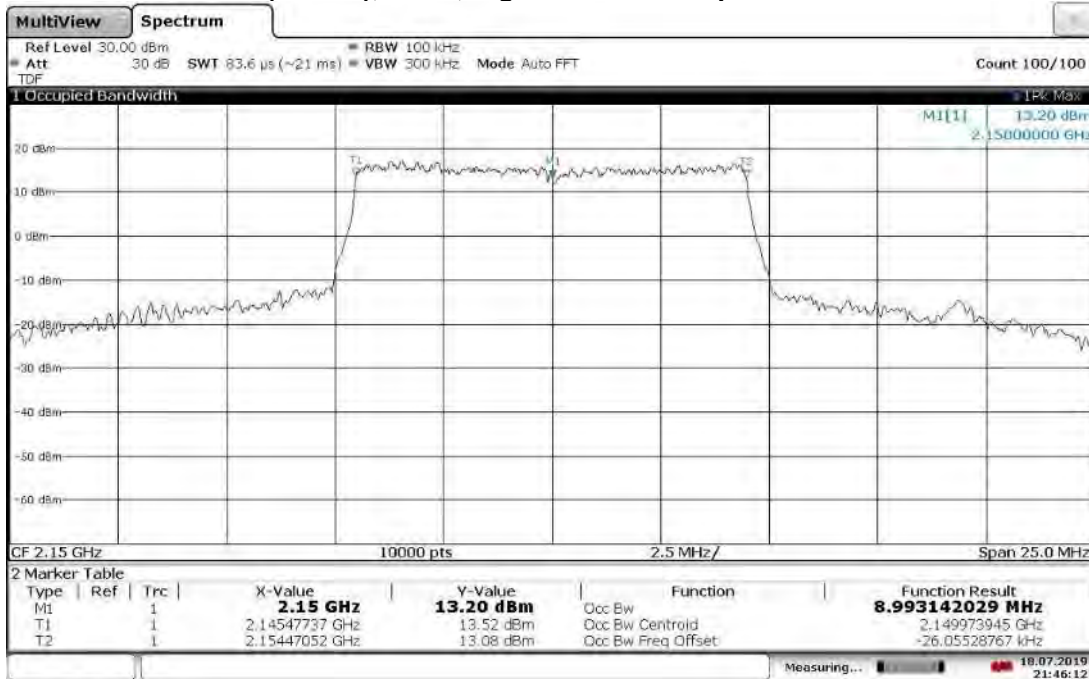
17:04:53 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



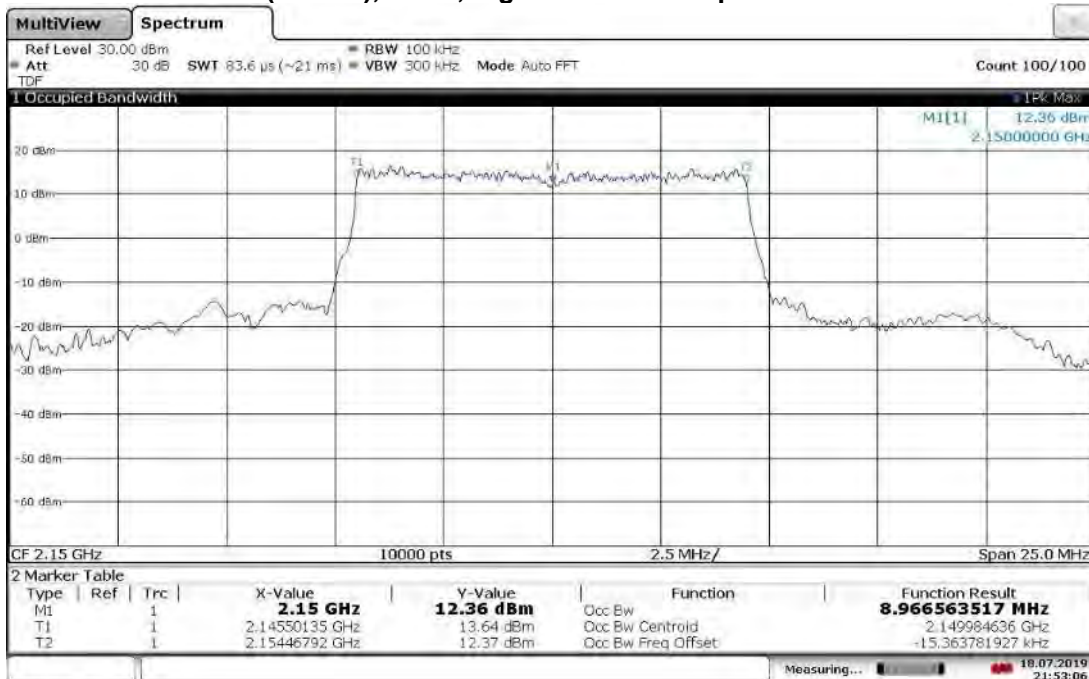
17:09:42 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



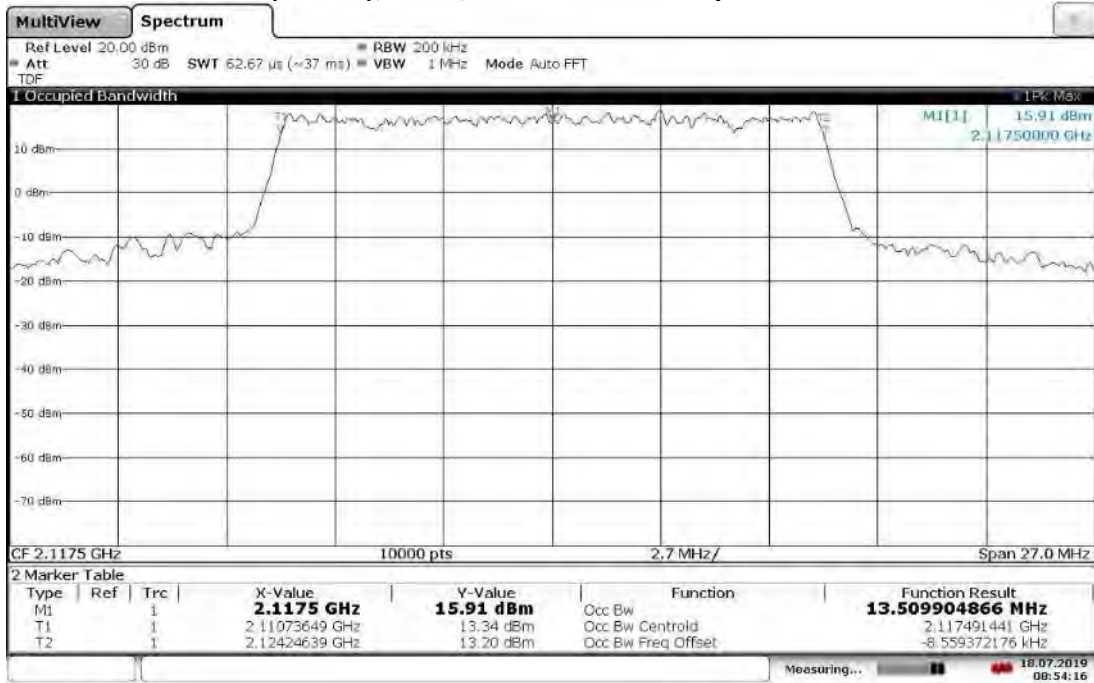
21:46:12 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



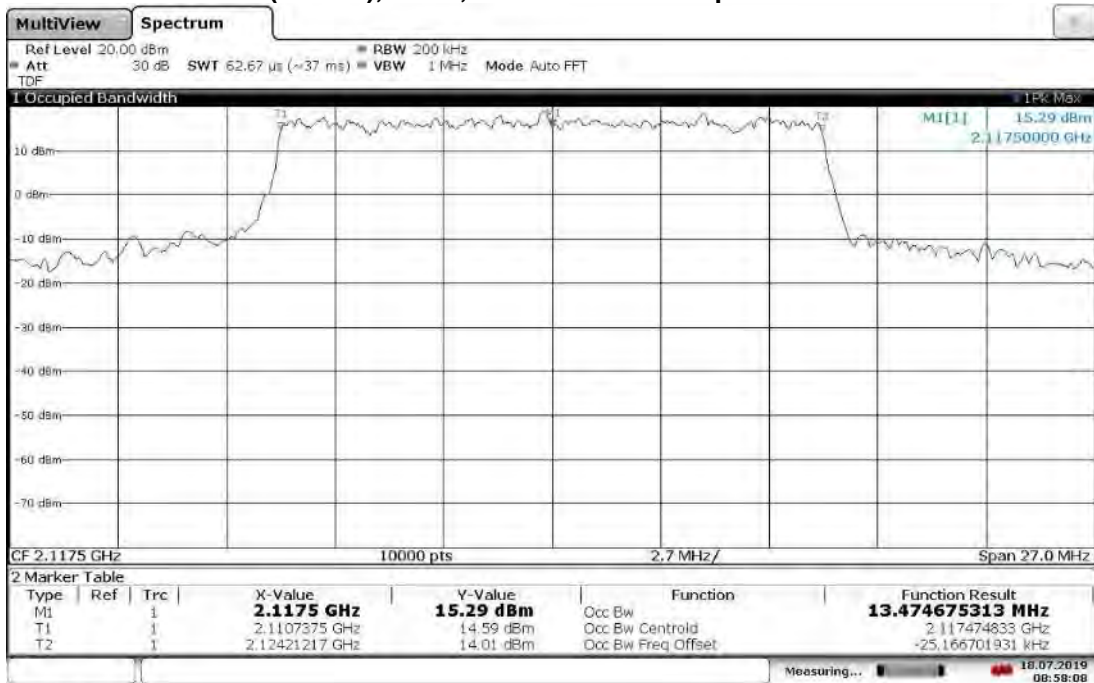
21:53:07 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



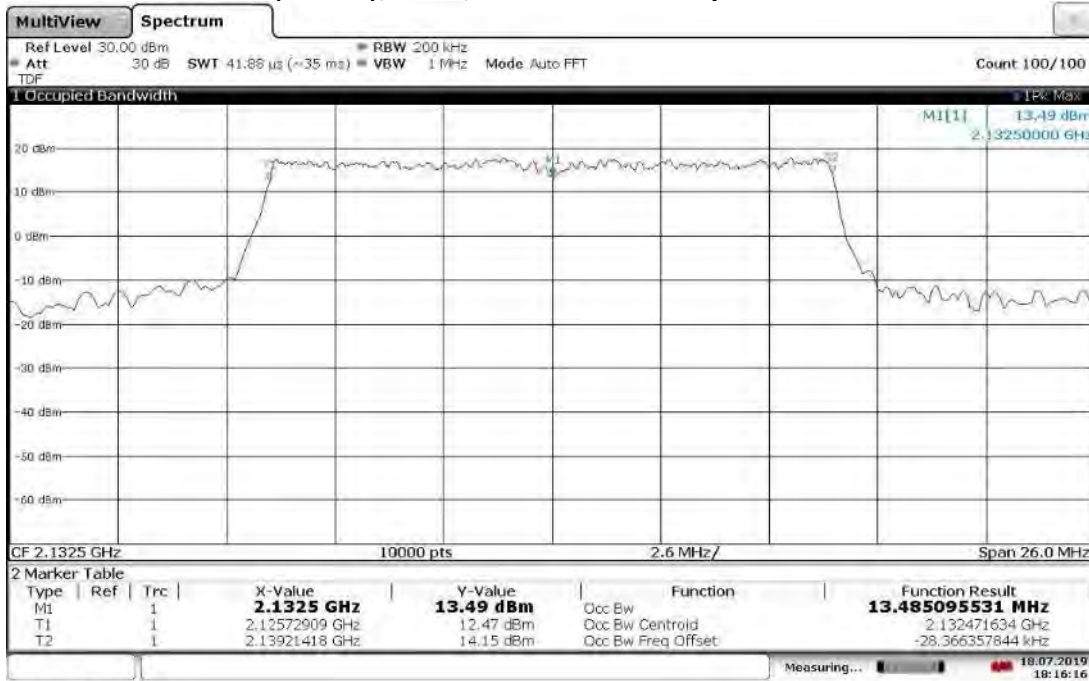
08:54:16 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



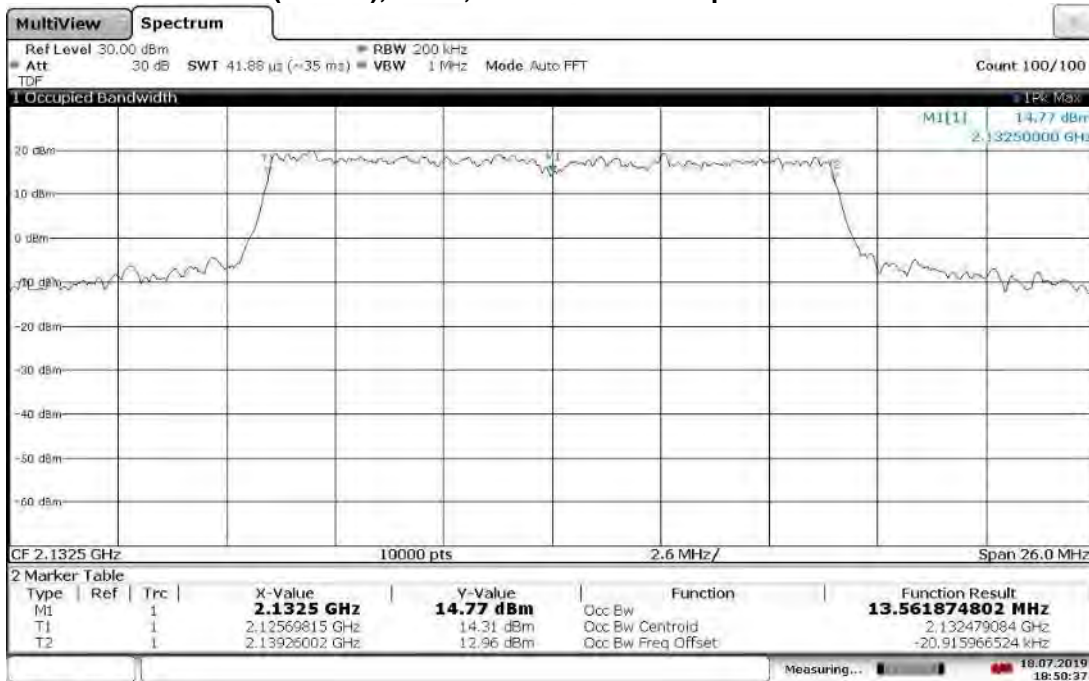
08:58:08 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



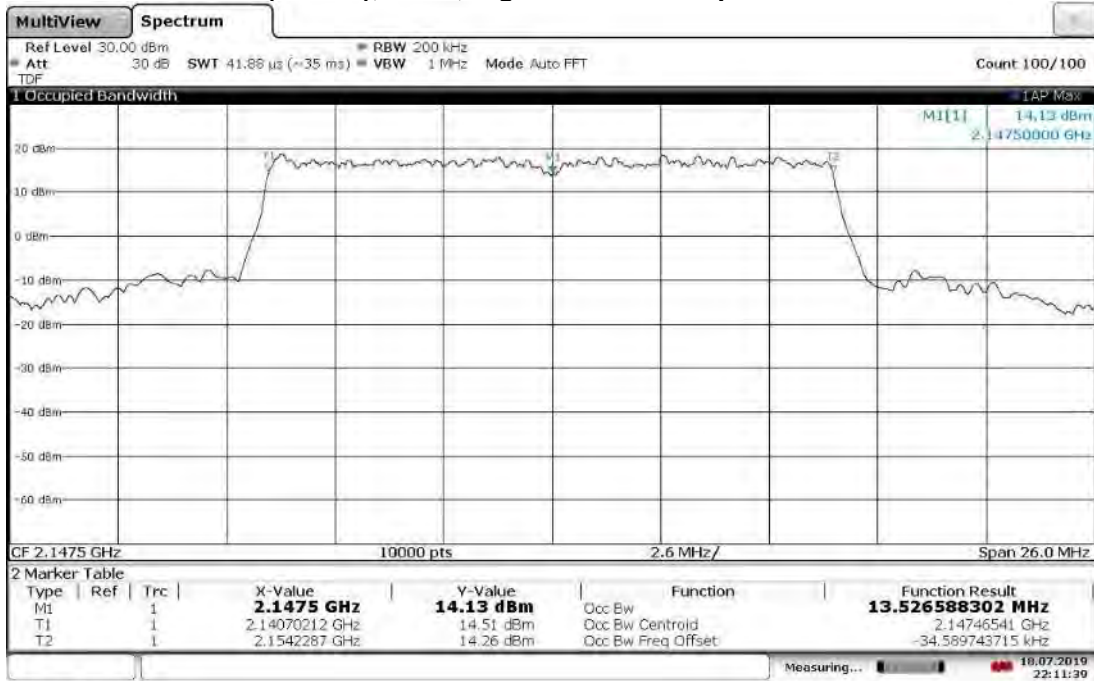
18:16:16 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



18:50:38 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



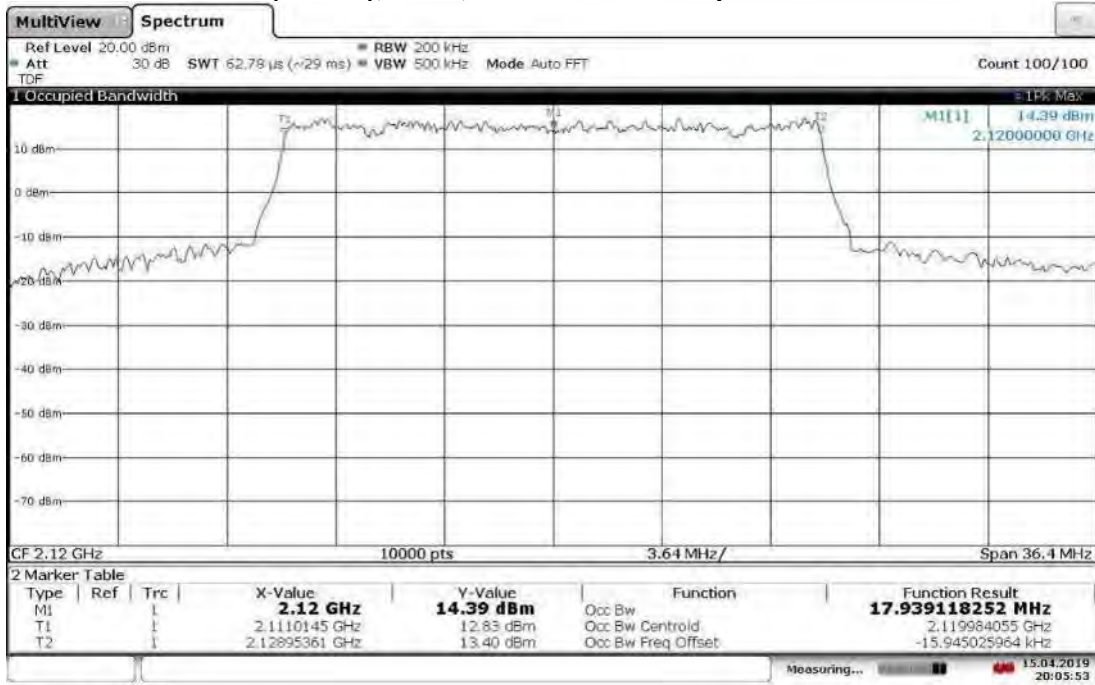
22:11:39 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



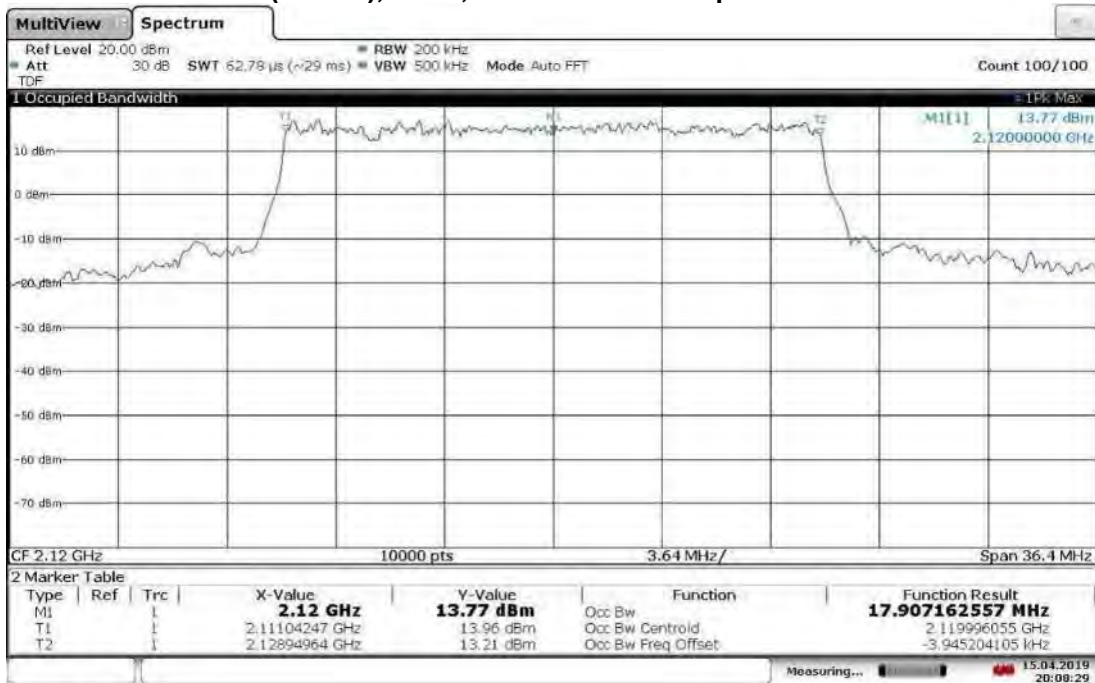
22:15:06 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



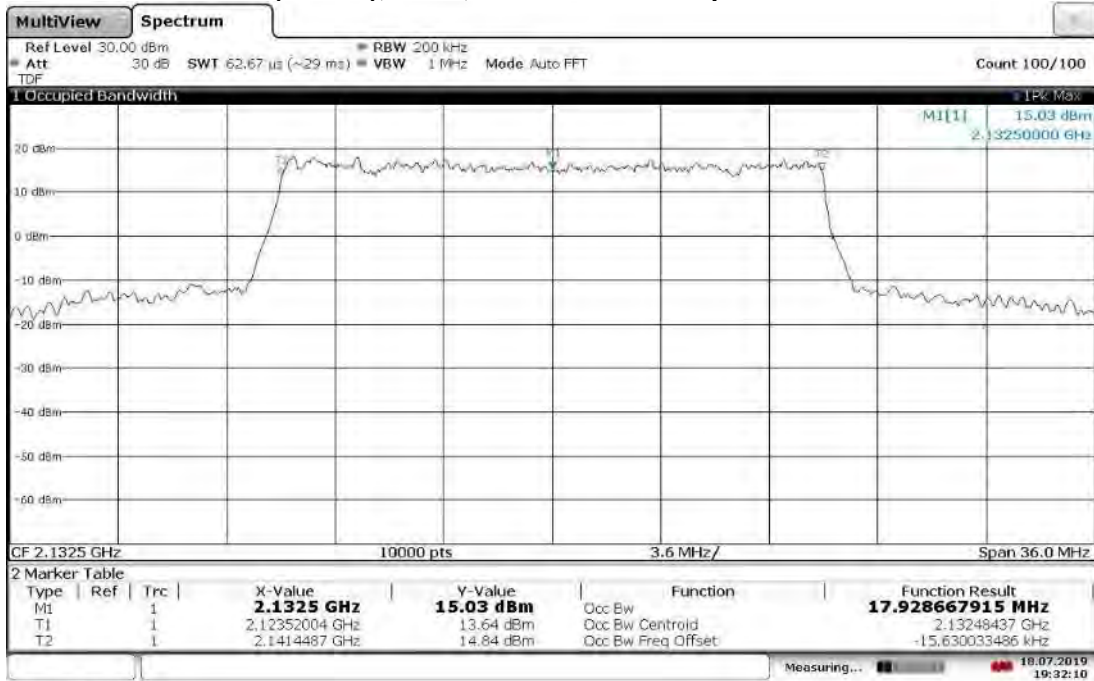
20:05:54 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



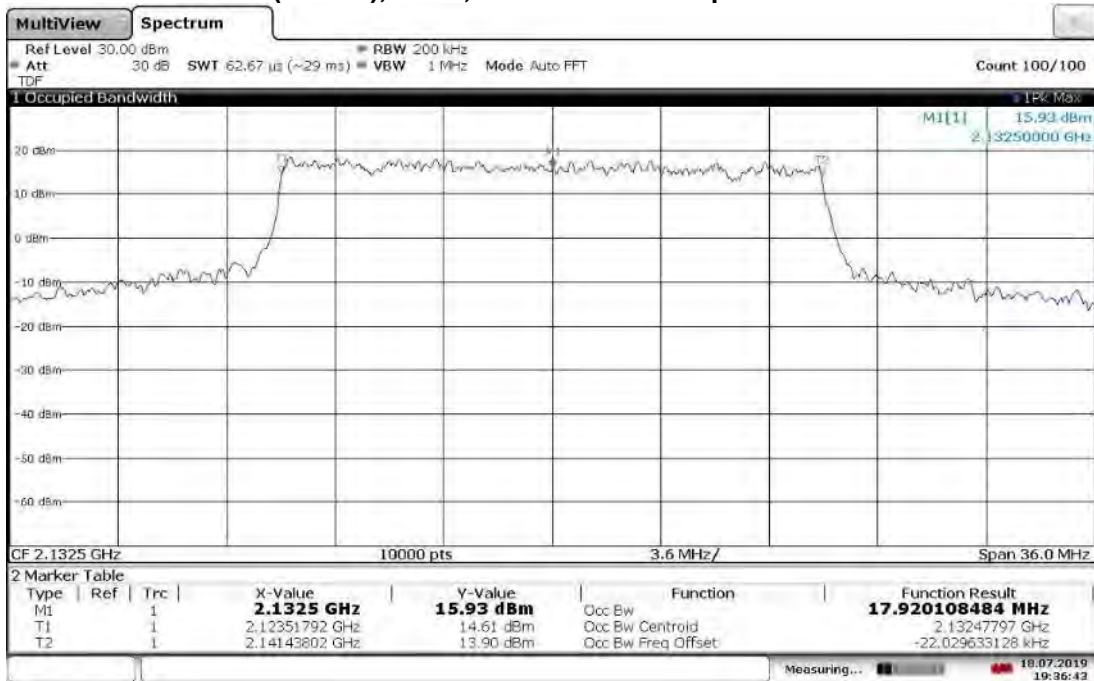
20:08:29 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



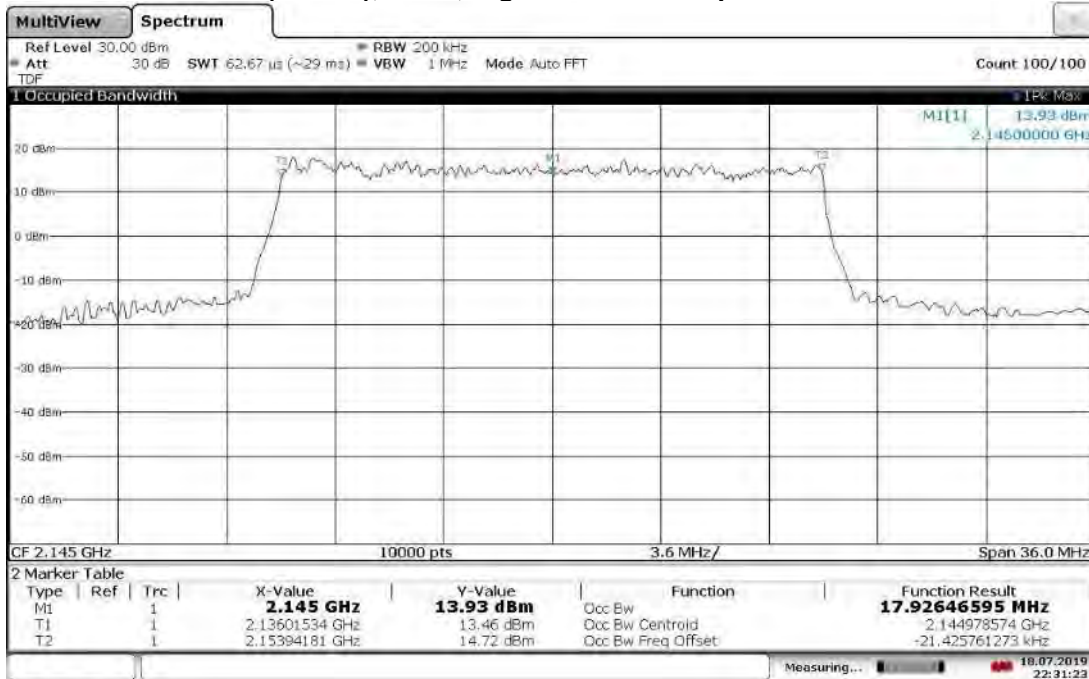
19:32:10 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



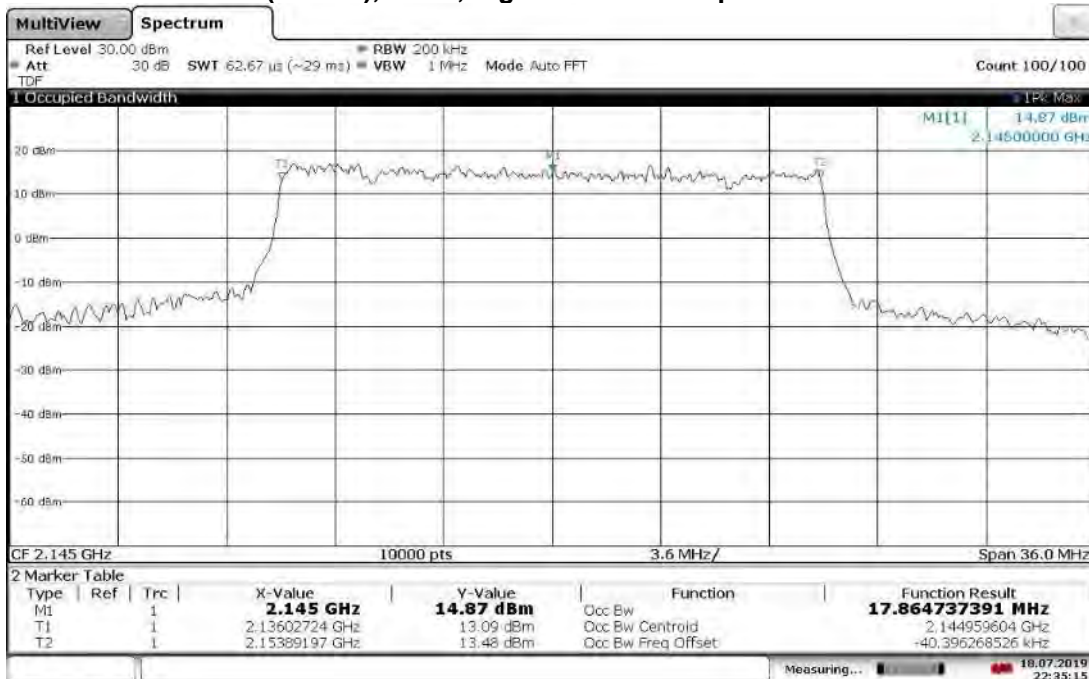
19:36:43 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



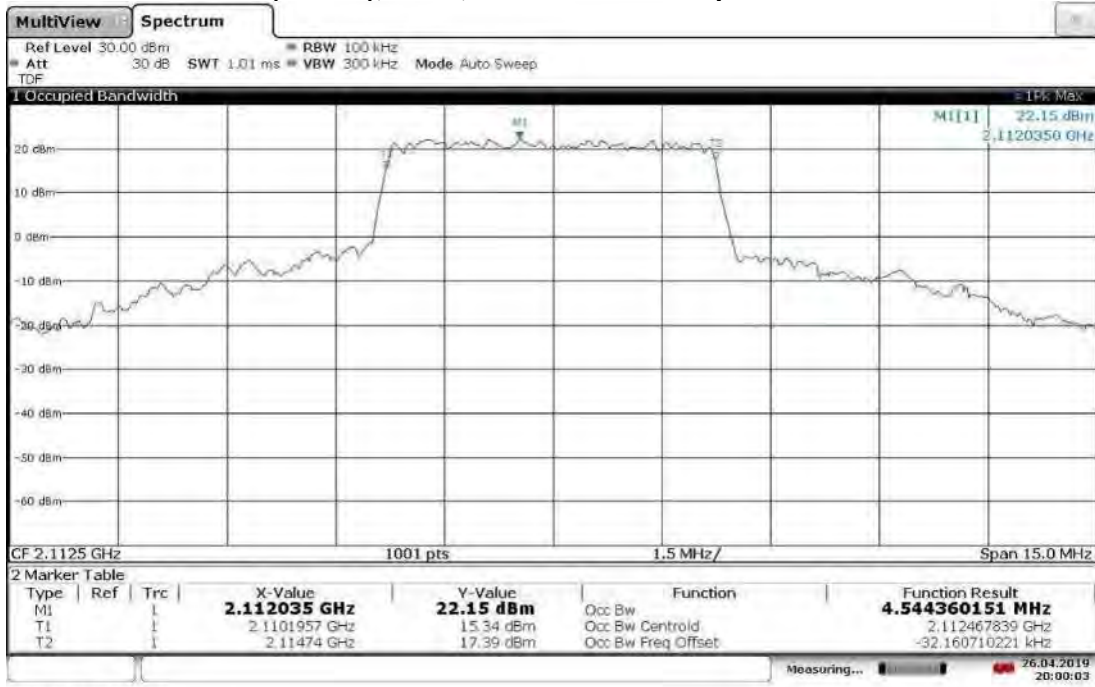
22:31:24 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



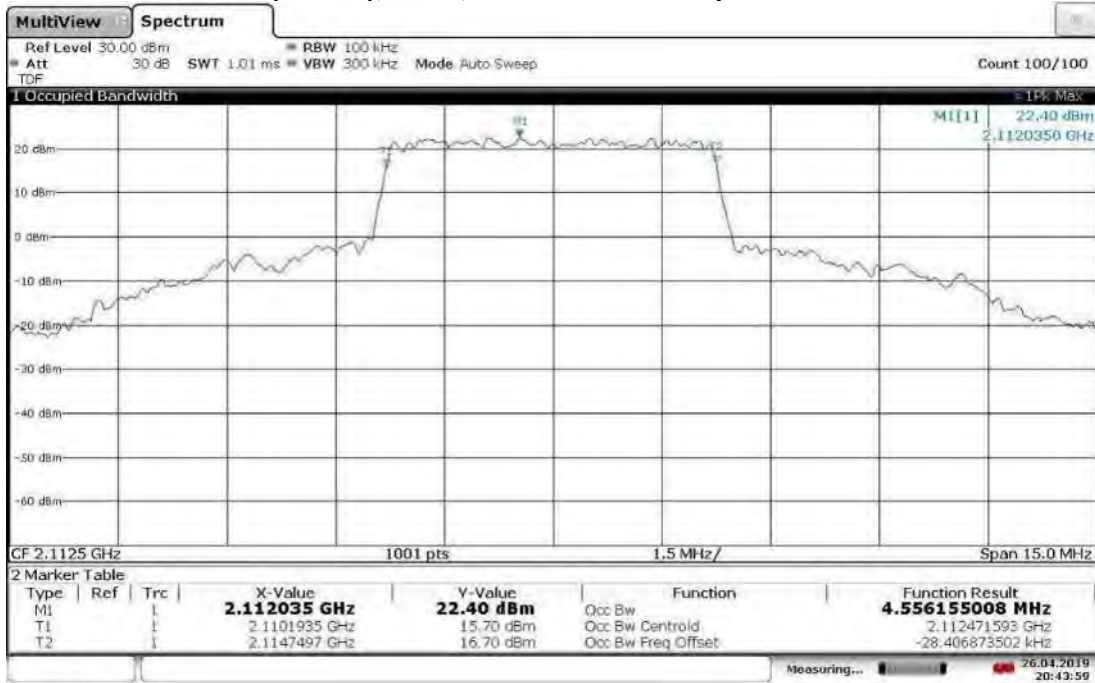
22:35:16 18.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



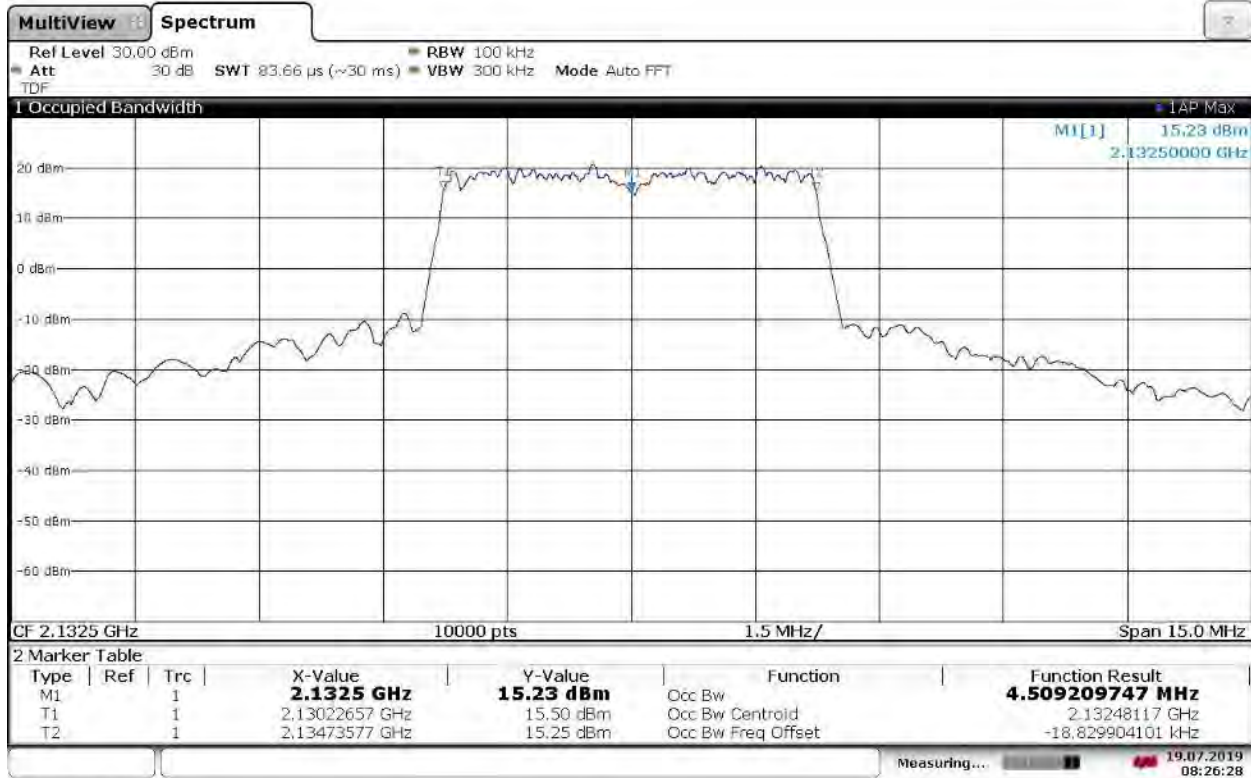
20:00:03 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



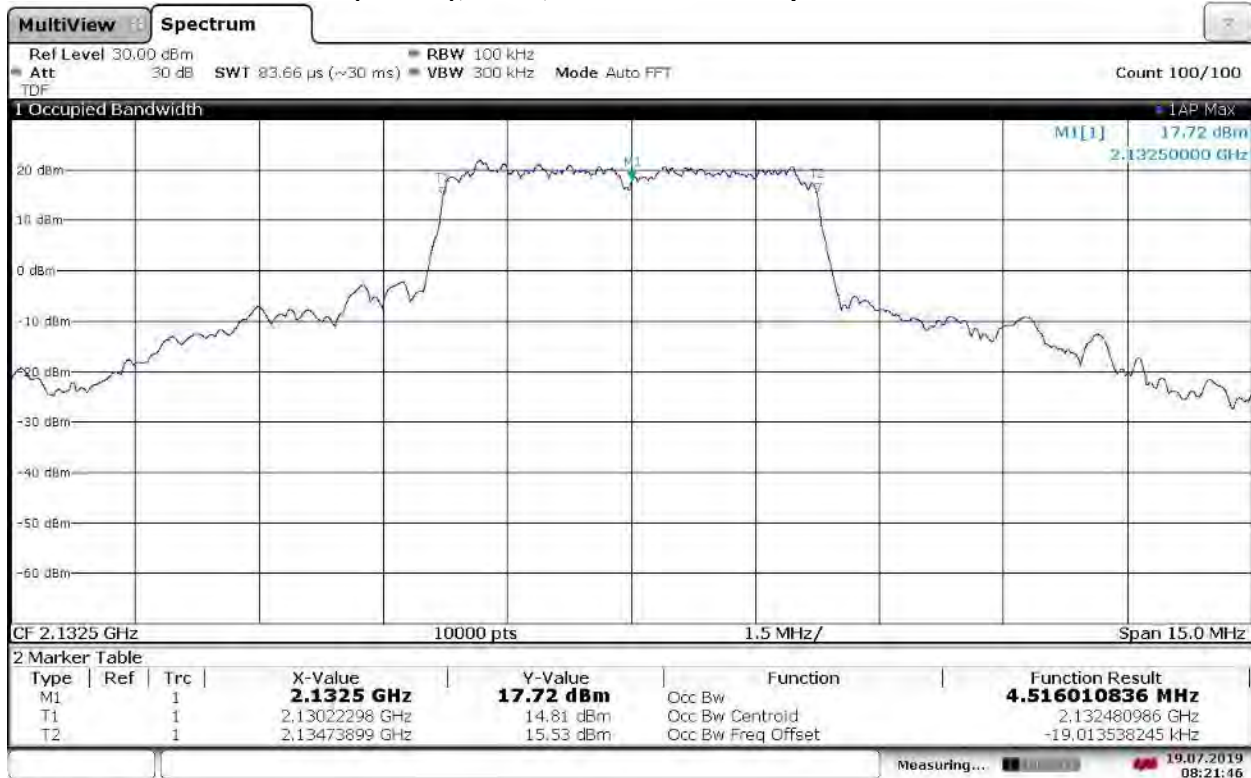
20:43:59 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



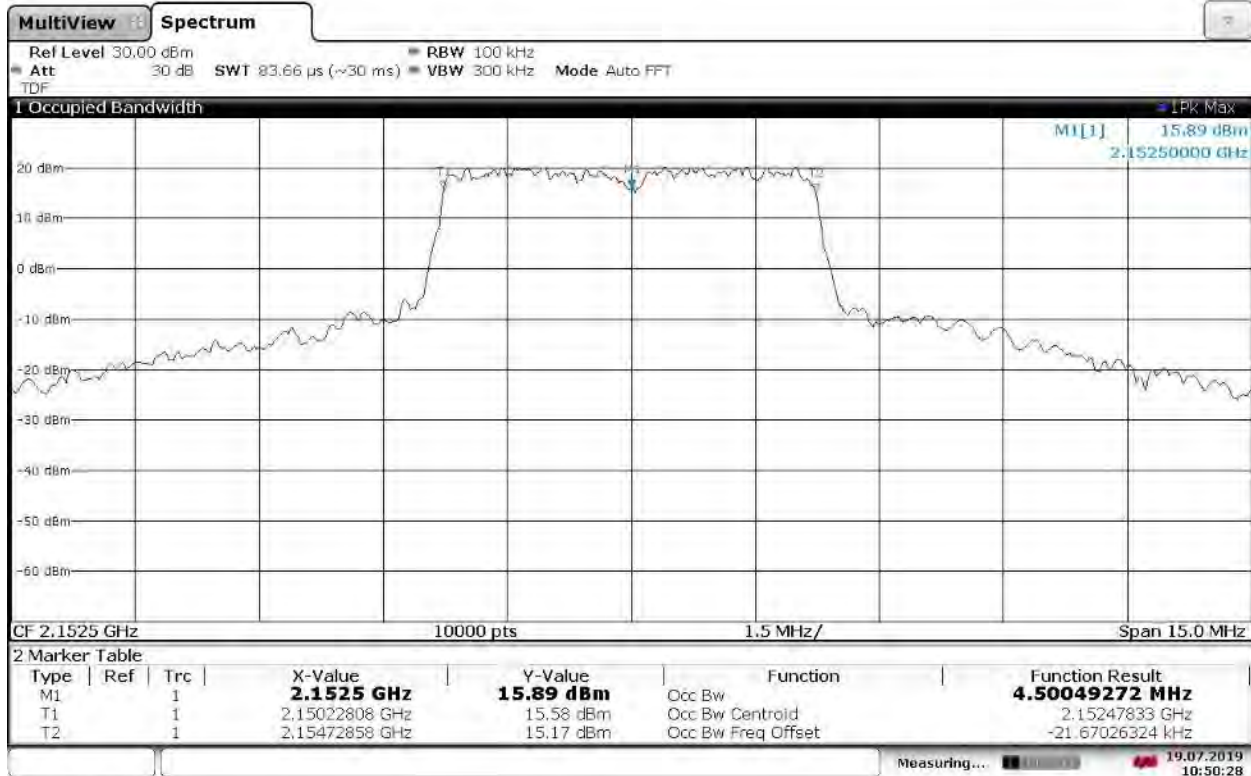
08:26:29 19.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



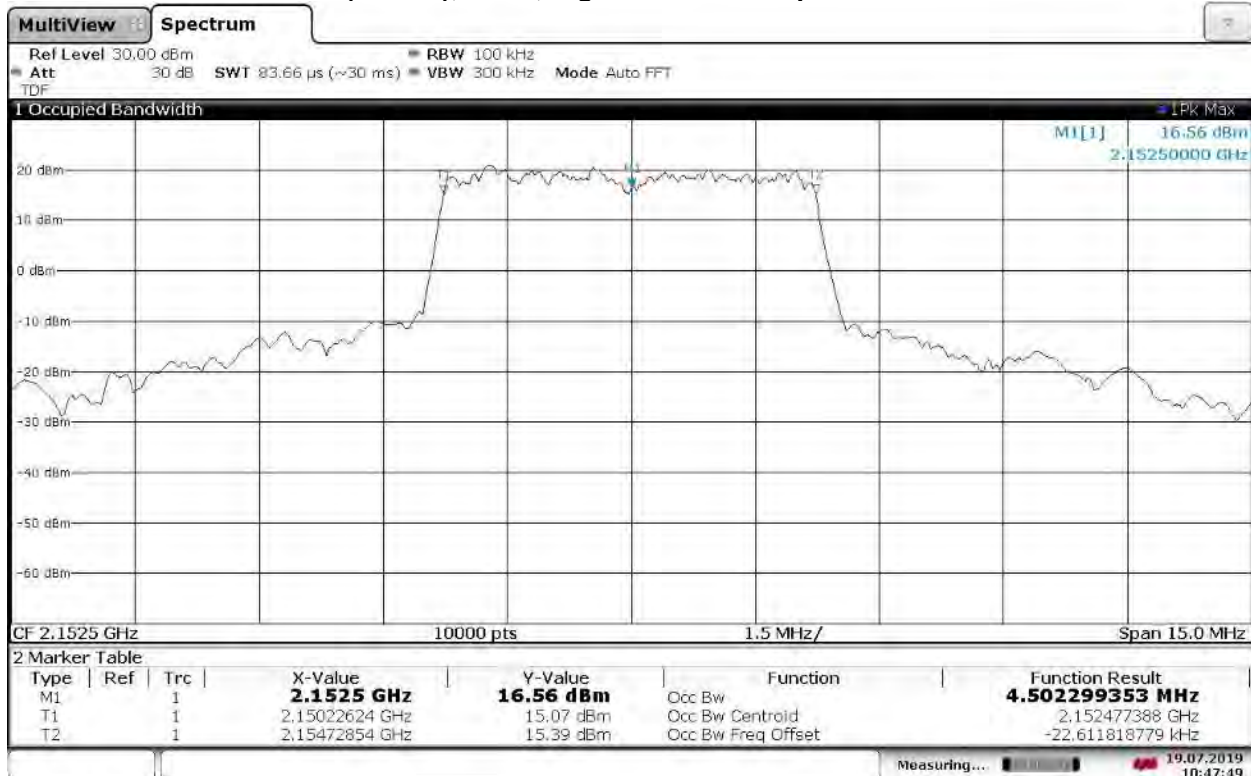
08:21:46 19.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



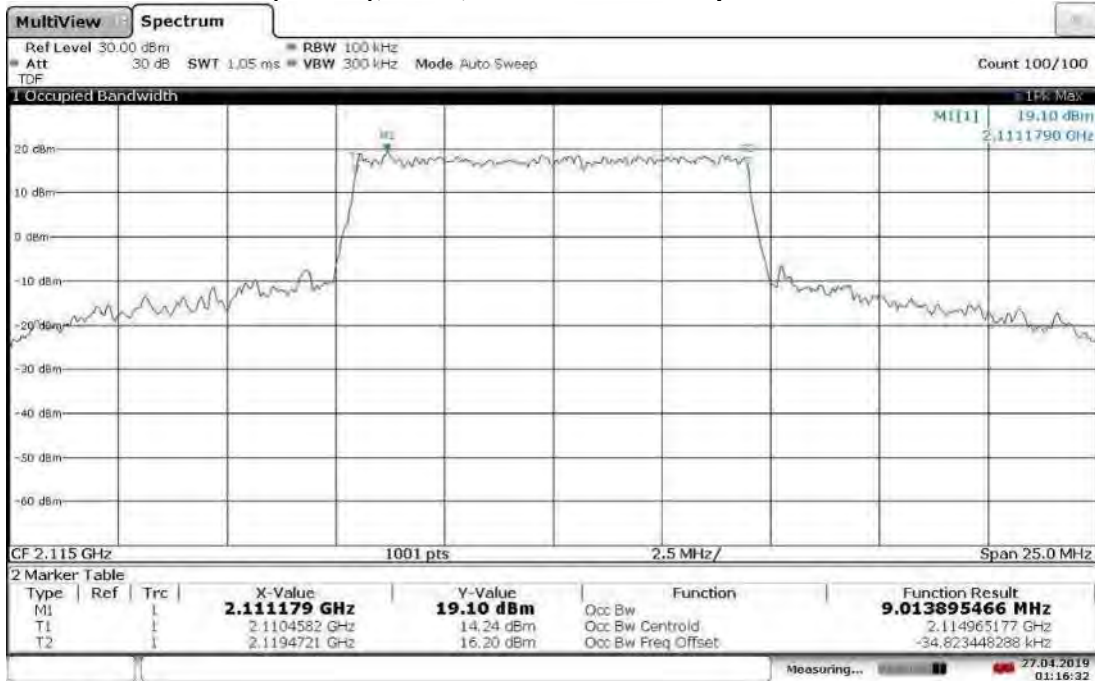
10:50:28 19.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



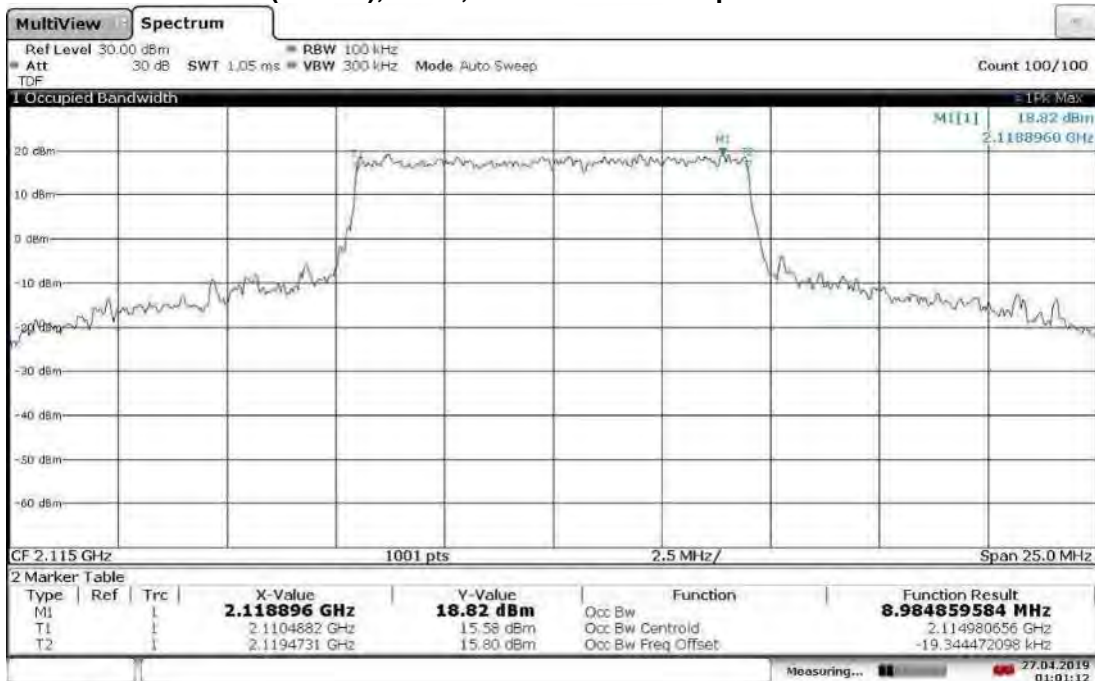
10:47:49 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



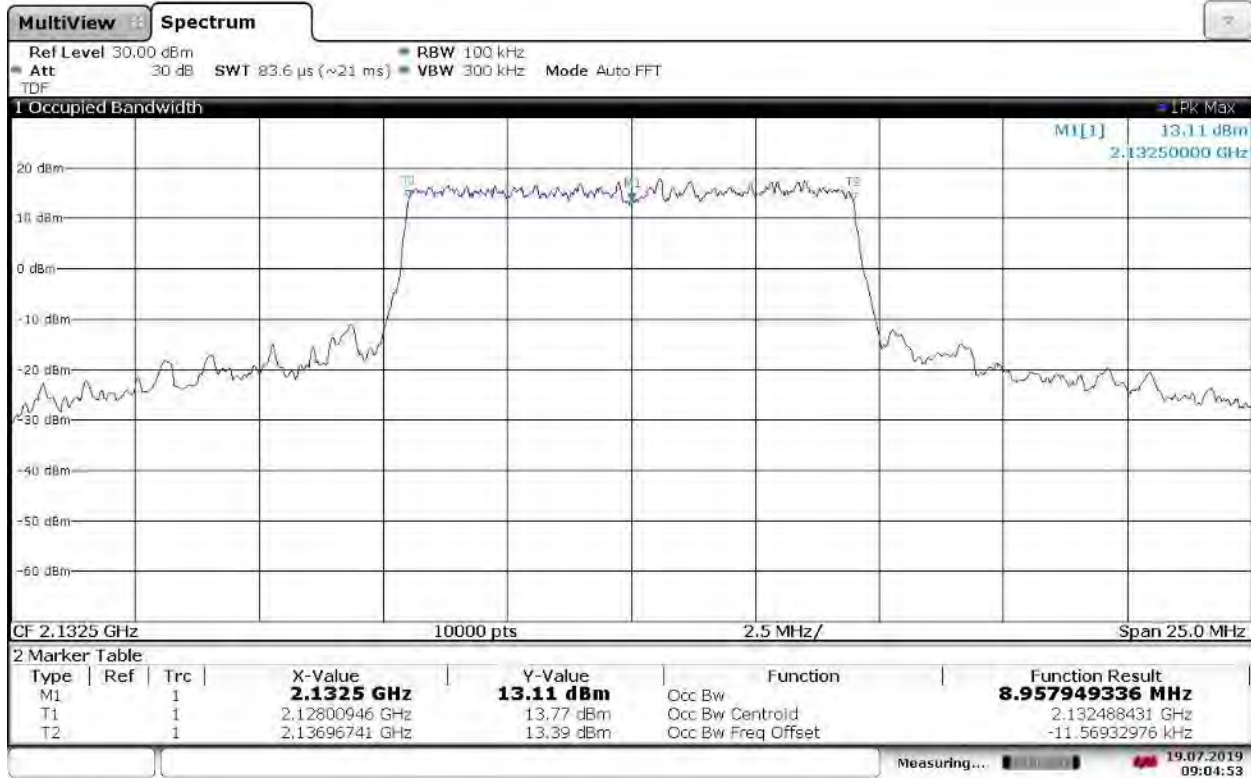
01:16:32 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



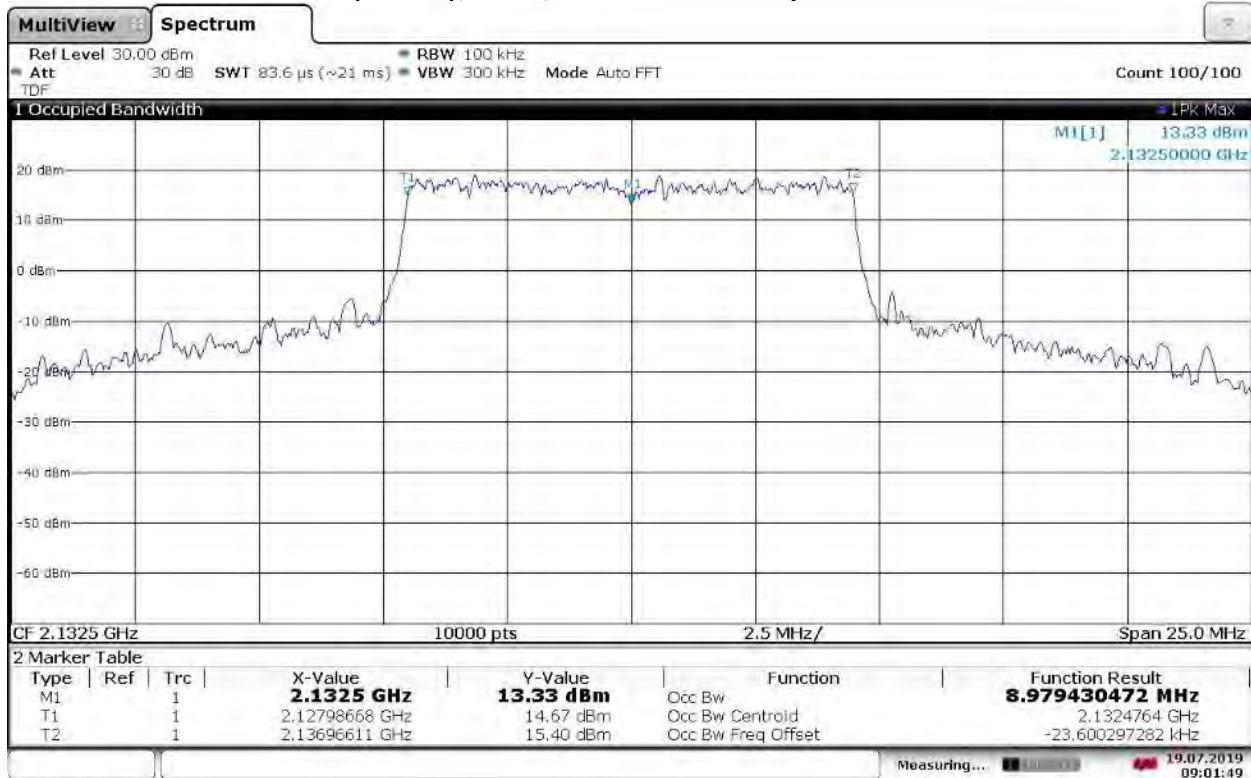
01:01:12 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



