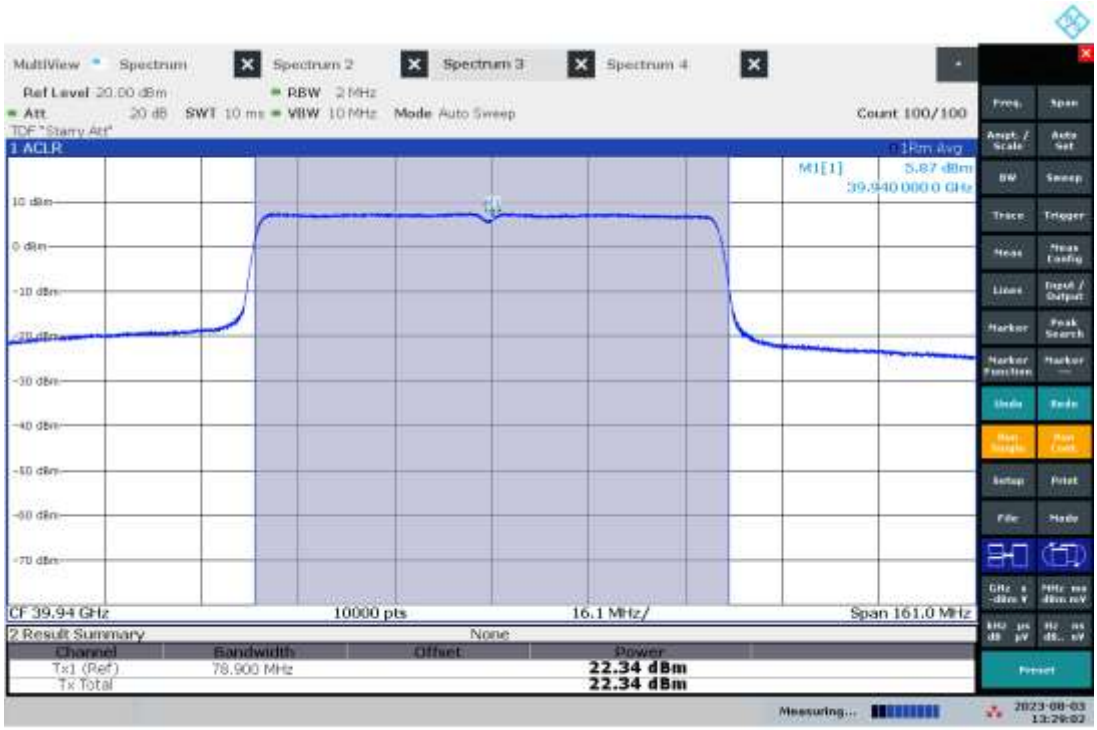
Output Power – Path 2, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

01:24:36 PM 08/03/2023

Output Power – Path 2, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz

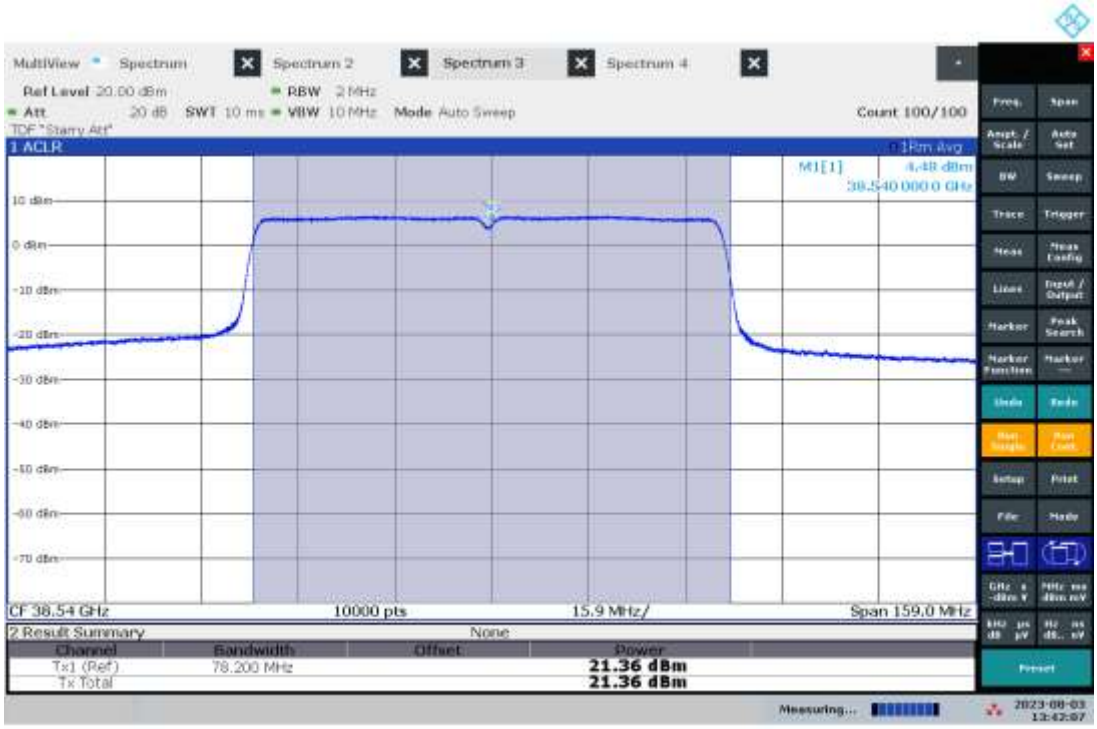


01:29:03 PM 08/03/2023

Output Power – Path 3, Low 37.14 GHz, Modulation MCS0, Bandwidth 80 MHz

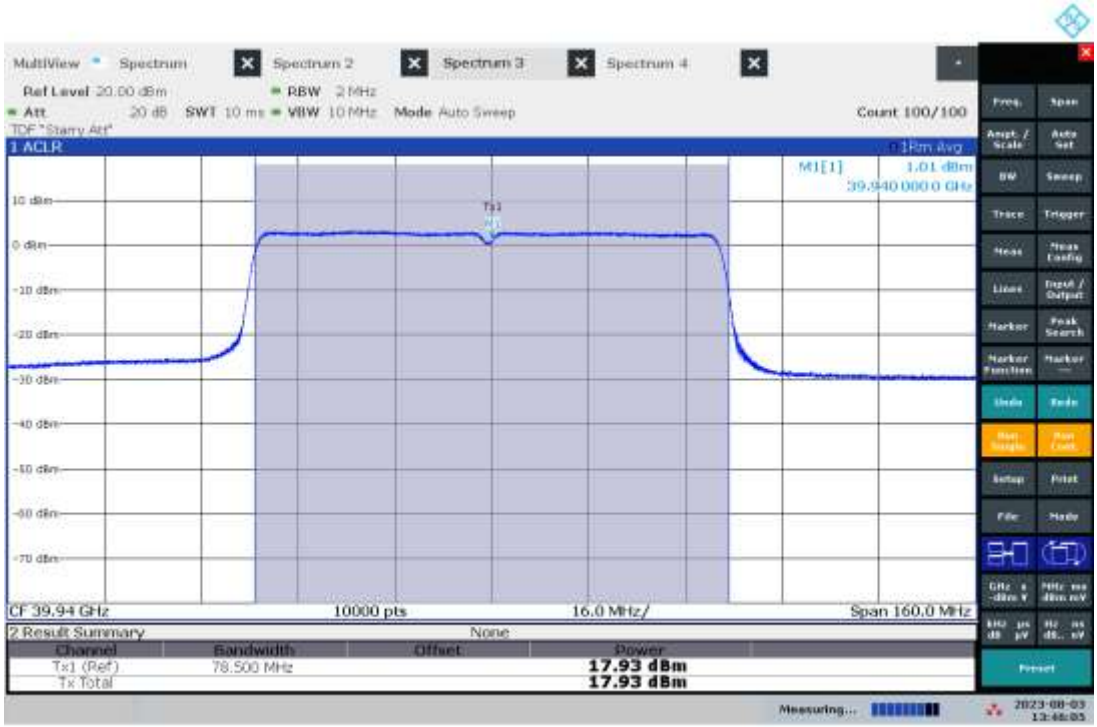
01:35:43 PM 08/03/2023

Output Power – Path 3, Mid 38.54 GHz, Modulation MCS0, Bandwidth 80 MHz



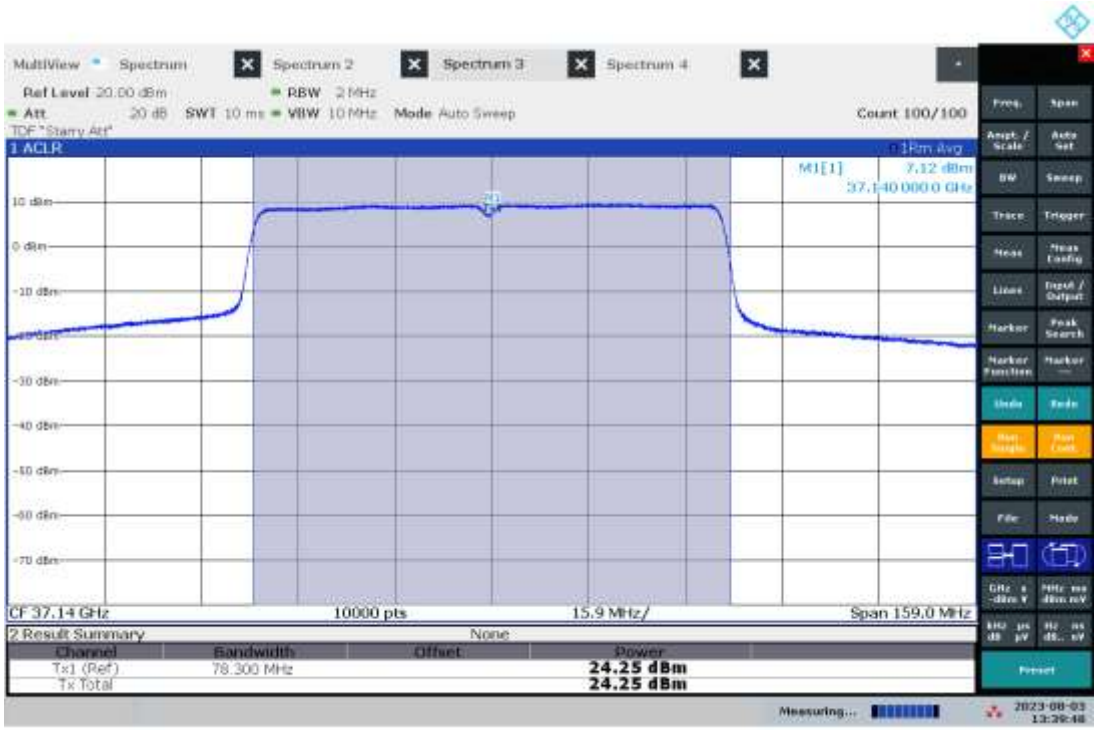
01:42:08 PM 08/03/2023

Output Power – Path 3, High 39.94 GHz, Modulation MCS0, Bandwidth 80 MHz



01:46:05 PM 08/03/2023

Output Power – Path 3, Low 37.14 GHz, Modulation MCS9, Bandwidth 80 MHz

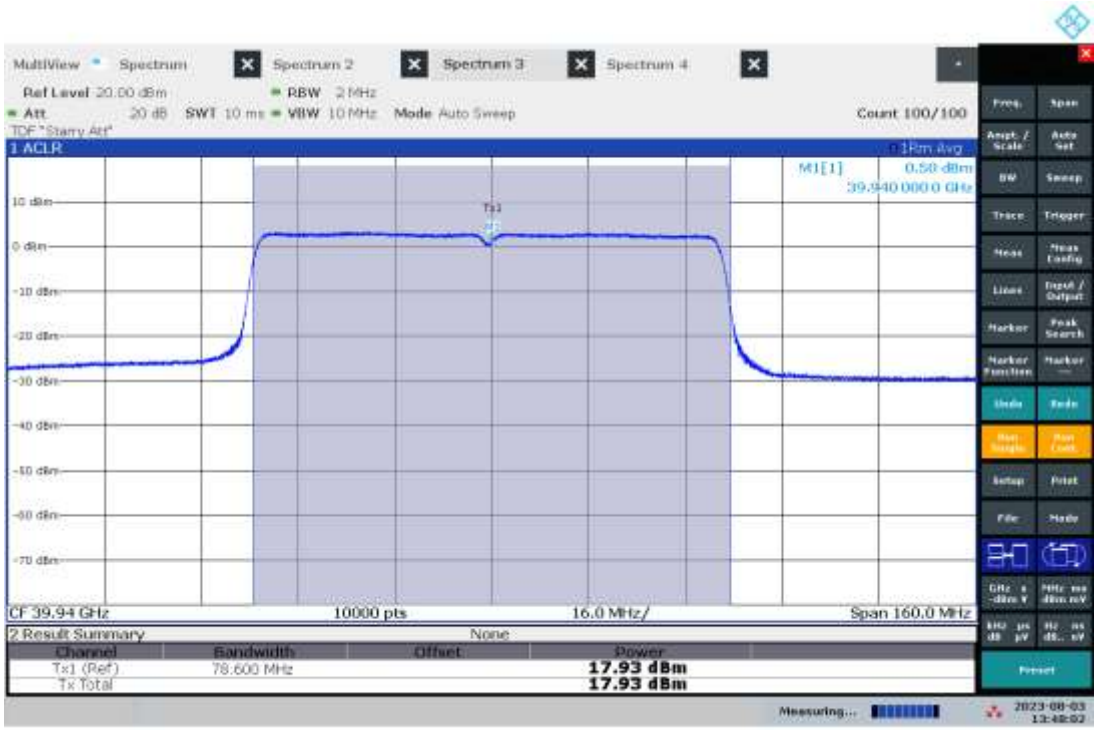


01:39:48 PM 08/03/2023

Output Power – Path 3, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

01:43:50 PM 08/03/2023

Output Power – Path 3, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz



01:48:03 PM 08/03/2023

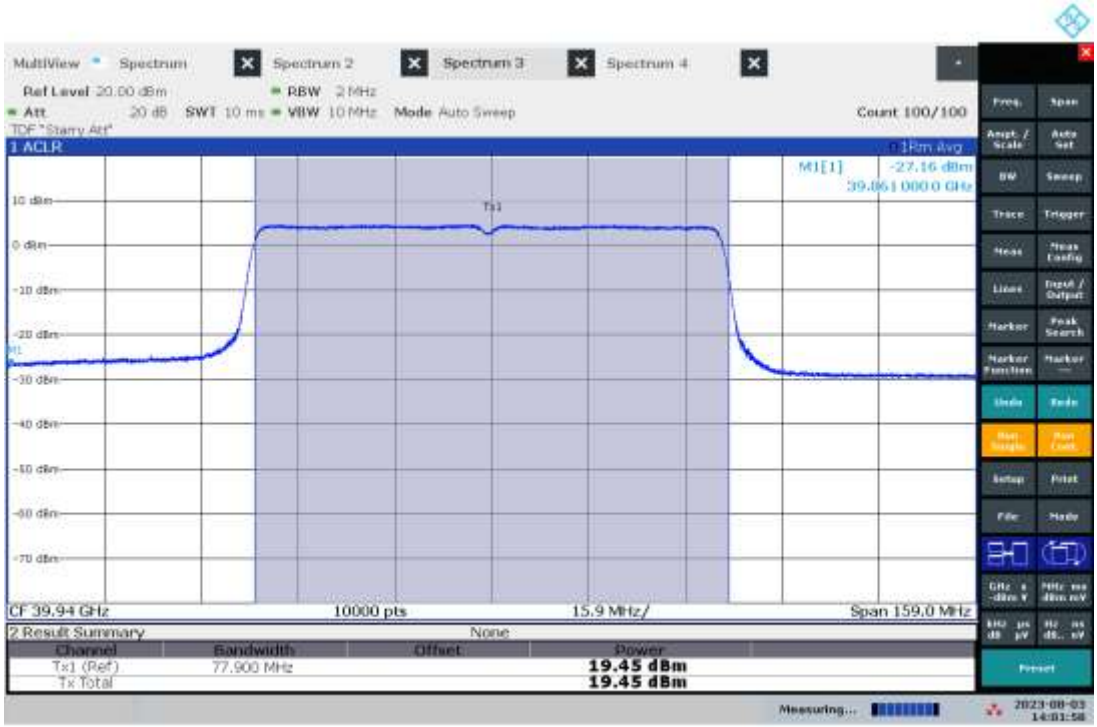
Output Power – Path 4, Low 37.14 GHz, Modulation MCS0, Bandwidth 80 MHz

01:52:05 PM 08/03/2023

Output Power – Path 4, Mid 38.54 GHz, Modulation MCS0, Bandwidth 80 MHz

01:57:37 PM 08/03/2023

Output Power – Path 4, High 39.94 GHz, Modulation MCS0, Bandwidth 80 MHz



02:01:58 PM 08/03/2023

Output Power – Path 4, Low 37.14 GHz, Modulation MCS9, Bandwidth 80 MHz

01:54:31 PM 08/03/2023

Output Power – Path 4, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

01:59:59 PM 08/03/2023

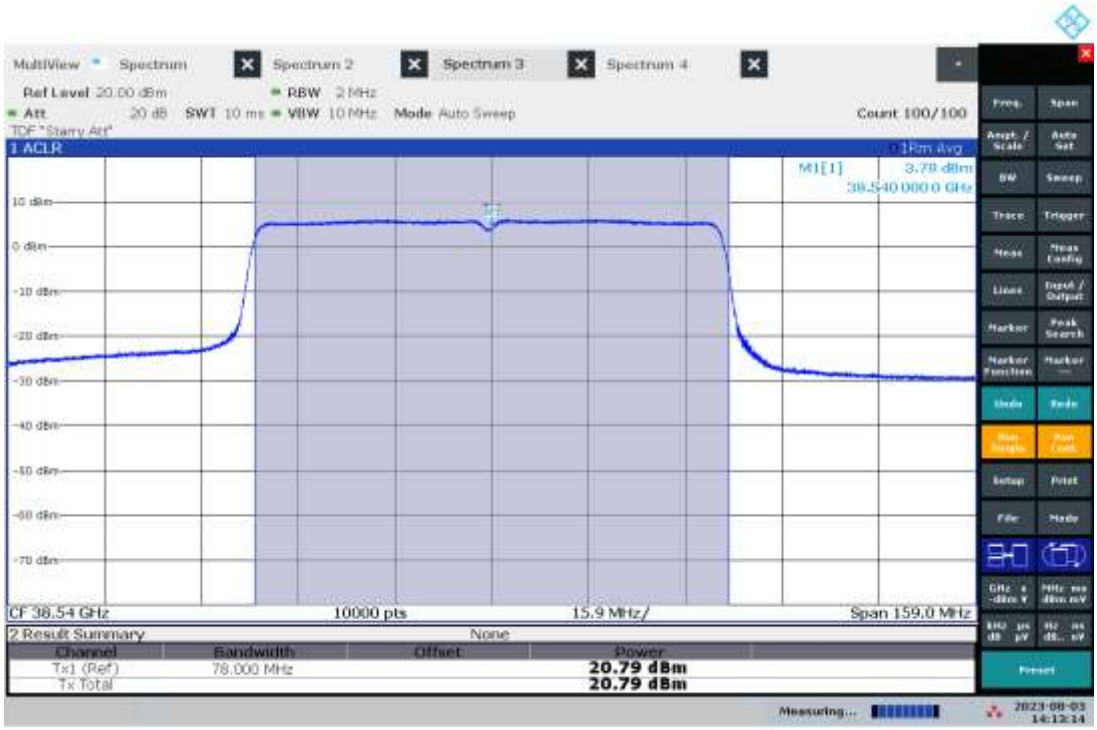
Output Power – Path 4, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz

02:03:48 PM 08/03/2023

Output Power – Path 5, Low 37.14 GHz, Modulation MCS0, Bandwidth 80 MHz

02:09:11 PM 08/03/2023

Output Power – Path 5, Mid 38.54 GHz, Modulation MCS0, Bandwidth 80 MHz



02:13:14 PM 08/03/2023

Output Power – Path 5, High 39.94 GHz, Modulation MCS0, Bandwidth 80 MHz

02:16:51 PM 08/03/2023

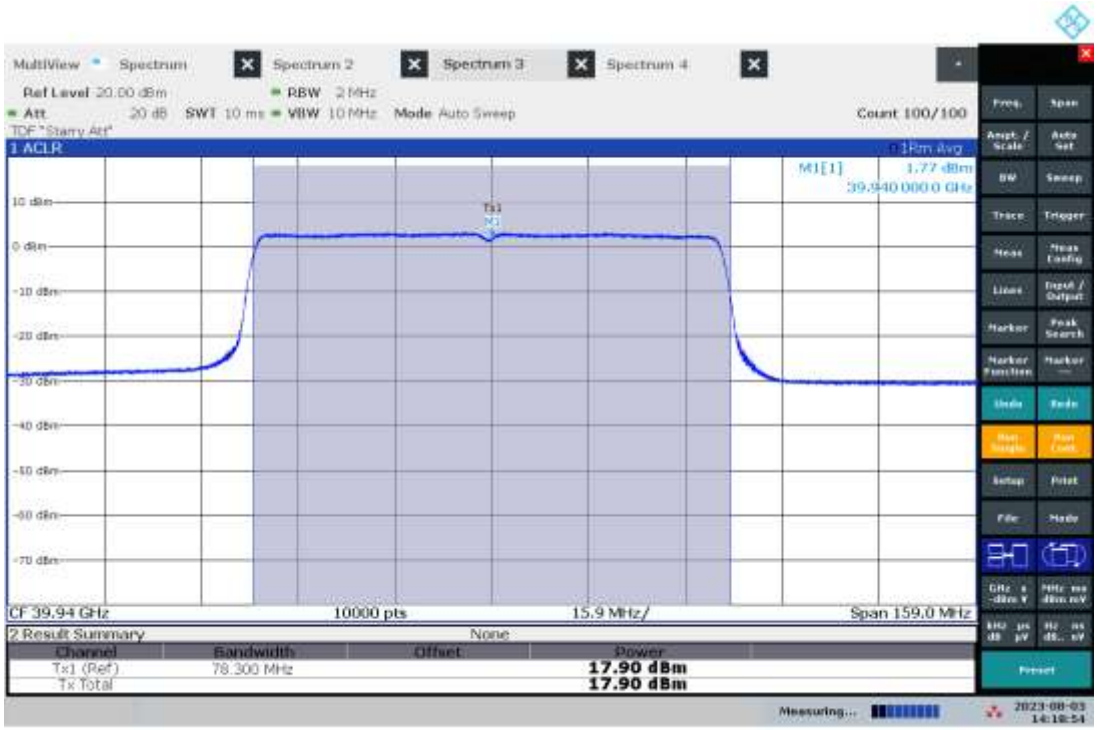
Output Power – Path 5, Low 37.14 GHz, Modulation MCS9, Bandwidth 80 MHz

02:11:09 PM 08/03/2023

Output Power – Path 5, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

02:15:01 PM 08/03/2023

Output Power – Path 5, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz



02:18:54 PM 08/03/2023

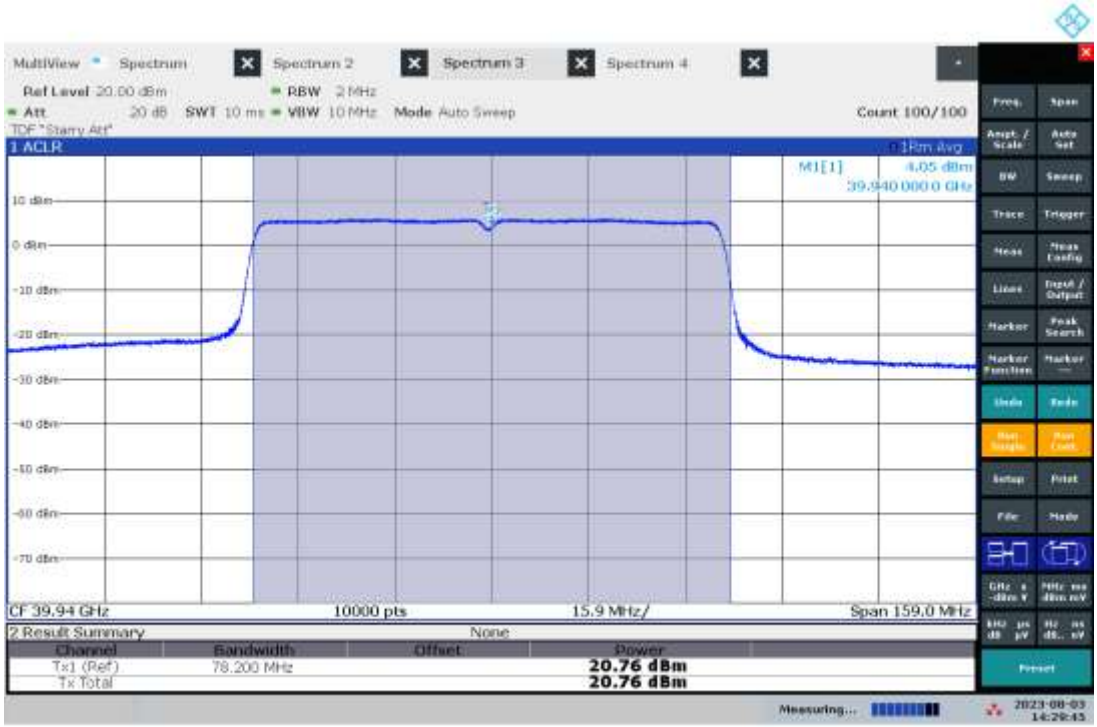
Output Power – Path 6, Low 37.14 GHz, Modulation MCS0, Bandwidth 80 MHz

02:22:35 PM 08/03/2023

Output Power – Path 6, Mid 38.54 GHz, Modulation MCS0, Bandwidth 80 MHz

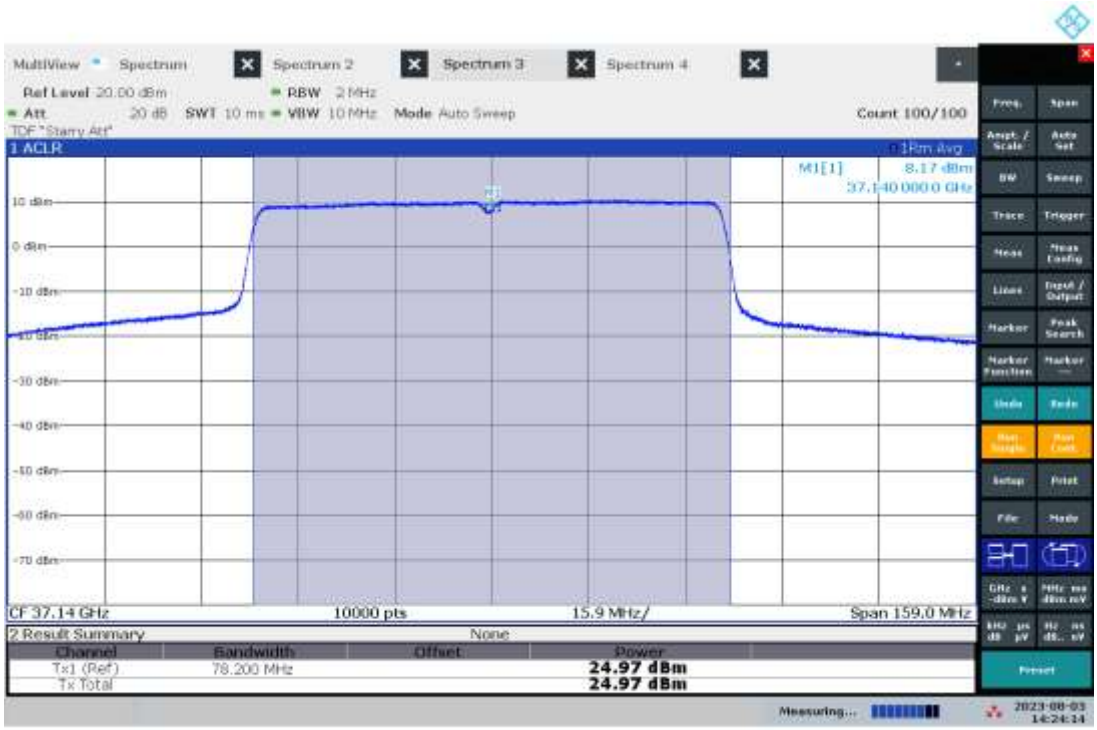
02:26:08 PM 08/03/2023

Output Power – Path 6, High 39.94 GHz, Modulation MCS0, Bandwidth 80 MHz



02:29:46 PM 08/03/2023

Output Power – Path 6, Low 37.14 GHz, Modulation MCS9, Bandwidth 80 MHz



02:24:14 PM 08/03/2023

Output Power – Path 6, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

02:27:47 PM 08/03/2023

Output Power – Path 6, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz

02:31:20 PM 08/03/2023

Output Power – Path 7, Low 37.14 GHz, Modulation MCS0, Bandwidth 80 MHz

02:36:41 PM 08/03/2023

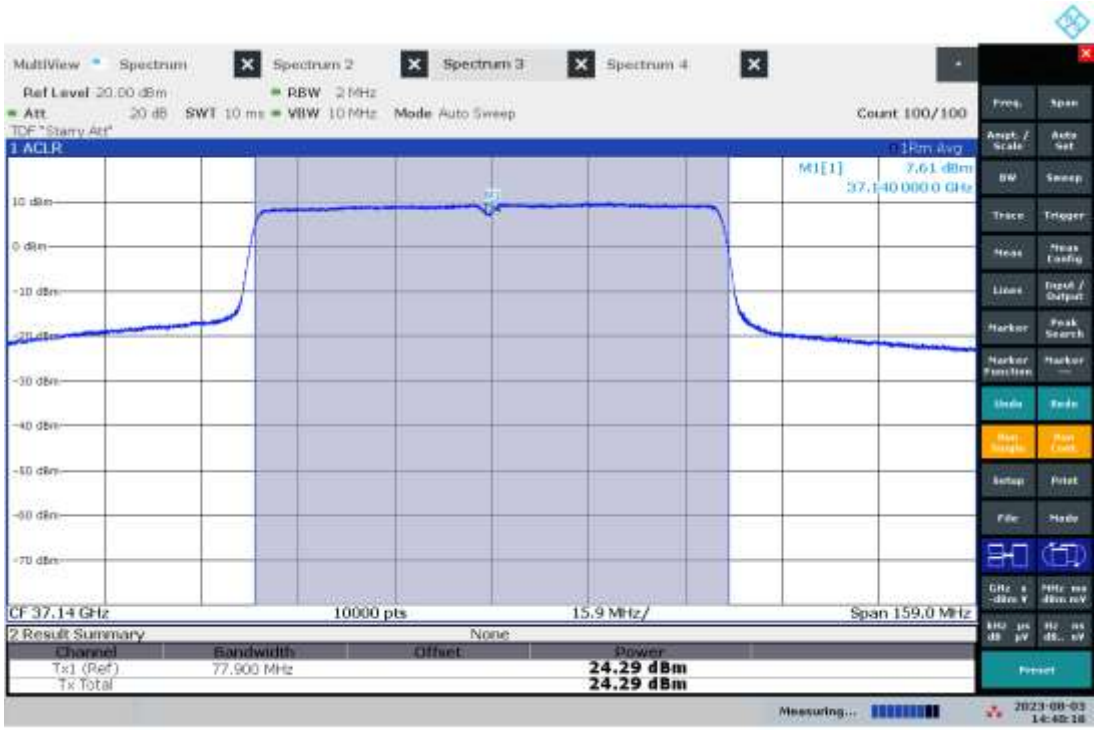
Output Power – Path 7, Mid 38.54 GHz, Modulation MCS0, Bandwidth 80 MHz

