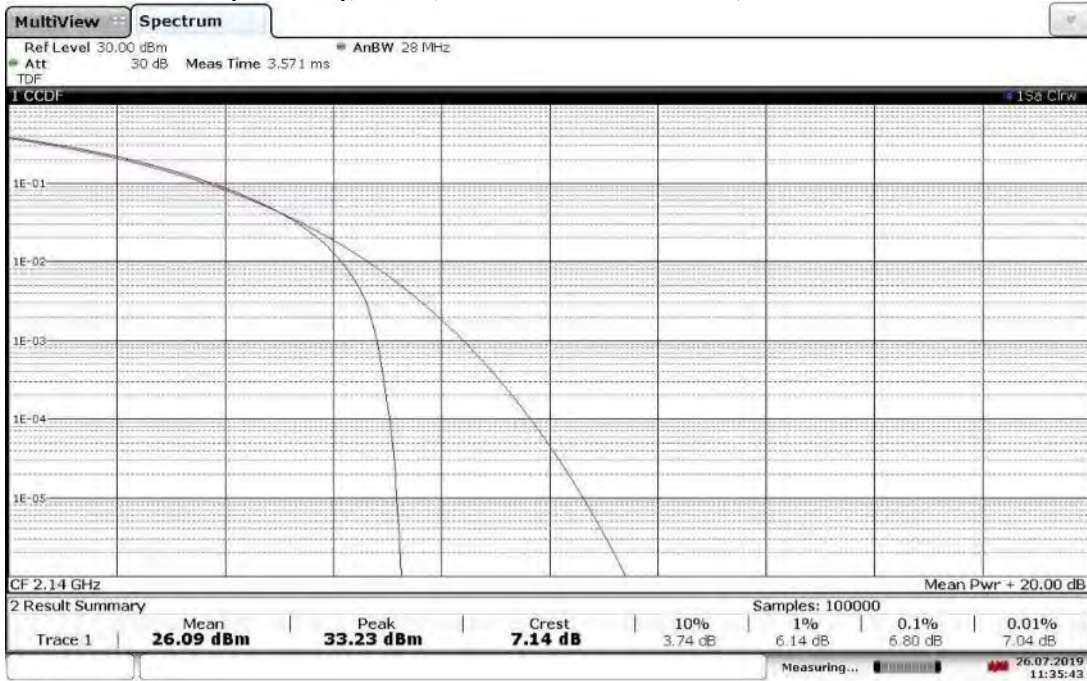
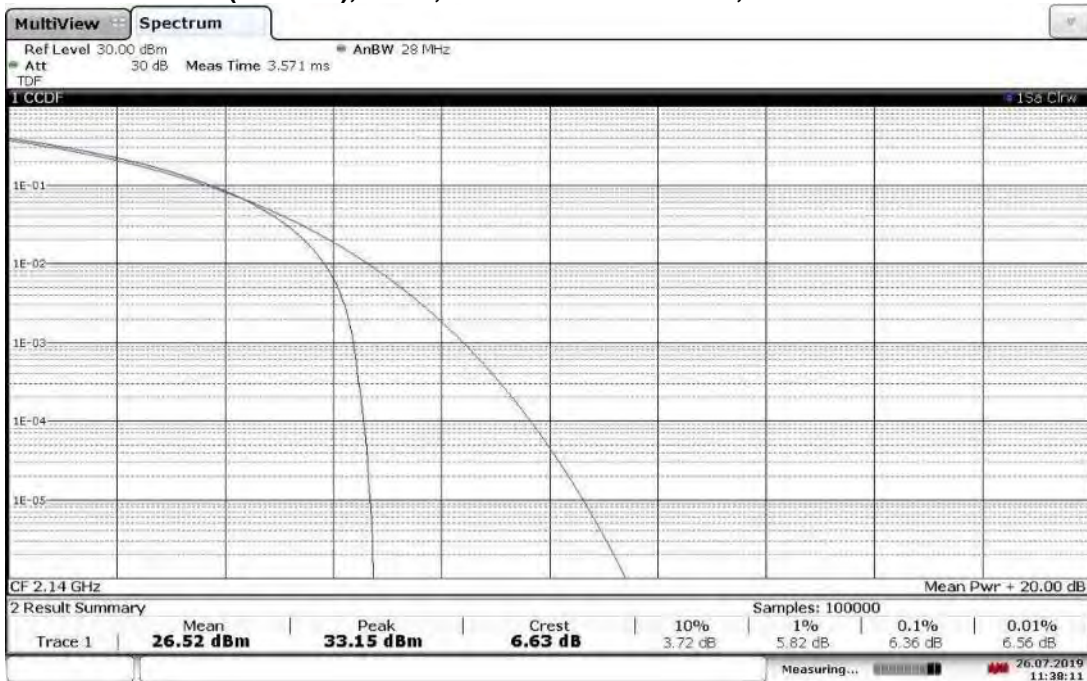


TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz, PAPR = 7.14 dB



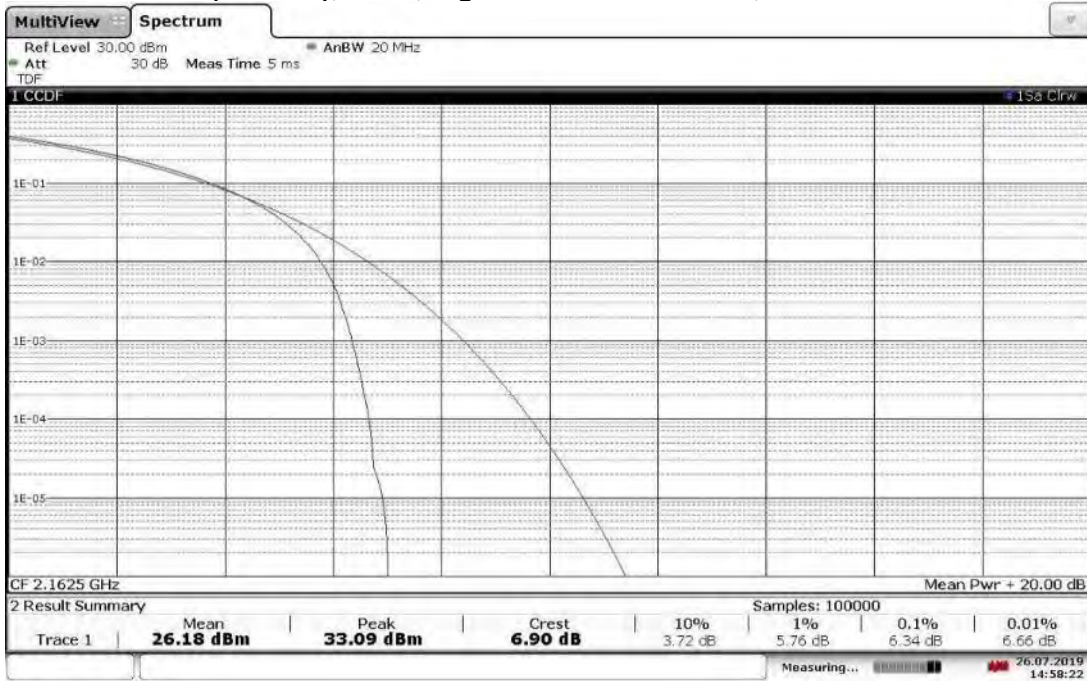
11:35:44 26.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz, PAPR = 6.63 dB



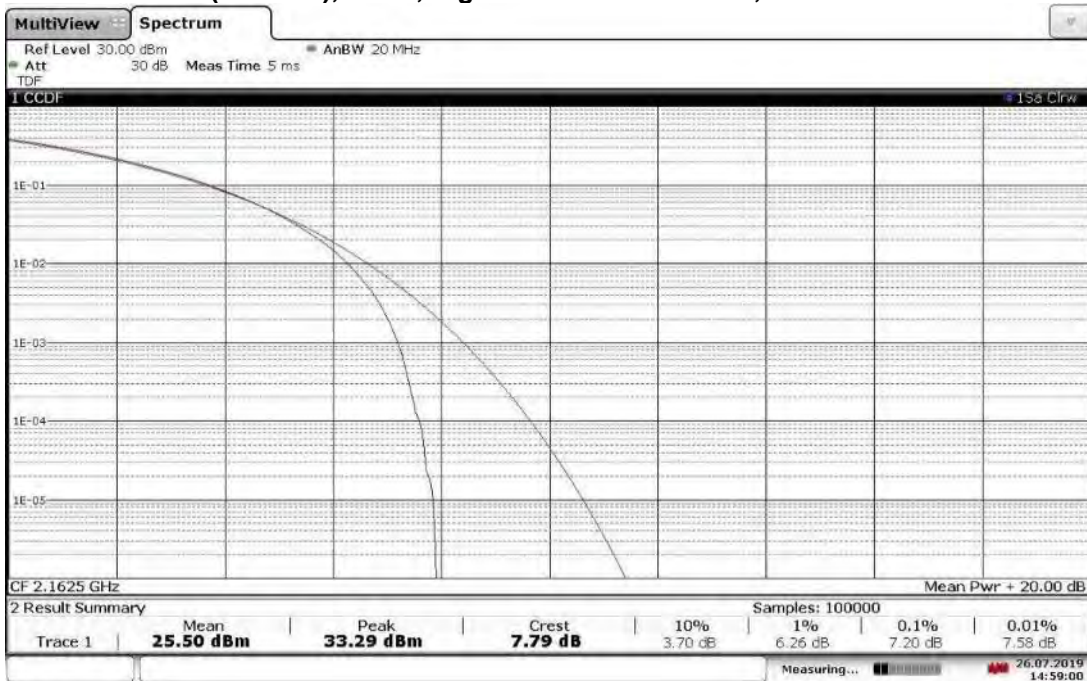
11:38:12 26.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2162.5 MHz, PAPR = 6.90 dB



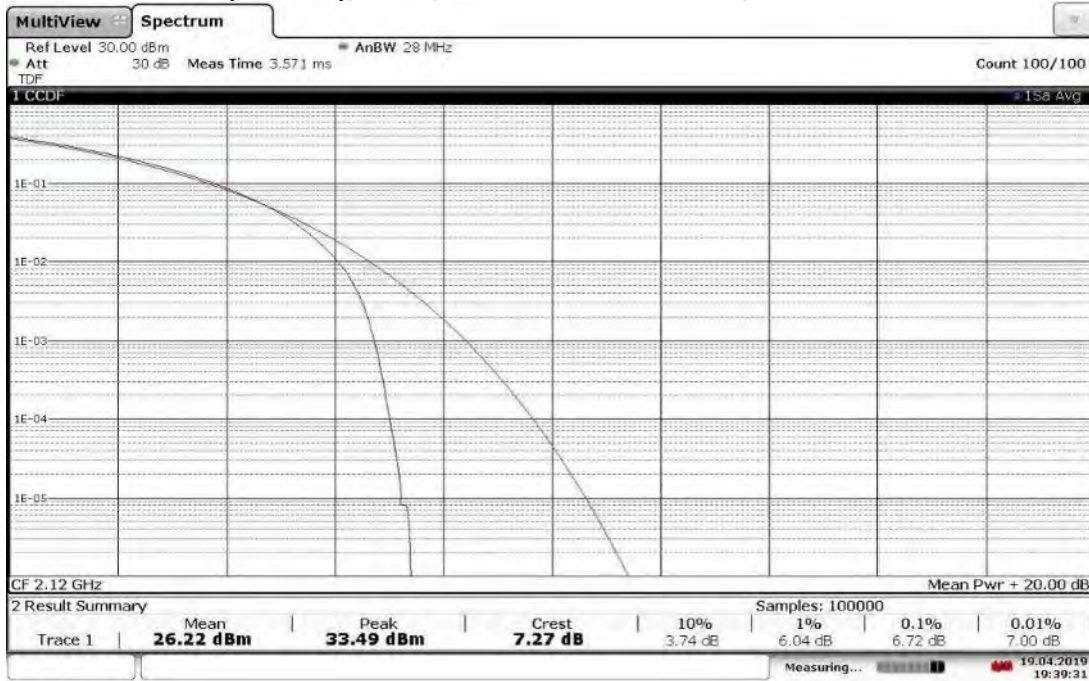
14:58:23 26.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2162.5 MHz, PAPR = 7.79 dB



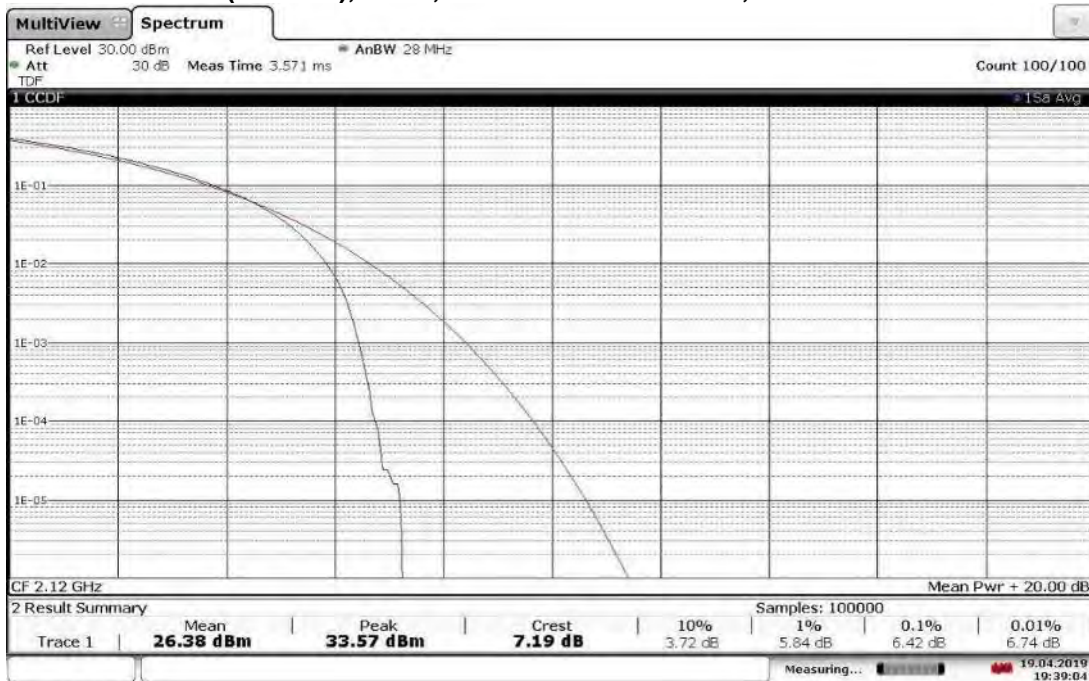
14:59:00 26.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2120 MHz, PAPR = 7.27 dB



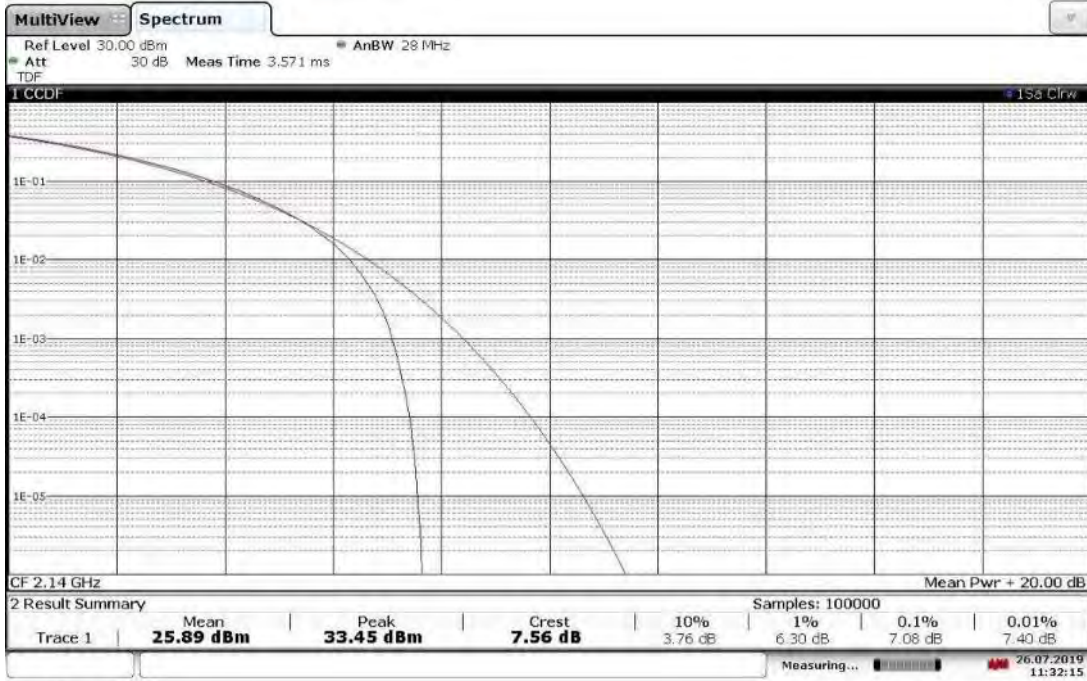
19:39:32 19.04.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2120 MHz, PAPR = 7.19 dB



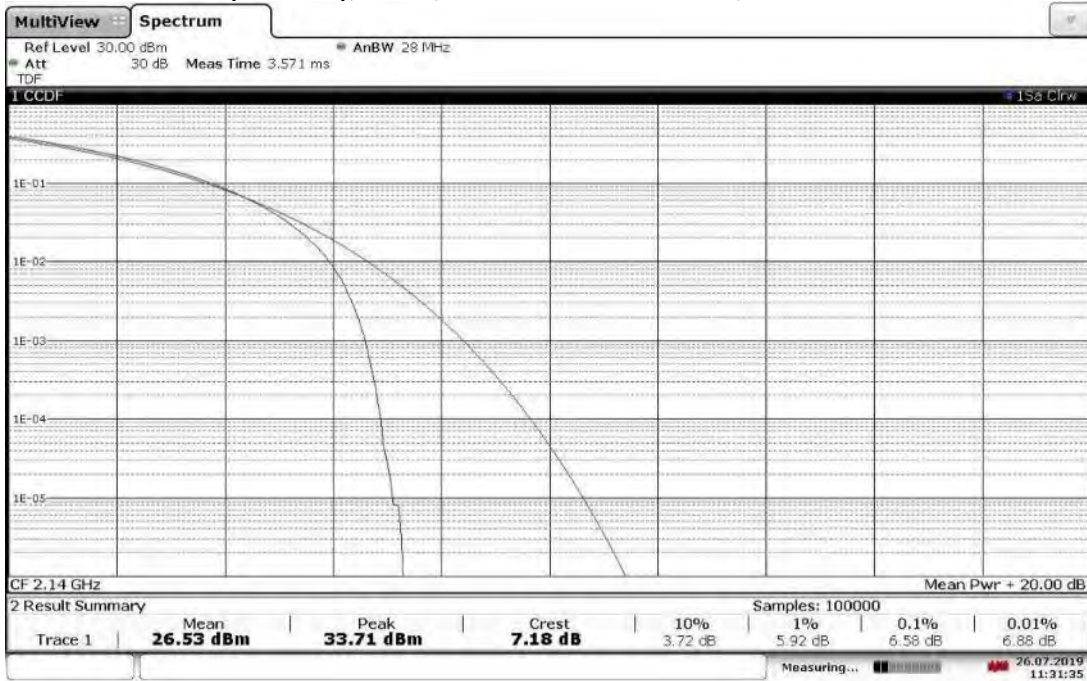
19:39:05 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz, PAPR = 7.56 dB**



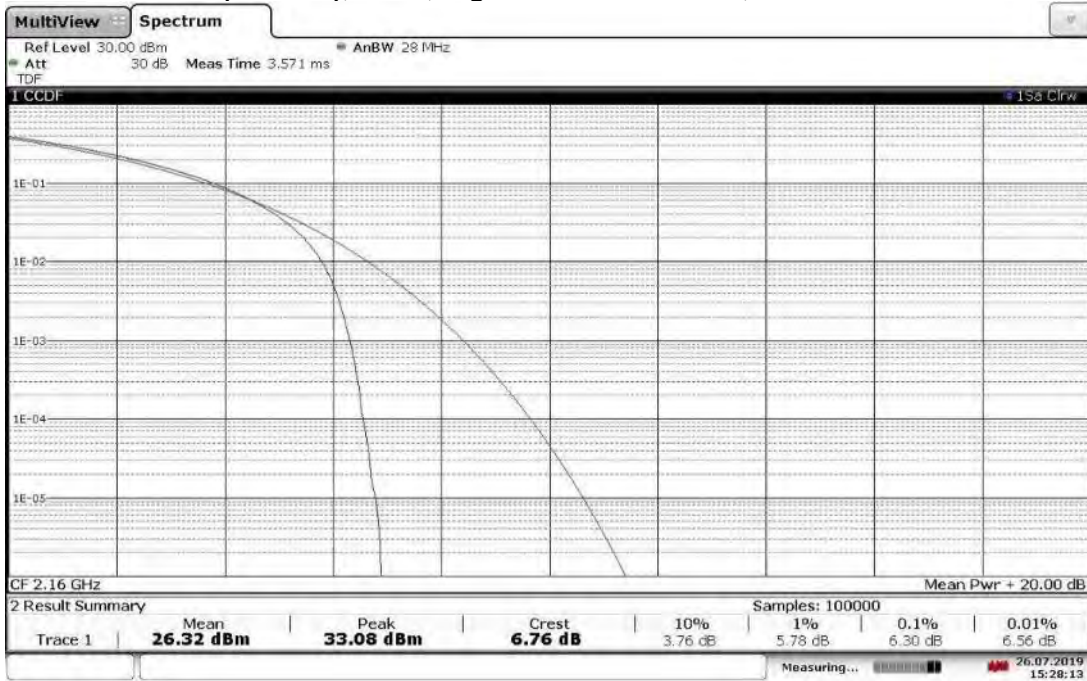
11:32:15 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz, PAPR = 7.18 dB**



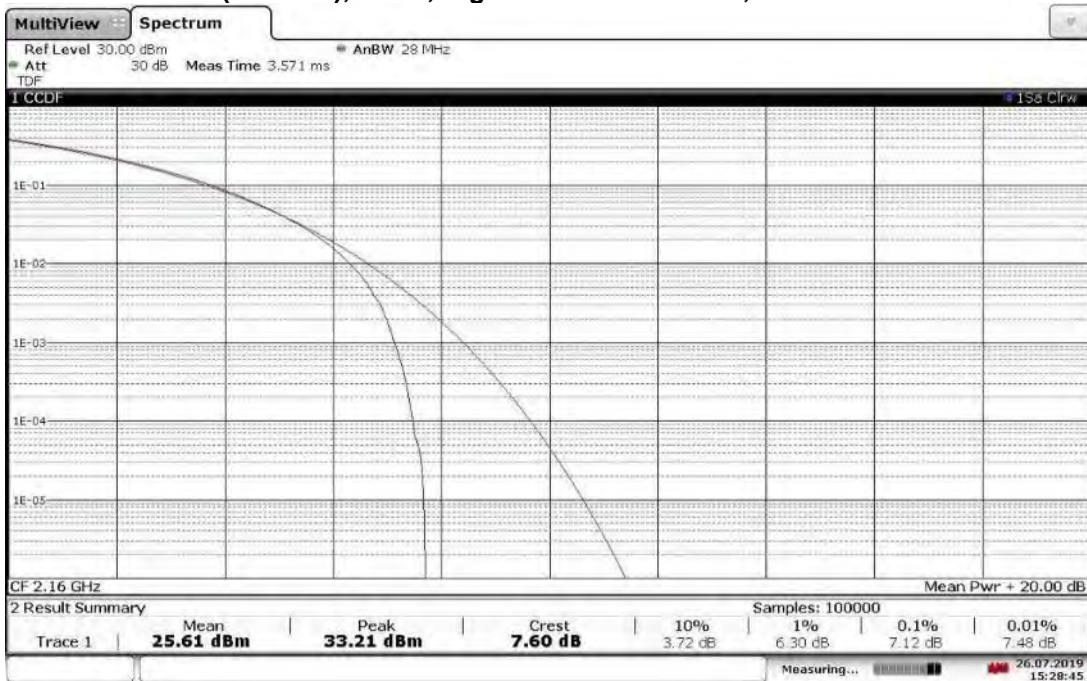
11:31:35 26.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2160 MHz, PAPR = 6.76 dB



15:28:13 26.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2160 MHz, PAPR = 7.60 dB



15:28:46 26.07.2019

Intertek

Report Number: 103866582BOX-24b

Issued: 08/14/2019

Test Personnel:	<u>Kouma Sinn <i>KPS</i></u>	Test Date:	<u>04/10/2019, 04/11/2019, 04/12/2019, 04/15/2019, 04/16/2019, 04/17/2019, 04/18/2019, 04/19/2019, 04/26/2019, 04/30/2019, 07/25/2019, 07/28/2019</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, 23, 23, 22, 22, 22, 20, 22, 22, 22 °C</u>
Input Voltage:	<u>48 VDC (POE)</u>	Relative Humidity:	<u>21, 15, 26, 47, 20, 22, 23, 47, 42, 35, 62, 59 %</u>
Pretest Verification w/ Ambient Signals or BB Source:	<u>N/A</u>	Atmospheric Pressure:	<u>1004, 1013, 1004, 980, 1001, 1011, 1014, 1000, 996, 1017, 1011, 1016 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-24b

Issued: 08/14/2019

Band 10, 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	2140.00	ANT0	4.543	5.32
		ANT1	4.556	5.67
High	2167.50	ANT0	4.526	5.32
		ANT1	4.545	5.37

Band 10, 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	2140.00	ANT0	8.968	9.96
		ANT1	8.981	10.00
High	2165.00	ANT0	8.910	10.02
		ANT1	8.984	9.940

Band 10, 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	2140.00	ANT0	13.517	14.74
		ANT1	13.512	14.82
High	2162.50	ANT0	13.520	15.17
		ANT1	13.541	14.99

Band 10, 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	2140.00	ANT0	17.891	19.63
		ANT1	17.934	19.51
High	2160.00	ANT0	17.915	19.69
		ANT1	17.911	19.57

Band 10, 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	4.503	5.00
		ANT1	4.514	5.13
High	2152.50	ANT0	4.510	5.09
		ANT1	4.516	4.98

Band 10, 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	2140.00	ANT0	9.013	9.76

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Report Number: 103866582BOX-24b

Issued: 08/14/2019

		ANT1	8.951	9.86
High	2165.00	ANT0	9.025	9.76
		ANT1	8.969	9.85

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Report Number: 103866582BOX-24b

Issued: 08/14/2019

Band 10, 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	2140.00	ANT0	13.433	14.57
		ANT1	13.454	14.56
High	2162.50	ANT0	13.476	14.73
		ANT1	13.458	14.57

Band 10, 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	2140.00	ANT0	17.879	19.48
		ANT1	17.913	19.62
High	2160.00	ANT0	17.944	19.69
		ANT1	17.983	19.73

Band 10, 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	2140.00	ANT0	4.550	5.05
		ANT1	4.555	5.03
High	2167.50	ANT0	4.574	5.42
		ANT1	4.562	4.99

Band 10, 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	2140.00	ANT0	8.994	9.83
		ANT1	9.003	9.87
High	2165.00	ANT0	9.007	9.86
		ANT1	9.002	9.92

Band 10, 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	2140.00	ANT0	13.494	14.88
		ANT1	13.440	14.73
High	2162.50	ANT0	13.488	14.93
		ANT1	13.487	14.68

Band 10, 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	2140.00	ANT0	17.877	19.56

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Report Number: 103866582BOX-24b

Issued: 08/14/2019

		ANT1	17.966	19.71
High	2160.00	ANT0	17.949	19.77
		ANT1	17.900	19.59

Intertek

Report Number: 103866582BOX-24b

Issued: 08/14/2019

Band 10, 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	2140.00	ANT0	4.546	5.04
		ANT1	4.526	5.09
High	2167.50	ANT0	4.541	5.05
		ANT1	4.539	5.05

Band 10, 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	2140.00	ANT0	8.963	9.82
		ANT1	8.985	9.90
High	2165.00	ANT0	8.979	9.86
		ANT1	8.965	9.86

Band 10, 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	14.23
Mid	2140.00	ANT0	13.503	14.75
		ANT1	13.527	14.86
High	2162.50	ANT0	13.530	14.83
		ANT1	13.460	14.71

Band 10, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM

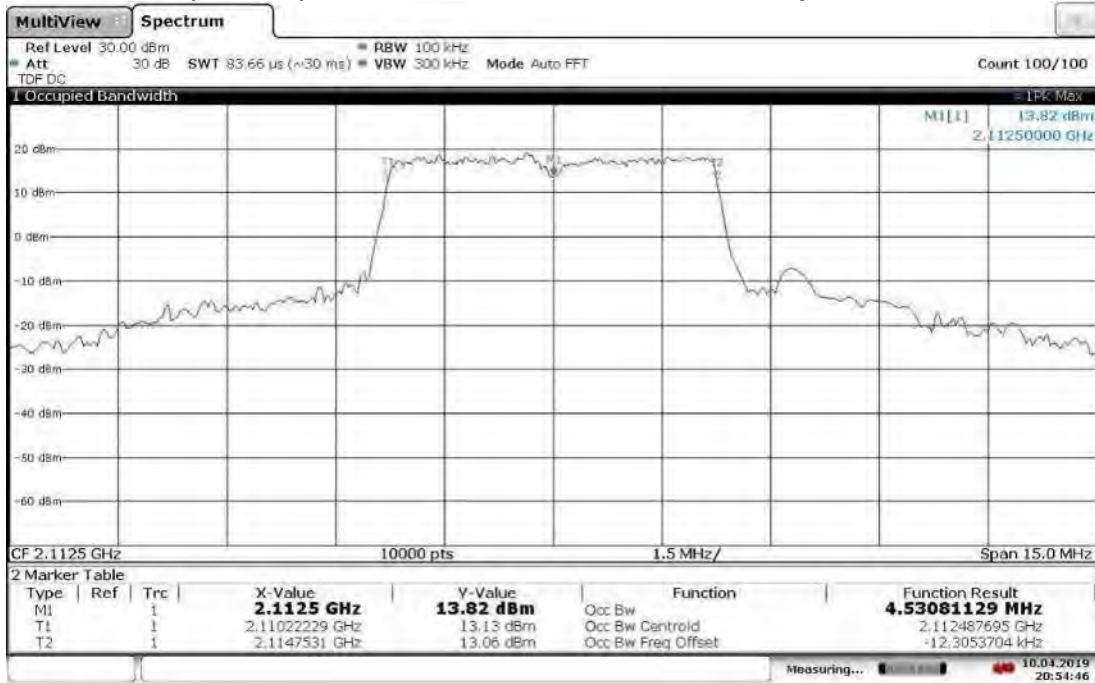
Channel	Frequency (MHz)	Antenna Port	Occupied BW (MHz)	26 dB BW (MHz)
Low	2120.00	ANT0	17.848	19.42
		ANT1	17.928	19.49
Mid	2140.00	ANT0	17.886	19.63
		ANT1	17.929	19.52
High	2160.00	ANT0	17.907	19.93
		ANT1	17.913	19.68

8.4 Setup Photograph:



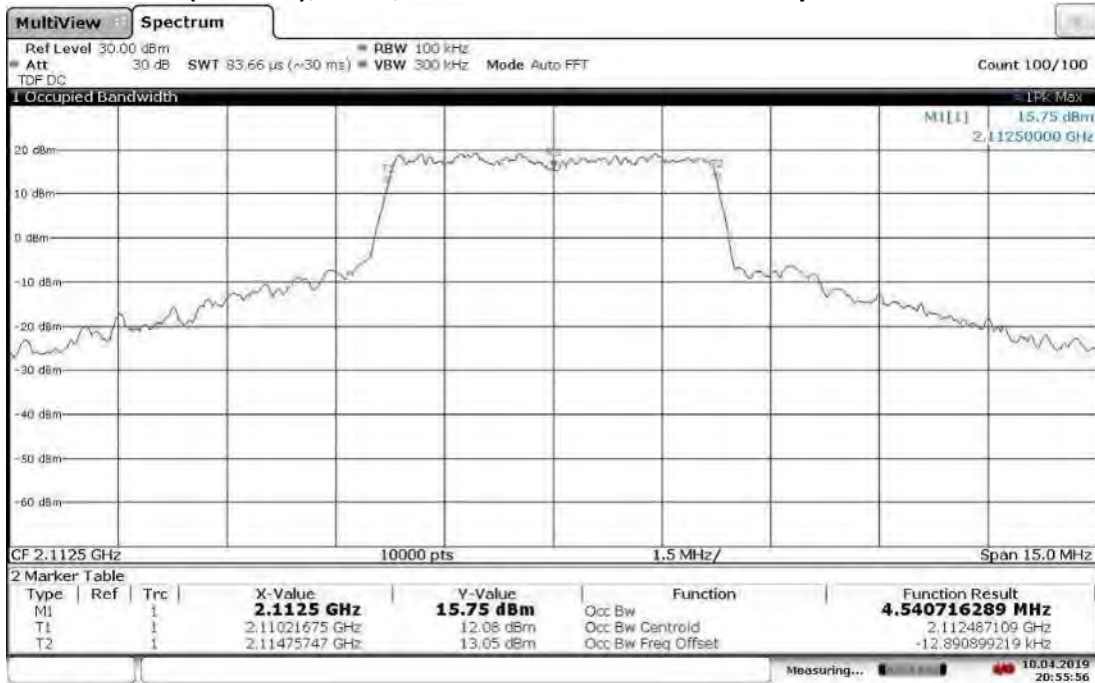
8.5 Plots/Data:

TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2112.5 MHz Occupied Bandwidth



20:54:46 10.04.2019

TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2112.5 MHz Occupied Bandwidth



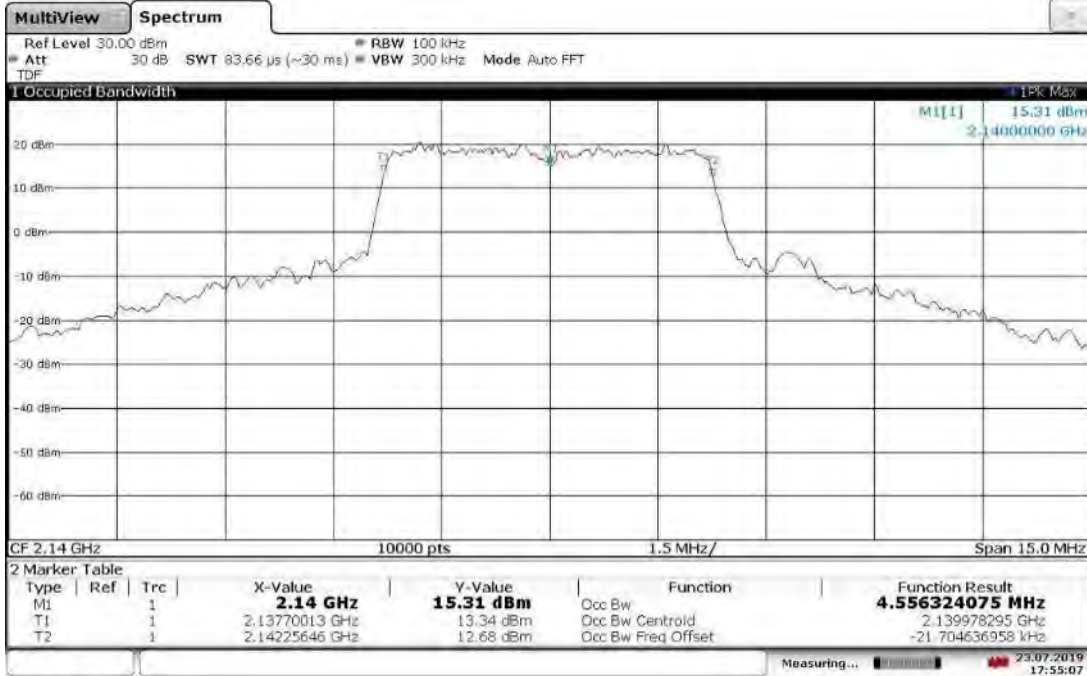
20:55:57 10.04.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



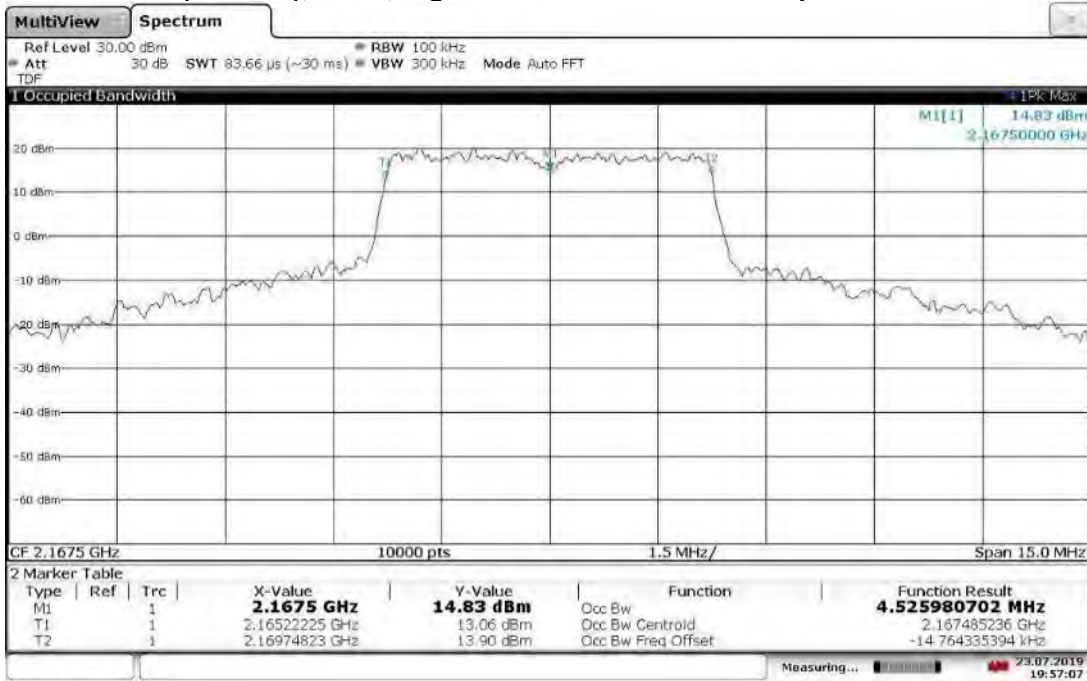
17:58:25 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



17:55:08 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2167.5 MHz Occupied Bandwidth**



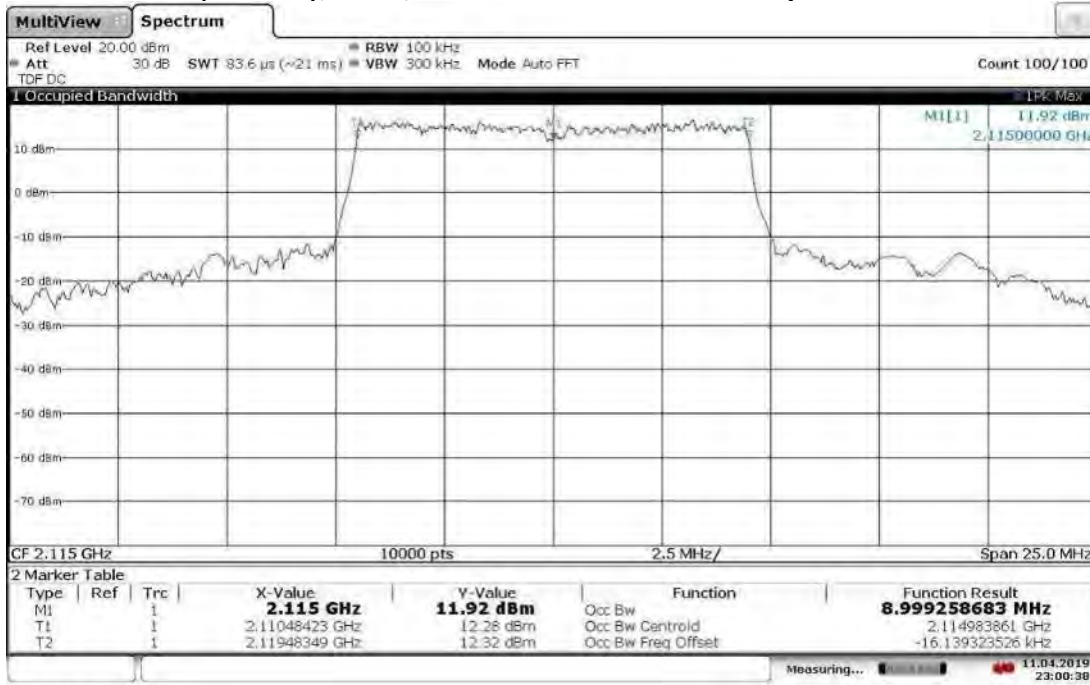
19:57:08 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2167.5 MHz Occupied Bandwidth**



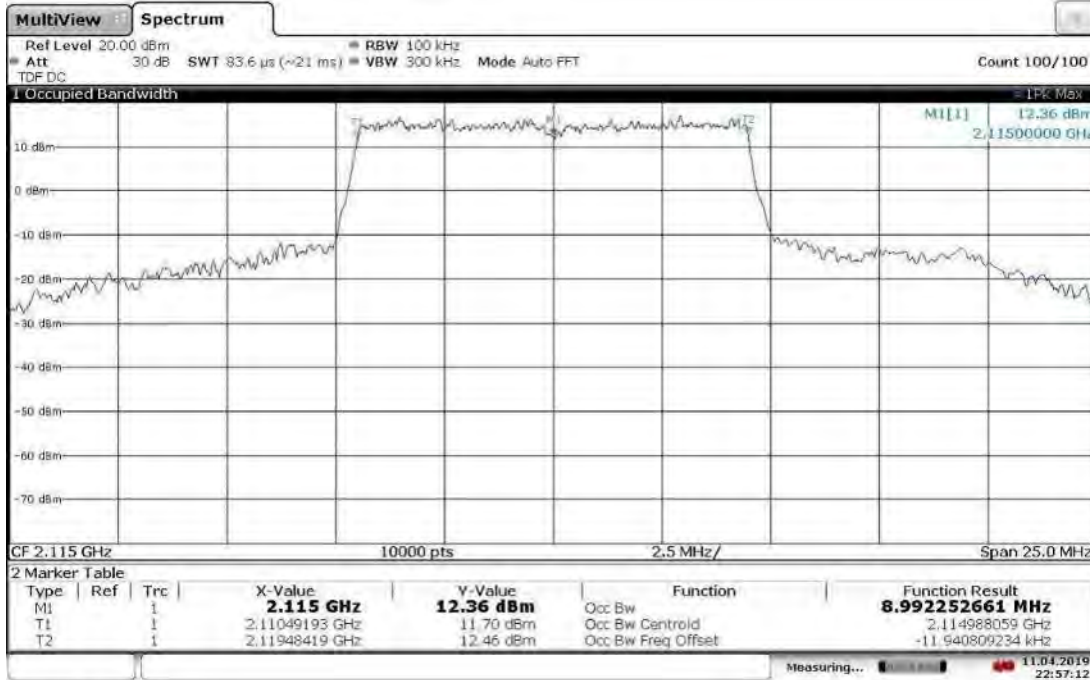
19:53:21 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2115 MHz Occupied Bandwidth**



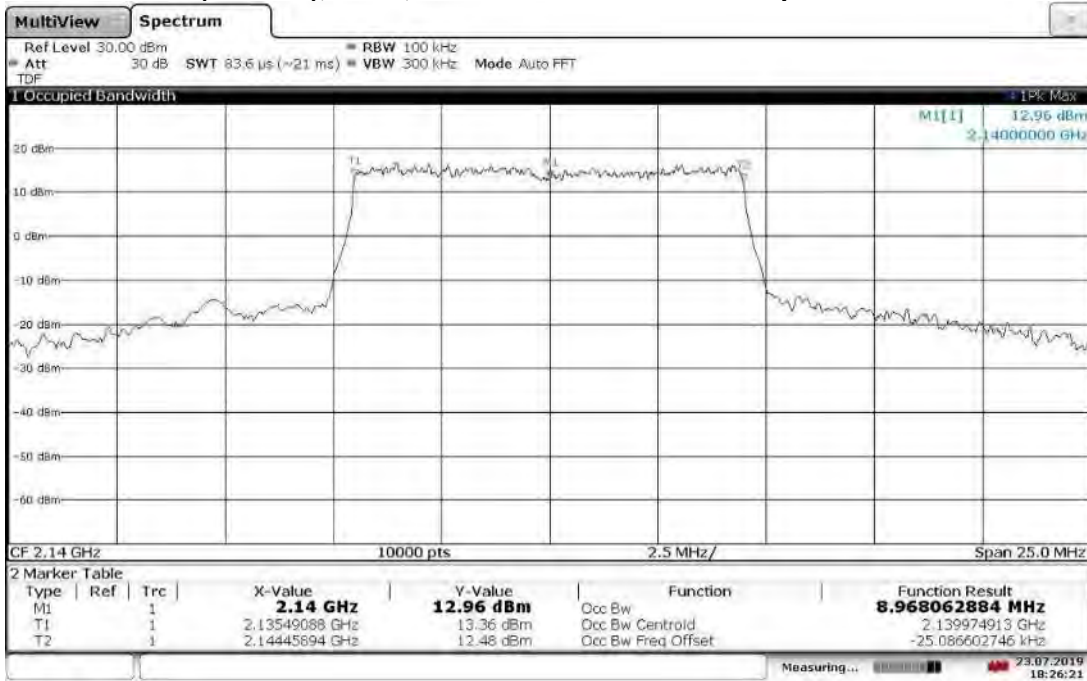
23:00:39 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2115 MHz Occupied Bandwidth**



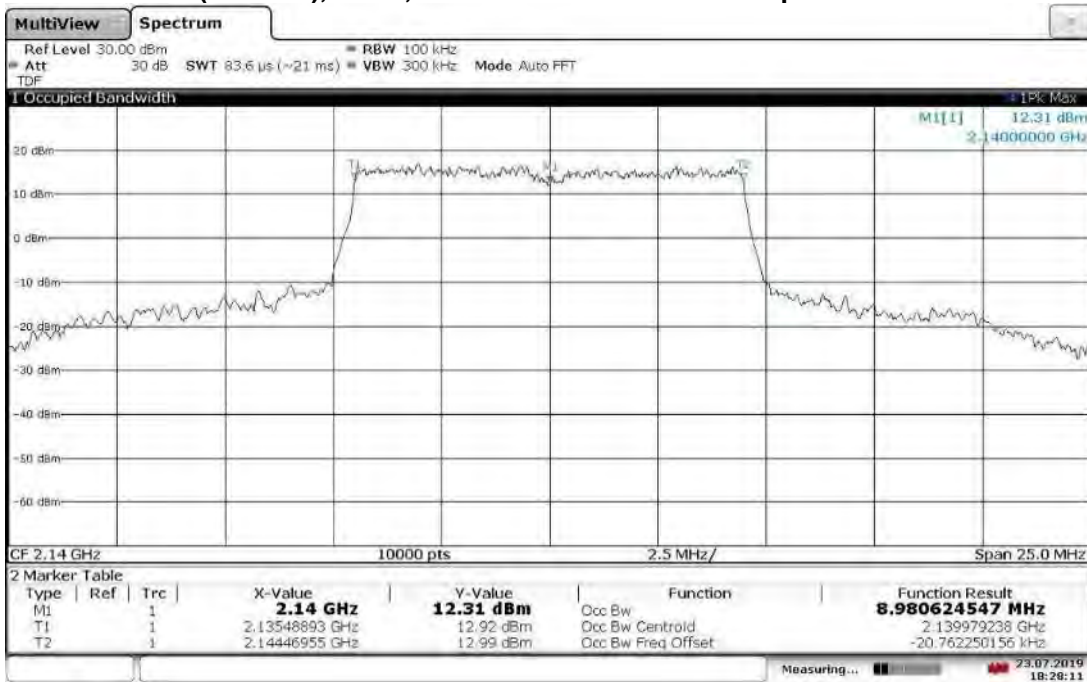
22:57:13 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



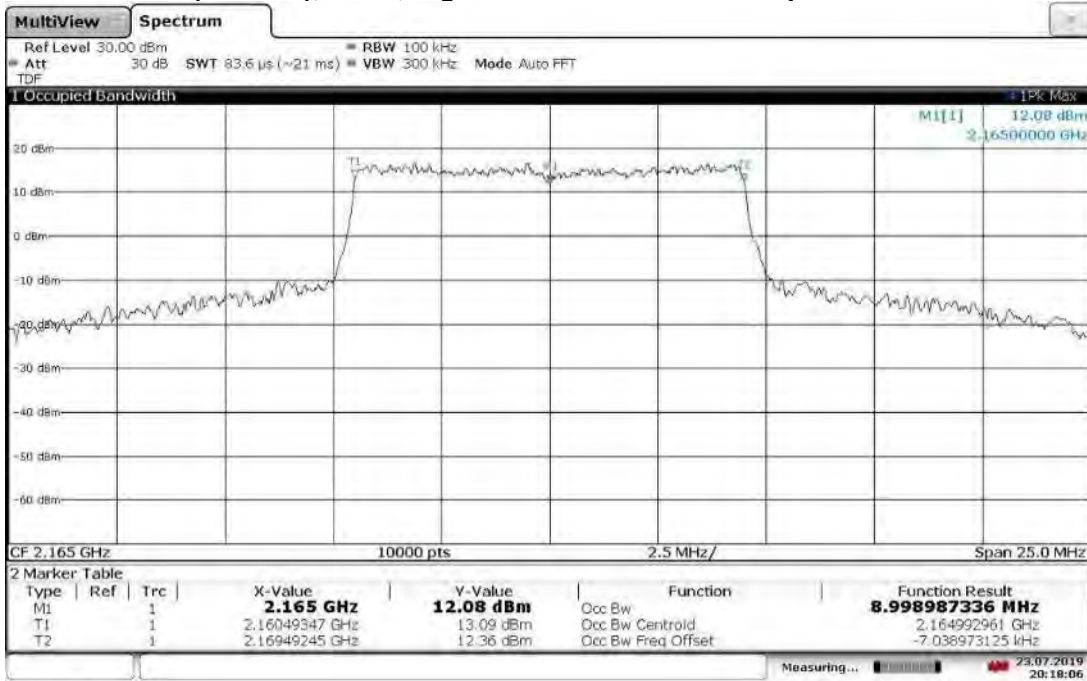
18:26:22 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



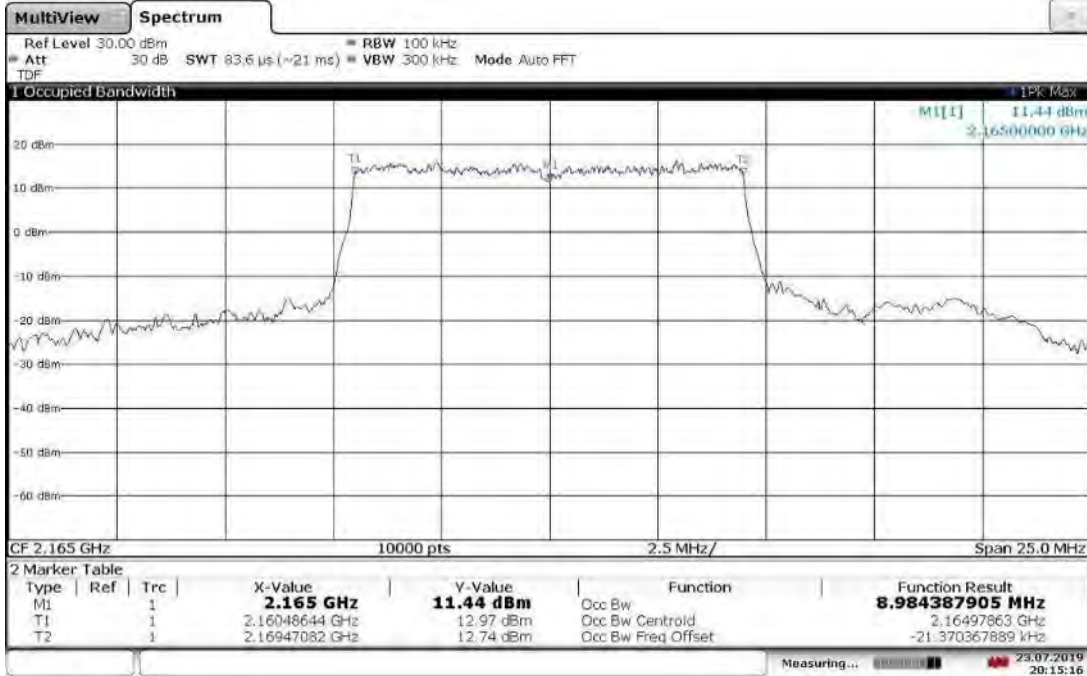
18:28:11 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2165 MHz Occupied Bandwidth**



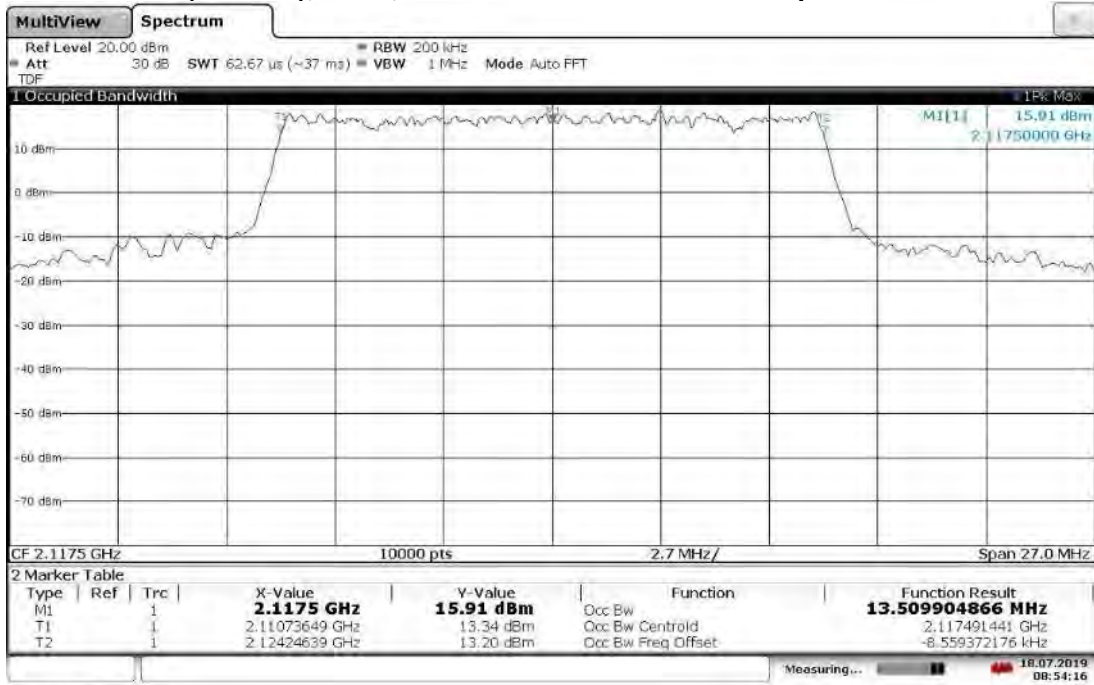
20:18:07 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2165 MHz Occupied Bandwidth**



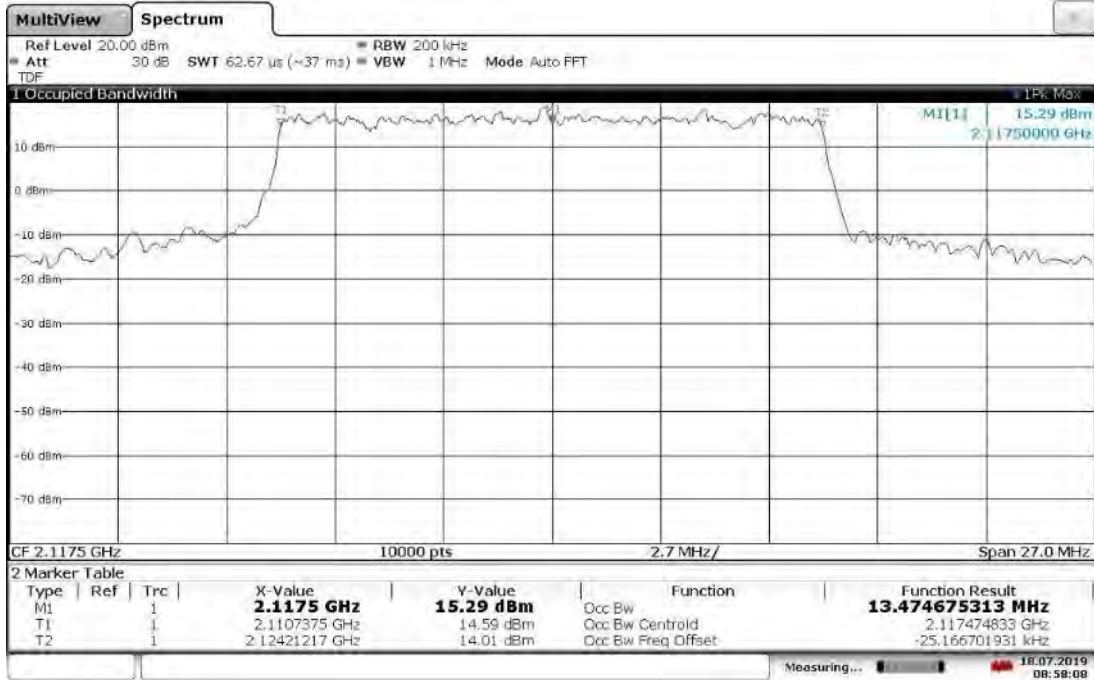
20:15:17 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2117.5 MHz Occupied Bandwidth**