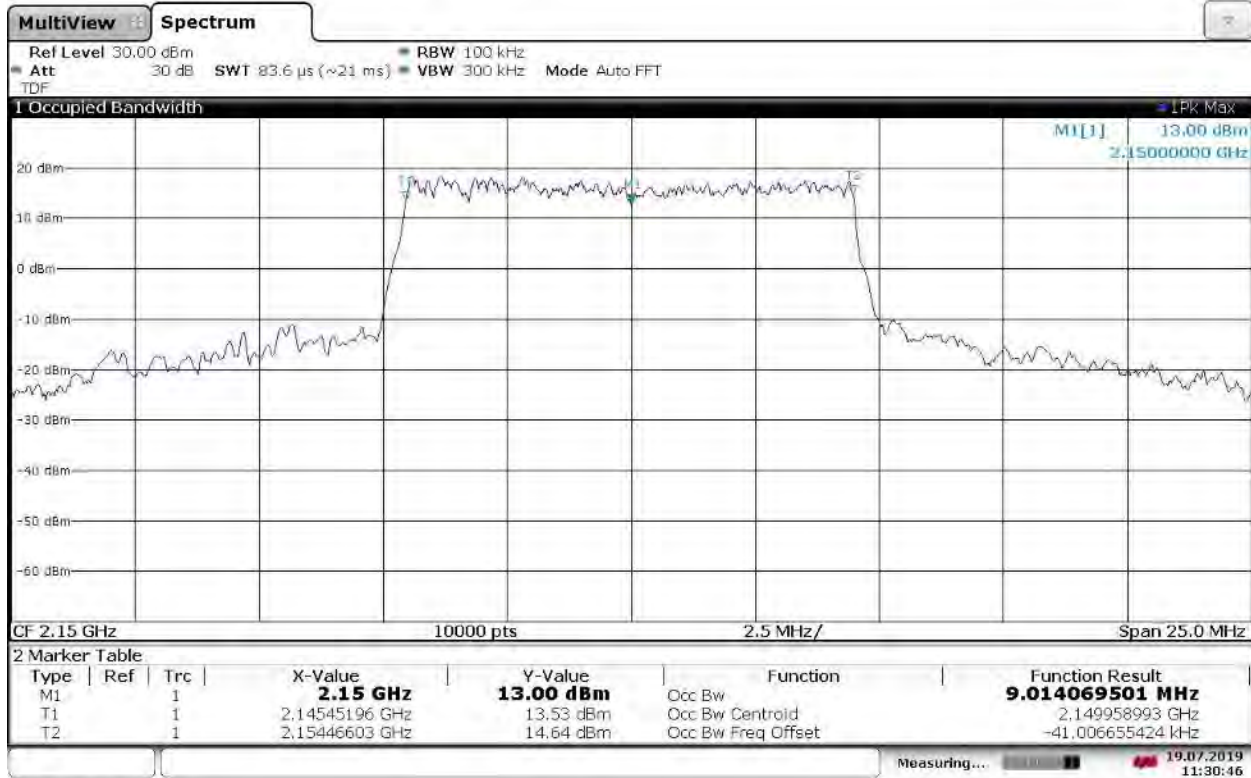
09:04:53 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



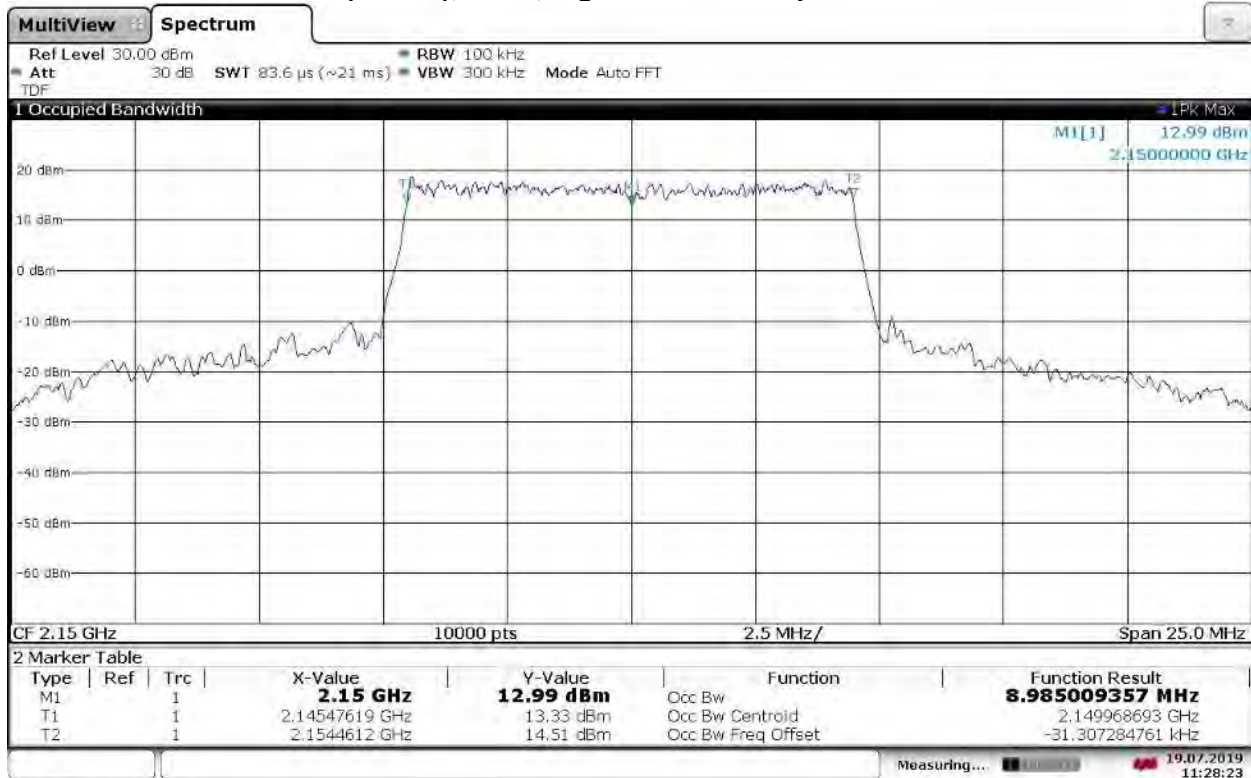
09:01:49 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



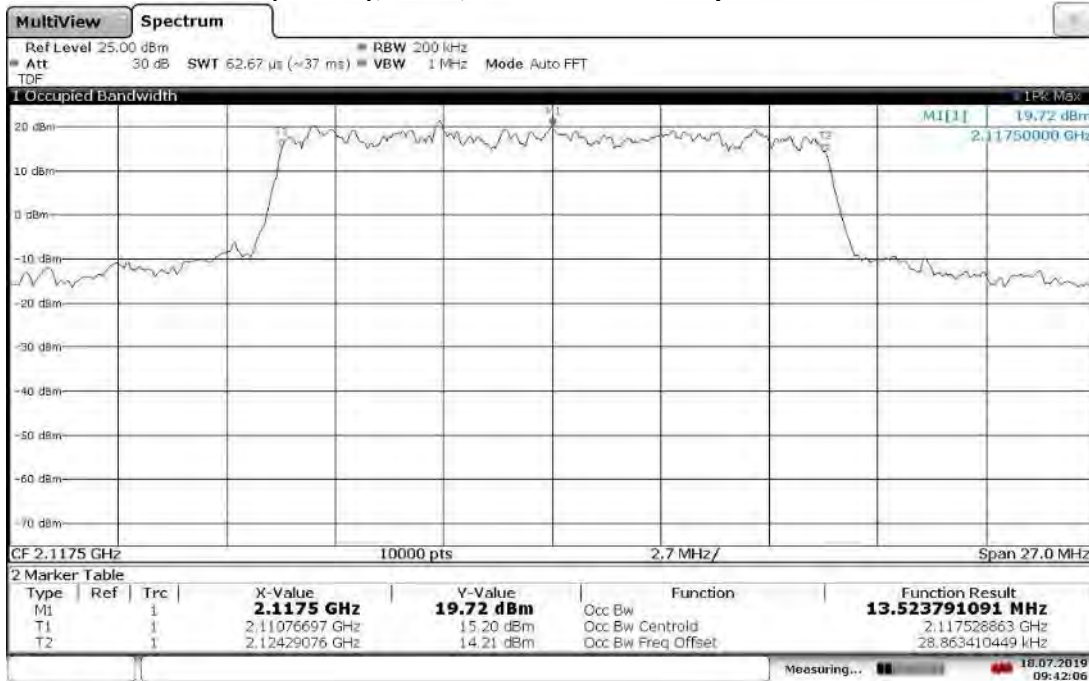
11:30:47 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



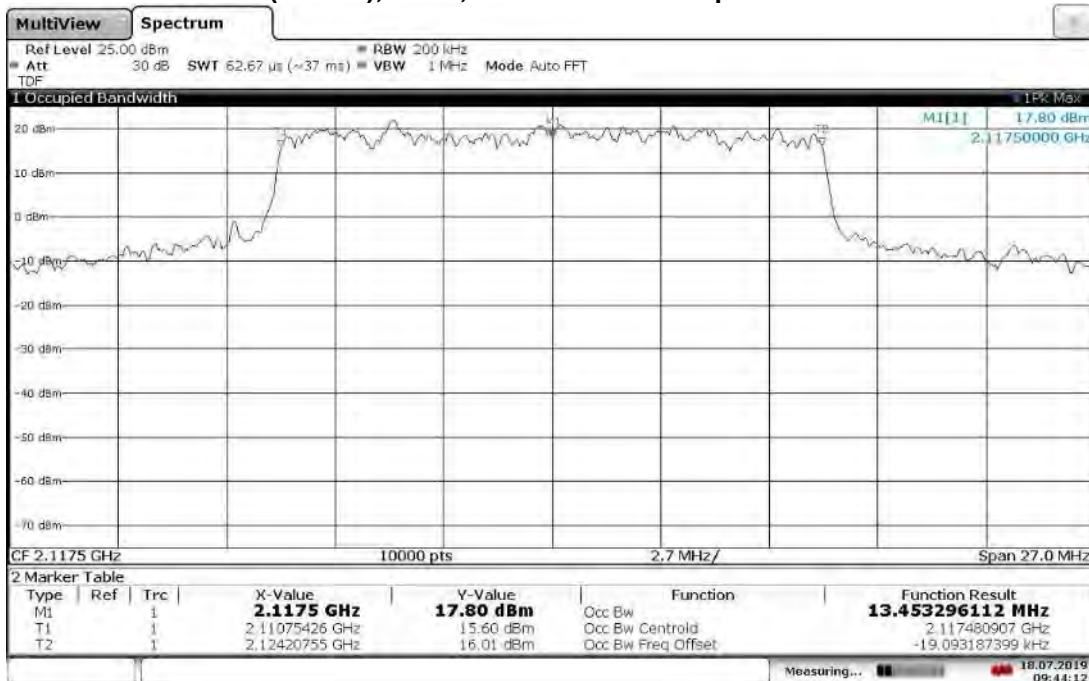
11:28:23 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



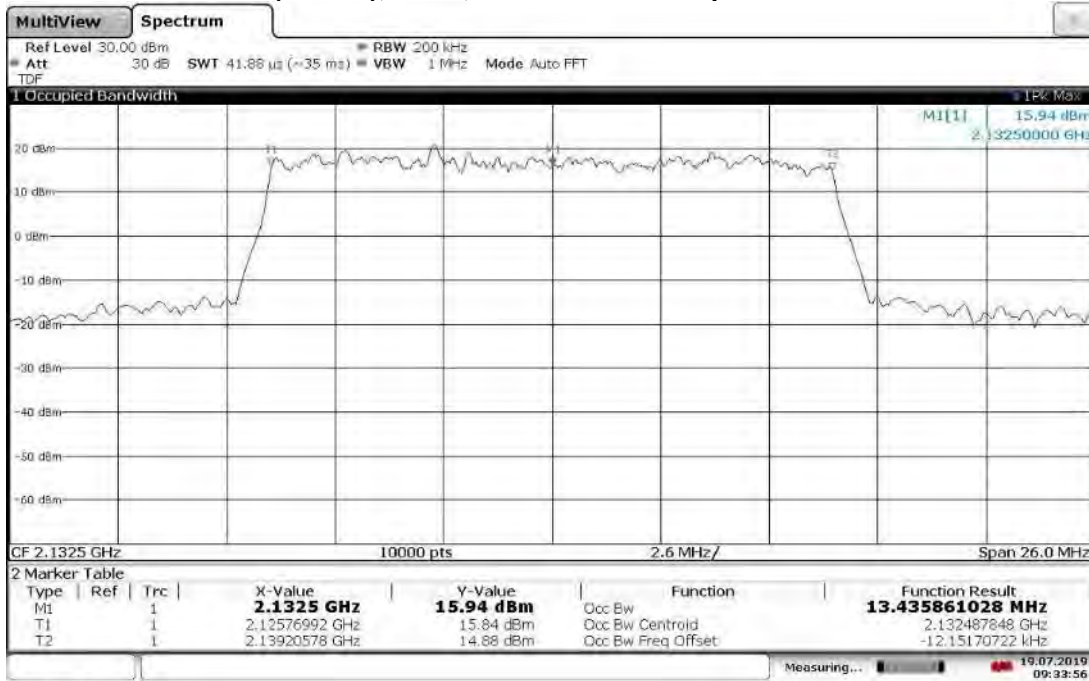
09:42:06 18.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



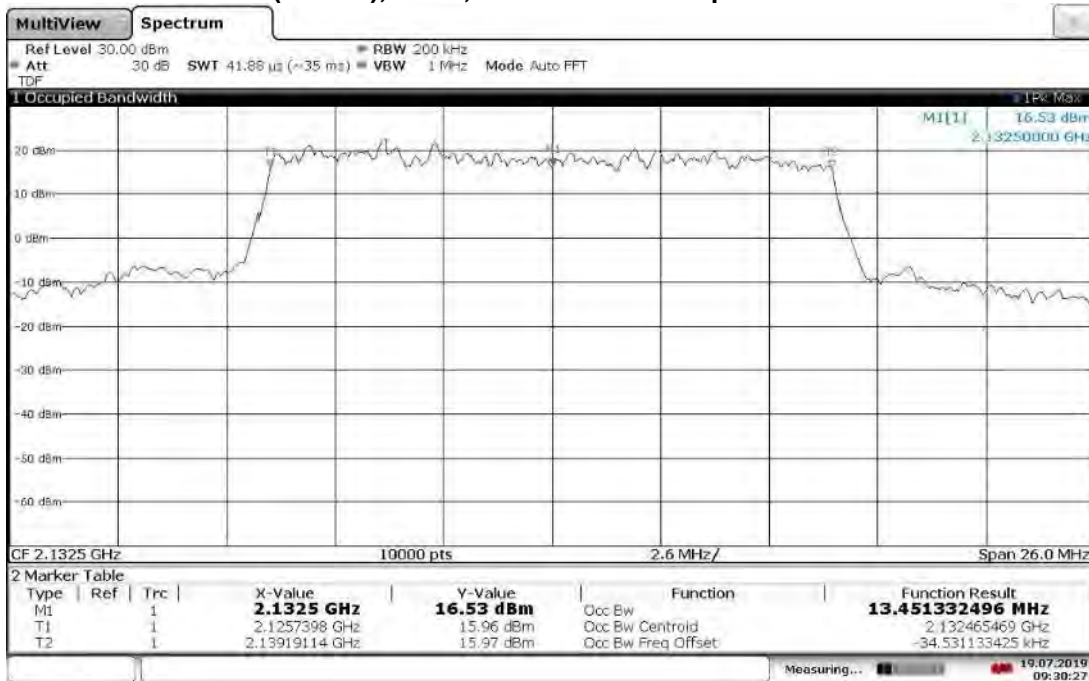
09:44:13 18.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



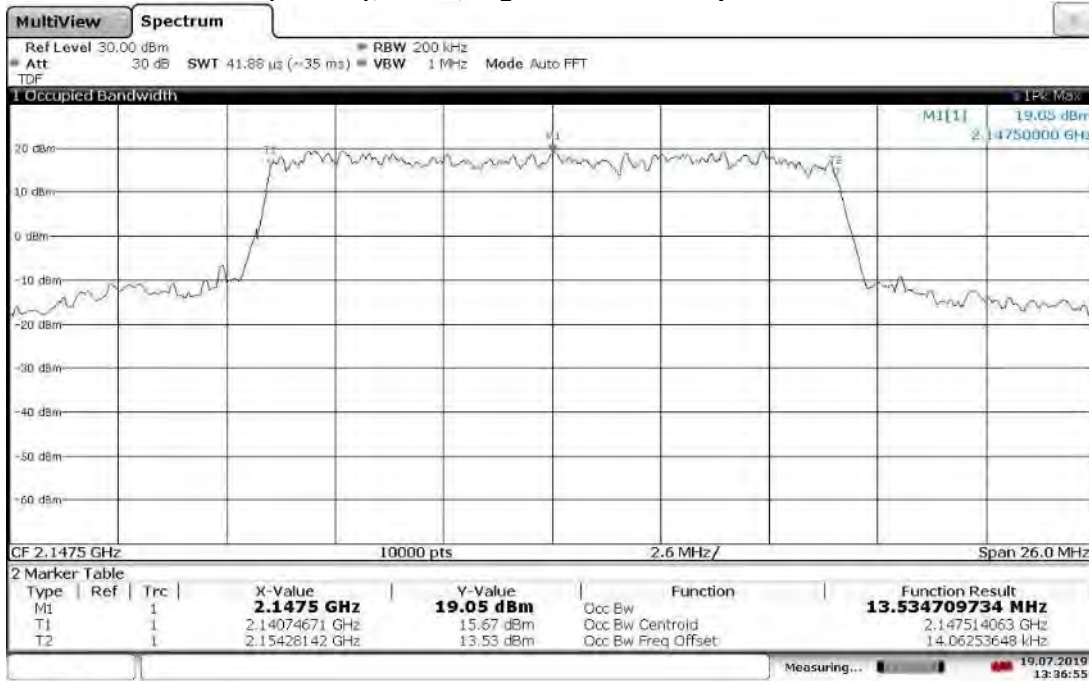
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**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



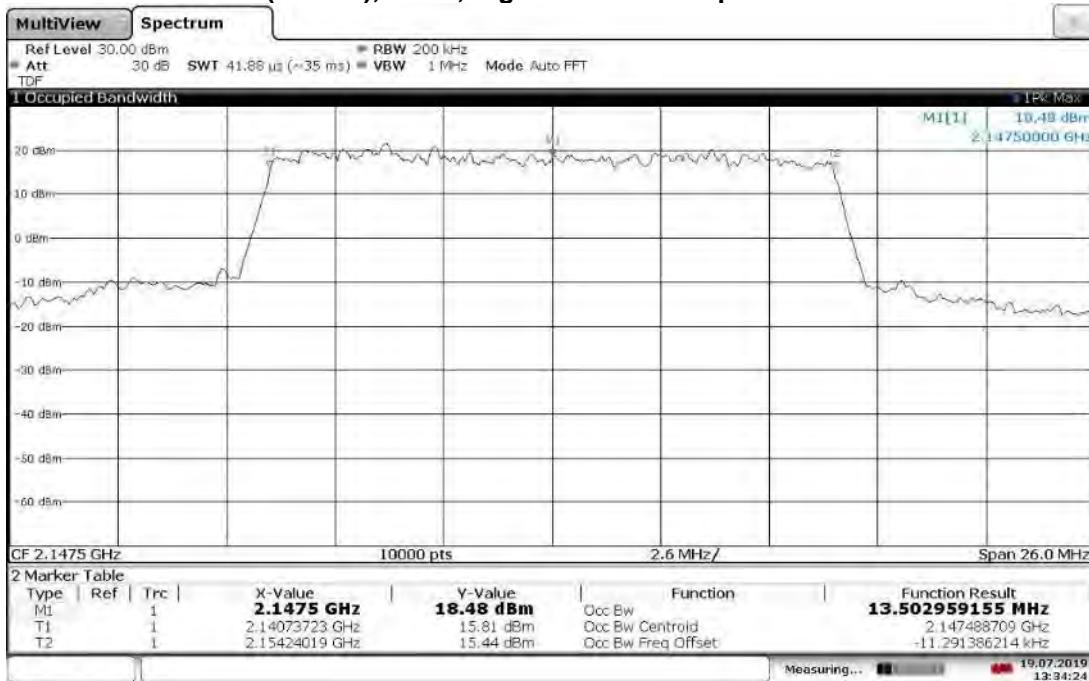
09:30:27 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



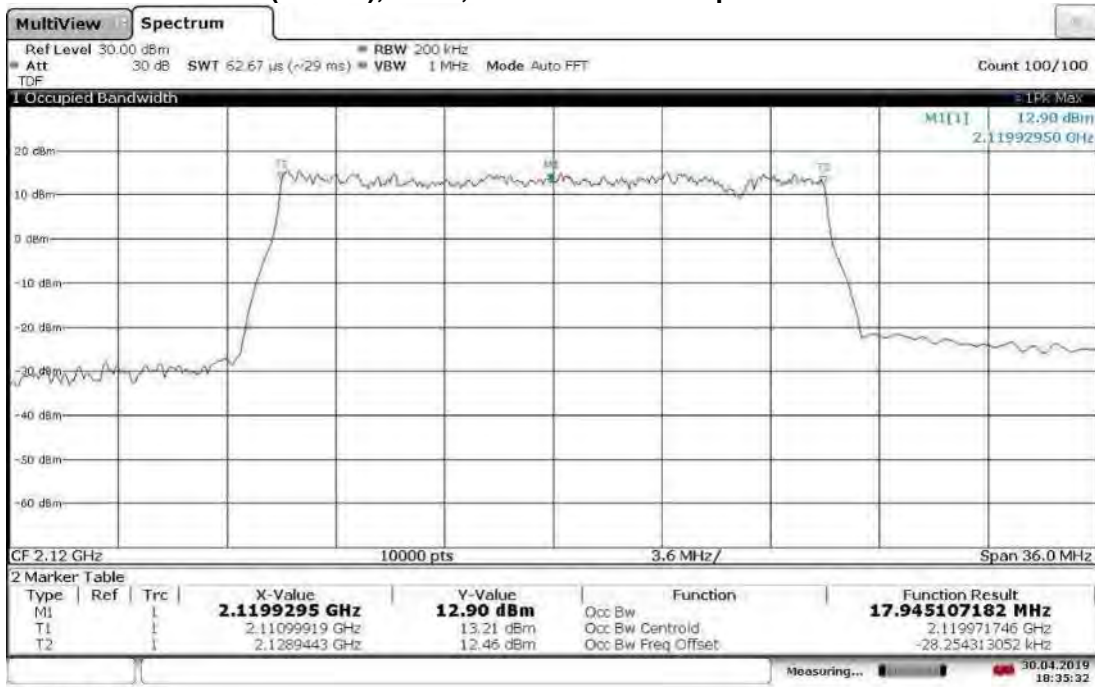
13:36:55 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



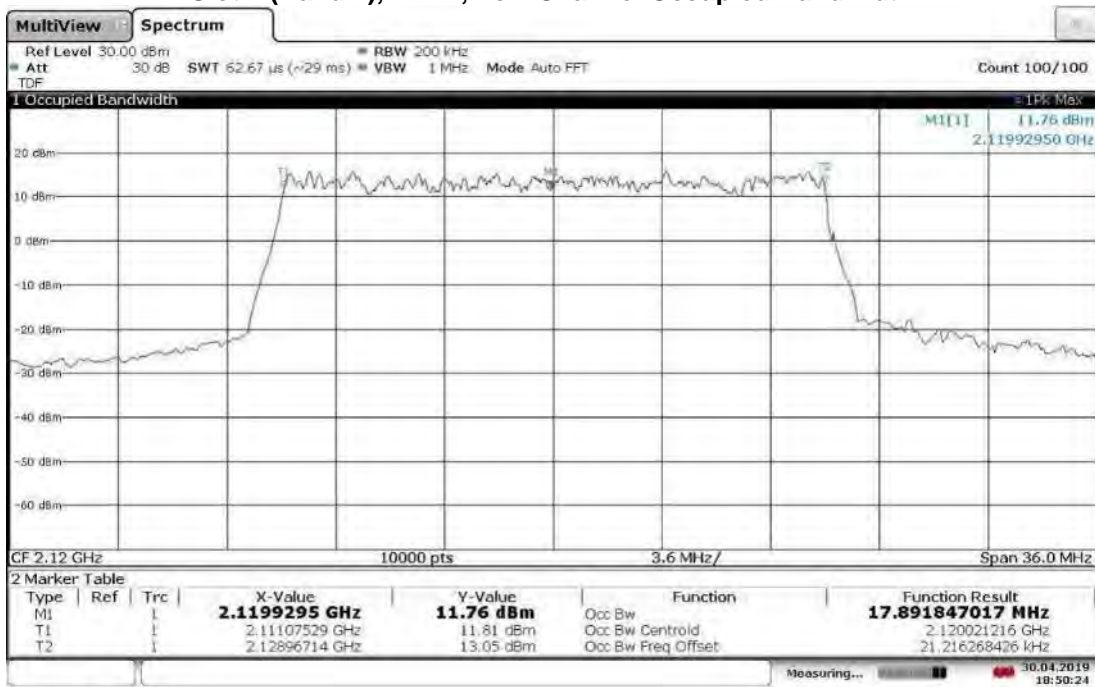
13:34:25 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



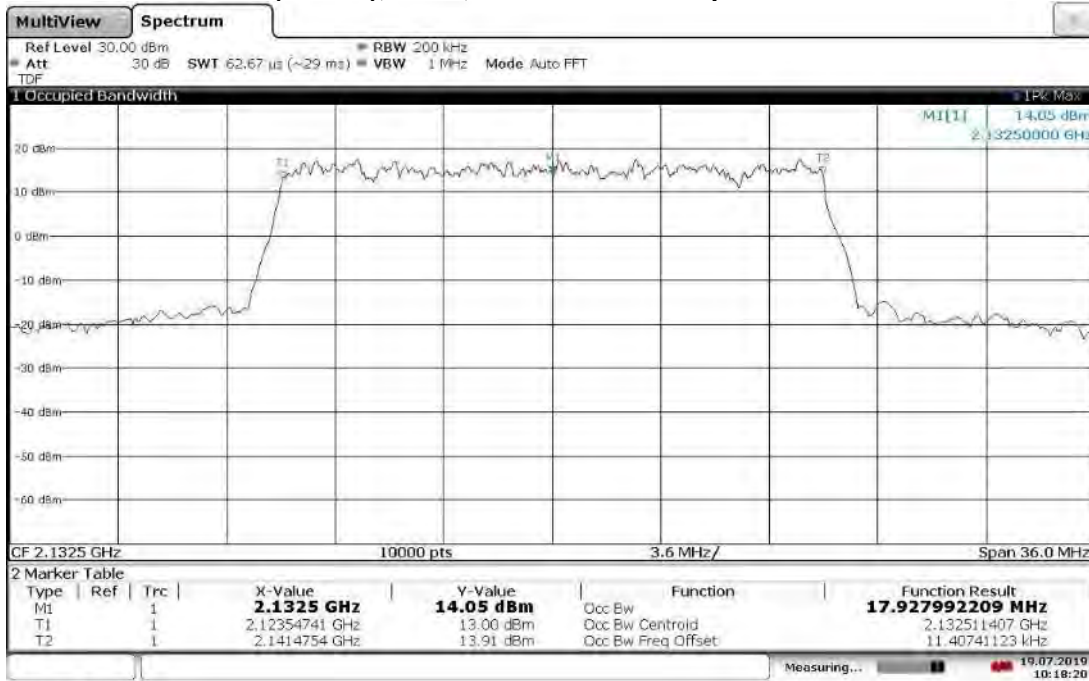
18:35:33 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



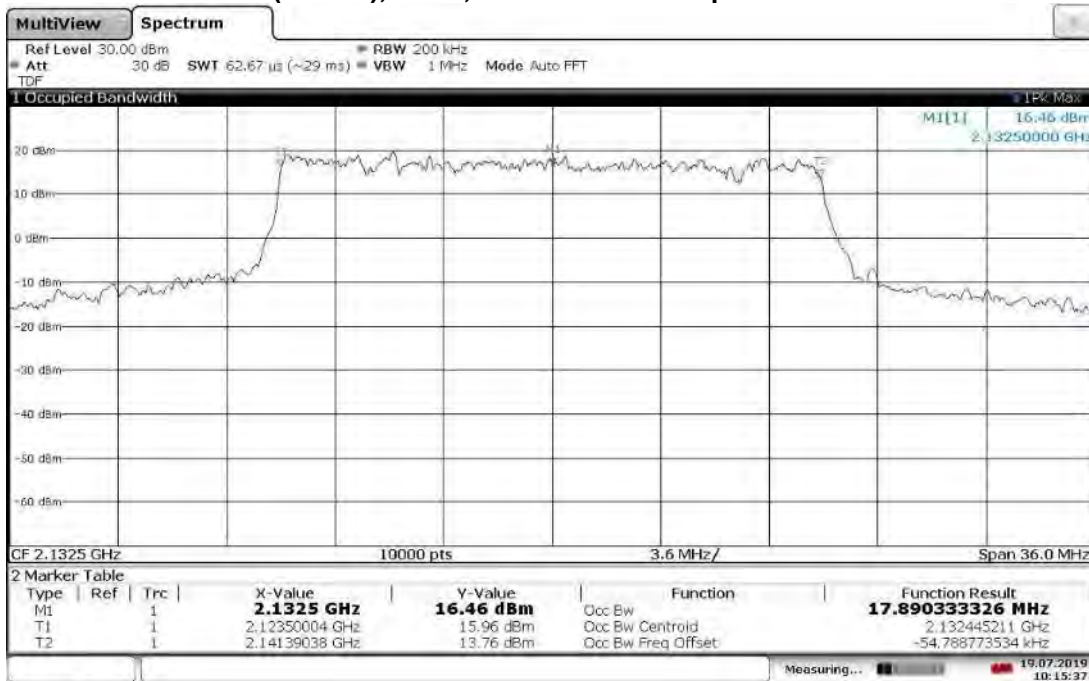
18:50:24 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



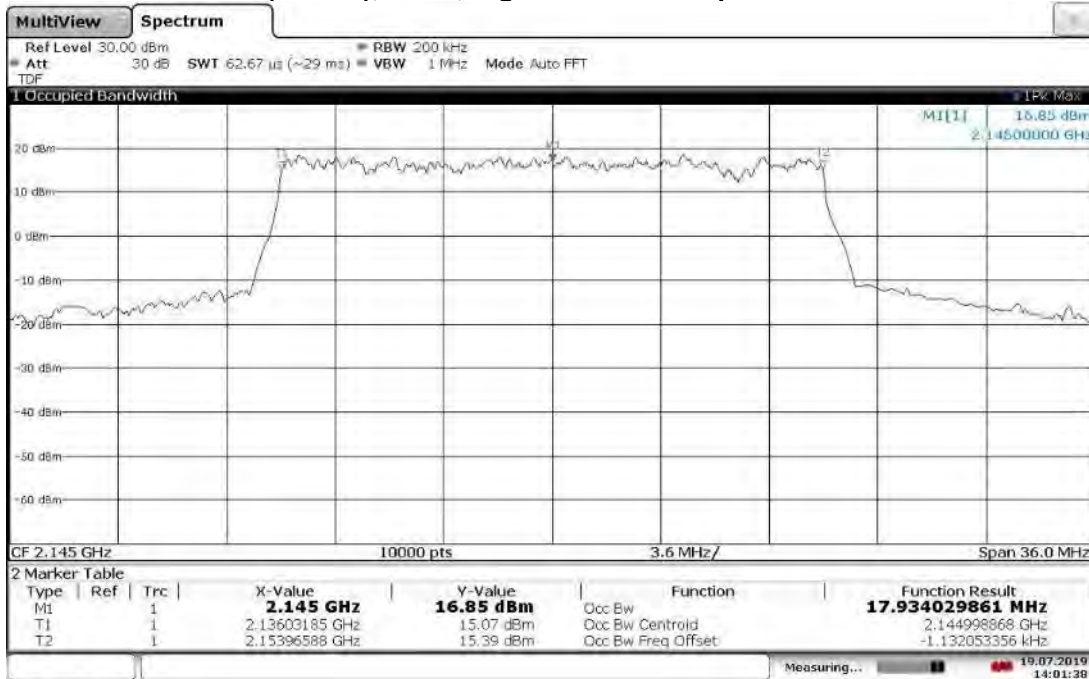
10:18:20 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



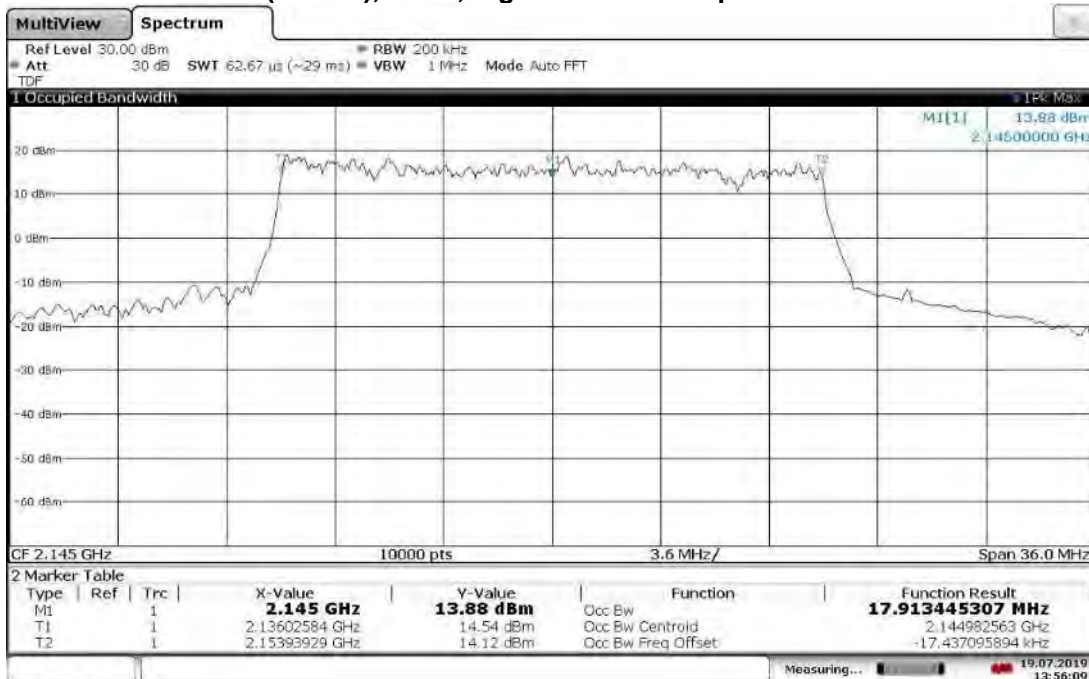
10:15:37 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



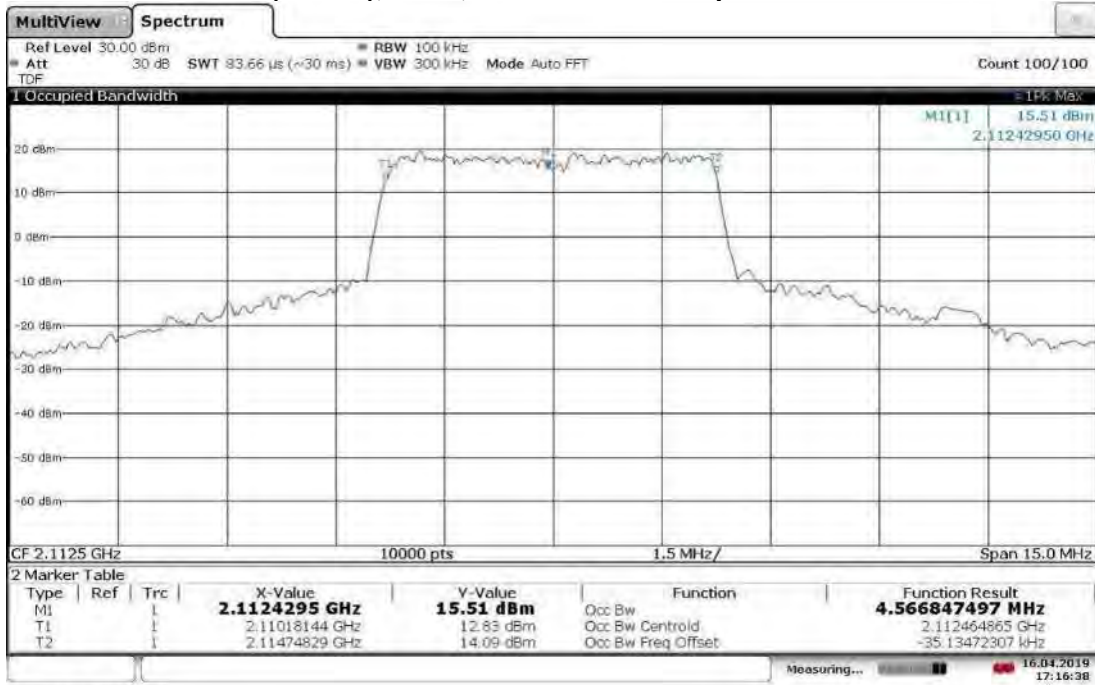
14:01:39 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



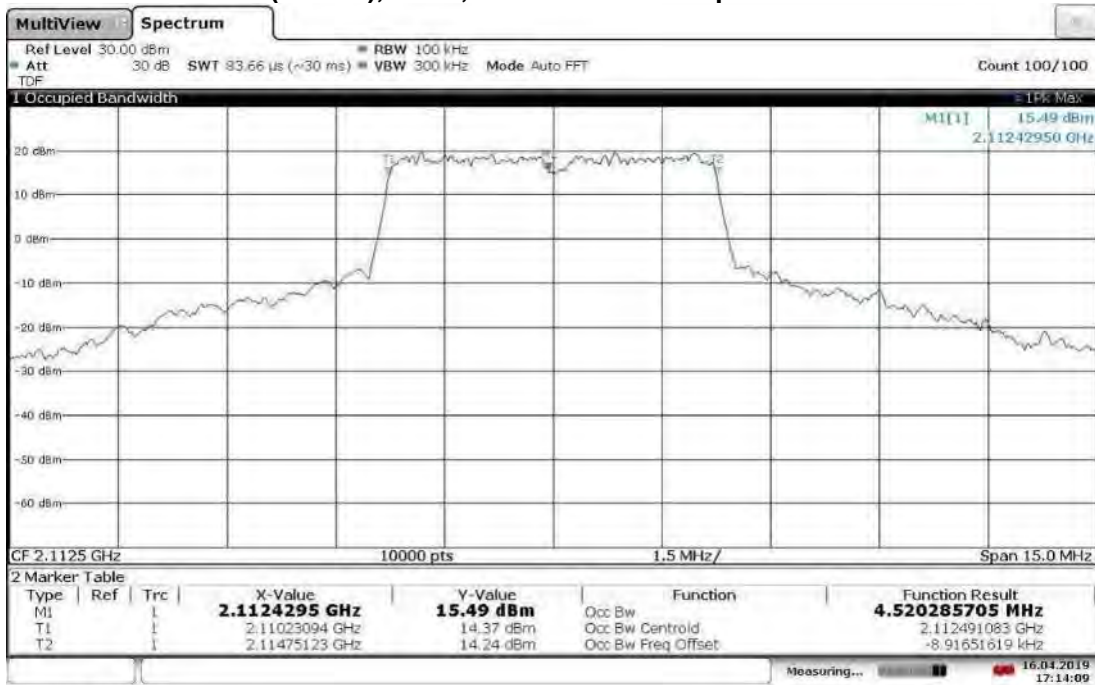
13:56:10 19.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



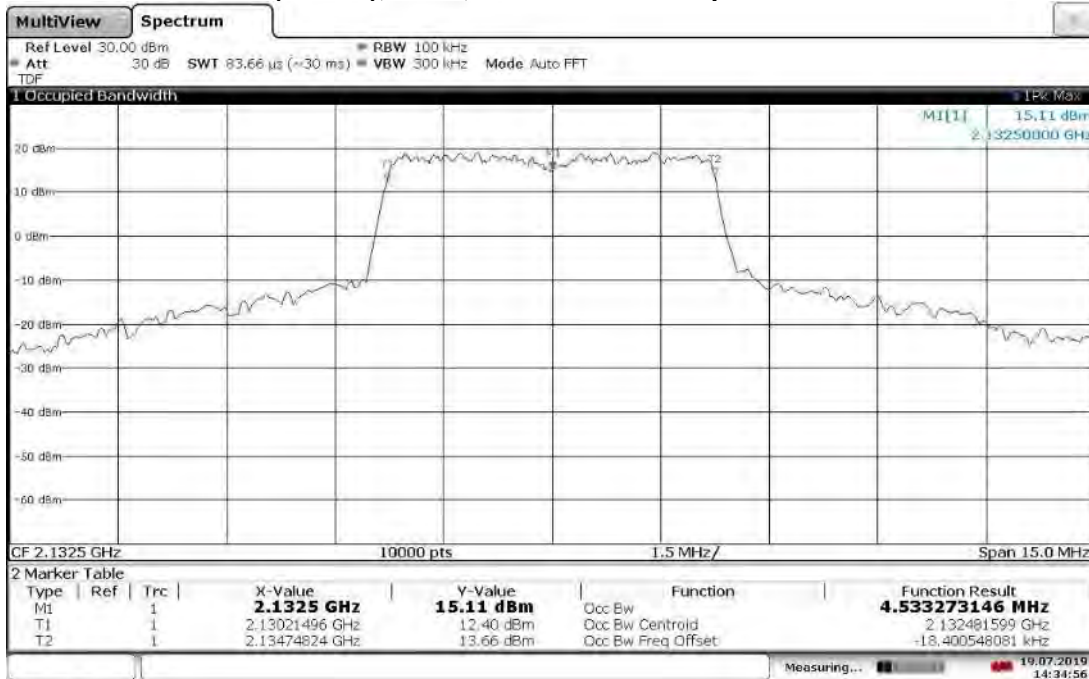
17:16:39 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



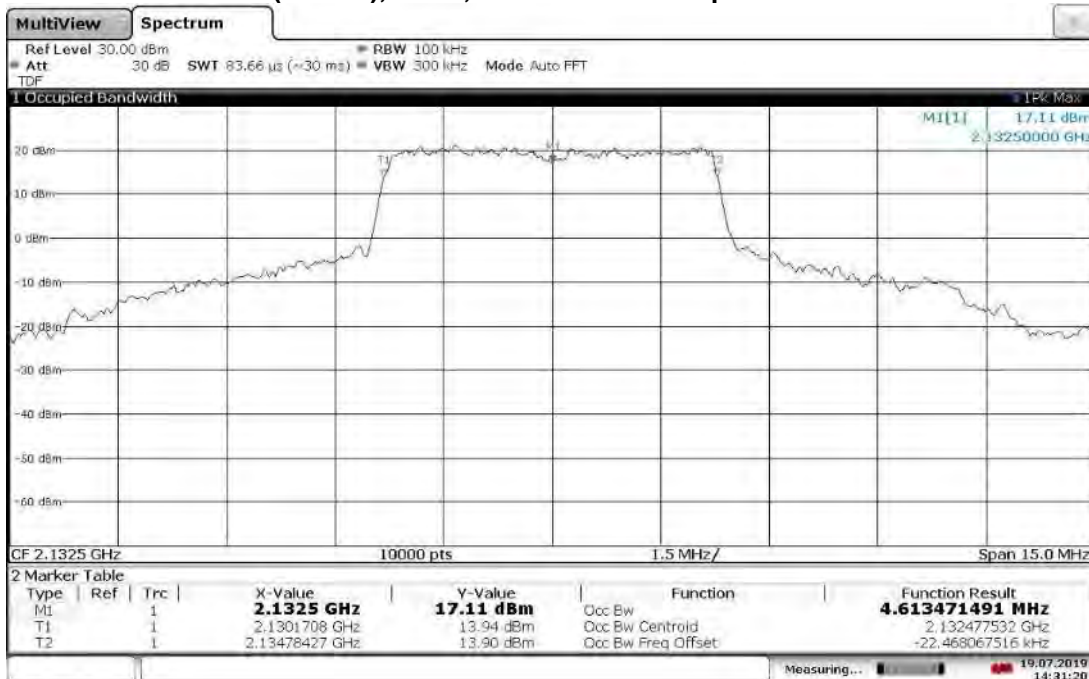
17:14:10 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



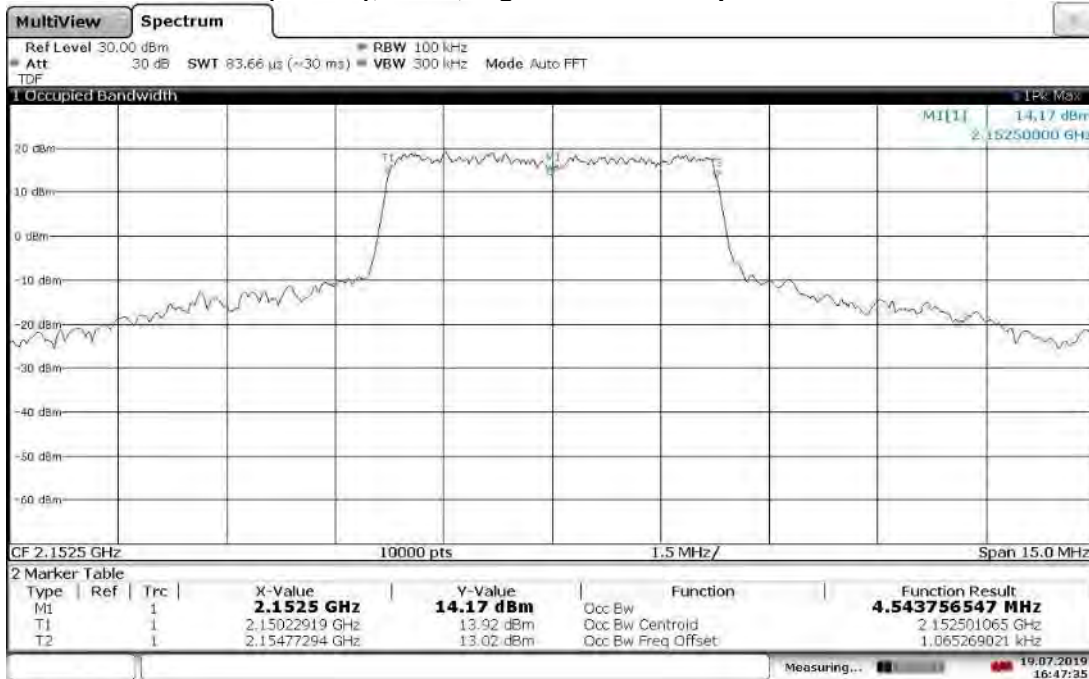
14:34:56 19.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



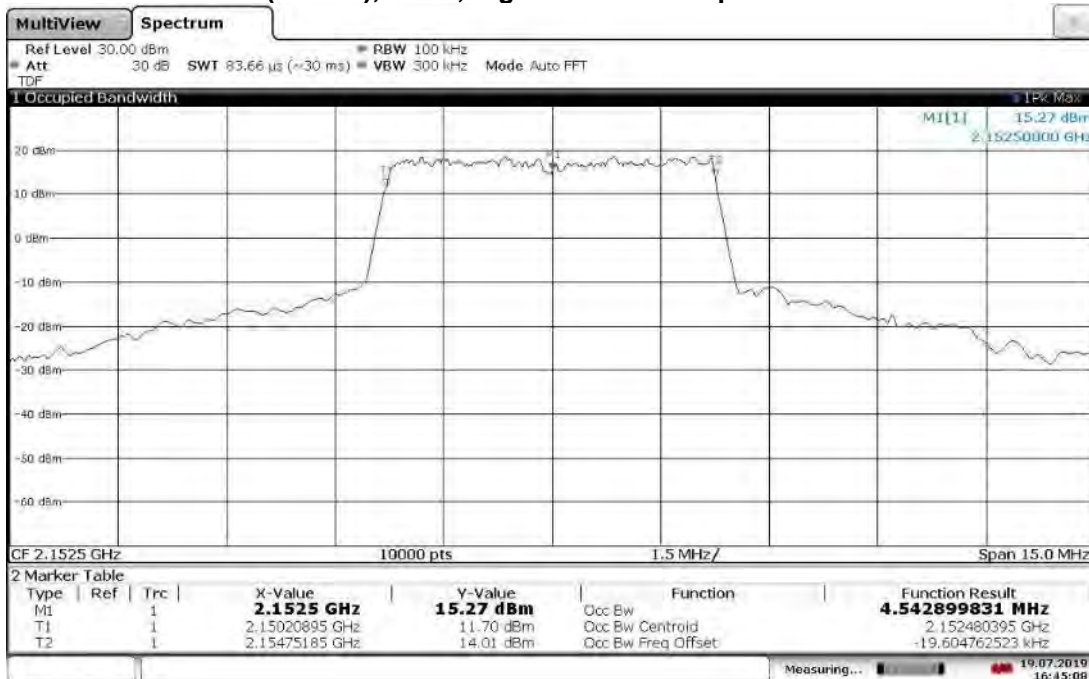
14:31:20 19.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



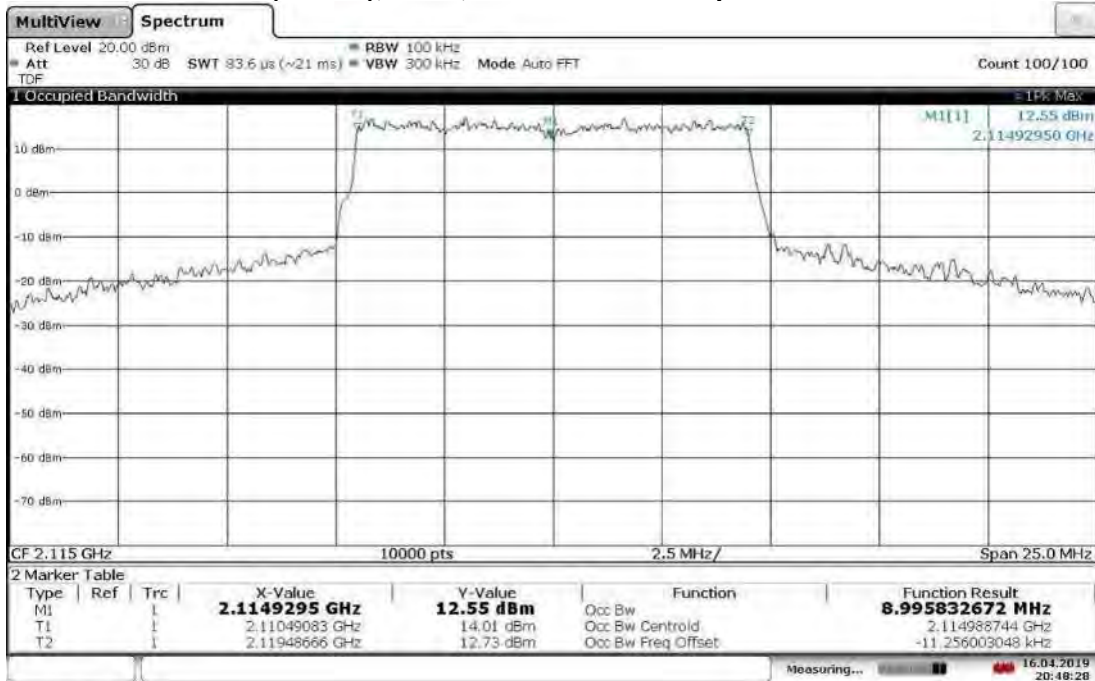
16:47:35 19.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



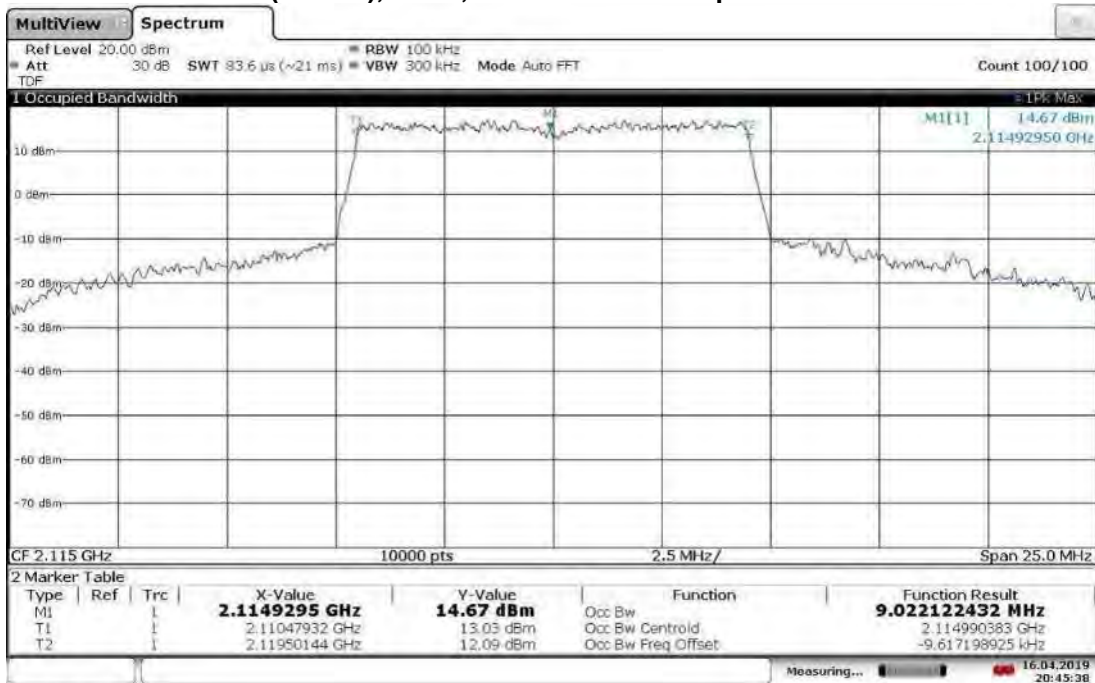
16:45:10 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



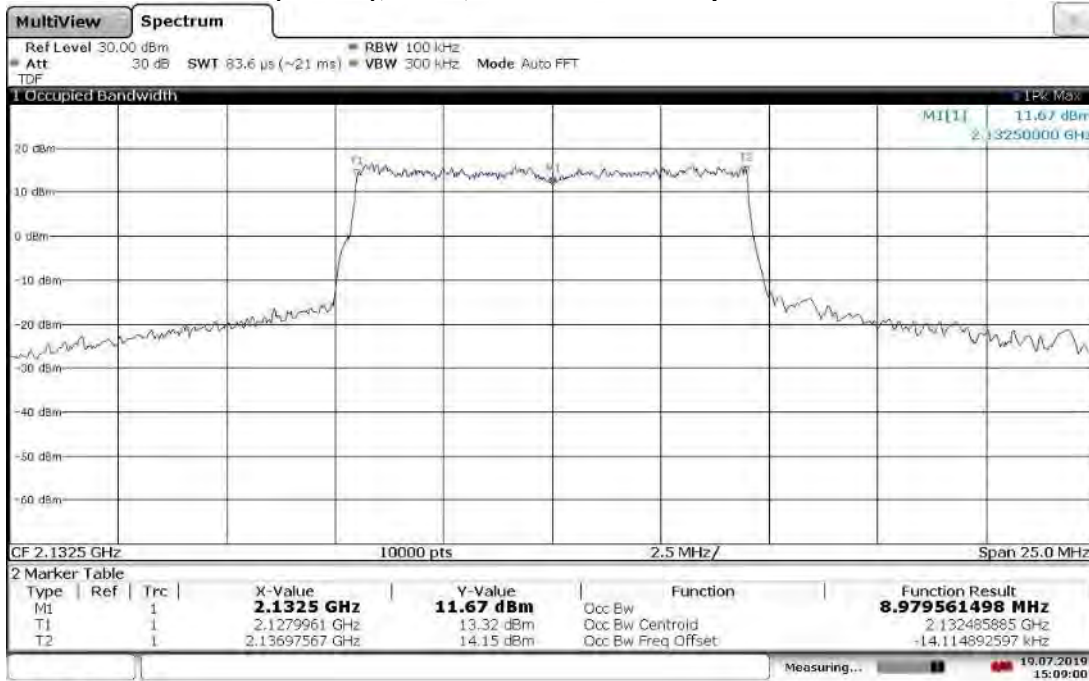
20:48:29 16.04.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



