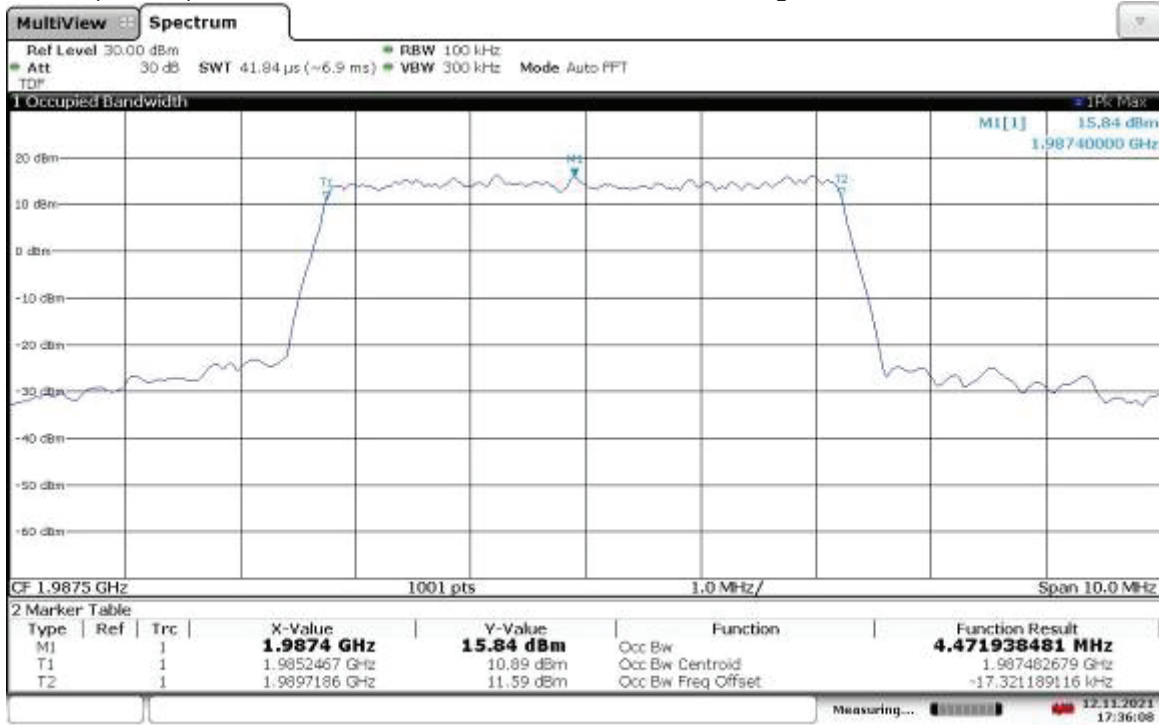
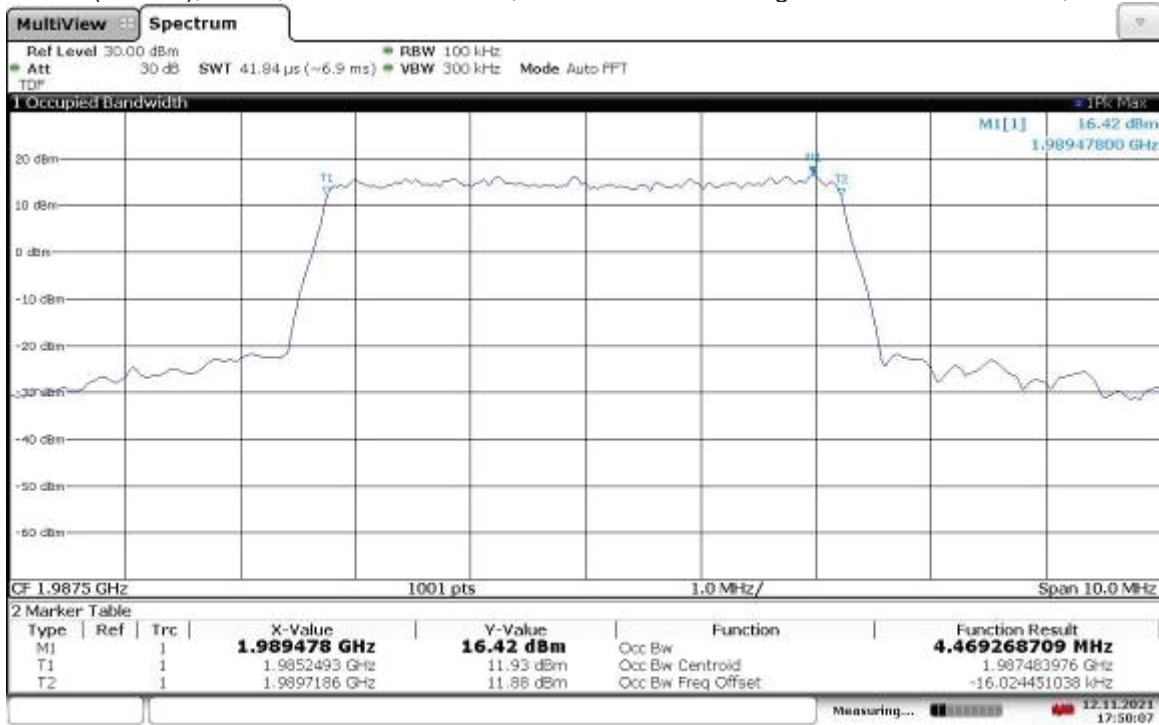


Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, -10 °C



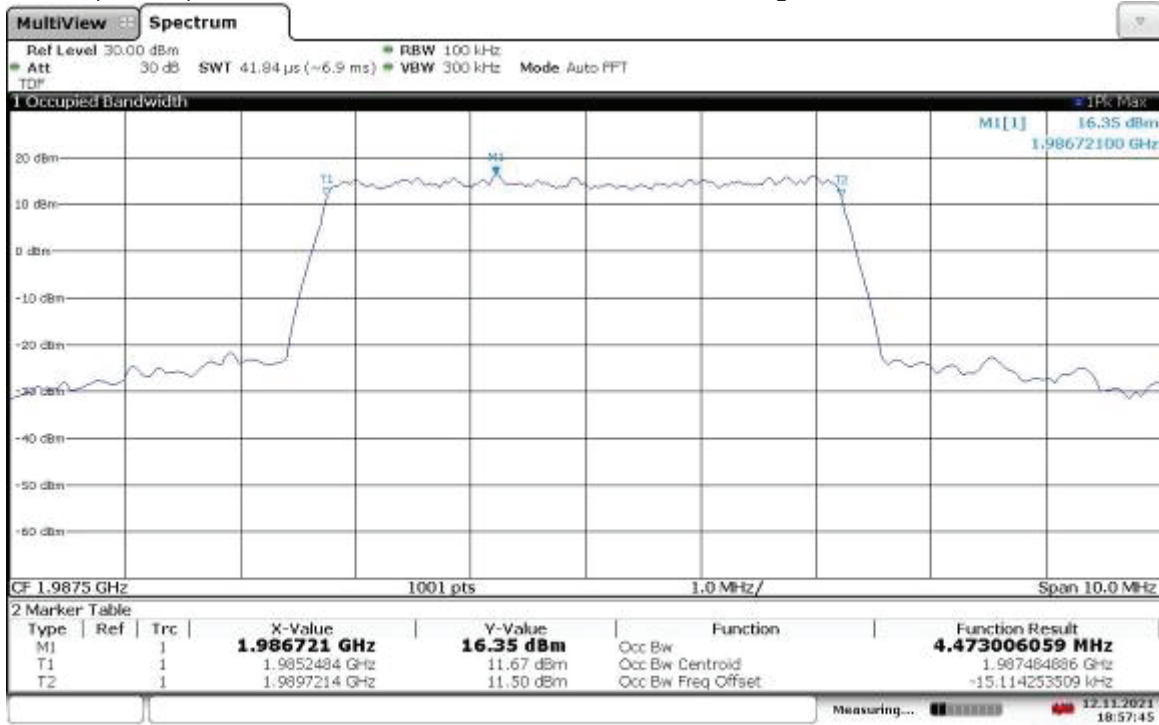
17:36:08 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, -20 °C



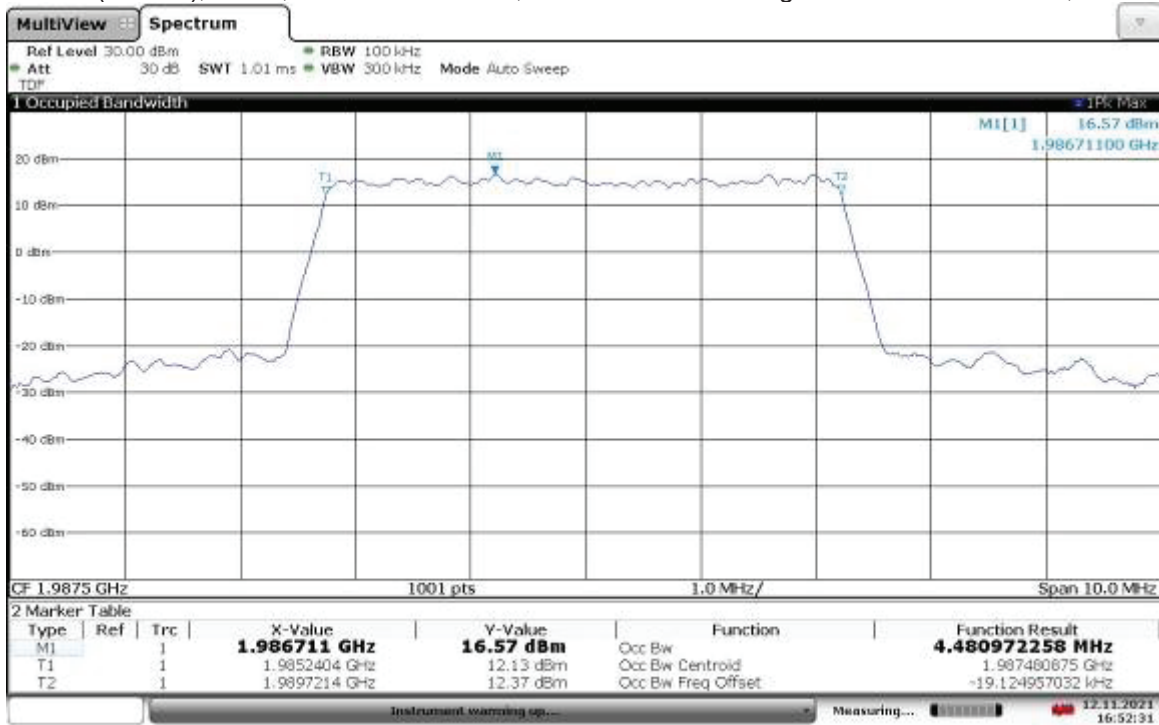
17:50:07 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, -30 °C



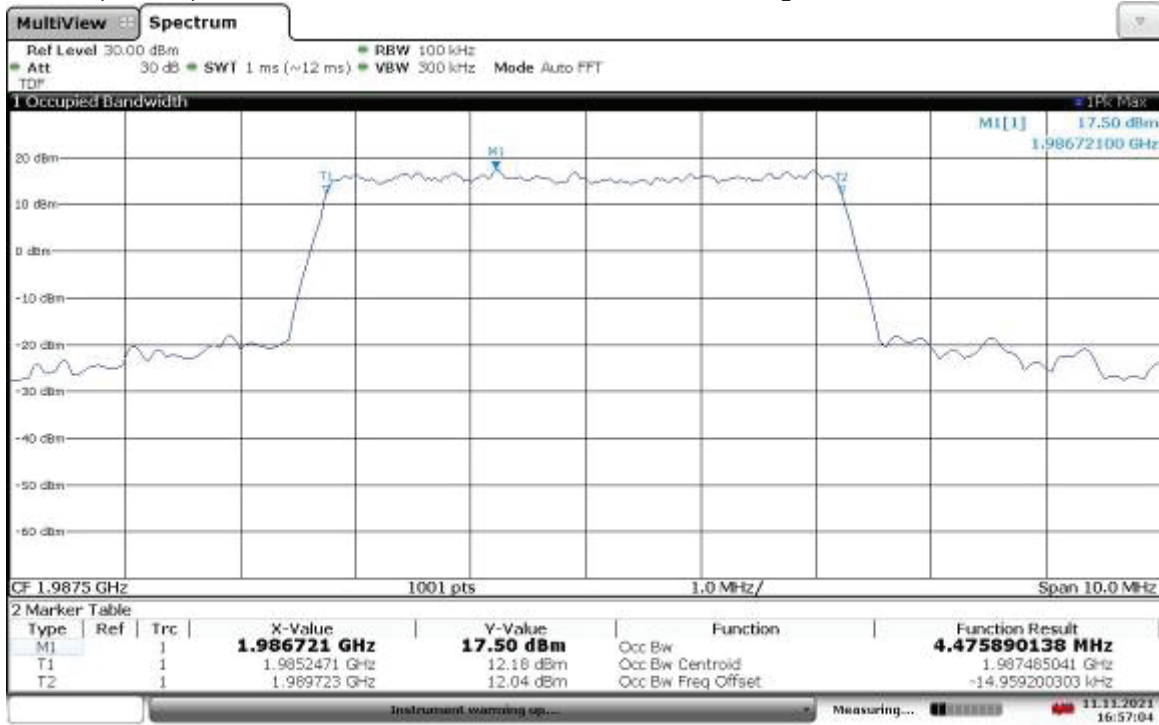
18:57:46 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, 10 °C



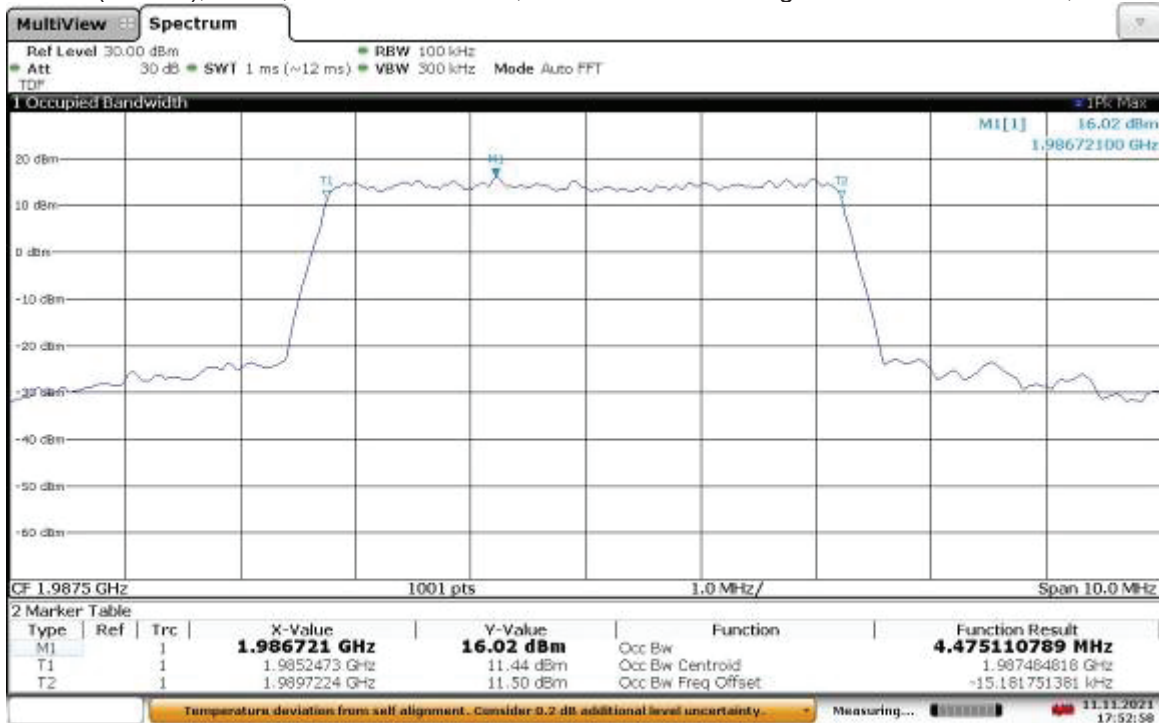
16:52:31 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, 20 °C



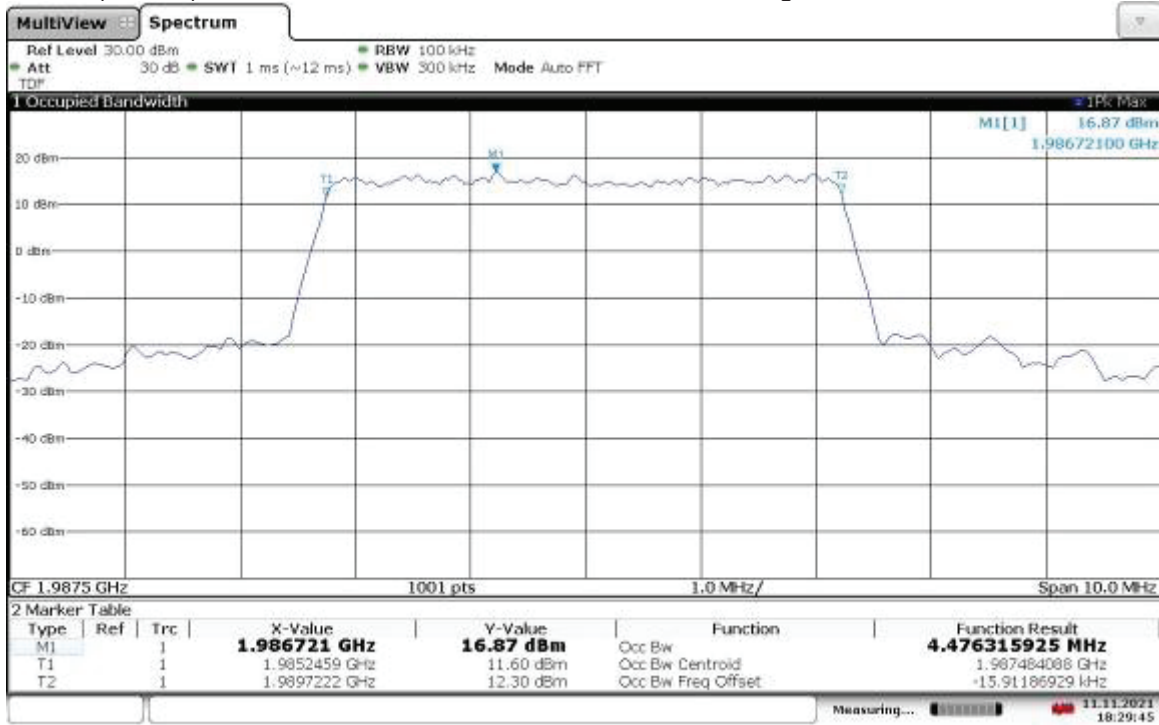
16:57:05 11.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, 30 °C