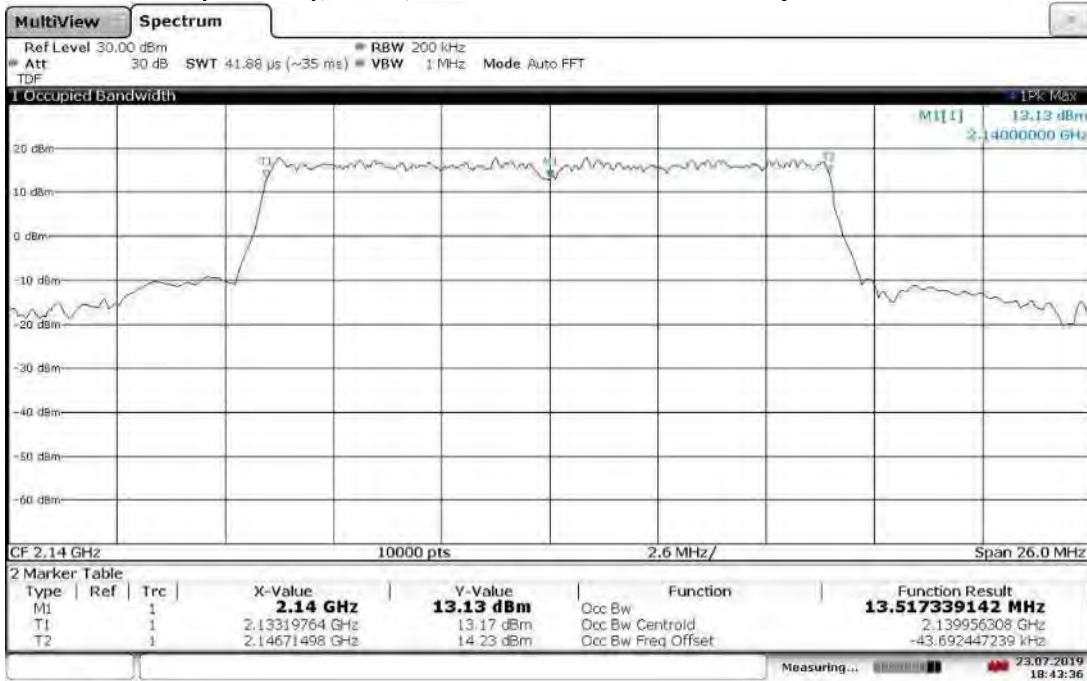
08:54:16 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2117.5 MHz Occupied Bandwidth**



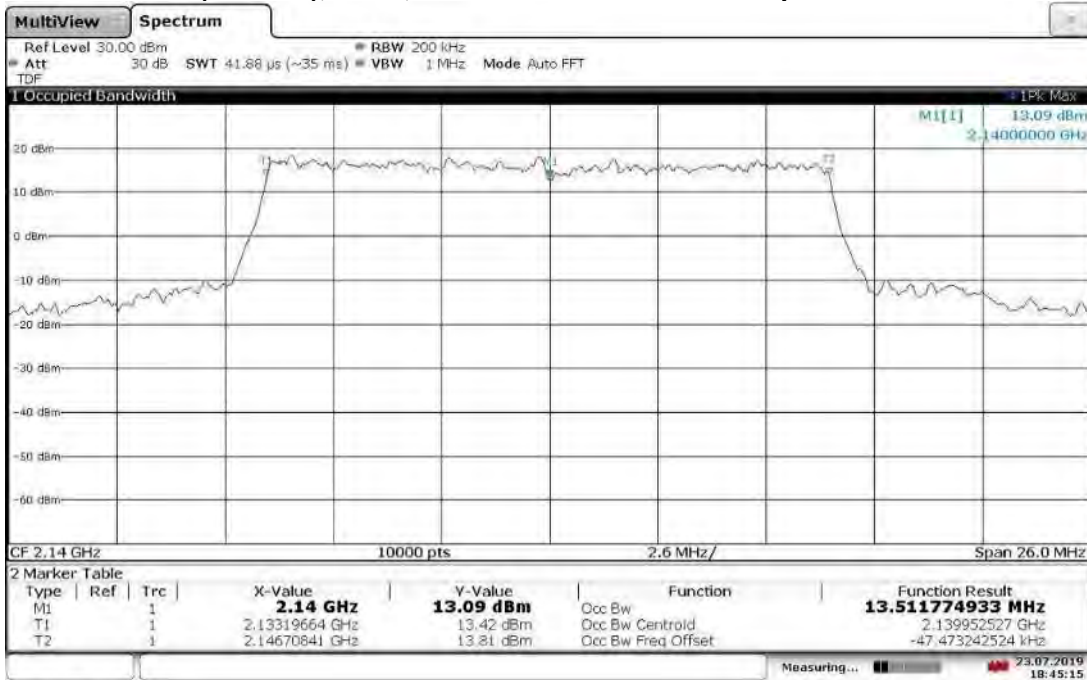
08:58:08 18.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



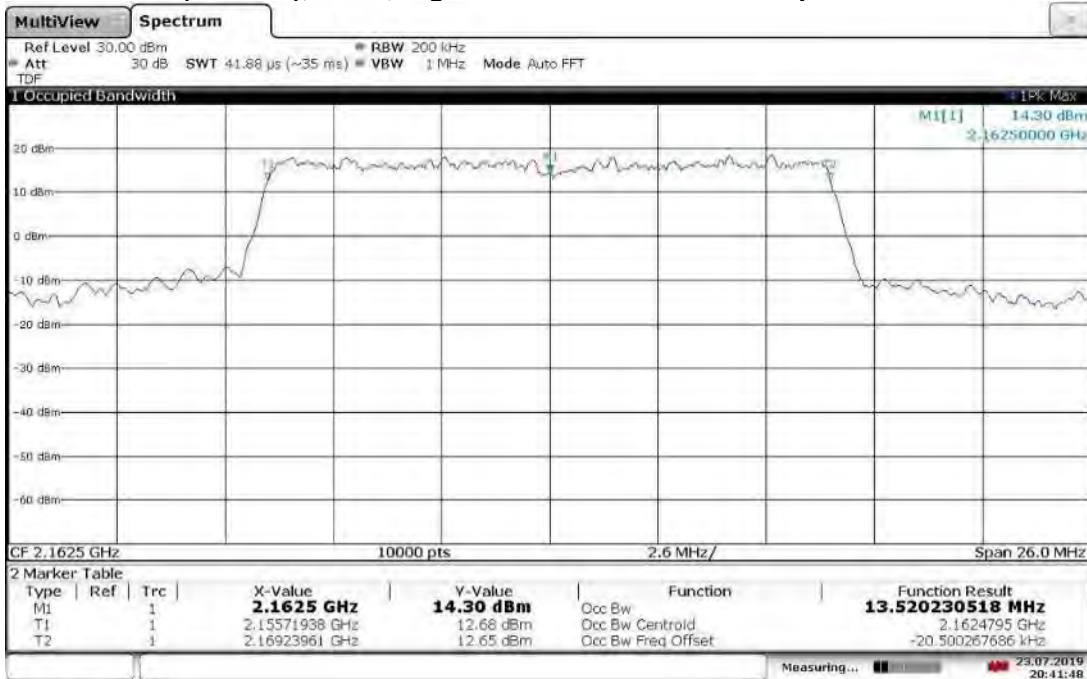
18:43:36 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



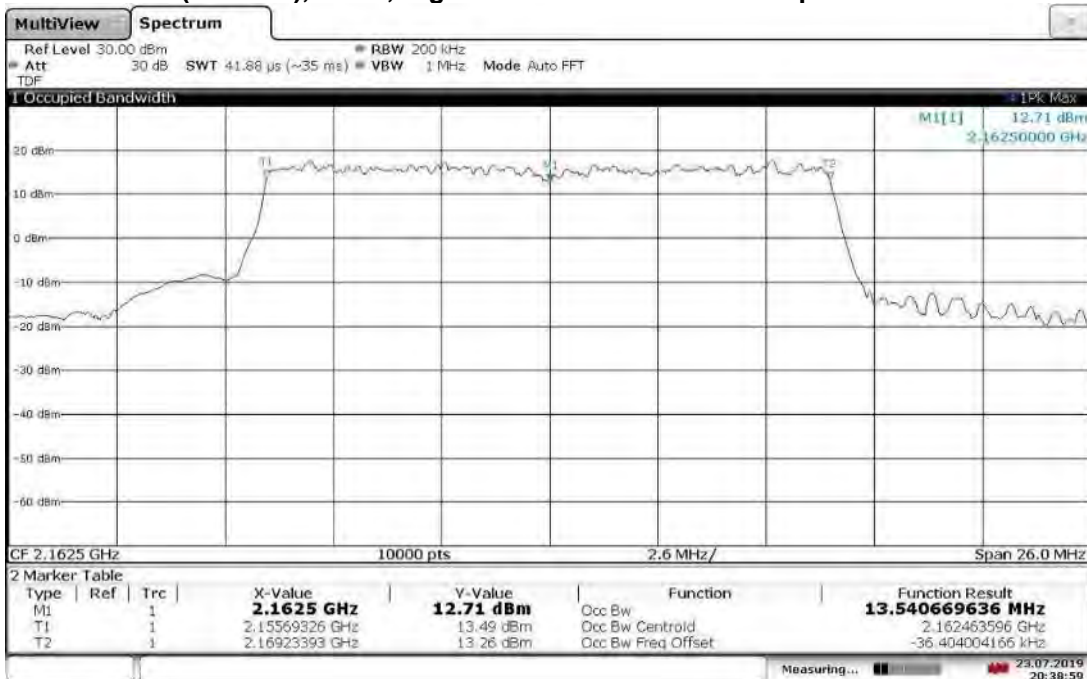
18:45:15 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2162.5 MHz Occupied Bandwidth**



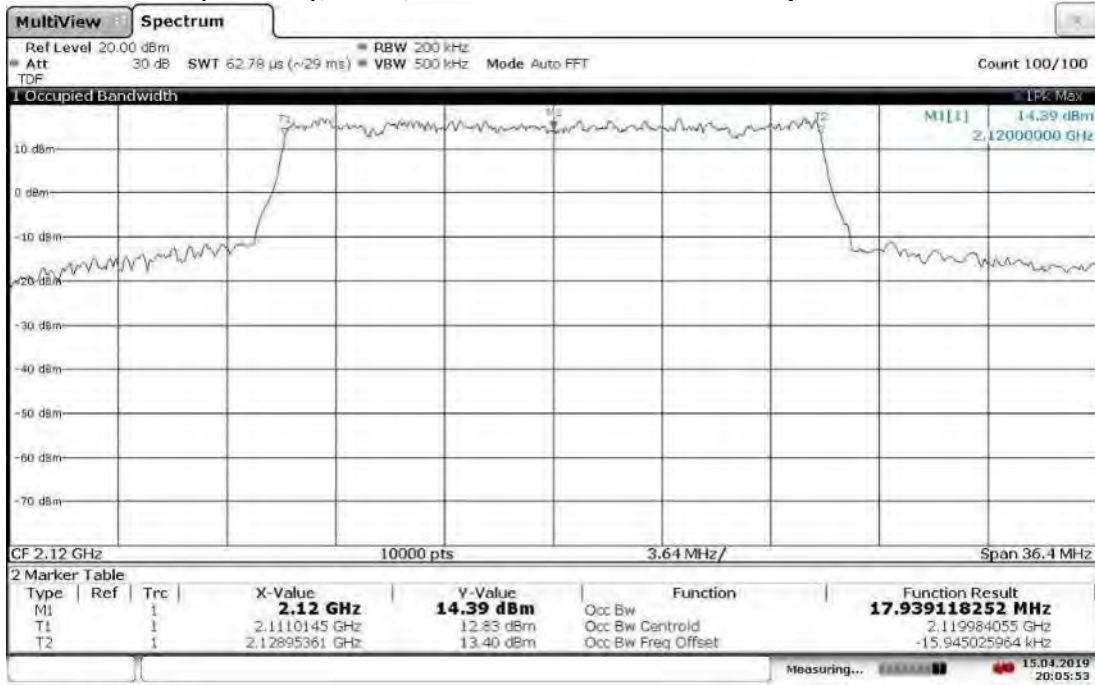
20:41:48 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2162.5 MHz Occupied Bandwidth**



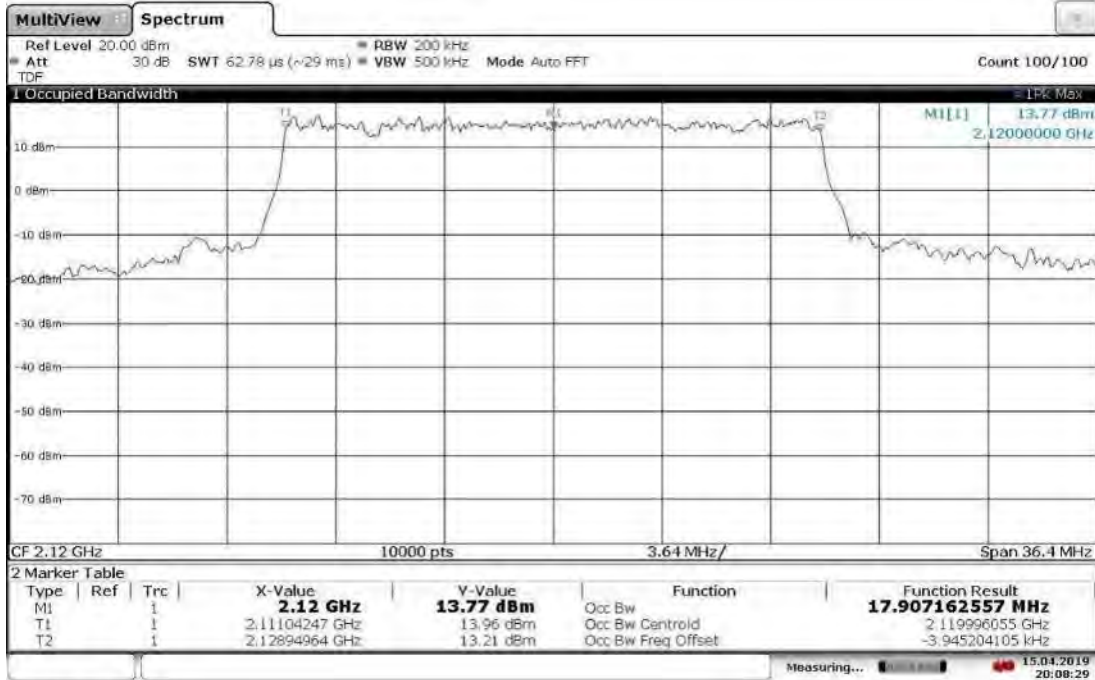
20:38:59 23.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2120 MHz Occupied Bandwidth**



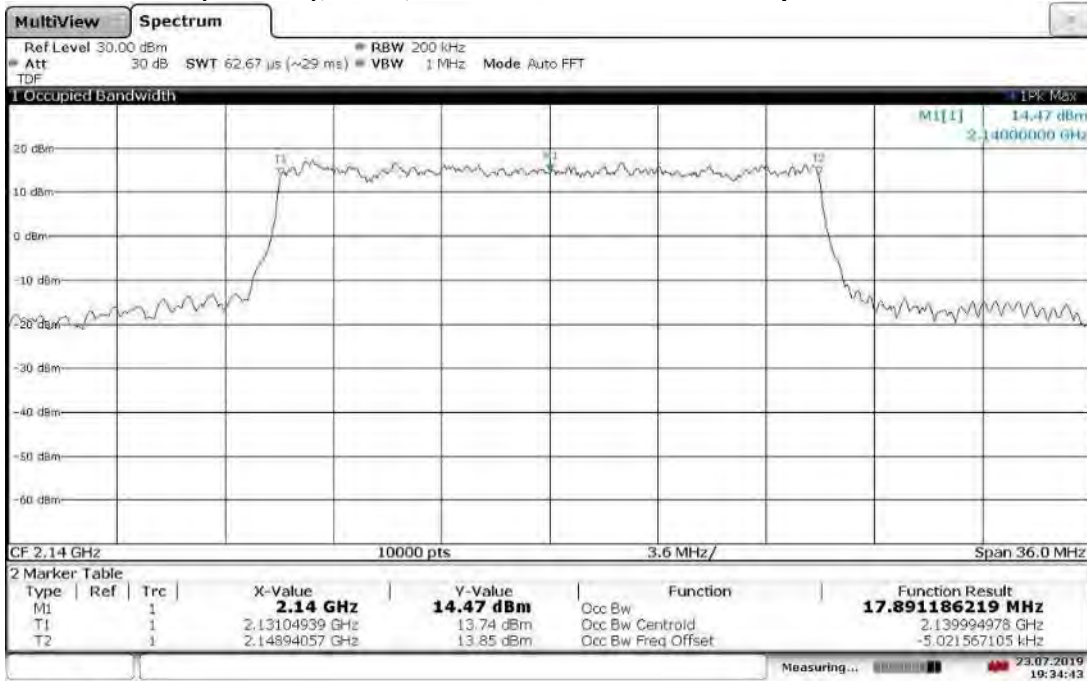
20:05:54 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2120 MHz Occupied Bandwidth**



20:08:29 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



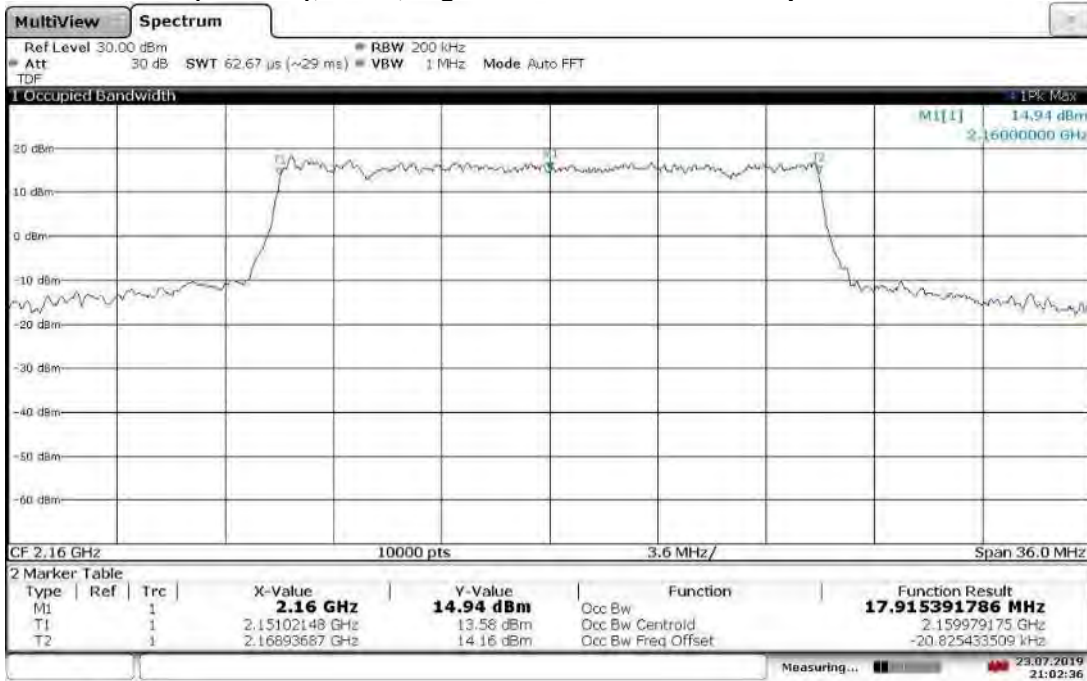
19:34:43 23.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



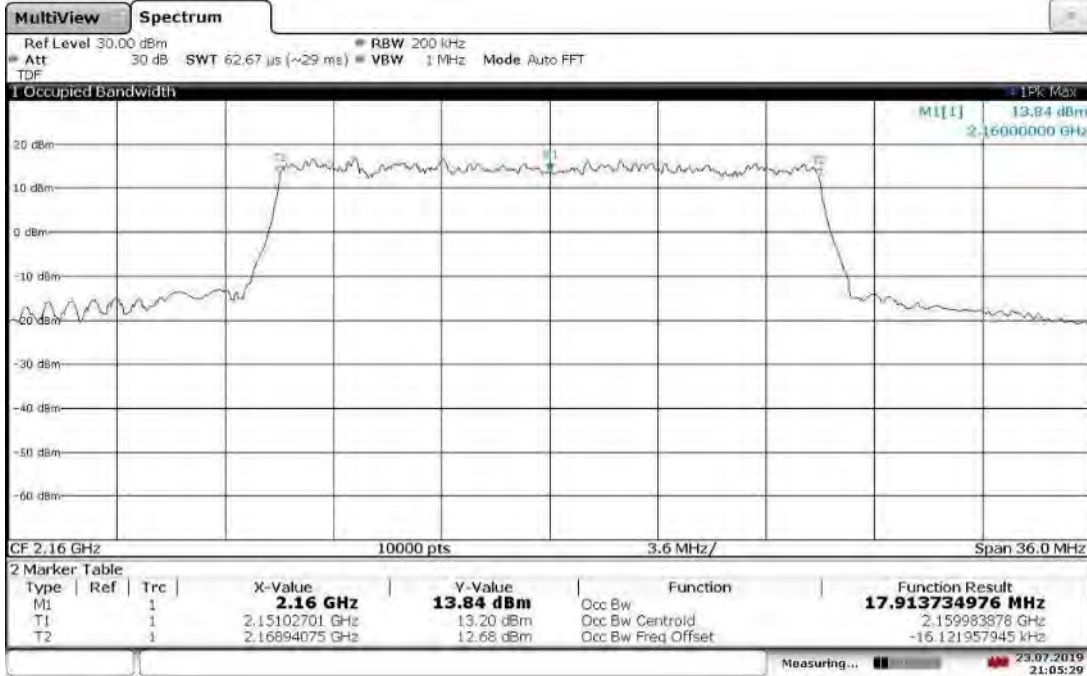
19:32:59 23.07.2019

TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2160 MHz Occupied Bandwidth



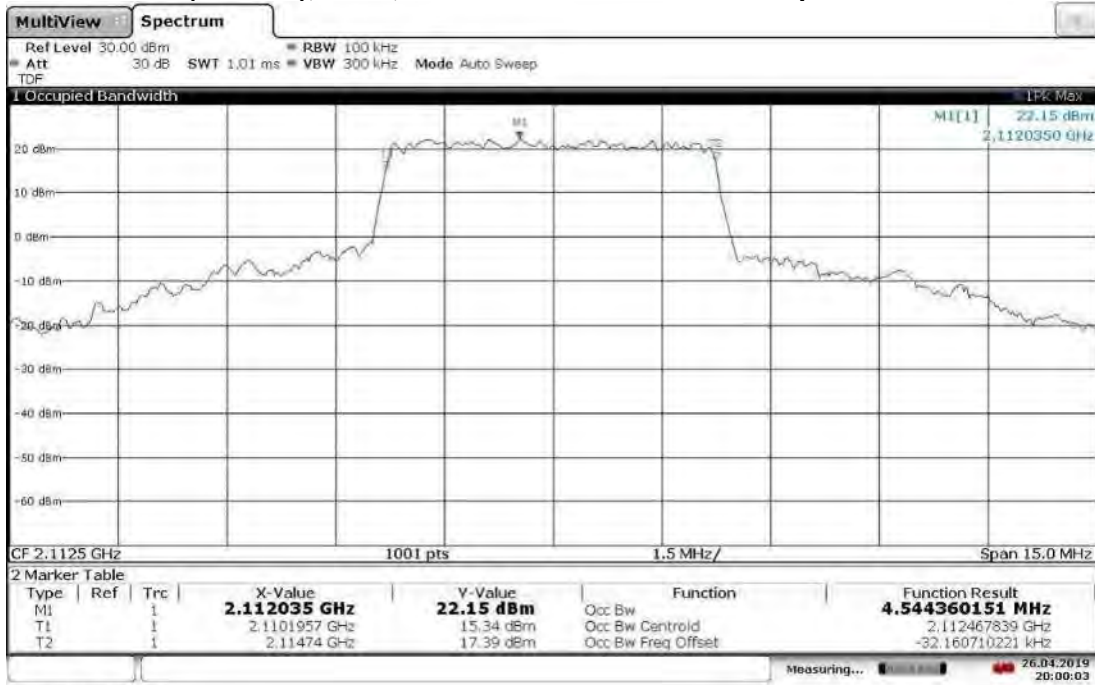
21:02:36 23.07.2019

TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2160 MHz Occupied Bandwidth



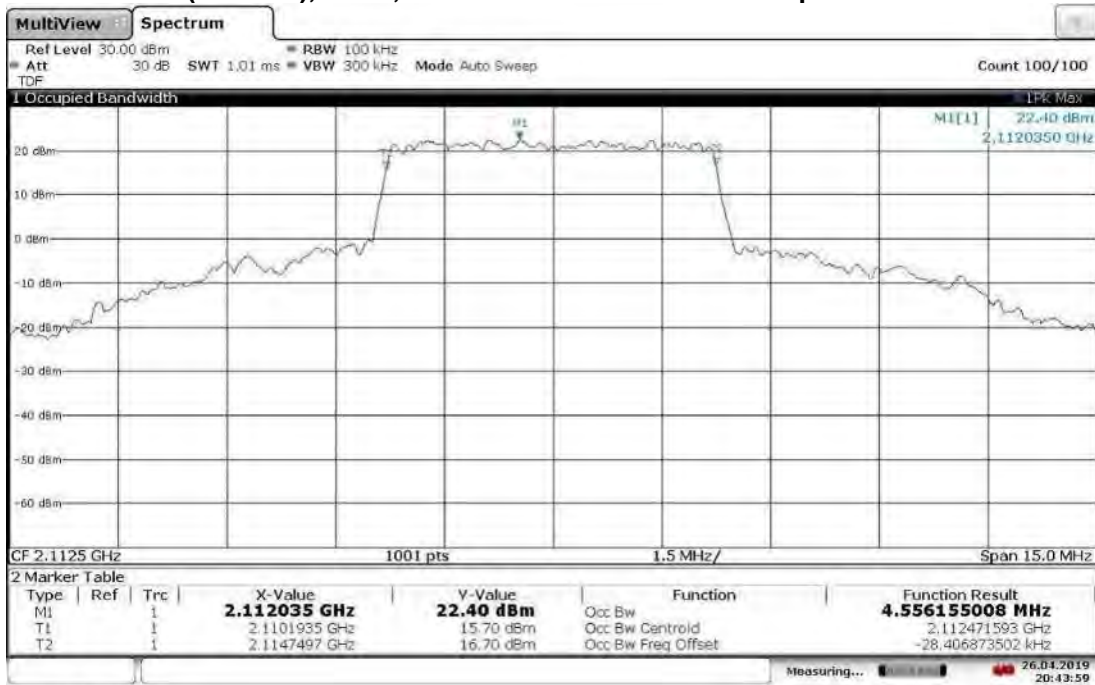
21:03:29 23.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2112.5 MHz Occupied Bandwidth**



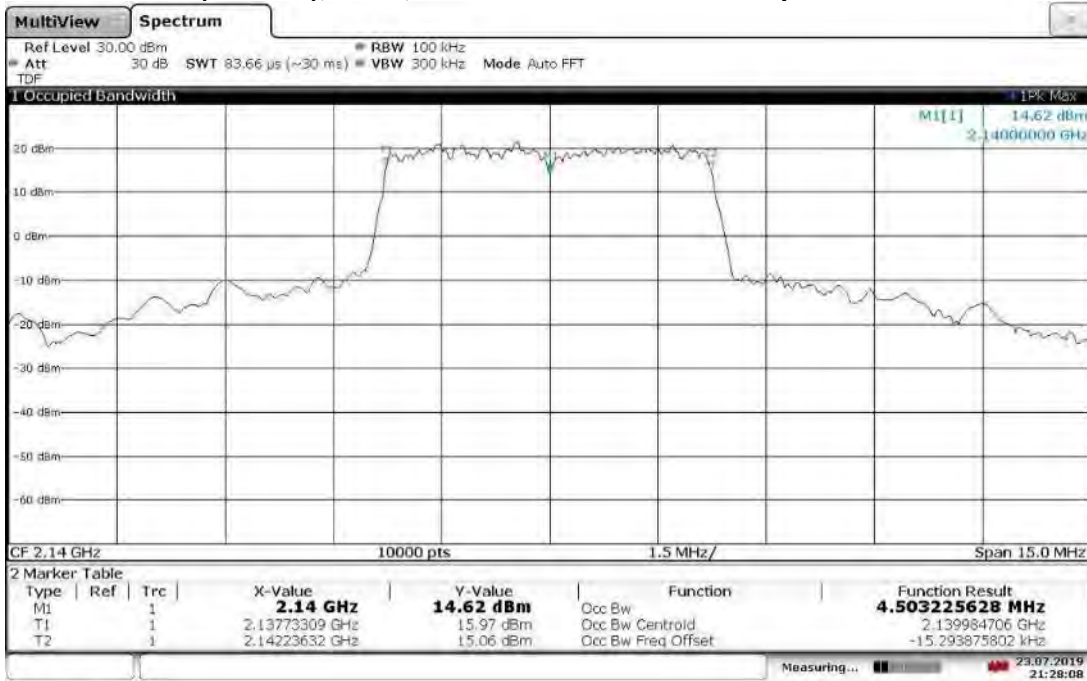
20:00:03 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2112.5 MHz Occupied Bandwidth**



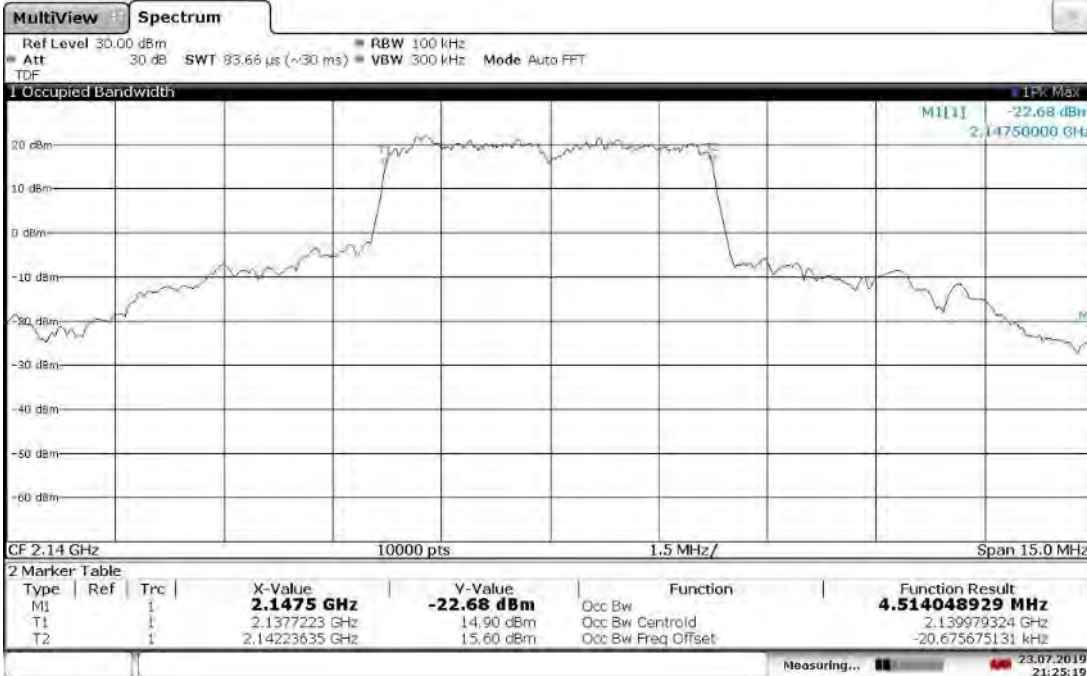
20:43:59 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



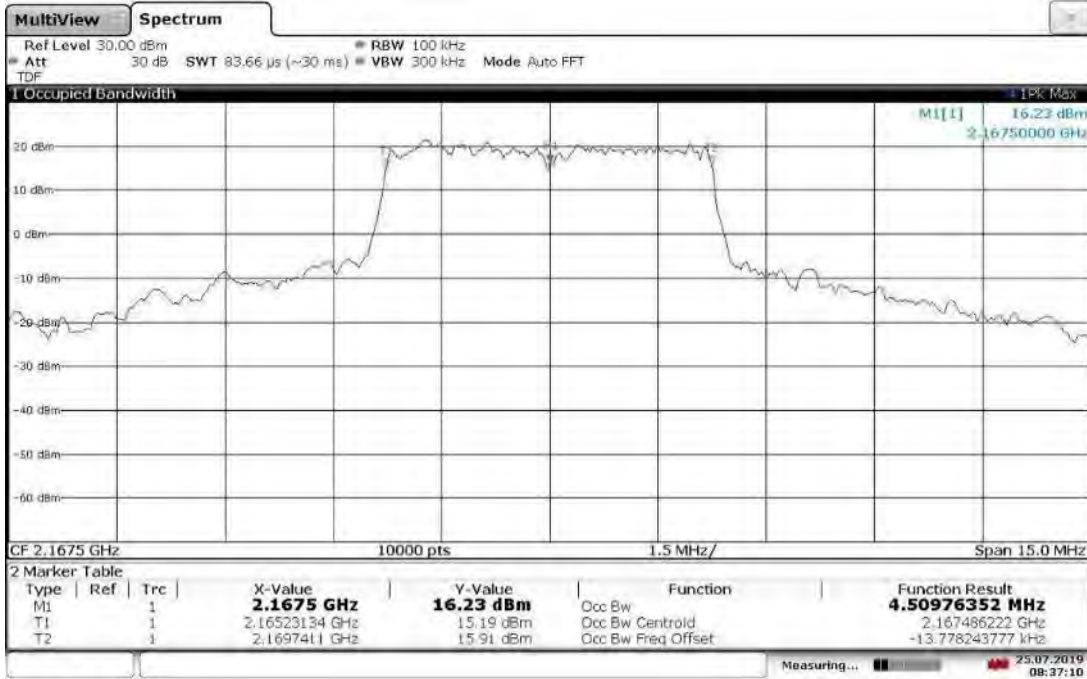
21:28:09 23.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



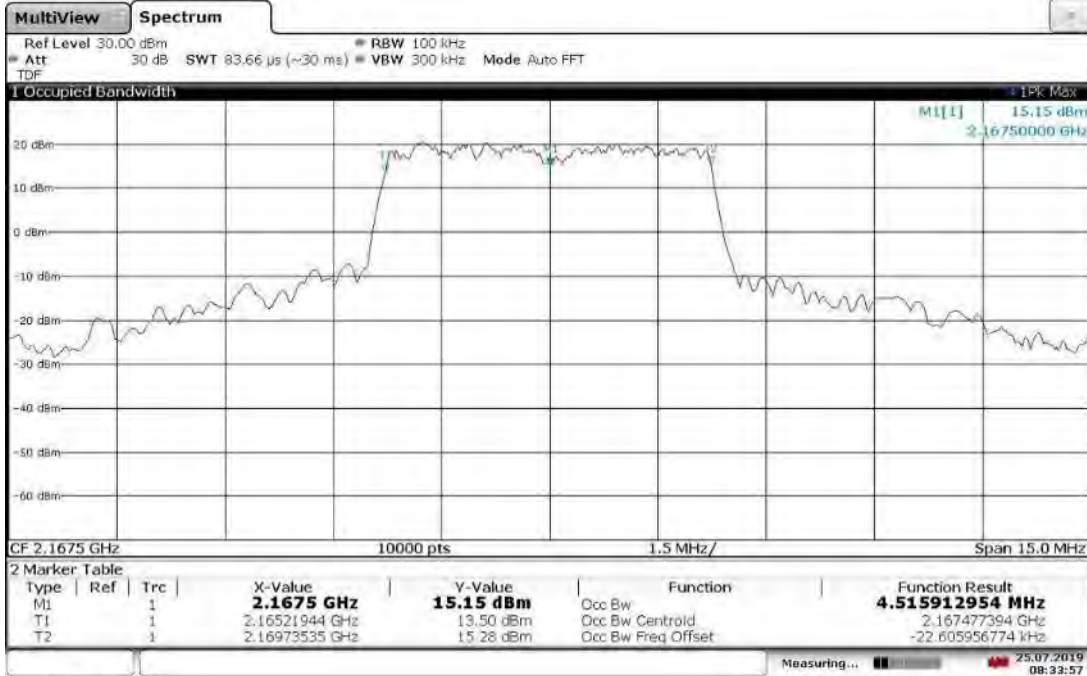
21:25:19 23.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2167.5 MHz Occupied Bandwidth**



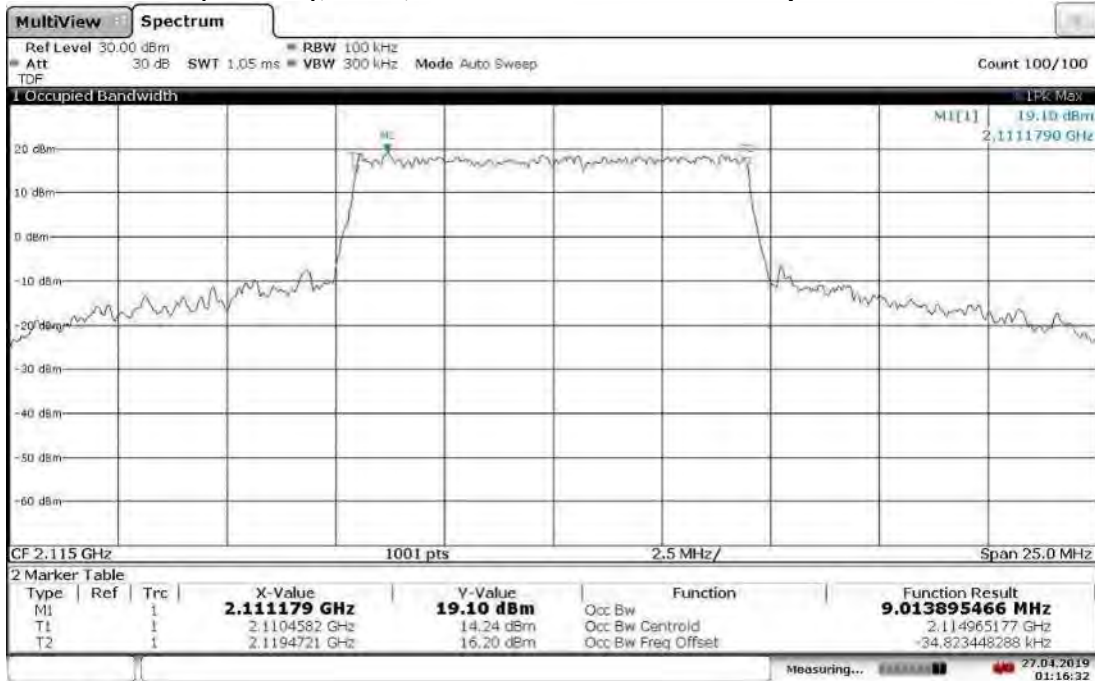
08:37:11 25.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2167.5 MHz Occupied Bandwidth**



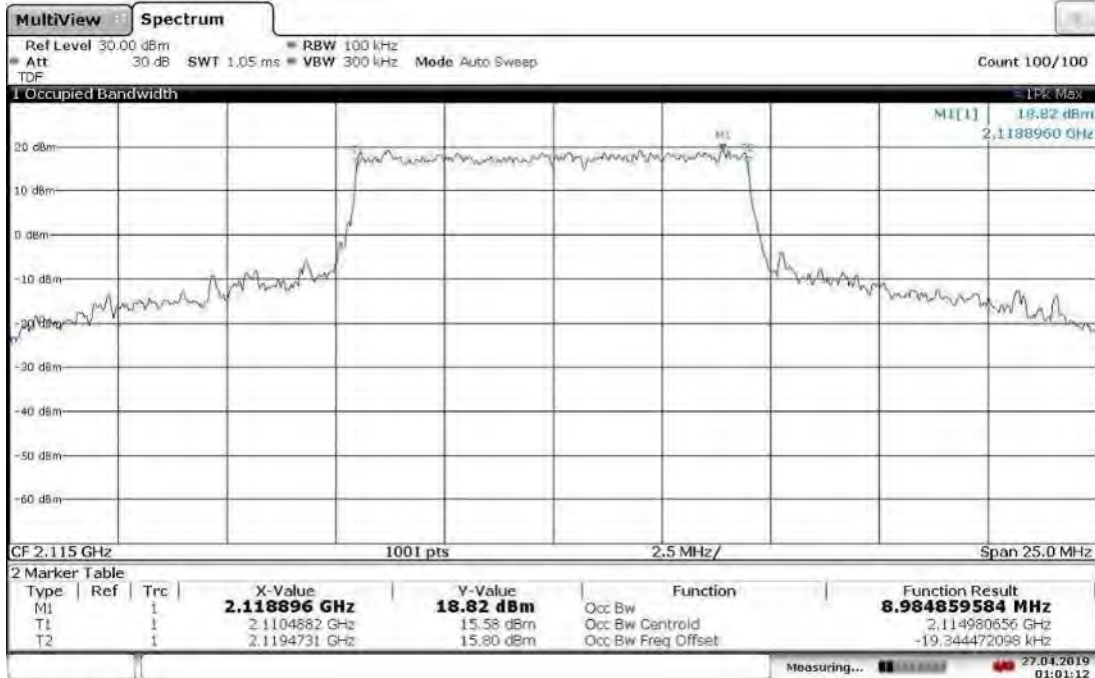
08:33:57 25.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2115 MHz Occupied Bandwidth**



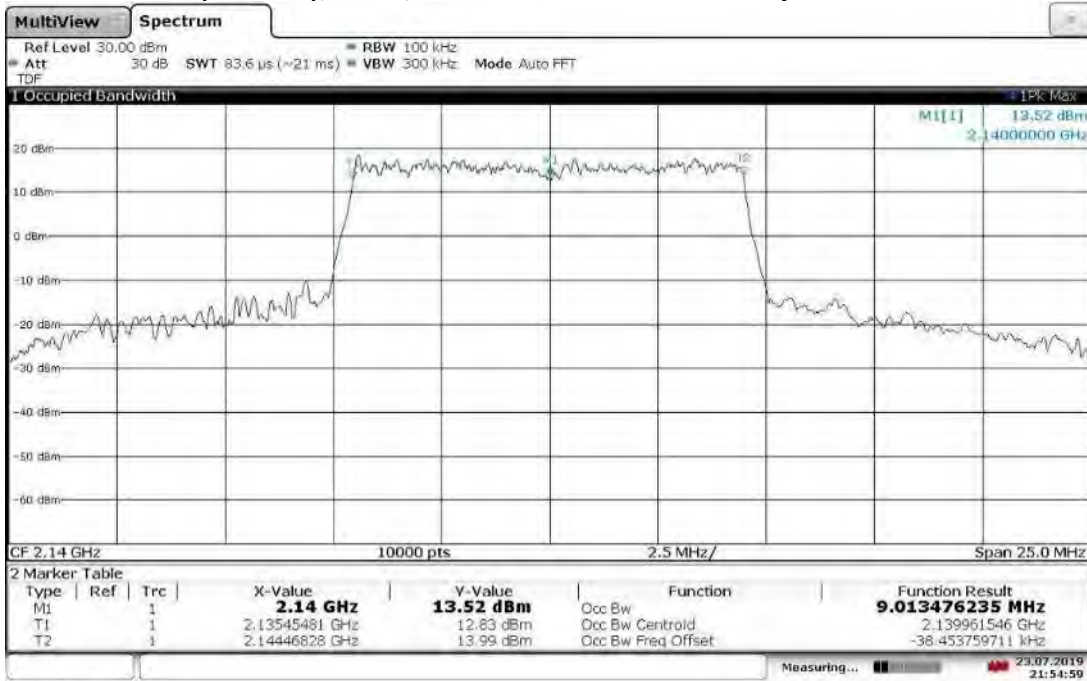
01:16:32 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2115 MHz Occupied Bandwidth**



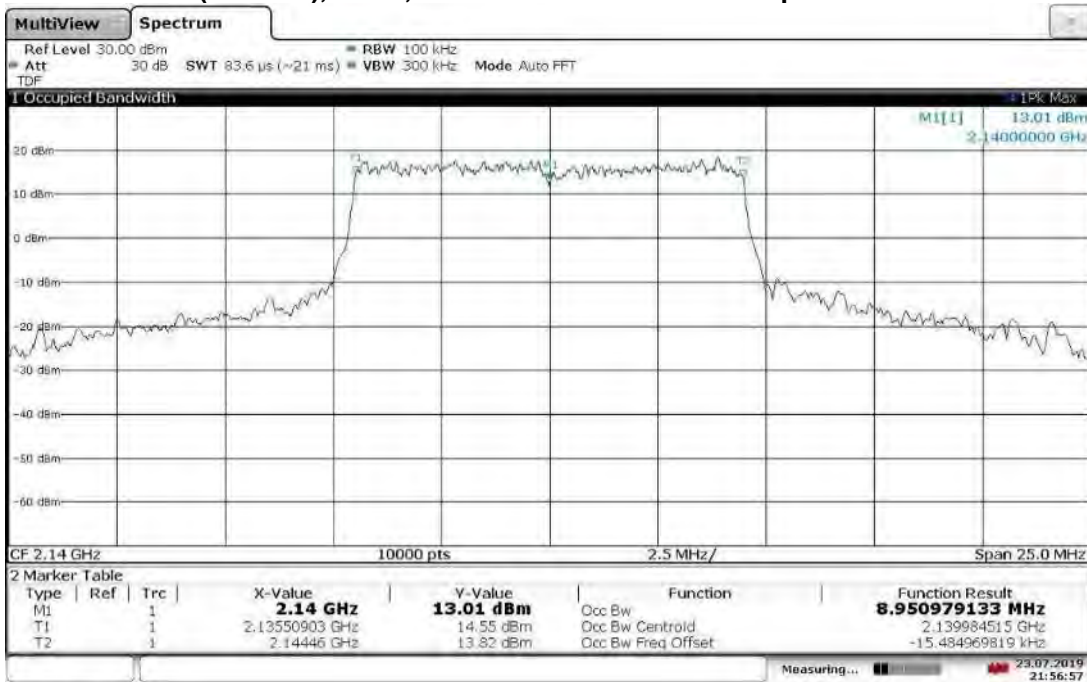
01:01:12 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



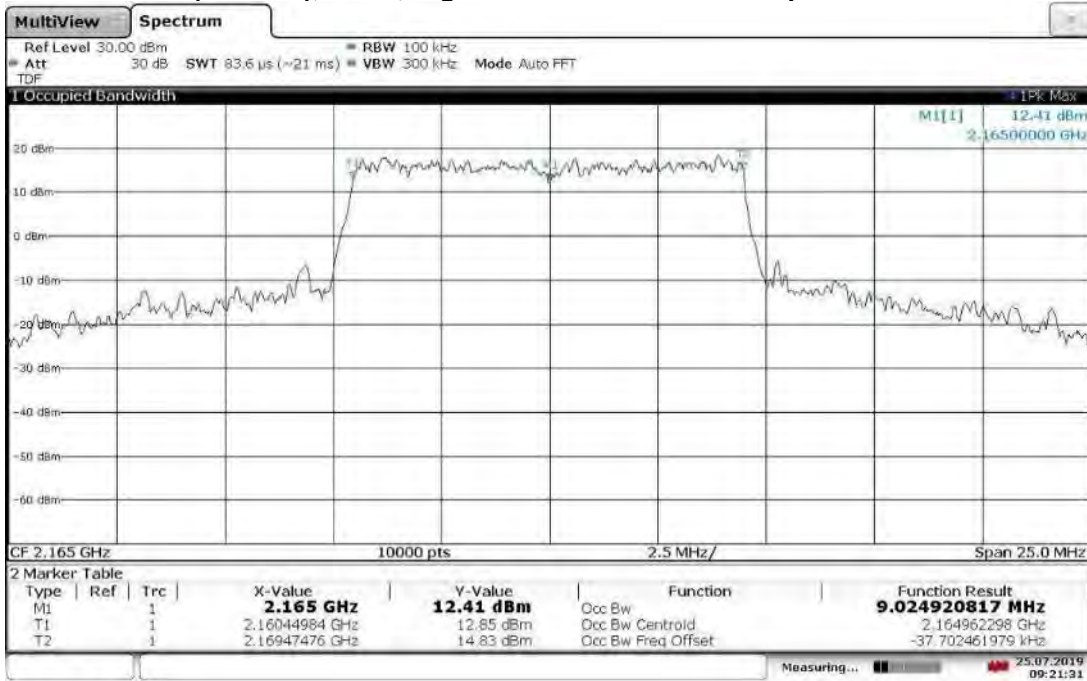
21:55:00 23.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



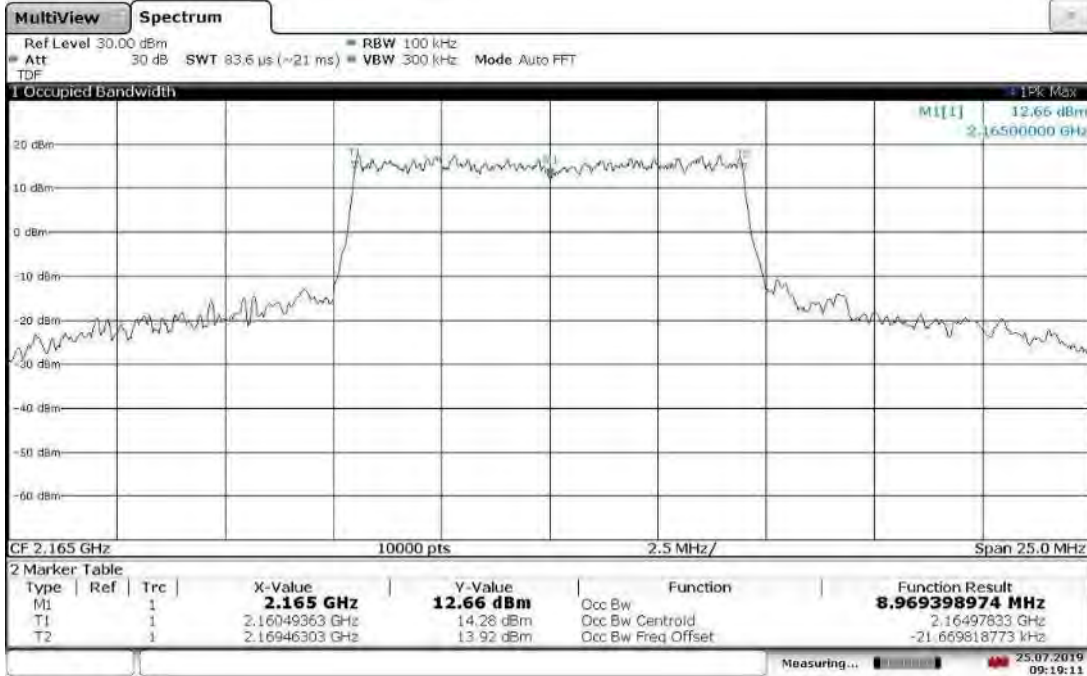
21:56:58 23.07.2019

TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2165 MHz Occupied Bandwidth



09:21:32 25.07.2019

TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2165 MHz Occupied Bandwidth



09:19:11 25.07.2019

TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2117.5 MHz Occupied Bandwidth



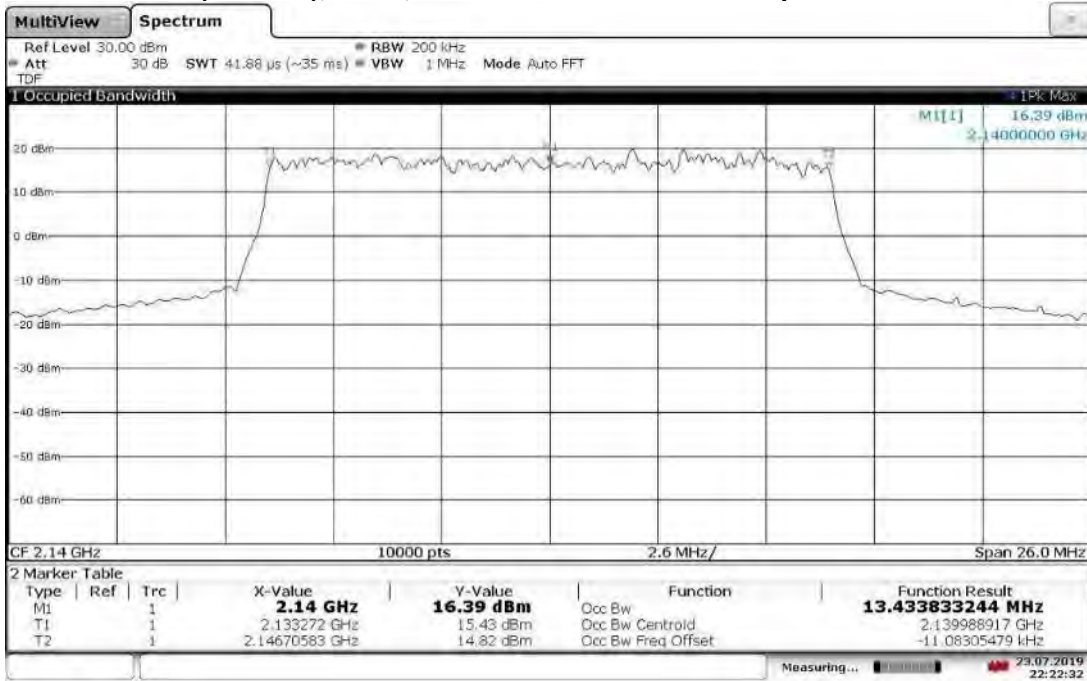
09:42:06 18.07.2019

TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2117.5 MHz Occupied Bandwidth



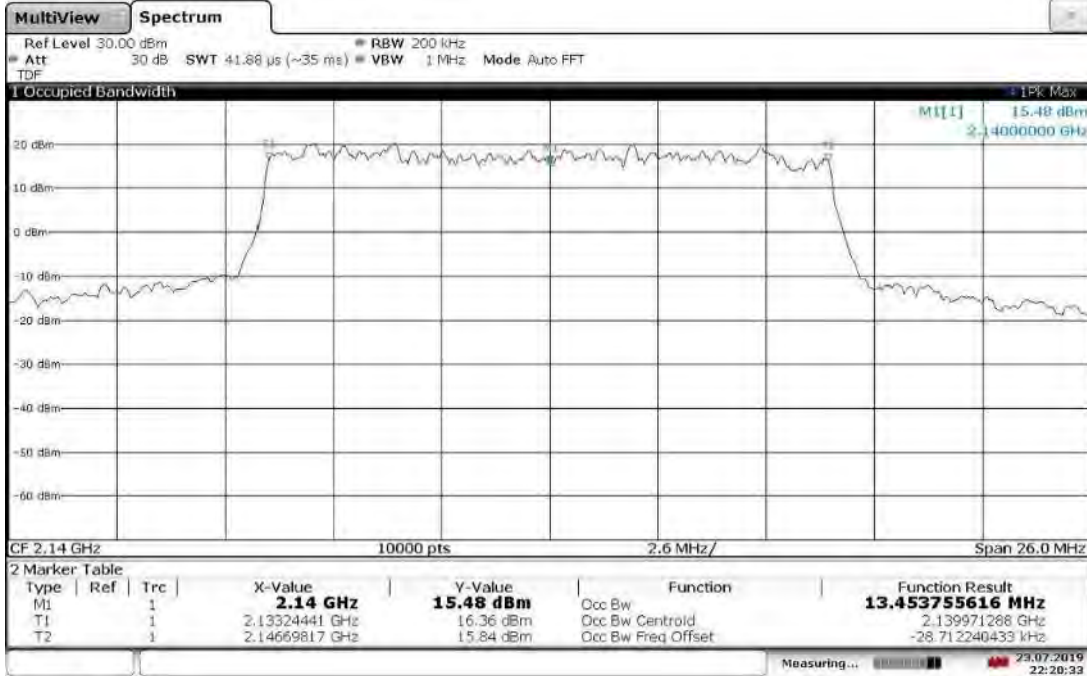
09:44:13 18.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



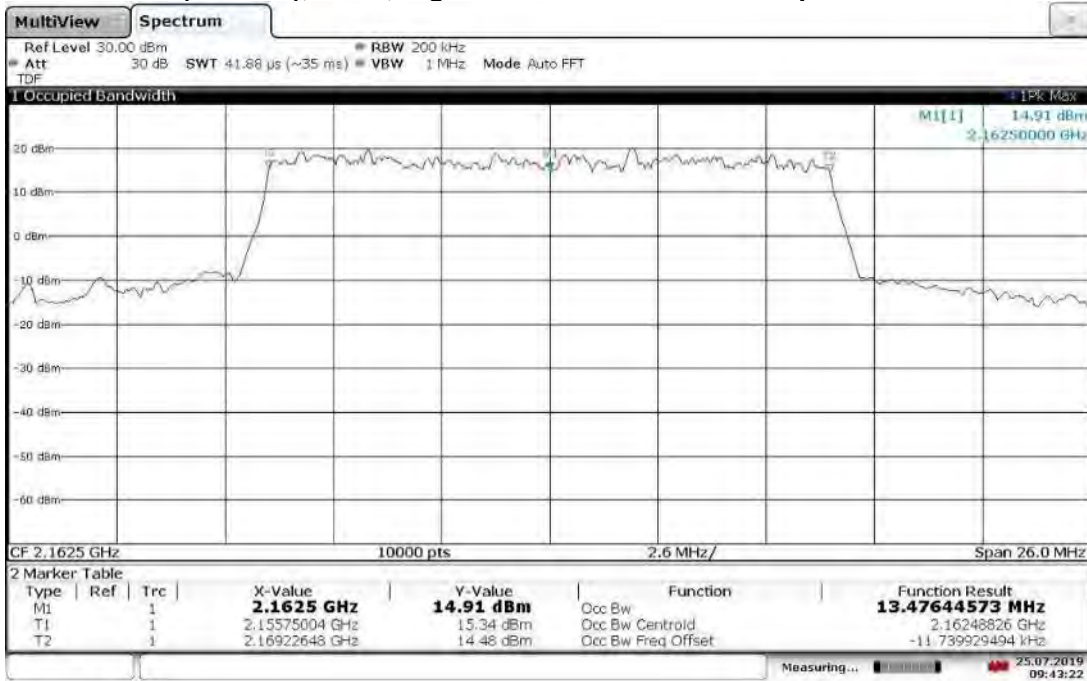
22:22:32 23.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