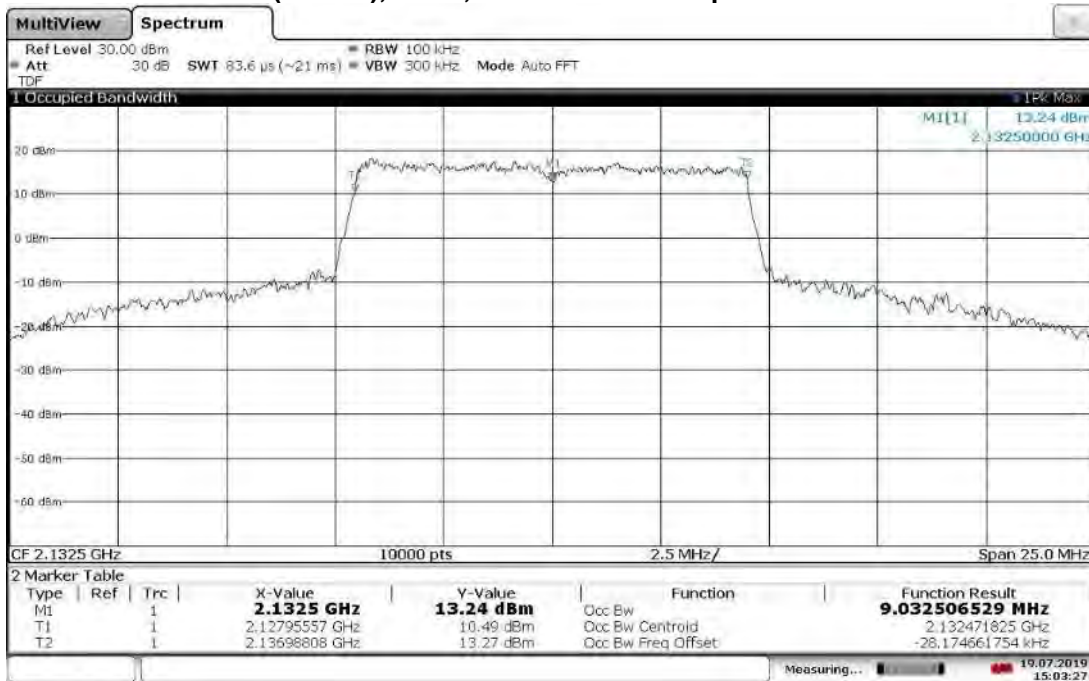
20:45:39 16.04.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



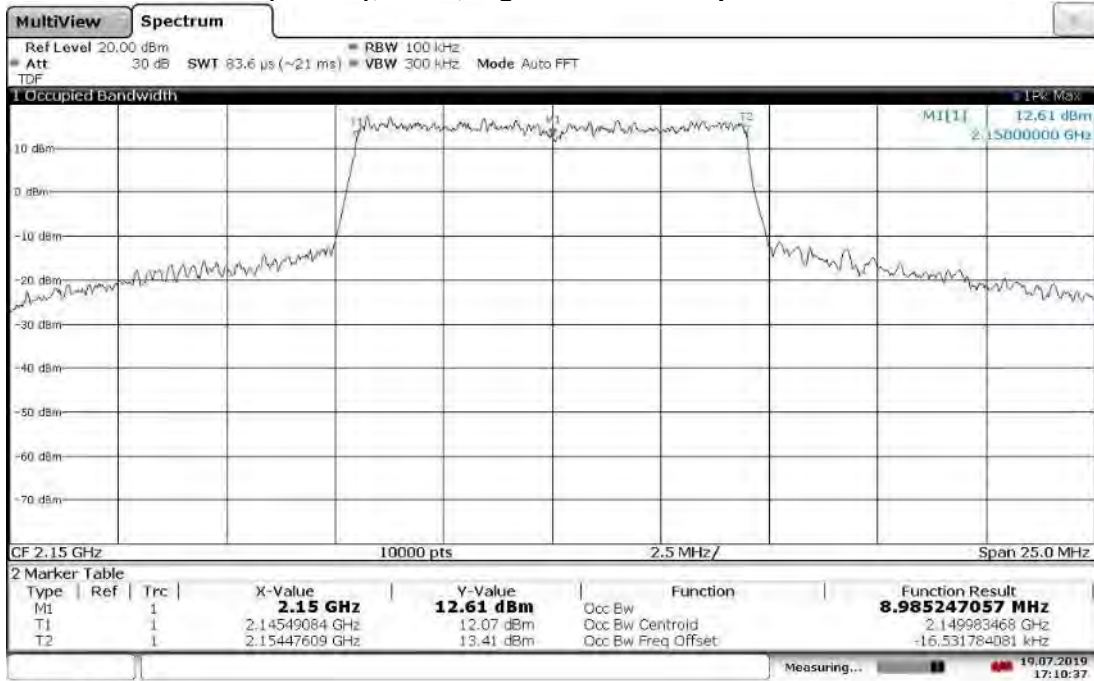
15:09:01 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



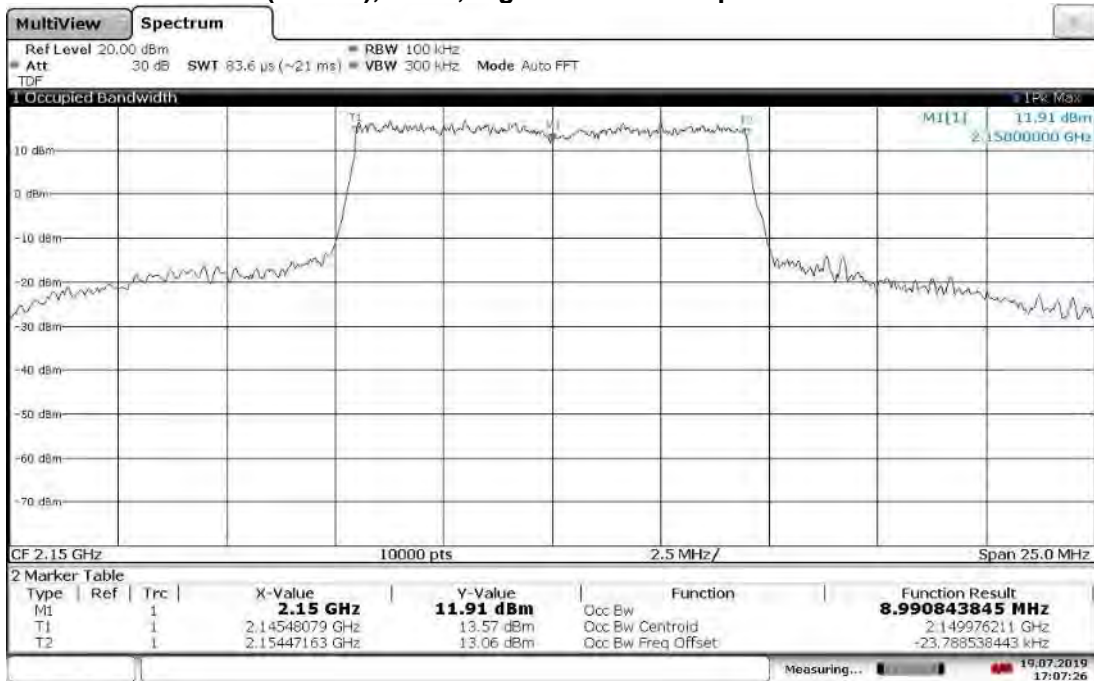
15:03:28 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



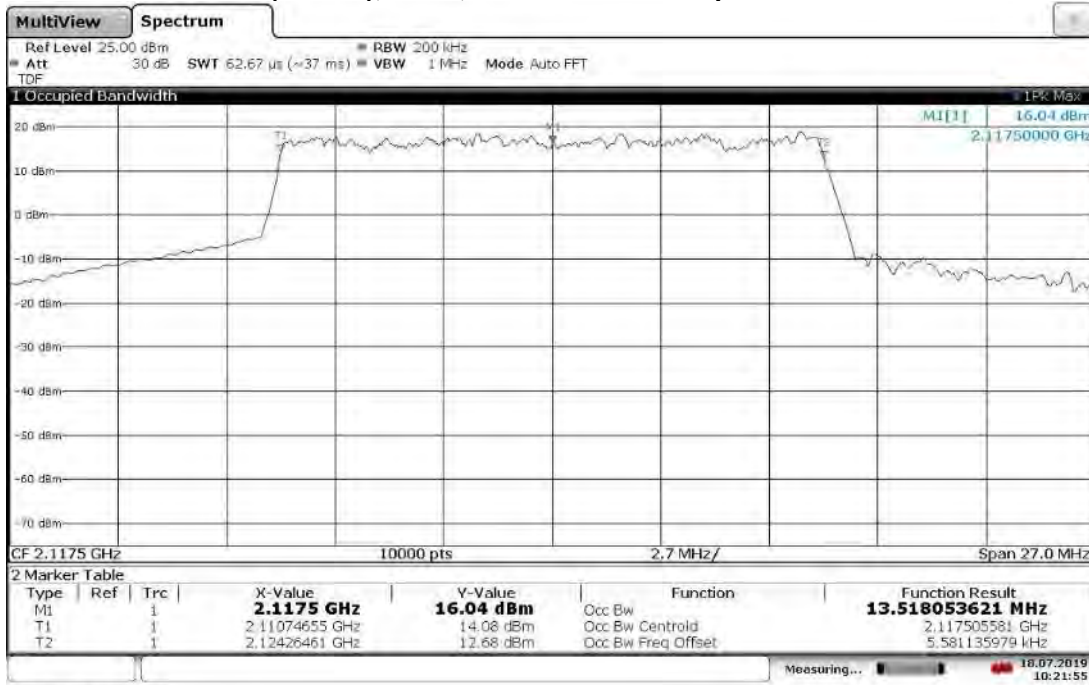
17:10:37 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



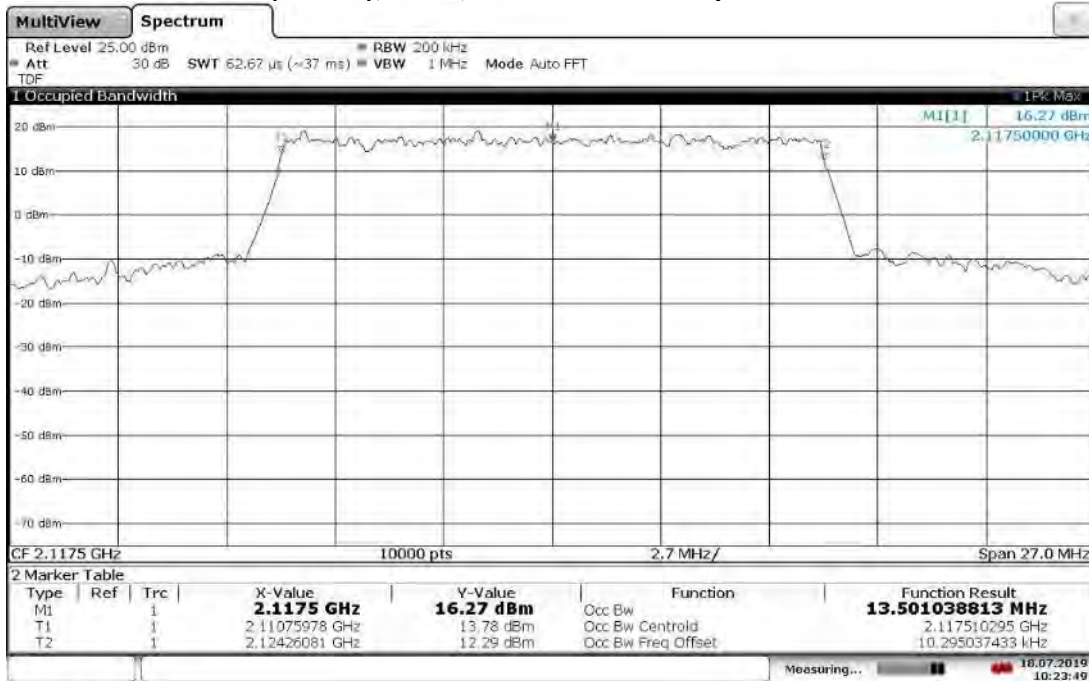
17:07:26 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



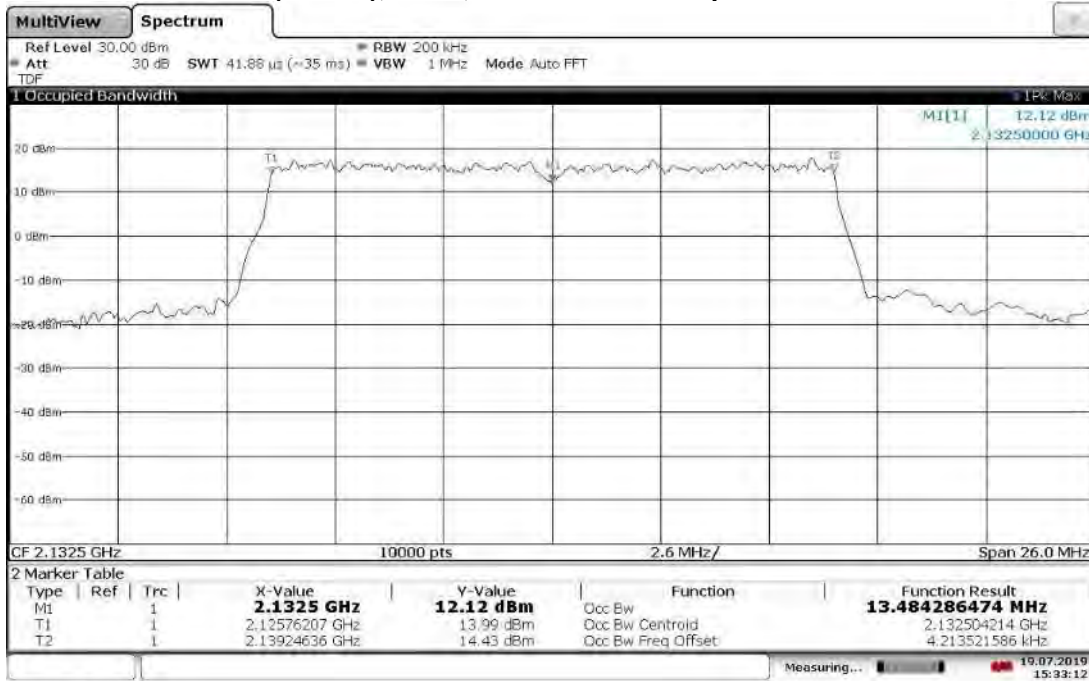
10:21:55 18.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



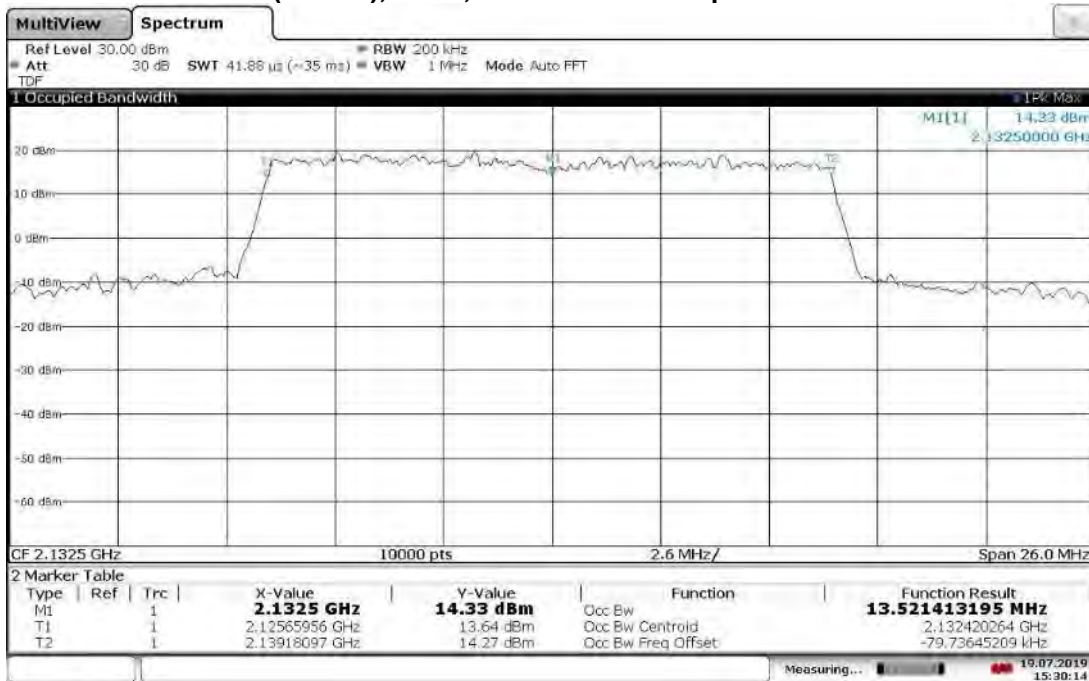
10:23:50 18.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



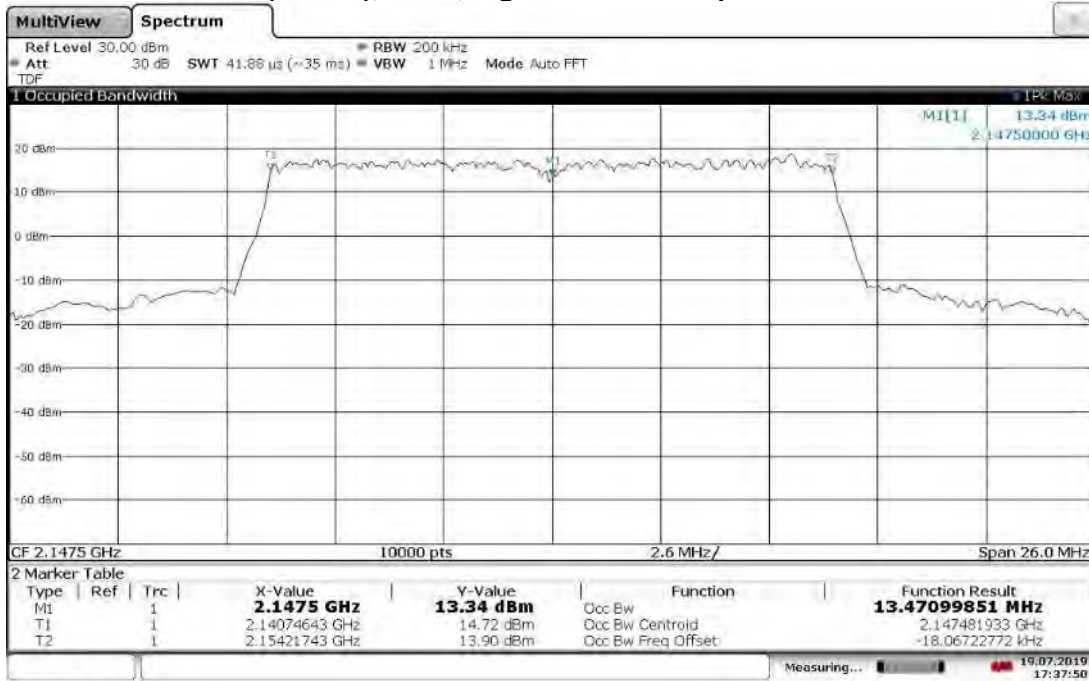
15:33:13 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



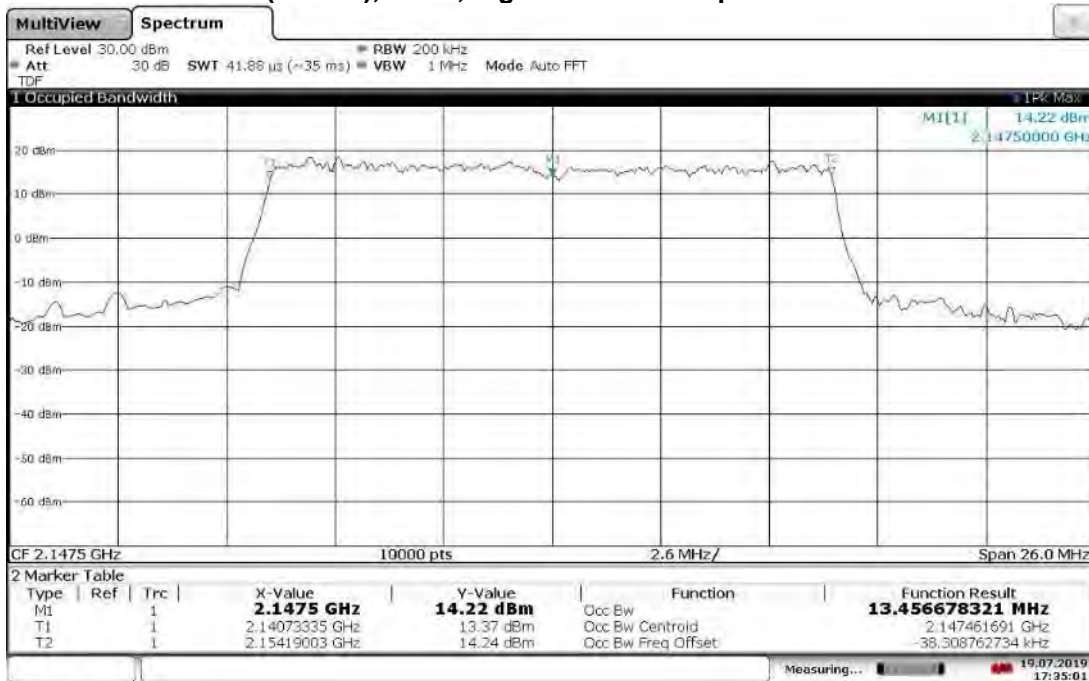
15:30:14 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



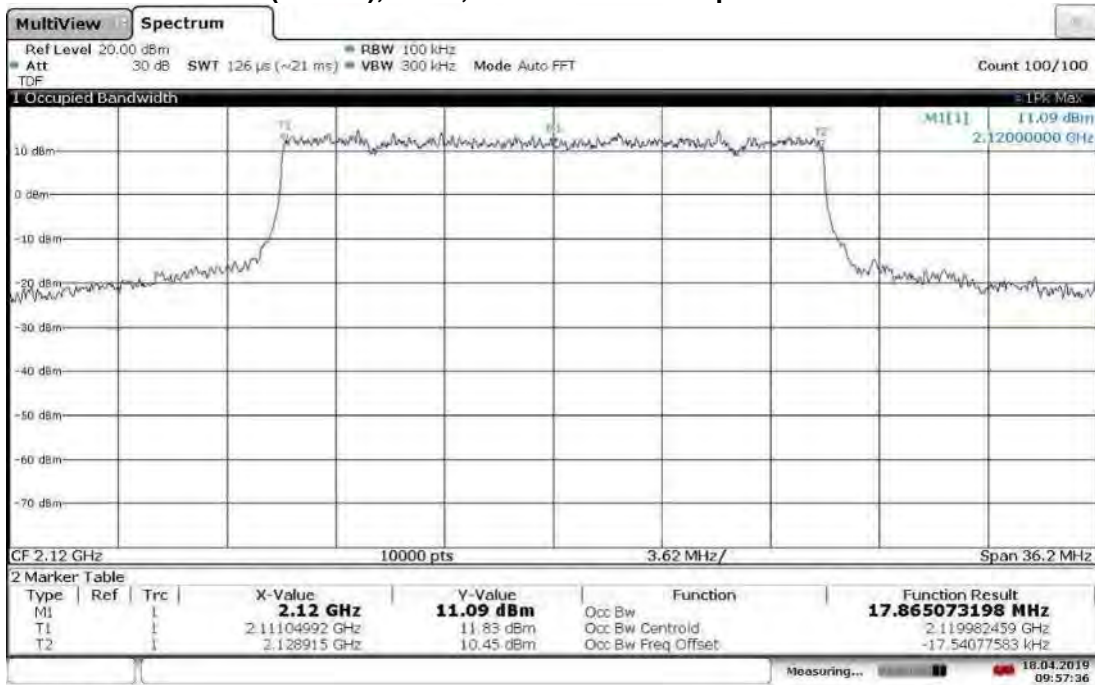
17:37:51 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



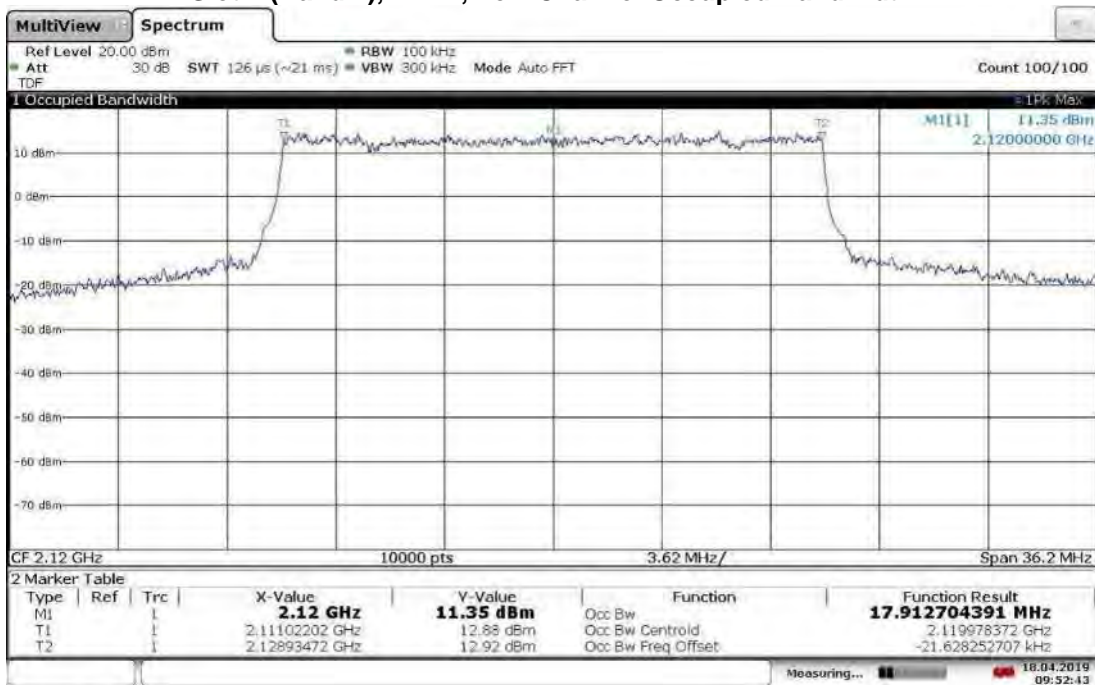
17:35:02 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



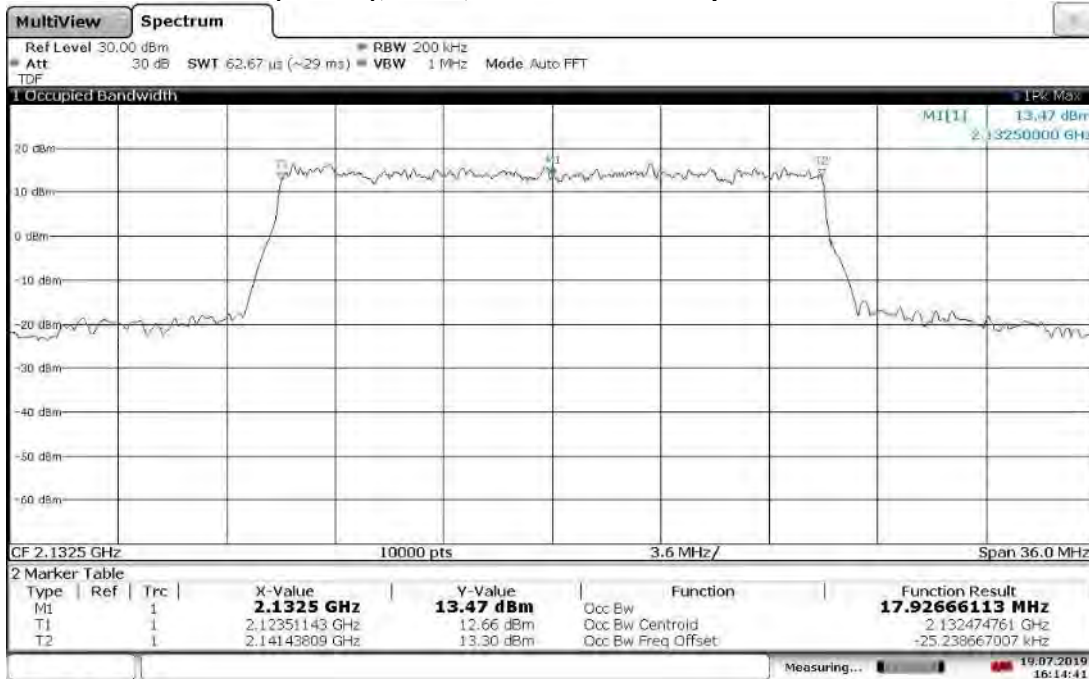
09:57:37 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



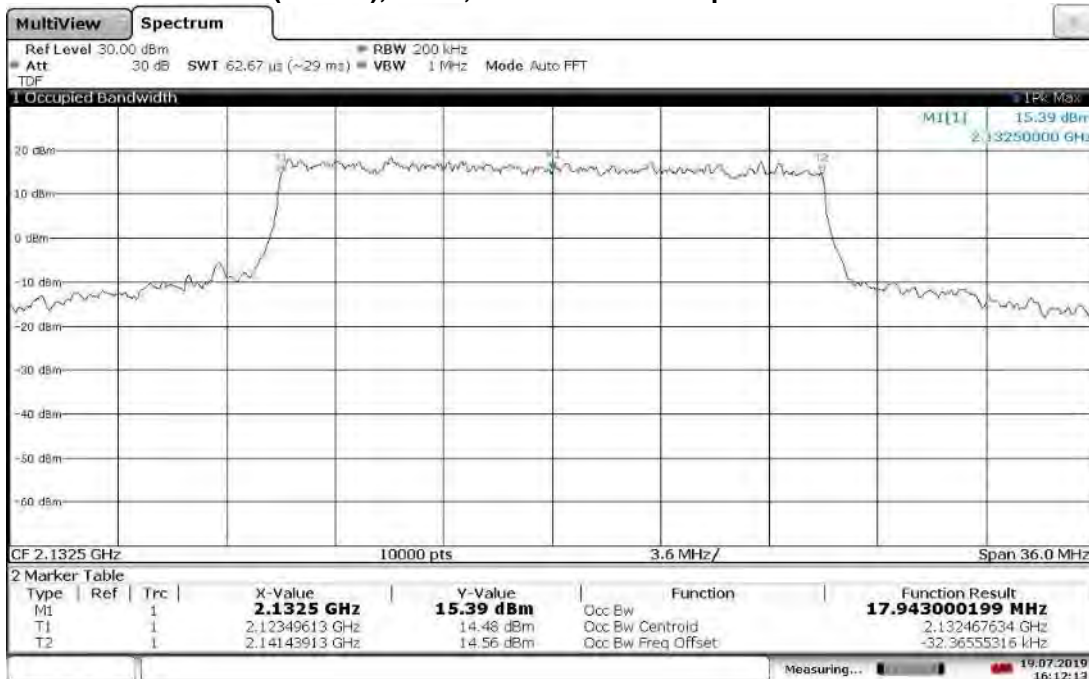
09:52:43 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



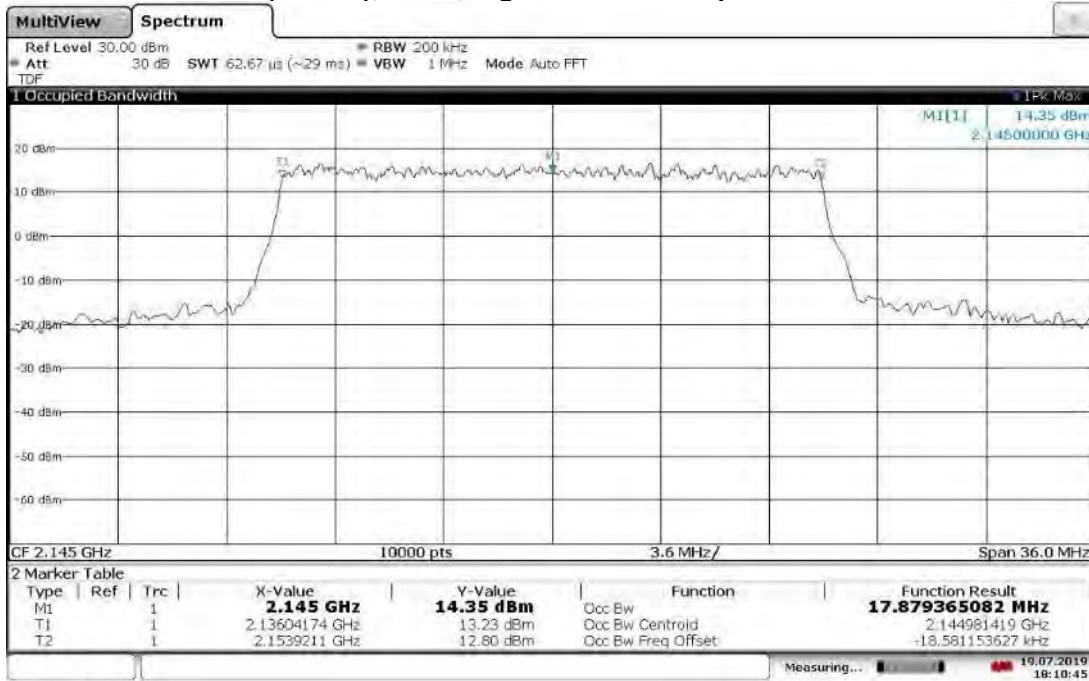
16:14:41 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



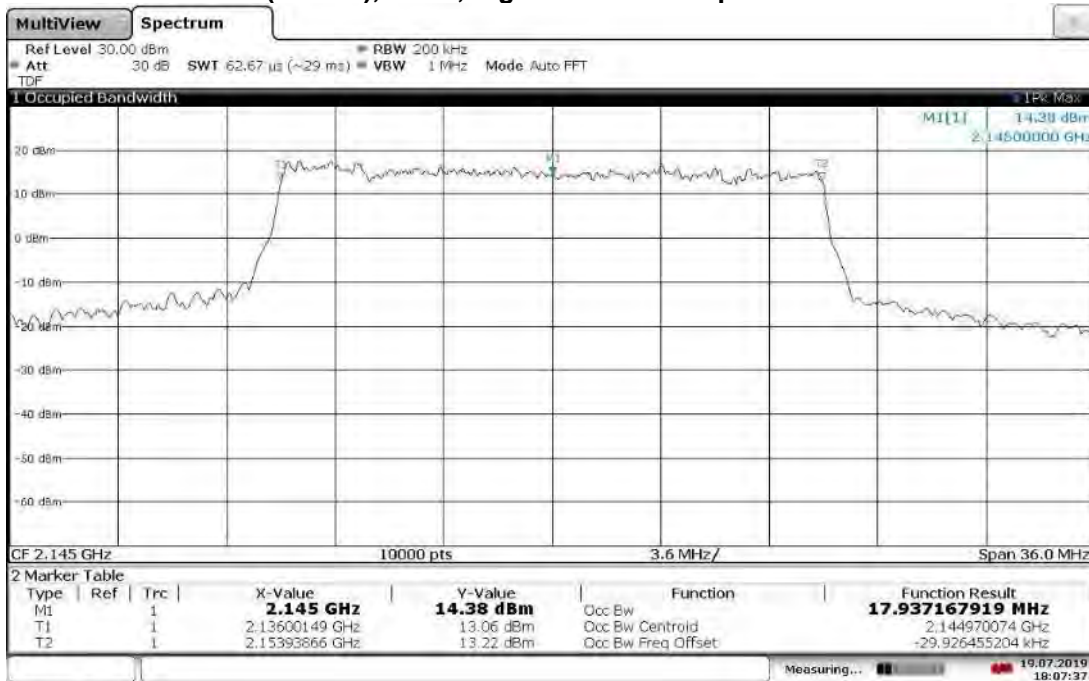
16:12:13 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



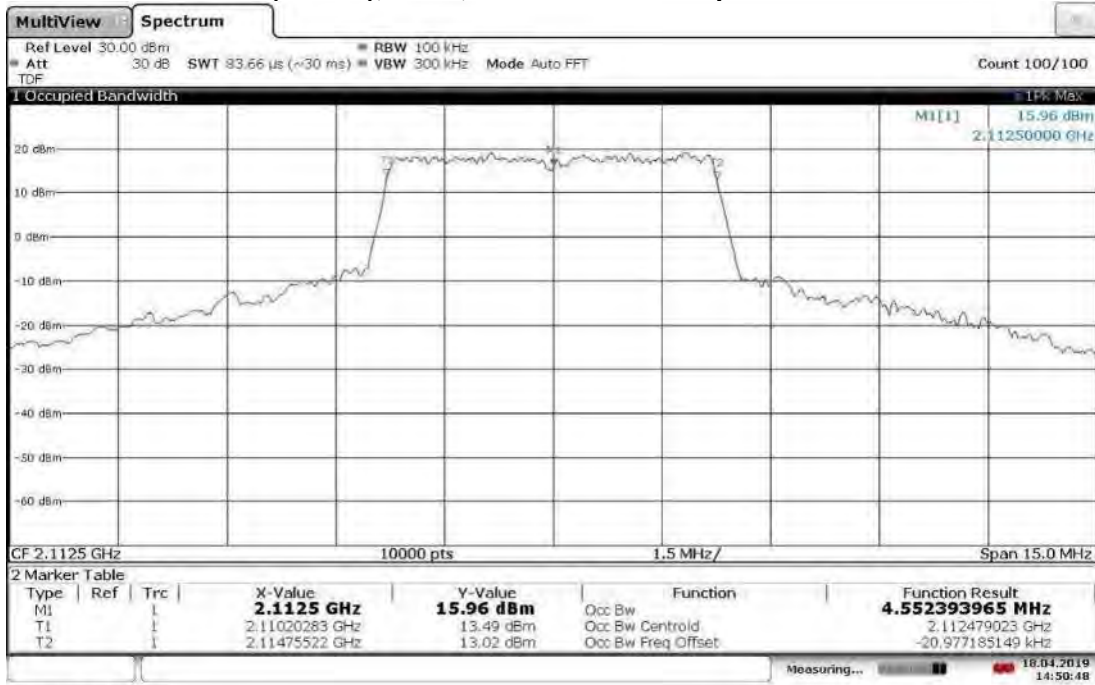
18:10:45 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



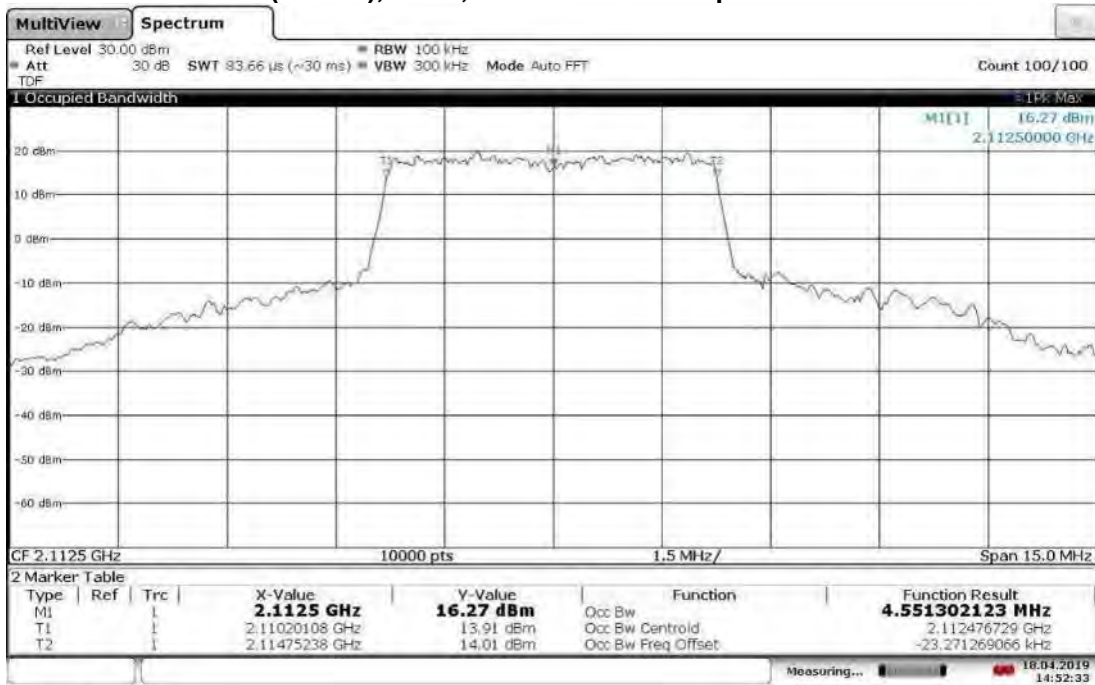
18:07:37 19.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



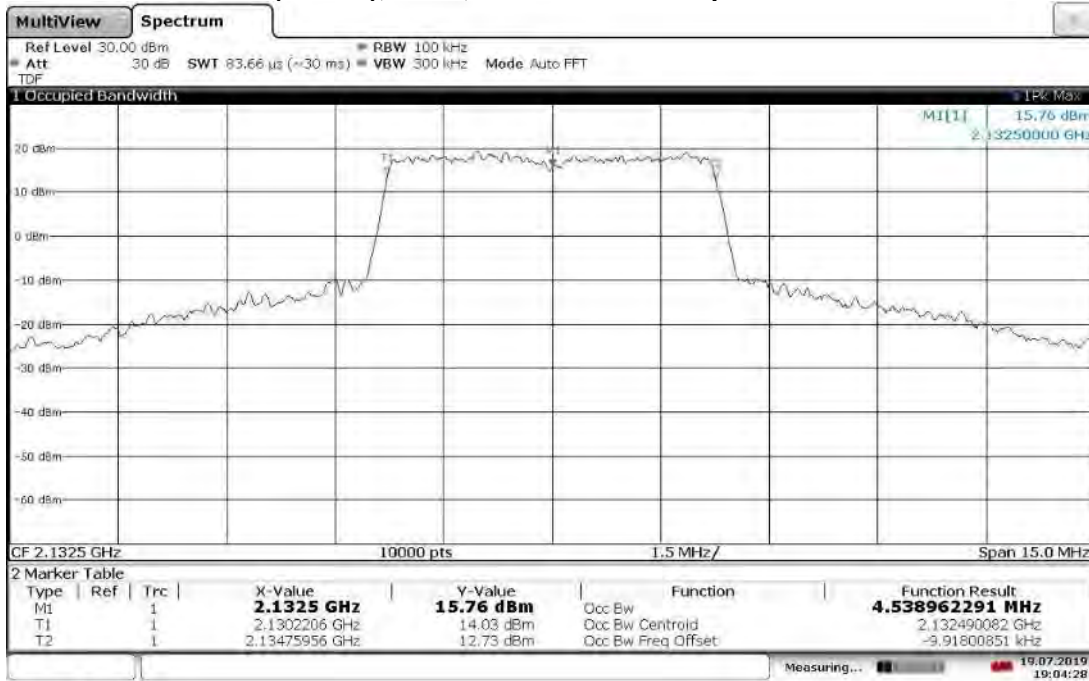
14:50:49 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



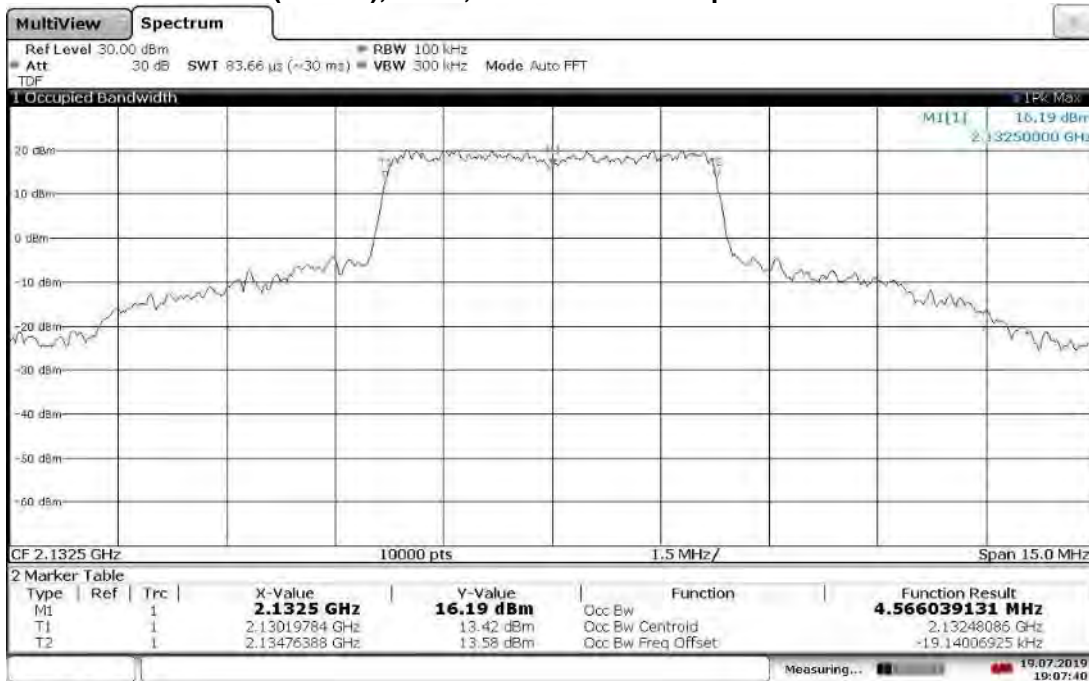
14:52:33 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



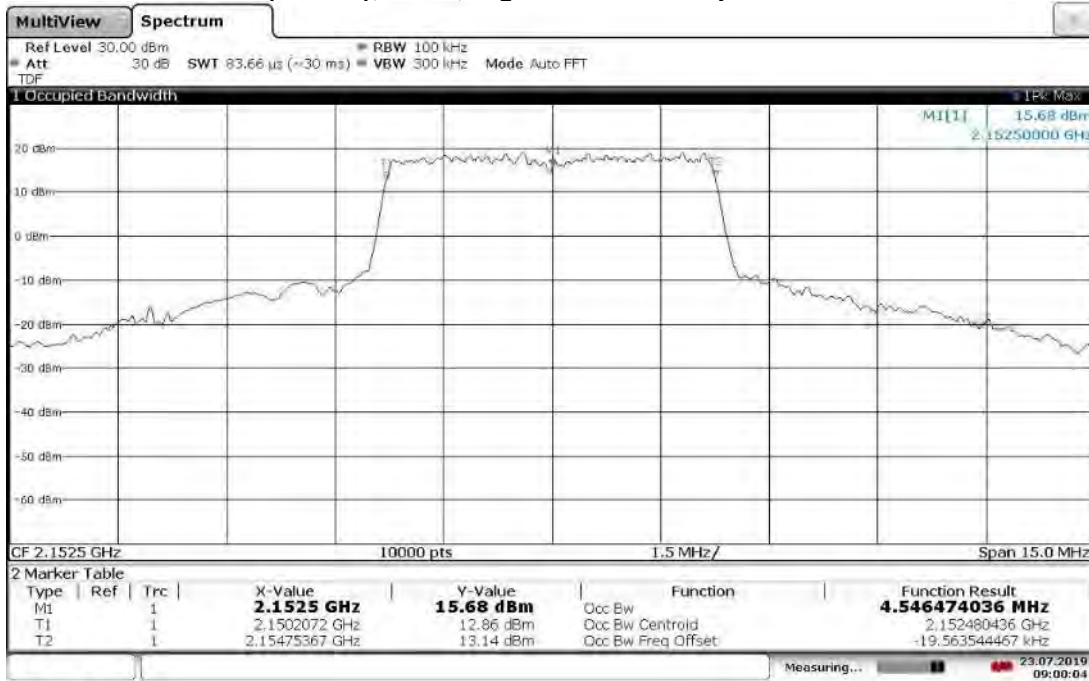
19:04:29 19.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



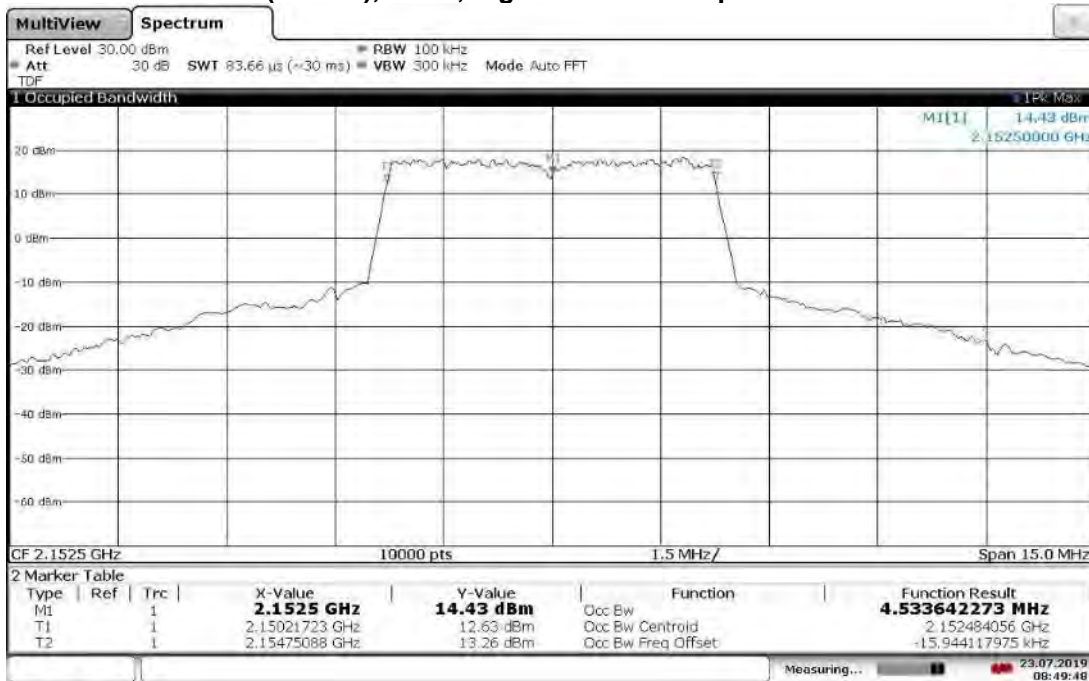
19:07:40 19.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



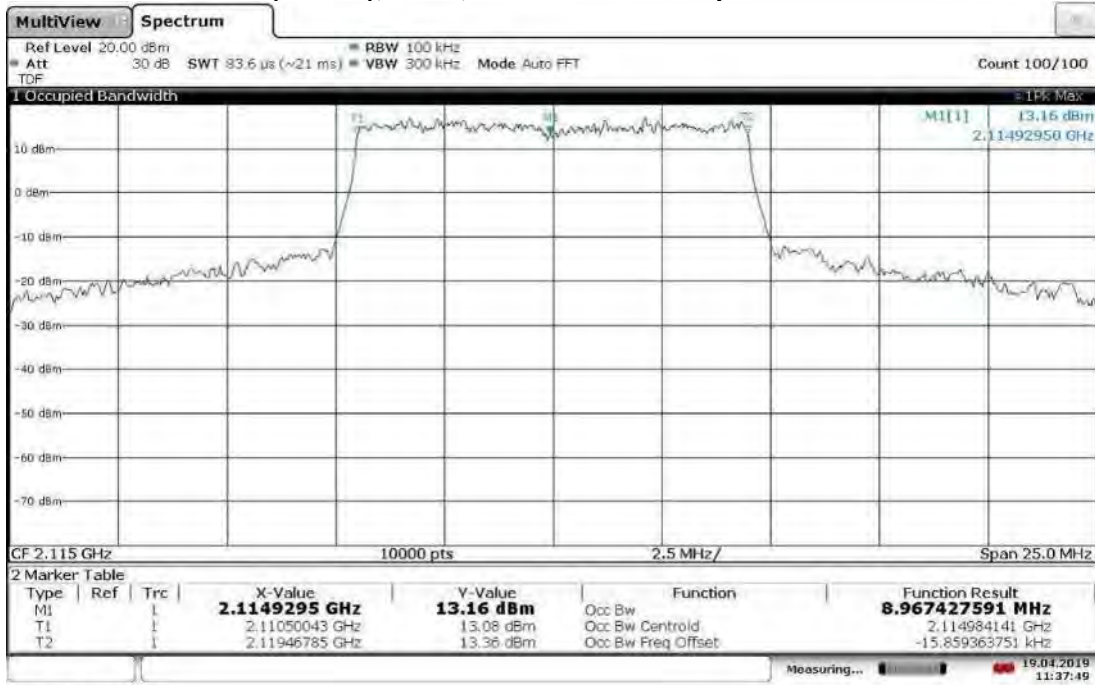
09:00:05 23.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



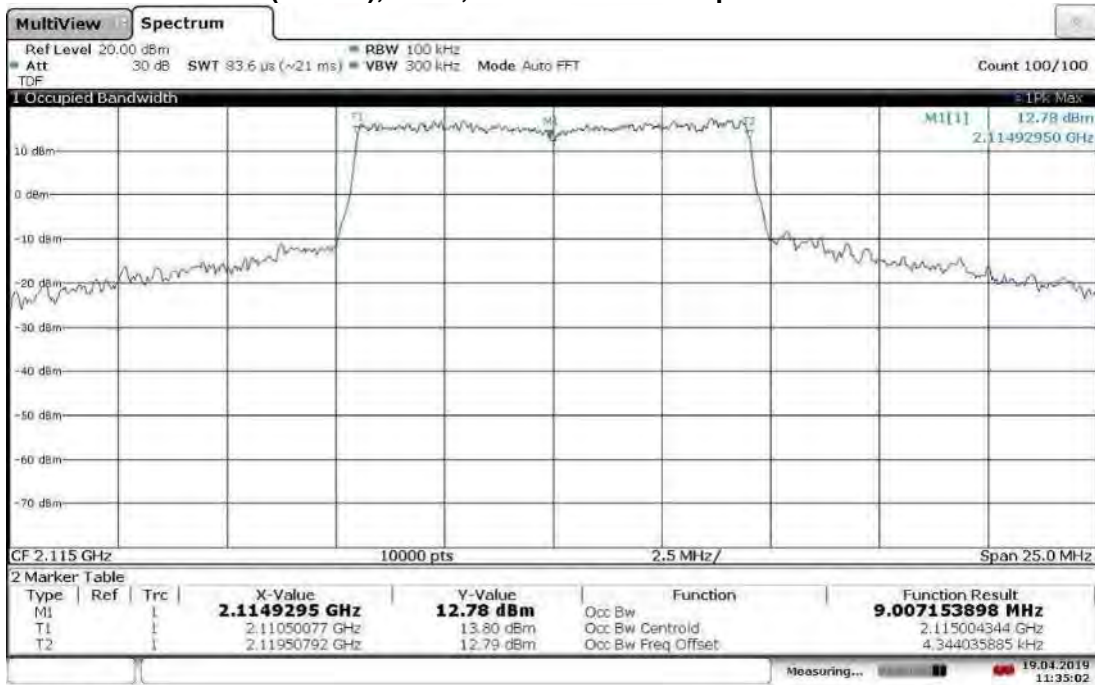
08:49:48 23.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



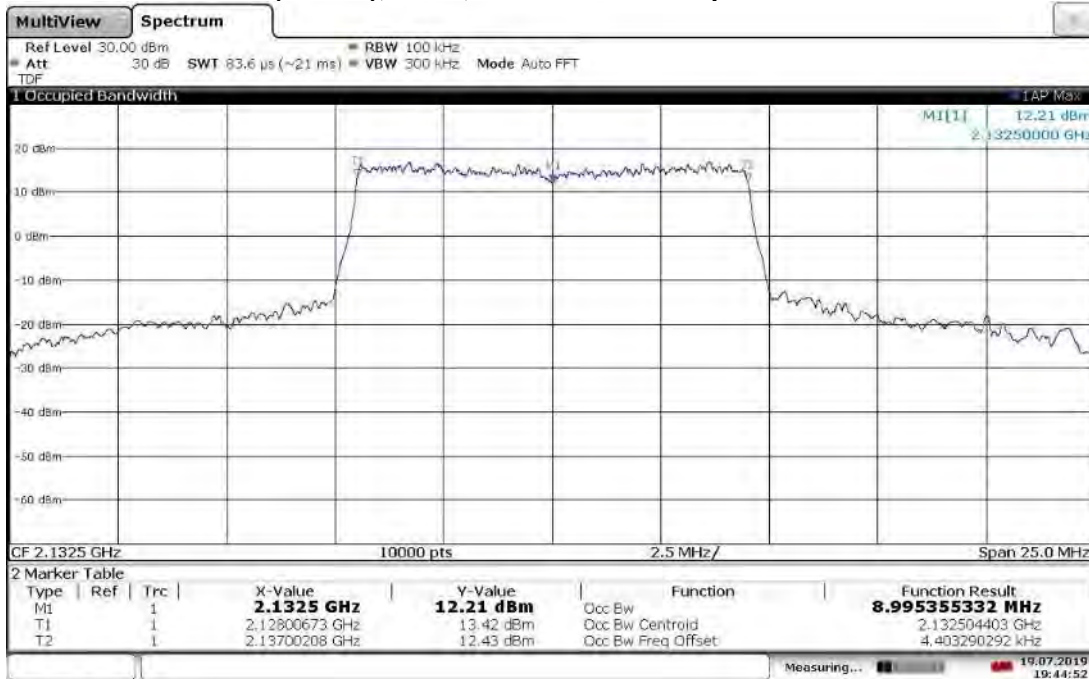
11:37:50 19.04.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