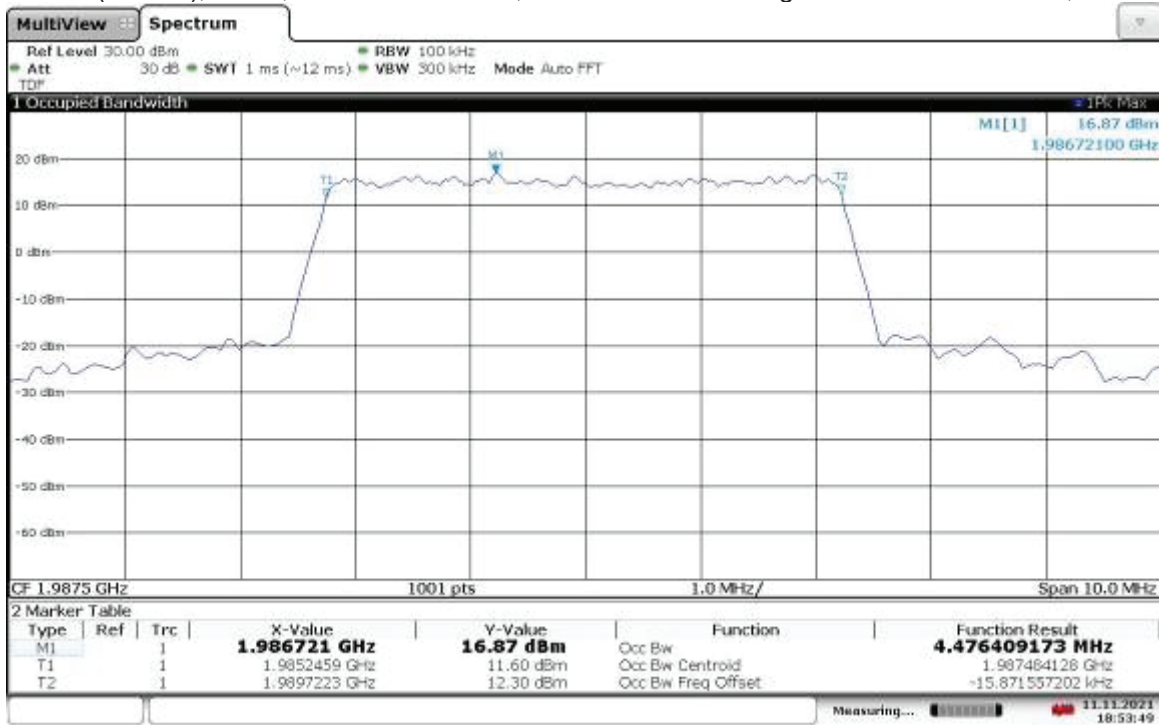
17:52:58 11.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, 40 °C



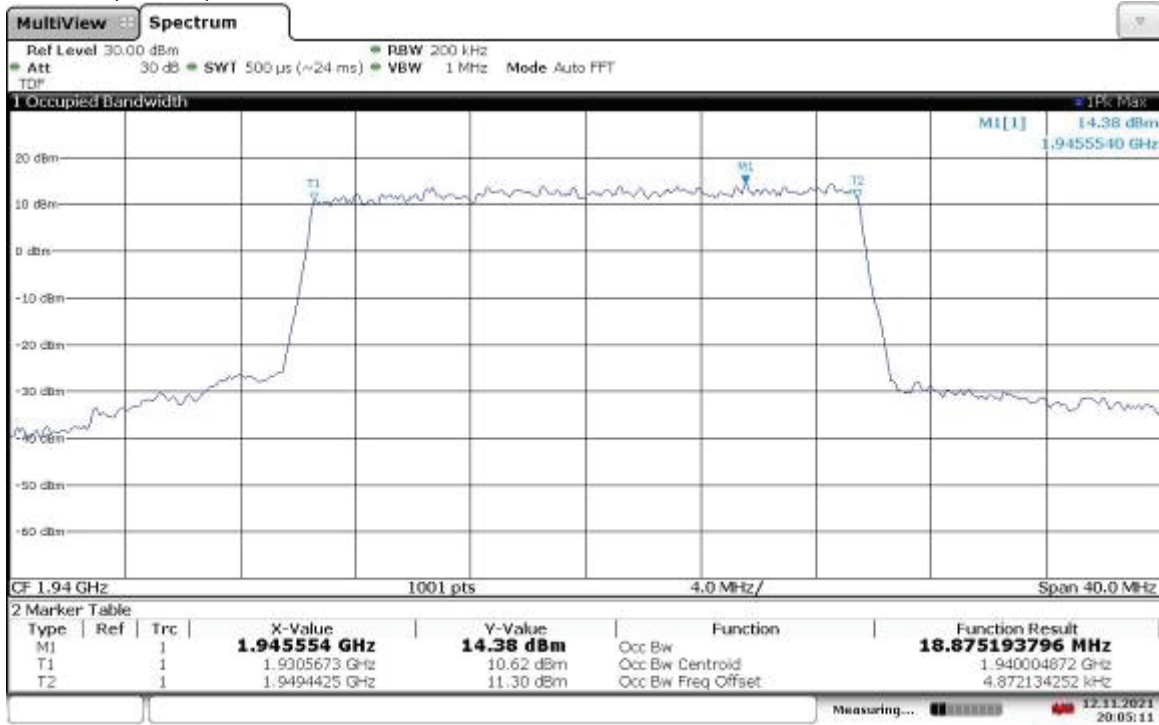
18:29:45 11.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz High Channel 1987.5 MHz, 50 °C



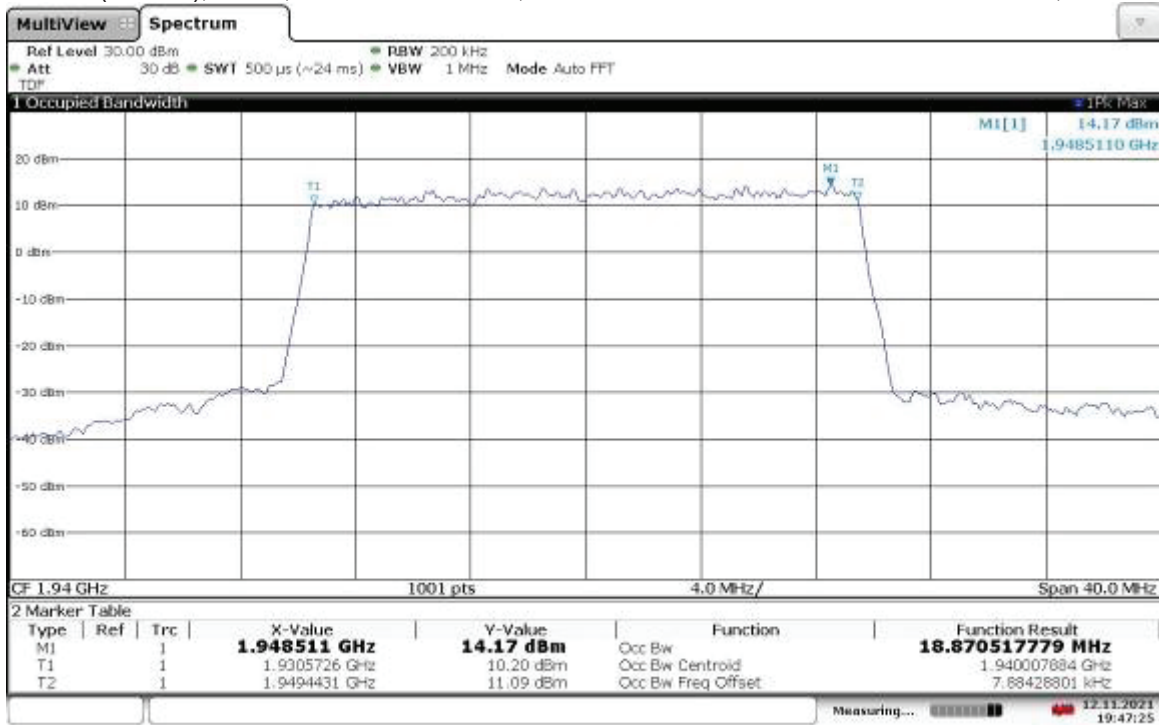
18:53:50 11.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, 0 °C



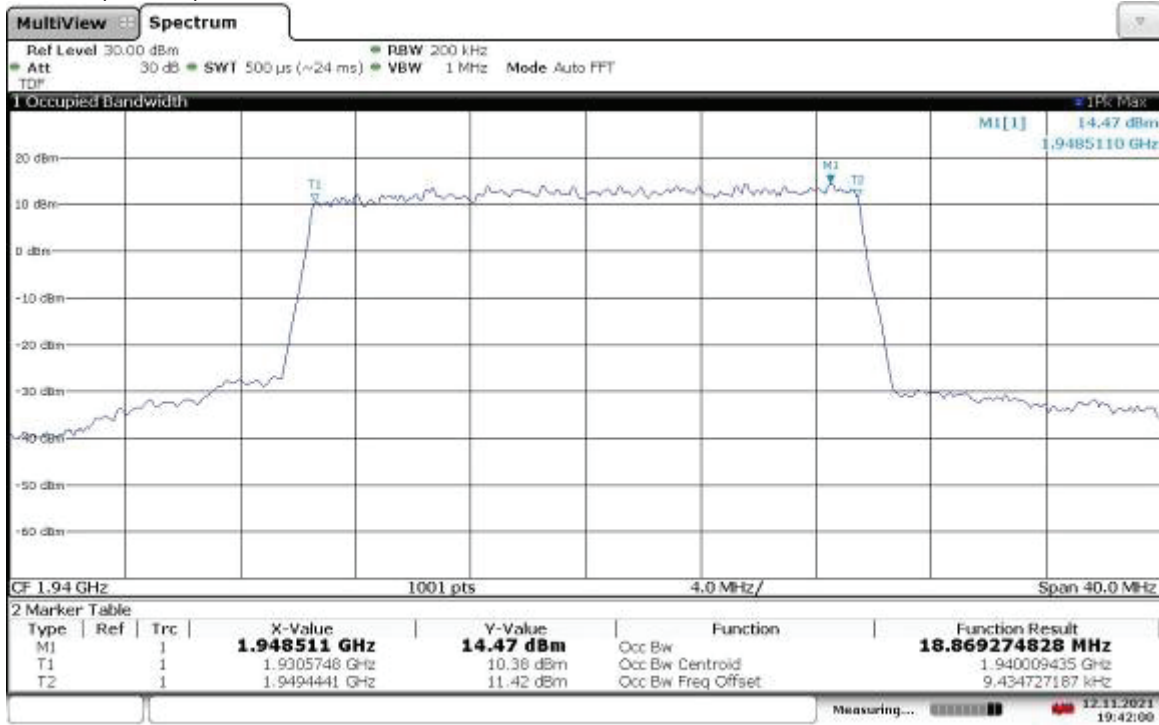
20:05:11 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, -10 °C



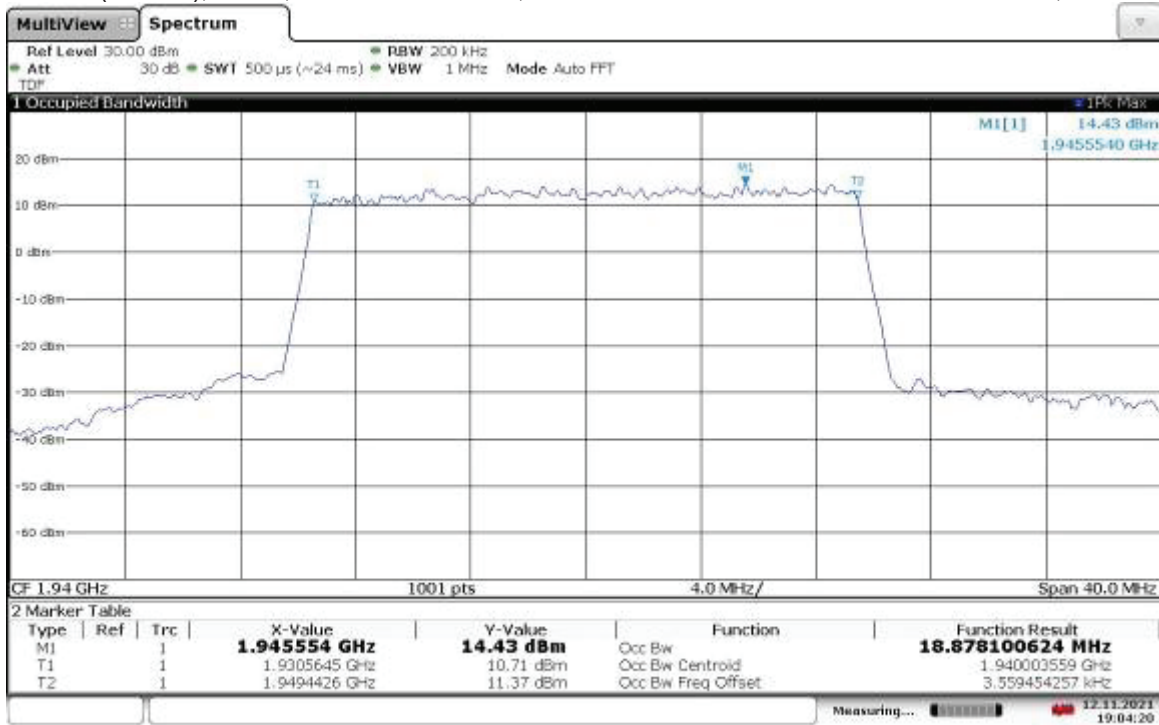
19:47:26 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, -20 °C



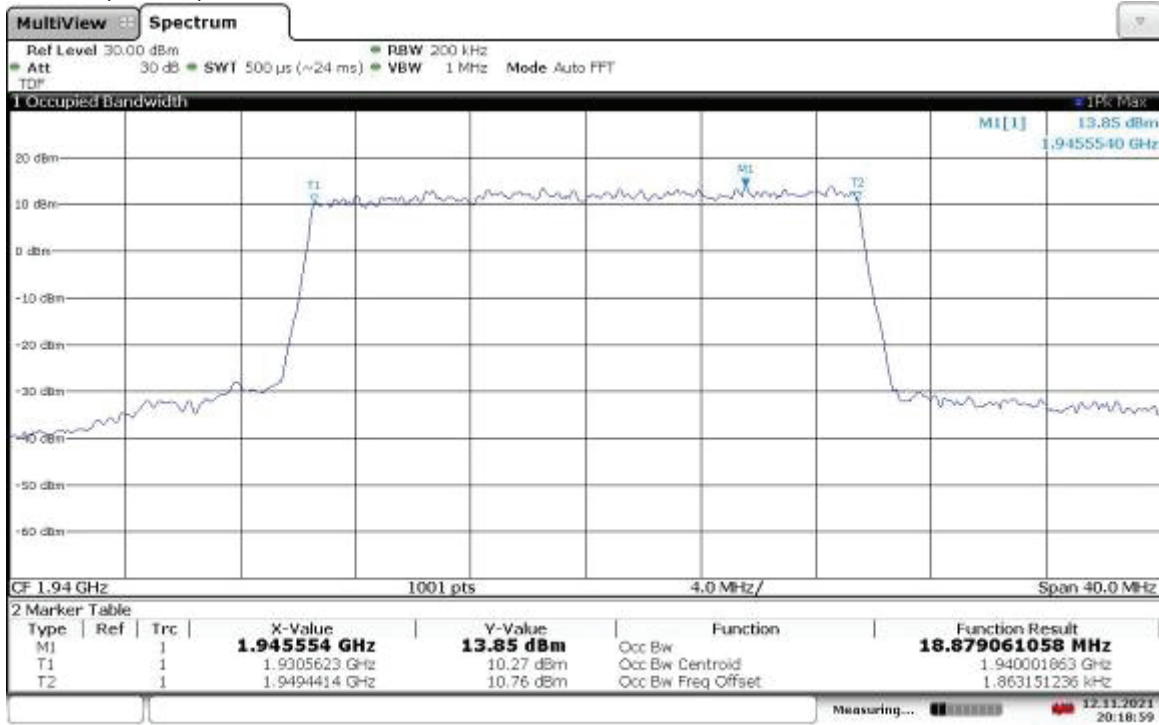
19:42:01 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, -30 °C



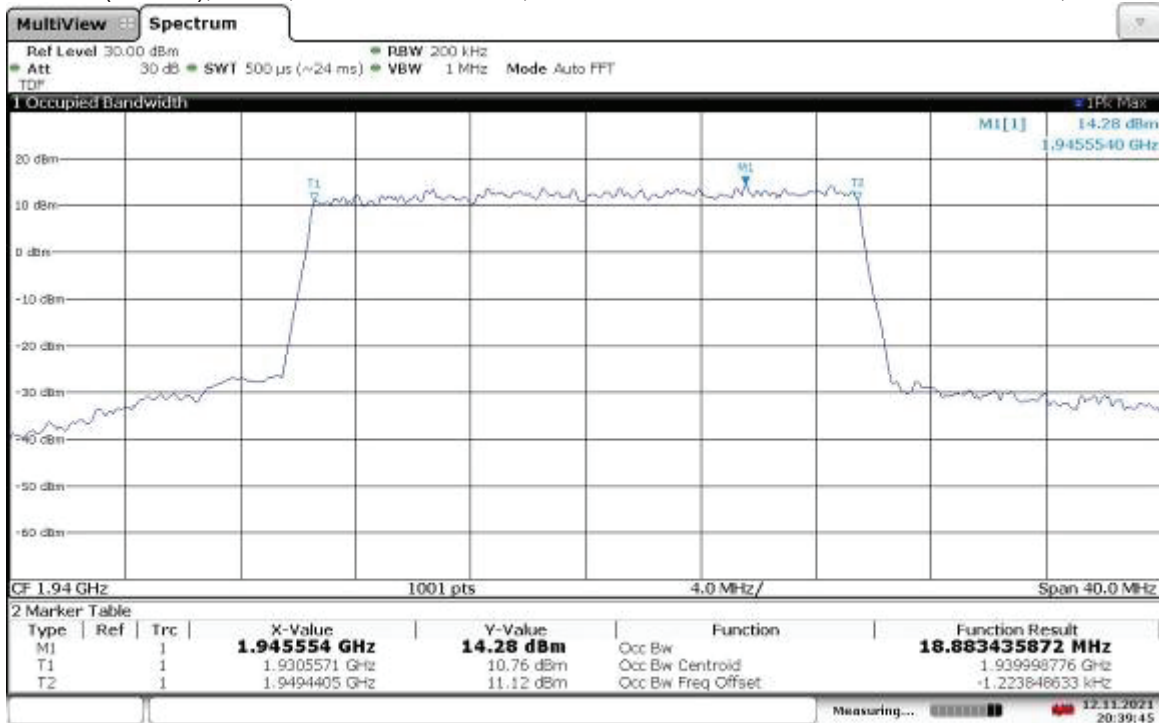
19:04:20 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, 10 °C



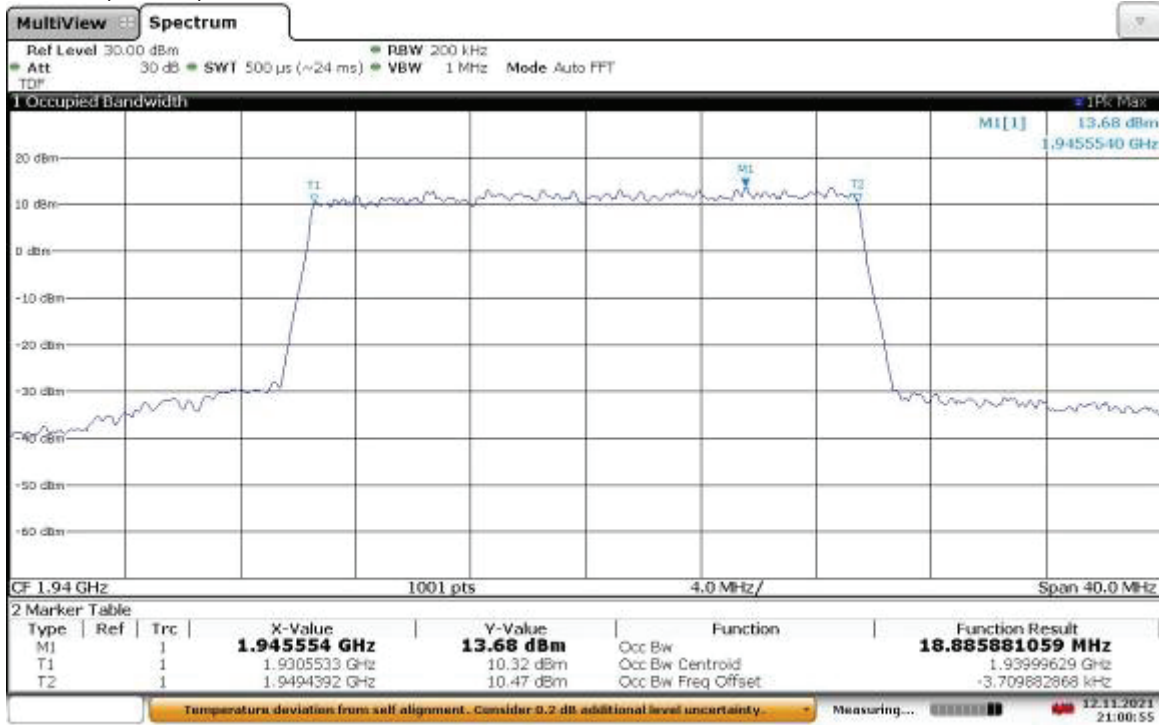
20:18:59 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, 20 °C



