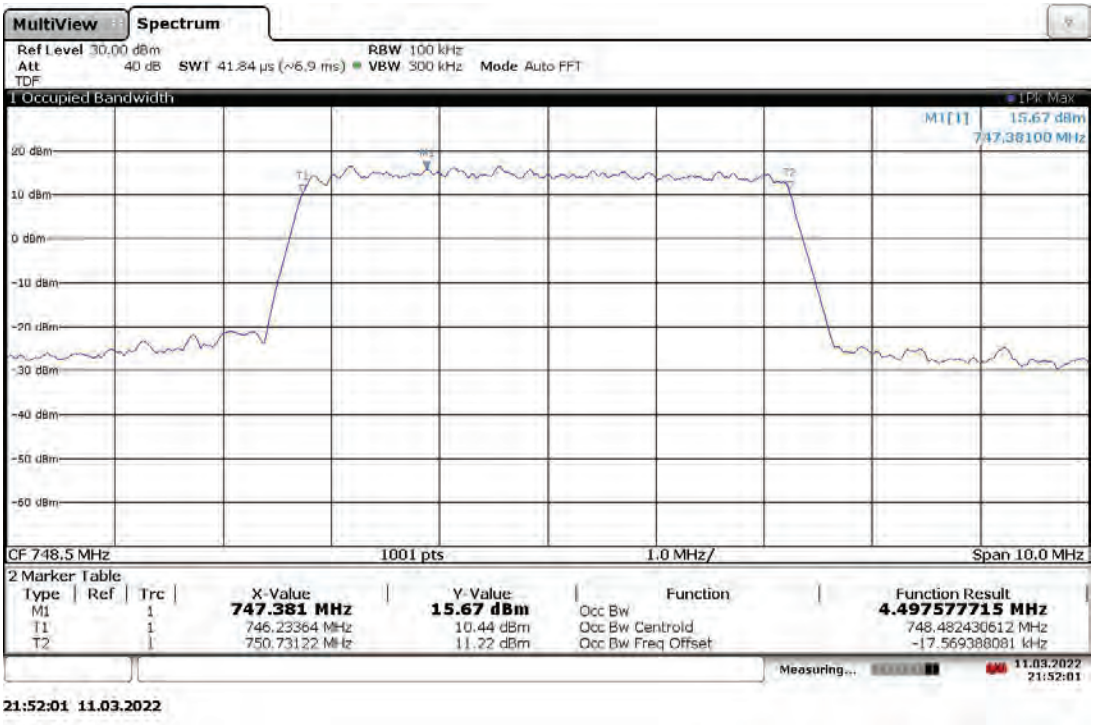
9.4 Setup Photographs:

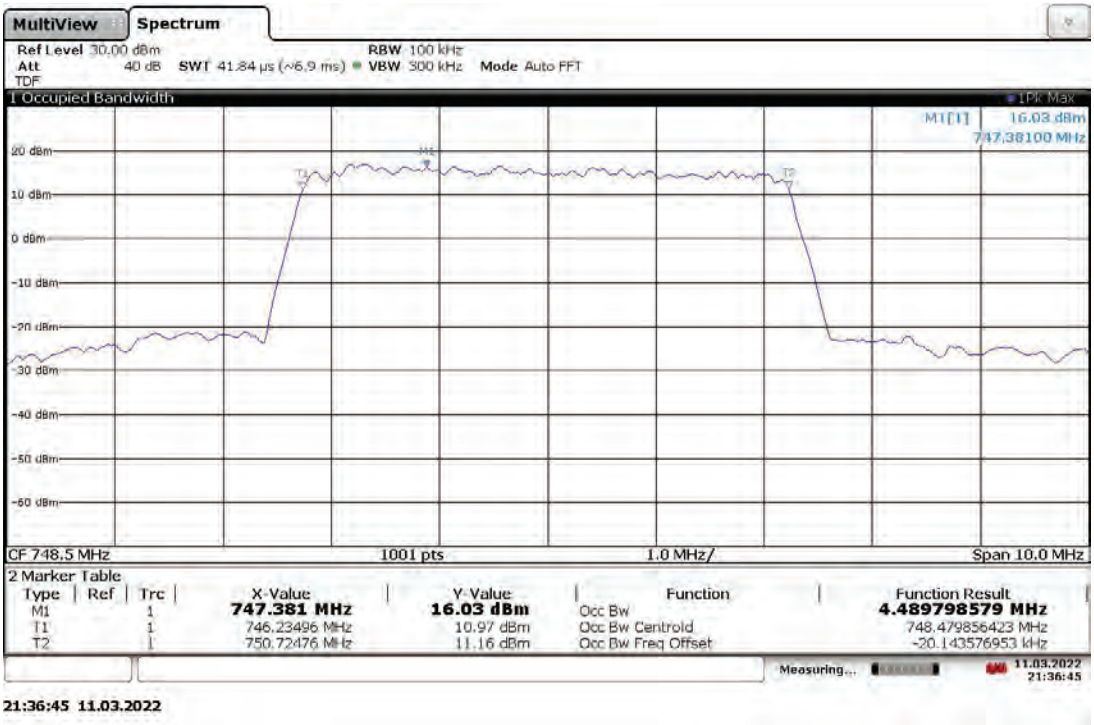
Confidential – Photos not included in this report

9.5 Plots/Data:

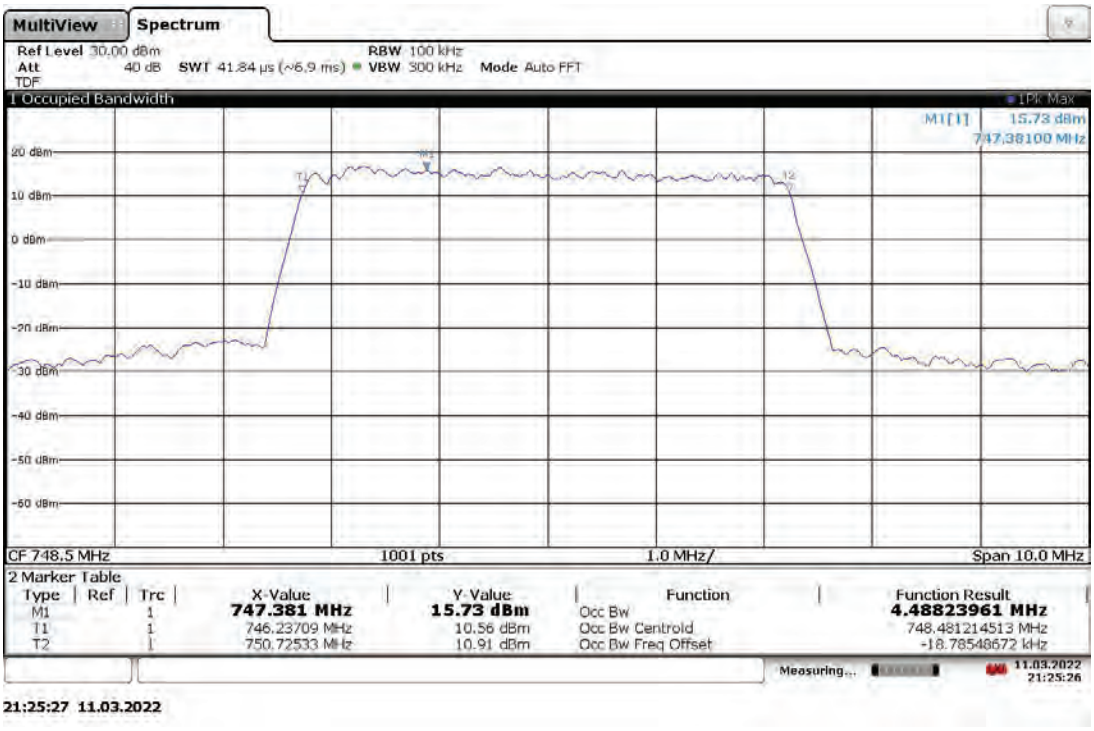
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz -30 ºC



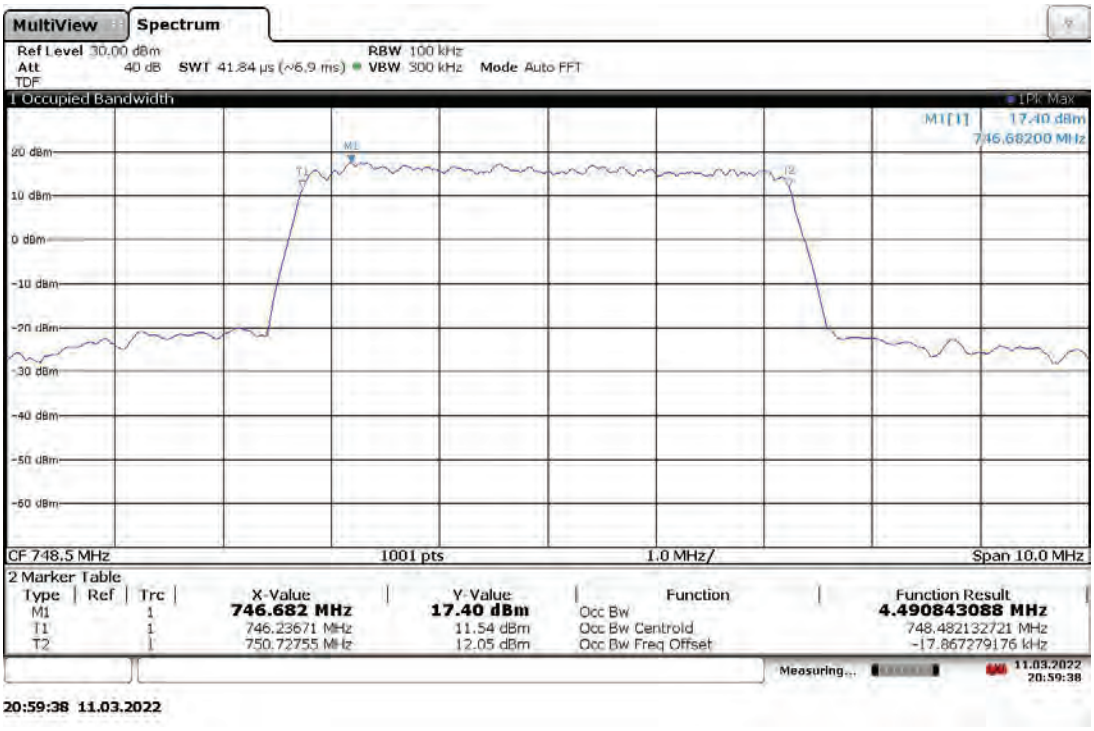
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz -20 ºC



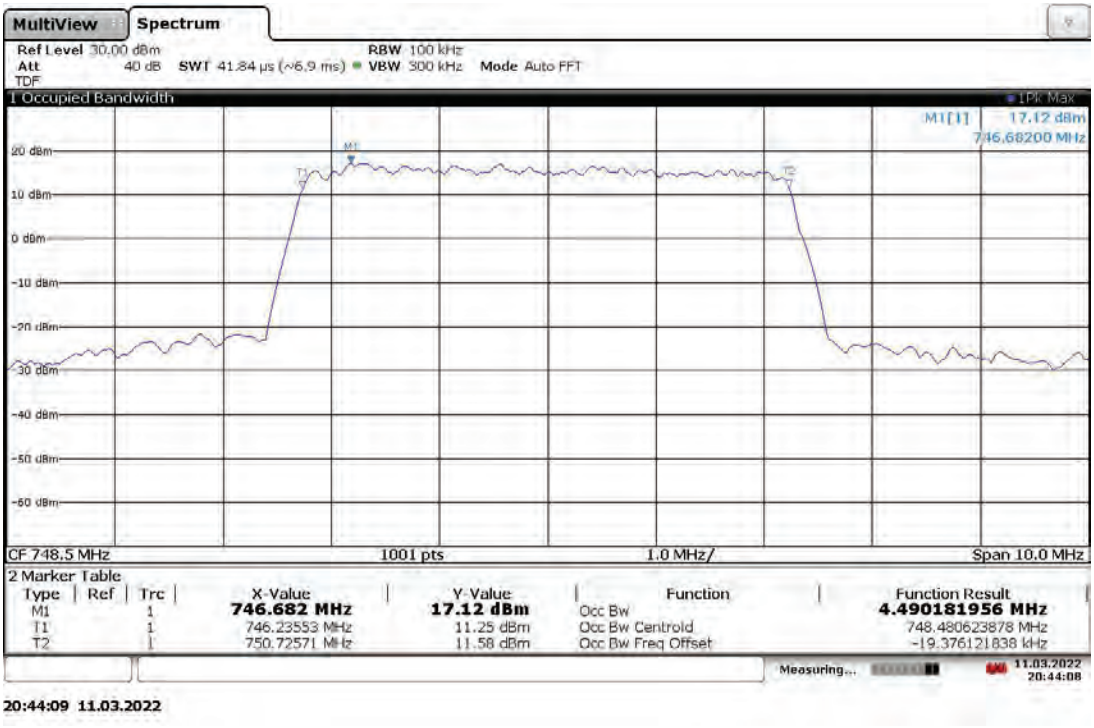
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
-10 ºC



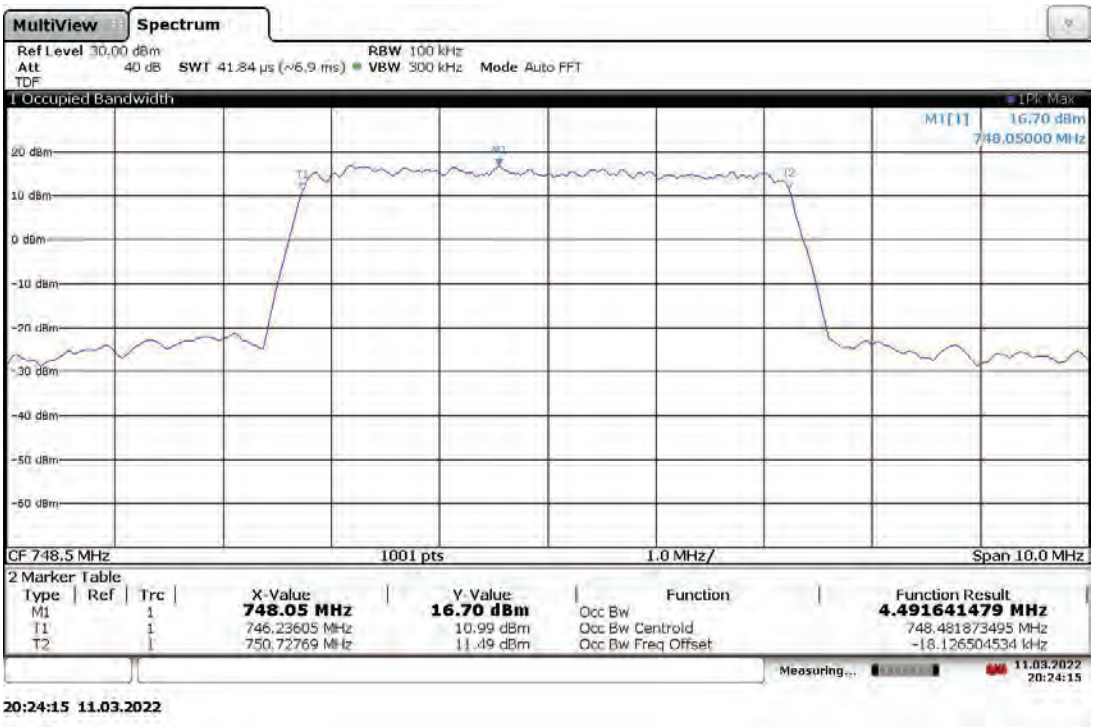
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
0 ºC



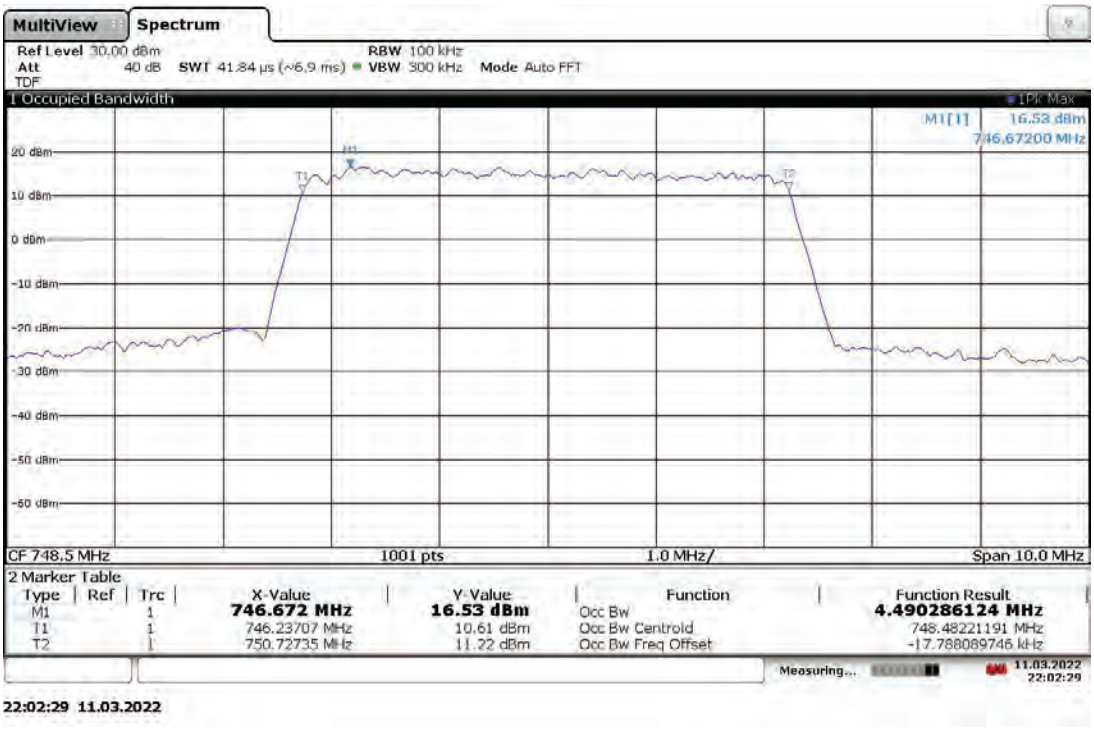
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
10 ºC