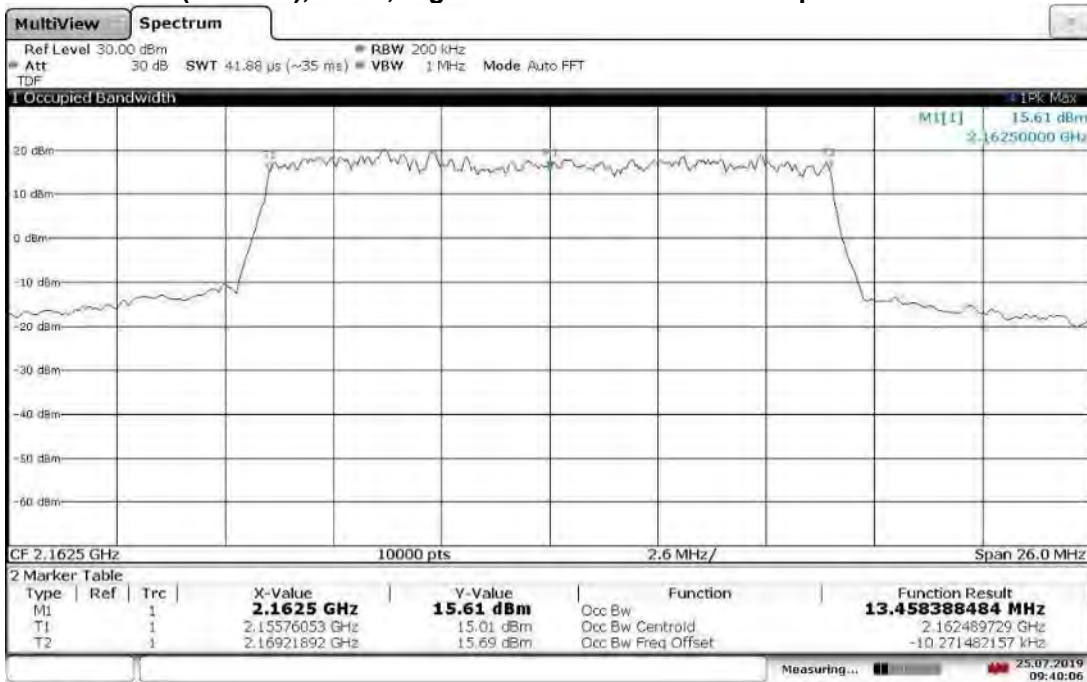
22:20:33 23.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2162.5 MHz Occupied Bandwidth**



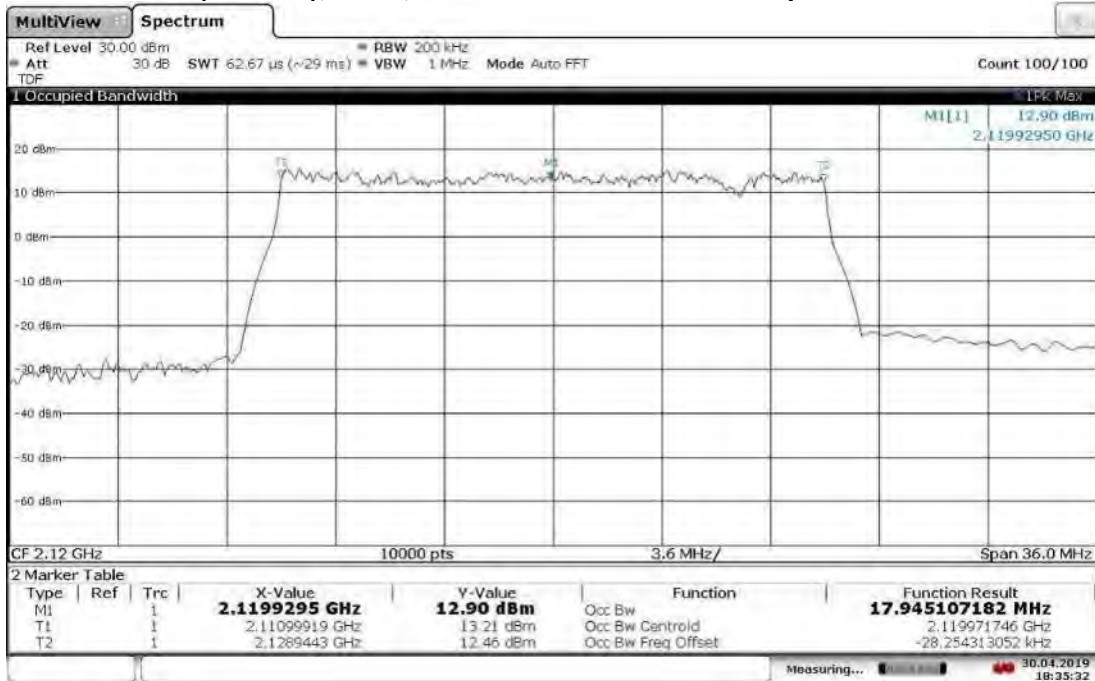
09:43:22 25.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2162.5 MHz Occupied Bandwidth**



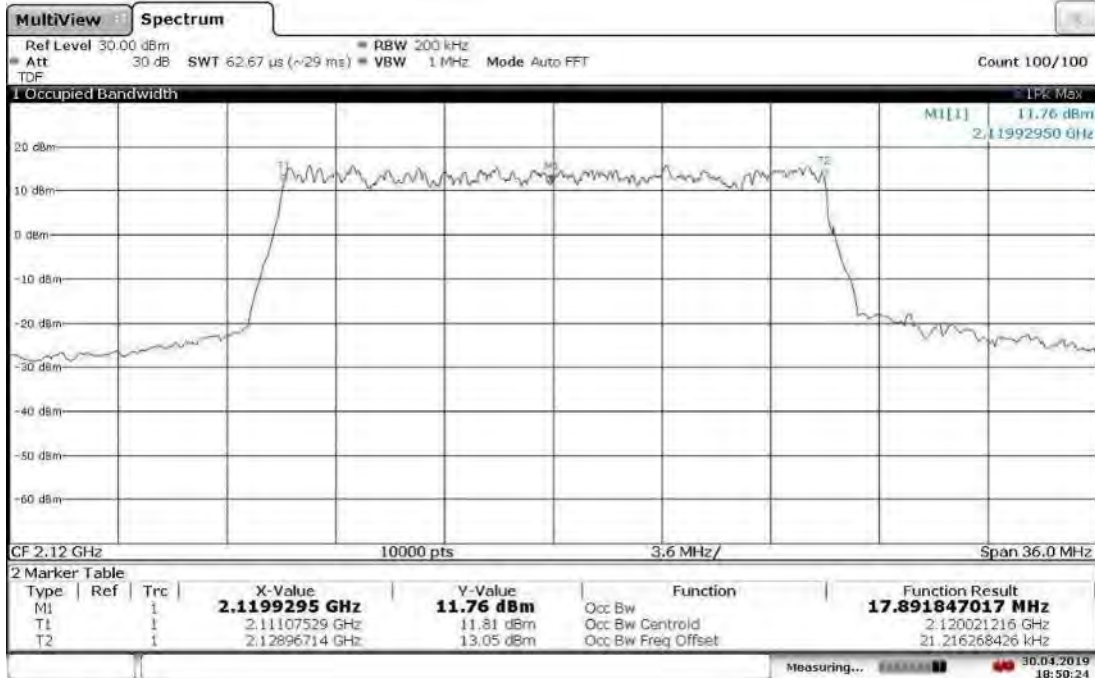
09:40:06 25.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2120 MHz Occupied Bandwidth**



18:35:33 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2120 MHz Occupied Bandwidth**



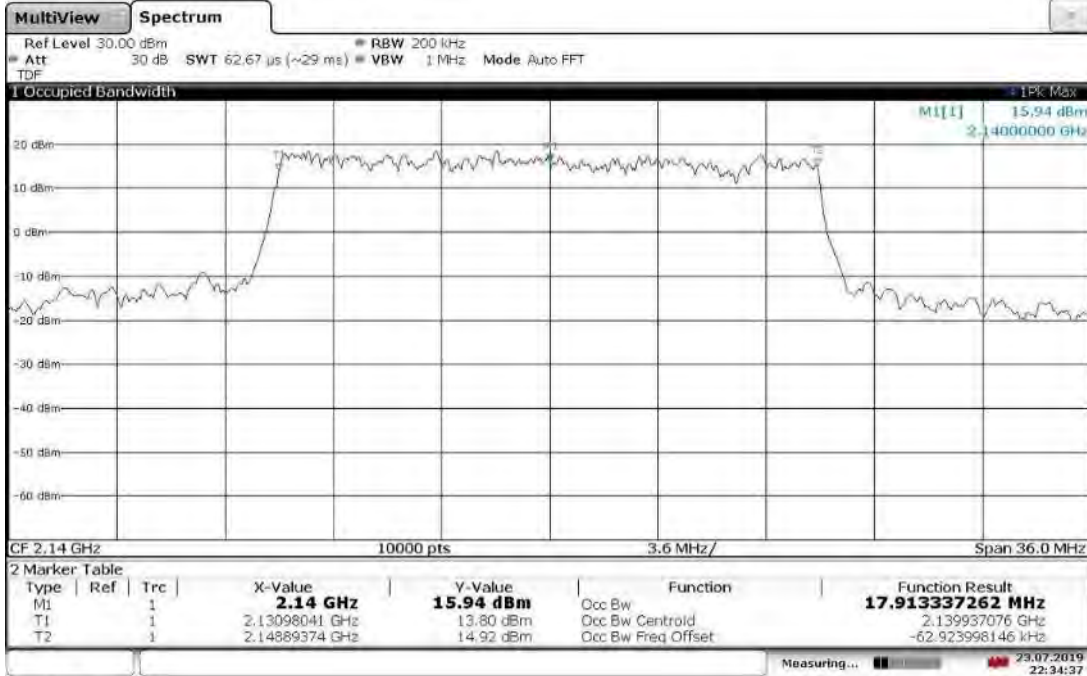
18:50:24 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



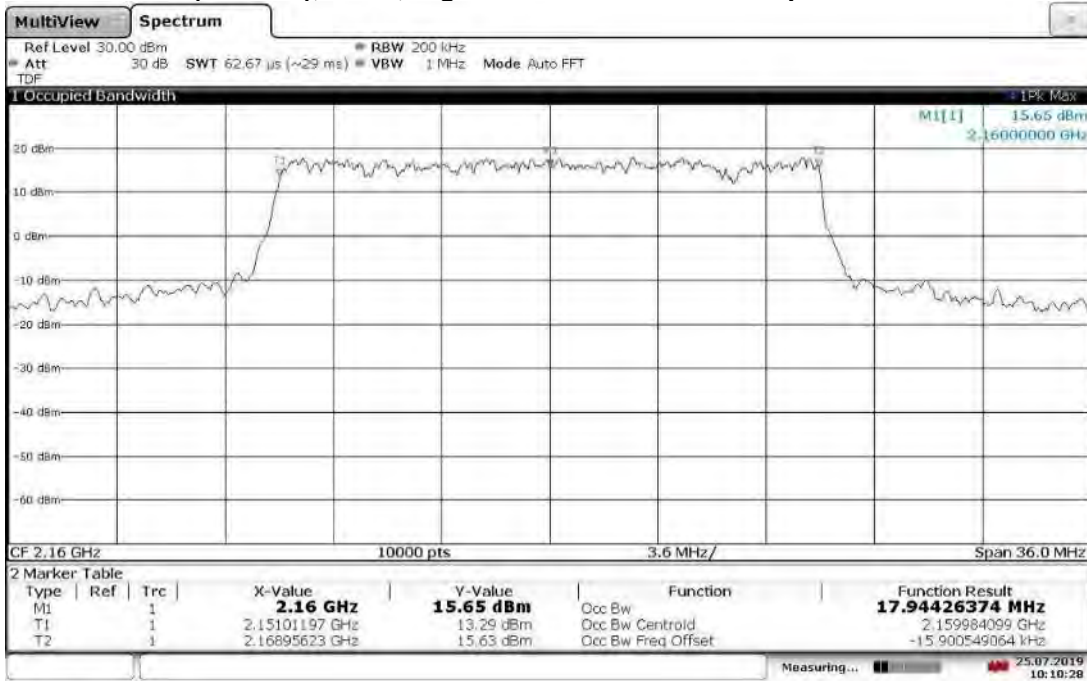
22:37:25 23.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



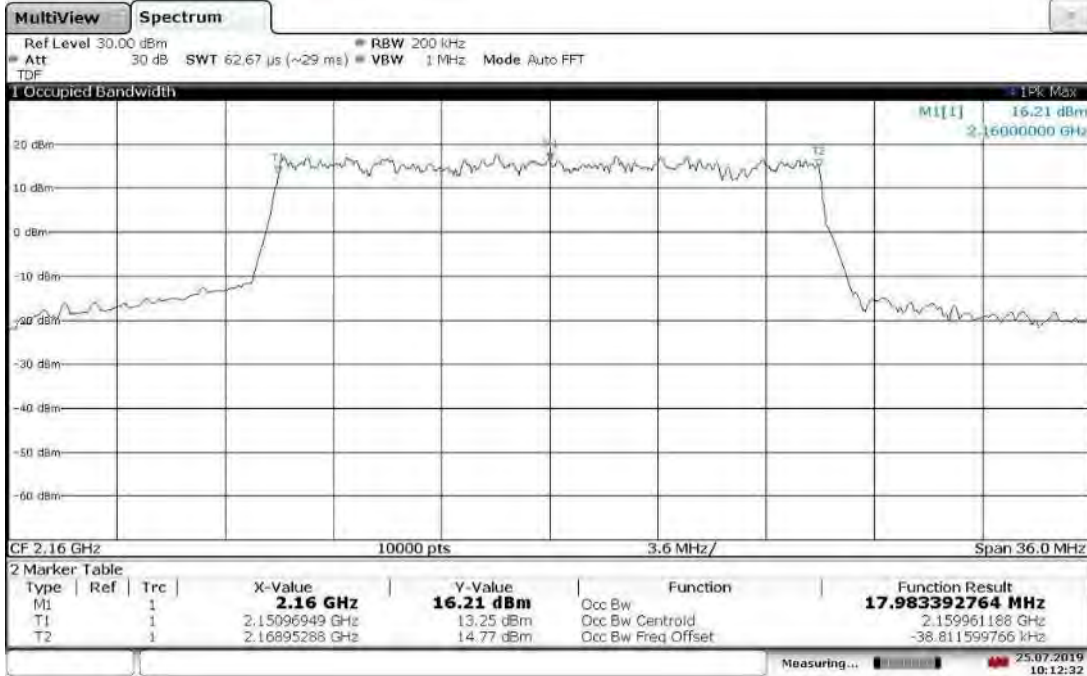
22:34:37 23.07.2019

TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2160 MHz Occupied Bandwidth



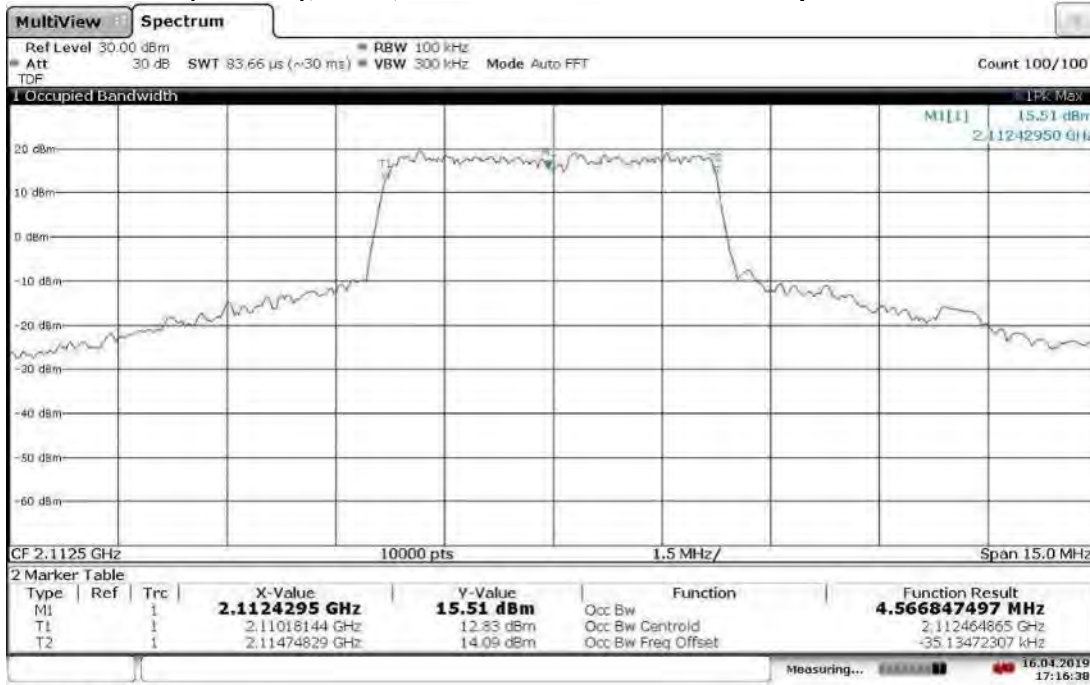
10:10:28 25.07.2019

TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2160 MHz Occupied Bandwidth



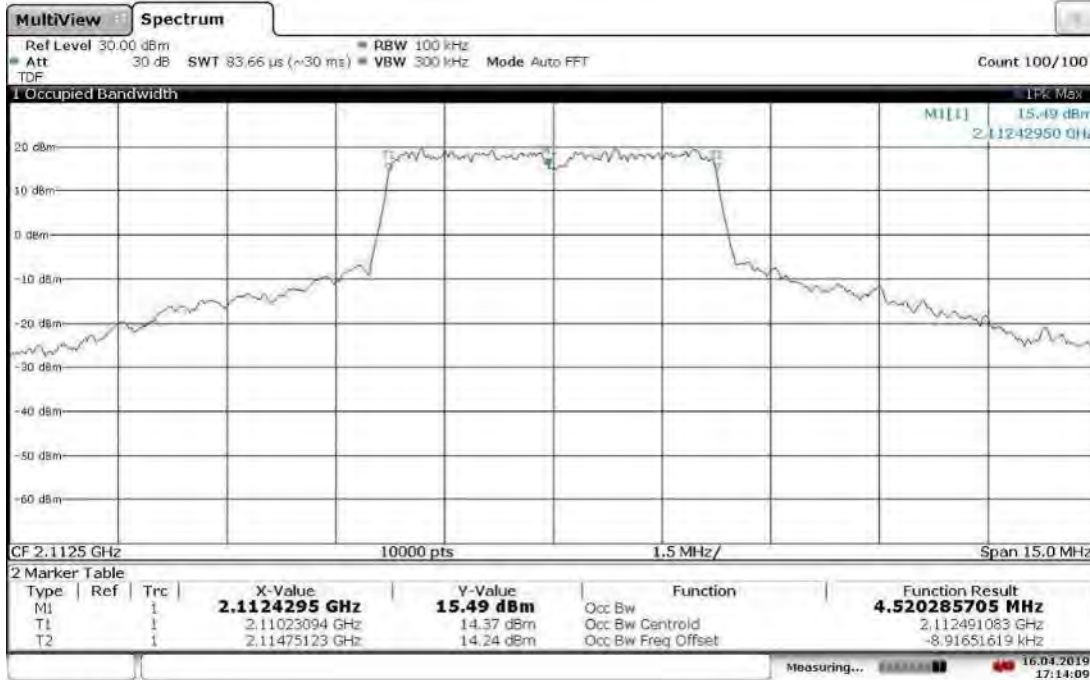
10:12:32 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2112.5 MHz Occupied Bandwidth**



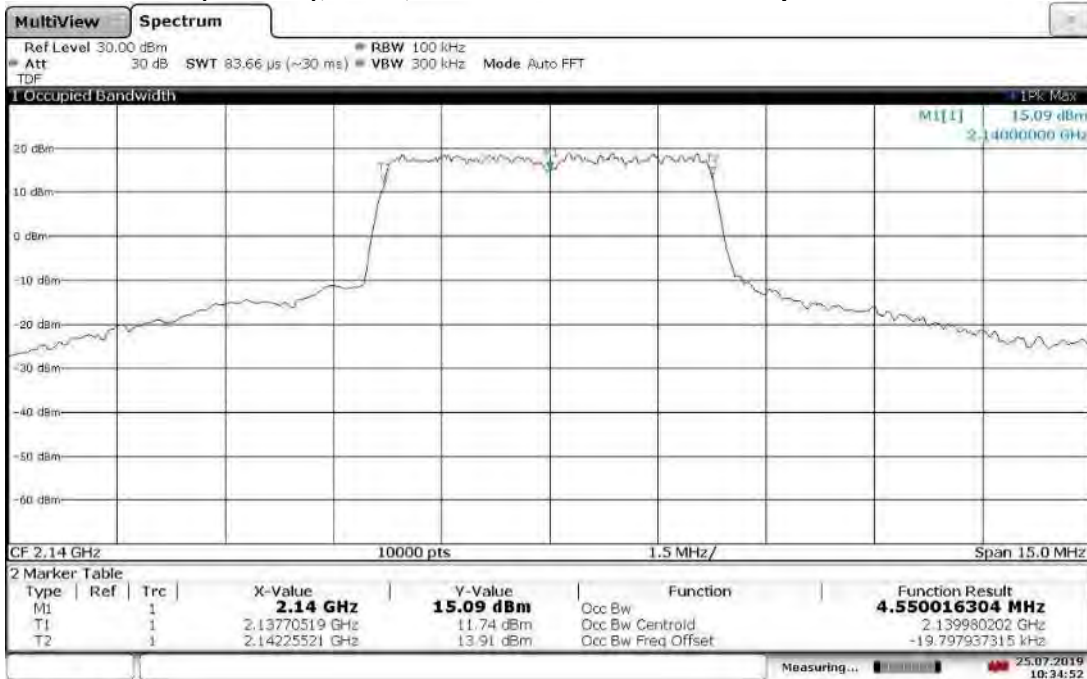
17:16:39 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2112.5 MHz Occupied Bandwidth**



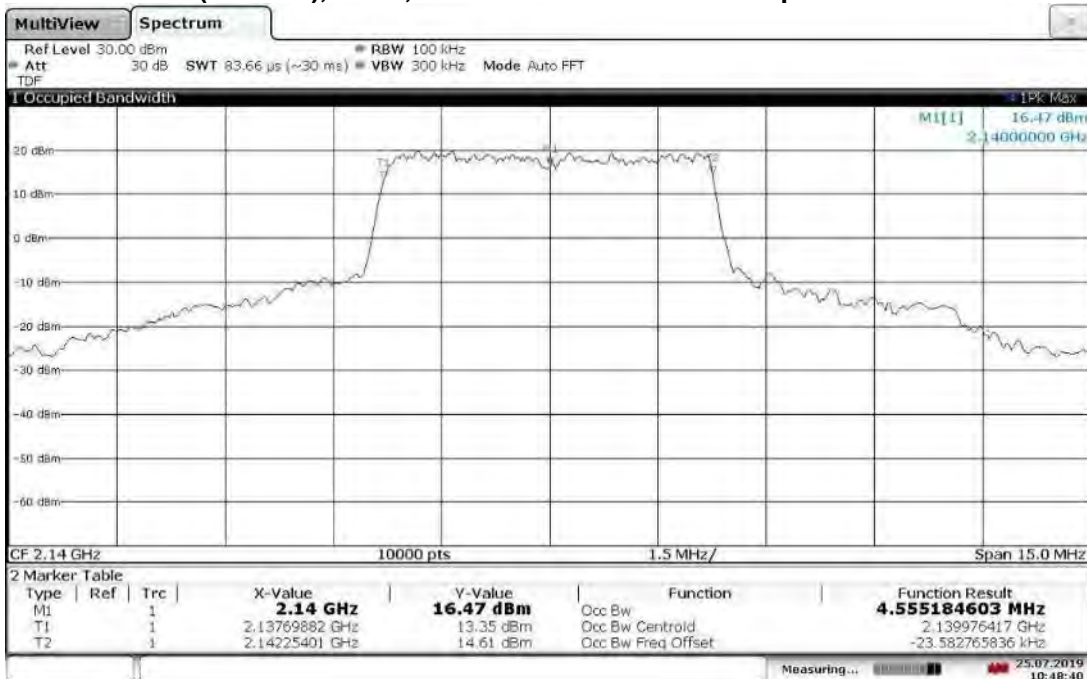
17:14:10 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



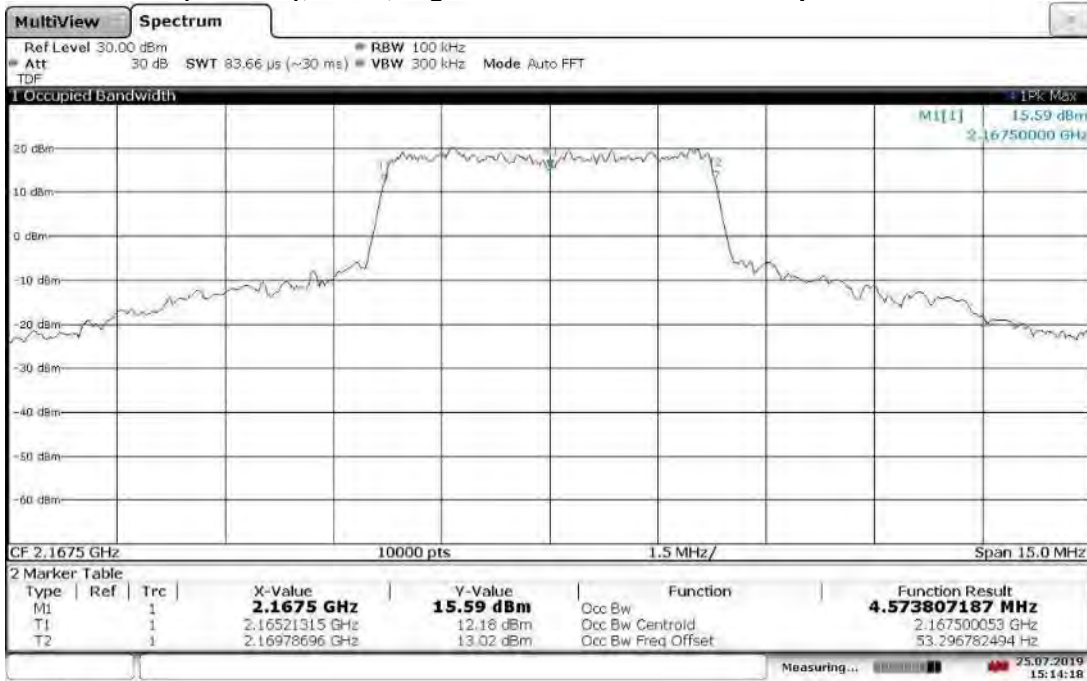
10:34:53 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



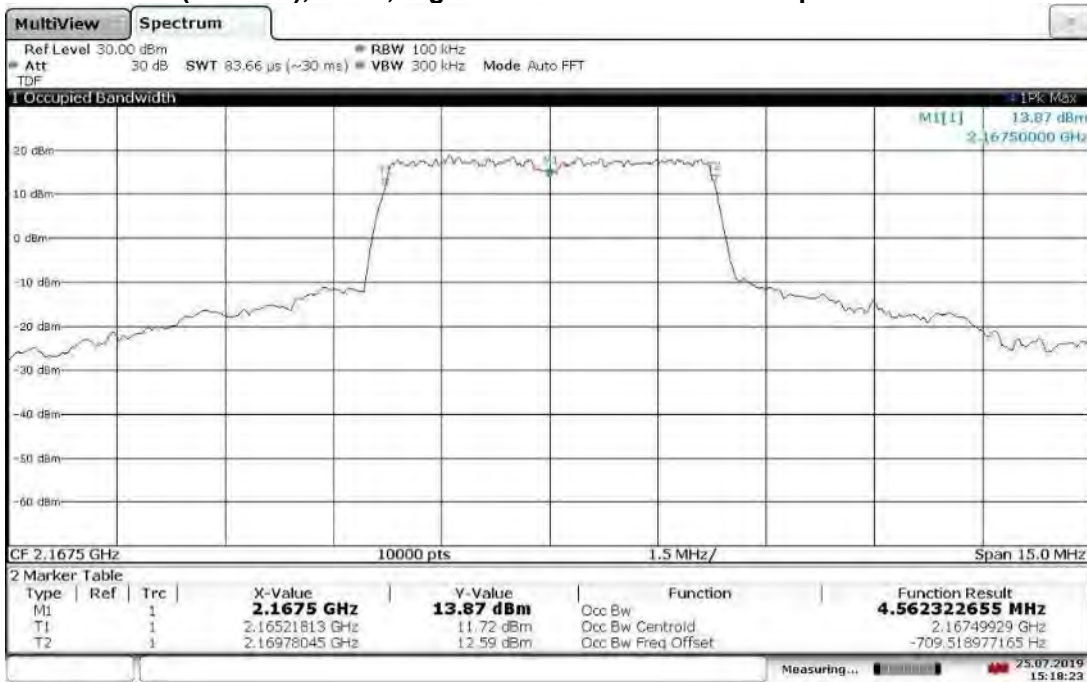
10:48:40 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2167.5 MHz Occupied Bandwidth**



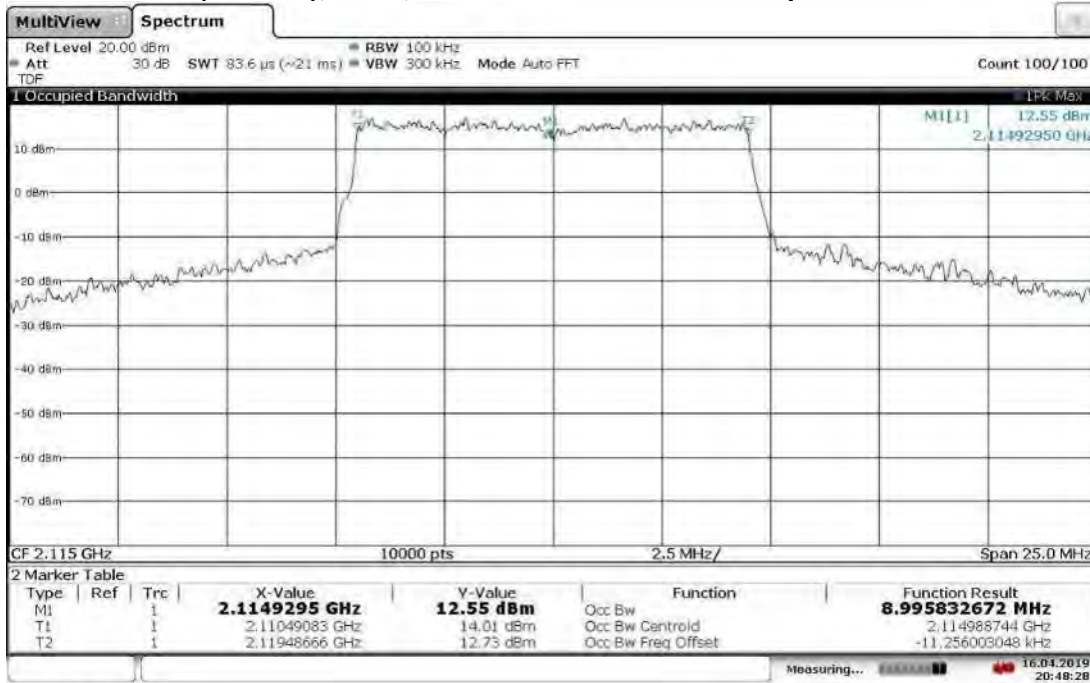
15:14:19 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2167.5 MHz Occupied Bandwidth**



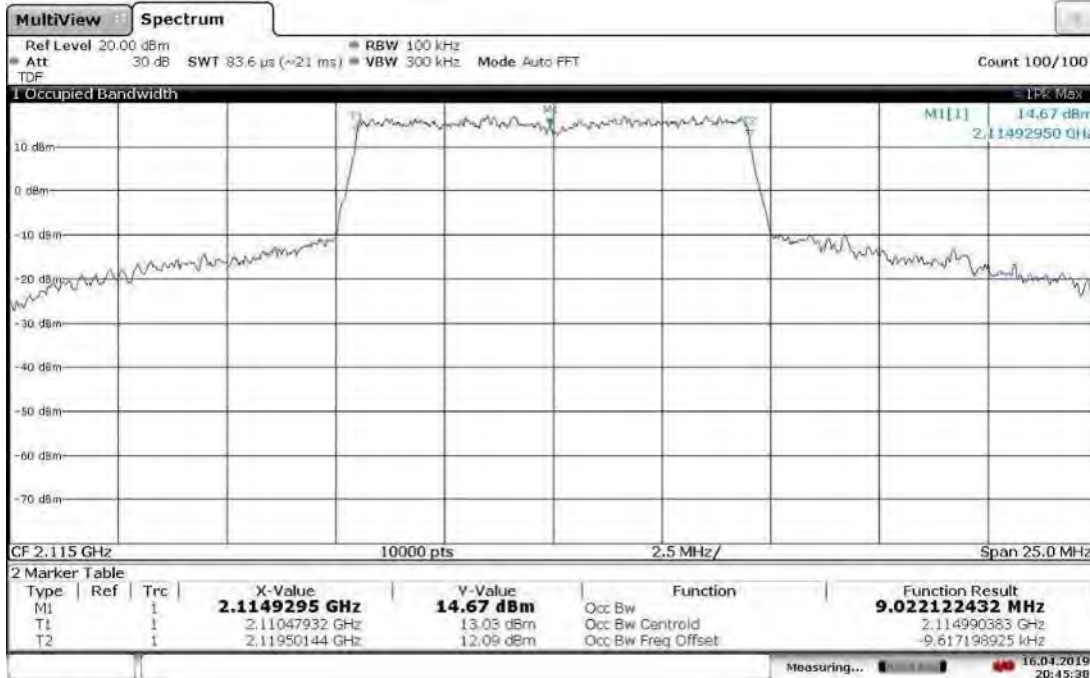
15:18:24 25.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2115 MHz Occupied Bandwidth**



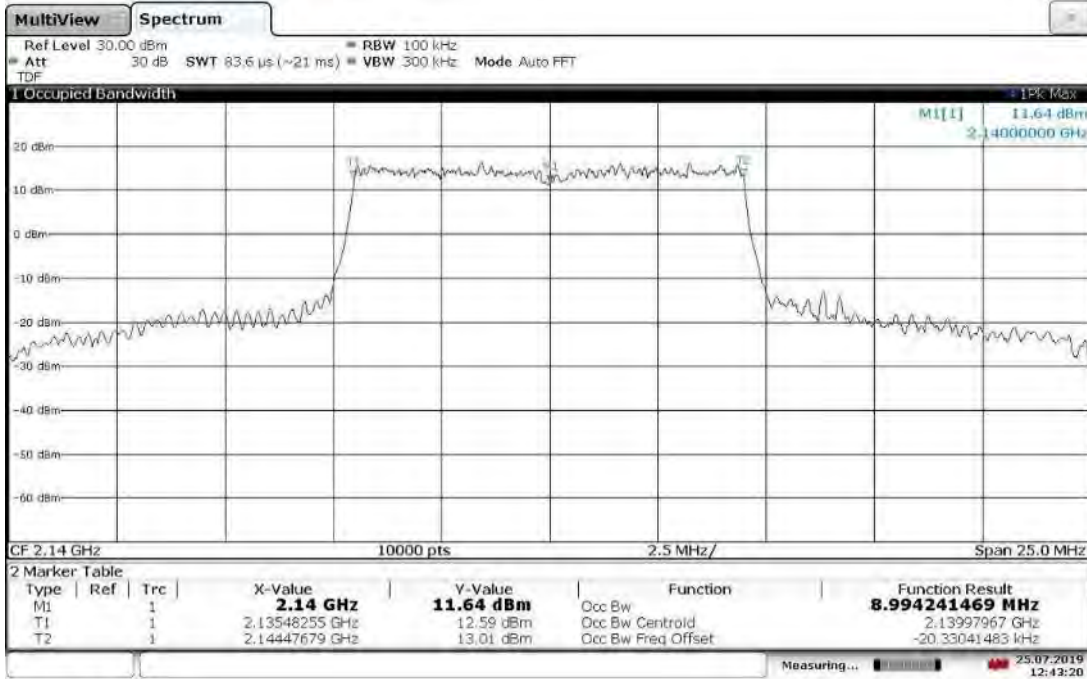
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**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2115 MHz Occupied Bandwidth**



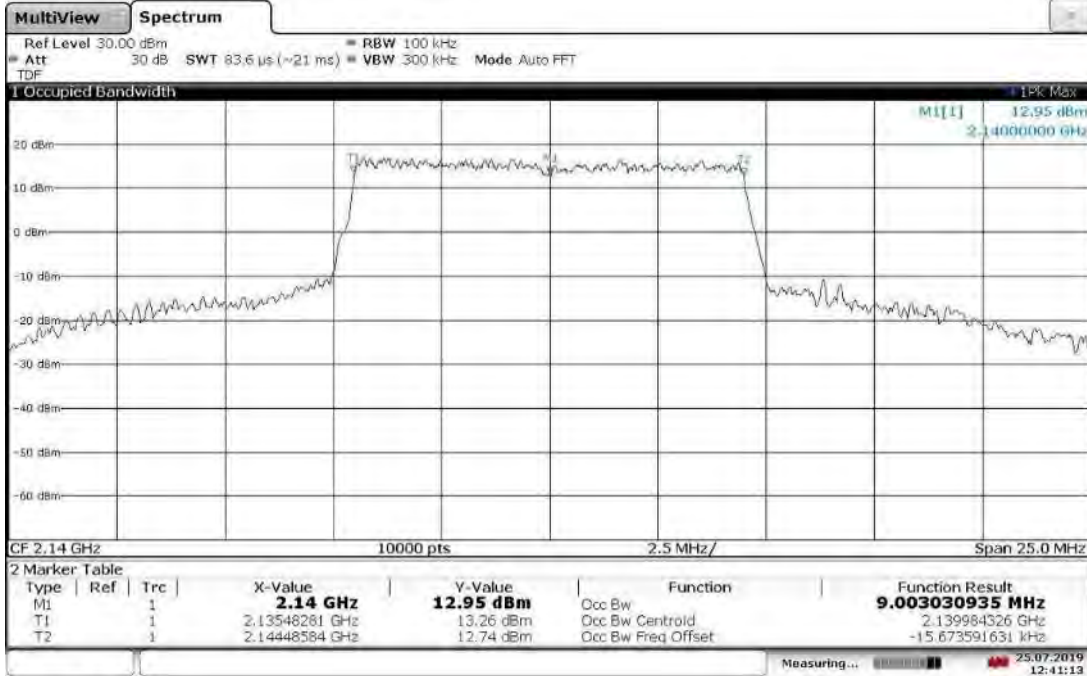
20:45:39 16.04.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



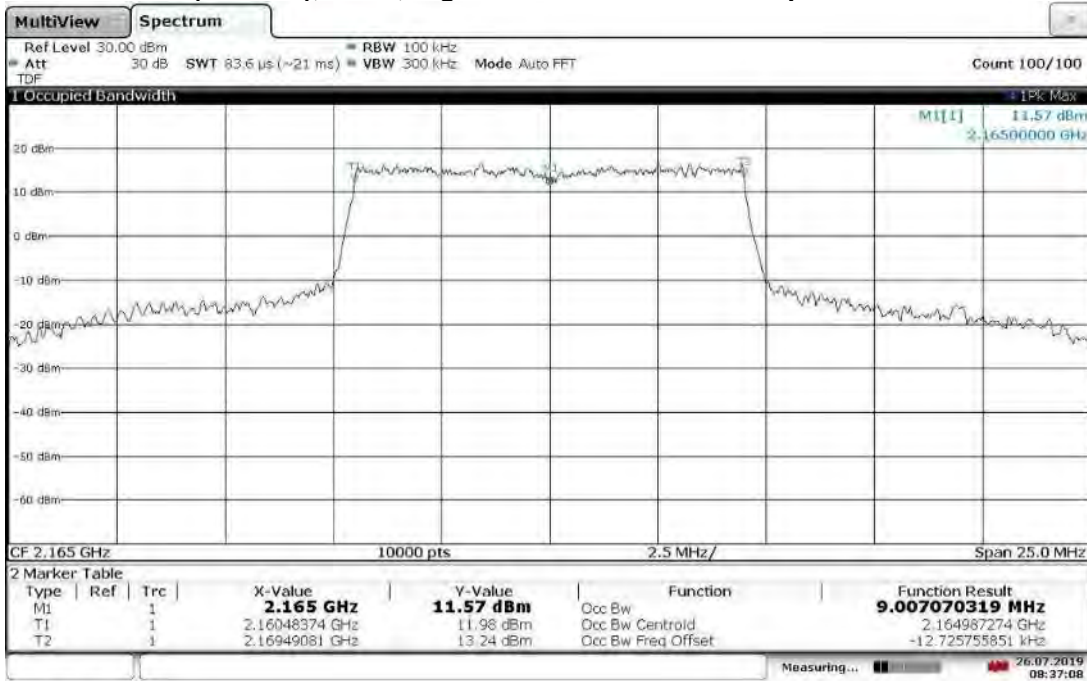
12:43:21 25.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



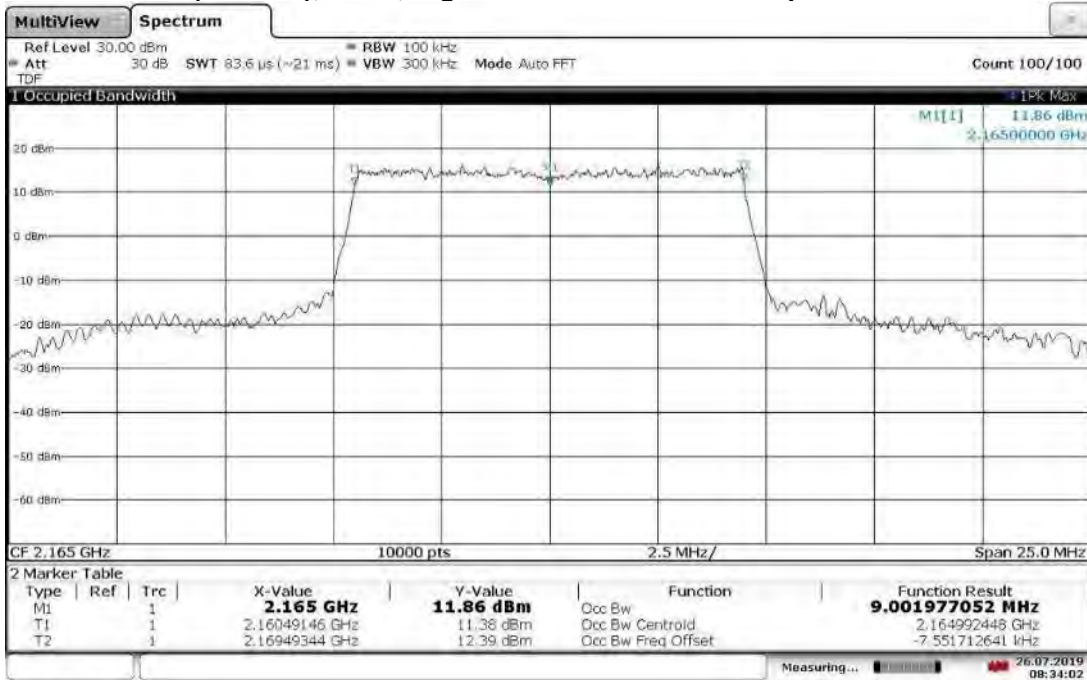
12:41:13 25.07.2019

TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2165 MHz Occupied Bandwidth



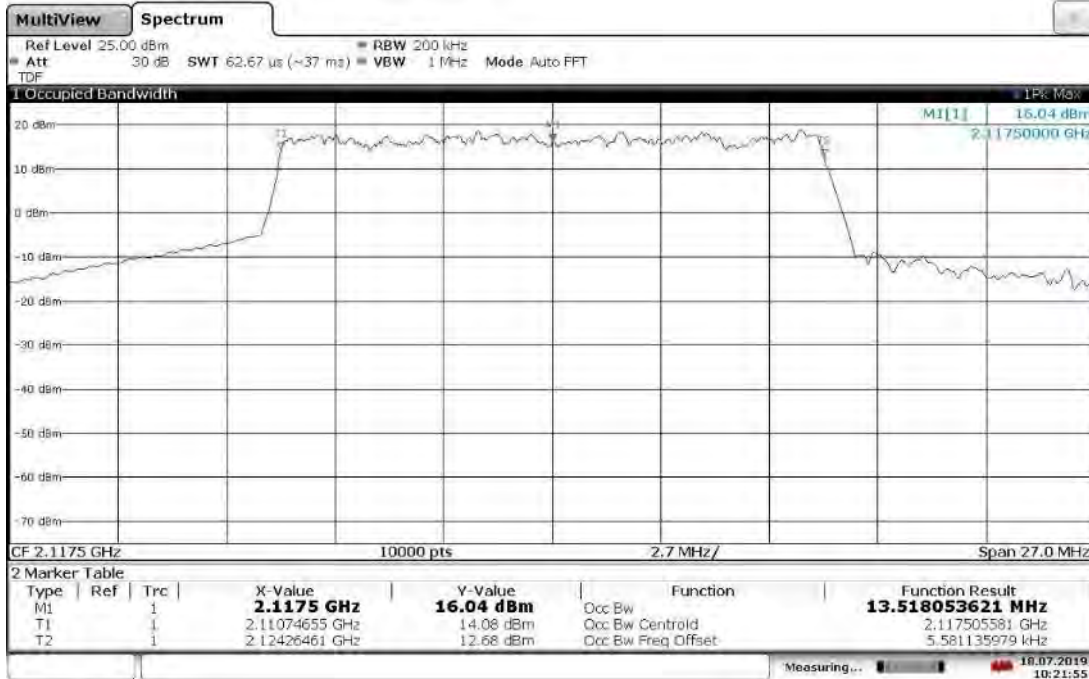
08:37:09 26.07.2019

TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2165 MHz Occupied Bandwidth



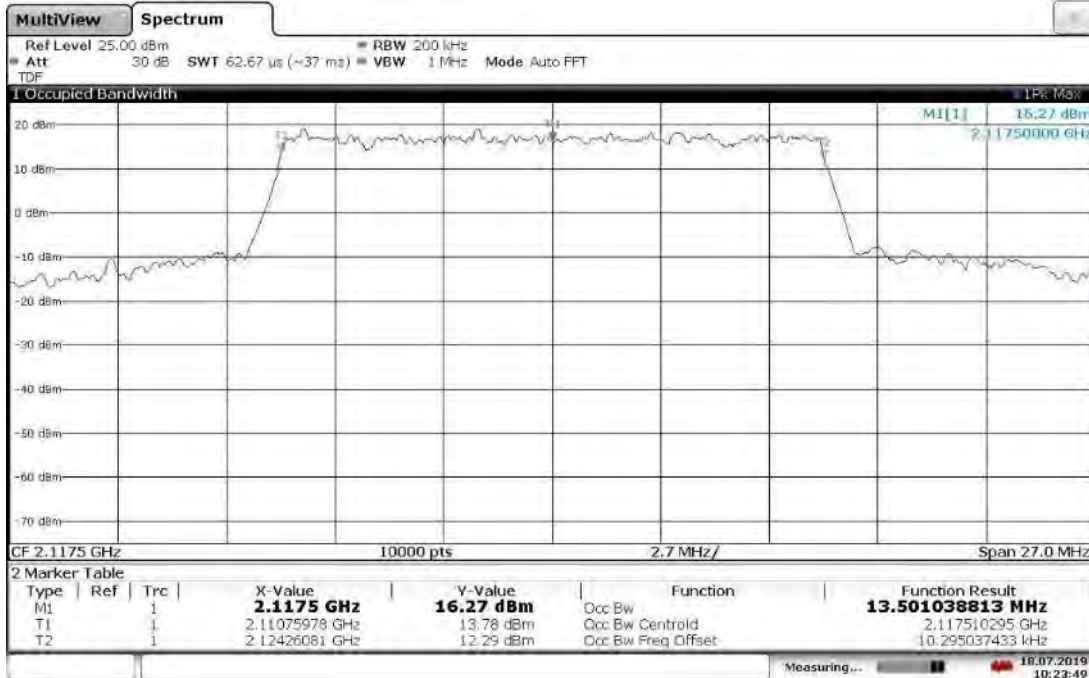
08:34:03 26.07.2019

TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2117.5 MHz Occupied Bandwidth



10:21:55 18.07.2019

TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2117.5 MHz Occupied Bandwidth



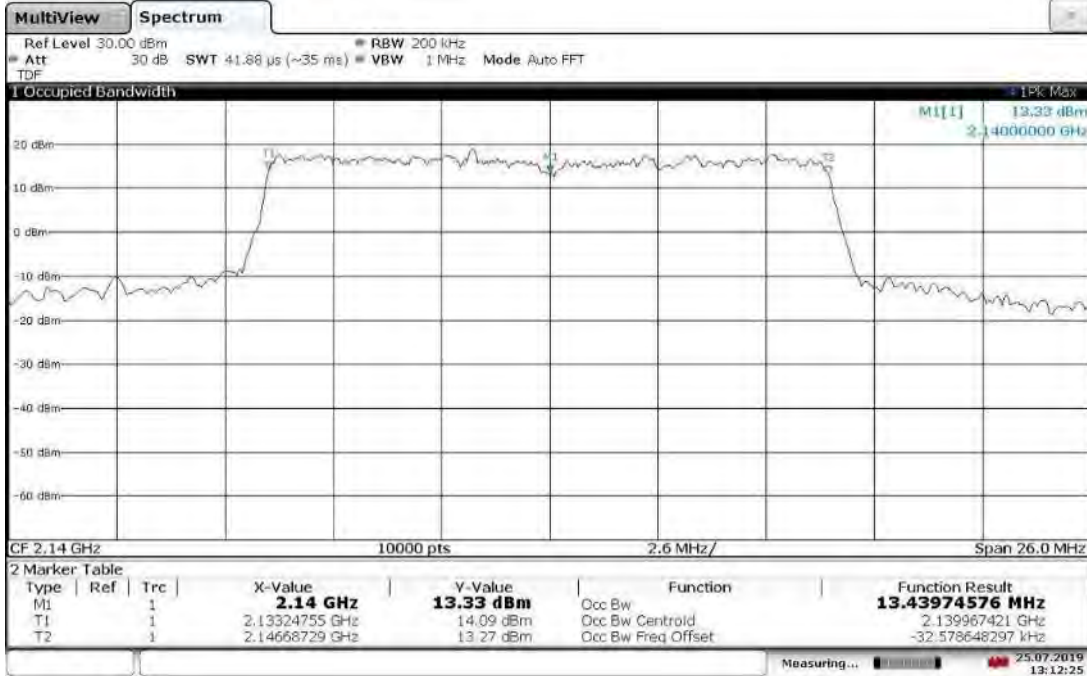
10:23:50 18.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



13:10:41 25.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



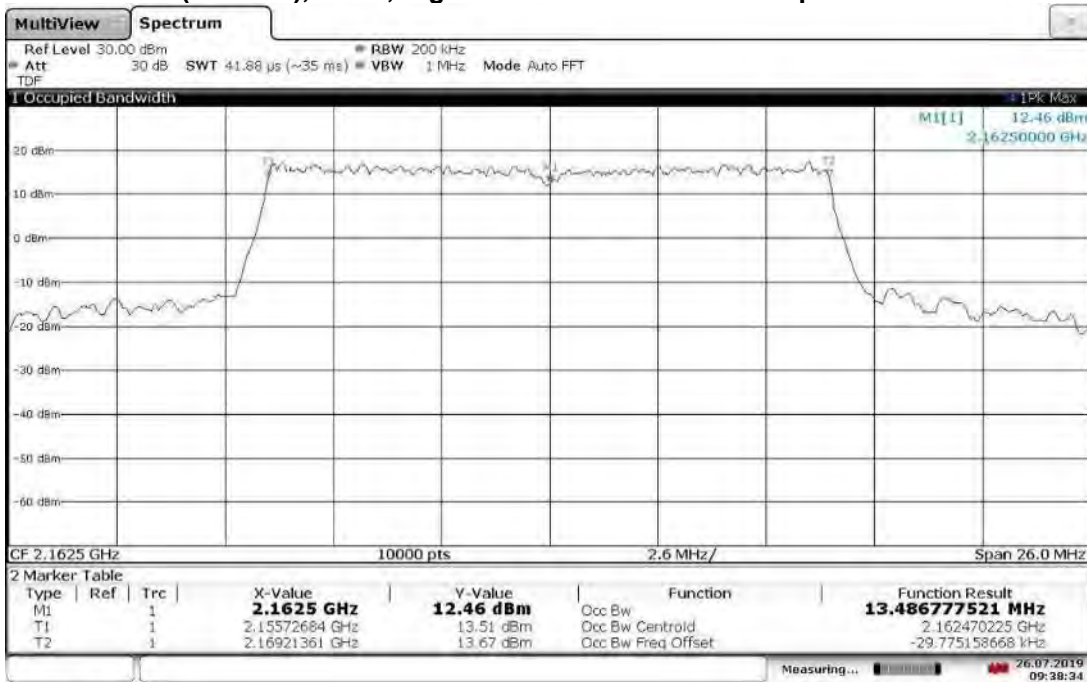
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**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2162.5 MHz Occupied Bandwidth**



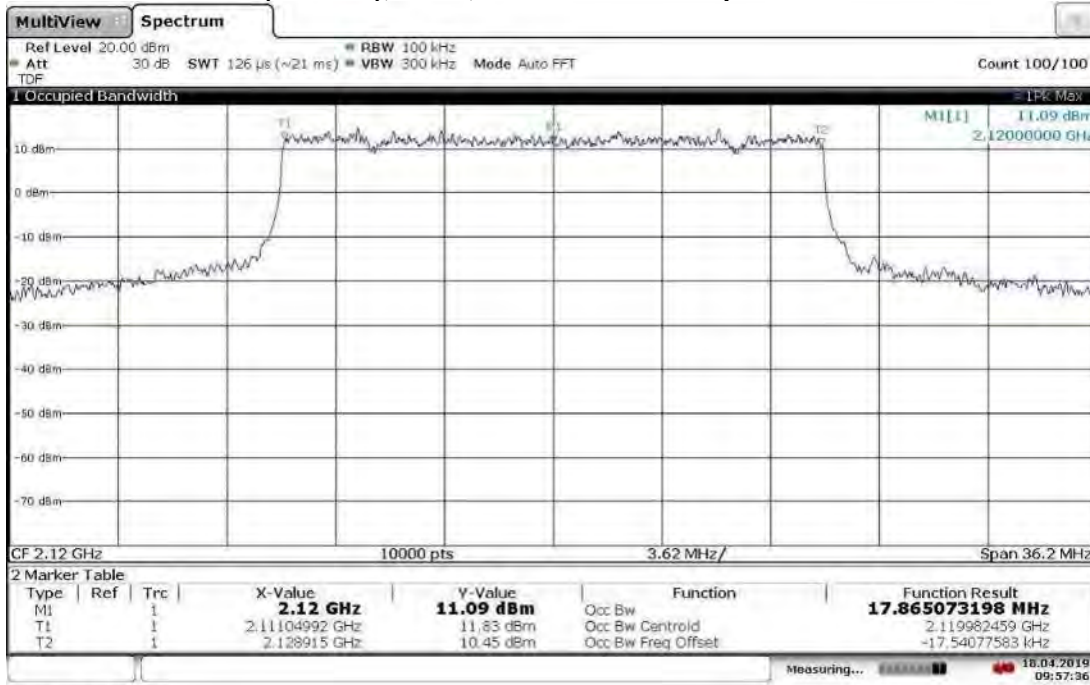
09:37:37 26.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2162.5 MHz Occupied Bandwidth**