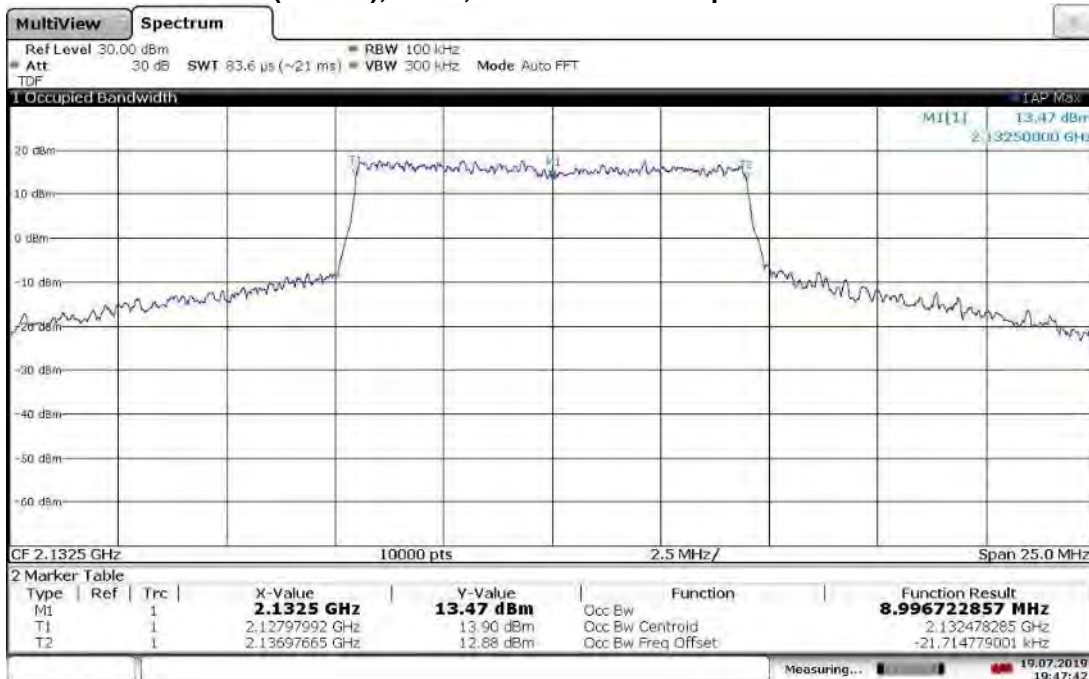
11:35:03 19.04.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



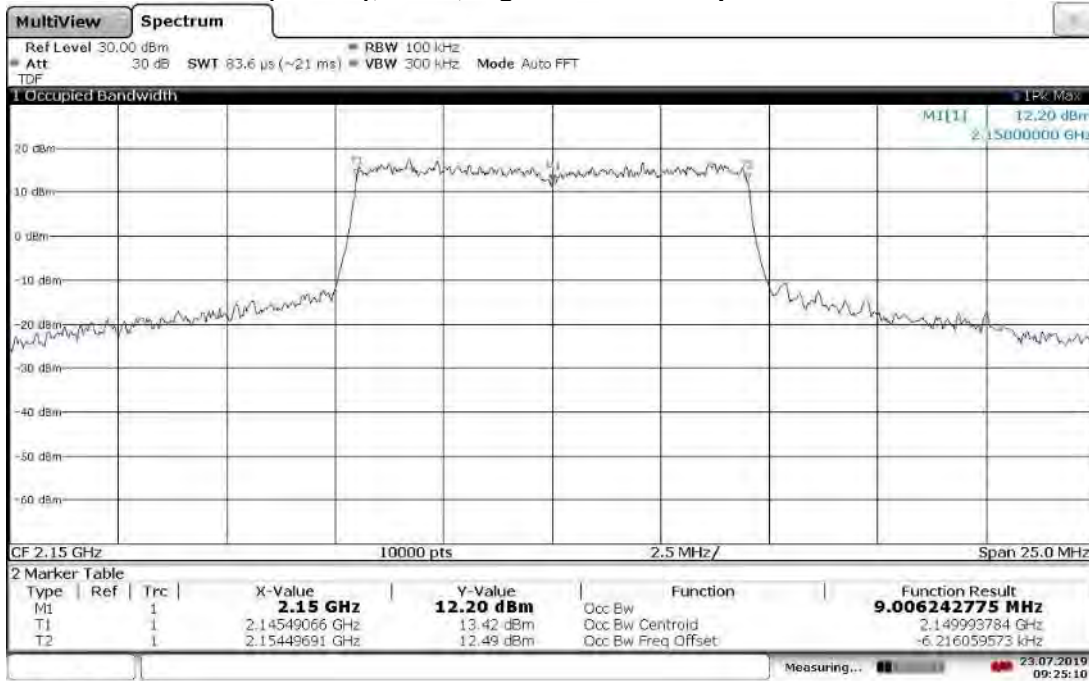
19:44:52 19.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



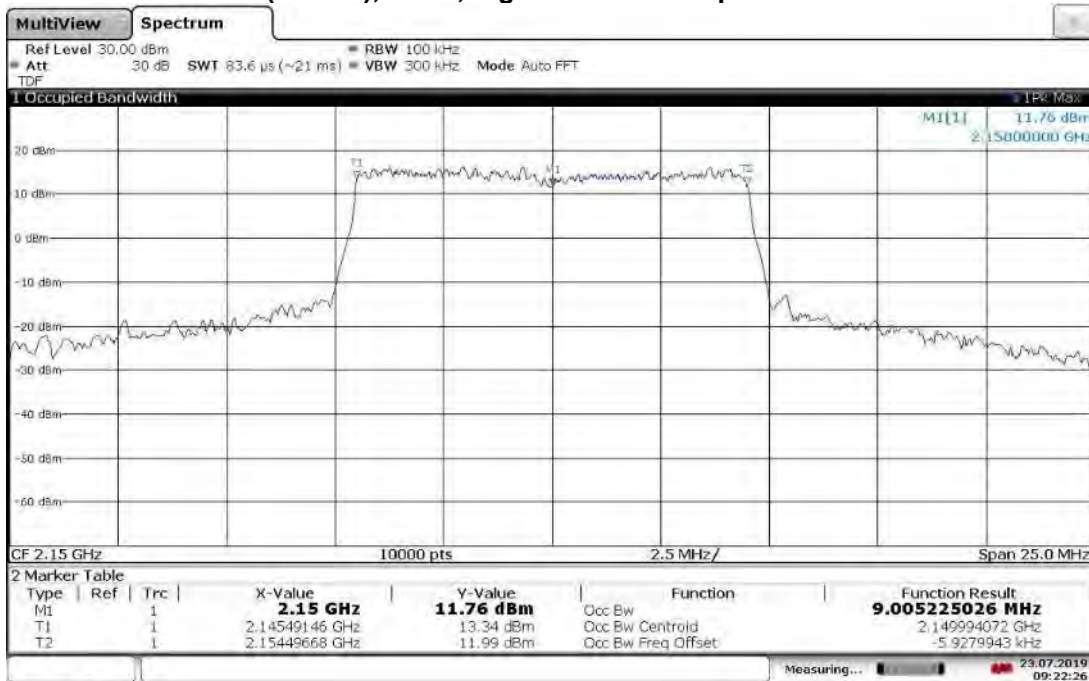
19:47:43 19.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



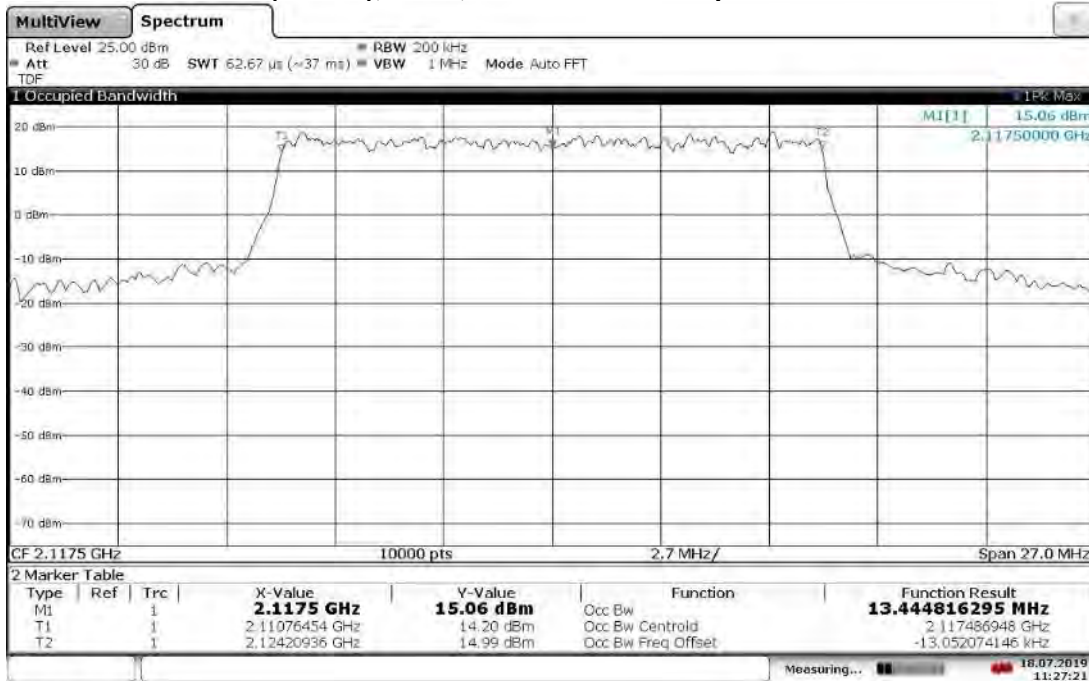
09:25:10 23.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



09:22:27 23.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



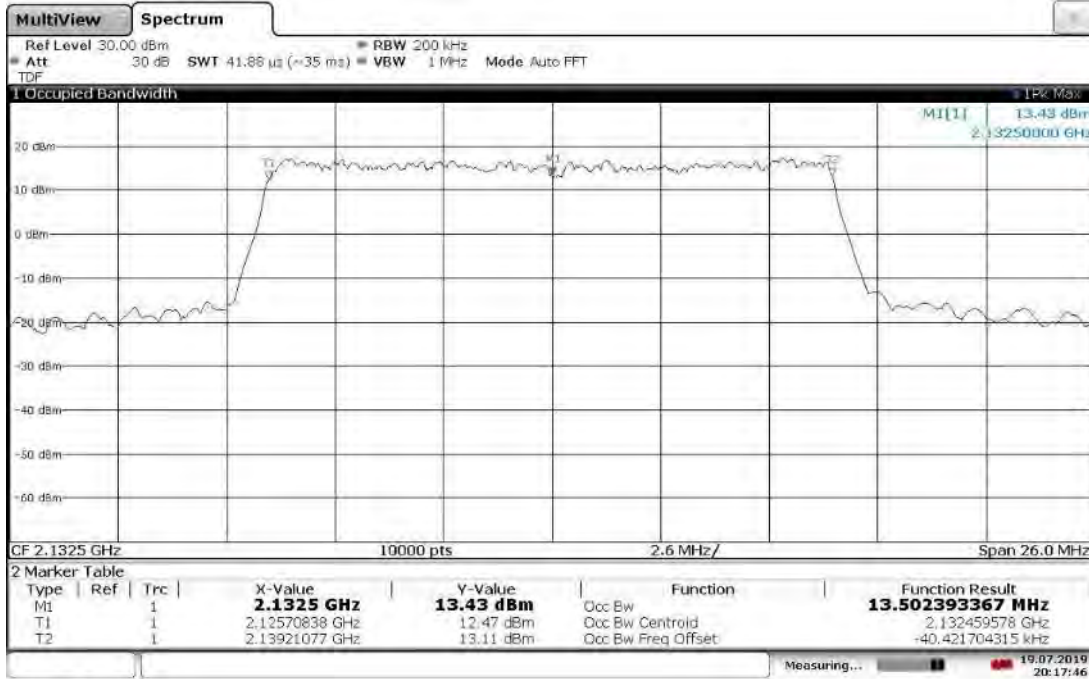
11:27:21 18.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



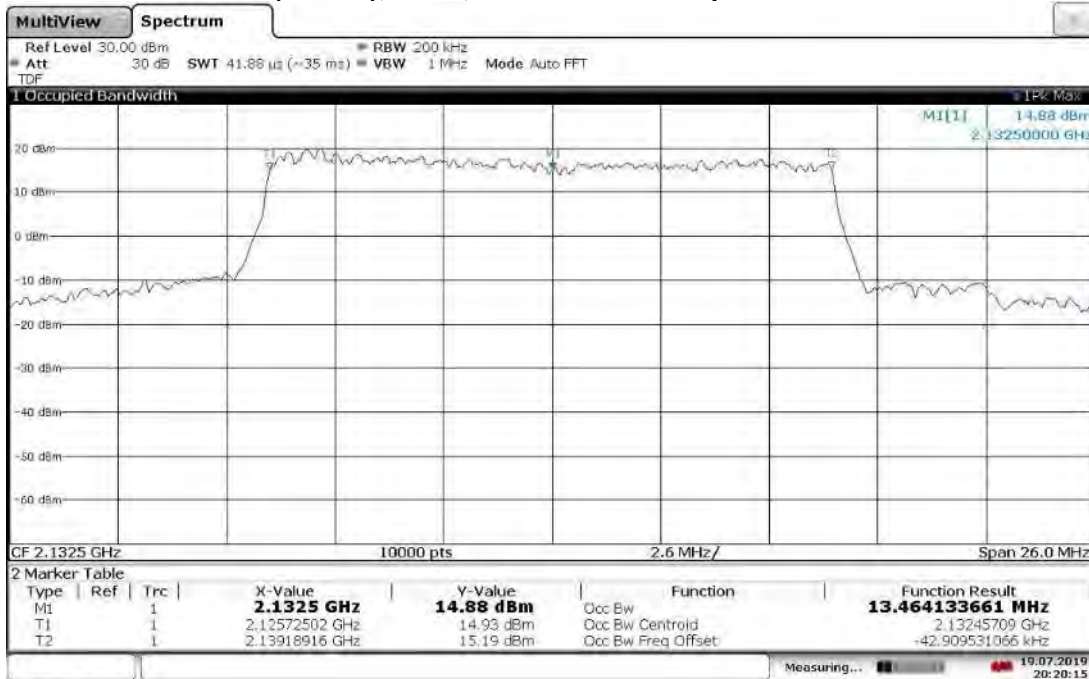
11:29:00 18.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



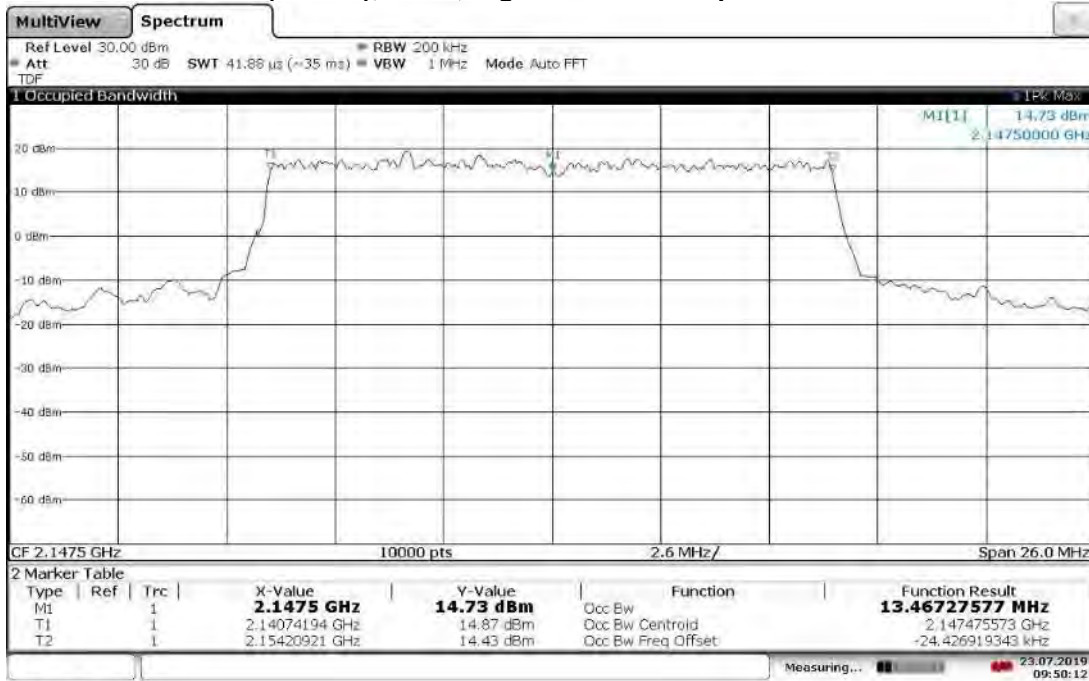
20:17:46 19.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



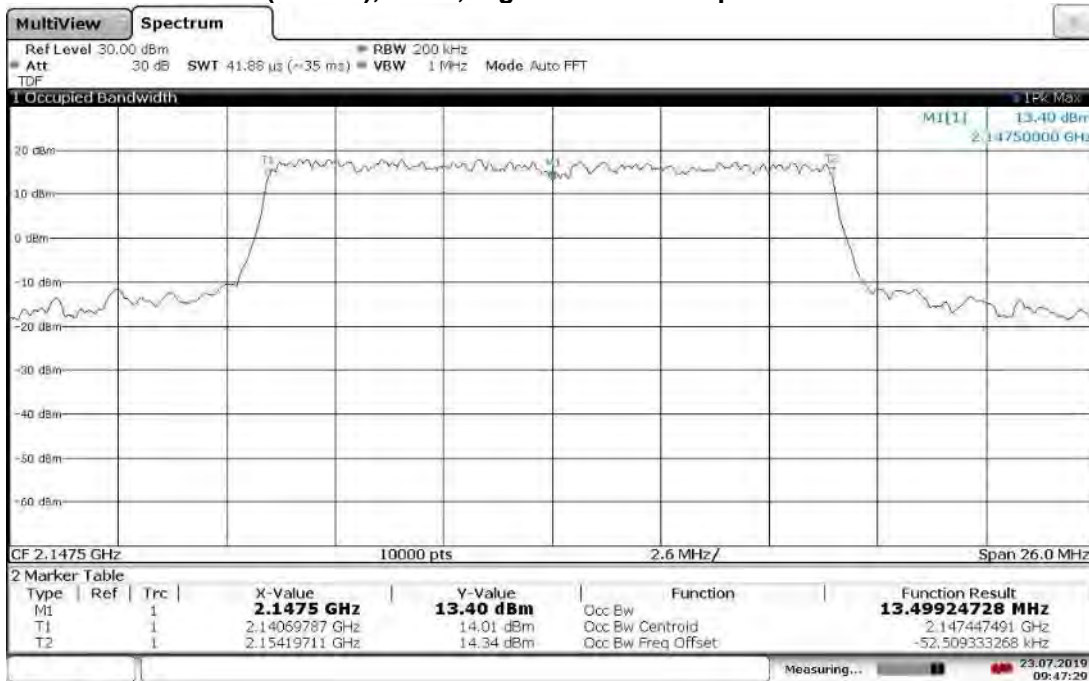
20:20:16 19.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



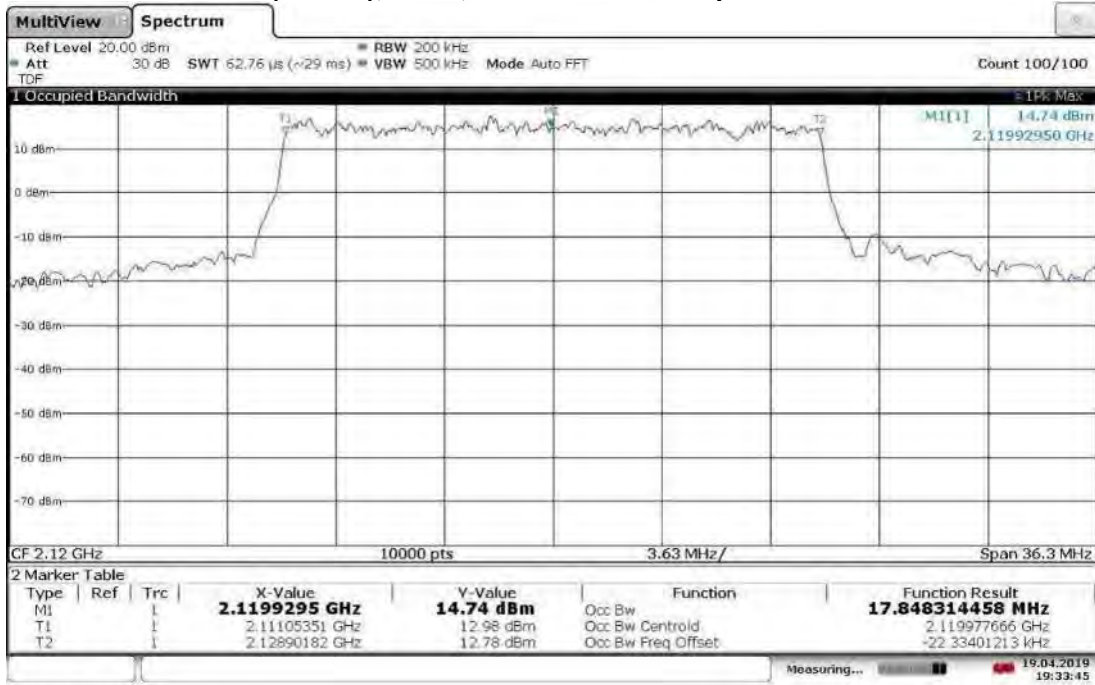
09:50:13 23.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



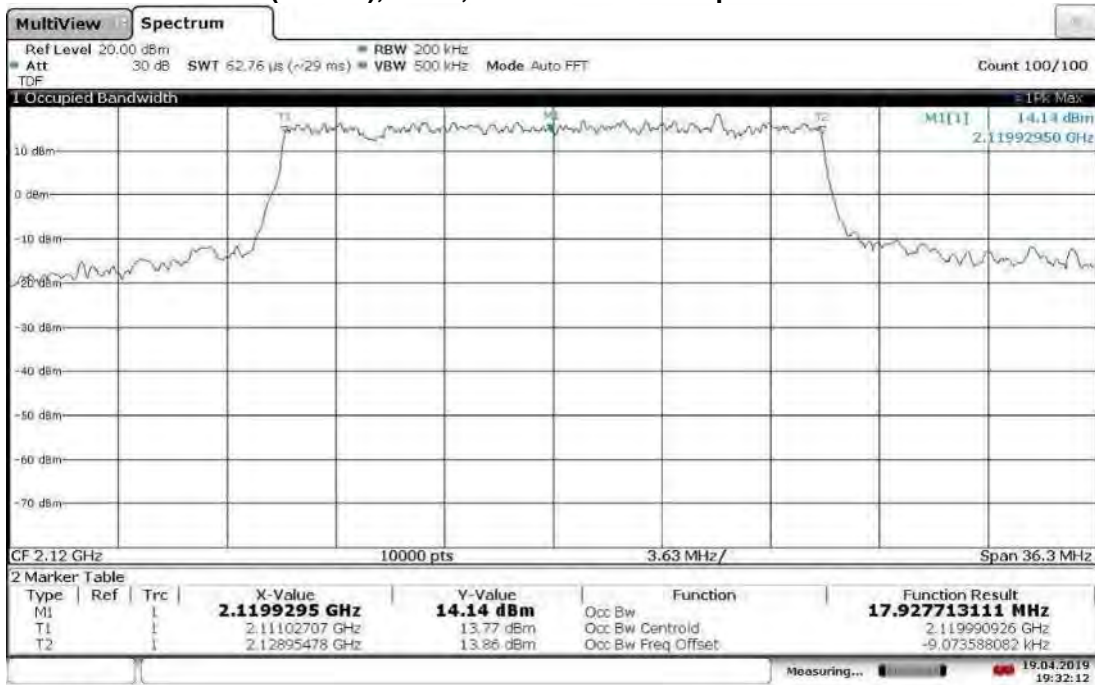
09:47:29 23.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel Occupied Bandwidth**



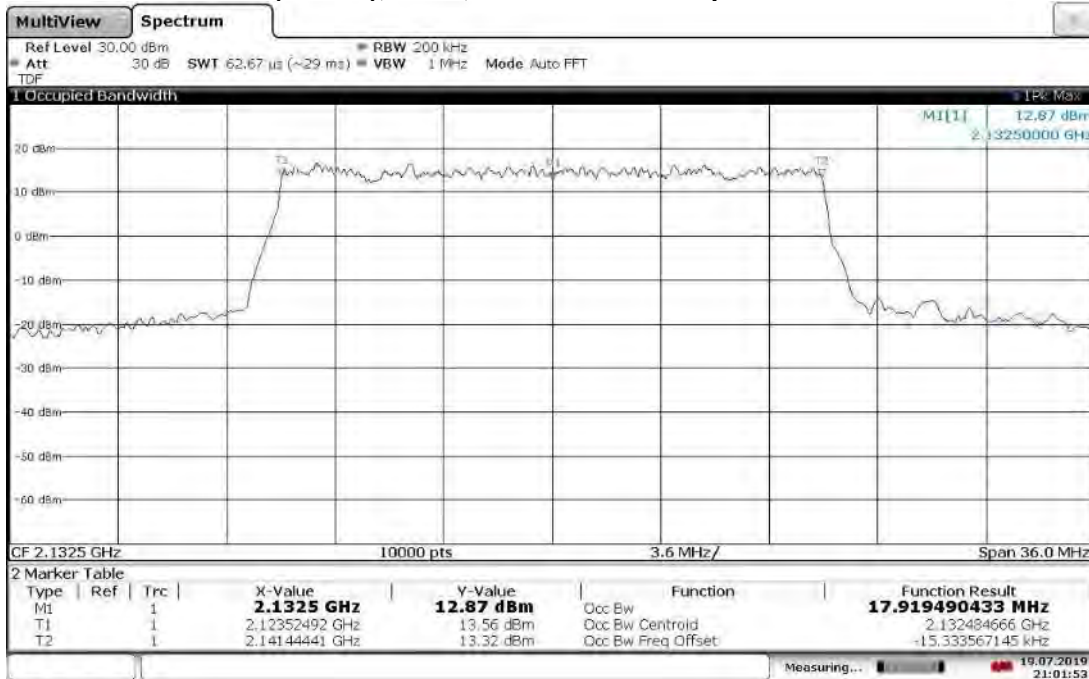
19:33:45 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel Occupied Bandwidth**



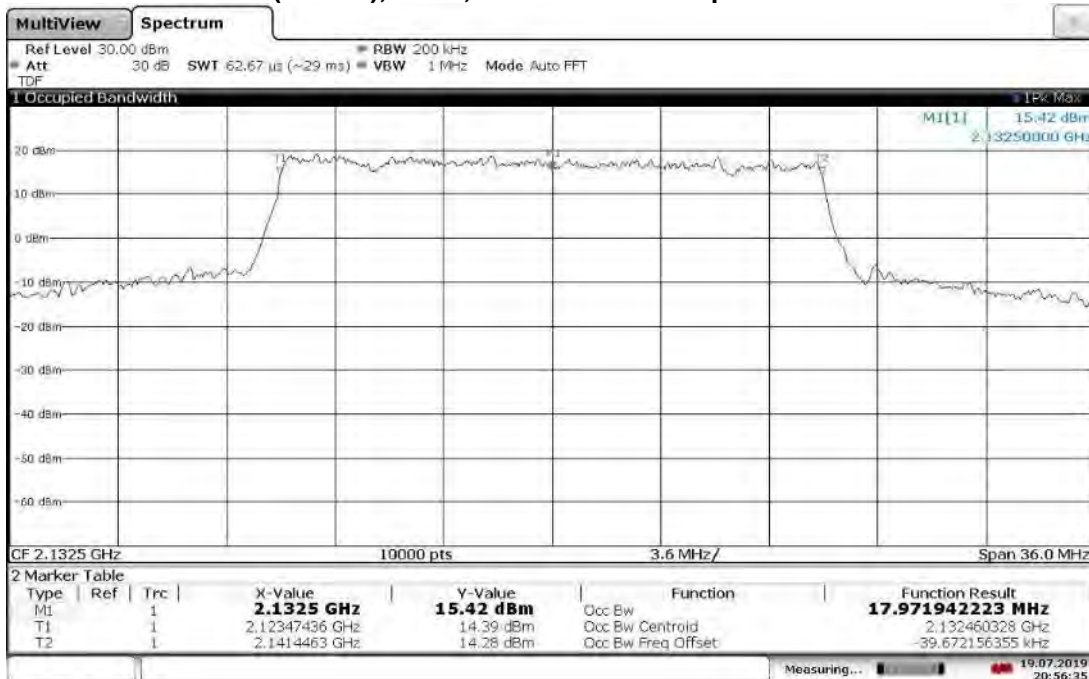
19:32:12 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel Occupied Bandwidth**



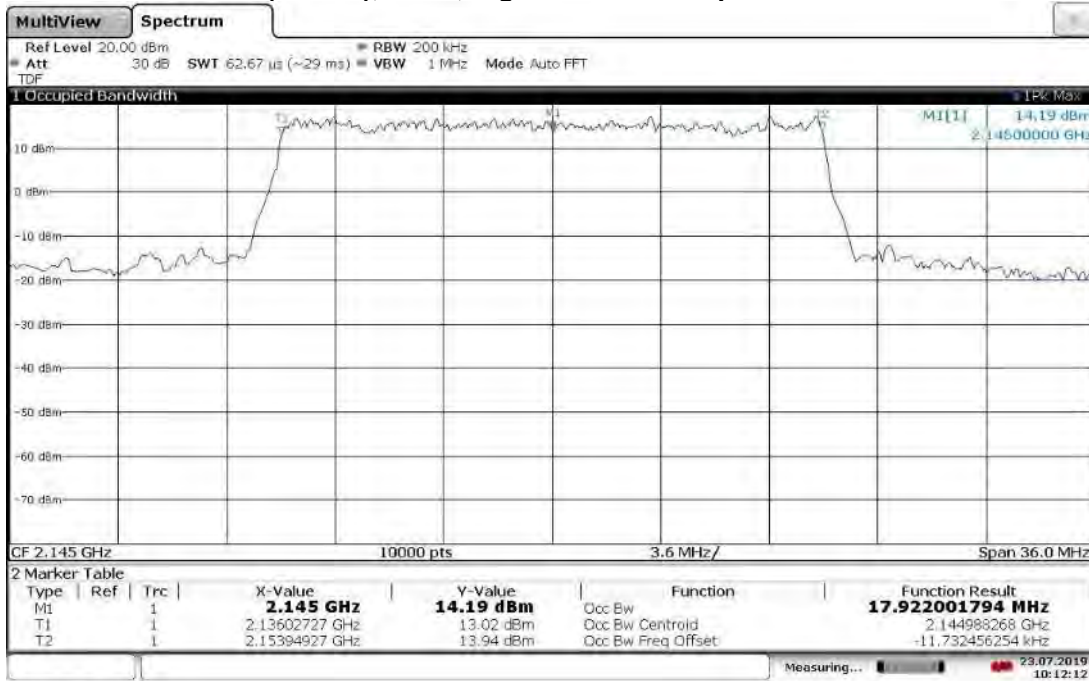
21:01:54 19.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel Occupied Bandwidth**



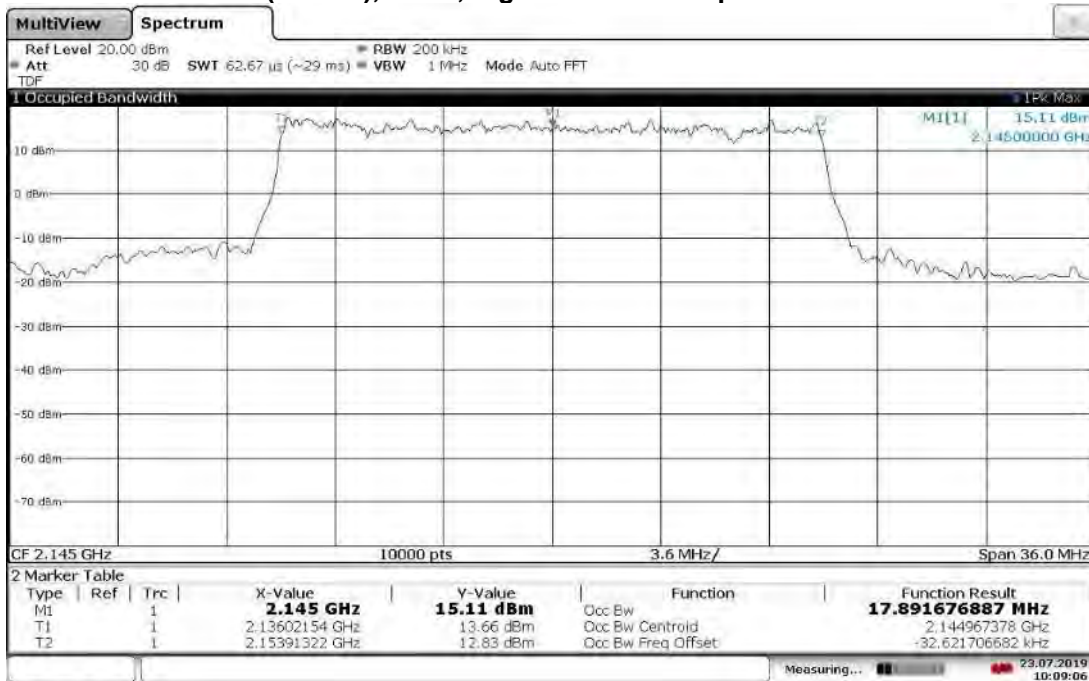
20:56:35 19.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel Occupied Bandwidth**



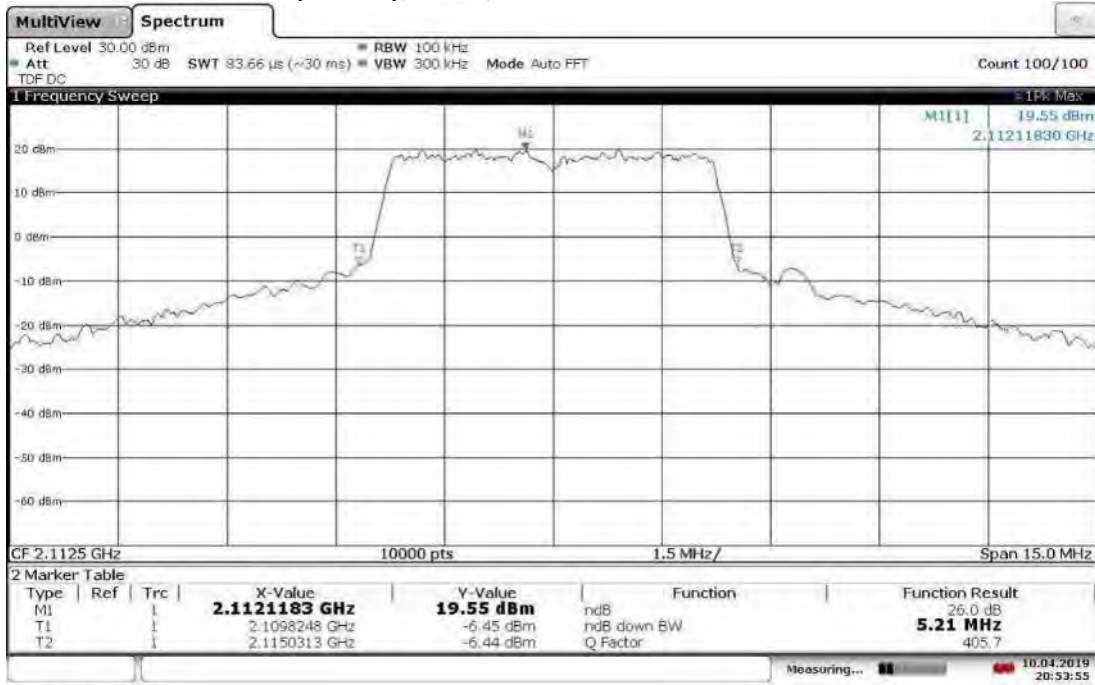
10:12:13 23.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel Occupied Bandwidth**



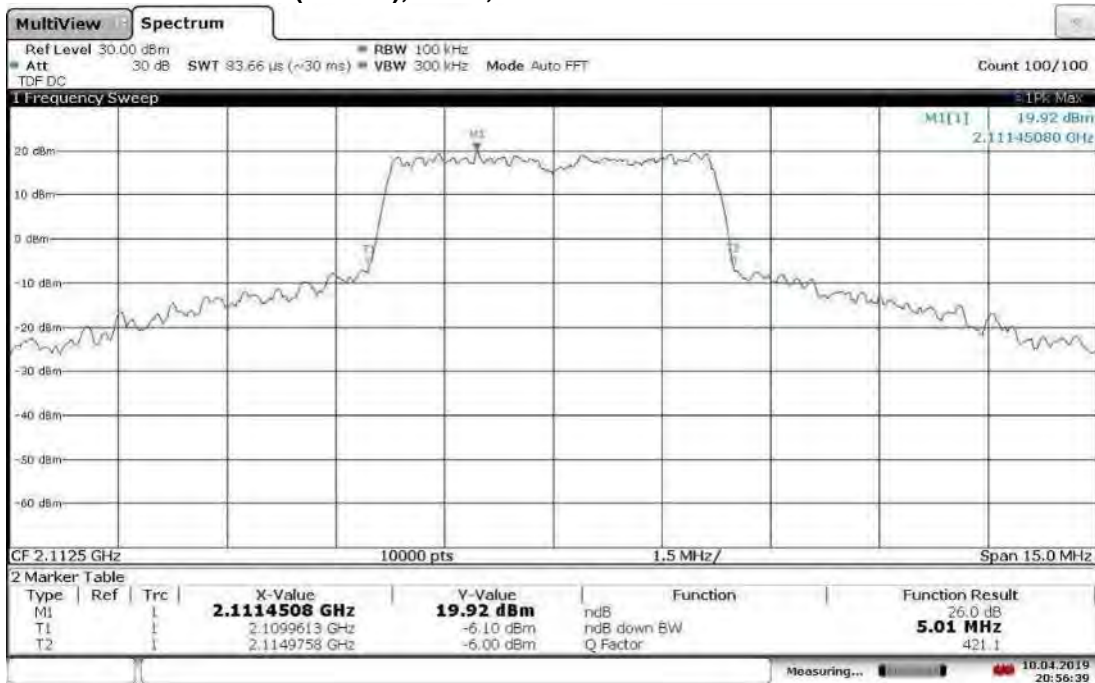
10:09:06 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



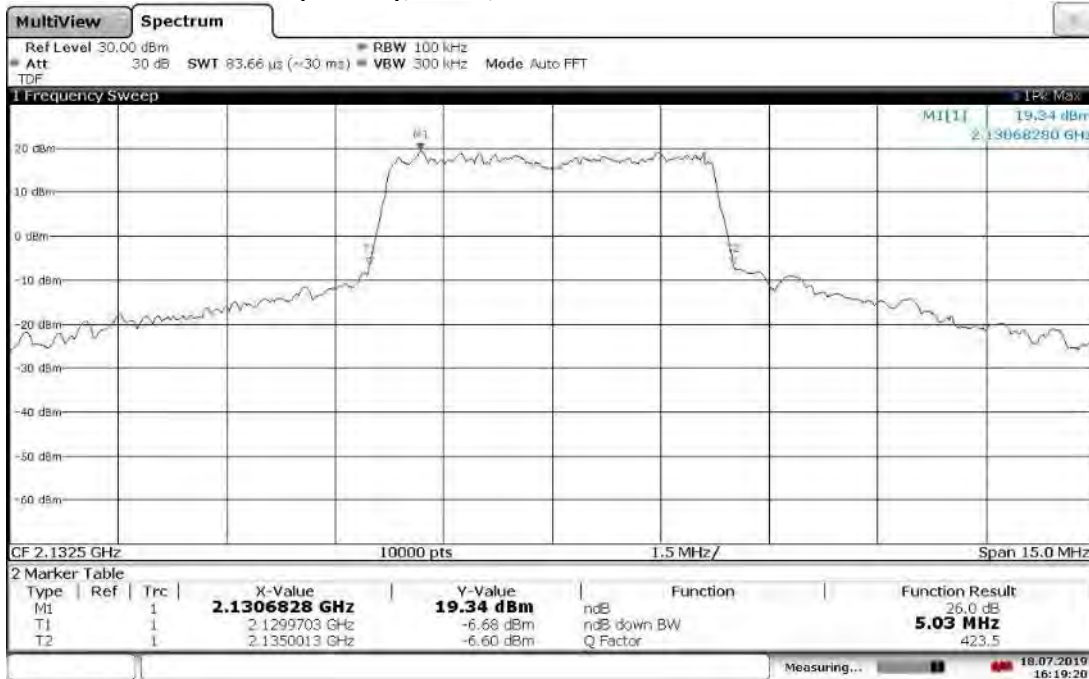
20:53:55 10.04.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



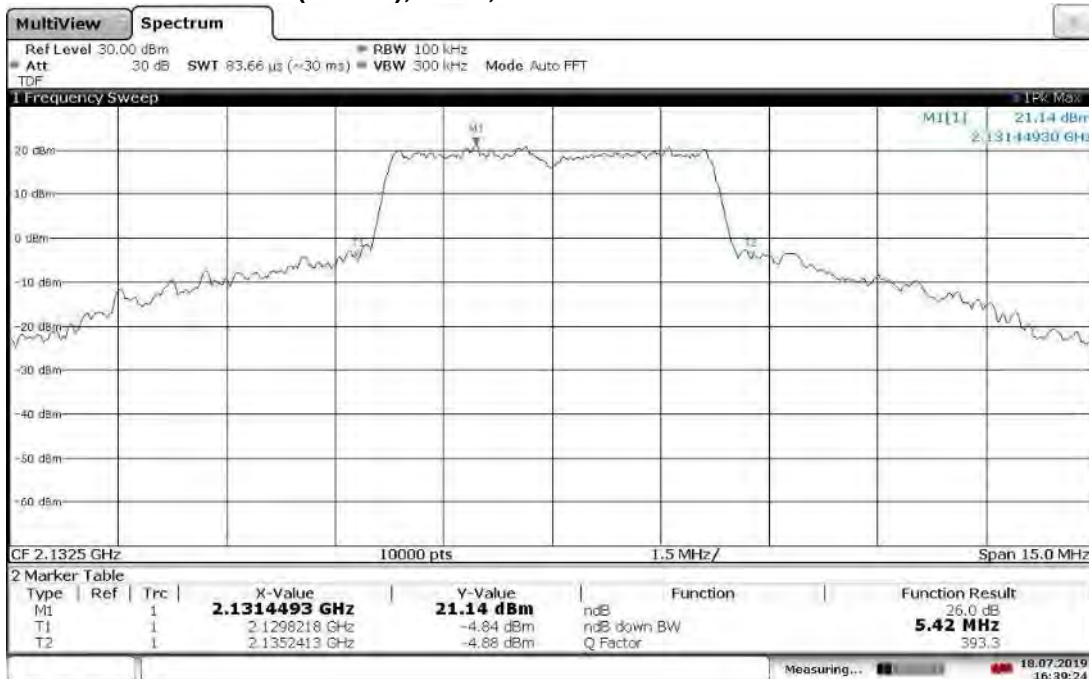
20:56:39 10.04.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



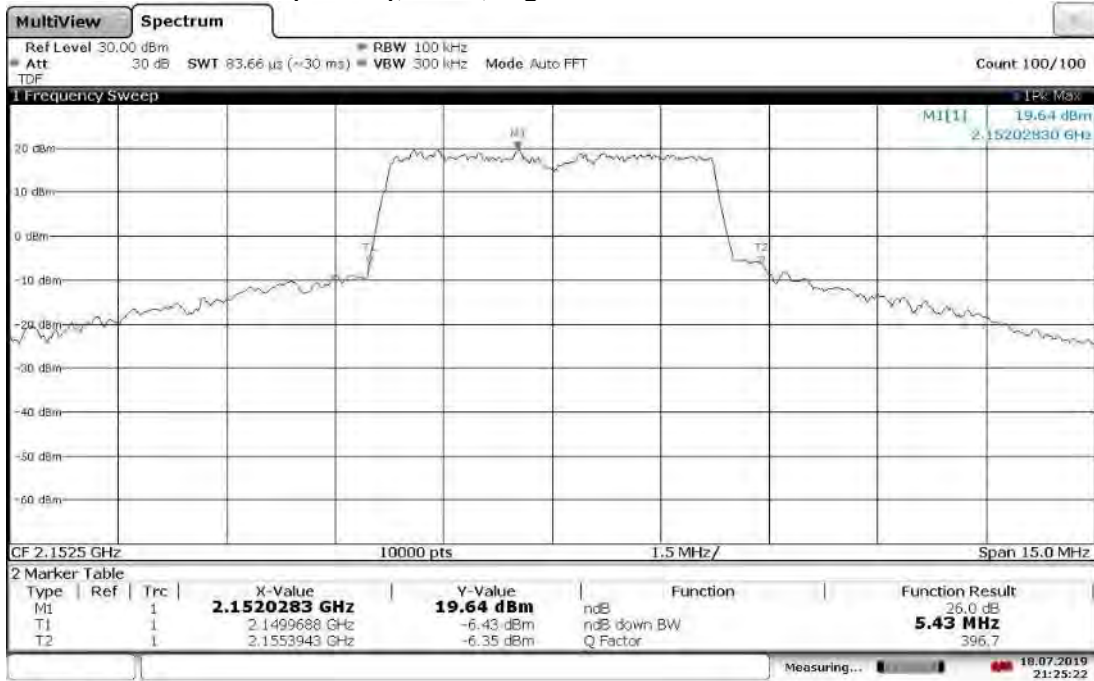
16:19:20 18.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



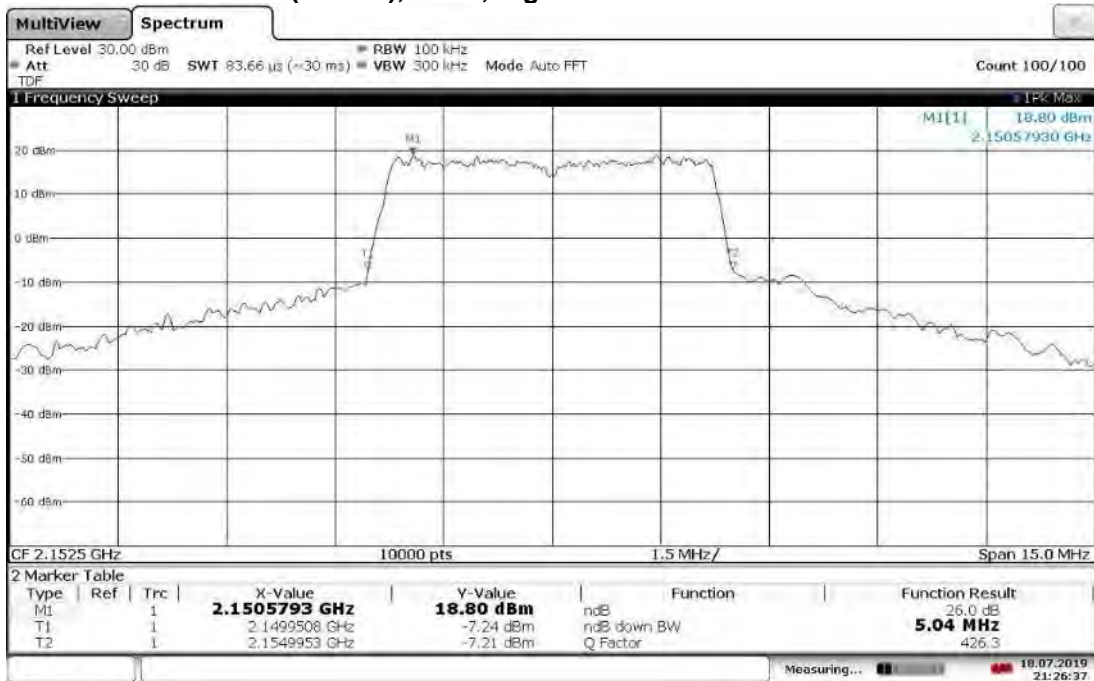
16:39:25 18.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



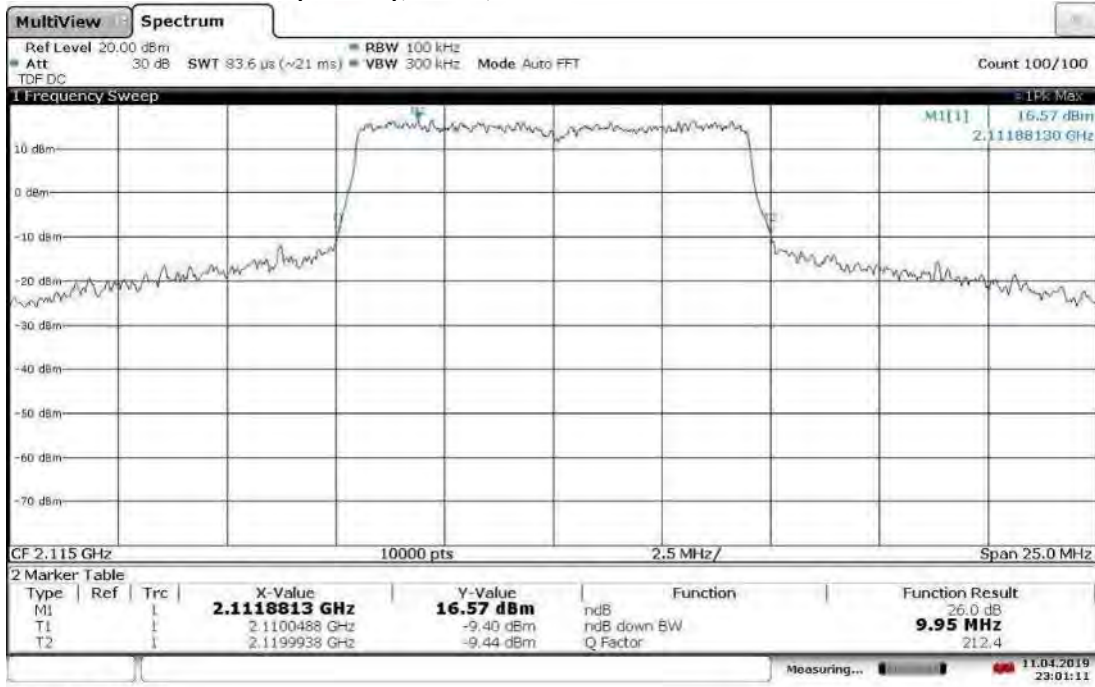
21:25:22 18.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



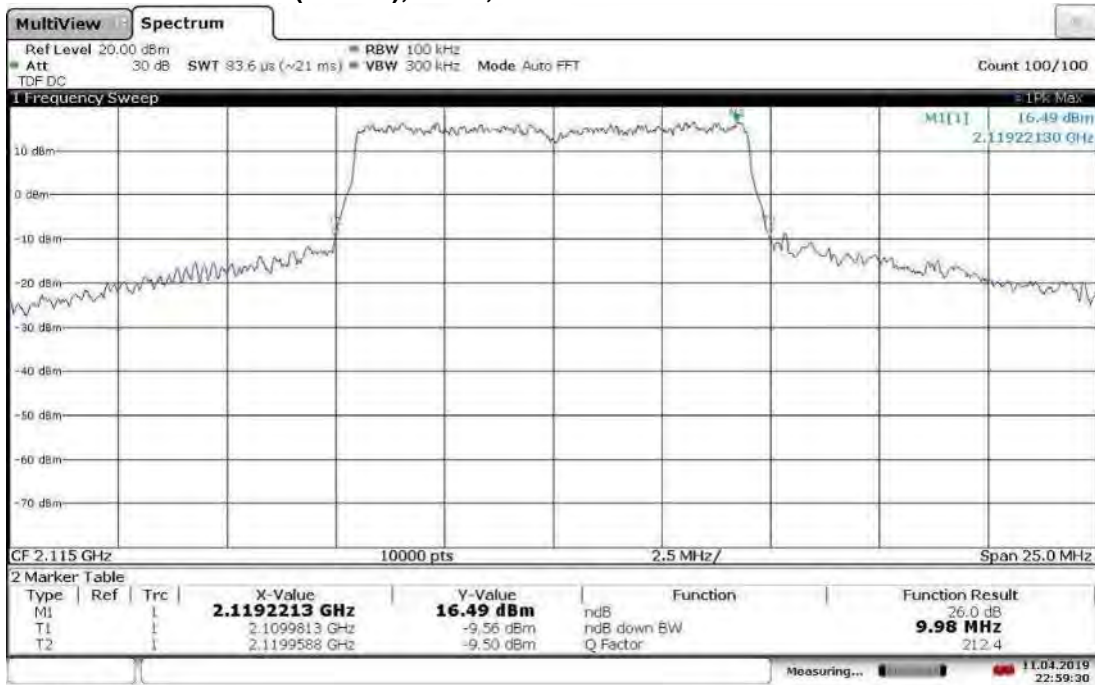
21:26:37 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



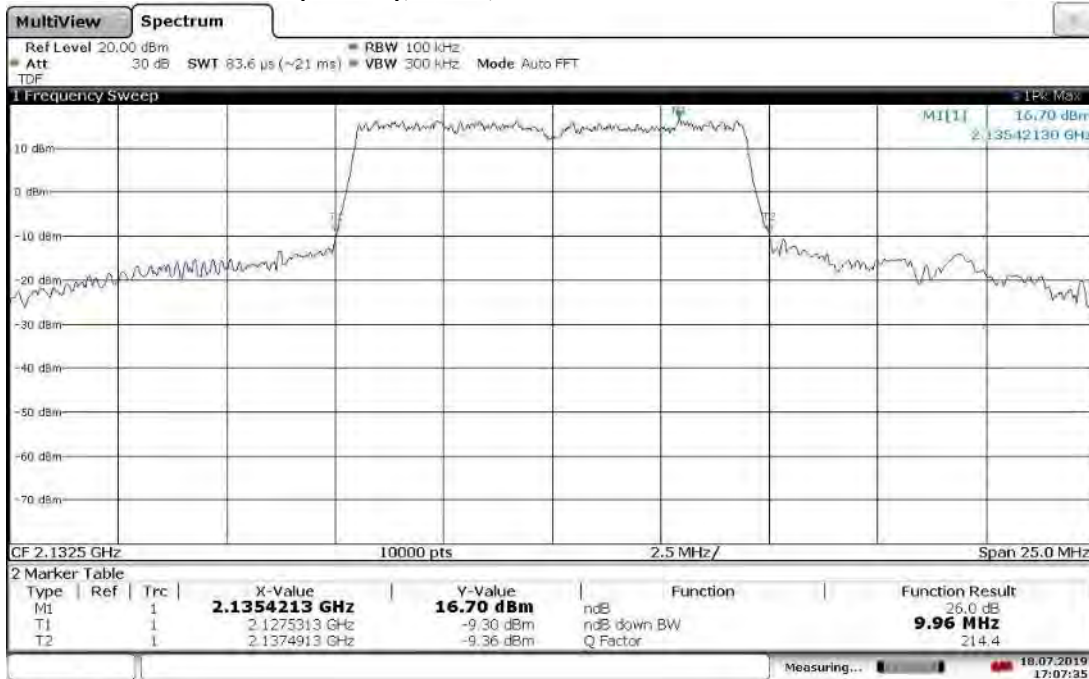
23:01:12 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



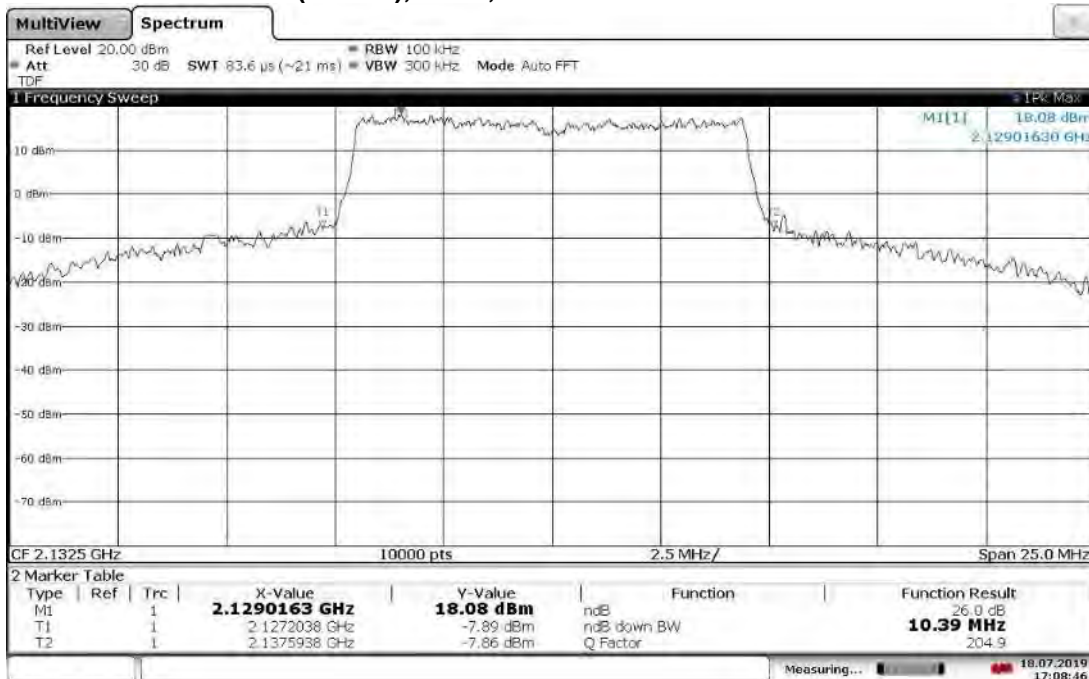
22:59:31 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



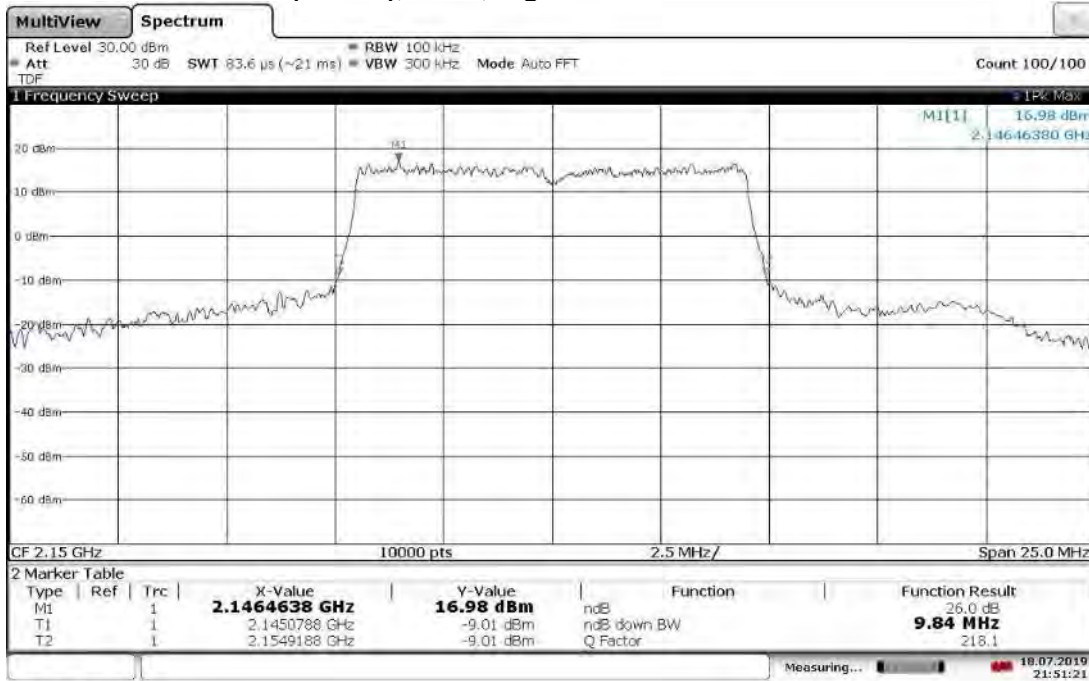
17:07:35 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



