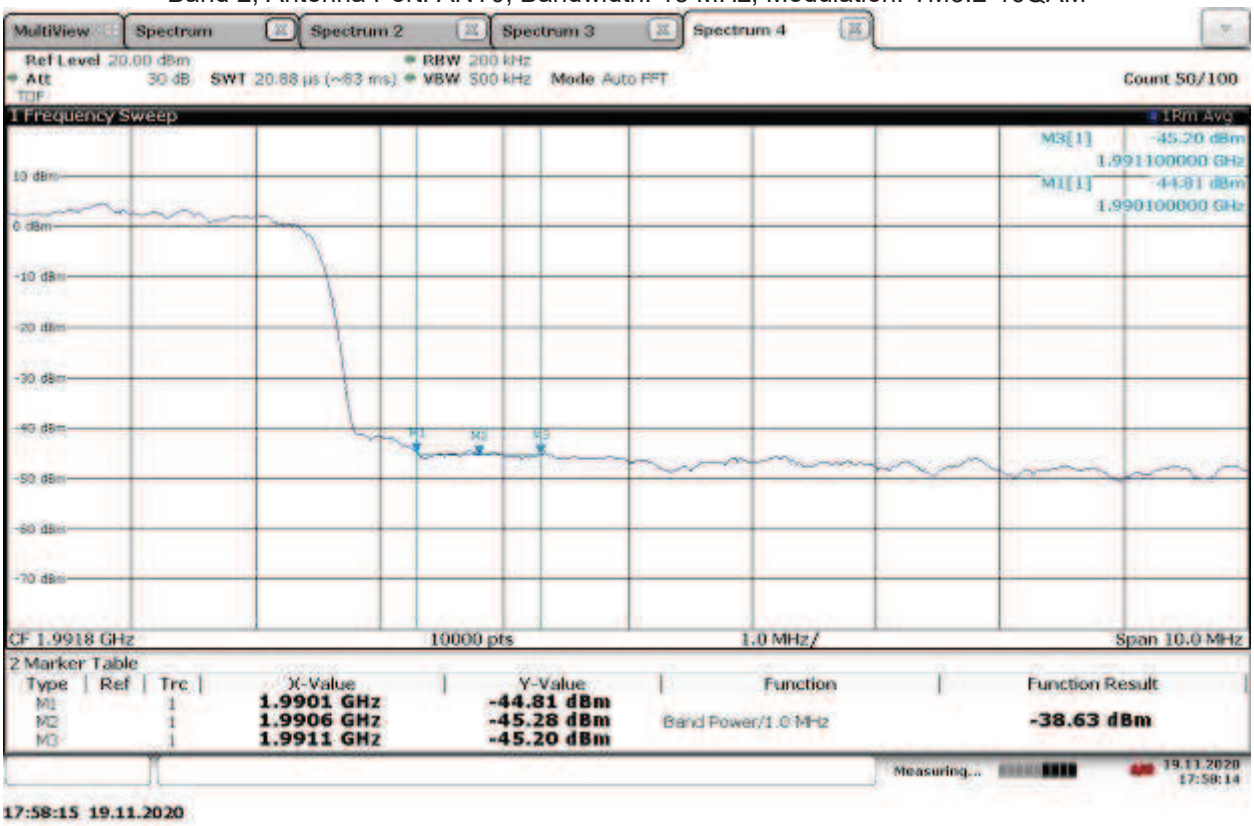
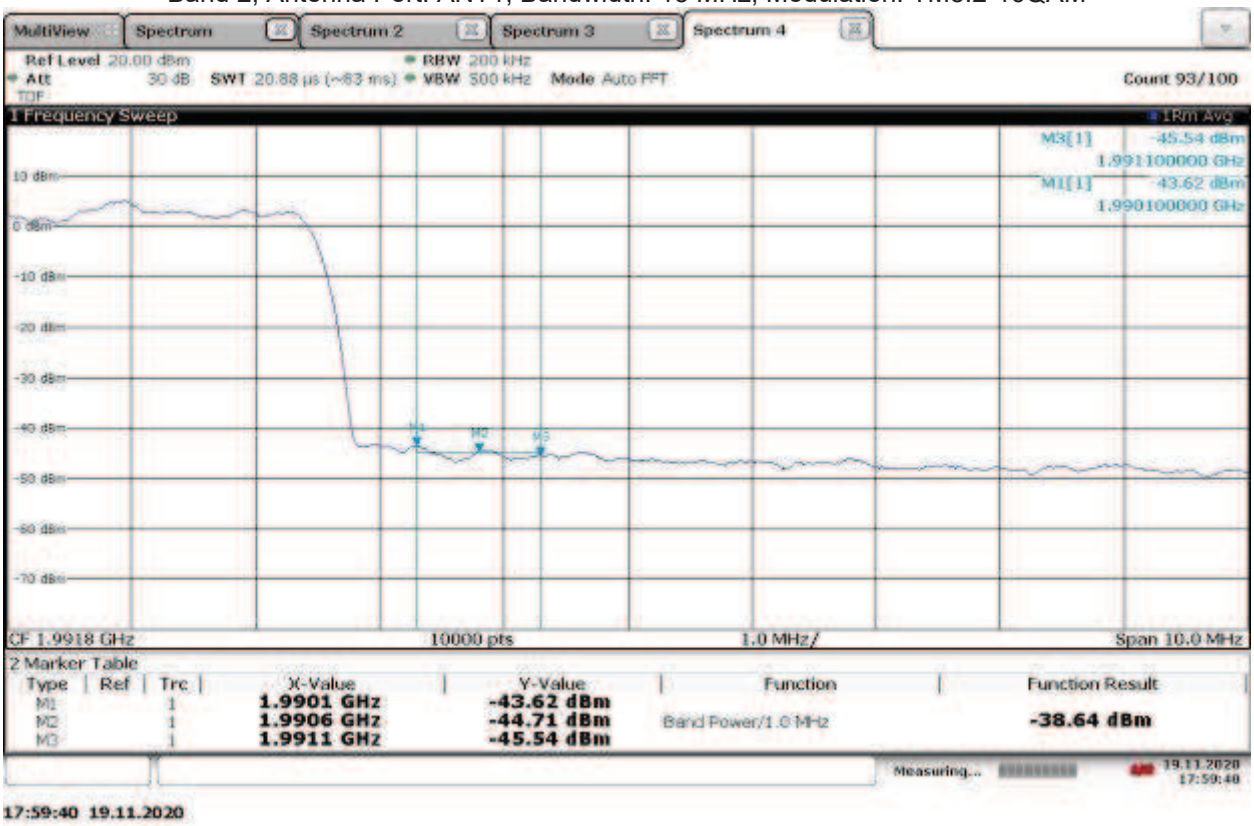
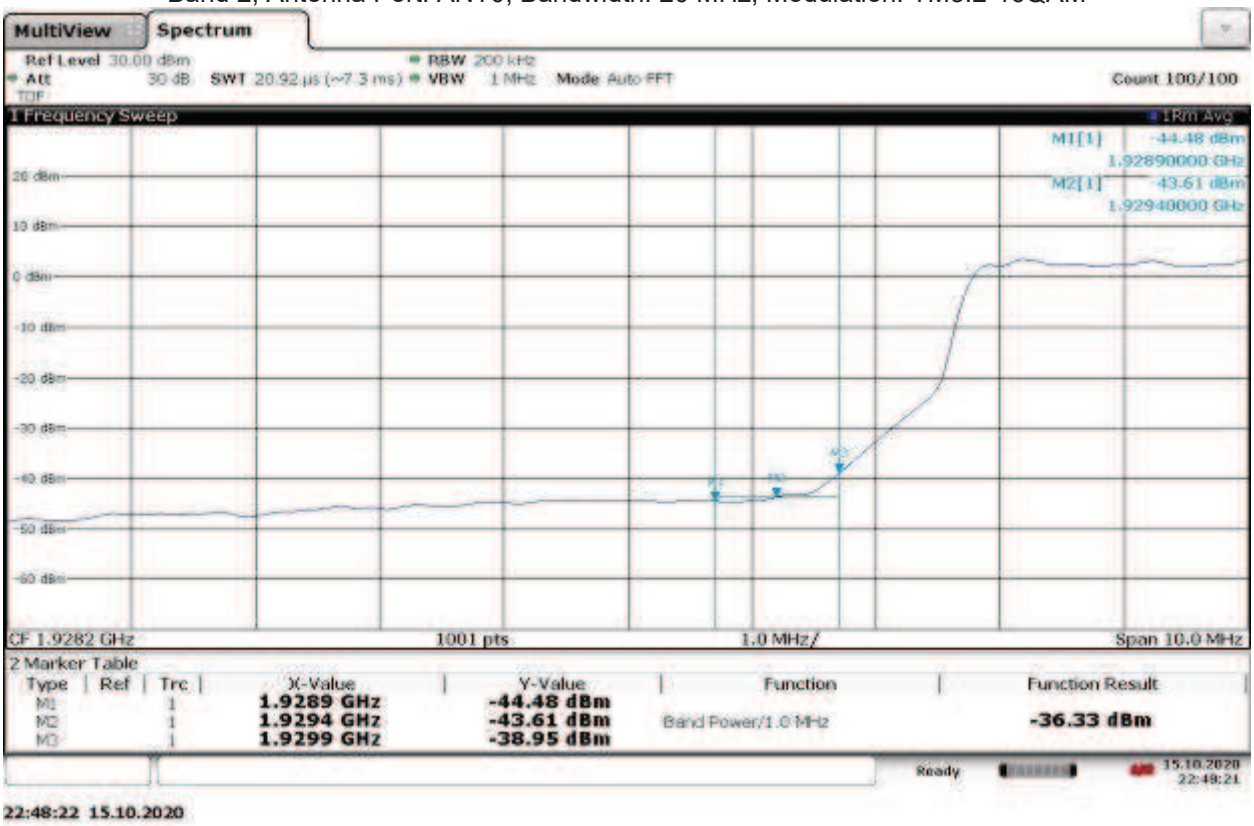
Band Edge Compliant, Upper Band Edge, 1982.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM3.2-16QAM



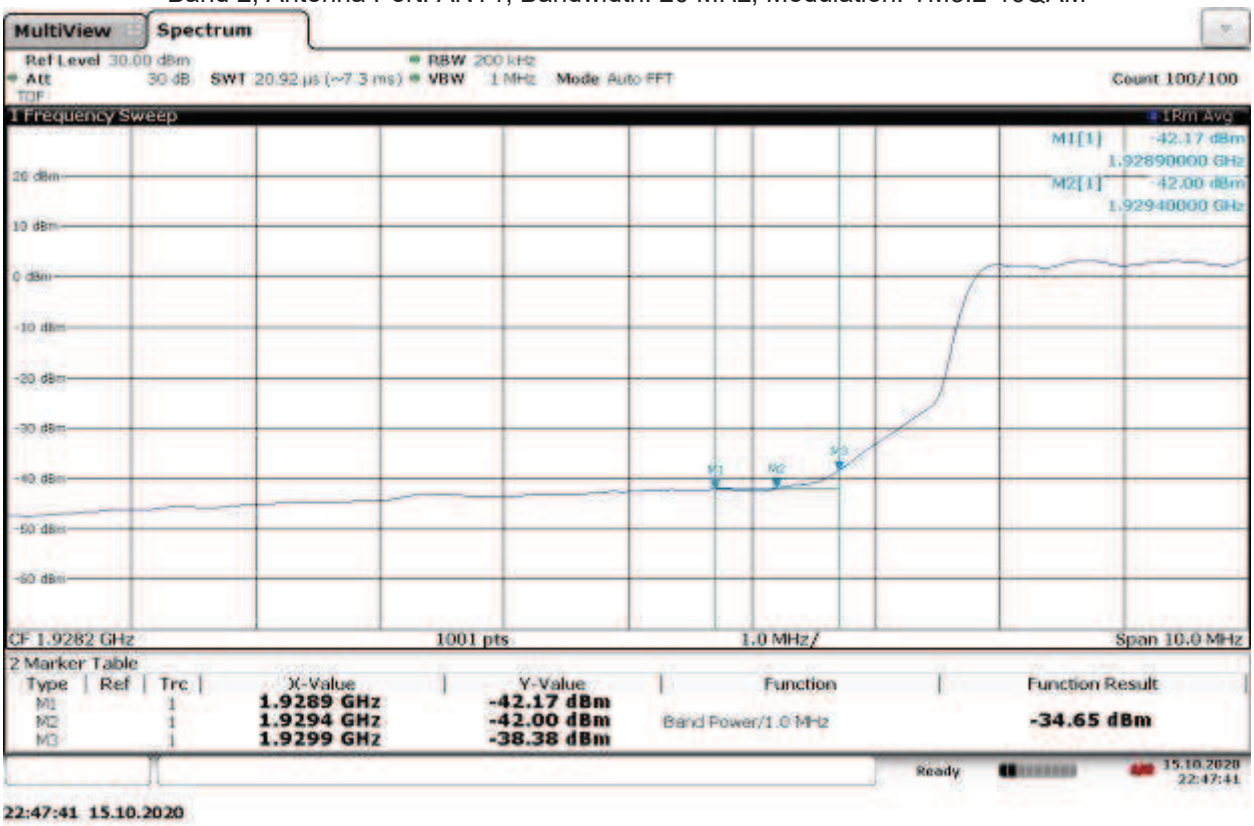
Band Edge Compliant, Upper Band Edge, 1982.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM3.2-16QAM



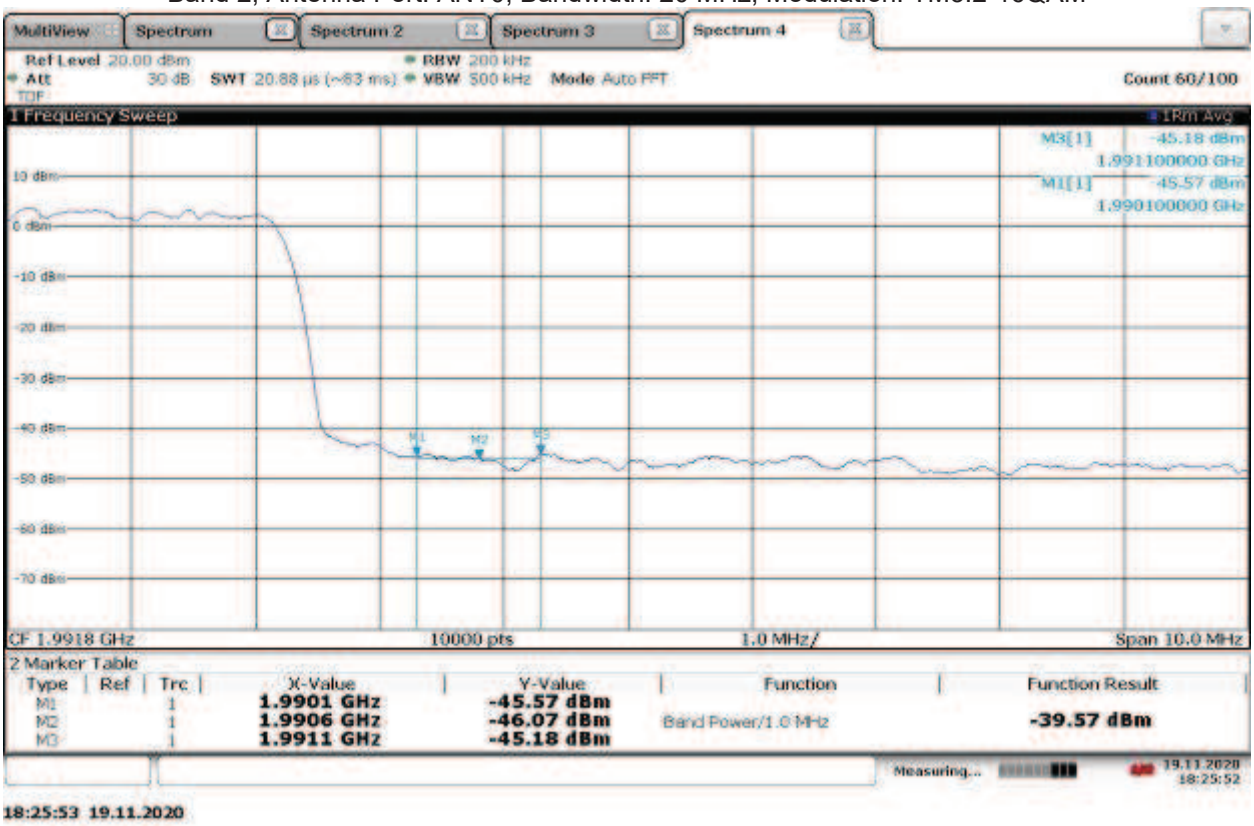
Band Edge Compliant, Lower Band Edge, 1940 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.2-16QAM



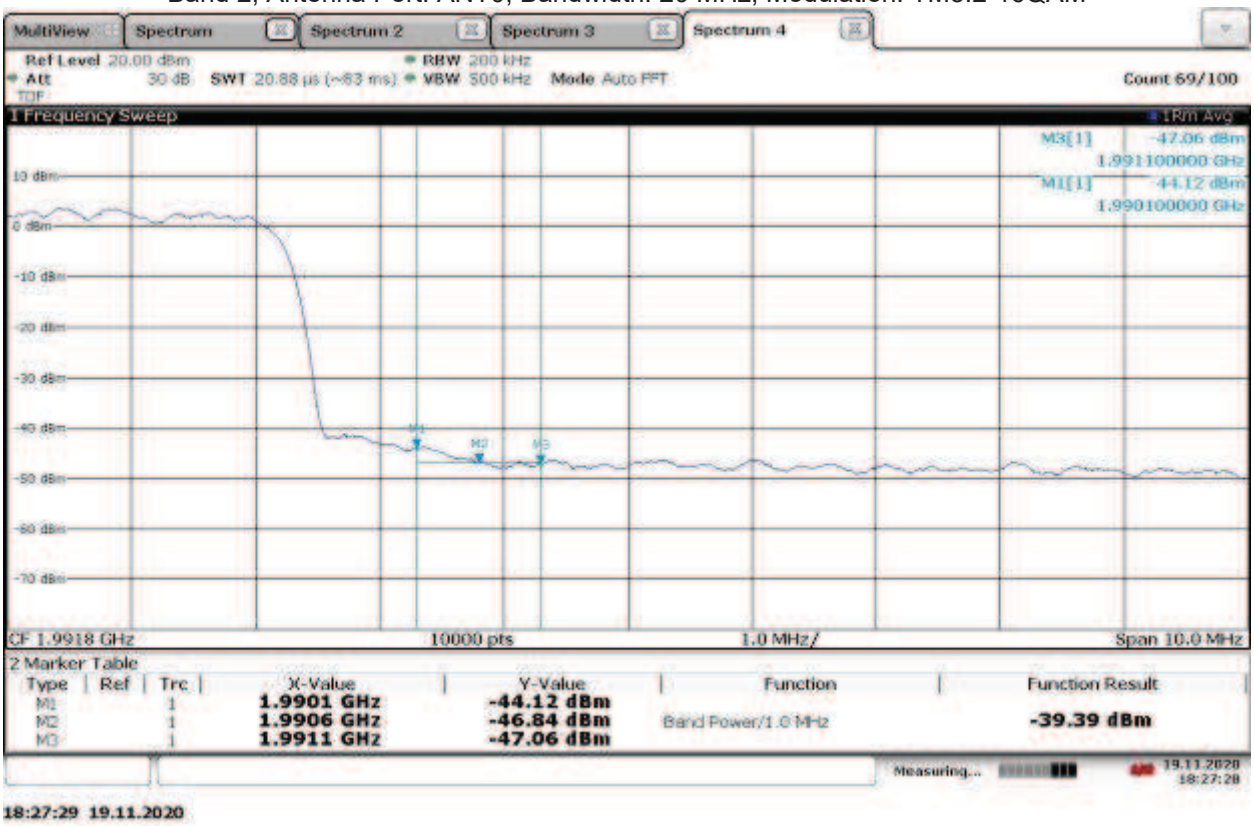
Band Edge Compliant, Lower Band Edge, 1940 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 20 MHz, Modulation: TM3.2-16QAM



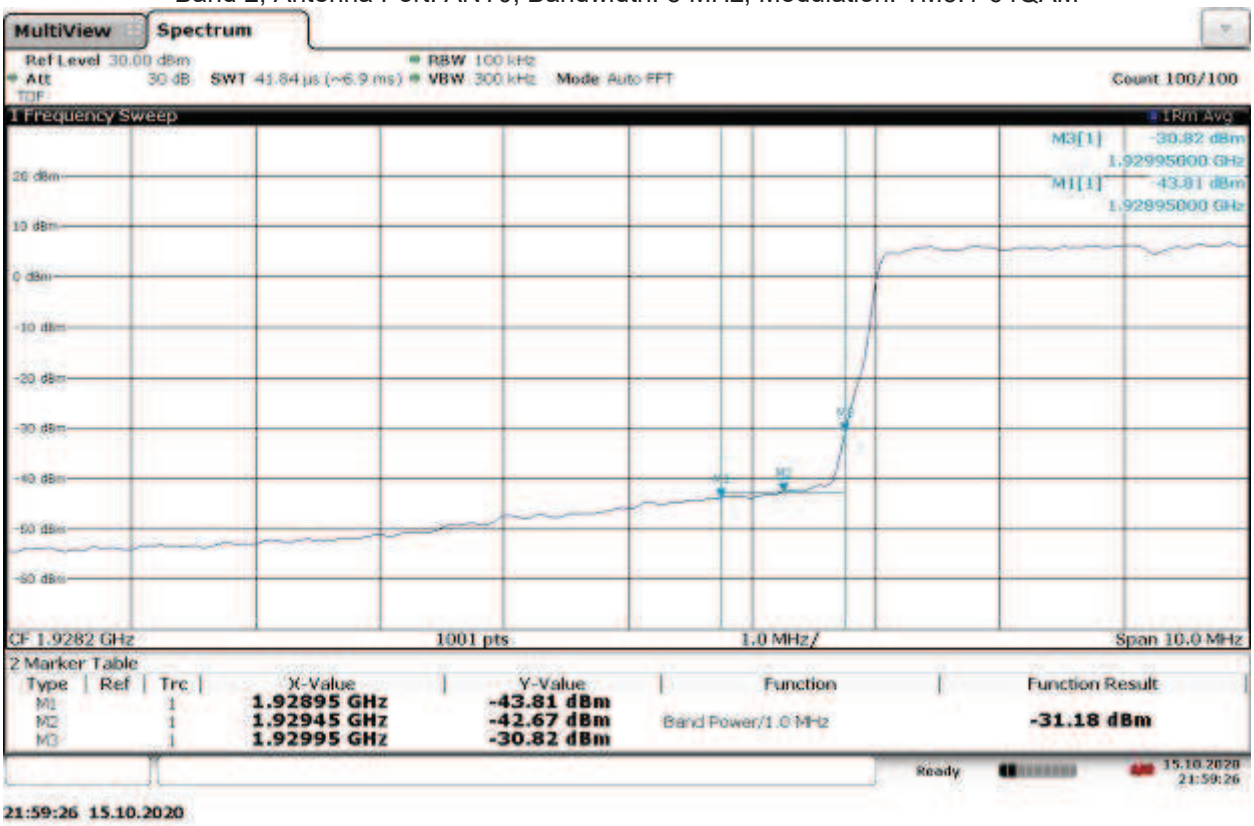
Band Edge Compliant, Upper Band Edge, 1980 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.2-16QAM



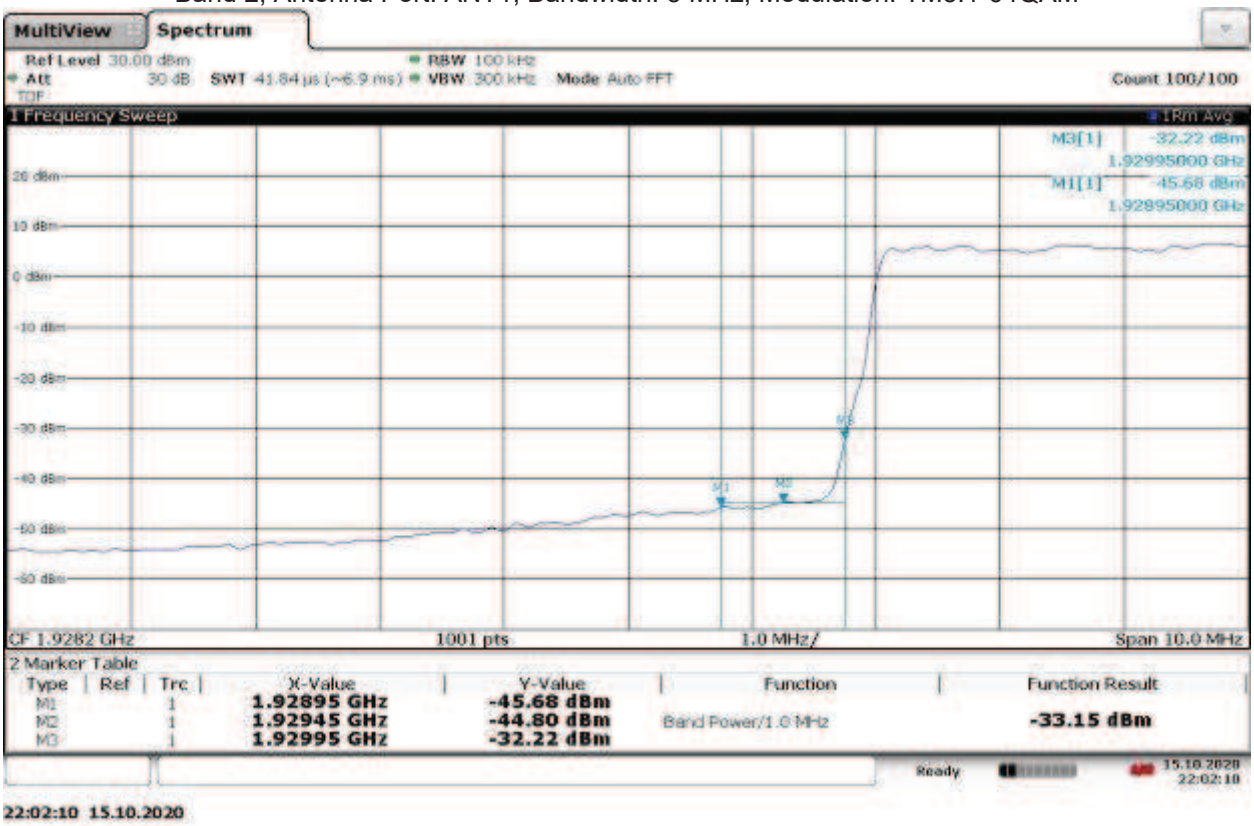
Band Edge Compliant, Upper Band Edge, 1980 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.2-16QAM



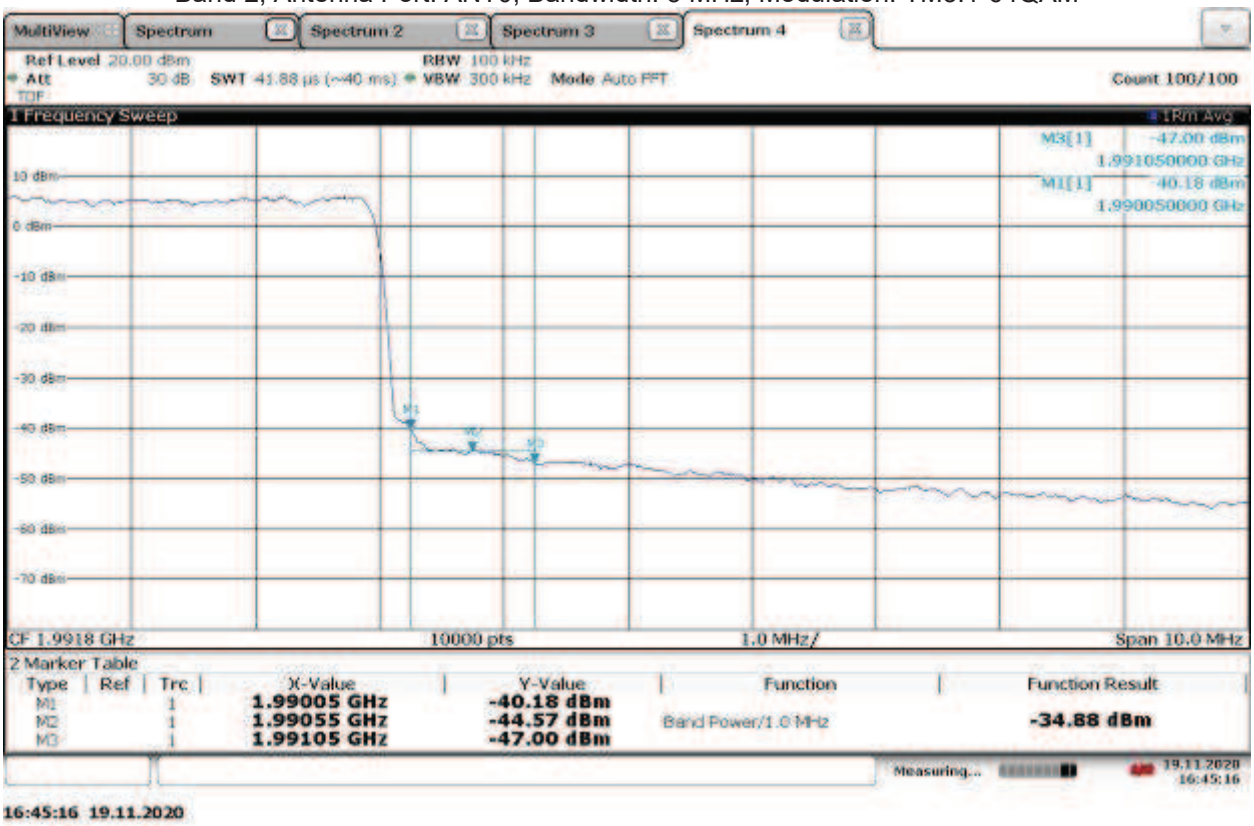
Band Edge Compliant, Lower Band Edge, 1932.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM3.1-64QAM



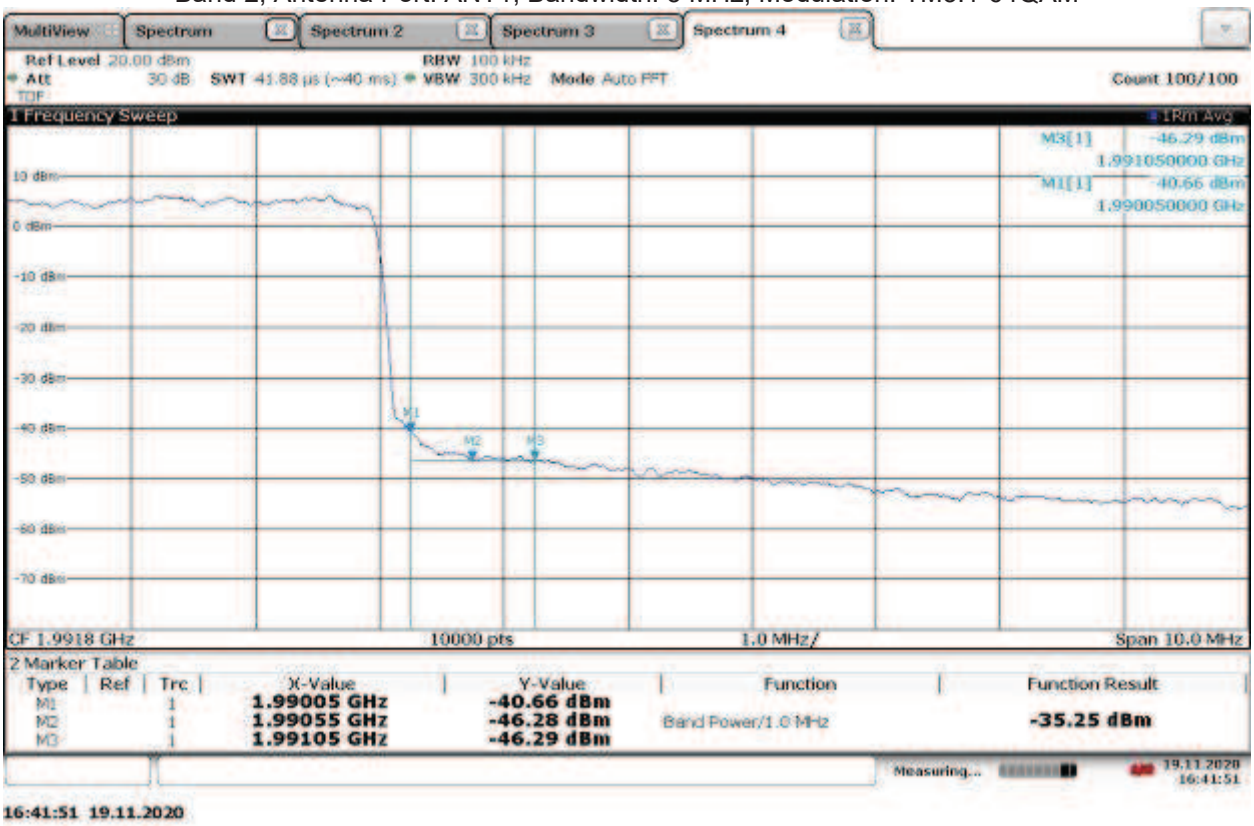
Band Edge Compliant, Lower Band Edge, 1932.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM3.1-64QAM



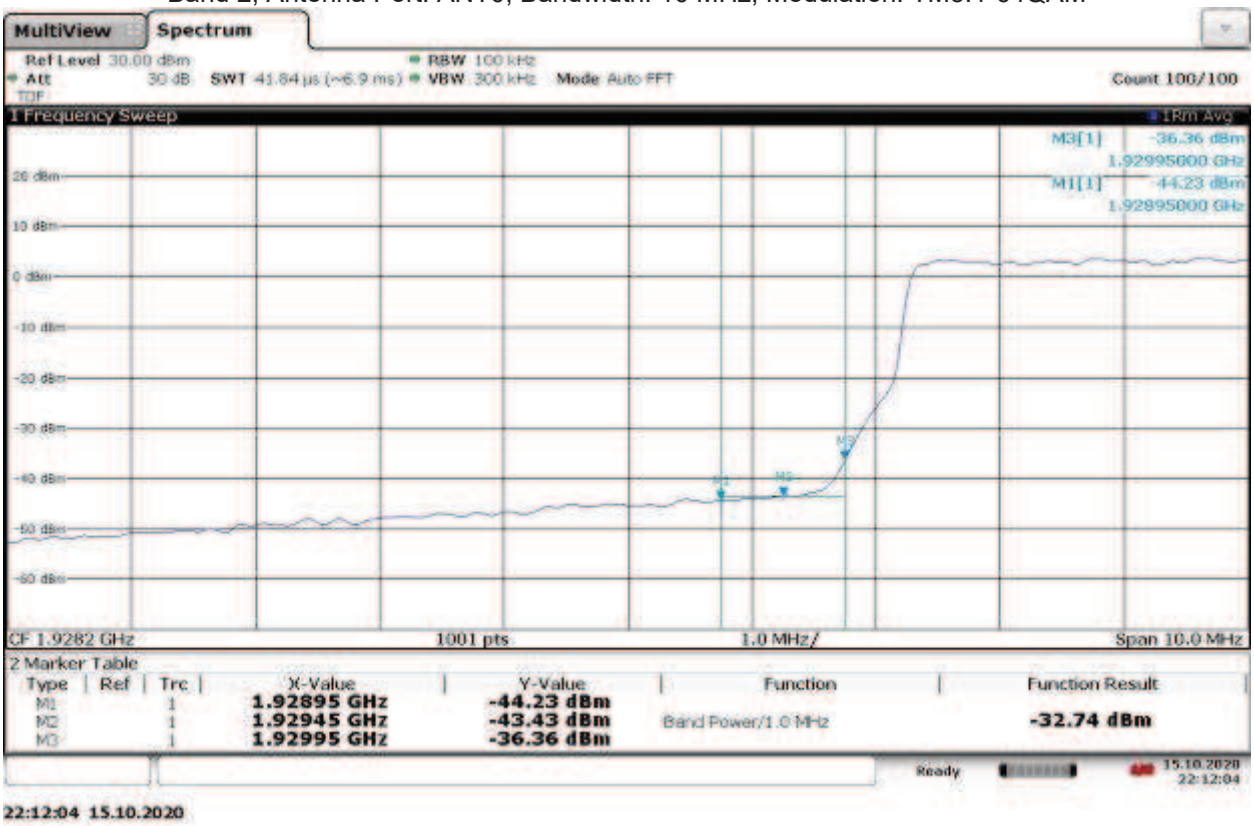
Band Edge Compliant, Upper Band Edge, 1987.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM3.1-64QAM