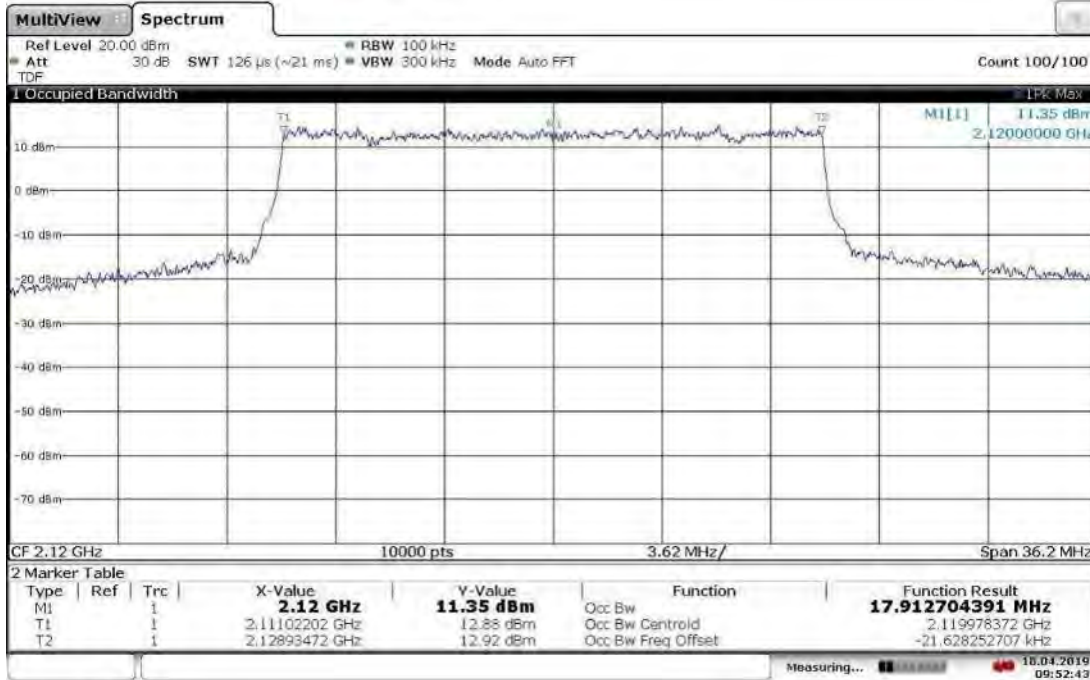
09:38:35 26.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel Occupied Bandwidth**



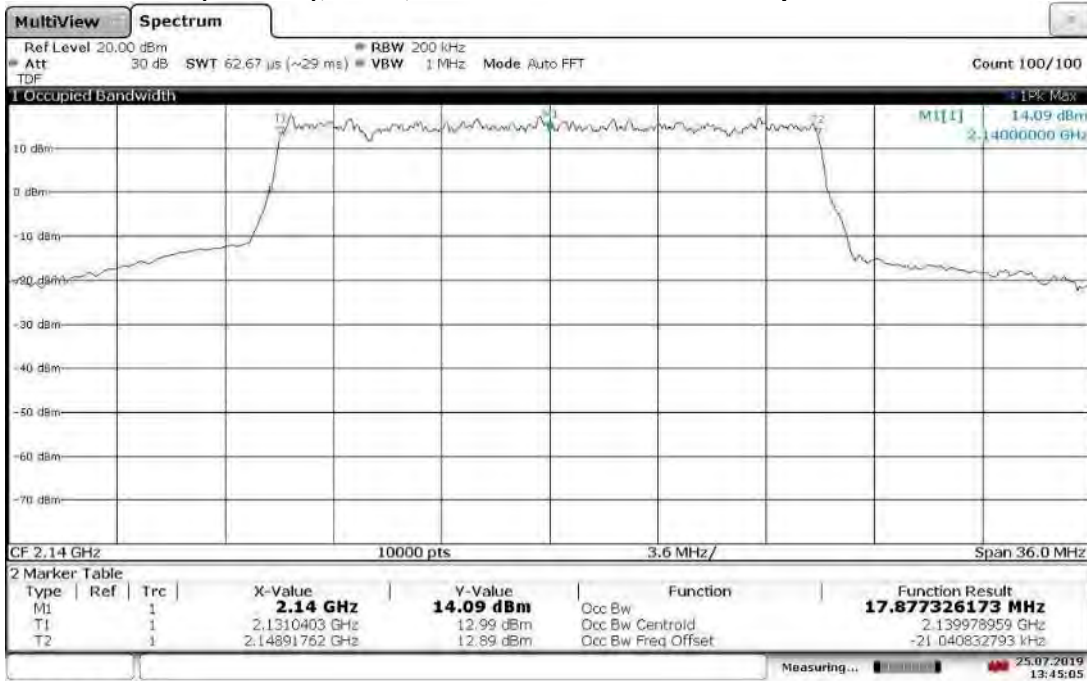
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**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel Occupied Bandwidth**



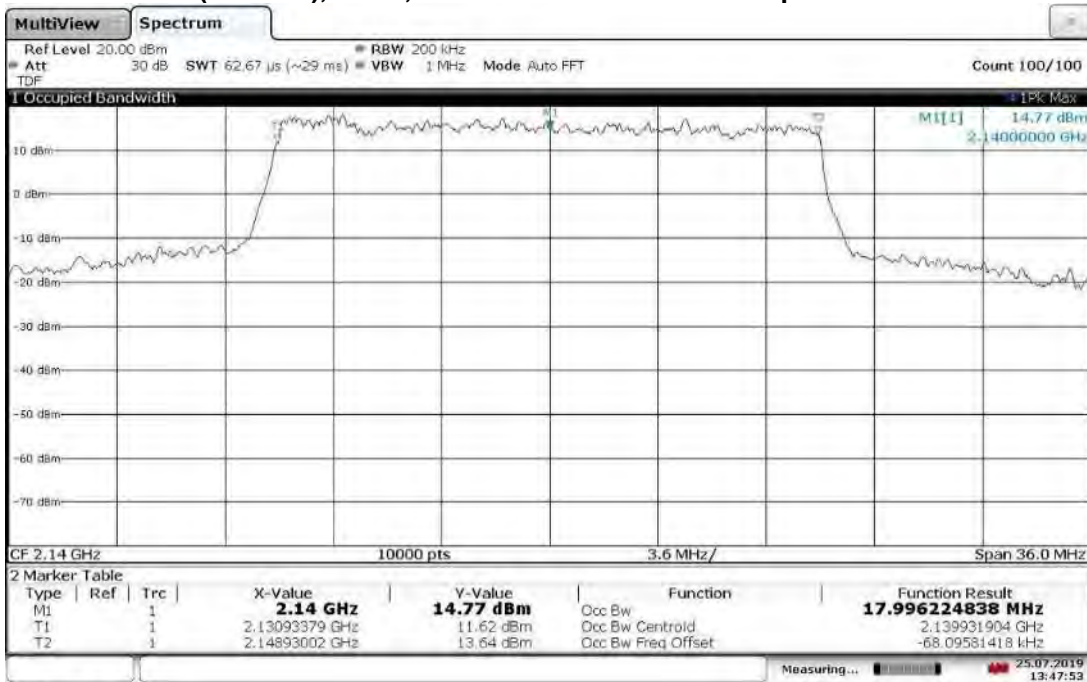
09:52:43 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



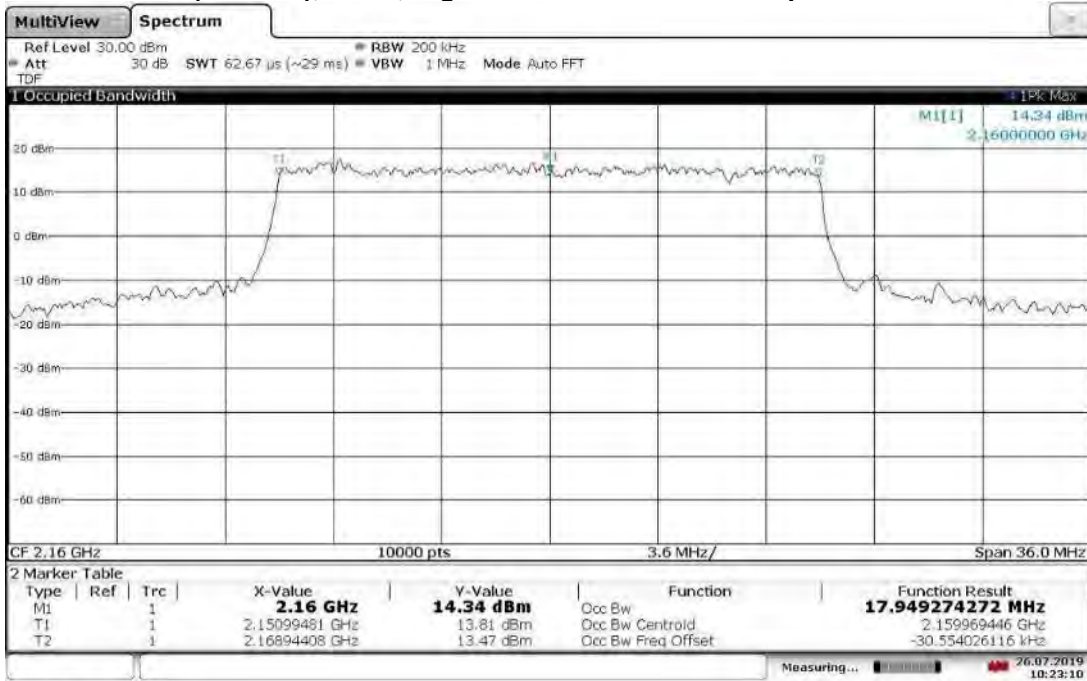
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**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



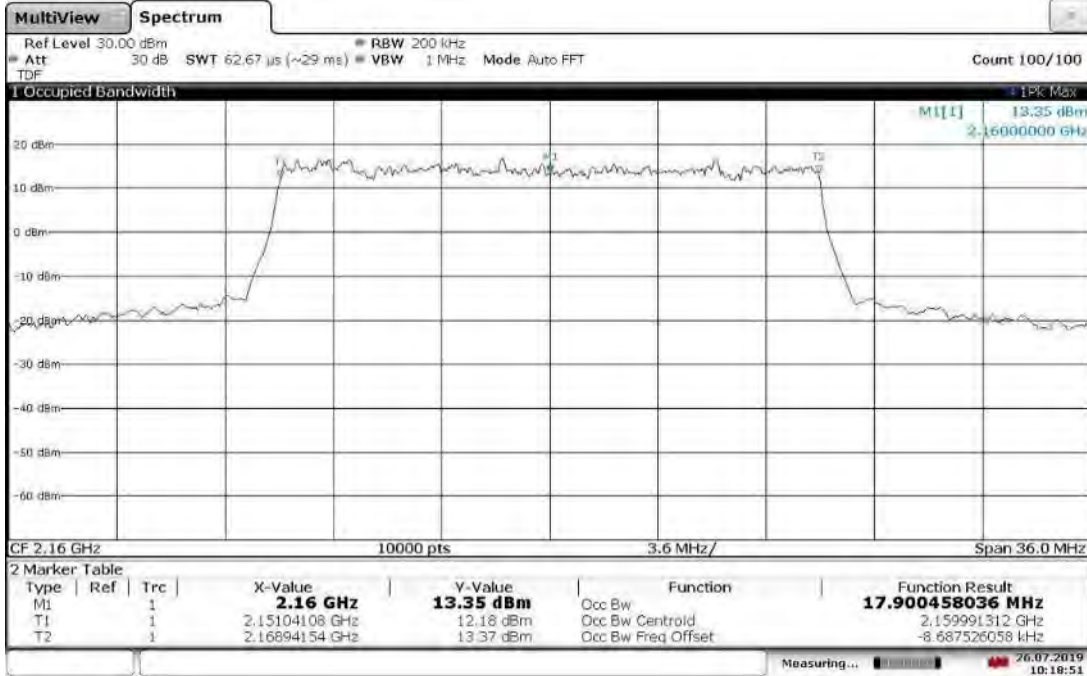
13:47:53 25.07.2019

TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2160 MHz Occupied Bandwidth



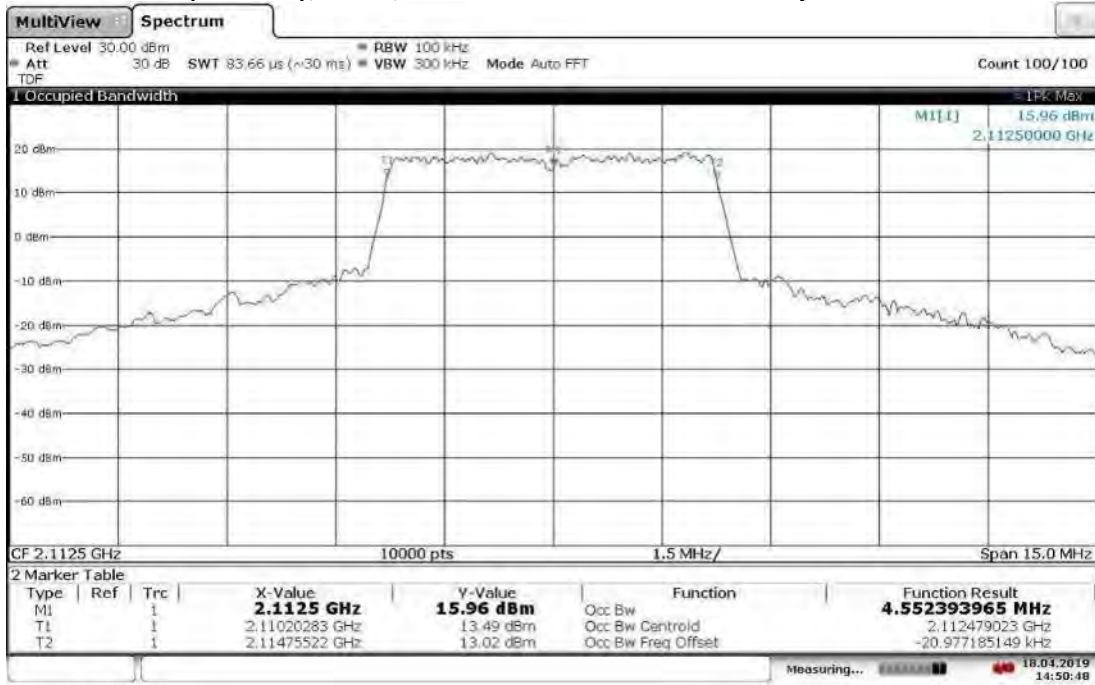
10:23:11 26.07.2019

TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2160 MHz Occupied Bandwidth



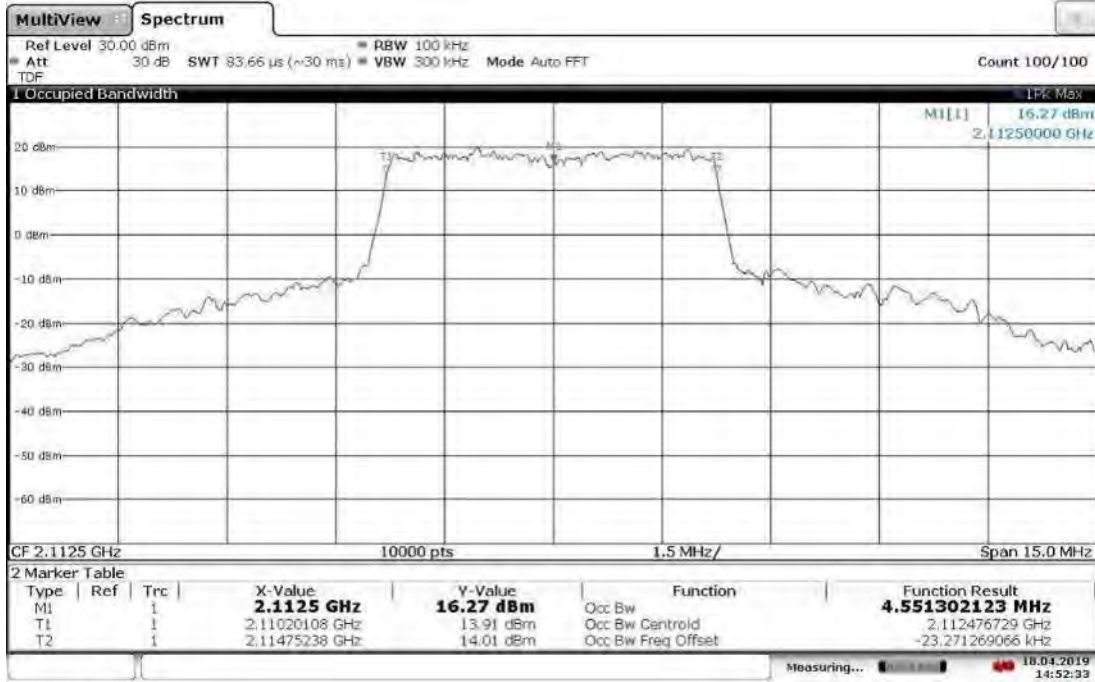
10:18:52 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2112.5 MHz Occupied Bandwidth**



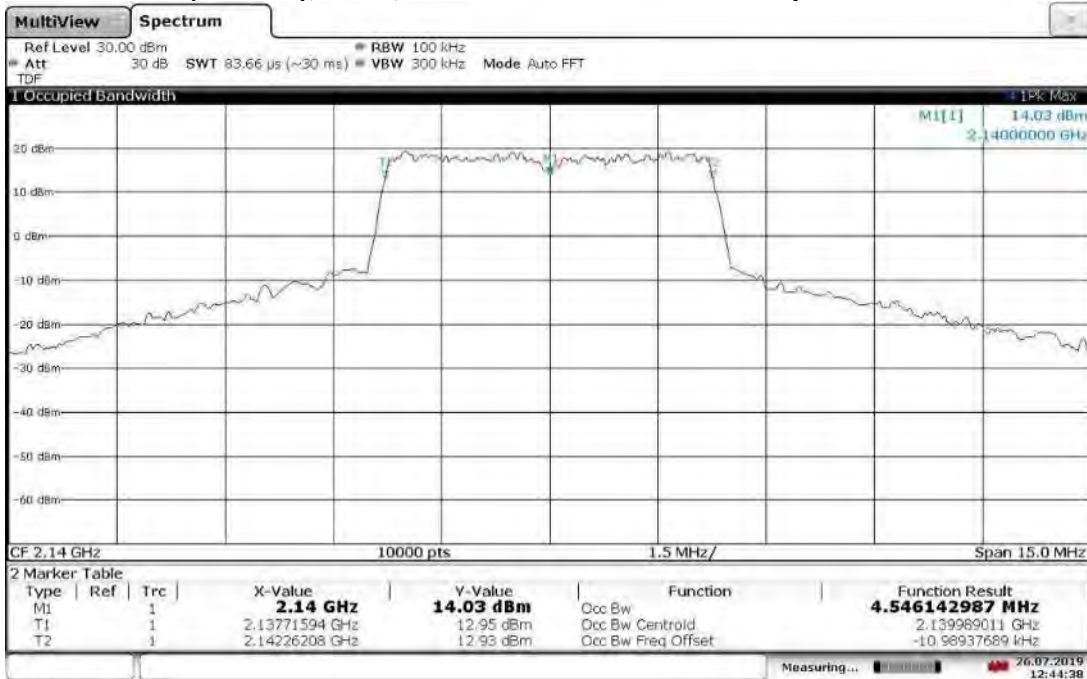
14:50:49 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2112.5 MHz Occupied Bandwidth**



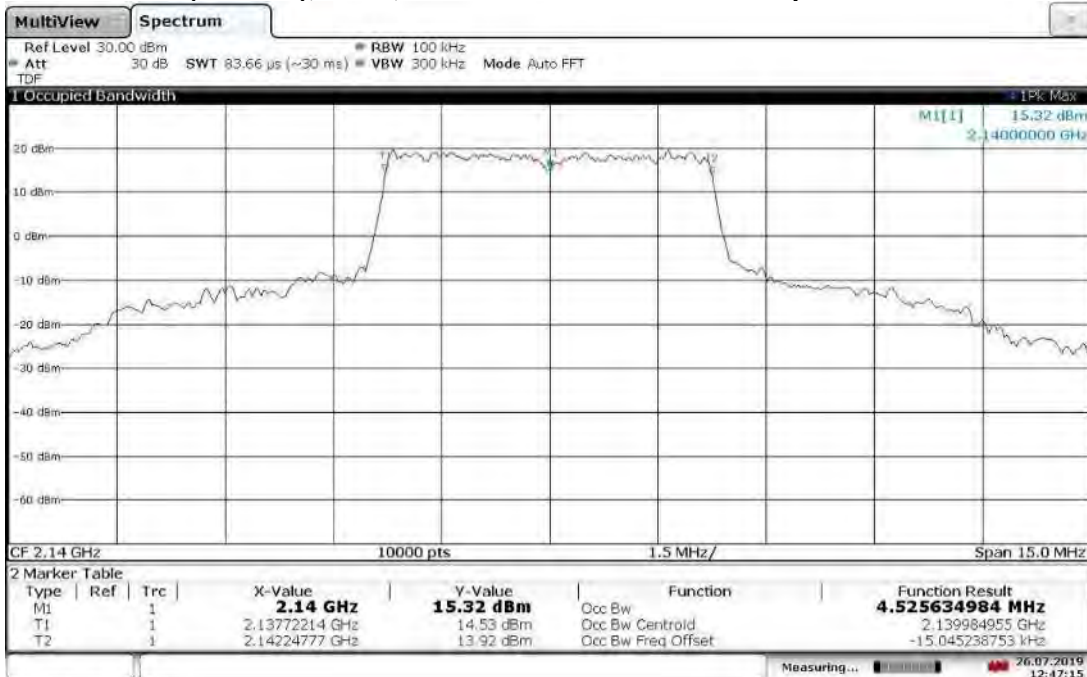
14:52:33 18.04.2019

TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2112.5 MHz Occupied Bandwidth



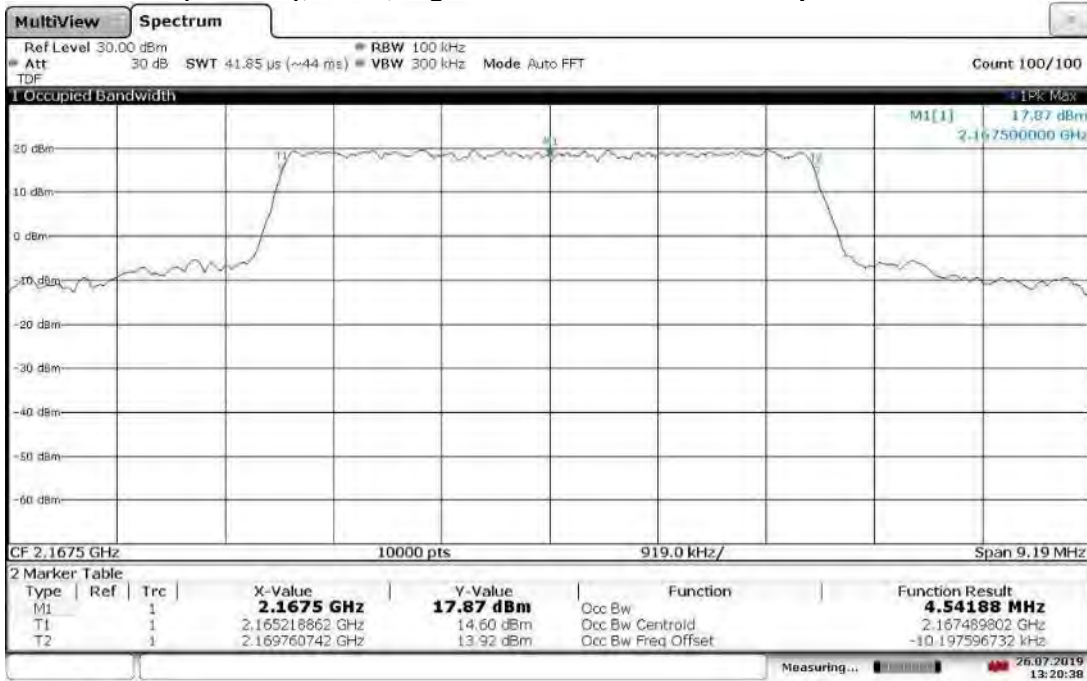
12:44:39 26.07.2019

TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2112.5 MHz Occupied Bandwidth



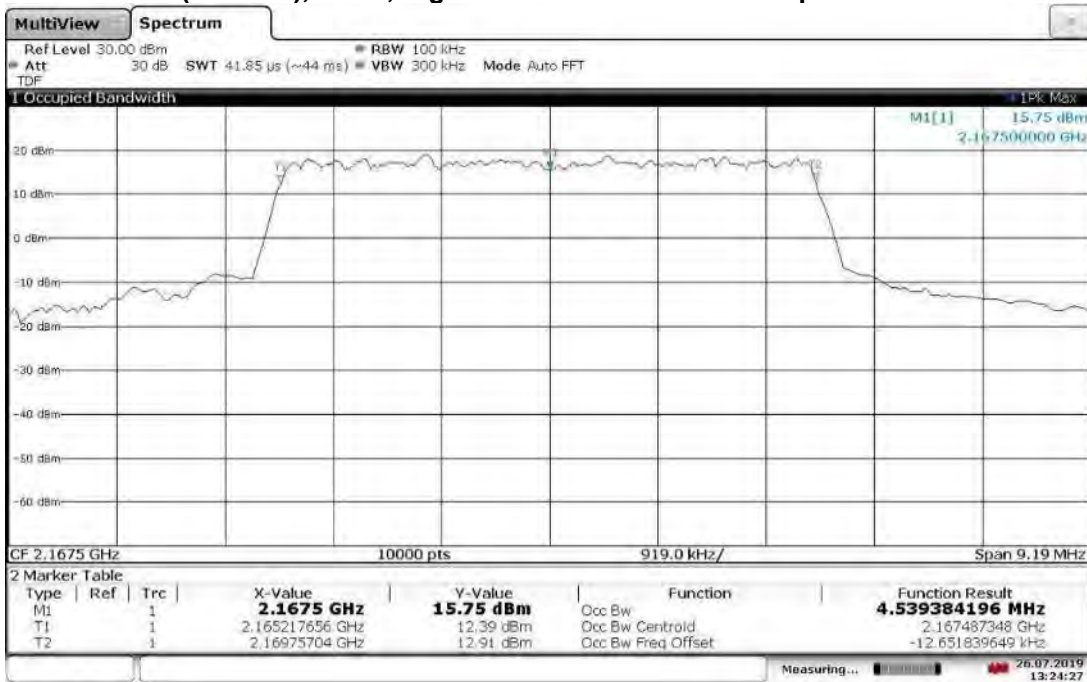
12:47:16 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2167.5 MHz Occupied Bandwidth**



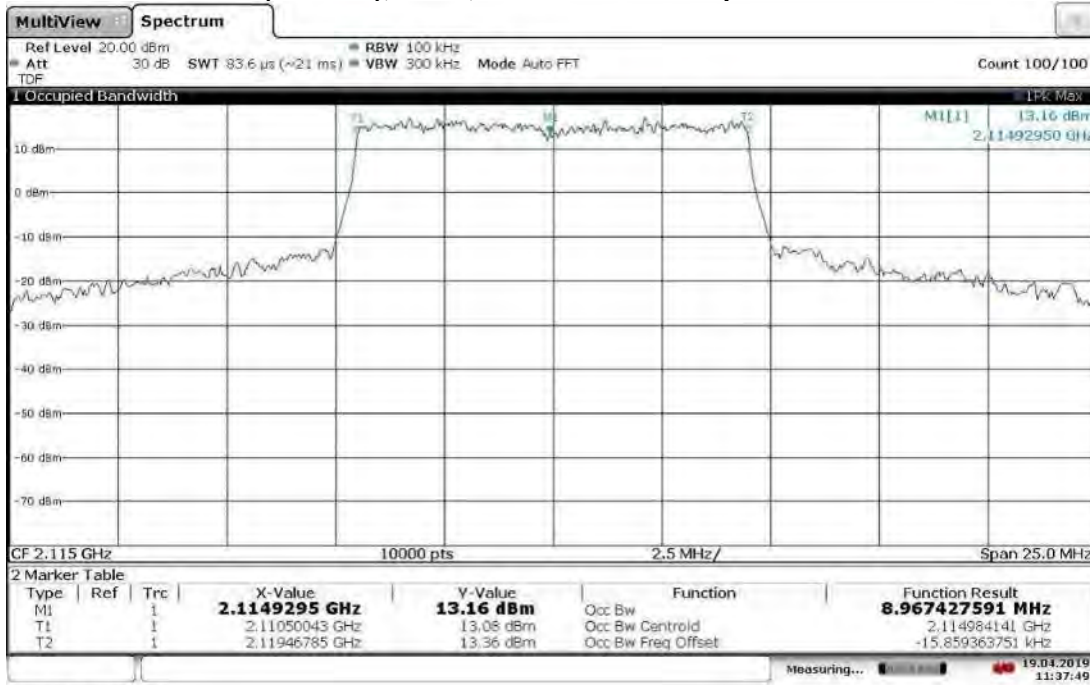
13:20:38 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2167.5 MHz Occupied Bandwidth**



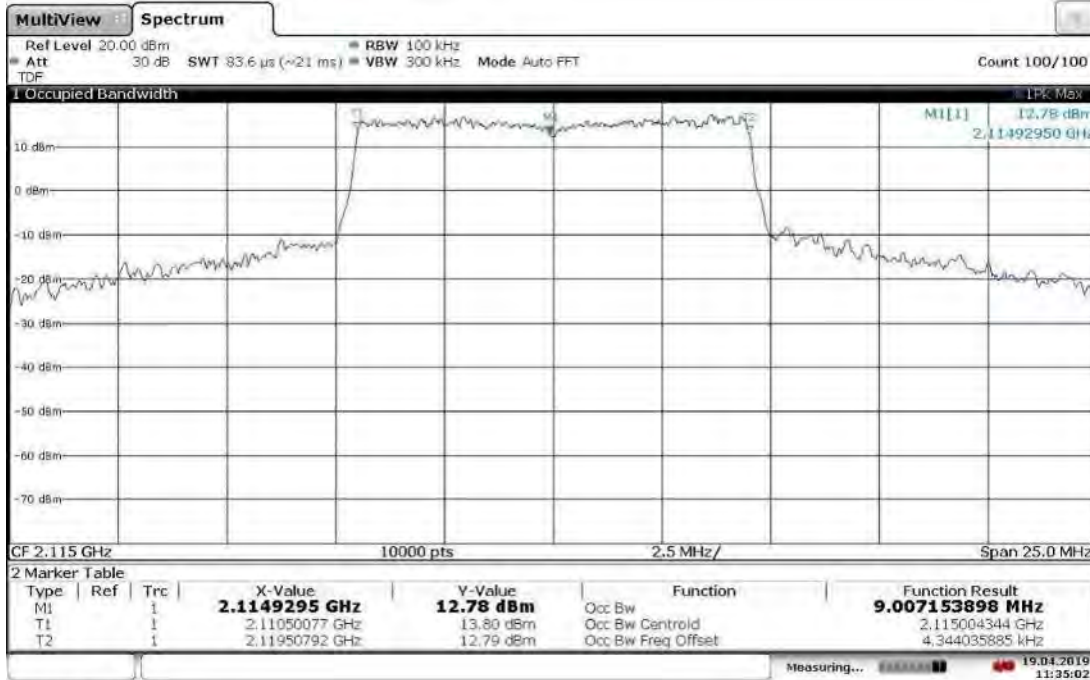
13:24:28 26.07.2019

TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel Occupied Bandwidth



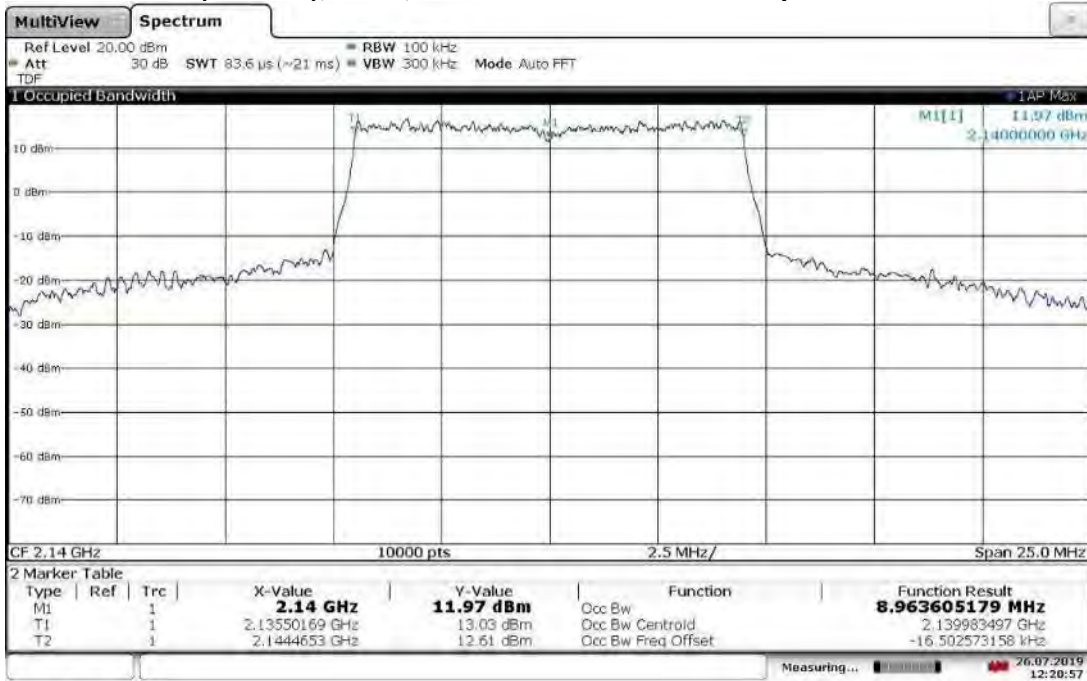
11:37:50 19.04.2019

TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel Occupied Bandwidth



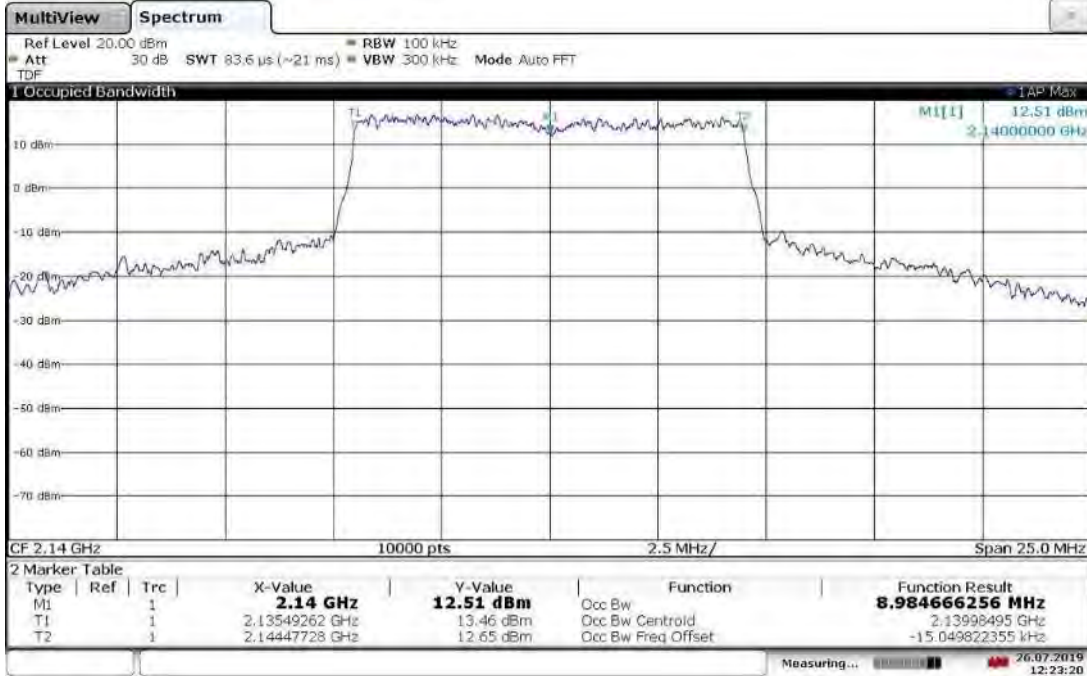
11:35:03 19.04.2019

TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth



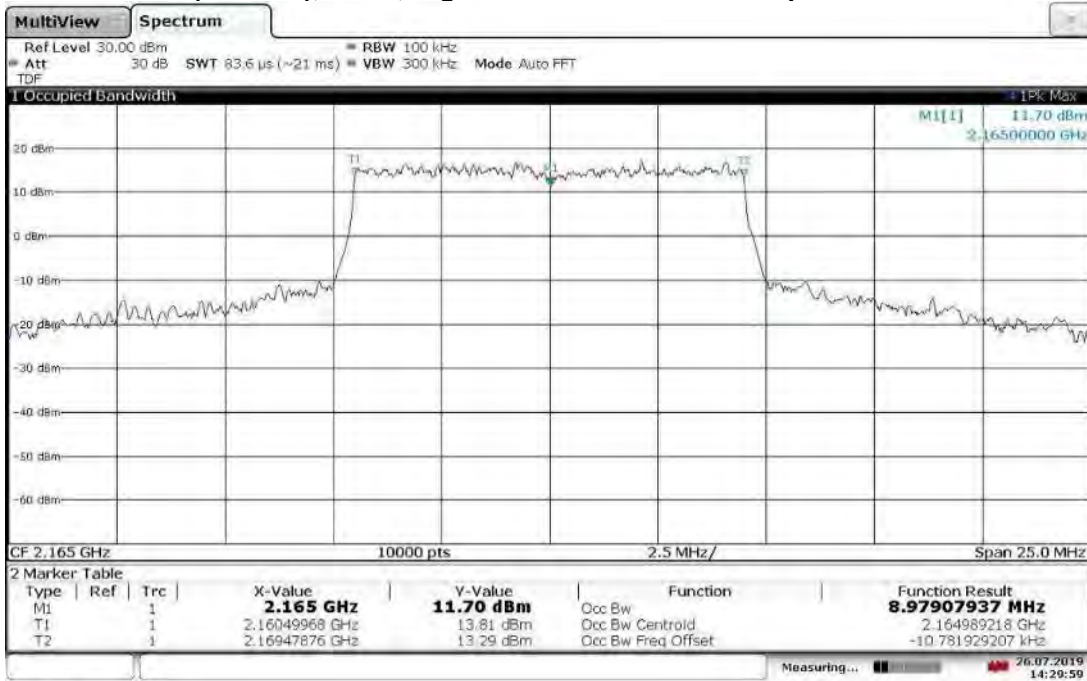
12:20:57 26.07.2019

TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth



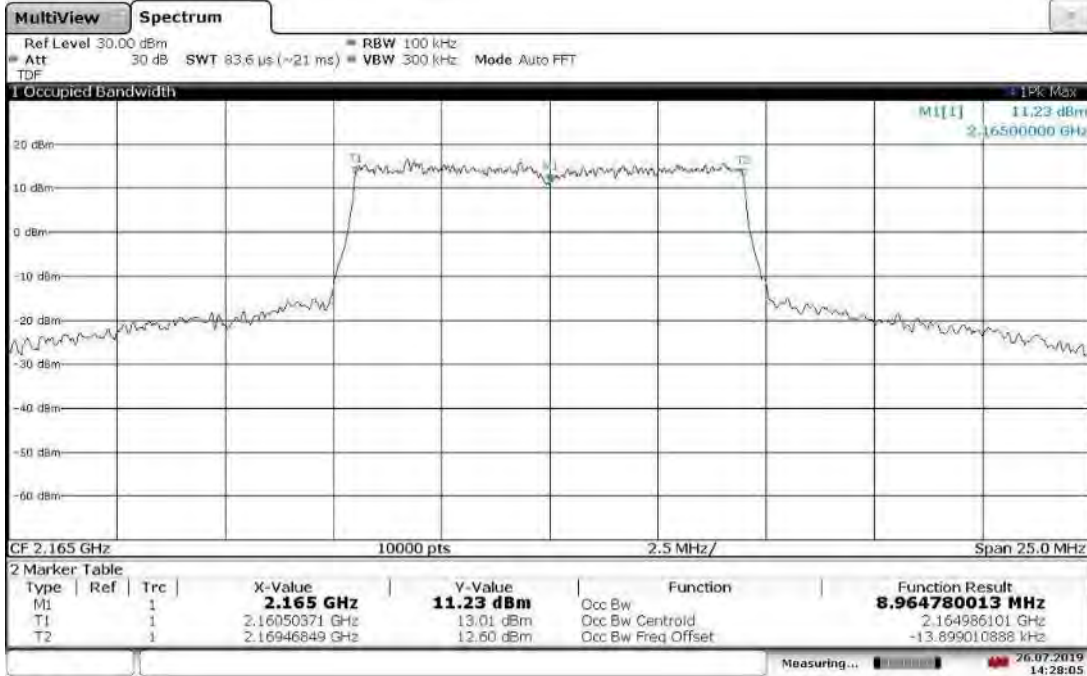
12:23:20 26.07.2019

TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2165 MHz Occupied Bandwidth



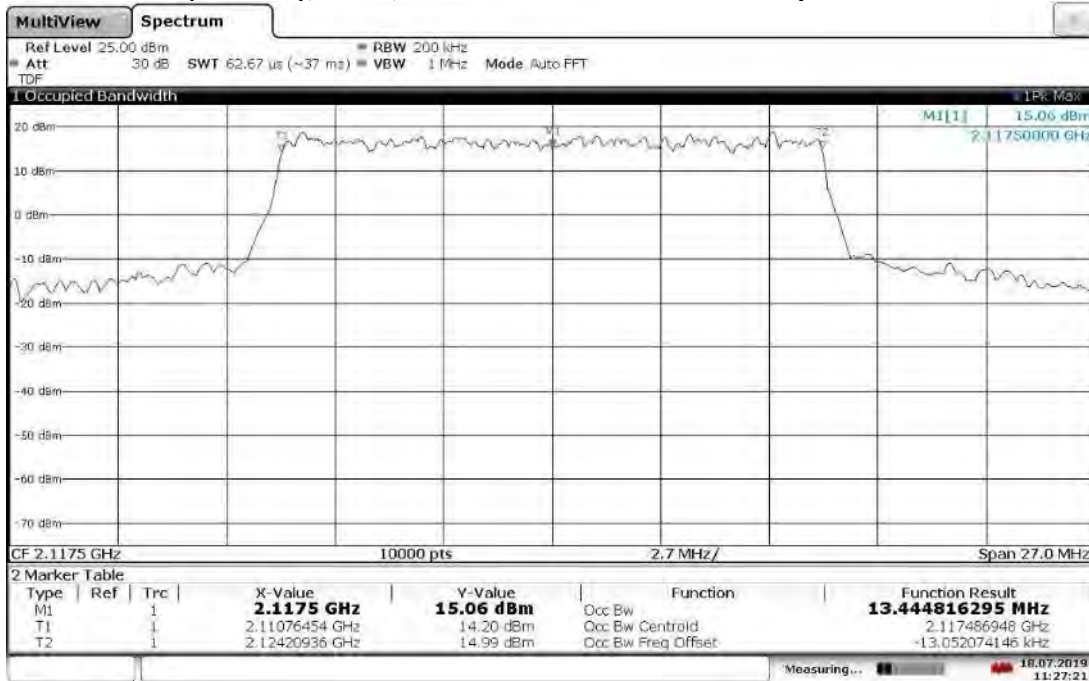
14:30:00 26.07.2019

TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2165 MHz Occupied Bandwidth



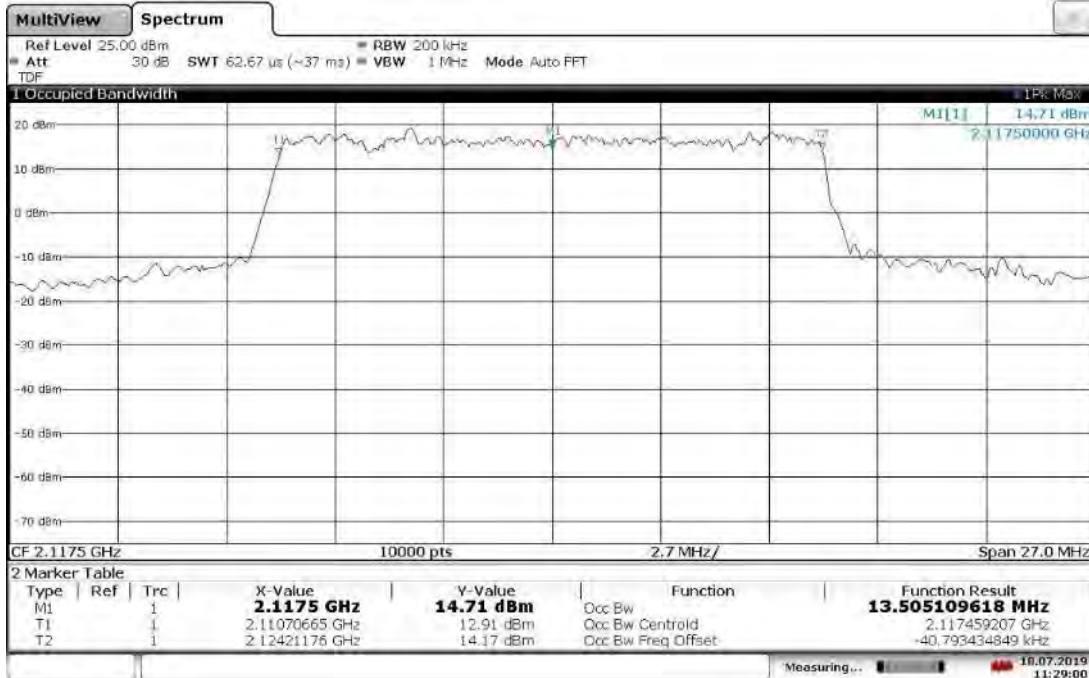
14:28:06 26.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2117.5 MHz Occupied Bandwidth



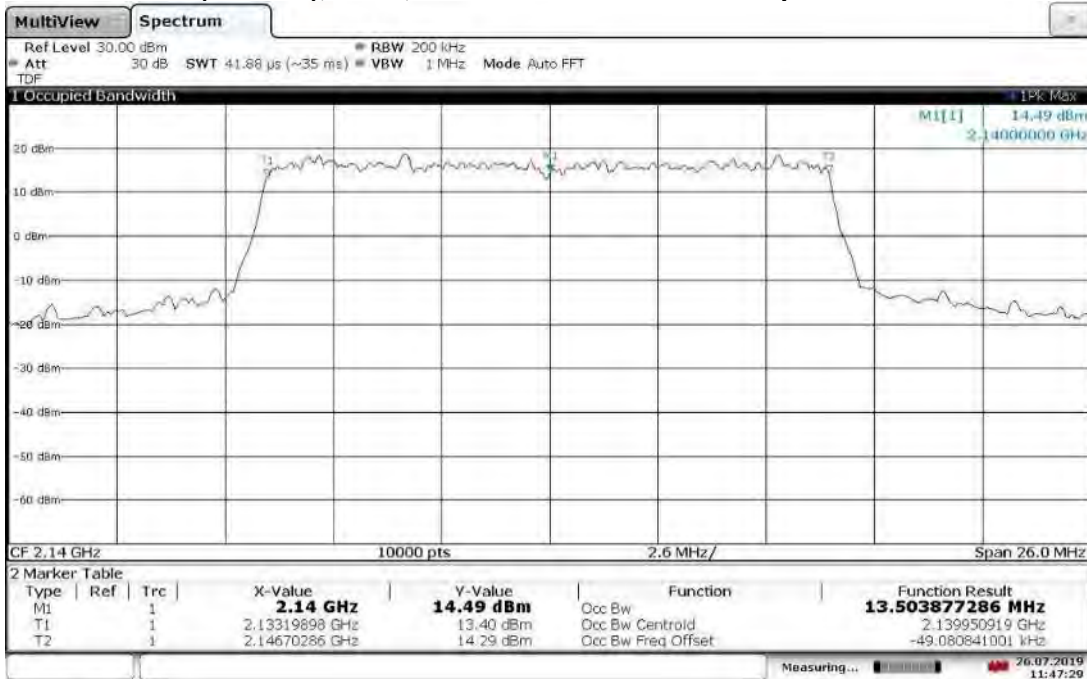
11:27:21 18.07.2019

TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2117.5 MHz Occupied Bandwidth



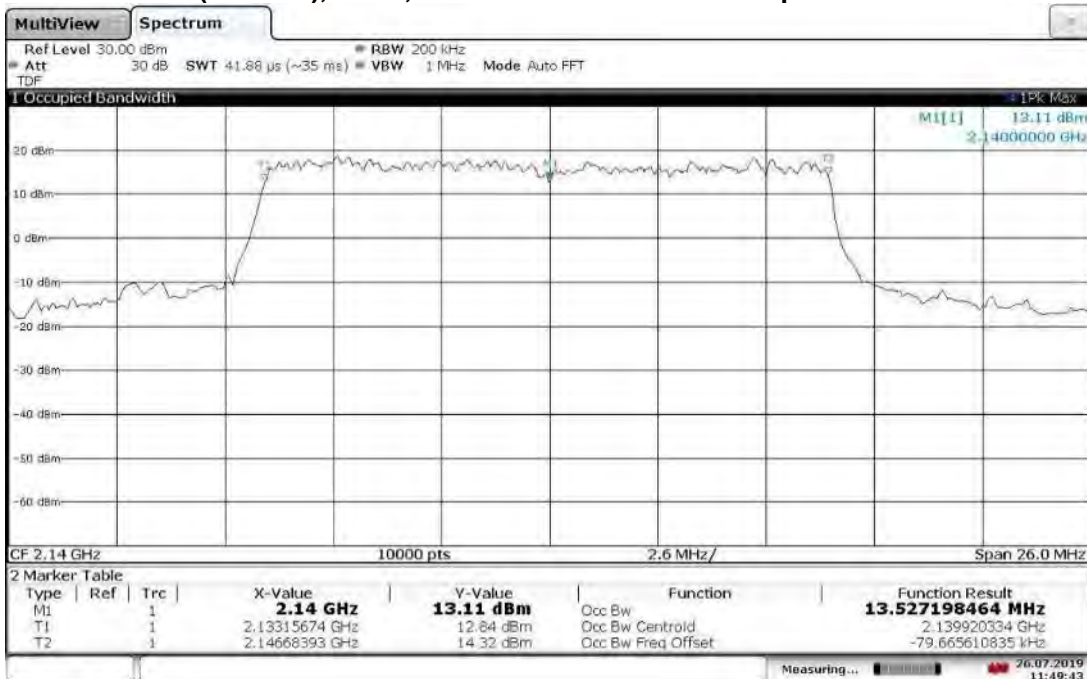
11:29:00 18.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



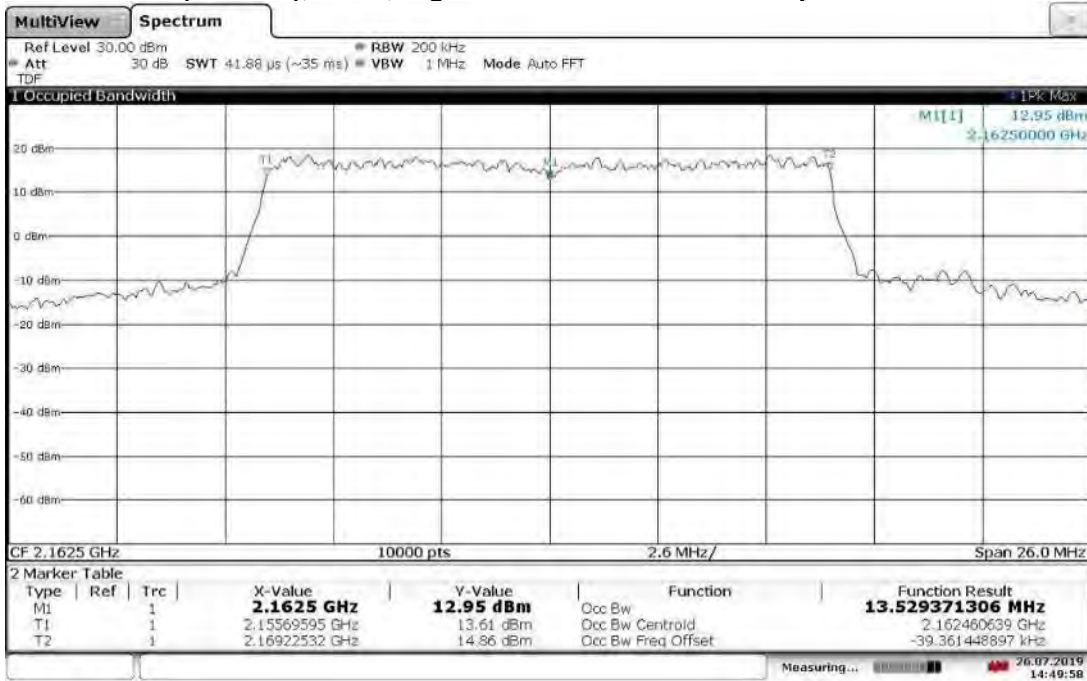
11:47:30 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



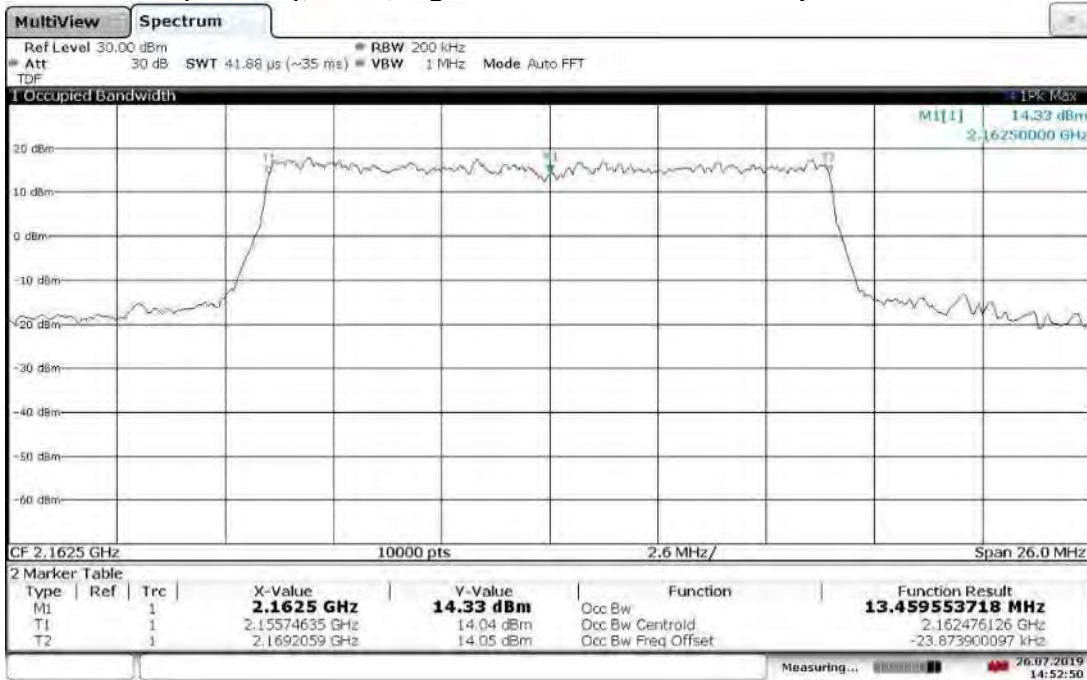
11:49:43 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2162.5 MHz Occupied Bandwidth**



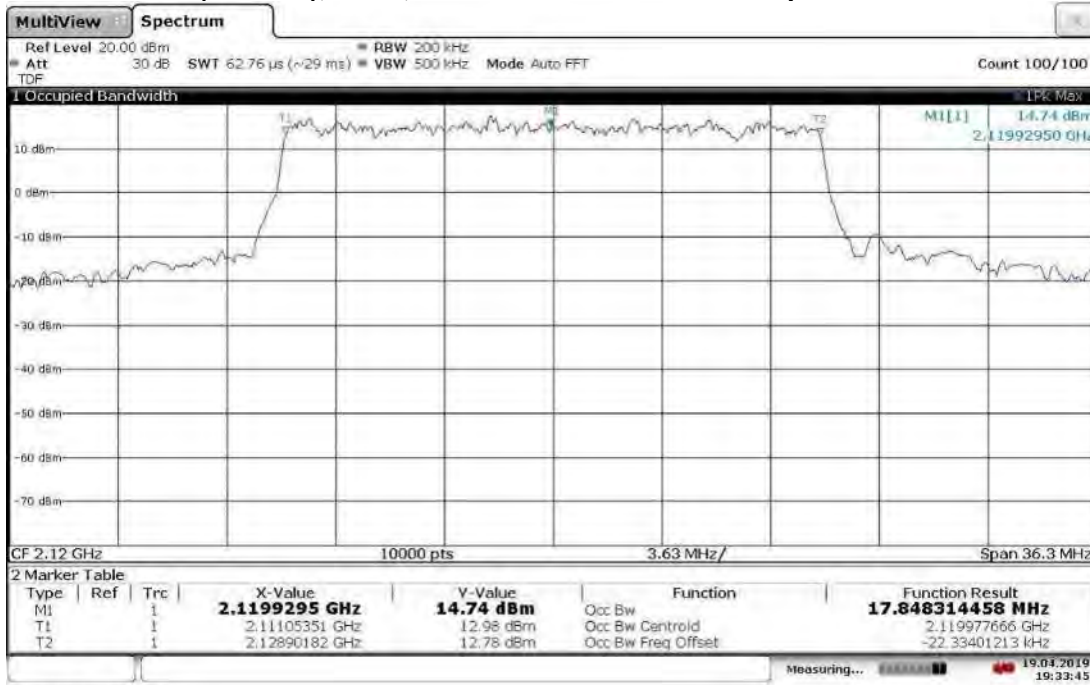
14:49:58 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2162.5 MHz Occupied Bandwidth**