02:43:14 PM 08/03/2023

Output Power – Path 7, High 39.94 GHz, Modulation MCS0, Bandwidth 80 MHz

02:46:34 PM 08/03/2023

Output Power – Path 7, Low 37.14 GHz, Modulation MCS9, Bandwidth 80 MHz



02:40:19 PM 08/03/2023

Output Power – Path 7, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

02:44:49 PM 08/03/2023

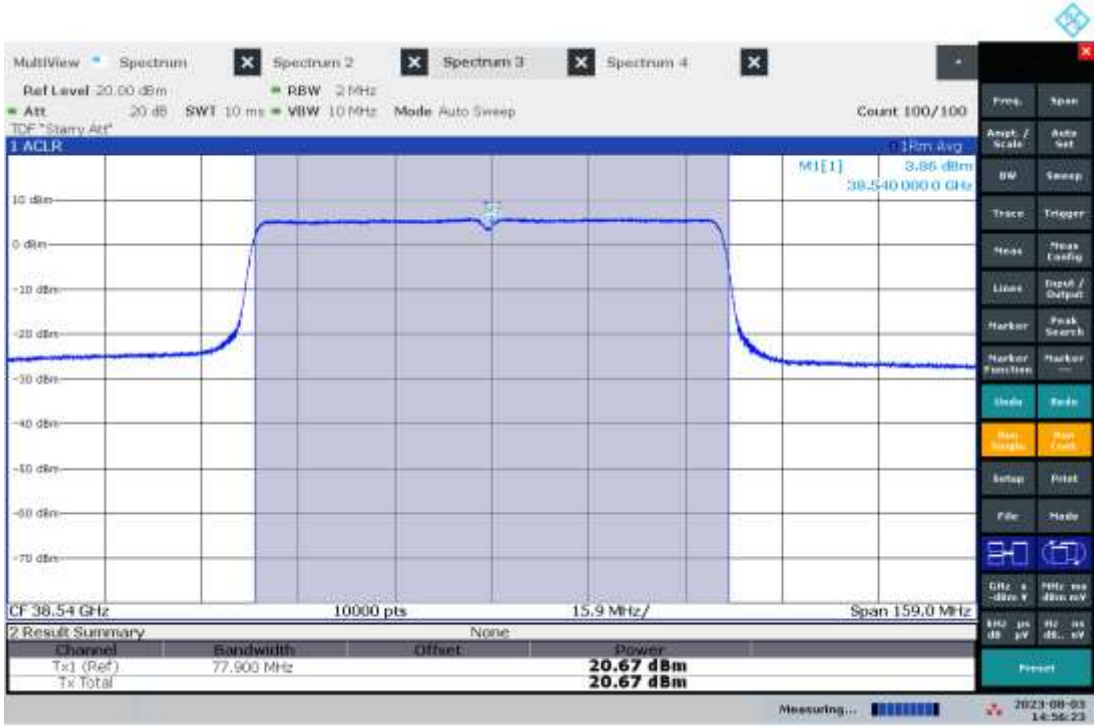
Output Power – Path 7, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz

02:48:15 PM 08/03/2023

Output Power – Path 8, Low 37.14 GHz, Modulation MCS0, Bandwidth 80 MHz

02:52:21 PM 08/03/2023

Output Power – Path 8, Mid 38.54 GHz, Modulation MCS0, Bandwidth 80 MHz



02:56:23 PM 08/03/2023

Output Power – Path 8, High 39.94 GHz, Modulation MCS0, Bandwidth 80 MHz

Output Power – Path 8, Low 37.14 GHz, Modulation MCS9, Bandwidth 80 MHz

Output Power – Path 8, Mid 38.54 GHz, Modulation MCS9, Bandwidth 80 MHz

02:58:03 PM 08/03/2023

Output Power – Path 8, High 39.94 GHz, Modulation MCS9, Bandwidth 80 MHz

03:02:23 PM 08/03/2023

Product Standard: FCC 47CFR Part 30 Subparts C and E				Limit applied: See Report Section 6.2			
Test Date	Test Personnel/ Initials	Supervising Engineer/ Initials	Input Voltage	Mode	Atmospheric Data		
					Temp °C	Relative Humidity %	Atmospheric Pressure mbar
04/20/2023	Kouma Sinn	N/A	48VDC Via External P/S	See Report Section 4	22	21	1021
04/21/2023	Kouma Sinn	N/A	48VDC Via External P/S	See Report Section 4	24	24	1024
08/03/2023	Kouma Sinn	N/A	48VDC Via External P/S	See Report Section 4	23	55	1022

Deviations, Additions, or Exclusions: None

7 Out of Band (OOB) Domain

7.1 Method

Tests are performed in accordance with FCC 47CFR Part 30 Subpart C and KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 April 20, 2021 Subclause 4.4.2. The conducted method was used, using EMI Receiver power channel integration with RMS Average detector.

TEST SITE: EMC Lab

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

7.2 Limit:

Limit – FCC 47CFR Part 30 Subpart C, Section 30.203 (a) (b): 2021

(a) The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be −13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be −5 dBm/MHz or lower.

(b)

(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges as the design permits.

(3) The measurements of emission power can be expressed in peak or average values.

7.3 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
Starry cable	Flexible 10' 40 GHz coaxial cable, 2.92mm M - 2.92mm M	San-tron	99139-02 M120	None	04/19/2023	N/A
Starry attenuator	20 dB Fixed Attenuator, 2.92mm M - 2.92mm F, 2W	Pasternack	PE7395-20	None	04/19/2023	N/A
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	11/18/2022	11/18/2023
DAV009'	weather station	Davis Instruments	6351 Vantage VUE	DAV009	03/27/2023	03/27/2024

Software Utilized:

Name	Manufacturer	Version
None	N/A	N/A

7.4 Results:

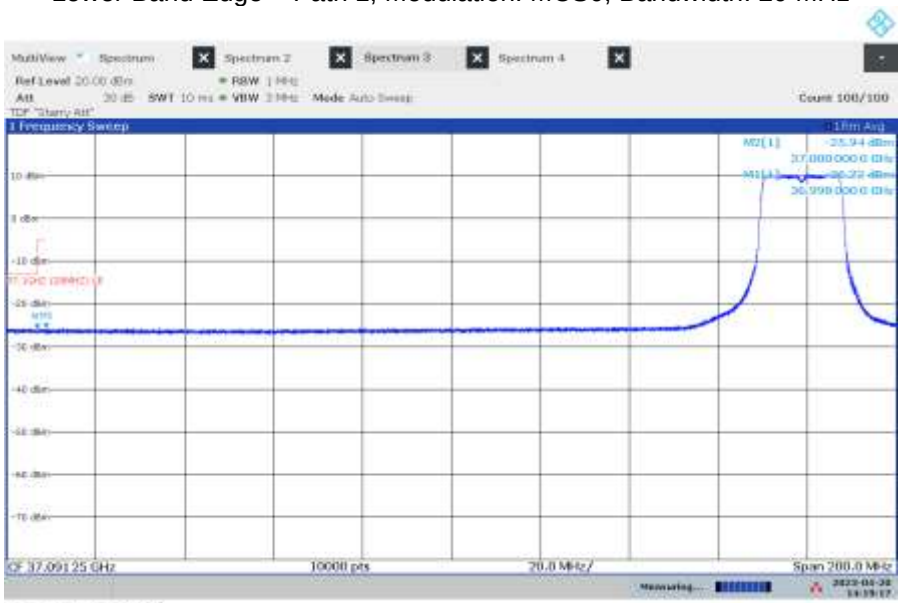
The sample tested was found to Comply.

7.5 Setup Photographs:

Conducted Power Test Setup

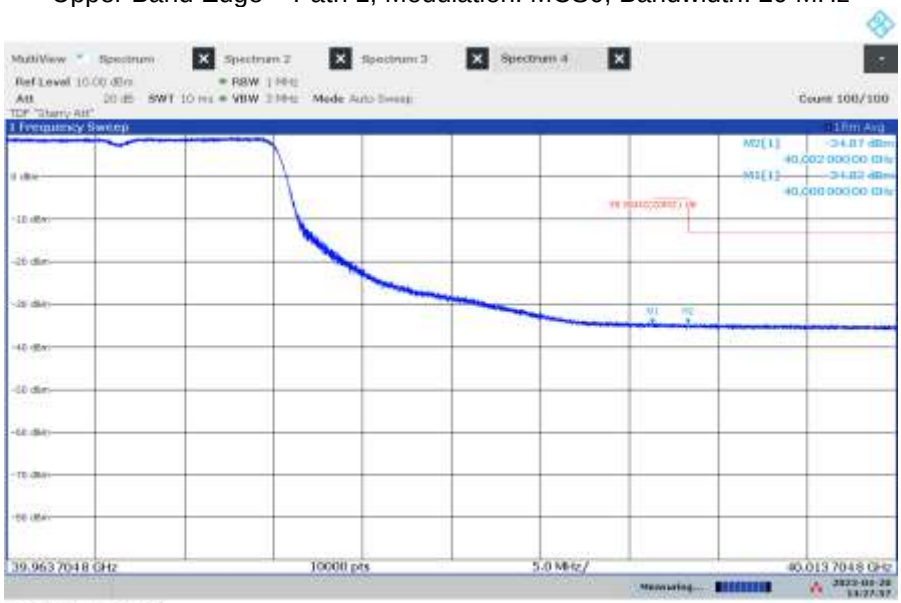
7.6 Plots/Data:

Lower Band Edge – Path 1, Modulation: MCS0, Bandwidth: 20 MHz



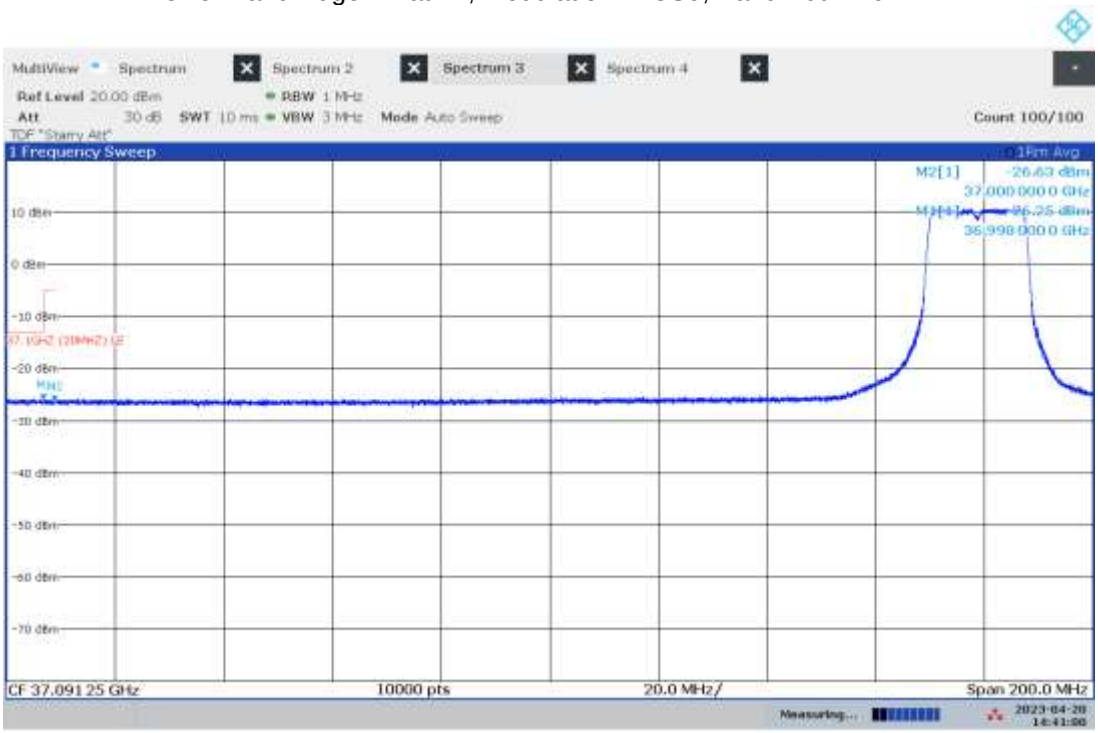
02:19:17 PM 04/20/2023

Upper Band Edge – Path 1, Modulation: MCS0, Bandwidth: 20 MHz



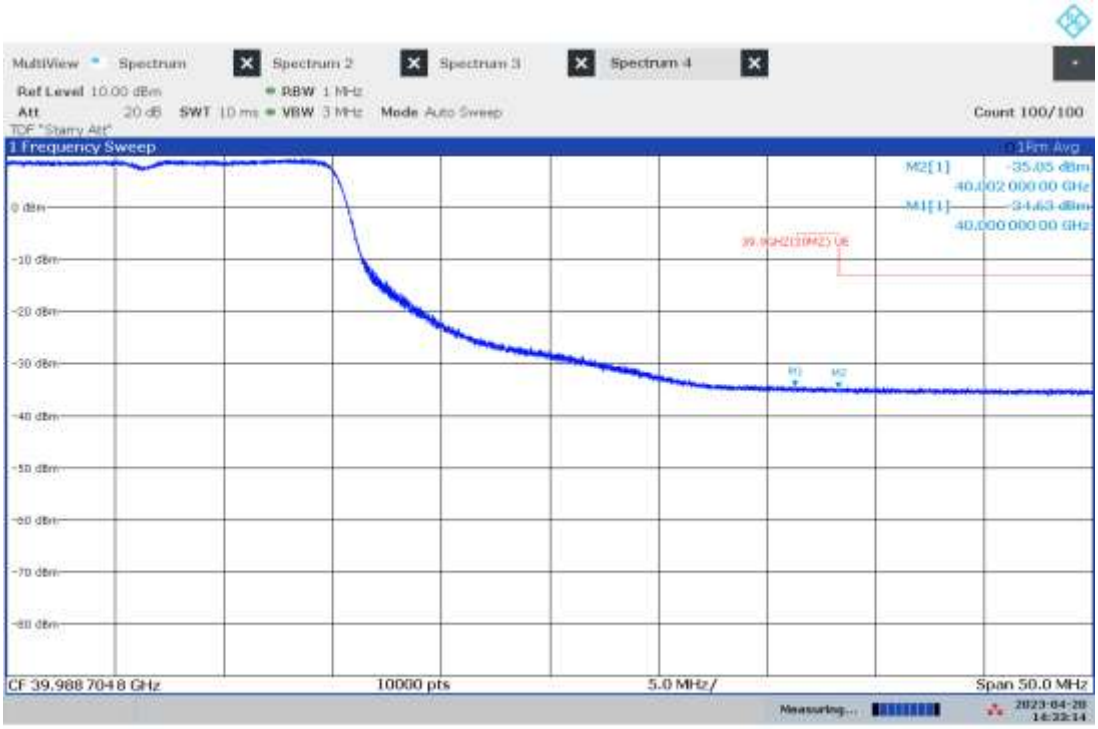
02:27:57 PM 04/20/2023

Lower Band Edge – Path 1, Modulation: MCS9, Bandwidth: 20 MHz



02:41:00 PM 04/20/2023

Upper Band Edge – Path 1, Modulation: MCS9, Bandwidth: 20 MHz



02:33:14 PM 04/20/2023

Lower Band Edge – Path 1, Modulation: MCS0, Bandwidth: 160 MHz

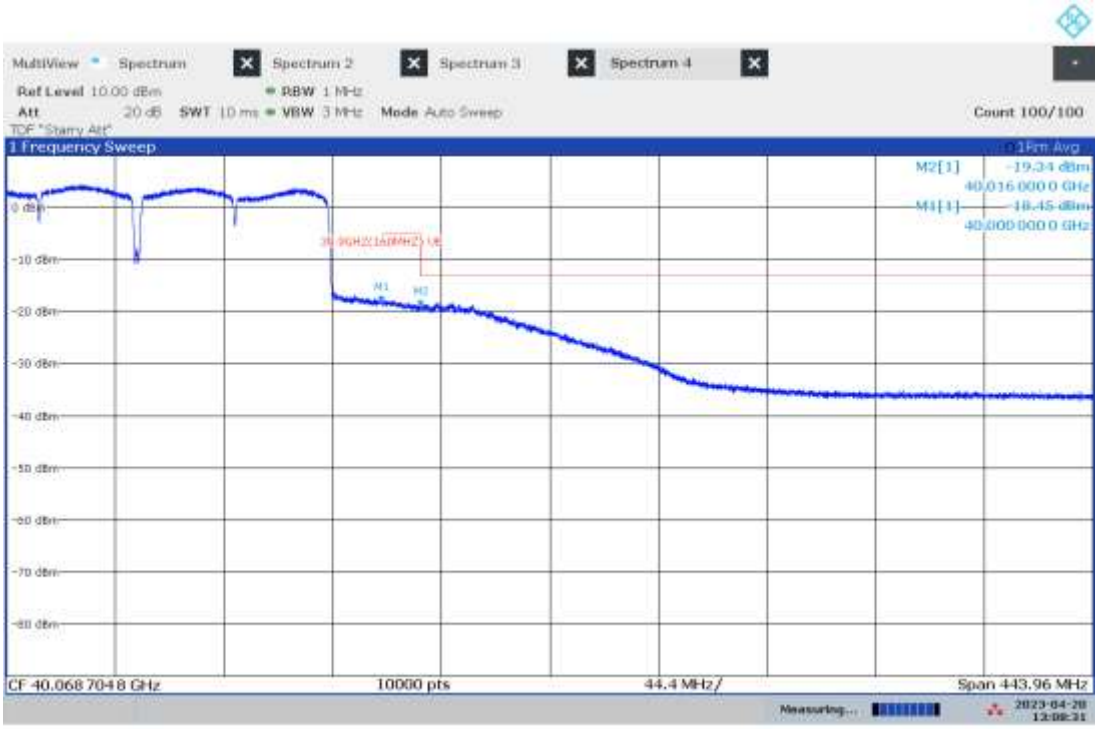
12:50:31 PM 04/20/2023

Upper Band Edge – Path 1, Modulation: MCS0, Bandwidth: 160 MHz

12:59:14 PM 04/20/2023

Lower Band Edge – Path 1, Modulation: MCS9, Bandwidth: 160 MHz

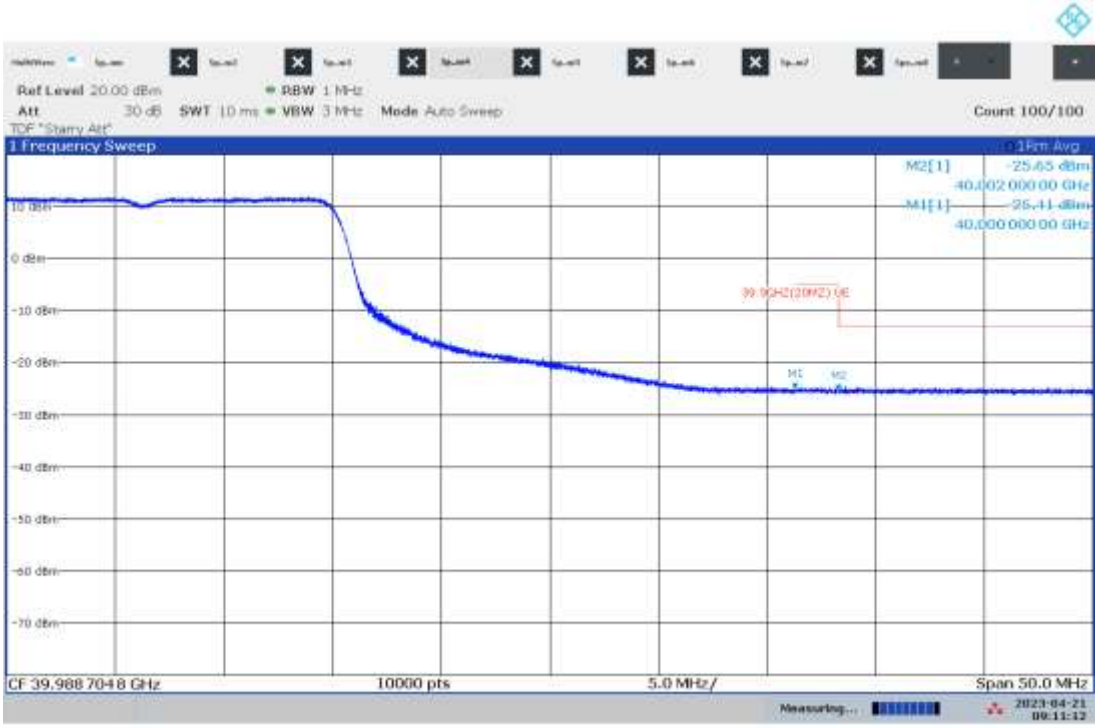
Upper Band Edge – Path 1, Modulation: MCS9, Bandwidth: 160 MHz