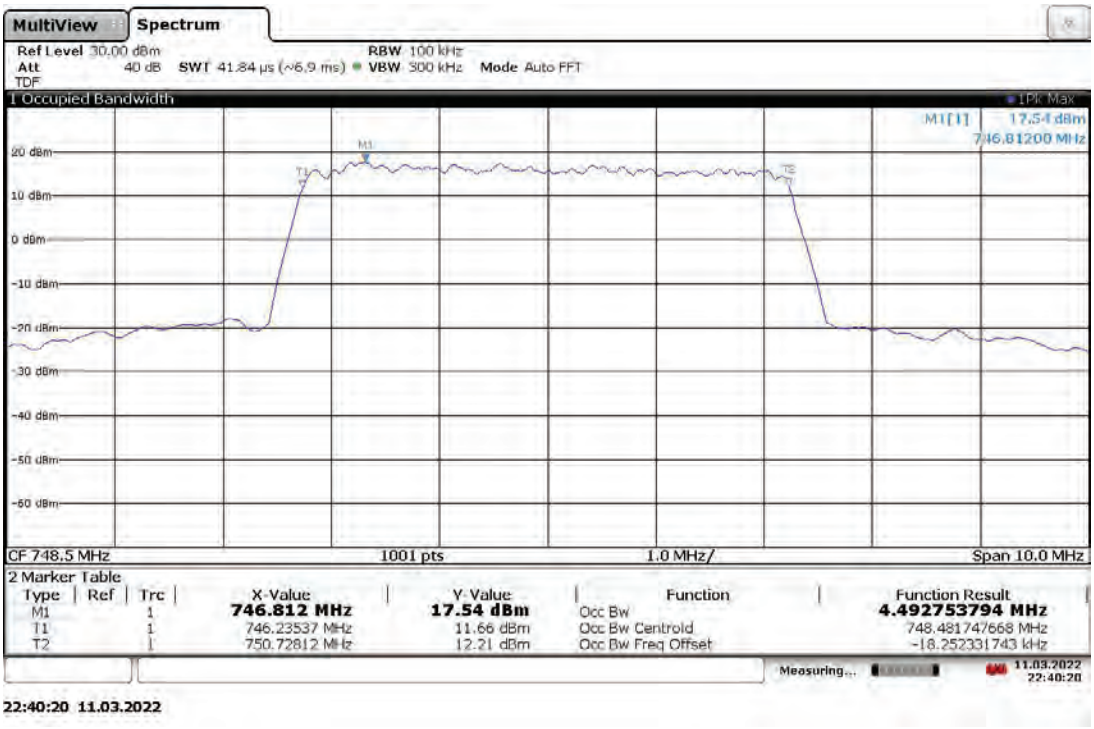
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
20 ºC



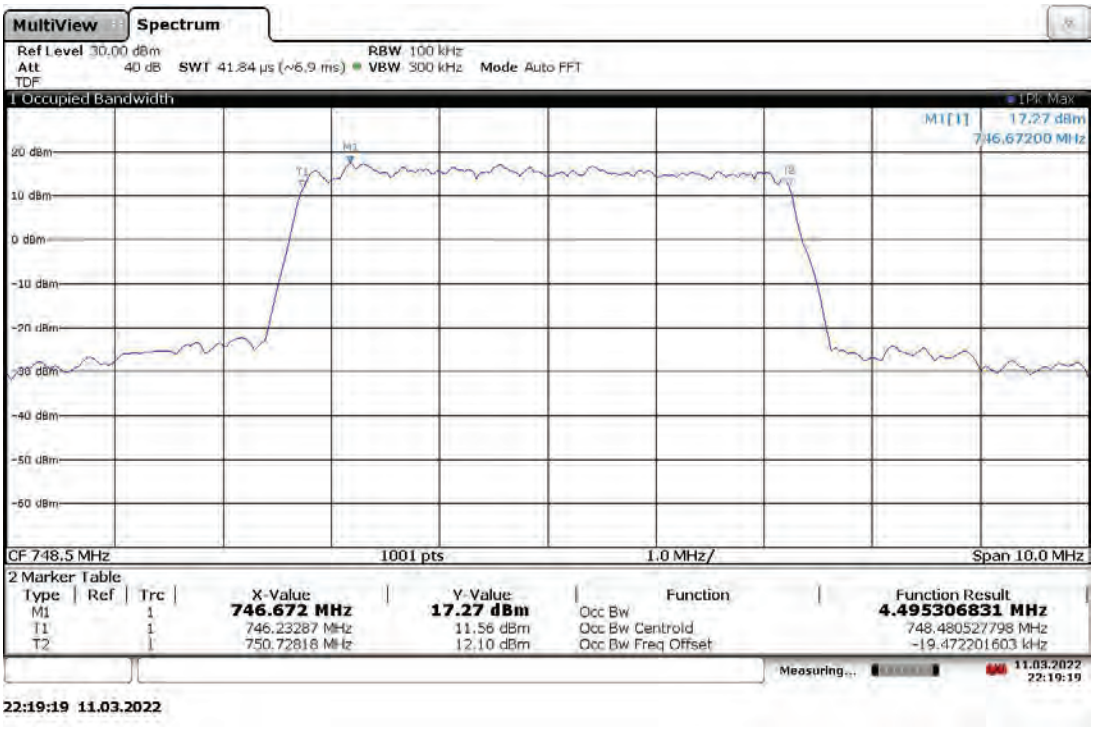
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
30 ºC



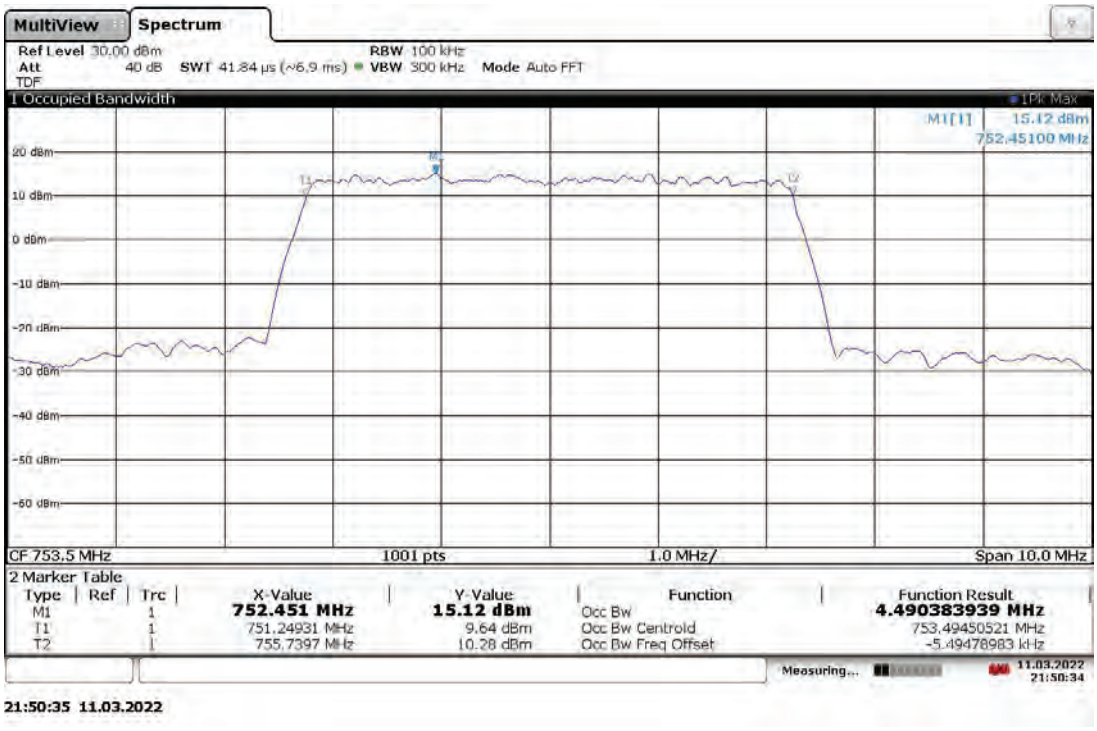
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
40 ºC



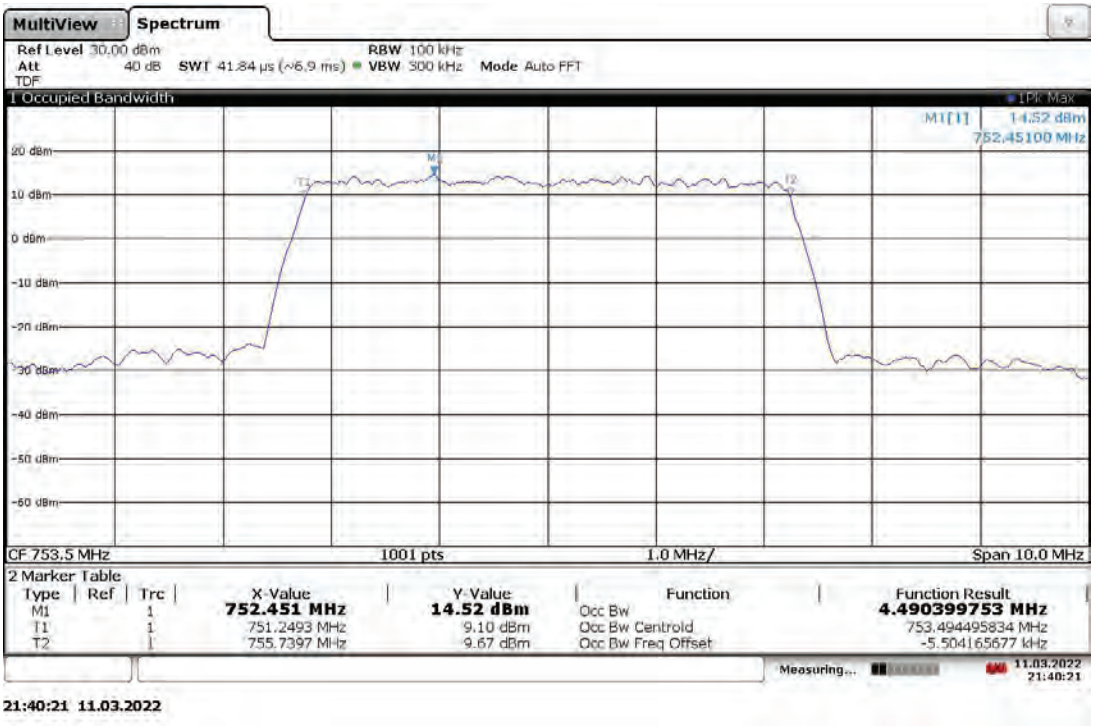
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
50 ºC



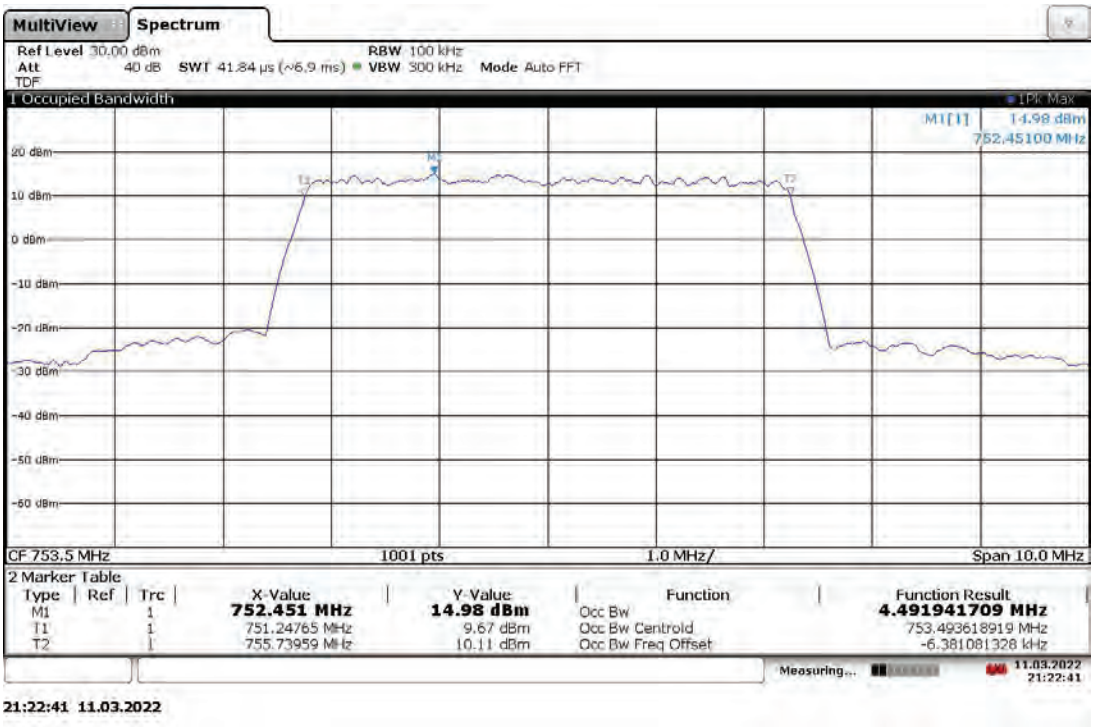
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
-30 ºC



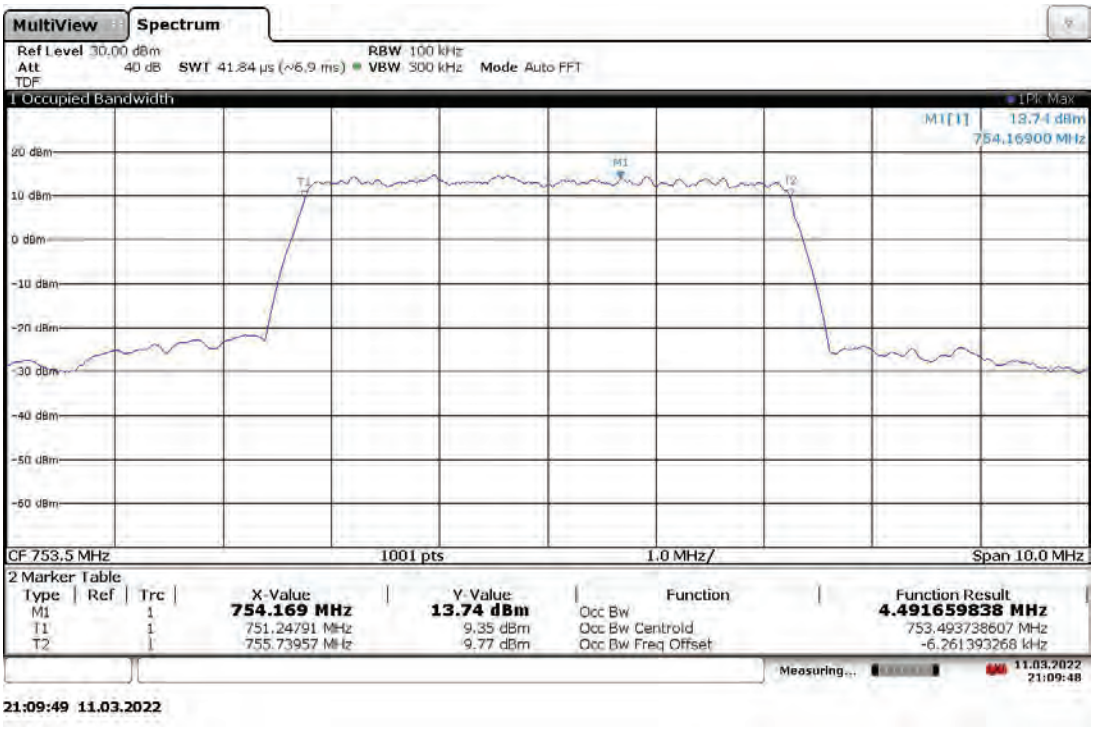
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz -20 ºC



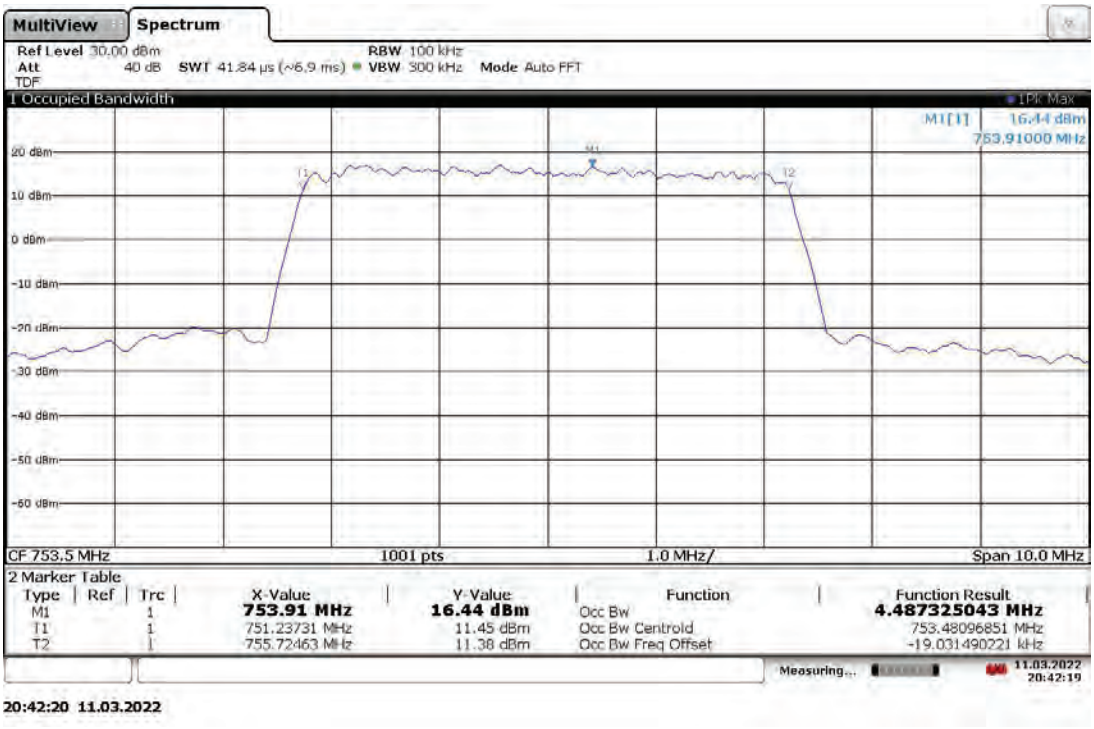
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz -10 ºC



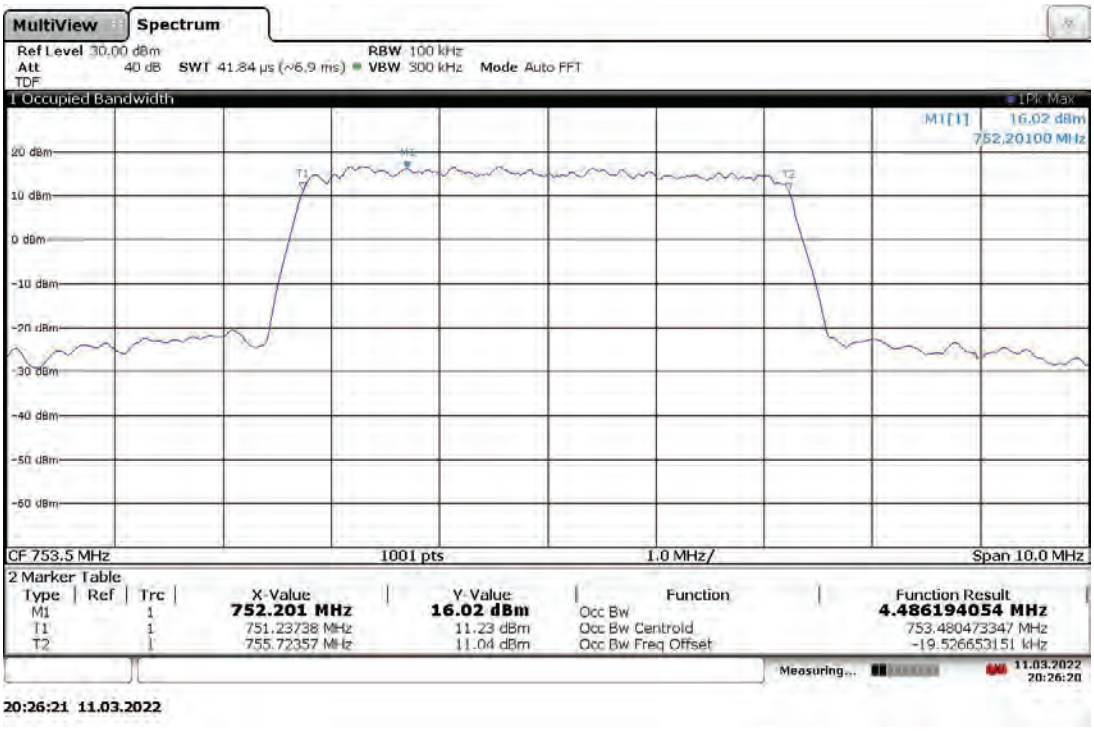
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
0 ºC