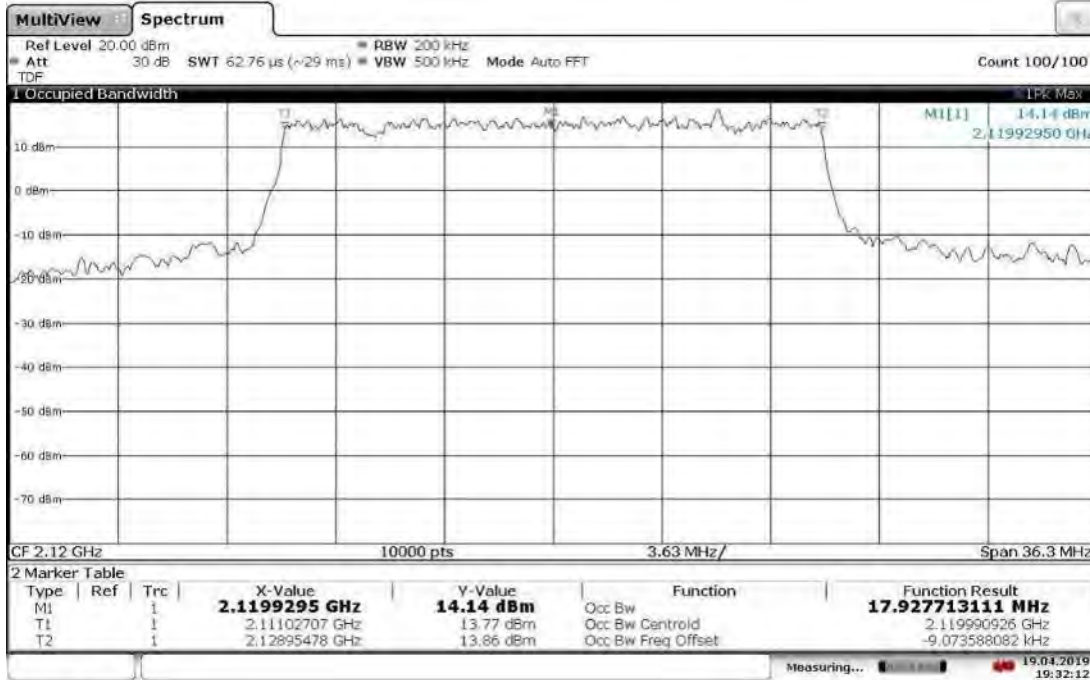
14:52:50 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 2120 MHz Occupied Bandwidth**



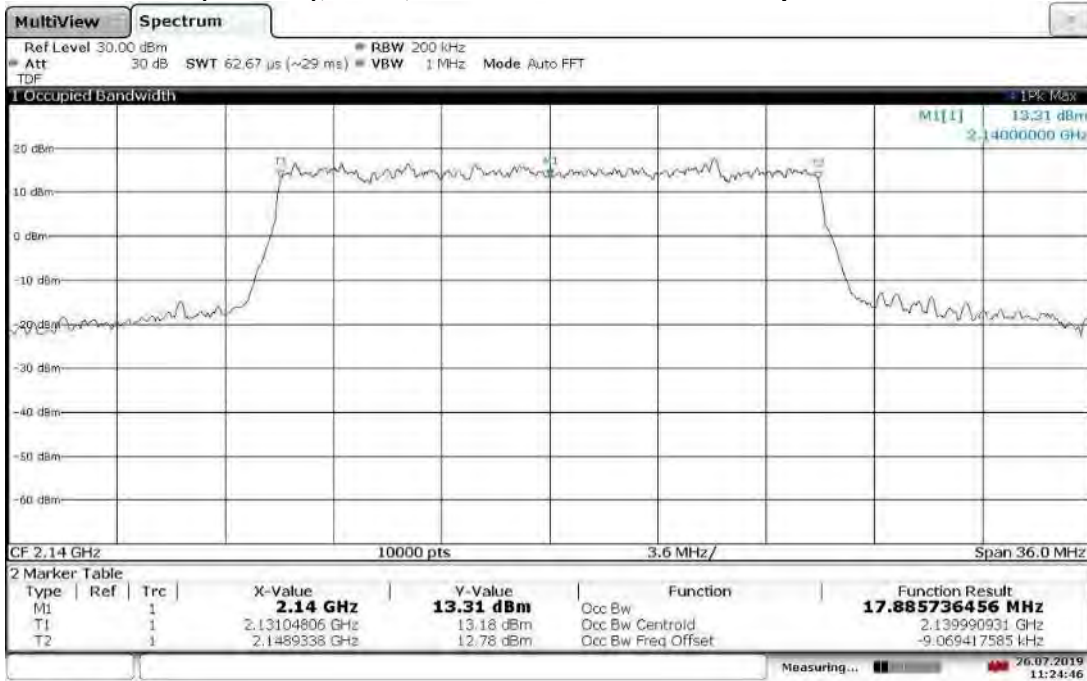
19:33:45 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 2120 MHz Occupied Bandwidth**



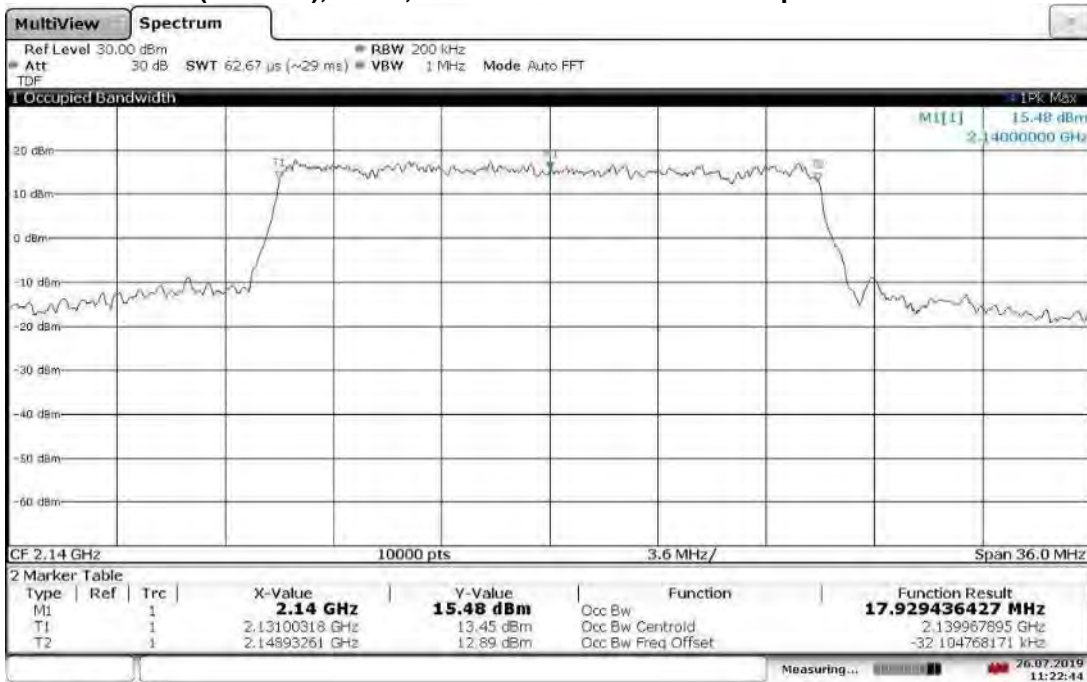
19:32:12 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 2140 MHz Occupied Bandwidth**



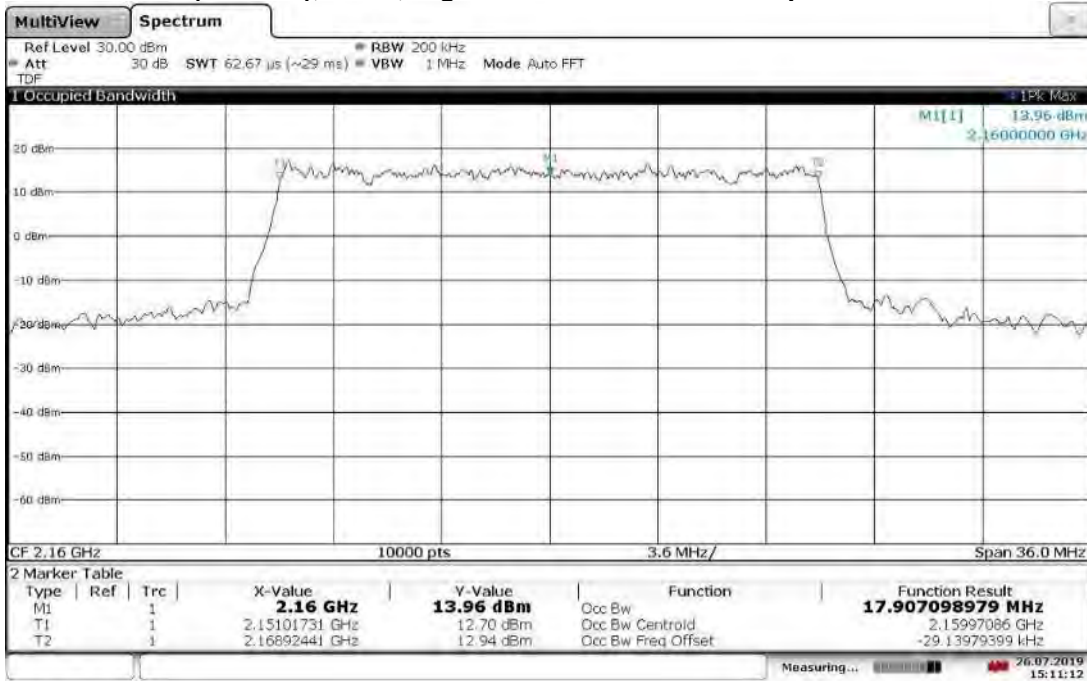
11:24:47 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 2140 MHz Occupied Bandwidth**



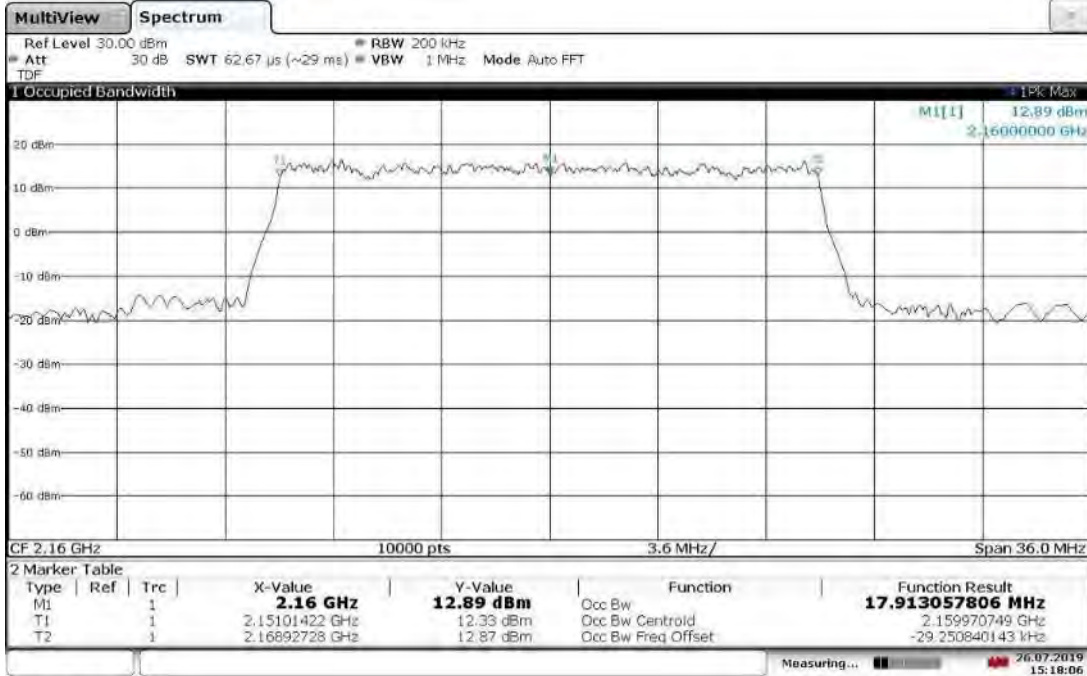
11:22:45 26.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 2160 MHz Occupied Bandwidth



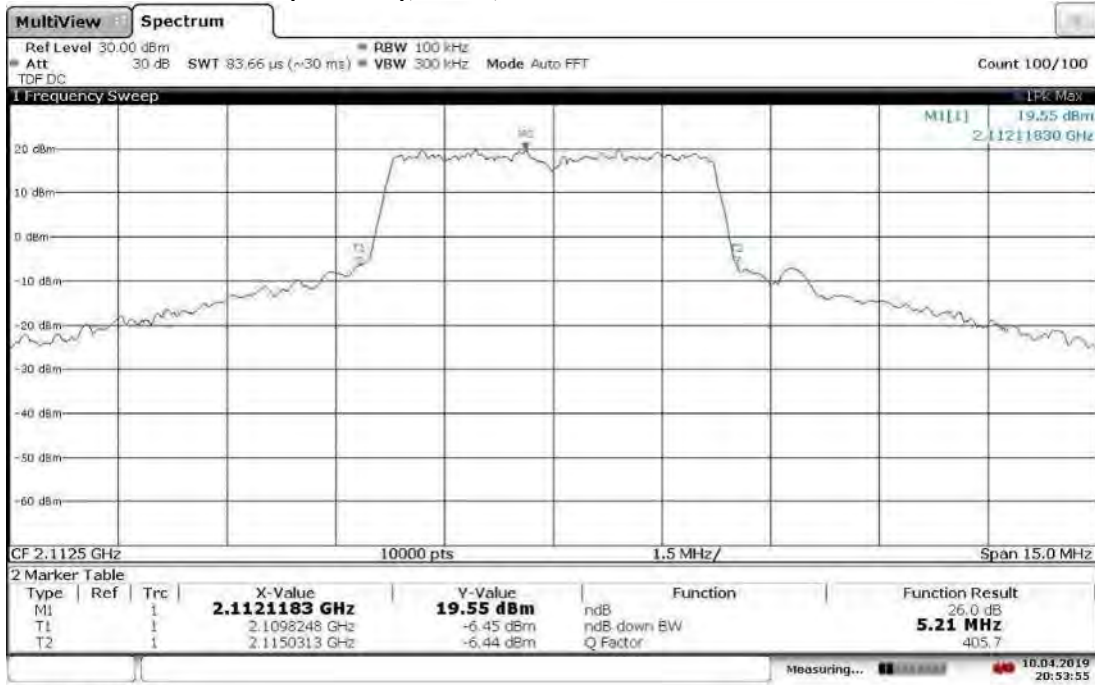
15:11:12 26.07.2019

TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 2160 MHz Occupied Bandwidth



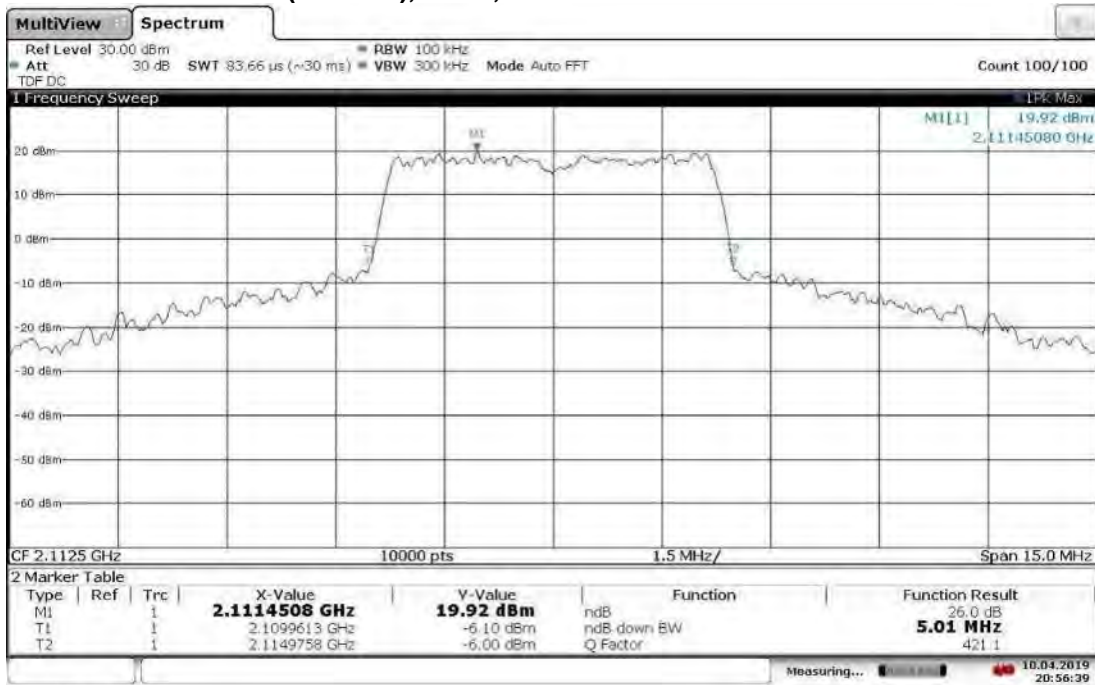
15:18:07 26.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



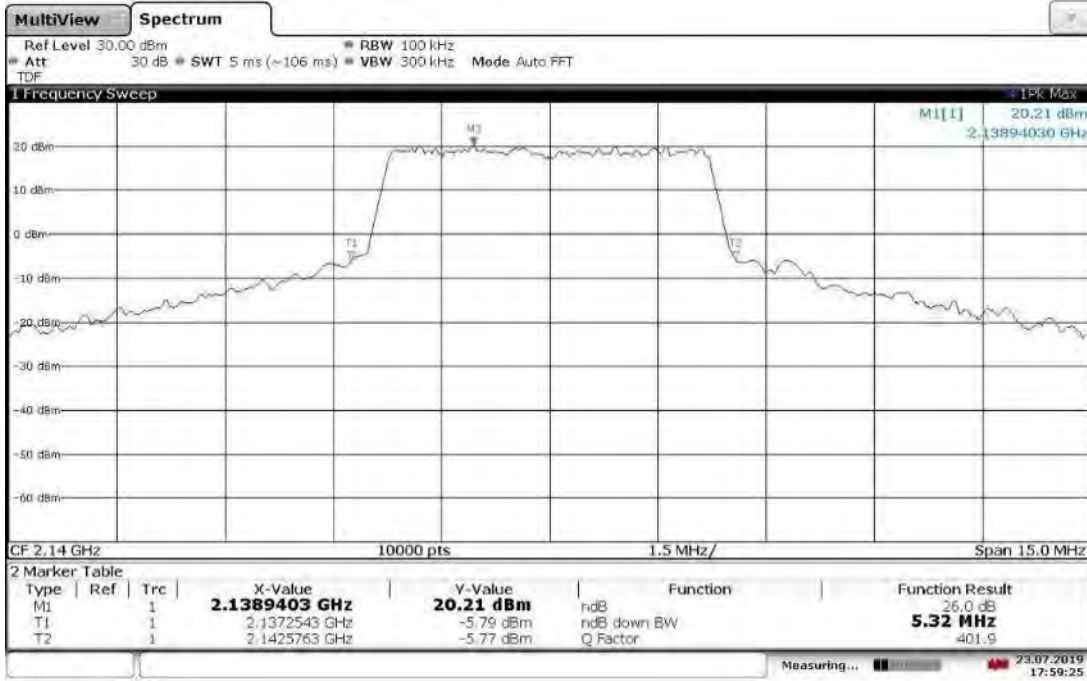
20:53:55 10.04.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



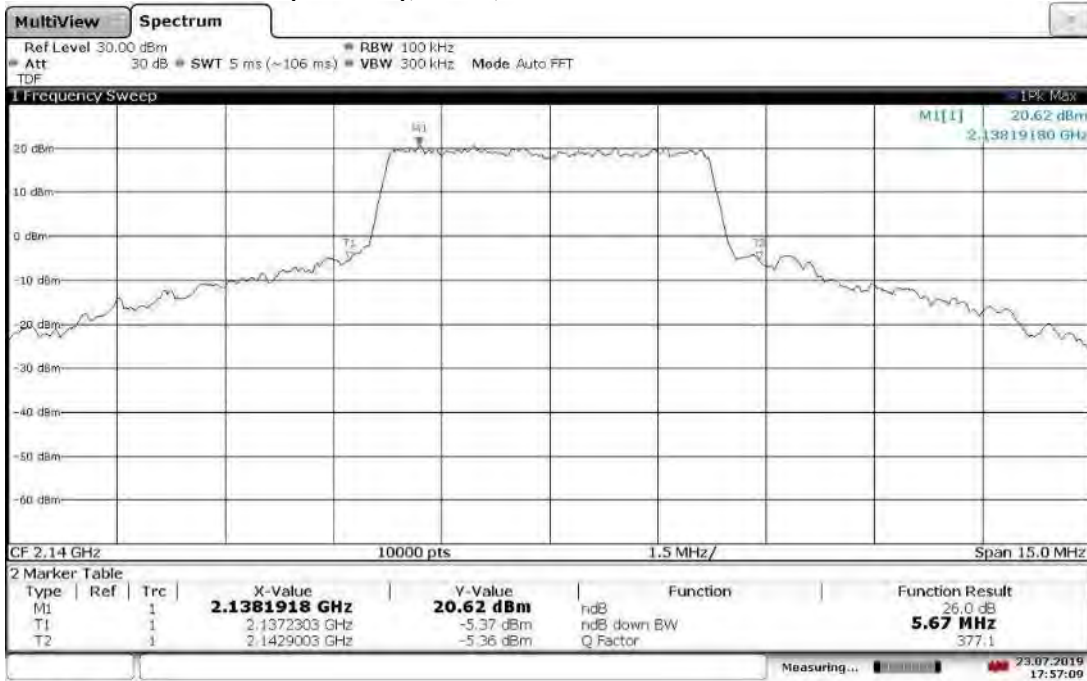
20:56:39 10.04.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



17:59:25 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



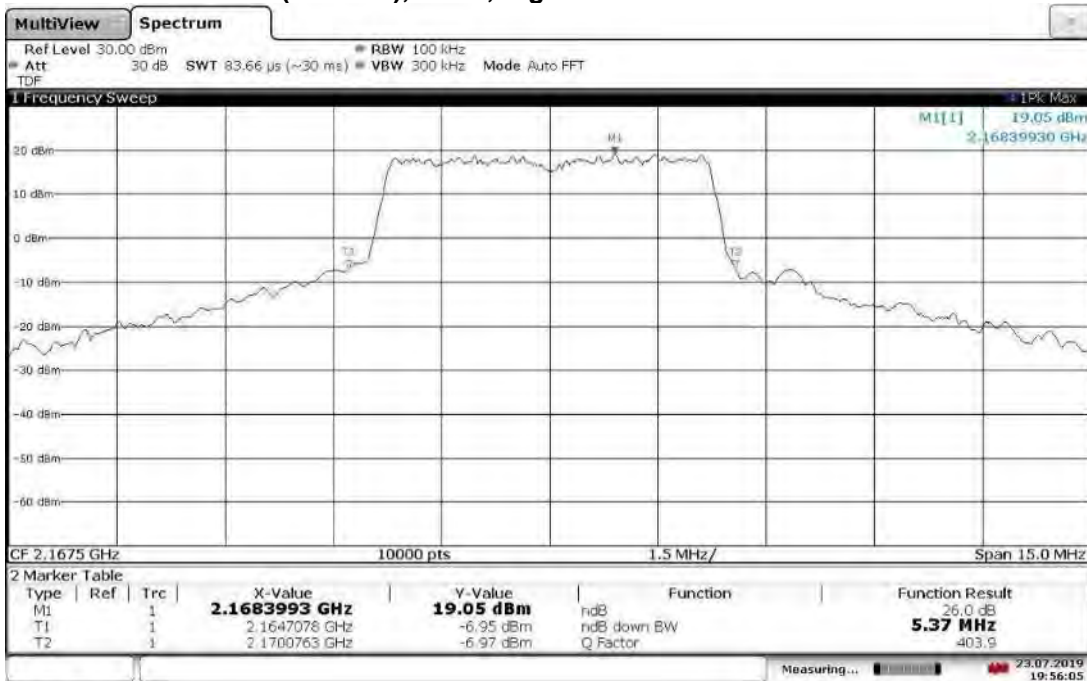
17:57:09 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



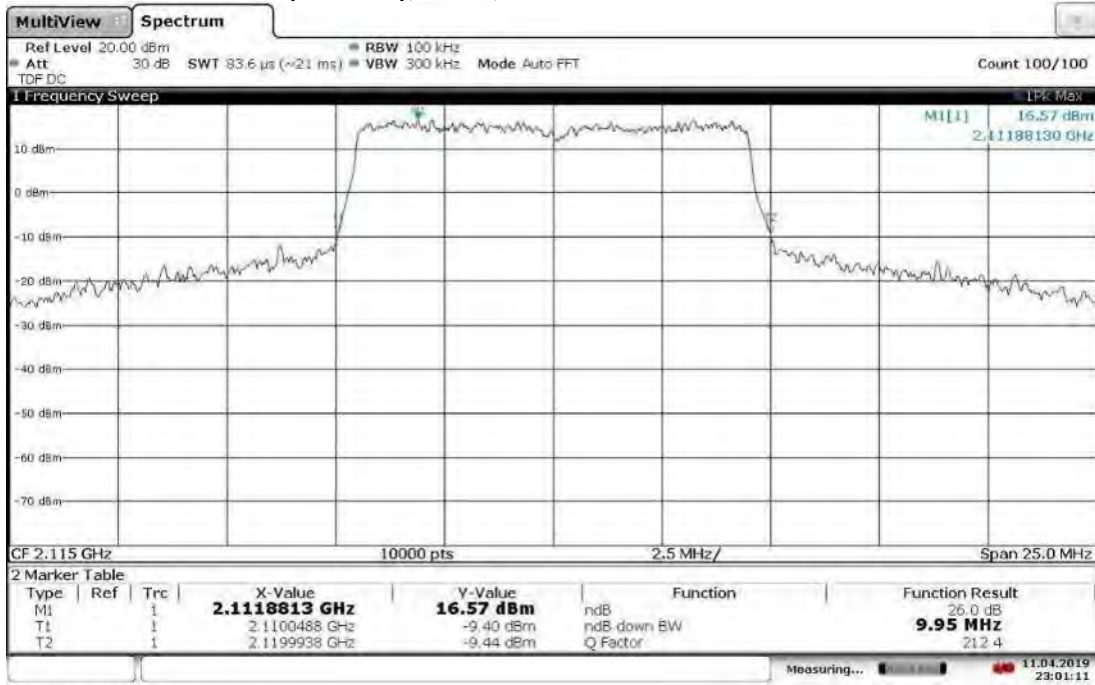
19:57:47 23.07.2019

**TM1.1-QPSK_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



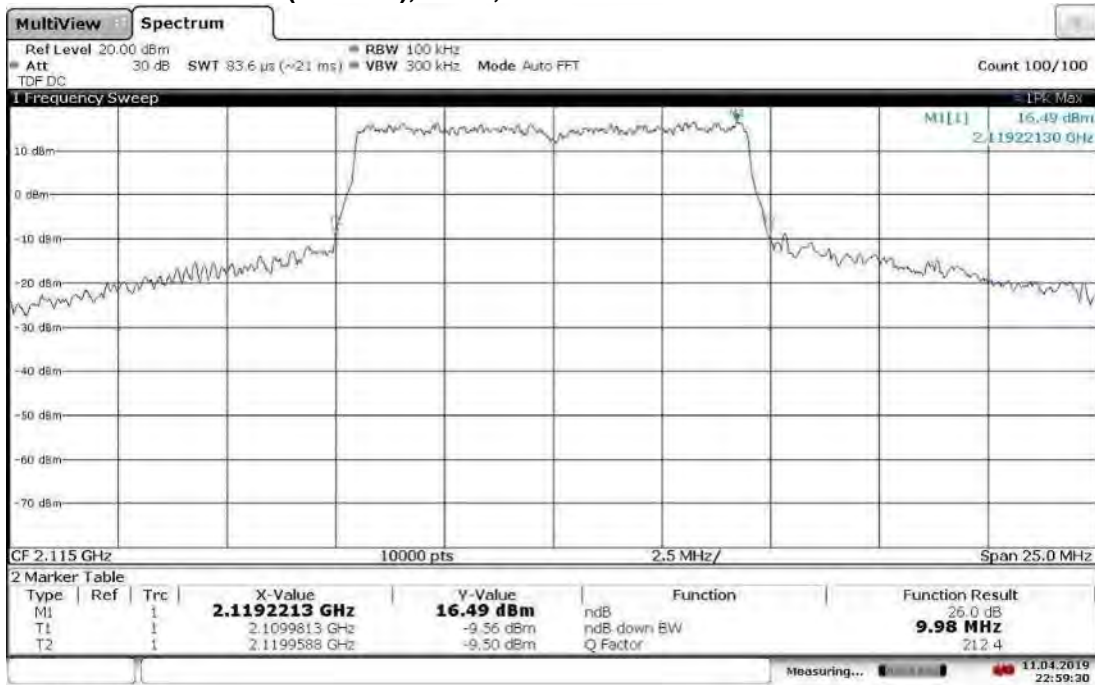
19:56:05 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



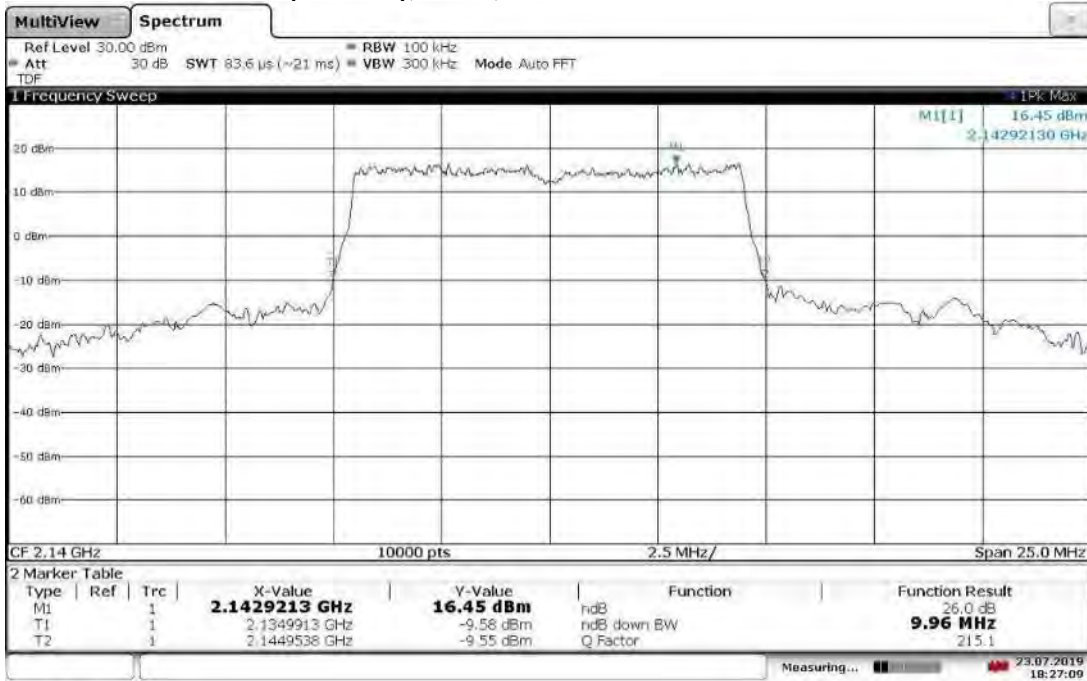
23:01:12 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



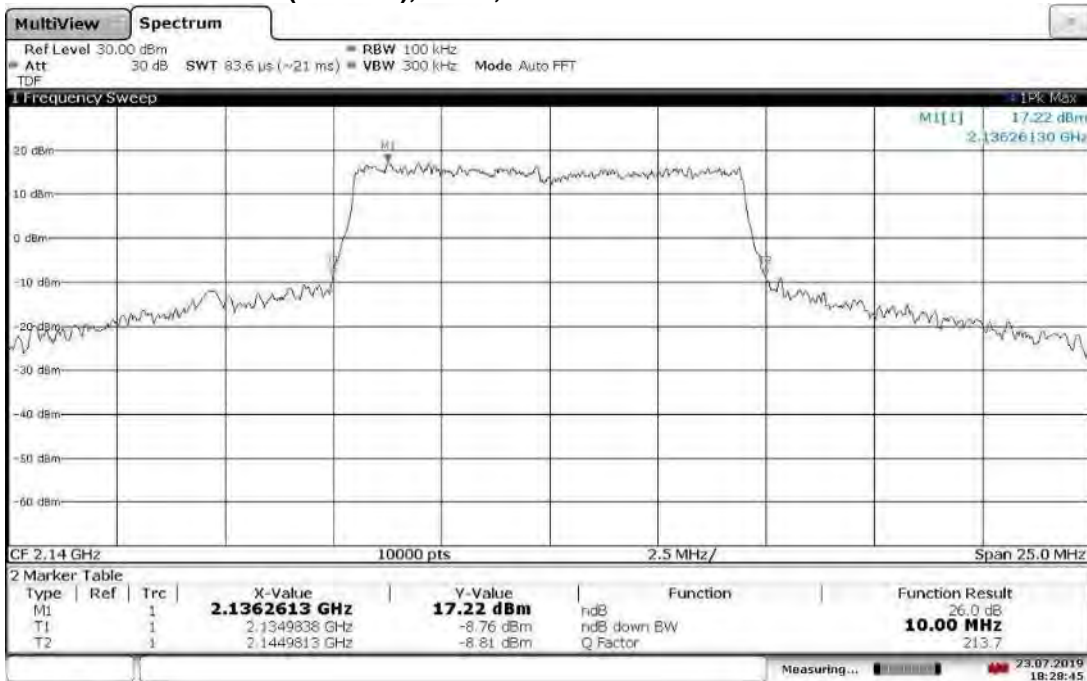
22:59:31 11.04.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



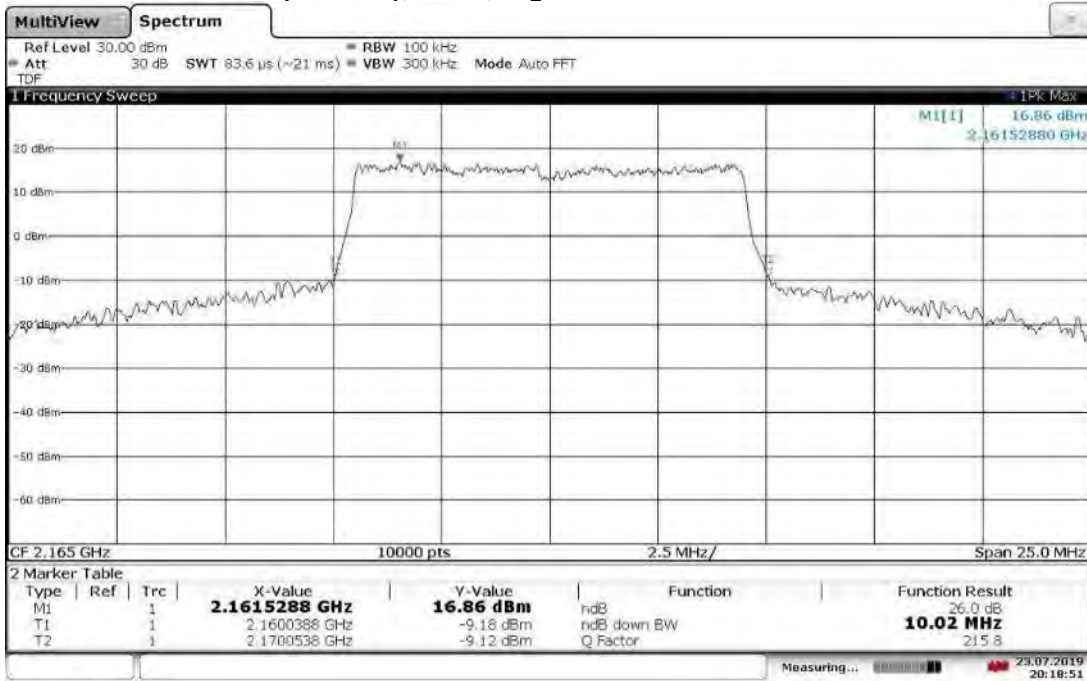
18:27:09 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



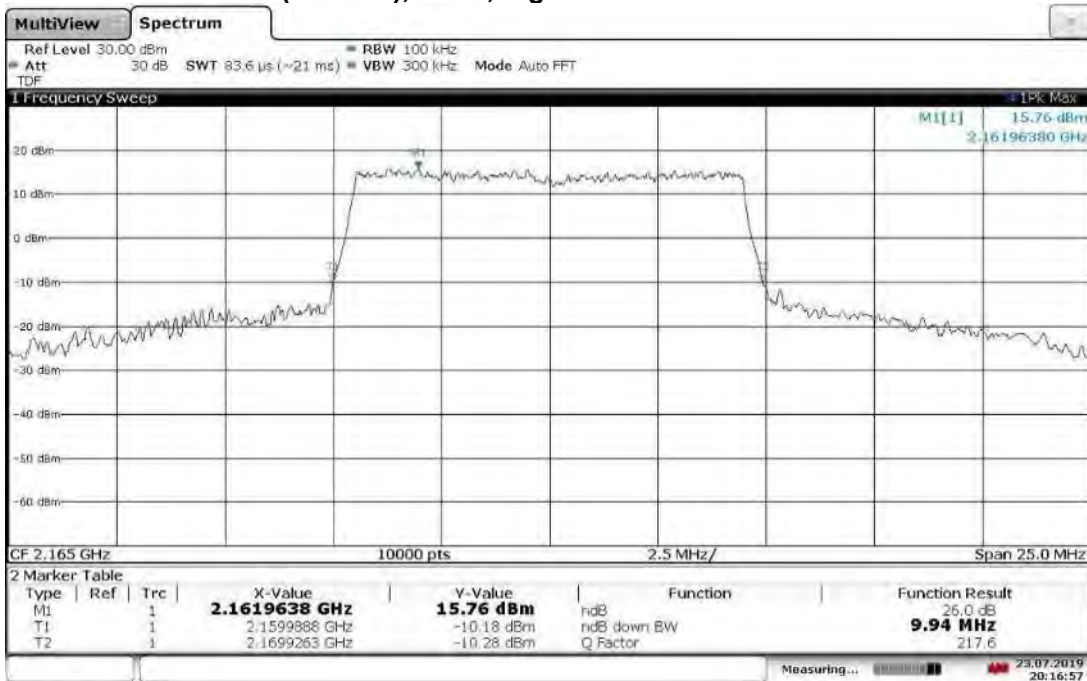
18:28:45 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



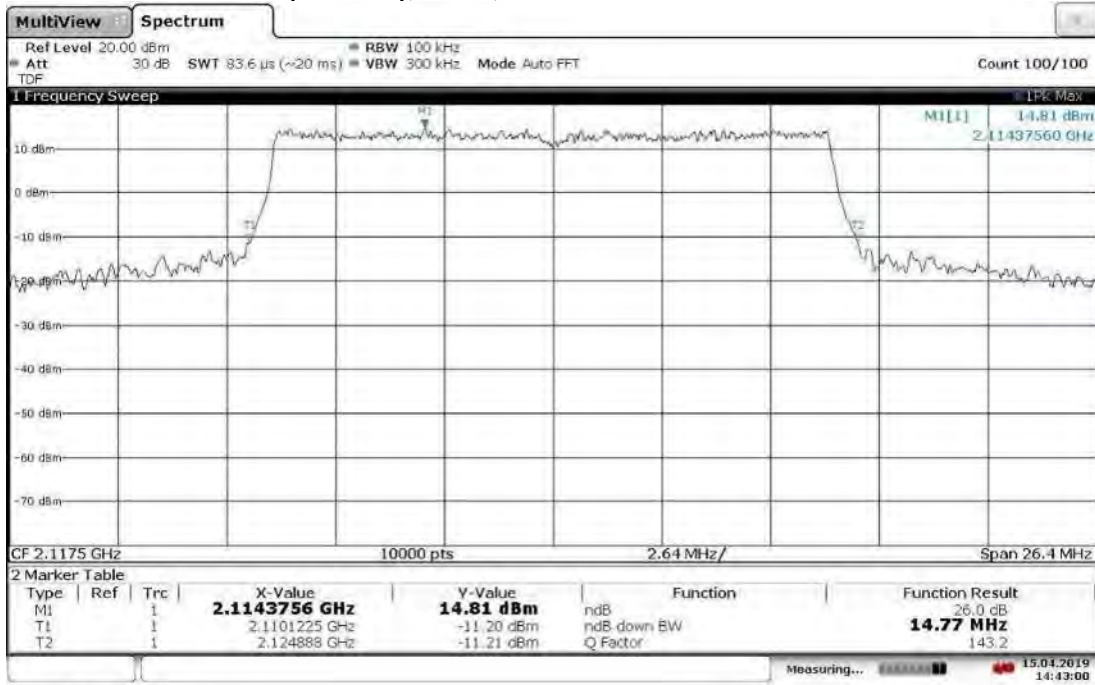
20:18:52 23.07.2019

**TM1.1-QPSK_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



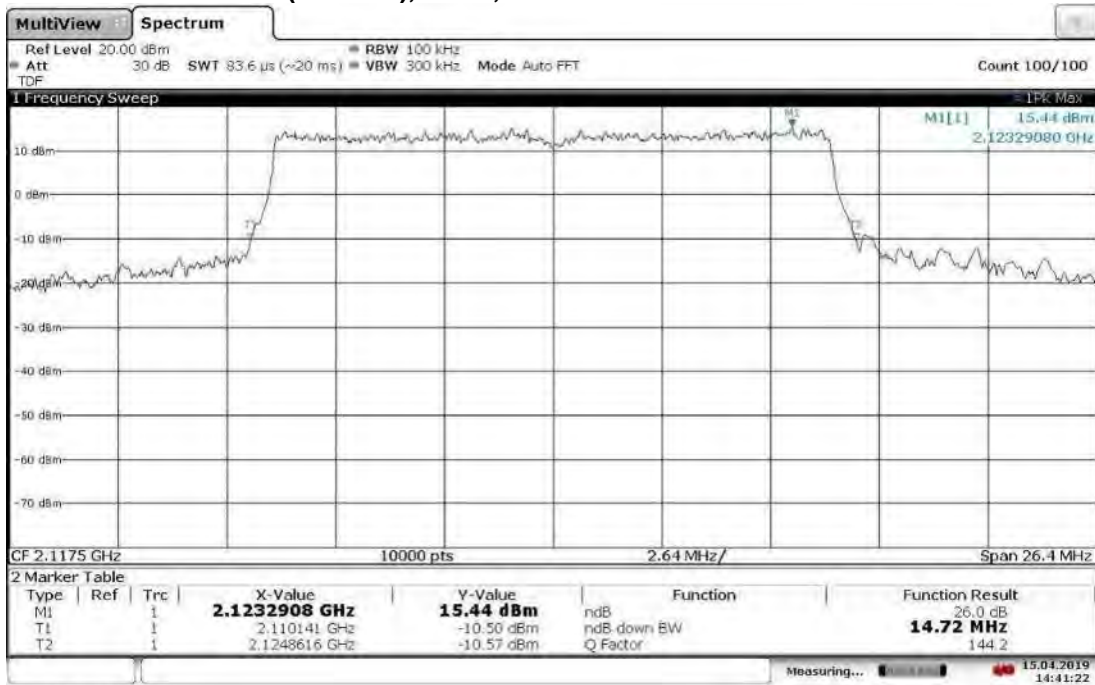
20:16:57 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



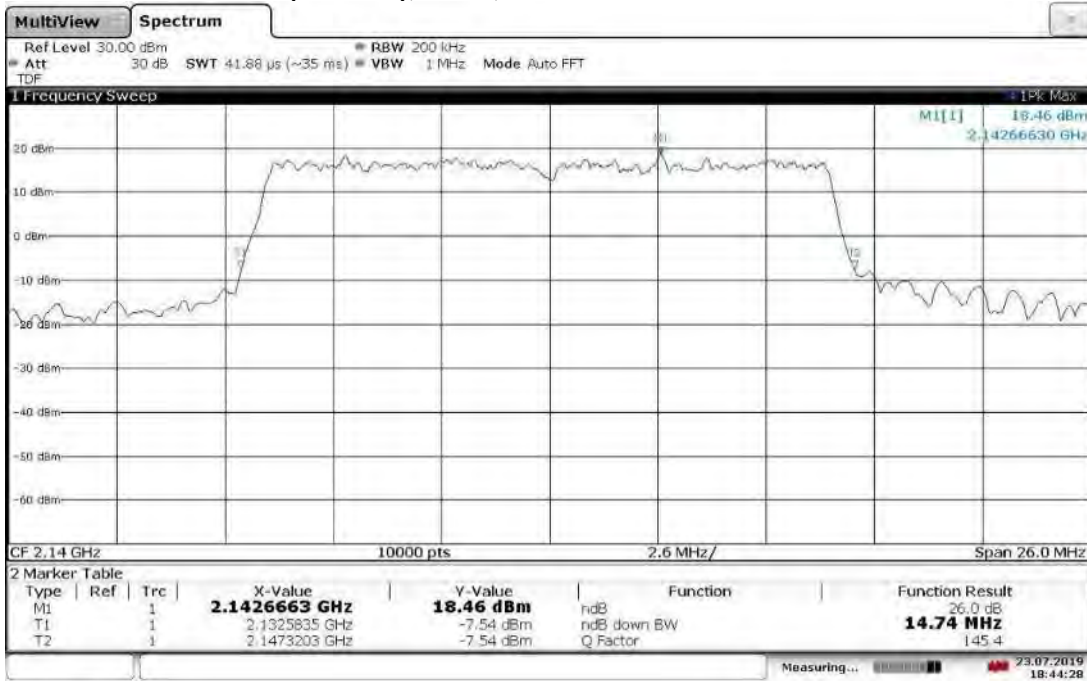
14:43:00 15.04.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



14:41:23 15.04.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



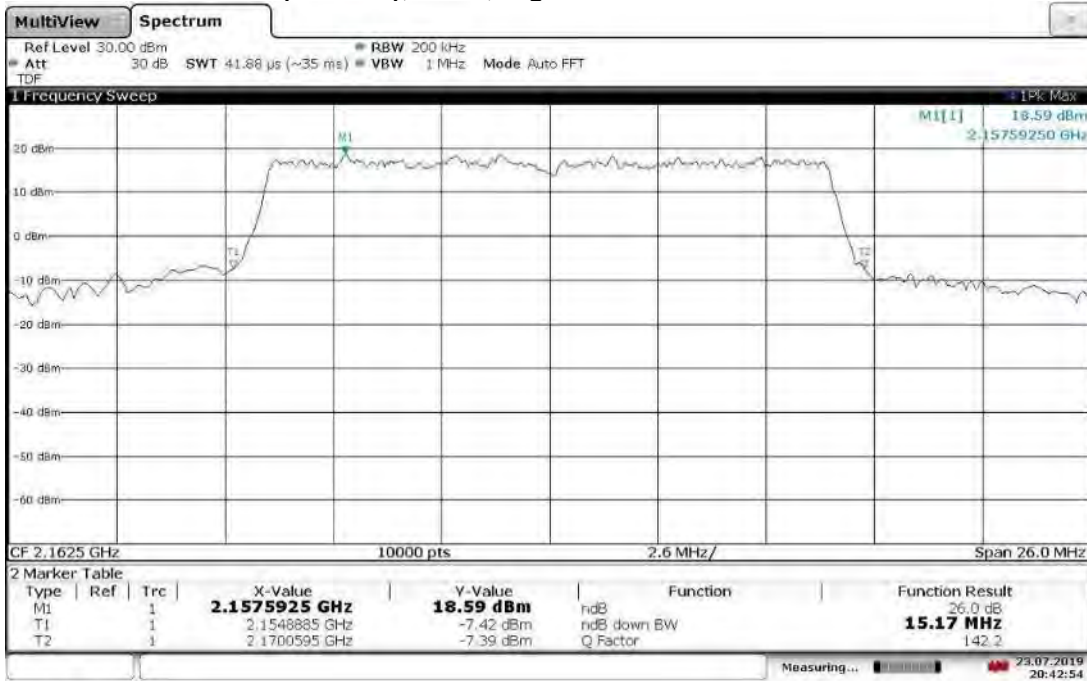
18:44:28 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



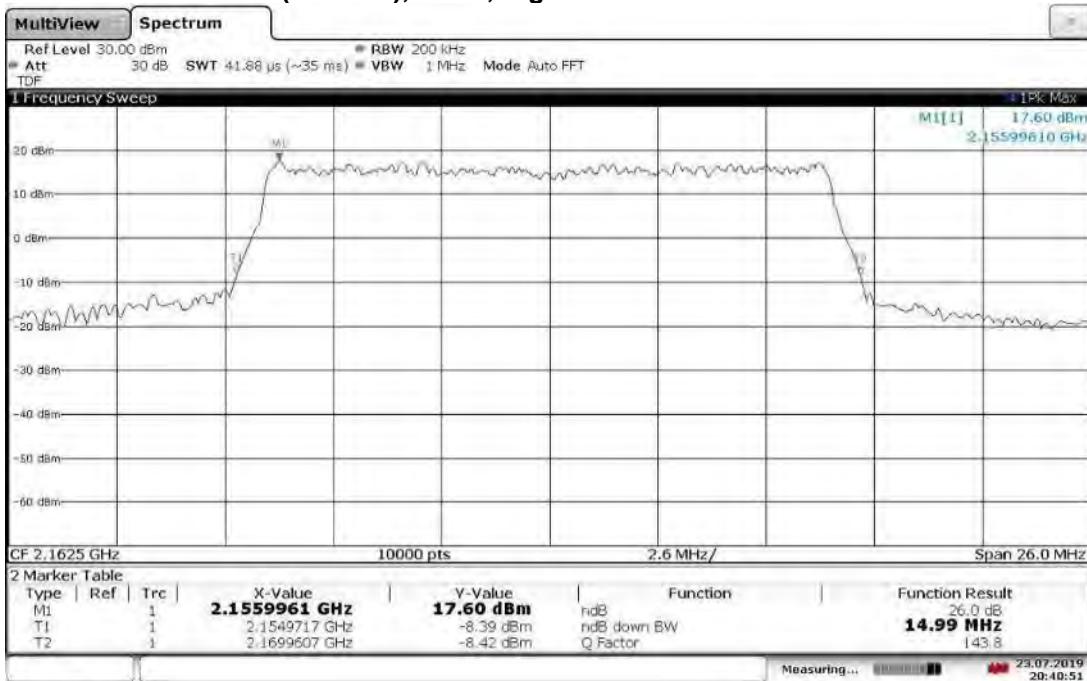
18:46:10 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



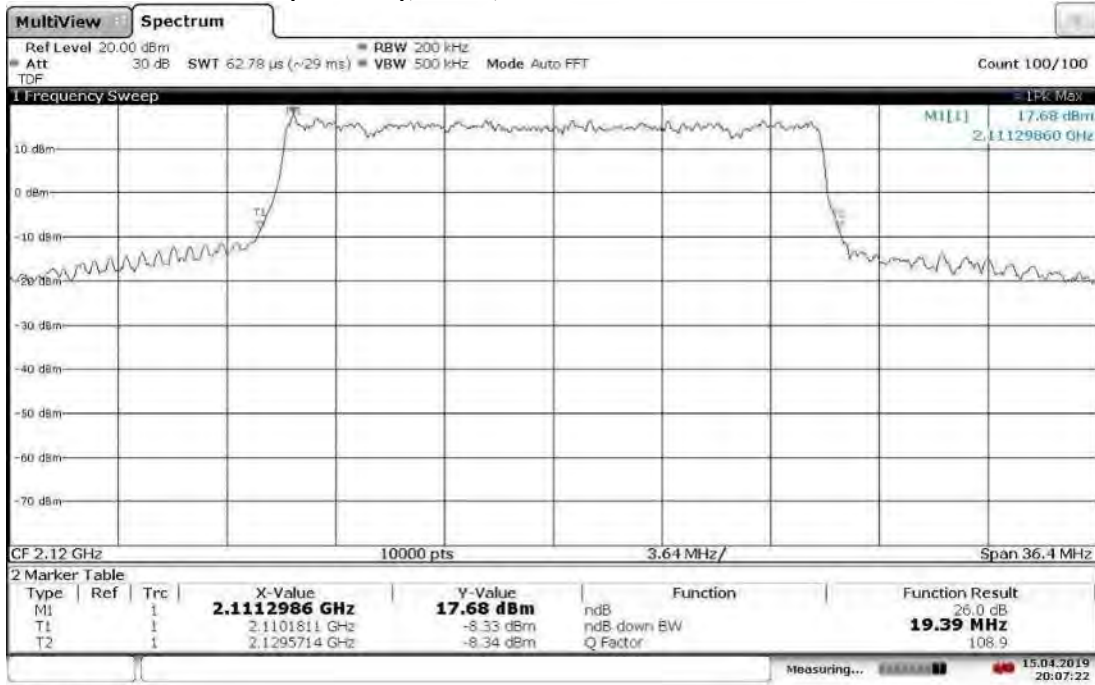
20:42:54 23.07.2019

**TM1.1-QPSK_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



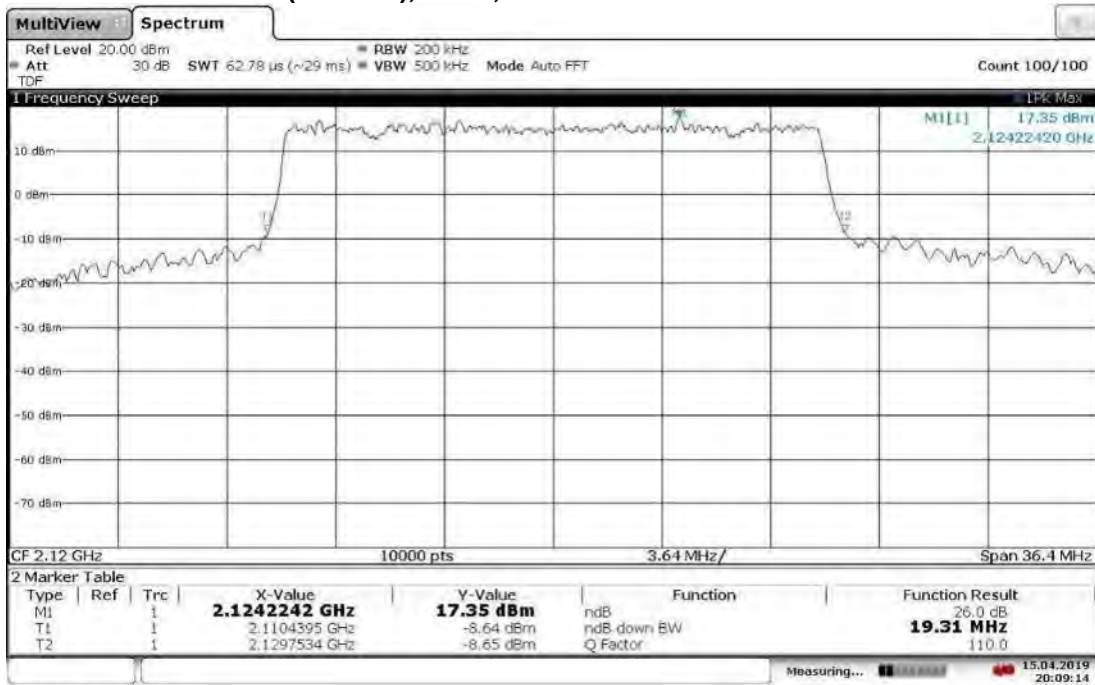
20:40:51 23.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



20:07:22 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



20:09:15 15.04.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



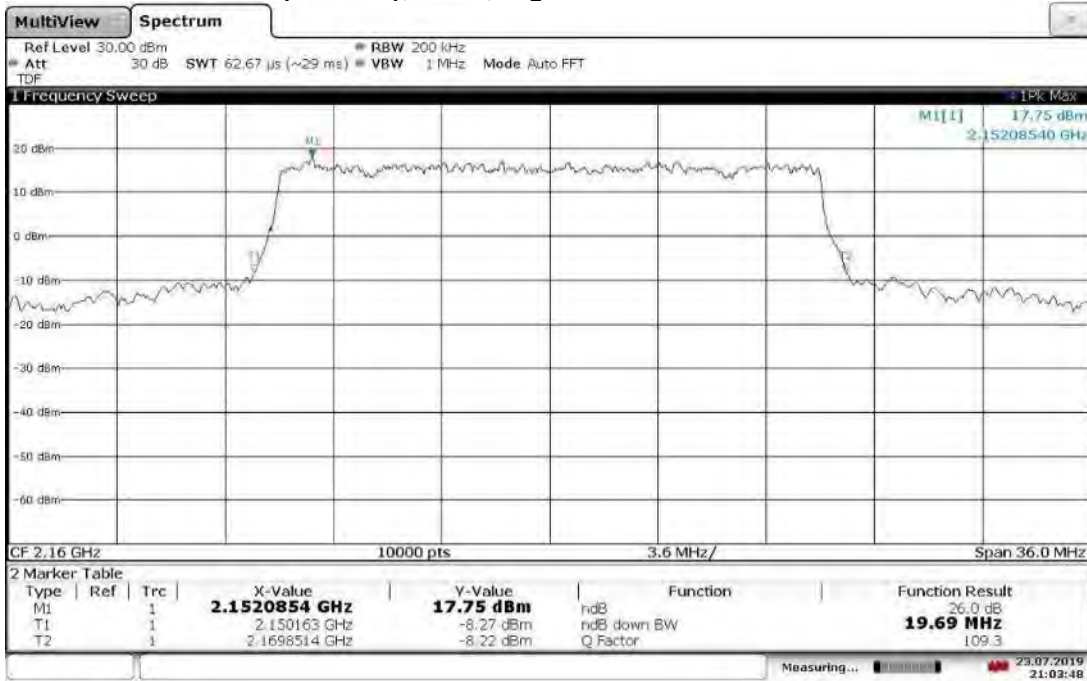
19:35:39 23.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