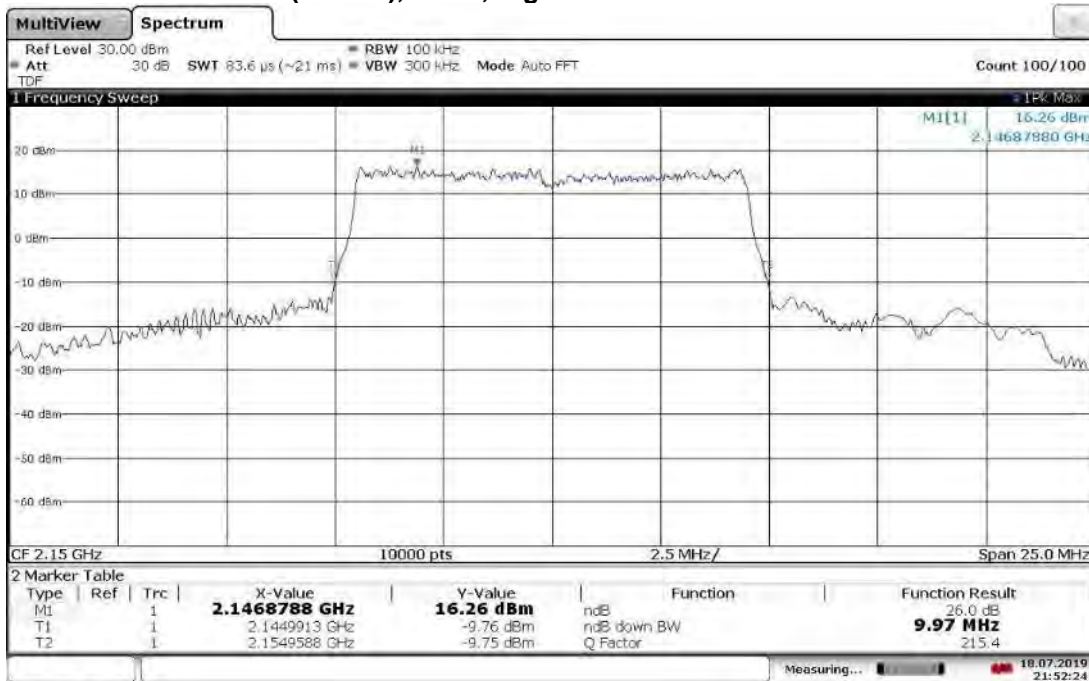
17:08:47 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



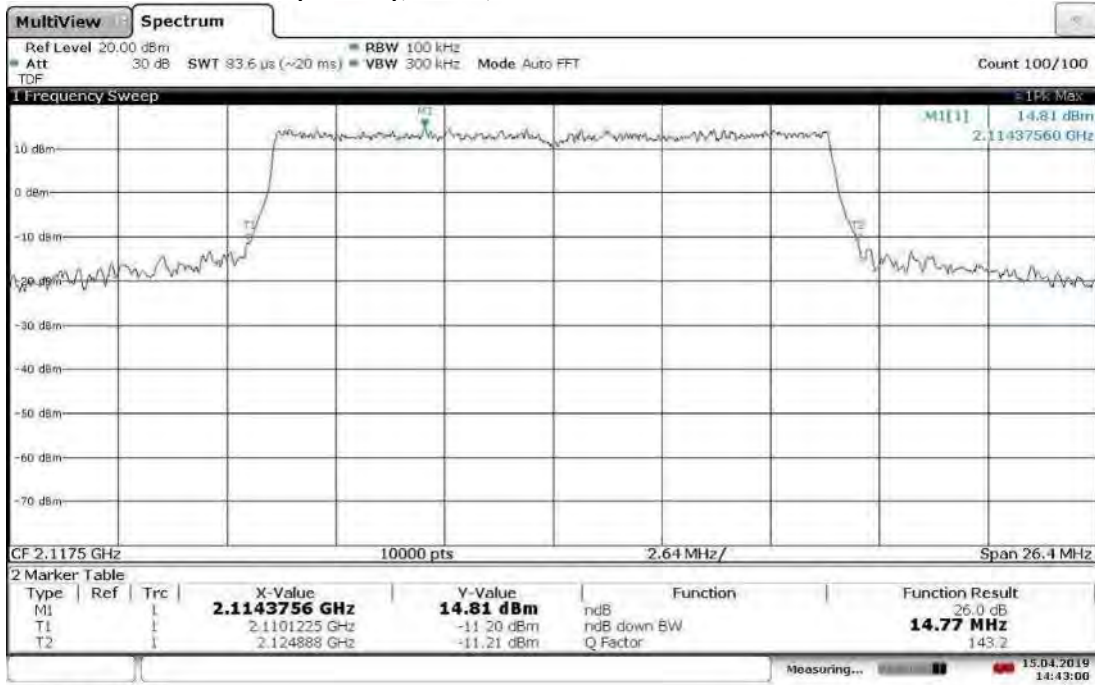
21:51:21 18.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



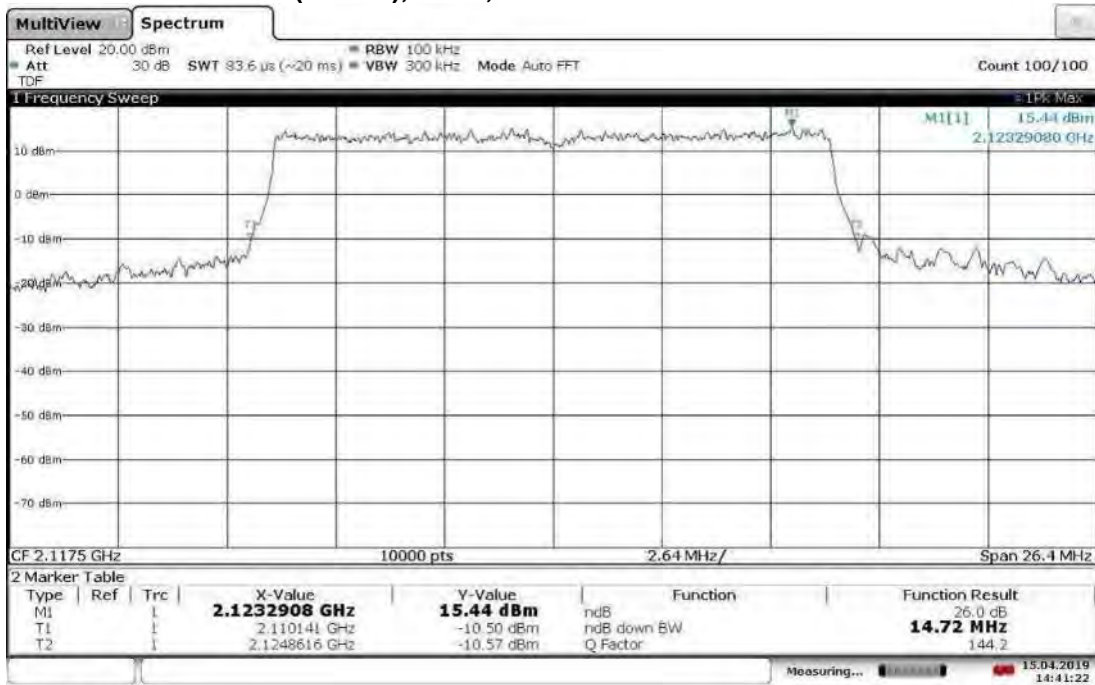
21:52:25 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



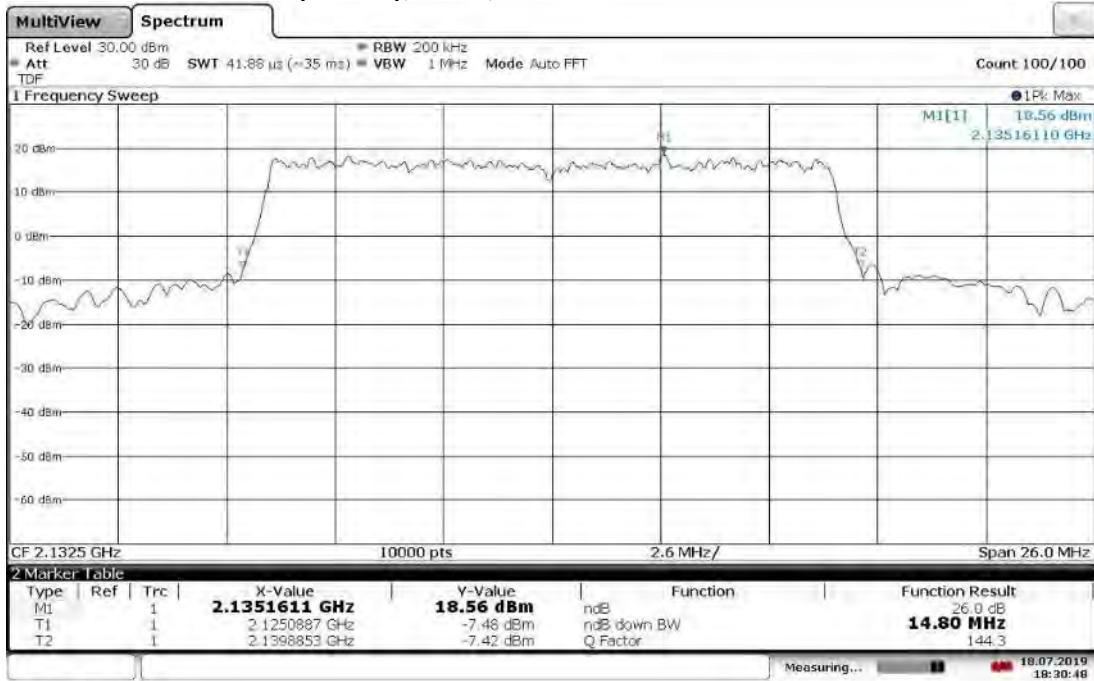
14:43:00 15.04.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



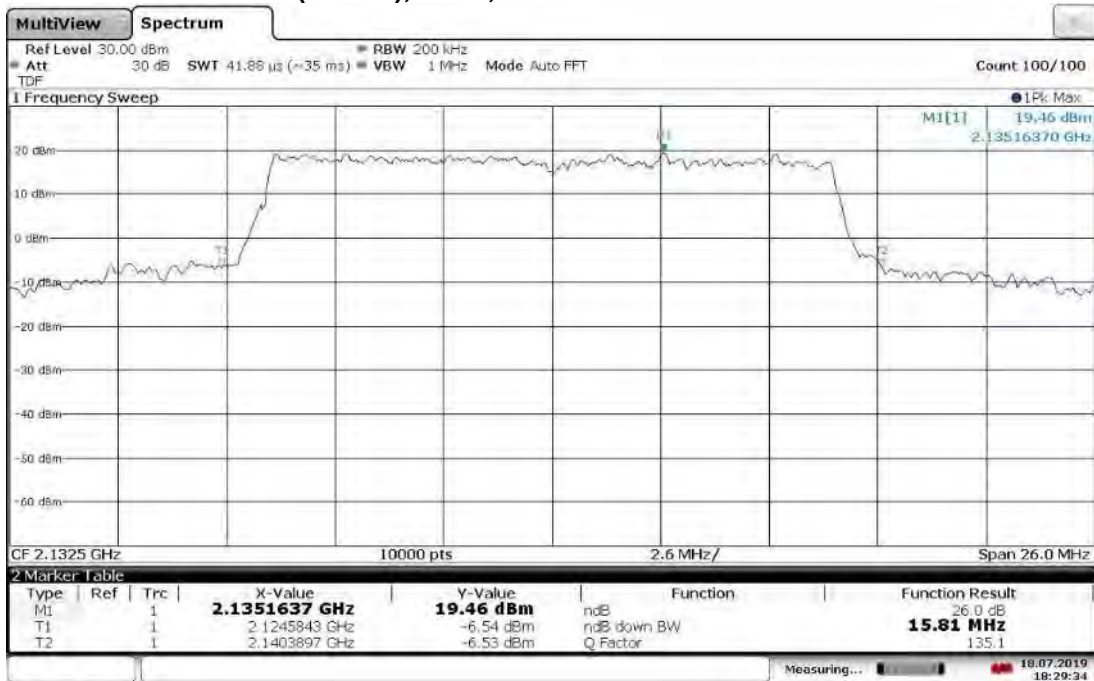
14:41:23 15.04.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



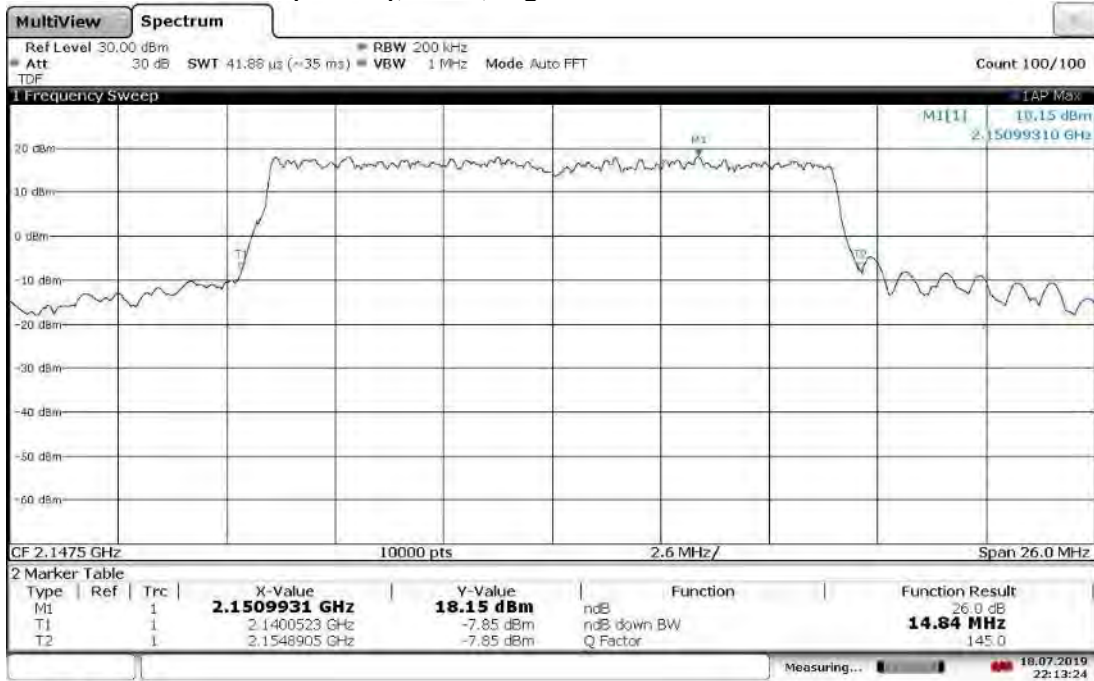
18:30:48 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



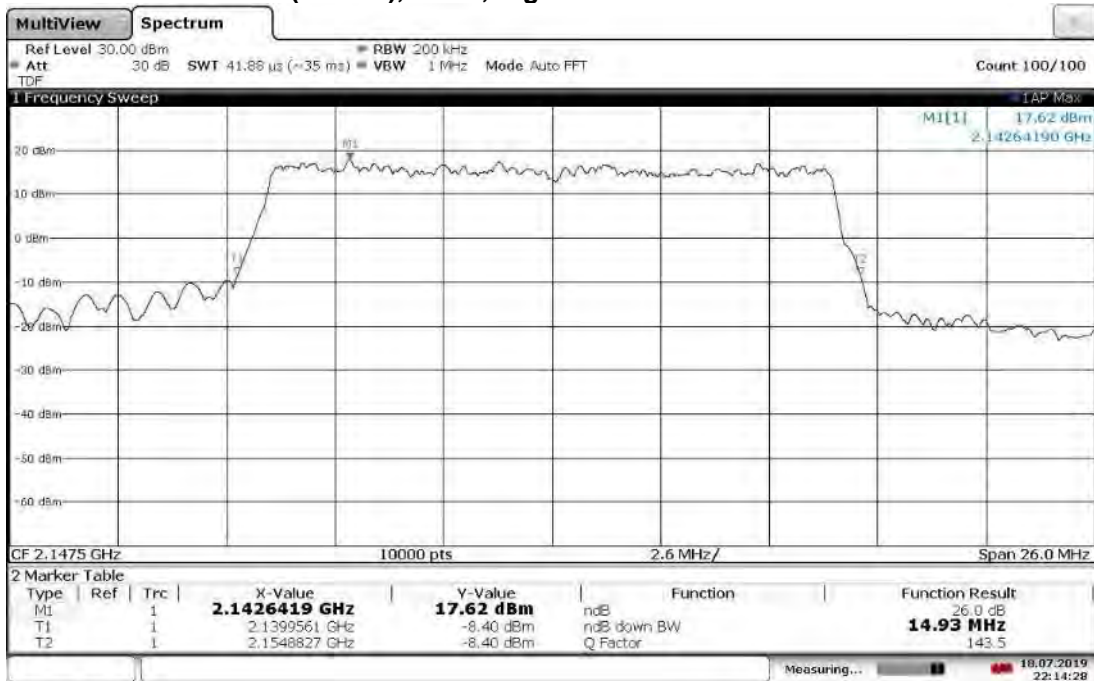
18:29:35 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



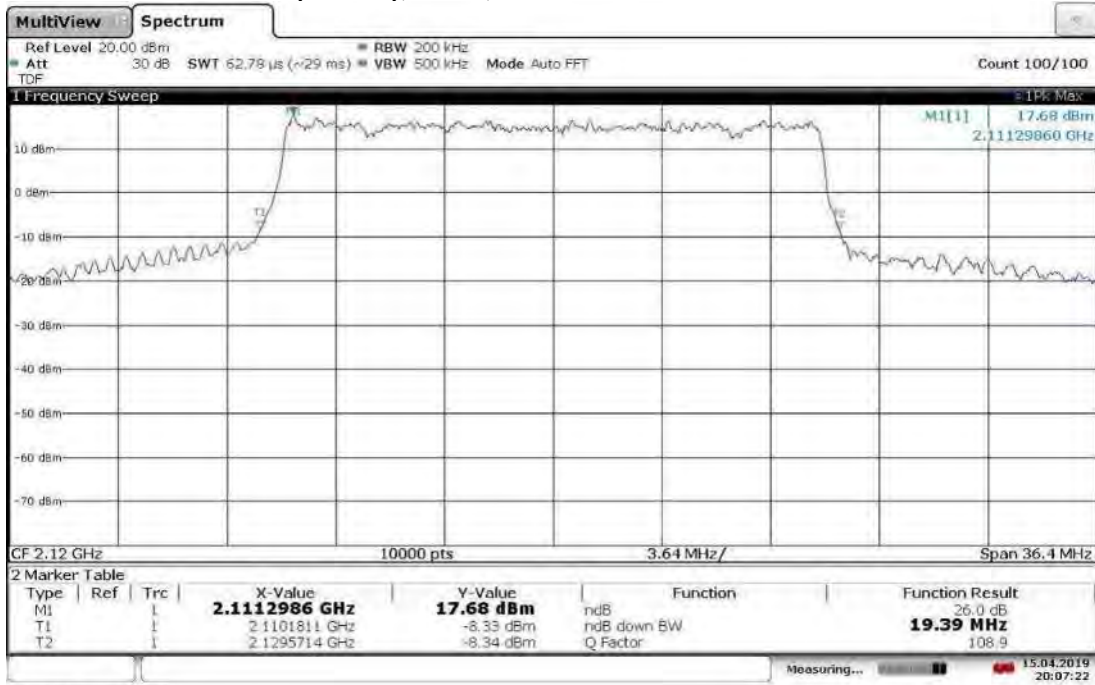
22:13:25 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



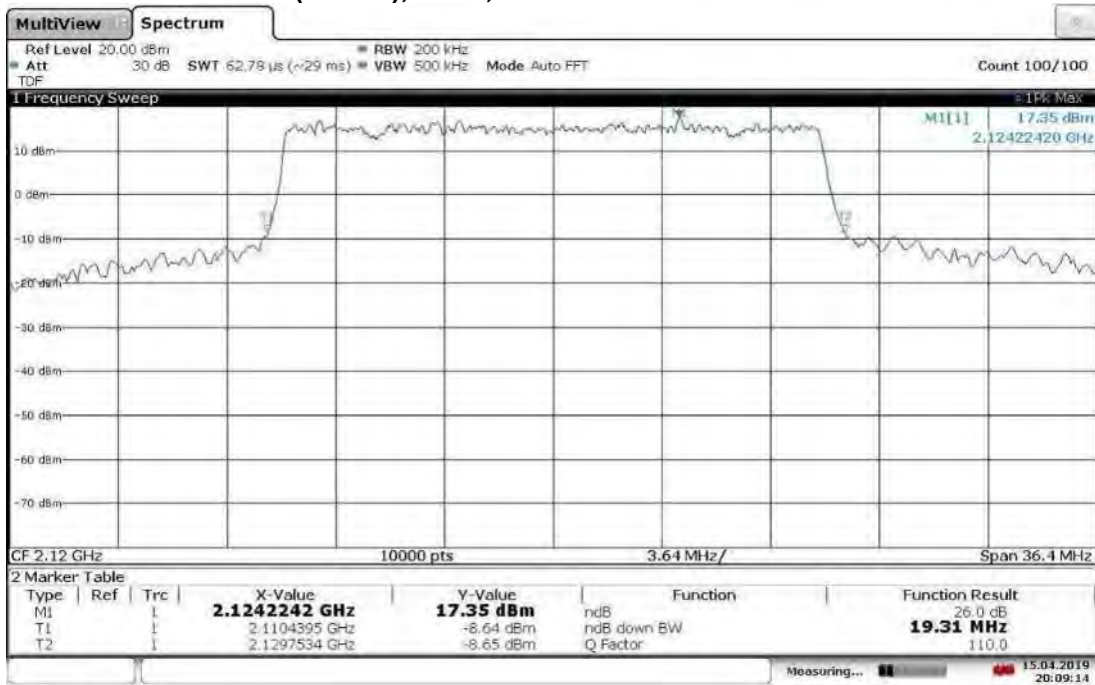
22:14:28 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



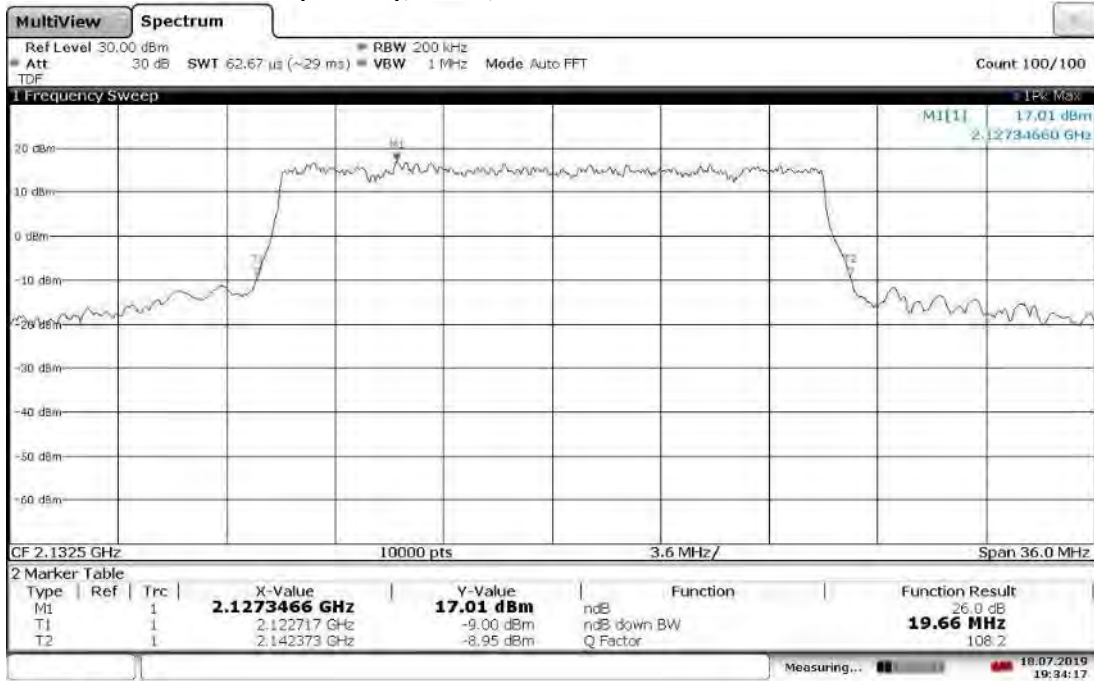
20:07:22 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



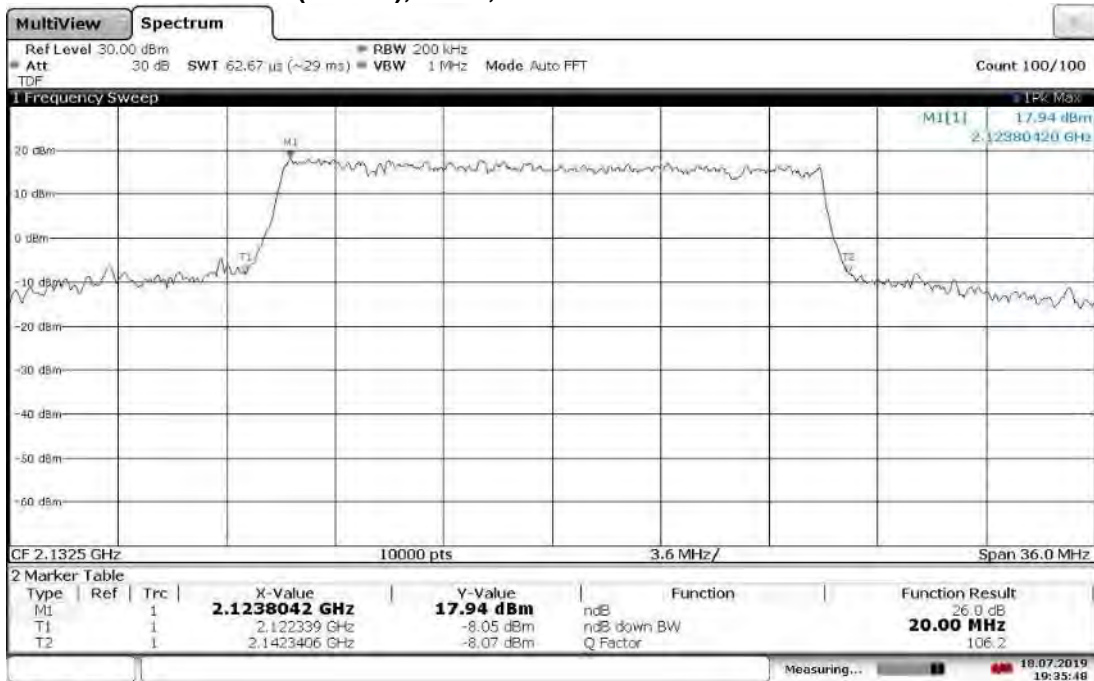
20:09:15 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



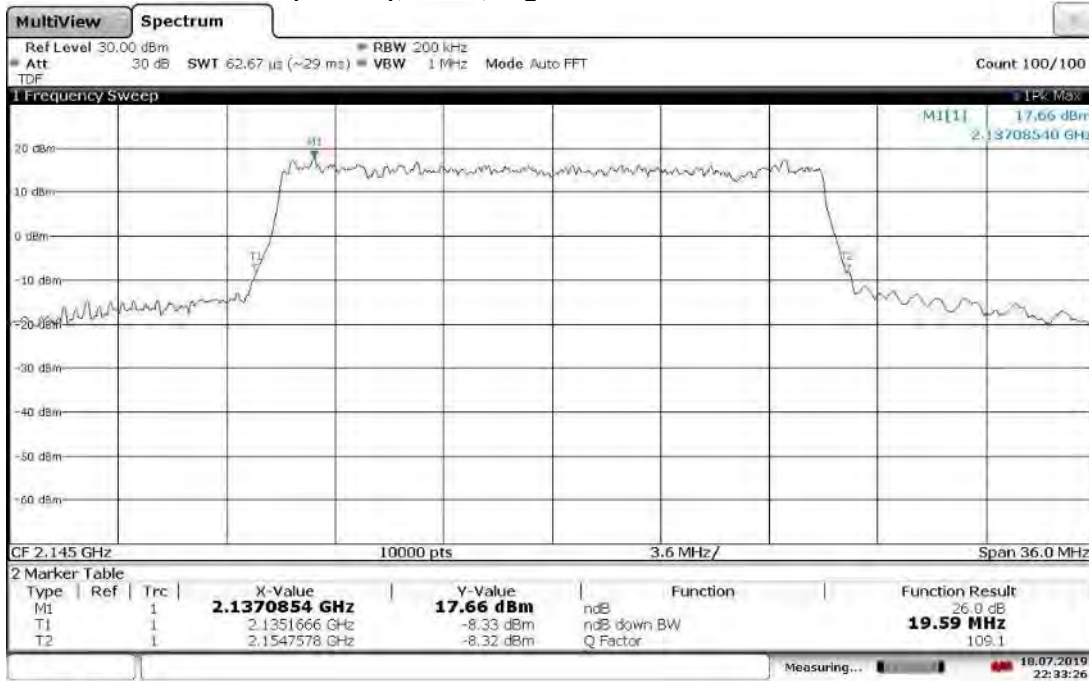
19:34:18 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



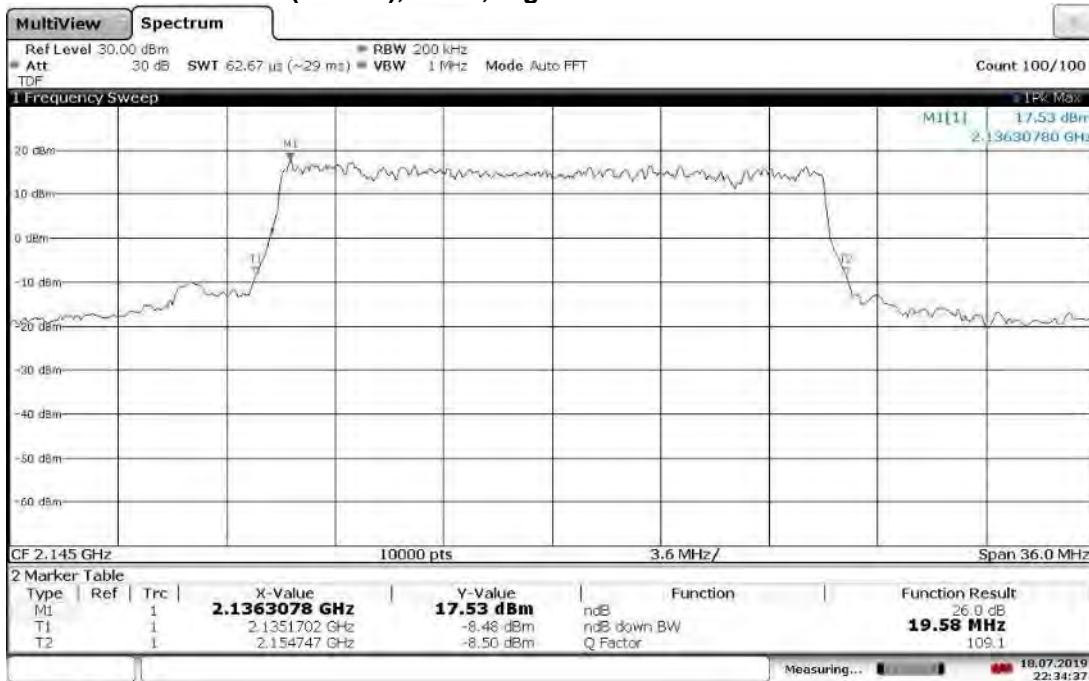
19:35:48 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



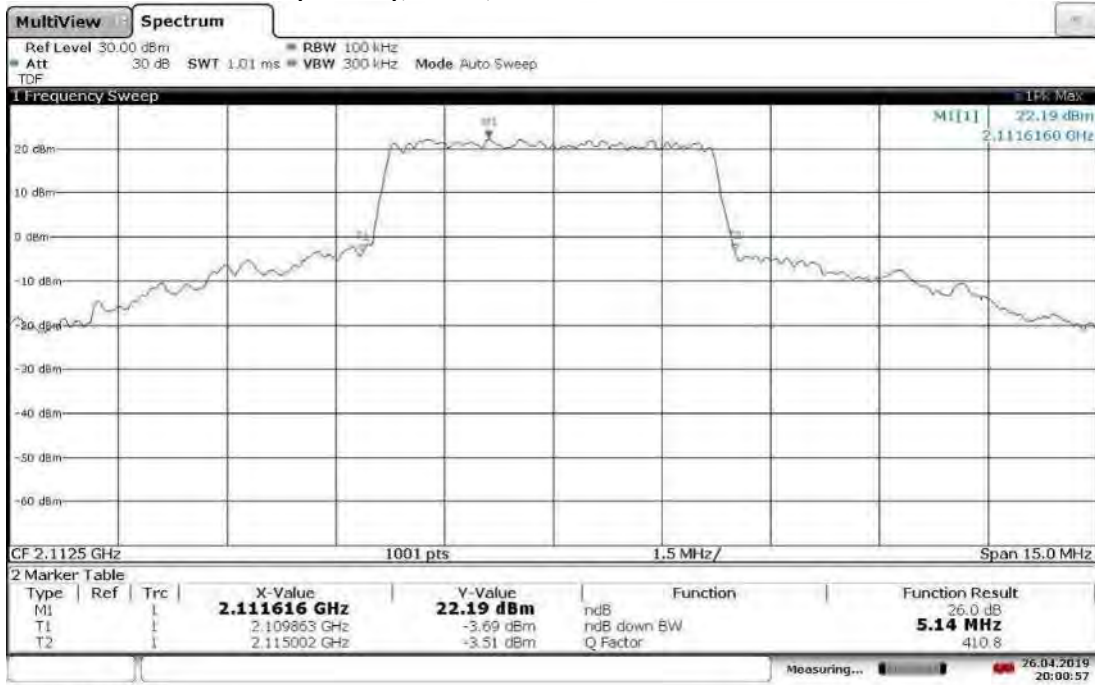
22:33:26 18.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



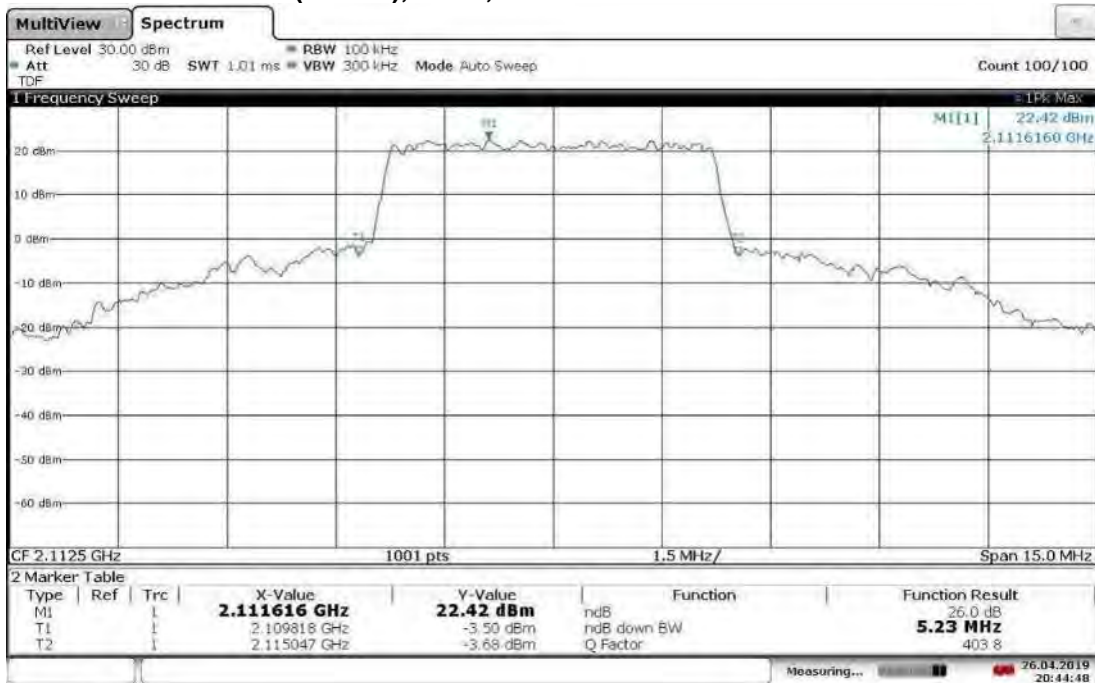
22:34:37 18.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



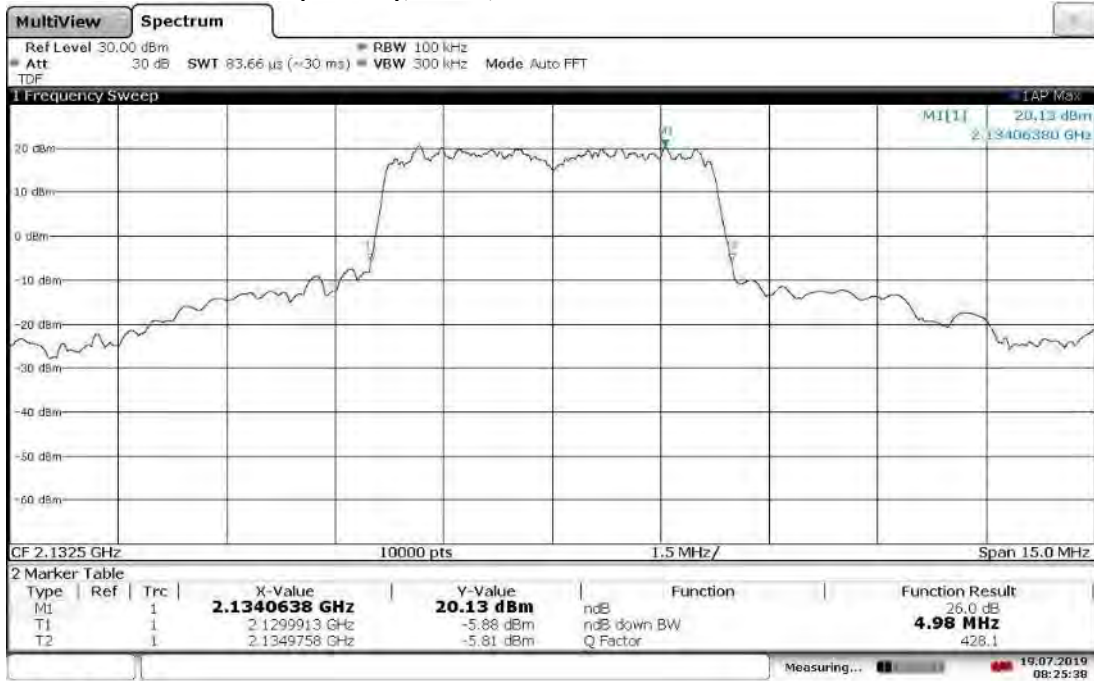
20:00:58 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



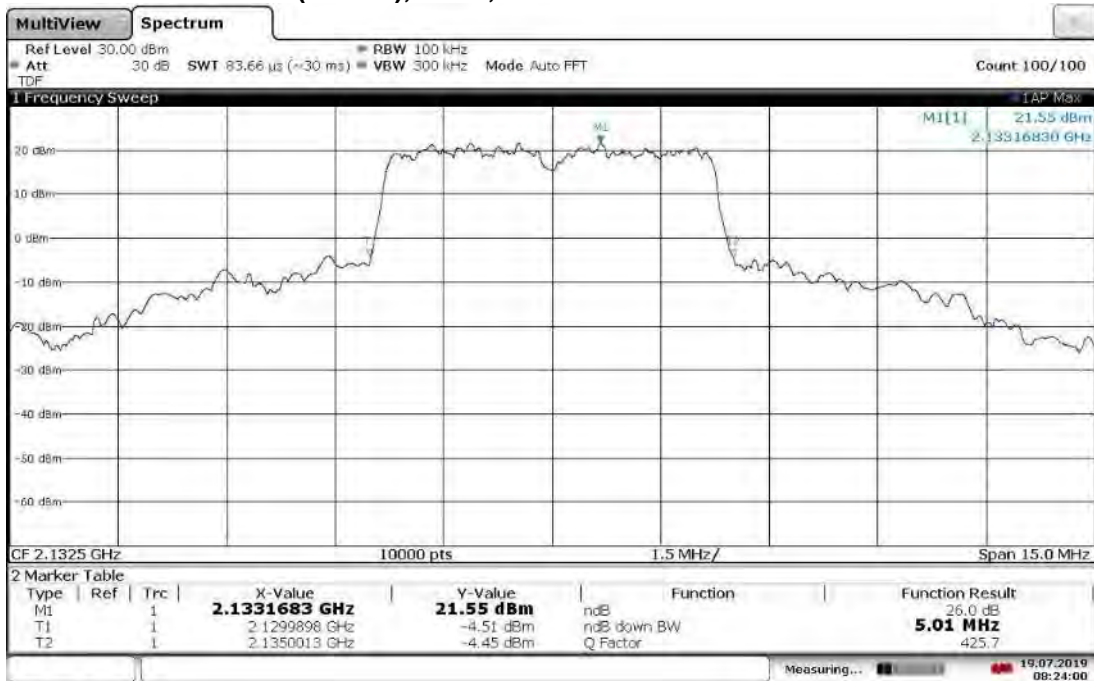
20:44:48 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



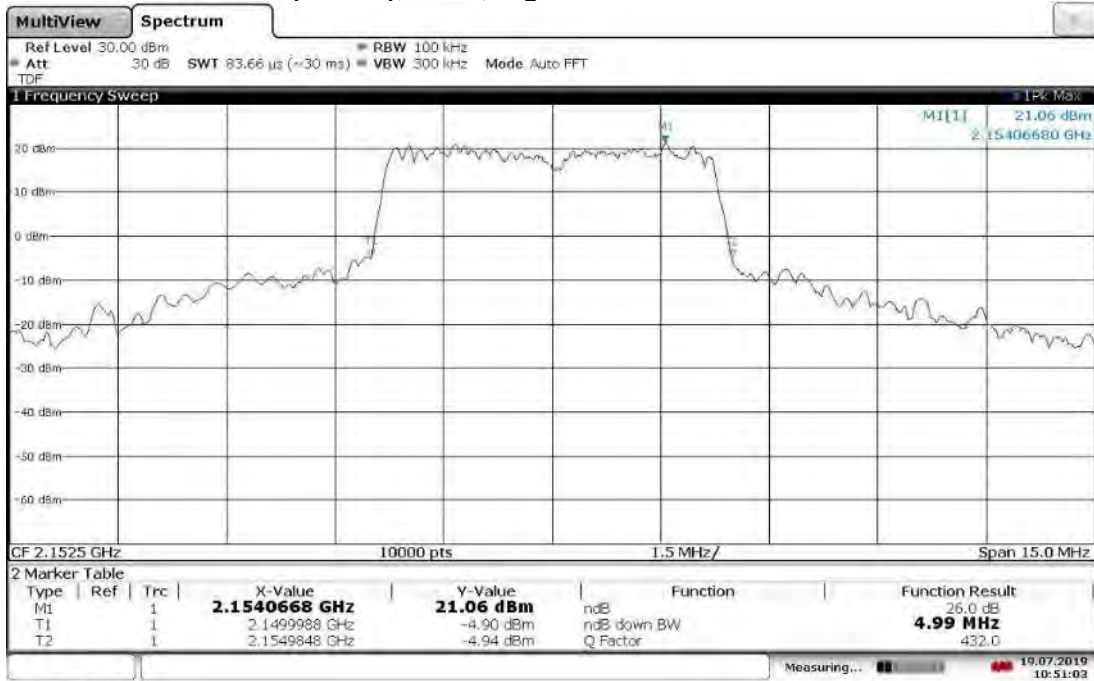
08:25:38 19.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



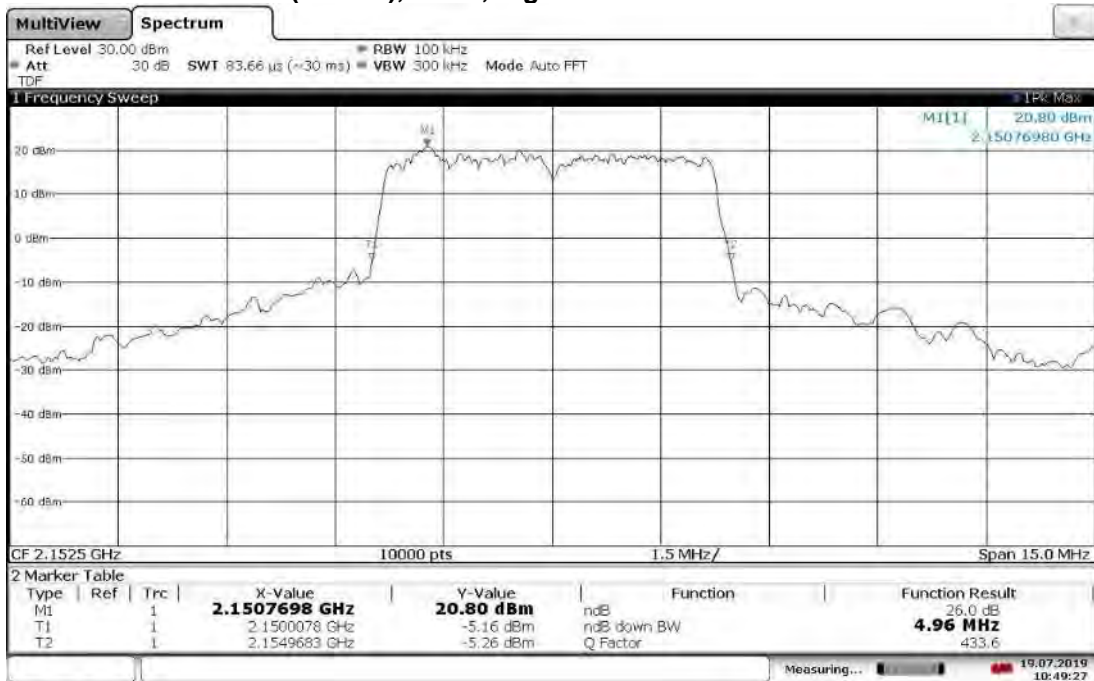
08:24:00 19.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



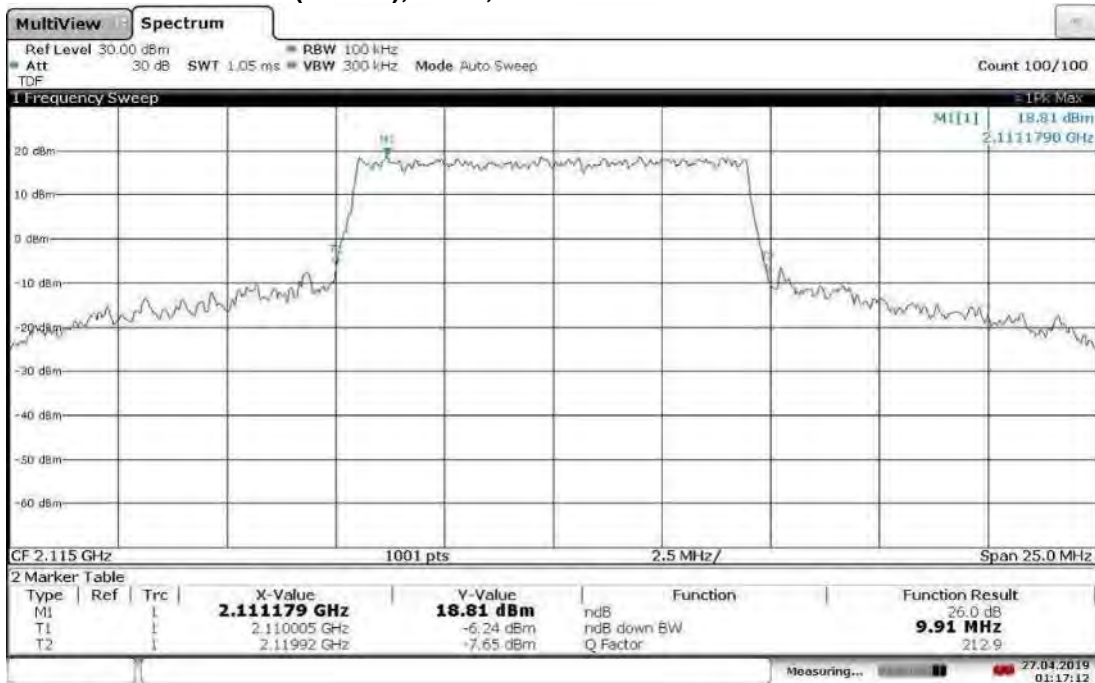
10:51:04 19.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



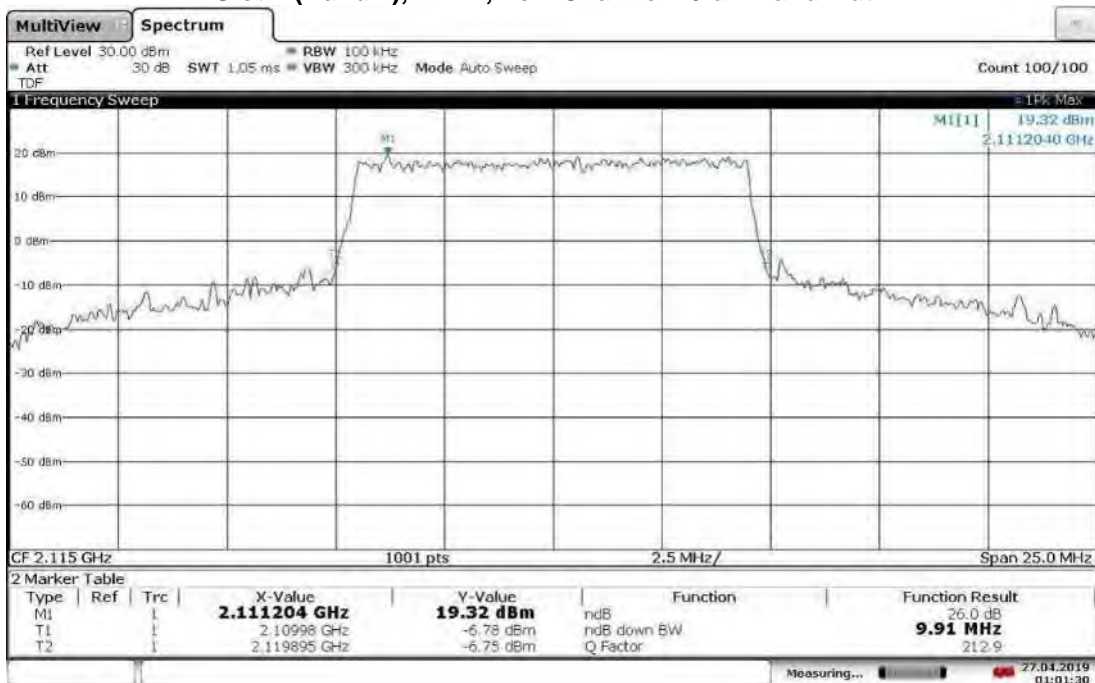
10:49:27 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



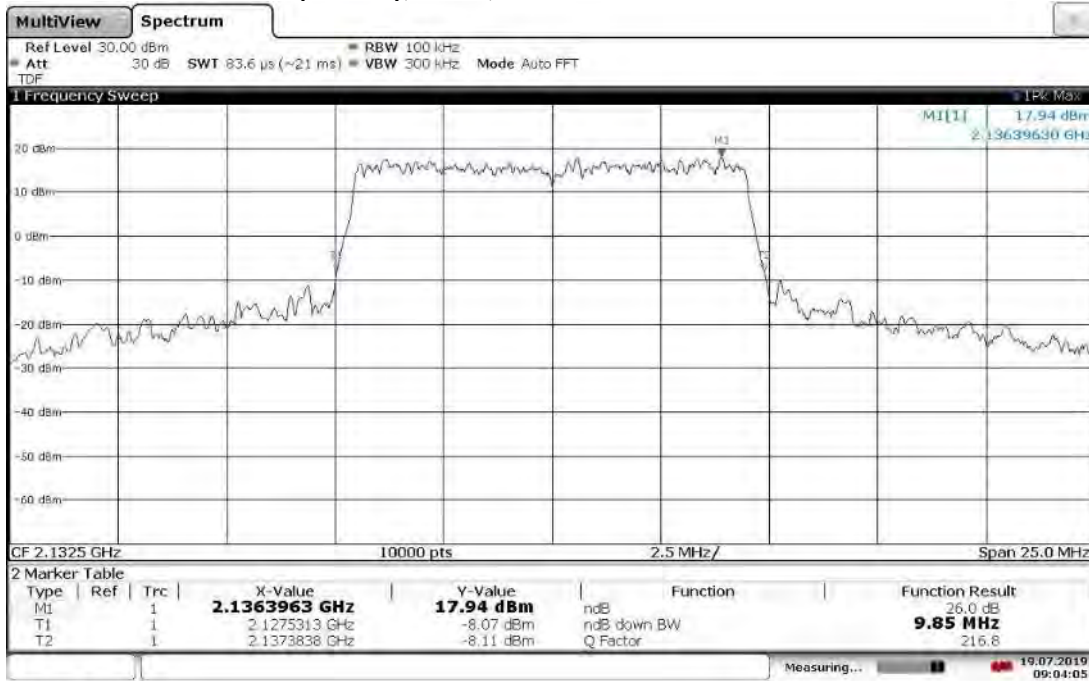
01:17:12 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



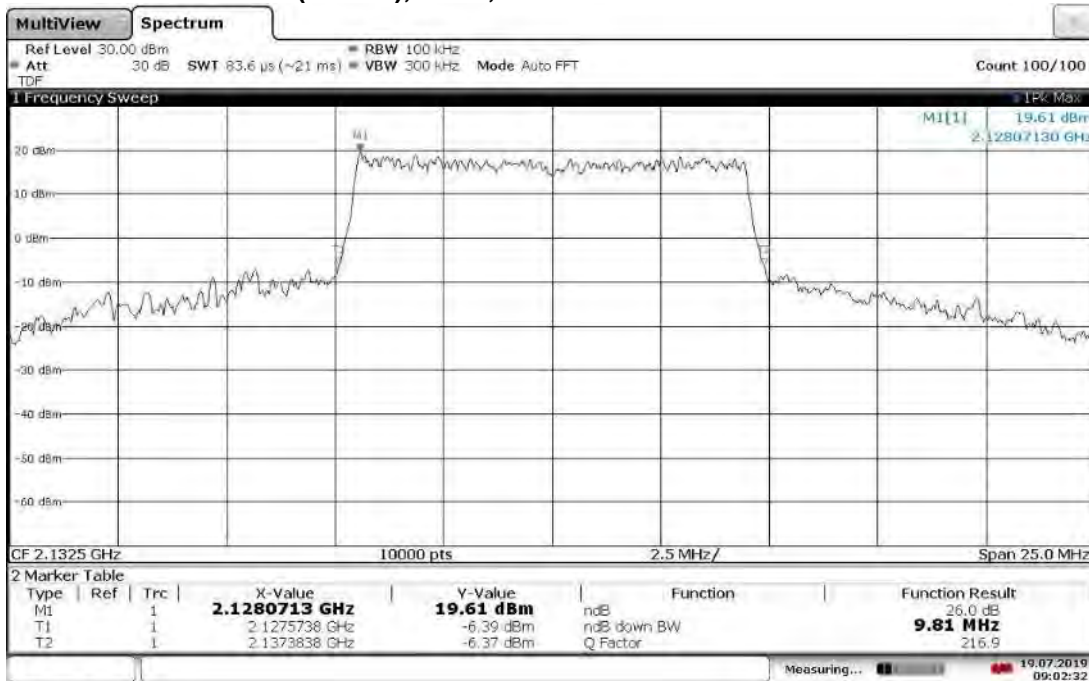
01:01:30 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