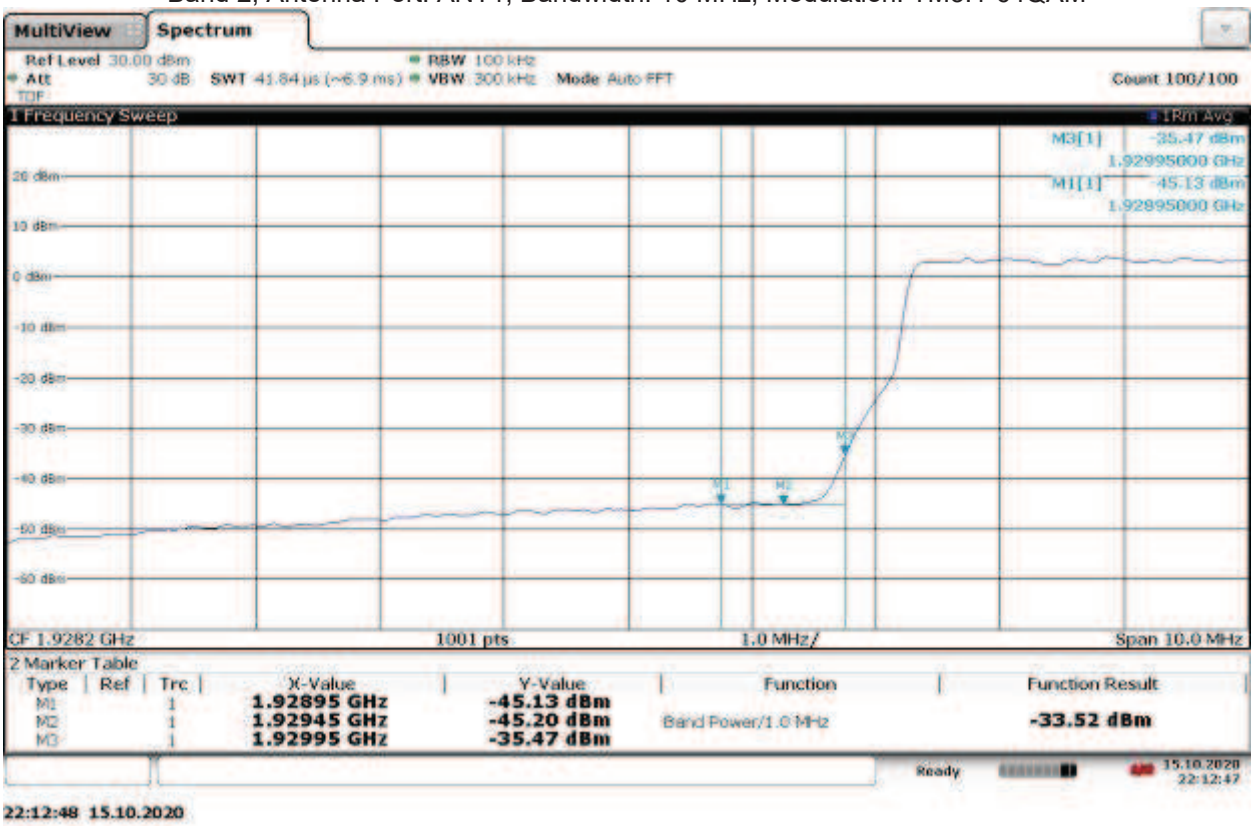
Band Edge Compliant, Upper Band Edge, 1987.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM3.1-64QAM



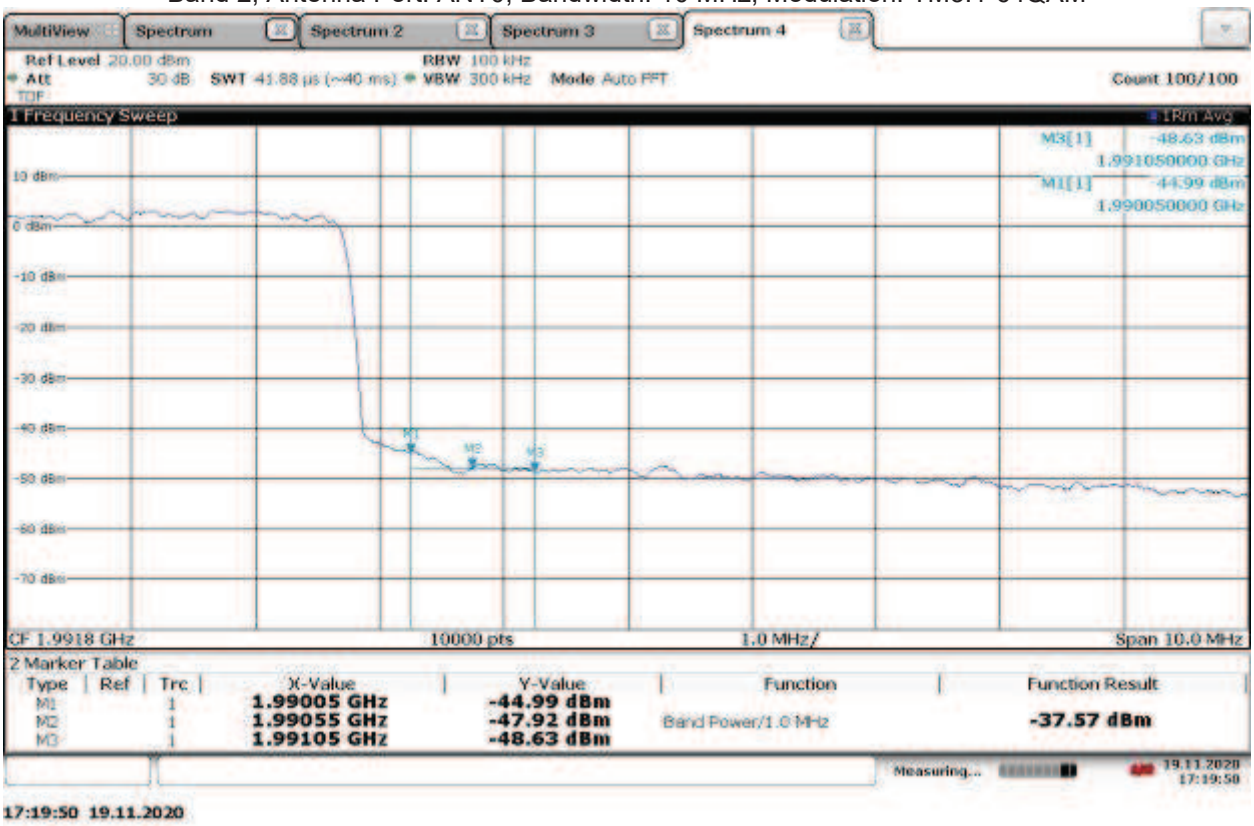
Band Edge Compliant, Lower Band Edge, 1935 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM3.1-64QAM



Band Edge Compliant, Lower Band Edge, 1935 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM3.1-64QAM

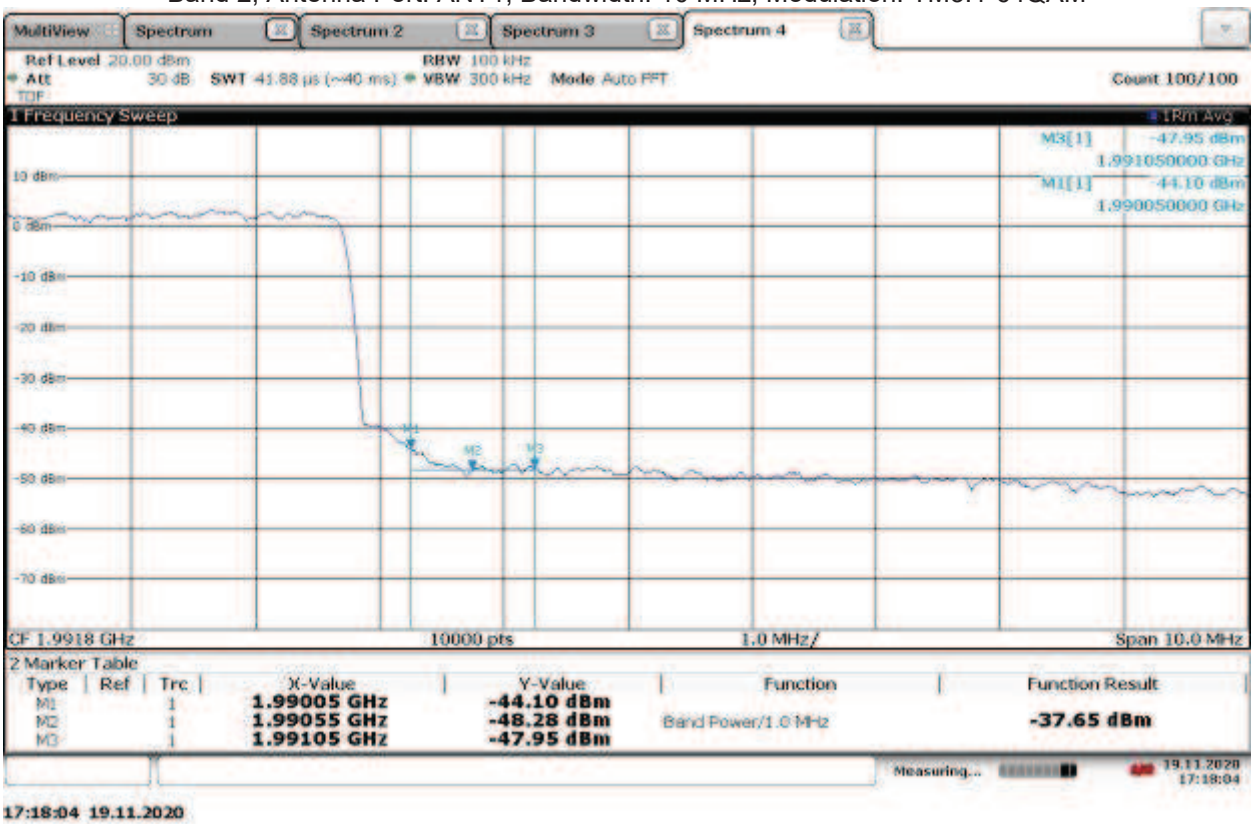


Band Edge Compliant, Upper Band Edge, 1985 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM3.1-64QAM



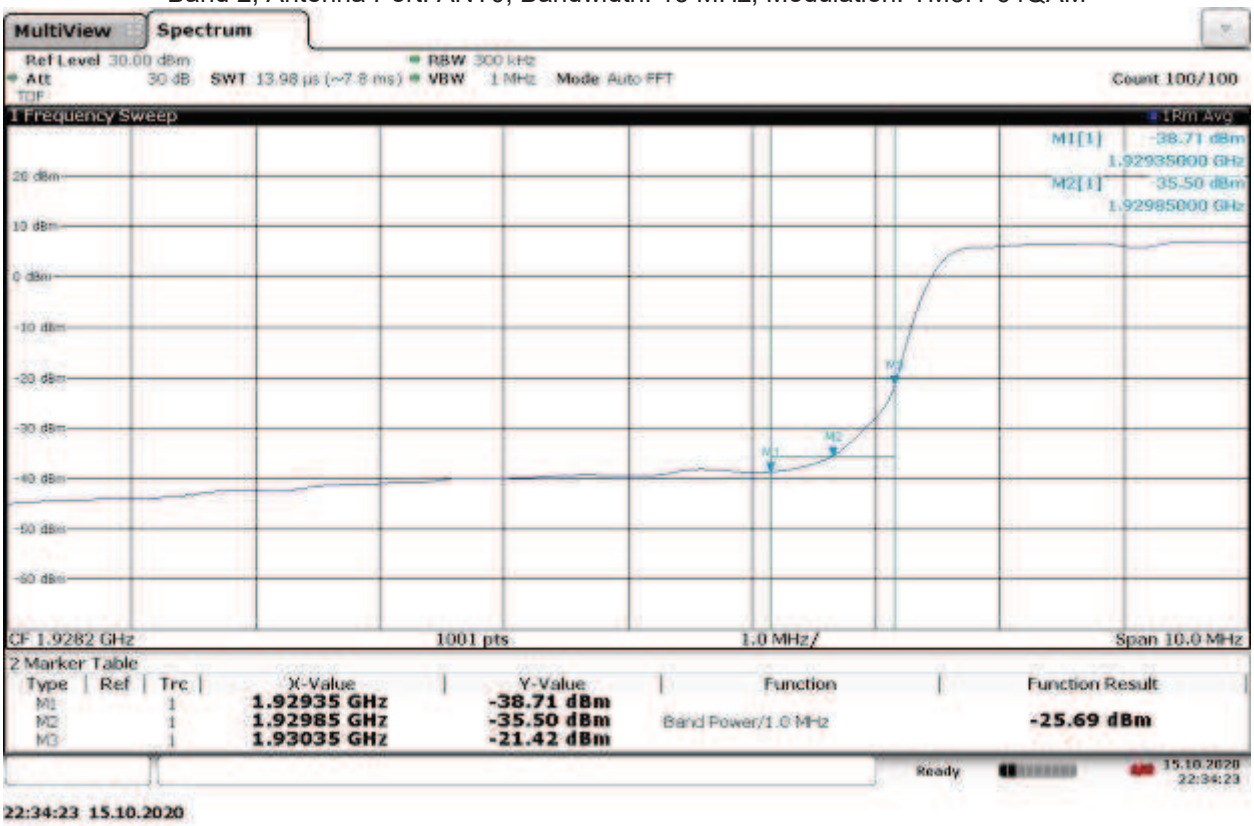
17:19:50 19.11.2020

Band Edge Compliant, Upper Band Edge, 1985 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM3.1-64QAM

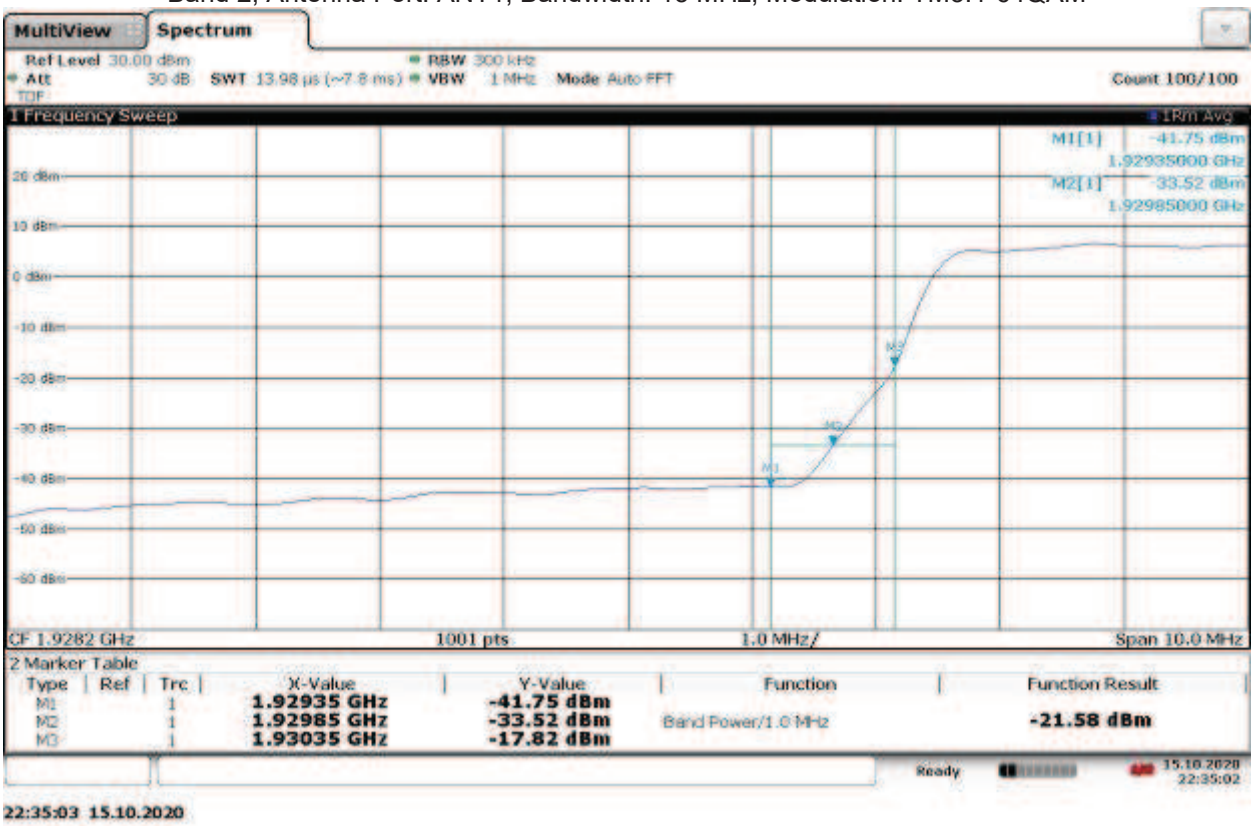


17:18:04 19.11.2020

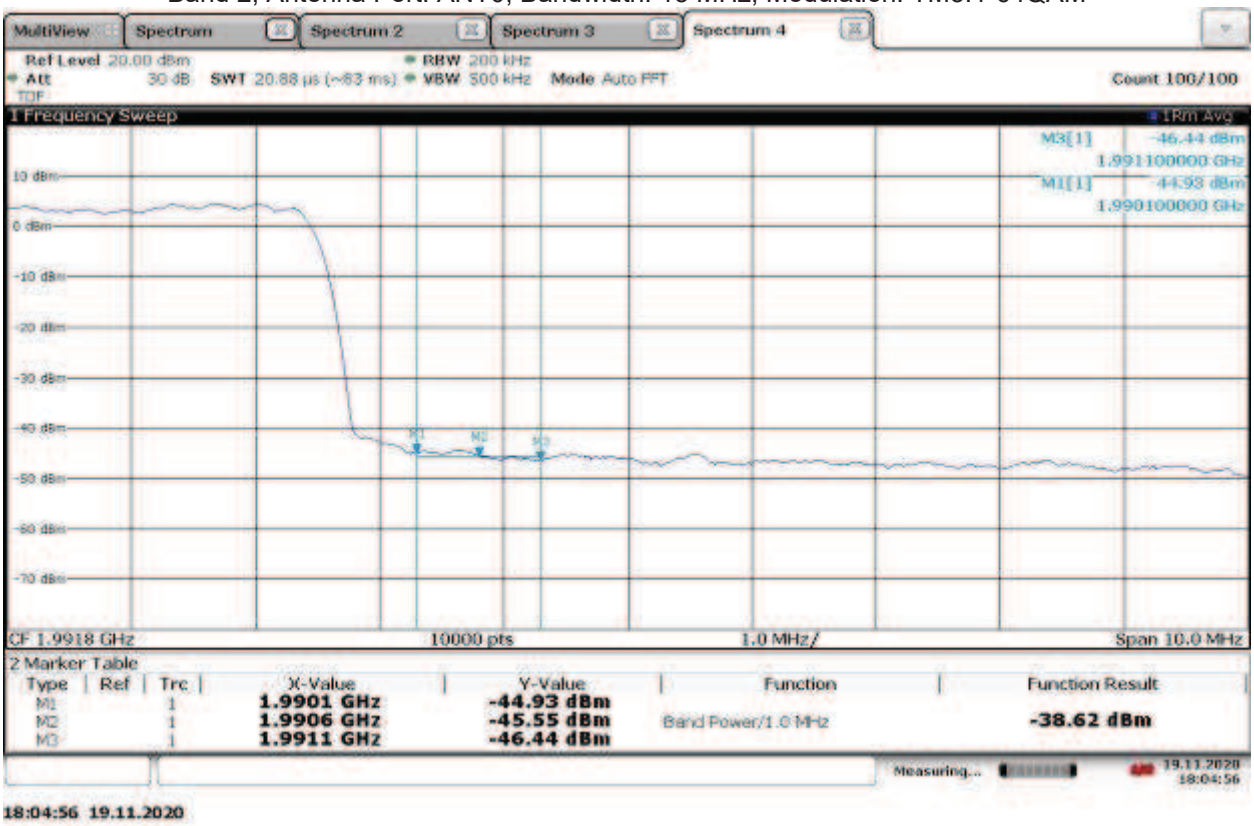
Band Edge Compliant, Lower Band Edge, 1937.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM3.1-64QAM



Band Edge Compliant, Lower Band Edge, 1937.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM3.1-64QAM

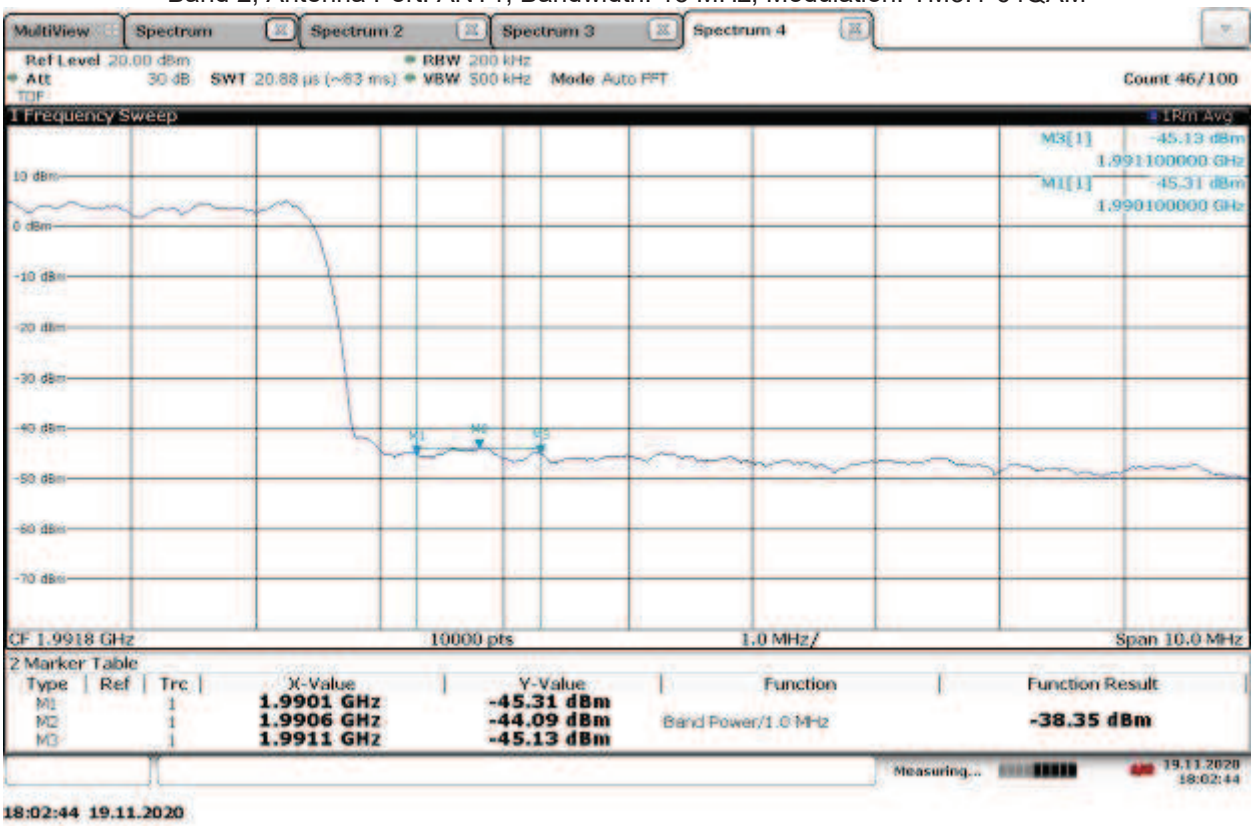


Band Edge Compliant, Upper Band Edge, 1982.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM3.1-64QAM



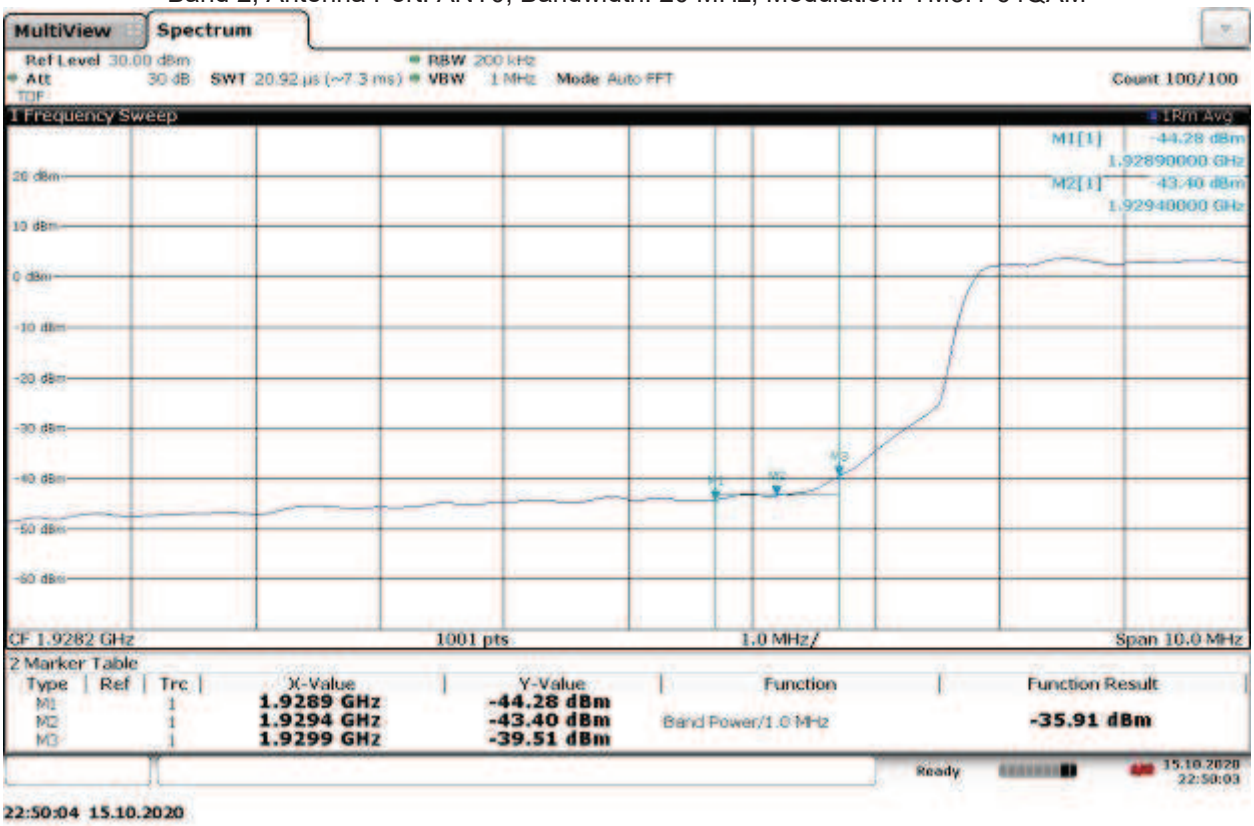
18:04:56 19.11.2020

Band Edge Compliant, Upper Band Edge, 1982.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM3.1-64QAM

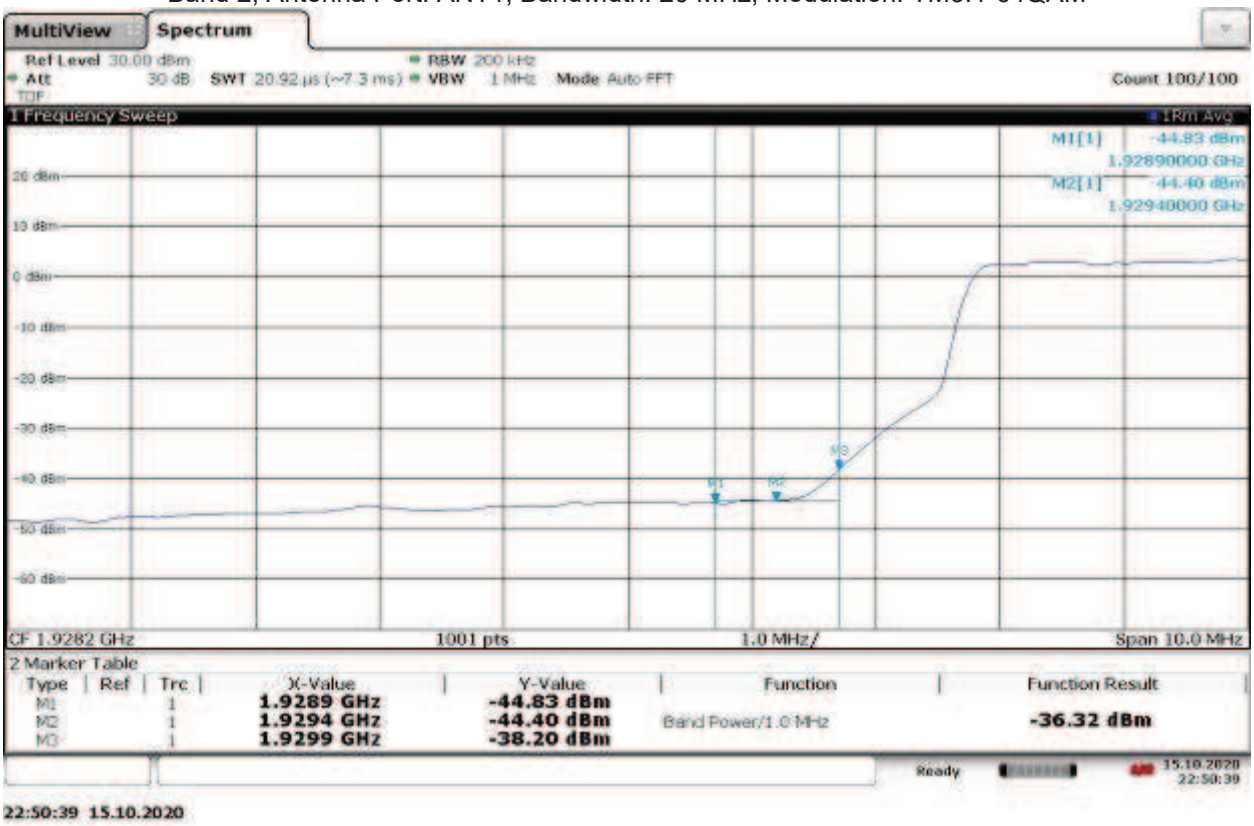


18:02:44 19.11.2020

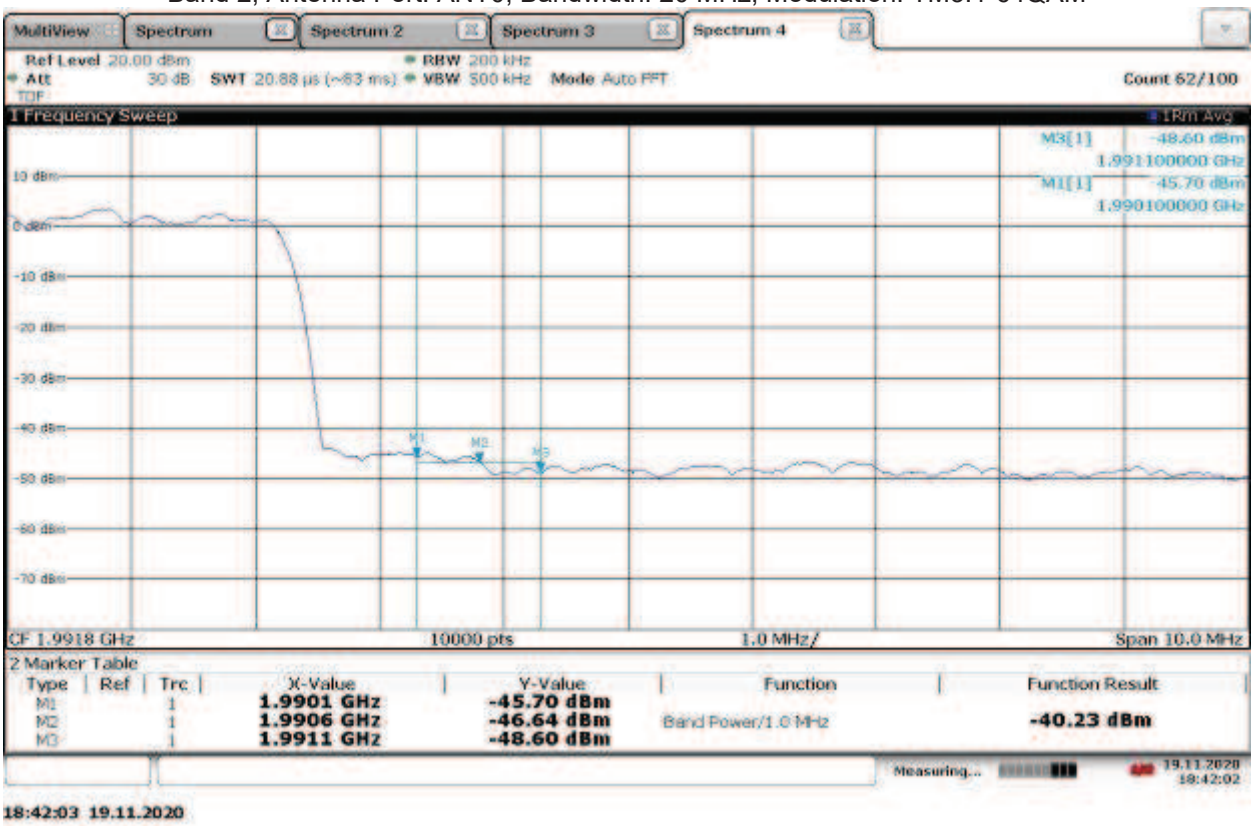
Band Edge Compliant, Lower Band Edge, 1940 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.1-64QAM