19:33:48 23.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



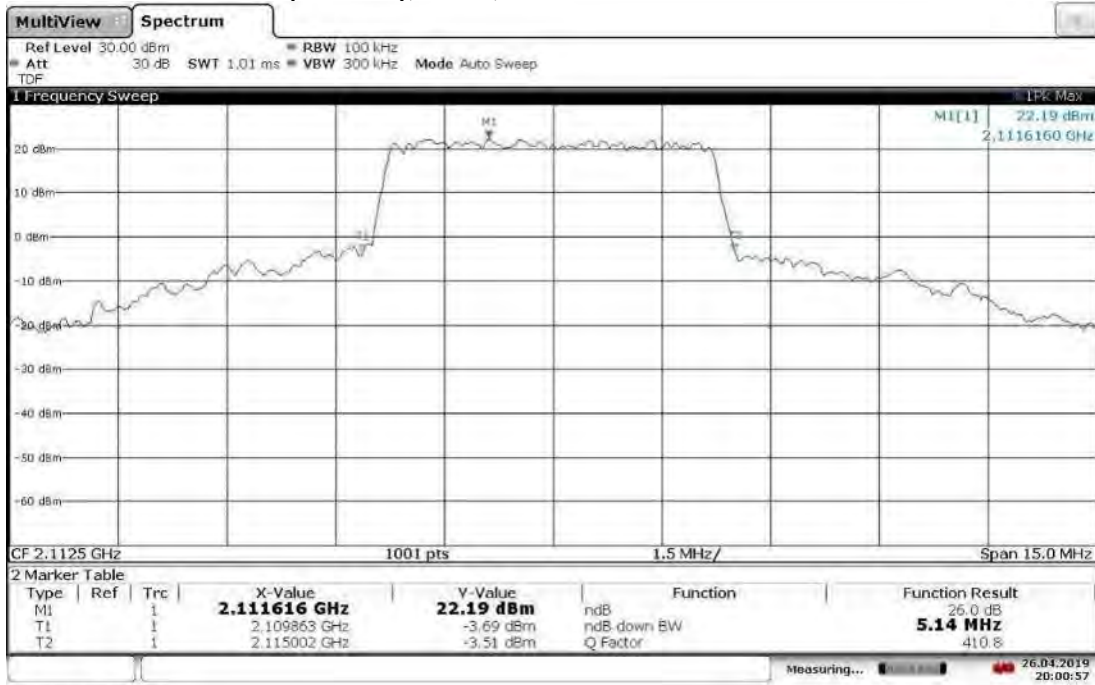
21:03:49 23.07.2019

**TM1.1-QPSK_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



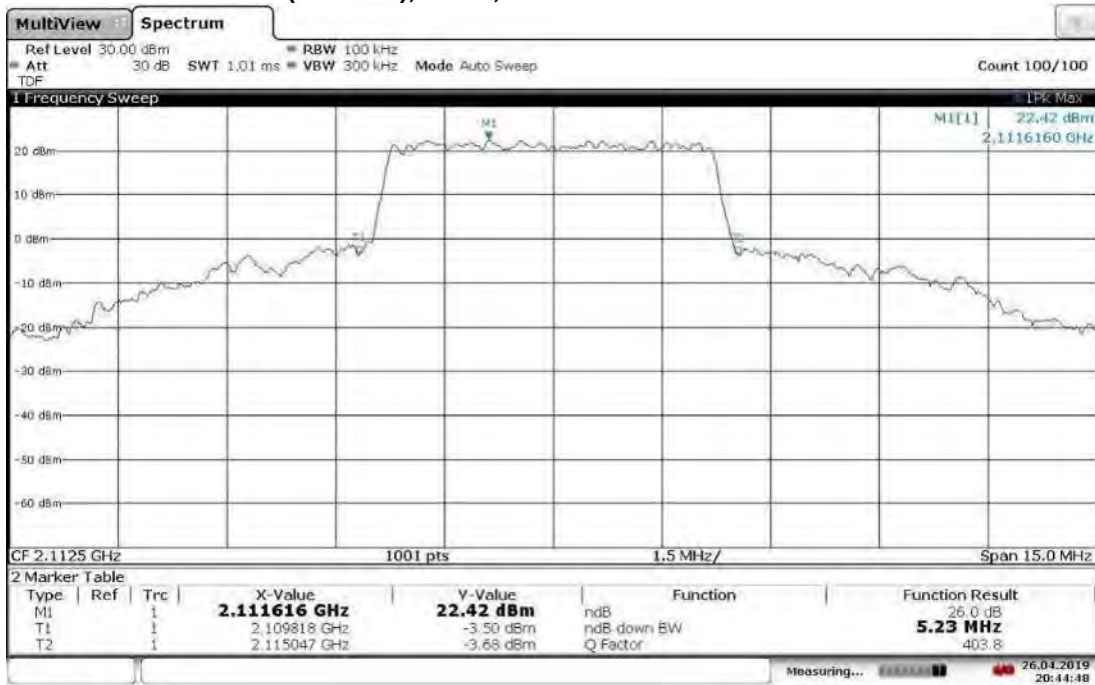
21:06:09 23.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



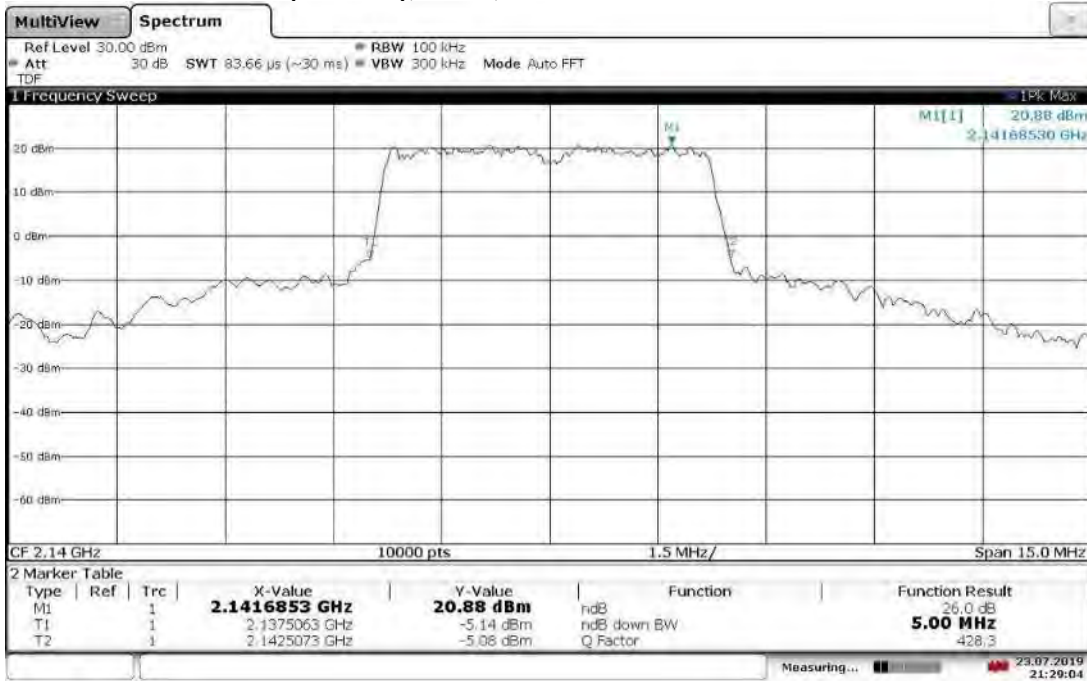
20:00:58 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



20:44:48 26.04.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



21:29:04 23.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



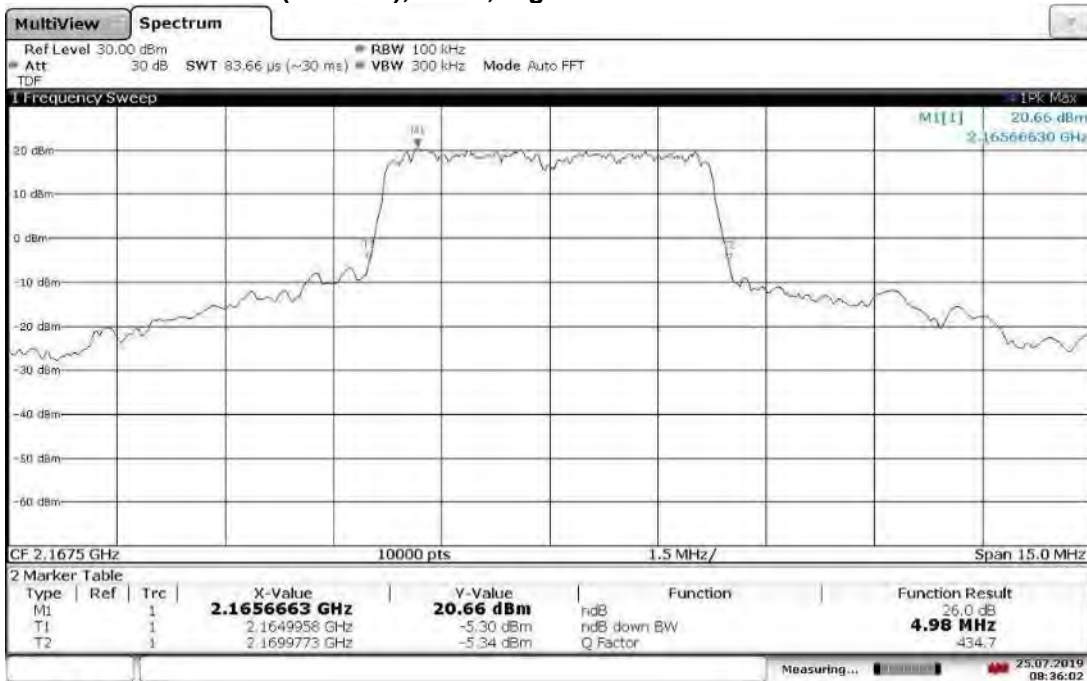
21:27:06 23.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



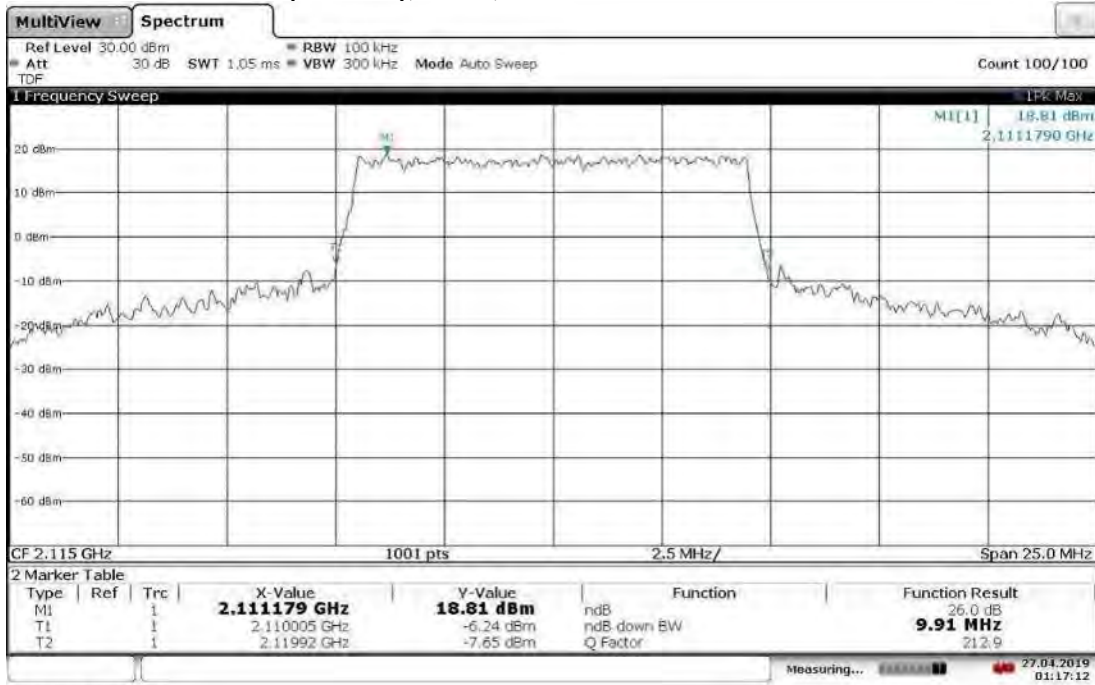
08:37:56 25.07.2019

**TM3.2-16QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



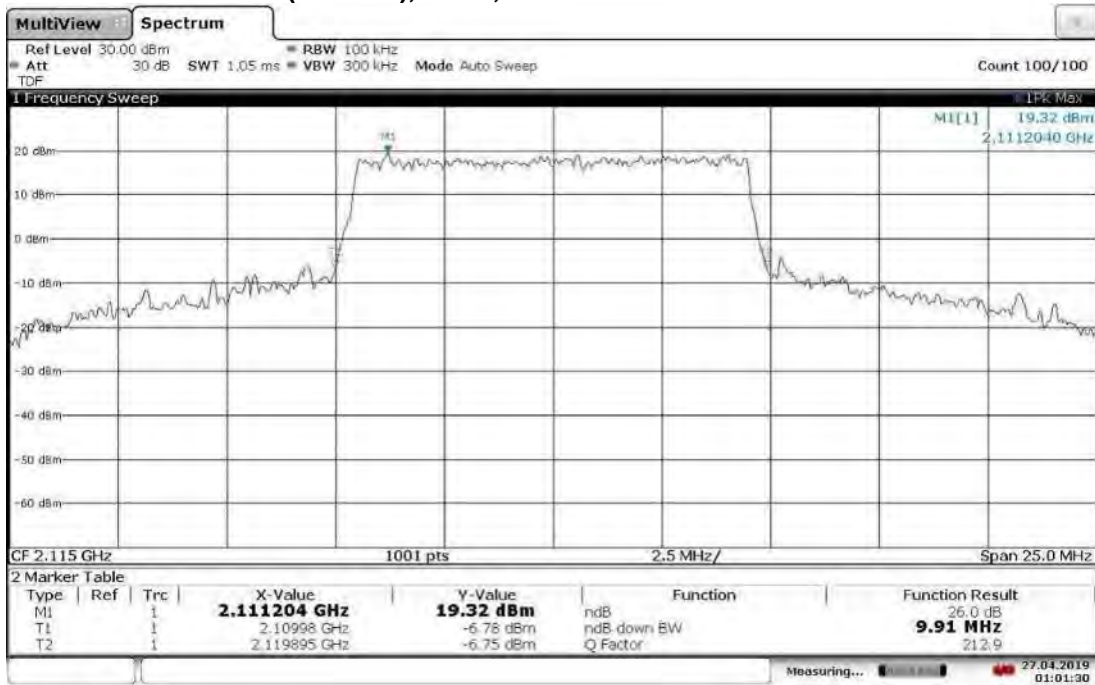
08:36:03 25.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



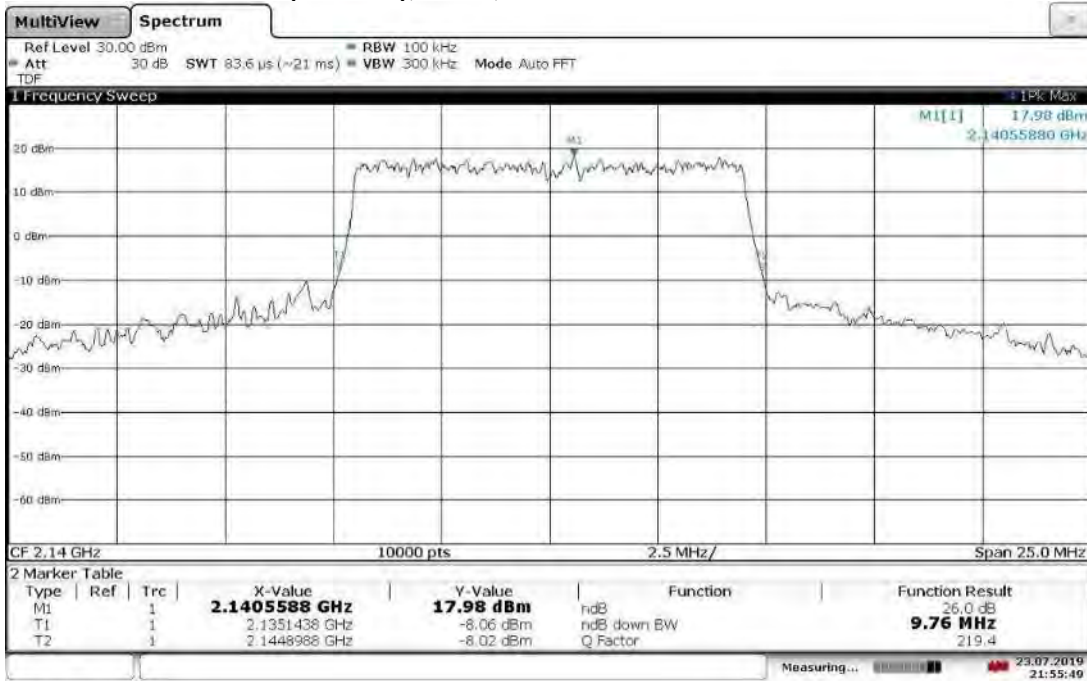
01:17:12 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



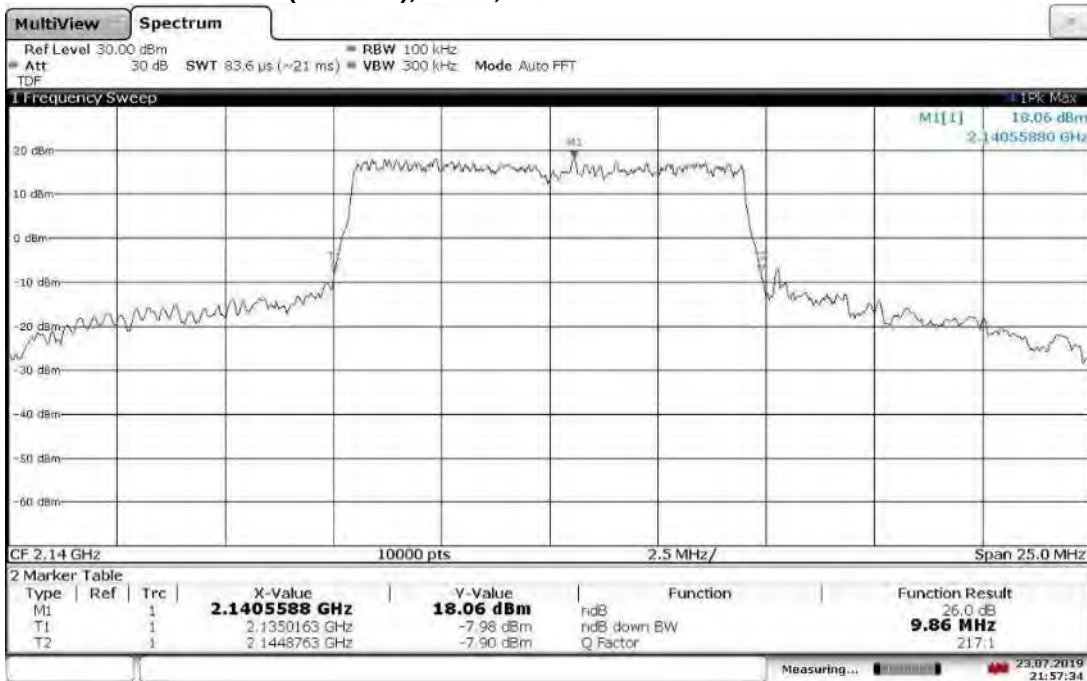
01:01:30 27.04.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



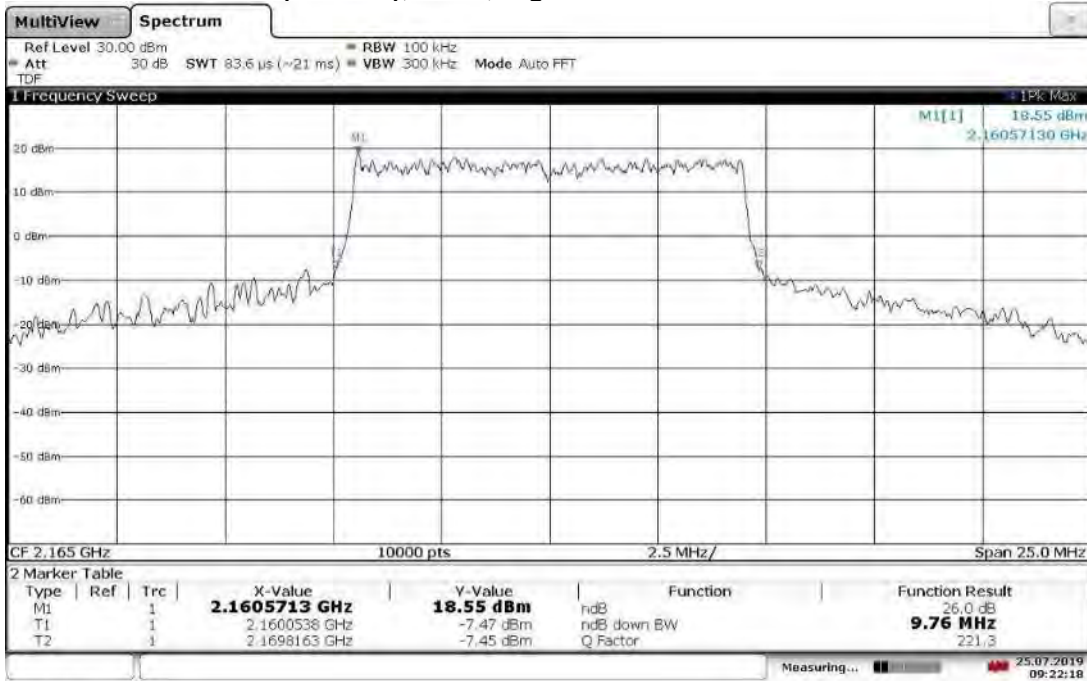
21:55:51 23.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



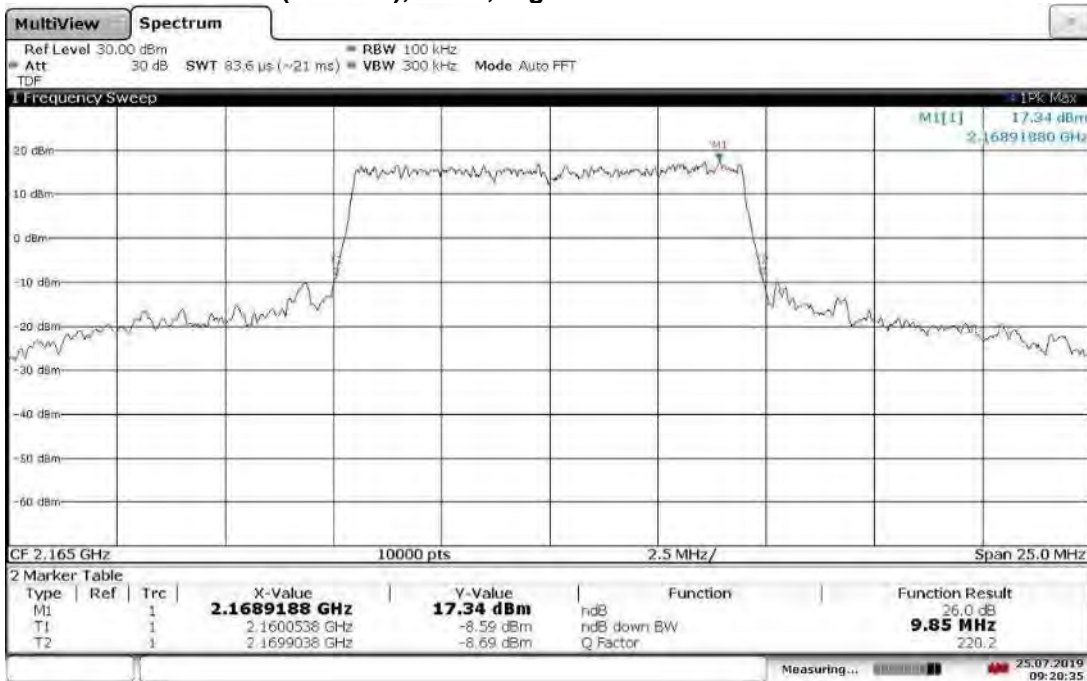
21:57:35 23.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



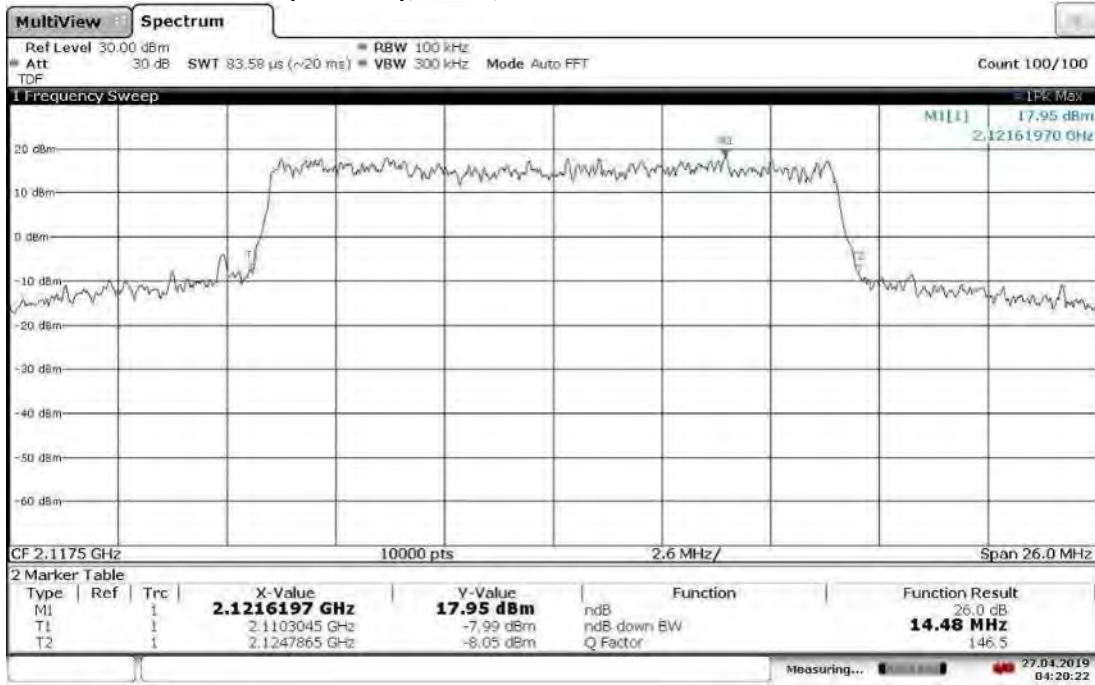
09:22:18 25.07.2019

**TM3.2-16QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



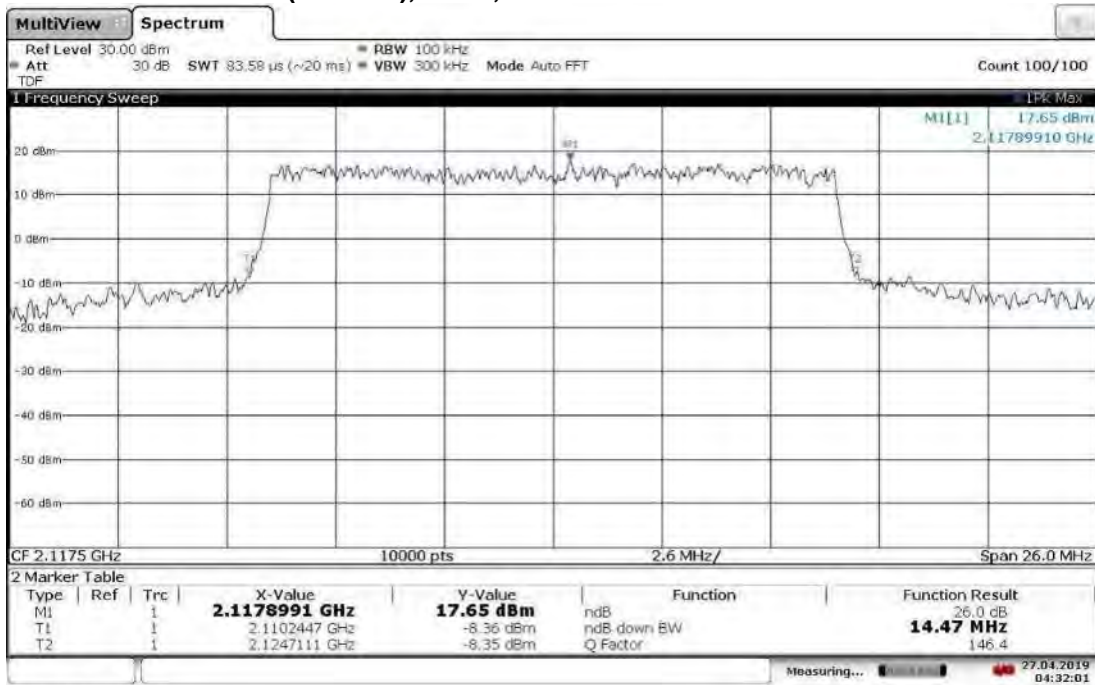
09:20:35 25.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



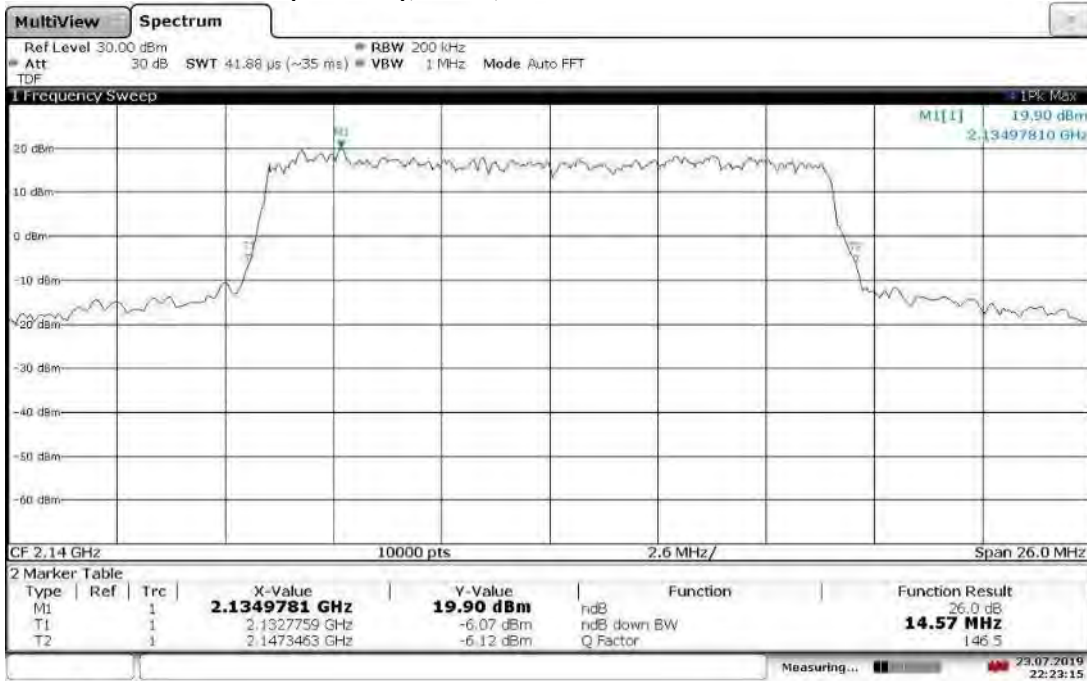
04:20:22 27.04.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



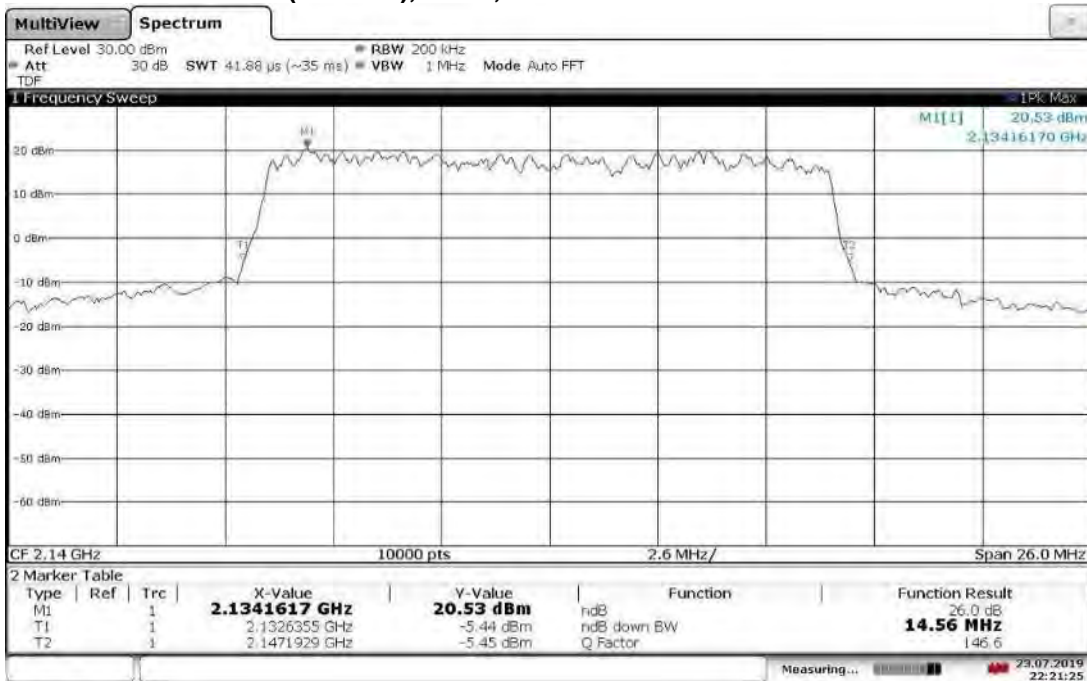
04:32:02 27.04.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



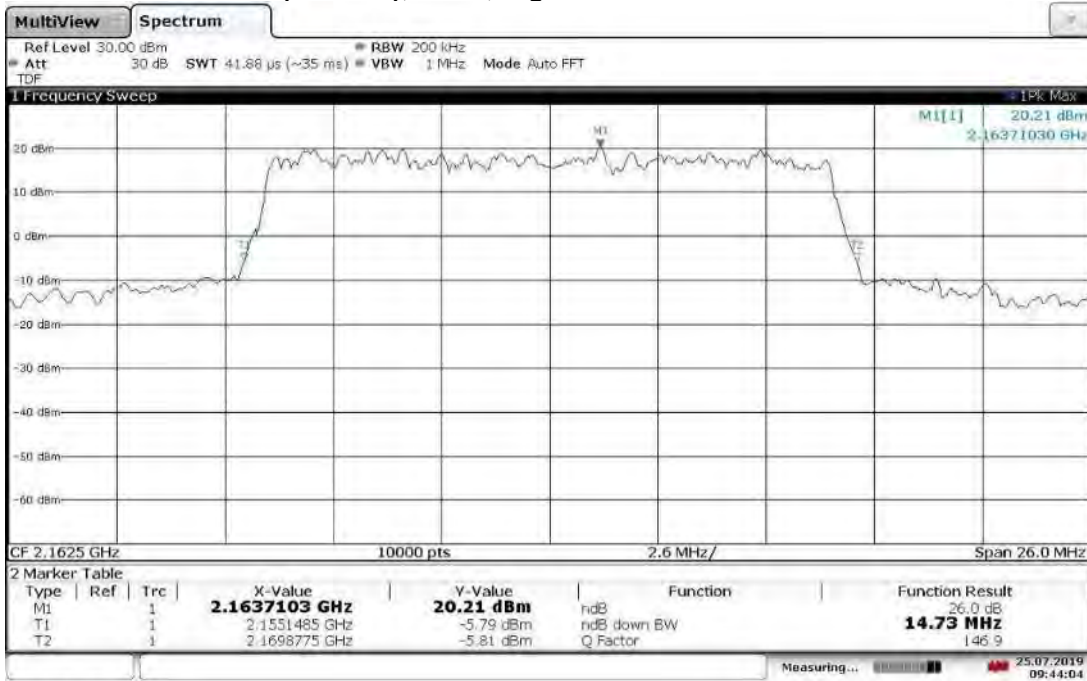
22:23:15 23.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



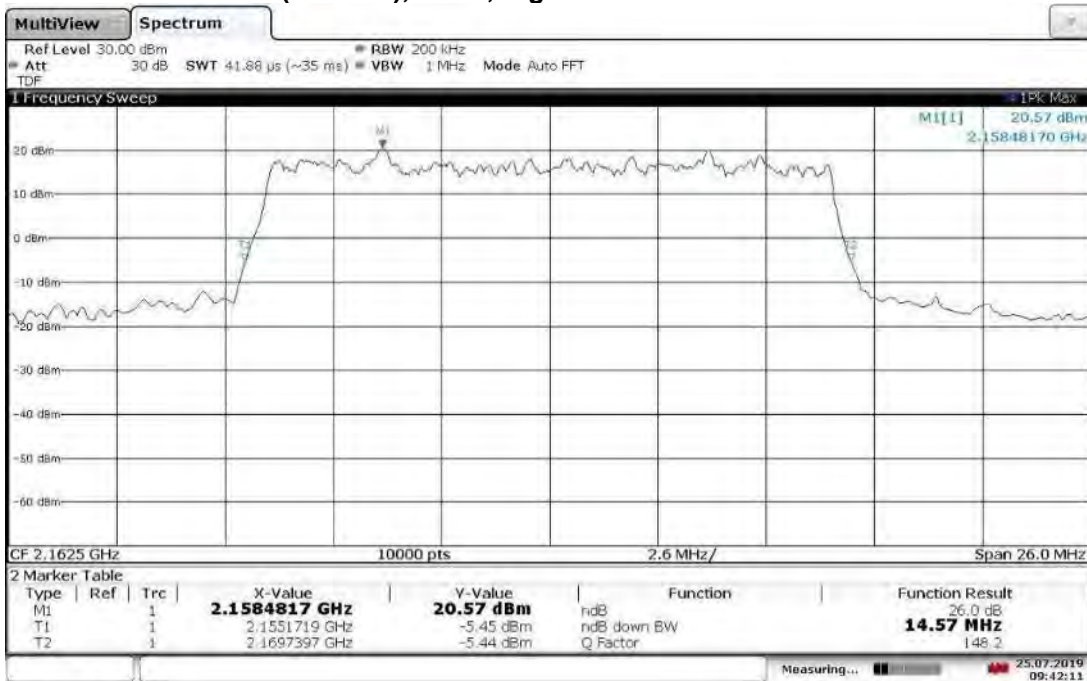
22:21:26 23.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



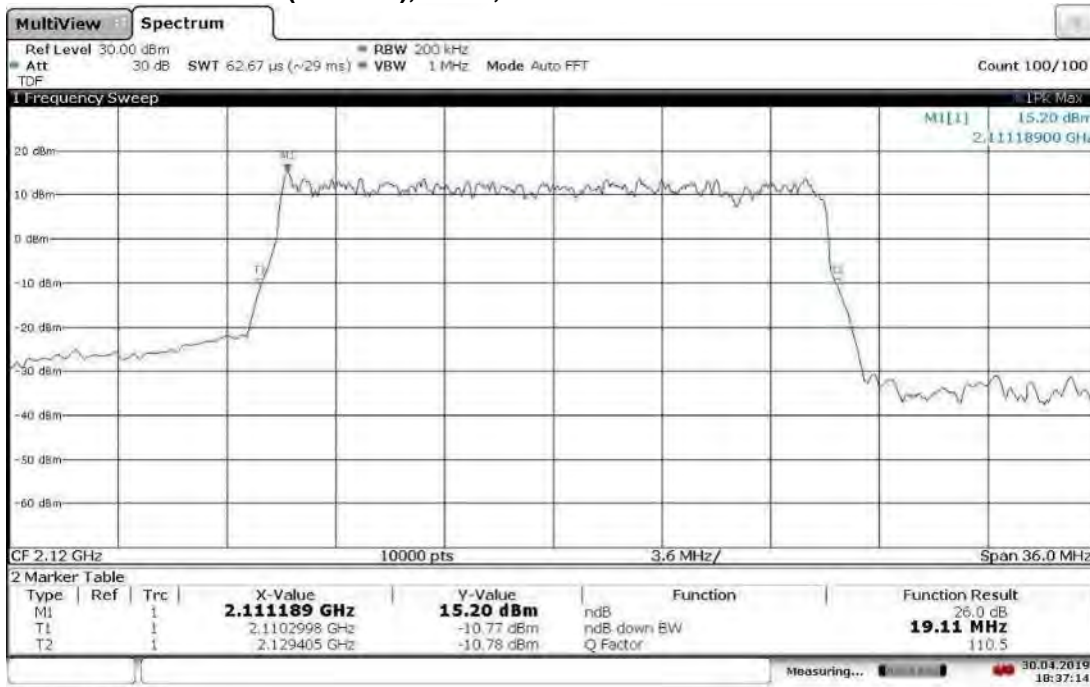
09:44:04 25.07.2019

**TM3.2-16QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



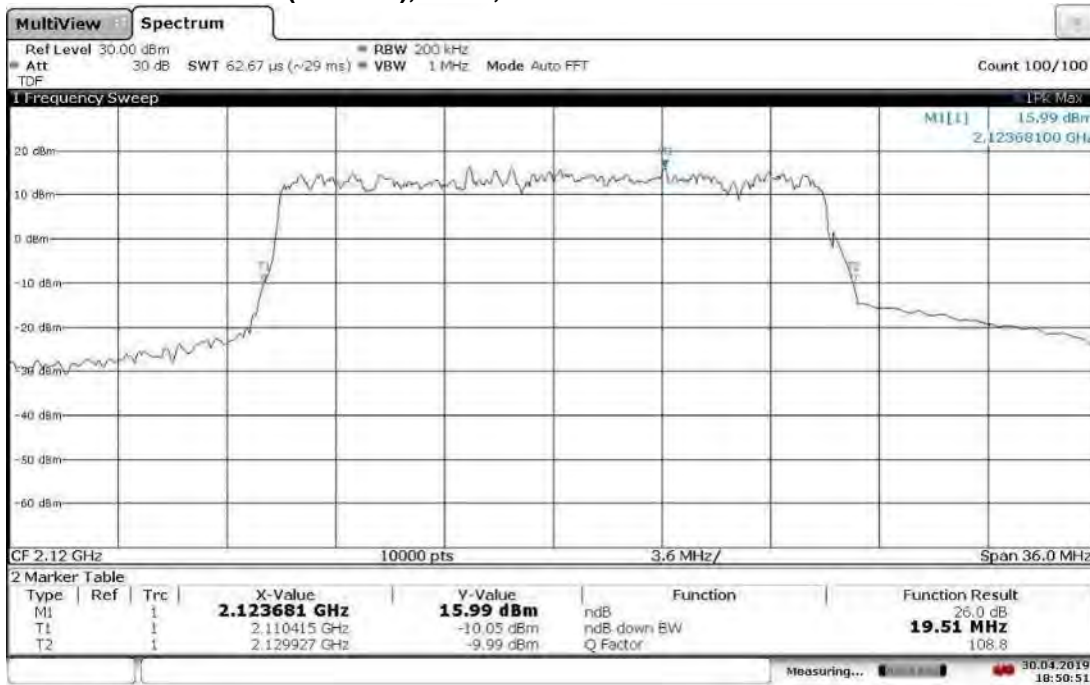
09:42:11 25.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



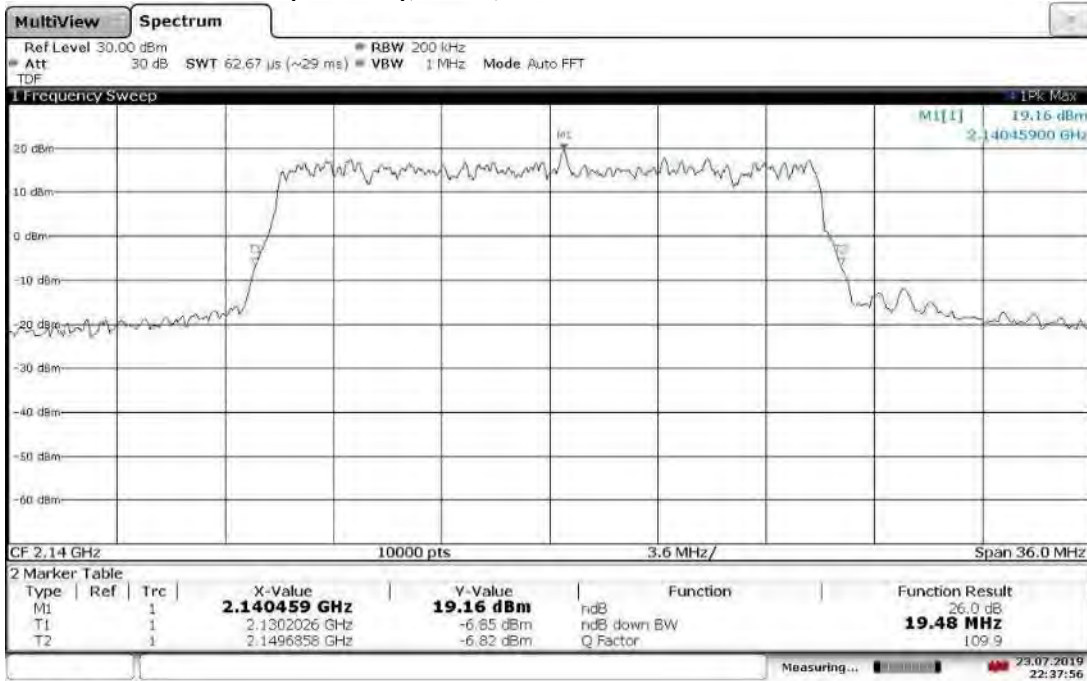
18:37:15 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



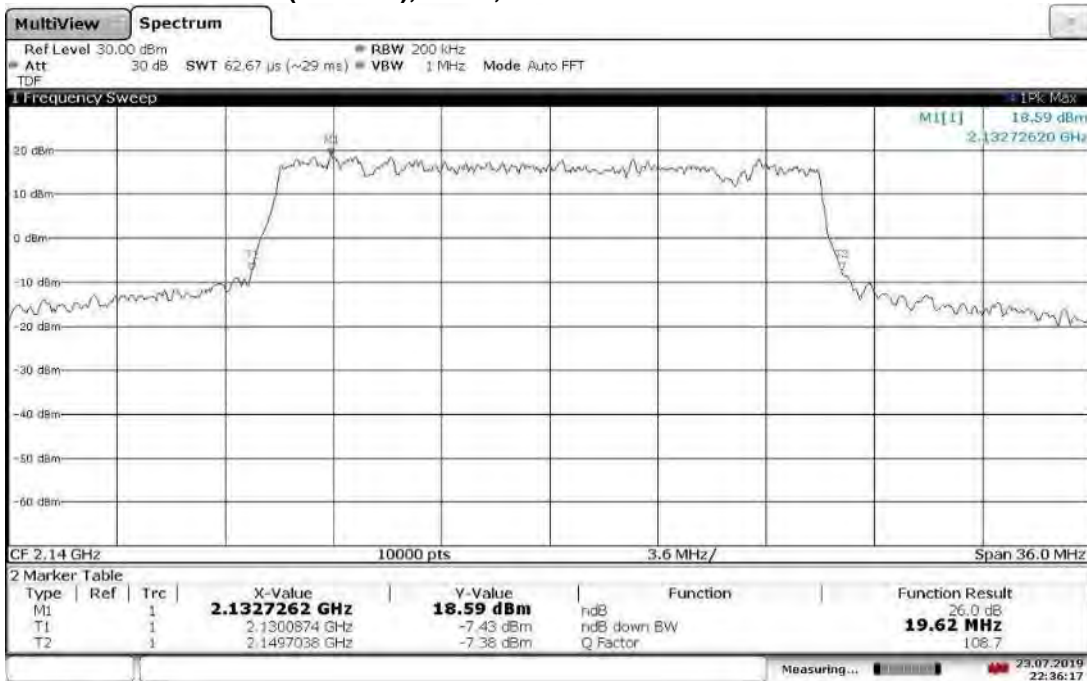
18:50:52 30.04.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



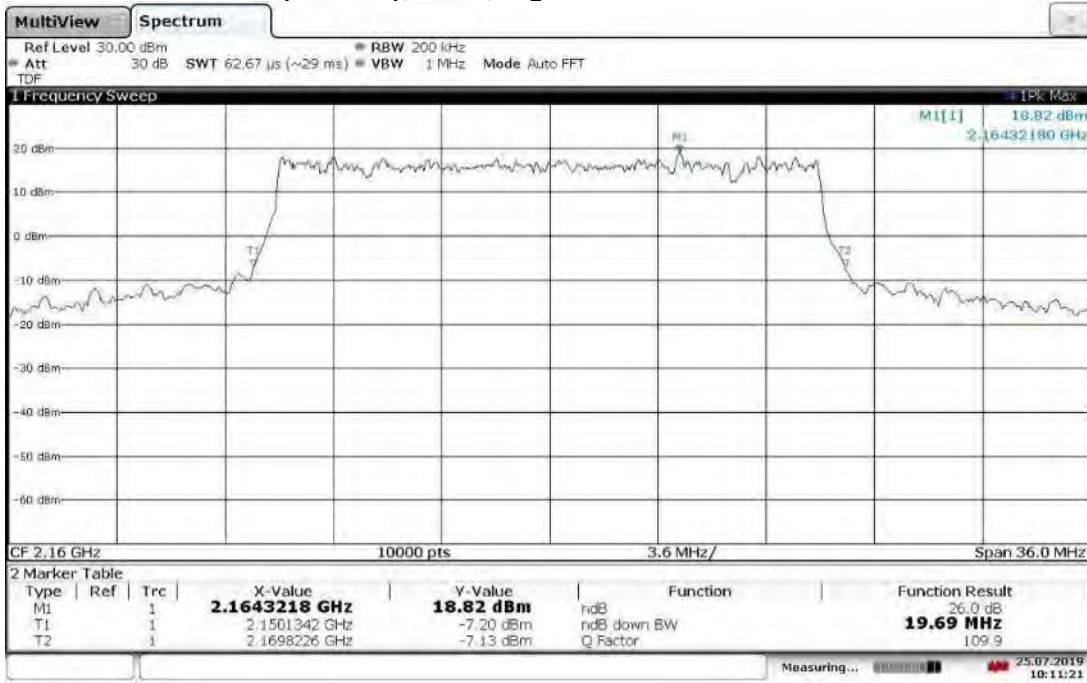
22:37:57 23.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



22:36:18 23.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



10:11:22 25.07.2019

**TM3.2-16QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



10:13:19 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



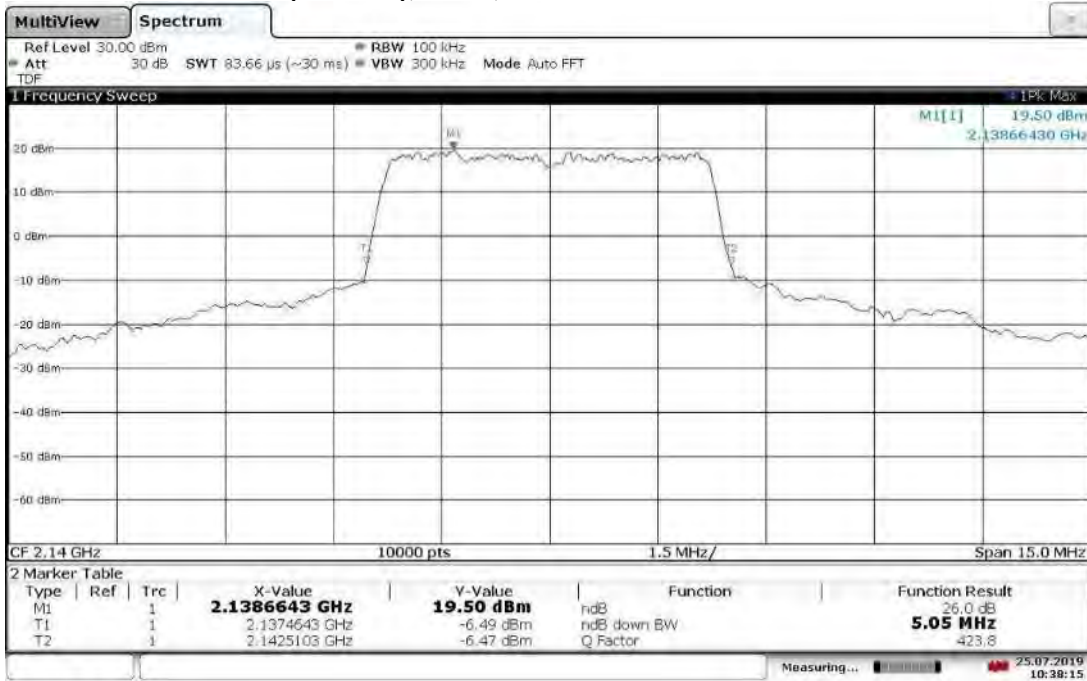
17:17:08 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



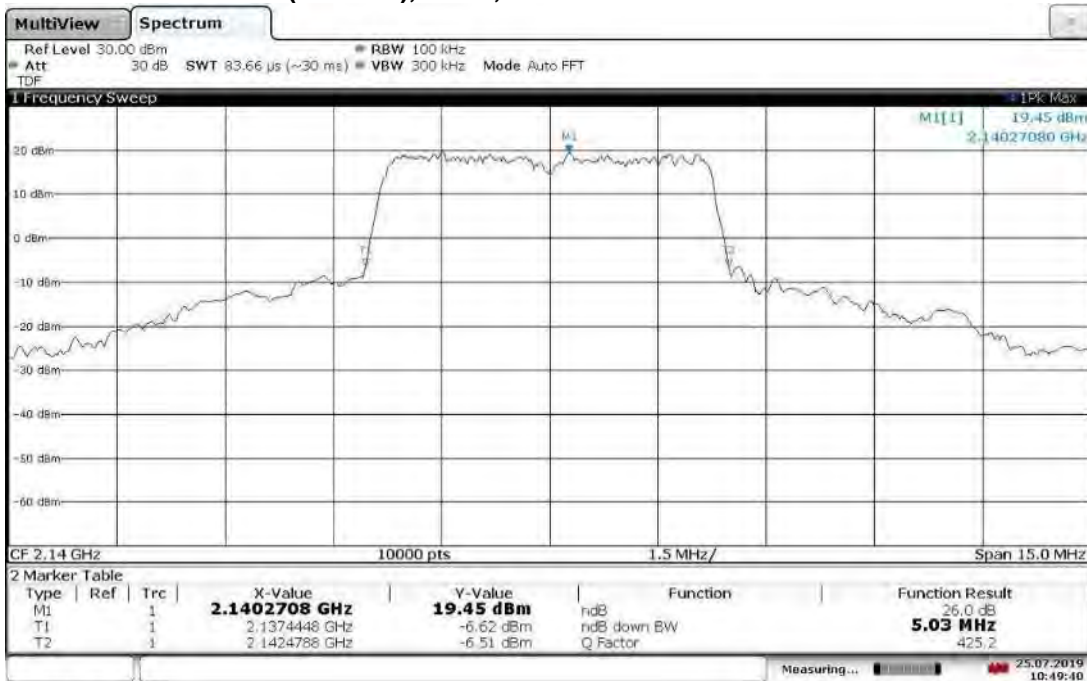
17:15:45 16.04.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



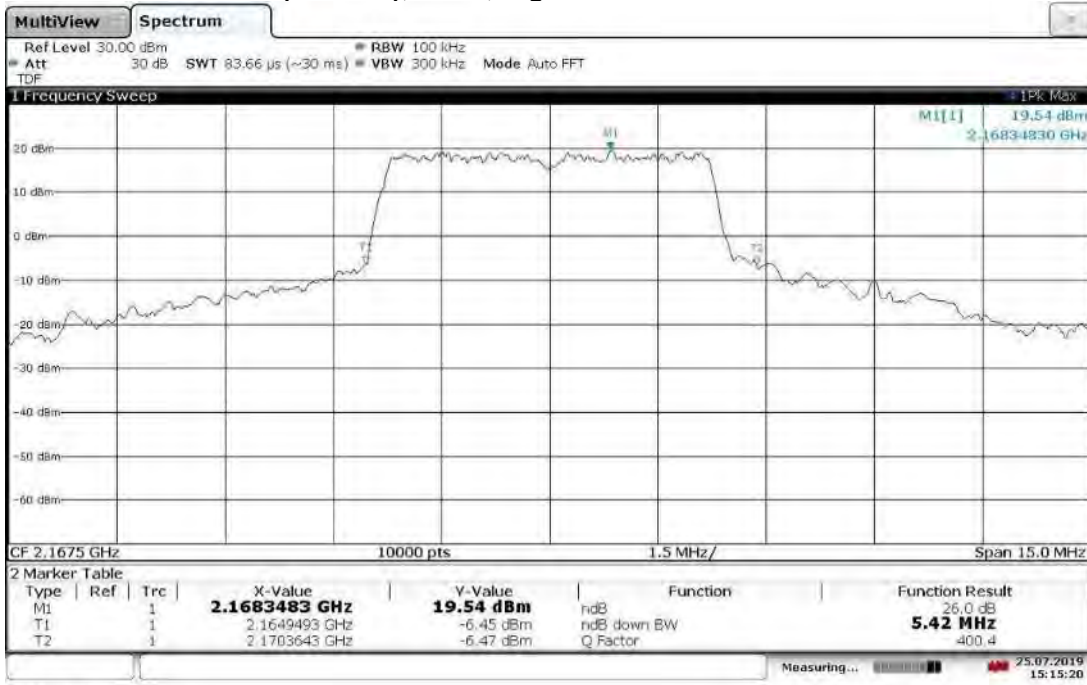
10:38:16 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