20:39:46 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, 30 °C



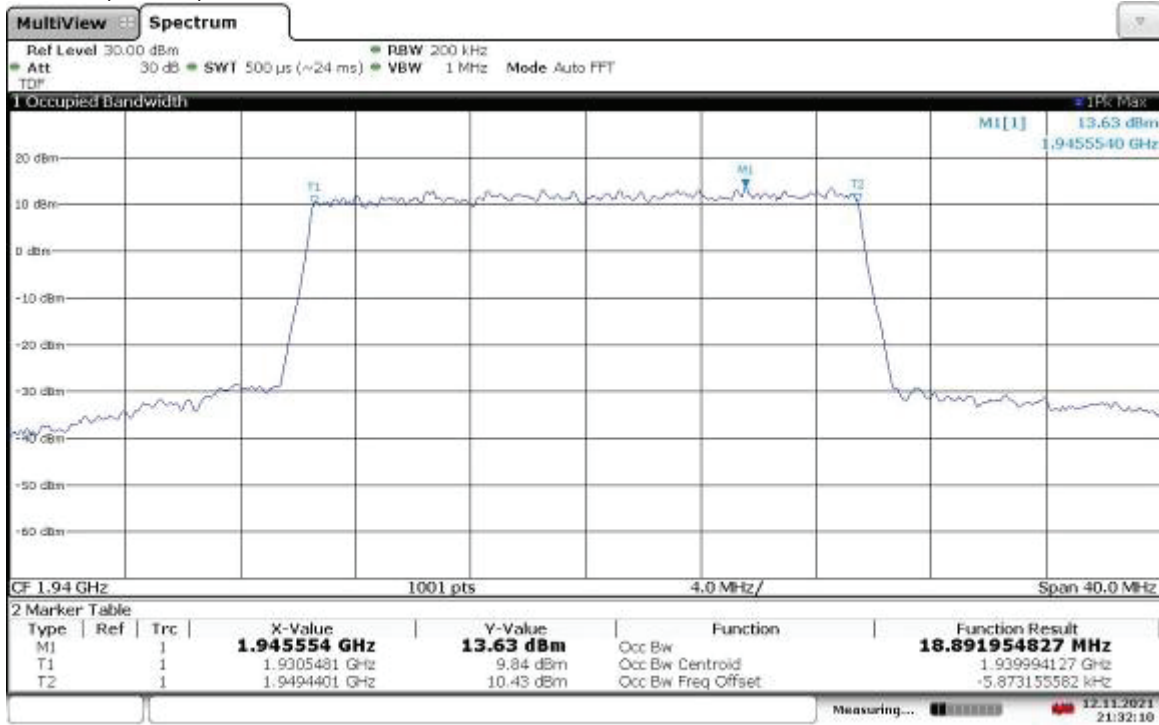
21:00:55 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, 40 °C



21:15:13 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz Low Channel 1940 MHz, 50 °C



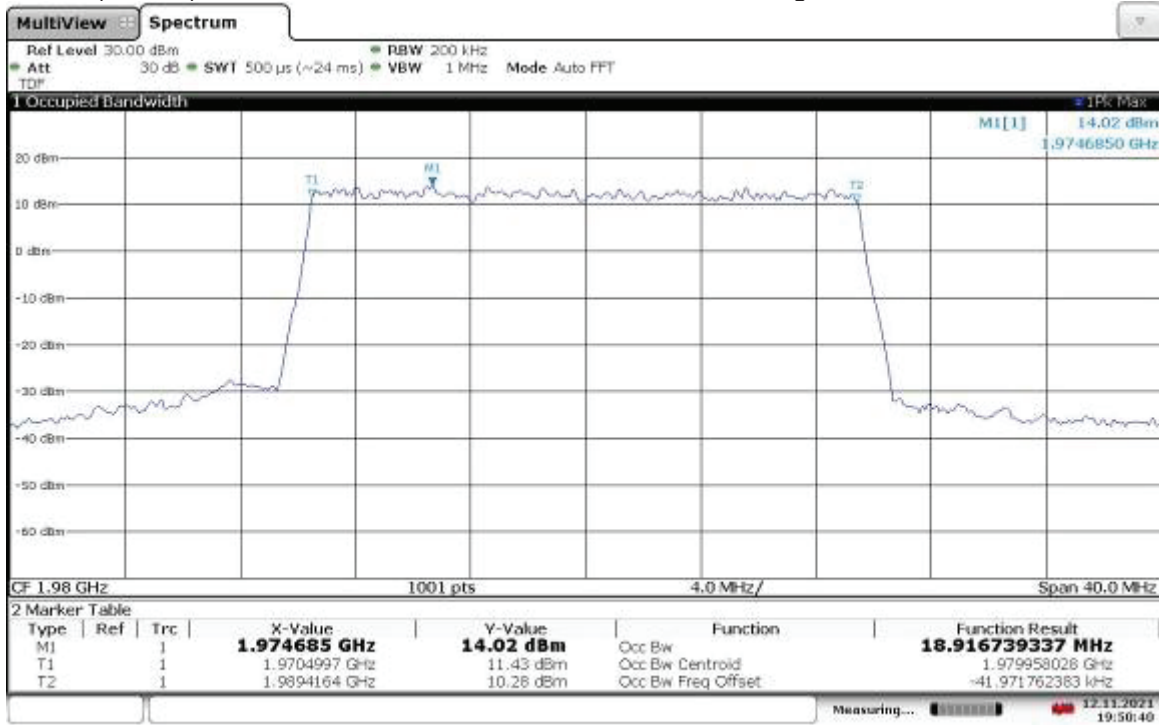
21:32:11 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, 0 °C



20:03:35 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, -10 °C



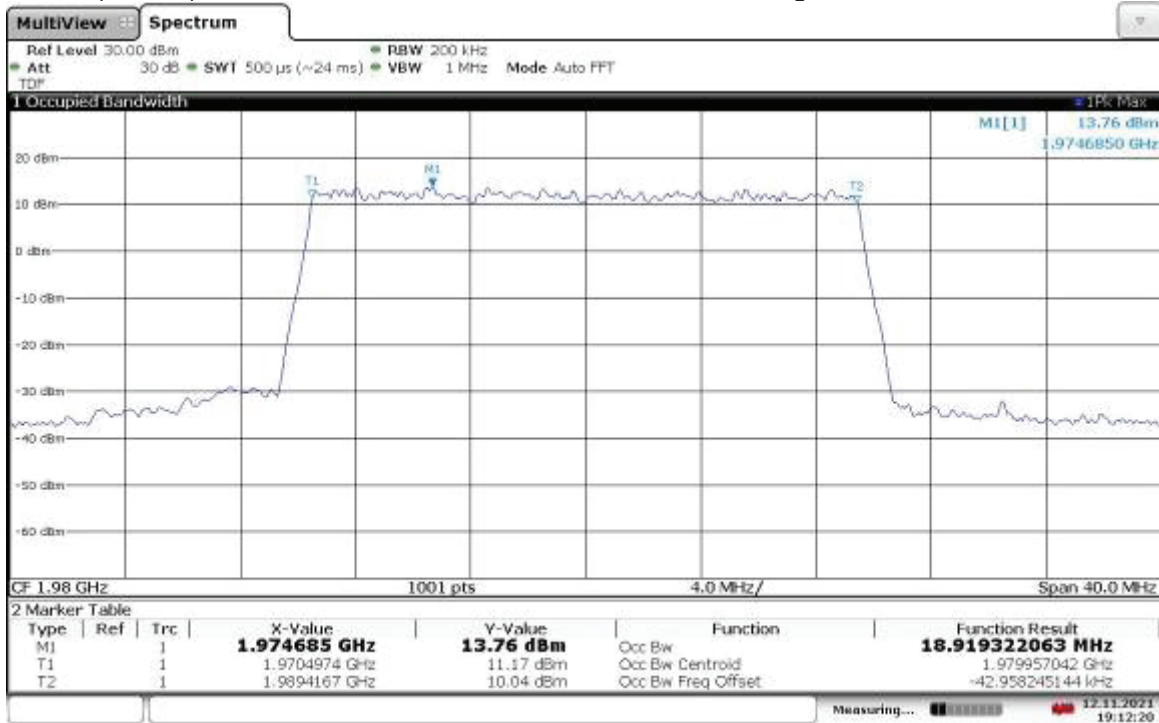
19:50:41 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, -20 °C



19:40:20 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, -30 °C



19:12:20 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, 10 °C



20:20:52 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, 20 °C



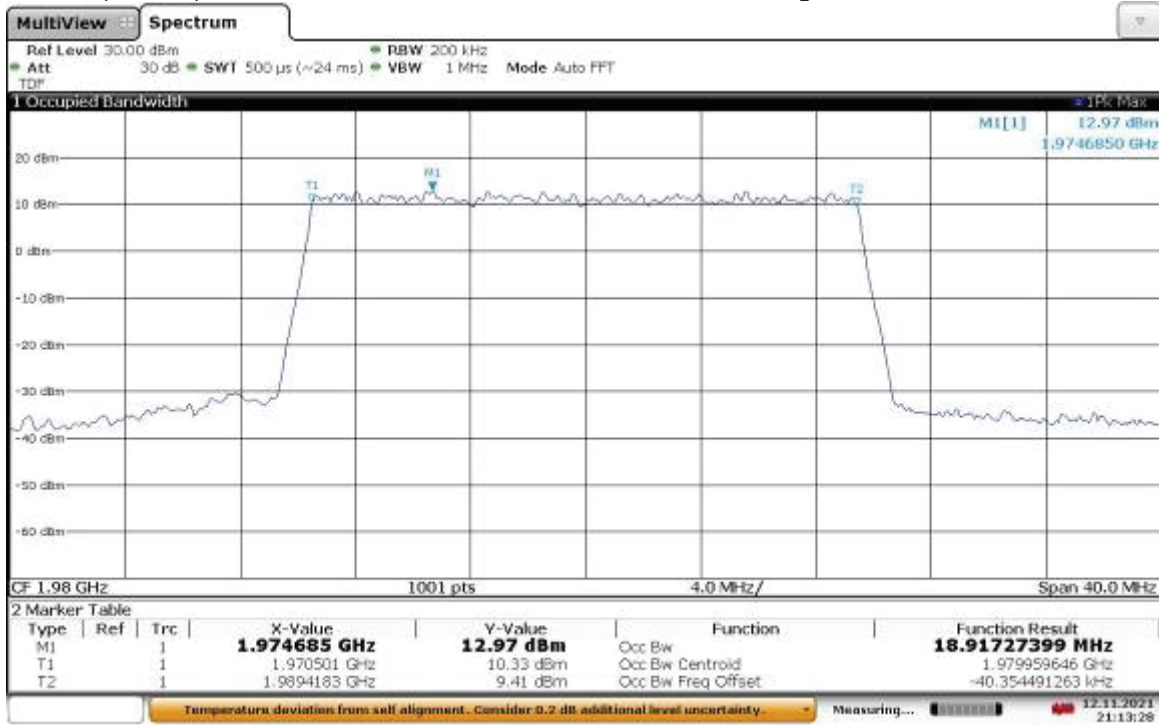
20:38:13 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, 30 °C



21:02:43 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, 40 °C



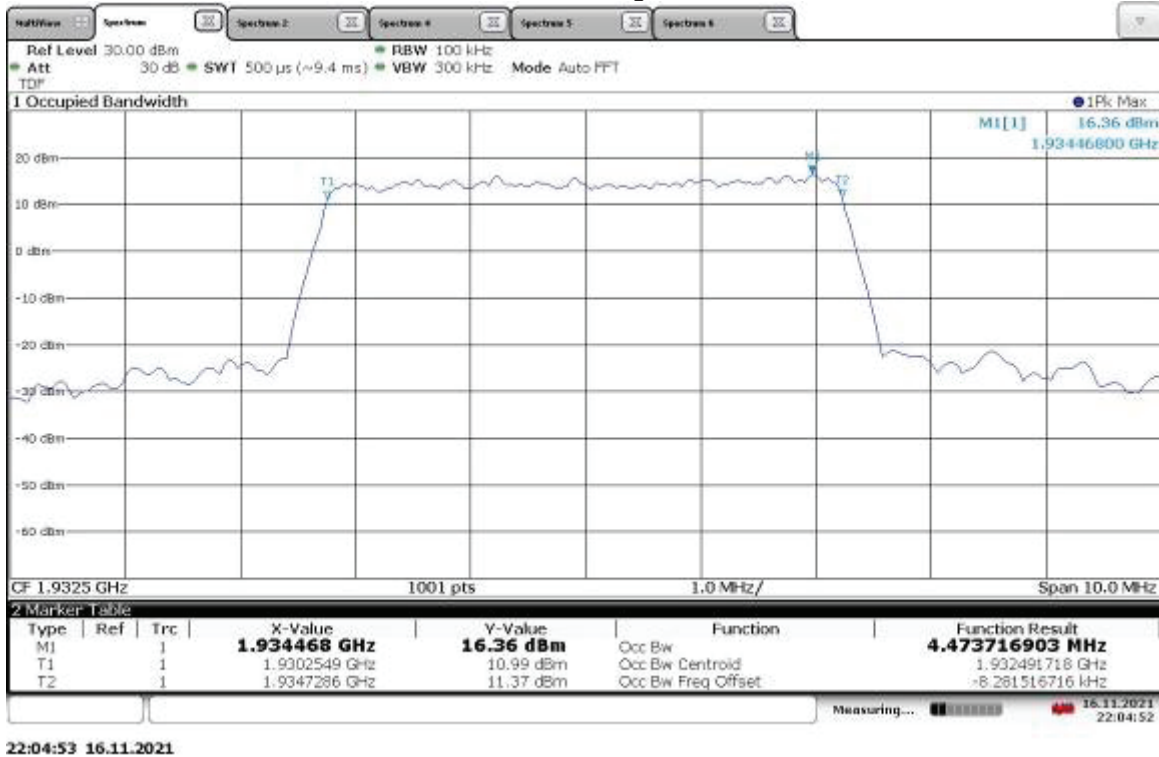
21:13:28 12.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz High Channel 1980 MHz, 50 °C

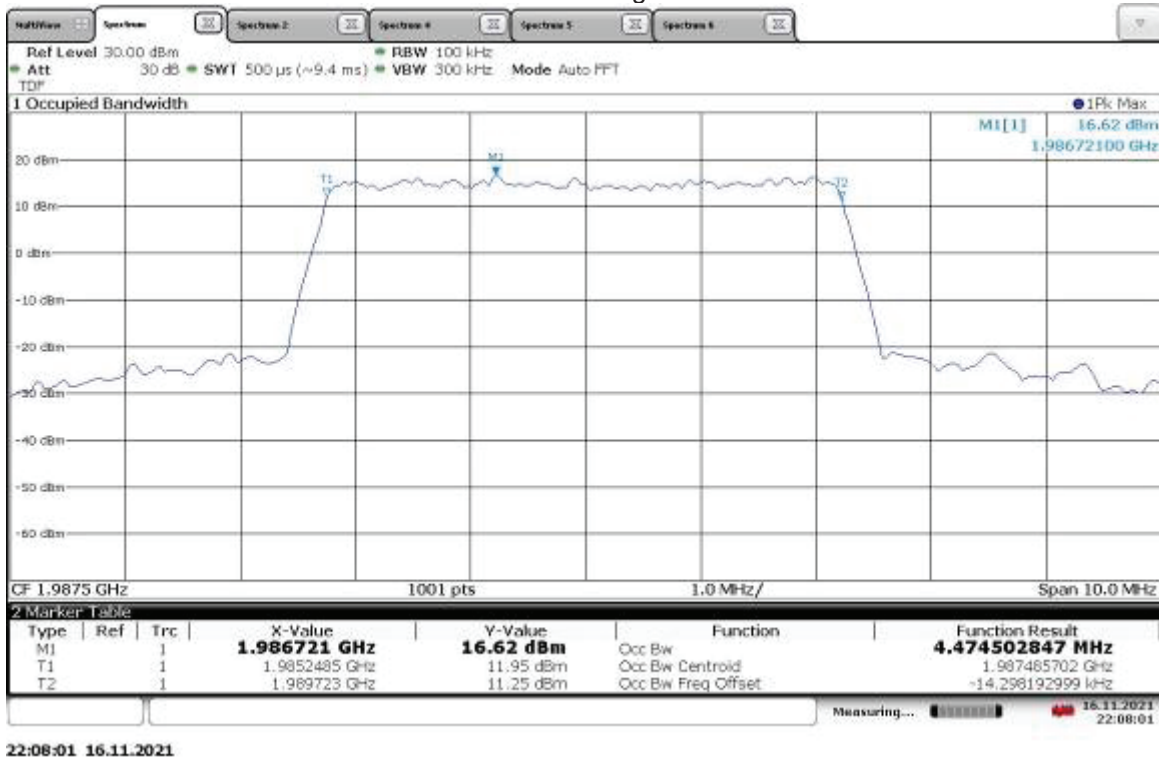


21:33:56 12.11.2021

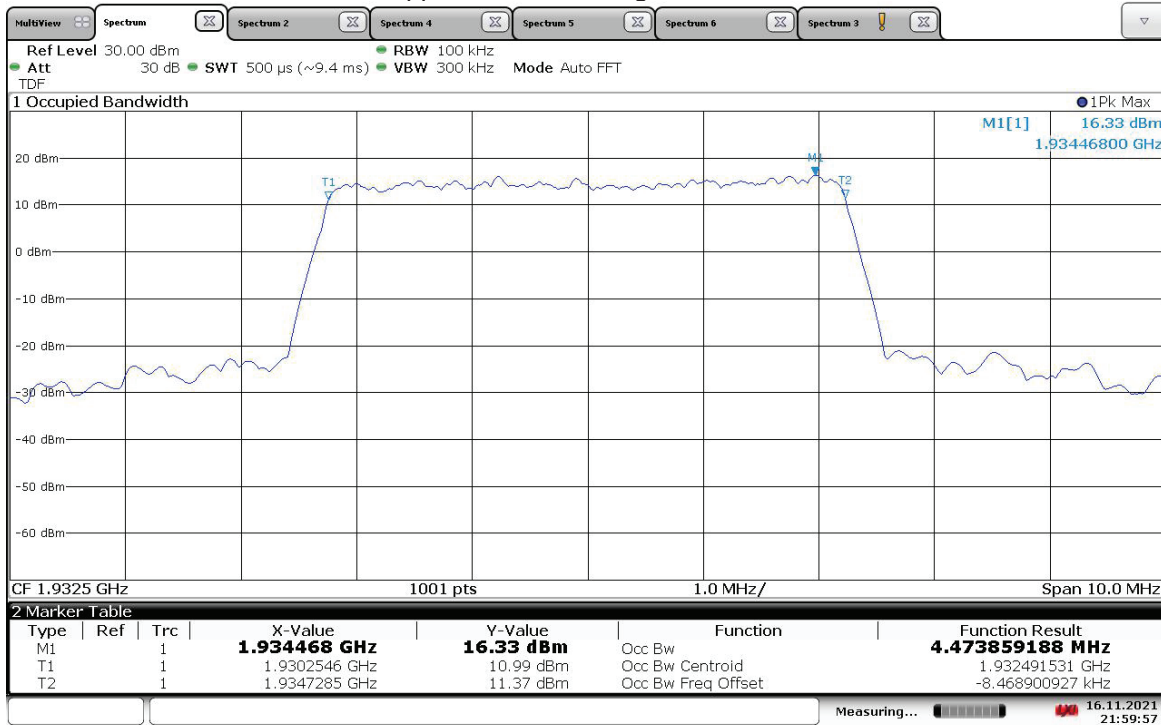
Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz, Low Channel,
Lower Extreme Voltage: 41.1VDC



Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz, High Channel,
Lower Extreme Voltage: 41.1VDC

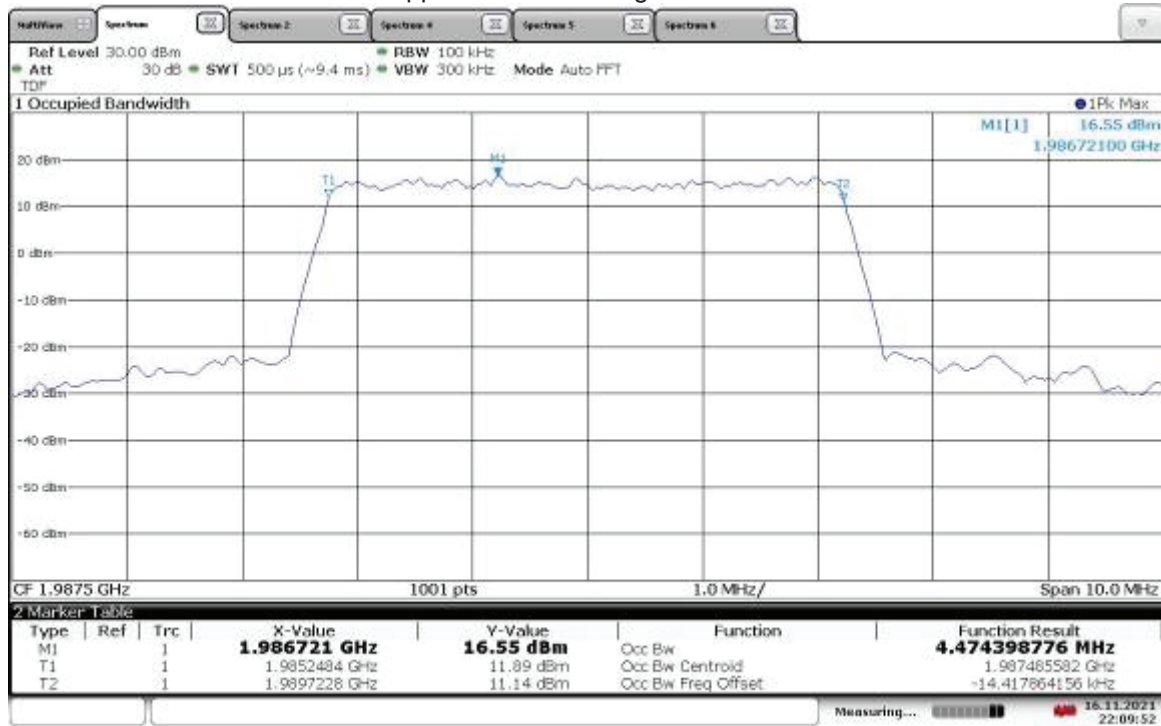


Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz, Low Channel,
Upper Extreme Voltage: 57.0VDC



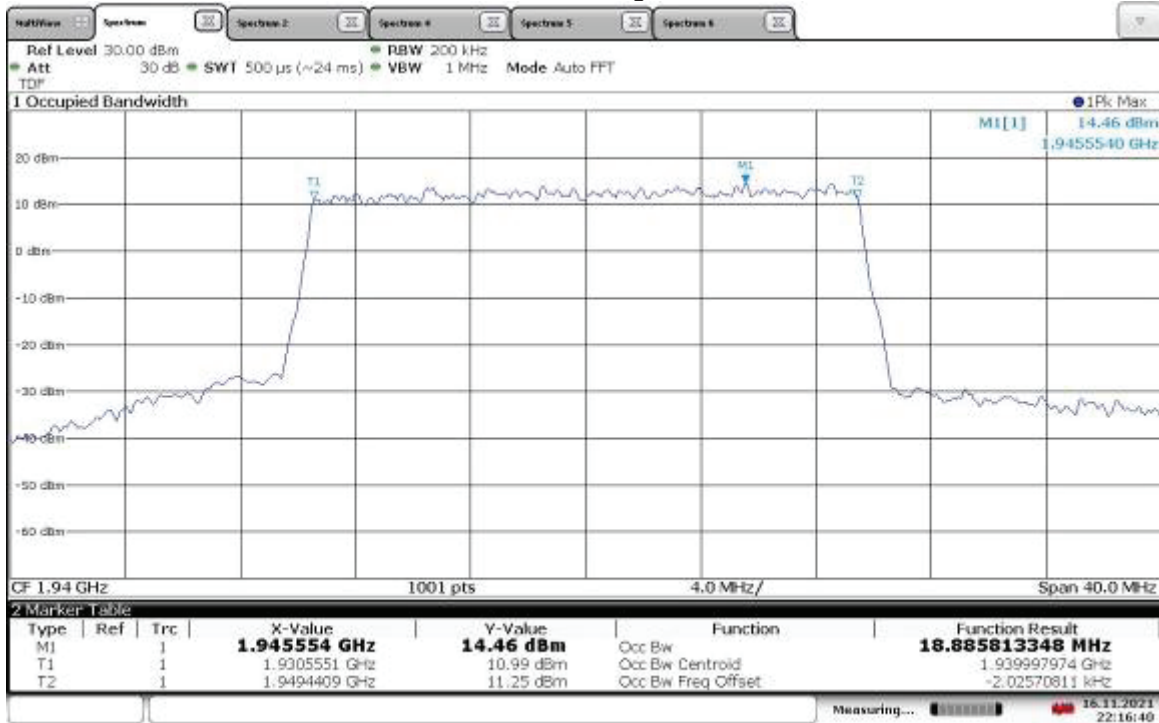
21:59:58 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 5 MHz, High Channel,
Upper Extreme Voltage: 57.0VDC



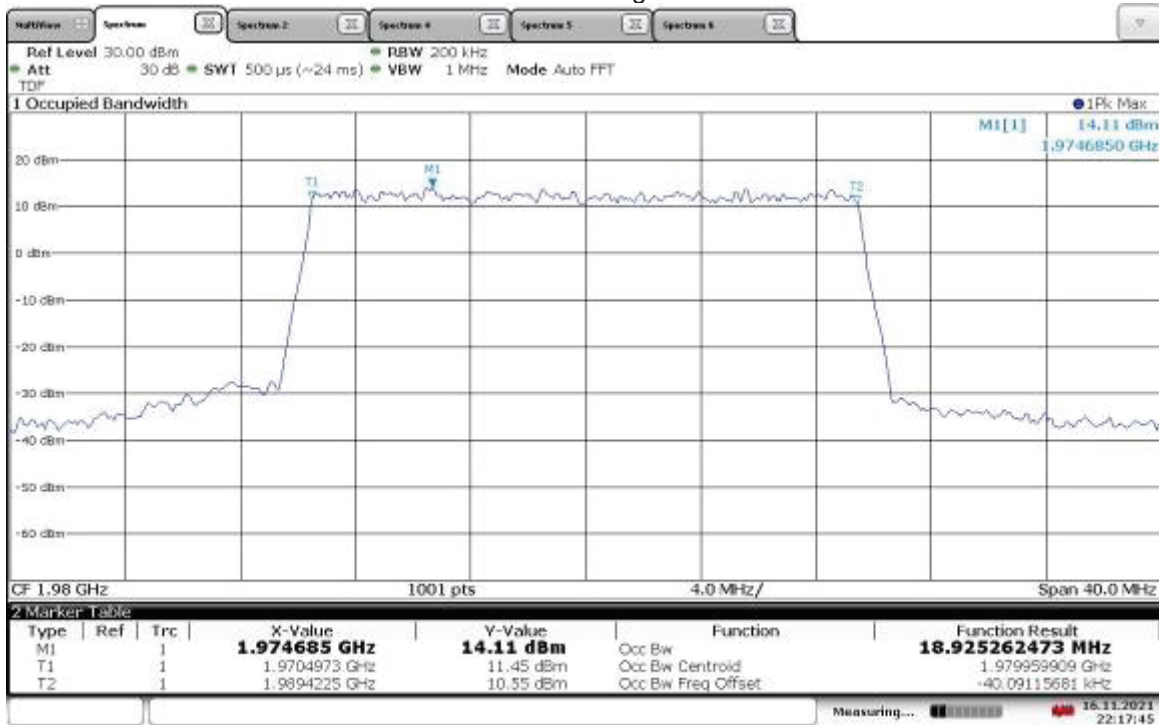
22:09:53 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz, Low Channel,
Lower Extreme Voltage: 41.1VDC



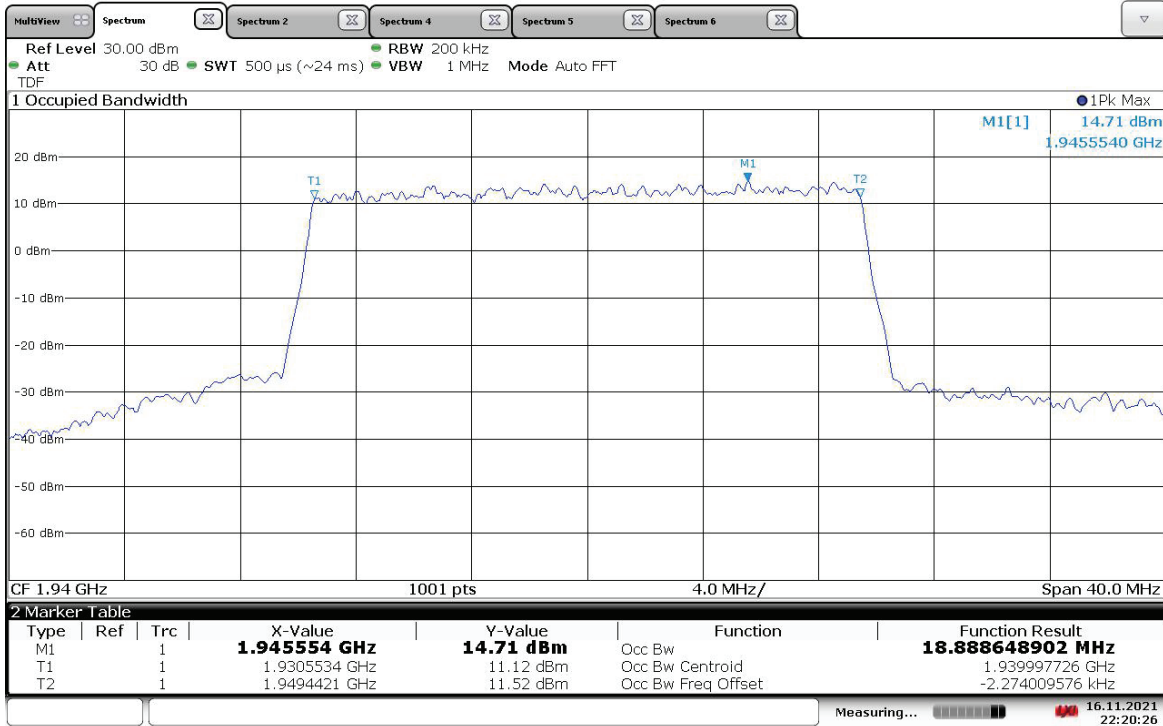
22:16:41 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz, High Channel,
Lower Extreme Voltage: 41.1VDC



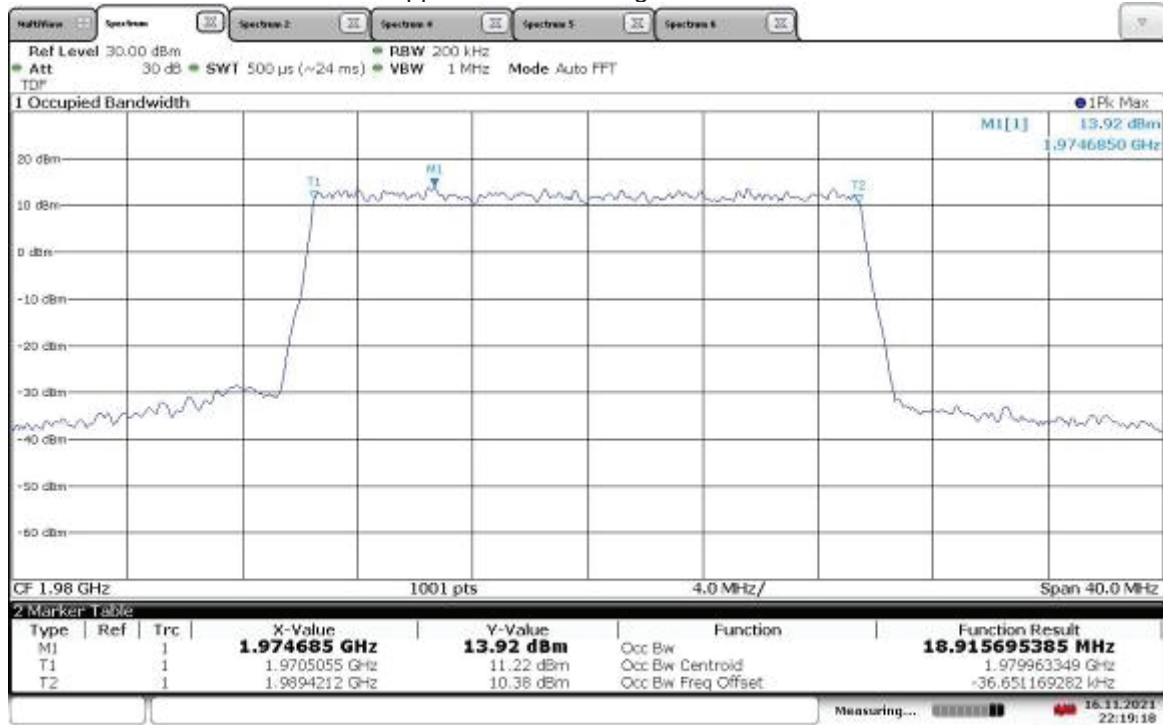
22:17:46 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz, Low Channel,
Upper Extreme Voltage: 57.0VDC



22:20:27 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: QPSK, Bandwidth: 20 MHz, High Channel,
Upper Extreme Voltage: 57.0VDC



22:19:19 16.11.2021

Intertek

Report Number: 104844468BOX-001

Issued: 12/03/2021

Revised: 02/07/2022

Test Personnel: Vathana Ven *VSV*
Supervising/Reviewing
Engineer:
(Where Applicable) Kouma Sinn *KPS*

Test Date: 11/11/2021, 11/12,2021,
11/16/2021

Product Standard: FCC Part 24
Input Voltage: 48VDC (POE)

Limit Applied: See report section 10.3

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

Ambient Temperature: 22, 22, 23 °C

Relative Humidity: 41, 44,34 %

Atmospheric Pressure: 1011, 1002, 1005 mbars

Deviations, Additions, or Exclusions: None

11 Transmitter spurious emissions

11.1 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)	Ucisp
Radiated Emissions, 10m	30-1000 MHz	4.6dB	6.3 dB
Radiated Emissions, 3m	30-1000 MHz	5.3 dB	6.3 dB
Radiated Emissions, 3m	1-6 GHz	4.5 dB	5.2 dB
Radiated Emissions, 3m	6-15 GHz	5.2 dB	5.5 dB
Radiated Emissions, 3m	15-18 GHz	5.0 dB	5.5 dB
Radiated Emissions, 3m	18-40 GHz	5.0 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 dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- 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 dB μ V 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 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 52.0 \text{ dB}\mu\text{V}$$

$$AF = 7.4 \text{ dB/m}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$FS = 32 \text{ dB}\mu\text{V/m}$$

To convert from dB μ V to μ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$
$$NF = \text{Net Reading in dB}\mu\text{V}$$

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$

$$UF = 10^{(32 \text{ dB}\mu\text{V} / 20)} = 39.8 \mu\text{V/m}$$

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.

11.2 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	01/22/2021	01/22/2022
CBLSHF204'	Cable, SMA - SMA, 9kHz -40GHz, (Cable Kit 5)	Huber + Suhner	Sucoflex 102EA	234714001	02/03/2021	02/03/2022
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Schwartz	FSW43	100646	11/02/2021	11/02/2022
DAV005'	Weather Station	Davis	6250	MS191218083	02/07/2021	02/07/2022

Software Utilized:

Name	Manufacturer	Version
None	--	--

Test equipment used for Radiated emissions

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
IW001'	2 meter cable	Insulated Wire	2801-NPS	001	09/23/2021	09/23/2022
HS003'	10m under floor cable	Huber-Schuner	10m-1	HS003	02/17/2021	02/17/2022
HS002	DC-18GHz cable 1.5M long	Huber & Suhner	SucoFlex 106A	HS002	11/25/2020	11/25/2021
PRE11'	50dB gain preamp	Pasternack	PRE11	PRE11	09/02/2021	09/02/2022
IW006'	DC-18GHz cable 8.4m long	Insulated Wire	2800-NPS	IW006	11/25/2020	11/25/2021
PRE12'	Pre-amplifier	Com Power	PAM-118A	18040117	12/07/2020	12/07/2021
145145'	Broadband Hybrid Antenna 30 MHz - 3 GHz	Sunol Sciences Corp.	JB3	A122313	06/09/2021	09/09/2022
EMC04'	ANTENNA, RIDGED GUIDE, 18-40 GHZ	EMCO	3116	2090	01/28/2021	01/28/2022
CBLSHF204'	Cable, SMA - SMA, 9kHz -40GHz, (Cable Kit 5)	Huber + Suhner	Sucoflex 102EA	234714001	02/03/2021	02/03/2022
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/22/2021	06/22/2022
PRE9'	100MHz-40GHz Preamp	MITEQ	NSP4000-NFG	1260417	09/23/2021	09/23/2022
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/22/2021	03/22/2022
ETS002'	1-18GHz DRG Horn Antenna	ETS Lindgren	3117	00143260	08/24/2021	08/24/2022
PRE10'	30-1000MHz pre-amp	ITS	PRE10	PRE10	02/17/2021	02/17/2022
ETS003'	9kHz-30MHz Active Loop Antenna	ETS Lindgren	6502	00143396	08/26/2021	08/26/2022

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	Nexio	3.18.0.16

11.3 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.