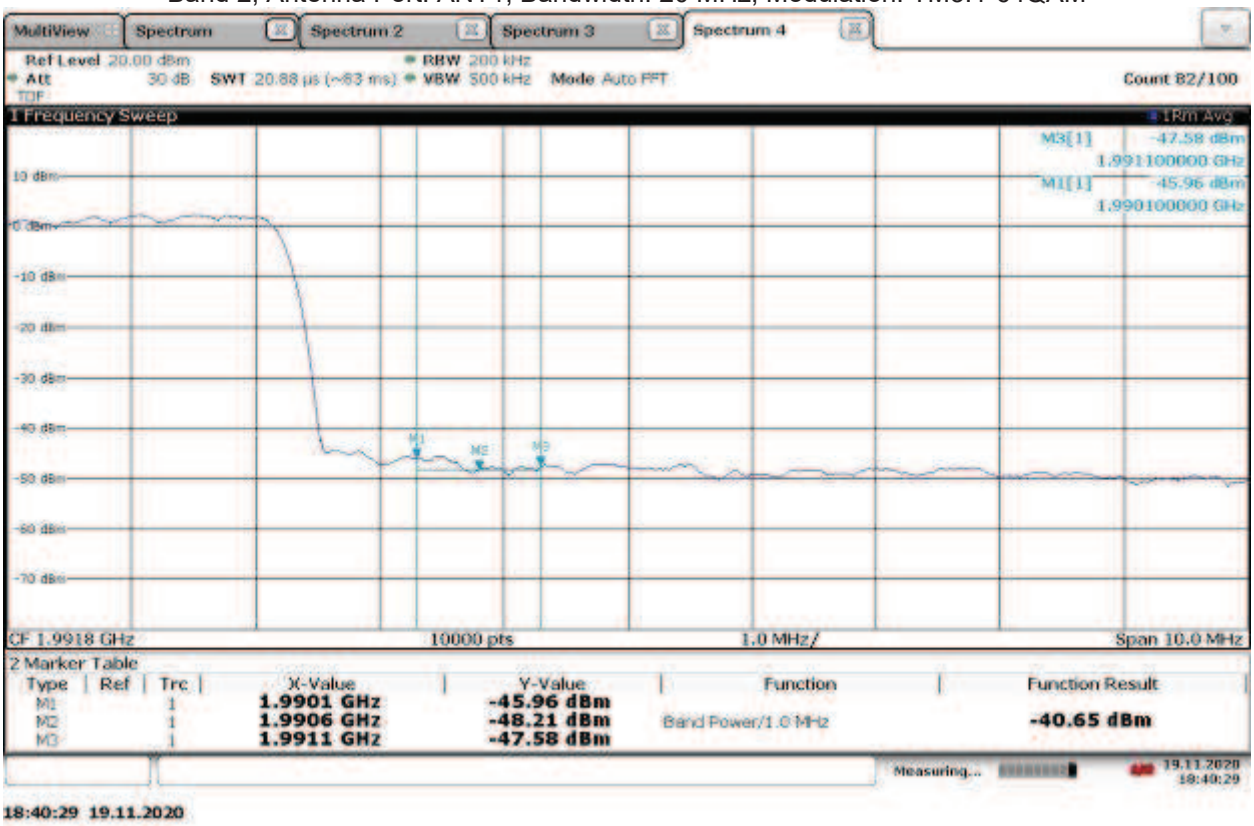
Band Edge Compliant, Lower Band Edge, 1940 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 20 MHz, Modulation: TM3.1-64QAM



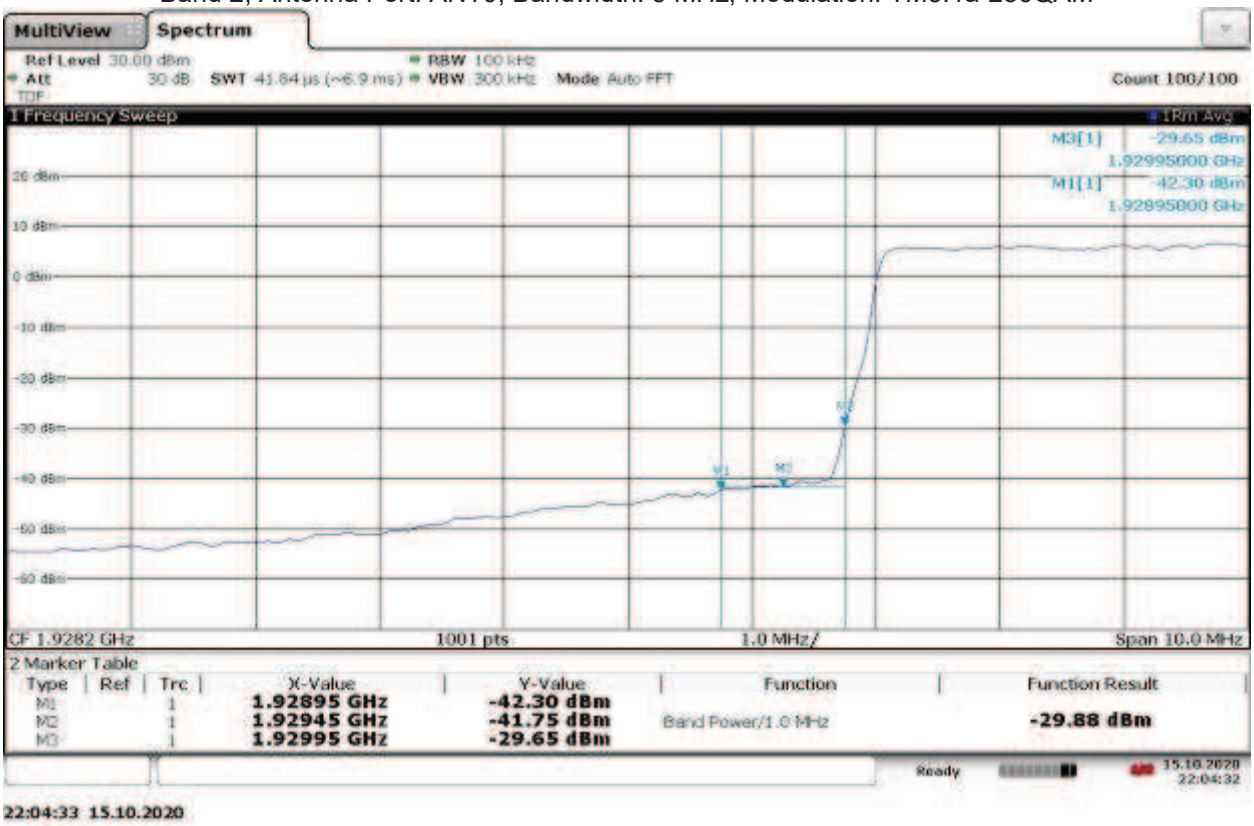
Band Edge Compliant, Upper Band Edge, 1980 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.1-64QAM



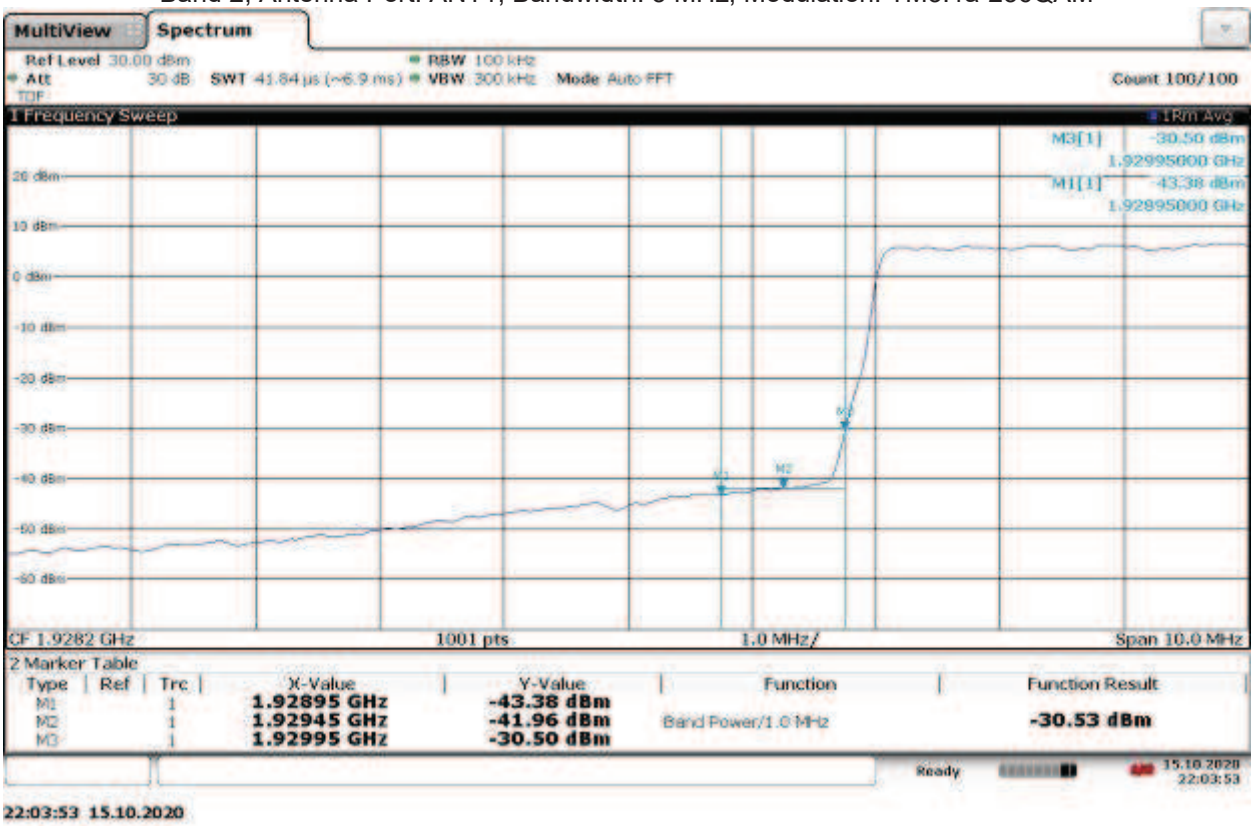
Band Edge Compliant, Upper Band Edge, 1980 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 20 MHz, Modulation: TM3.1-64QAM



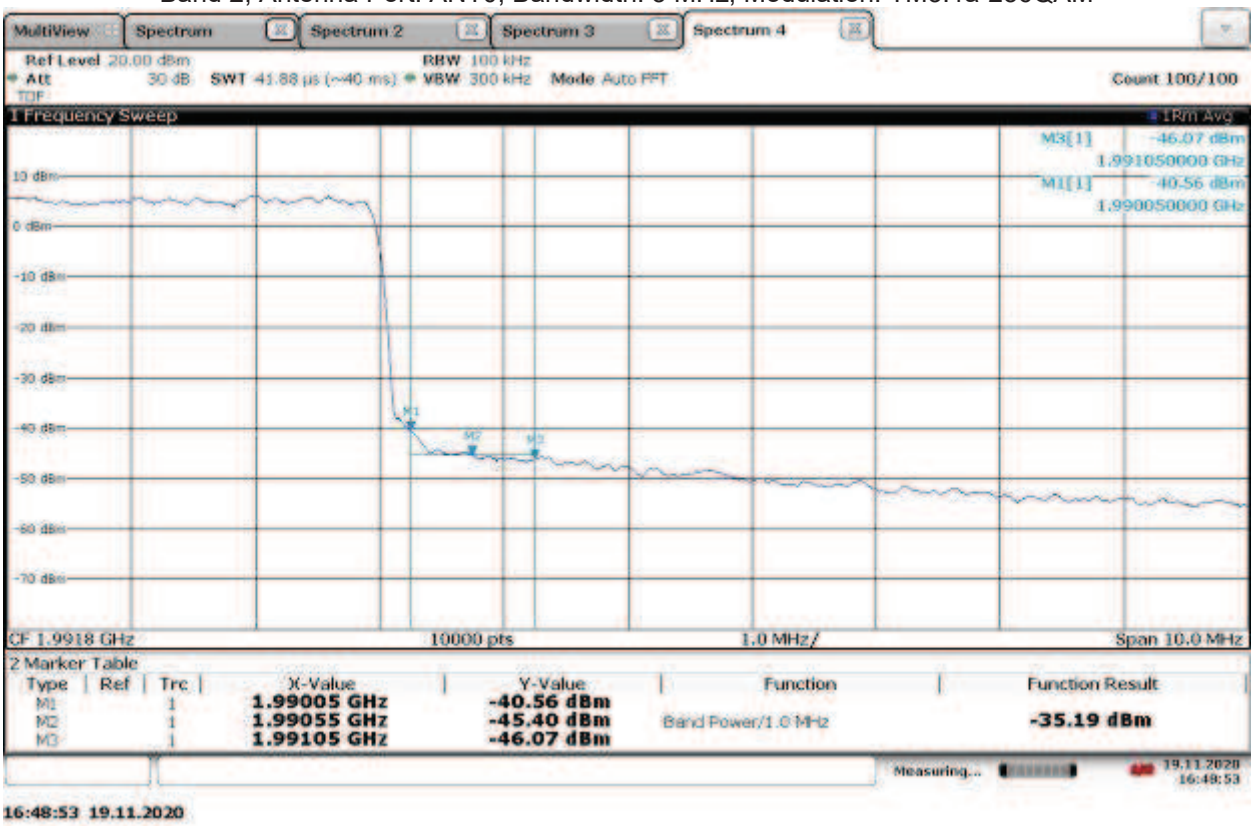
Band Edge Compliant, Lower Band Edge, 1932.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM



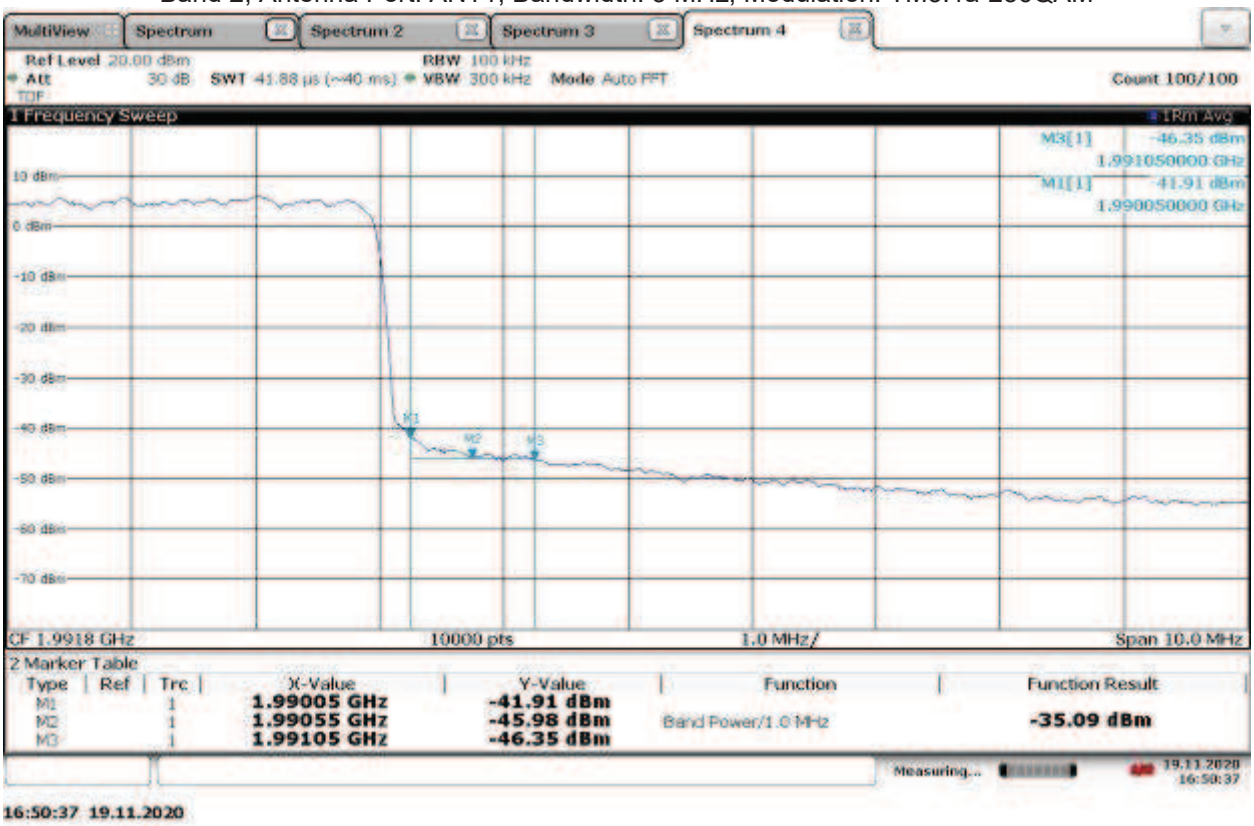
Band Edge Compliant, Lower Band Edge, 1932.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM



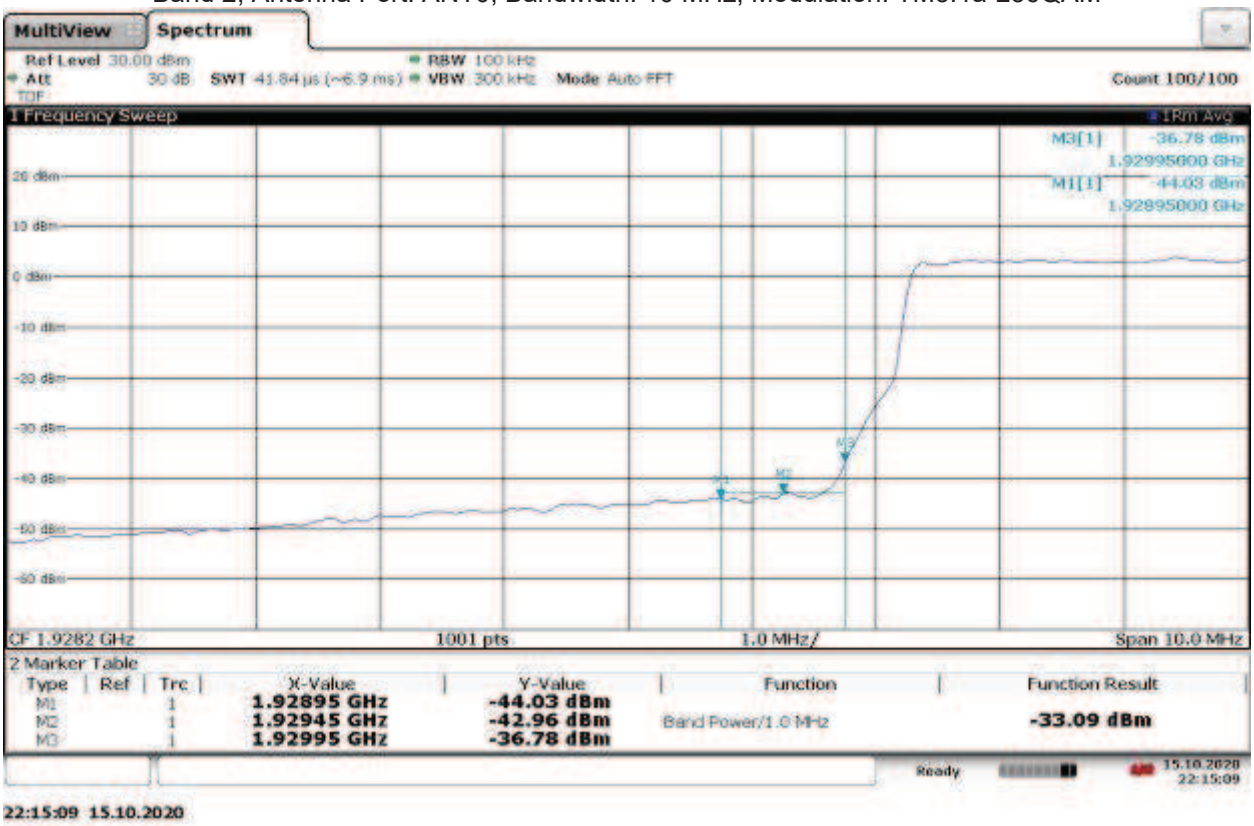
Band Edge Compliant, Upper Band Edge, 1987.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM



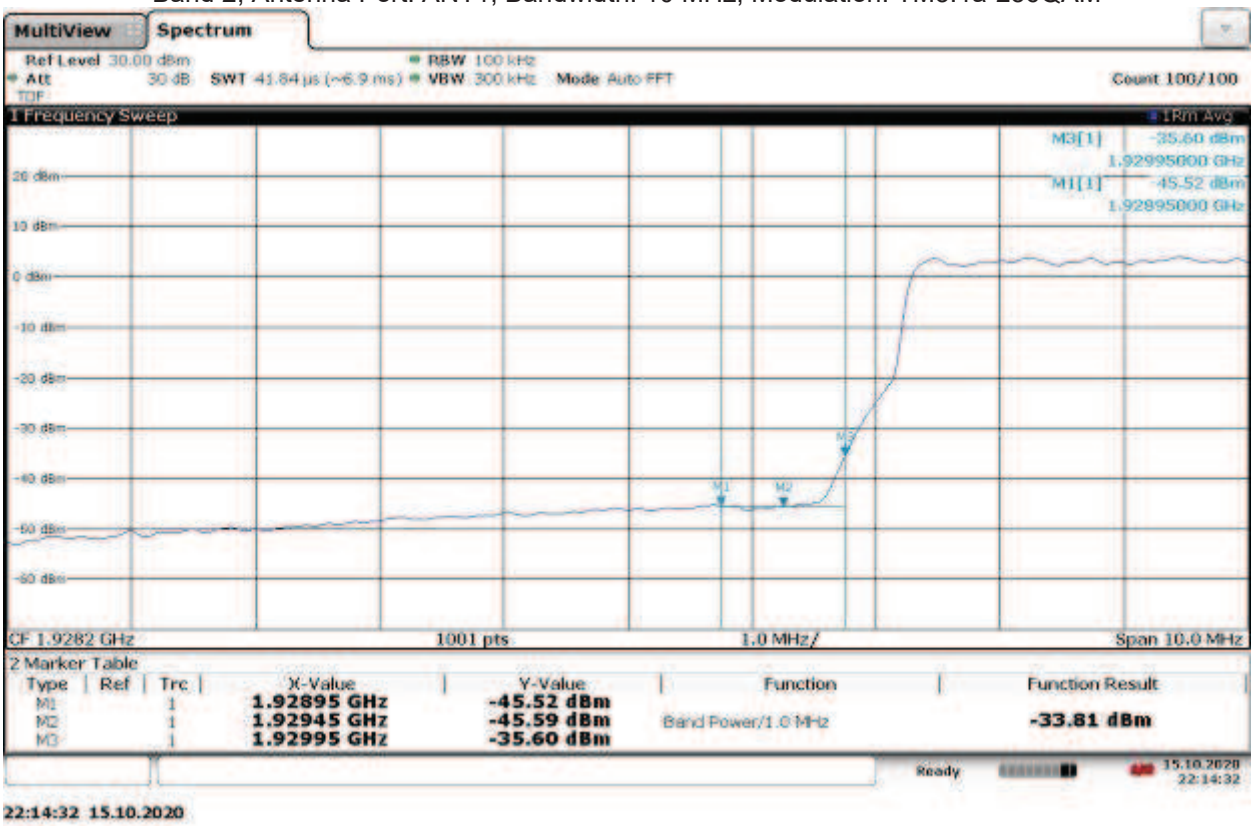
Band Edge Compliant, Upper Band Edge, 1987.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM



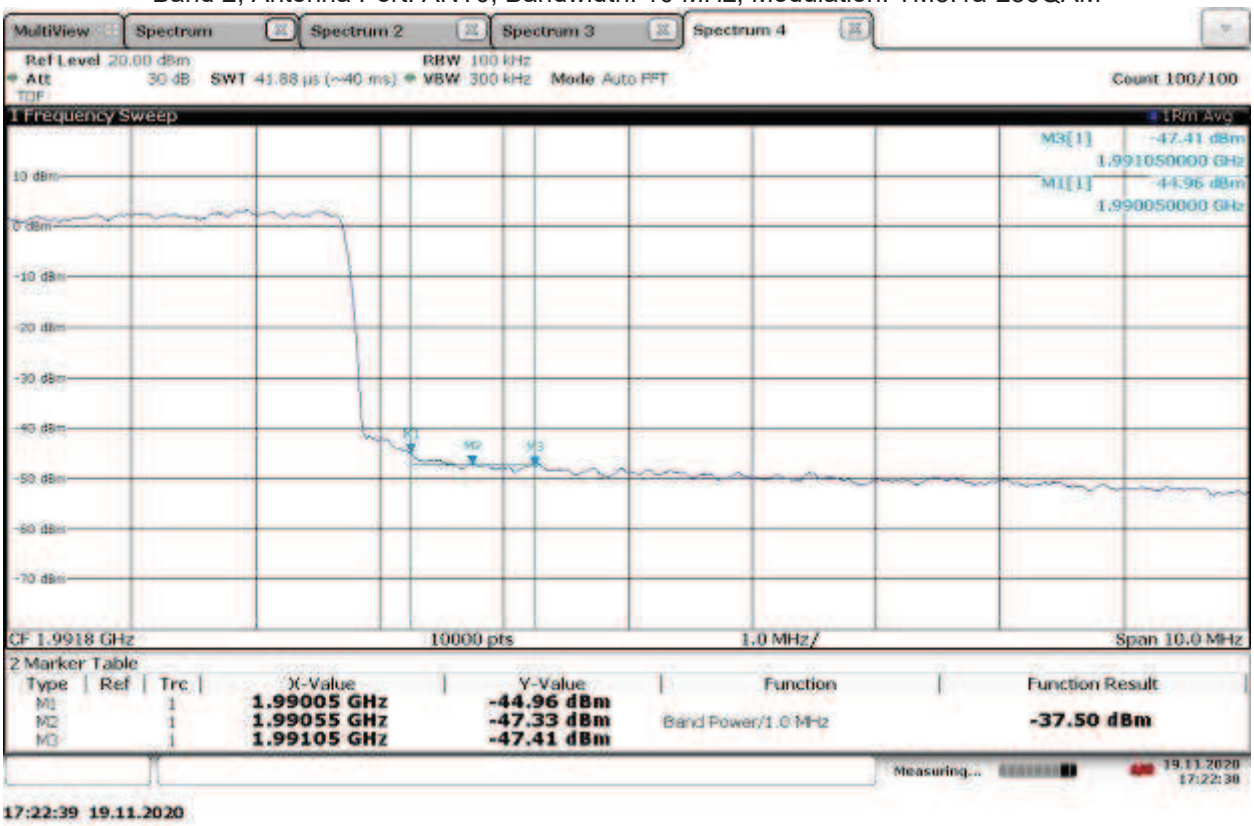
Band Edge Compliant, Lower Band Edge, 1935 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM



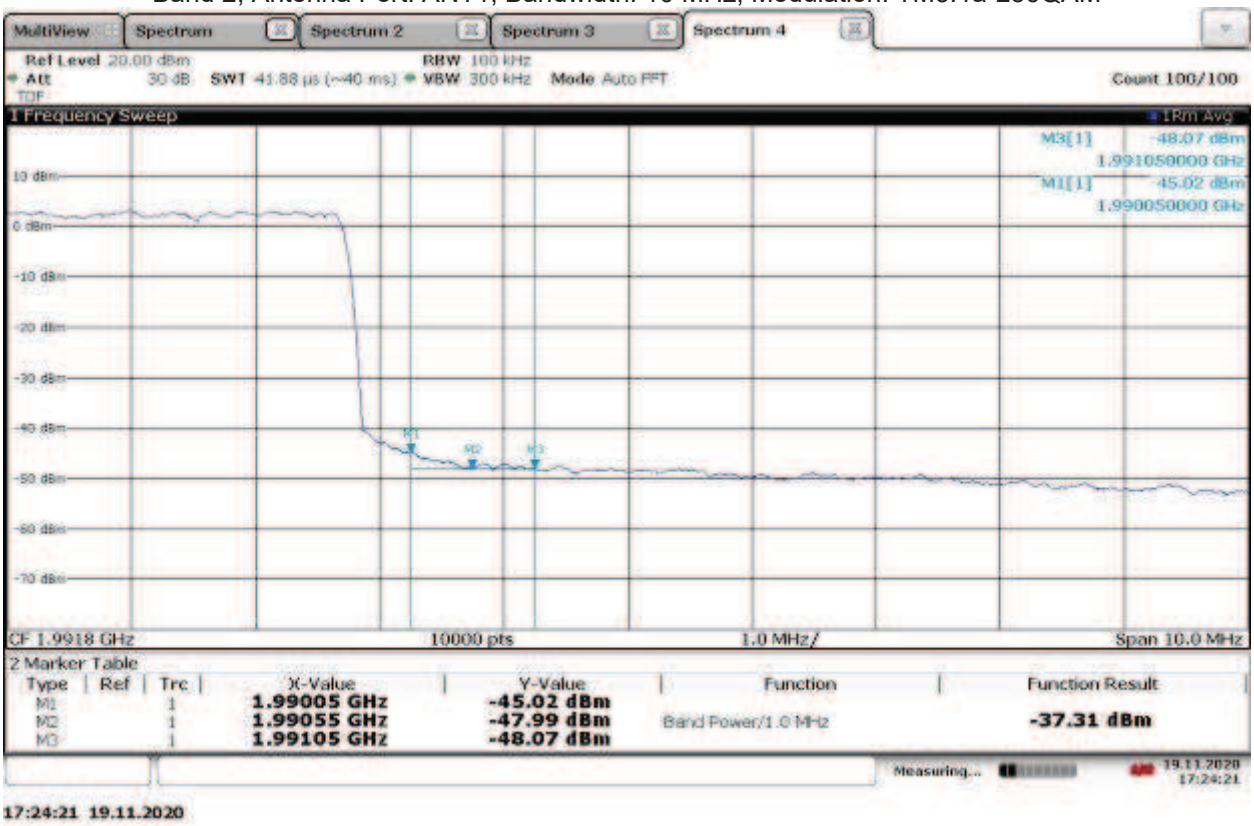
Band Edge Compliant, Lower Band Edge, 1935 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM



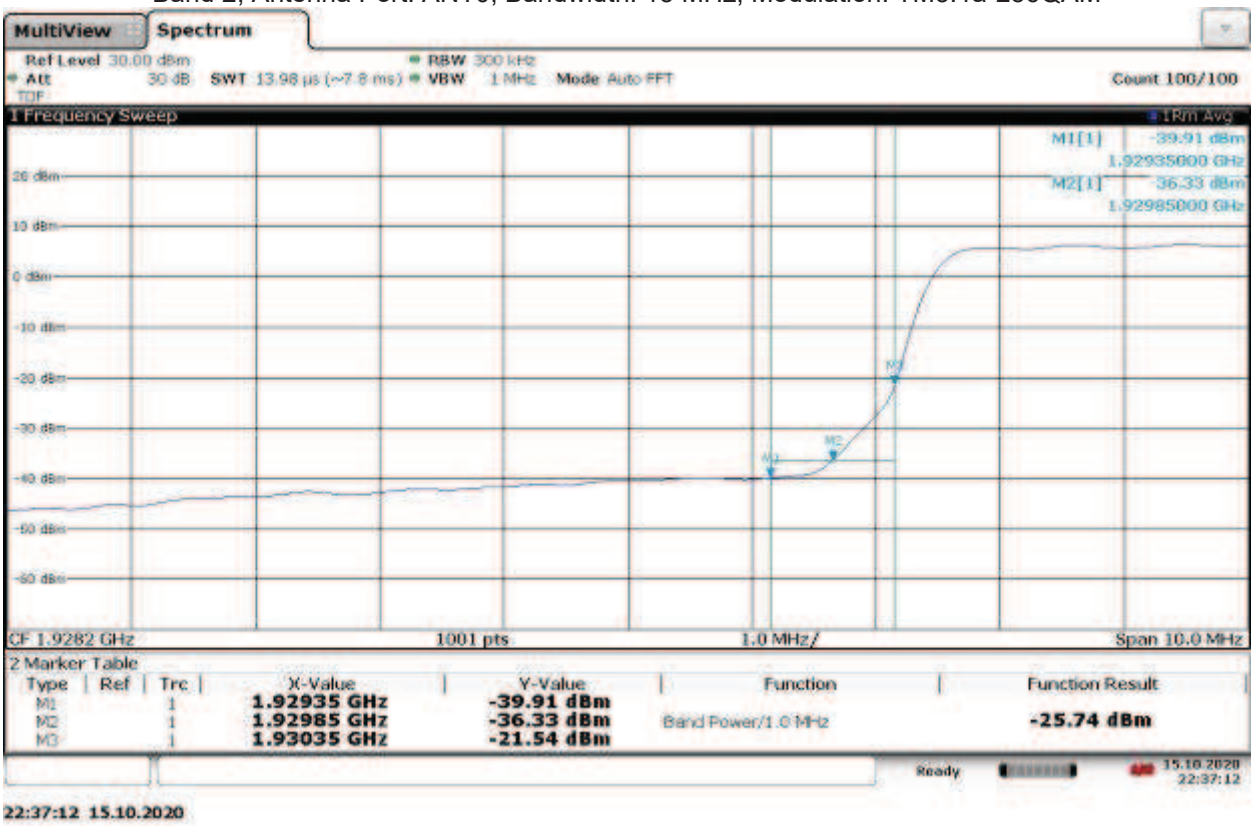
Band Edge Compliant, Upper Band Edge, 1985 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM



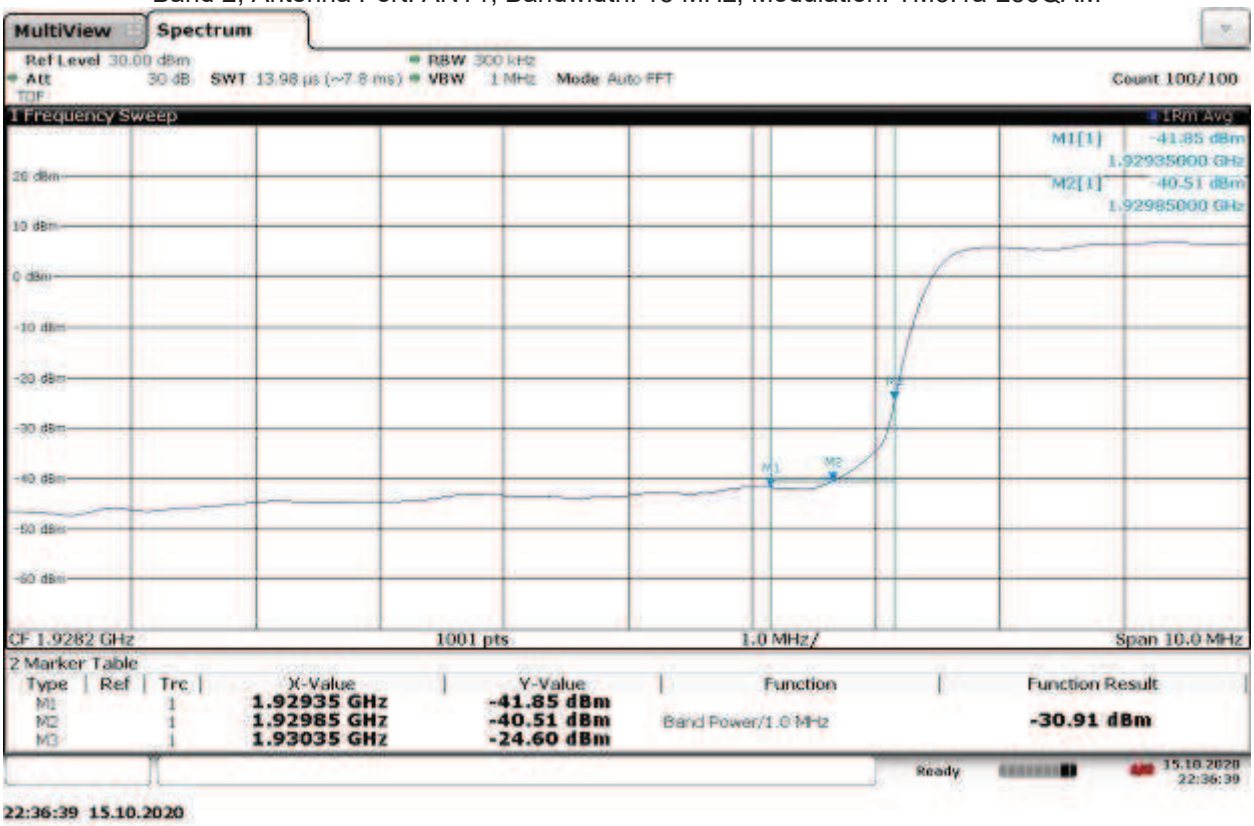
Band Edge Compliant, Upper Band Edge, 1985 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM