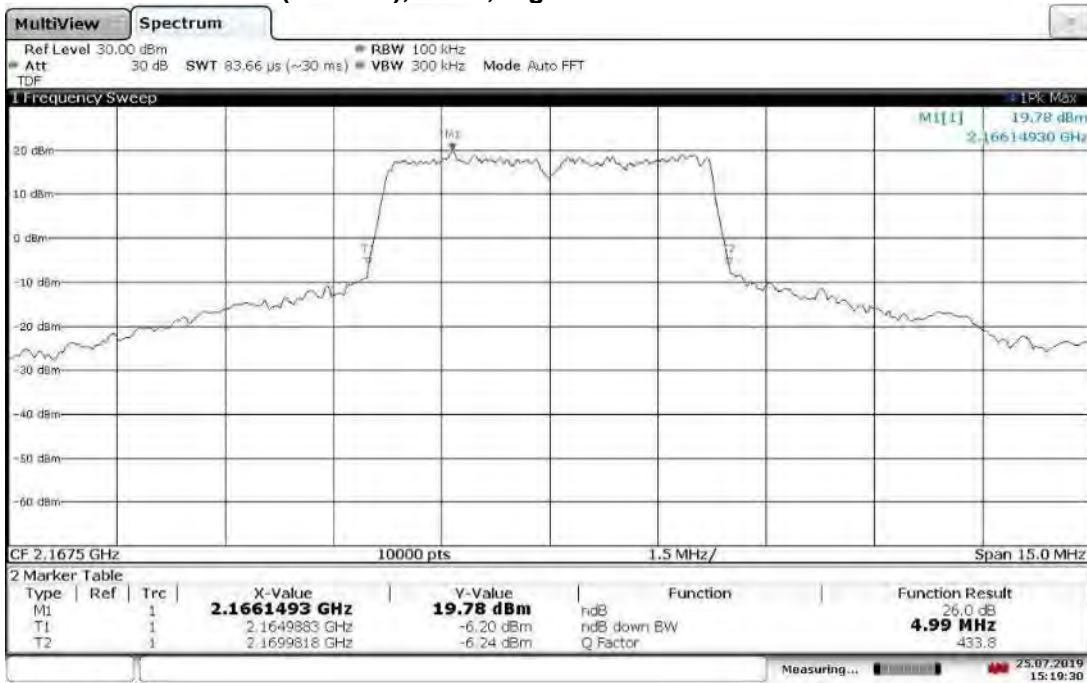
10:49:41 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



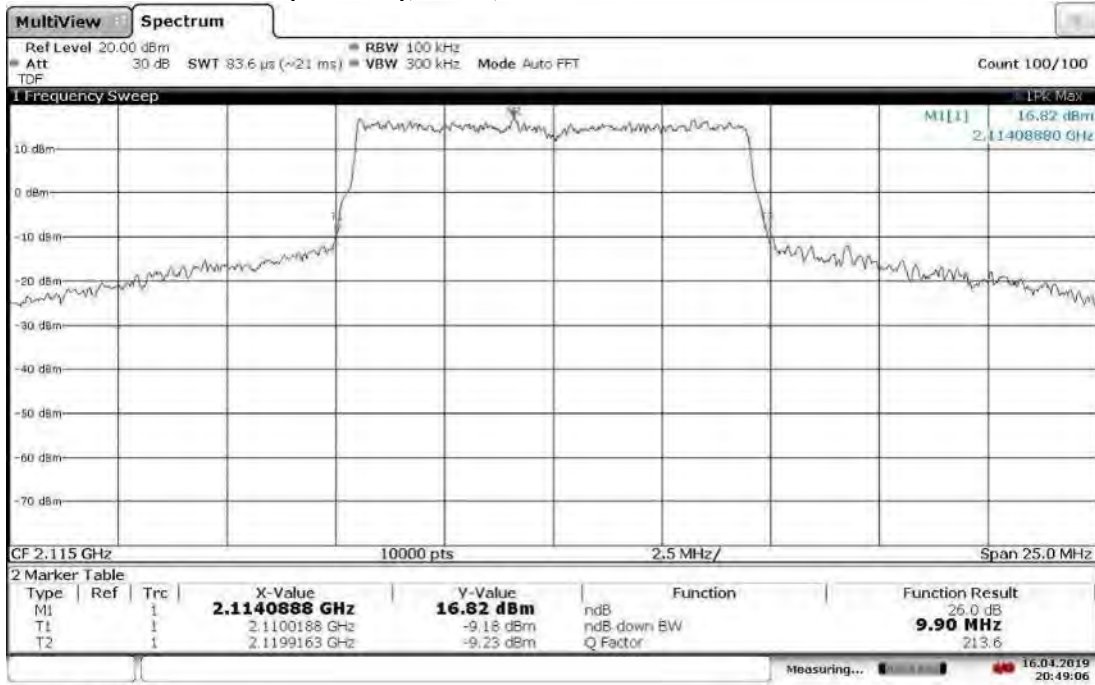
15:15:20 25.07.2019

**TM3.1-64QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



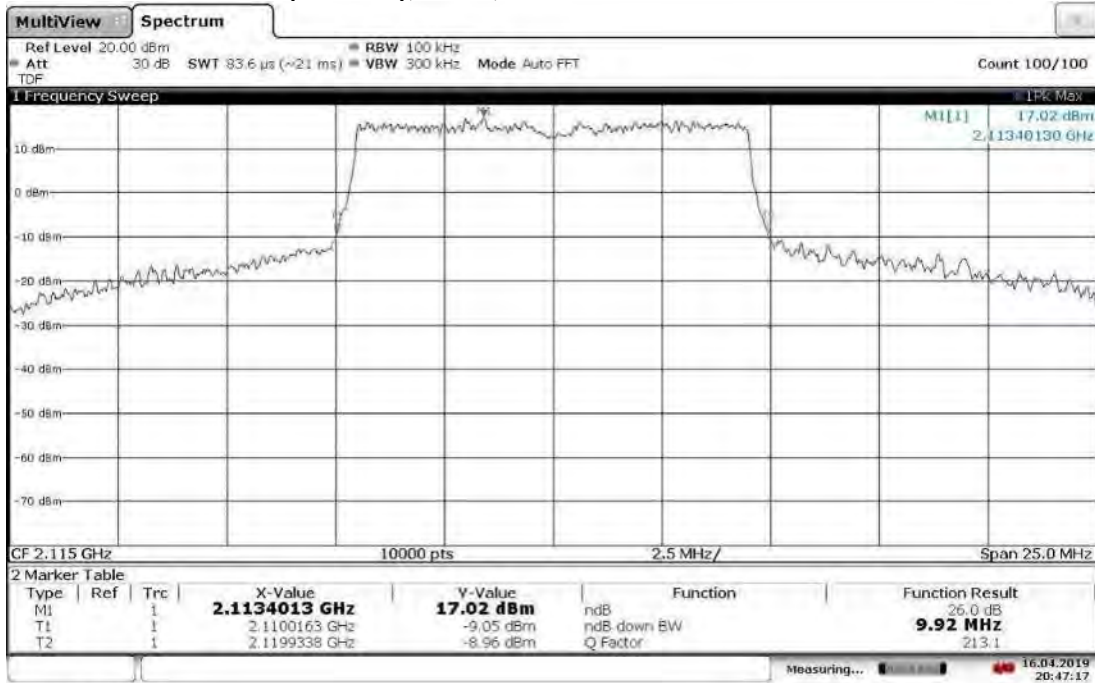
15:19:31 25.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



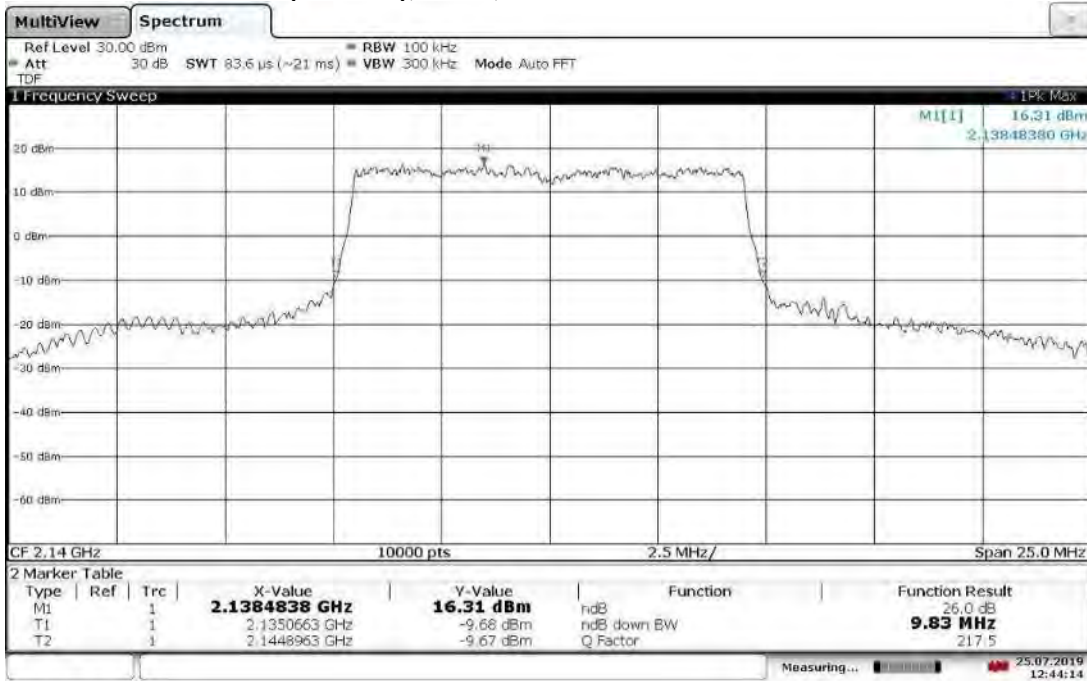
20:49:06 16.04.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



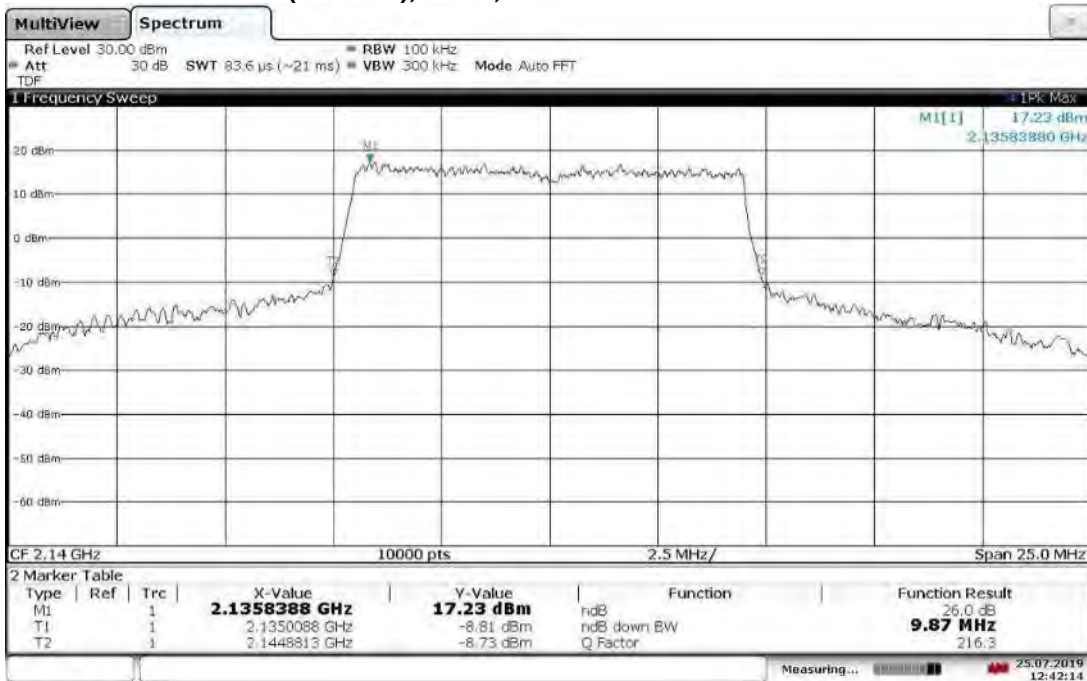
20:47:18 16.04.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



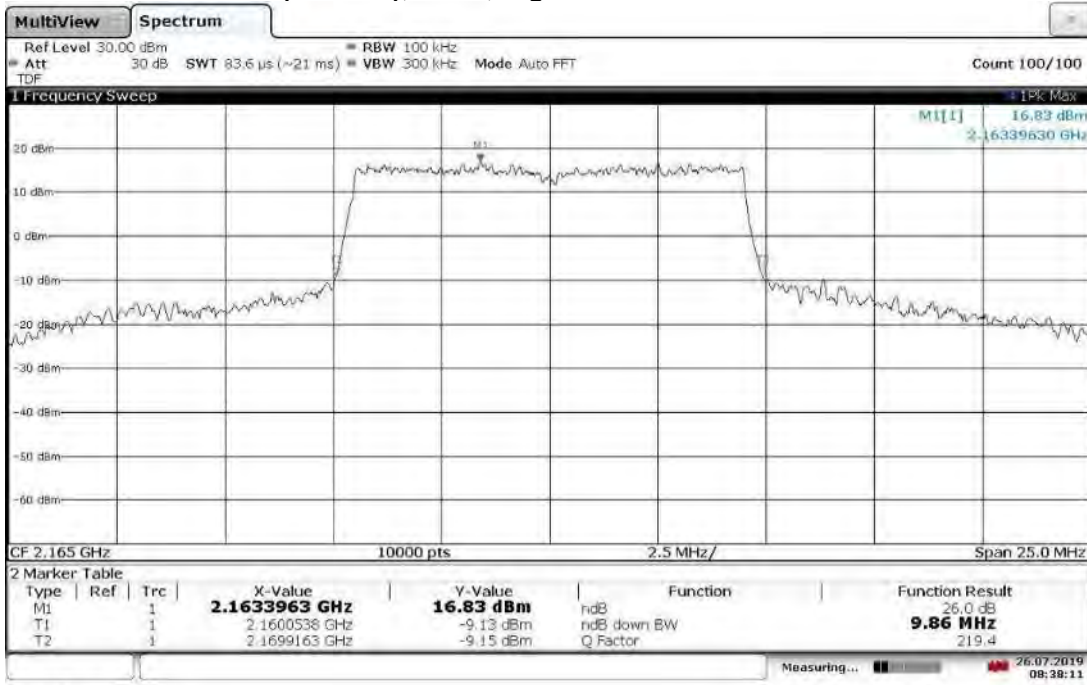
12:44:15 25.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



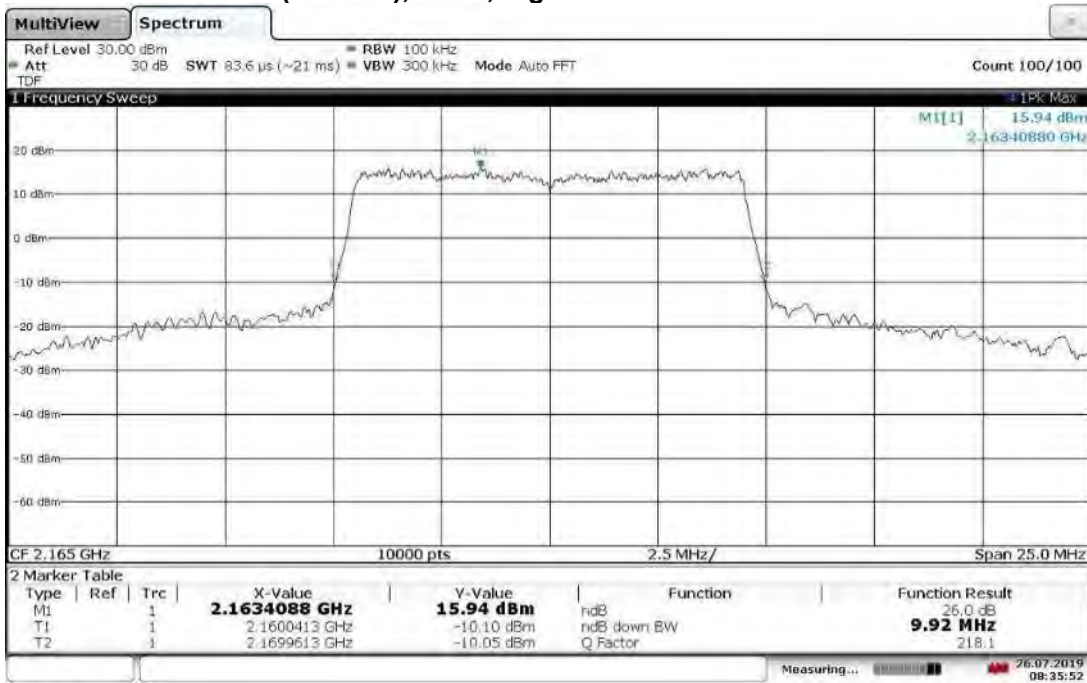
12:42:15 25.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



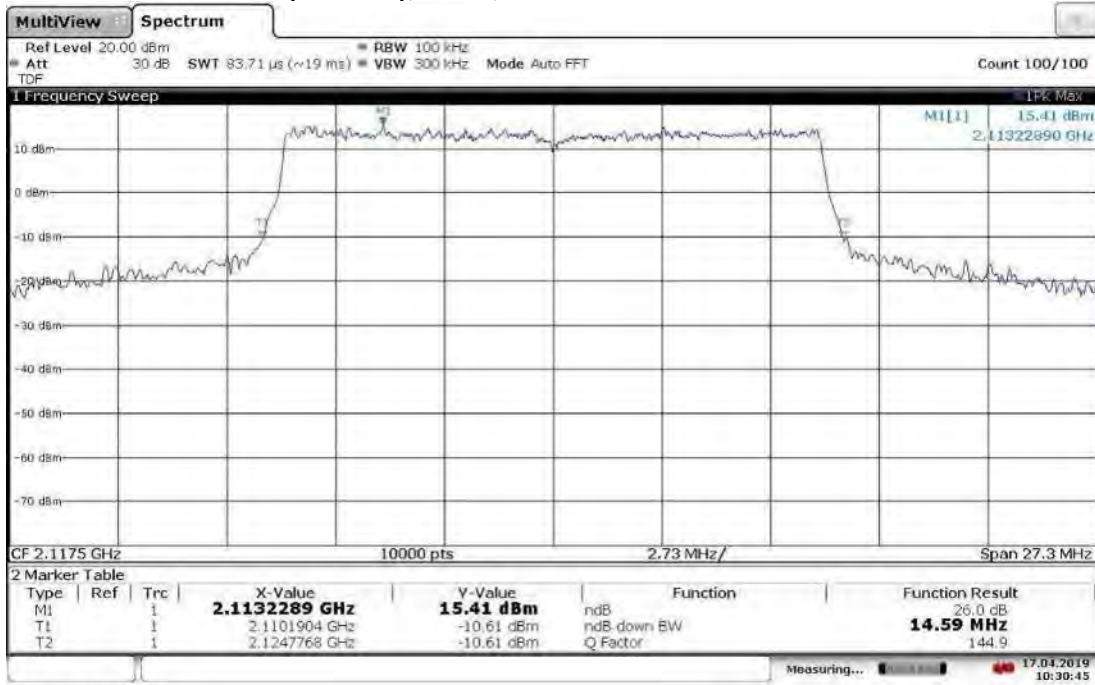
08:38:11 26.07.2019

**TM3.1-64QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



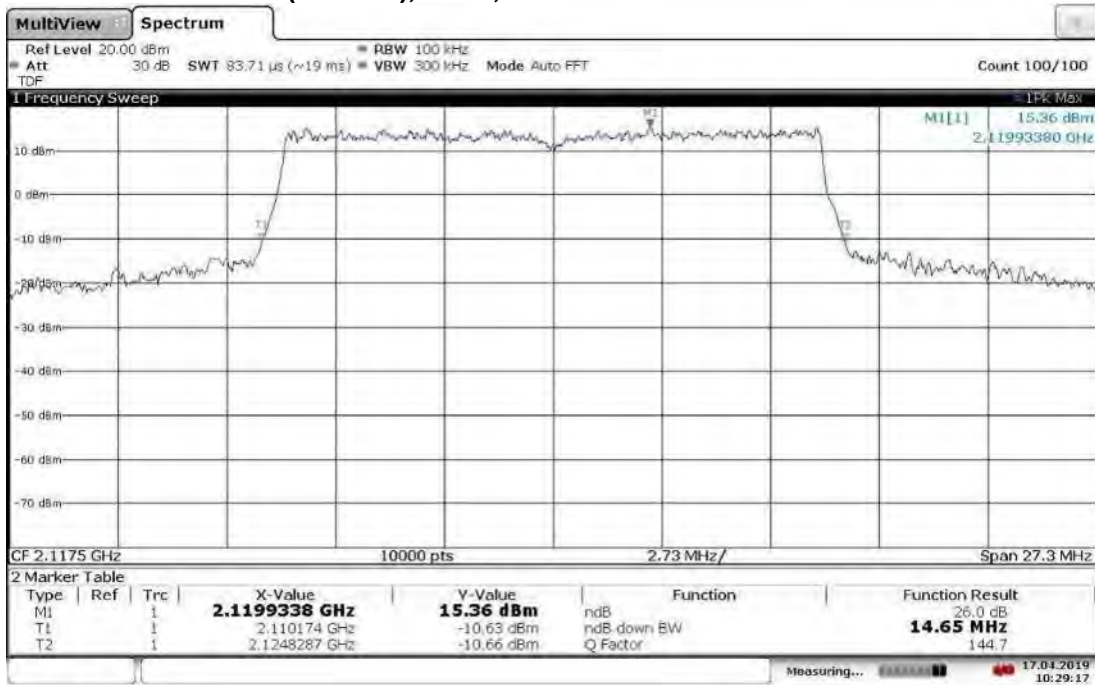
08:35:52 26.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



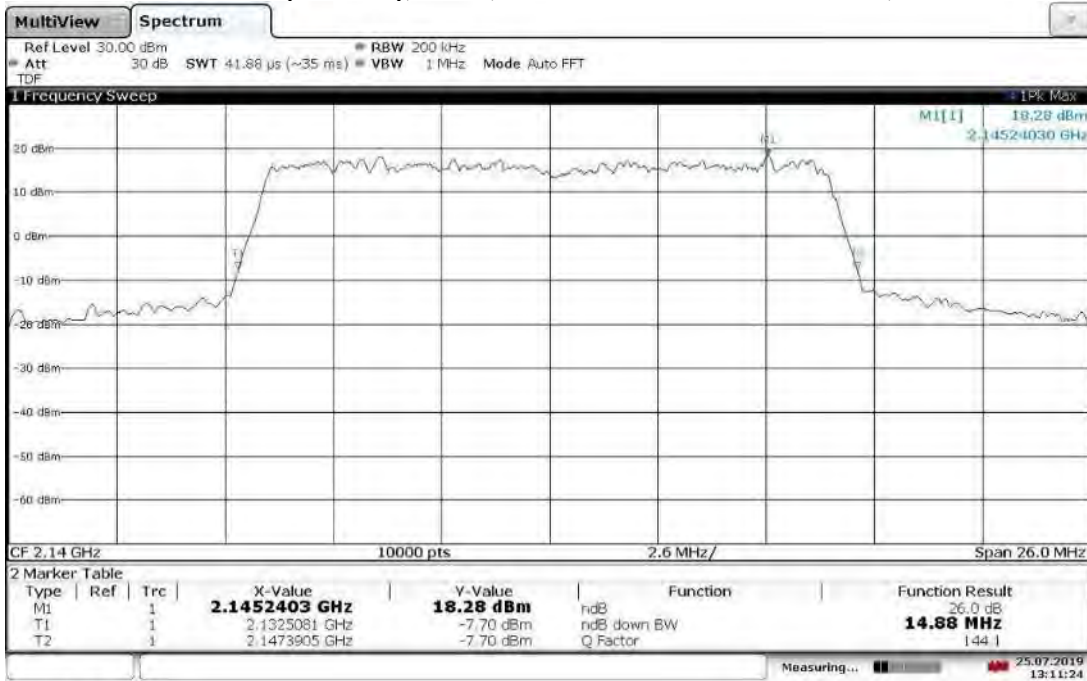
10:30:45 17.04.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



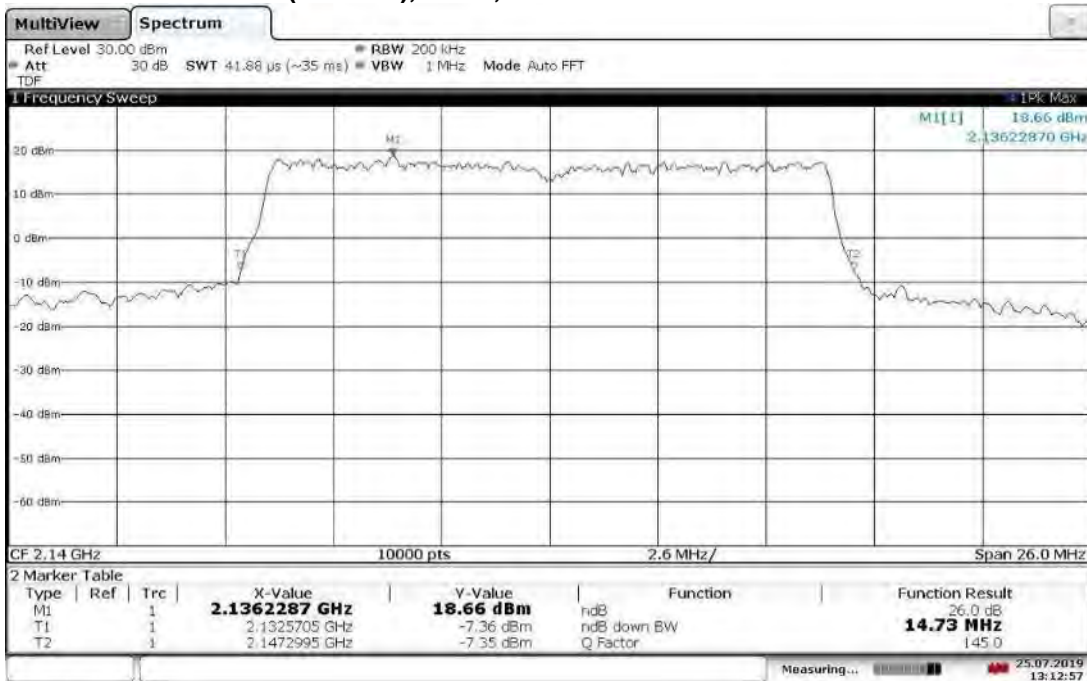
10:29:18 17.04.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth,**



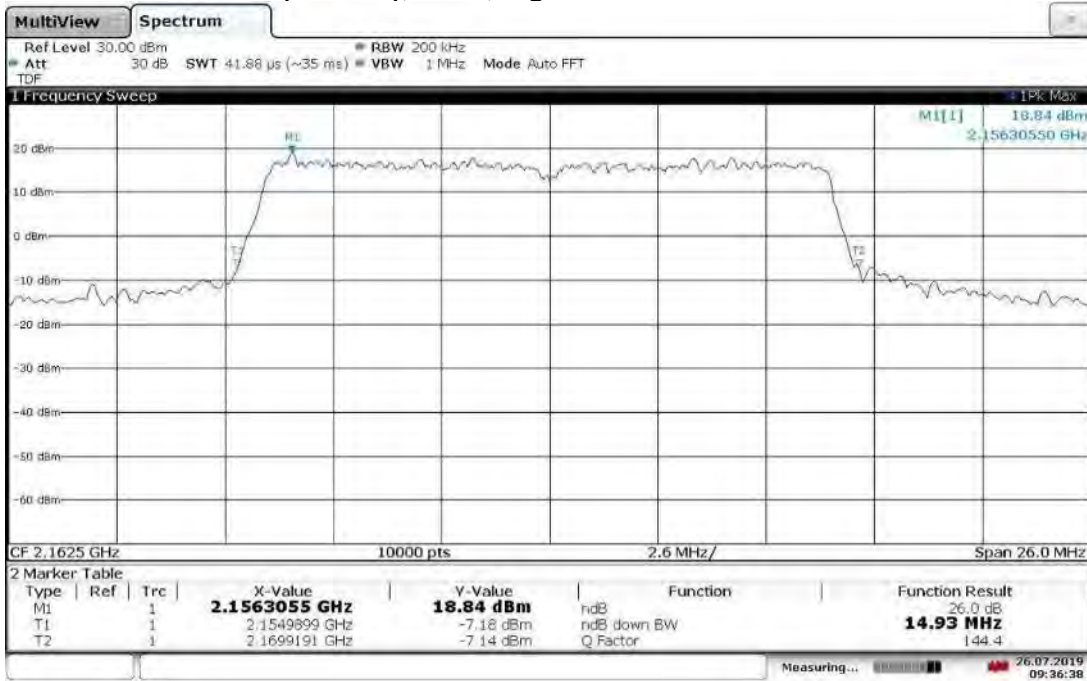
13:11:24 25.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



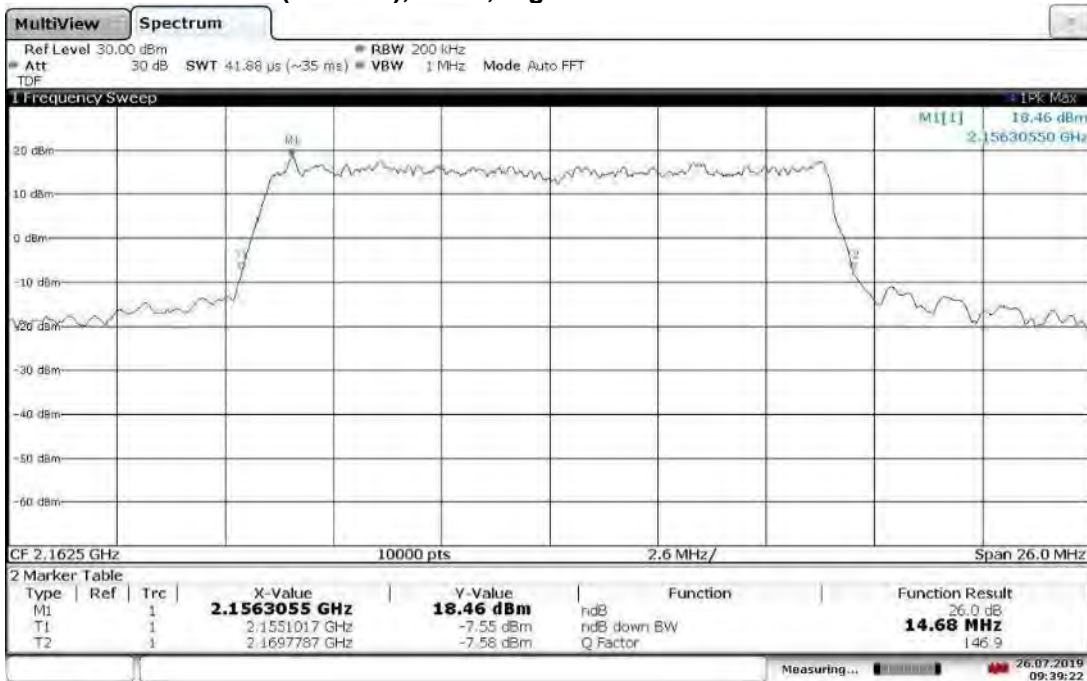
13:12:58 25.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



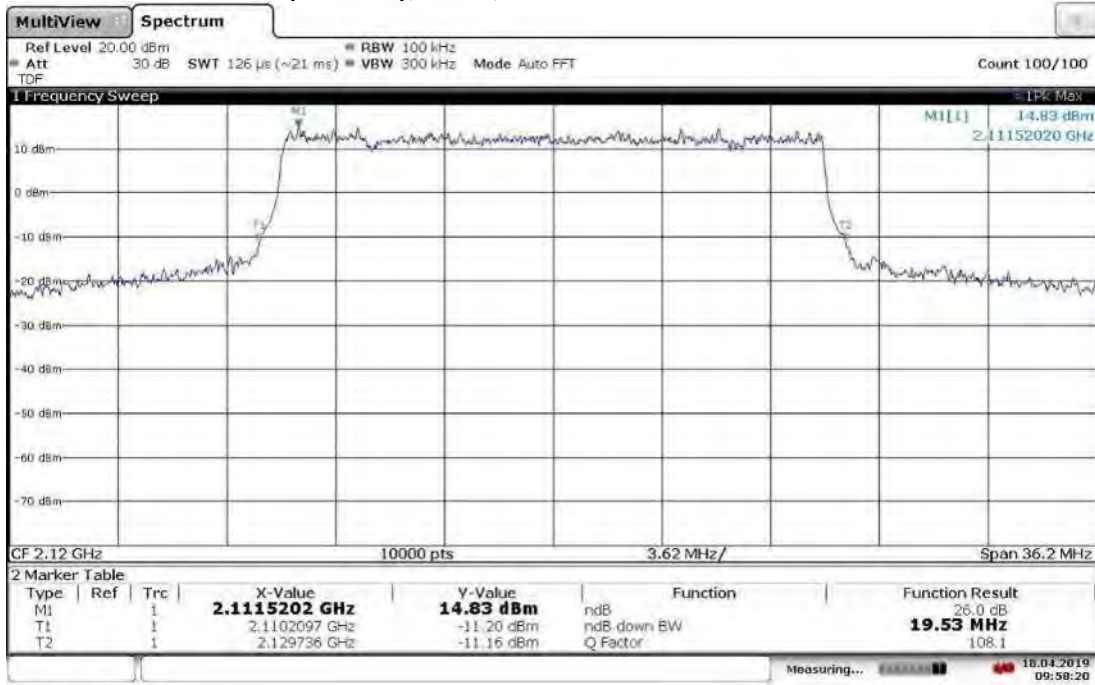
09:36:38 26.07.2019

**TM3.1-64QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



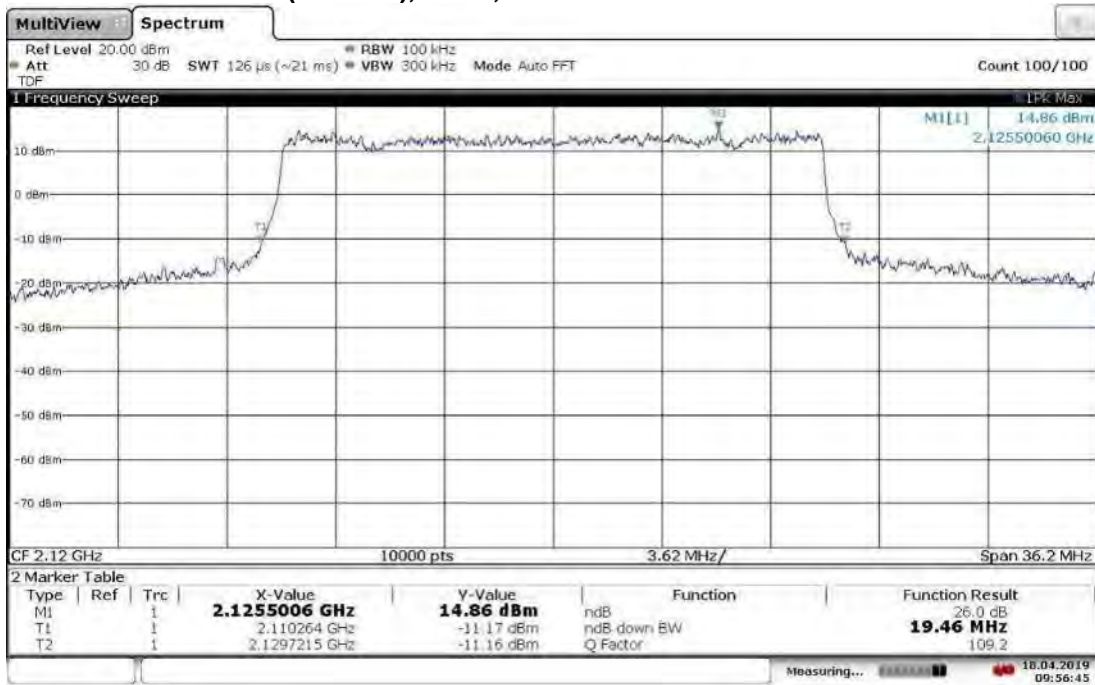
09:39:22 26.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



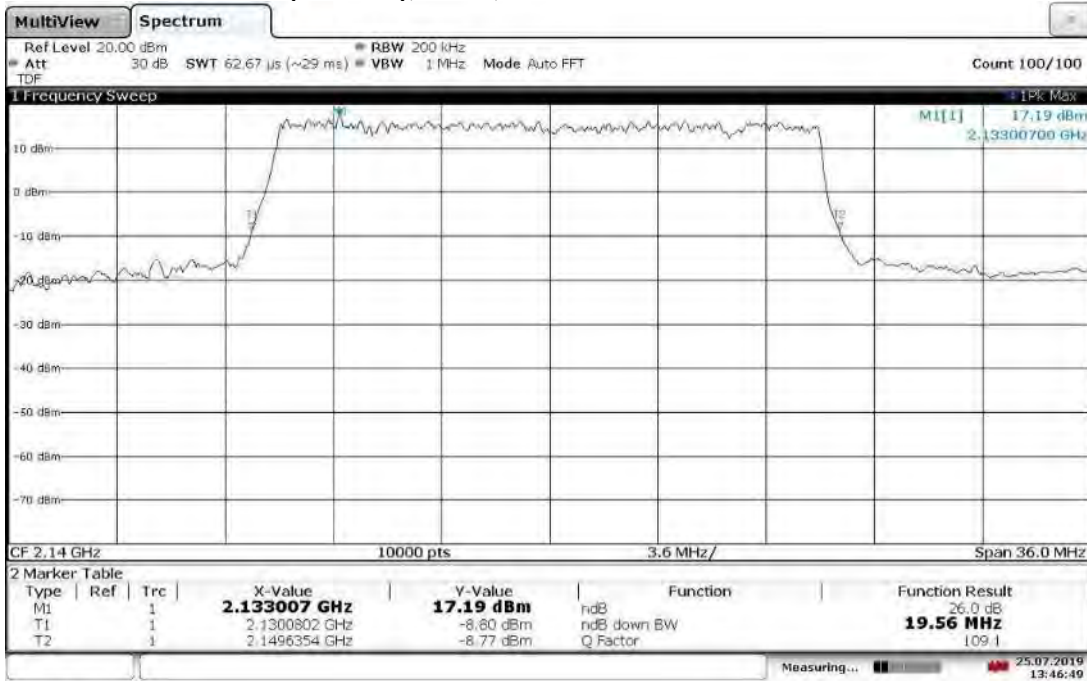
09:58:20 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



09:56:45 18.04.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



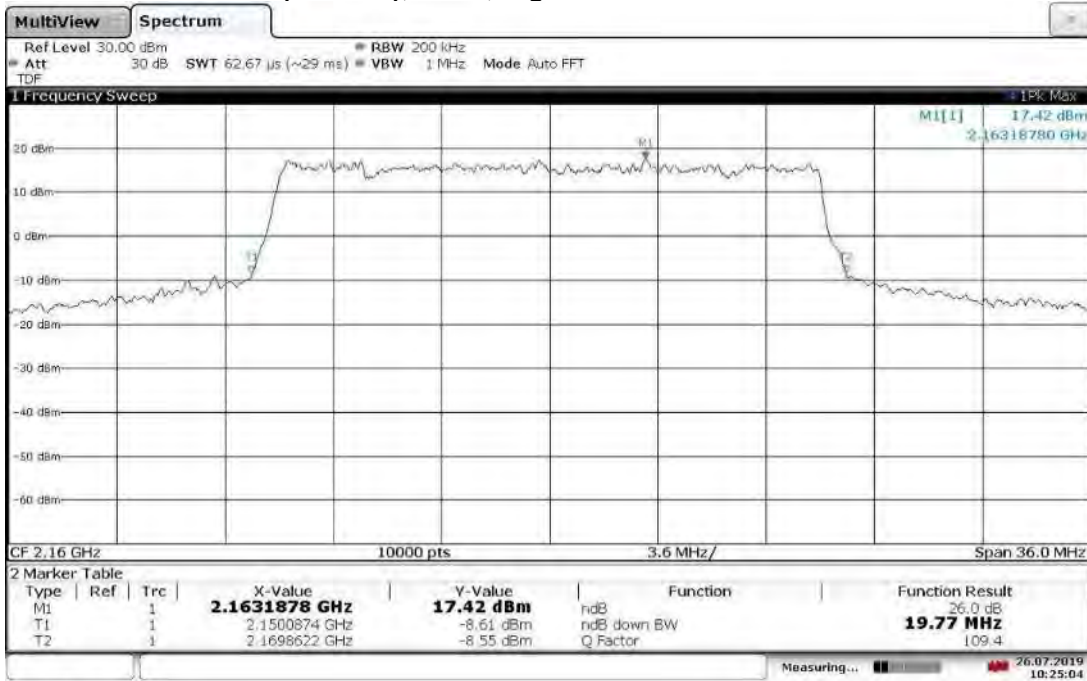
13:46:50 25.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



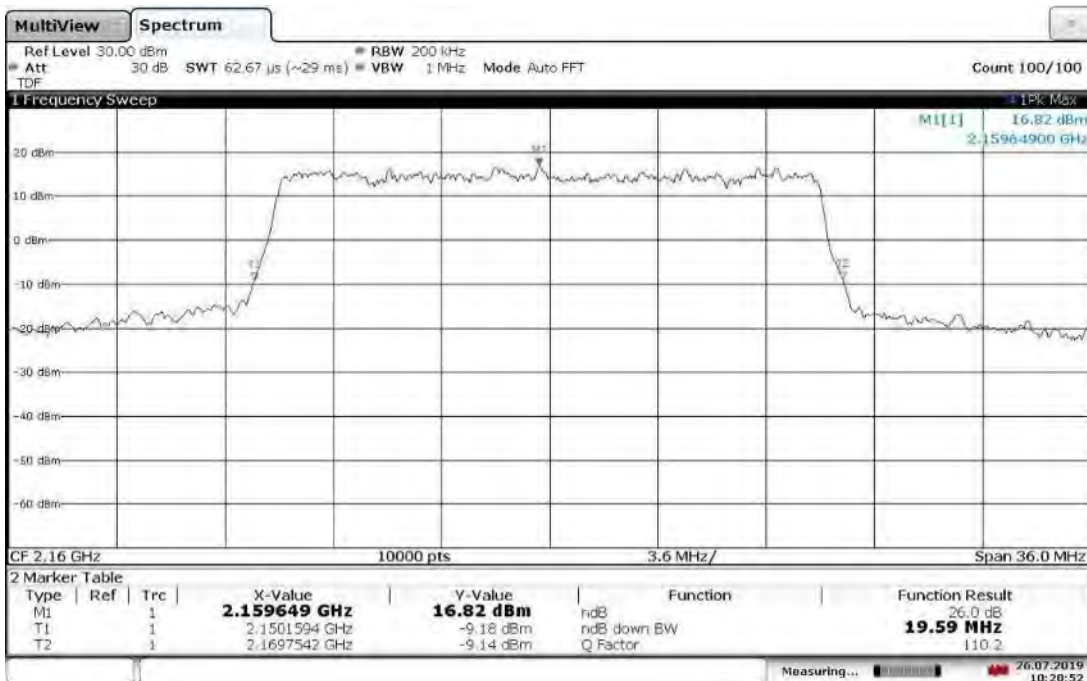
13:48:33 25.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



10:25:04 26.07.2019

**TM3.1-64QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



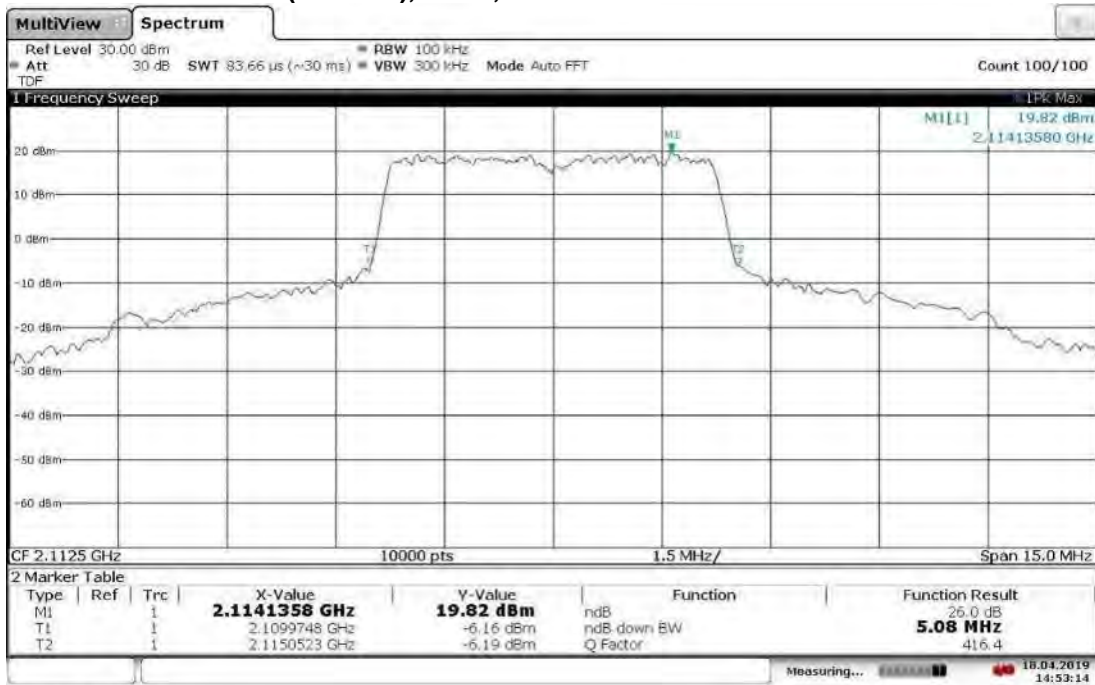
10:20:52 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



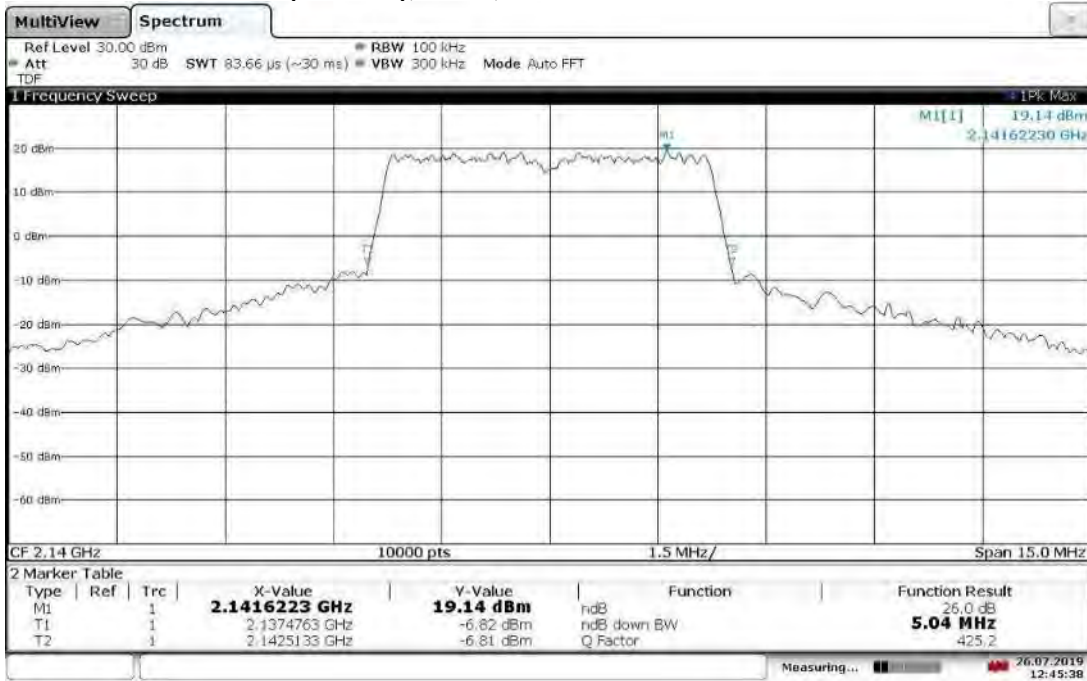
14:51:46 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



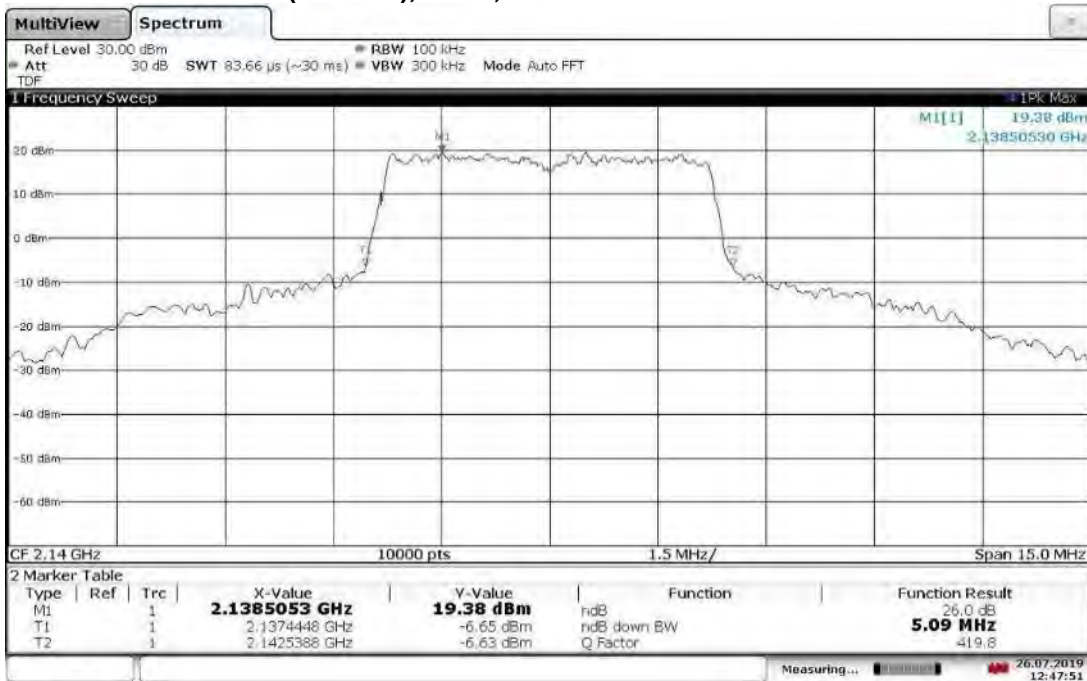
14:53:14 18.04.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



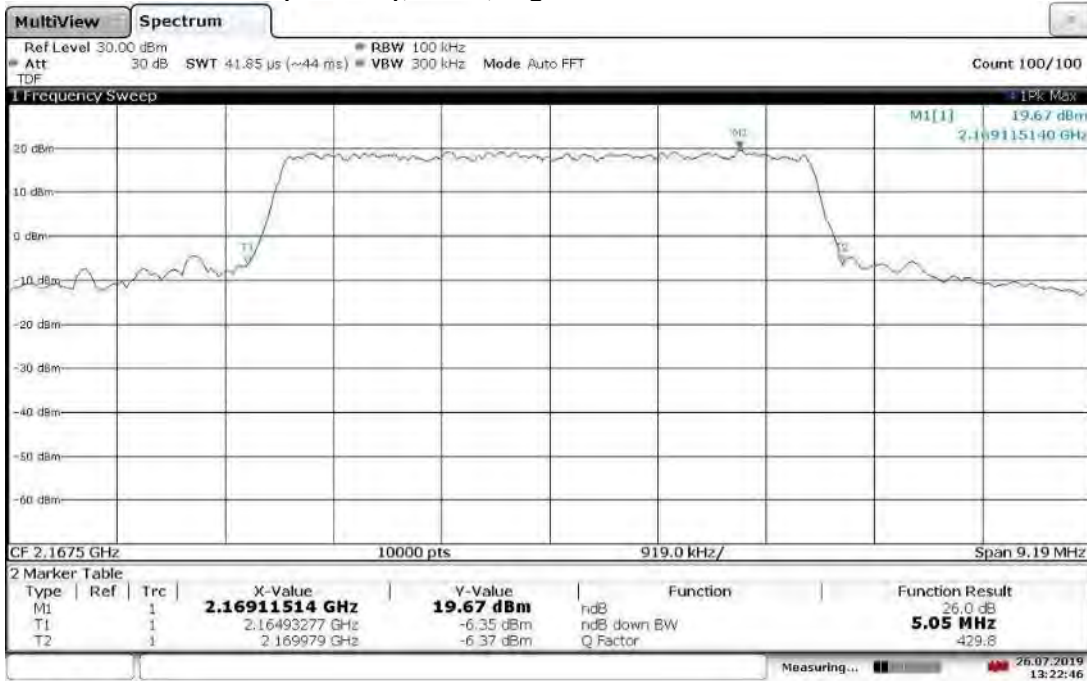
12:45:39 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



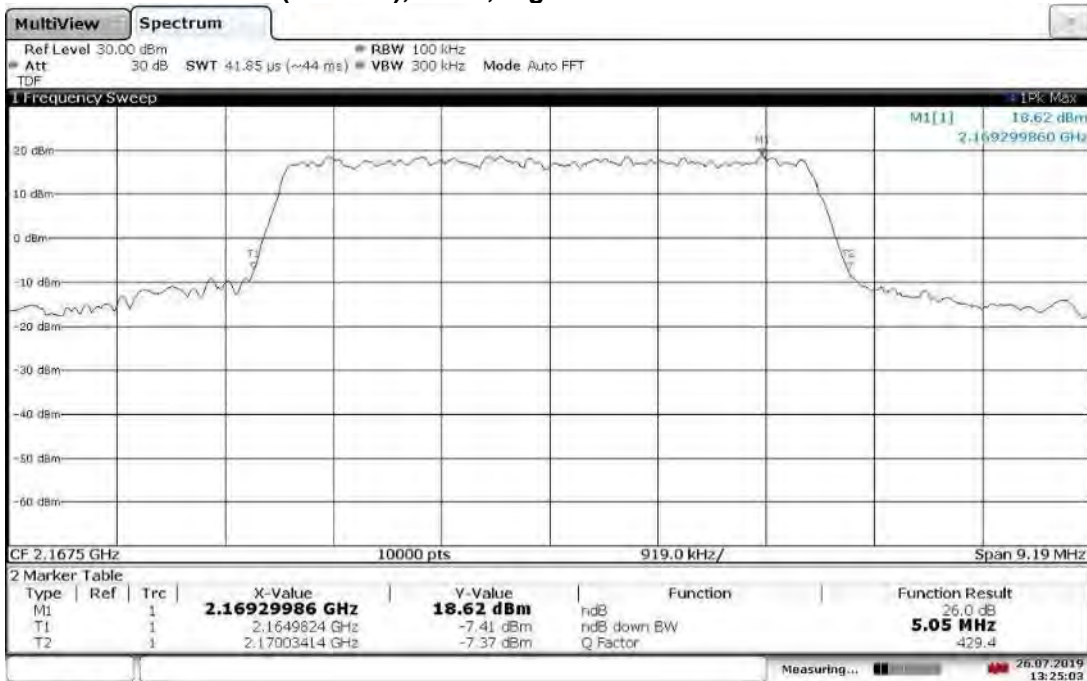
12:47:52 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