Lower Band Edge – Path 2, Modulation: MCS0, Bandwidth: 20 MHz

09:18:36 AM 04/21/2023

Upper Band Edge – Path 2, Modulation: MCS0, Bandwidth: 20 MHz

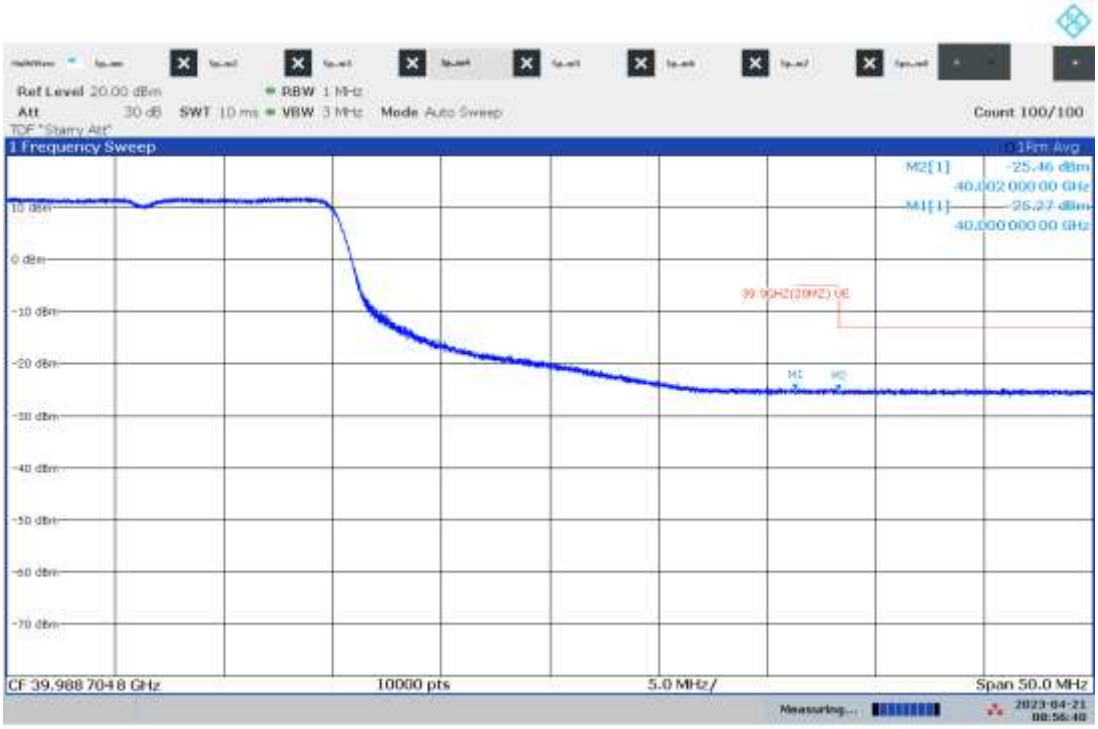


09:11:12 AM 04/21/2023

Lower Band Edge – Path 2, Modulation: MCS9, Bandwidth: 20 MHz

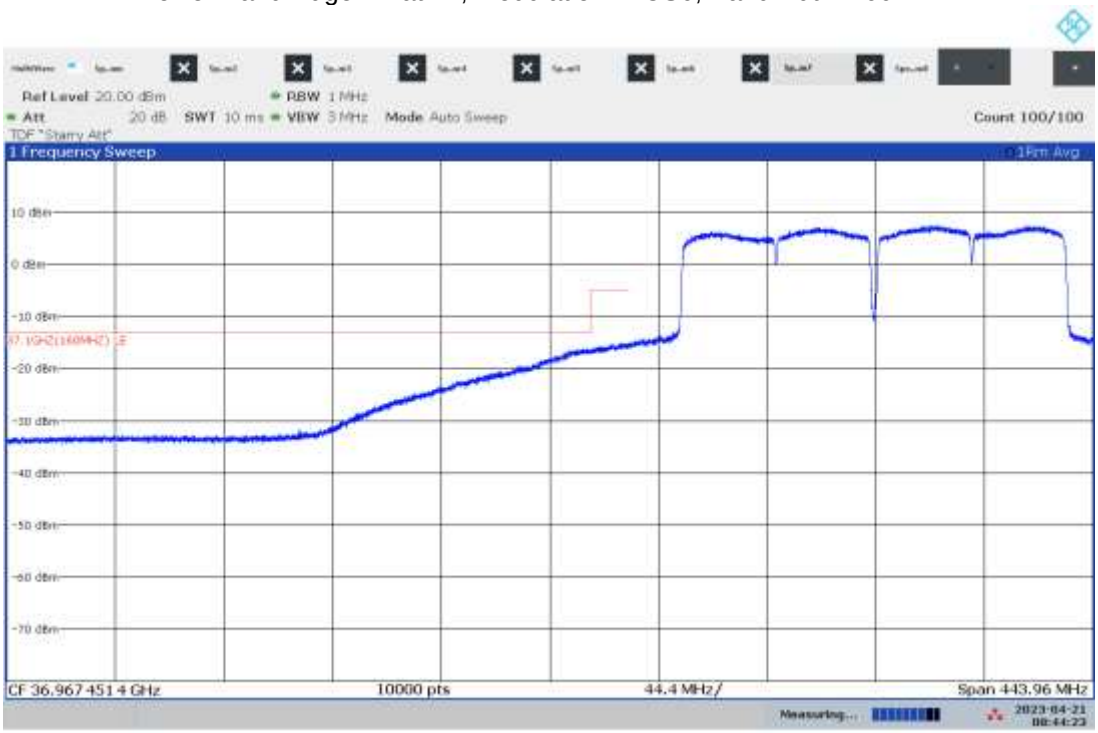
08:50:45 AM 04/21/2023

Upper Band Edge – Path 2, Modulation: MCS9, Bandwidth: 20 MHz



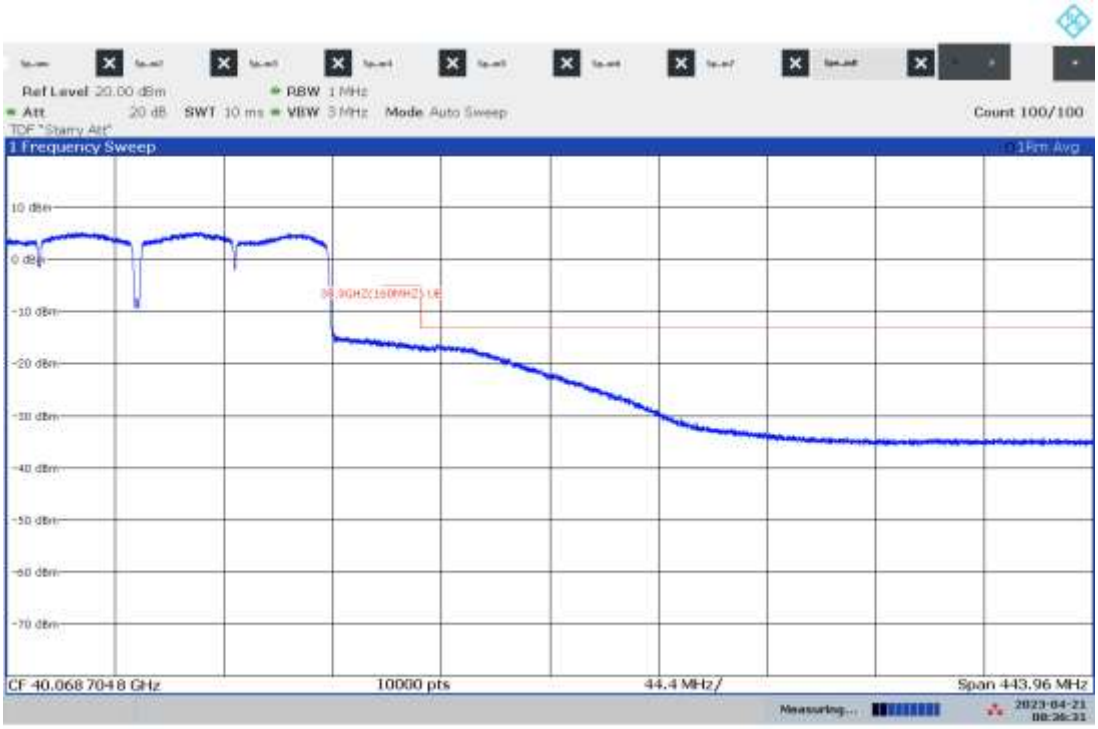
08:56:41 AM 04/21/2023

Lower Band Edge – Path 2, Modulation: MCS0, Bandwidth: 160 MHz



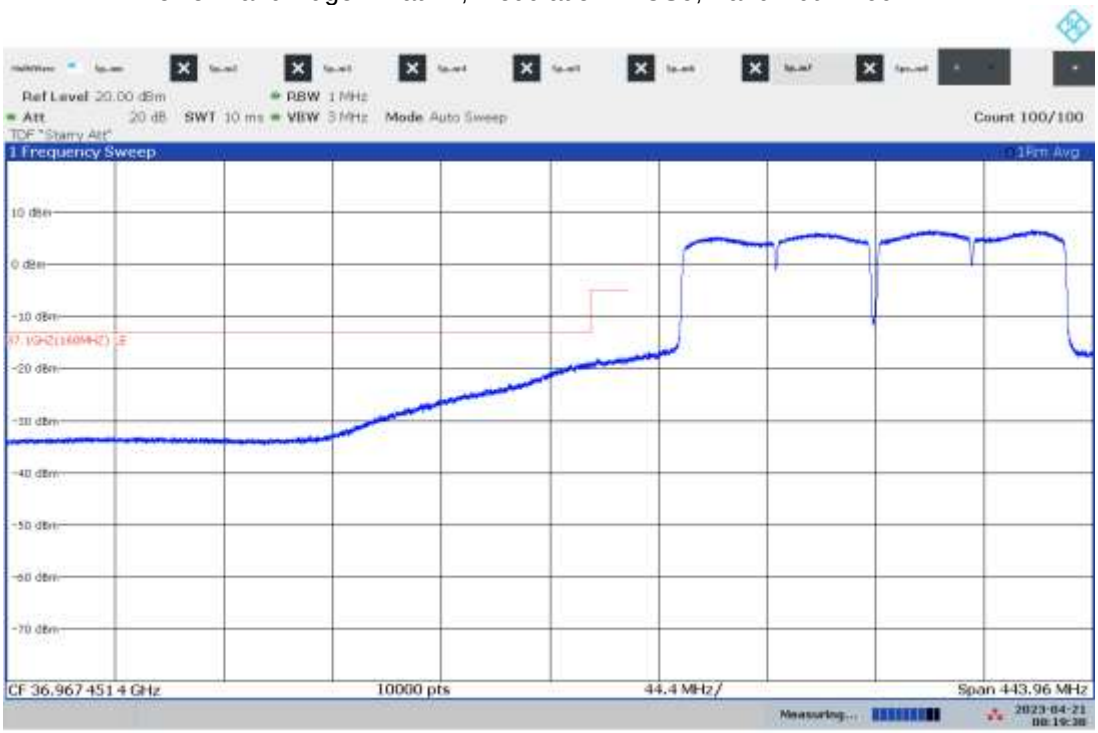
08:44:24 AM 04/21/2023

Upper Band Edge – Path 2, Modulation: MCS0, Bandwidth: 160 MHz



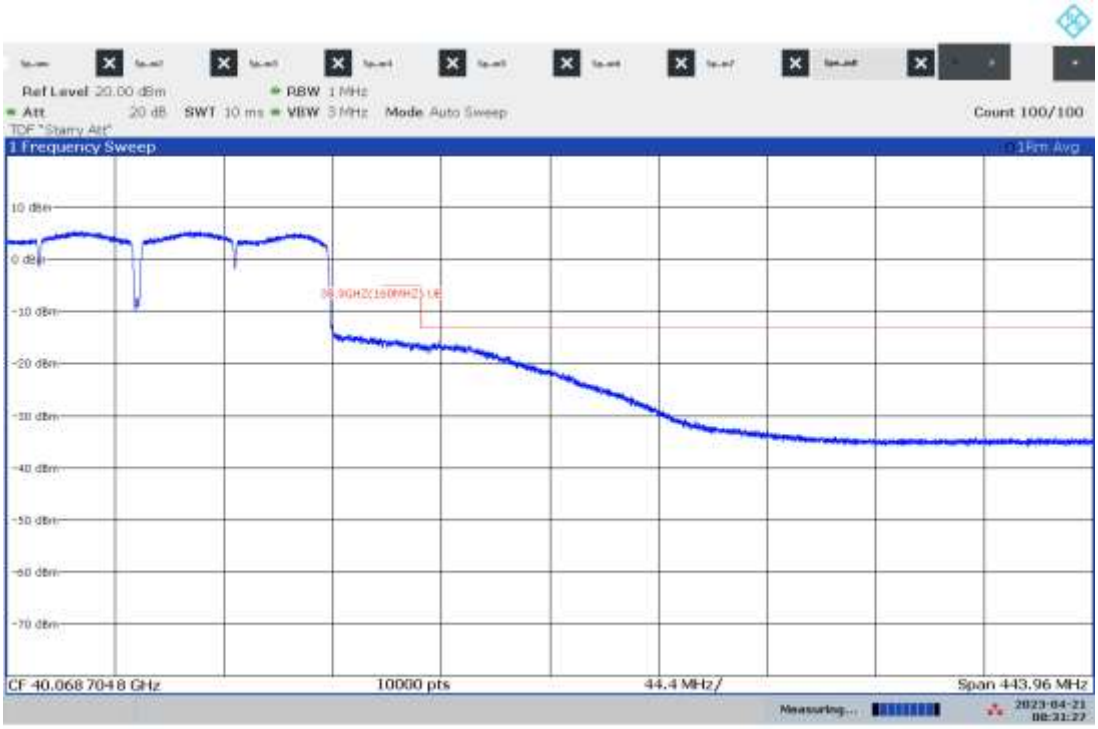
08:36:32 AM 04/21/2023

Lower Band Edge – Path 2, Modulation: MCS9, Bandwidth: 160 MHz



08:19:39 AM 04/21/2023

Upper Band Edge – Path 2, Modulation: MCS9, Bandwidth: 160 MHz

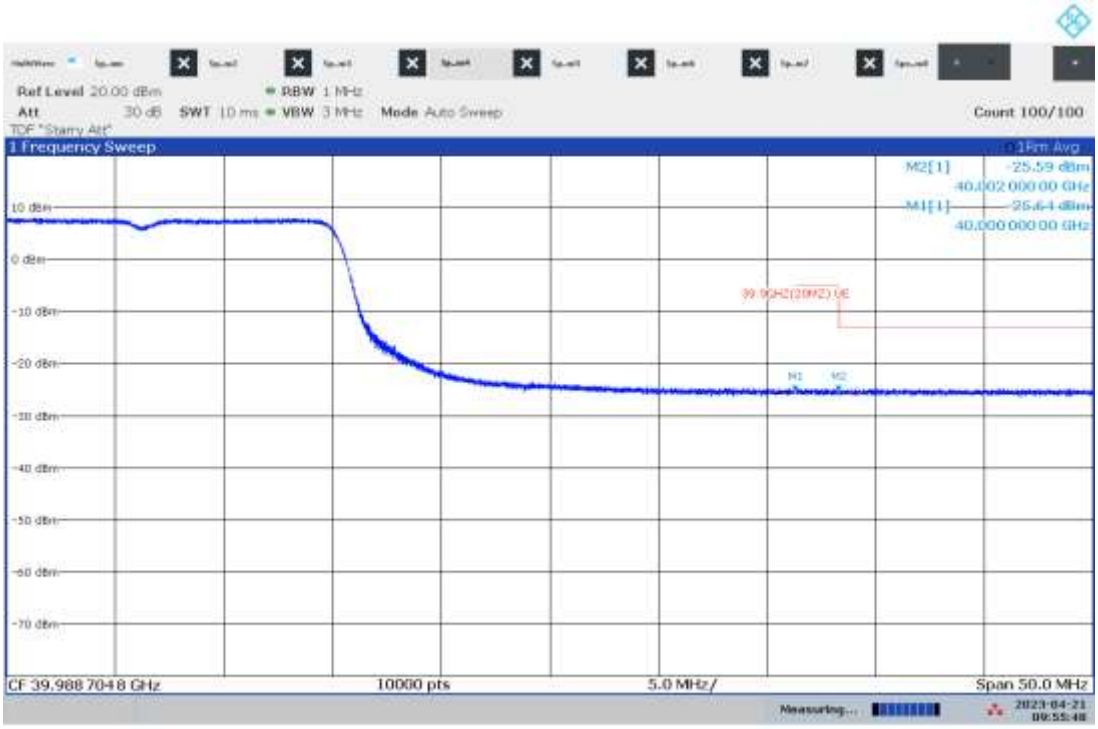


08:31:27 AM 04/21/2023

Lower Band Edge – Path 3, Modulation: MCS0, Bandwidth: 20 MHz

09:49:15 AM 04/21/2023

Upper Band Edge – Path 3, Modulation: MCS0, Bandwidth: 20 MHz

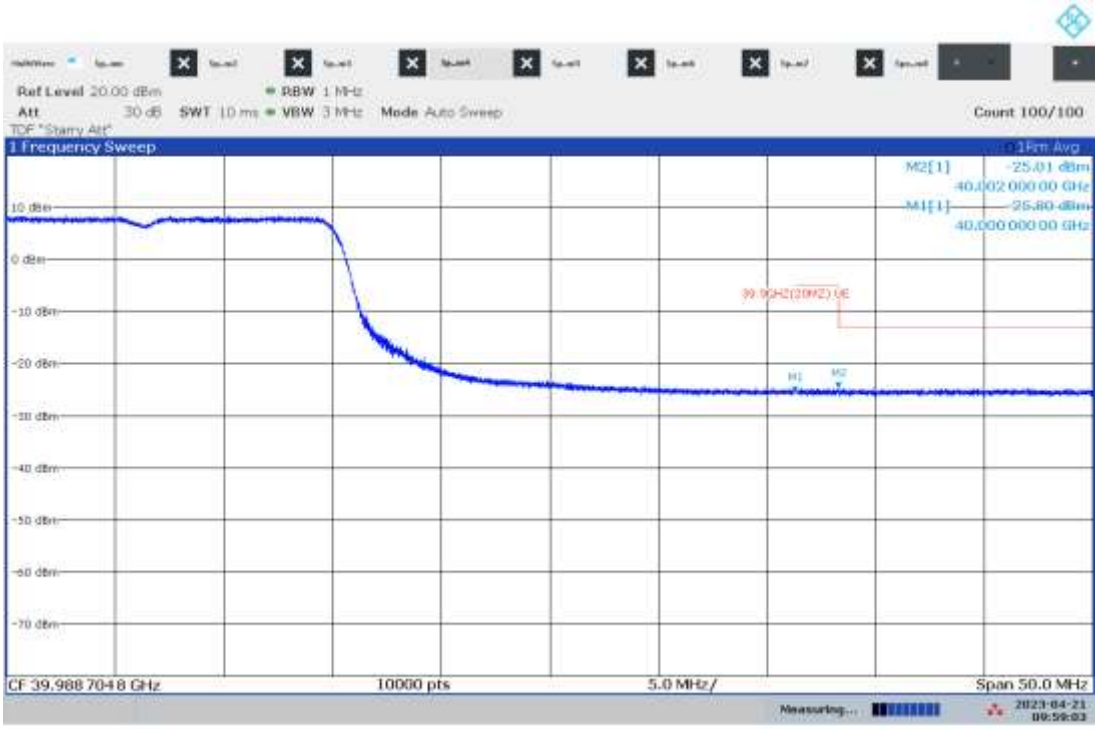


09:55:48 AM 04/21/2023

Lower Band Edge – Path 3, Modulation: MCS9, Bandwidth: 20 MHz

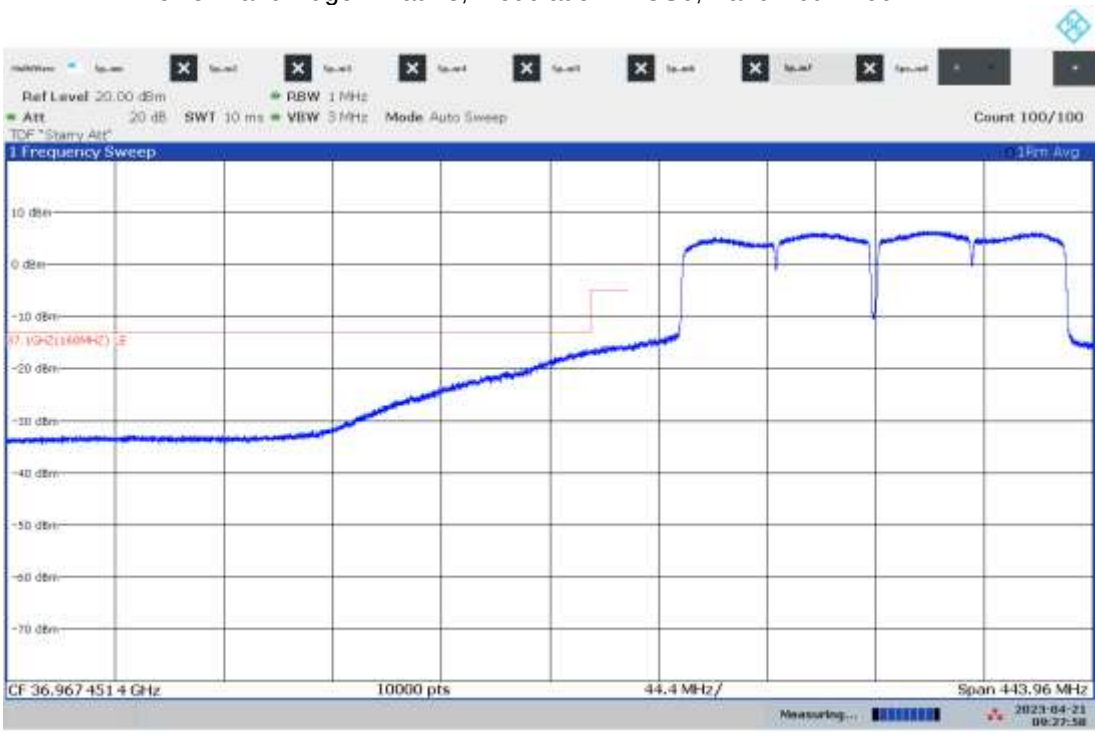
10:05:27 AM 04/21/2023

Upper Band Edge – Path 3, Modulation: MCS9, Bandwidth: 20 MHz



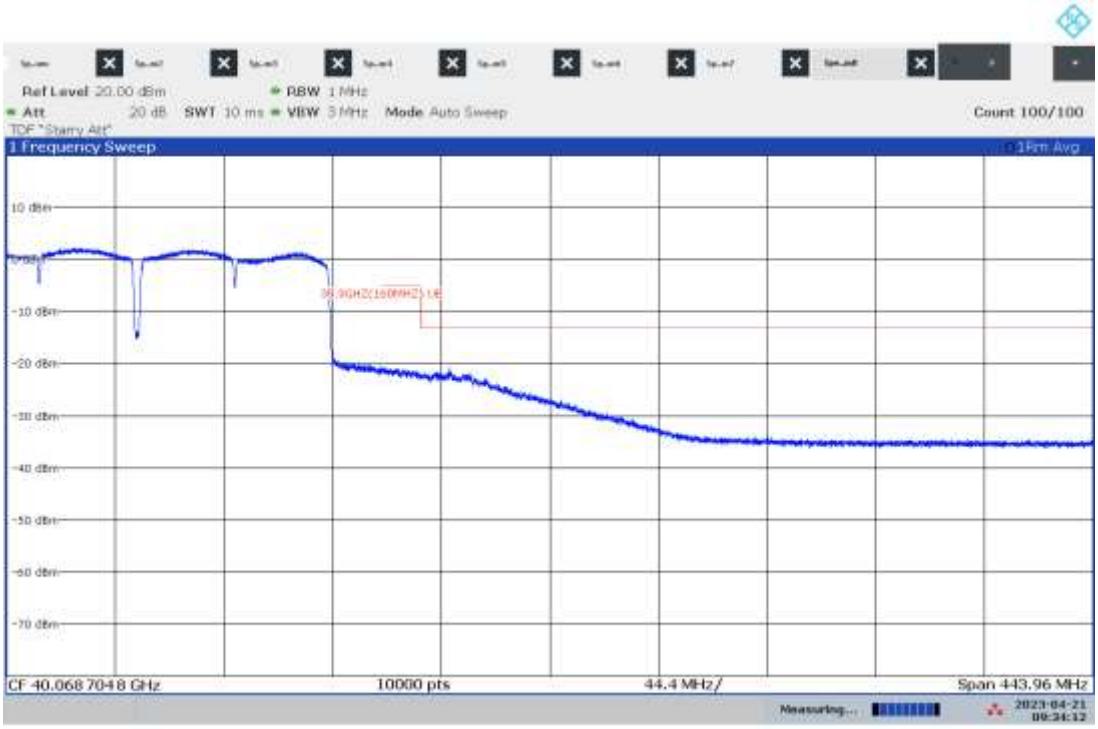
09:59:03 AM 04/21/2023

Lower Band Edge – Path 3, Modulation: MCS0, Bandwidth: 160 MHz