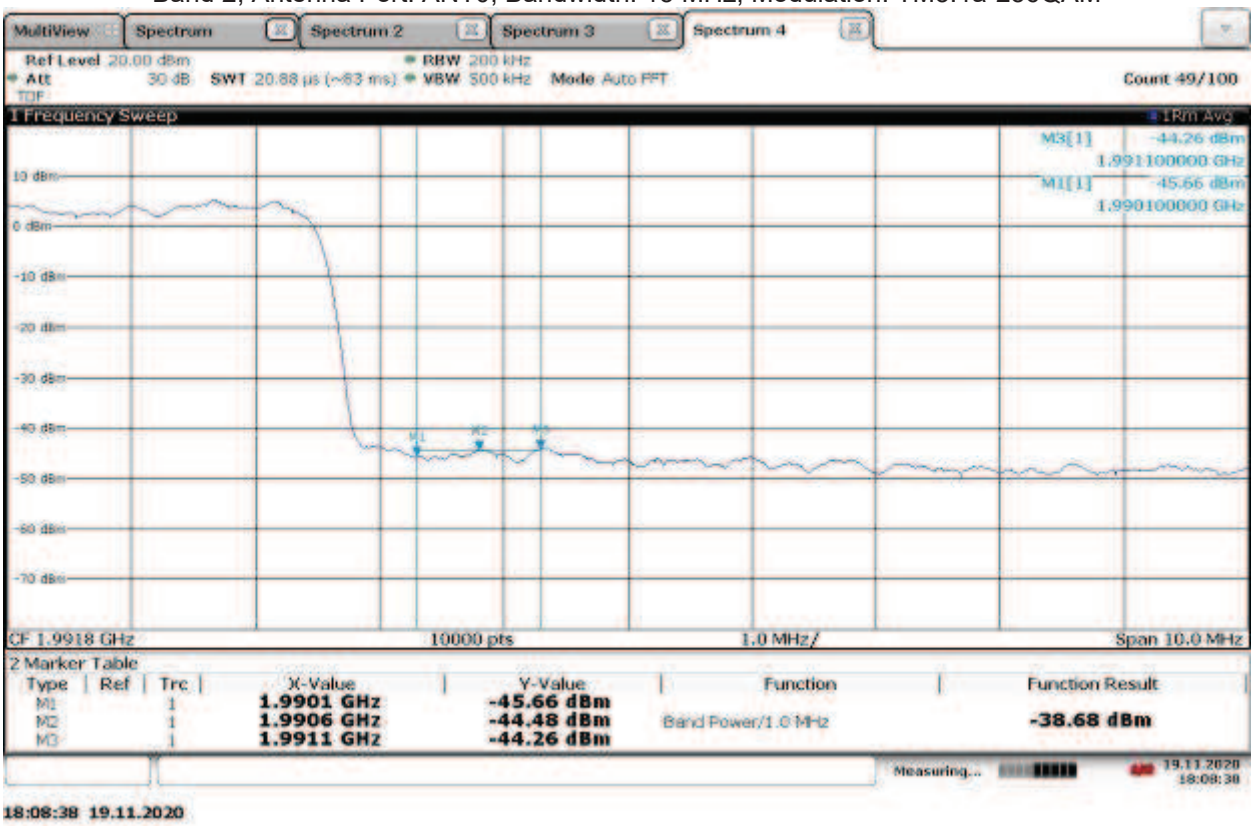
Band Edge Compliant, Lower Band Edge,1937.5MHz
Band 2, Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM



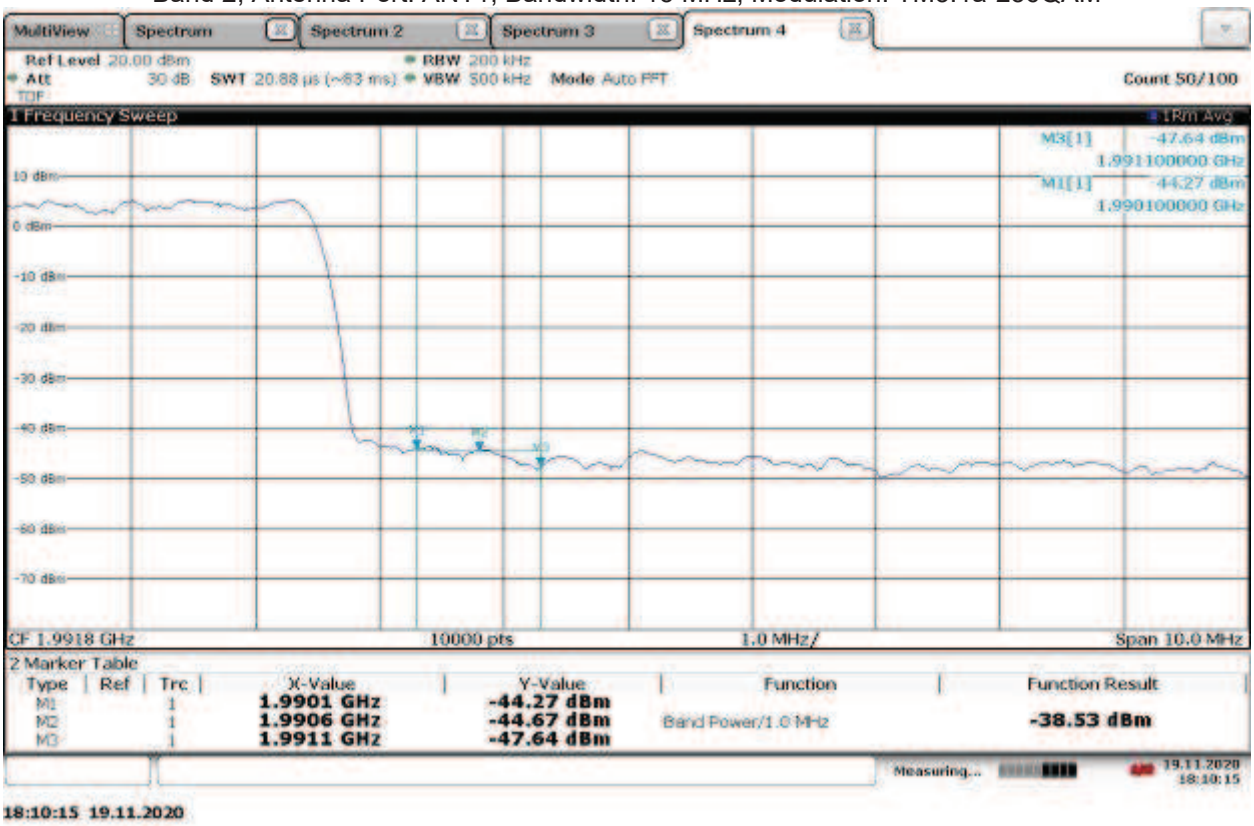
Band Edge Compliant, Lower Band Edge,1937.5MHz
Band 2, Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM



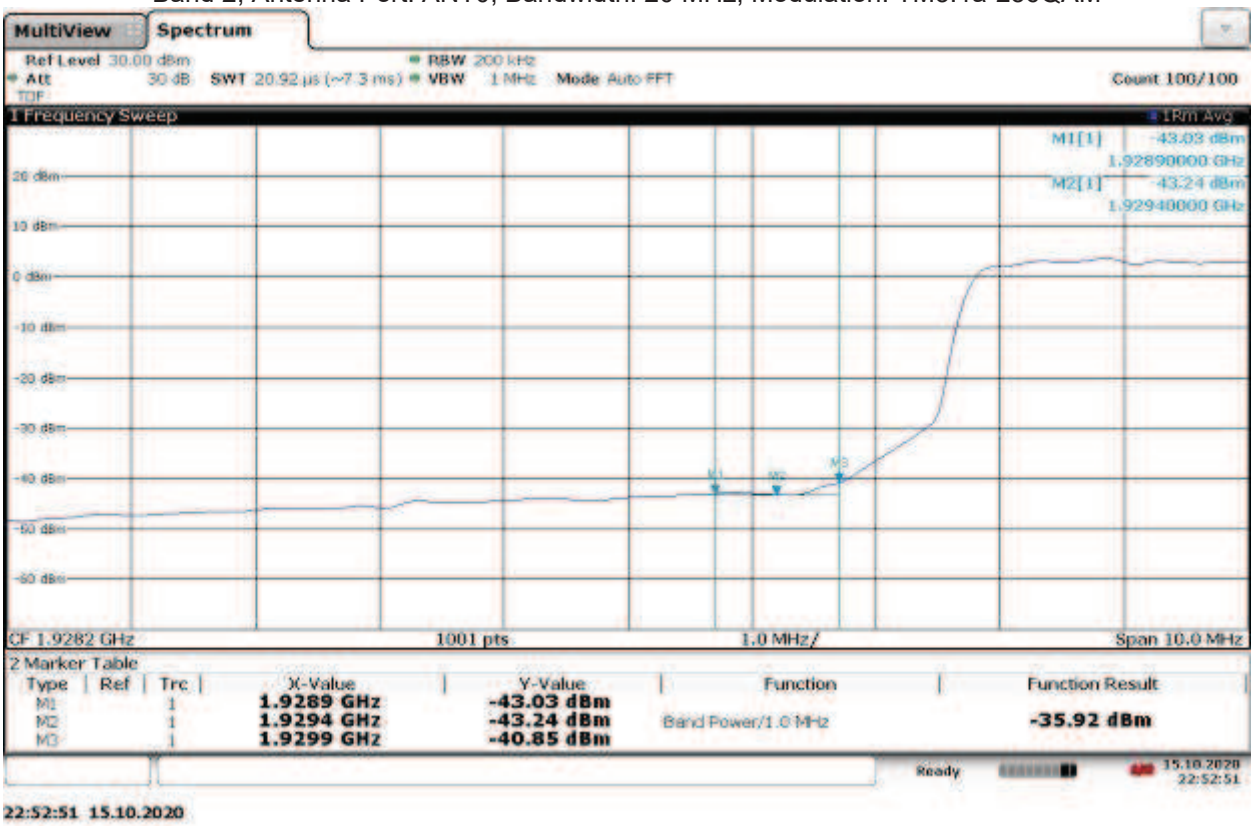
Band Edge Compliant, Upper Band Edge, 1982.5 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM



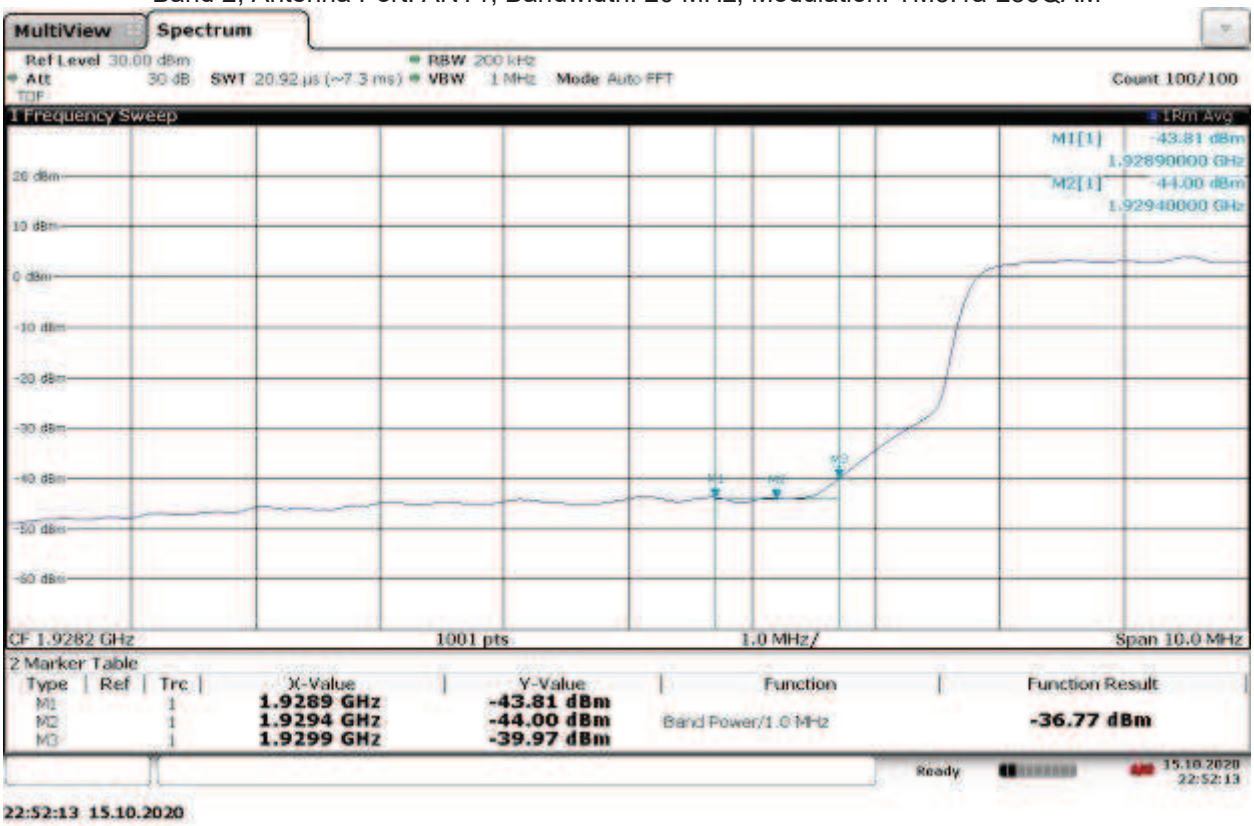
Band Edge Compliant, Upper Band Edge, 1982.5 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM



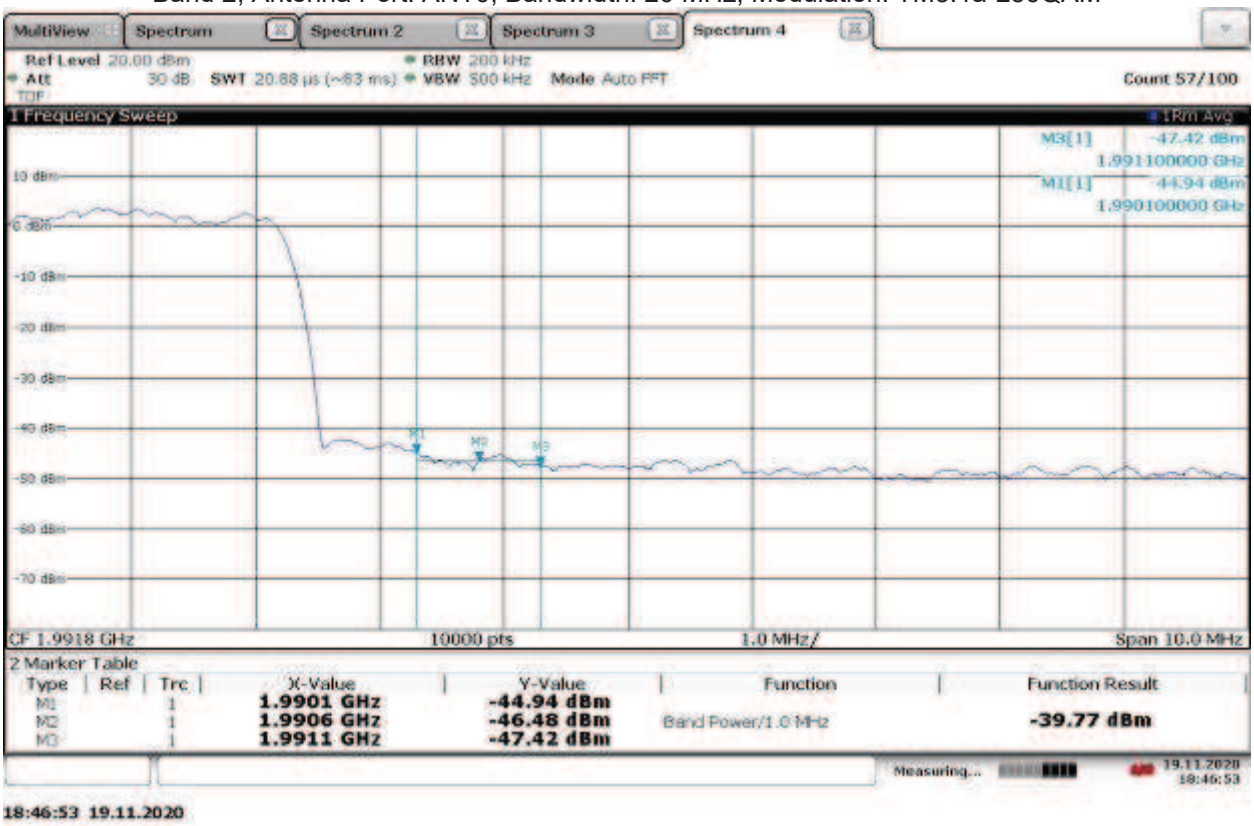
Band Edge Compliant, Lower Band Edge, 1940 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM



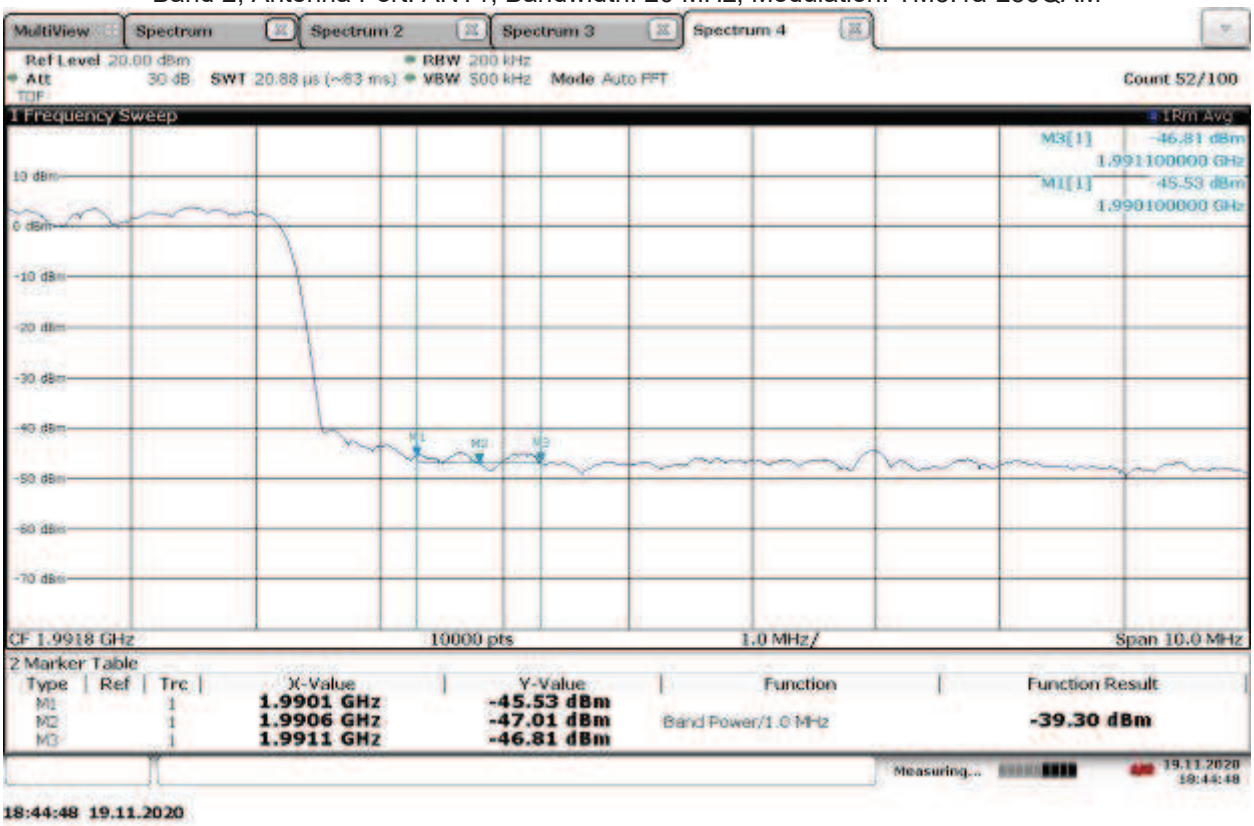
Band Edge Compliant, Lower Band Edge, 1940 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM



Band Edge Compliant, Upper Band Edge, 1980 MHz
Band 2, Antenna Port: ANT0, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM



Band Edge Compliant, Upper Band Edge, 1980 MHz
Band 2, Antenna Port: ANT1, Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM



Test Personnel:	Kouma Sinn KPS	Test Date:	10/15/2020, 11/19/2020
Supervising/Reviewing Engineer: (Where Applicable)	N/A		
Product Standard:	FCC Part 24	Limit Applied:	See report section 8.3
Input Voltage:	48 VDC (POE)		
Pretest Verification w/ Ambient Signals or BB Source:	N/A	Ambient Temperature:	22, 24 ºC
		Relative Humidity:	45, 21 %
		Atmospheric Pressure:	1006, 1015 mbars

Deviations, Additions, or Exclusions: None

9 Transmitter spurious emissions

9.1 Method

Tests are performed in accordance with ANSI C63.26 and CFR47 FCC Parts 2.1051, 2.1053, 2.1057, and 24.

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.

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A Styrofoam table 80 cm high is used for table-top equipment.

Measurement Uncertainty

Measurement	Frequency Range	Expanded Uncertainty (k=2)	Ucispr
Radiated Emissions, 10m	30-1000 MHz	5.0 dB	6.3 dB
Radiated Emissions, 3m	30-1000 MHz	4.6 dB	6.3 dB
Radiated Emissions, 3m	1-6 GHz	4.9 dB	5.2 dB
Radiated Emissions, 3m	6-15 GHz	5.1 dB	5.5 dB
Radiated Emissions, 3m	15-18 GHz	4.7 dB	5.5 dB
Radiated Emissions, 3m	18-40 GHz	4.7 dB	5.5 dB

As shown in the table above our radiated emissions U_{lab} is less than the corresponding U_{CISPR} reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG
Where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 52.0 dBμV
AF = 7.4 dB/m
CF = 1.6 dB
AG = 29.0 dB
FS = 32 dBμV/m

To convert from dBμV to μV or mV the following was used:

$UF = 10^{(NF / 20)}$ where UF = Net Reading in μV
NF = Net Reading in dBμV

Example:

FS = RA + AF + CF – AG = 52.0 + 7.4 + 1.6 – 29.0 = 32.0
$UF = 10^{(32\ dB\mu V / 20)}$ = 39.8 μV/m

Alternately, when BAT-EMC Emission Software is used, the “Level” includes all losses and gains and is compared directly in the “Margin” column to the “Limit”. The “Correction” includes Antenna Factor, Preamp, and Cable Loss. These are already accounted for in the “Level” column.

9.2 Test Equipment Used:

Test equipment used for antenna port conducted test

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
CEN001'	DC-40GHz attenuator 20dB	Centric RF	C411-20	CEN001	01/22/2020	01/22/2021
CBLHF2012-2M-1'	2m 9kHz-40GHz Coaxial Cable - SET1	Huber & Suhner	SF102	252675001	02/17/2020	02/17/2021
ROS005-1'	Signal and Spectrum Analyzer	Rohde & Schwarz	FSW43	100646	10/27/2020	10/27/2021
DAV005'	Weather Station	Davis	6250	MS191218083	02/05/2020	02/05/2021

Software Utilized:

Name	Manufacturer	Version
None	--	--

Test equipment used for Radiated emissions

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/12/2020	03/12/2021
145-420	Uniflex Cable	Uniflex	UFB311A-0—0787-500500	145-420	02/17/2020	02/17/2021
145-422	Uniflex Cable	Uniflex	UFB311A-2-20591-700700	145-423	02/17/2020	02/17/2021
145-423	Uniflex Cable	Uniflex	SF106A/11N/11N/1.50M0	145-423	03/27/2020	03/27/2021
145-424	9KHz-40KHz Cable	Huber & Suhner	Sucoflex	145-424	03/27/2020	03/27/2021
145108'	EMI Test Receiver (20Hz – 40GHz)	Rohde & Schwarz	ESIB40	100209	06/08/2020	06/08/2021
145145'	Broadband Hybrid Antenna 30 MHz - 3 GHz	Sunol Sciences Corp.	JB3	A122313	05/07/2020	05/07/2021
PRE10'	30-1000MHz pre-amp	ITS	PRE10	PRE10	02/28/2020	02/28/2021
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/12/2020	03/12/2021
145-420'	Uniflex Cable	Uniflex	UFB311A-0—0787-500500	145-420	02/17/2020	02/17/2021
145-414'	9kHz-18GHz Cable	Huber & Suhner	Sucoflex N-Type	145-414	06/25/2020	06/25/2021
HS002'	DC-18GHz cable 1.5M long	Huber & Suhner	SucoFlex 106A	HS002	11/19/2020	11/19/2021
IW006'	DC-18GHz cable 8.4m long	Insulated Wire	2800-NPS	IW006	11/19/2020	11/19/2021
145108'	EMI Test Receiver (20Hz – 40GHz)	Rohde & Schwarz	ESIB40	100209	06/08/2020	06/08/2021
ETS002'	1-18GHz DRG Horn Antenna	ETS Lindgren	3117	00143260	08/03/2020	08/03/2021
BONN001'	1-18GHz low noise pre-amp	Bonn	BLMA 0118-M	1811749	07/11/2020	07/11/2021
CBLHF2012 -5M-2'	5m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252676002	02/17/2020	02/17/2021
CBLHF2012 -2M-1'	2m 9kHz-40GHz Coaxial Cable - SET1	Sucoflex (Huber Suhn	SF102	252675001	02/17/2020	02/17/2021
EMC04'	ANTENNA, RIDGED GUIDE, 18-40 GHZ	EMCO	3116	2090	12/10/2019	12/10/2020
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	10/27/2020	10/27/2021

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	Nexio	3.18.0.16

9.3 Results:

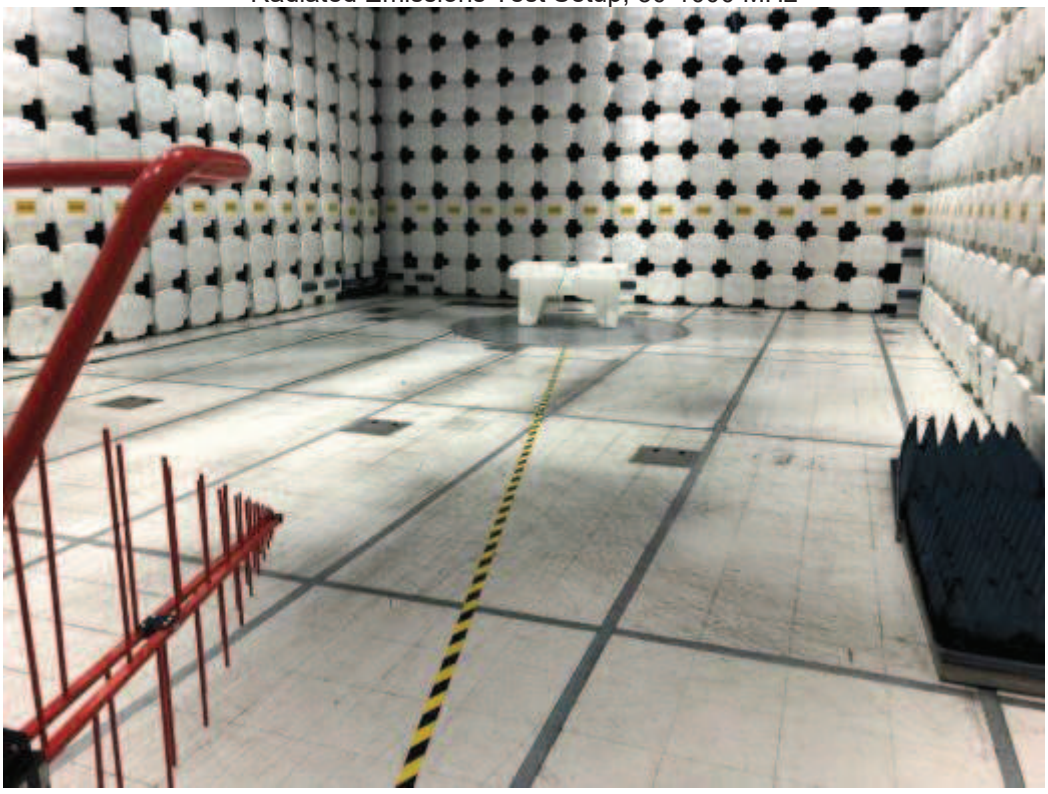
The sample tested was found to Comply. Where a resolution bandwidth of less than 1 MHz was used (in some cases, 120 kHz or 100 kHz), more than 10 dB margin to the limit is shown. Since the two antenna ports transmit uncorrelated data streams and use cross polarized antennas, no adjustments to the test results were applied due to MIMO operation, per KDB 662911.

§24.238(a): 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.
(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