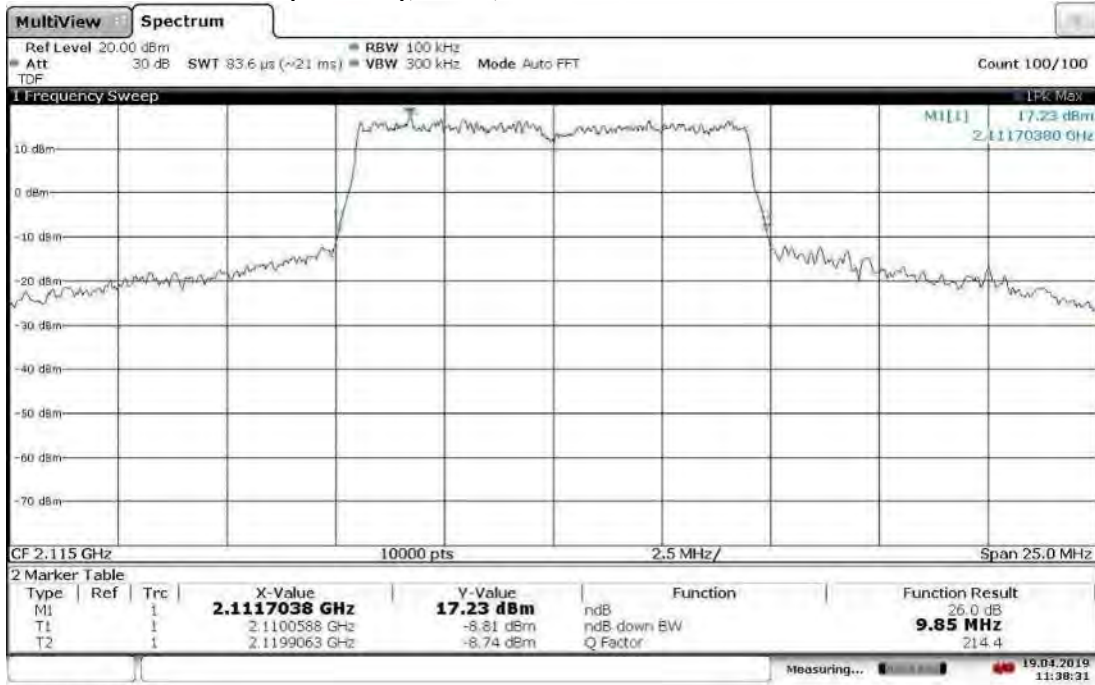
13:22:46 26.07.2019

**TM3.1a-256QAM_5 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



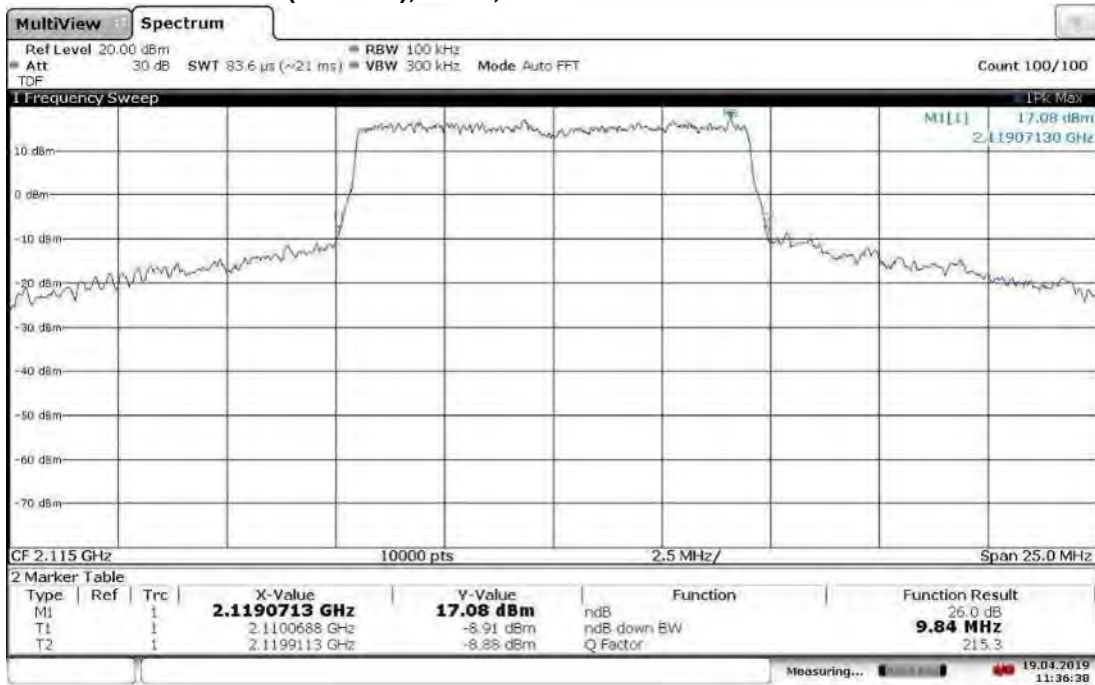
13:25:03 26.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



11:38:32 19.04.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



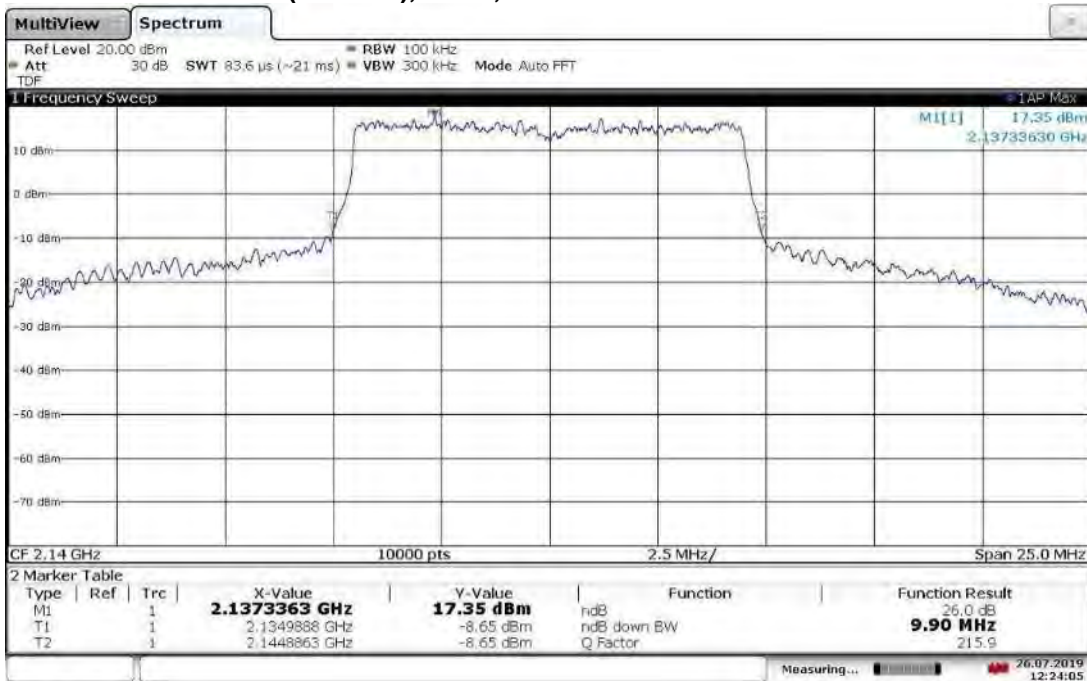
11:36:39 19.04.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



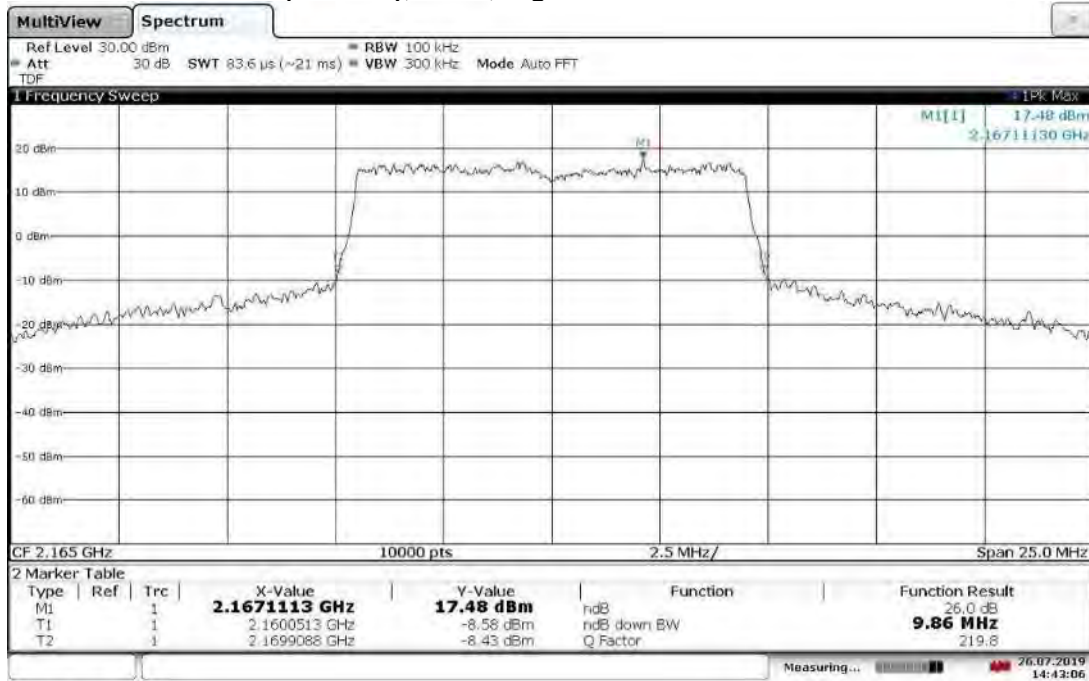
12:22:28 26.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



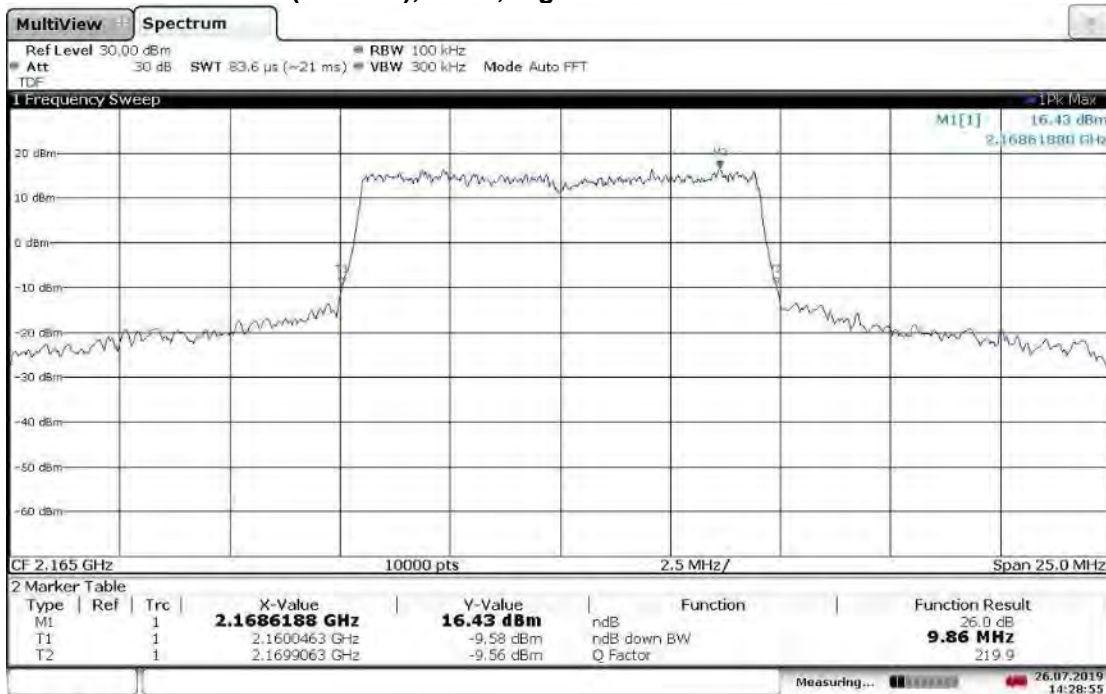
12:24:06 26.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



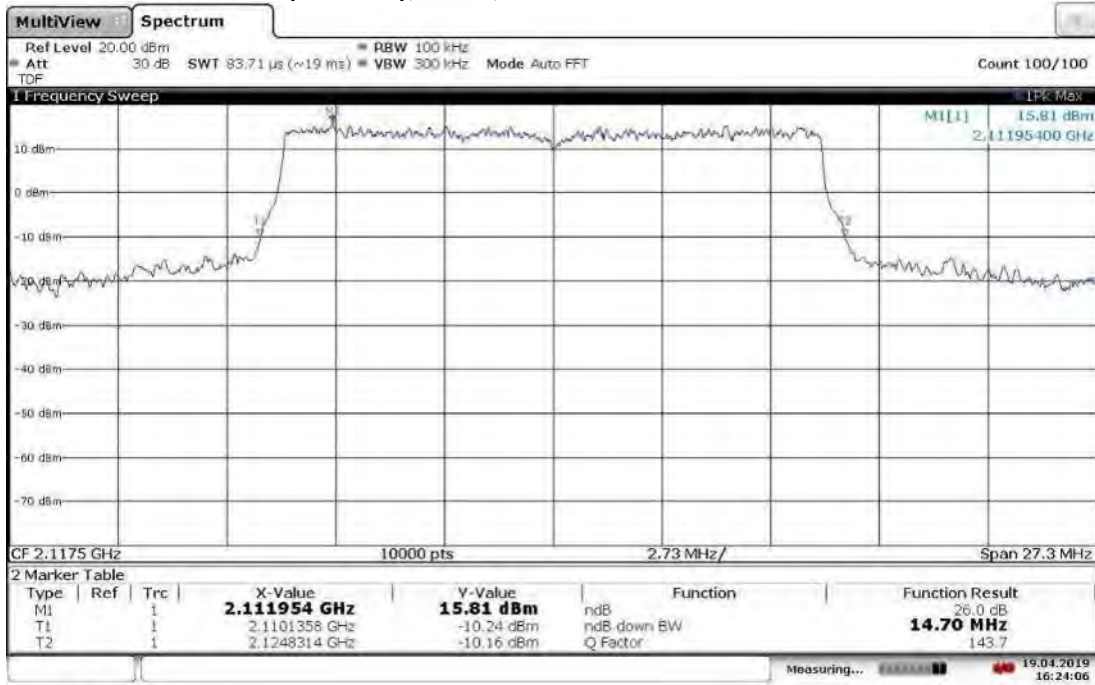
14:43:07 26.07.2019

**TM3.1a-256QAM_10 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



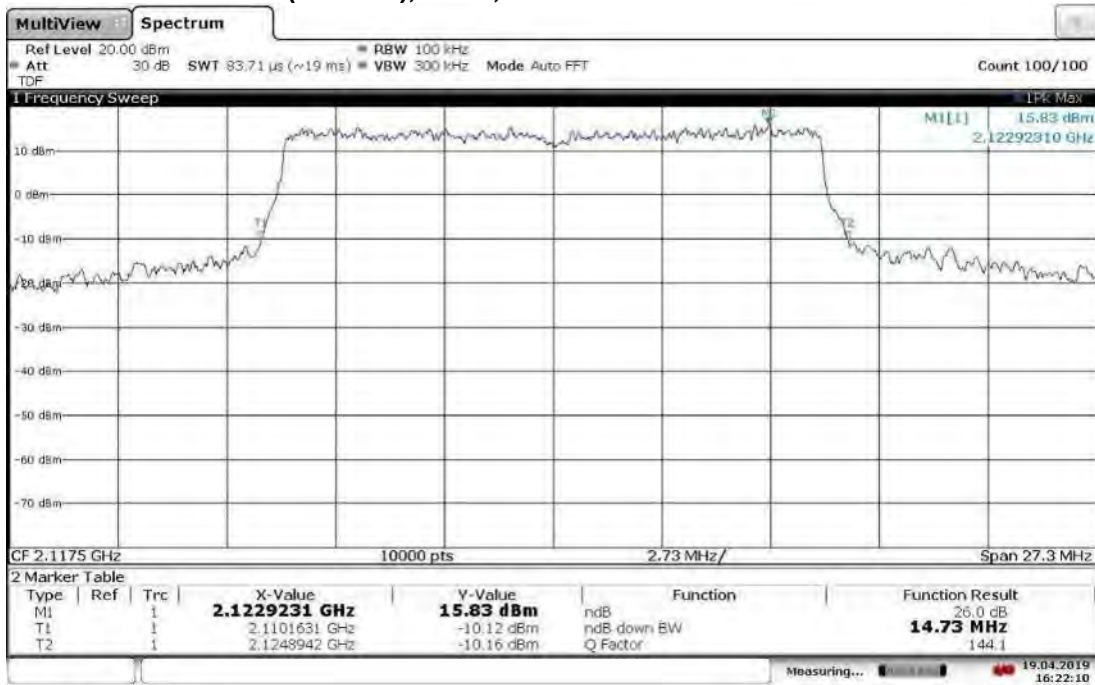
14:28:55 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



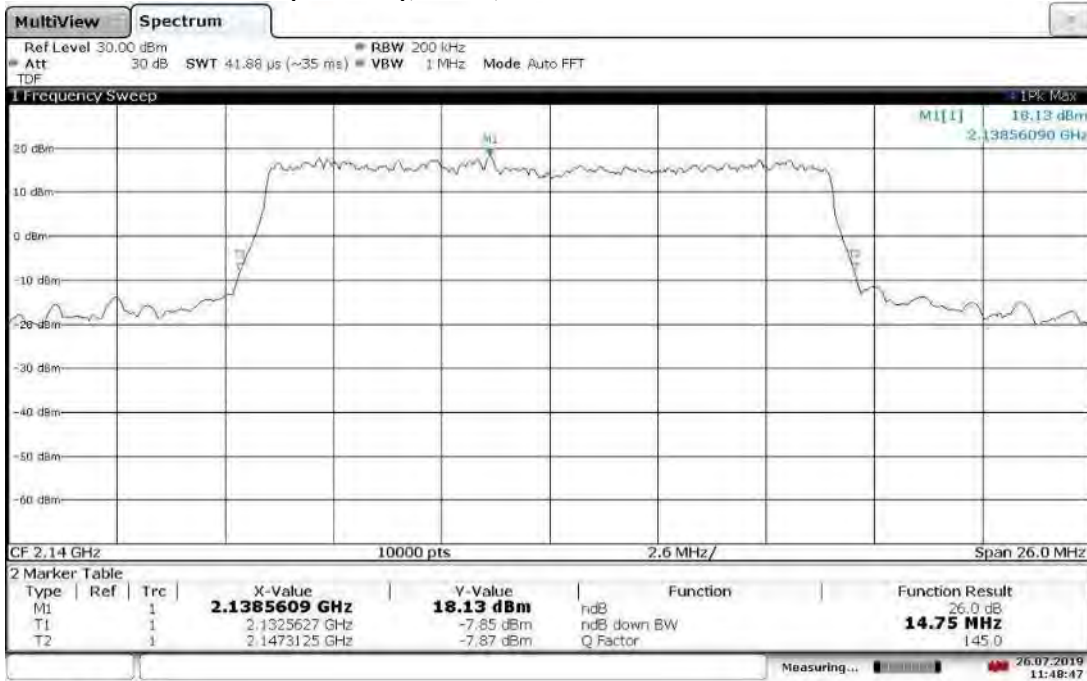
16:24:07 19.04.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



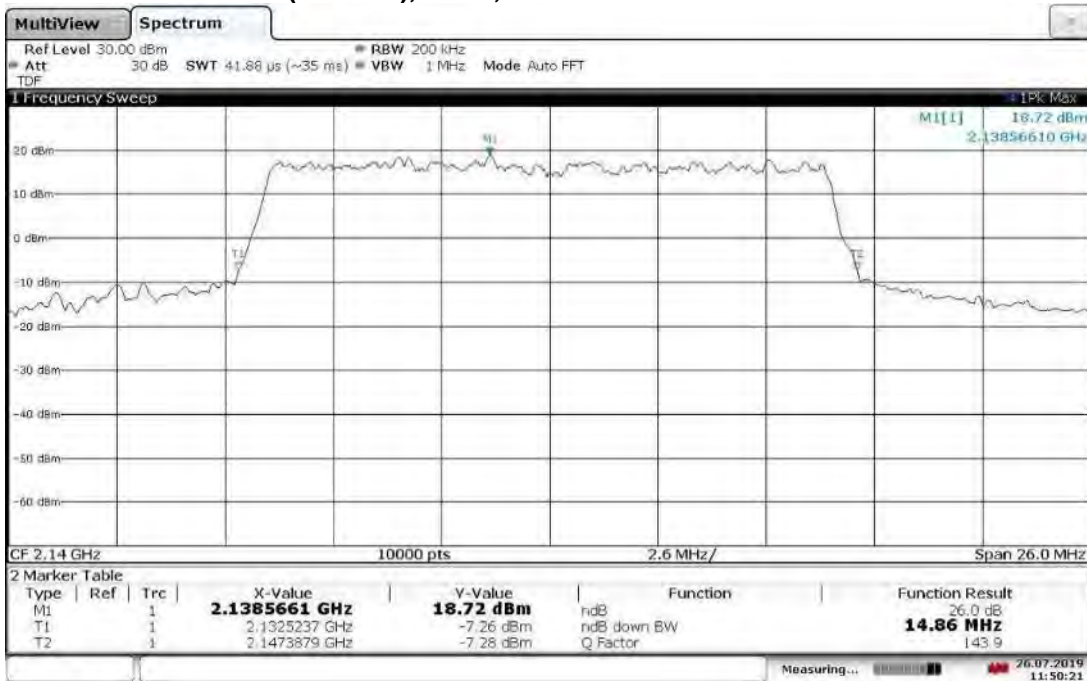
16:22:11 19.04.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



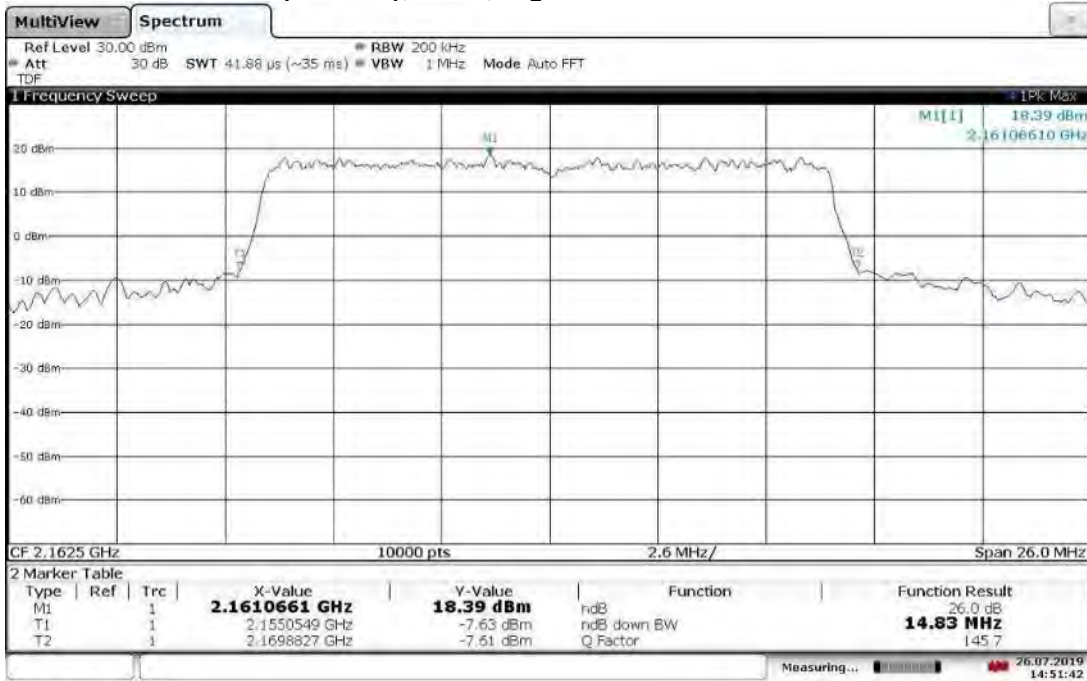
11:48:47 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



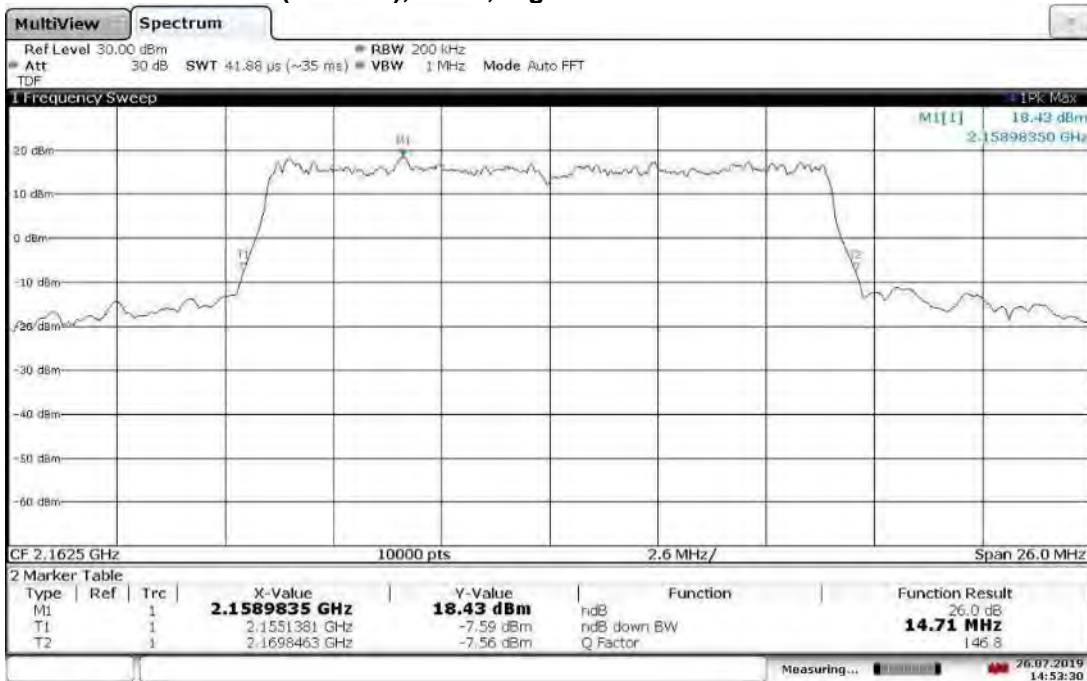
11:50:22 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



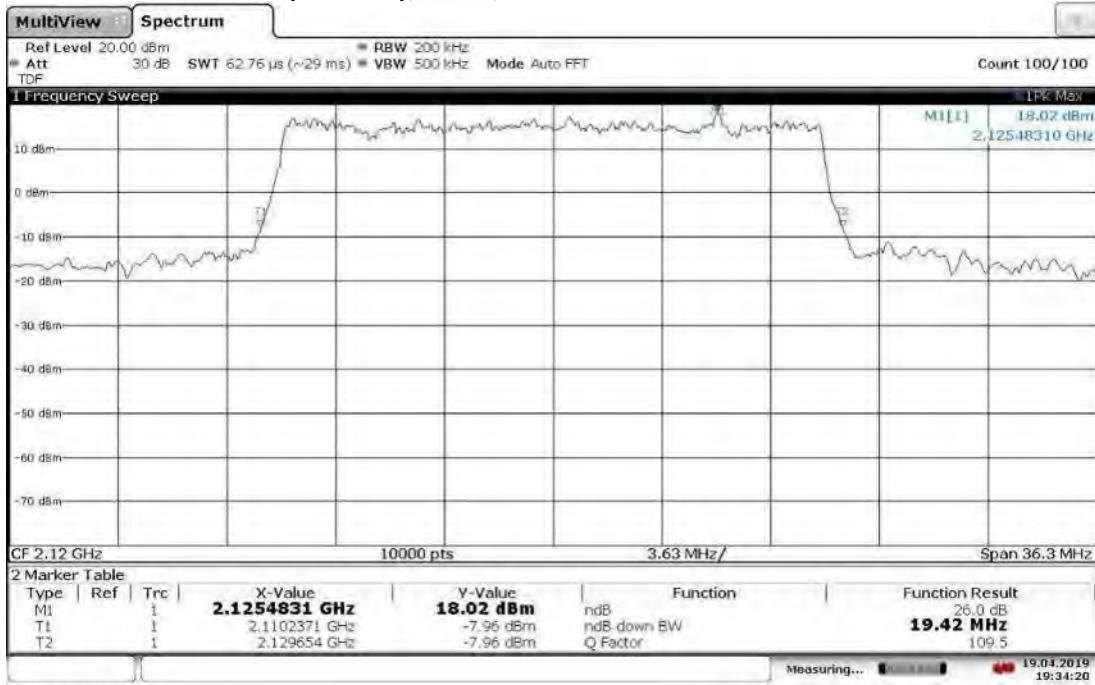
14:51:44 26.07.2019

**TM3.1a-256QAM_15 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



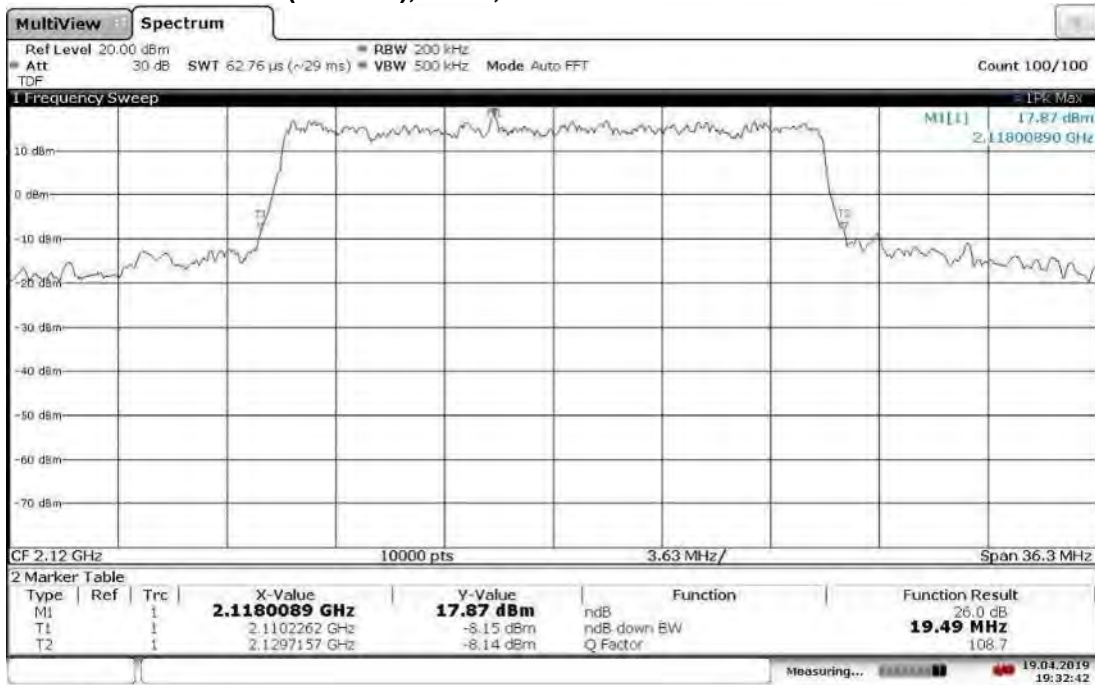
14:53:31 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Low Channel 26 dB Bandwidth**



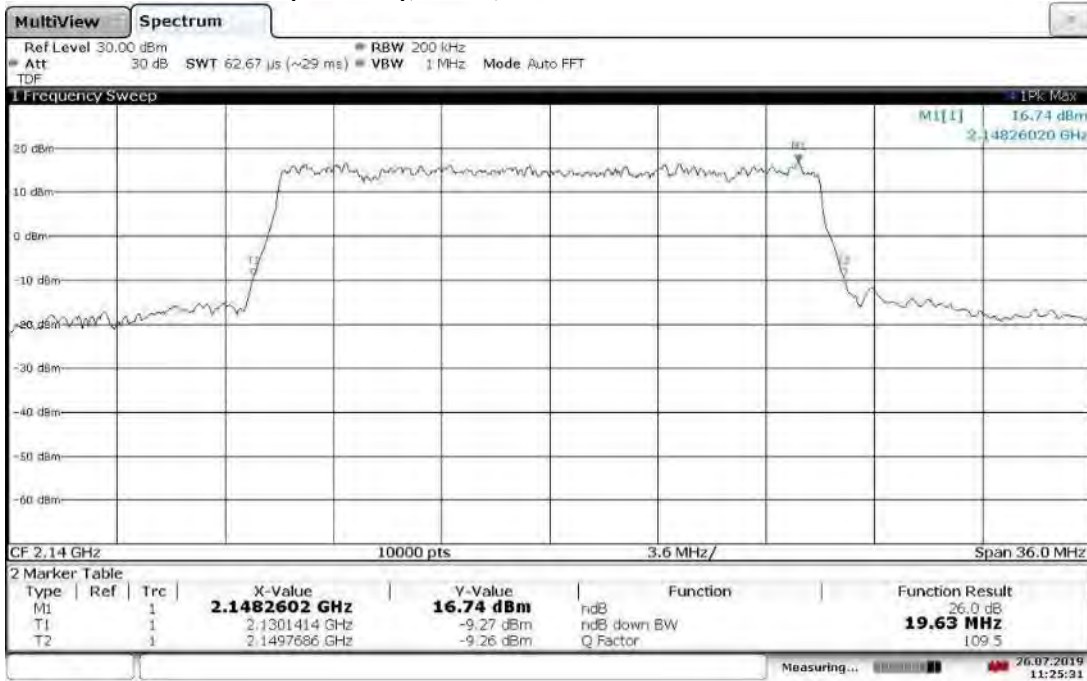
19:34:21 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Low Channel 26 dB Bandwidth**



19:32:43 19.04.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, Mid Channel 26 dB Bandwidth**



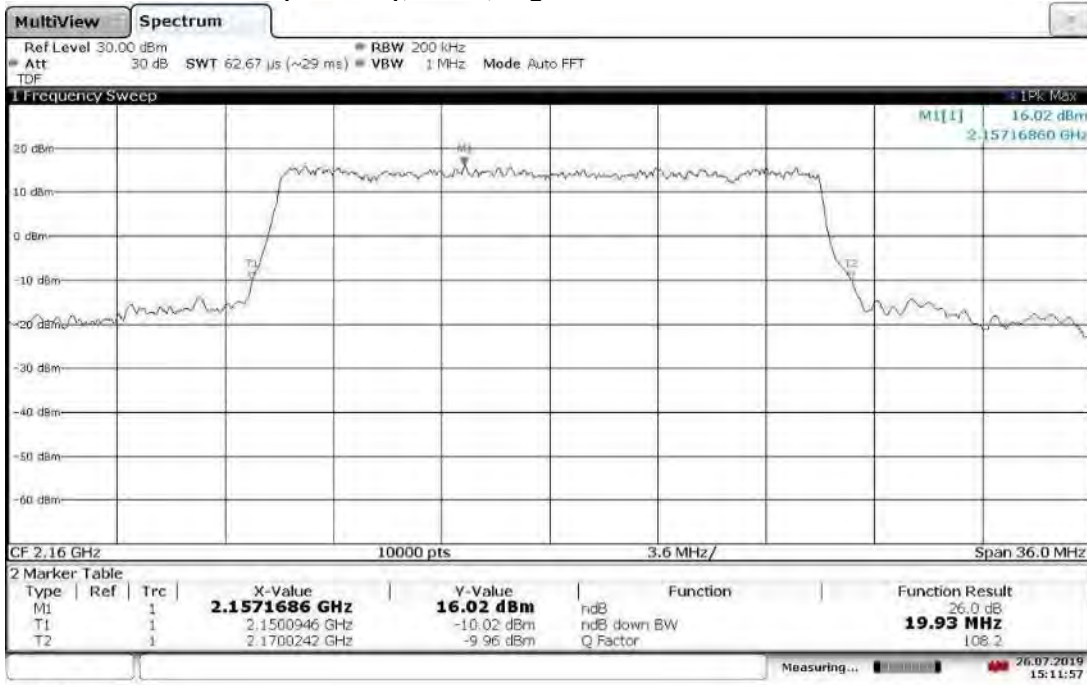
11:25:31 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, Mid Channel 26 dB Bandwidth**



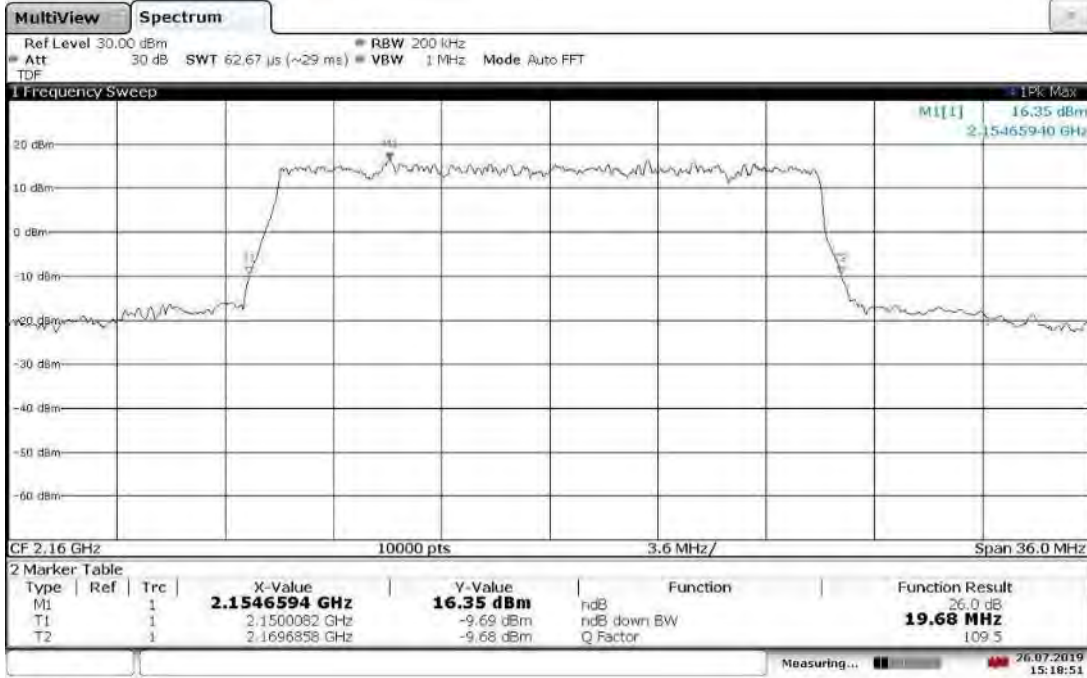
11:23:42 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT0, High Channel 26 dB Bandwidth**



15:11:57 26.07.2019

**TM3.1a-256QAM_20 MHz Bandwidth
Slot 1 (Band 10), ANT1, High Channel 26 dB Bandwidth**



15:18:52 26.07.2019

Test Date: 04/10/2019, 04/11/2019, 04/12/2019,
04/15/2019, 04/16/2019, 04/17/2019,
04/18/2019, 04/19/2019, 04/26/2019,
04/30/2019, 07/18/2019, 07/25/2019,
07/26/2019

Test Personnel: Kouma Sinn *KPS*
Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 27
Input Voltage: 48 VDC (POE)

Limit Applied: See report section 8.3

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

Ambient Temperature: 22, 23, 23, 23, 23, 22, 22, 22, 20, 22,
22, 22, 22 °C

Relative Humidity: 21, 15, 26, 47, 20, 22, 23, 47, 42, 35,
64, 52, 59 %

Atmospheric Pressure: 1004, 1013, 1004, 980, 1001, 1011,
1014, 1000, 996, 1017, 1007, 1011,
1016 mbars

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-24b

Issued: 08/14/2019

Band 10, 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	2167.50	ANT0	-13.86
		ANT1	-13.56

Band 10, 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	2165.00	ANT0	-13.65
		ANT1	-17.85

Band 10, 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	-14.37
		ANT1	-20.16

Band 10, 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	2160.00	ANT0	-14.39
		ANT1	-19.65

Band 10, 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	2167.50	ANT0	-13.61
		ANT1	-13.75

Band 10, 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	2165.00	ANT0	-14.28
		ANT1	-17.55

Band 10, 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	2162.50	ANT0	-14.07
		ANT1	-20.39

Band 10, 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	2160.00	ANT0	-15.50
		ANT1	-21.48

Intertek

Report Number: 103866582BOX-24b

Issued: 08/14/2019

Band 10, 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	2167.50	ANT0	-13.89
		ANT1	-14.75

Band 10, 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	2165.00	ANT0	-13.65
		ANT1	-17.67

Band 10, 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	2162.50	ANT0	-14.30
		ANT1	-20.18

Band 10, 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	2160.00	ANT0	-14.08
		ANT1	-19.30

Band 10, 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	2167.50	ANT0	-13.83
		ANT1	-13.82

Band 10, 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	2165.00	ANT0	-14.04
		ANT1	-18.50

Band 10, 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	2162.50	ANT0	-14.86
		ANT1	-20.13

Band 10, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM

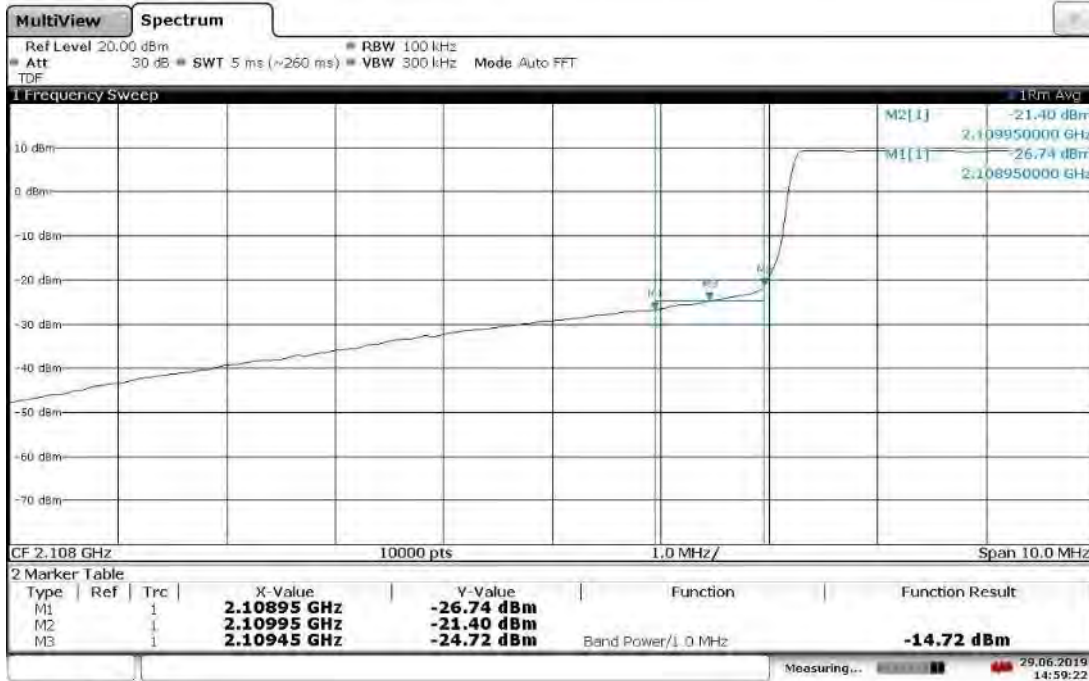
Band Edge	Frequency (MHz)	Antenna Port	Reading (dBm)
Low	2120.00	ANT0	-18.04
		ANT1	-17.42
High	2160.00	ANT0	-14.00
		ANT1	-19.41

9.4 Setup Photograph:



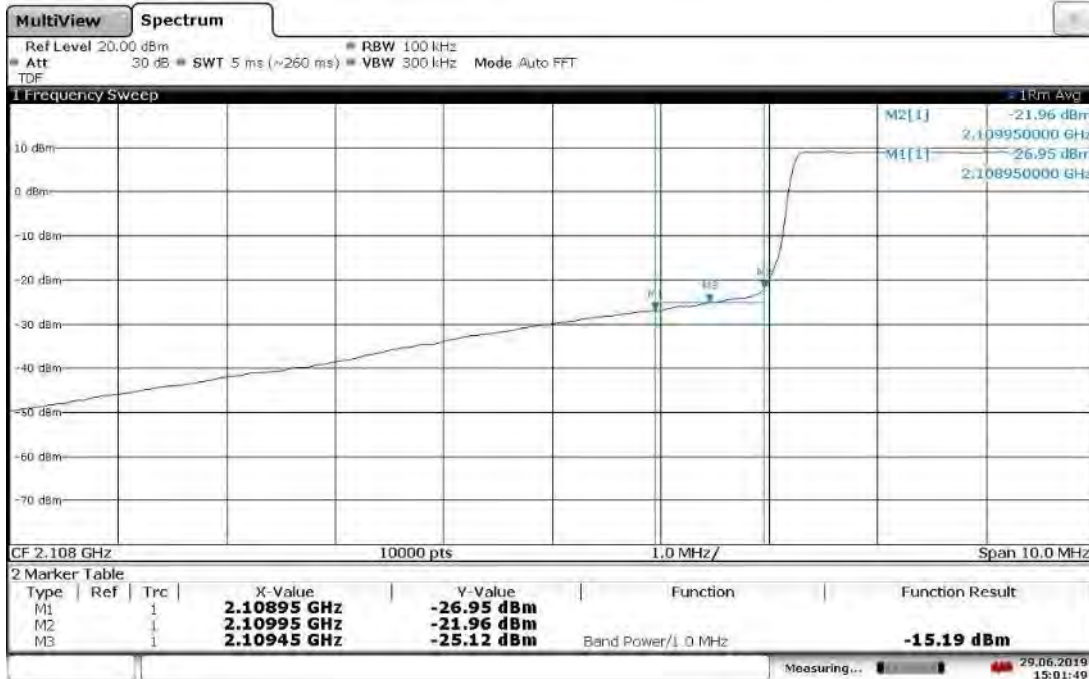
9.5 Plots/Data:

Band Edge Compliant, Lower Band Edge, 2112.5 MHz
 Slot 1 (Band 10), 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 10), Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



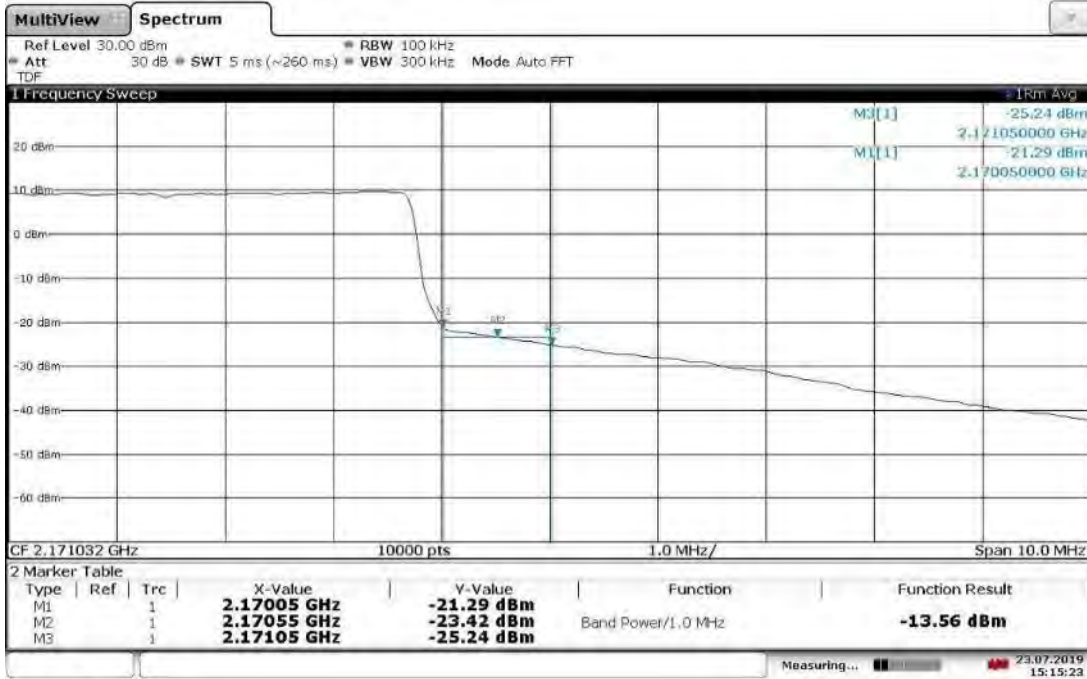
15:01:50 29.06.2019

Band Edge Compliant, Upper Band Edge, 2167.5 MHz
 Slot 1 (Band 10), Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



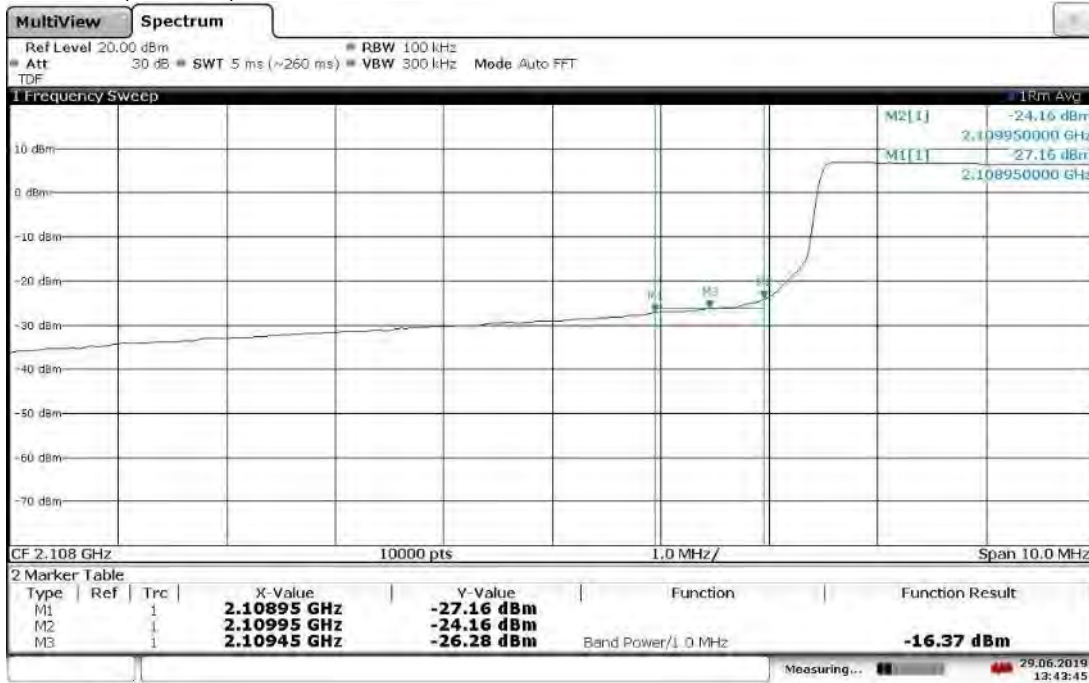
15:13:50 23.07.2019

Band Edge Compliant, Upper Band Edge, 2167.5 MHz
 Slot 1 (Band 10), Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM1.1-QPSK



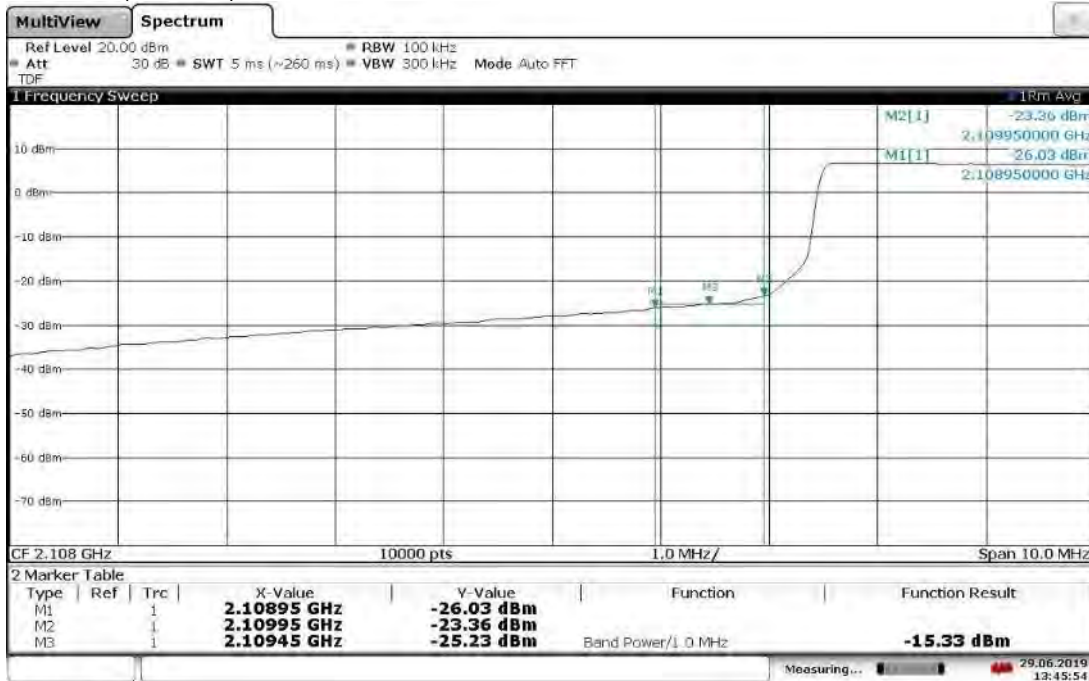
15:15:23 23.07.2019

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



13:45:54 29.06.2019

Band Edge Compliant, Upper Band Edge, 2165 MHz
 Slot 1 (Band 10), Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK



15:09:02 23.07.2019

Band Edge Compliant, Upper Band Edge, 2165 MHz
 Slot 1 (Band 10), Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM1.1-QPSK



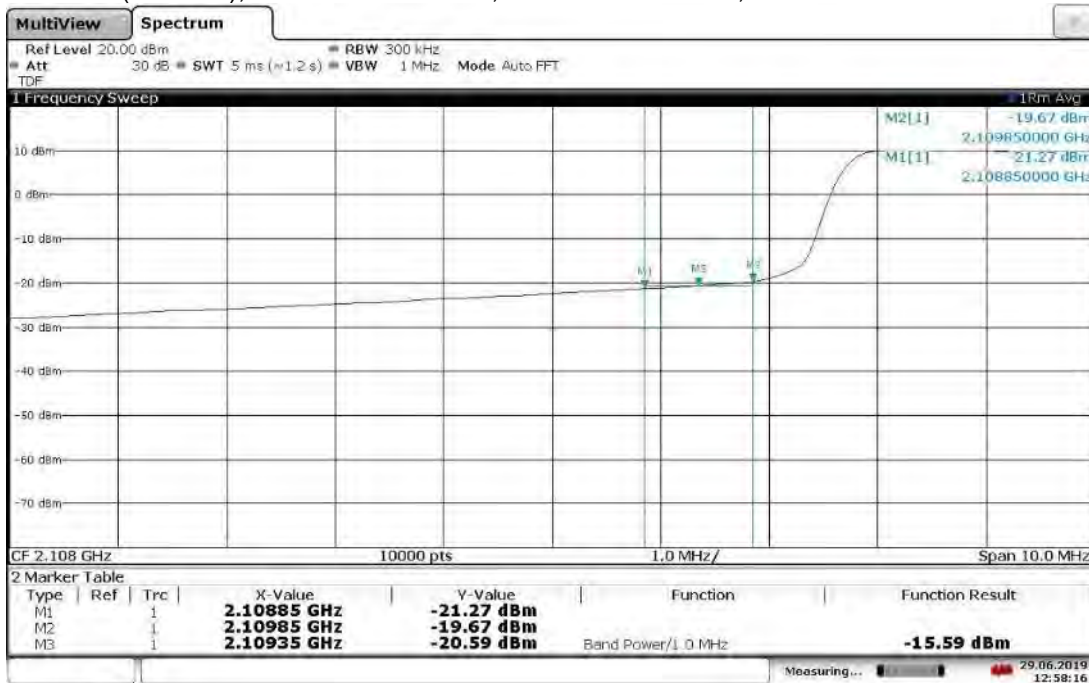
15:06:32 23.07.2019

Band Edge Compliant, Lower Band Edge, 2117.5 MHz
 Slot 1 (Band 10), Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



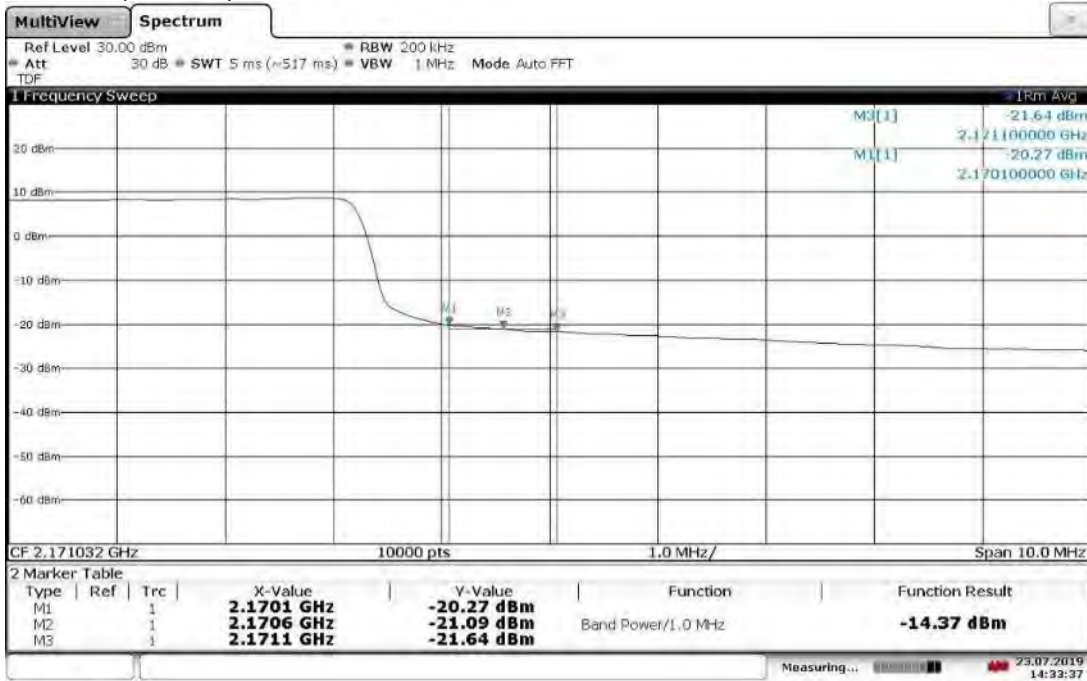
12:55:59 29.06.2019

Band Edge Compliant, Lower Band Edge, 2117.5 MHz
 Slot 1 (Band 10), Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



12:58:16 29.06.2019

Band Edge Compliant, Upper Band Edge, 2162.5 MHz
 Slot 1 (Band 10), Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



14:33:37 23.07.2019

Band Edge Compliant, Upper Band Edge, 2162.5 MHz
 Slot 1 (Band 10), Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM1.1-QPSK



14:34:52 23.07.2019