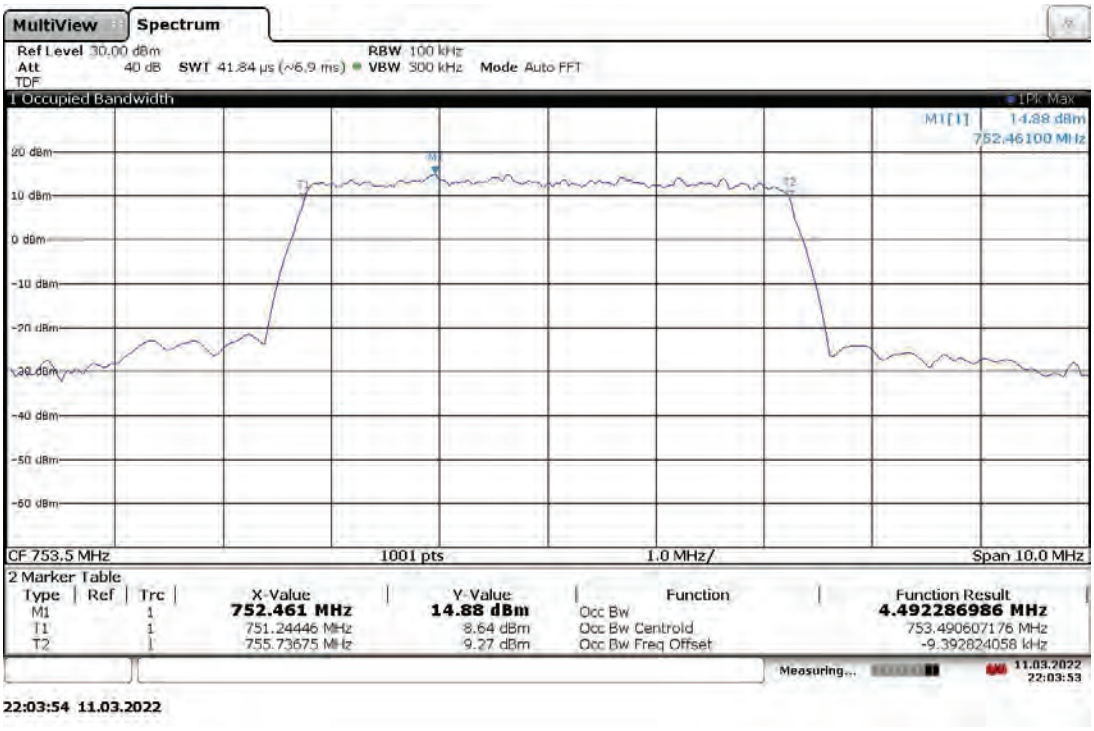
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
10 ºC



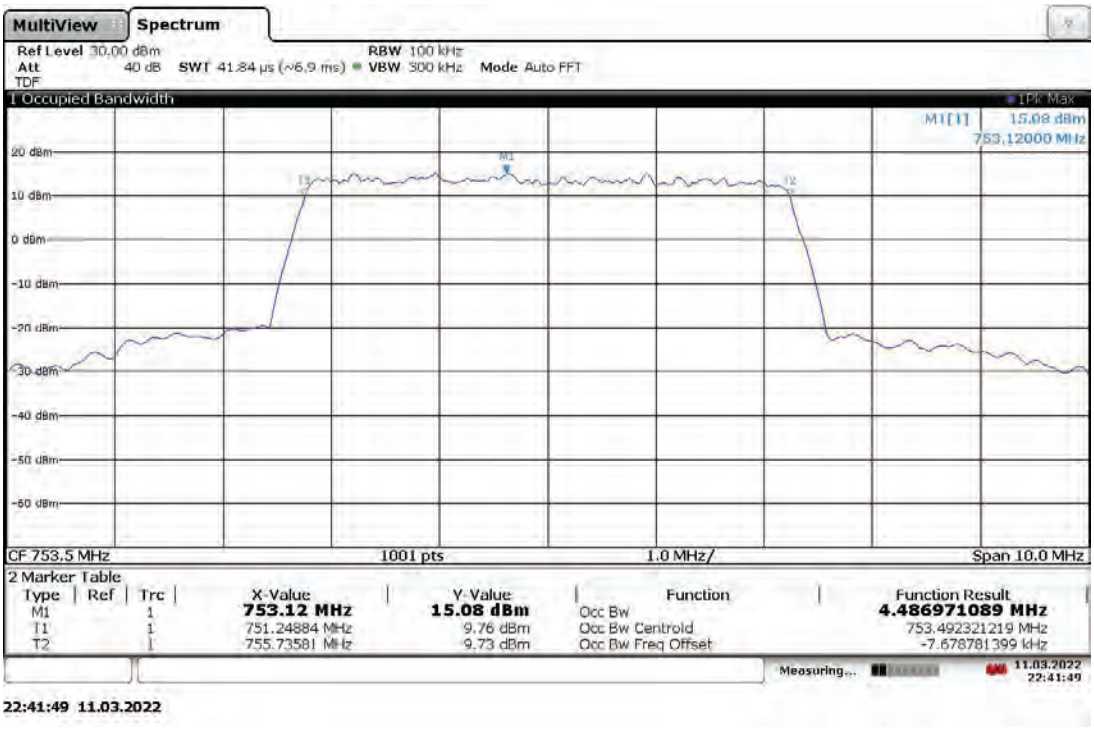
Slot 0 Band 13 (4G LTE) With RP5200 Hosst, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
20 ºC



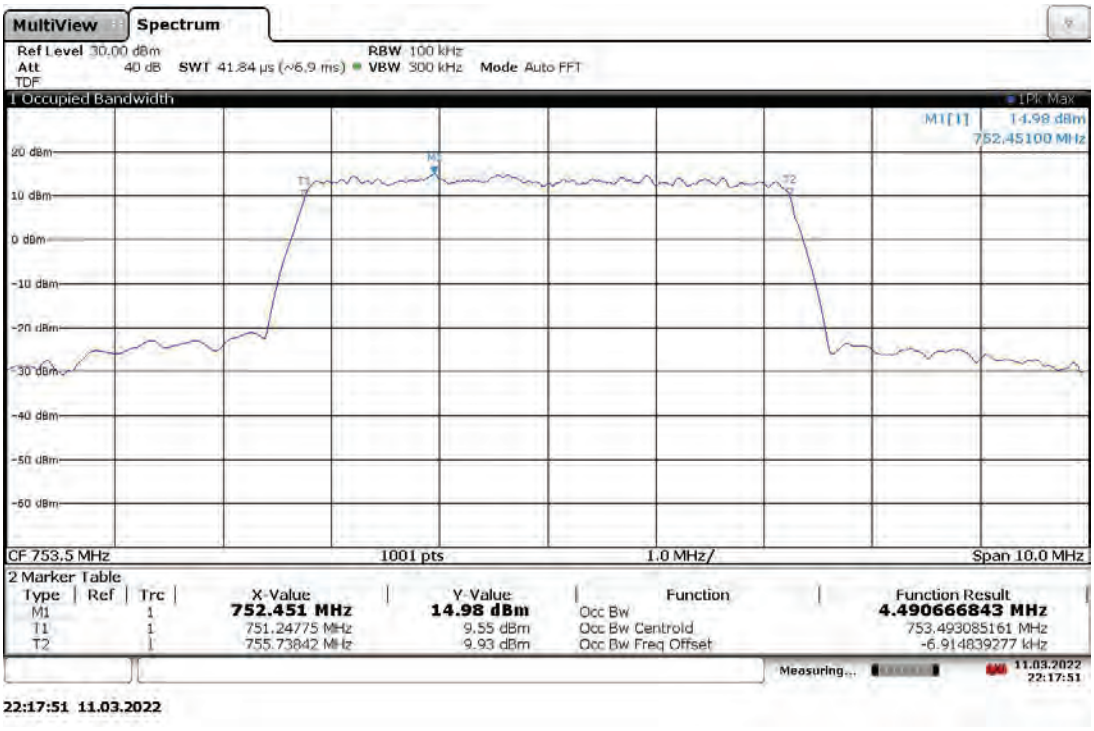
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
30 ºC



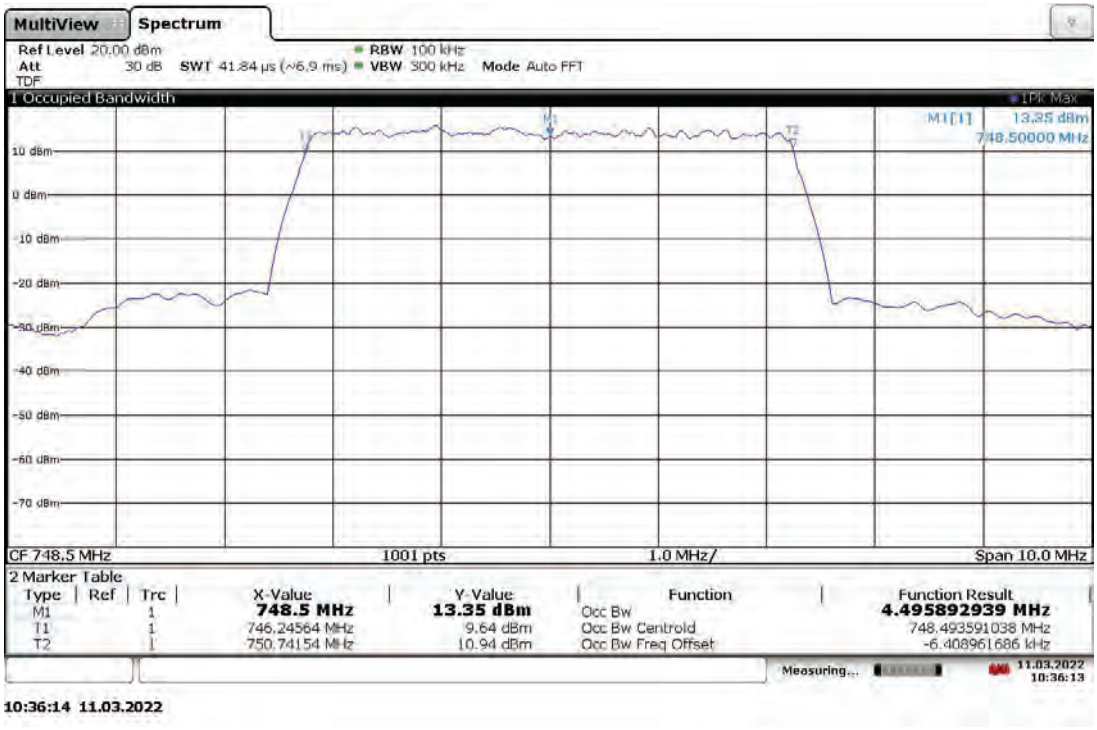
Slot 0 Band 13 (4G LTE) With RP5200, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
40 ºC



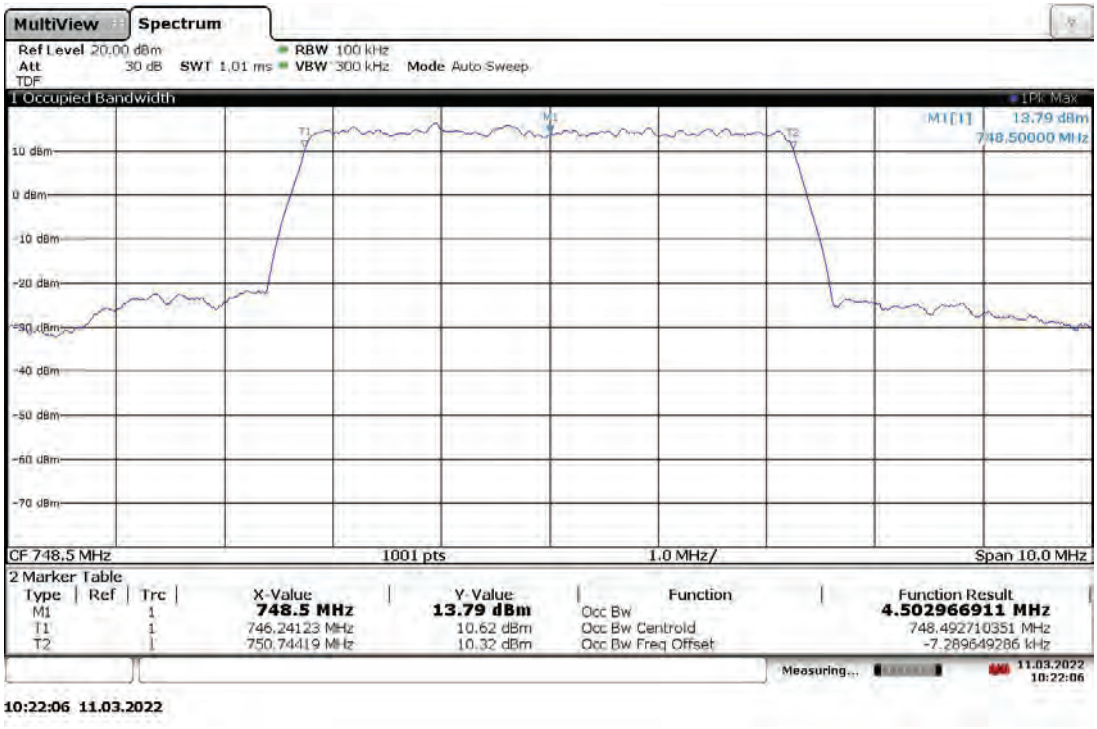
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: 64QAM, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
50 ºC



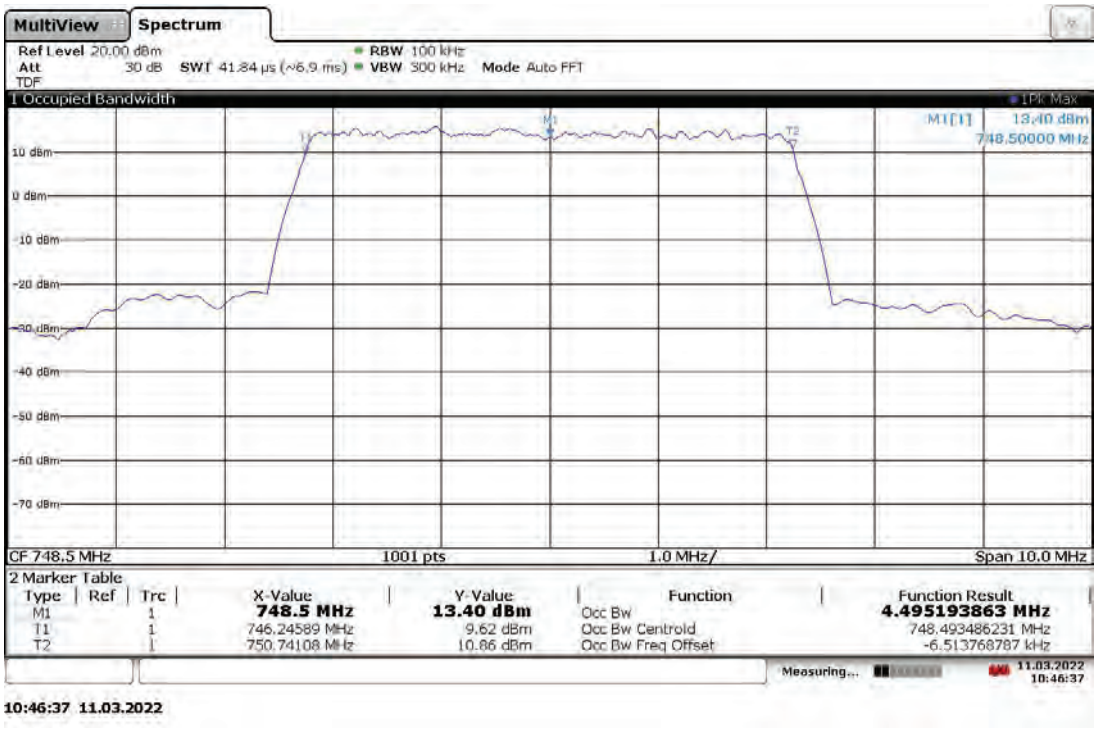
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: QPSK, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
41.1 VDC



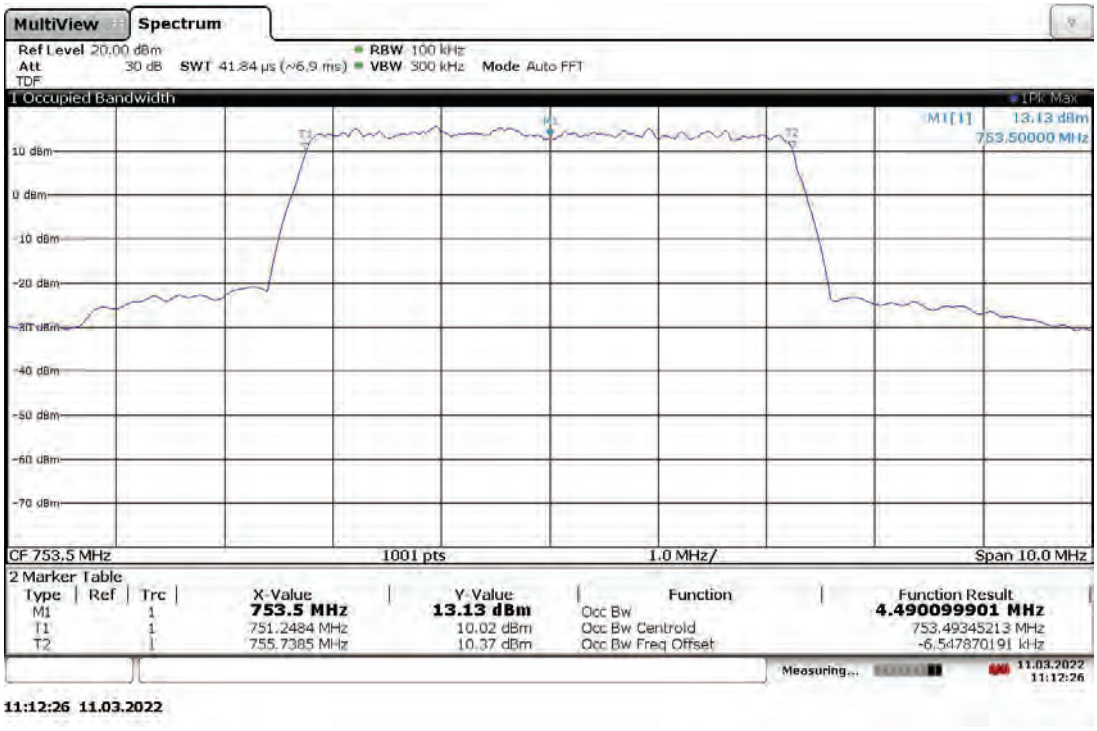
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: QPSK, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
48 VDC