9.4 Setup Photographs:

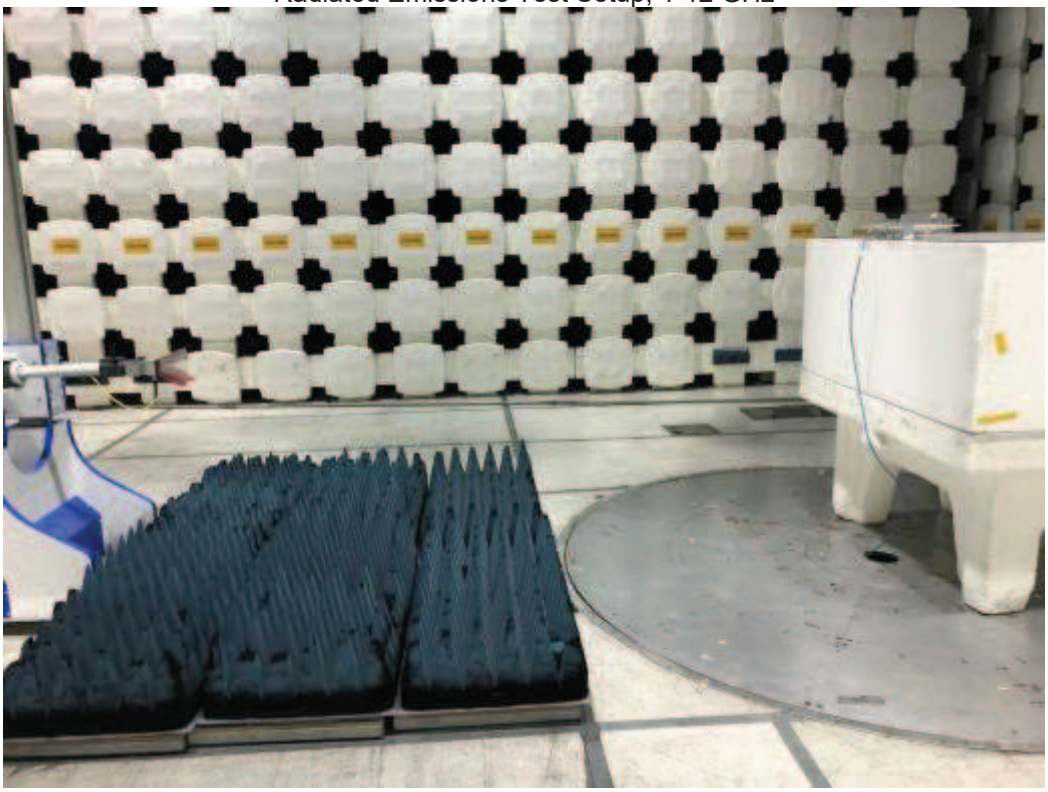
Antenna Port Conducted Emissions

Radiated Emissions Test Setup, 30-1000 MHz

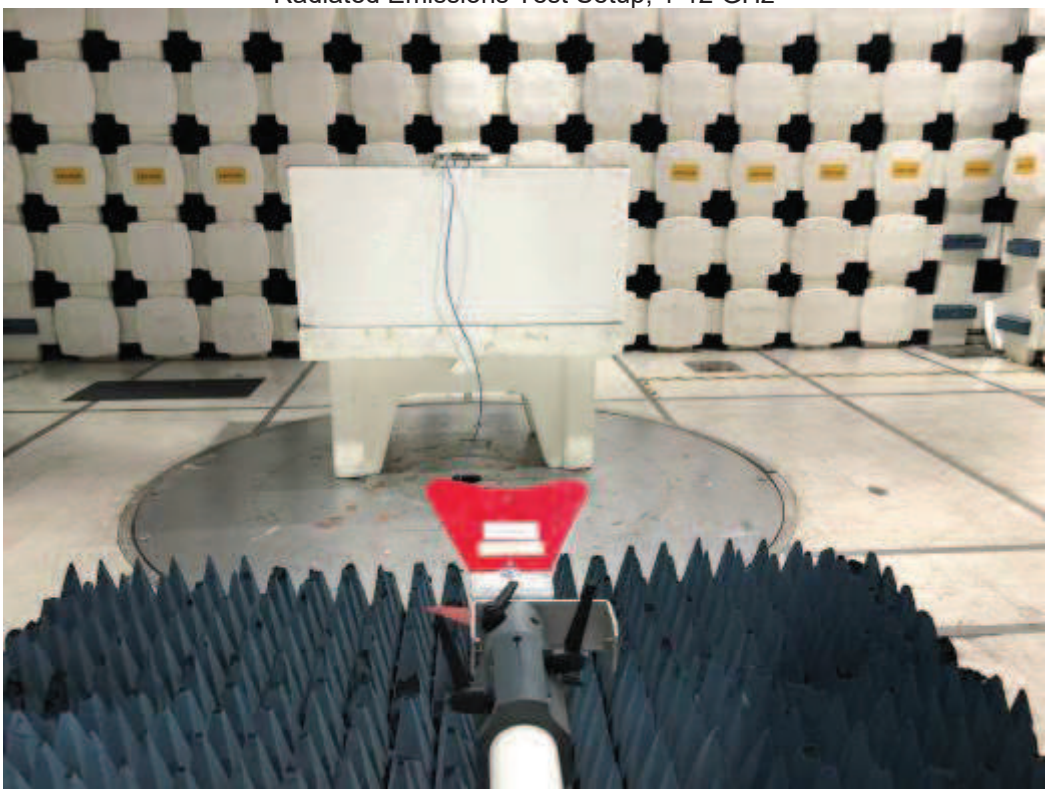


Radiated Emissions Test Setup, 30-1000 MHz

Radiated Emissions Test Setup, 1-12 GHz

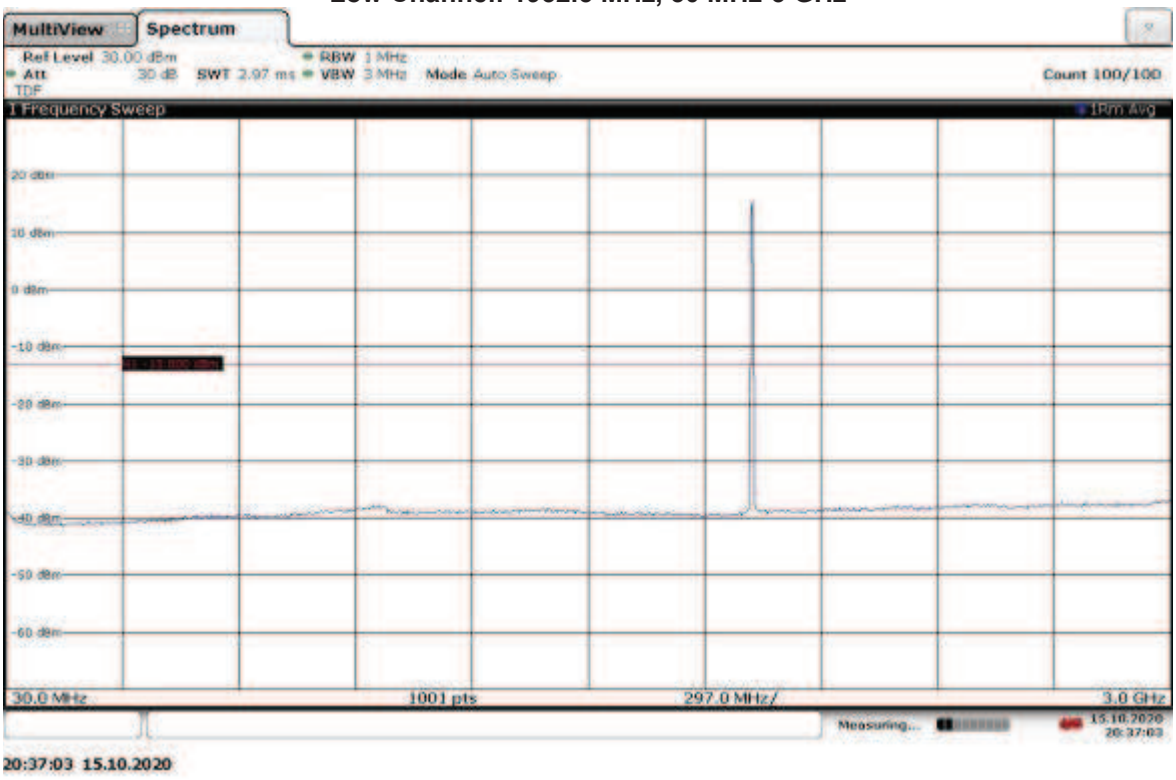


Radiated Emissions Test Setup, 1-12 GHz

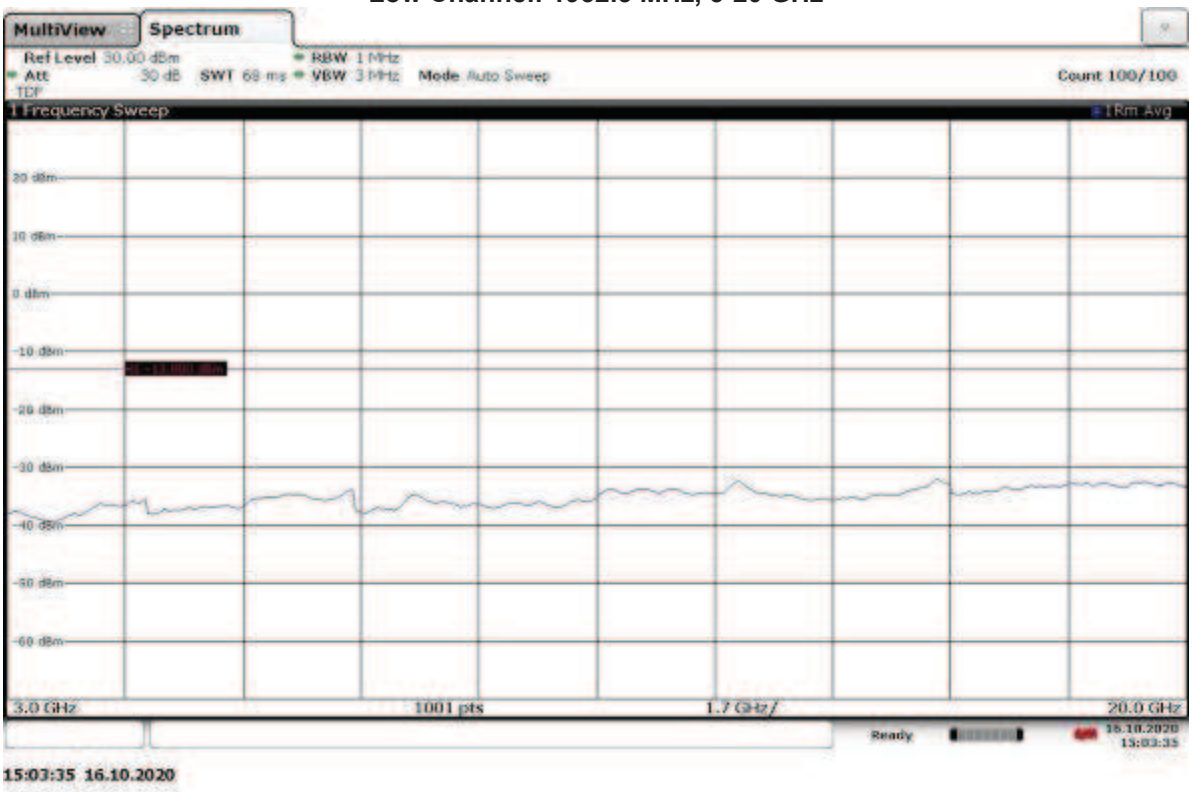


9.5 Plots/Data:

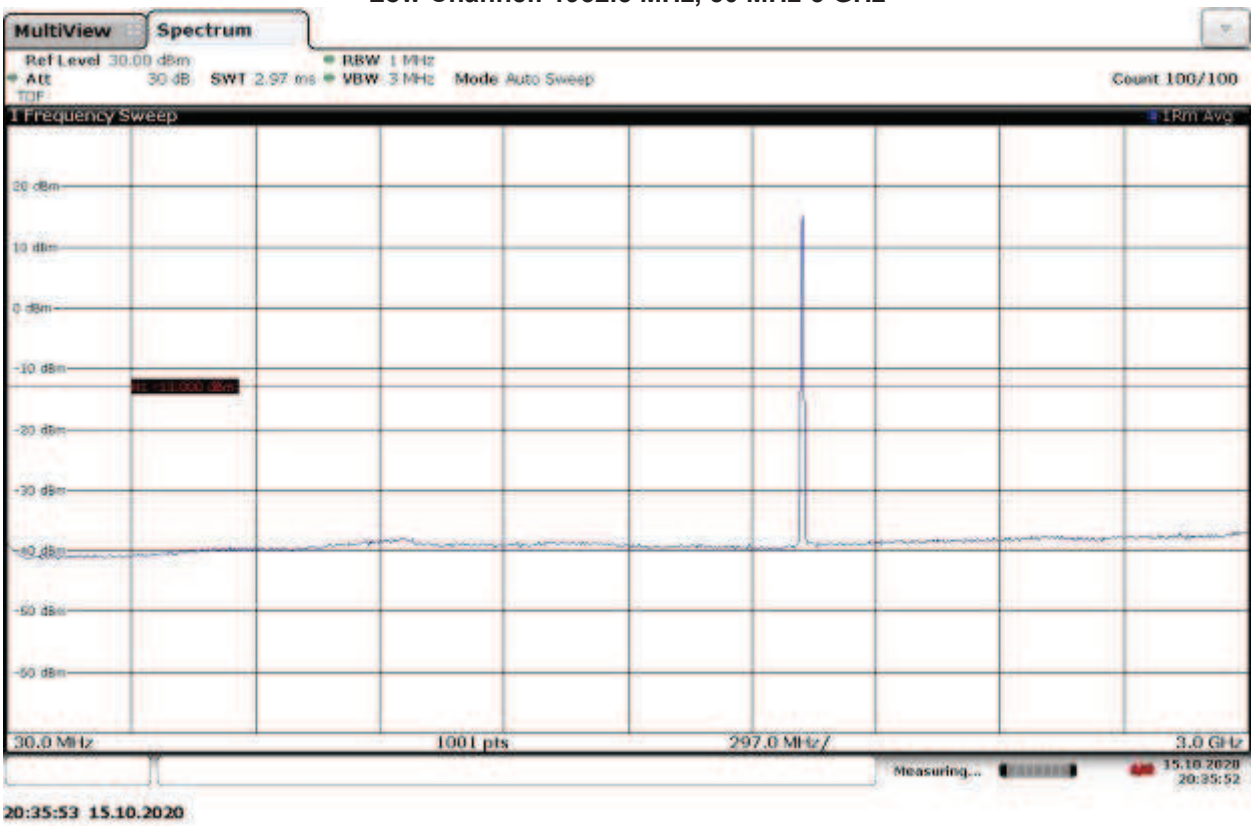
**Band 2, ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**



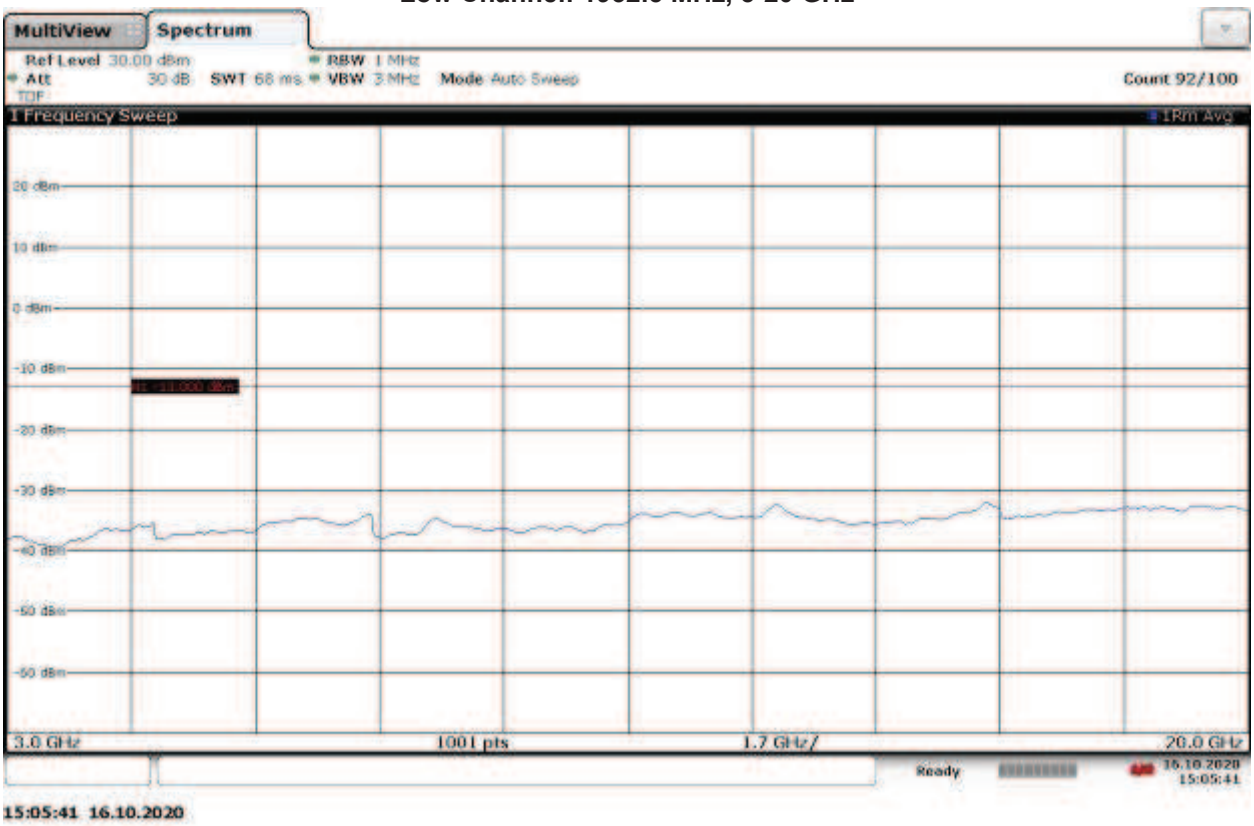
**Band 2, ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**



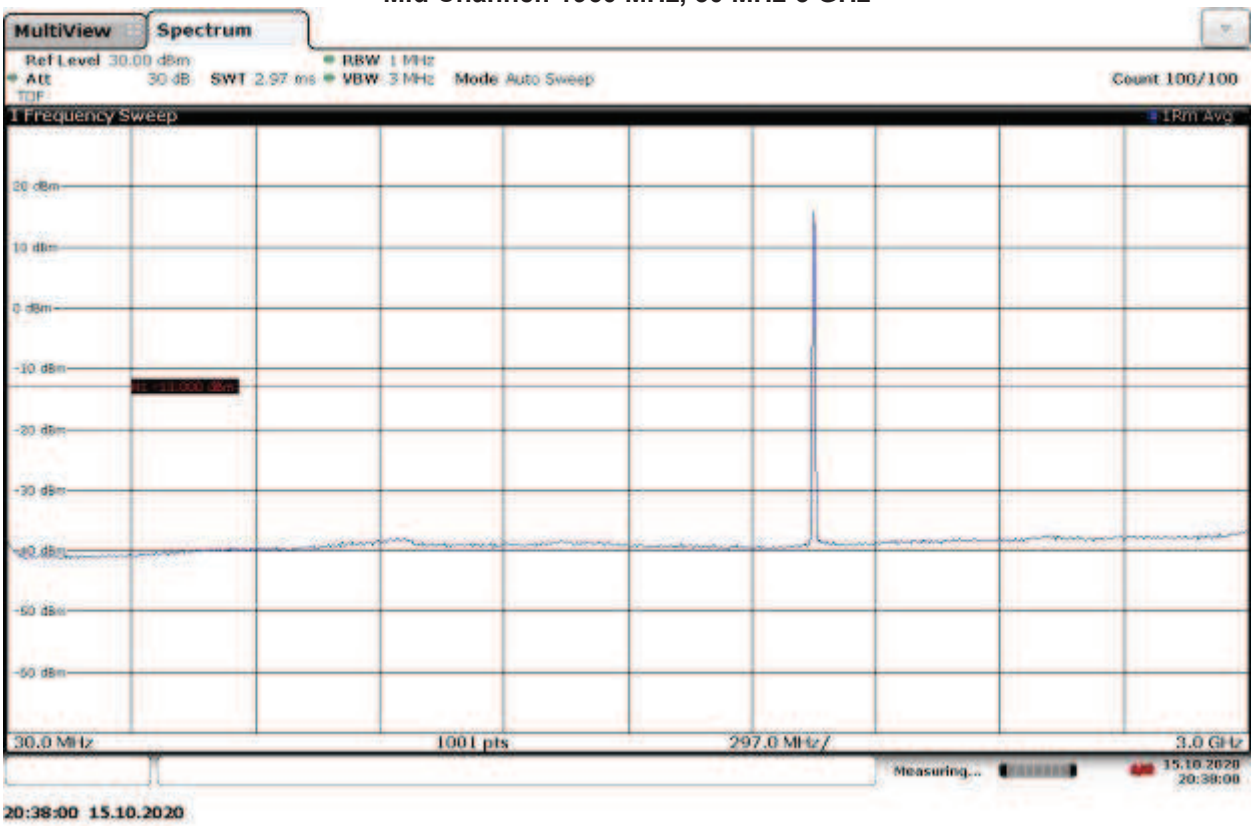
**Band 2, ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**



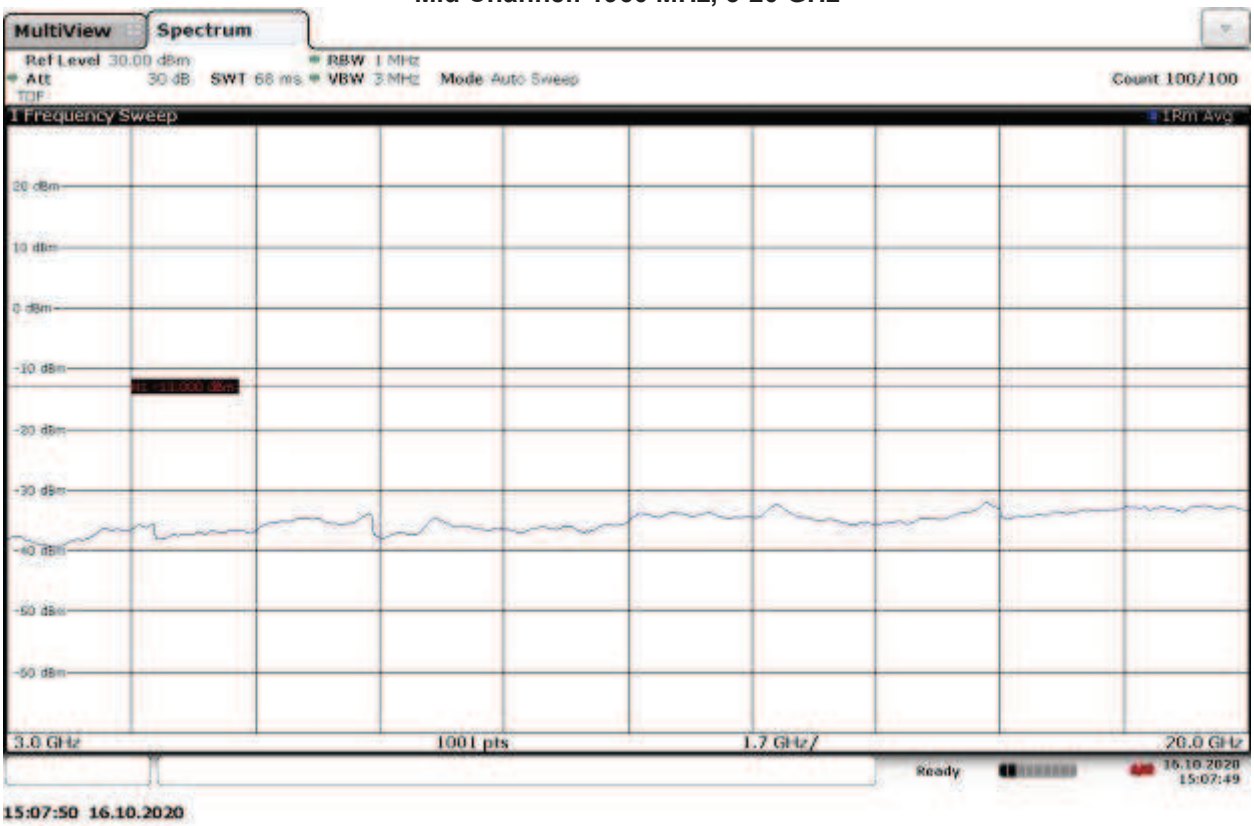
**Band 2, ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**



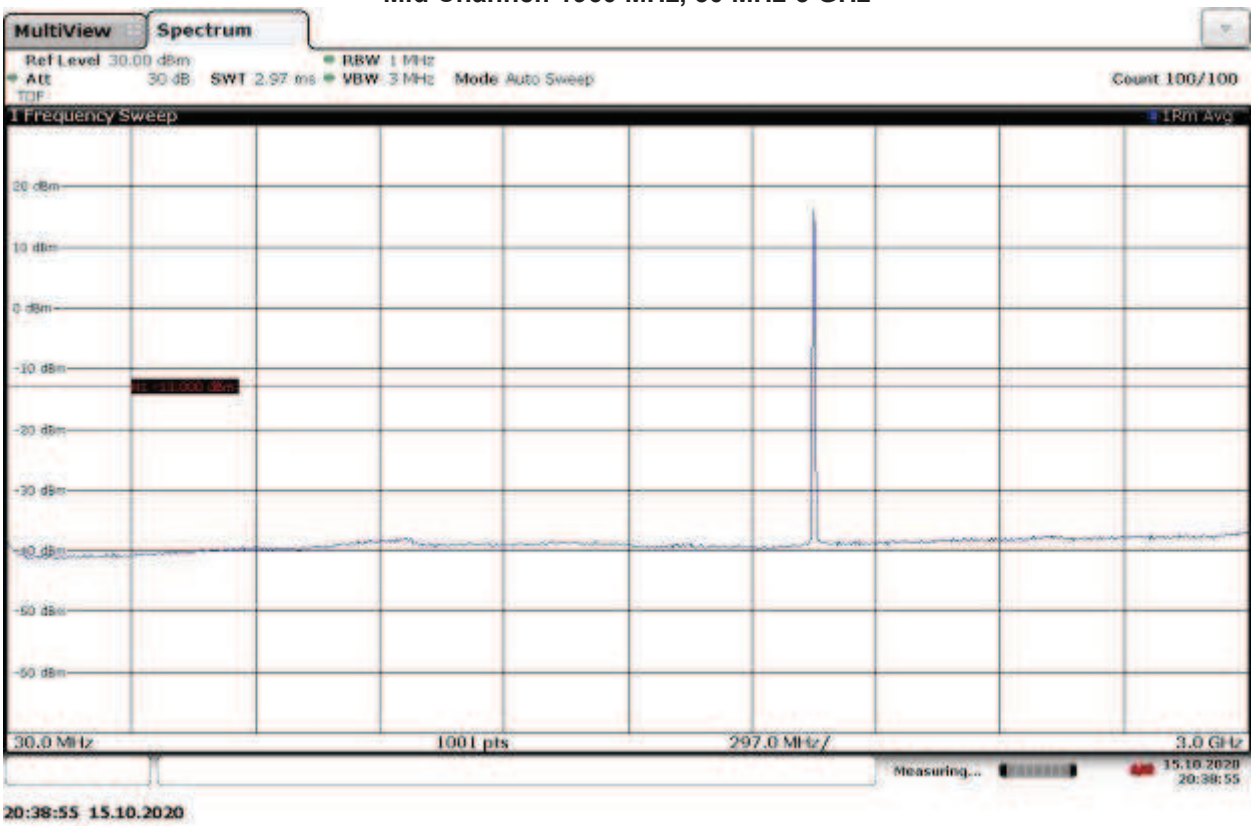
**Band 2, ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**



**Band 2, ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

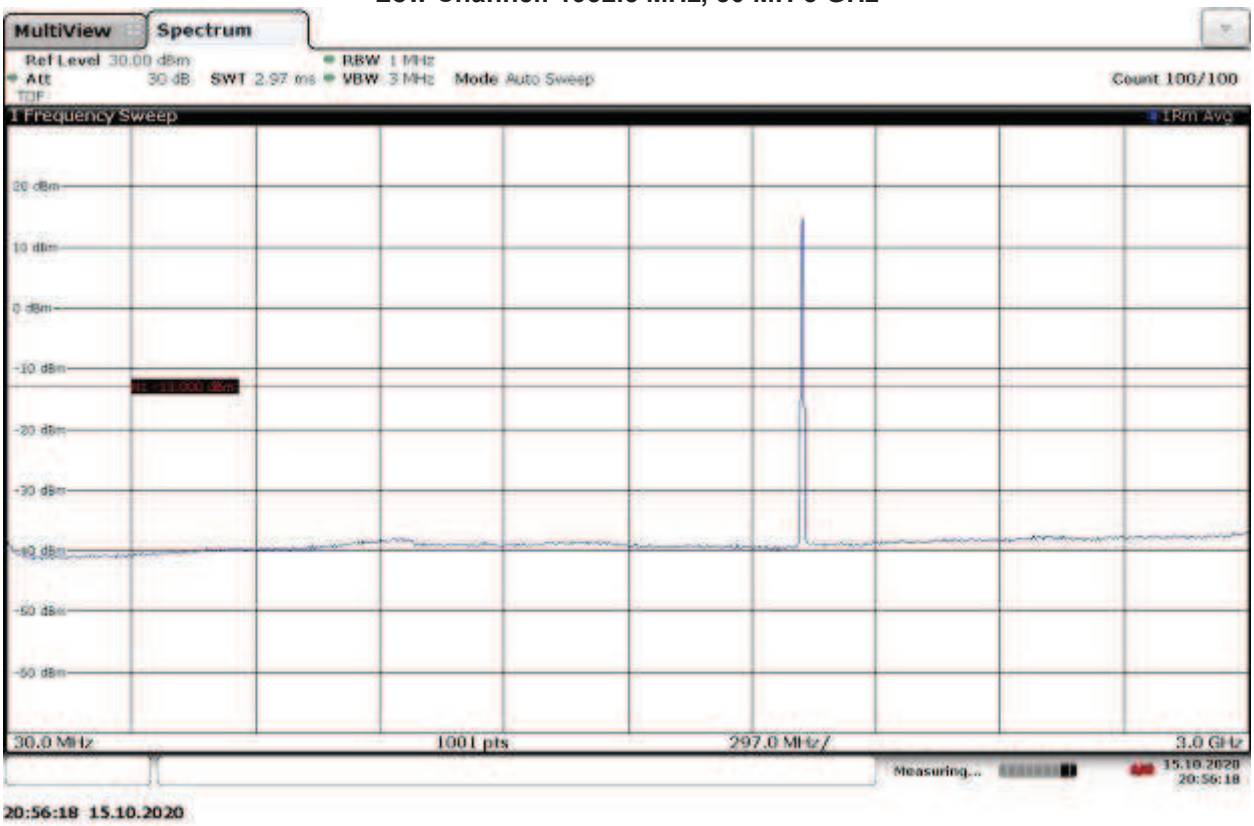


**Band 2, ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**

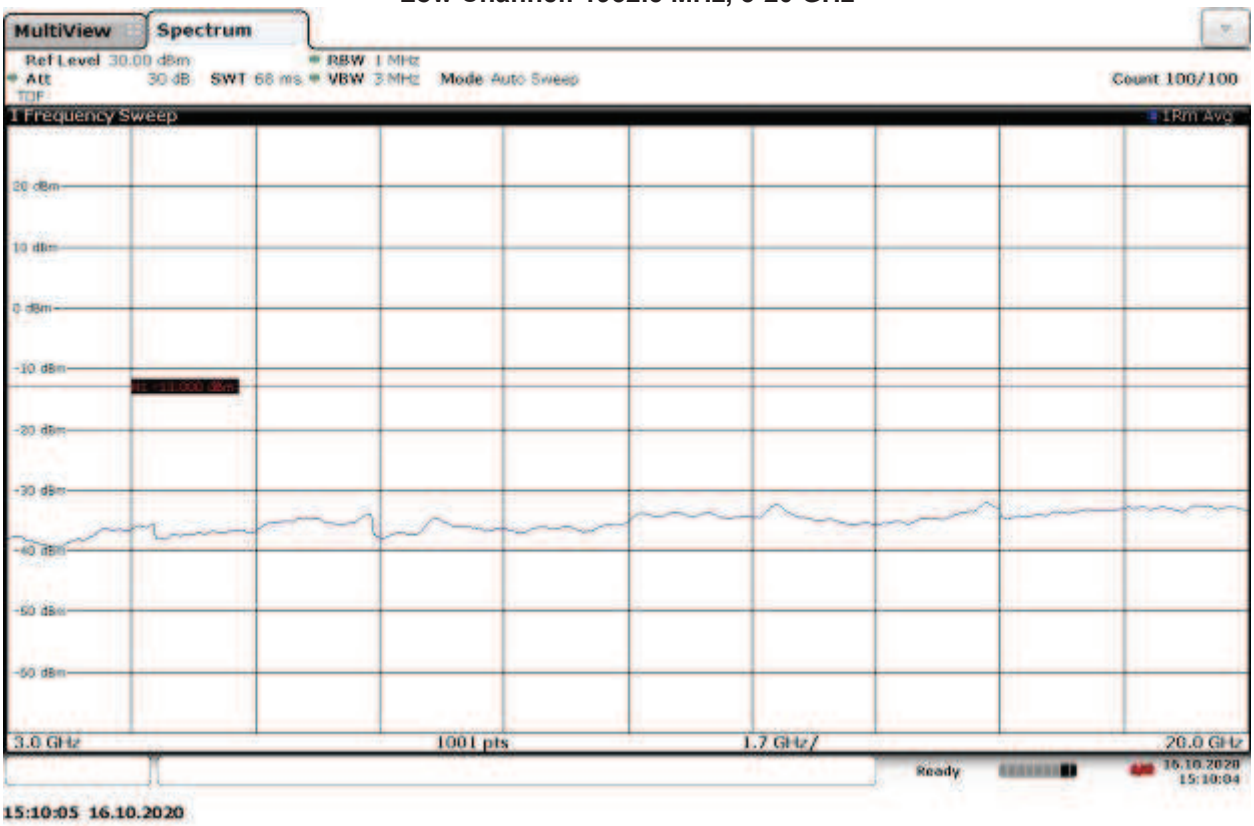


**Band 2, ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

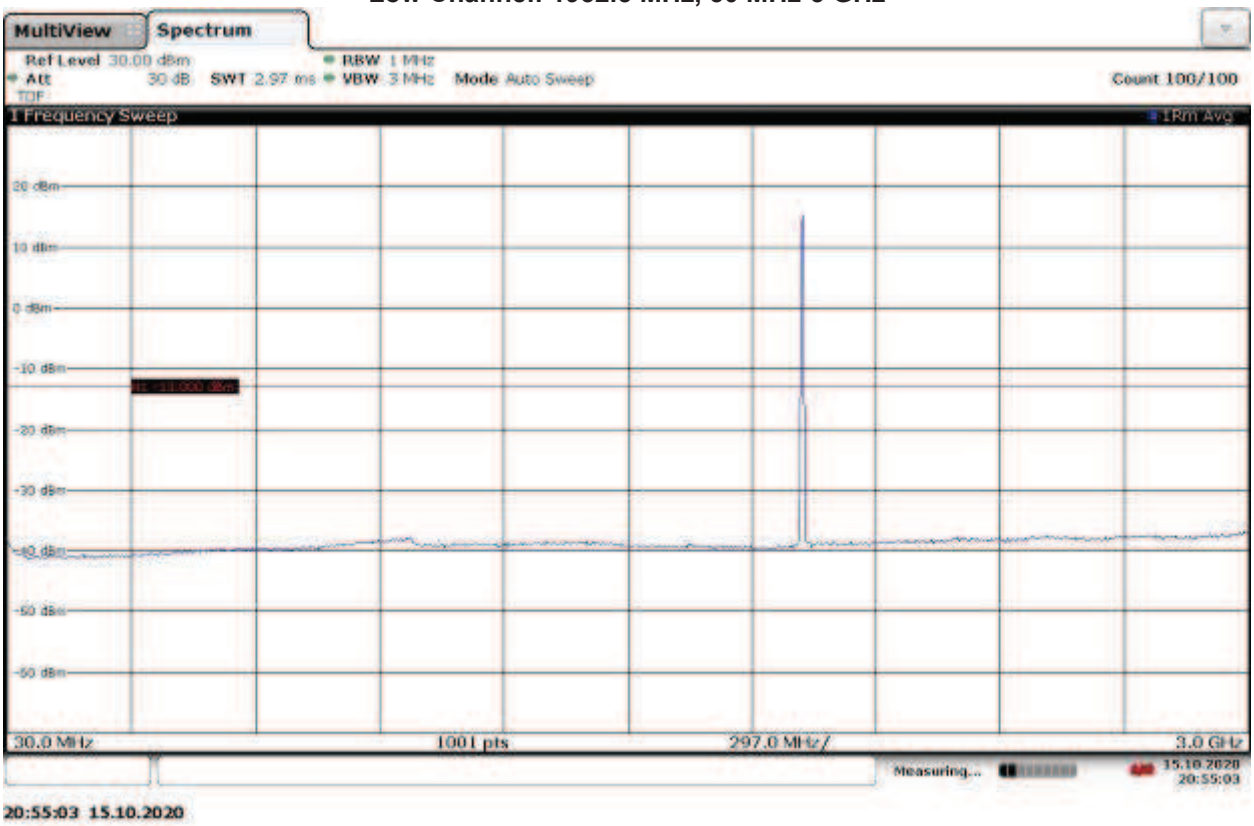
**Band 2, ANT0, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MH-3 GHz**



**Band 2, ANT0, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**

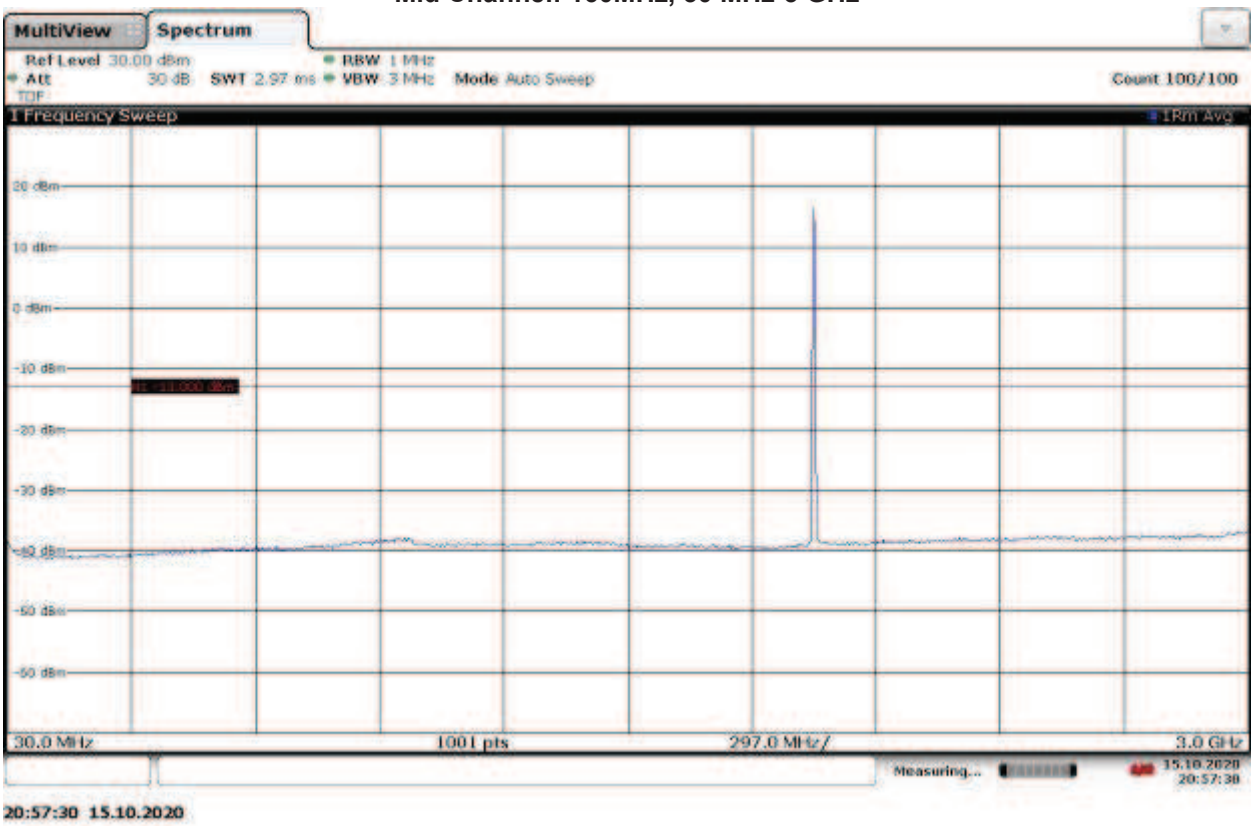


**Band 2, ANT1, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**



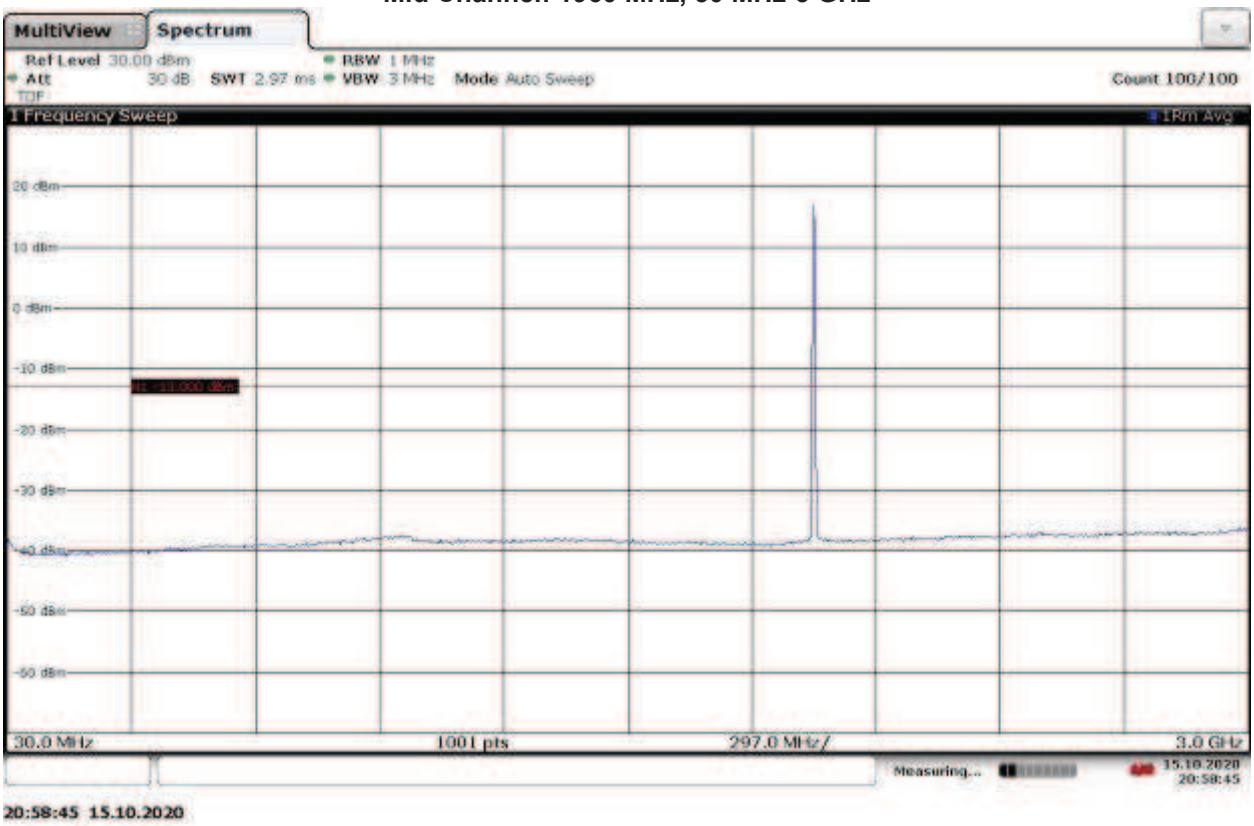
**Band 2, ANT1, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**