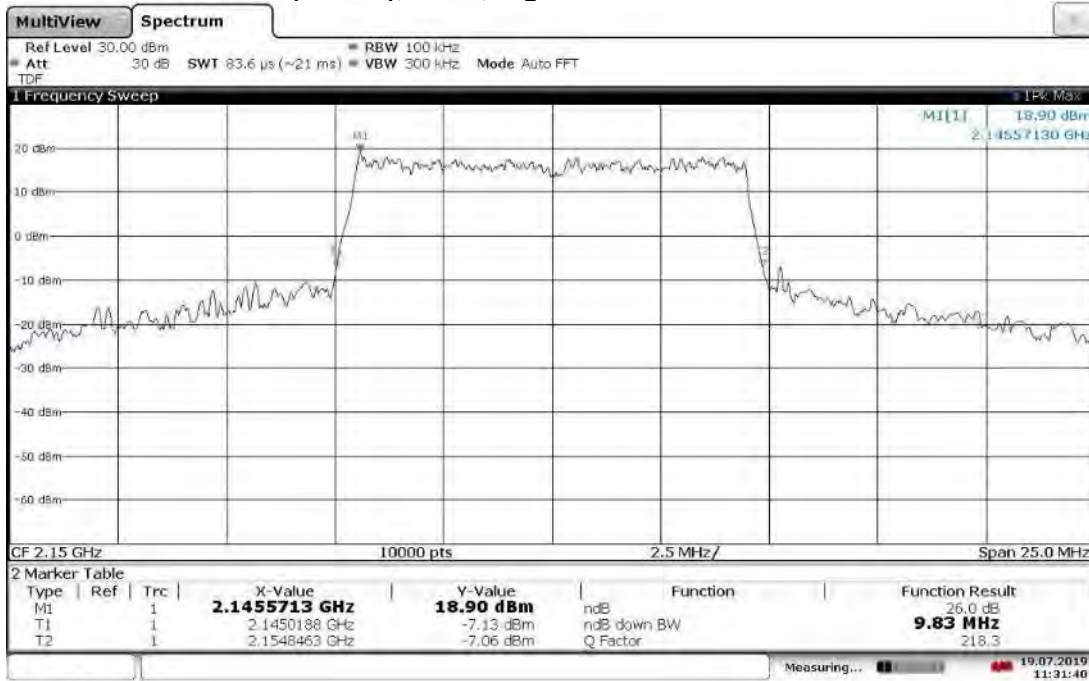
09:04:05 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



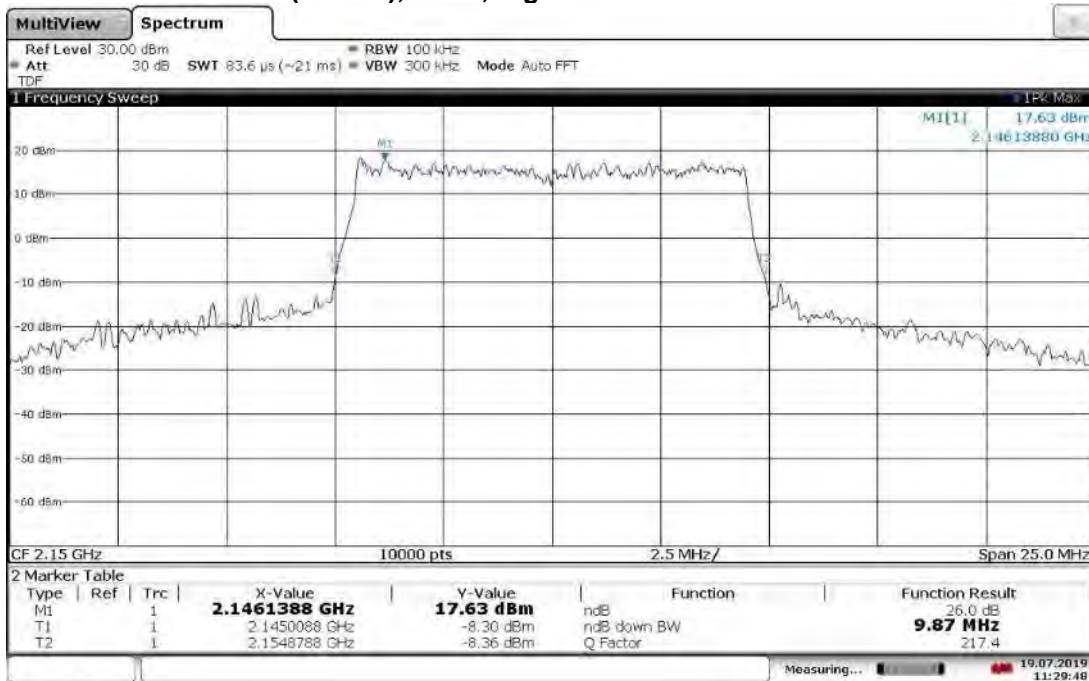
09:02:32 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



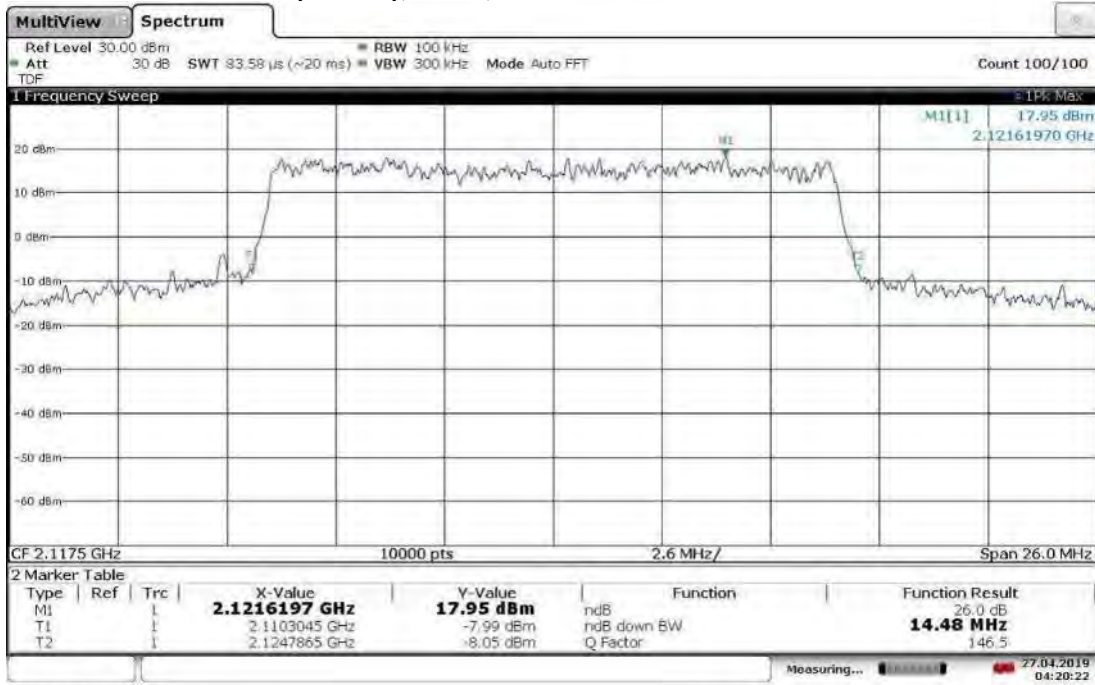
11:31:41 19.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



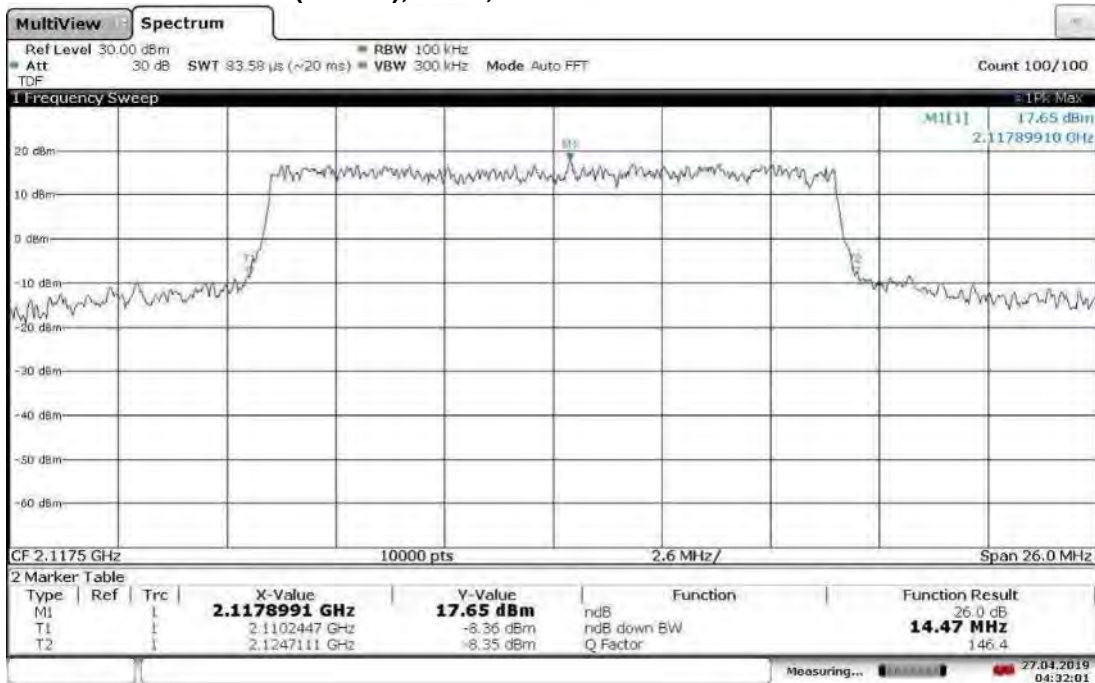
11:29:49 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



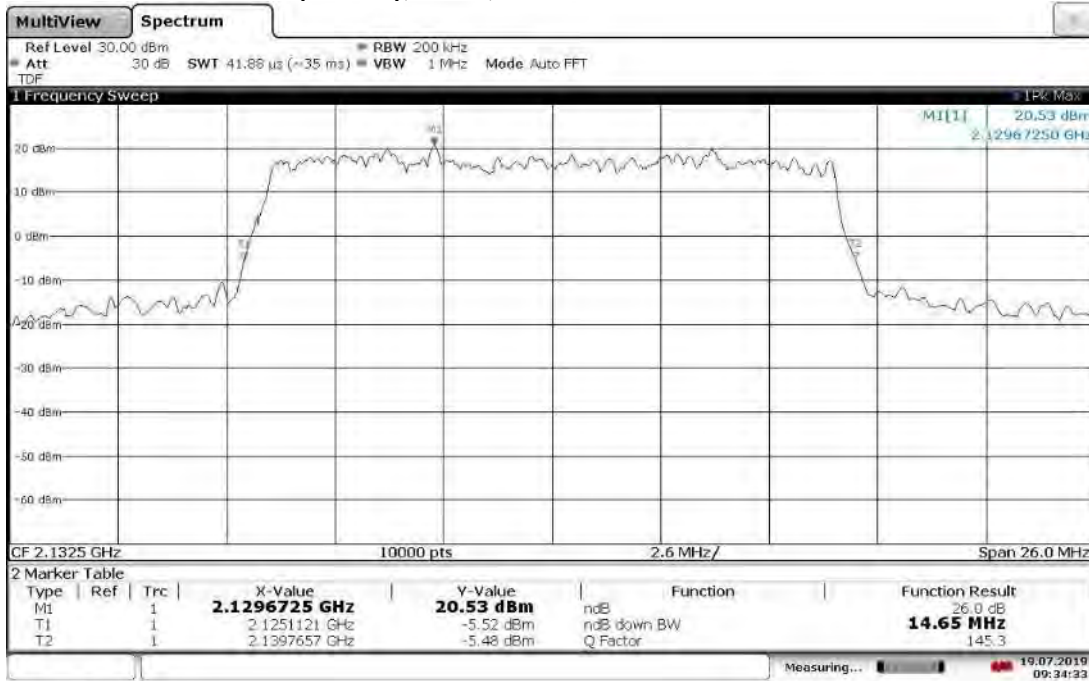
04:20:22 27.04.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



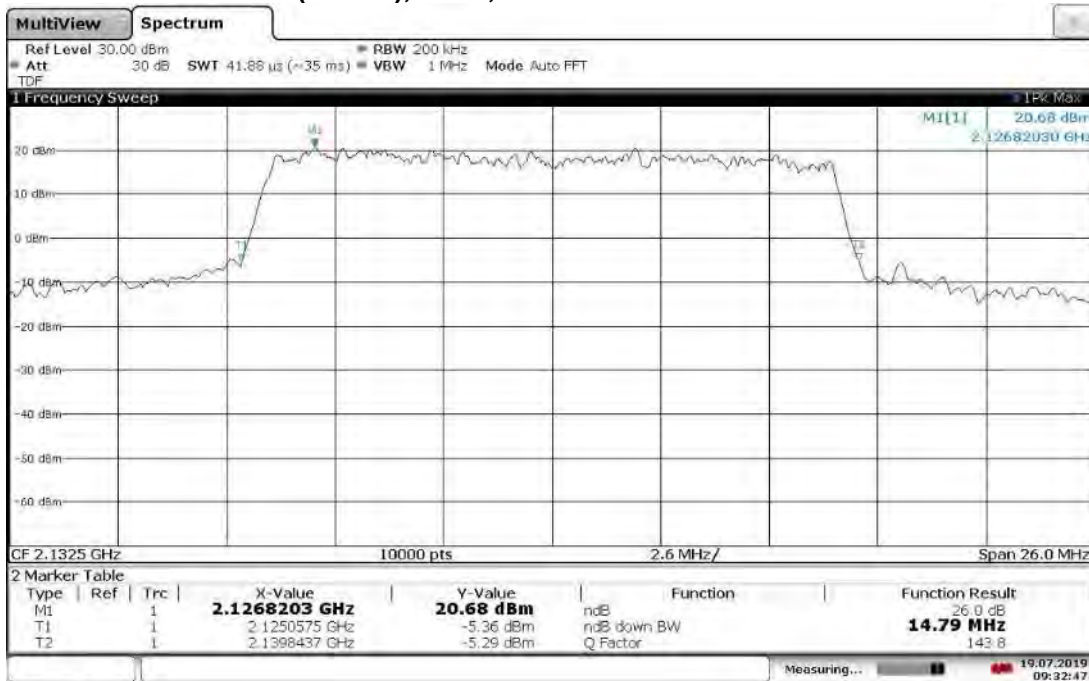
04:32:02 27.04.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



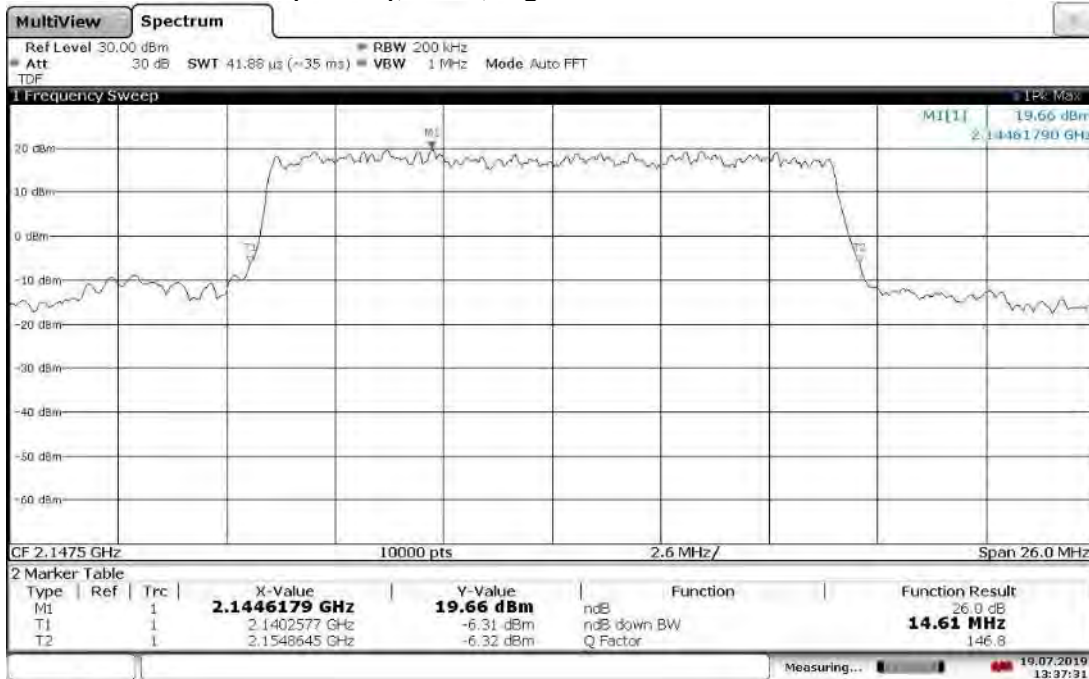
09:34:33 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



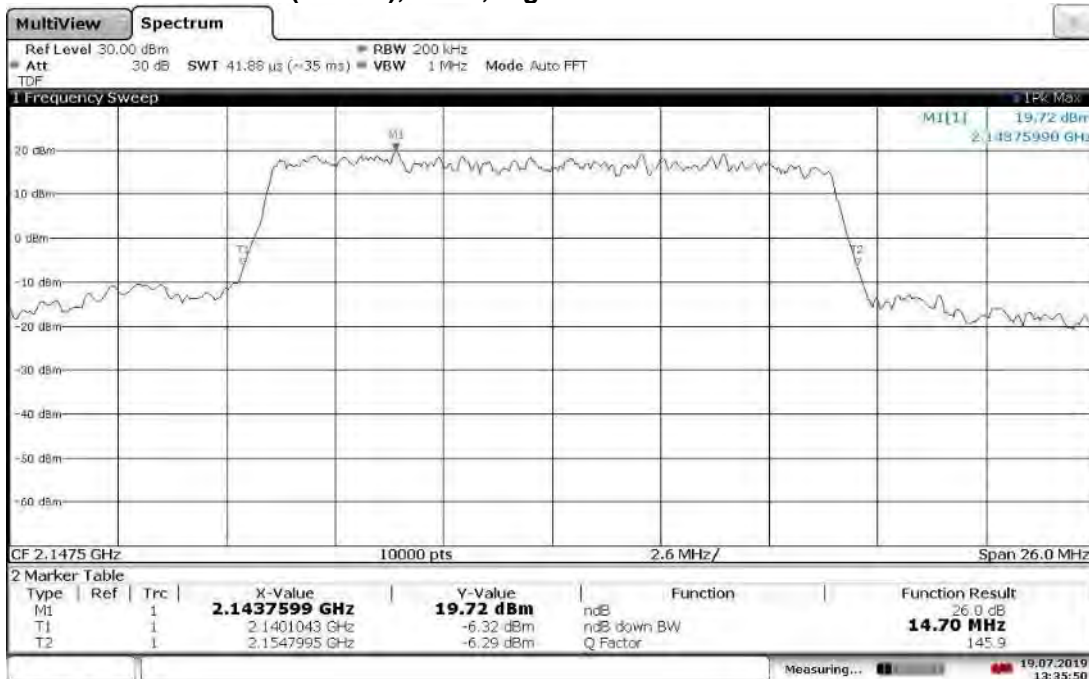
09:32:47 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



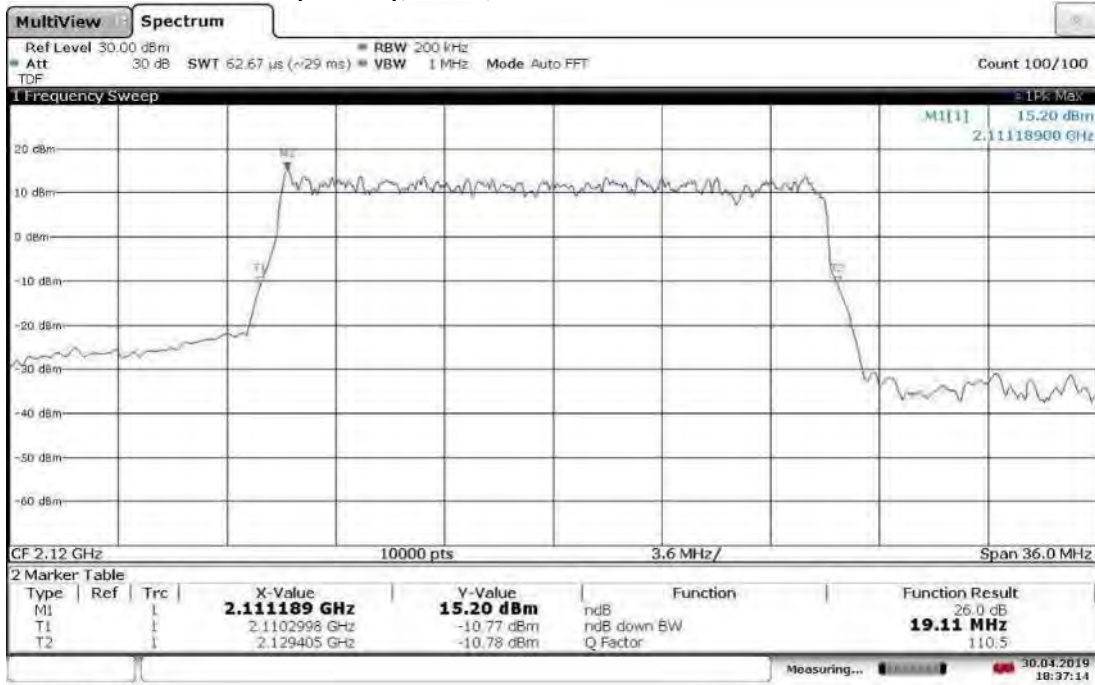
13:37:32 19.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



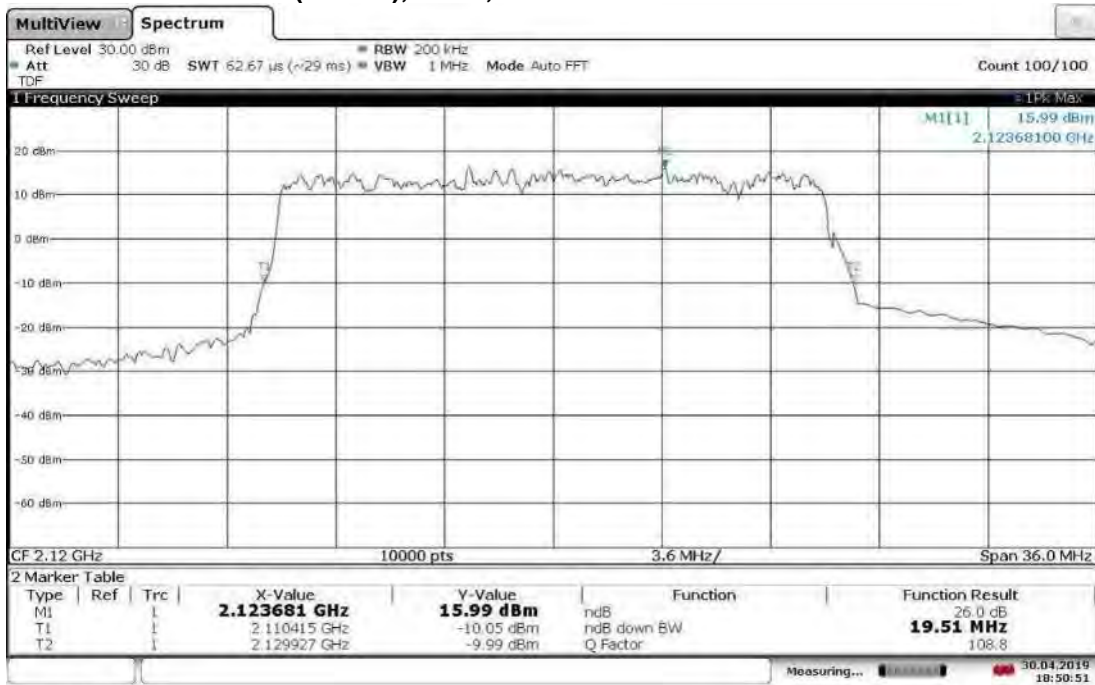
13:35:51 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



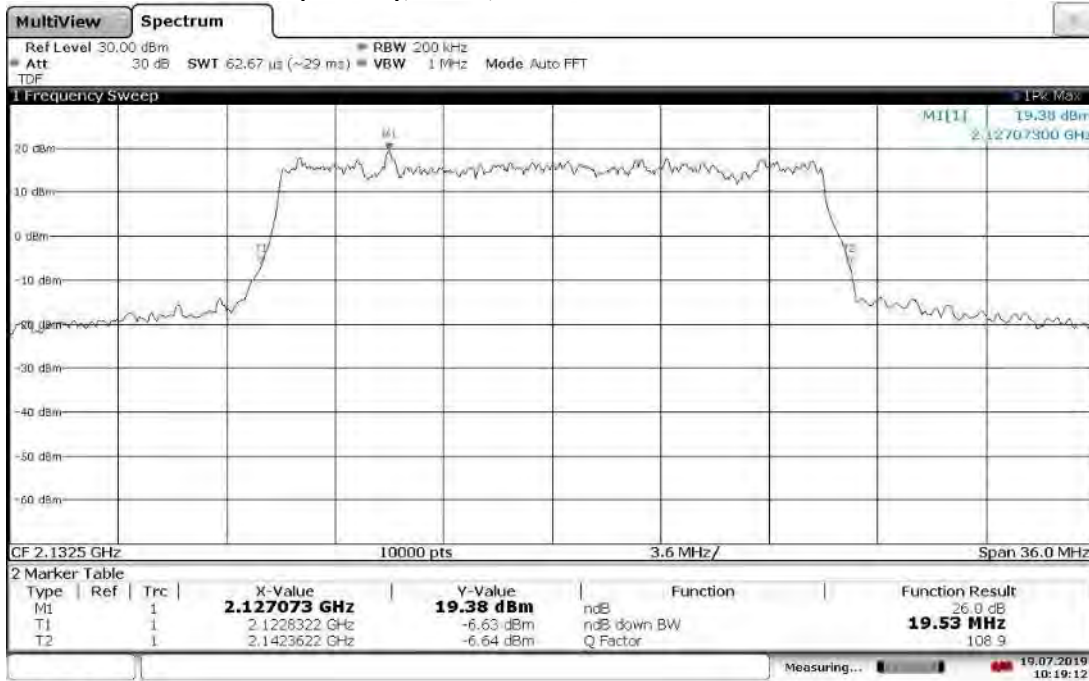
18:37:15 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



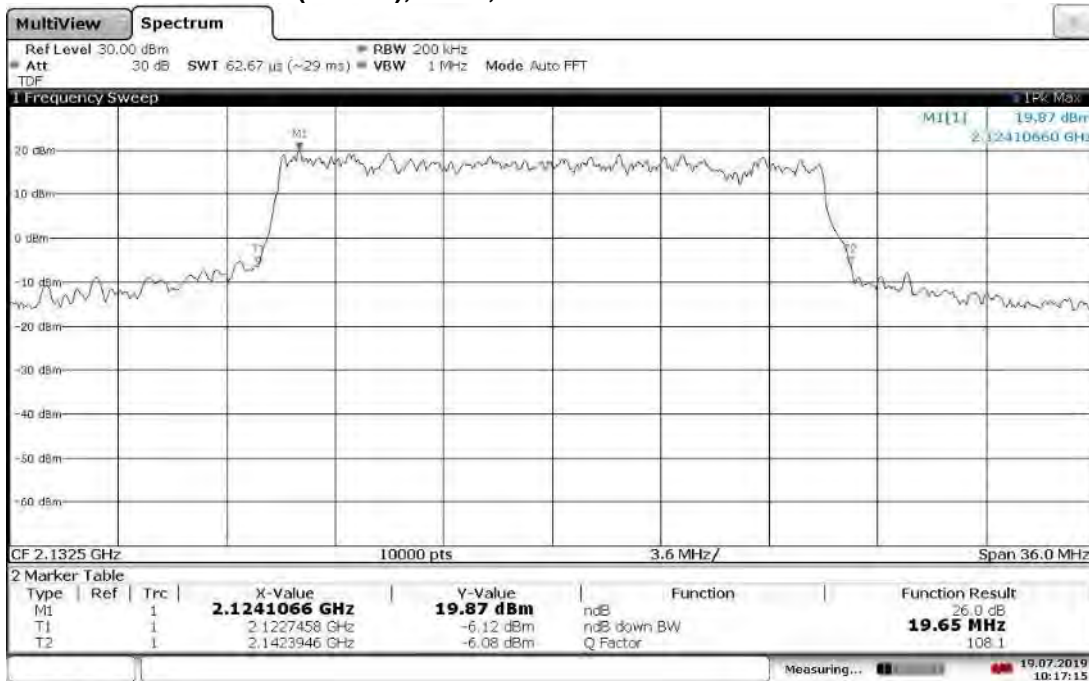
18:50:52 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



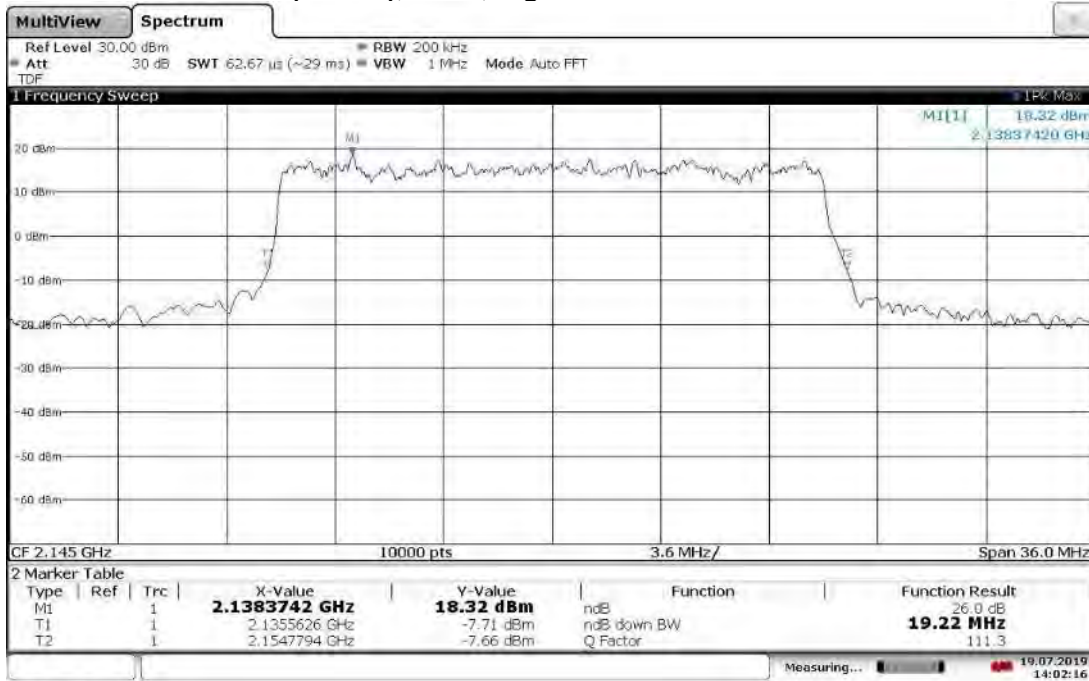
10:19:12 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



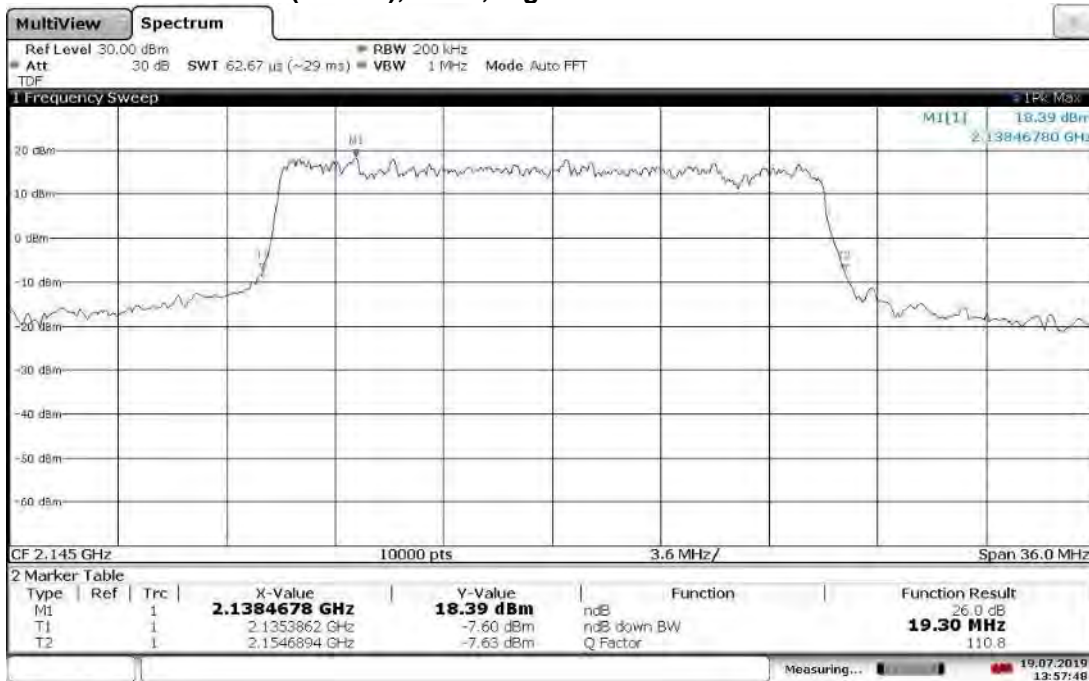
10:17:16 19.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



14:02:16 19.07.2019

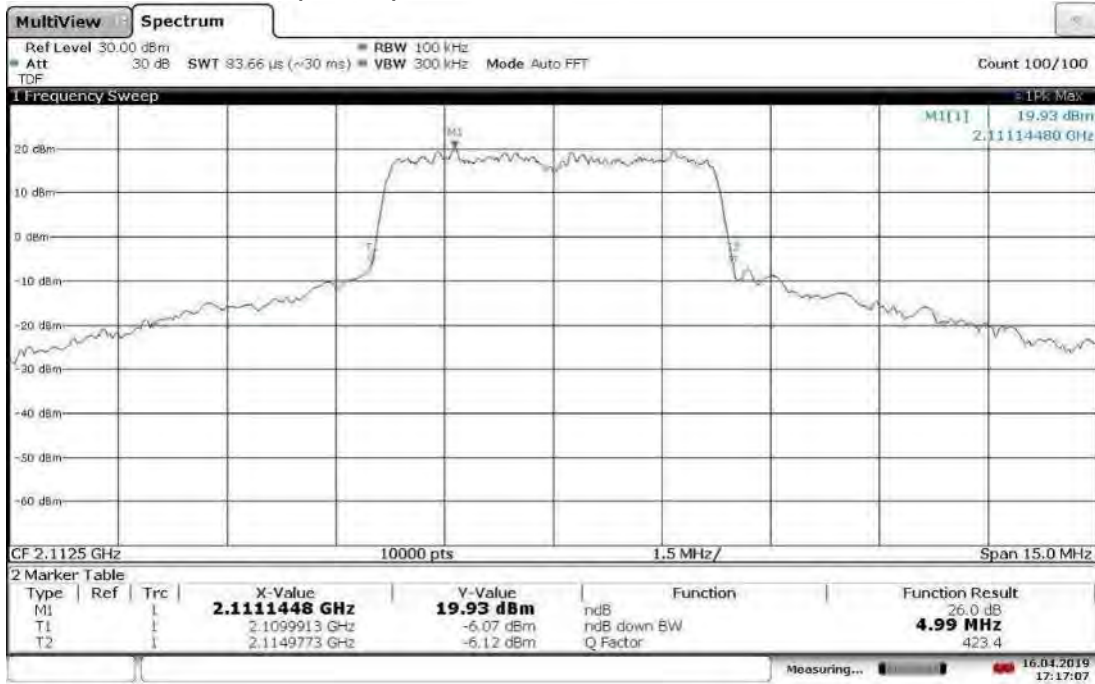
**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



13:57:49 19.07.2019

TM3.1-64QAM_5 MHz Bandwidth

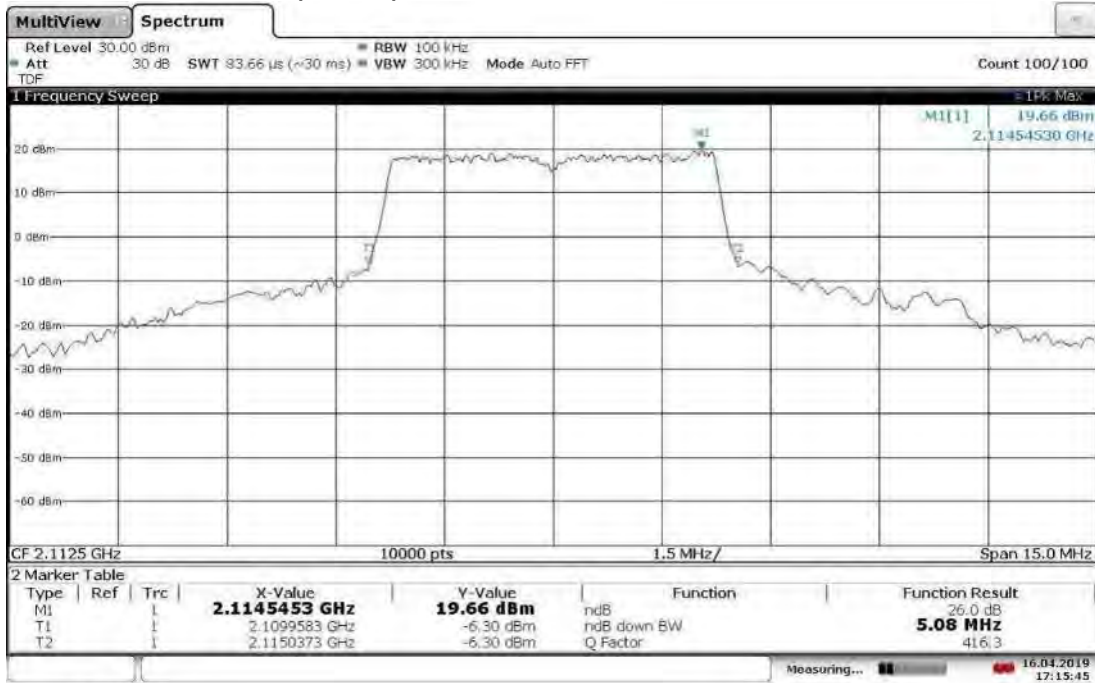
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth



17:17:08 16.04.2019

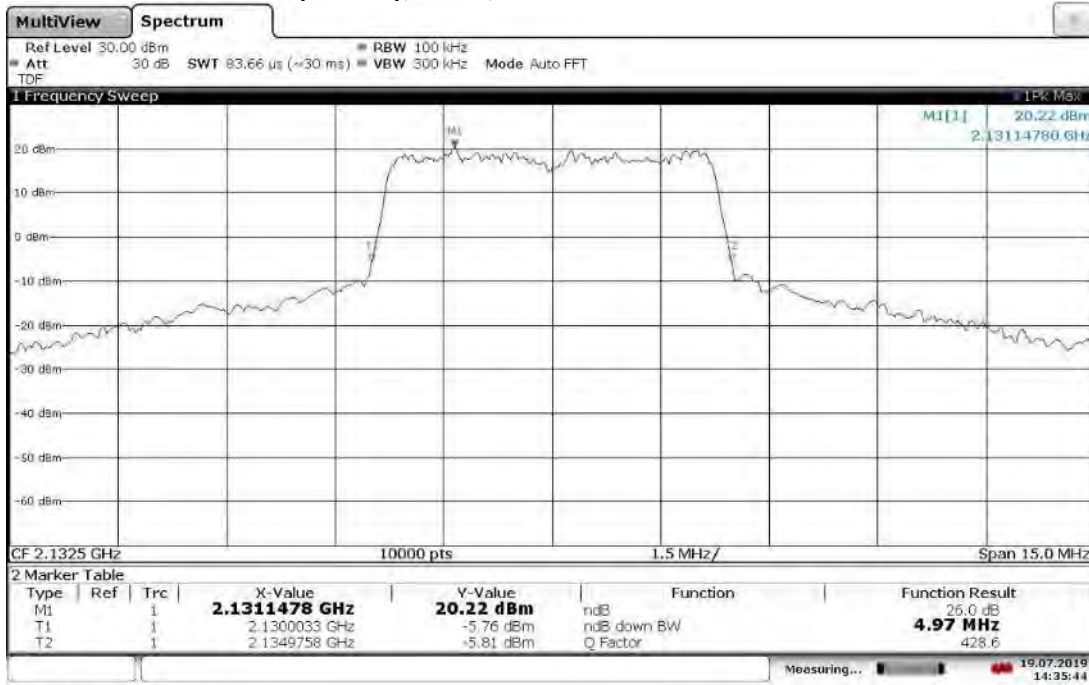
TM3.1-64QAM_5 MHz Bandwidth

Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth



17:15:45 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



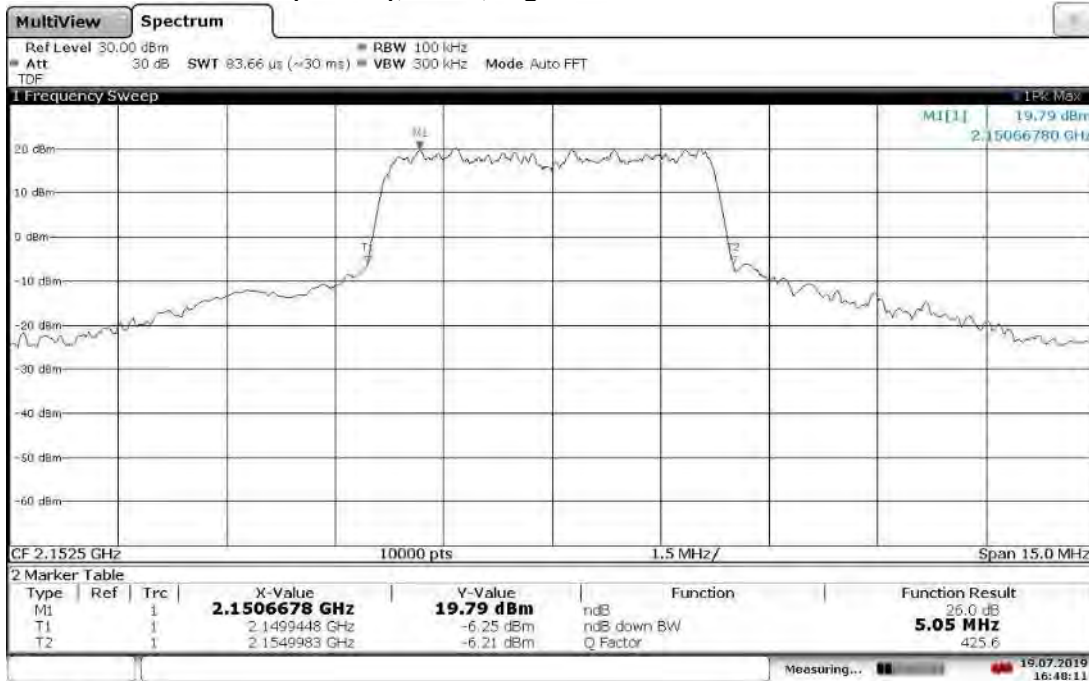
14:35:45 19.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



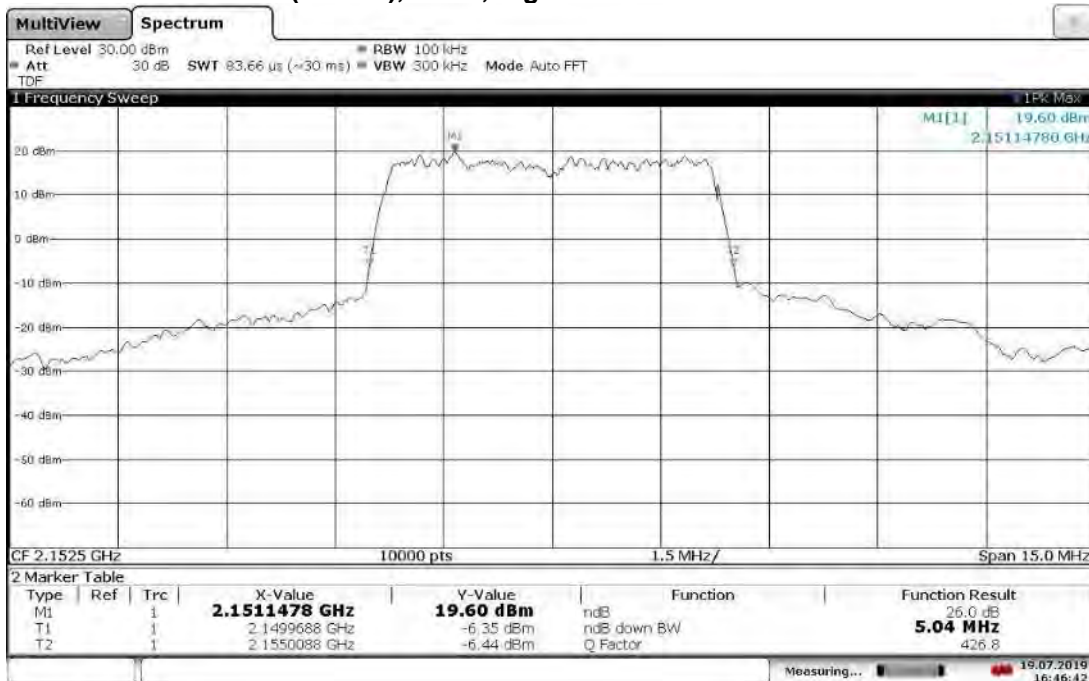
14:33:42 19.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



16:48:11 19.07.2019

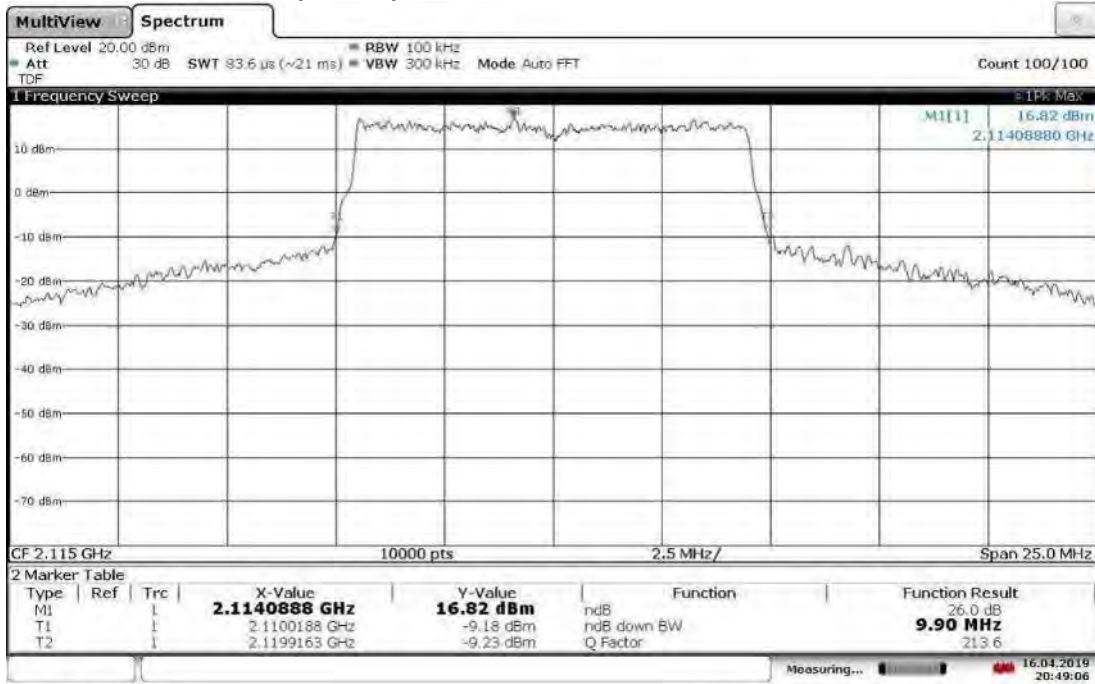
**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



16:46:43 19.07.2019

TM3.1-64QAM_10 MHz Bandwidth

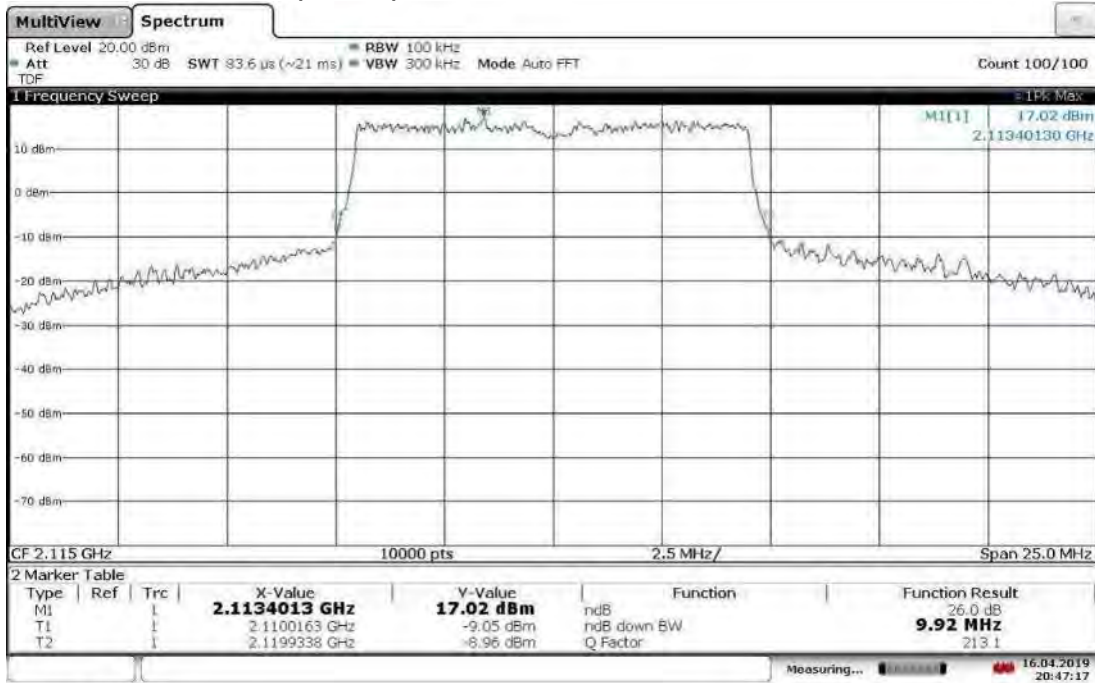
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth



20:49:06 16.04.2019

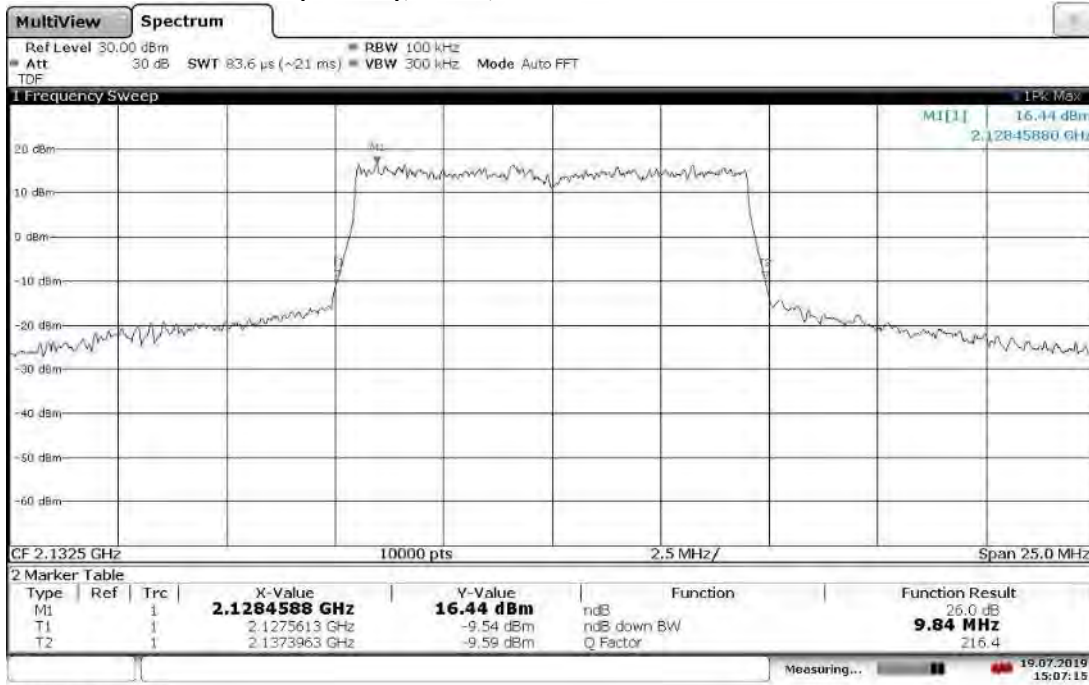
TM3.1-64QAM_10 MHz Bandwidth

Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth



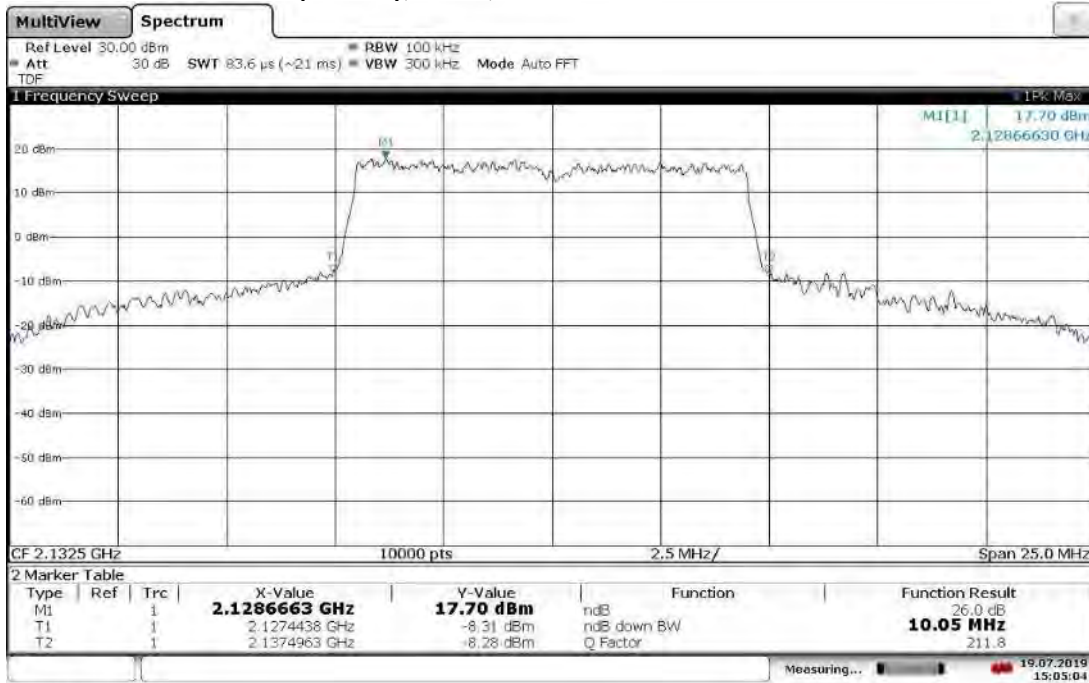
20:47:18 16.04.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



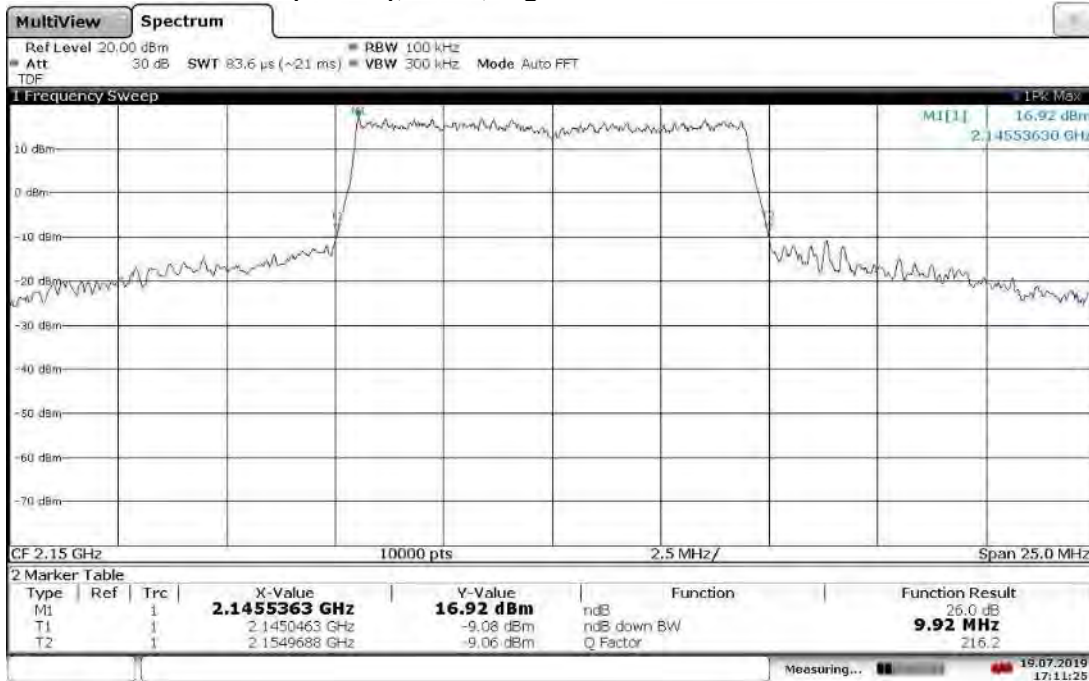
15:07:16 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



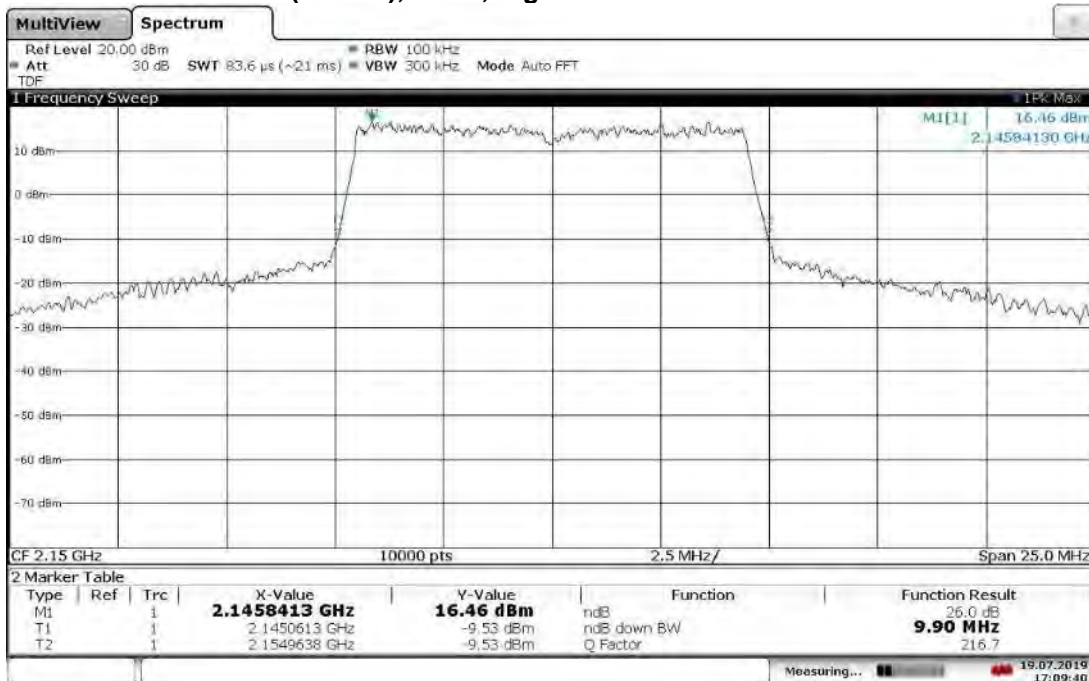
15:05:04 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