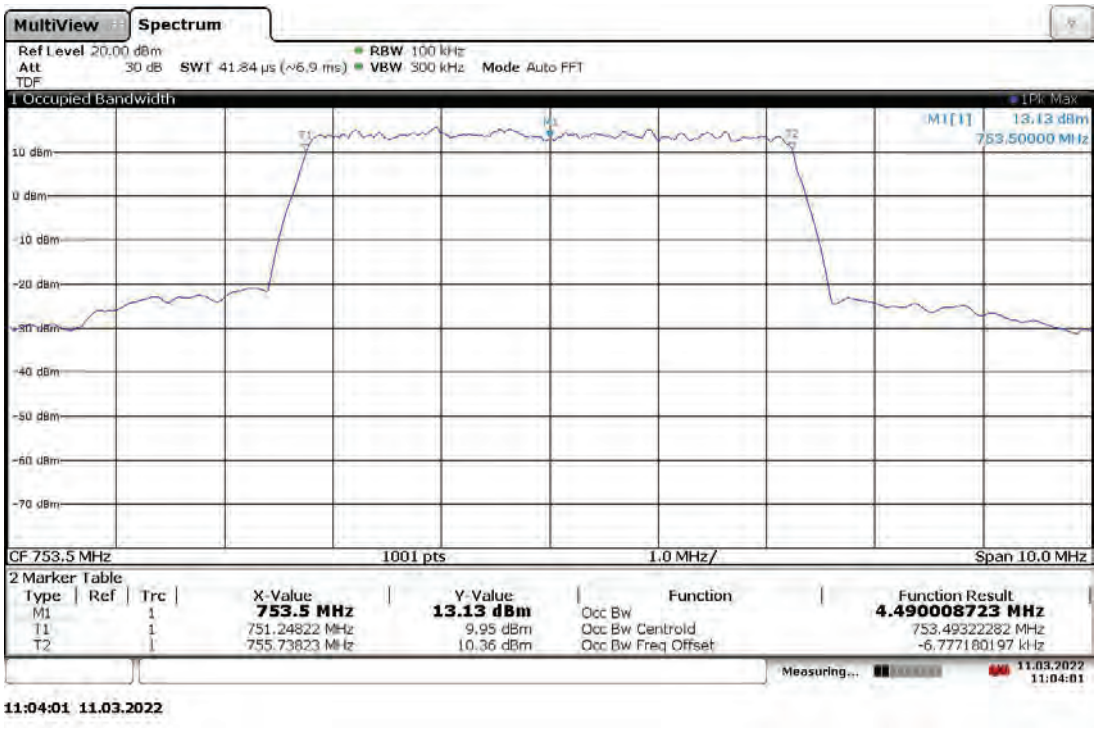
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: QPSK, BW: 5 MHz, Ant. Port: ANT1, Low Ch. 748.5 MHz
57 VDC



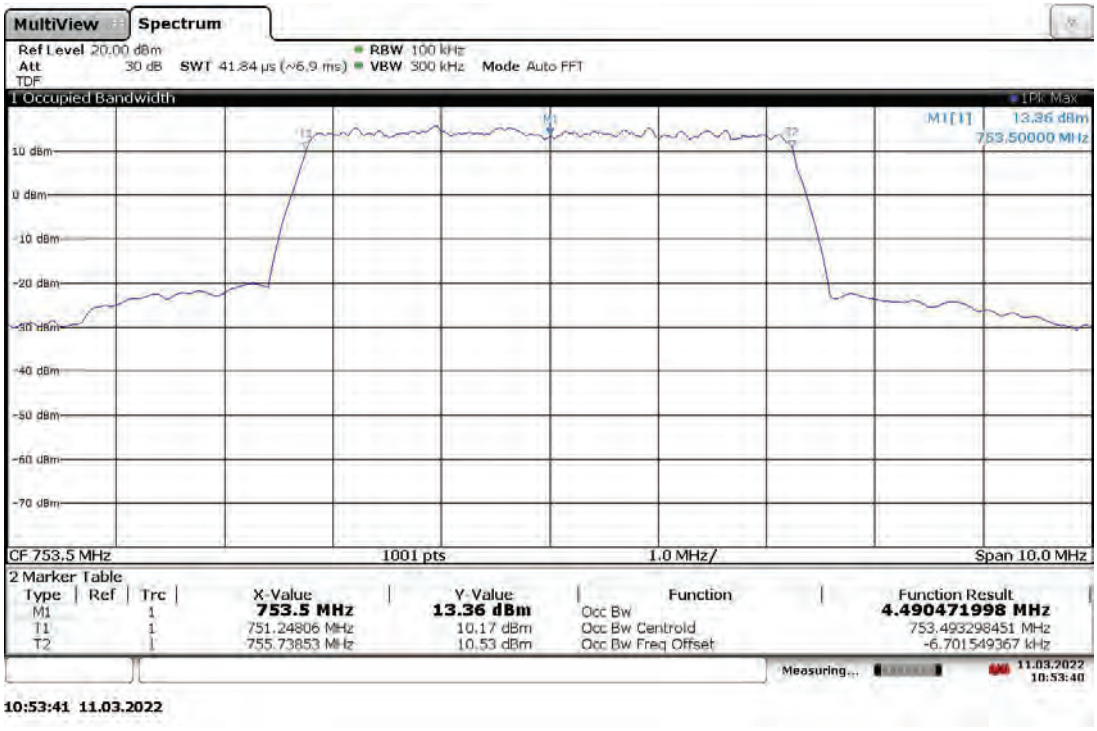
Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: QPSK, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
41.1 VDC



Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: QPSK, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
48 VDC



Slot 0 Band 13 (4G LTE) With RP5200 Host, Mod: QPSK, BW: 5 MHz, Ant. Port: ANT1, High Ch. 753.5 MHz
57 VDC



Test Personnel:	Kouma Sinn KPS	Test Date:	03/11/2022
Supervising/Reviewing Engineer: (Where Applicable)	N/A		
Product Standard:	FCC Part 27	Limit Applied:	See report section 9.3
Input Voltage:	48VDC (POE)		
Pretest Verification w/ Ambient Signals or BB Source:	N/A	Ambient Temperature:	23 ºC
		Relative Humidity:	10 %
		Atmospheric Pressure:	1010 mbars

Deviations, Additions, or Exclusions: None

10 Transmitter spurious emissions

10.1 Method

Tests are performed in accordance with ANSI C63.26 and CFR47 FCC Parts 2.1051, 2.1053, 2.1057, and 27.

TEST SITE: EMC Lab & 10m ALSE

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

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	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 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.

10.2 Test Equipment Used:

Test equipment used for antenna port conducted emissions

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DS40'	Temp, humidity, pressure gauge	Digi Sense	68000-49	181717625	11/09/2021	11/09/2022
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	11/02/2021	11/02/2022
CEN001'	DC-40GHz attenuator 20dB	Centric RF	C411-20	CEN001	01/26/2022	01/26/2023
CBLHF2012-2M-2'	2m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252675002	02/10/2022	02/10/2023
DAV005'	Weather Station	Davis	6250	MS191218083	02/11/2022	02/11/2023

Software Utilized:

Name	Manufacturer	Version
None	--	--

Test equipment used for radiated emissions, 9 kHz-30 MHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/08/2022	03/08/2023
145-414'	Cables 145-400 145-403 145-405 145-409	Huber + Suhner	3m Track A cables	multiple	07/09/2021	07/09/2022
IW001'	2 meter cable	Insulated Wire	2801-NPS	001	09/23/2021	09/23/2022
IW002'	2 meter Armored cable	Insulated Wire	2800-NPS	002	09/23/2021	09/23/2022
CBL051'	9kHz to 1GHz BNC/ BNC Cable	Belden	RG58A/U	none	04/16/2021	04/16/2022
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/22/2021	06/22/2022
ETS003	9kHz-30MHz Active Loop Antenna	ETS Lindgren	6502	00143396	08/26/2021	08/26/2022

Test equipment used for Radiated emissions, 30-1000 MHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
IW001'	2 meter cable	Insulated Wire	2801-NPS	001	09/23/2021	09/23/2022
145106'	Bilog Antenna (30MHz - 5GHz)	Sunol Sciences	JB5	A111003	07/22/2021	07/22/2022
HS002'	DC-18GHz cable 1.5M long	Huber & Suhner	SucoFlex 106A	HS002	12/06/2021	12/06/2022
IW006'	DC-18GHz cable 8.4m long	Insulated Wire	2800-NPS	IW006	07/22/2021	07/22/2022
PRE11'	50dB gain pre-amp	Pasternack	PRE11	PRE11	09/02/2021	09/02/2022
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/08/2022	03/08/2023
145145'	Broadband Hybrid Antenna 30 MHz - 3 GHz	Sunol Sciences Corp.	JB3	A122313	06/09/2021	06/09/2022
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/22/2021	06/22/2022

Test equipment used for radiated emissions, 1-8 GHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/08/2022	03/08/2023
145-414'	Cables 145-400 145-403 145-405 145-409	Huber + Suhner	3m Track A cables	multiple	07/09/2021	07/09/2022
IW001'	2 meter cable	Insulated Wire	2801-NPS	001	09/23/2021	09/23/2022
IW002'	2 meter Armored cable	Insulated Wire	2800-NPS	002	09/23/2021	09/23/2022
IW003'	8.4 meter cable	Insulated Wire	2800-NPS	003	10/15/2022	10/15/2022
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/22/2021	06/22/2022
ETS003'	9kHz-30MHz Active Loop Antenna	ETS Lindgren	6502	00143396	08/26/2021	08/26/2022
PRE12'	Pre-amplifier	Com Power	PAM-118A	18040117	12/06/2021	12/06/2022

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	Nexio	3.18.0.16

10.3 Results:

The sample tested was found to Comply per FCC Part 27.53 (c)(1)(5) and (f) below.

FCC Part 27.53 (c)(1) – For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

FCC Part 27.53 (c) (5) – Compliance with the provisions of paragraph of (c)(1) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

FCC Part 27.53(f)
For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

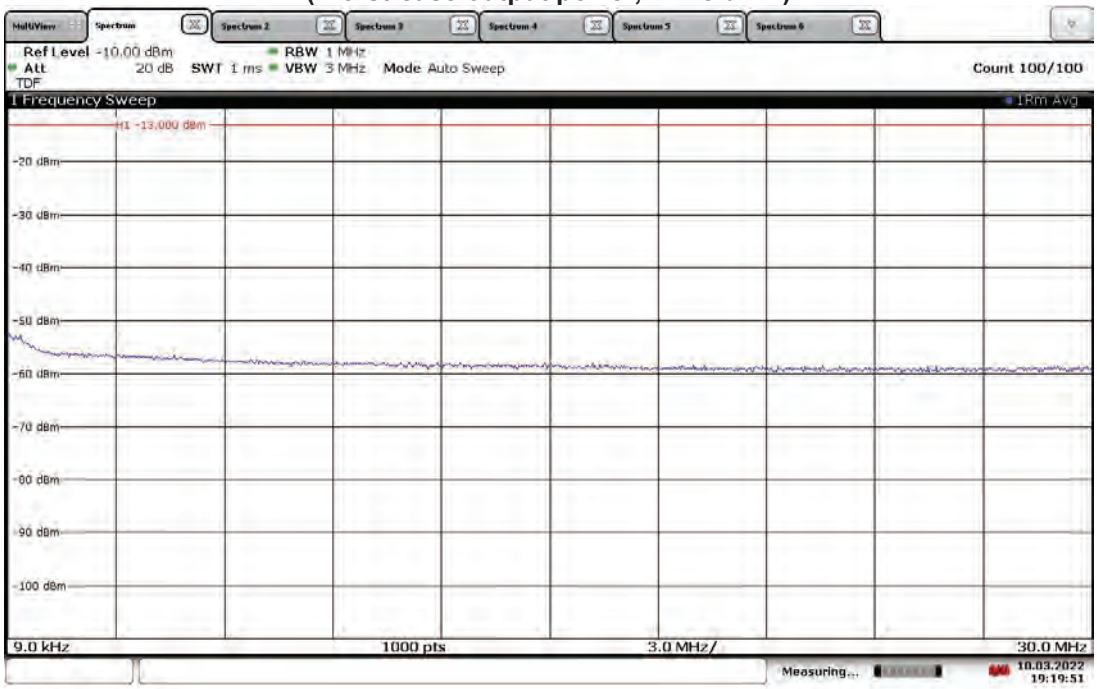
Since the two antenna ports transmit uncorrelated data streams and use cross polarized antennas, no adjustments to the test results were applied due to MIMO operation, per KDB 662911.

10.4 Setup Photographs:

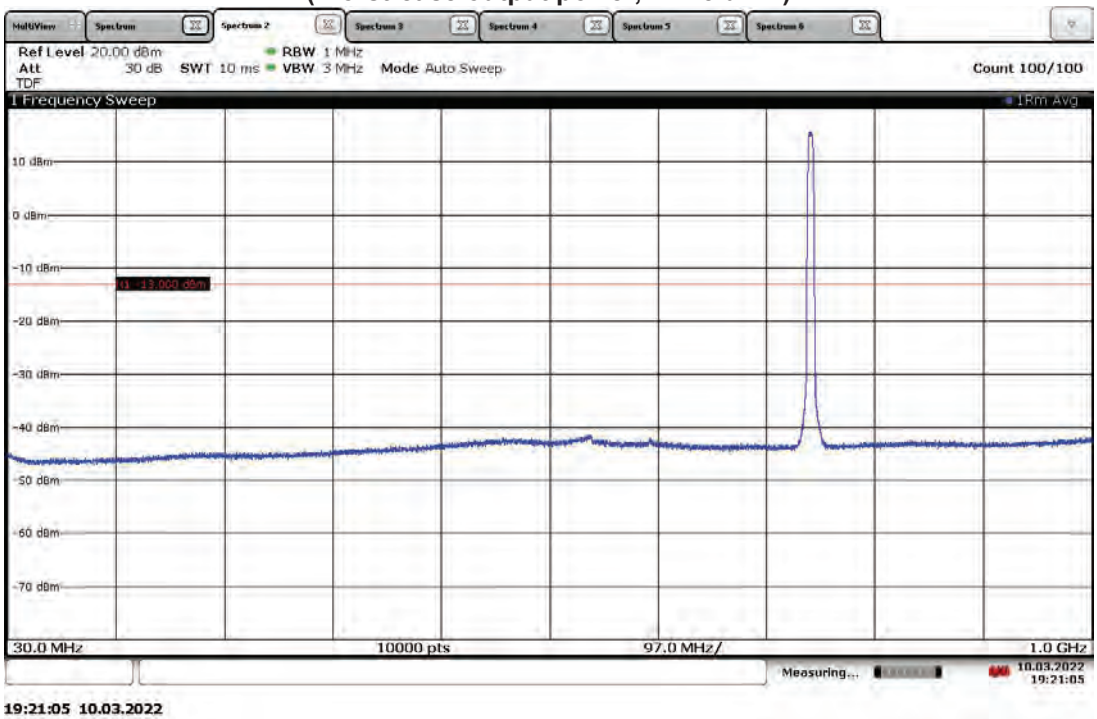
Confidential – Photos not included in this report

10.5 Plots/Data:

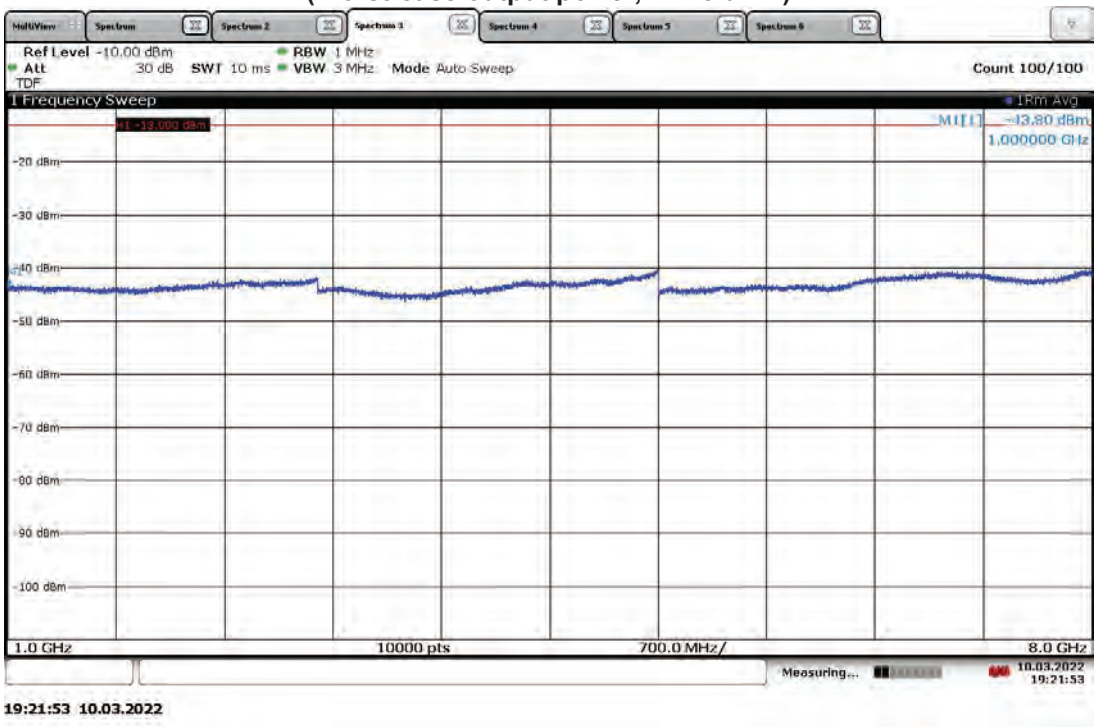
Antenna Port (ANT0) Conducted Emissions, 9 kHz-30 MHz
Band 13 (4G LTE), Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power, 21.75 dBm)