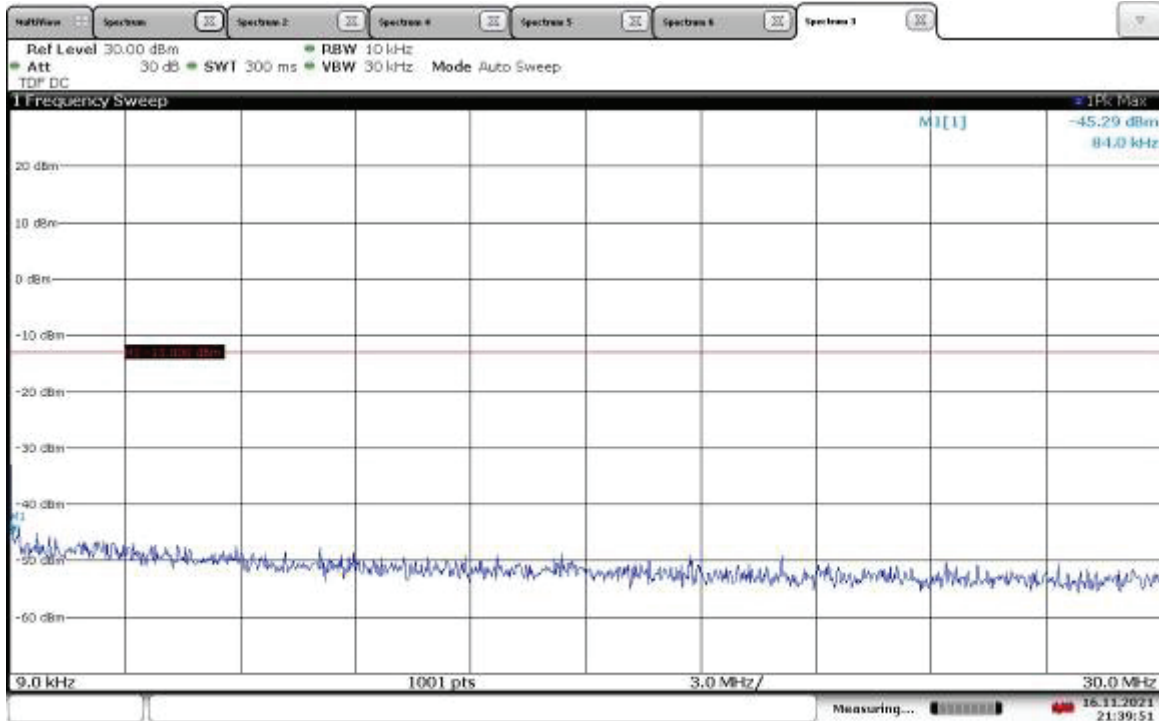
Note: All spurious emissions were tested with narrowest bandwidth and QPSK modulation settings. Since there were no emissions within 30dB of limit, and settings had ~1dB effect on peak readings, other settings were not tested and EUT was considered compliant.

11.4 Setup Photographs:

Confidential – Test setup photo not included in this report

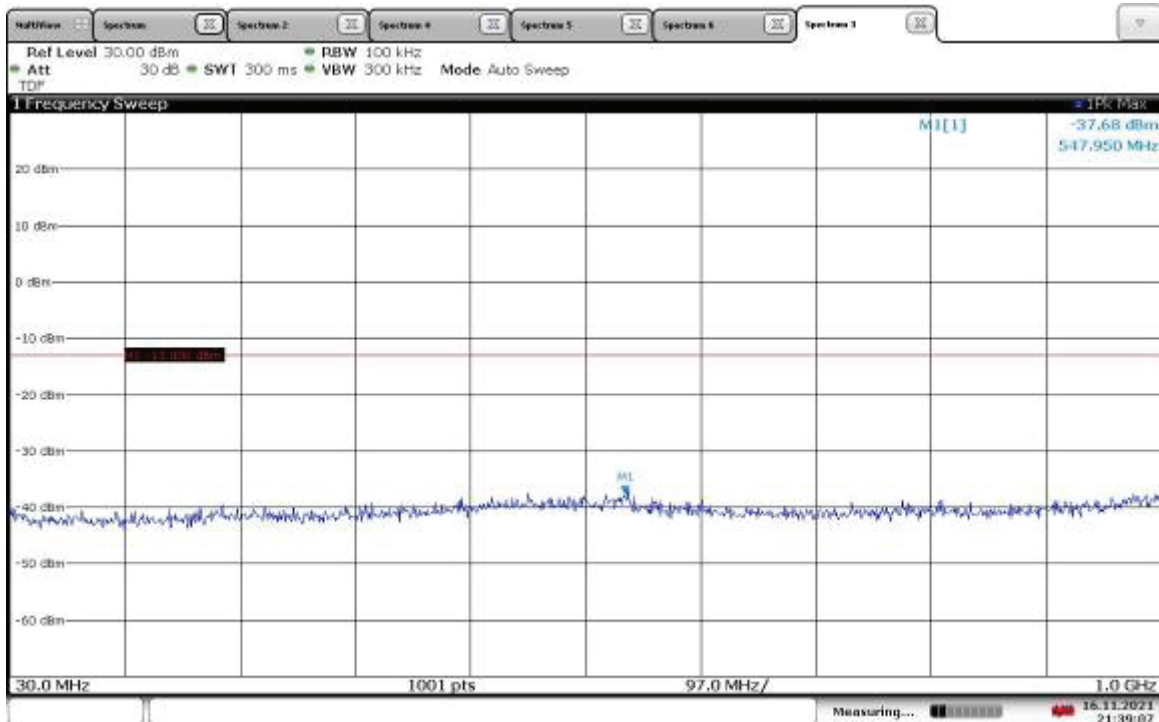
11.5 Plots/Data:

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Low Channel 1932.5 MHz
9kHz-30MHz



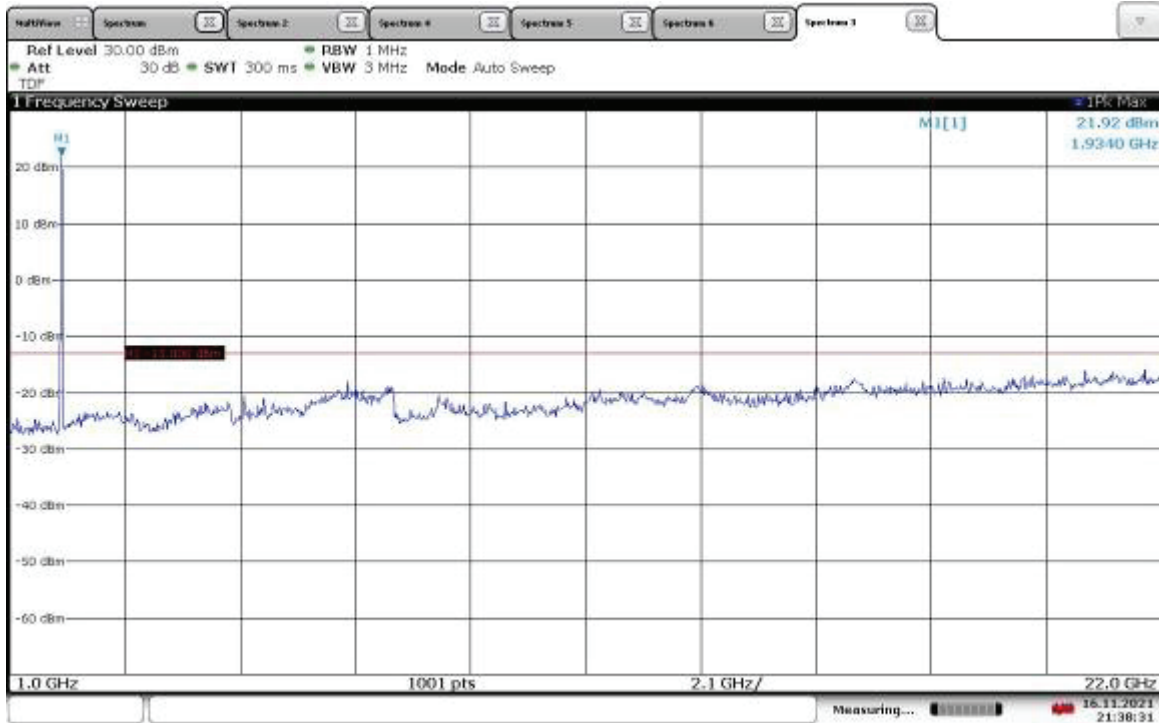
21:39:52 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Low Channel 1932.5 MHz
30MHz-1GHz

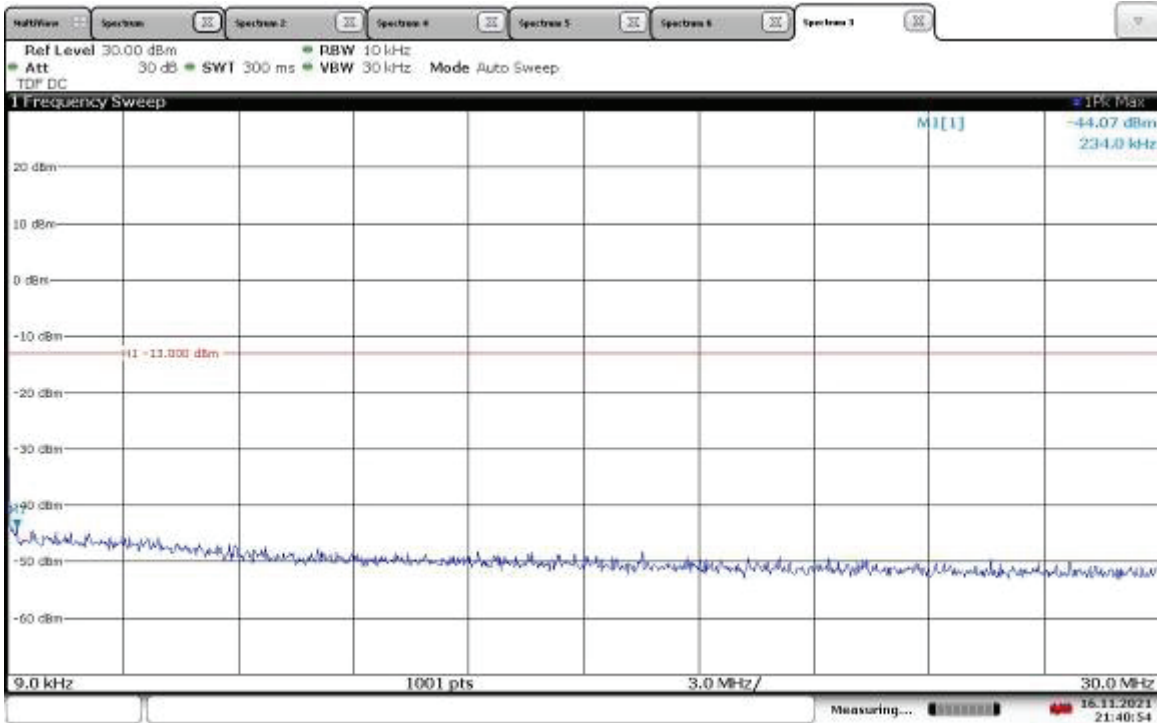


21:39:08 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Low Channel 1932.5 MHz
1-22 GHz

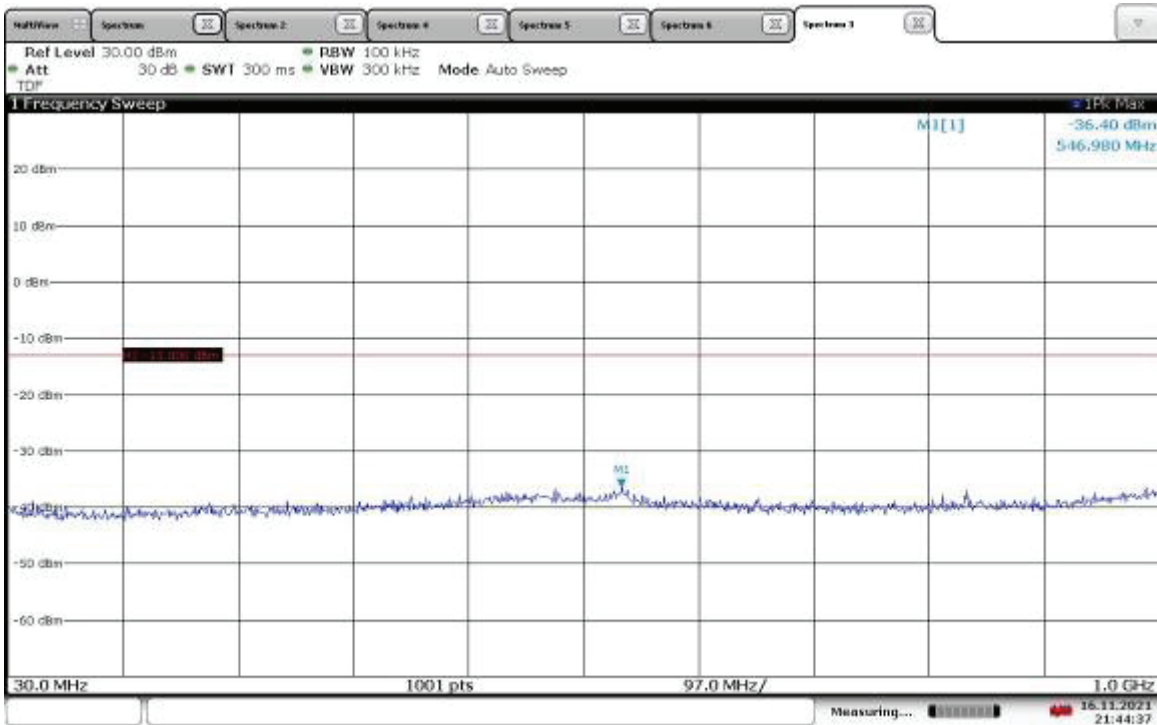


Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Mid Channel 1960 MHz
9kHz-30MHz



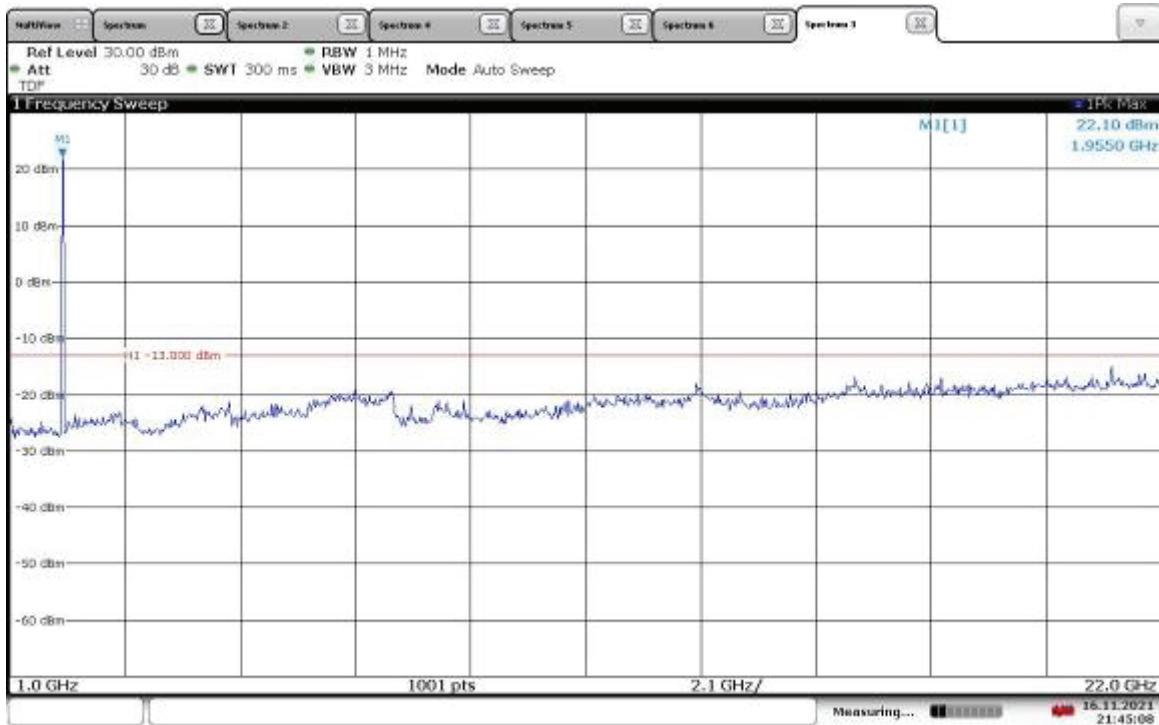
21:40:54 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Mid Channel 1960 MHz
30MHz-1GHz



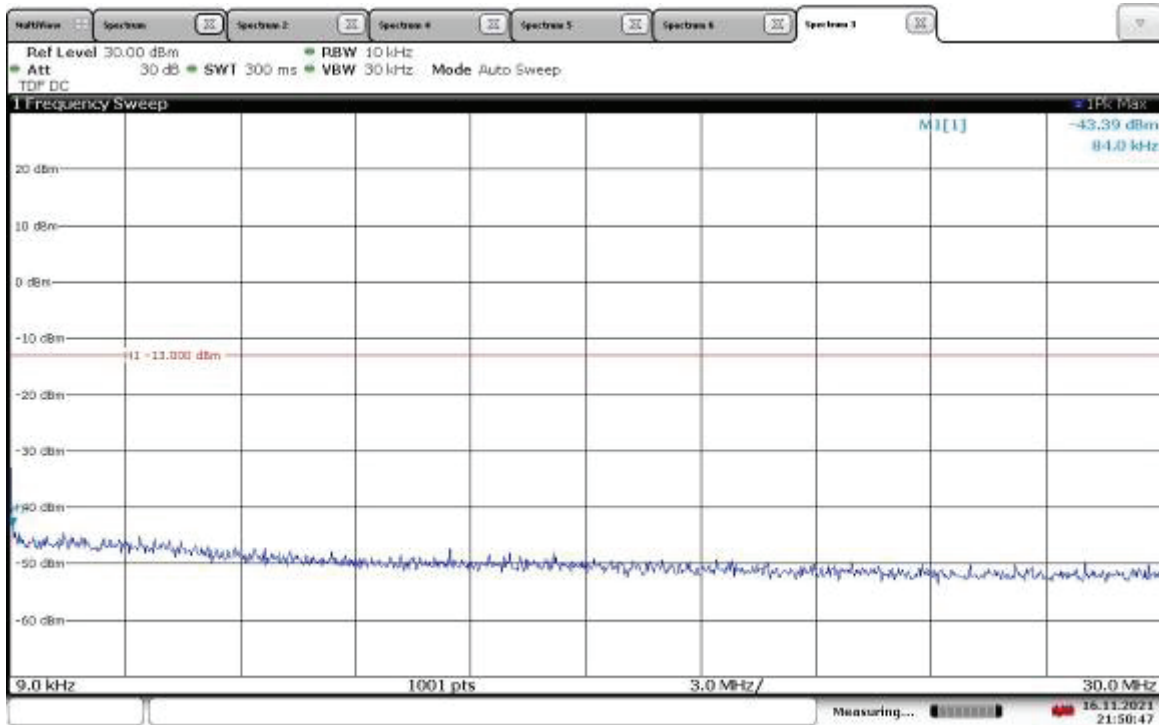
21:44:38 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Mid Channel 1960 MHz
1-22GHz