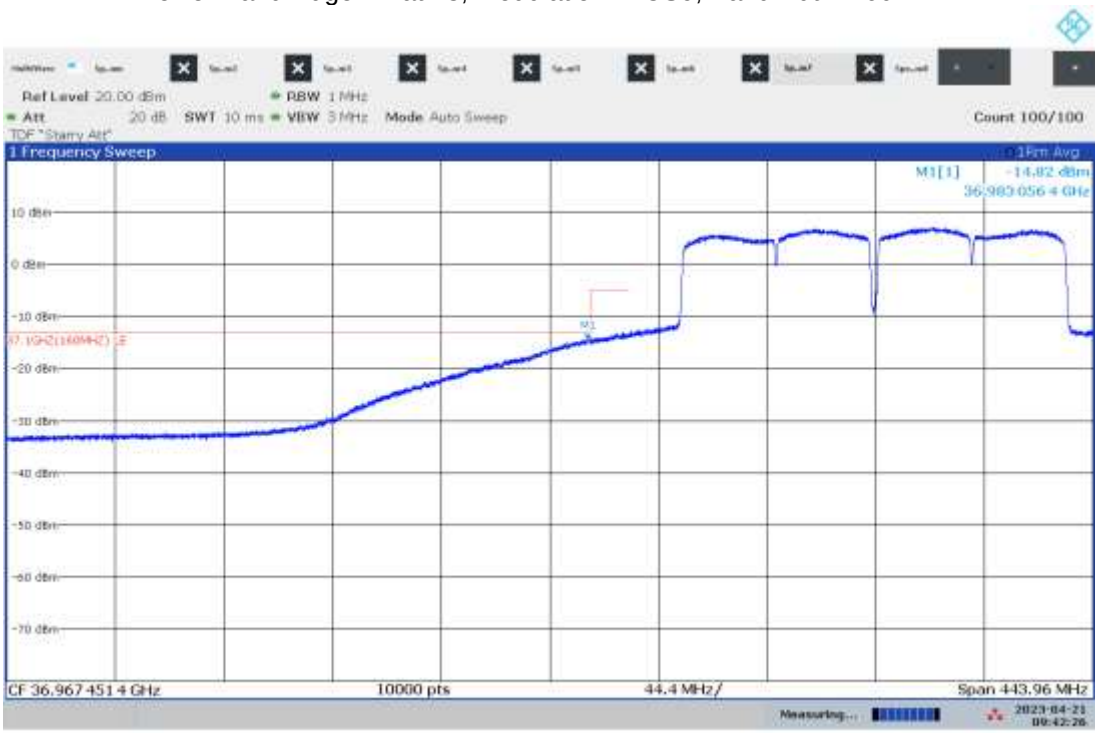
09:27:58 AM 04/21/2023

Upper Band Edge – Path 3, Modulation: MCS0, Bandwidth: 160 MHz



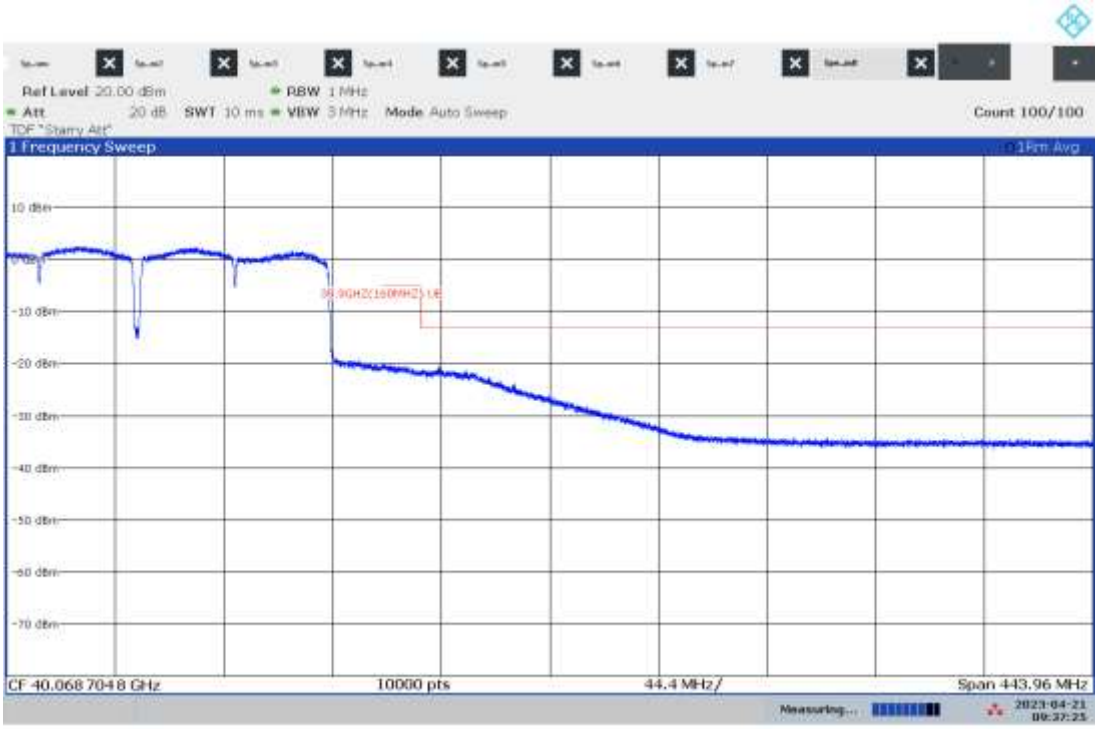
09:34:12 AM 04/21/2023

Lower Band Edge – Path 3, Modulation: MCS9, Bandwidth: 160 MHz



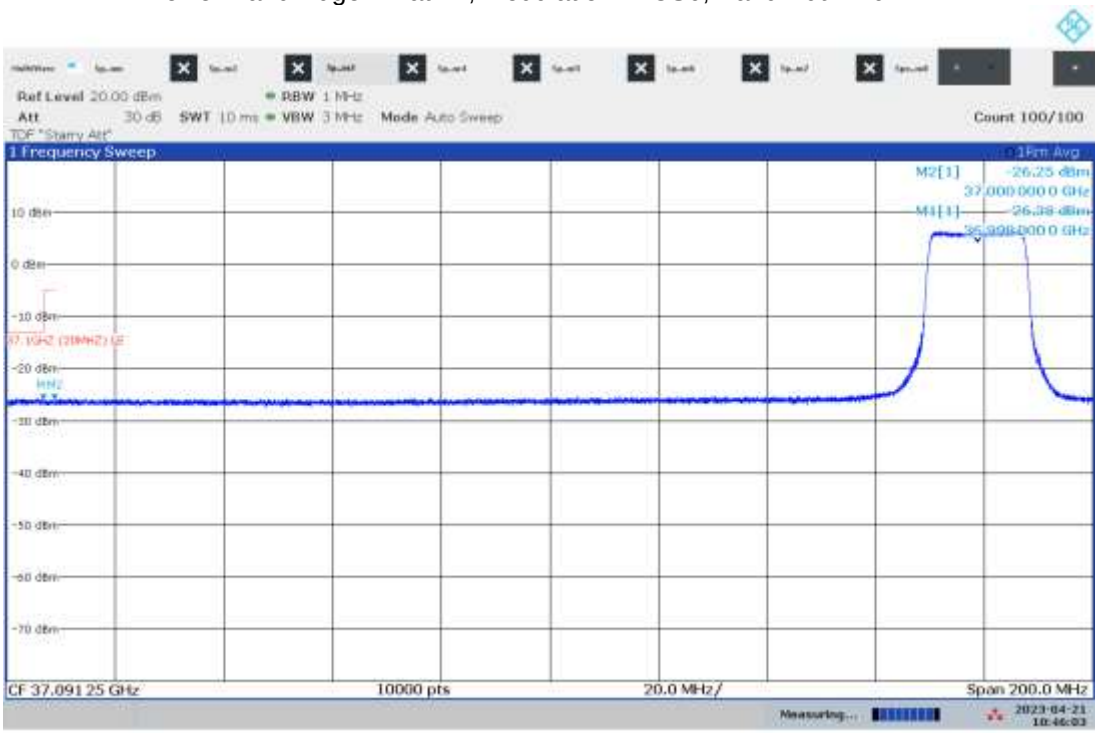
09:42:26 AM 04/21/2023

Upper Band Edge – Path 3, Modulation: MCS9, Bandwidth: 160 MHz



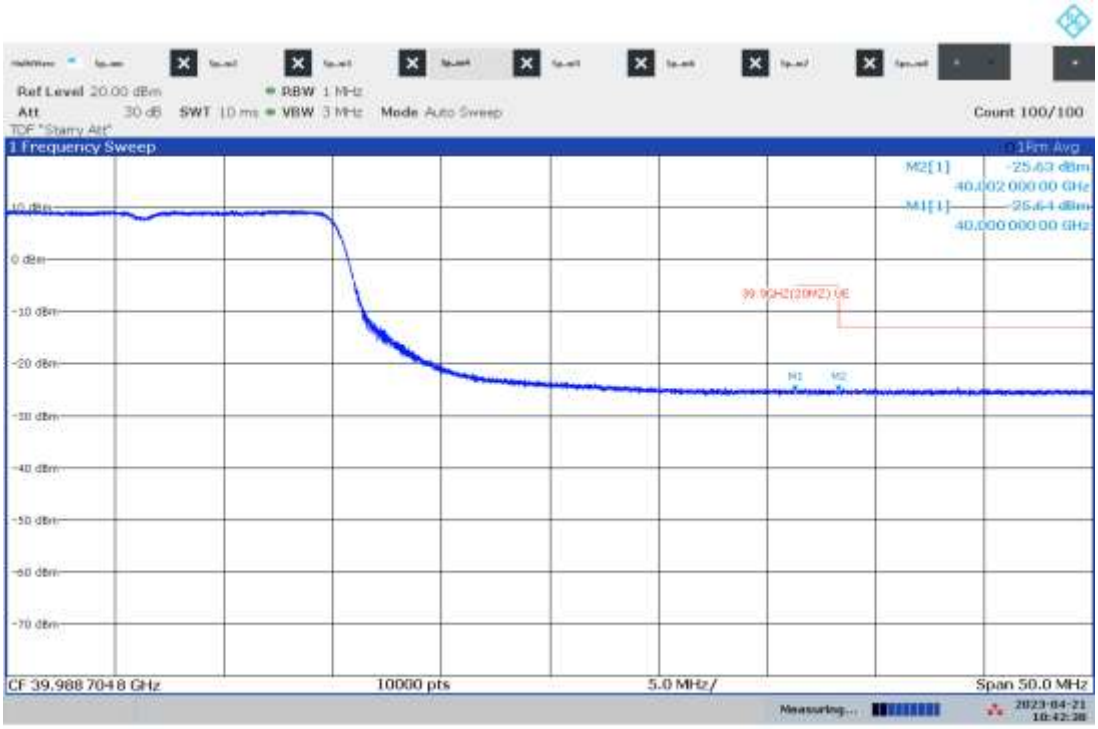
09:37:25 AM 04/21/2023

Lower Band Edge – Path 4, Modulation: MCS0, Bandwidth: 20 MHz



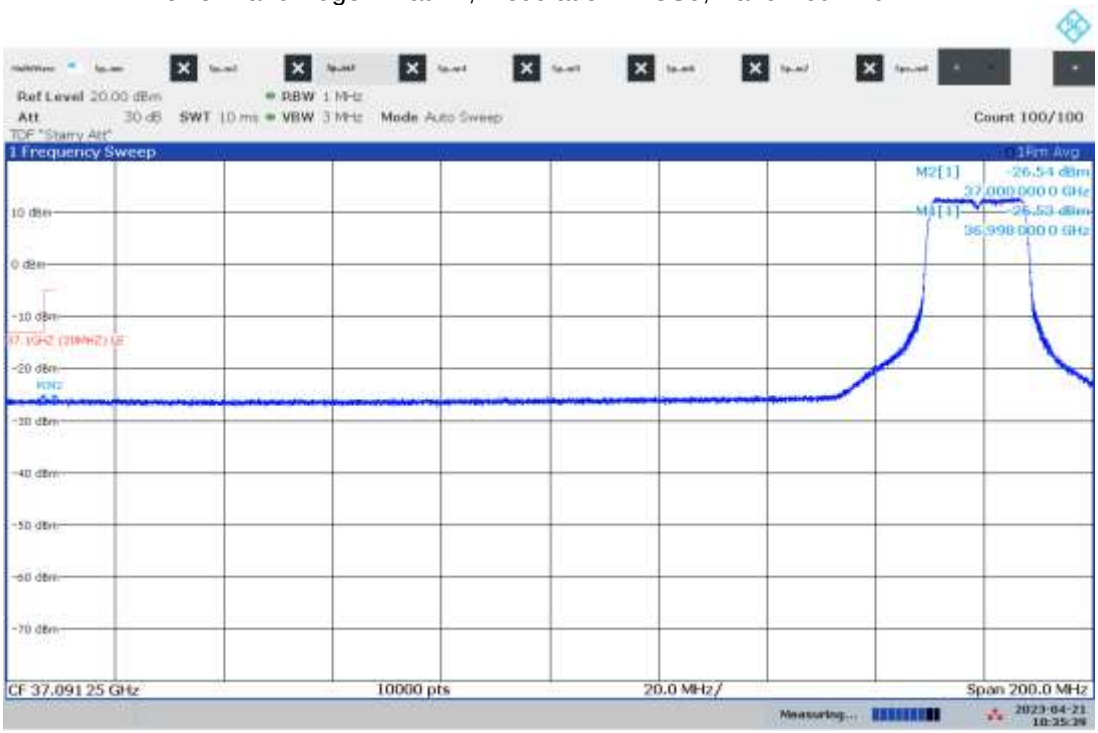
10:46:04 AM 04/21/2023

Upper Band Edge – Path 4, Modulation: MCS0, Bandwidth: 20 MHz



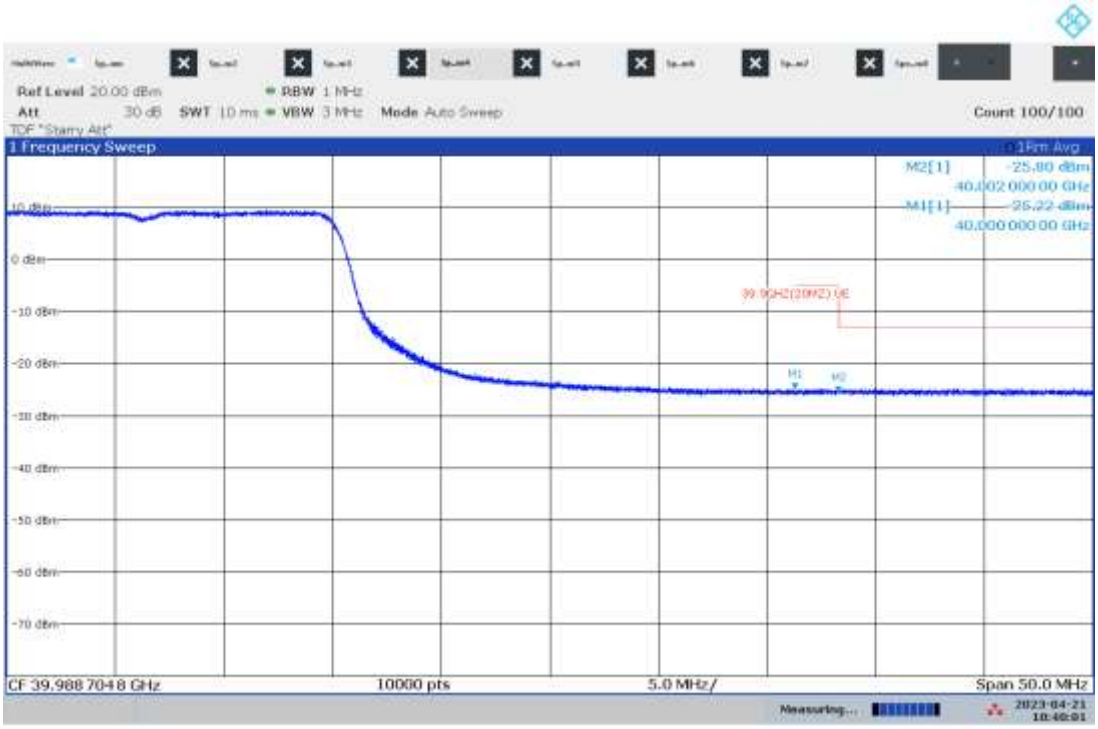
10:42:39 AM 04/21/2023

Lower Band Edge – Path 4, Modulation: MCS9, Bandwidth: 20 MHz



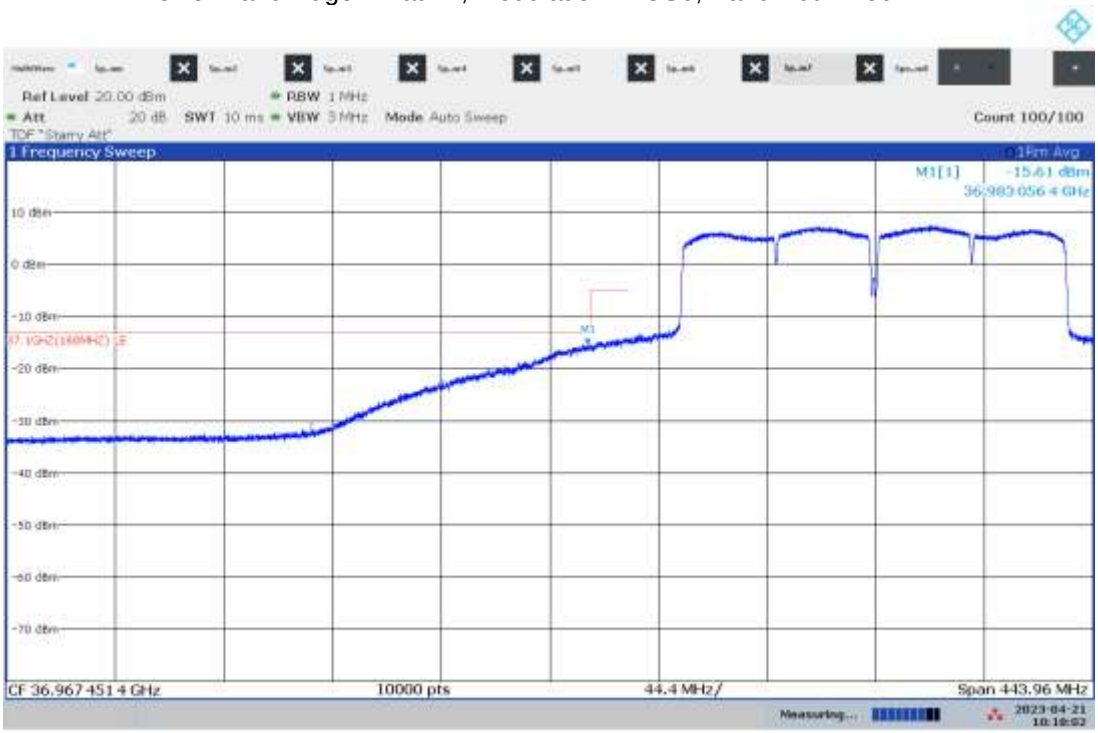
10:35:39 AM 04/21/2023

Upper Band Edge – Path 4, Modulation: MCS9, Bandwidth: 20 MHz



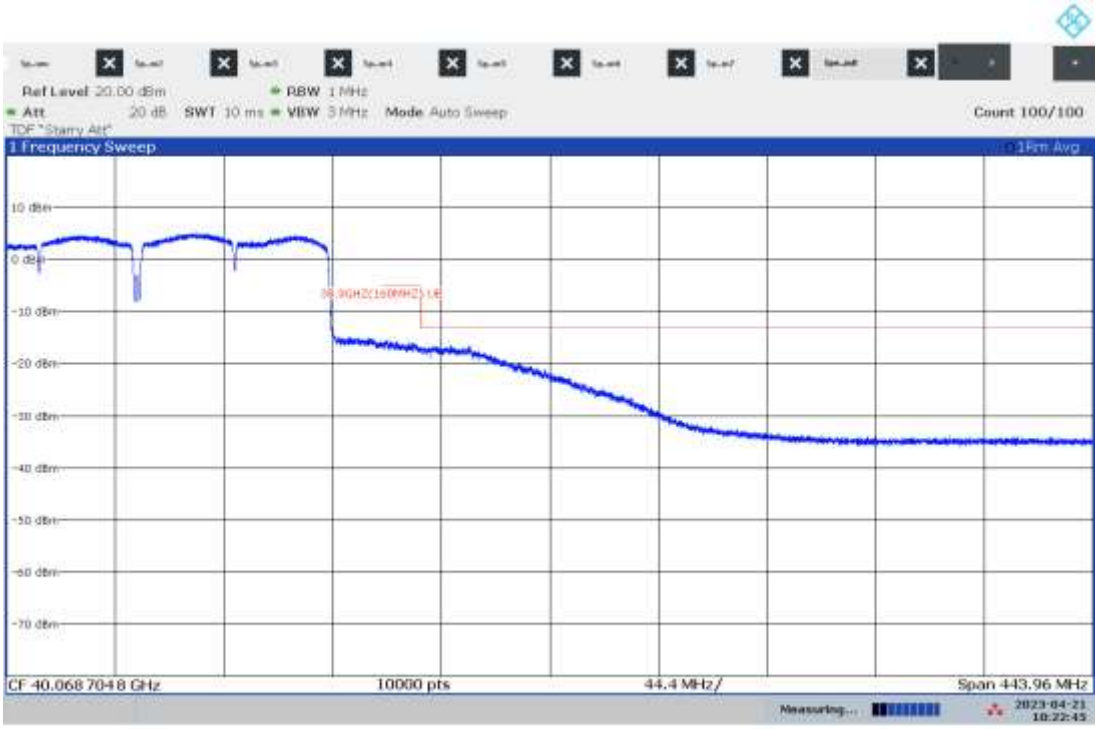
10:40:01 AM 04/21/2023

Lower Band Edge – Path 4, Modulation: MCS0, Bandwidth: 160 MHz



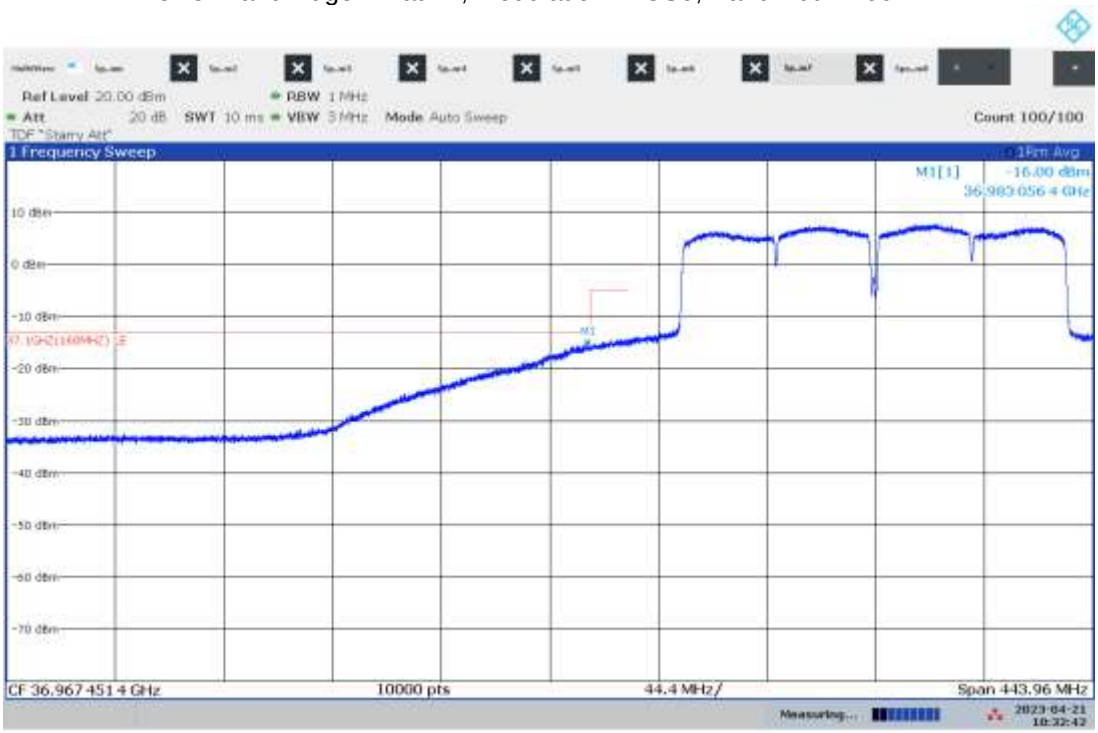
10:18:02 AM 04/21/2023

Upper Band Edge – Path 4, Modulation: MCS0, Bandwidth: 160 MHz



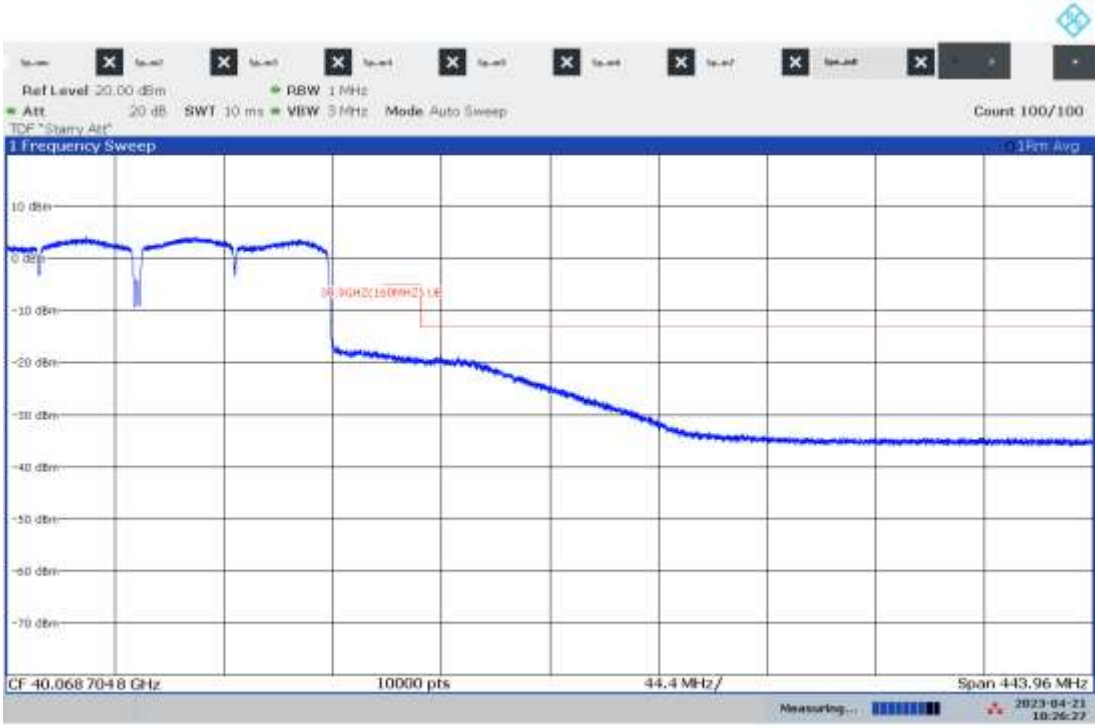
10:22:45 AM 04/21/2023

Lower Band Edge – Path 4, Modulation: MCS9, Bandwidth: 160 MHz



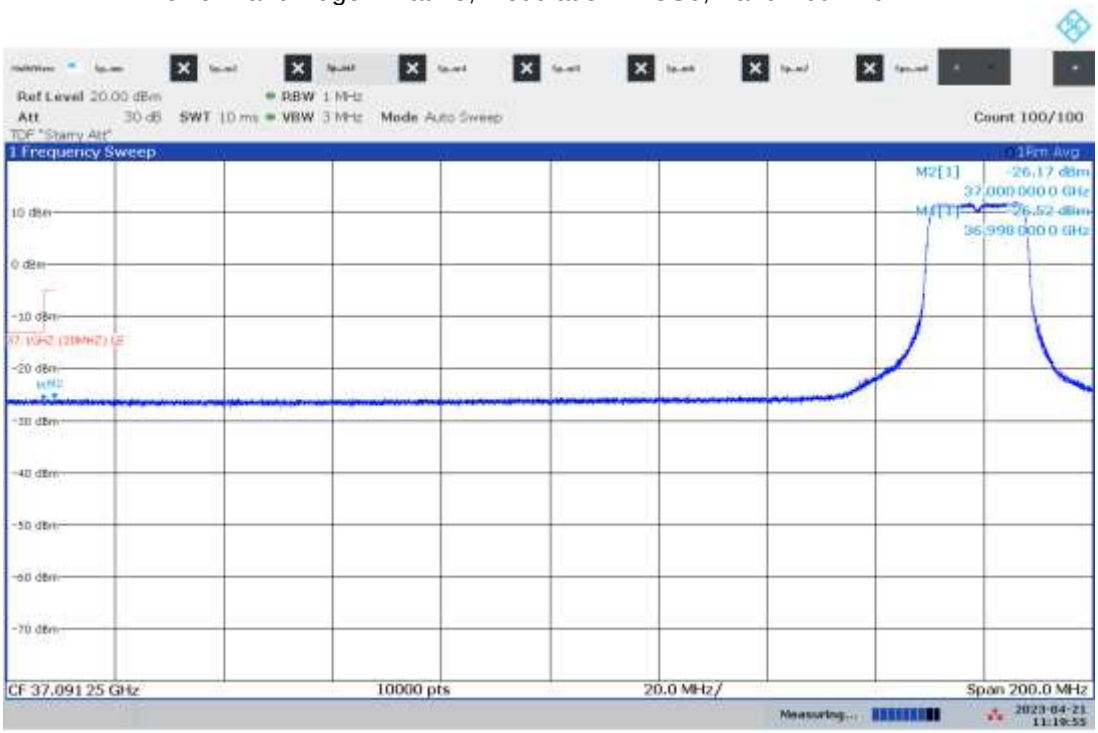
10:32:42 AM 04/21/2023

Upper Band Edge – Path 4, Modulation: MCS9, Bandwidth: 160 MHz



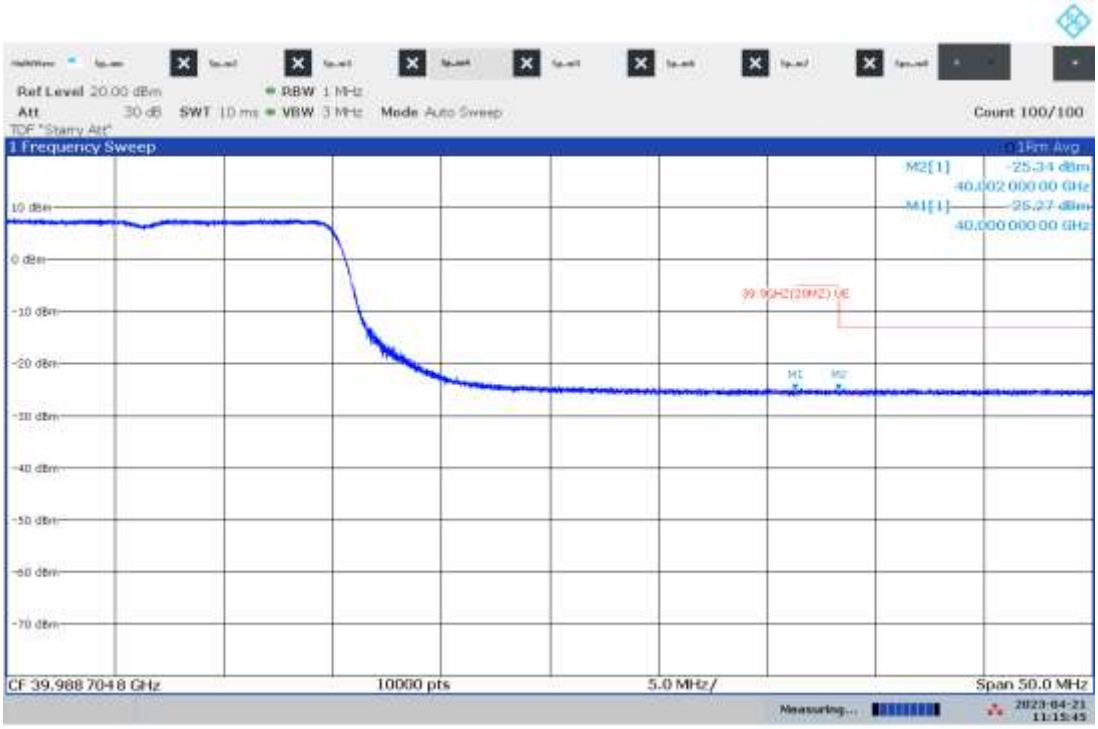