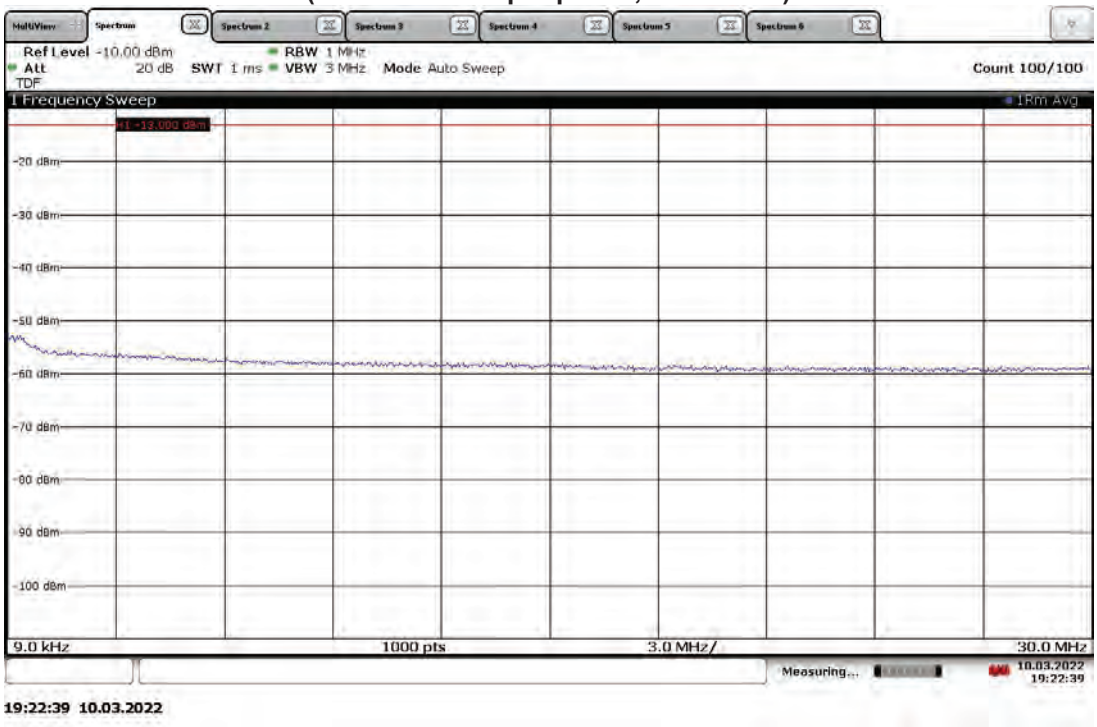
Antenna Port (ANT0) Conducted Emissions, 30 MHz-1 GHz
Band 13 (4G LTE), Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power, 21.75 dBm)



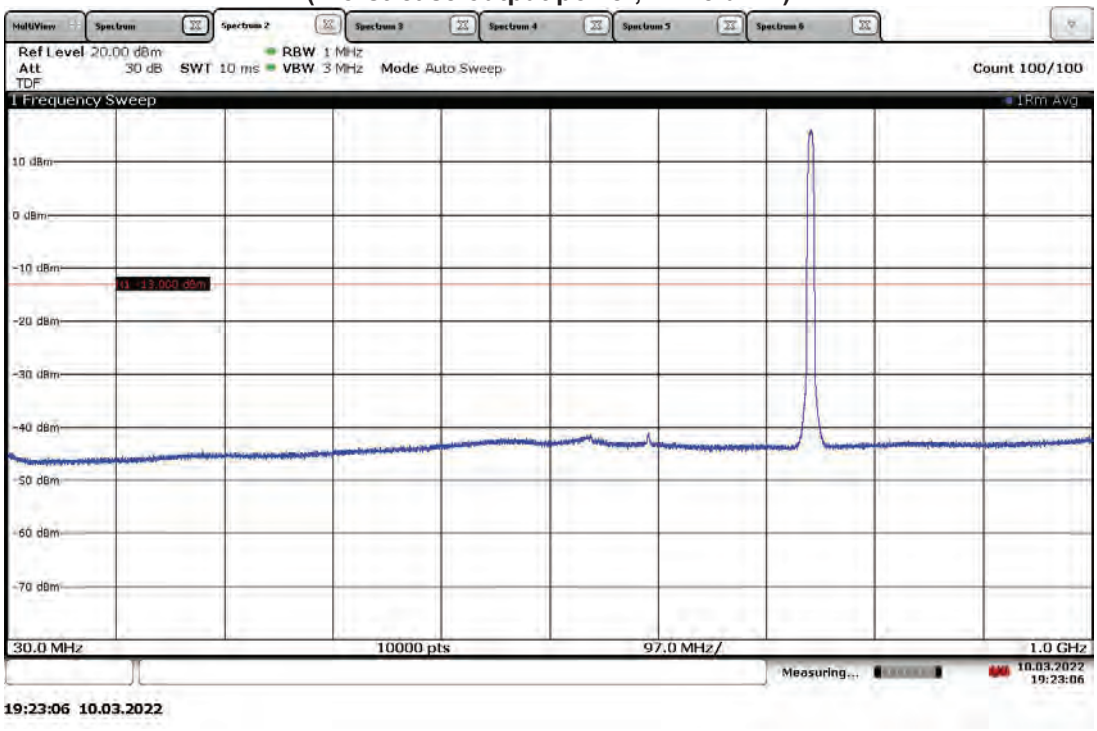
Antenna Port (ANT0) Conducted Emissions, 1-8 GHz
Band 13 (4G LTE), Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power, 21.75 dBm)



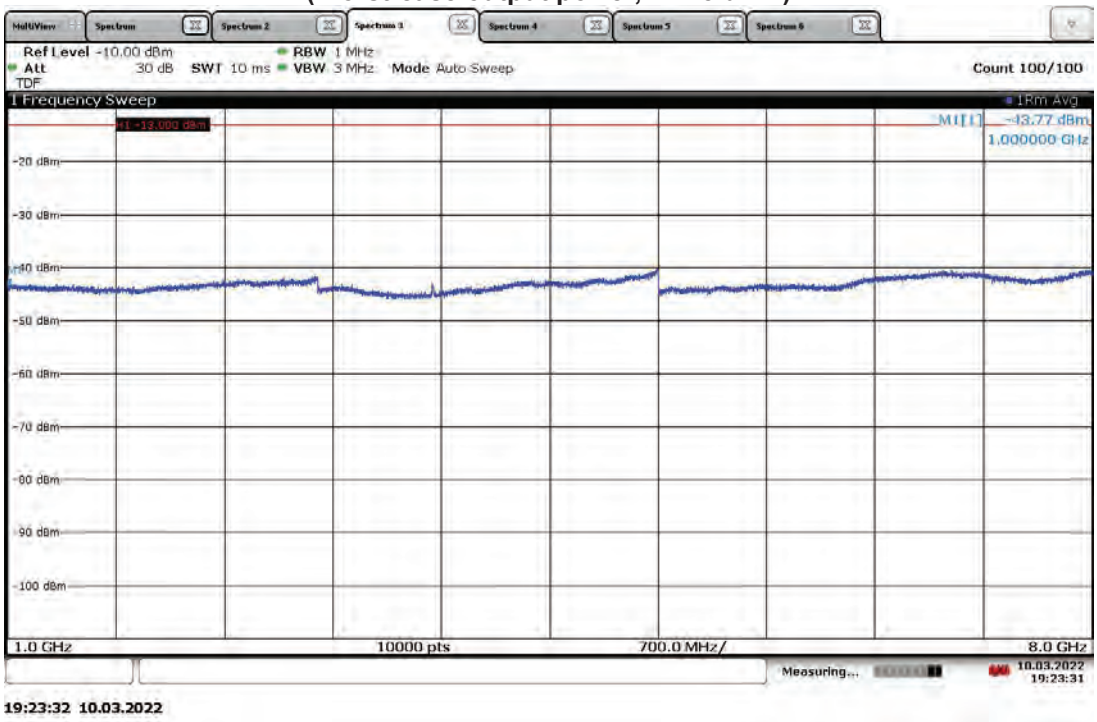
Antenna Port (ANT1) Conducted Emissions, 9 kHz-30 MHz
Band 13 (4G LTE), Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power, 21.75 dBm)



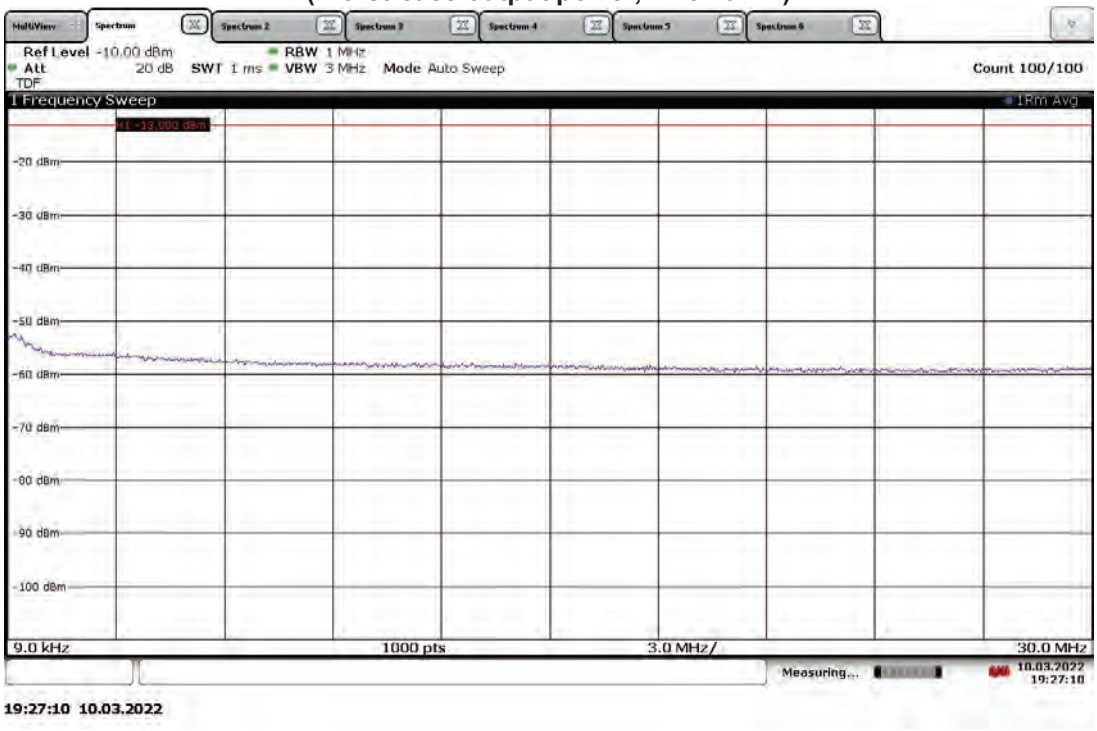
Antenna Port (ANT1) Conducted Emissions, 30 MHz-1 GHz
Band 13 (4G LTE), Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power, 21.75 dBm)



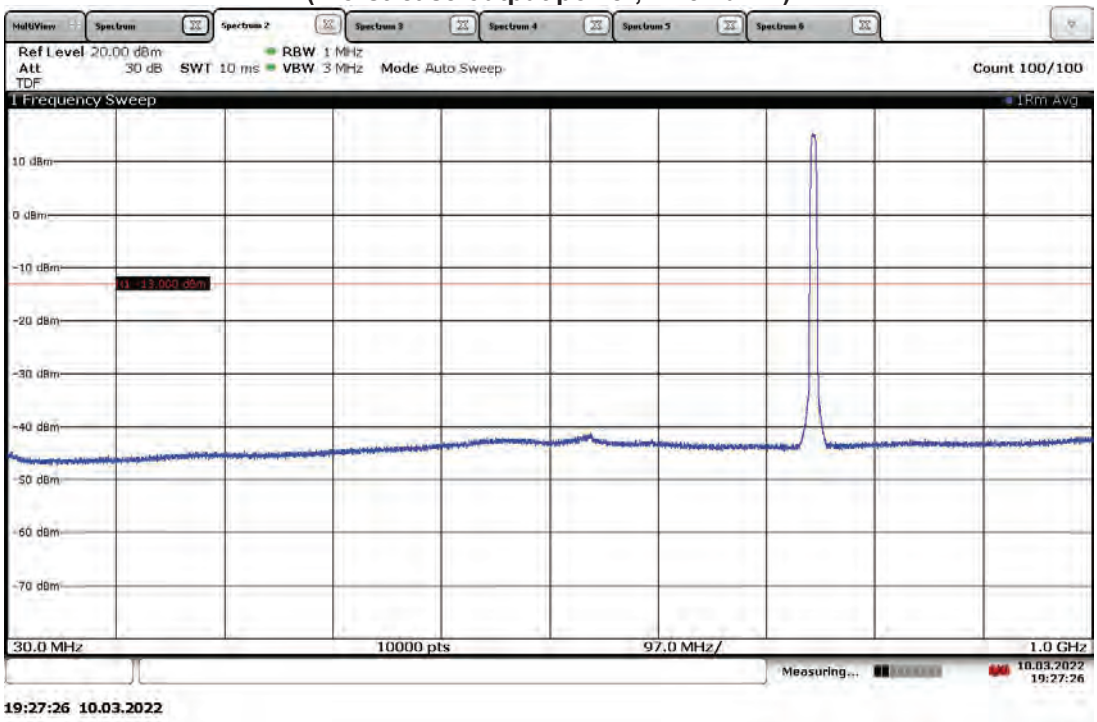
Antenna Port (ANT1) Conducted Emissions, 1-8 GHz
Band 13 (4G LTE), Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power, 21.75 dBm)



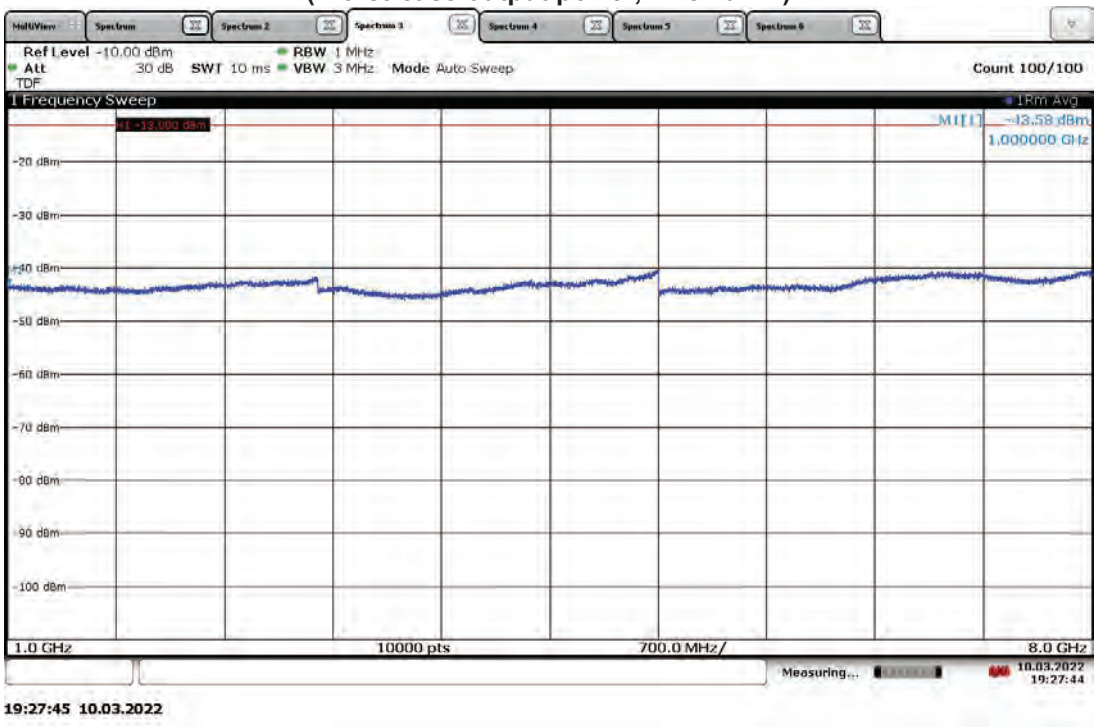
Antenna Port (ANT0) Conducted Emissions, 9 kHz-30 MHz
Band 13 (4G LTE), Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power, 21.57 dBm)



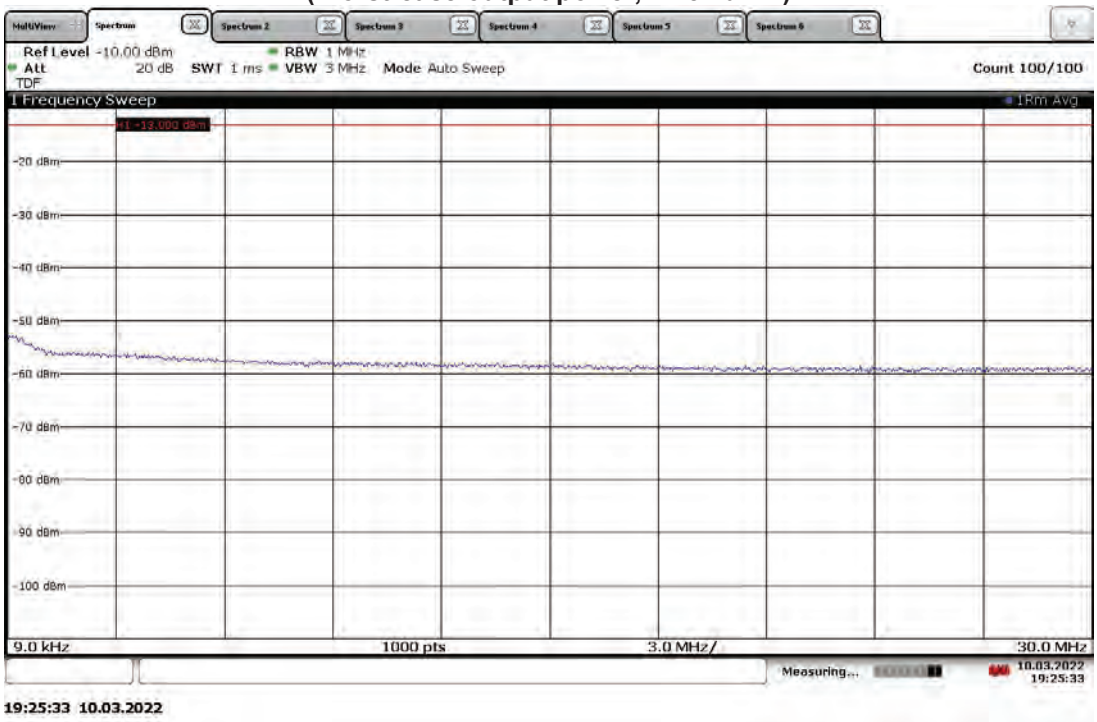
Antenna Port (ANT0) Conducted Emissions, 30 MHz-1 GHz
Band 13 (4G LTE), Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power, 21.57 dBm)