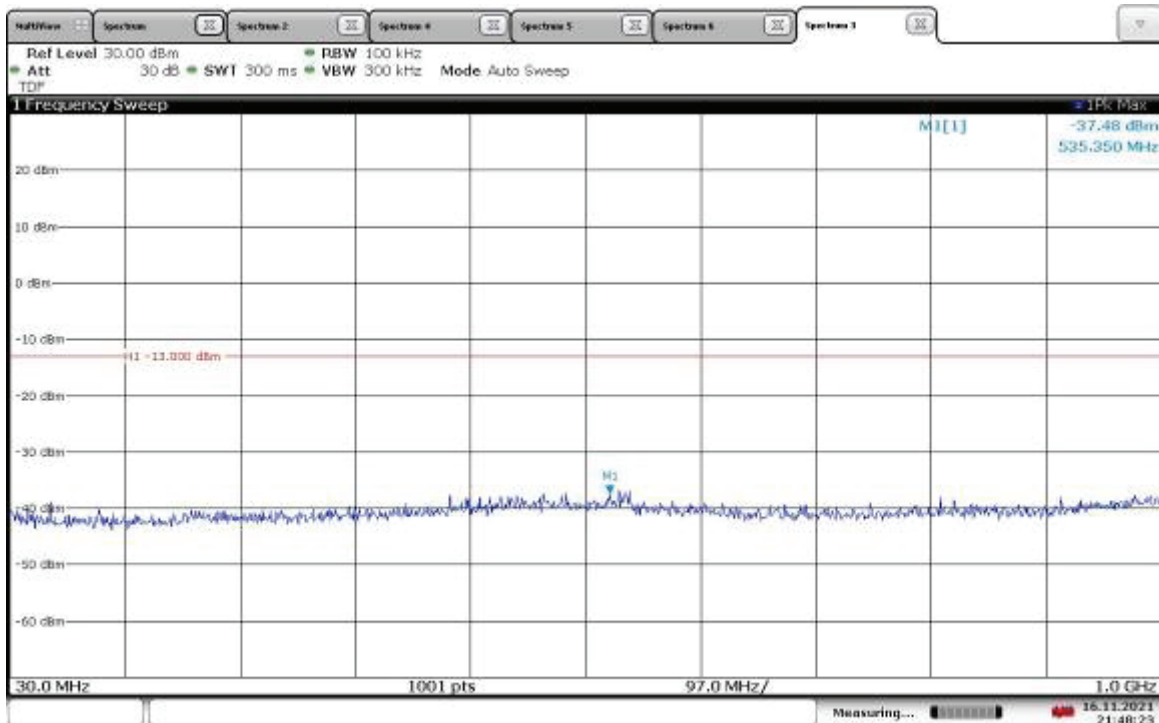
21:45:09 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, High Channel 1987.5 MHz
9kHz-30MHz



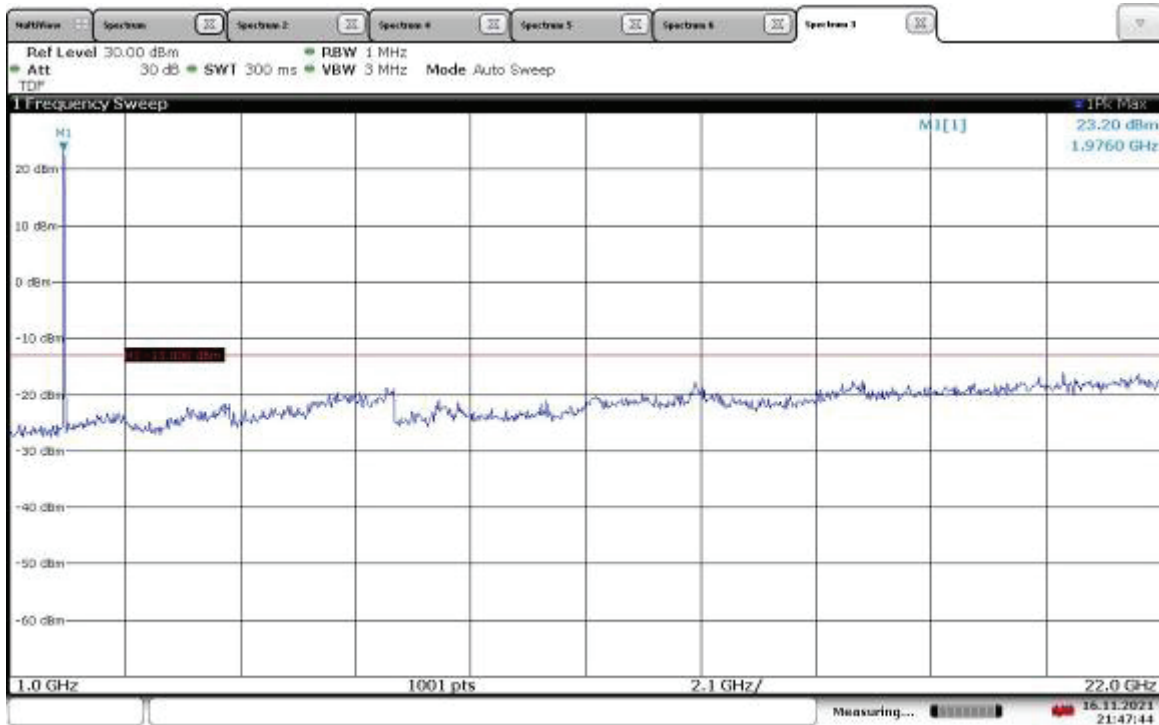
21:50:48 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, High Channel 1987.5 MHz
30MHz-1GHz

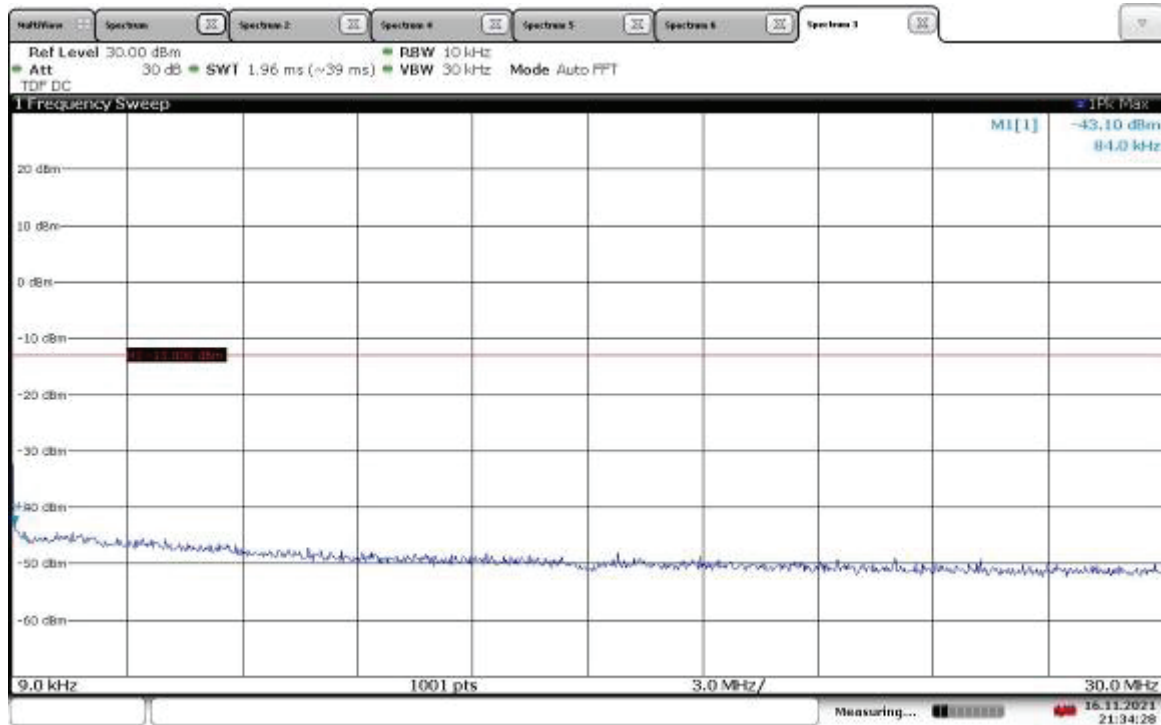


21:48:24 16.11.2021

Slot 0 (Band 2), ANT0, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, High Channel 1987.5 MHz
1-22GHz

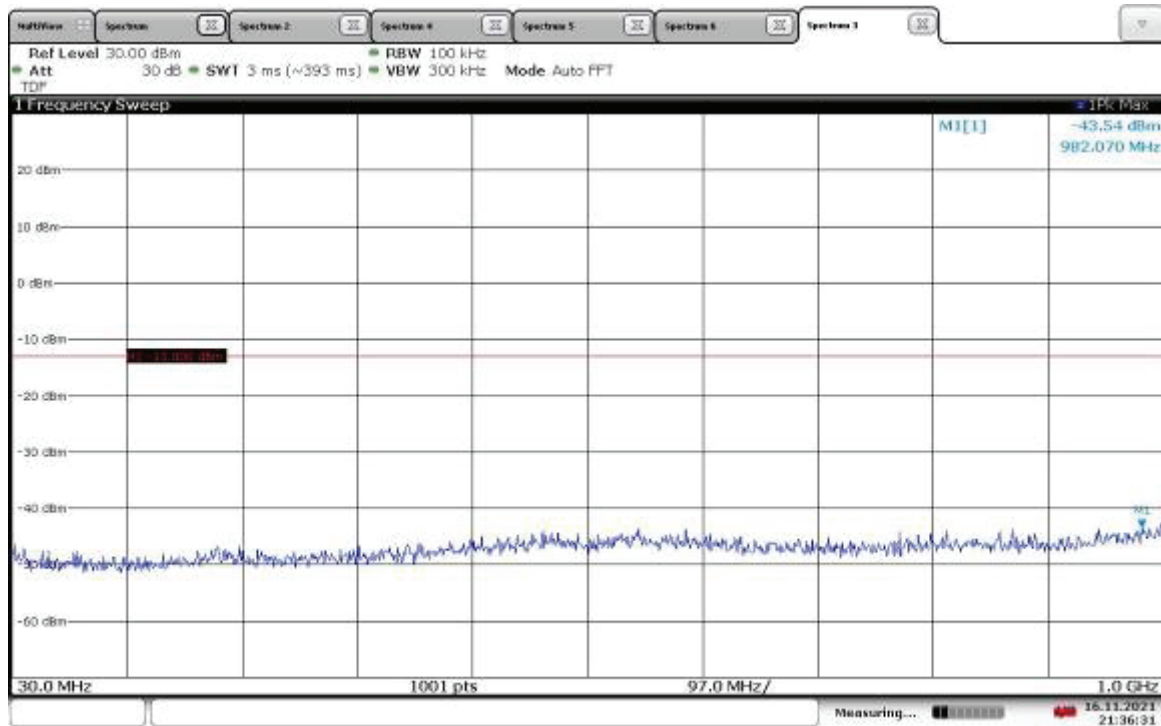


Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Low Channel 1932.5 MHz
9kHz-30MHz



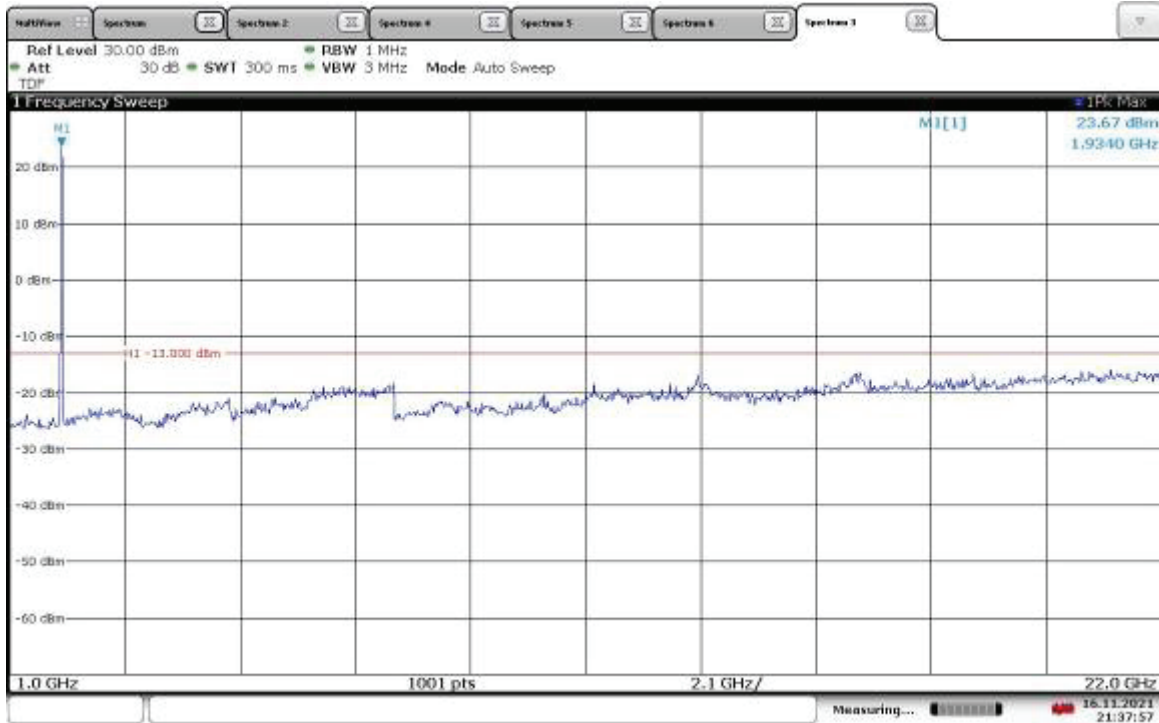
21:34:28 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Low Channel 1932.5 MHz
30MHz-1GHz



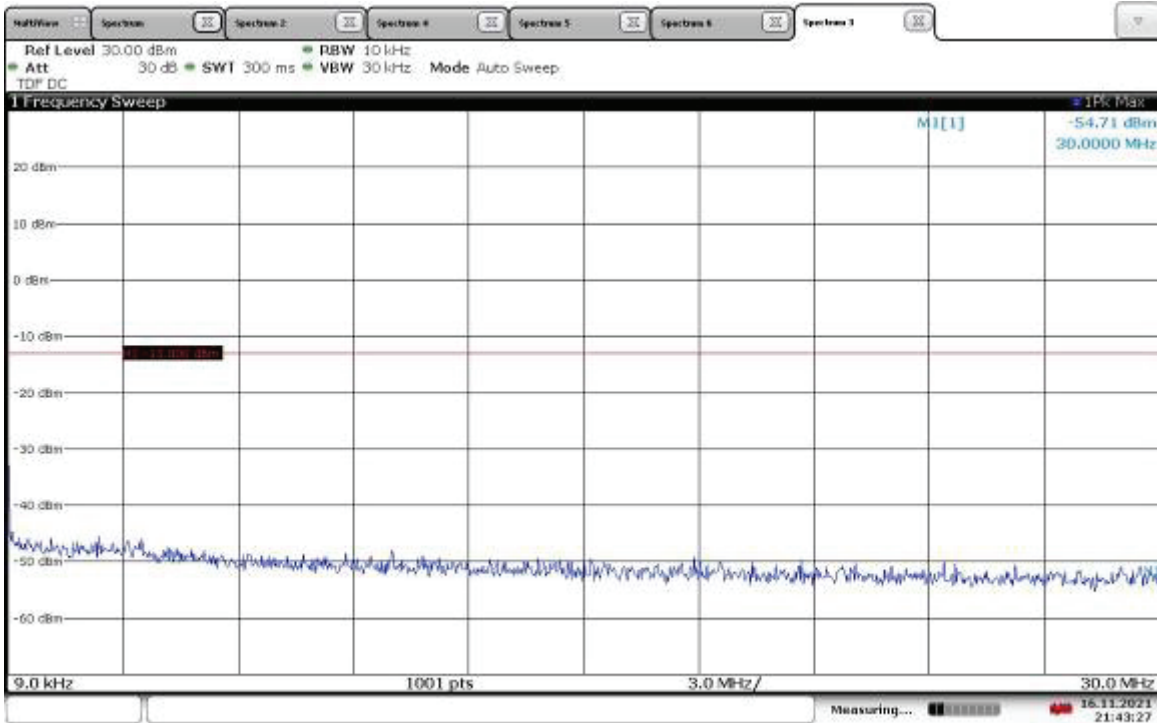
21:36:31 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Low Channel 1932.5 MHz
1-22GHz



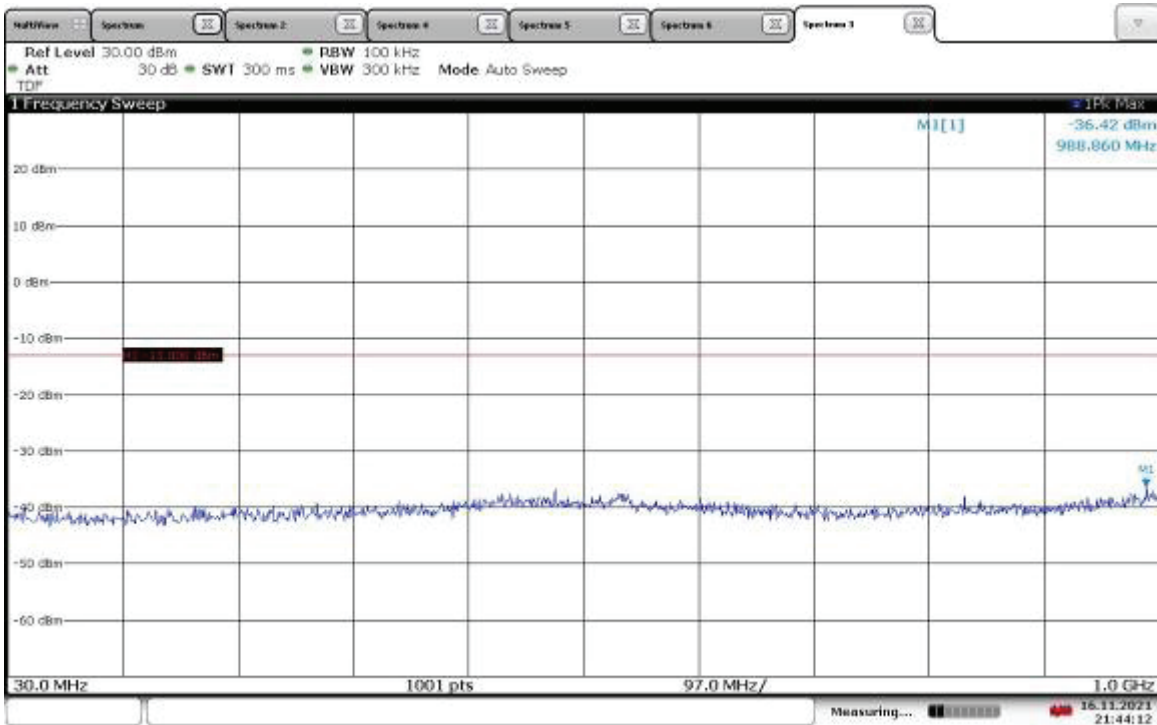
21:37:57 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Mid Channel 1960 MHz
9kHz-30MHz