10:26:27 AM 04/21/2023

Lower Band Edge – Path 5, Modulation: MCS0, Bandwidth: 20 MHz



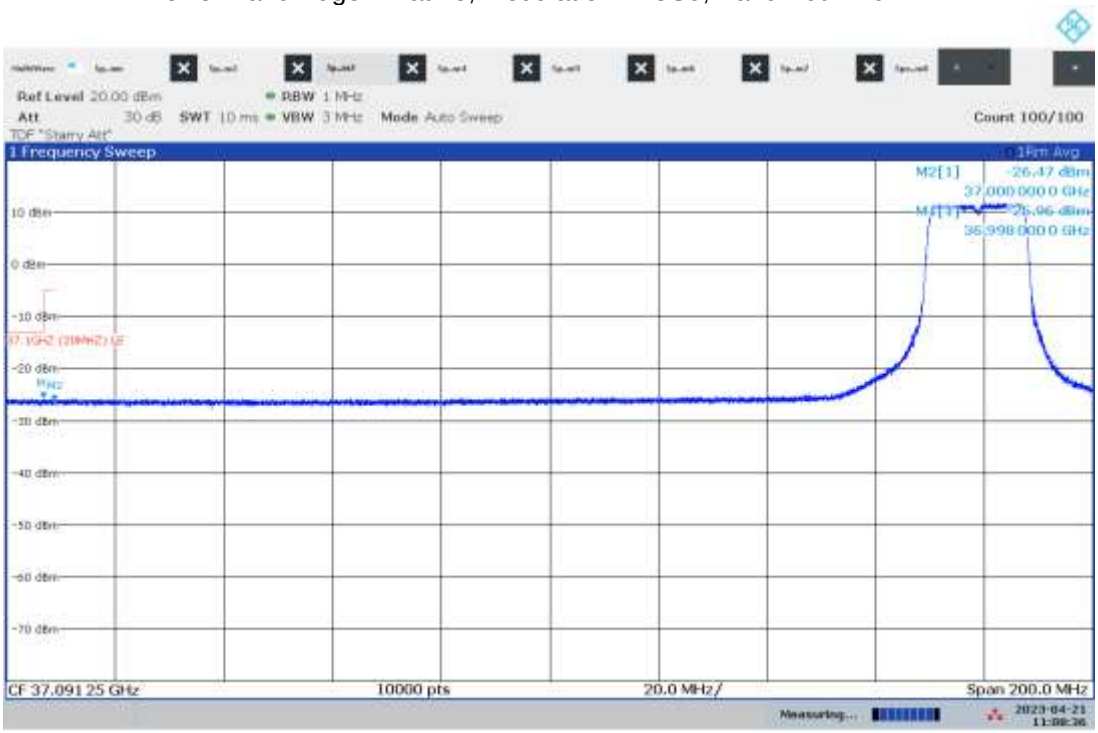
11:19:55 AM 04/21/2023

Upper Band Edge – Path 5, Modulation: MCS0, Bandwidth: 20 MHz



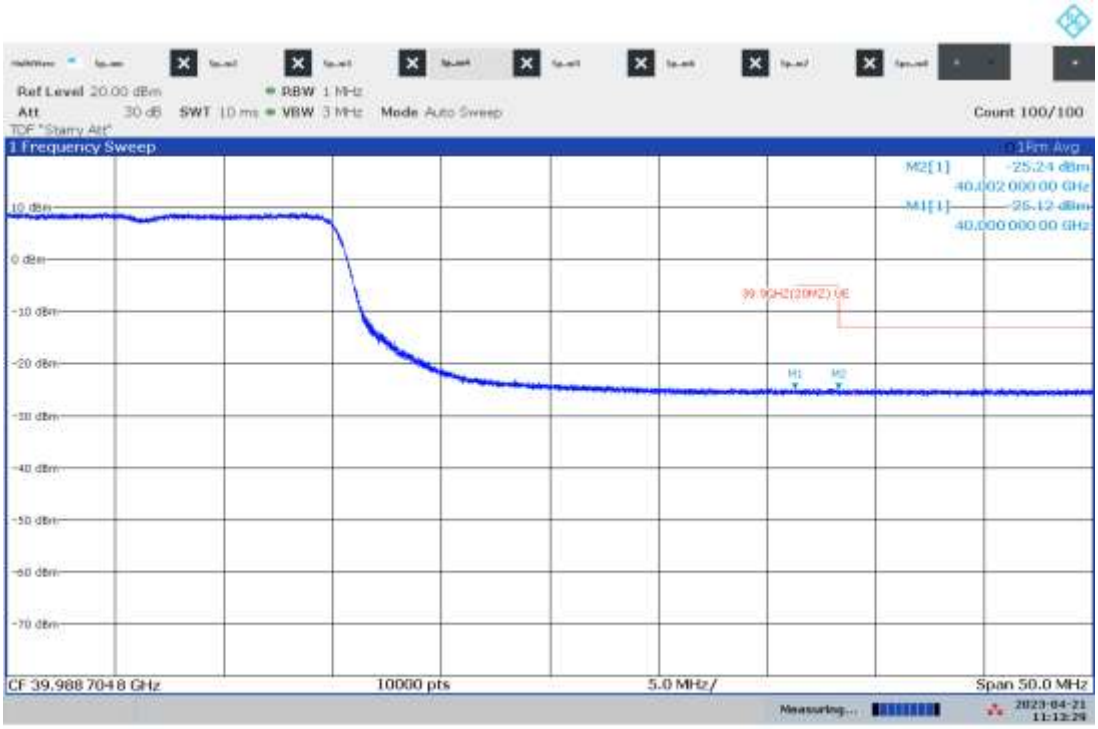
11:15:46 AM 04/21/2023

Lower Band Edge – Path 5, Modulation: MCS9, Bandwidth: 20 MHz



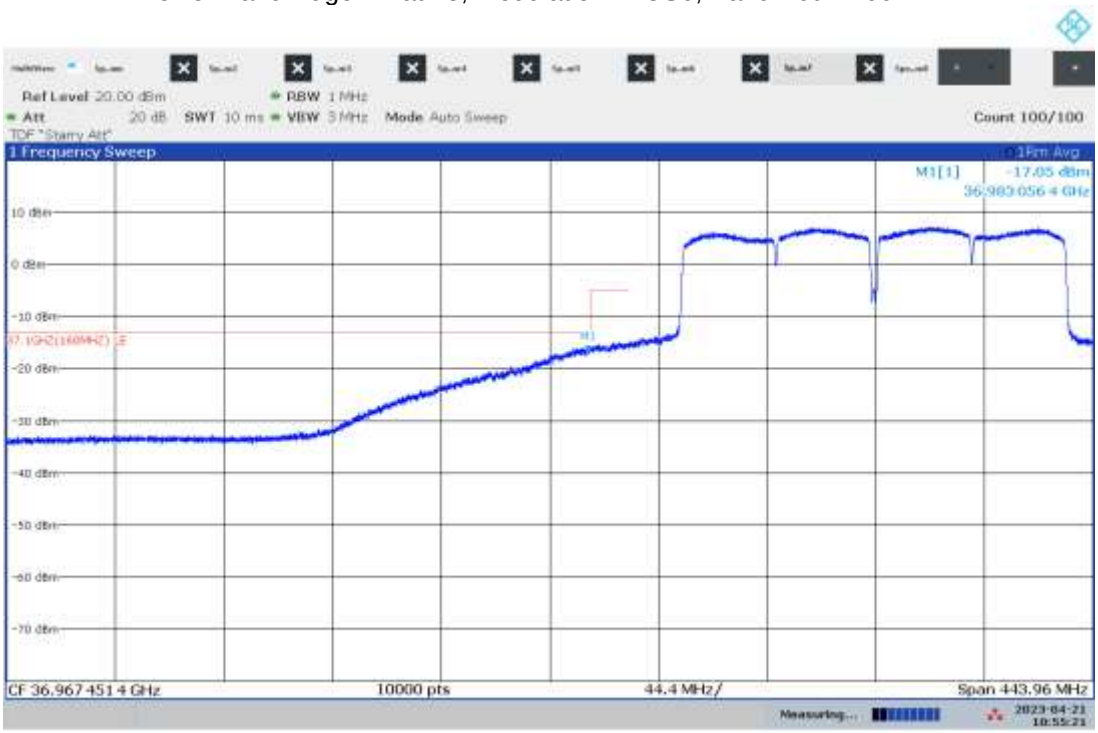
11:08:36 AM 04/21/2023

Upper Band Edge – Path 5, Modulation: MCS9, Bandwidth: 20 MHz



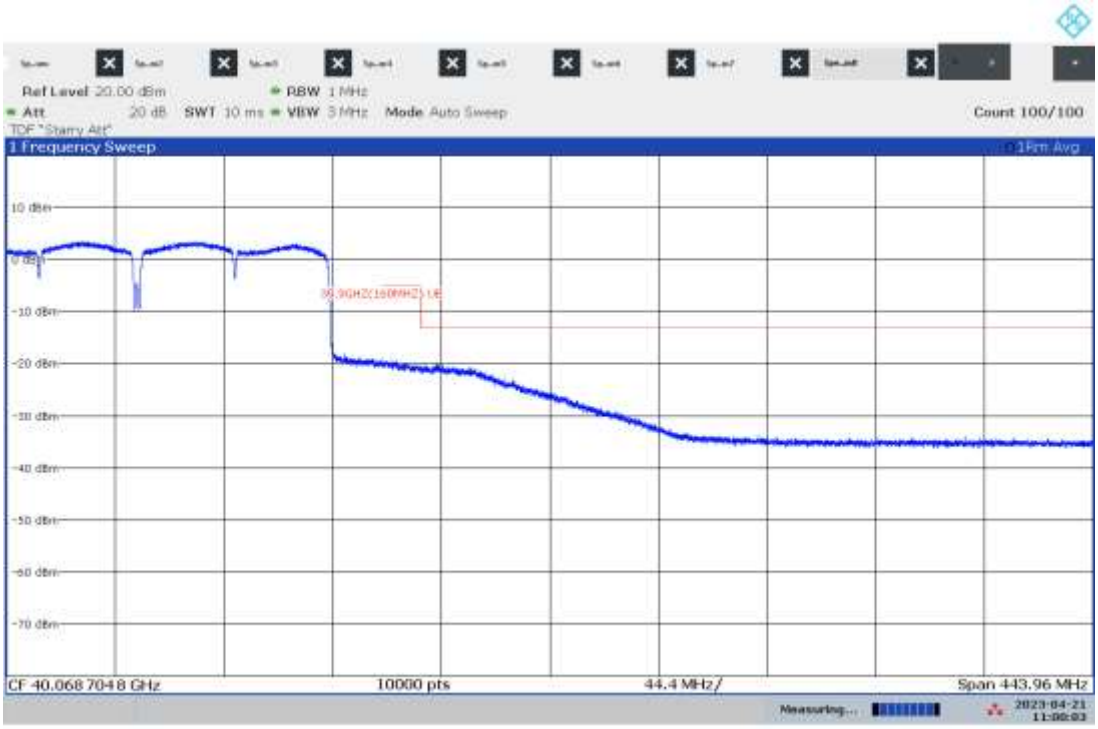
11:13:29 AM 04/21/2023

Lower Band Edge – Path 5, Modulation: MCS0, Bandwidth: 160 MHz



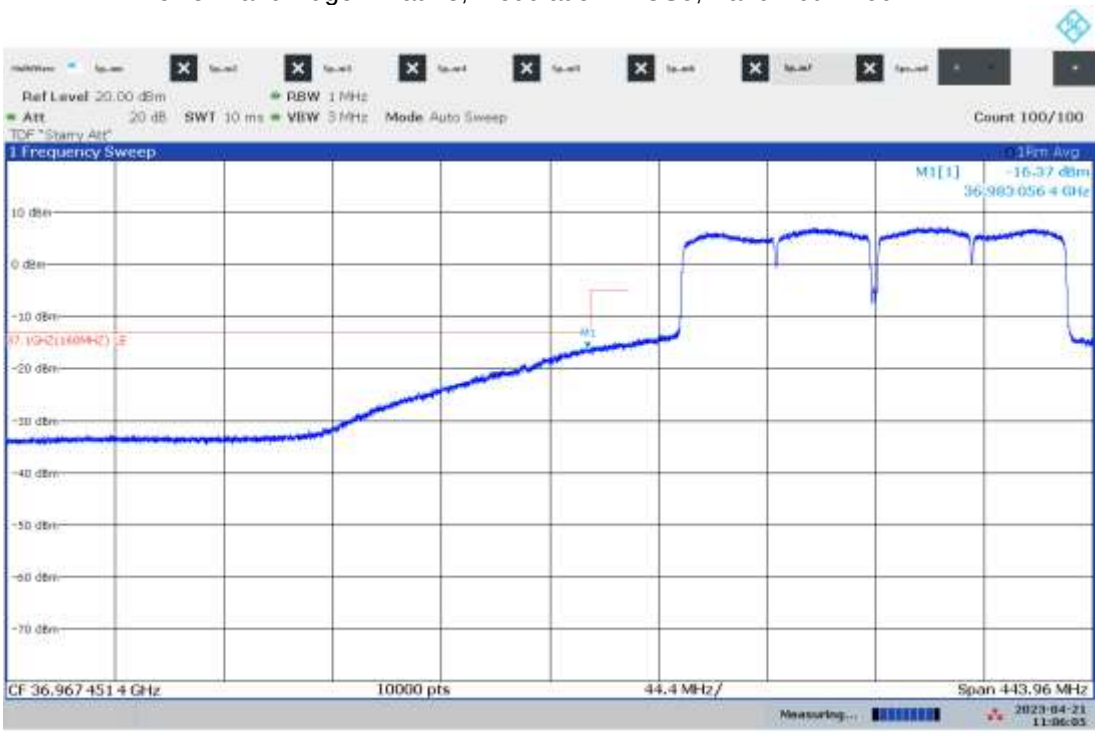
10:55:21 AM 04/21/2023

Upper Band Edge – Path 5, Modulation: MCS0, Bandwidth: 160 MHz



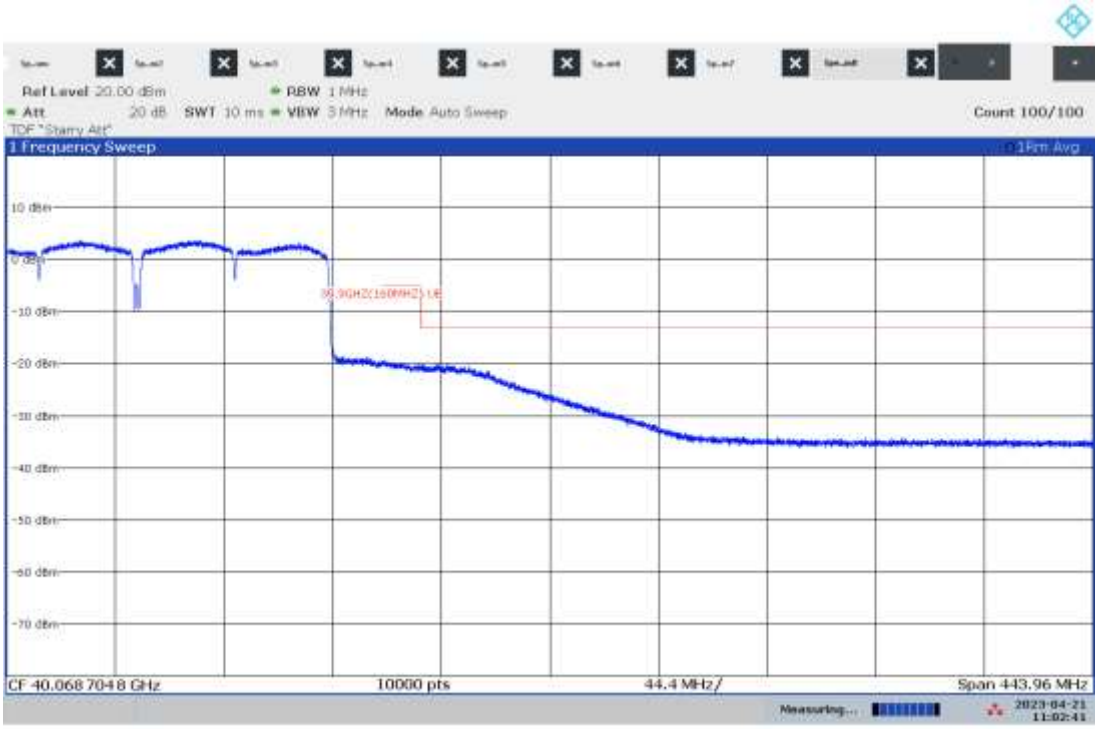
11:00:03 AM 04/21/2023

Lower Band Edge – Path 5, Modulation: MCS9, Bandwidth: 160 MHz



11:06:05 AM 04/21/2023

Upper Band Edge – Path 5, Modulation: MCS9, Bandwidth: 160 MHz

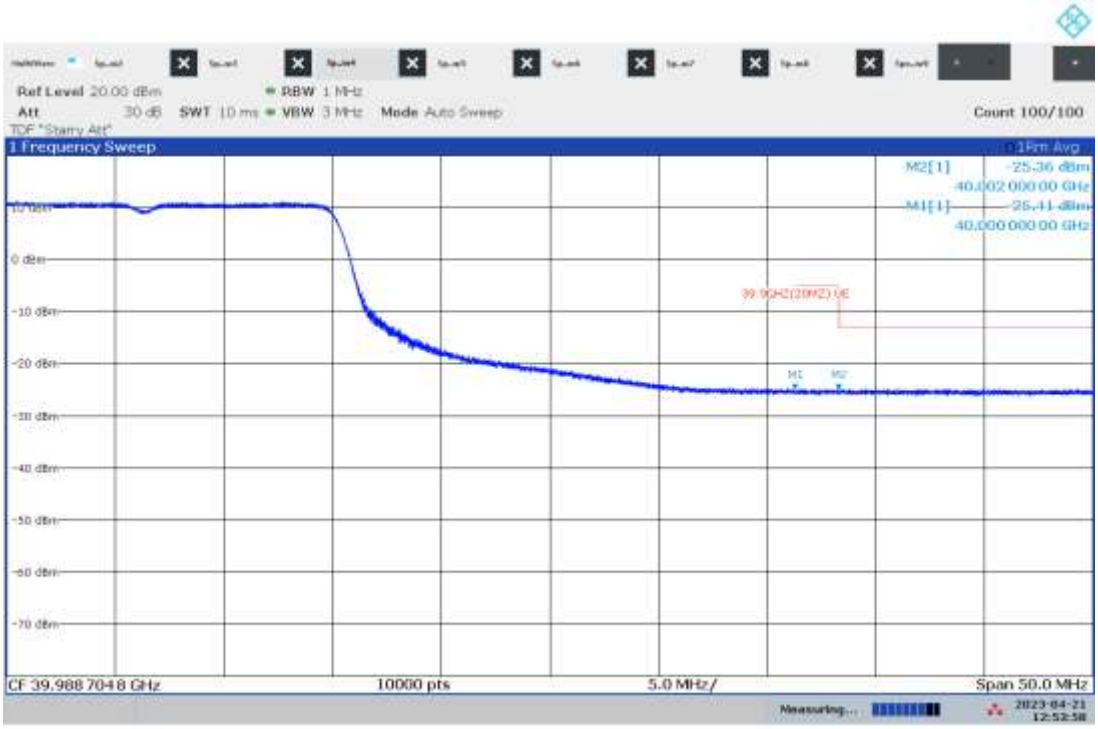


11:02:42 AM 04/21/2023

Lower Band Edge – Path 6, Modulation: MCS0, Bandwidth: 20 MHz

01:01:05 PM 04/21/2023

Upper Band Edge – Path 6, Modulation: MCS0, Bandwidth: 20 MHz

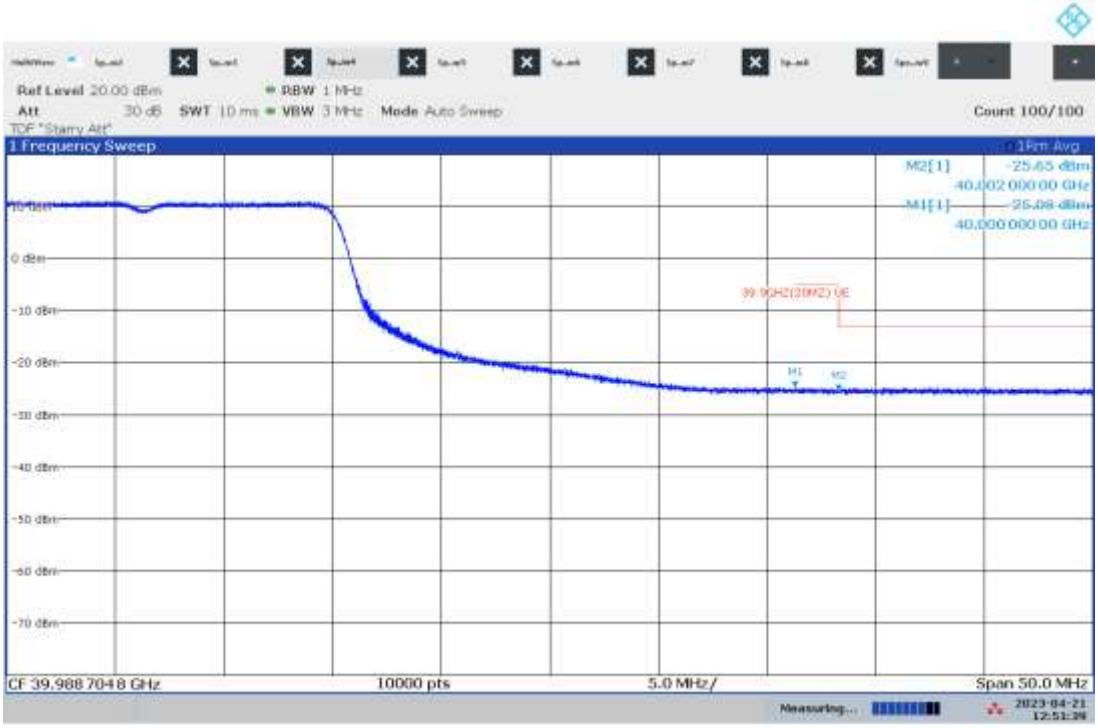


12:53:58 PM 04/21/2023

Lower Band Edge – Path 6, Modulation: MCS9, Bandwidth: 20 MHz

12:44:03 PM 04/21/2023

Upper Band Edge – Path 6, Modulation: MCS9, Bandwidth: 20 MHz

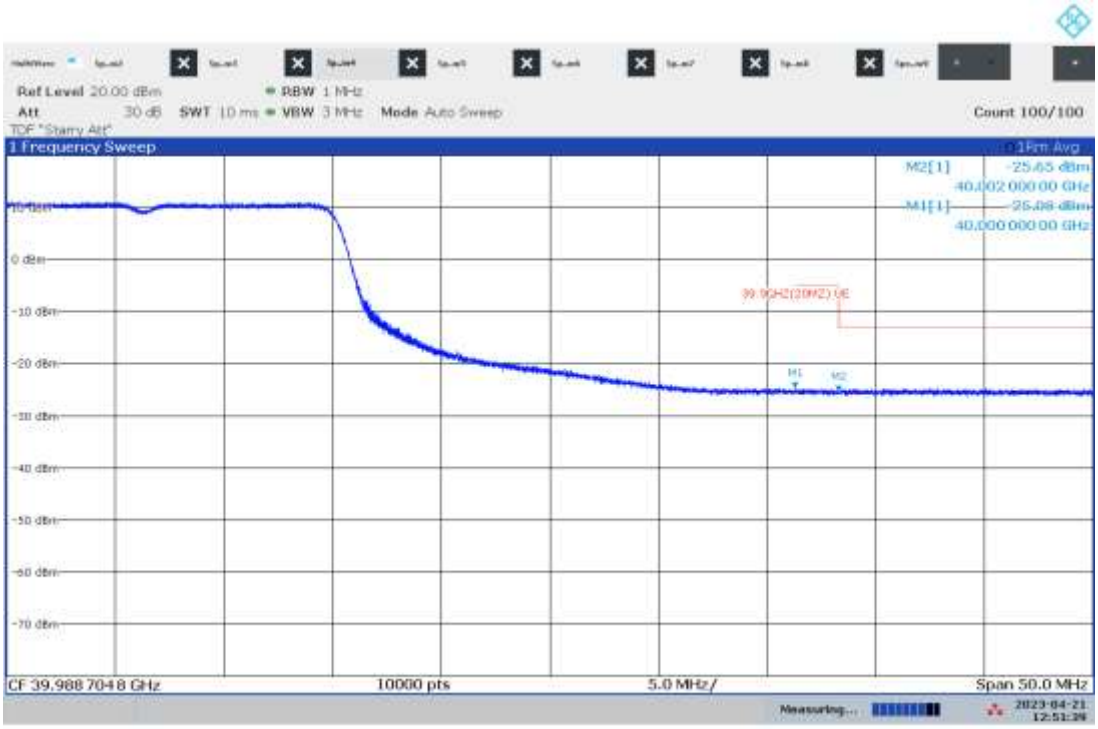


12:51:40 PM 04/21/2023