**Band 2, ANT0, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Mid Channel: 160MHz, 30 MHz-3 GHz**



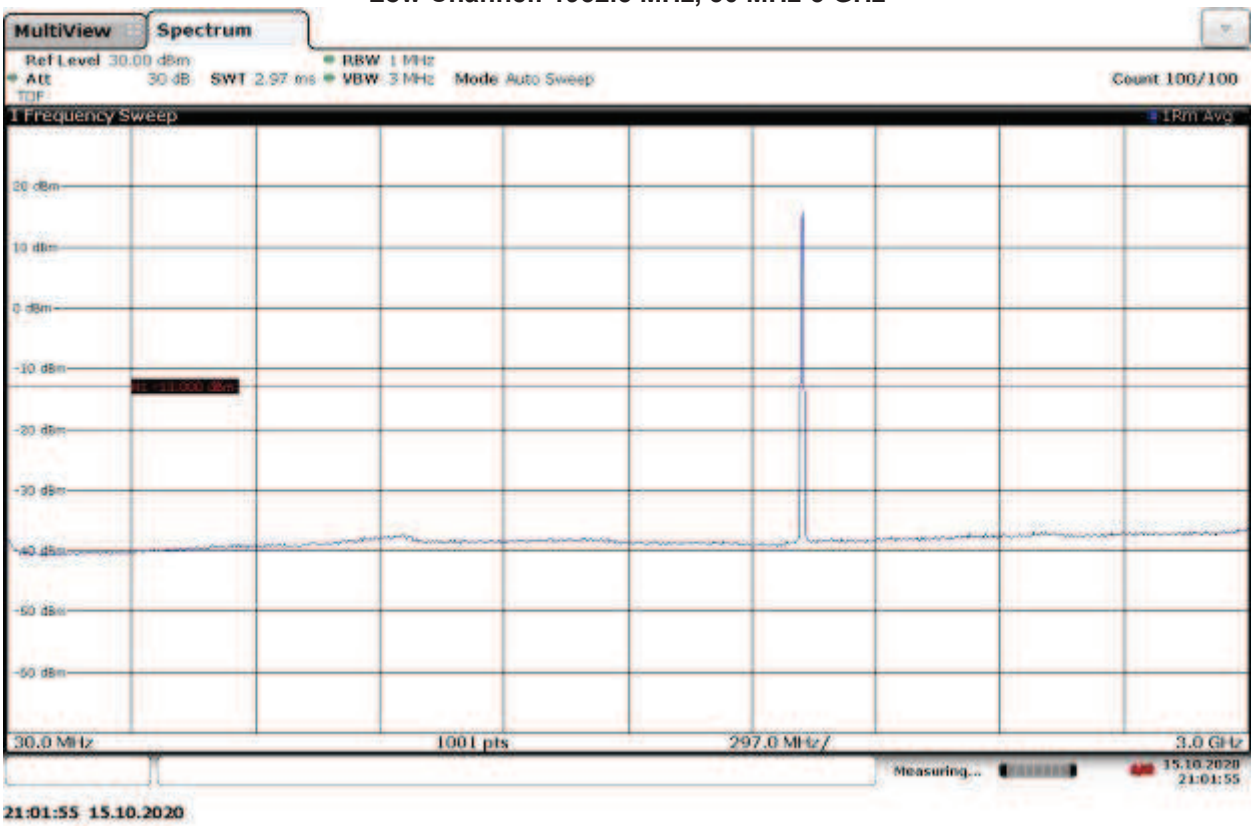
**Band 2, ANT0, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

**Band 2, ANT1, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**



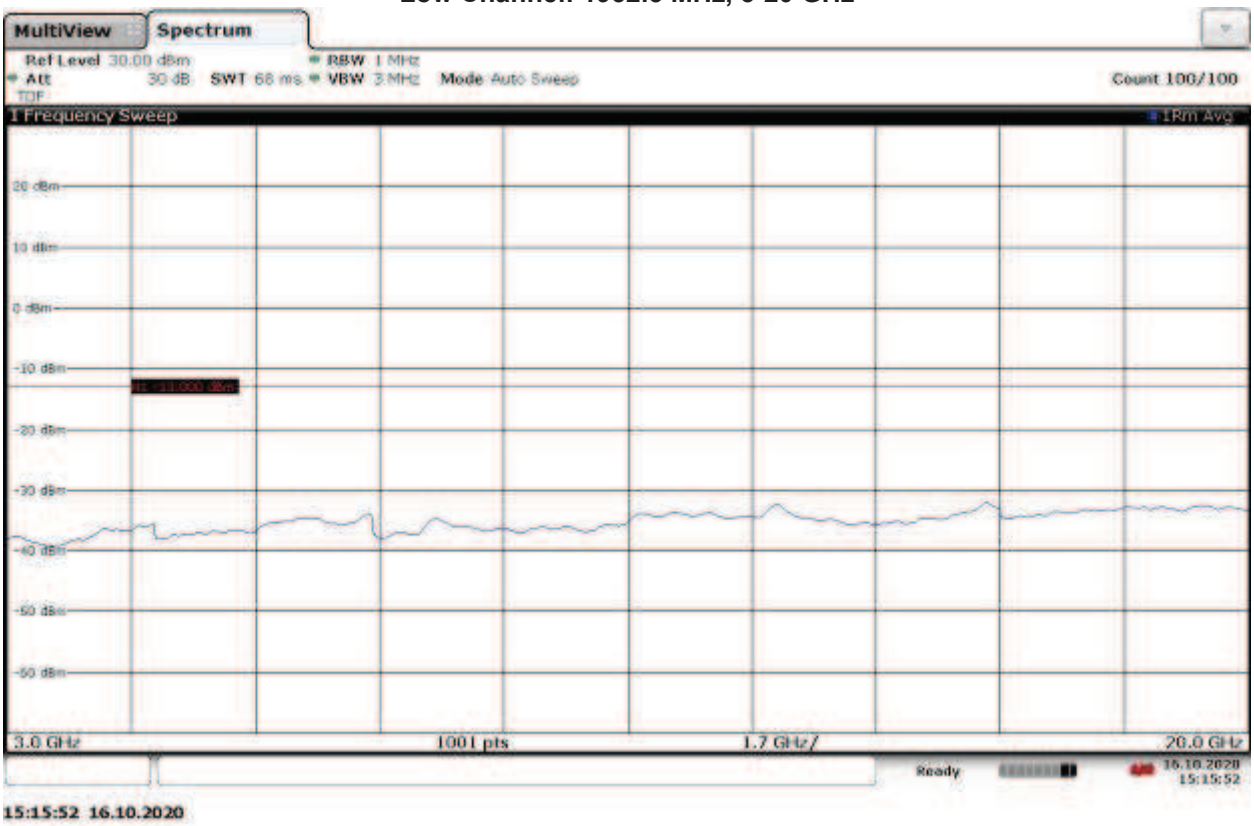
**Band 2, ANT1, Modulation: TM3.2-16QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

**Band 2, ANT0, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**



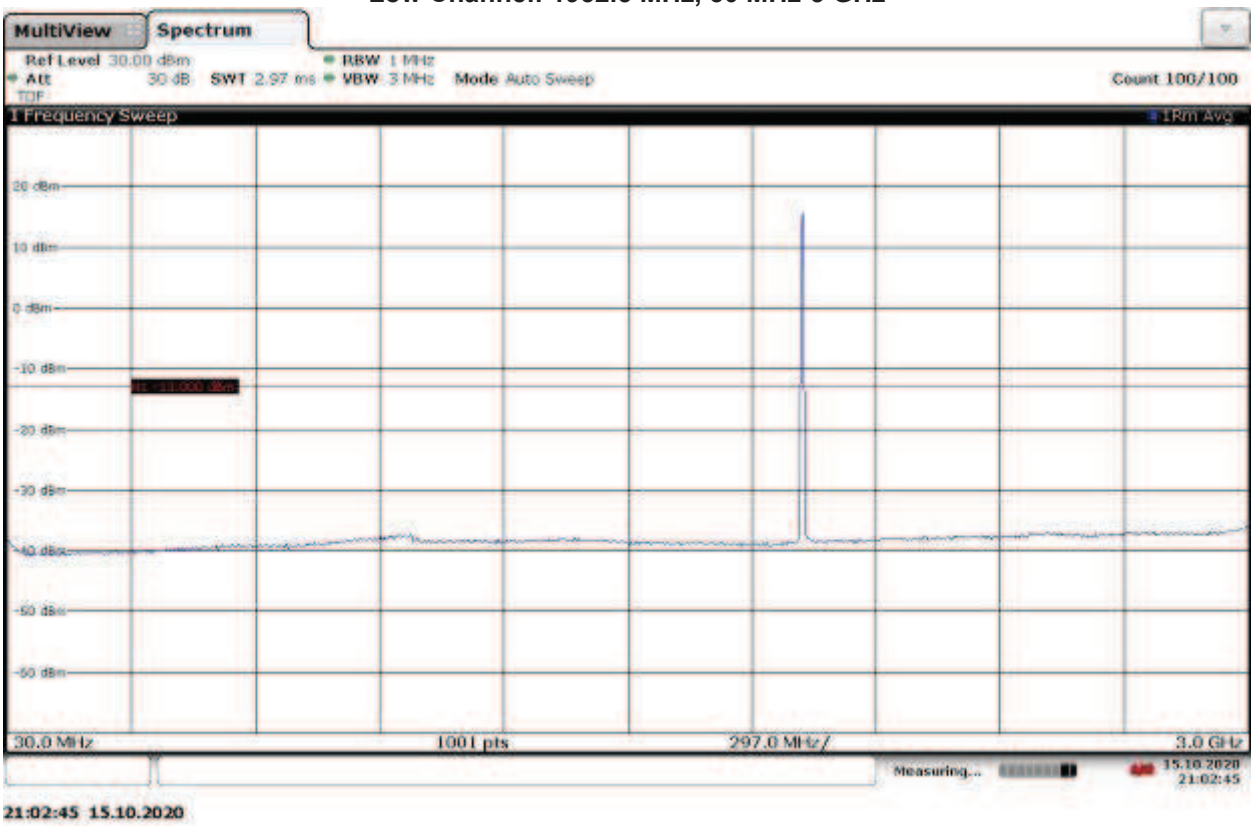
21:01:55 15.10.2020

**Band 2, ANT0, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**



15:15:52 16.10.2020

**Band 2, ANT1, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**

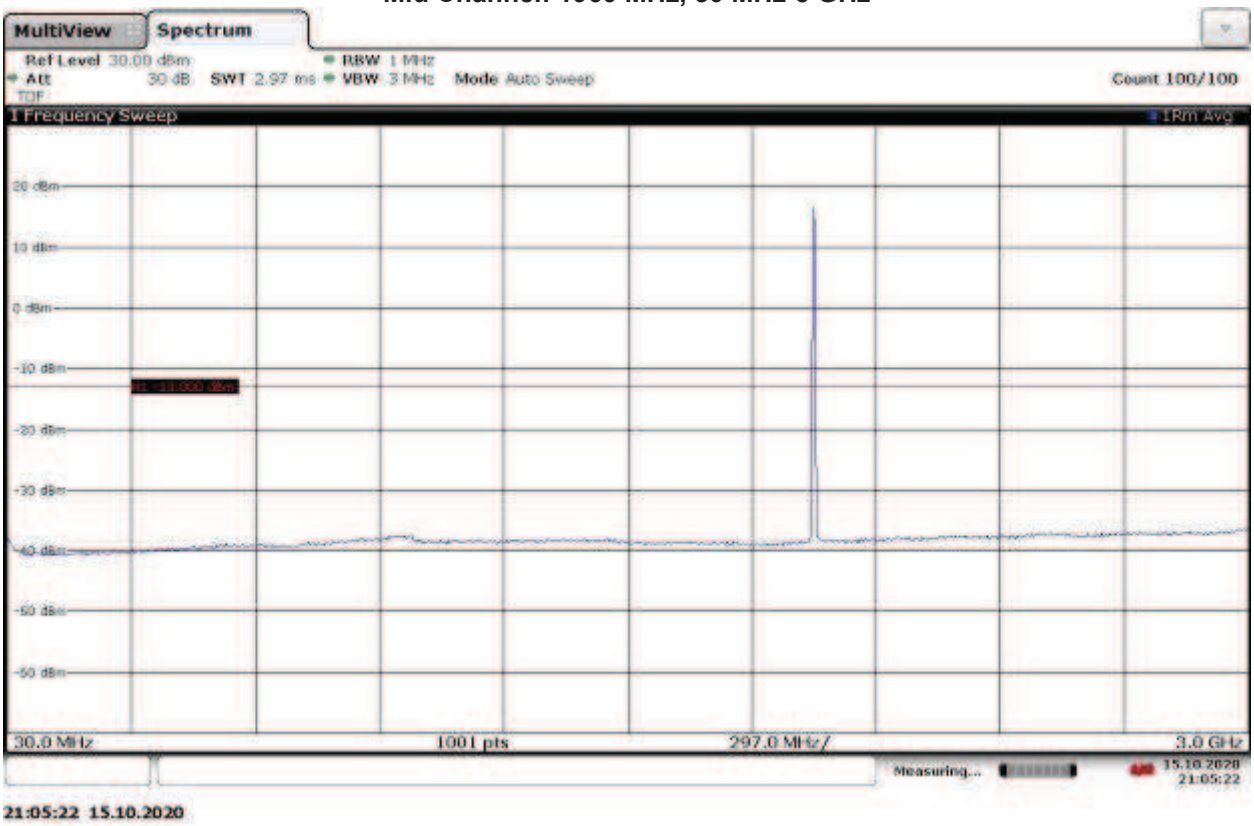


21:02:45 15.10.2020

**Band 2, ANT1, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**

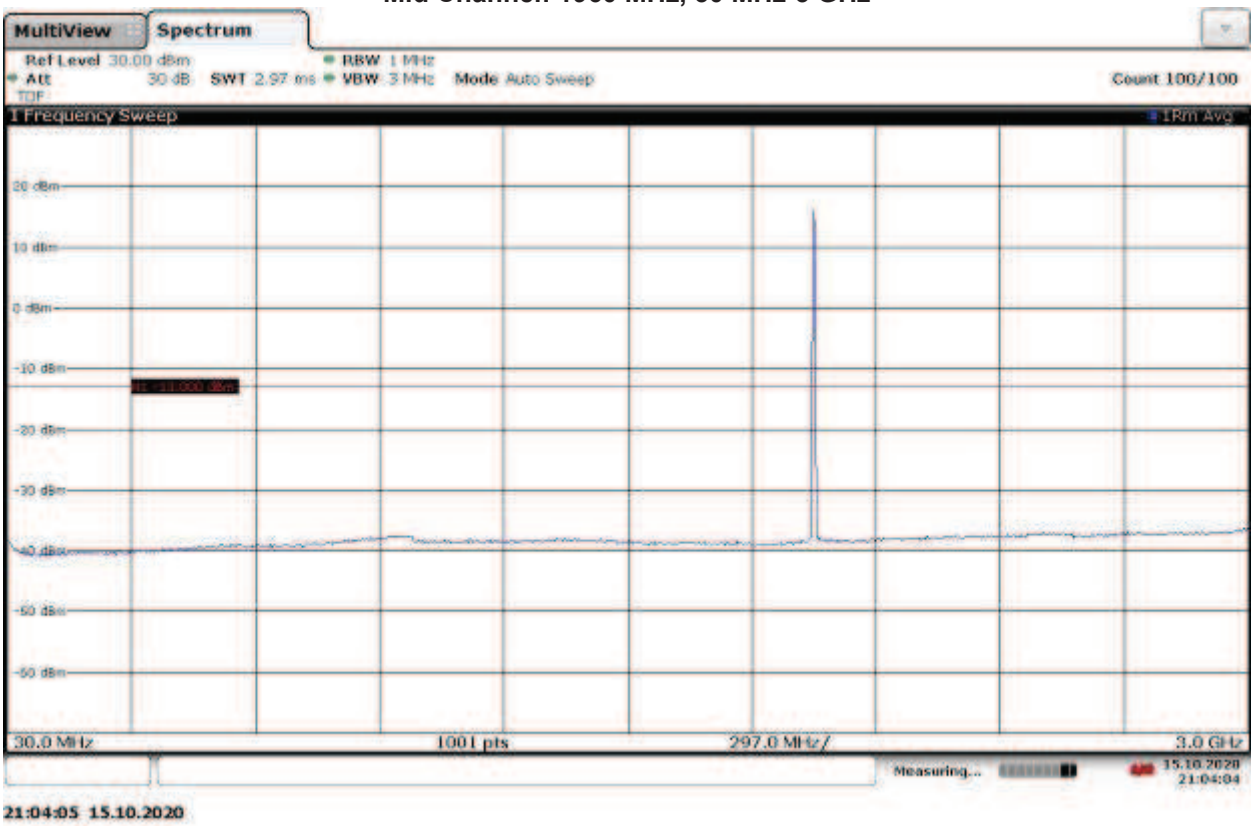
15:18:01 16.10.2020

**Band 2, ANT0, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**



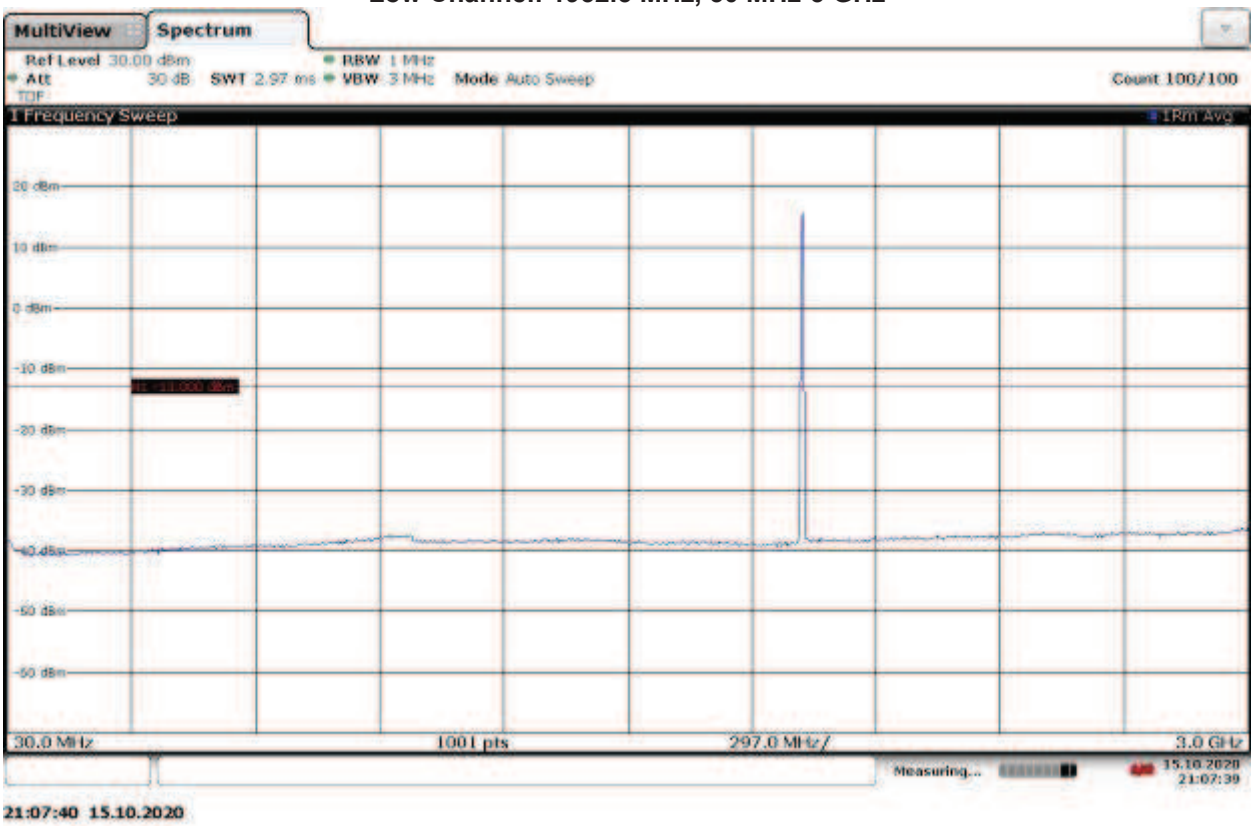
**Band 2, ANT0, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

**Band 2, ANT1, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**



**Band 2, ANT1, Modulation: TM3.1-64QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

**Band 2, ANT0, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**

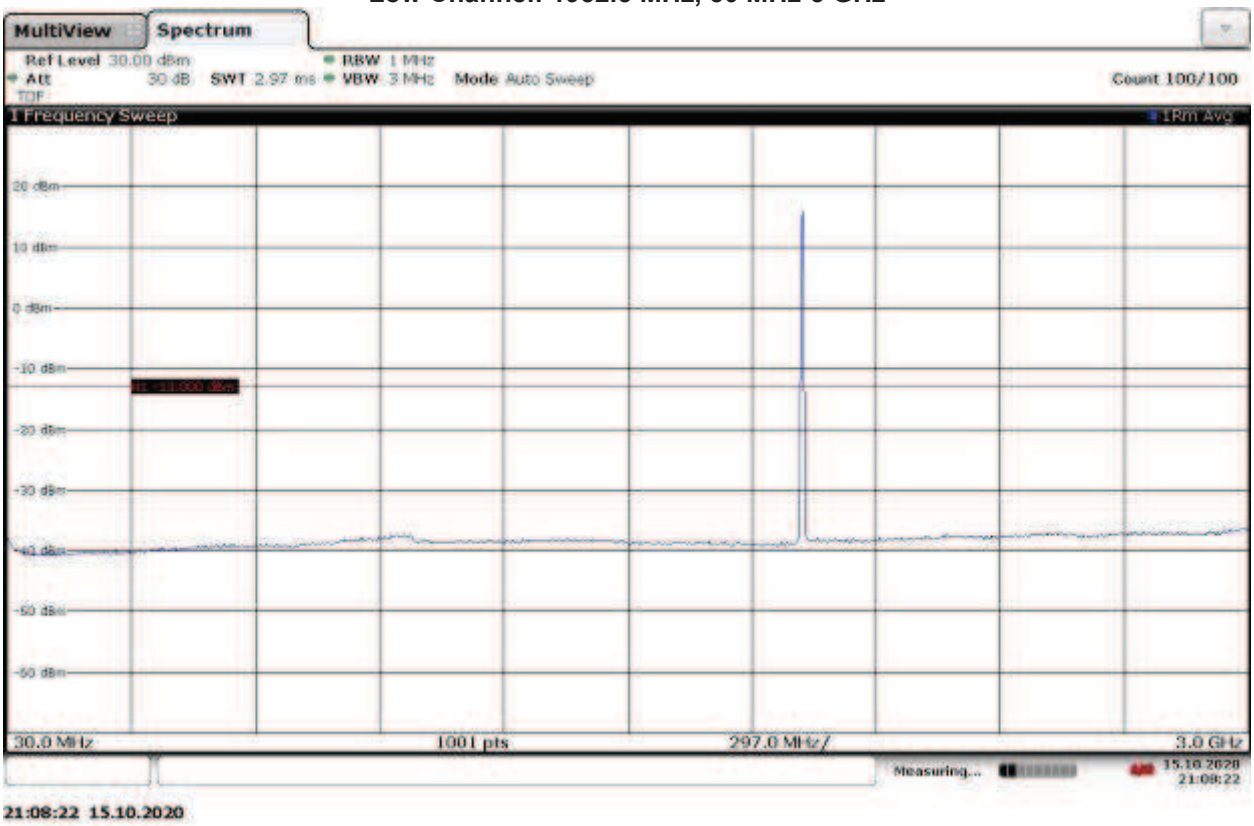


21:07:40 15.10.2020

**Band 2, ANT0, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**

15:22:13 16.10.2020

**Band 2, ANT1, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 30 MHz-3 GHz**

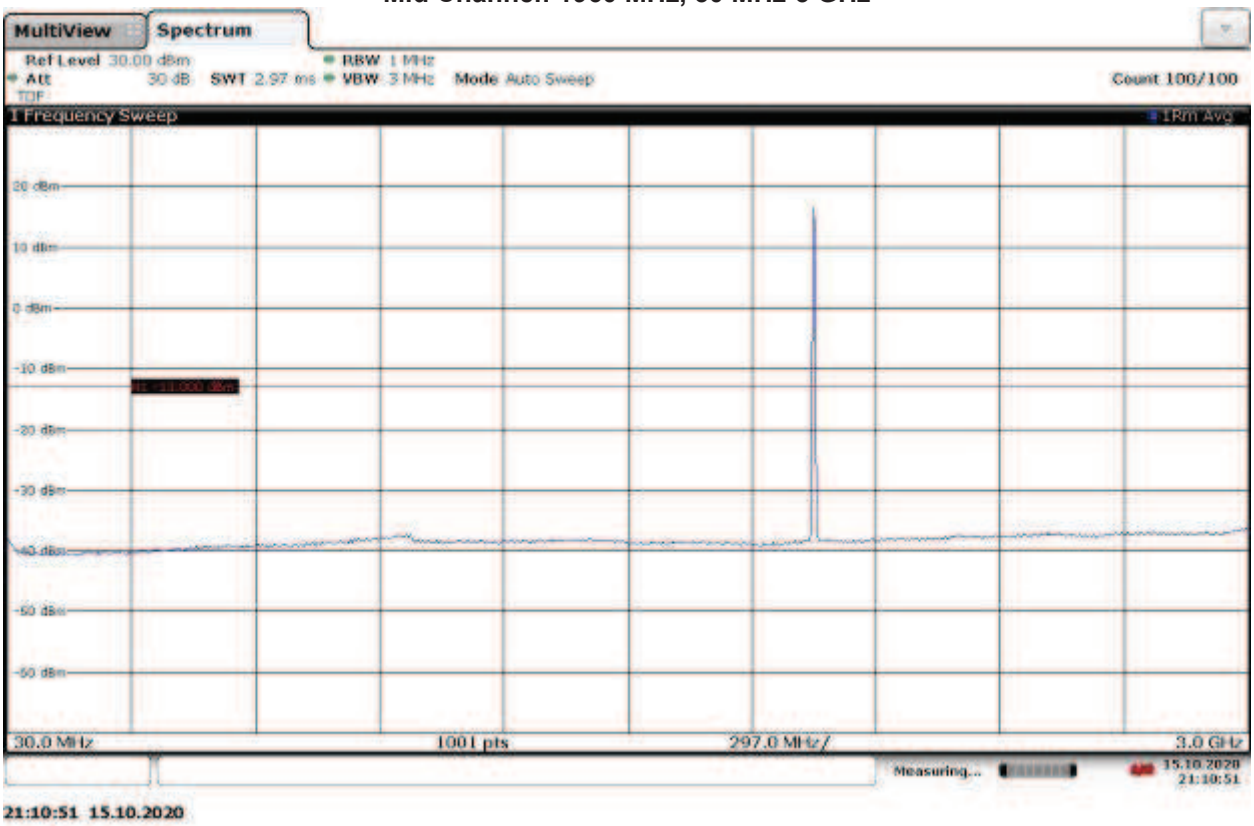


21:08:22 15.10.2020

**Band 2, ANT1, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Low Channel: 1932.5 MHz, 3-20 GHz**

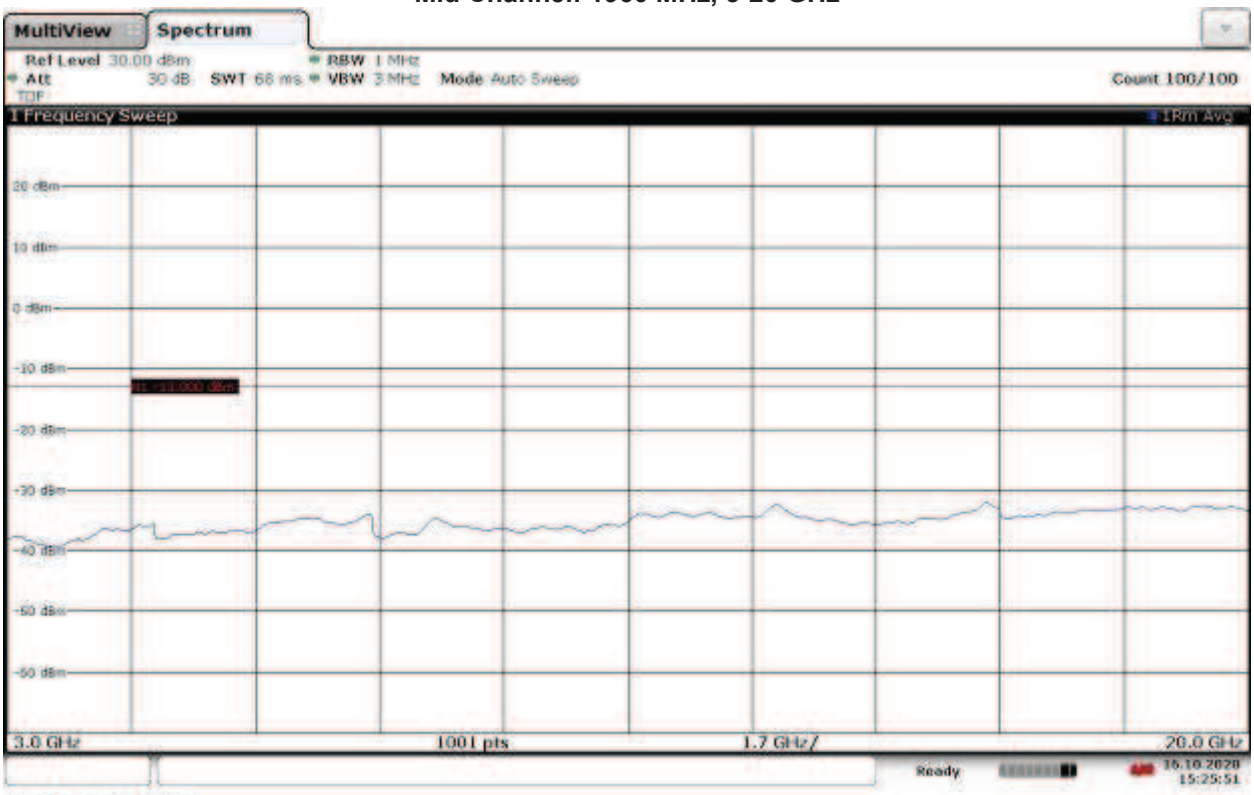
15:23:18 16.10.2020

**Band 2, ANT0, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**



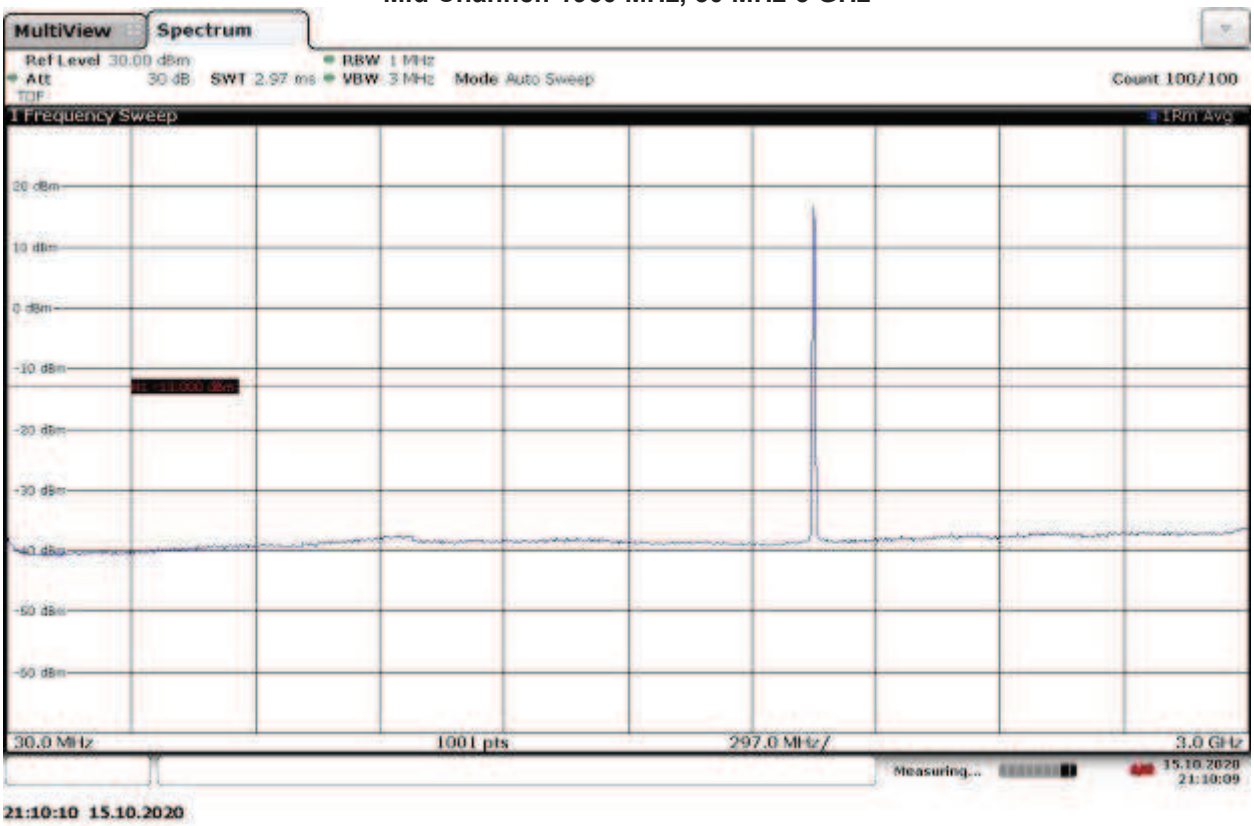
21:10:51 15.10.2020

**Band 2, ANT0, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**



15:25:52 16.10.2020

**Band 2, ANT1, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 30 MHz-3 GHz**



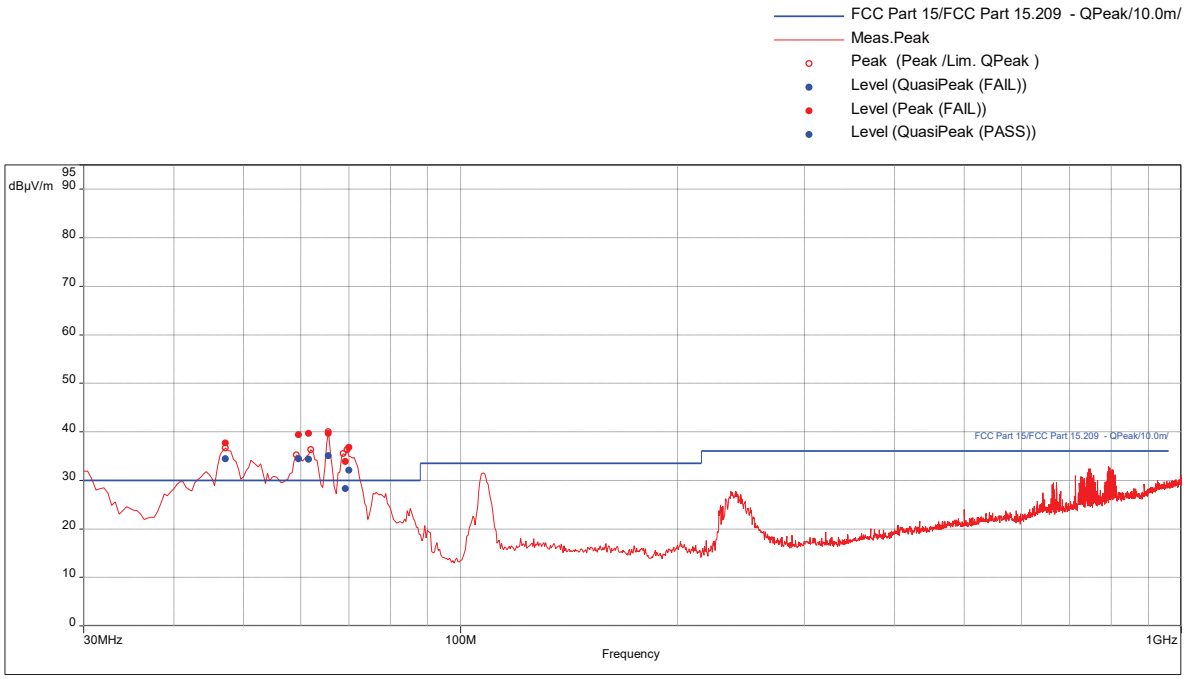
**Band 2, ANT1, Modulation: TM3.1a-256QAM, Bandwidth: 5 MHz,
Mid Channel: 1960 MHz, 3-20 GHz**