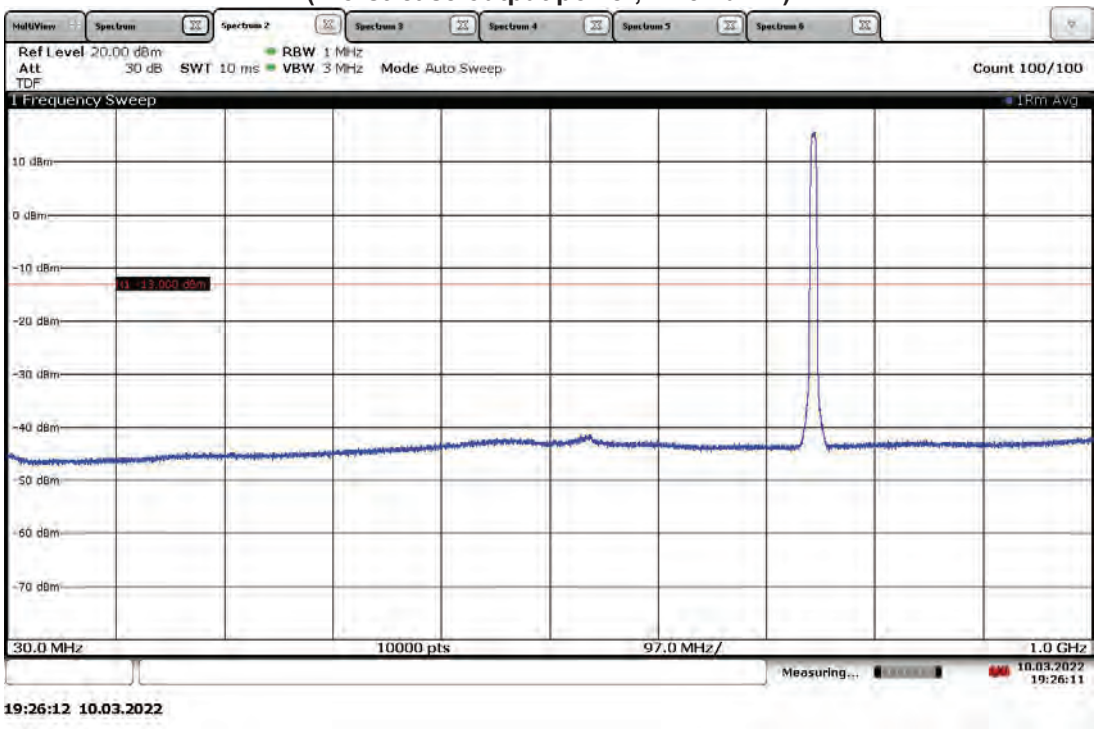
Antenna Port (ANT0) Conducted Emissions, 1-8 GHz
Band 13 (4G LTE), Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power, 21.57 dBm)



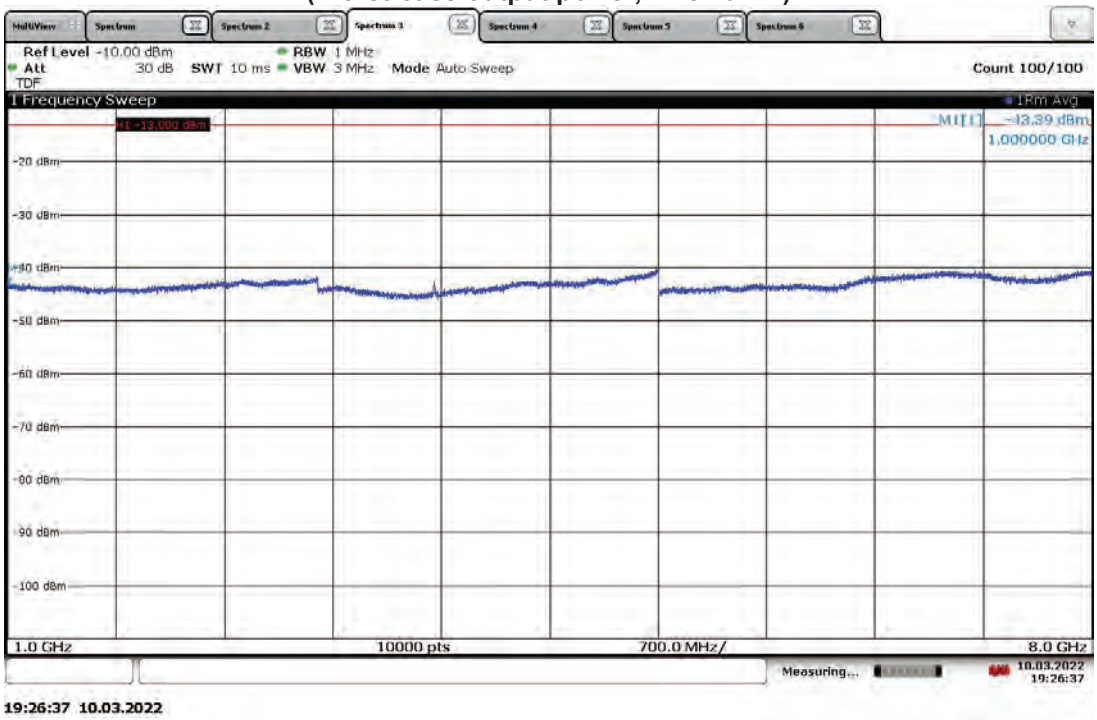
Antenna Port (ANT1) Conducted Emissions, 9 kHz-30 MHz
Band 13 (4G LTE), Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power, 21.57 dBm)



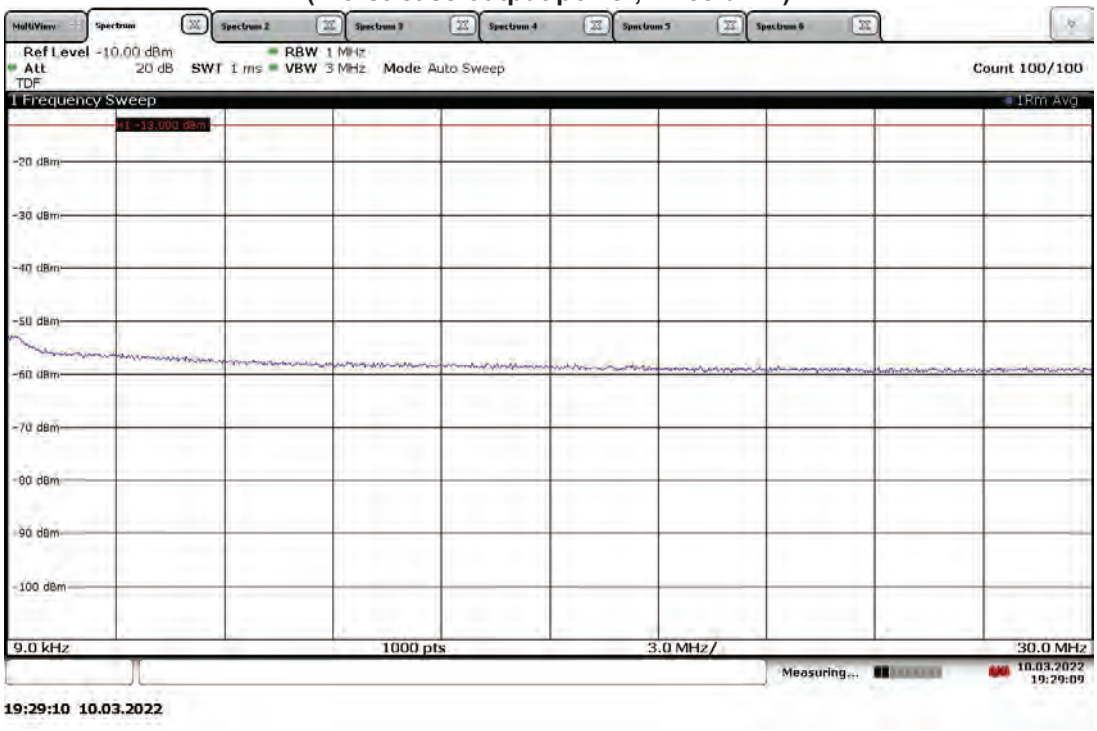
Antenna Port (ANT1) Conducted Emissions, 30 MHz-1 GHz
Band 13 (4G LTE), Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power, 21.57 dBm)



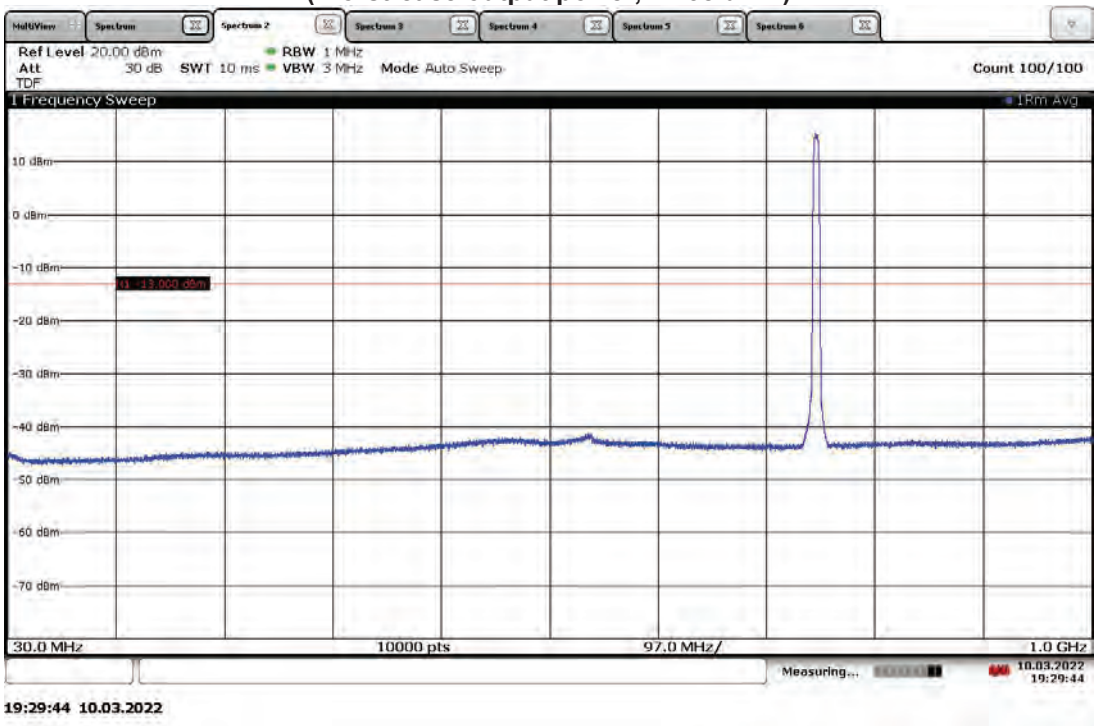
Antenna Port (ANT1) Conducted Emissions, 1-8 GHz
Band 13 (4G LTE), Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power, 21.57 dBm)



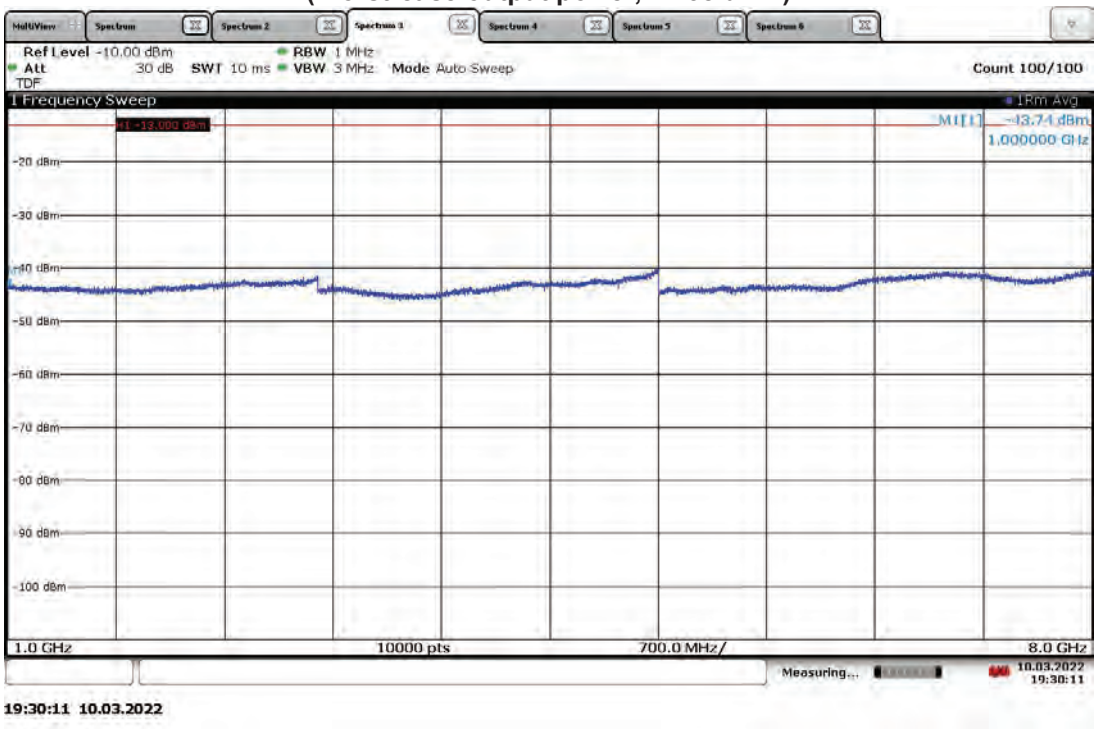
Antenna Port (ANT0) Conducted Emissions, 9 kHz-30 MHz
Band 13 (4G LTE), High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power, 21.38 dBm)



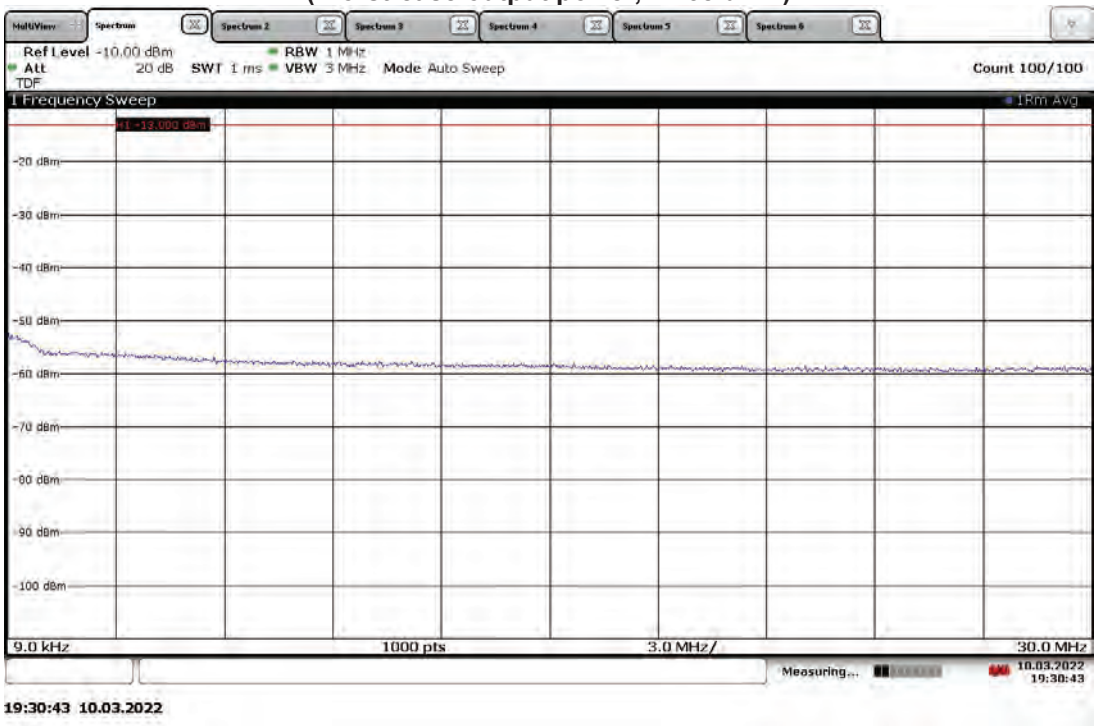
Antenna Port (ANT0) Conducted Emissions, 30 MHz-1 GHz
Band 13 (4G LTE), High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power, 21.38 dBm)



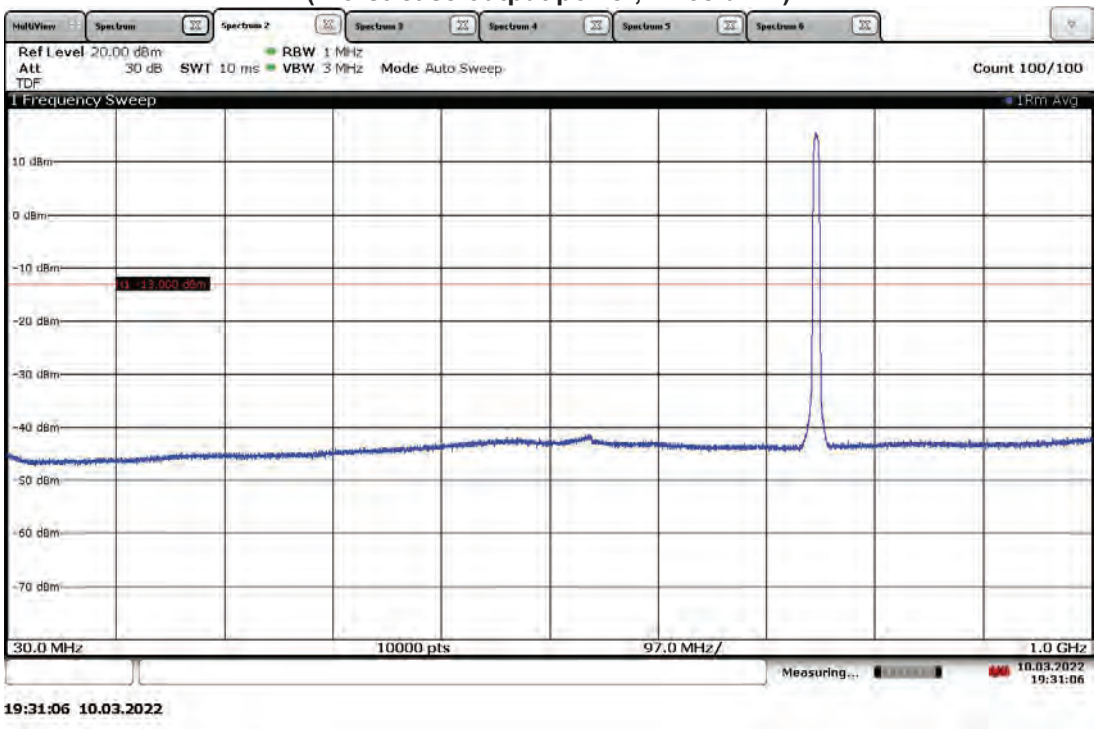
Antenna Port (ANT0) Conducted Emissions, 1-8 GHz
Band 13 (4G LTE), High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power, 21.38 dBm)