Lower Band Edge – Path 6, Modulation: MCS0, Bandwidth: 160 MHz

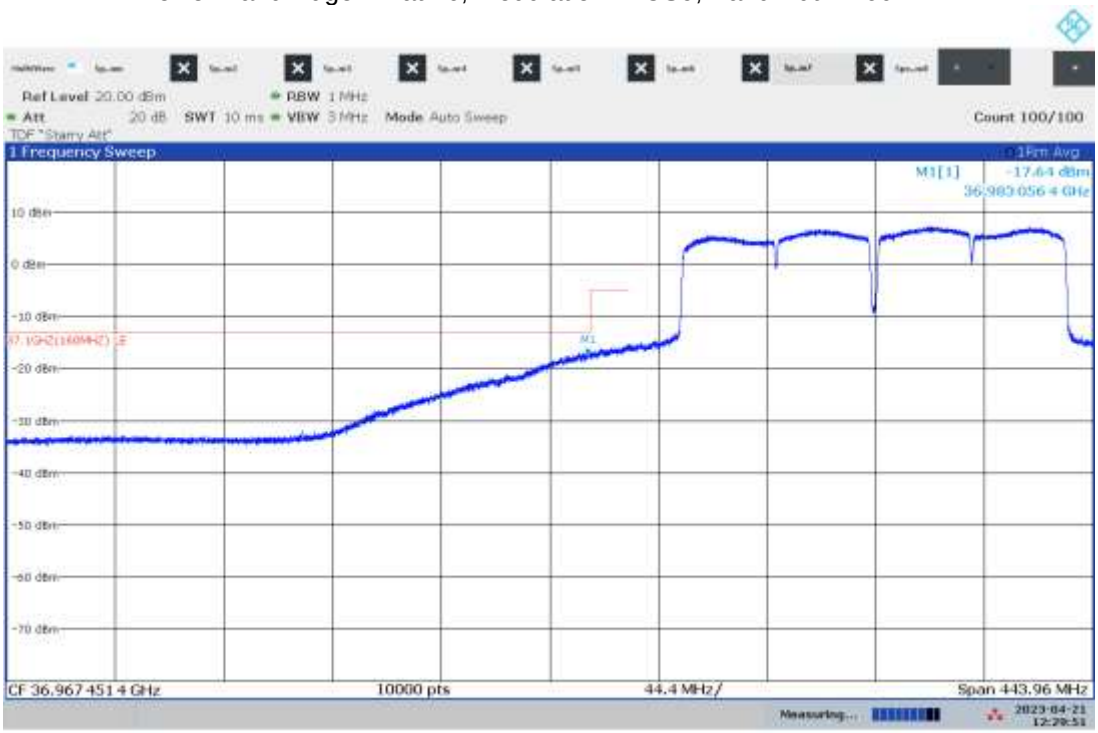
12:44:03 PM 04/21/2023

Upper Band Edge – Path 6, Modulation: MCS0, Bandwidth: 160 MHz



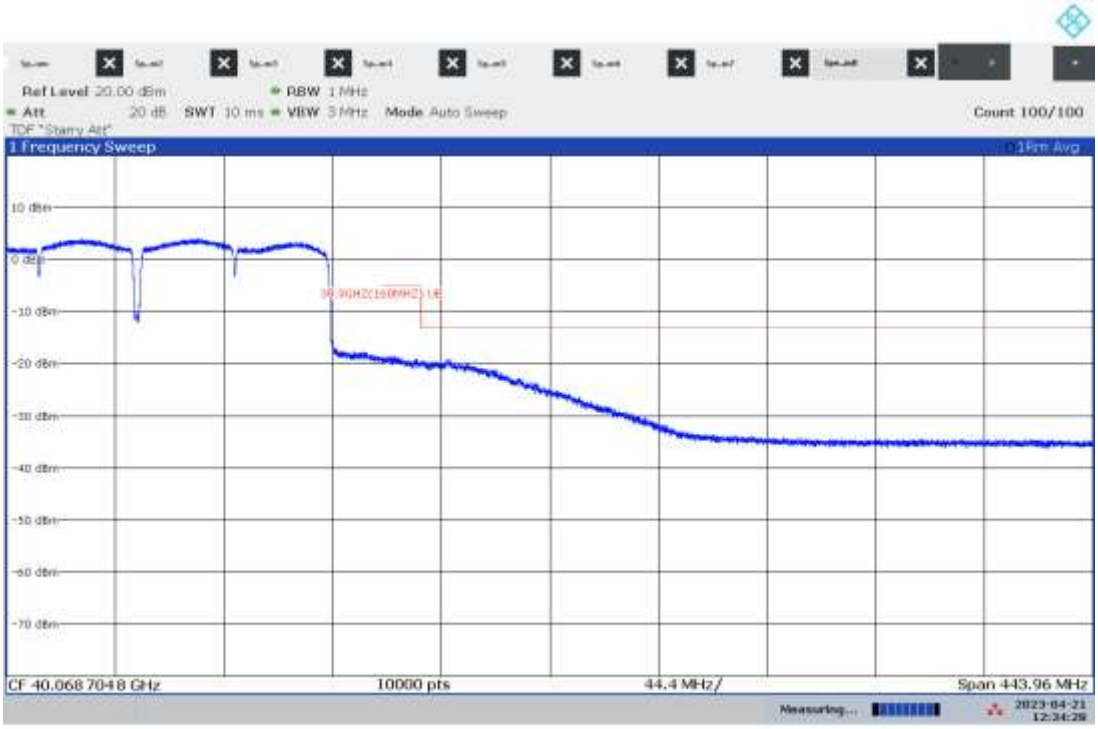
12:51:40 PM 04/21/2023

Lower Band Edge – Path 6, Modulation: MCS9, Bandwidth: 160 MHz



12:29:51 PM 04/21/2023

Upper Band Edge – Path 6, Modulation: MCS9, Bandwidth: 160 MHz

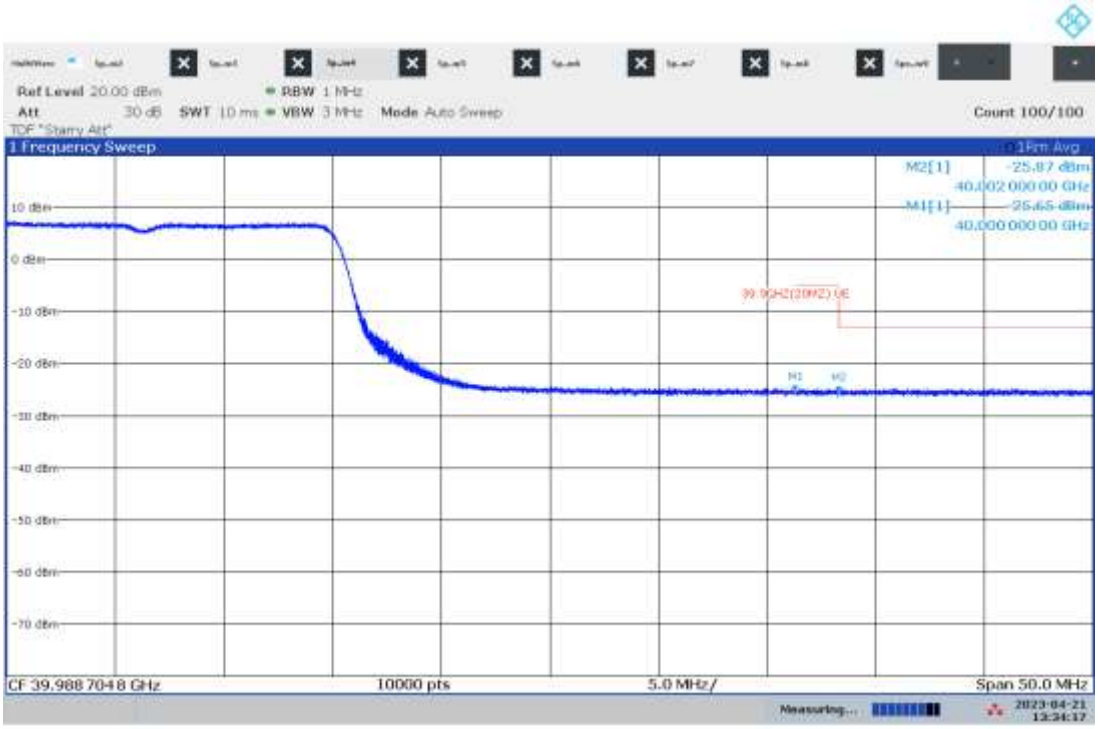


12:34:28 PM 04/21/2023

Lower Band Edge – Path 7, Modulation: MCS0, Bandwidth: 20 MHz

01:39:52 PM 04/21/2023

Upper Band Edge – Path 7, Modulation: MCS0, Bandwidth: 20 MHz

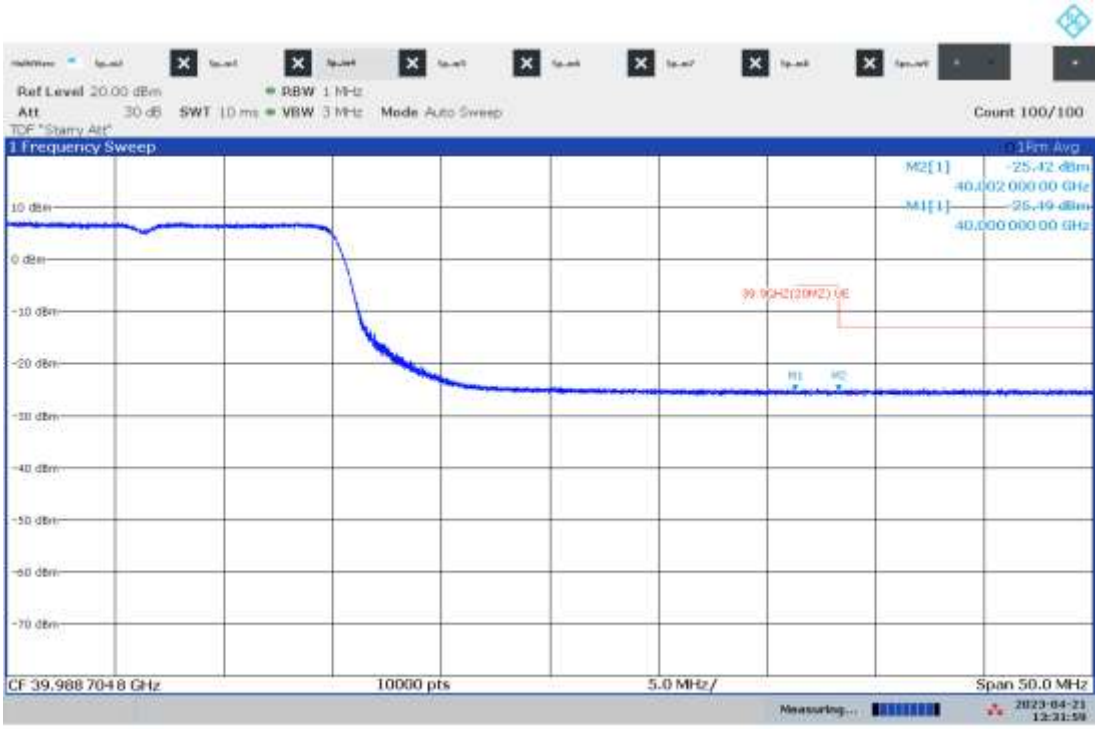


01:34:17 PM 04/21/2023

Lower Band Edge – Path 7, Modulation: MCS9, Bandwidth: 20 MHz

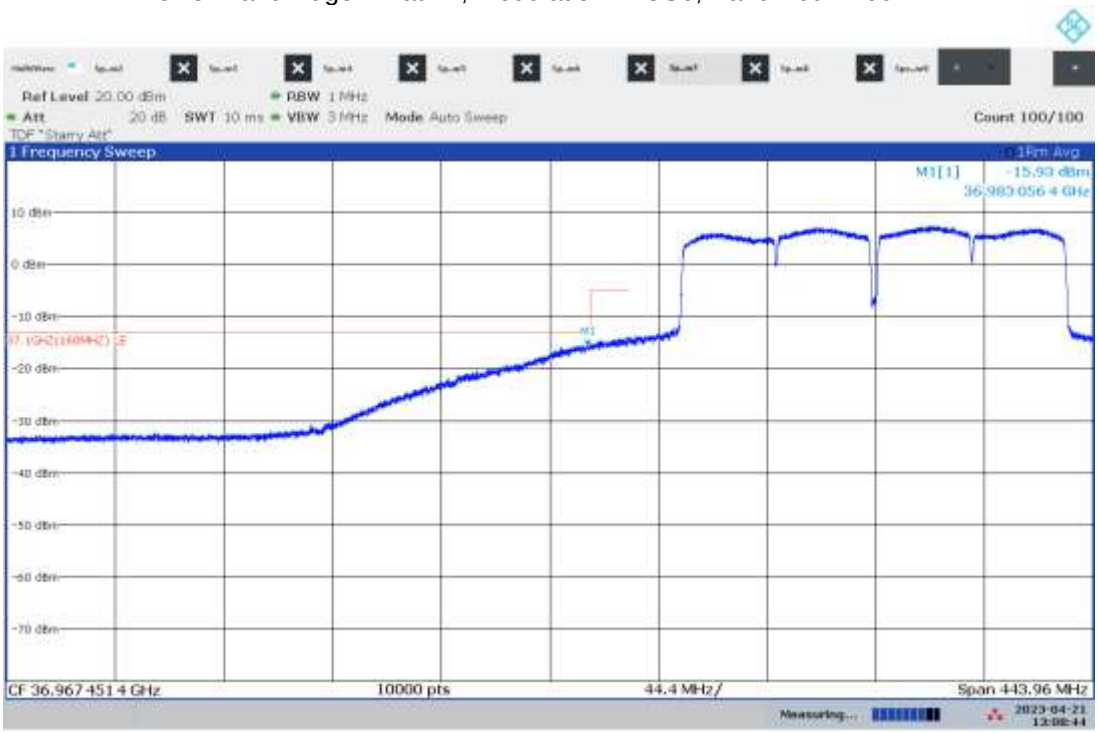
01:25:41 PM 04/21/2023

Upper Band Edge – Path 7, Modulation: MCS9, Bandwidth: 20 MHz



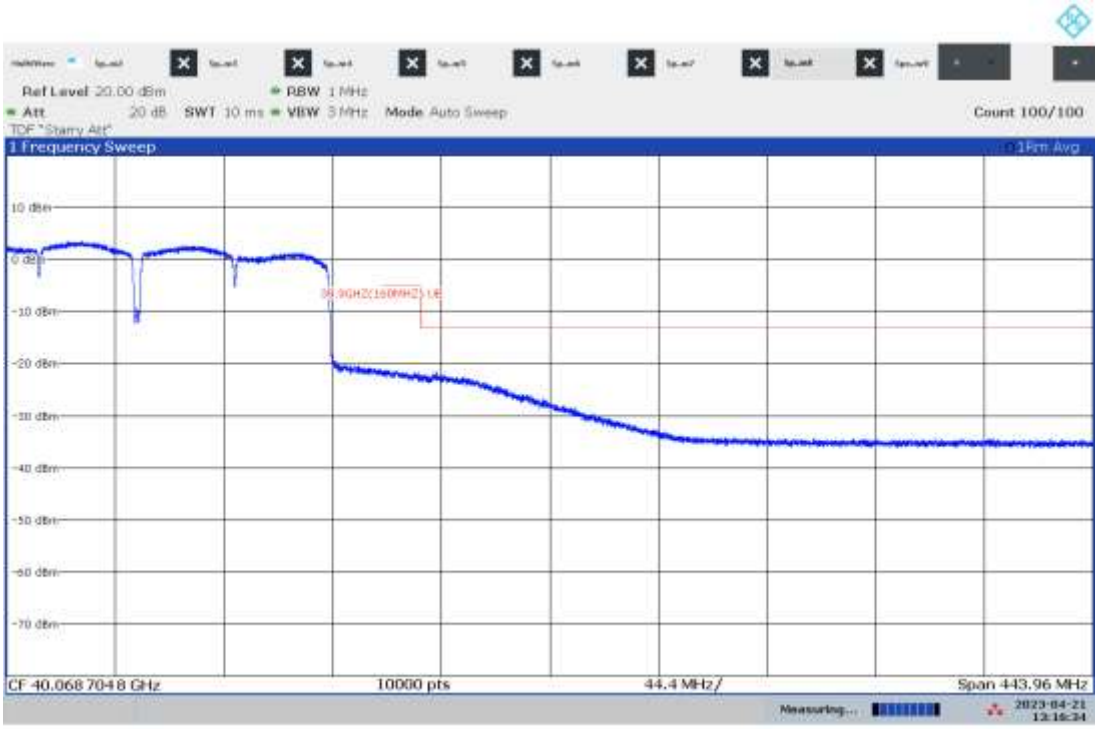
01:31:59 PM 04/21/2023

Lower Band Edge – Path 7, Modulation: MCS0, Bandwidth: 160 MHz



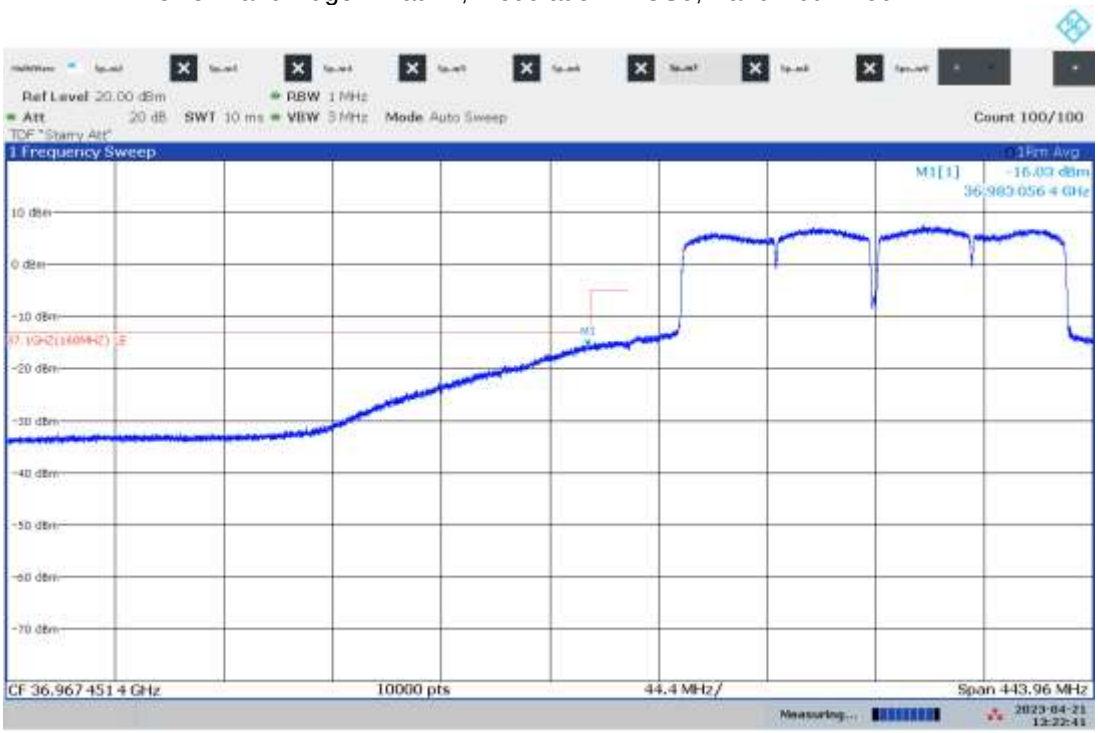
01:08:44 PM 04/21/2023

Path 7 – Upper Band Edge, Modulation MCS0, Bandwidth 160 MHz



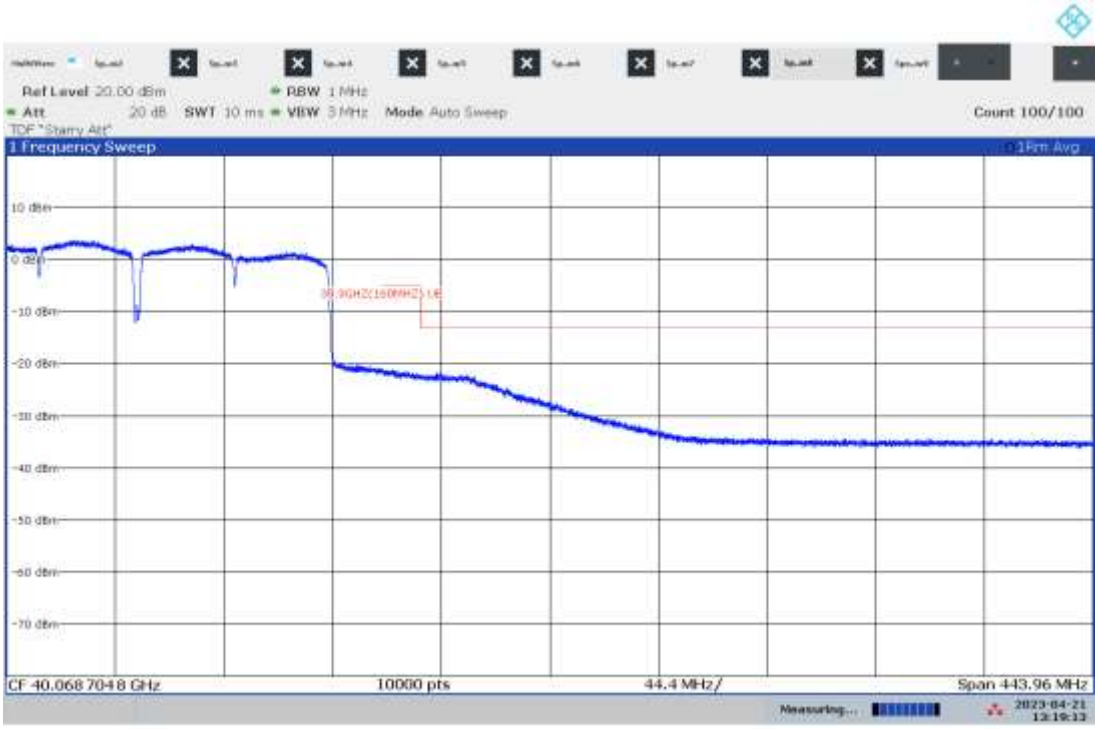
01:16:35 PM 04/21/2023

Lower Band Edge – Path 7, Modulation: MCS9, Bandwidth: 160 MHz



01:22:42 PM 04/21/2023

Upper Band Edge – Path 7, Modulation: MCS9, Bandwidth: 160 MHz

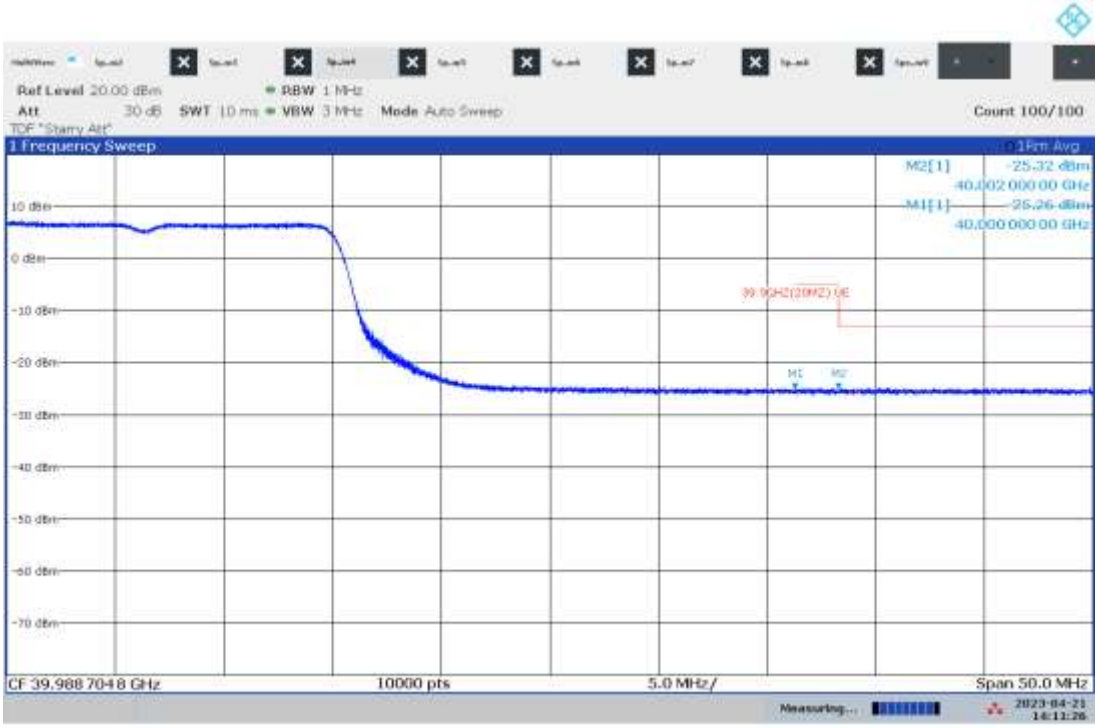


01:19:13 PM 04/21/2023

Lower Band Edge – Path 8, Modulation: MCS0, Bandwidth: 20 MHz