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 10:58:29 AM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_QPSK_Low Channel 1932.5 MHz, 30-1000MHz SA mode

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.35789474	37.69	-47.11	-13	-34.11	0.00	1.00	Vertical	120000.00	-23.88
59.70526316	39.36	-45.44	-13	-32.44	62.00	2.02	Vertical	120000.00	-25.38
61.4	39.65	-45.15	-13	-32.15	356.00	3.97	Vertical	120000.00	-25.19
65.63157895	39.69	-45.11	-13	-32.11	83.00	1.65	Vertical	120000.00	-24.81
69.21052632	33.83	-50.97	-13	-37.97	0.00	2.55	Vertical	120000.00	-24.53
69.96842105	36.72	-48.08	-13	-35.08	4.00	2.09	Vertical	120000.00	-24.52

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

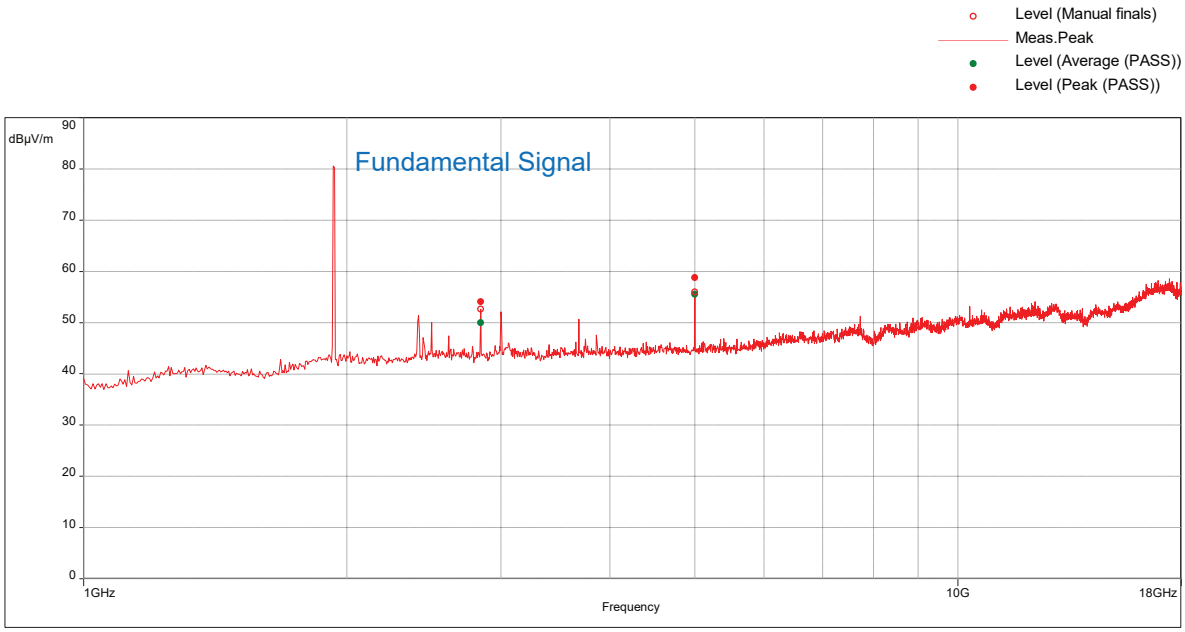
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 7:18:20 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_QPSK_Low Channel 1932.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
2844.473684	54.09	-41.17	-13	-28.17	180.00	1.00	Vertical	1000000.00	-14.14
5000	58.77	-36.49	-13	-23.49	18.00	1.60	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

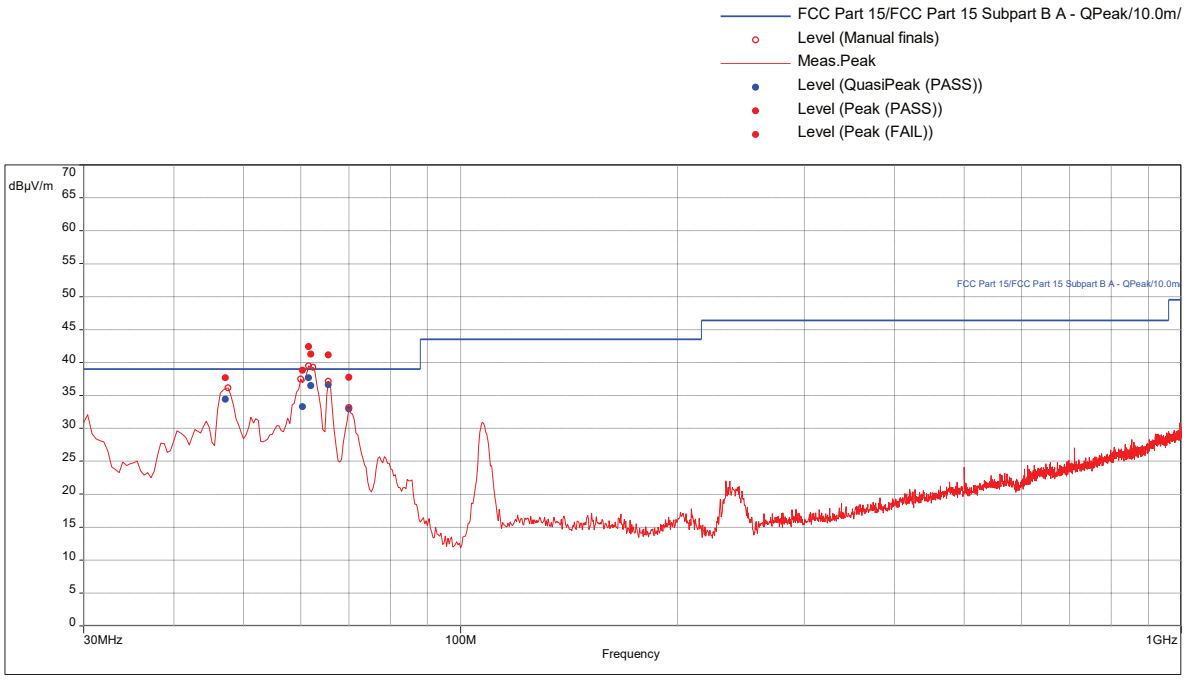
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 11:51:57 AM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_QPSK_Mid Channel 1960 MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.31578947	37.64	-47.16	-13	-34.16	4.00	1.00	Vertical	120000.00	-23.86
60.25263158	38.83	-45.97	-13	-32.97	76.00	2.10	Vertical	120000.00	-25.32
69.96842105	37.7	-47.1	-13	-34.1	351.00	2.15	Vertical	120000.00	-24.52
61.72631579	42.42	-42.38	-13	-29.38	352.00	2.55	Vertical	120000.00	-25.15
61.98947368	41.24	-43.56	-13	-30.56	306.00	2.69	Vertical	120000.00	-25.12
65.75789474	41.14	-43.66	-13	-30.66	342.00	2.01	Vertical	120000.00	-24.80

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

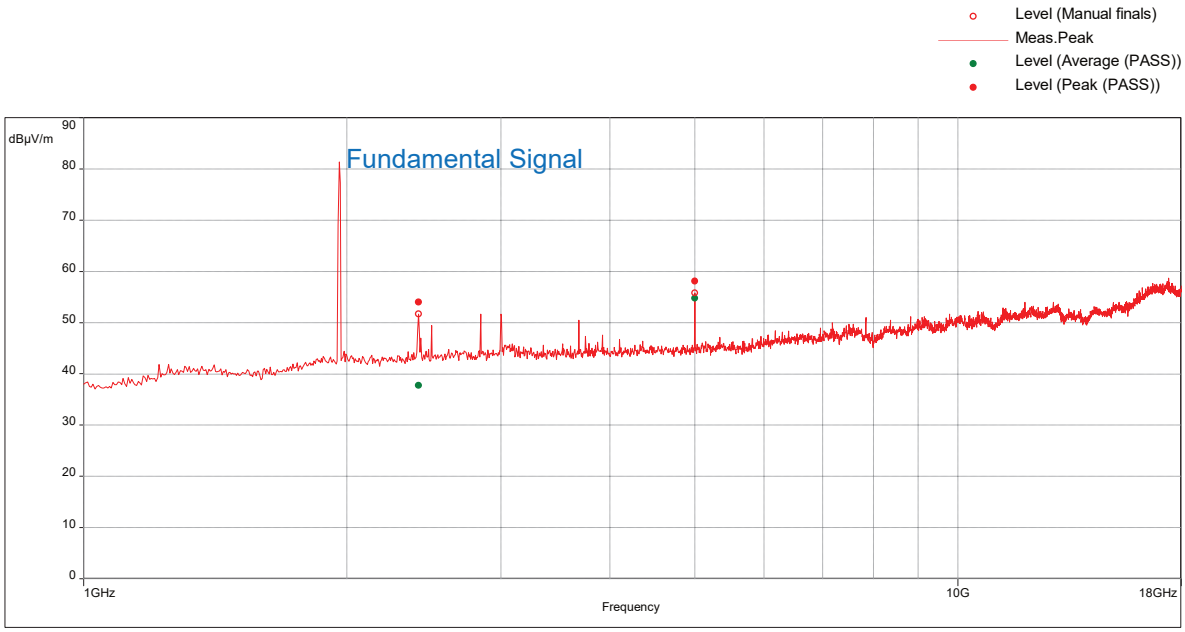
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 7:31:38 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_QPSK_Mid Channel 1960MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
2413.421053	54.02	-41.24	-13	-28.24	40.00	1.25	Vertical	1000000.00	-15.10
5000	58.12	-37.14	-13	-24.14	17.00	1.90	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

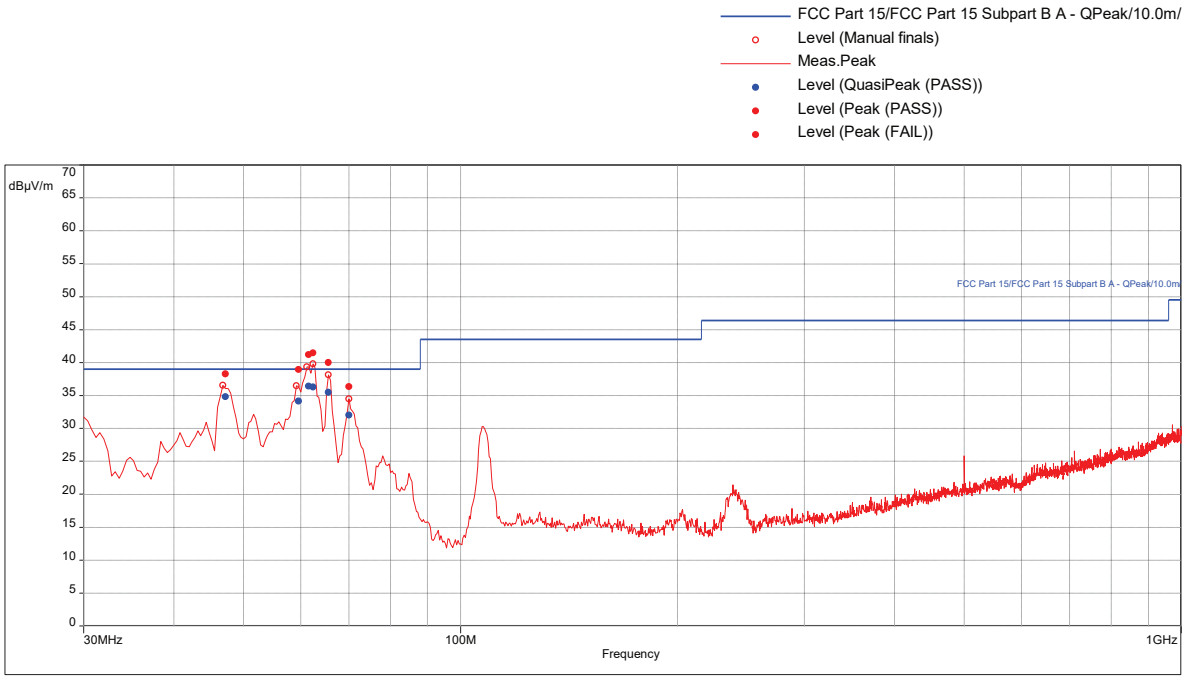
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 12:18:37 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_QPSK_High Channel 1987.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
61.70526316	41.22	-43.58	-13	-30.58	166.00	1.73	Vertical	120000.00	-25.15
62.49473684	41.45	-43.35	-13	-30.35	359.00	2.32	Vertical	120000.00	-25.06
65.66315789	39.97	-44.83	-13	-31.83	84.00	2.91	Vertical	120000.00	-24.81
47.24210526	38.27	-46.53	-13	-33.53	0.00	1.00	Vertical	120000.00	-23.82
59.61052632	38.91	-45.89	-13	-32.89	92.00	1.51	Vertical	120000.00	-25.39
70.09473684	36.32	-48.48	-13	-35.48	62.00	1.96	Vertical	120000.00	-24.52

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

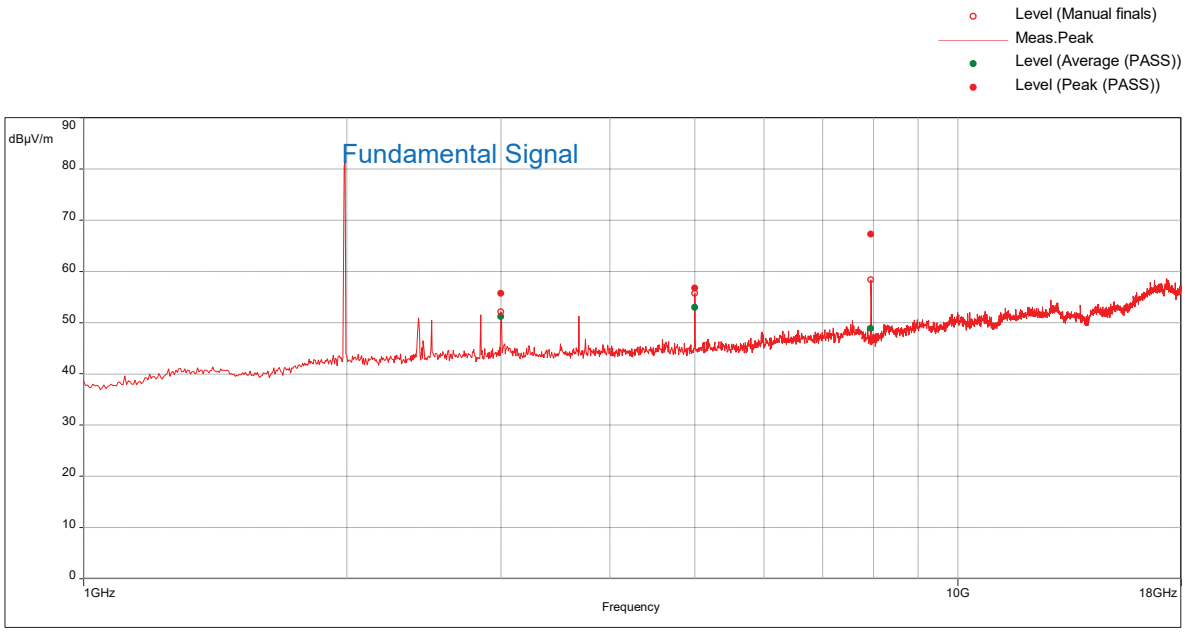
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 7:45:15 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_QPSK_High Channel 1987.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
3000	55.69	-39.57	-13	-26.57	18.00	1.85	Vertical	1000000.00	-13.43
5000.263158	56.71	-38.55	-13	-25.55	17.00	1.90	Vertical	1000000.00	-9.72
7948.947368	67.26	-28	-13	-15	129.00	2.05	Vertical	1000000.00	-6.29

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

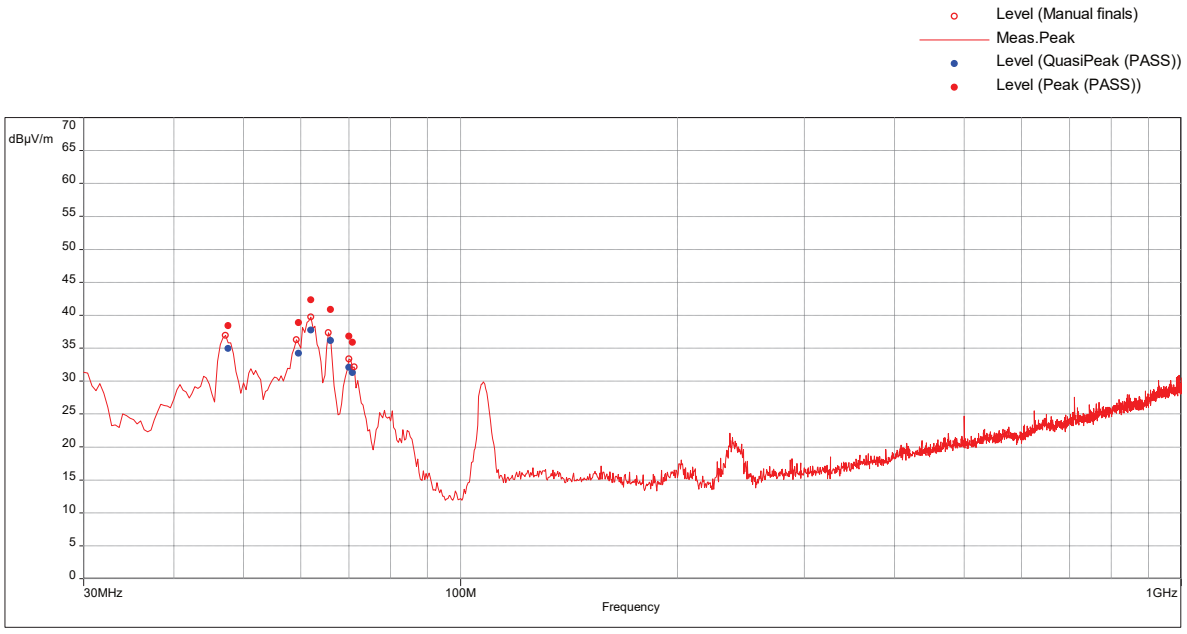
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.2-16QAM, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 12:45:42 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_16QAM_Low Channel 1932.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.31578947	38.38	-46.42	-13	-33.42	4.00	1.00	Vertical	120000.00	-23.86
60.25263158	38.88	-45.92	-13	-32.92	32.00	1.00	Vertical	120000.00	-23.91
69.96842105	42.3	-42.5	-13	-29.5	99.00	1.86	Vertical	120000.00	-25.38
61.72631579	40.84	-43.96	-13	-30.96	322.00	2.30	Vertical	120000.00	-25.14
61.98947368	36.79	-48.01	-13	-35.01	359.00	2.03	Vertical	120000.00	-24.79
65.75789474	35.87	-48.93	-13	-35.93	91.00	1.73	Vertical	120000.00	-24.52

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

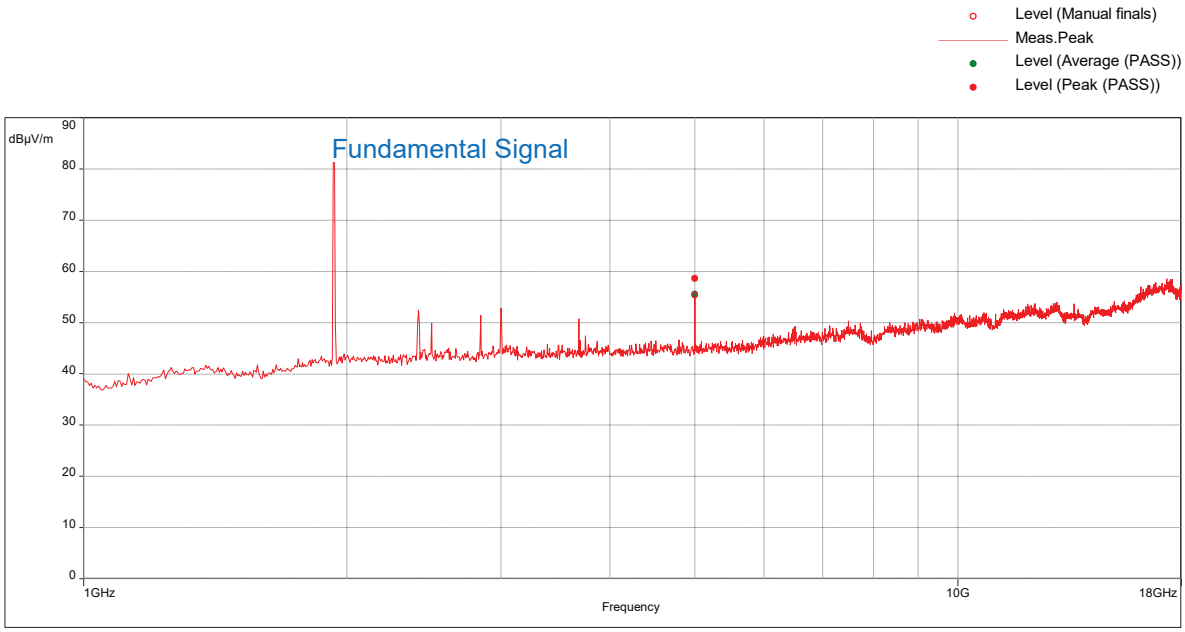
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.2-16QAM, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 7:07:27 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_16QAM_Low Channel 1932.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
5000	58.65	-36.61	-13	-23.61	17.00	1.60	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

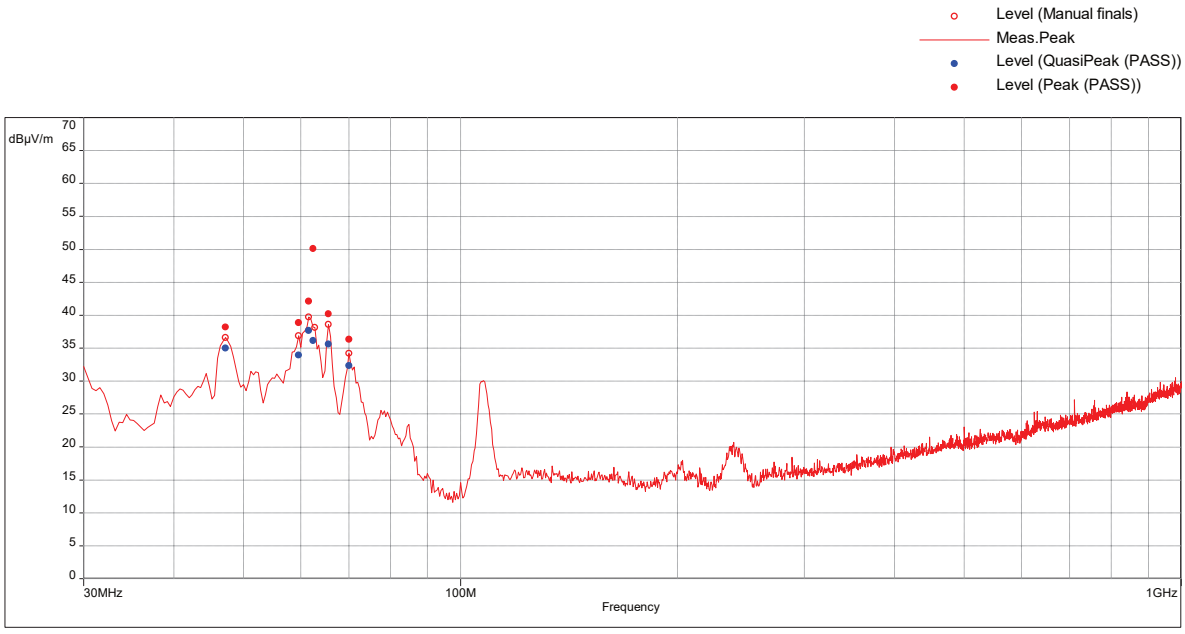
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.2-16QAM, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 1:10:13 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_16QAM_Mid Channel 1960MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.26315789	38.23	-46.57	-13	-33.57	0.00	1.00	Vertical	120000.00	-23.83
59.69473684	38.85	-45.95	-13	-32.95	0.00	1.67	Vertical	120000.00	-25.38
61.75789474	42.12	-42.68	-13	-29.68	359.00	2.47	Vertical	120000.00	-25.15
62.57894737	50.11	-34.69	-13	-21.69	351.00	2.72	Vertical	120000.00	-25.05
65.72631579	40.19	-44.61	-13	-31.61	84.00	2.39	Vertical	120000.00	-24.80
70.18947368	36.35	-48.45	-13	-35.45	25.00	2.26	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

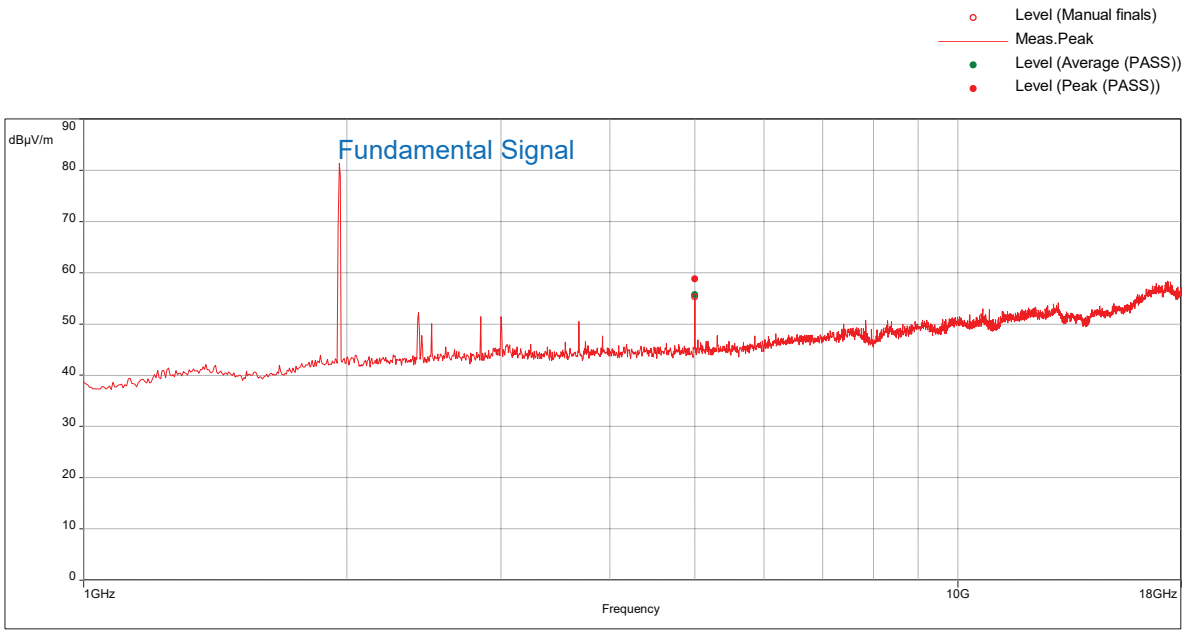
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.2-16QAM, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 6:57:02 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_16QAM_Mid Channel 1960MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
5000	58.77	-36.49	-13	-23.49	17.00	1.75	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

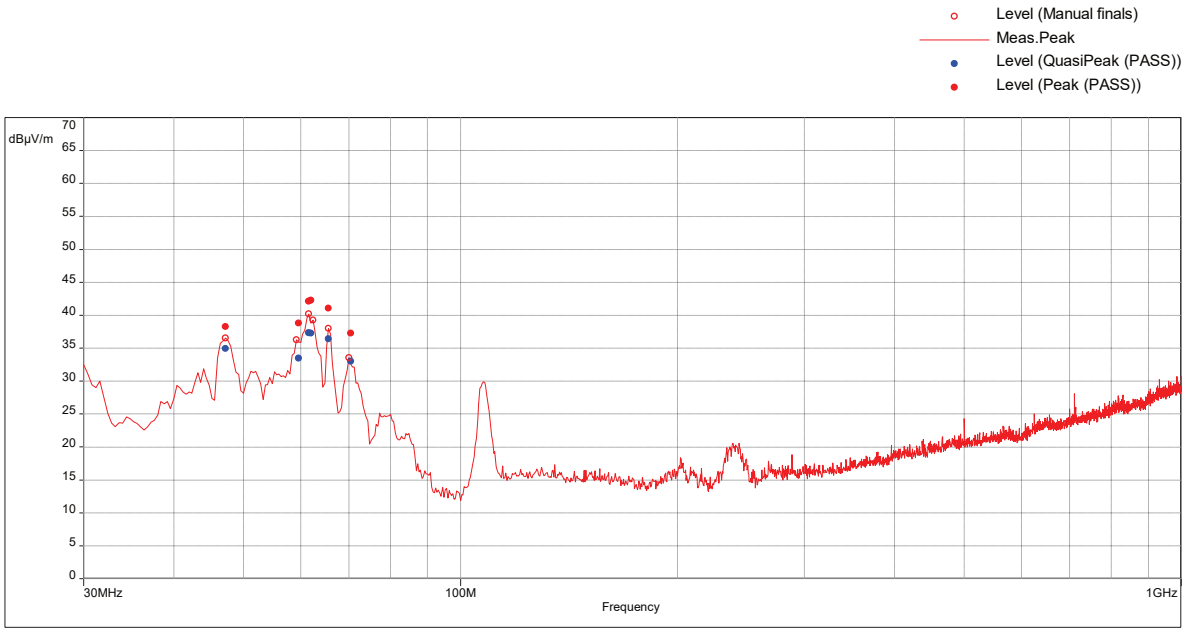
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.2-16QAM, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 1:36:12 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_16QAM_High Channel 1987.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIPRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.32631579	38.27	-46.53	-13	-33.53	11.00	1.00	Vertical	120000.00	-23.86
59.42105263	38.8	-46	-13	-33	54.00	2.03	Vertical	120000.00	-25.41
61.66315789	42.14	-42.66	-13	-29.66	359.00	1.52	Vertical	120000.00	-25.16
61.92631579	42.24	-42.56	-13	-29.56	359.00	2.60	Vertical	120000.00	-25.13
65.72631579	41.03	-43.77	-13	-30.77	306.00	2.03	Vertical	120000.00	-24.80
70.22105263	37.24	-47.56	-13	-34.56	327.00	2.45	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

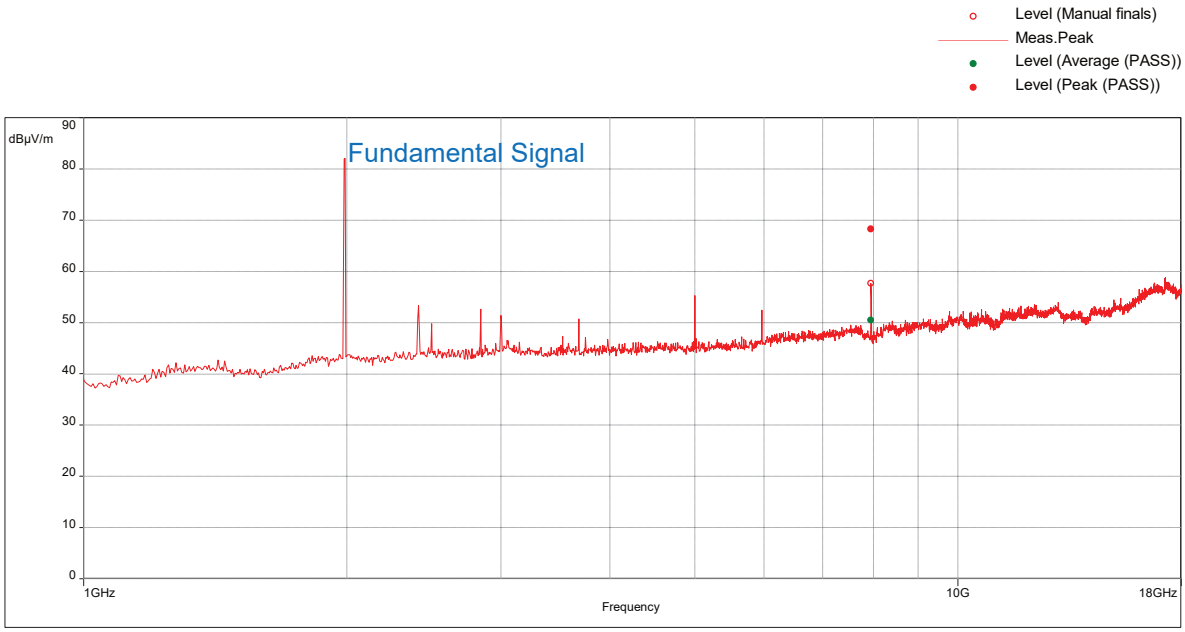
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.2-16QAM, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 6:38:50 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_16QAM_High Channel 1987.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
7949.473684	68.27	-26.99	-13	-13.99	128.00	2.00	Vertical	1000000.00	-6.29