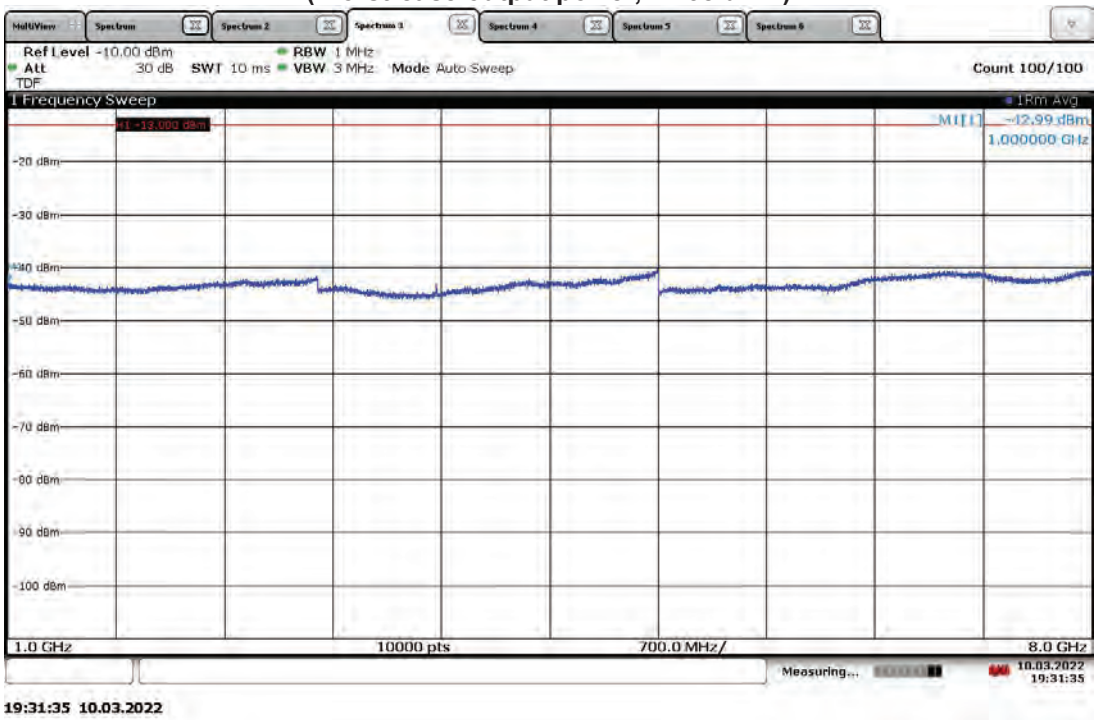
Antenna Port (ANT1) Conducted Emissions, 9 kHz-30 MHz
Band 13 (4G LTE), High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power, 21.38 dBm)



Antenna Port (ANT1) Conducted Emissions, 30 MHz-1 GHz
Band 13 (4G LTE), High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power, 21.38 dBm)



Antenna Port (ANT1) Conducted Emissions, 1-8 GHz
Band 13 (4G LTE), High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power, 21.38 dBm)

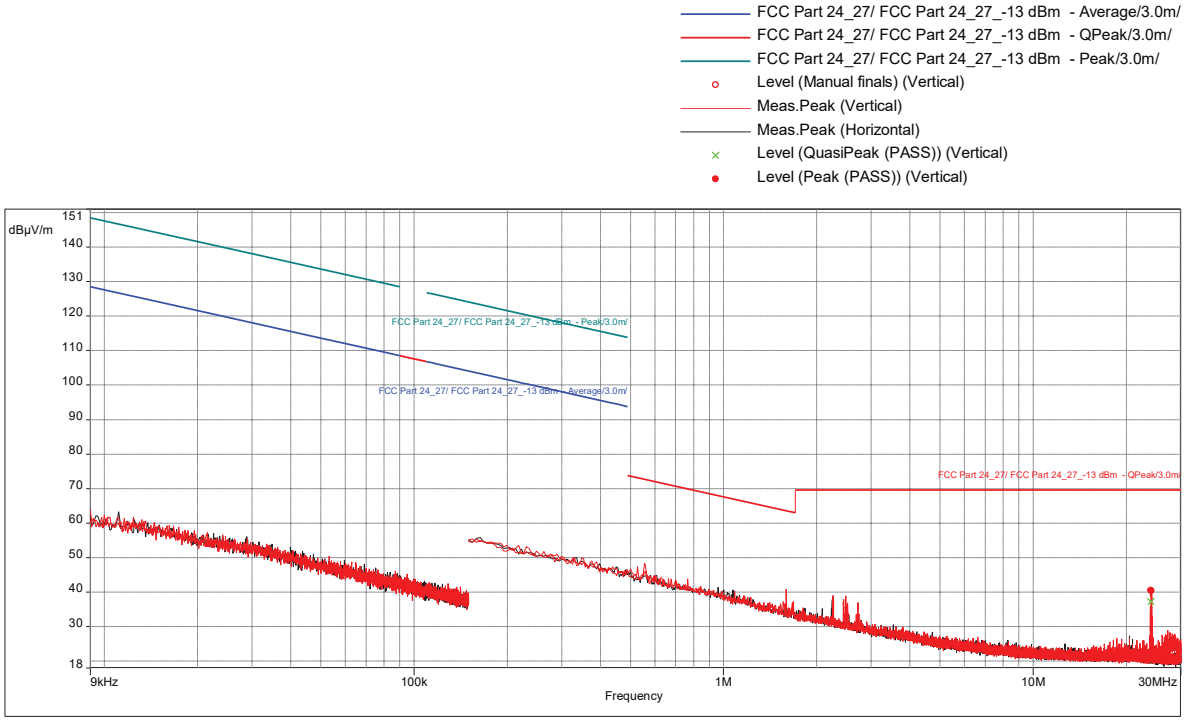


Radiated Emissions, 9 kHz-30 MHz
Band 13 (4G LTE) With RP5200 Host, Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power 21.75 dBm)

Test Information:

Date and Time	3/12/2022 12:44:13 PM
Client and Project Number	CommScope
Engineer	Kouma Sinn
Temperature	22 C
Humidity	29 %
Atmospheric Pressure	988 mbar
Comments	Scan 5: Band 13 With RP5200, 5MHz BW, 16QAM Mod - Worst-case PWR (21.75 dBm), Low Ch. 748.5 MHz, RE 9kHz-30MHz Loop antenna, Electric Field, 3M Location

Graph:



Results:

EIRP Peak (PASS) (1)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
24.02960526	40.46	-54.74	-13	-41.74	328.00	1.00	Vertical	9000.00	10.70

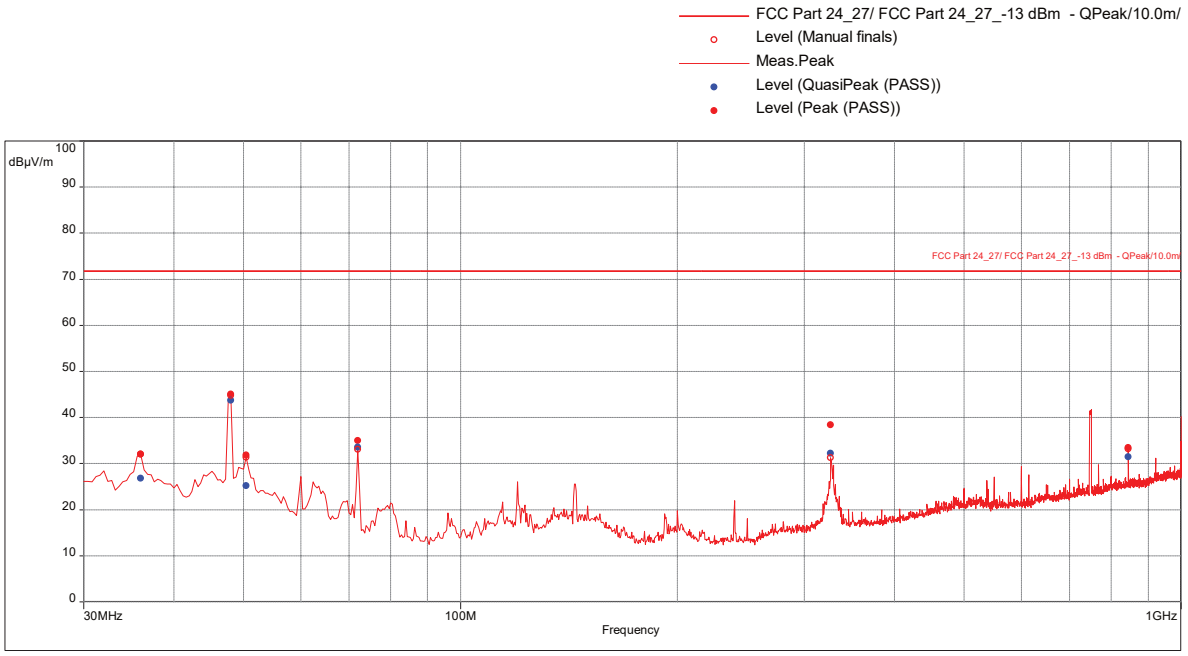
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 30 MHz-1 GHz
Band 13 (4G LTE) With RP5200 Host, Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power 21.75 dBm)

Test Information:

Date and Time	3/12/2022 2:33:59 PM
Client and Project Number	CommScope
Engineer	Kouma Sinn
Temperature	22 C
Humidity	29 %
Atmospheric Pressure	988 mbar
Comments	Scan 6: Band 13 With RP5200, 5MHz BW, 16QAM Mod - Worst-case PWR (21.75 dBm), Low Ch. 748.5 MHz, RE 30-1000MHz SA

Graph:



Results:

EIRP Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
36	32.04	-52.76	-13	-39.76	343.00	3.96	Vertical	120000.00	-16.58
48	45.05	-39.75	-13	-26.75	242.00	1.00	Vertical	120000.00	-24.55
50.36842105	31.82	-52.98	-13	-39.98	61.00	2.49	Vertical	120000.00	-25.62
72	34.99	-49.81	-13	-36.81	46.00	1.40	Vertical	120000.00	-25.08
326.4315789	38.42	-46.38	-13	-33.38	82.00	3.30	Horizontal	120000.00	-17.51
844.8	33.51	-51.29	-13	-38.29	140.00	3.98	Horizontal	120000.00	-7.06

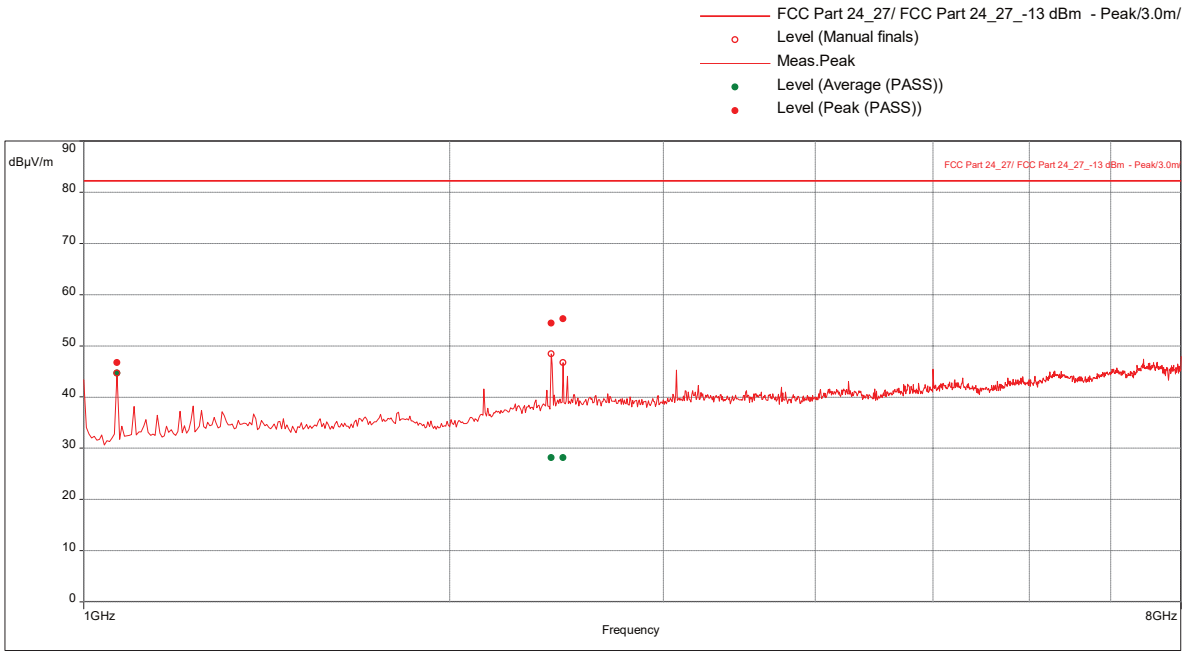
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 1-8 GHz
Band 13 (4G LTE) With RP5200 Host, Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power 21.75 dBm)

Test Information:

Date and Time	3/13/2022 7:25:44 AM
Client and Project Number	CommScope
Engineer	Vathana Ven
Temperature	23 C
Humidity	20 %
Atmospheric Pressure	998 mbar
Comments	Scan 11: Band 13 With RP5200, 5MHz BW, 16QAM Mod - Worst-case PWR (21.75 dBm), Low Ch. 748.5 MHz_RE 1 to 8 GHz

Graph:



Results:

Peak (PASS) (3)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°) (dB)	Height (m) (dB)	Pol. (dB)	RBW (dB)	Correction (dB)
1066.578947	46.73	-48.528	-13	-35.53	148.00	1.65	Horizontal	1000000.00	-9.66
2426.052632	54.40	-40.858	-13	-27.86	46.00	2.10	Vertical	1000000.00	-3.57
2479.736842	55.31	-39.948	-13	-26.95	168.00	2.70	Vertical	1000000.00	-3.04

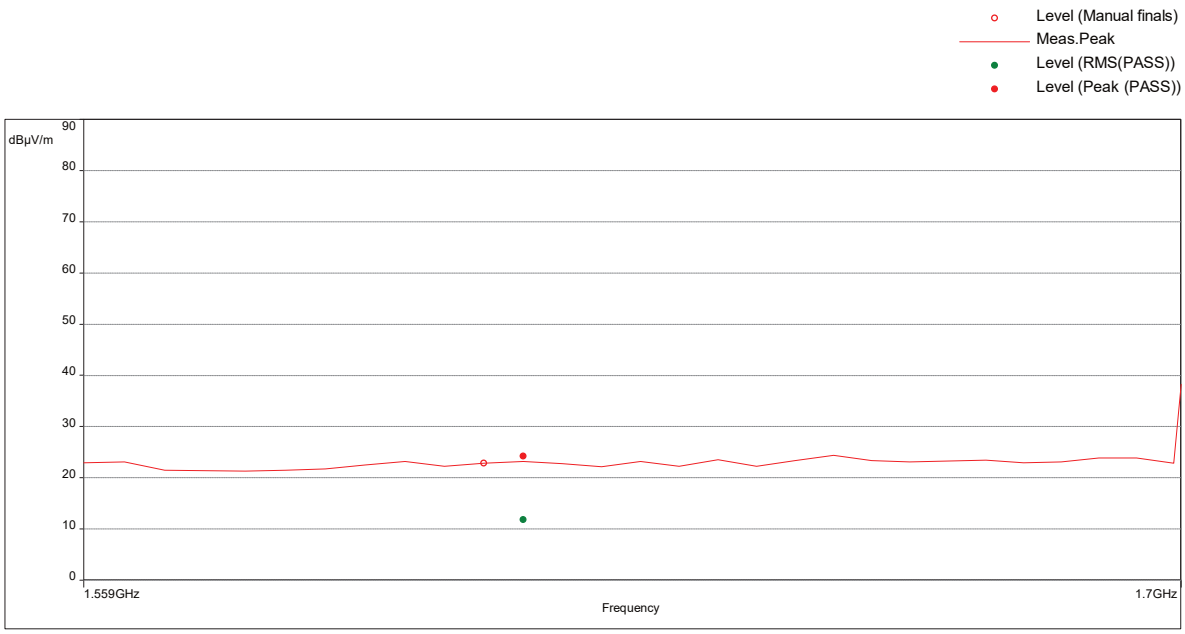
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 1.559-1.610 GHz
Band 13 (4G LTE) With RP5200 Host, Low Channel 748.5 MHz, BW 5 MHz, Modulation 16QAM
(Worst-case output power 21.75 dBm)

Test Information:

Date and Time	3/19/2022 9:52:55 AM
Client and Project Number	CommScope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	35 %
Atmospheric Pressure	1006 mbar
Comments	Scan 6: Band 13 With RP5200 With ant, 5MHz BW, 16QAM Mod - Worst-case PWR (21.75dBm), Low Ch. 748.5 MHz, RE 1559-1610MHz

Graph:



Results:

EIPR Peak (PASS) (1)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1611.631579	24.18	-71.02	-40	-31.02	82.00	1.20	Horizontal	1000000.00	-20.02

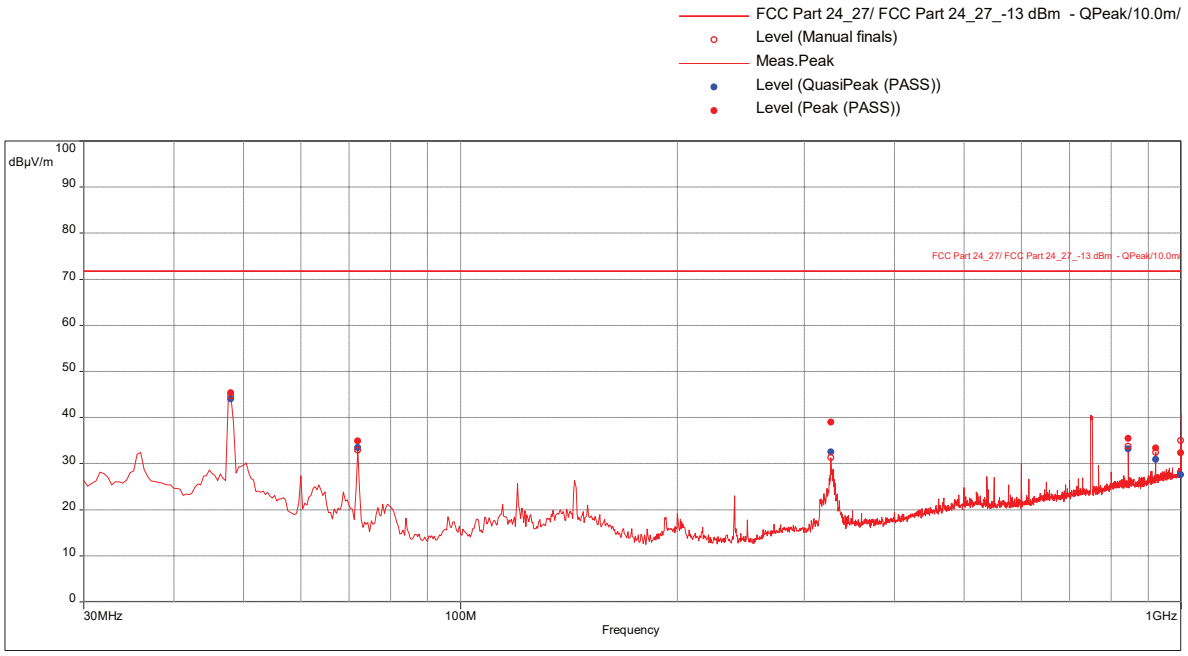
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 30 MHz-1 GHz
Band 13 (4G LTE) With RP5200 Host, Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power 21.57 dBm)