02:15:14 PM 04/21/2023

Upper Band Edge – Path 8, Modulation: MCS0, Bandwidth: 20 MHz

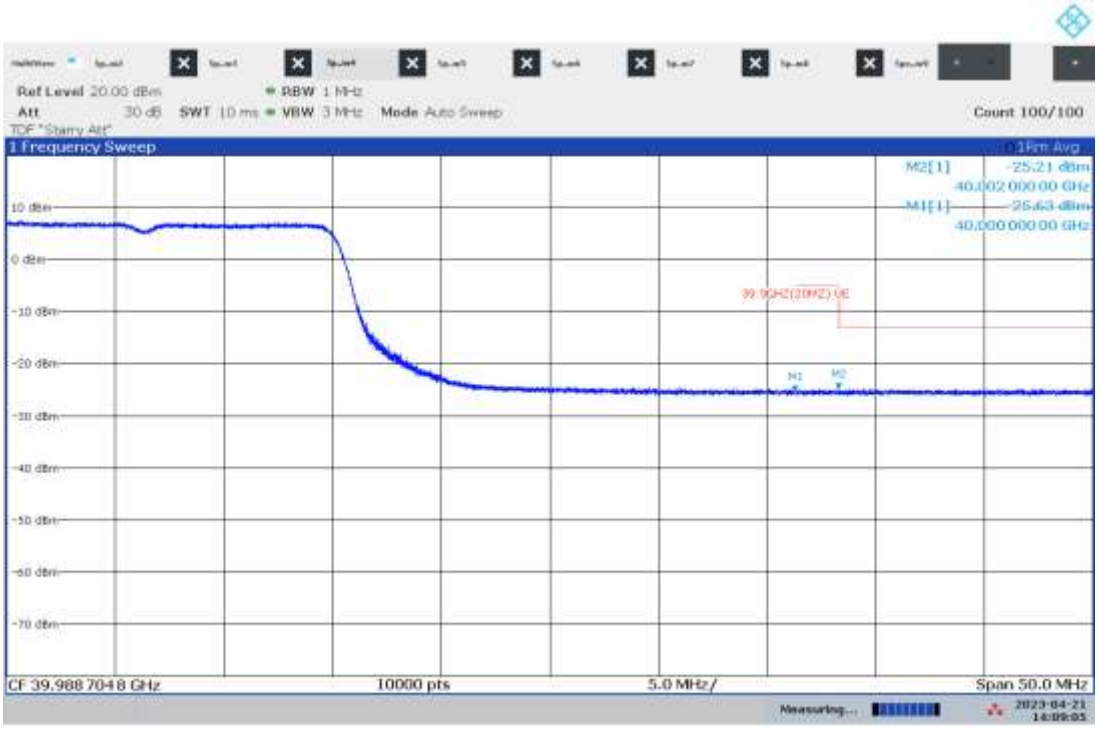


02:11:27 PM 04/21/2023

Lower Band Edge – Path 8, Modulation: MCS9, Bandwidth: 20 MHz

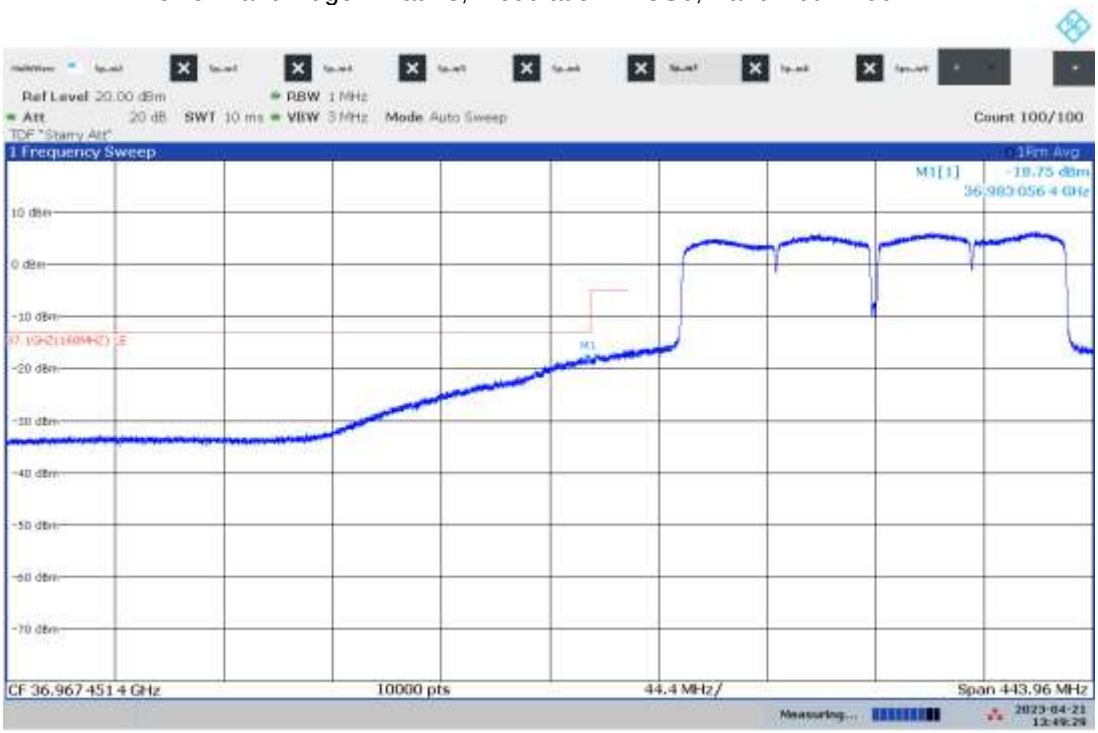
02:05:12 PM 04/21/2023

Upper Band Edge – Path 8, Modulation: MCS9, Bandwidth: 20 MHz



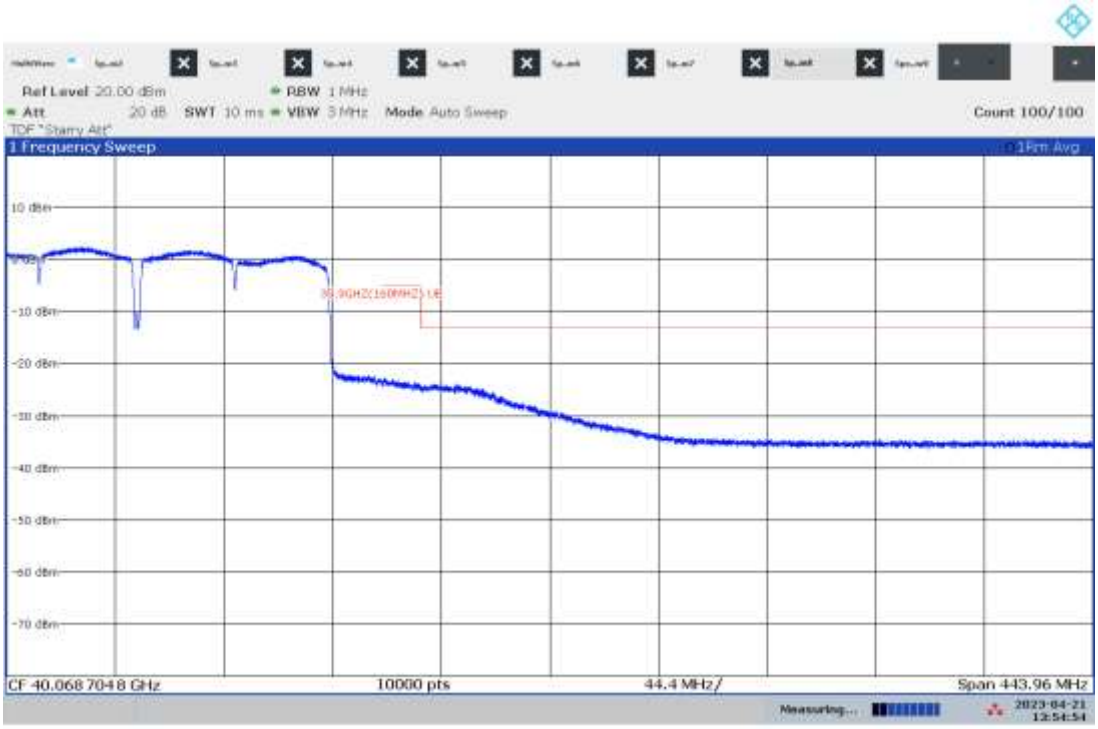
02:09:05 PM 04/21/2023

Lower Band Edge – Path 8, Modulation: MCS0, Bandwidth: 160 MHz



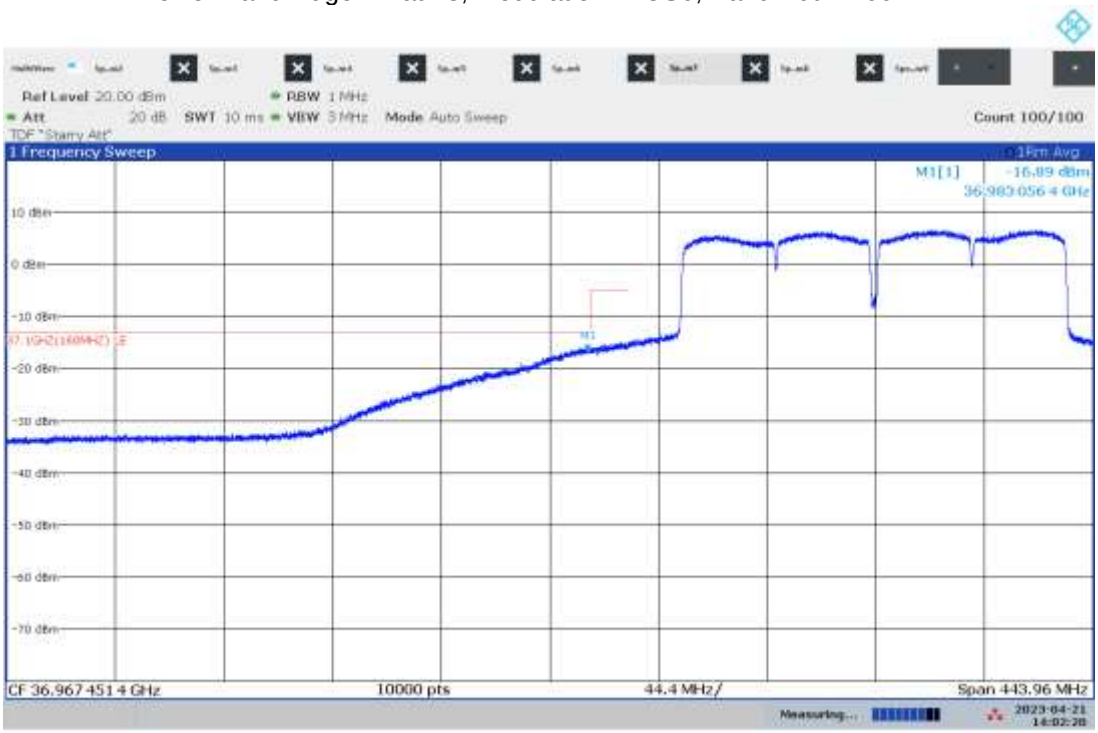
01:49:30 PM 04/21/2023

Upper Band Edge – Path 8, Modulation: MCS0, Bandwidth: 160 MHz



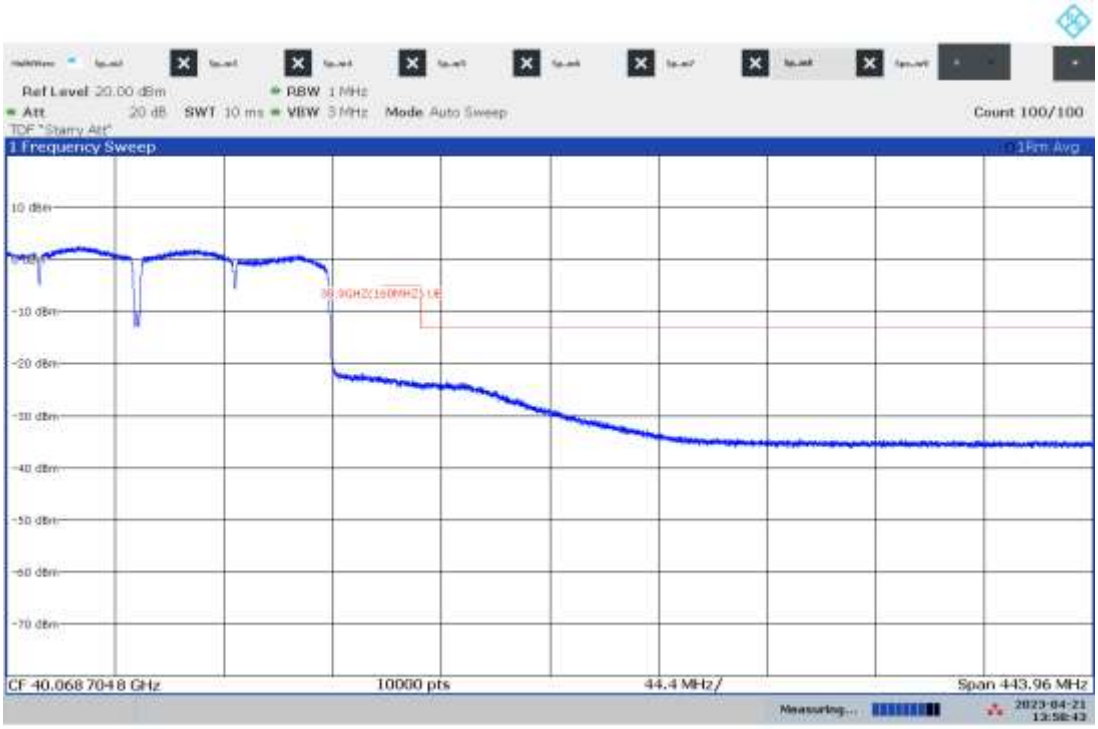
01:54:55 PM 04/21/2023

Lower Band Edge – Path 8, Modulation: MCS0, Bandwidth: 160 MHz



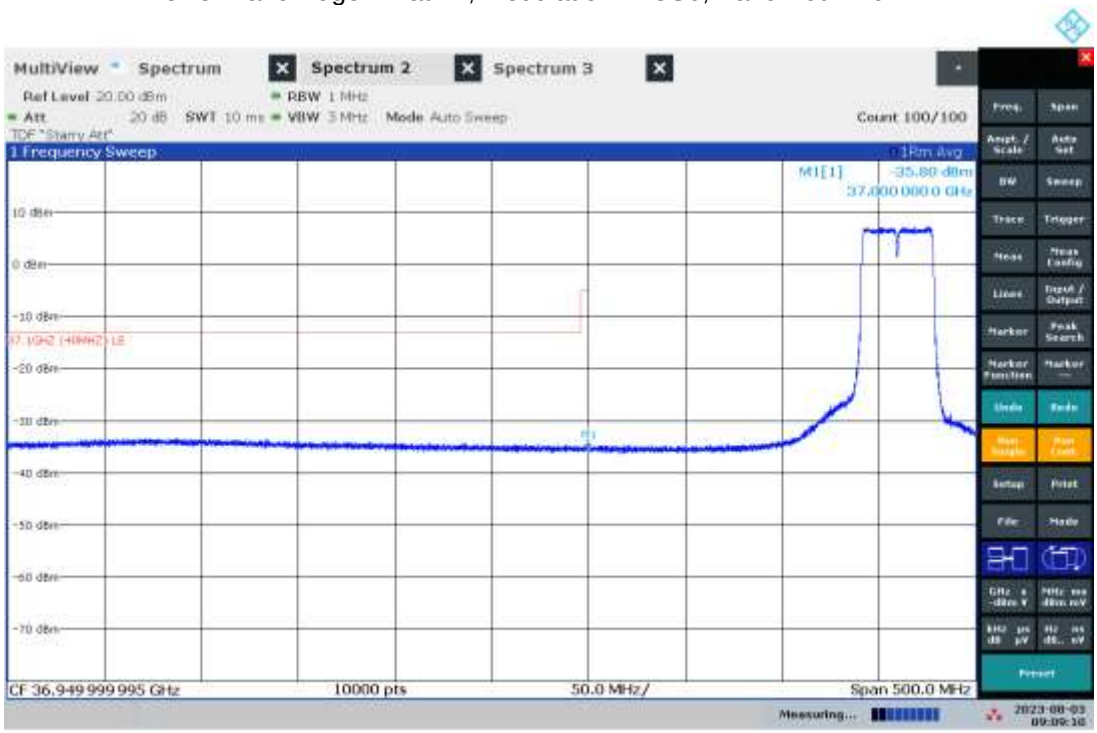
02:02:20 PM 04/21/2023

Upper Band Edge – Path 8, Modulation: MCS9, Bandwidth: 160 MHz

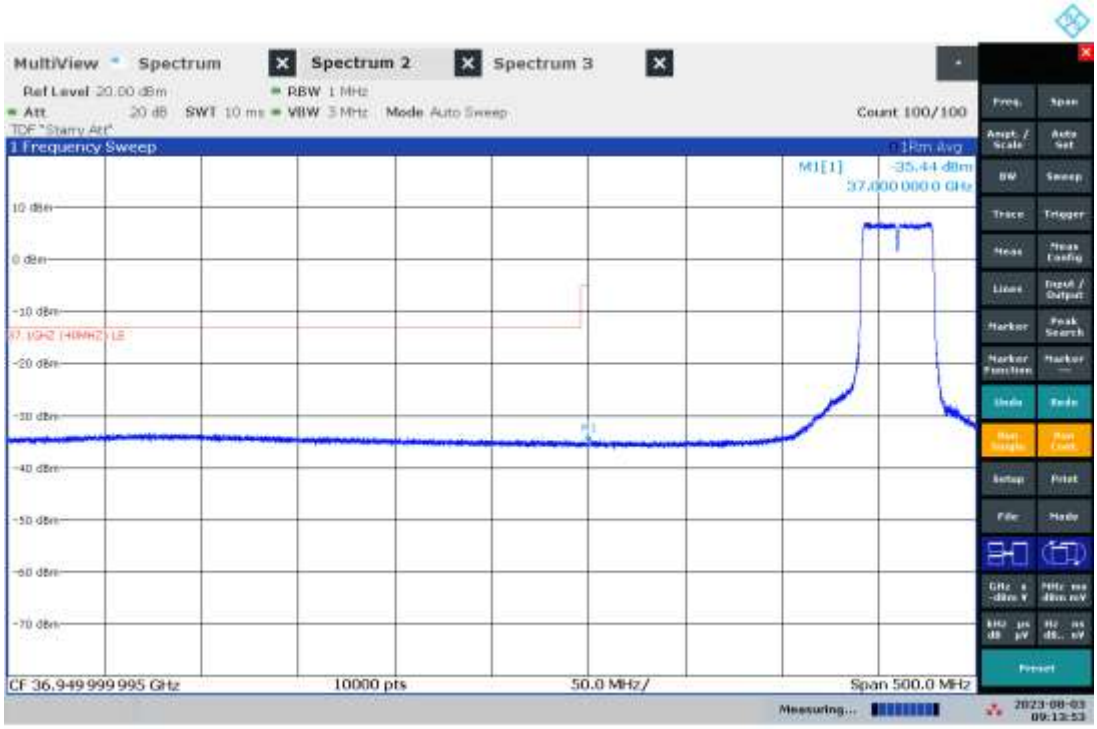


01:58:43 PM 04/21/2023

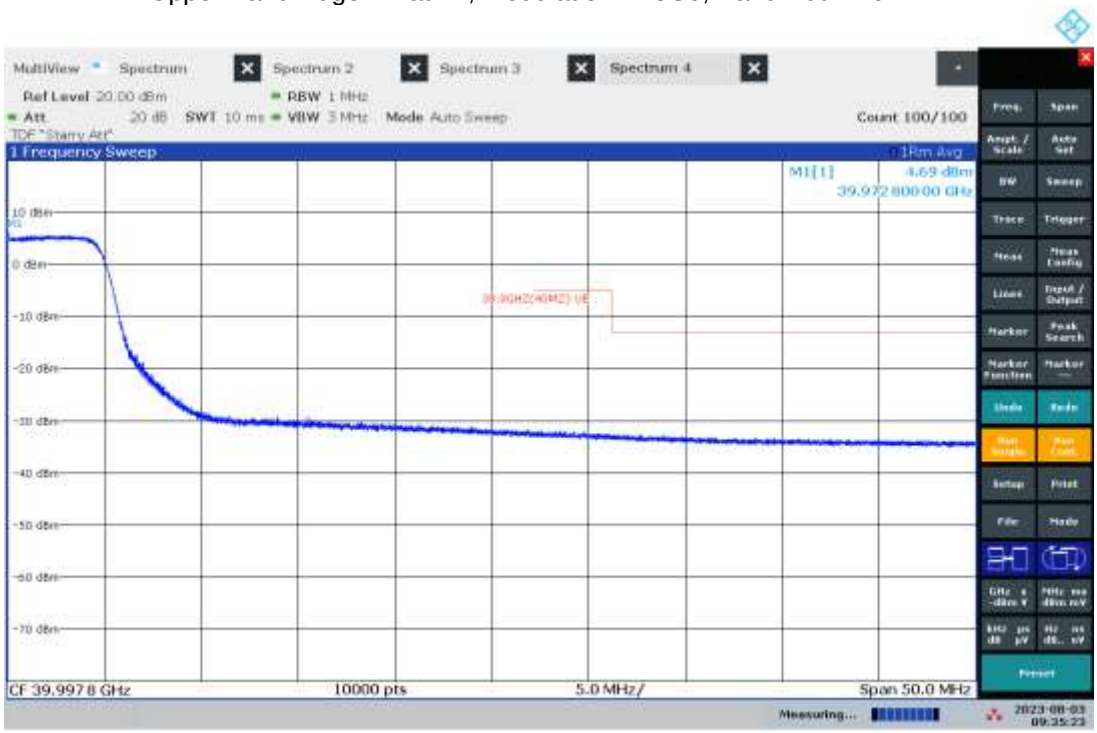
Lower Band Edge – Path 1, Modulation: MCS0, Bandwidth: 40 MHz



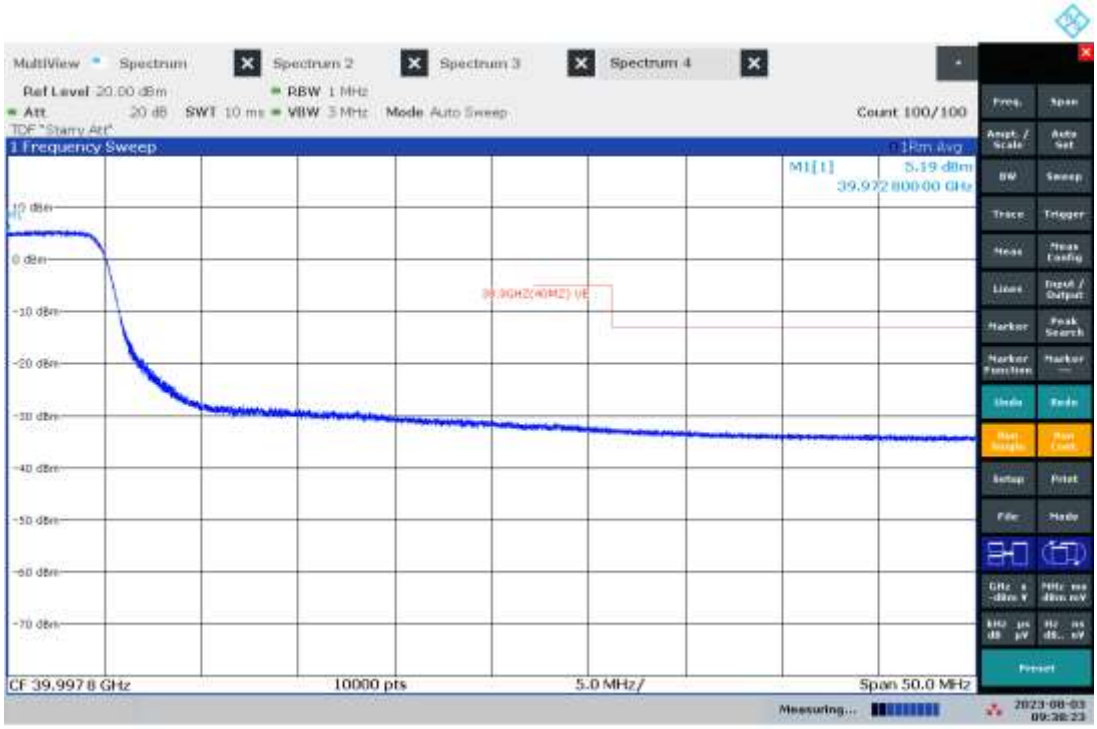
Upper Band Edge – Path 1, Modulation: MCS9, Bandwidth: 40 MHz



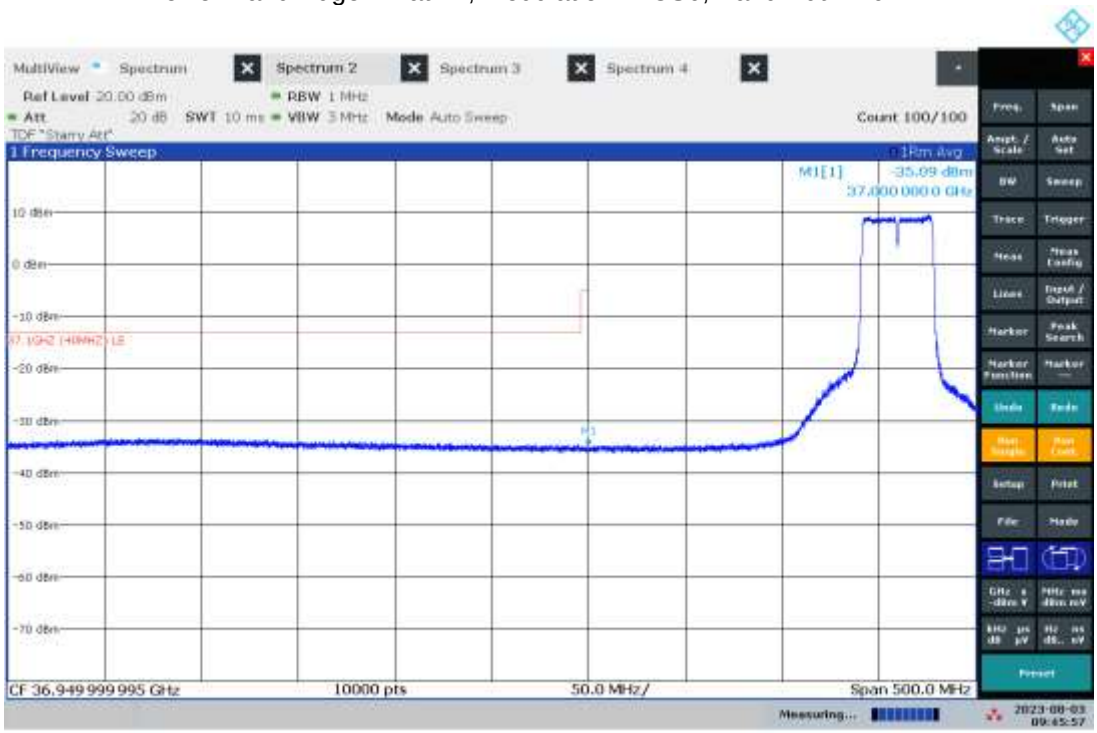
Upper Band Edge – Path 1, Modulation: MCS0, Bandwidth: 40 MHz



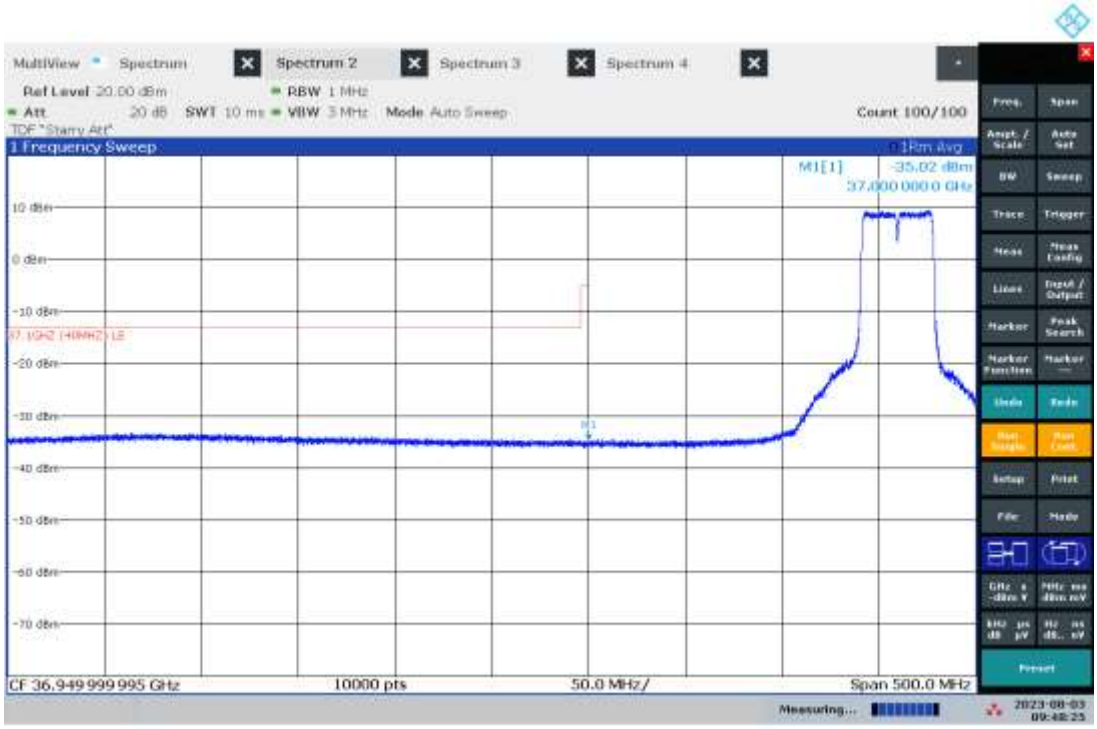
Upper Band Edge – Path 1, Modulation: MCS9, Bandwidth: 40 MHz



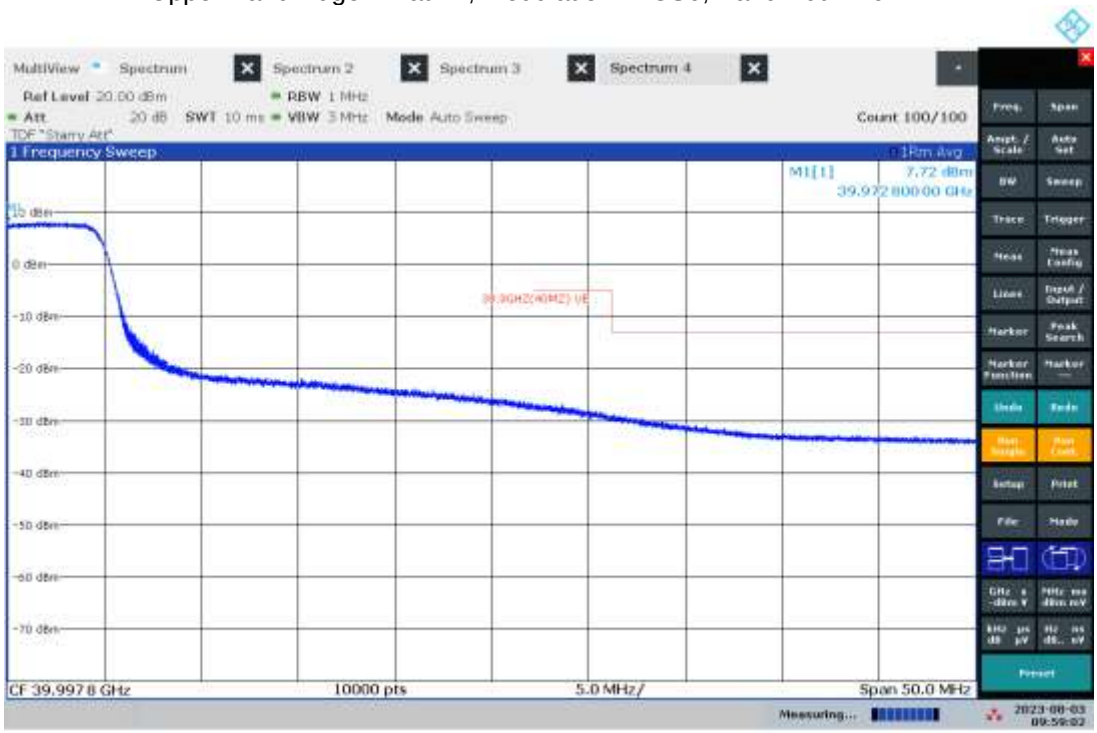
Lower Band Edge – Path 2, Modulation: MCS0, Bandwidth: 40 MHz