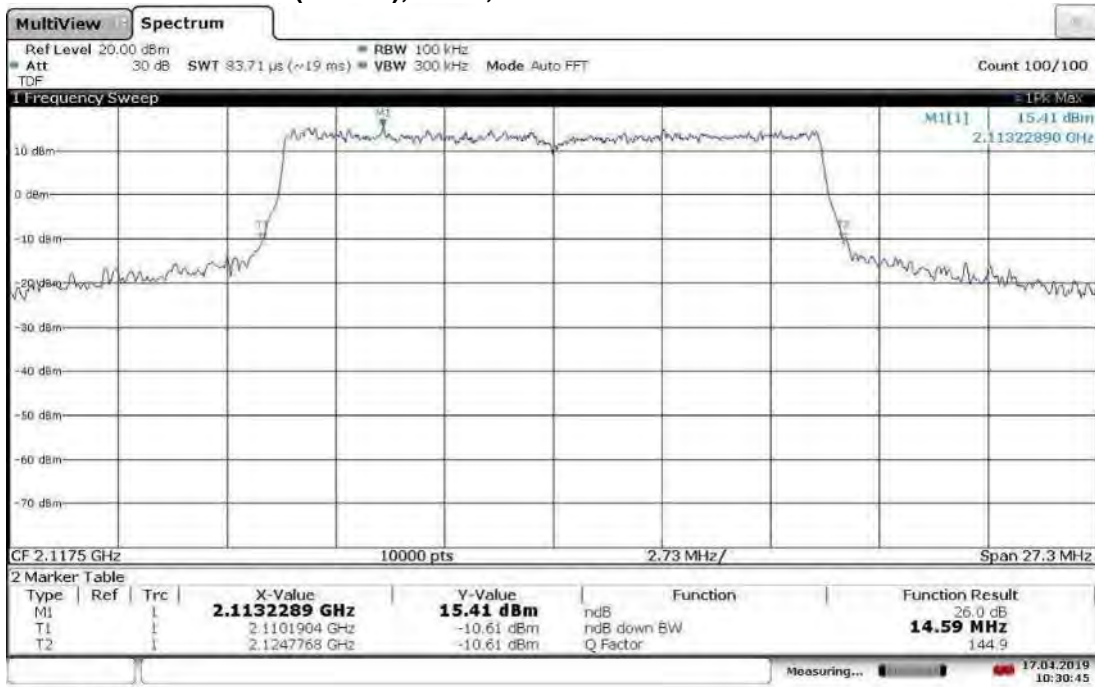
17:11:25 19.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



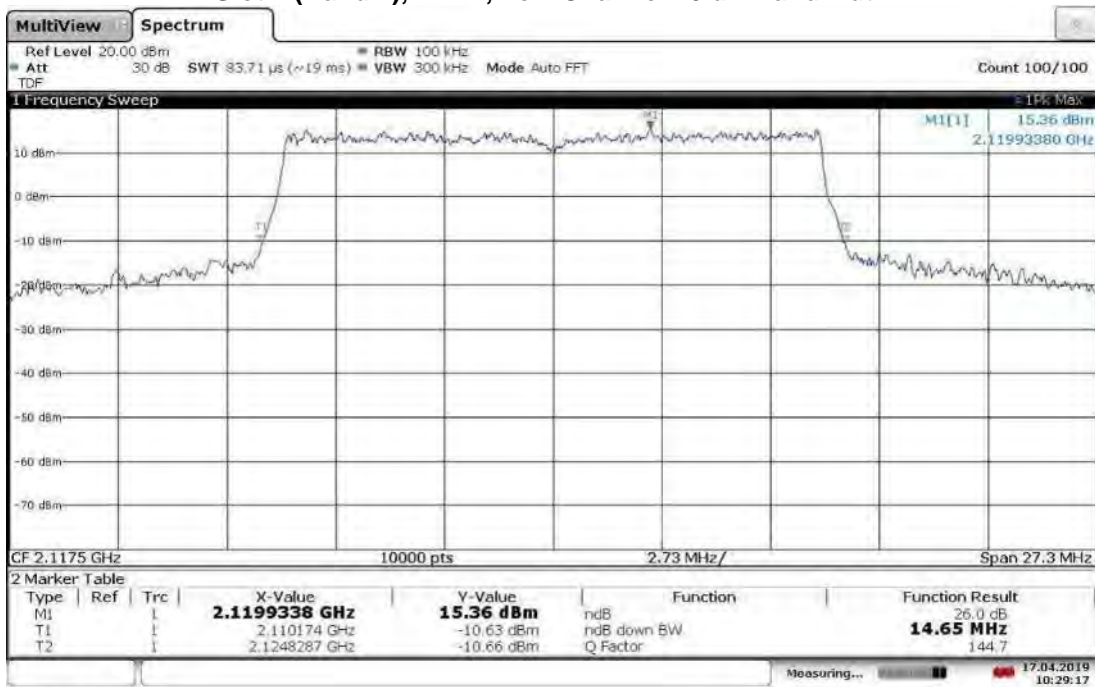
17:09:40 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



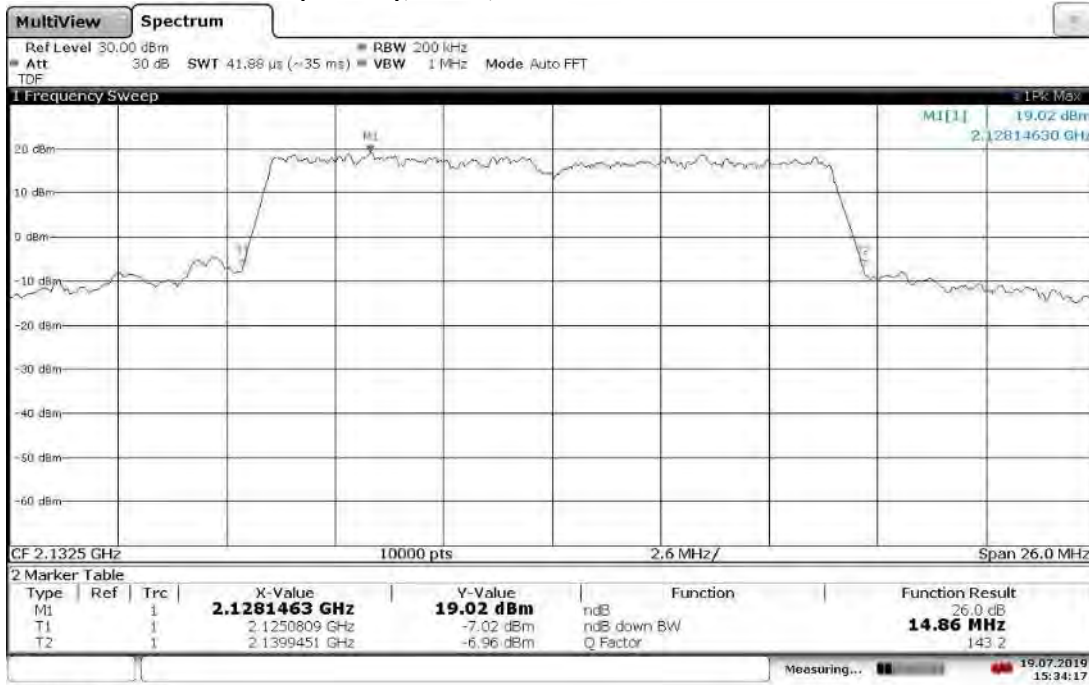
10:30:45 17.04.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



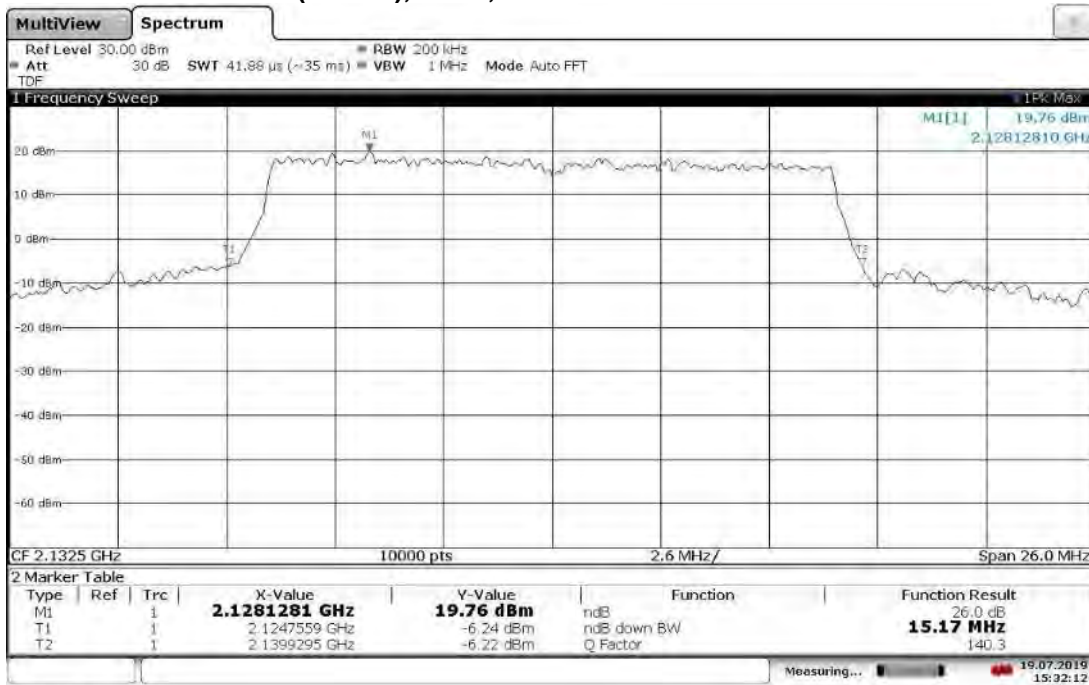
10:29:18 17.04.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



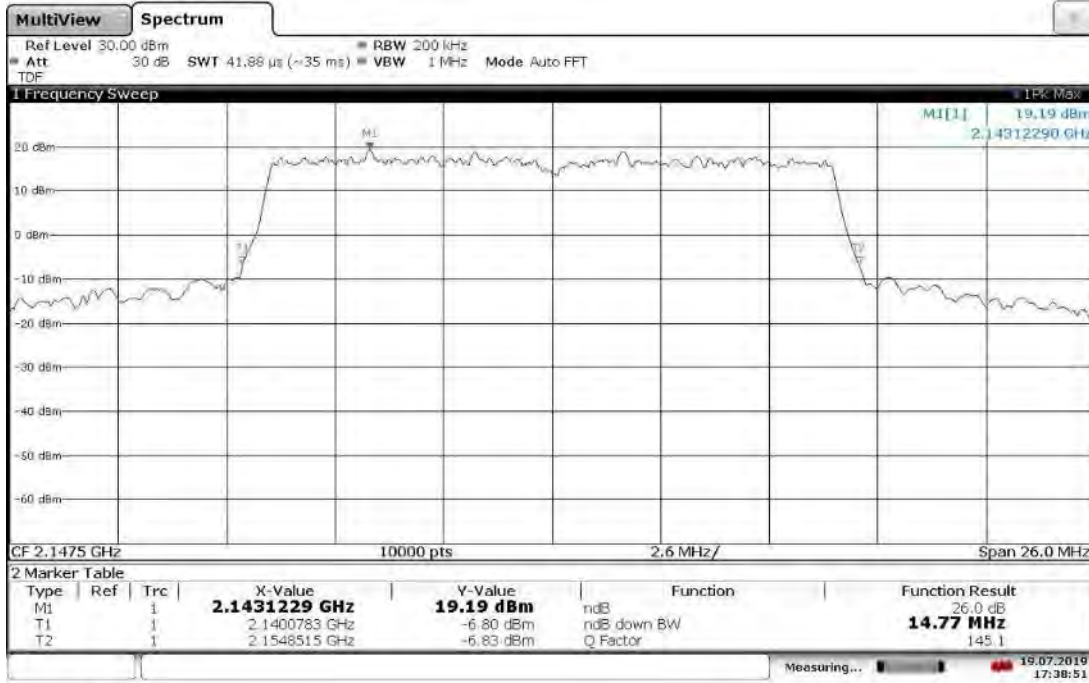
15:34:17 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



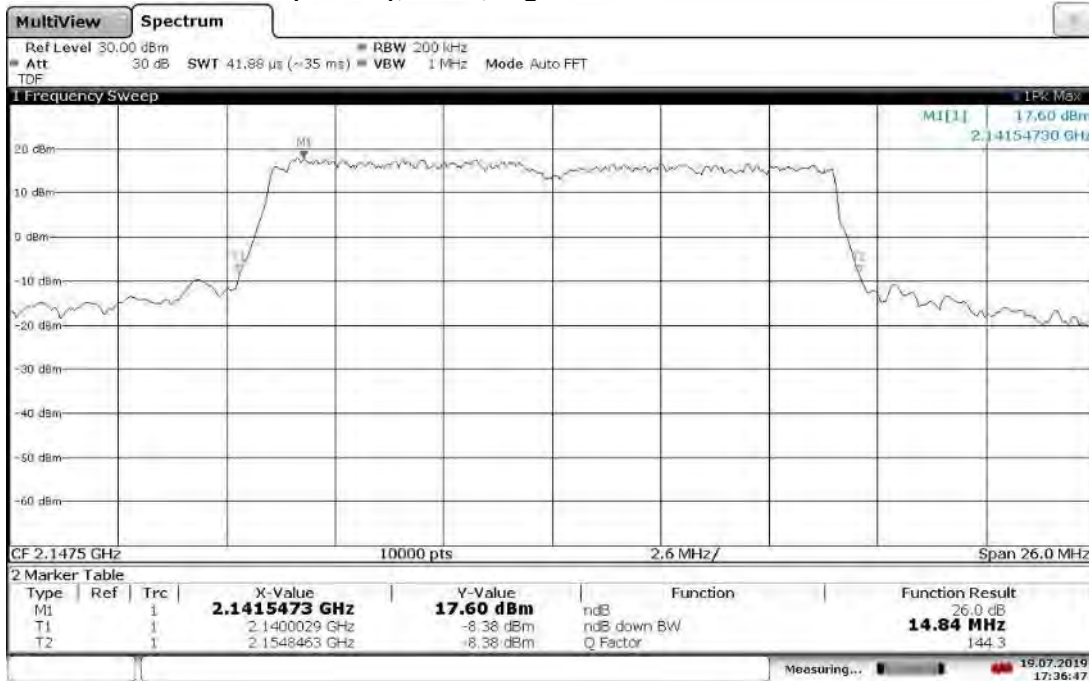
15:32:12 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



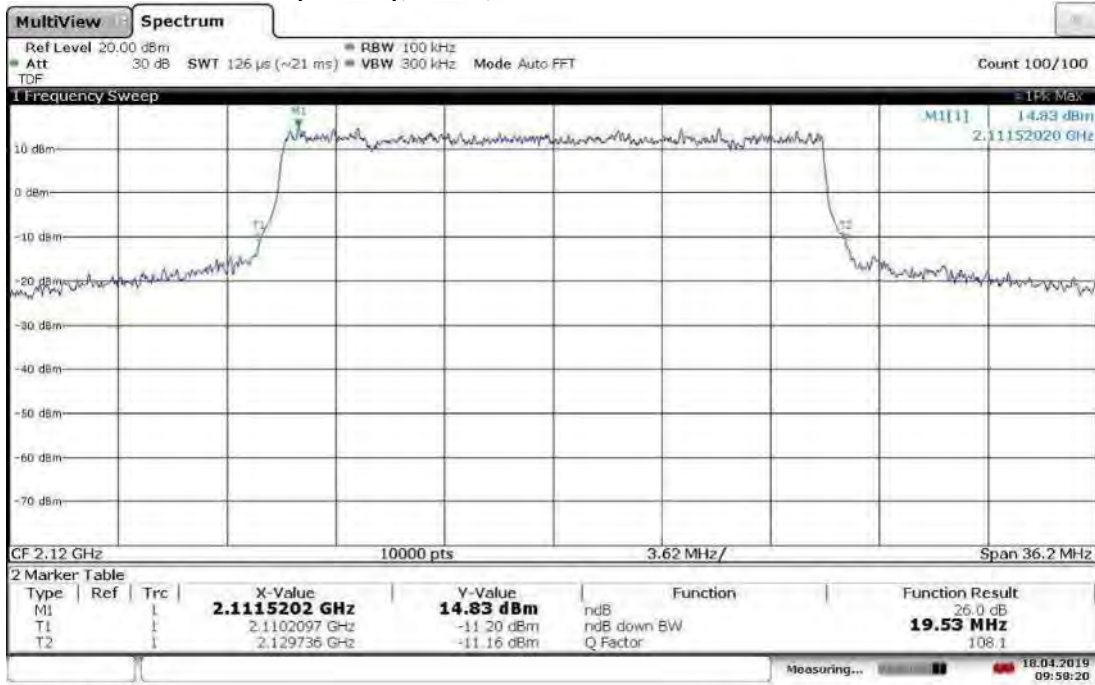
17:38:52 19.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



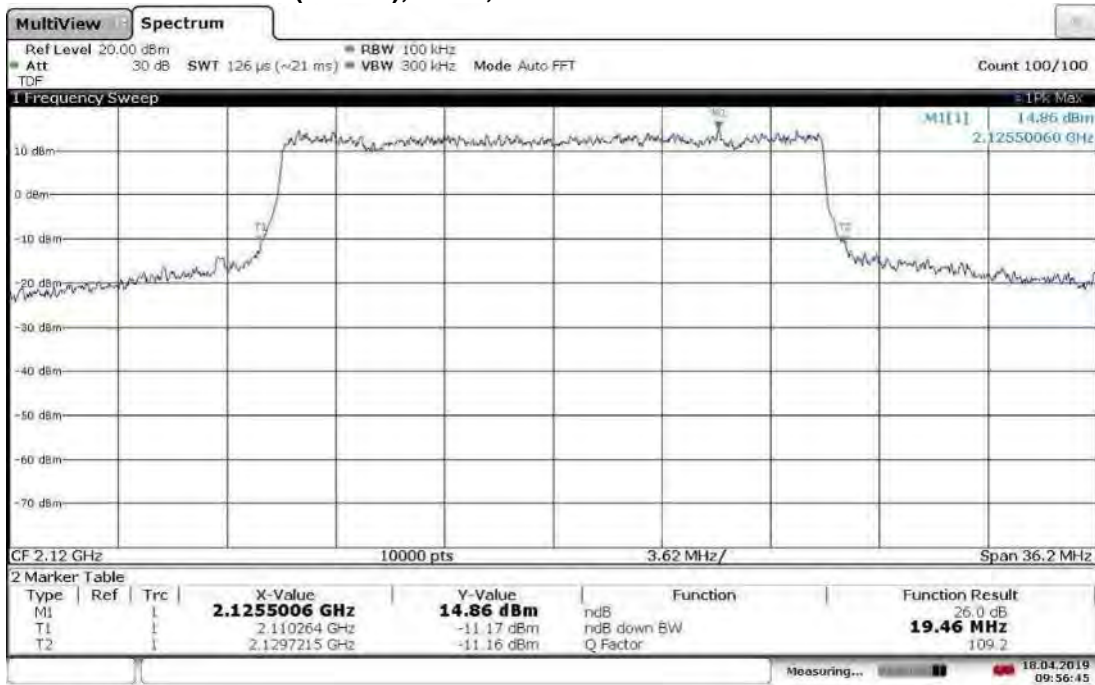
17:36:47 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



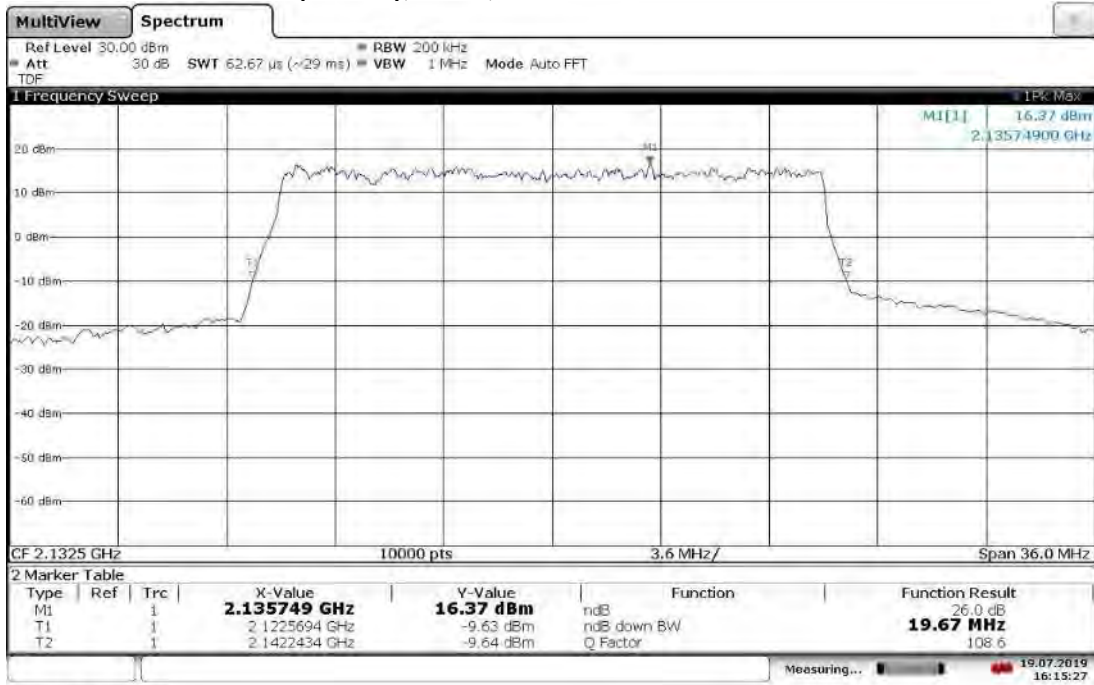
09:58:20 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



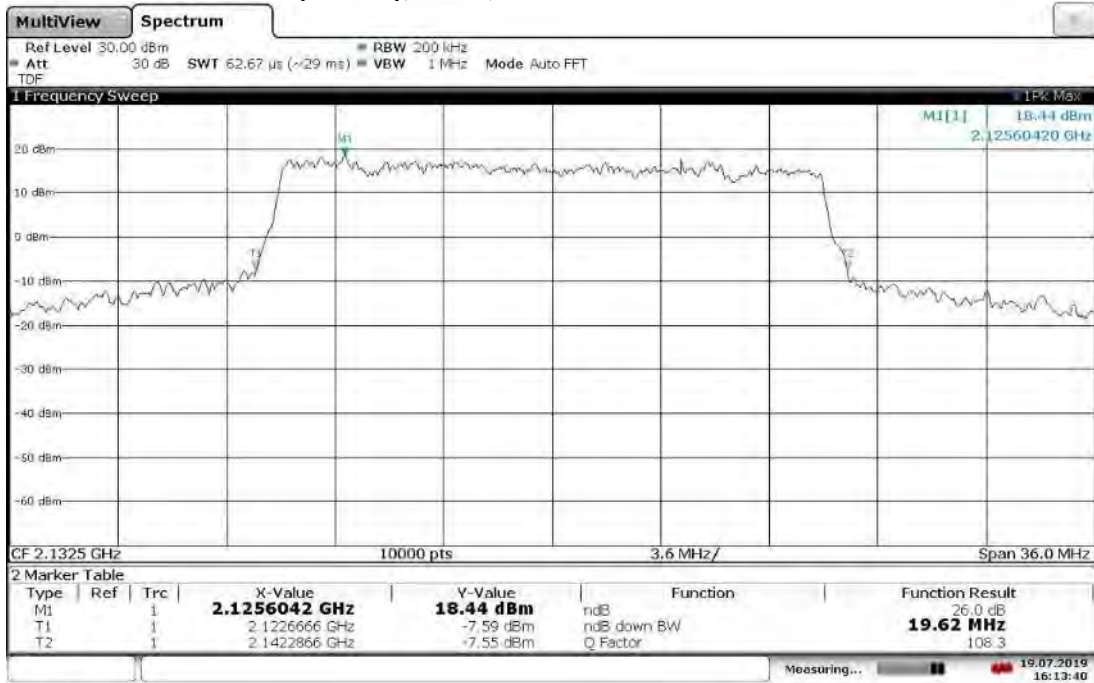
09:56:45 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



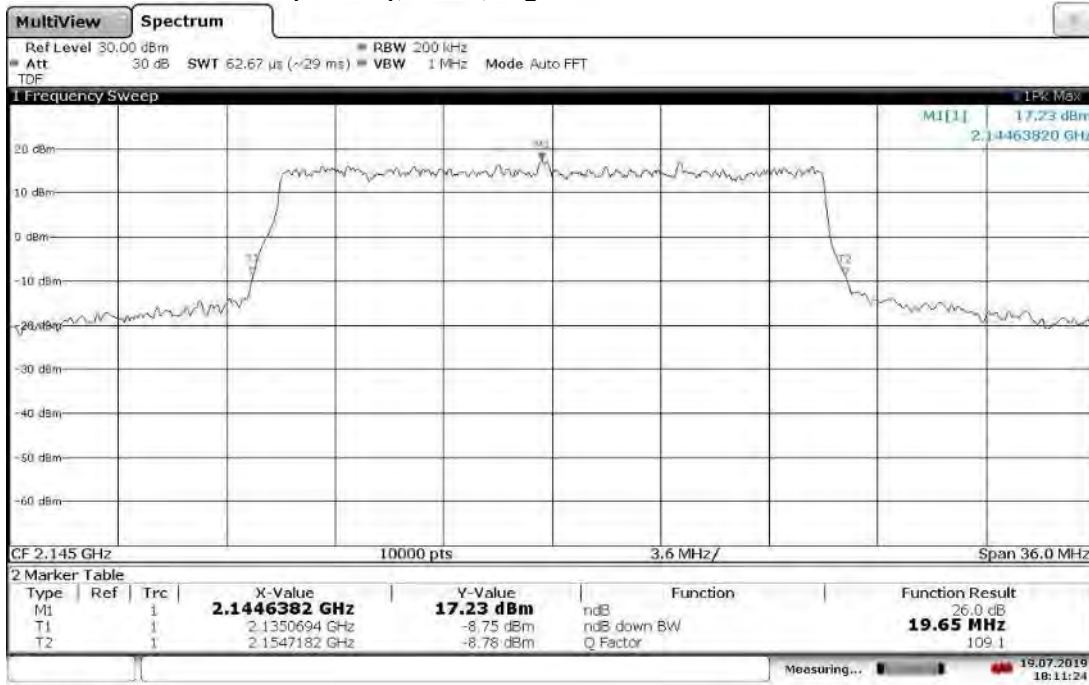
16:15:28 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



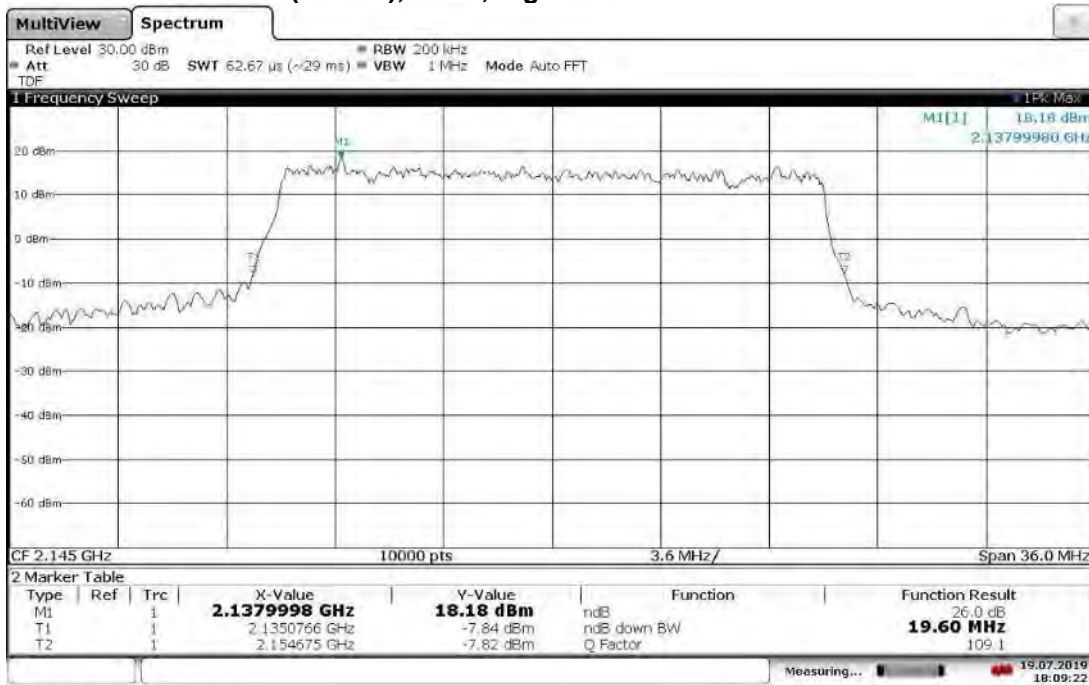
16:13:40 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



18:11:24 19.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



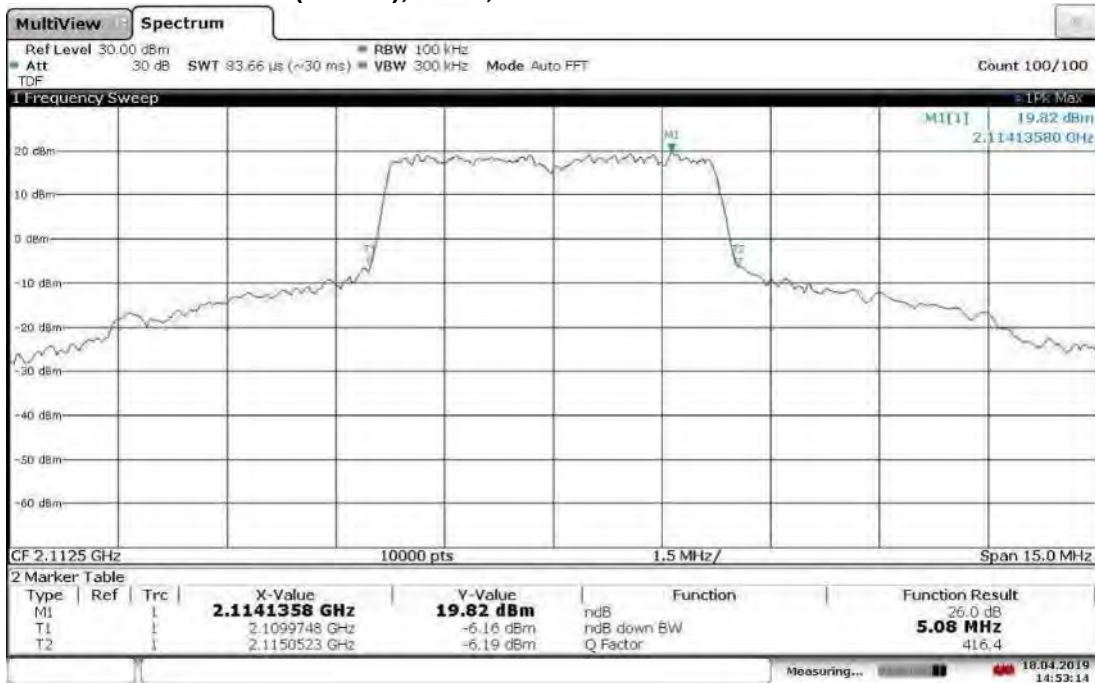
18:09:22 19.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



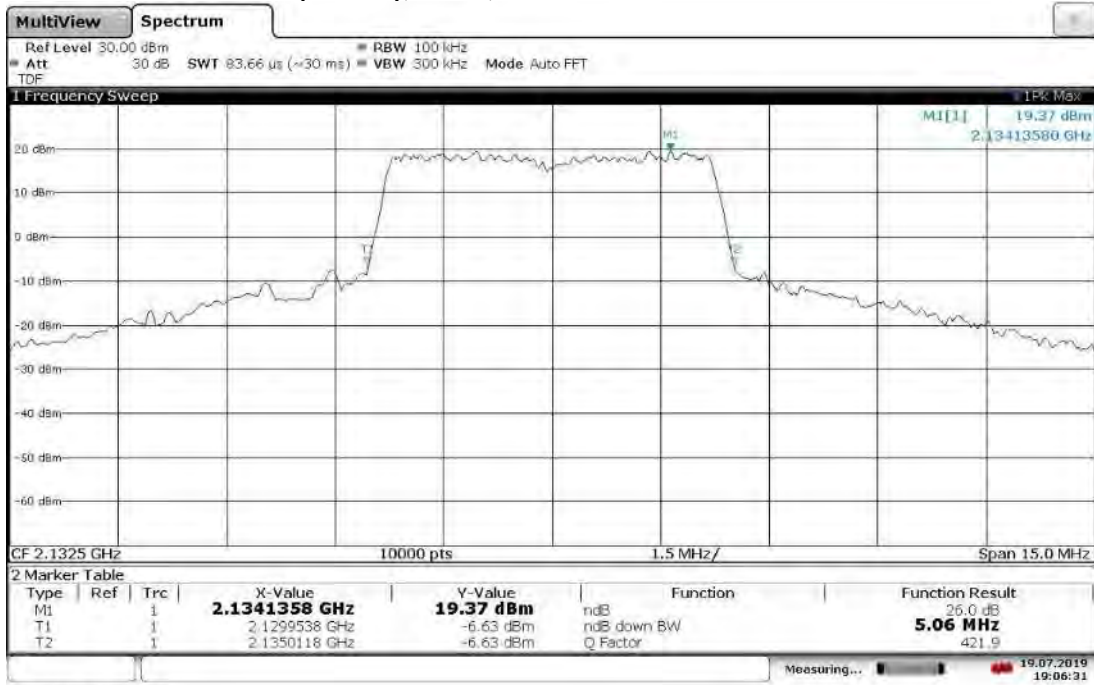
14:51:46 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



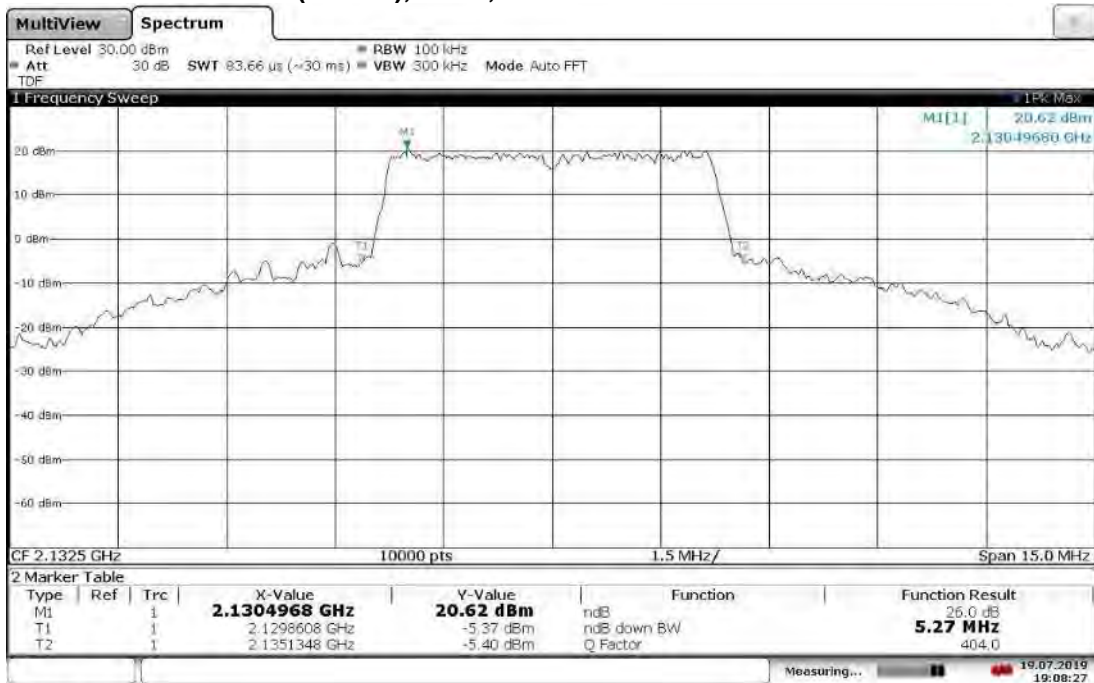
14:53:14 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



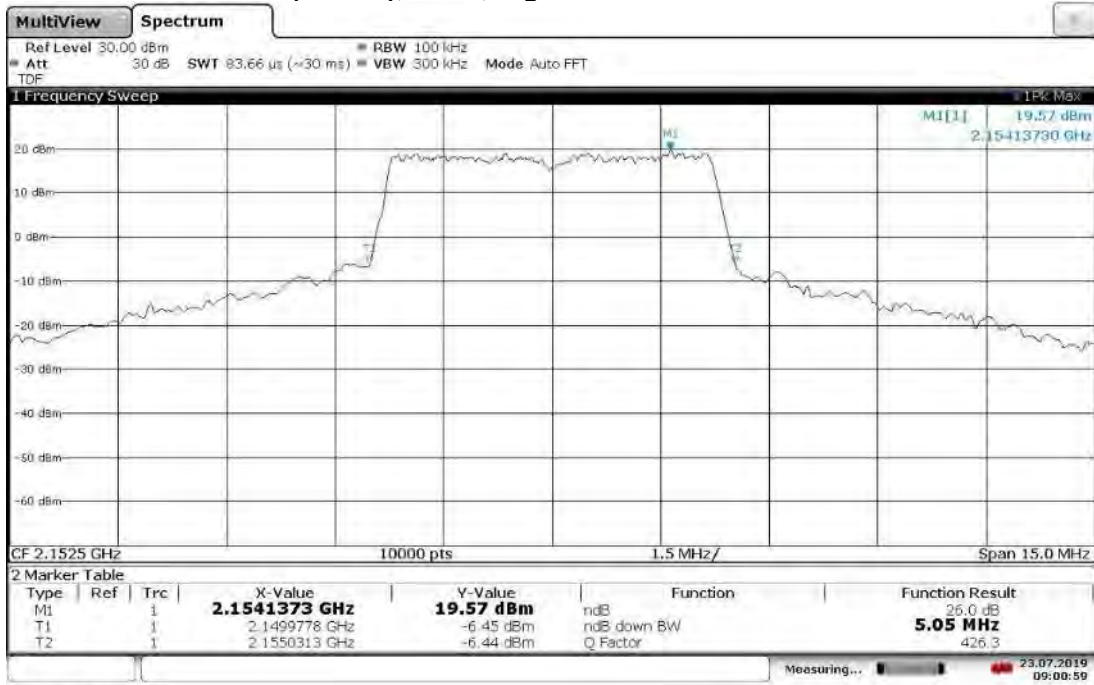
19:06:31 19.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



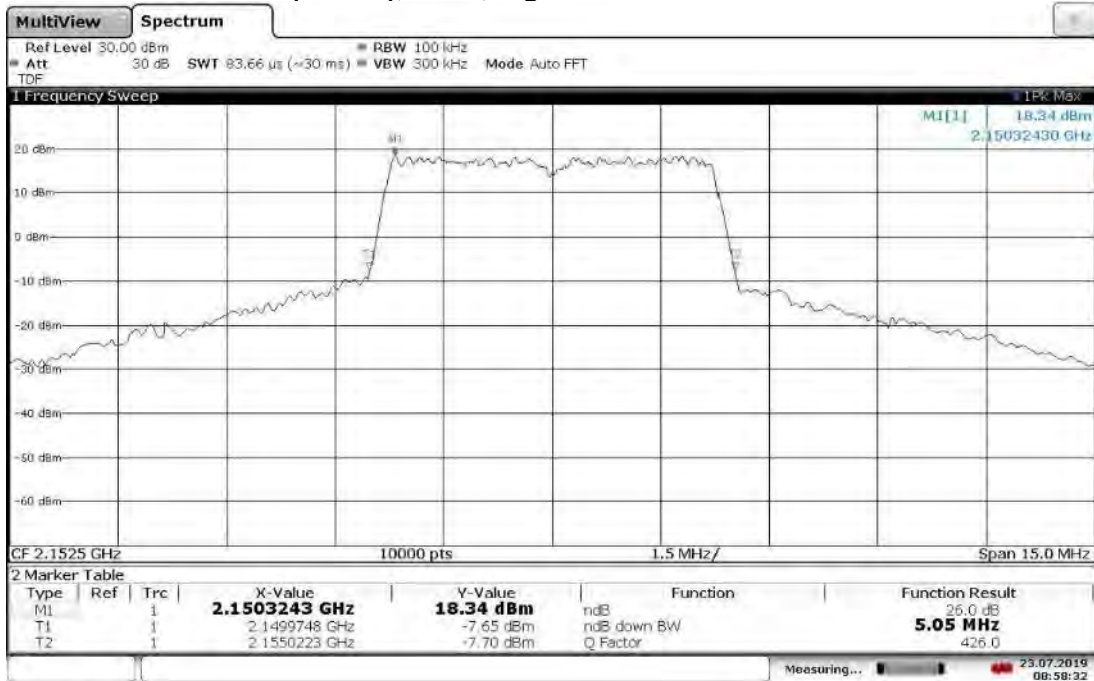
19:08:28 19.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



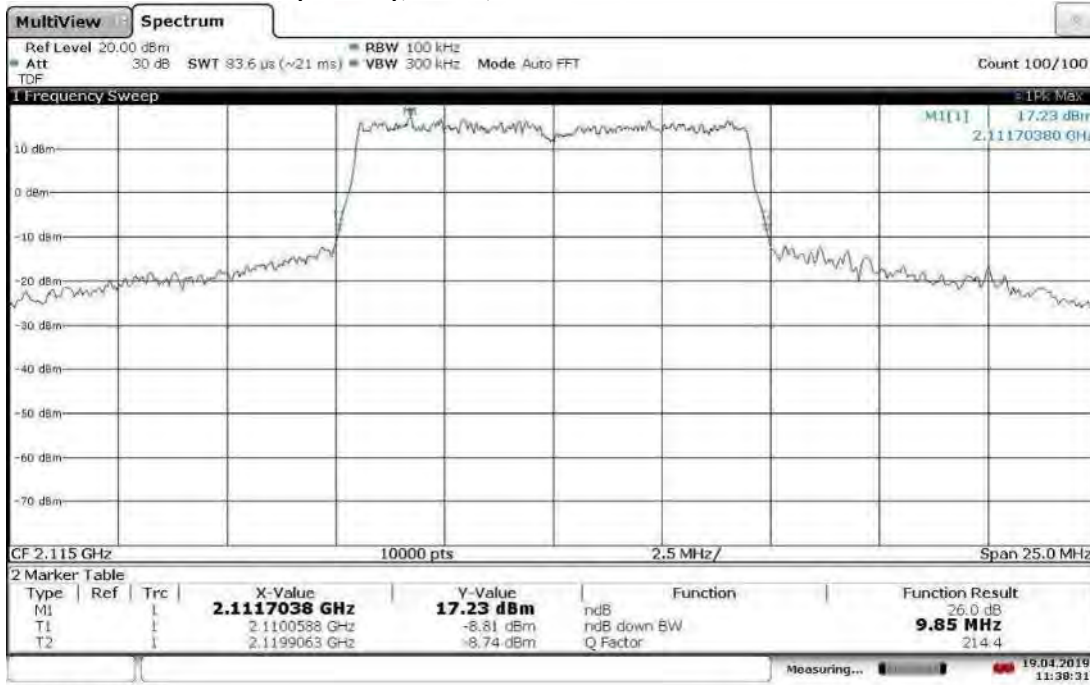
09:01:00 23.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



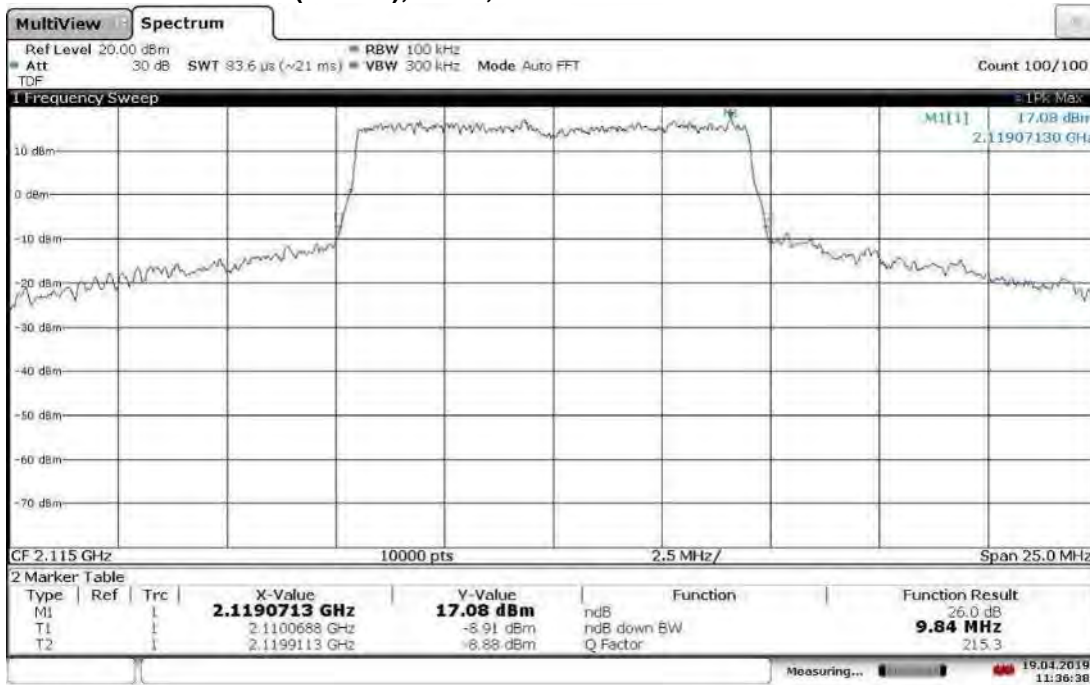
08:58:33 23.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



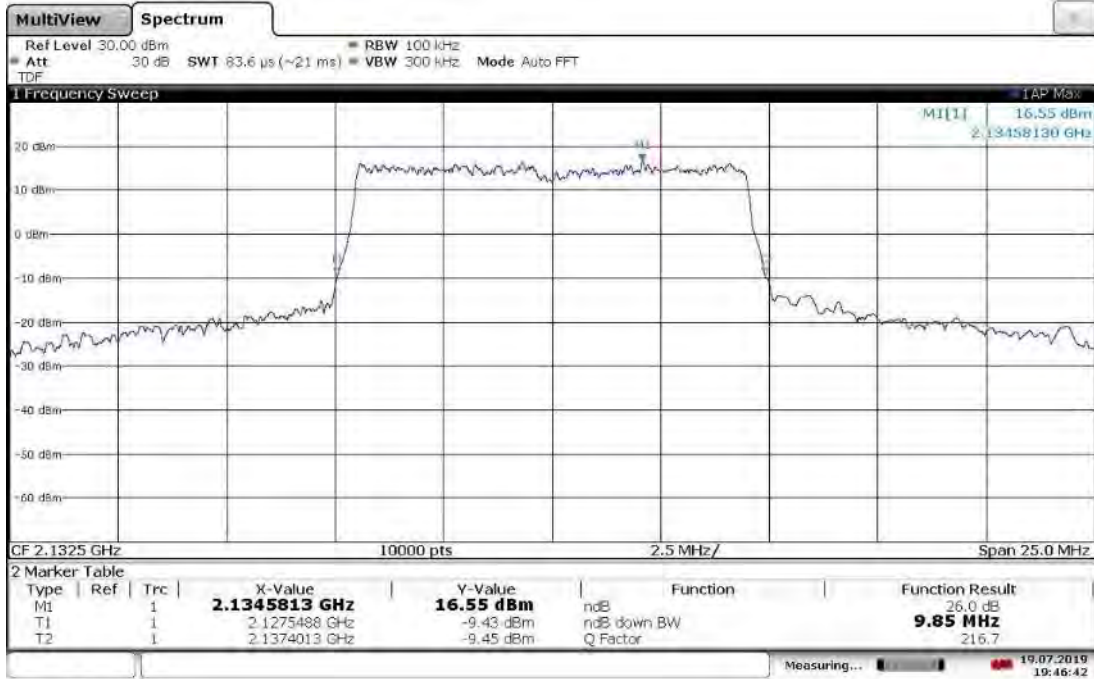
11:38:32 19.04.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



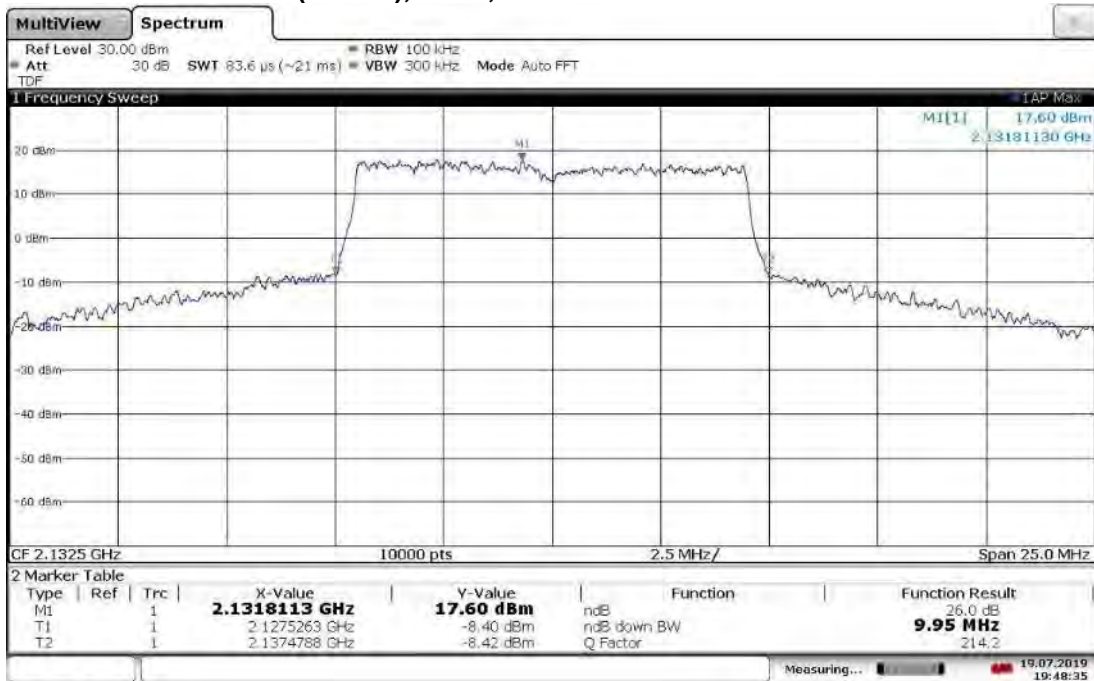
11:36:39 19.04.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



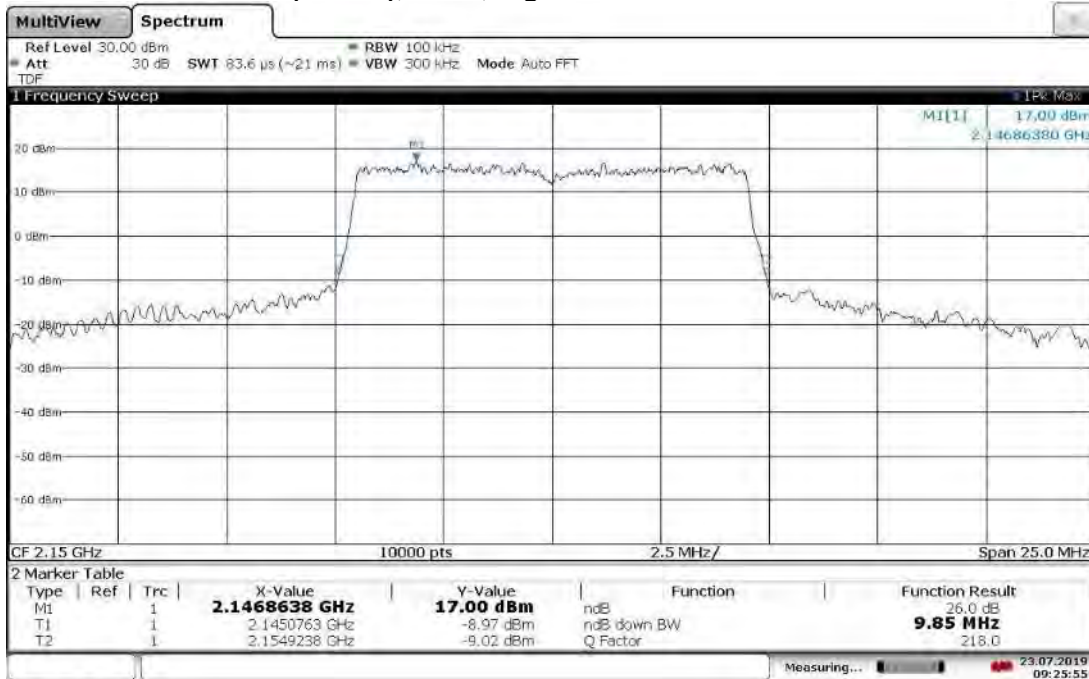
19:46:42 19.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



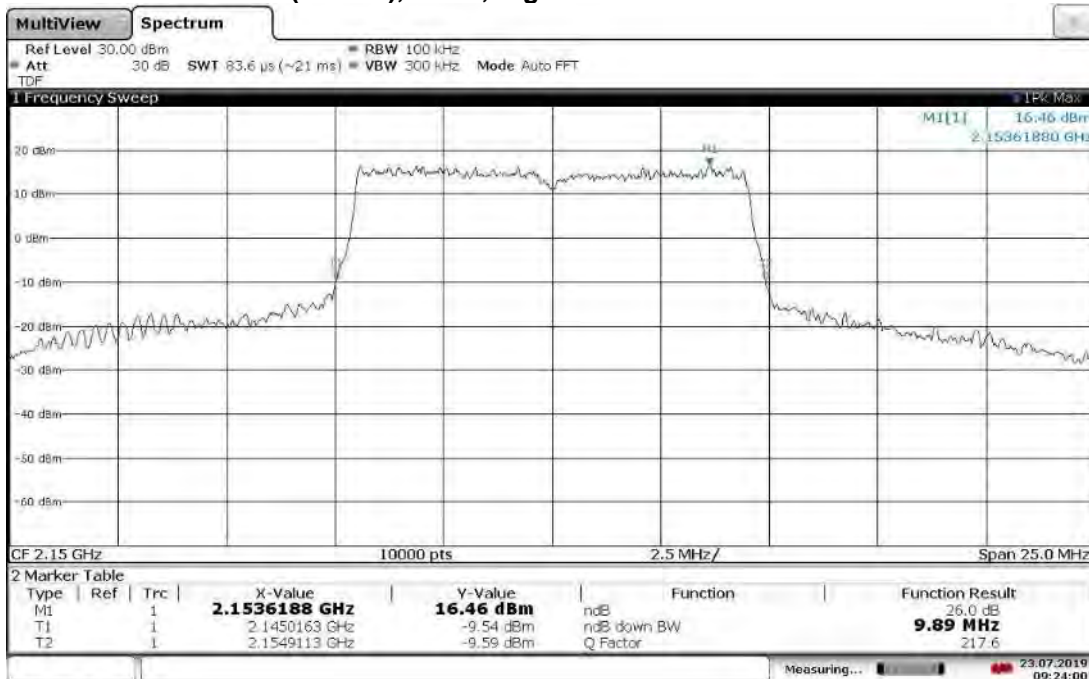
19:48:35 19.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



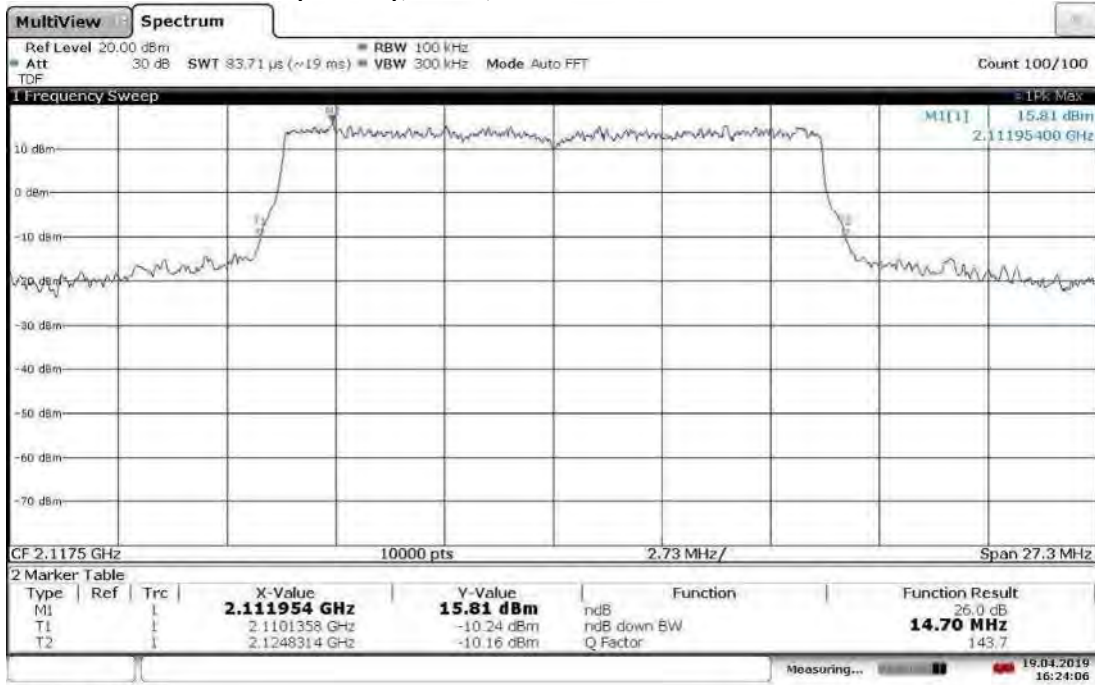
09:25:55 23.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