Test Information:

Date and Time	3/12/2022 3:17:00 PM
Client and Project Number	CommScope
Engineer	Kouma Sinn
Temperature	22 C
Humidity	29 %
Atmospheric Pressure	988 mbar
Comments	Scan 7: Band 13 With RP5200, 5MHz BW, 256QAM Mod - Worst-case PWR (21.57 dBm), Mid Ch. 751 MHz, RE 30-1000MHz SA

Graph:



Results:

EIRP Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
48.03157895	45.31	-39.49	-13	-26.49	242.00	1.00	Vertical	120000.00	-24.56
72	34.90	-49.9	-13	-36.9	46.00	1.80	Vertical	120000.00	-25.08
326.8315789	38.99	-45.81	-13	-32.81	308.00	2.19	Horizontal	120000.00	-17.51
844.8	35.48	-49.32	-13	-36.32	142.00	1.35	Horizontal	120000.00	-7.06
921.6	33.41	-51.39	-13	-38.39	126.00	2.96	Horizontal	120000.00	-6.22
998.4	32.29	-52.51	-13	-39.51	169.00	3.56	Horizontal	120000.00	-5.04

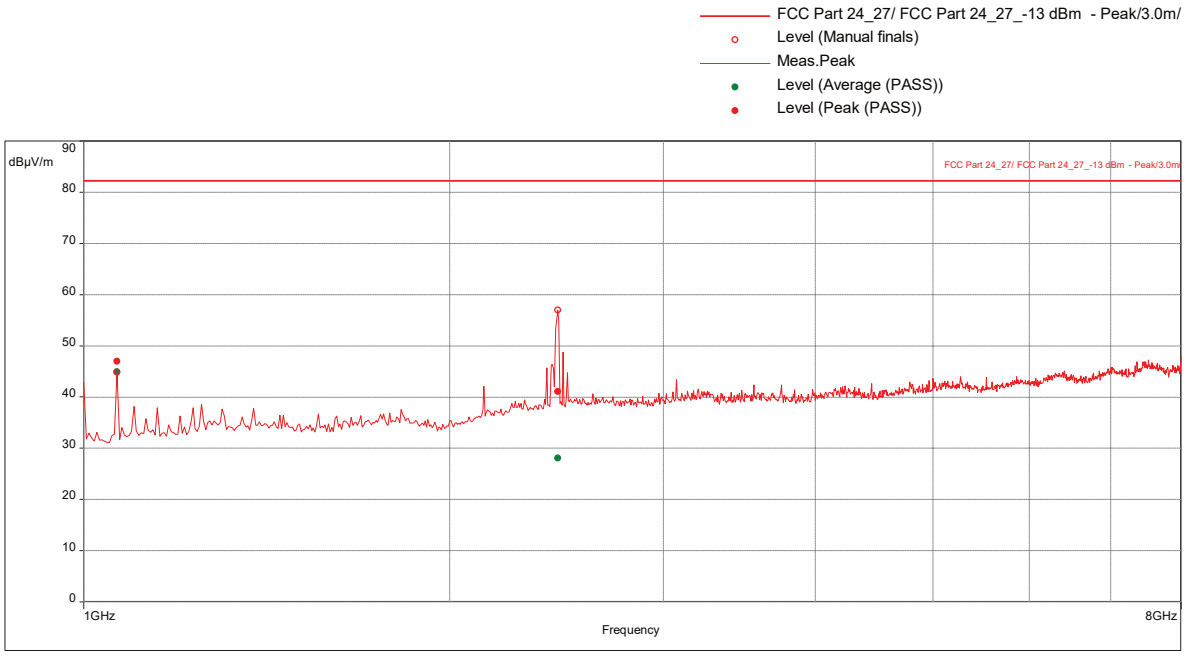
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 1-8 GHz
Band 13 (4G LTE) With RP5200 Host, Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power 21.57 dBm)

Test Information:

Date and Time	3/13/2022 7:08:52 AM
Client and Project Number	CommScope
Engineer	Vathana Ven
Temperature	23 C
Humidity	20 %
Atmospheric Pressure	998 mbar
Comments	10: Band 13 With RP5200, 5MHz BW, 256QAM Mod - Worst-case PWR (21.57 dBm), Mid Ch. 751 MHz_RE 1 to 8 GHz

Graph:



Results:

Peak (PASS) (2)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°) (dB)	Height (m) (dB)	Pol. (dB)	RBW (dB)	Correction (dB)
1066.578947	47.00	-48.258	-13	-35.26	146.00	1.60	Horizontal	1000000.00	-9.66
2453.684211	41.09	-54.168	-13	-41.17	204.00	1.15	Vertical	1000000.00	-3.38

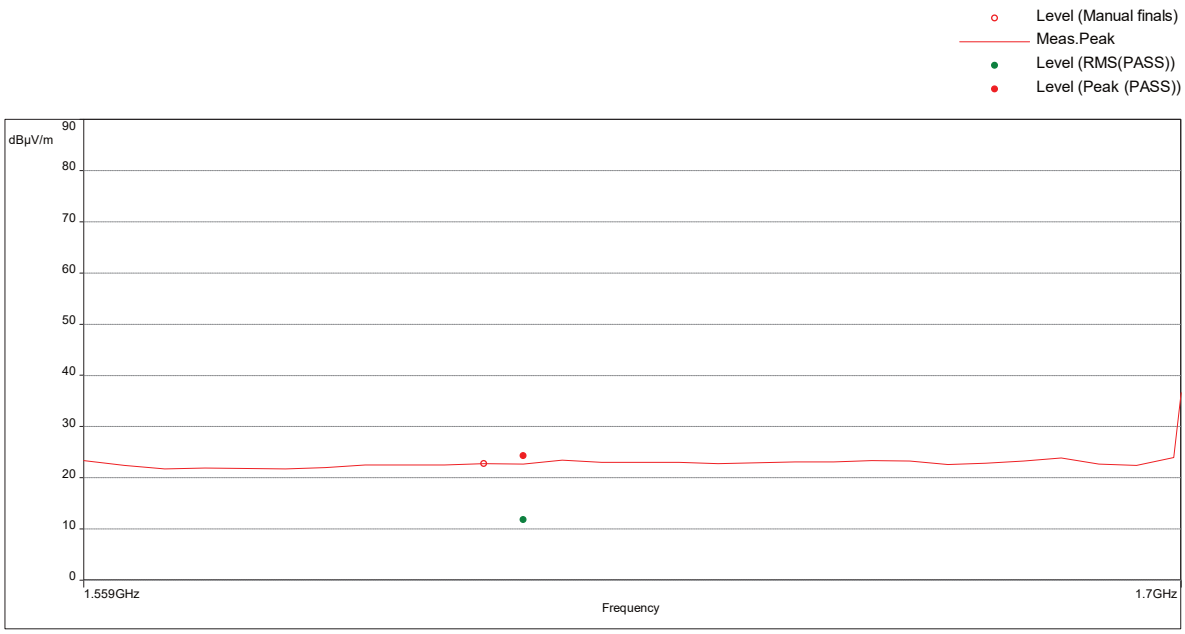
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 1.559-1.610 GHz
Band 13 (4G LTE) With RP5200 Host, Mid Channel 751 MHz, BW 5 MHz, Modulation 256QAM
(Worst-case output power 21.57 dBm)

Test Information:

Date and Time	3/19/2022 10:01:09 AM
Client and Project Number	CommScope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	35 %
Atmospheric Pressure	1006 mbar
Comments	Scan 7: Band 13 With RP5200 With ant, 5MHz BW, 256QAM Mod - Worst-case PWR (21.57dBm), Mid Ch. 751 MHz, RE 1559-1610MHz

Graph:



Results:

EIPR Peak (PASS) (1)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1612.157895	24.32	-70.88	-40	-30.88	59.00	3.54	Horizontal	1000000.00	-20.01

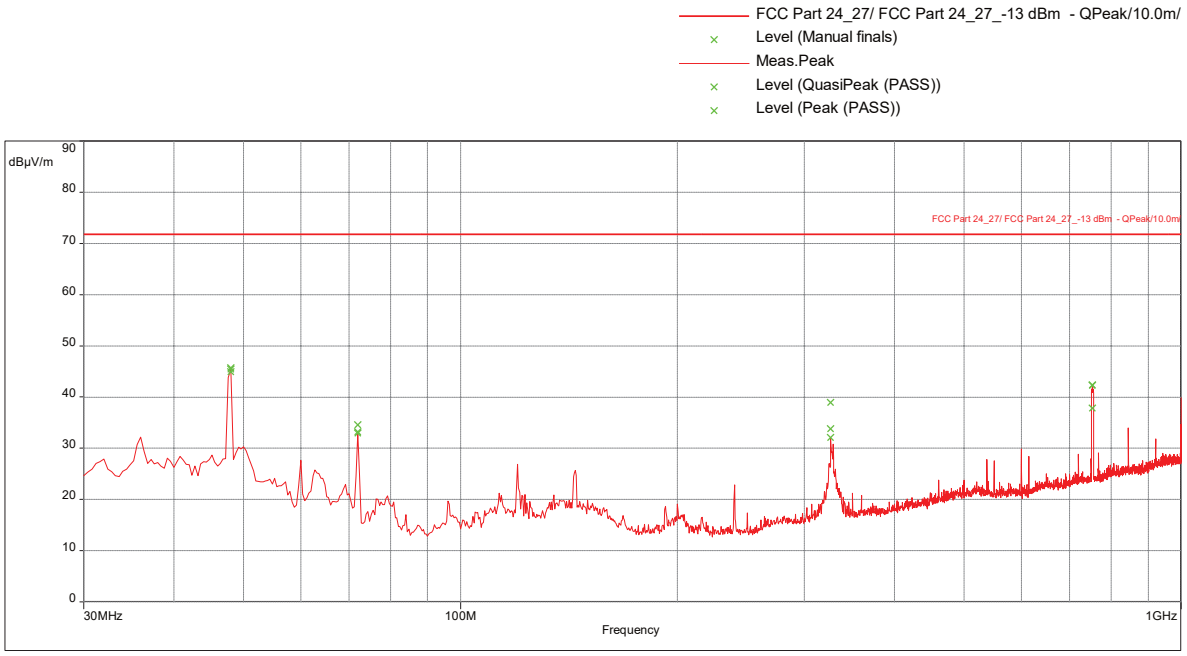
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 30 MHz-1 GHz
Band 13 (4G LTE) With RP5200 Host, High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power 21.38 dBm)

Test Information:

Date and Time	3/13/2022 6:07:53 AM
Client and Project Number	CommScope
Engineer	Vathana Ven
Temperature	23 C
Humidity	20 %
Atmospheric Pressure	998 mbar
Comments	Scan 8: Band 13 With RP5200, 5MHz BW, QPSK Mod - Worst-case PWR (21.38 dBm), High Ch. 753.5 MHz, RE 30-1000MHz

Graph:



Results:

Peak (PASS) (4)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
48	45.72	-39.08	-13	-26.08	252.00	1.00	Vertical	120000.00	-24.55
72	34.61	-50.19	-13	-37.19	4.00	1.64	Vertical	120000.00	-25.08
326.4	38.93	-45.87	-13	-32.87	307.00	3.98	Horizontal	120000.00	-17.51
753.1368421	42.31	-42.31	-13	-29.49	349.00	1.00	Horizontal	120000.00	-8.73

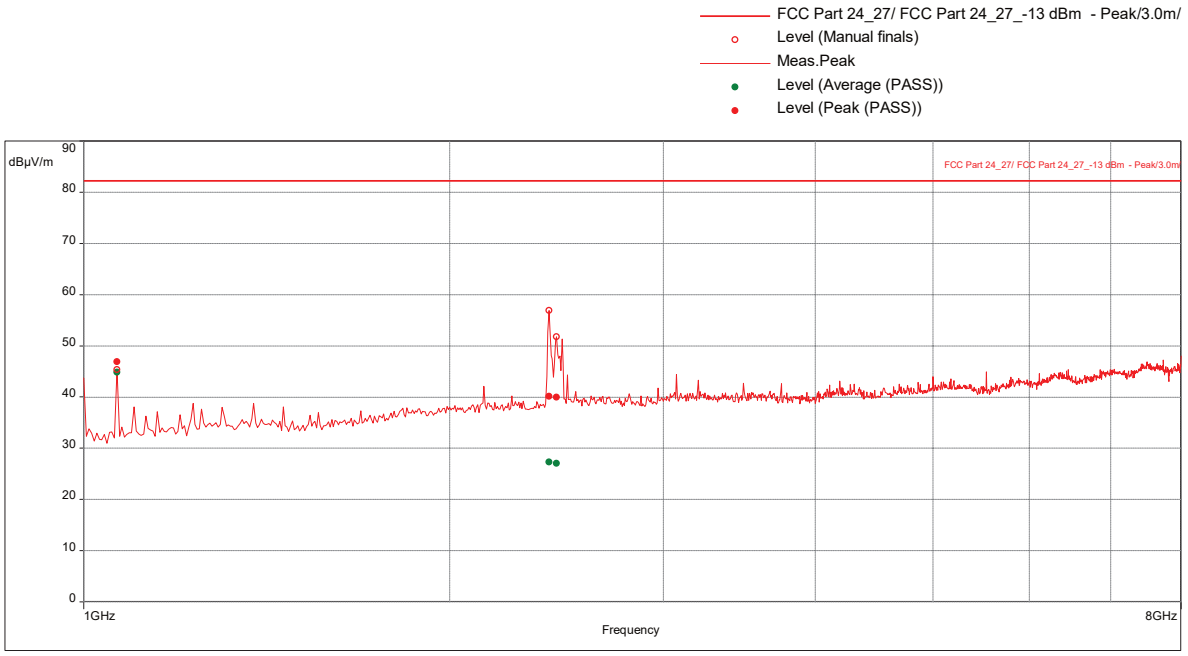
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 1-8 GHz
Band 13 (4G LTE) With RP5200 Host, High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power 21.38 dBm)

Test Information:

Date and Time	3/13/2022 6:48:52 AM
Client and Project Number	CommScope
Engineer	Vathana Ven
Temperature	23 C
Humidity	20 %
Atmospheric Pressure	998 mbar
Comments	Scan 9: Band 13 With RP5200, 5MHz BW, QPSK Mod - Worst-case PWR (21.38 dBm), High Ch. 753.5 MHz_RE 1 to 8 GHz

Graph:



Results:

Peak (PASS) (3)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1066.578947	46.86	-48.398	-13	-35.40	146.00	1.60	Horizontal	1000000.00	-9.66
2413.684211	40.13	-55.128	-13	-42.13	24.00	2.70	Vertical	1000000.00	-3.67
2448.157895	39.98	-55.278	-13	-42.28	9.00	2.25	Vertical	1000000.00	-3.43

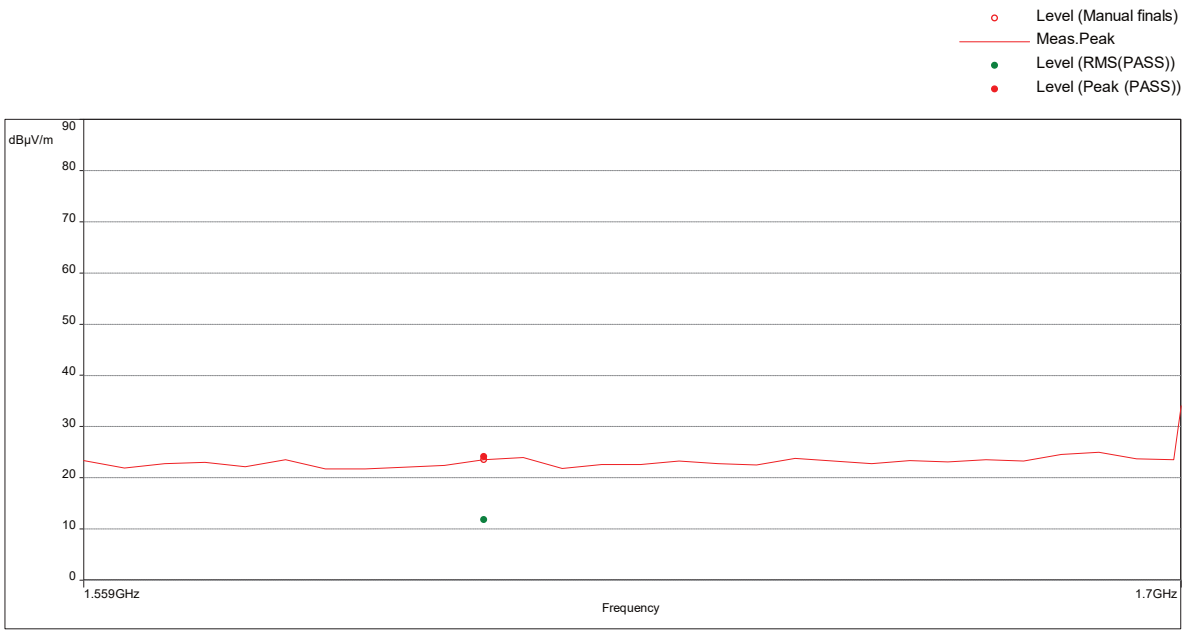
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions, 1.559-1.610 GHz
Band 13 (4G LTE) With RP5200 Host, High Channel 753.5 MHz, BW 5 MHz, Modulation QPSK
(Worst-case output power 21.38 dBm)

Test Information:

Date and Time	3/19/2022 10:08:36 AM
Client and Project Number	CommScope
Engineer	Kouma Sinn
Temperature	24 C
Humidity	35 %
Atmospheric Pressure	1006 mbar
Comments	Scan 8: Band 13 With RP5200 With ant, 5MHz BW, QPSK Mod - Worst-case PWR (21.38 dBm), High Ch. 753.5 MHz, RE 1559-1610MHz

Graph:



Results:

EIPR Peak (PASS) (1)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1611.105263	24.17	-71.03	-40	-31.03	116.00	3.98	Horizontal	1000000.00	-20.03

Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Test Personnel:	Kouma Sinn KPS	Test Date:	03/11/2022, 03/12/2022, 03/19/2022
	Vathana F. Ven VFV		03/13/2022
Supervising/Reviewing Engineer: (Where Applicable)	N/A		
Product Standard:	FCC Part 27	Limit Applied:	See report section 10.3
Input Voltage:	48 VDC (POE)		
Pretest Verification w/ Ambient Signals or BB Source:	N/A	Ambient Temperature:	23, 22, 23, 24 ºC
		Relative Humidity:	10, 29, 20, 35 %
		Atmospheric Pressure:	1010, 988, 998, 1006 mbars

Deviations, Additions, or Exclusions: None

11 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	03/24/2022	104989879BOX-001a	KPS	VFV	Original Issue