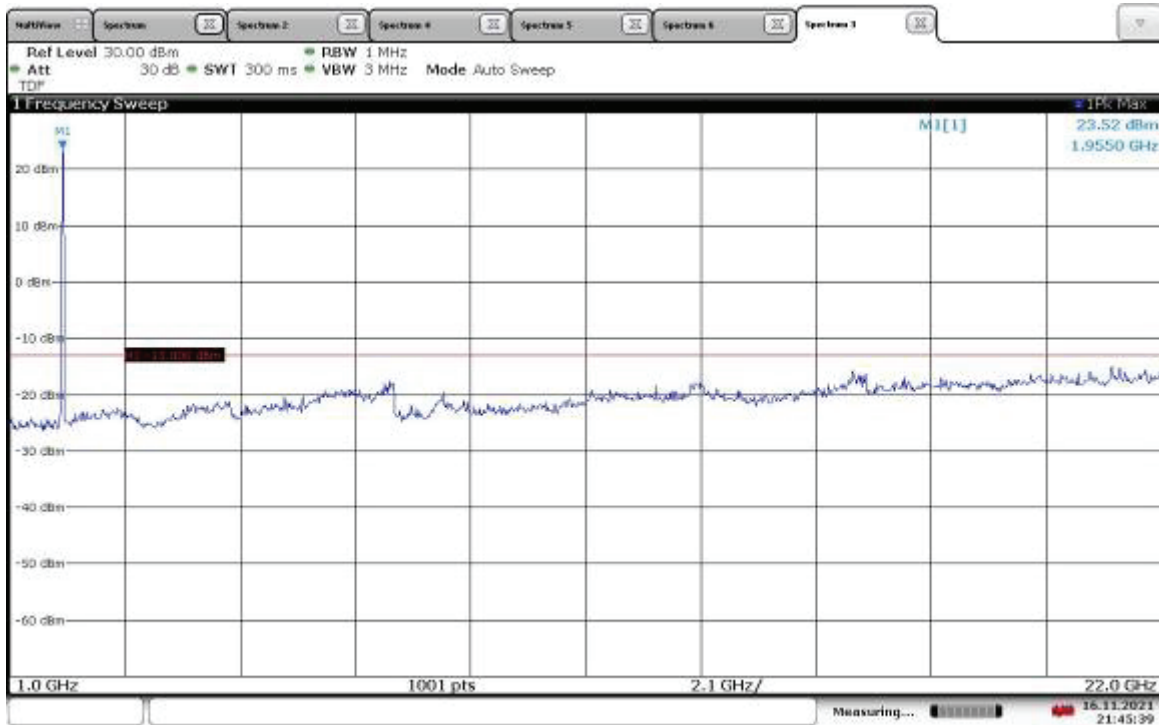
21:43:28 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Mid Channel 1960 MHz
30MHz-1GHz



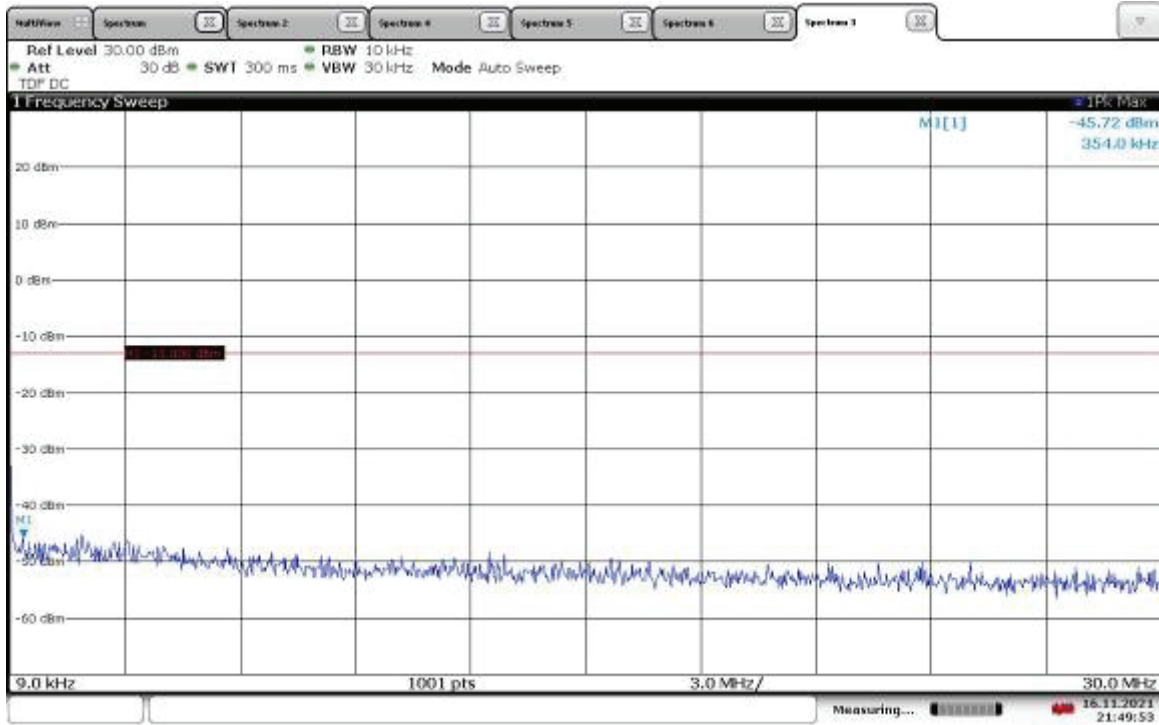
21:44:13 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, Mid Channel 1960 MHz
1-22GHz



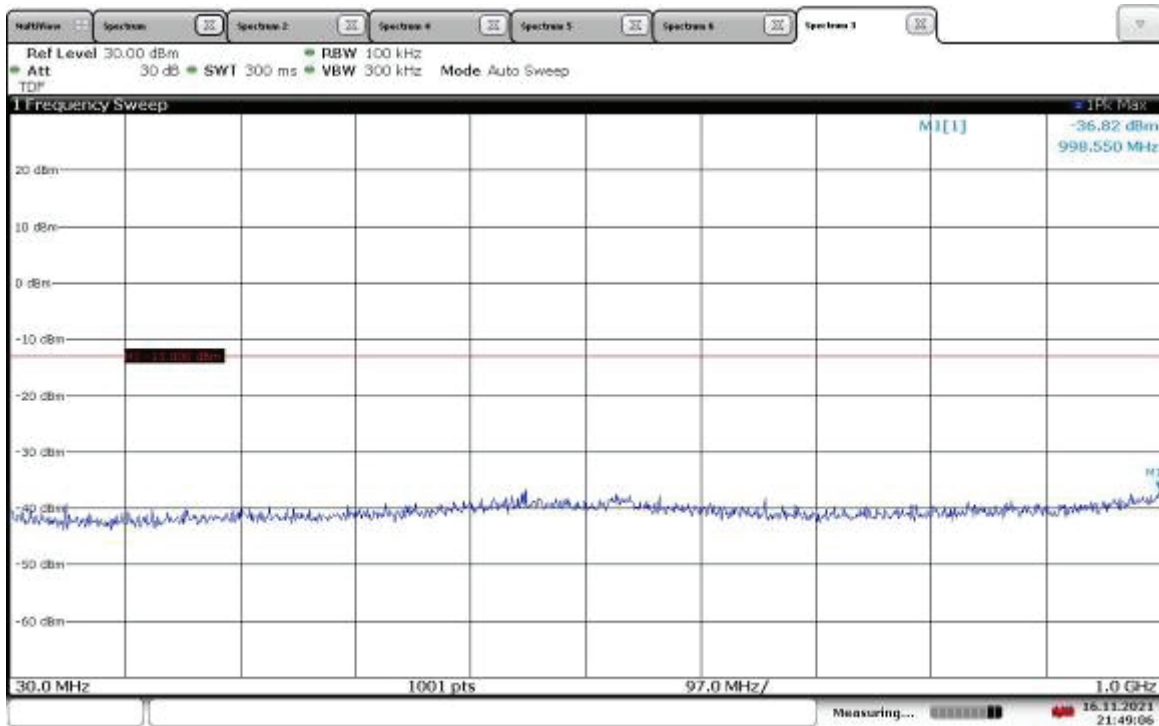
21:45:40 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, High Channel 1987.5 MHz
9kHz-30MHz



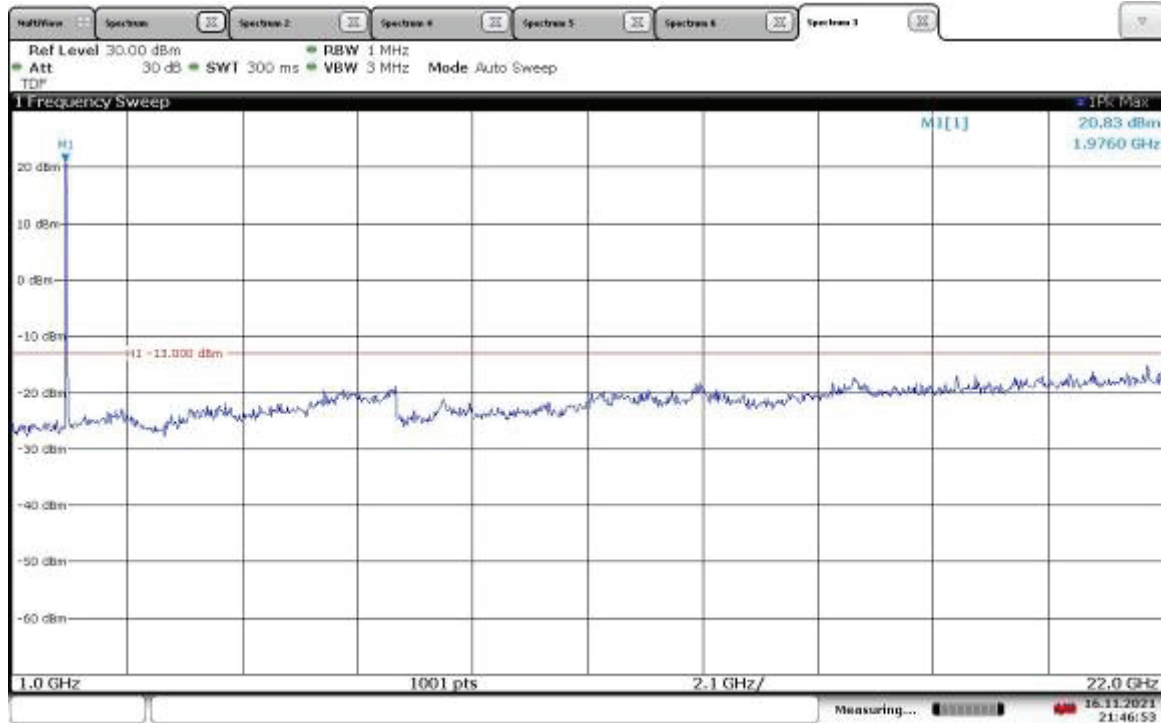
21:49:53 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, High Channel 1987.5 MHz
30MHz-1GHz



21:49:07 16.11.2021

Slot 0 (Band 2), ANT1, Modulation: TM1.1-QPSK, Bandwidth: 5 MHz, High Channel 1987.5 MHz
1-22GHz



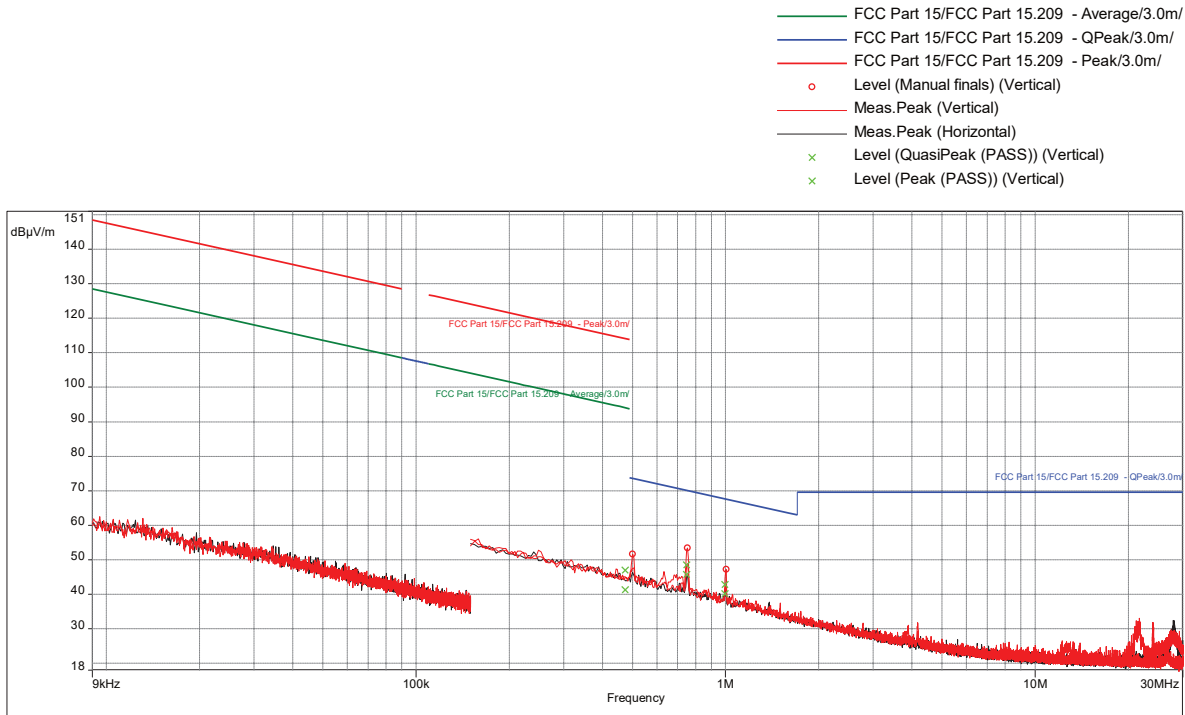
21:46:53 16.11.2021

Radiated Emissions, 9 k-30 MHz
Slot 0 (Band 2), Modulation: TM1.1-QPSK, Bandwidth 5 MHz, Transmit @ Low Channel

Test Information:

Date and Time	11/28/2021 12:50:13 PM
Client and Project Number	Commscope G104844468
Engineer	Vathana Ven
Temperature	23 C
Humidity	15 %
Atmospheric Pressure	1002 mbar
Comments	RE 9kHz-30MHz Loop antenna, Electric Field, 3M Location_Band 2 5MHz BW_TM1.1 (worst-case output power) RP5100 host

Graph:



Results:

Peak (PASS) (3)

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
0.4725789474	46.99	67.64	-20.65	236.00	1.00	Vertical	9000.00	11.06
0.7482631579	48.47	70.12	-21.65	206.00	1.00	Vertical	9000.00	11.16
0.9978947368	42.83	67.64	-24.81	1.00	1.00	Vertical	9000.00	11.50

QuasiPeak (PASS) (3)

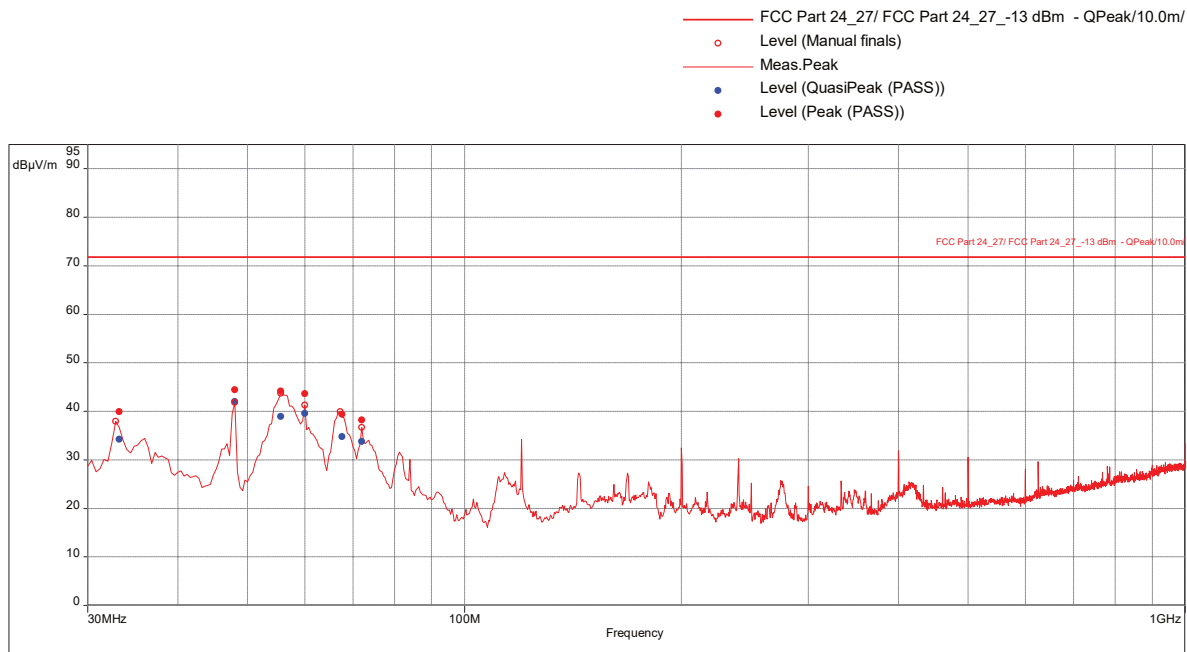
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
0.4725789474	41.28	67.64	-26.36	236.00	1.00	Vertical	9000.00	11.06
0.7482631579	45.75	70.12	-24.37	206.00	1.00	Vertical	9000.00	11.16
0.9978947368	40.10	67.64	-27.54	1.00	1.00	Vertical	9000.00	11.50

Radiated Emissions, 30-1000 MHz
Slot 0 (Band 2 with 5G NR), Modulation: TM1.1-QPSK (worst-case output power),
Bandwidth 5 MHz, Transmit @ Low Channel

Test Information:

Date and Time	11/19/2021 9:53:14 AM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	31 %
Atmospheric Pressure	1008 mbar
Comments	Scan 1: Low Ch, Band 2 with 5G NR, 5MHz BW, QPSK (worst-case output power), RP5100 host, RE 30-1000MHz SA mode

Graph:



Results:

Peak and E.I.R Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBμV/m)	E.I.R.P Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
33.11578947	39.92	-44.88	-13	-31.88	125.00	1.00	Vertical	120000.00	-14.68
48	44.42	-40.38	-13	-27.38	53.00	1.00	Vertical	120000.00	-24.46
55.66315789	44.15	-40.65	-13	-27.65	235.00	2.13	Vertical	120000.00	-25.77
60	43.63	-41.17	-13	-28.17	285.00	1.62	Vertical	120000.00	-25.54
67.42105263	39.35	-45.45	-13	-32.45	307.00	1.69	Vertical	120000.00	-24.94
72.03157895	38.18	-46.62	-13	-33.62	148.00	3.42	Vertical	120000.00	-24.77

Notes:

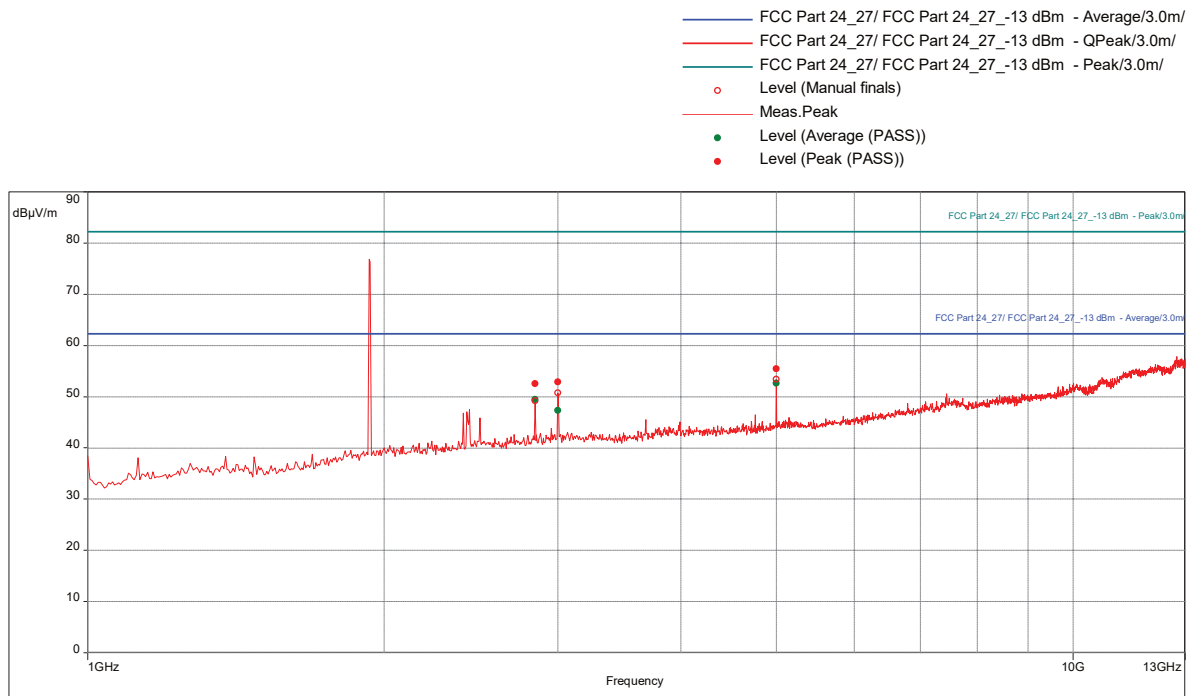
The level in E.I.R.P (dBm) is calculated from the peak readings as $E.I.R.P (dBm) = E \text{ Peak (dBμV/m)} + 20 \cdot \log(d) - 104.8$, where d is the measurement distance (in the far field region) in meter.