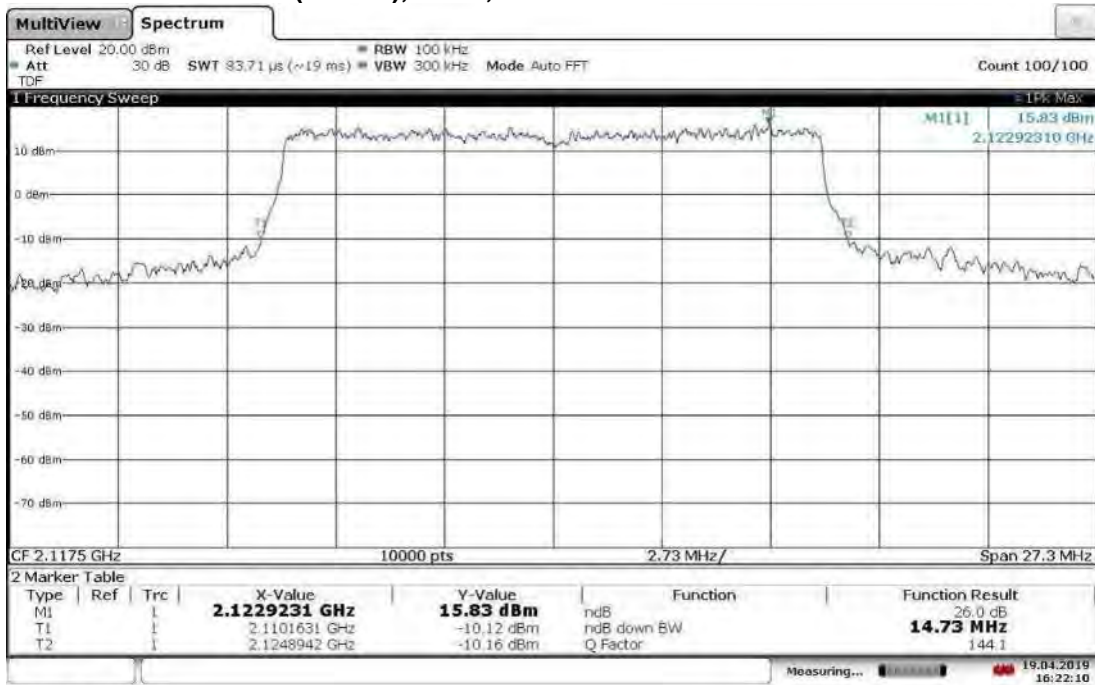
09:24:01 23.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



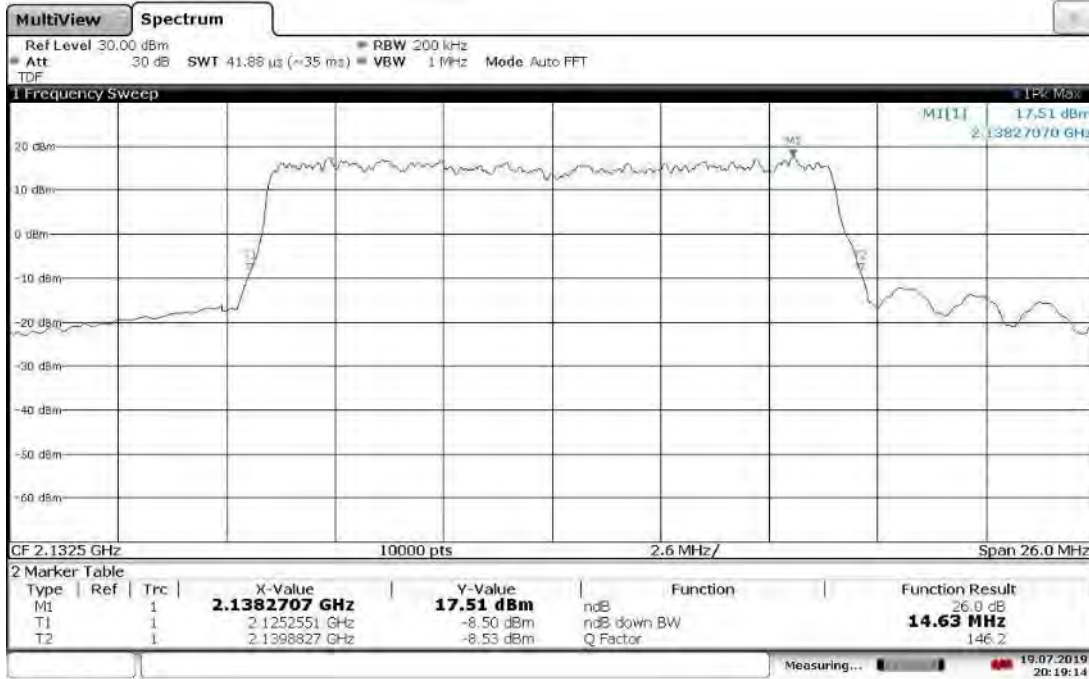
16:24:07 19.04.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



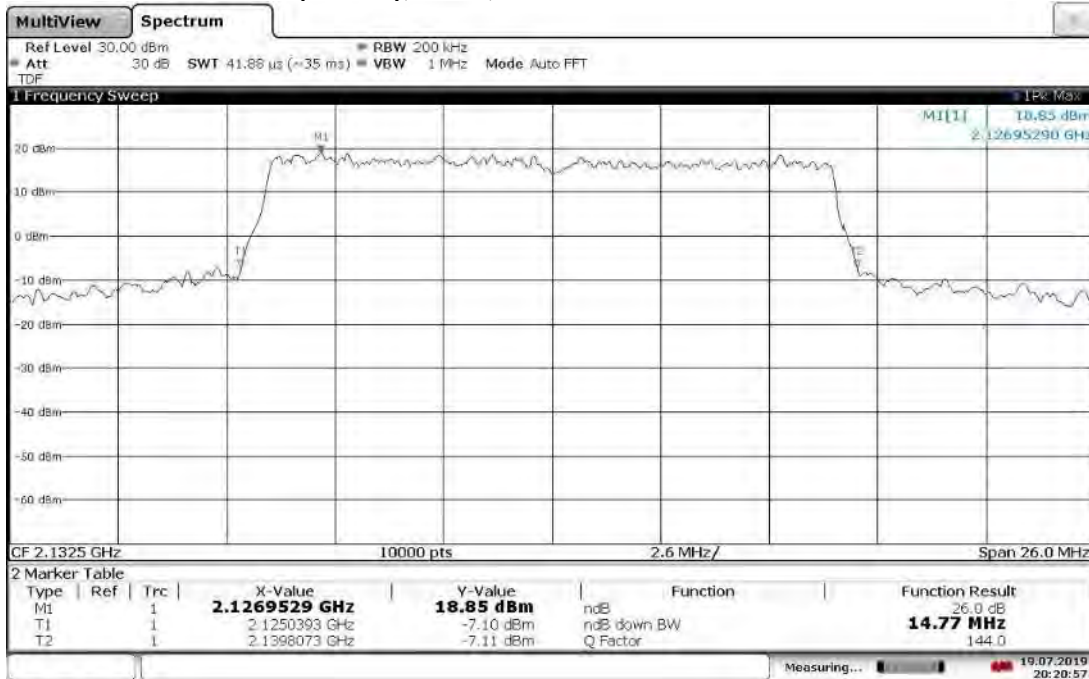
16:22:11 19.04.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



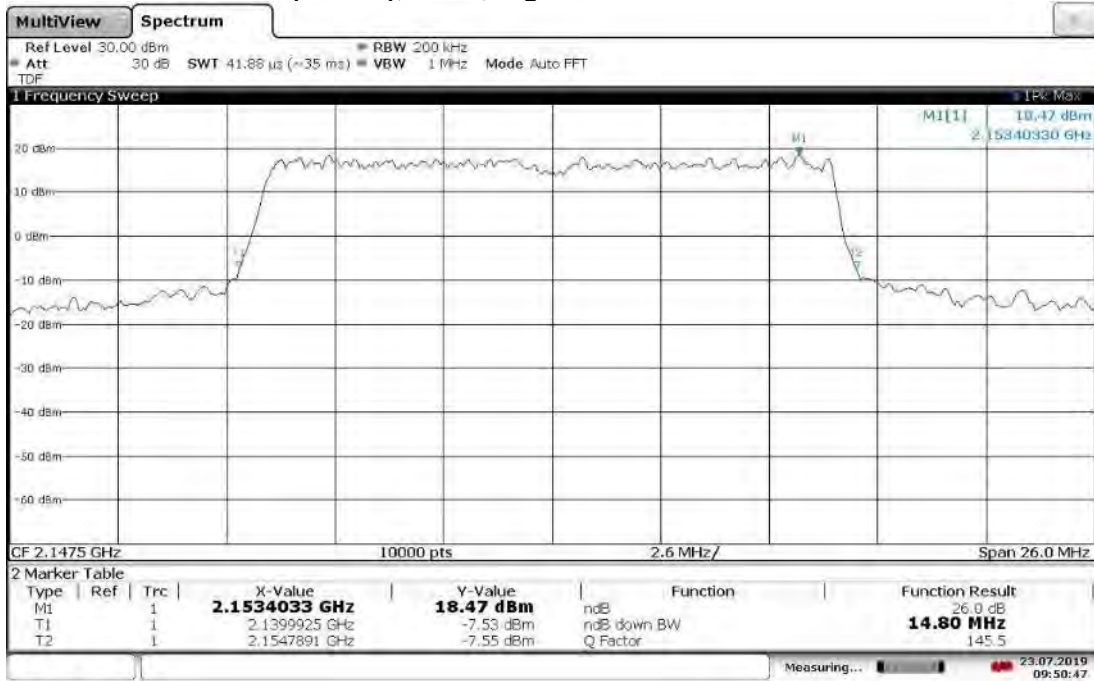
20:19:15 19.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



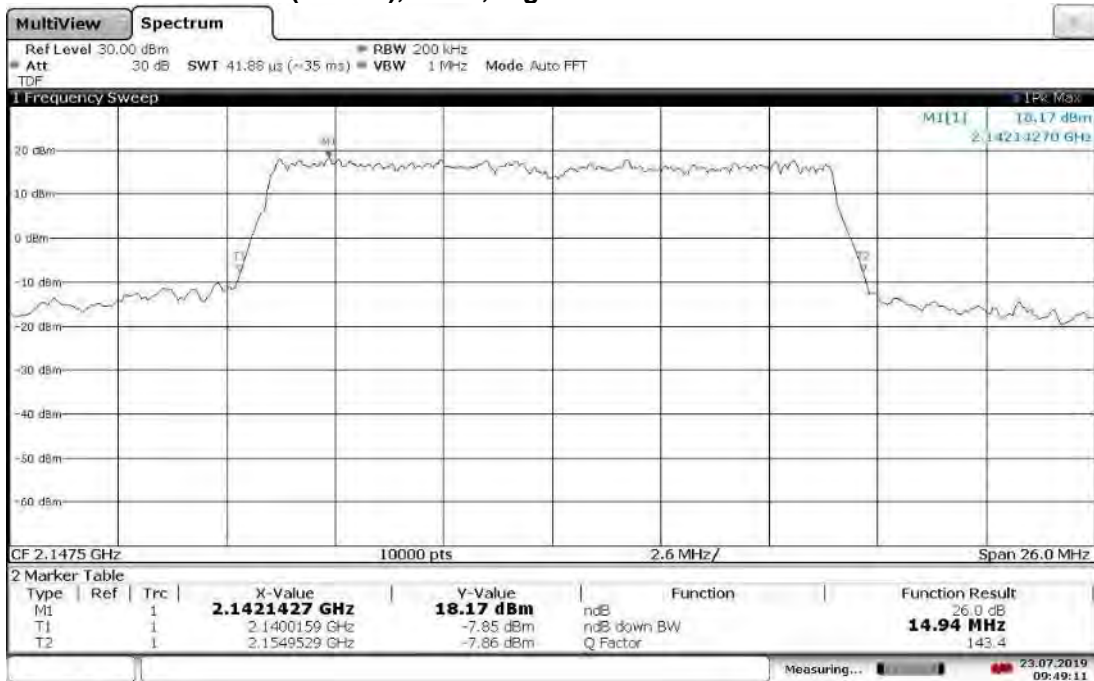
20:20:58 19.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



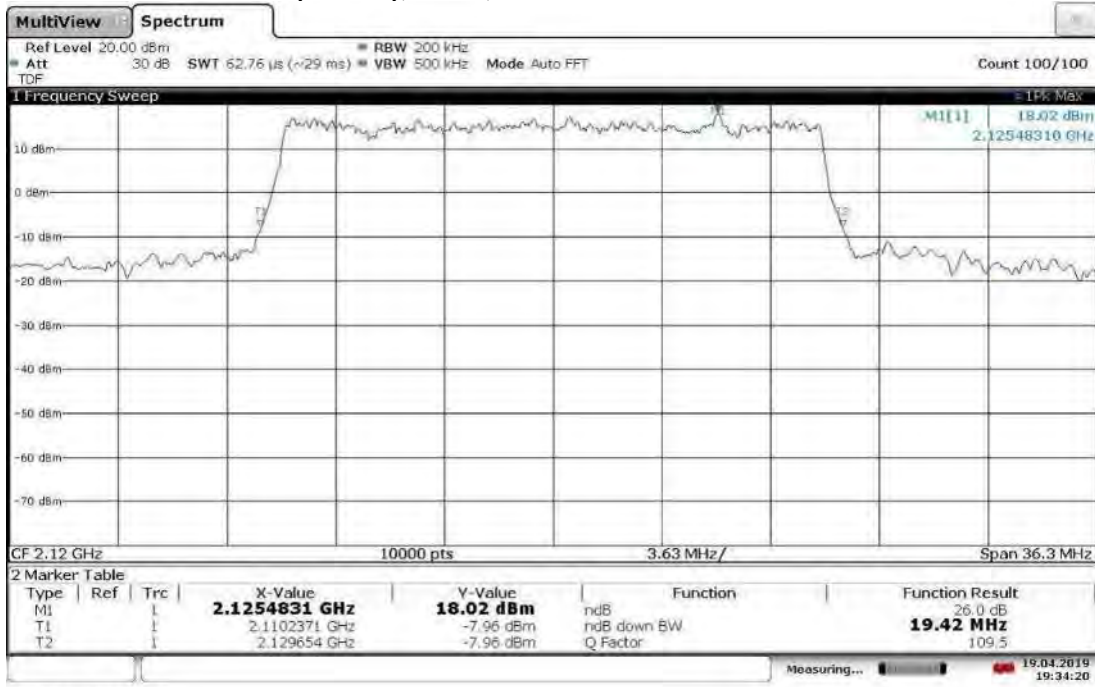
09:50:48 23.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



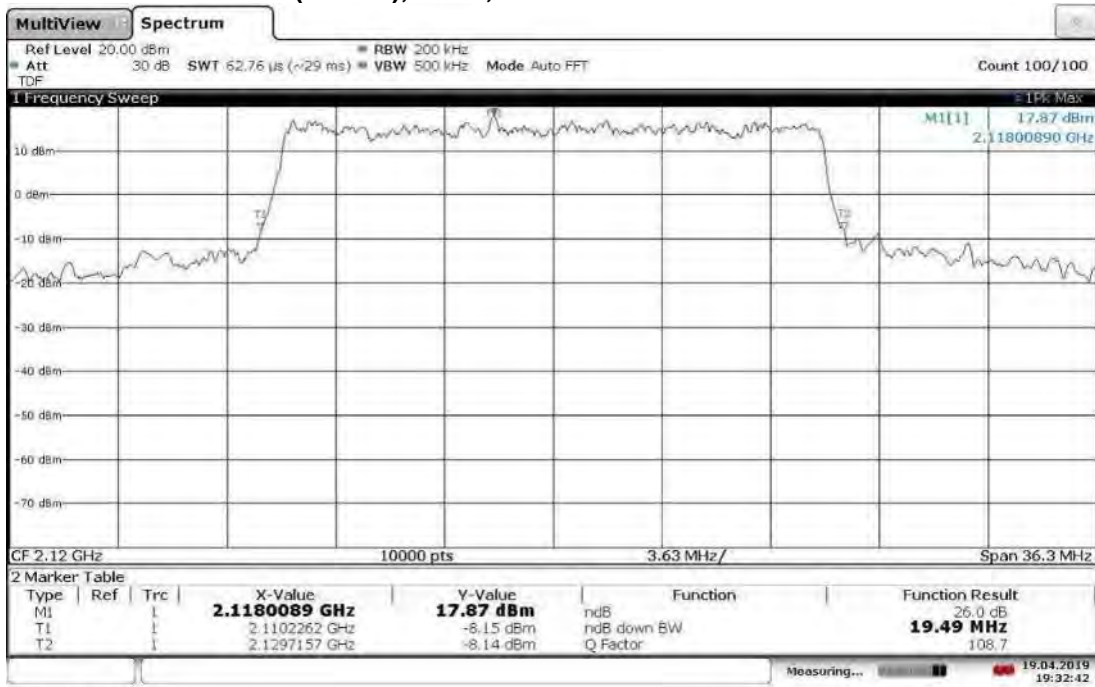
09:49:11 23.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Low Channel 26 dB Bandwidth**



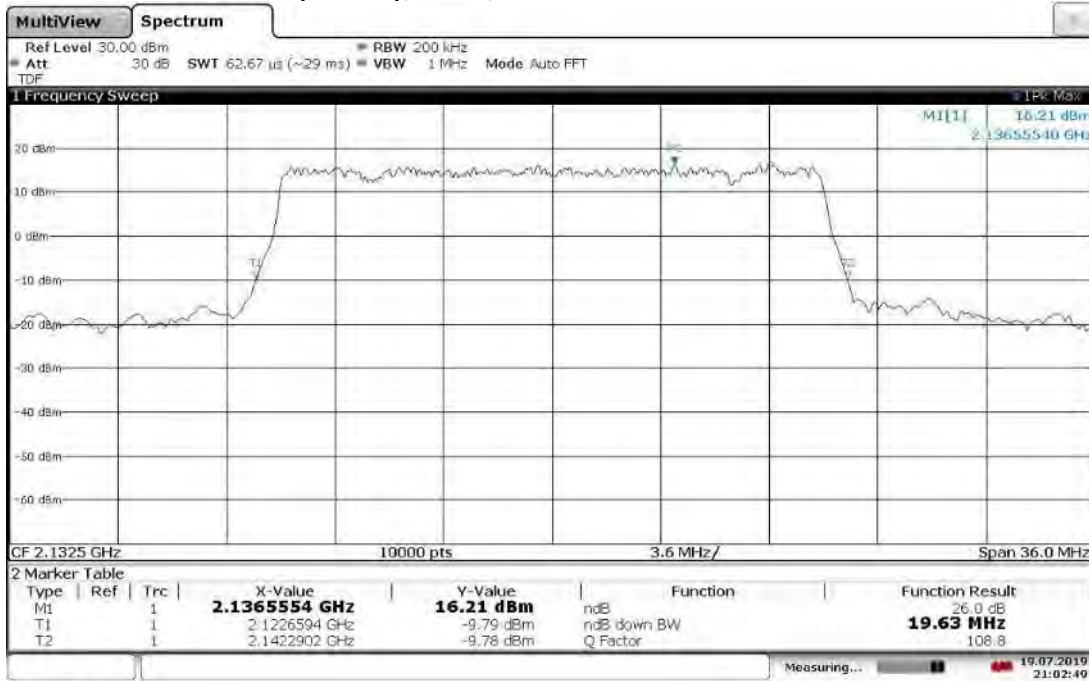
19:34:21 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Low Channel 26 dB Bandwidth**



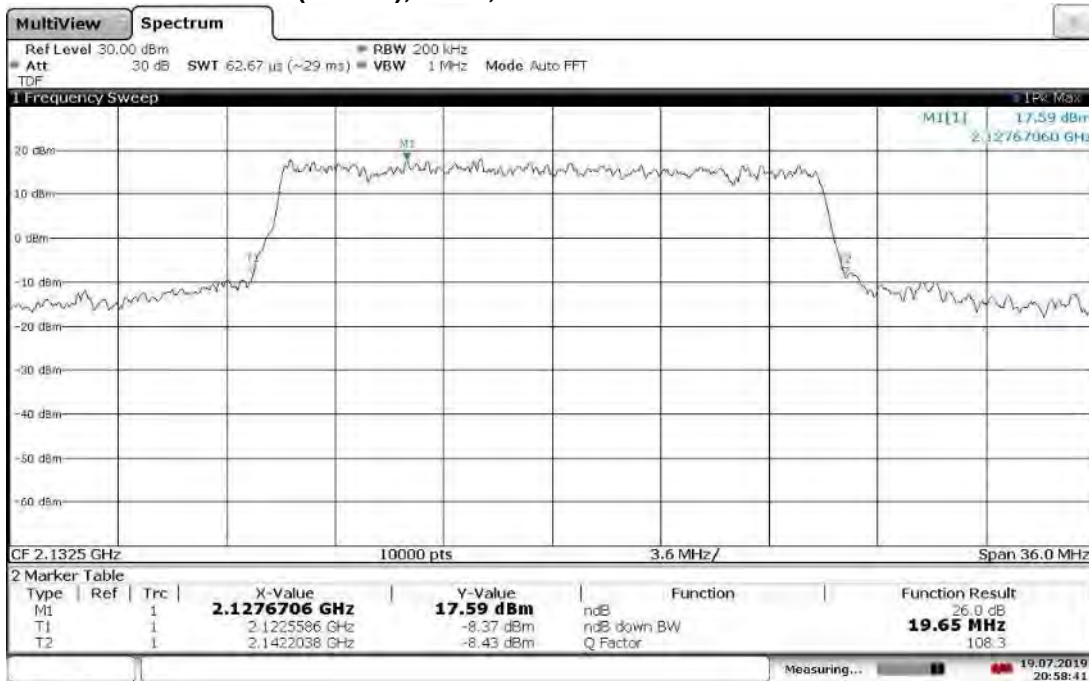
19:32:43 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, Mid Channel 26 dB Bandwidth**



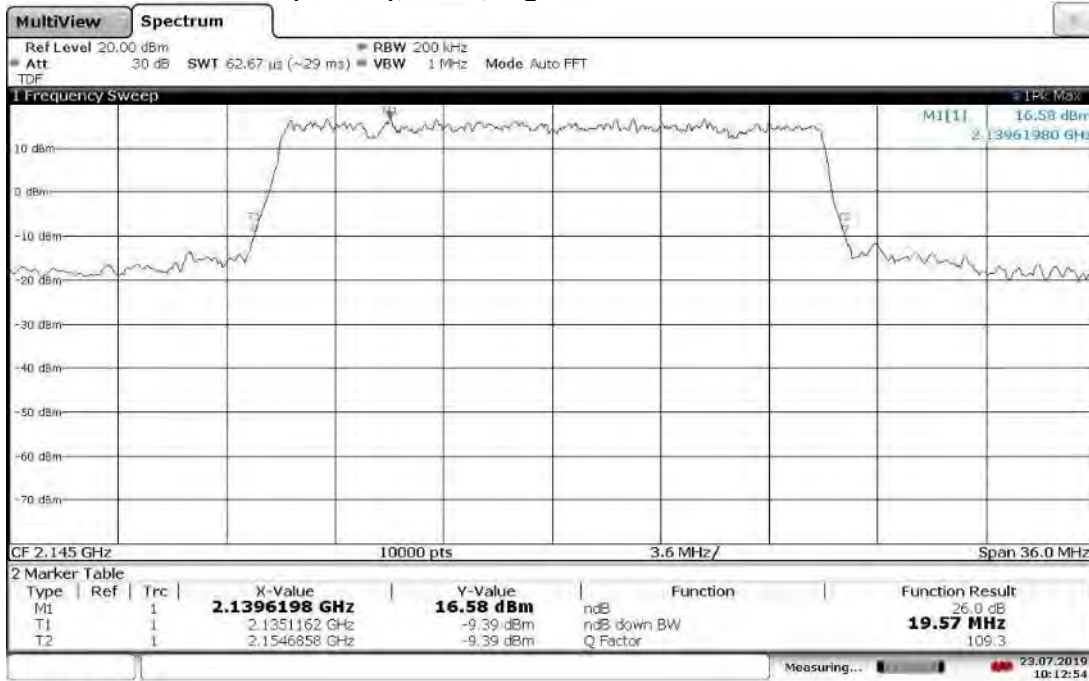
21:02:49 19.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, Mid Channel 26 dB Bandwidth**



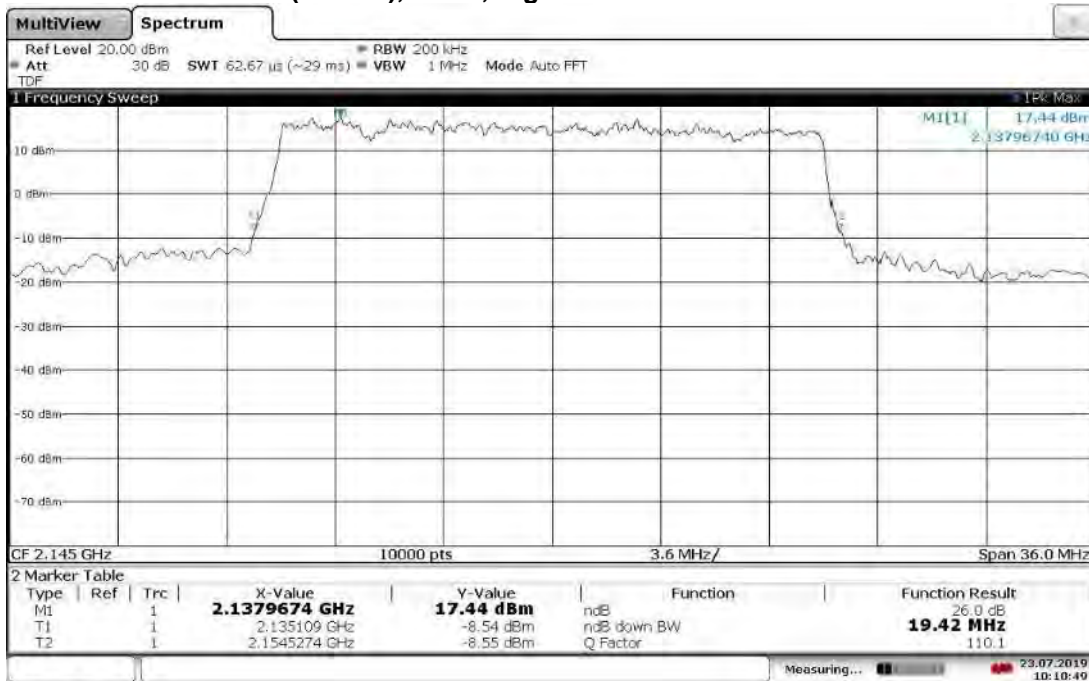
20:58:41 19.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT0, High Channel 26 dB Bandwidth**



10:12:54 23.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 4), ANT1, High Channel 26 dB Bandwidth**



10:10:49 23.07.2019

Test Personnel:	<u>Kouma Sinn <i>KPS</i></u>	Test Date:	<u>04/10/2019, 04/11/2019, 04/12/2019, 04/10/2019, 04/11/2019, 04/15/2019, 04/16/2019, 04/17/2019, 04/18/2019, 04/26/2019, 04/30/2019, 07/18/2019, 07/19/2019, 07/23/2019</u>
Supervising/Reviewing Engineer: (Where Applicable)	<u>N/A</u>	Limit Applied:	<u>See report section 8.3</u>
Product Standard:	<u>FCC Part 27</u>	Ambient Temperature:	<u>22, 23, 22, 23, 23, 23, 23, 22, 22, 20, 22, 22, 22, 21 °C</u>
Input Voltage:	<u>48 VDC (POE)</u>	Relative Humidity:	<u>21, 15, 21, 15, 26, 47, 20, 22, 23, 42, 35, 64, 62, 71 %</u>
Pretest Verification w/ Ambient Signals or BB Source:	<u>N/A</u>	Atmospheric Pressure:	<u>1004, 1013, 1004, 1013, 1004, 980, 1001, 1011, 1014, 996, 1017, 1007, 1005, 1001 mbars</u>

9 Band Edge Compliance

9.1 Method

Tests are performed in accordance with ANSI C63.26 and CFR47 FCC Parts 2.1051, 2.1053, and 27.

TEST SITE: EMC Lab & 10m ALSE

The EMC Lab has one Semi-anechoic Chamber and one Shielded Chamber. AC Mains Power is available at 120, 230, and 277 Single Phase; 208, 400, and 480 3-Phase. Large reference ground-planes are installed in the general lab area to facilitate EMC work not requiring a shielded environment.

9.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
CEN001'	DC-40GHz attenuator 20dB	Centric RF	C411-20	CEN001	02/01/2019	02/01/2020
CBLHF2012-2M-1'	2m 9kHz-40GHz Coaxial Cable - SET1	Huber & Suhner	SF102	252675001	02/01/2019	02/01/2020
ROS005-1'	Signal and Spectrum Analyzer	Rohde & Schwarz	FSW43	100646	10/15/2018	10/15/2019
DS40'	Temp, humidity, pressure gauge	Digi Sense	68000-49	181717625	11/06/2018	11/06/2019

Software Utilized:

Name	Manufacturer	Version
None	--	--

9.3 Results:

The sample tested was found to Comply.

§ 27.53(h): 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.

Intertek

Report Number: 103866582BOX-24a

Issued: 08/14/2019

Band 4, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2112.50	ANT0	-14.72
		ANT1	-15.19
High	2152.5	ANT0	-13.92
		ANT1	-17.20

Band 4, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2115.00	ANT0	-16.37
		ANT1	-15.33
High	2150.00	ANT0	-14.83
		ANT1	-18.5

Band 4, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2117.50	ANT0	-16.85
		ANT1	-15.59
High	2147.50	ANT0	-17.47
		ANT1	-19.61

Band 4, Bandwidth: 20 MHz, Modulation: TM1.1-QPSK

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2120.00	ANT0	-19.28
		ANT1	-17.74
High	2145.00	ANT0	-19.01
		ANT1	-19.81

Band 4, Bandwidth: 5 MHz, Modulation: TM3.2-16QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2112.50	ANT0	-15.33
		ANT1	-14.63
High	2152.5	ANT0	-14.15
		ANT1	-16.46

Band 4, Bandwidth: 10 MHz, Modulation: TM3.2-16QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2115.00	ANT0	-14.62
		ANT1	-14.79
High	2150.00	ANT0	-15.42
		ANT1	-18.08

Band 4, Bandwidth: 15 MHz, Modulation: TM3.2-16QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2117.50	ANT0	-16.62
		ANT1	-16.17
High	2147.50	ANT0	-17.55
		ANT1	-19.99

Band 4, Bandwidth: 20 MHz, Modulation: TM3.2-16QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2120.00	ANT0	-15.17
		ANT1	-16.38
High	2145.00	ANT0	-20.05
		ANT1	-19.82

Intertek

Report Number: 103866582BOX-24a

Issued: 08/14/2019

Band 4, Bandwidth: 5 MHz, Modulation: TM3.1-64QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2112.50	ANT0	-14.99
		ANT1	-14.39
High	2152.5	ANT0	-14.35
		ANT1	-15.38

Band 4, Bandwidth: 10 MHz, Modulation: TM3.1-64QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2115.00	ANT0	-15.20
		ANT1	-14.29
High	2150.00	ANT0	-15.09
		ANT1	-18.23

Band 4, Bandwidth: 15 MHz, Modulation: TM3.1-64QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2117.50	ANT0	-16.41
		ANT1	-16.12
High	2147.50	ANT0	-17.65
		ANT1	-19.61

Band 4, Bandwidth: 20 MHz, Modulation: TM3.1-64QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2120.00	ANT0	-19.30
		ANT1	-16.25
High	2145.00	ANT0	-19.06
		ANT1	-19.71

Band 4, Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2112.50	ANT0	-14.73
		ANT1	-14.17
High	2152.5	ANT0	-13.87
		ANT1	-15.98

Band 4, Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2115.00	ANT0	-15.27
		ANT1	-14.37
High	2150.00	ANT0	-15.43
		ANT1	-19.16

Band 4, Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM

Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2117.50	ANT0	-17.36
		ANT1	-17.07
High	2147.50	ANT0	-17.12
		ANT1	-19.55

Band 4, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM

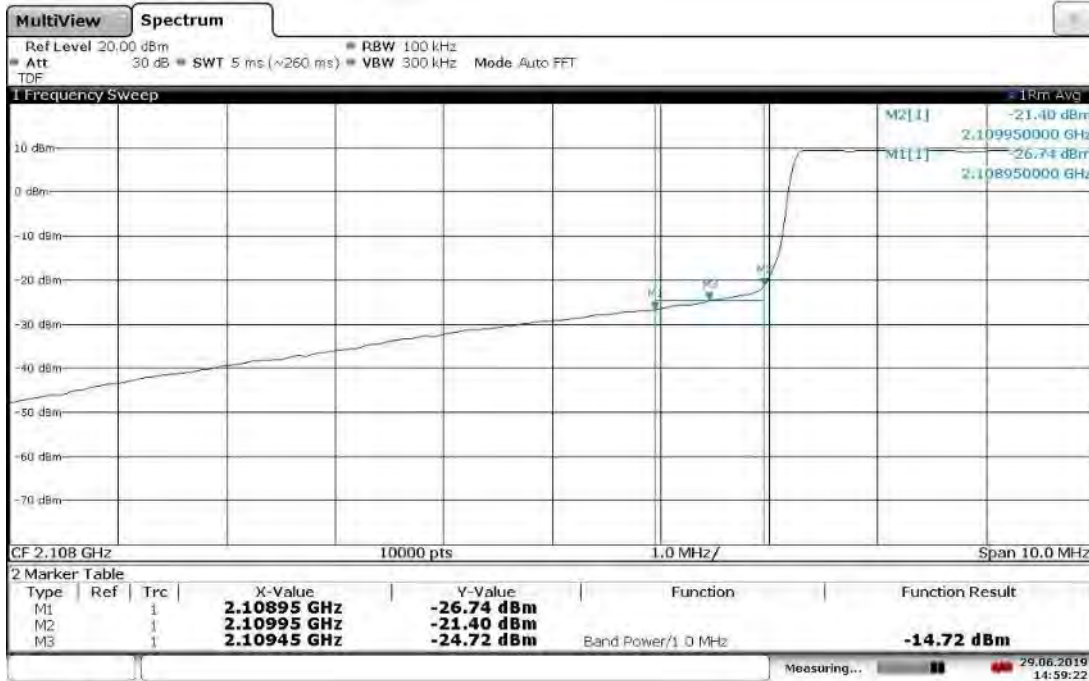
Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2120.00	ANT0	-18.04
		ANT1	-17.42
High	2145.00	ANT0	-19.61
		ANT1	-19.72

9.4 Setup Photograph:



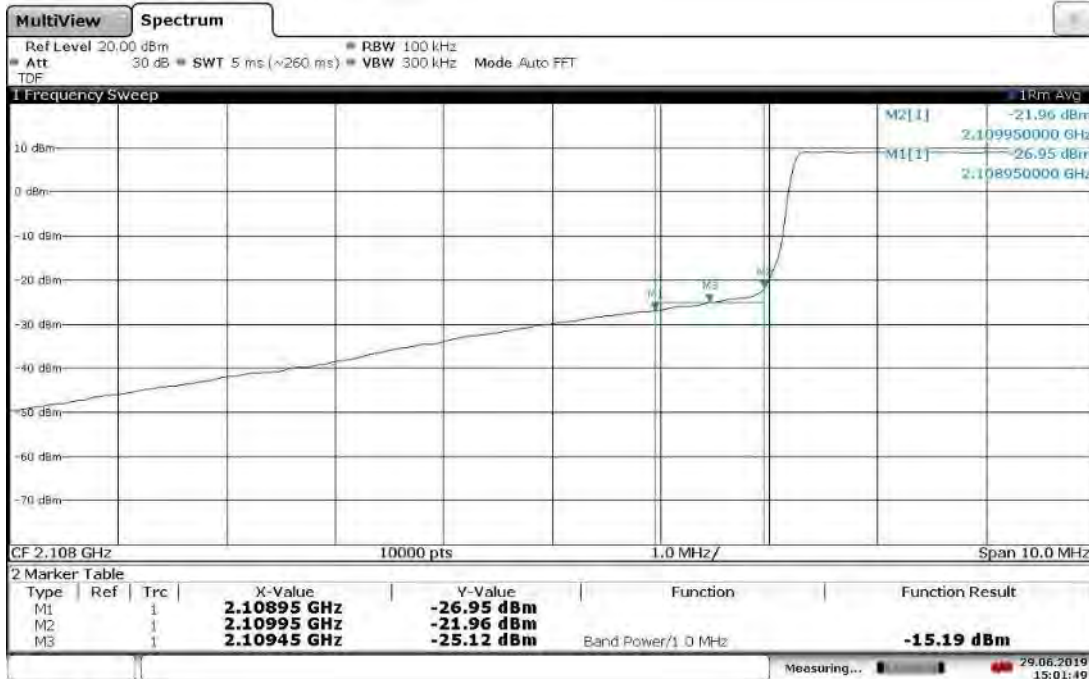
9.5 Plots/Data:

Band Edge Compliant, Lower Band Edge, 2112.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



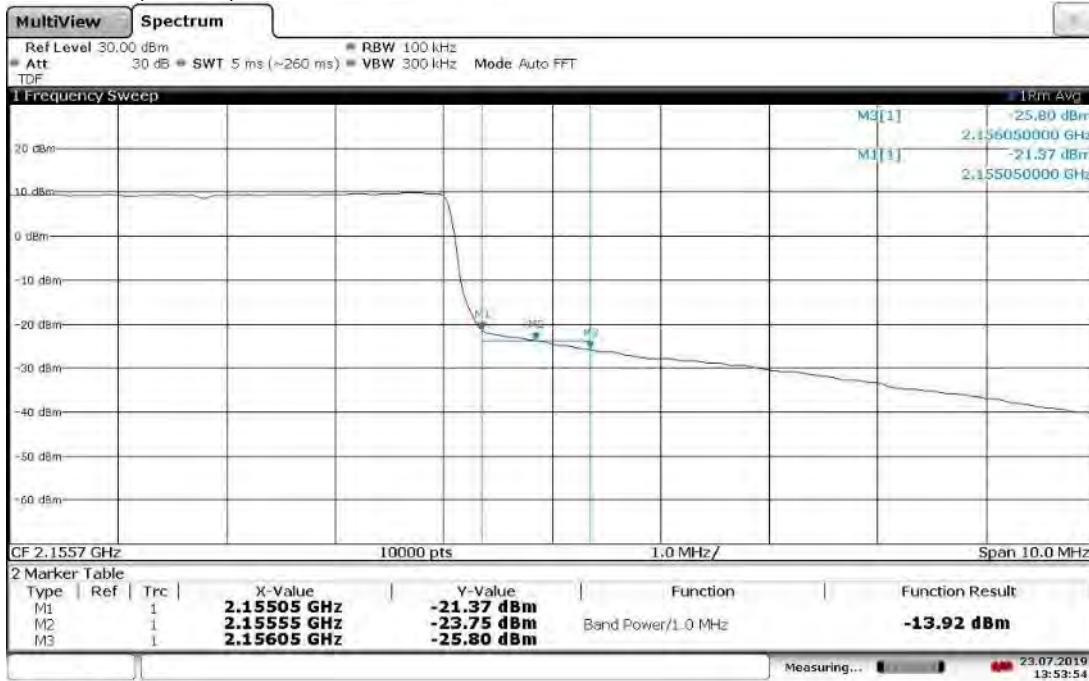
14:59:23 29.06.2019

Band Edge Compliant, Lower Band Edge, 2112.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



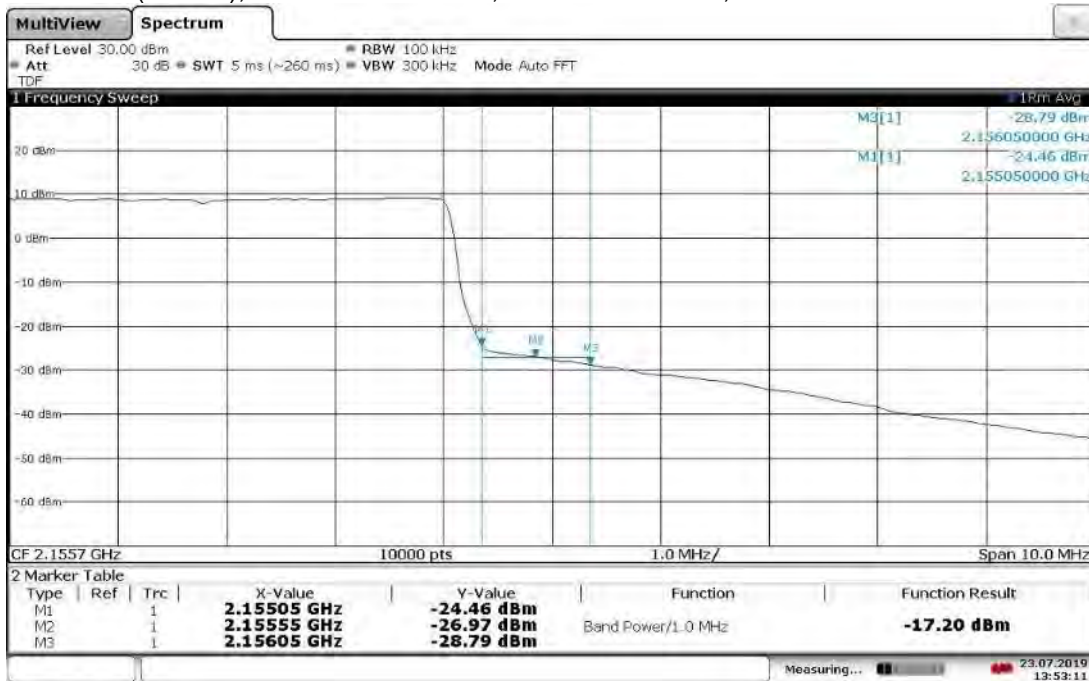
15:01:50 29.06.2019

Band Edge Compliant, Upper Band Edge, 2152.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



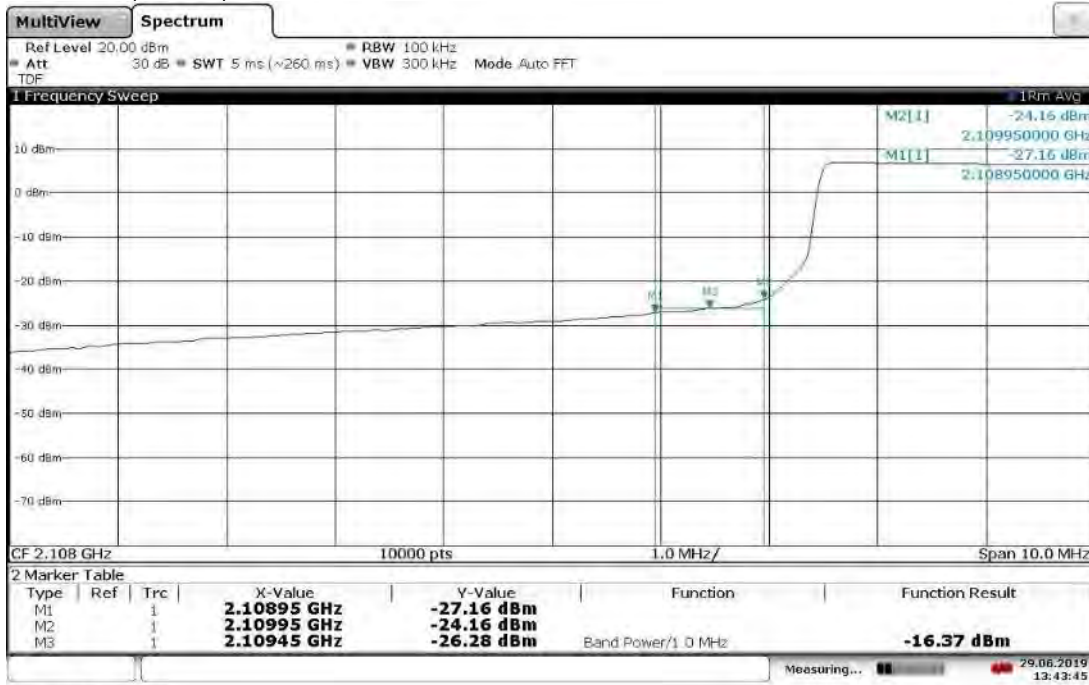
13:53:54 23.07.2019

Band Edge Compliant, Upper Band Edge, 2152.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



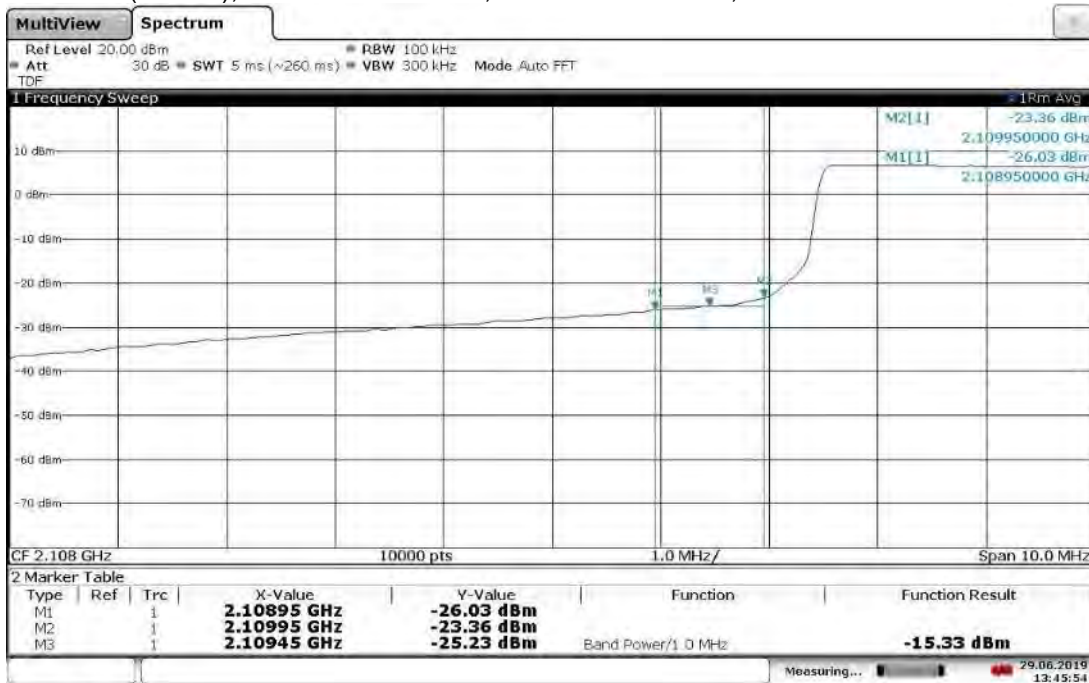
13:53:12 23.07.2019

Band Edge Compliant, Lower Band Edge, 2115 MHz
 Slot 1 (Band 4), Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK



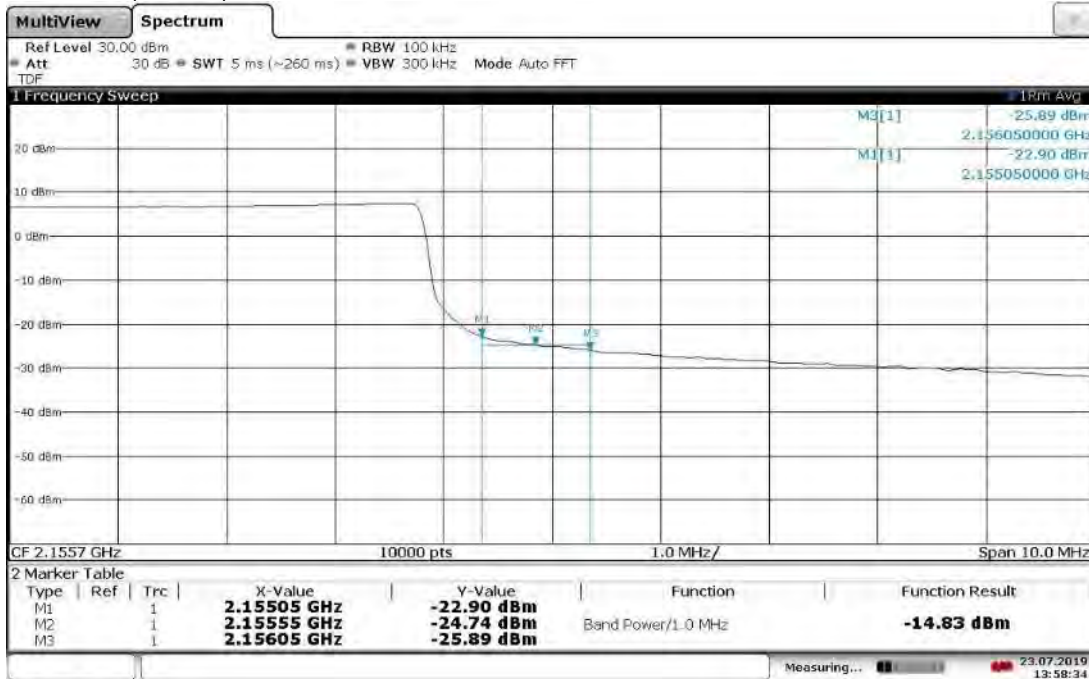
13:43:45 29.06.2019

Band Edge Compliant, Lower Band Edge, 2115 MHz
 Slot 1 (Band 4), Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK

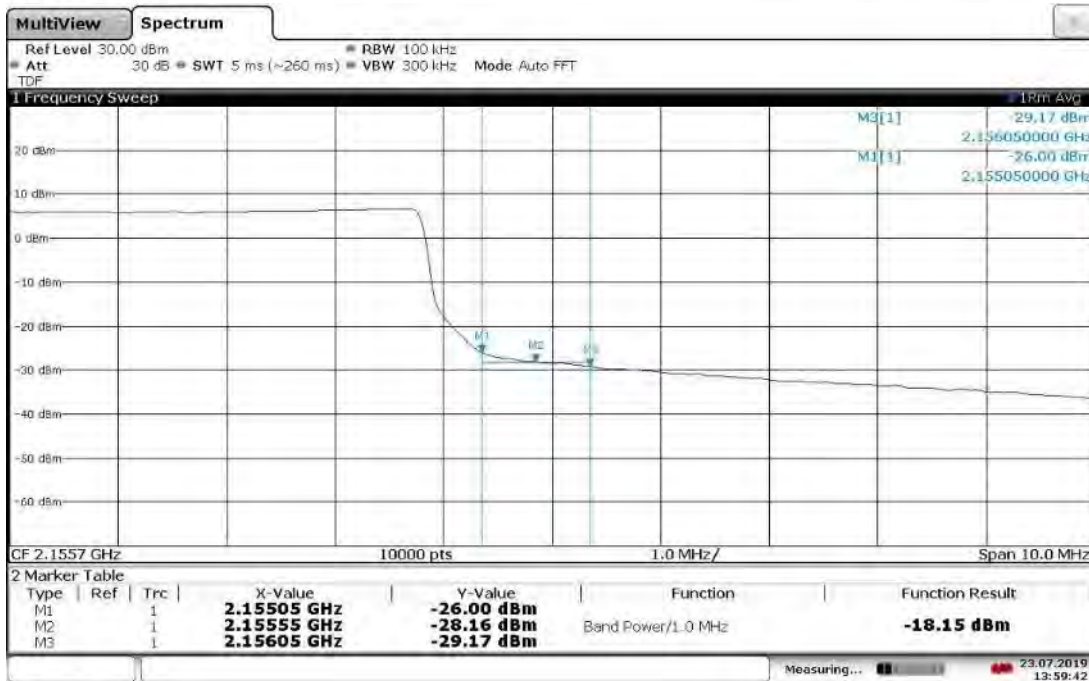


13:45:54 29.06.2019

Band Edge Compliant, Upper Band Edge, 2150 MHz
 Slot 1 (Band 4), Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK



13:58:34 23.07.2019



13:59:43 23.07.2019

Band Edge Compliant, Upper Band Edge, 2150 MHz
 Slot 1 (Band 4), Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK

Band Edge Compliant, Lower Band Edge, 2117.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



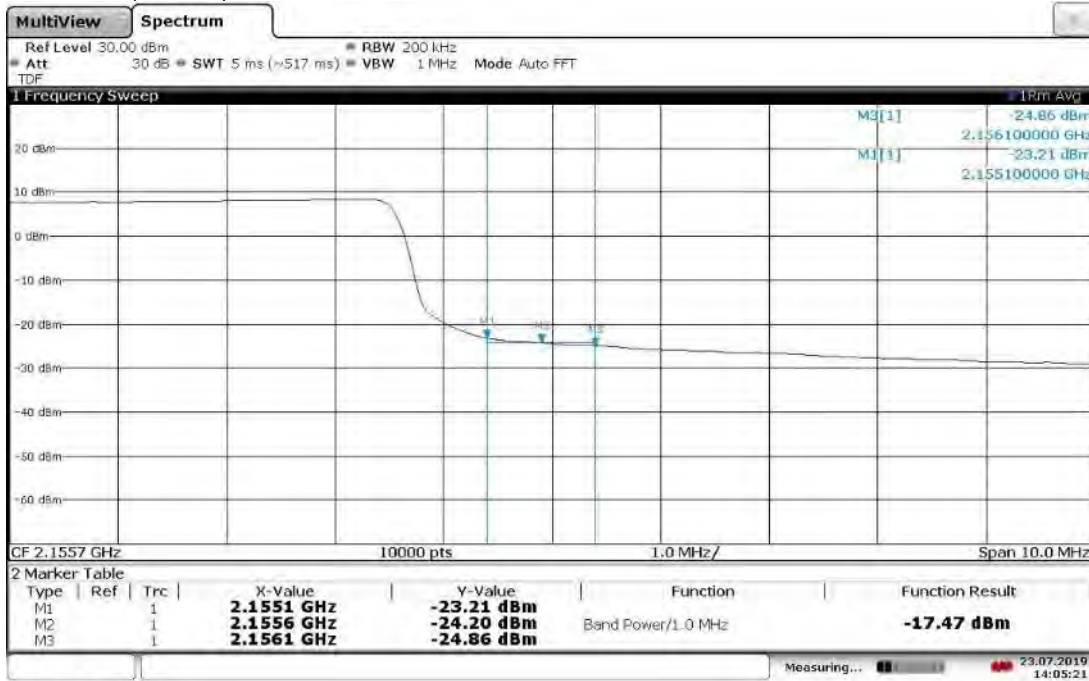
12:55:59 29.06.2019

Band Edge Compliant, Lower Band Edge, 2117.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



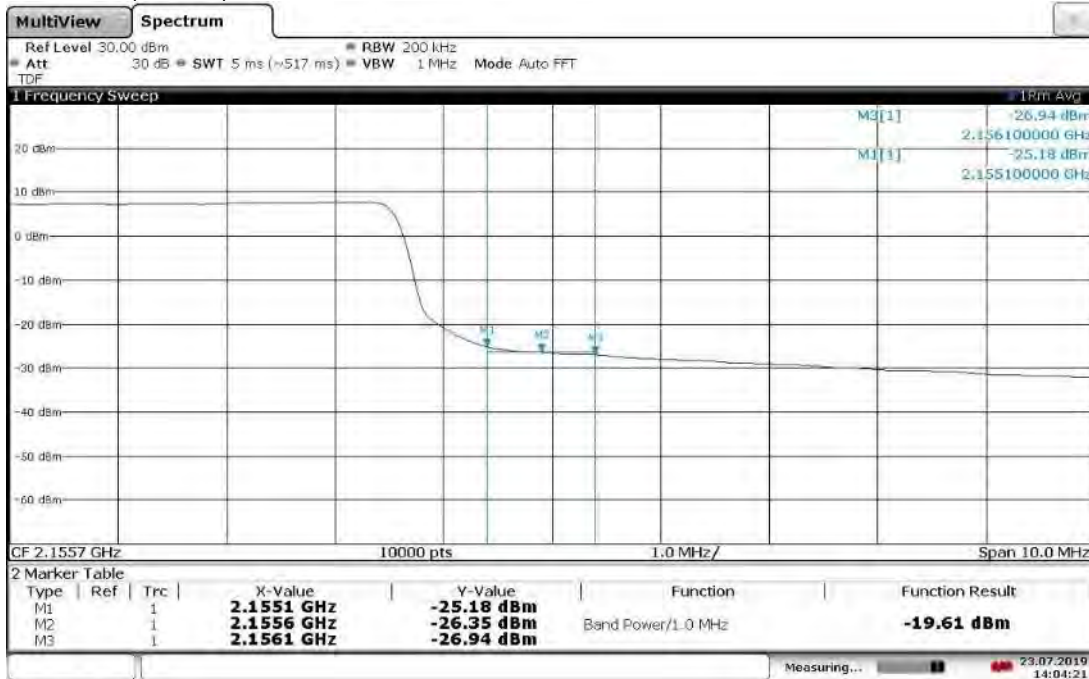
12:58:16 29.06.2019

Band Edge Compliant, Upper Band Edge, 2147.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



14:05:21 23.07.2019

Band Edge Compliant, Upper Band Edge, 2147.5 MHz
 Slot 1 (Band 4), Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



14:04:21 23.07.2019