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

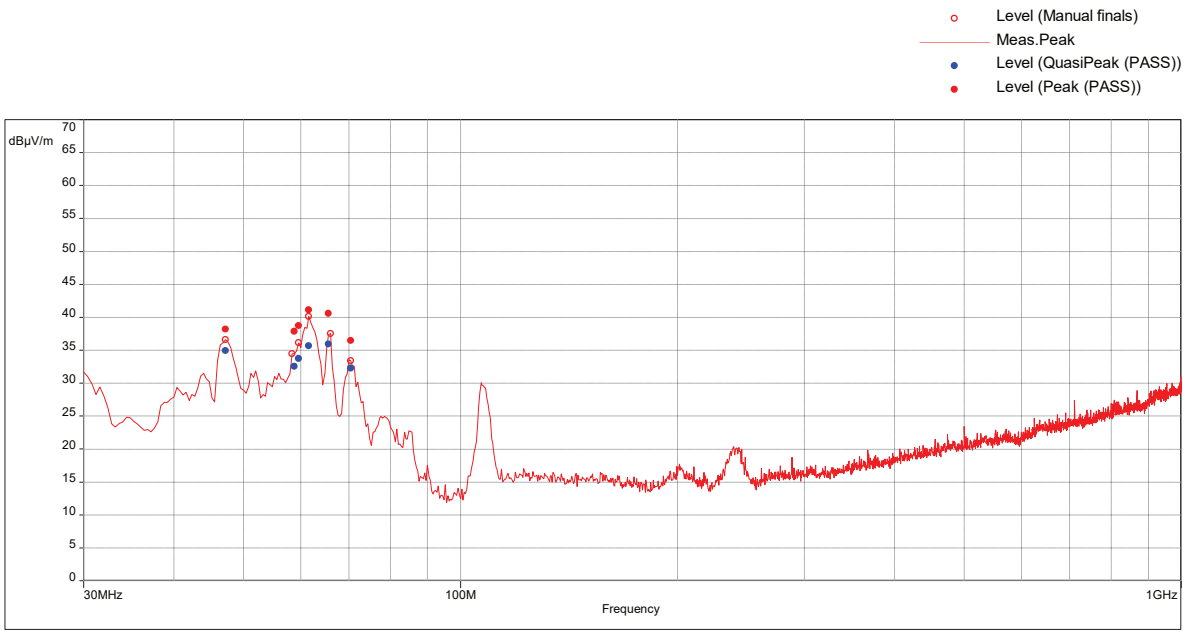
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.1-64QAM, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 2:02:01 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_64QAM_Low Channel 1932.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.32631579	38.18	-46.62	-13	-33.62	11.00	1.00	Vertical	120000.00	-23.86
58.96842105	37.83	-46.97	-13	-33.97	62.00	1.96	Vertical	120000.00	-25.46
59.50526316	38.75	-46.05	-13	-33.05	0.00	1.43	Vertical	120000.00	-25.40
61.50526316	41.15	-43.65	-13	-30.65	78.00	1.45	Vertical	120000.00	-25.17
65.71578947	40.59	-44.21	-13	-31.21	351.00	2.69	Vertical	120000.00	-24.80
70.43157895	36.45	-48.35	-13	-35.35	350.00	2.46	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

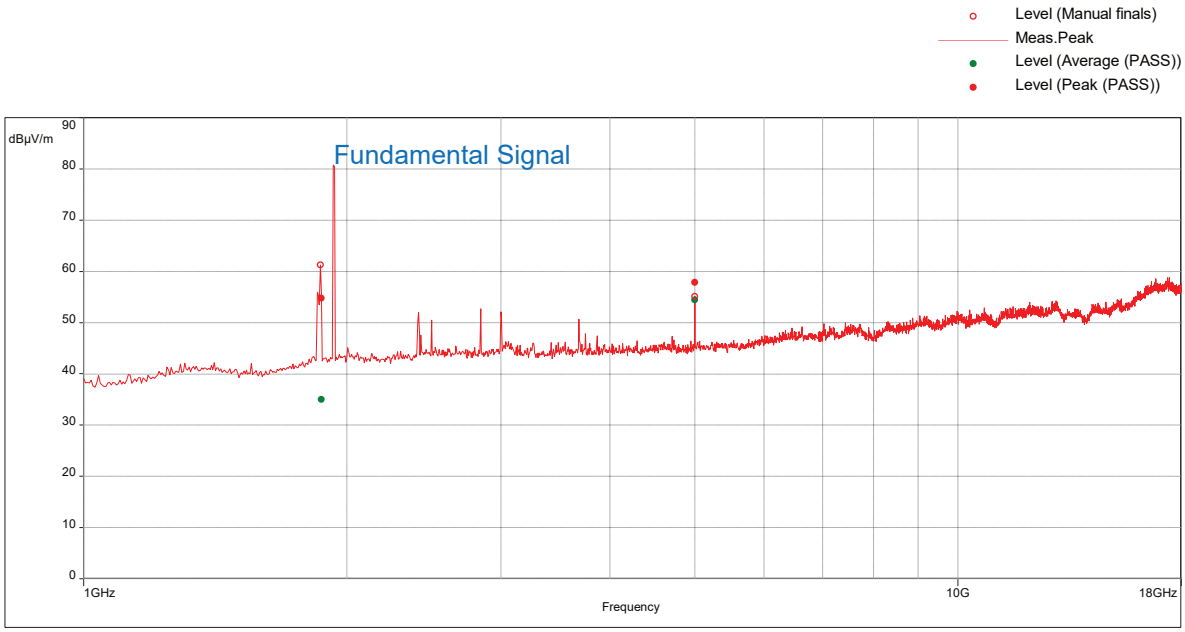
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.1-64QAM, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 5:34:28 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_64QAM_Low Channel 1932.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1867.631579	54.77	-40.49	-13	-27.49	284.00	1.11	Vertical	1000000.00	-16.52
5000	57.85	-37.41	-13	-24.41	19.00	1.90	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

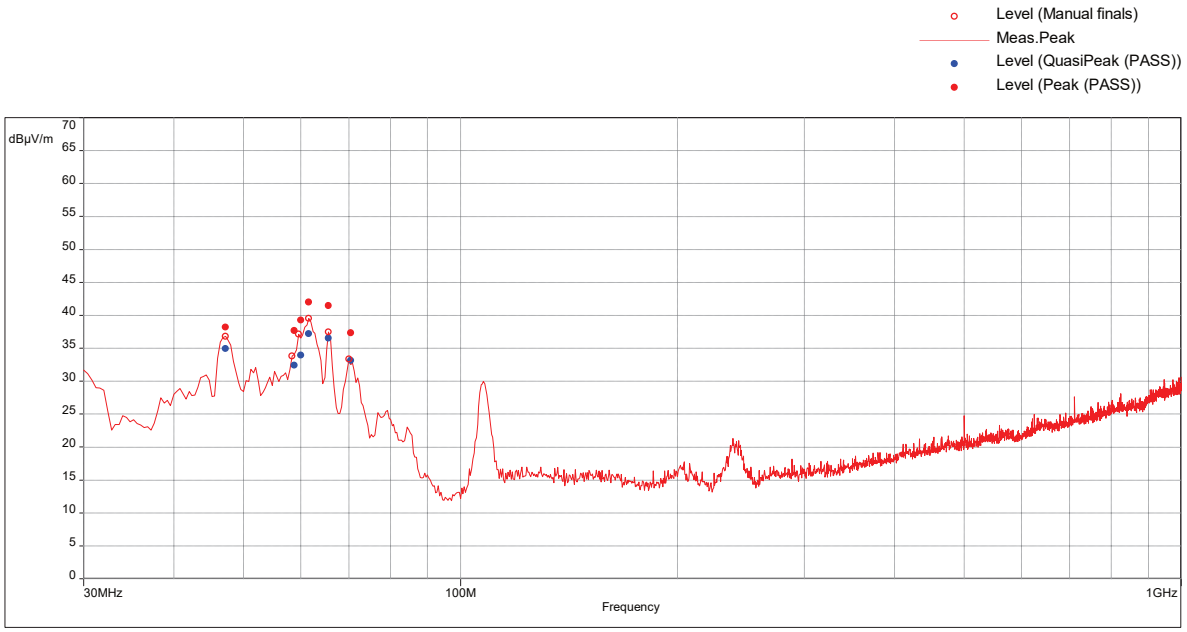
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.1-64QAM, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 2:48:53 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_64QAM_Mid Channel 1960MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.23157895	38.23	-46.57	-13	-33.57	0.00	1.00	Vertical	120000.00	-23.82
58.71578947	37.68	-47.12	-13	-34.12	63.00	2.26	Vertical	120000.00	-25.46
59.82105263	39.27	-45.53	-13	-32.53	92.00	2.32	Vertical	120000.00	-25.37
61.75789474	41.98	-42.82	-13	-29.82	306.00	1.45	Vertical	120000.00	-25.15
65.72631579	41.46	-43.34	-13	-30.34	359.00	2.10	Vertical	120000.00	-24.80
70.25263158	37.36	-47.44	-13	-34.44	328.00	2.11	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

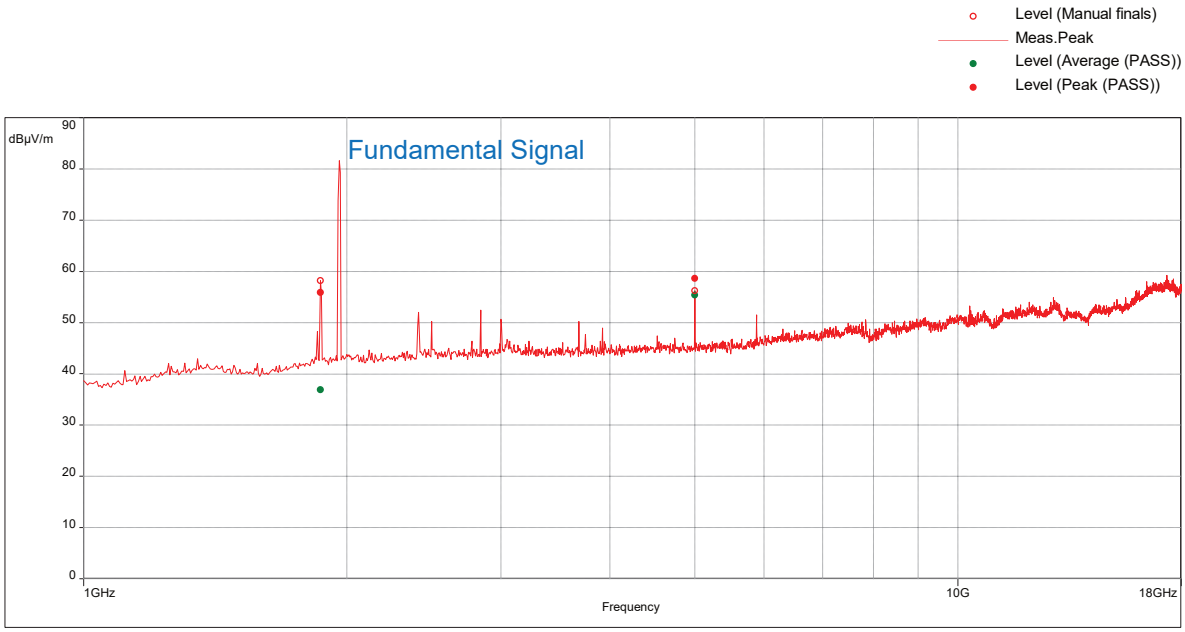
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.1-64QAM, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 5:53:35 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_64QAM_Mid Channel 1960MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1867.368421	55.86	-39.4	-13	-26.4	62.00	2.40	Vertical	1000000.00	-16.52
5000	58.65	-36.61	-13	-23.61	18.00	1.60	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

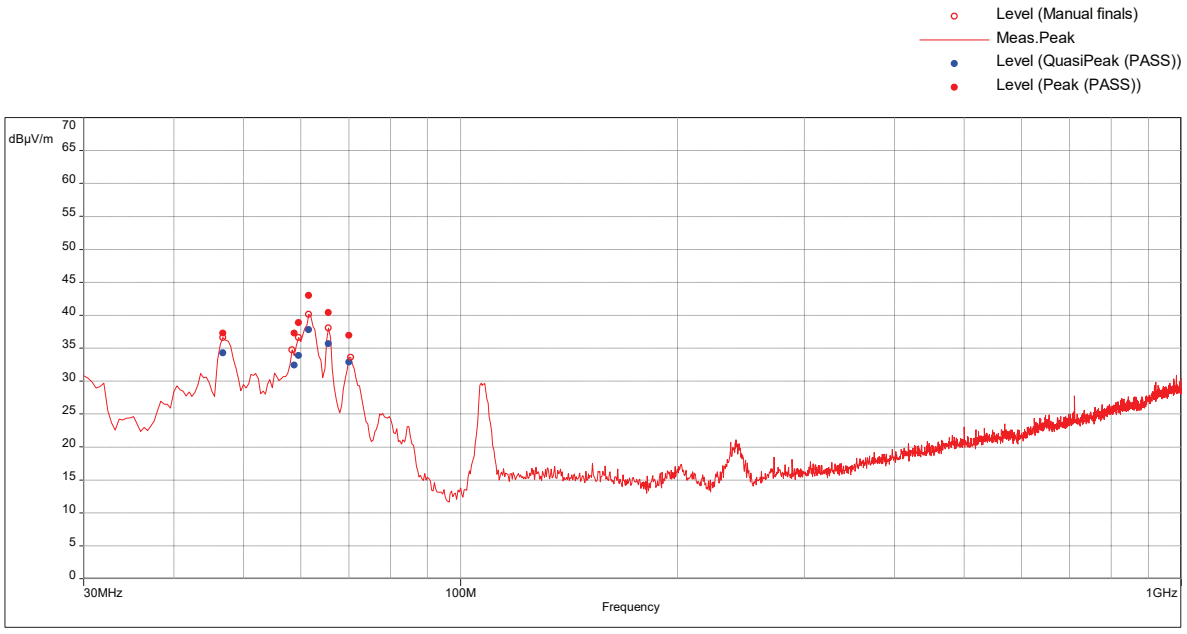
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.1-64QAM, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 2:51:08 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_64QAM_High Channel 1987.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
46.95789474	37.27	-47.53	-13	-34.53	85.00	1.00	Vertical	120000.00	-23.69
58.68421053	37.24	-47.56	-13	-34.56	69.00	2.02	Vertical	120000.00	-25.46
59.50526316	38.84	-45.96	-13	-32.96	62.00	2.04	Vertical	120000.00	-25.40
61.72631579	43	-41.8	-13	-28.8	327.00	1.58	Vertical	120000.00	-25.15
65.66315789	40.37	-44.43	-13	-31.43	84.00	1.89	Vertical	120000.00	-24.81
70.17894737	36.93	-47.87	-13	-34.87	350.00	2.11	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

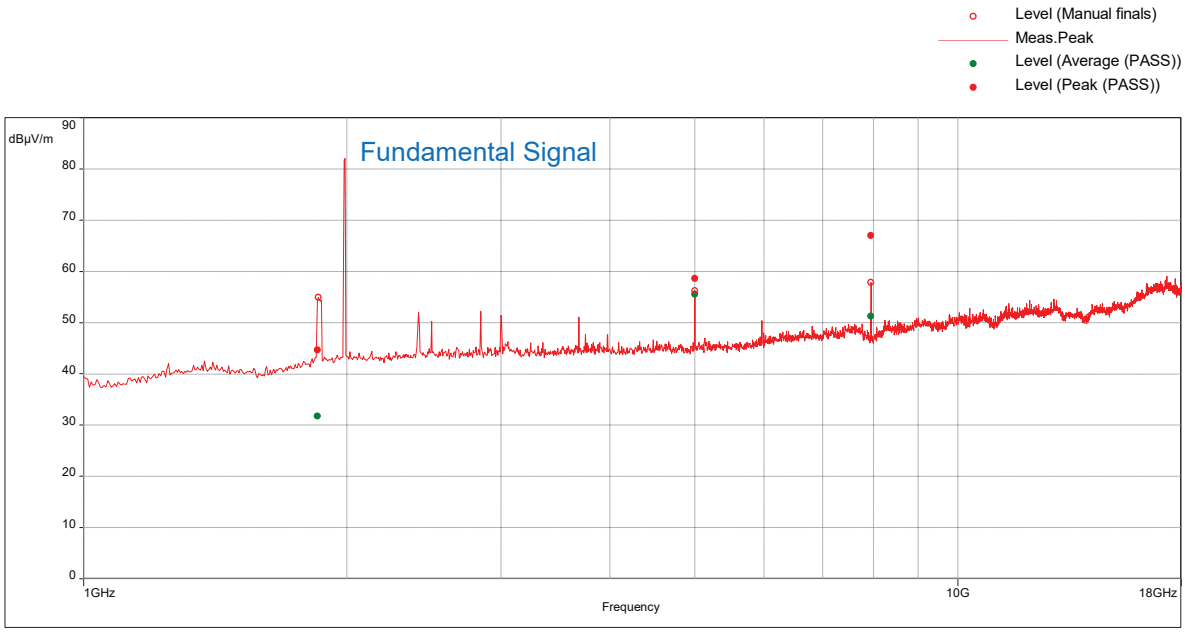
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.1-64QAM, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 6:12:28 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_64QAM_High Channel 1987.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level Peak (dBµV/m)	Level EIPR (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1852.105263	44.64	-50.62	-13	-37.62	202.00	1.30	Vertical	1000000.00	-16.52
5000	58.65	-36.61	-13	-23.61	16.00	1.75	Vertical	1000000.00	-9.72
7949.473684	67	-28.26	-13	-15.26	127.00	2.00	Vertical	1000000.00	-6.29

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

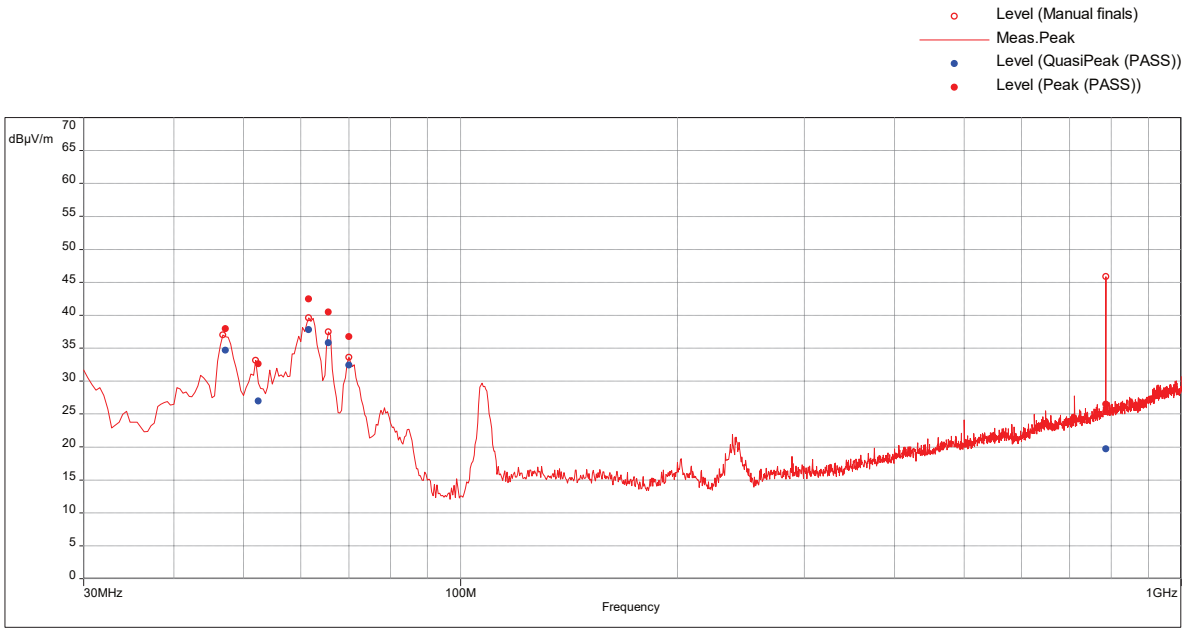
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.1a-256QAM, Bandwidth 5 MHz, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 3:15:44 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_256QAM_Low Channel 1932.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.05263158	37.92	-46.88	-13	-33.88	61.00	1.00	Vertical	120000.00	-23.73
52.22105263	32.64	-52.16	-13	-39.16	69.00	2.16	Vertical	120000.00	-25.29
61.69473684	42.43	-42.37	-13	-29.37	327.00	2.39	Vertical	120000.00	-25.15
65.66315789	40.44	-44.36	-13	-31.36	357.00	2.71	Vertical	120000.00	-24.81
70.18947368	36.75	-48.05	-13	-35.05	91.00	1.94	Vertical	120000.00	-24.51
785.9368421	26.5	-58.3	-13	-45.3	188.00	3.47	Vertical	120000.00	-7.50

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

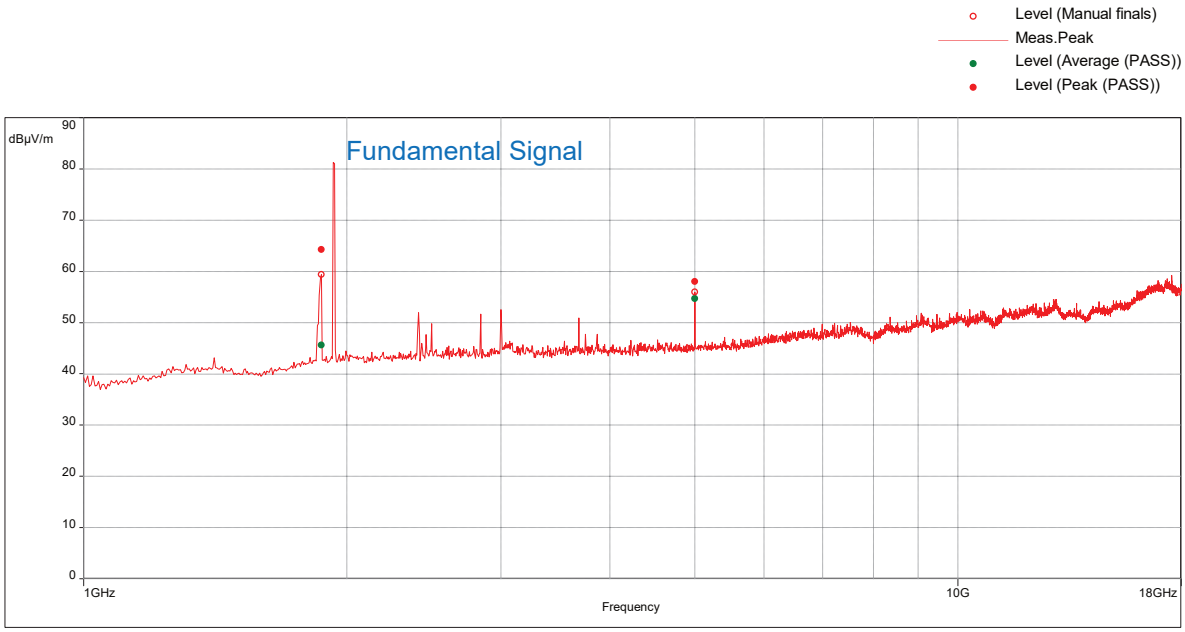
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.1a-256QAM, Transmit @ Low Channel 1932.5 MHz

Test Information:

Date and Time	10/25/2020 5:14:55 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_256QAM_Low 1932.5MH, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1867.631579	64.24	-31.02	-13	-18.02	121.00	1.06	Vertical	1000000.00	-16.52
5000	57.99	-37.27	-13	-24.27	10.00	1.60	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

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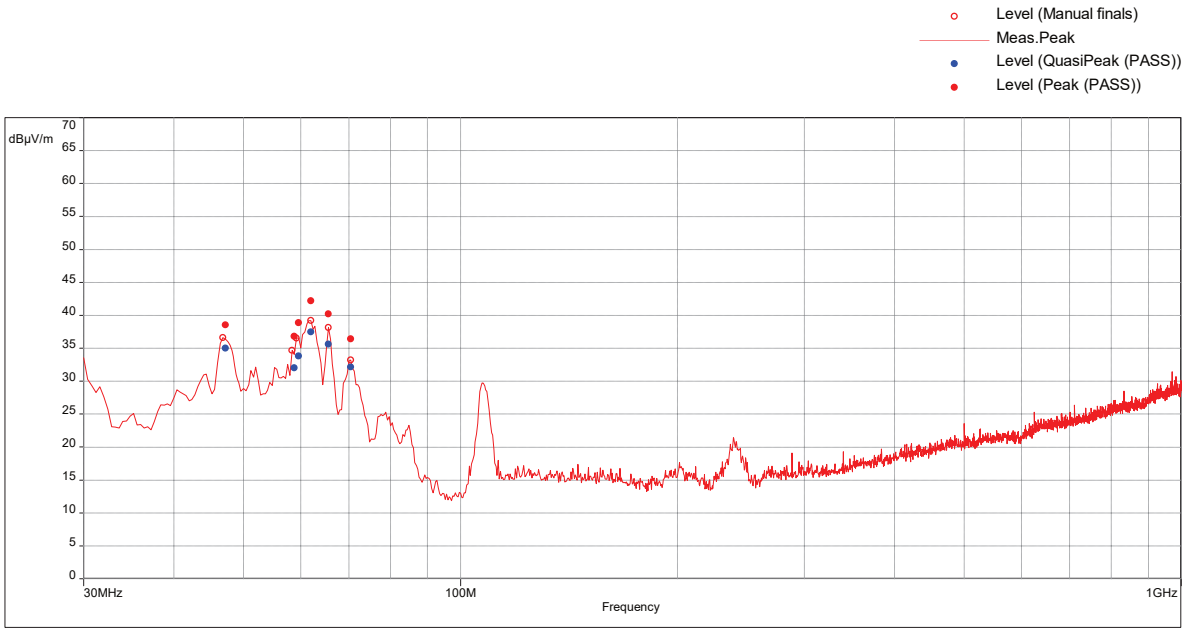
Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.1a-256QAM, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 3:39:34 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_256QAM_Mid Channel 1960MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.27368421	38.5	-46.3	-13	-33.3	0.00	1.00	Vertical	120000.00	-23.84
58.90526316	36.79	-48.01	-13	-35.01	4.00	2.25	Vertical	120000.00	-25.46
59.73684211	38.84	-45.96	-13	-32.96	47.00	1.88	Vertical	120000.00	-25.38
61.93684211	42.22	-42.58	-13	-29.58	334.00	1.88	Vertical	120000.00	-25.13
65.69473684	40.16	-44.64	-13	-31.64	84.00	1.58	Vertical	120000.00	-24.81
70.21052632	36.42	-48.38	-13	-35.38	245.00	2.24	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

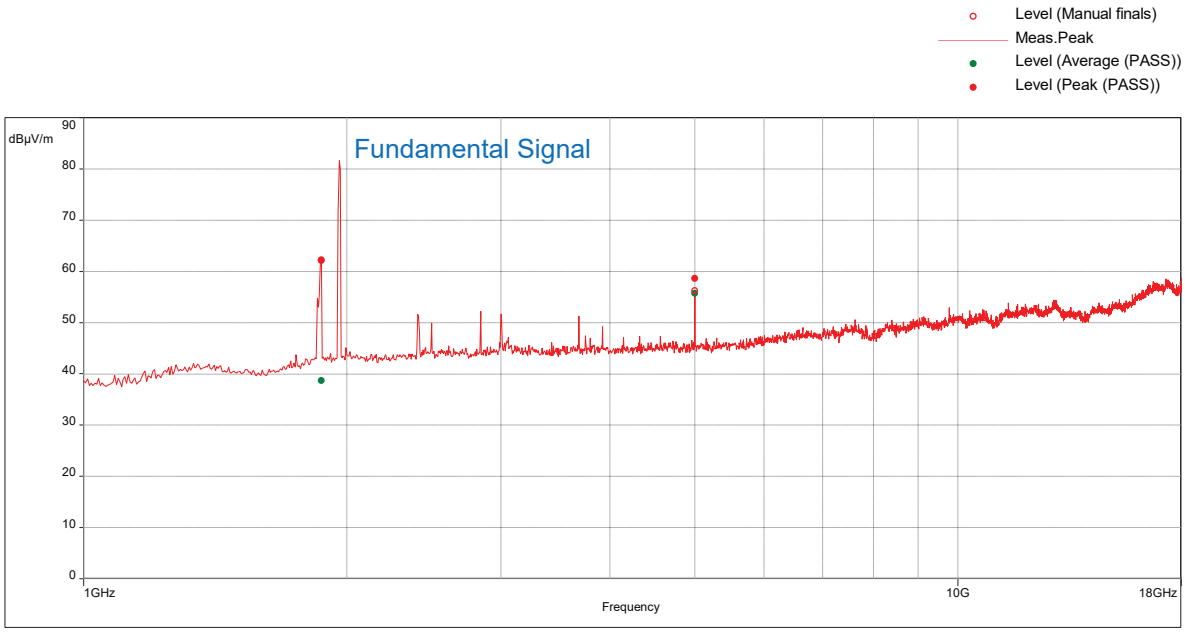
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.1a-256QAM, Bandwidth 5 MHz, Transmit @ Mid Channel 1960 MHz

Test Information:

Date and Time	10/25/2020 4:57:22 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_256QAM_Mid 1960MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1868.157895	62.13	-33.13	-13	-20.13	16.00	3.79	Vertical	1000000.00	-16.52
5000	58.65	-36.61	-13	-23.61	17.00	1.75	Vertical	1000000.00	-9.72

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

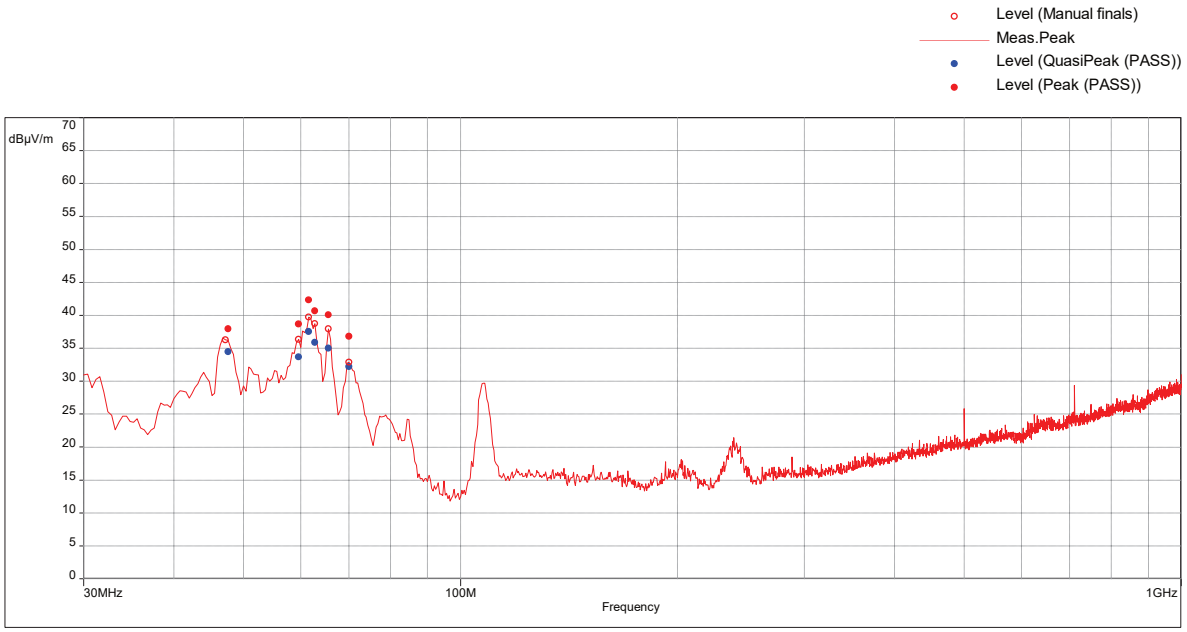
Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Radiated Spurious Emissions, 30-1000 MHz
Band 2, Modulation: TM3.1a-256QAM, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 4:04:12 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_256QAM_High Channel 1987.5MHz, 30-1000MHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
47.48421053	37.93	-46.87	-13	-33.87	248.00	1.00	Vertical	120000.00	-23.94
59.47368421	38.64	-46.16	-13	-33.16	4.00	1.81	Vertical	120000.00	-25.41
61.69473684	42.34	-42.46	-13	-29.46	298.00	1.94	Vertical	120000.00	-25.15
62.83157895	40.68	-44.12	-13	-31.12	352.00	2.41	Vertical	120000.00	-25.02
65.69473684	40.05	-44.75	-13	-31.75	25.00	3.55	Vertical	120000.00	-24.81
70.18947368	36.77	-48.03	-13	-35.03	232.00	2.33	Vertical	120000.00	-24.51

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

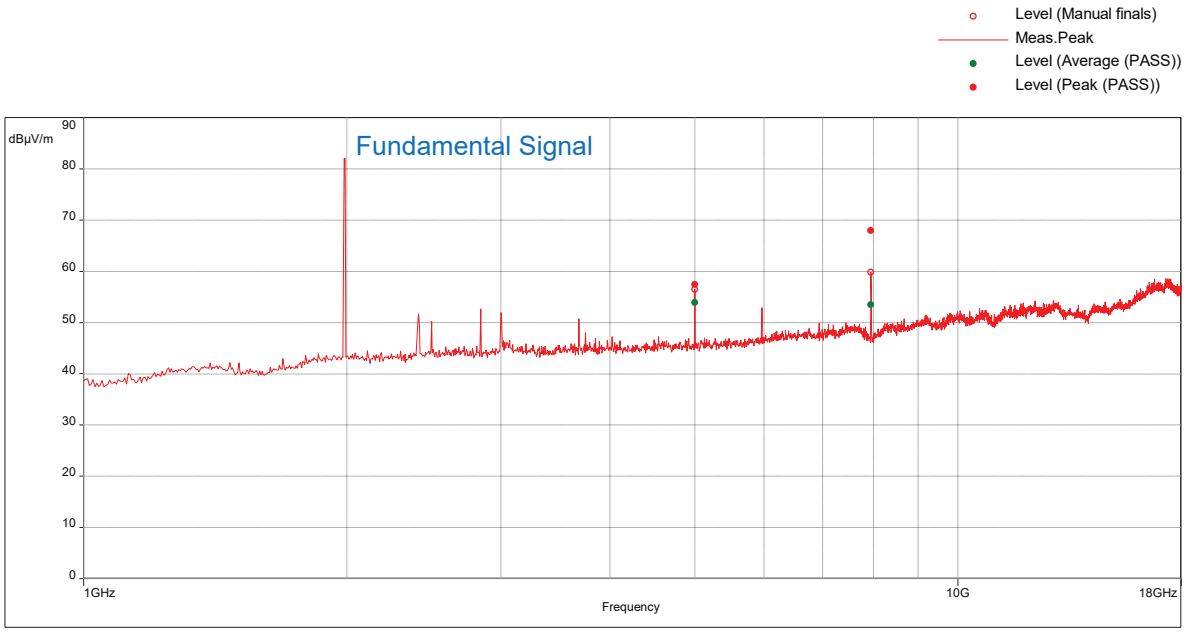
Peak (EIRP) = Peak (dBµV/m) – 84.8, where D = 10 m

Radiated Spurious Emissions, 1-20 GHz
Band 2, Modulation: TM3.1a-256QAM, Bandwidth 5 MHz, Transmit @ High Channel 1987.5 MHz

Test Information:

Date and Time	10/25/2020 4:39:51 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	20C
Humidity	45%
Atmospheric Pressure	1016mbar
Comments	Band 2_5 MHz Bandwidth_256QAM_High Channel 1987.5MHz, 1 to 18 GHz

Graph:



Results:

Radiated Emissions (EIRP)

Frequency (MHz)	Level (dBµV/m)	Level EIRP (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
5000.263158	57.45	-37.81	-13	-24.81	17.00	1.60	Vertical	1000000.00	-9.72
7949.736842	67.91	-27.35	-13	-14.35	127.00	2.00	Vertical	1000000.00	-6.29

Notes: Manual scan was performed from 18-20 GHz at 10 cm distance no emissions were detected above the measuring equipment noise floor.

ANSI C63.26-2015 Section 5.2.7 (d), EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

Peak (EIRP) = Peak (dBµV/m) – 95.26, where D = 3 m

Test Personnel:	Kouma Sinn KPS	Test Date:	10/15/2020, 10/16/2020, 10/25/2020
Supervising/Reviewing Engineer: (Where Applicable)	N/A		
Product Standard:	FCC Part 24	Limit Applied:	See report section 9.3
Input Voltage:	48 VDC (POE)		
Pretest Verification w/ Ambient Signals or BB Source:	Yes	Ambient Temperature:	22, 22, 20 ºC
		Relative Humidity:	45, 43, 45 %
		Atmospheric Pressure:	1006, 1007, 1016 mbars

Deviations, Additions, or Exclusions: None

10 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	12/22/2020	104194737BOX-001g	KPS	NNA	Original Issue