**Radiated Emissions, 1-22 GHz
Slot 0 (Band 2 with 5G NR), Modulation: TM1.1-QPSK (worst-case output power),
Bandwidth 5 MHz, Transmit @ Low Channel**

Test Information:

Date and Time	11/19/2021 2:02:15 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	31 %
Atmospheric Pressure	1008 mbar
Comments	Scan 6: Low Ch, Band 2 with 5G NR, 5MHz BW, QPSK (worst-case output power), RP5100 host, RE 1-13 GHz SA mode

Graph:



Results:

Peak and E.I.R.P Peak (PASS) (3)

Frequency (MHz)	Peak Level (dBμV/m)	E.I.R.P Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
2844.473684	52.51	-42.79	-13	-29.79	265.00	1.25	Vertical	1000000.00	-1.17
3000	52.86	-42.44	-13	-29.44	75.00	1.05	Vertical	1000000.00	-0.55
5000	55.41	-39.89	-13	-26.89	9.00	3.89	Vertical	1000000.00	3.64

Notes:

The level in E.I.R.P (dBm) is calculated from the peak readings as $E.I.R.P (dBm) = E \text{ Peak (dB}\mu\text{V/m)} + 20 \cdot \log(d) - 104.8$, where d is the measurement distance (in the far field region) in meter.

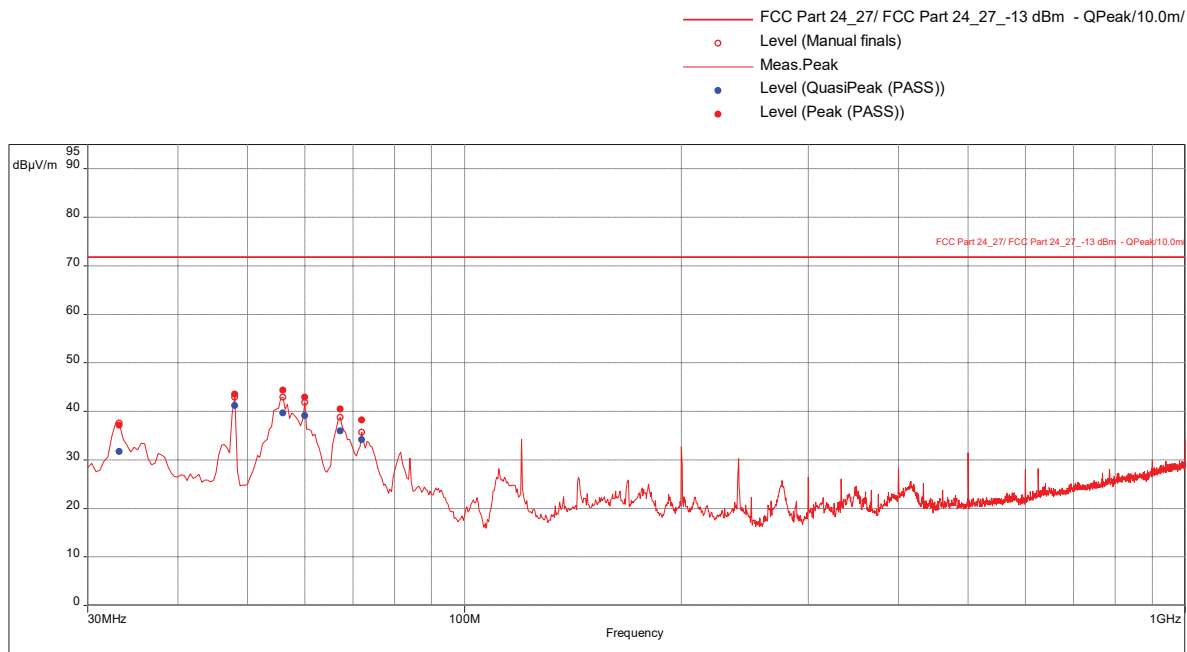
The highest peak on the plot is the fundamental signal. Manual scan was performed from 13 to 22 GHz. No emissions were detected above the measuring equipment noise floor.

Radiated Emissions, 30-1000 MHz
Slot 0 (Band 2 with 5G NR), Modulation: TM1.1-QPSK (worst-case output power),
Bandwidth 5 MHz, Transmit @ Mid Channel

Test Information:

Date and Time	11/19/2021 10:53:53 AM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	31 %
Atmospheric Pressure	1008 mbar
Comments	Scan 2: Mid Ch, Band 2 with 5G NR, 5MHz BW, QPSK (worst-case output power), RP5100 host, RE 30-1000MHz SA mode

Graph:



Results:

Peak and E.I.R Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBuV/m)	E.I.R.P Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
33.38947368	37.15	-47.65	-13	-34.65	83.00	1.97	Vertical	120000.00	-14.92
48.03157895	43.51	-41.29	-13	-28.29	54.00	1.00	Vertical	120000.00	-24.47
55.90526316	44.34	-40.46	-13	-27.46	293.00	1.63	Vertical	120000.00	-25.76
60.03157895	42.90	-41.9	-13	-28.9	307.00	1.98	Vertical	120000.00	-25.53
67.16842105	40.43	-44.37	-13	-31.37	249.00	2.52	Vertical	120000.00	-24.94
72	38.20	-46.6	-13	-33.6	257.00	1.43	Vertical	120000.00	-24.77

Notes:

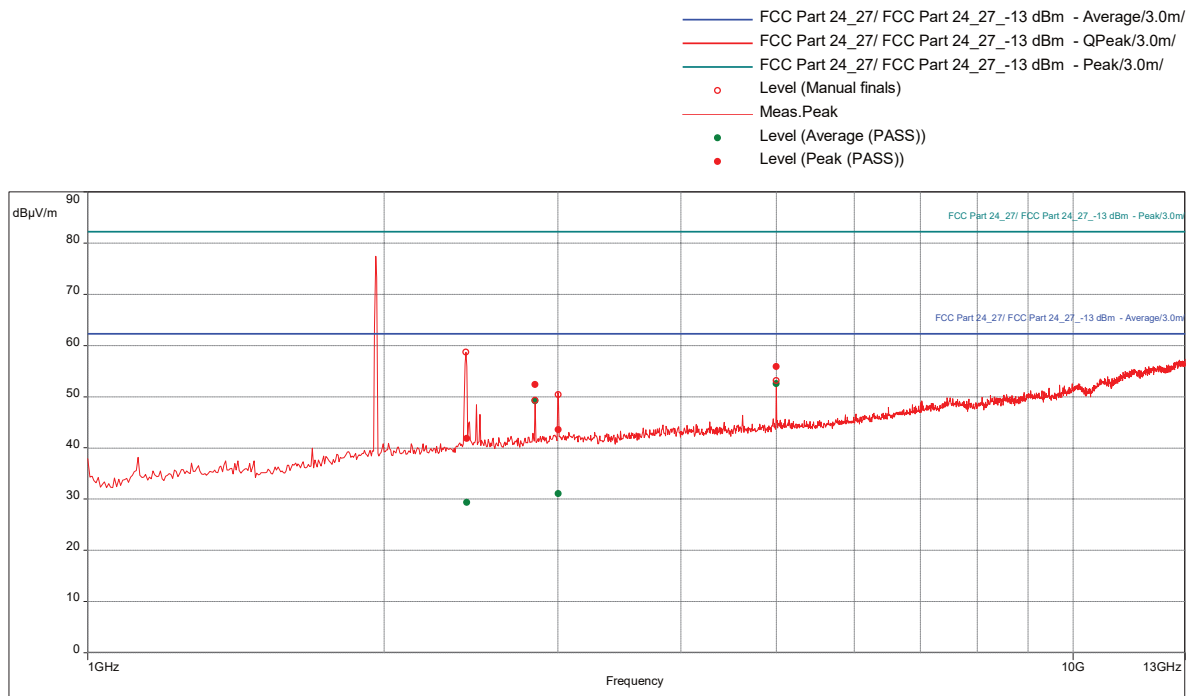
The level in E.I.R.P (dBm) is calculated from the peak readings as $E.I.R.P (dBm) = E \text{ Peak (dBuV/m)} + 20 \cdot \log(d) - 104.8$, where d is the measurement distance (in the far field region) in meter.

Radiated Emissions, 1-22 GHz
Slot 0 (Band 2 with 5G NR), Modulation: TM1.1-QPSK (worst-case output power),
Bandwidth 5 MHz, Transmit @ Mid Channel

Test Information:

Date and Time	11/19/2021 1:35:11 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	31 %
Atmospheric Pressure	1008 mbar
Comments	Scan 5: Mid Ch, Band 2 with 5G NR, 5MHz BW, QPSK (worst-case output power), RP5100 host, RE 1-13 GHz SA mode

Graph:



Results:

Peak and E.I.R.P (PASS) (4)

Frequency (MHz)	Peak Level (dBμV/m)	E.I.R.P Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
2422.631579	41.82	-53.48	-13	-40.48	302.00	1.90	Vertical	1000000.00	-1.97
2844.473684	52.37	-42.93	-13	-29.93	264.00	1.55	Vertical	1000000.00	-1.17
3005.789474	43.58	-51.72	-13	-38.72	10.00	1.00	Vertical	1000000.00	-0.47
5000	55.86	-39.44	-13	-26.44	10.00	1.01	Vertical	1000000.00	3.64

Notes:

The level in E.I.R.P (dBm) is calculated from the peak readings as $E.I.R.P (dBm) = E \text{ Peak (dBμV/m)} + 20 \cdot \log(d) - 104.8$, where d is the measurement distance (in the far field region) in meter.

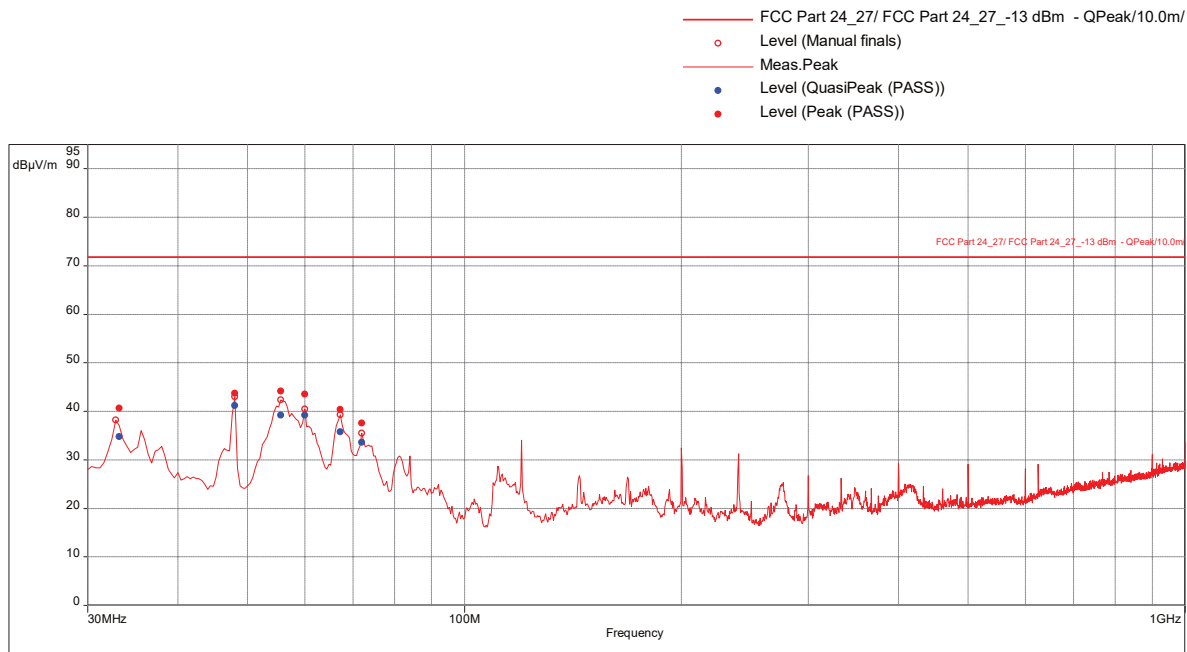
The highest peak on the plot is the fundamental signal. Manual scan was performed from 13 to 22 GHz. No emissions were detected above the measuring equipment noise floor.

Radiated Emissions, 30-1000 MHz
Slot 0 (Band 2 with 5G NR), Modulation: TM1.1-QPSK (worst-case output power),
Bandwidth 5 MHz, Transmit @ High Channel

Test Information:

Date and Time	11/19/2021 11:50:40 AM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	31 %
Atmospheric Pressure	1008 mbar
Comments	Scan 3: High Ch, Band 2 with 5G NR, 5MHz BW, QPSK (worst-case output power), RP5100 host, RE 30-1000MHz SA mode

Graph:



Results:

Peak and E.I.R Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBμV/m)	E.I.R.P Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
33.11578947	40.66	-44.14	-13	-31.14	96.00	1.69	Vertical	120000.00	-14.68
48	43.71	-41.09	-13	-28.09	0.00	1.40	Vertical	120000.00	-24.46
55.69473684	44.21	-40.59	-13	-27.59	279.00	1.52	Vertical	120000.00	-25.77
60	43.53	-41.27	-13	-28.27	317.00	1.69	Vertical	120000.00	-25.54
67.26315789	40.33	-44.47	-13	-31.47	244.00	1.74	Vertical	120000.00	-24.94
72.03157895	37.60	-47.2	-13	-34.2	162.00	1.82	Vertical	120000.00	-24.77

Notes:

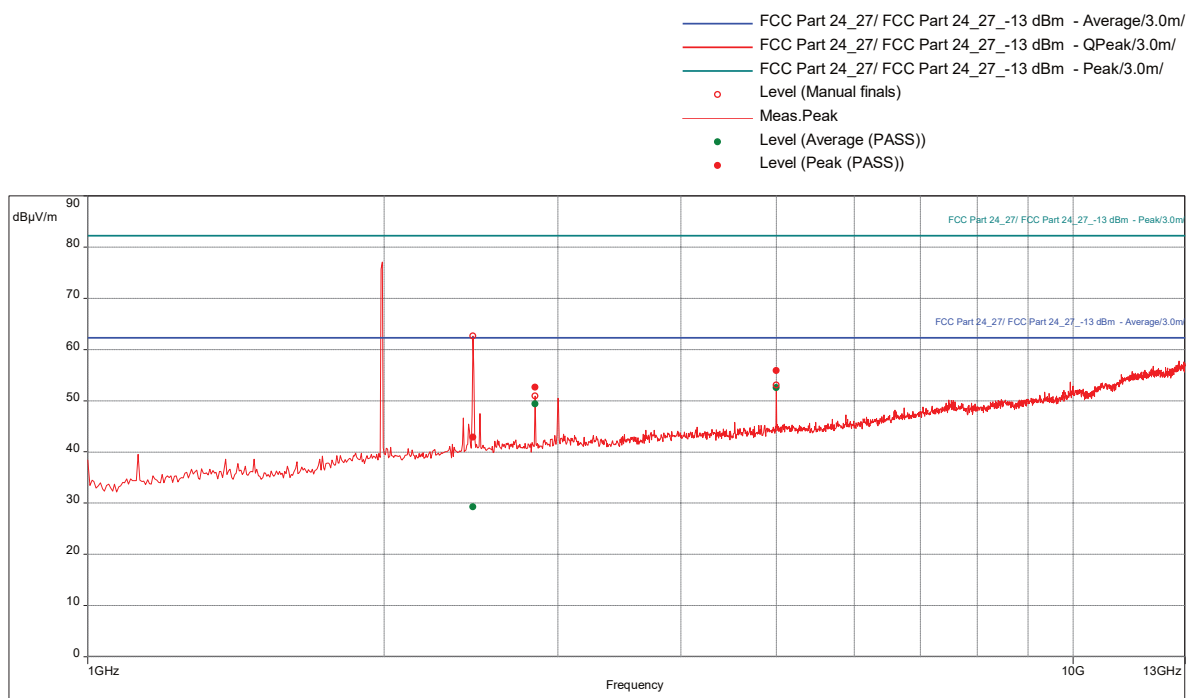
The level in E.I.R.P (dBm) is calculated from the peak readings as $E.I.R.P (dBm) = E \text{ Peak (dB}\mu\text{V/m)} + 20 \cdot \log(d) - 104.8$, where d is the measurement distance (in the far field region) in meter.

Radiated Emissions, 1-22 GHz
Slot 0 (Band 2 with 5G NR), Modulation: TM1.1-QPSK (worst-case output power),
Bandwidth 5 MHz, Transmit @ High Channel

Test Information:

Date and Time	11/19/2021 1:29:04 PM
Client and Project Number	Commscope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	31 %
Atmospheric Pressure	1008 mbar
Comments	Scan 4: High Ch, Band 2 with 5G NR, 5MHz BW, QPSK (worst-case output power), RP5100 host, RE 1-13 GHz SA mode

Graph:



Results:

Peak and E.I.R Peak (PASS) (3)

Frequency (MHz)	Peak Level (dBμV/m)	E.I.R.P Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
2461.578947	42.84	-52.46	-13	-39.46	292.00	1.11	Vertical	1000000.00	-1.65
2844.473684	52.65	-42.65	-13	-29.65	264.00	1.25	Vertical	1000000.00	-1.17
5000	55.86	-39.44	-13	-26.44	10.00	1.01	Vertical	1000000.00	3.64

Notes:

The level in E.I.R.P (dBm) is calculated from the peak readings as E.I.R.P (dBm) = E Peak (dBμV/m) + 20*Log(d) – 104.8, where d is the measurement distance (in the far field region) in meter.

The highest peak on the plot is the fundamental signal. Manual scan was performed from 13 to 22 GHz. No emissions were detected above the measuring equipment noise floor.

Intertek

Report Number: 104844468BOX-001

Issued: 12/03/2021

Revised: 02/07/2022

Test Personnel: Vathana Ven
Supervising/Reviewing
Engineer:
(Where Applicable) Kouma Sinn

Test Date: 11/16/2021, 11/19/2021, 11/28/2021

Product Standard: FCC Part 24
Input Voltage: 48 VDC (POE)

Limit Applied: See report section 11.3

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

Ambient Temperature: 26, 24, 23, 26 °C

Relative Humidity: 42, 31, 15, 38 %

Atmospheric Pressure: 1002, 1008, 1002, 1017 mbars

Deviations, Additions, or Exclusions: None

12 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	12/03/2021	104844468BOX-001	VFV <i>VFV</i>	KPS <i>KPS</i>	Original Issue
1	01/06/2022	104844468BOX-001	VFV <i>VFV</i>	KPS <i>KPS</i>	Removed test setup photos and added frequency stability vs. voltage test results tables
2	02/07/2022	104844468BOX-001	VFV <i>VFV</i>	KPS <i>KPS</i>	Added justification for worst case for spurious emissions on page 291