Lower Band Edge – Path 2, Modulation: MCS9, Bandwidth: 40 MHz

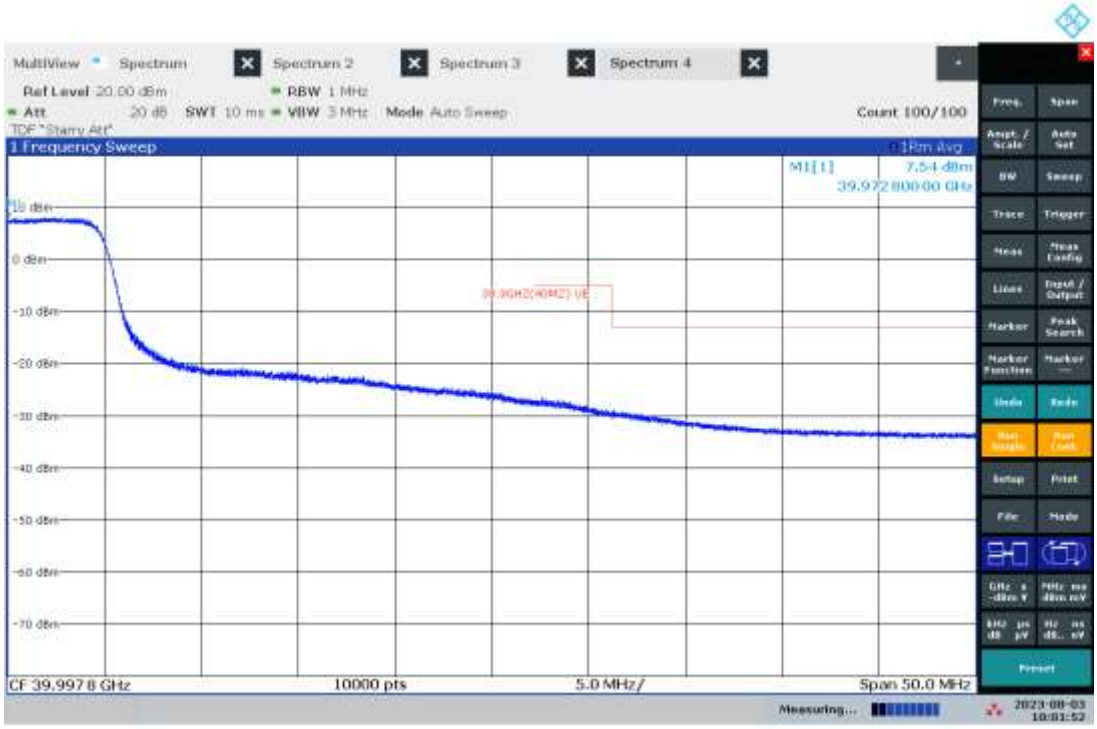


Upper Band Edge – Path 2, Modulation: MCS0, Bandwidth: 40 MHz



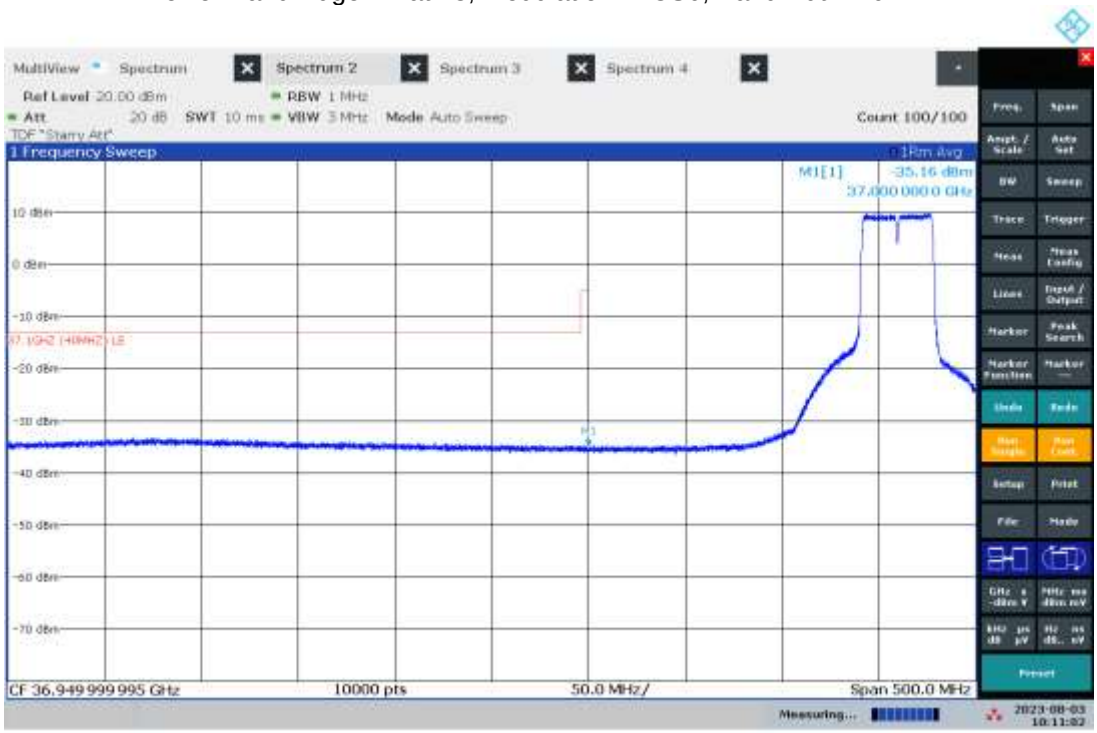
09:59:03 AM 08/03/2023

Upper Band Edge – Path 2, Modulation: MCS9, Bandwidth: 40 MHz



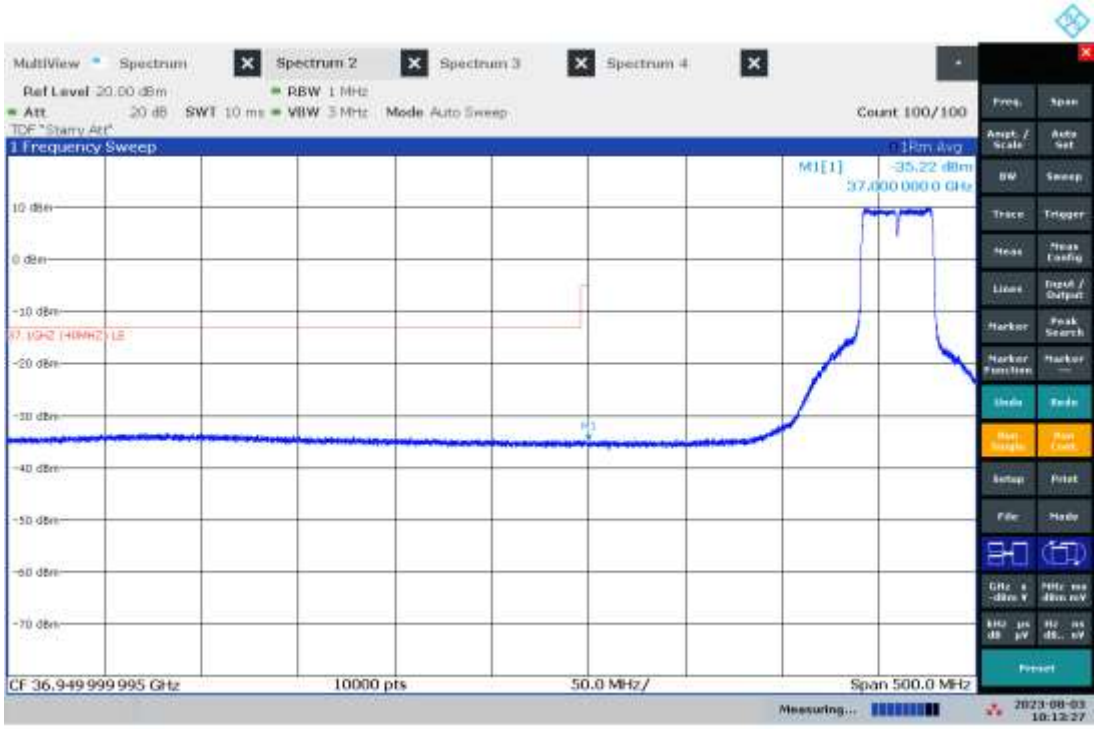
10:01:53 AM 08/03/2023

Lower Band Edge – Path 3, Modulation: MCS0, Bandwidth: 40 MHz



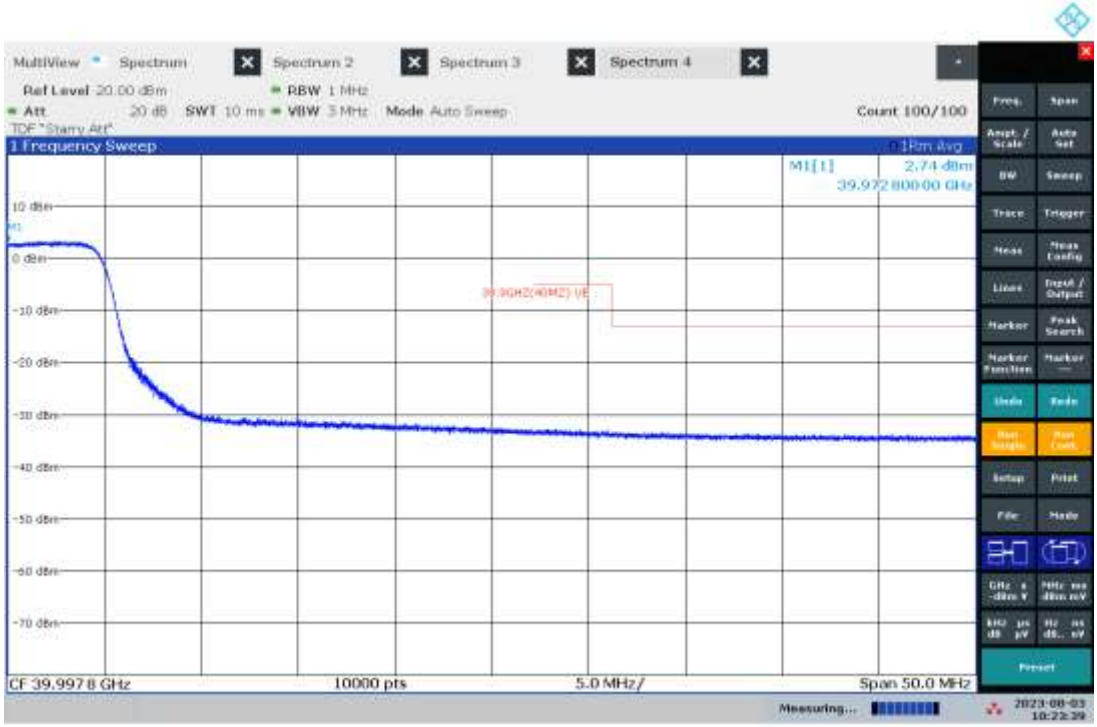
10:11:03 AM 08/03/2023

Lower Band Edge – Path 3, Modulation: MCS9, Bandwidth: 40 MHz

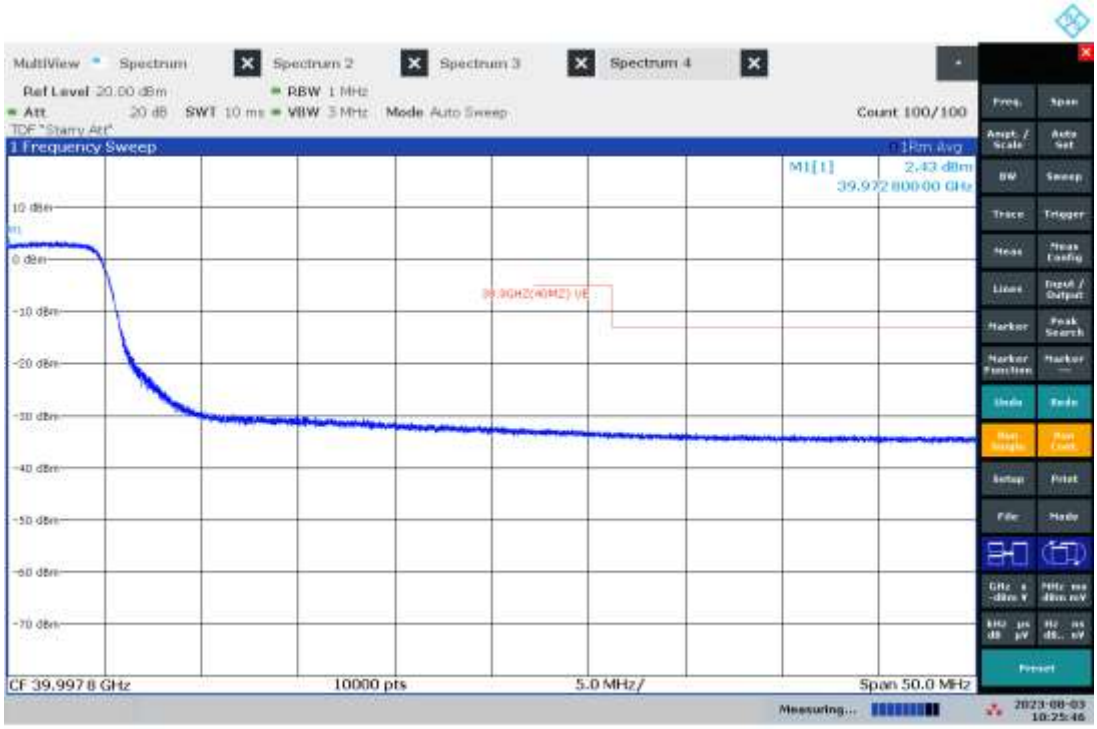


10:13:27 AM 08/03/2023

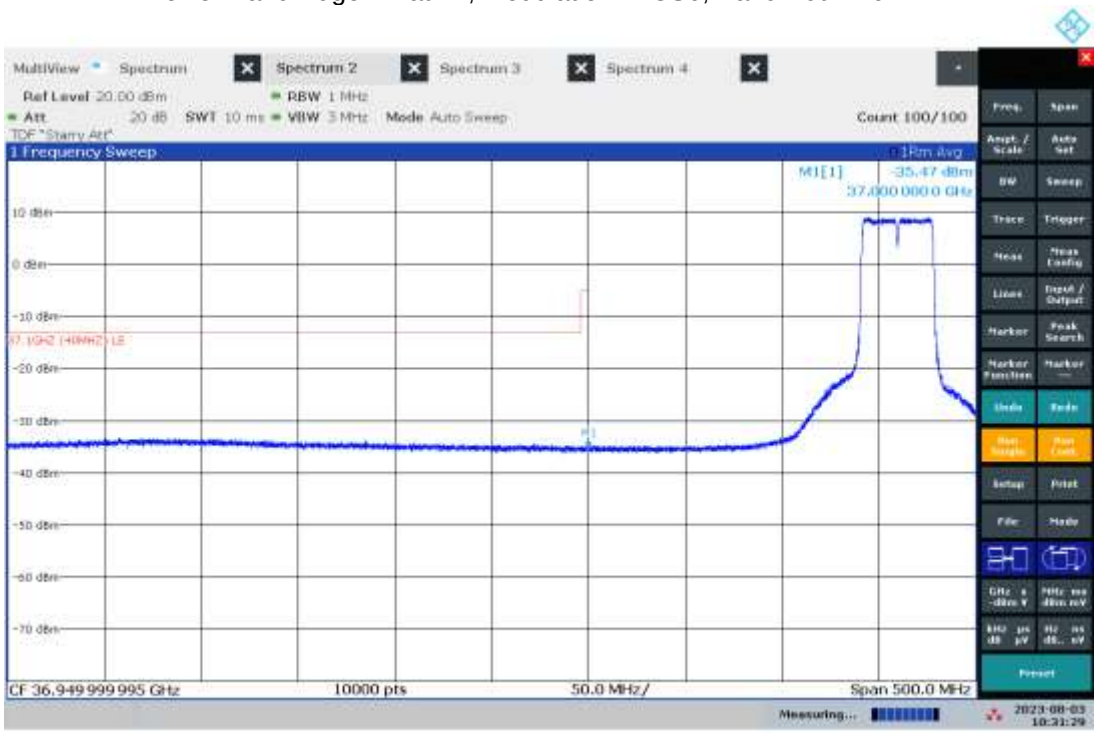
Upper Band Edge – Path 3, Modulation: MCS0, Bandwidth: 40 MHz



Upper Band Edge – Path 3, Modulation: MCS9, Bandwidth: 40 MHz

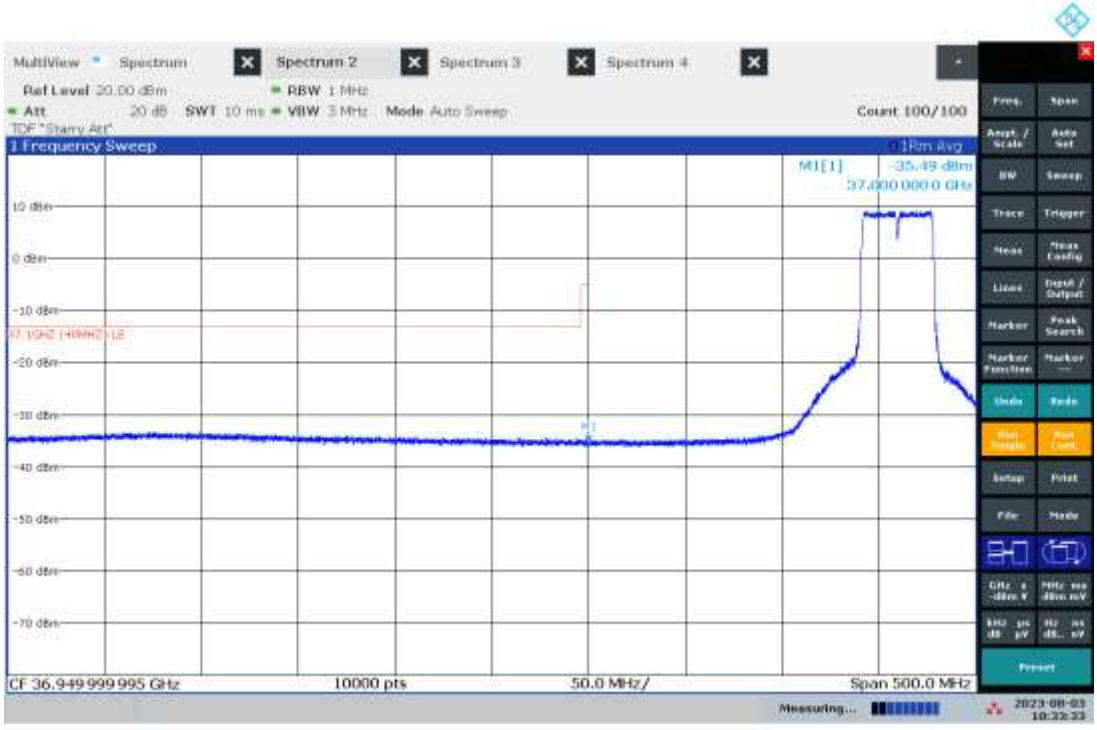


Lower Band Edge – Path 4, Modulation: MCS0, Bandwidth: 40 MHz



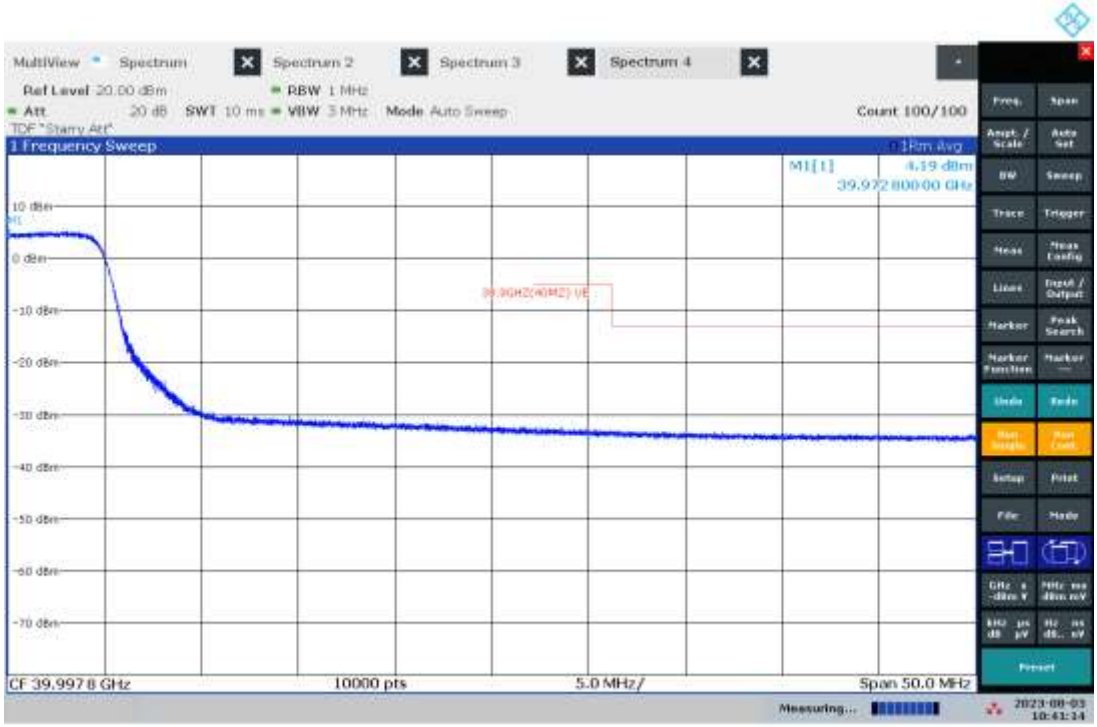
10:31:30 AM 08/03/2023

Lower Band Edge – Path 4, Modulation: MCS9, Bandwidth: 40 MHz

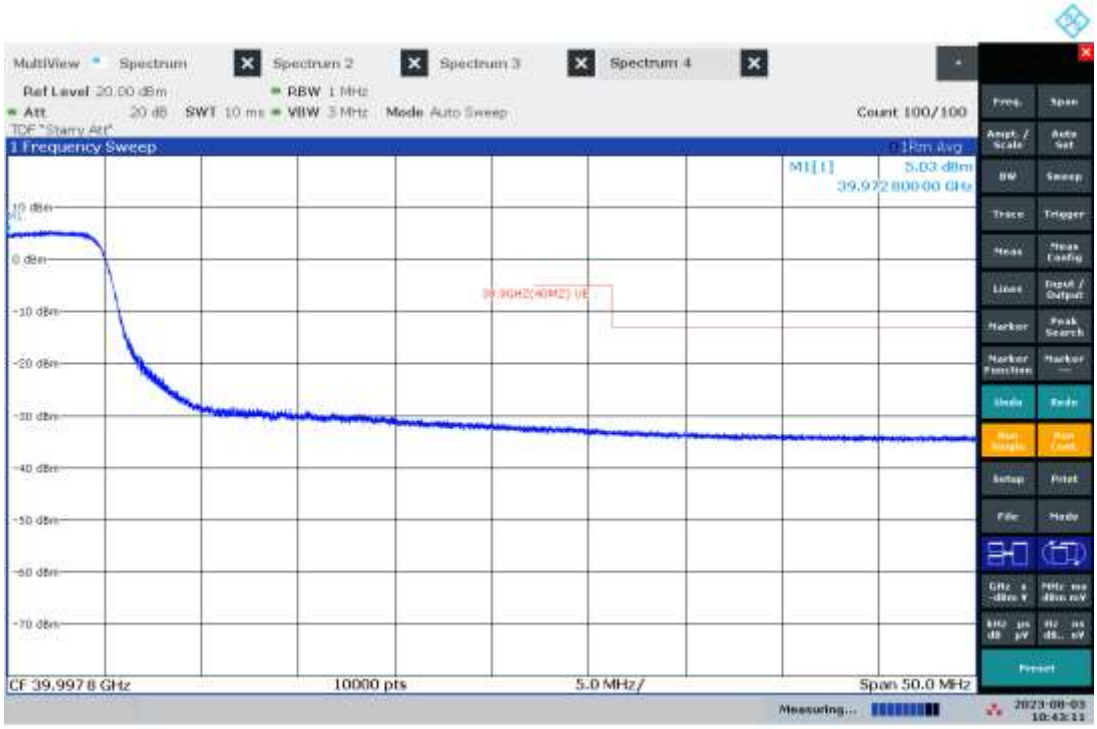


10:33:33 AM 08/03/2023

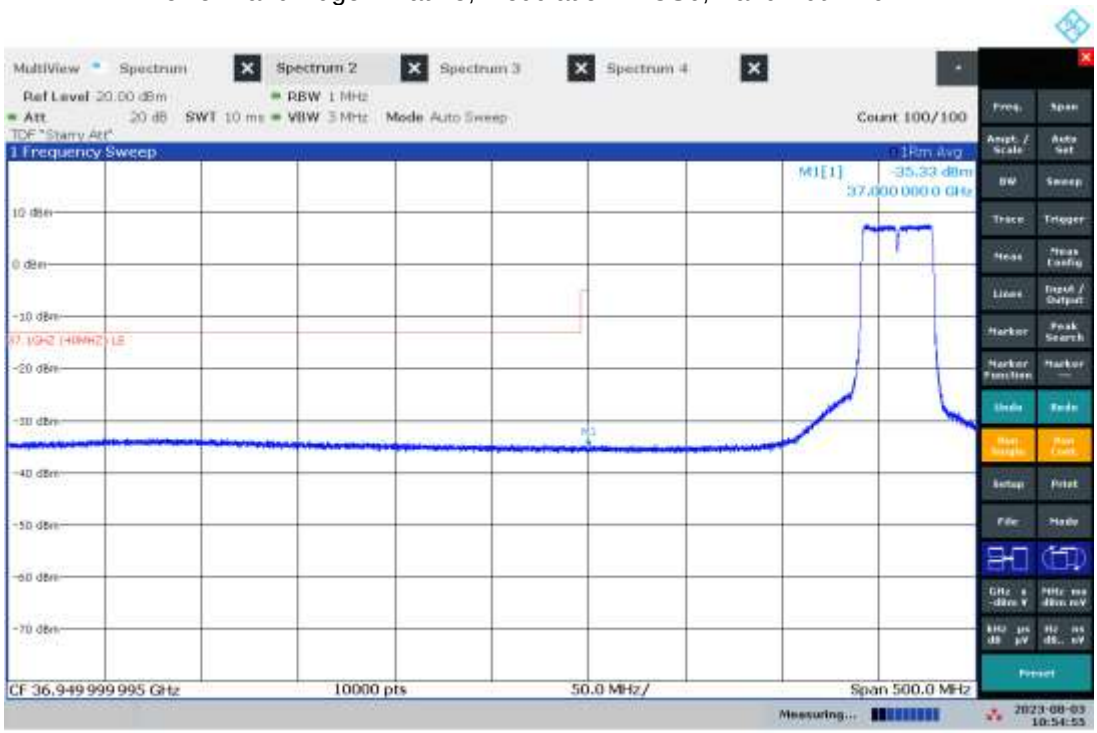
Upper Band Edge – Path 4, Modulation: MCS0, Bandwidth: 40 MHz



Upper Band Edge – Path 4, Modulation: MCS9, Bandwidth: 40 MHz

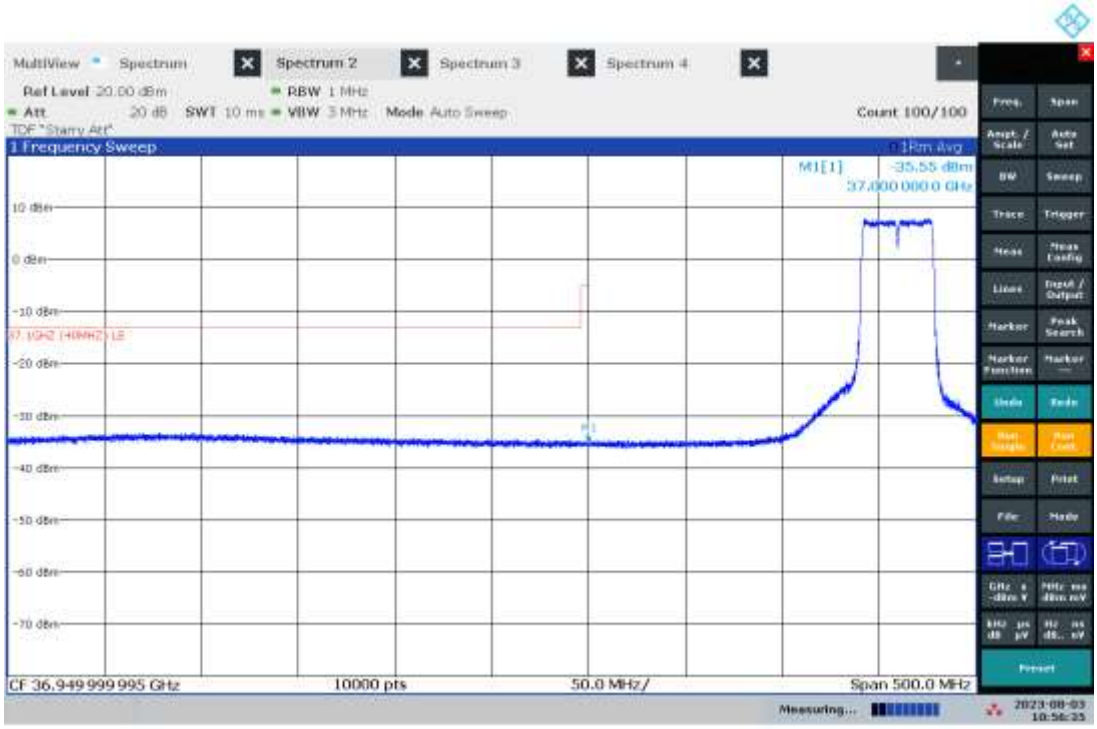


Lower Band Edge – Path 5, Modulation: MCS0, Bandwidth: 40 MHz



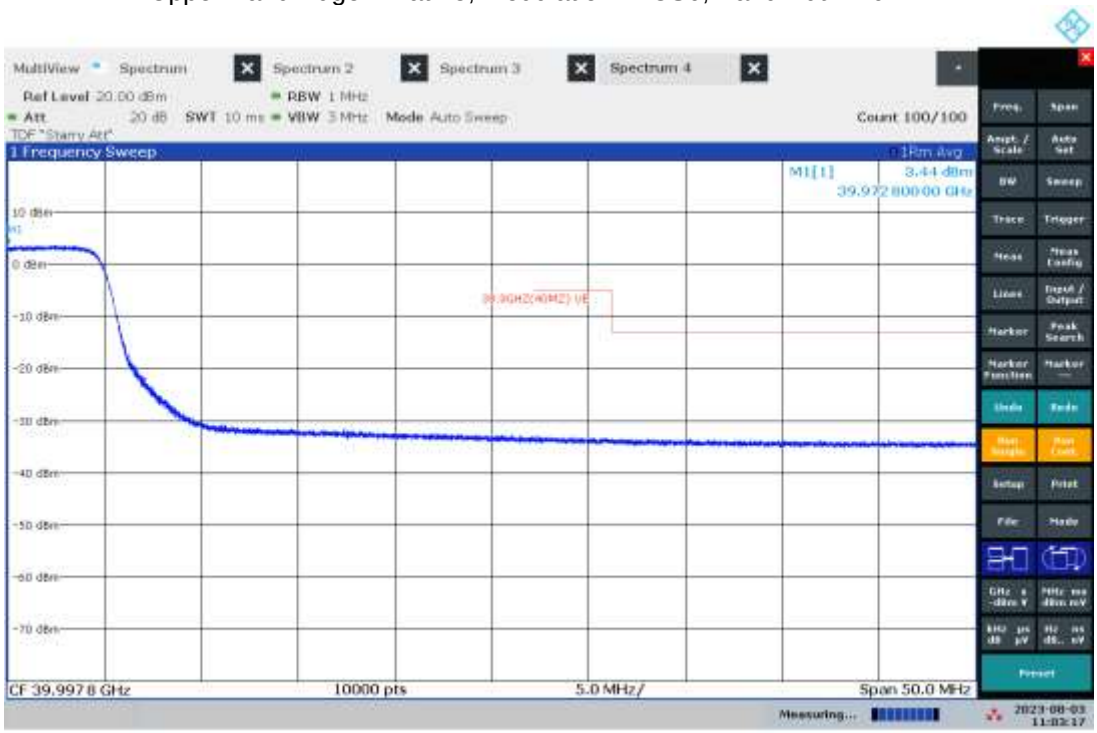
10:54:55 AM 08/03/2023

Lower Band Edge – Path 5, Modulation: MCS9, Bandwidth: 40 MHz

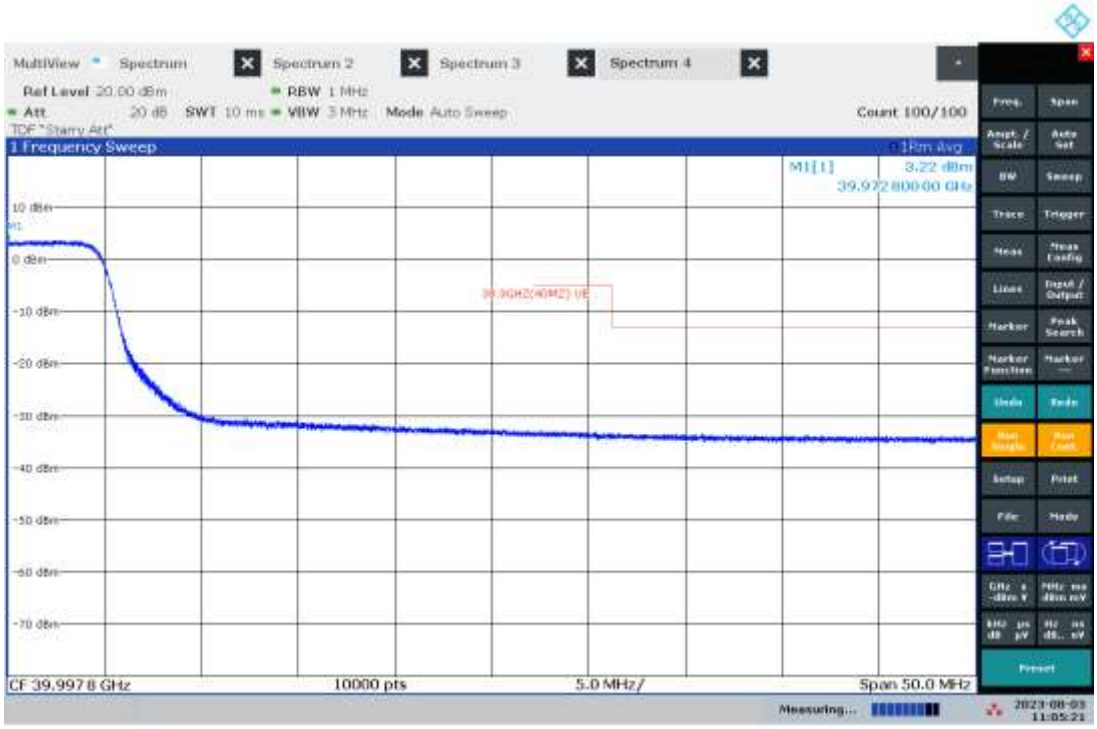


10:56:35 AM 08/03/2023

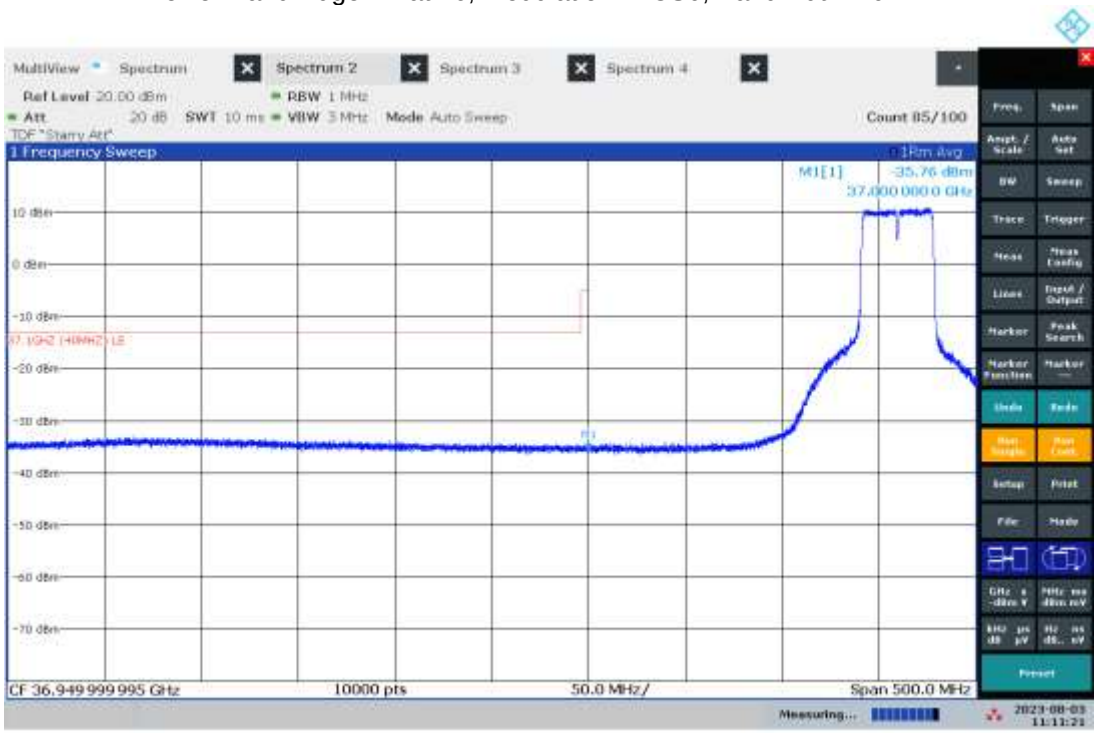
Upper Band Edge – Path 5, Modulation: MCS0, Bandwidth: 40 MHz



Upper Band Edge – Path 5, Modulation: MCS9, Bandwidth: 40 MHz

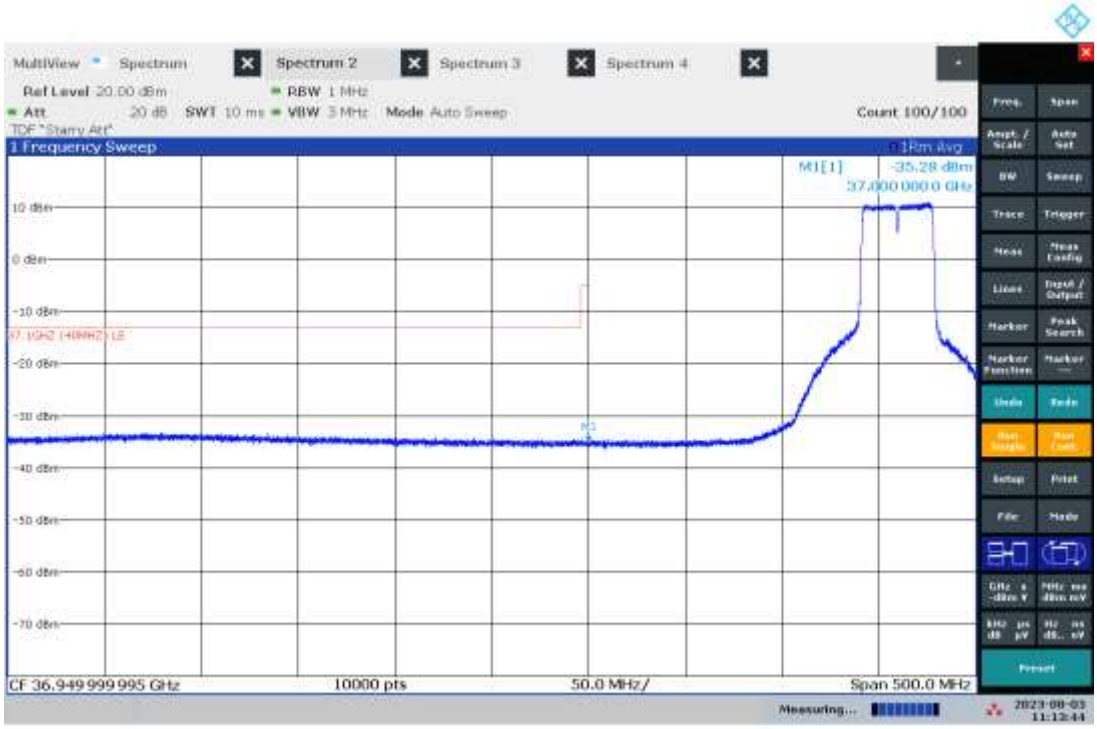


Lower Band Edge – Path 6, Modulation: MCS0, Bandwidth: 40 MHz



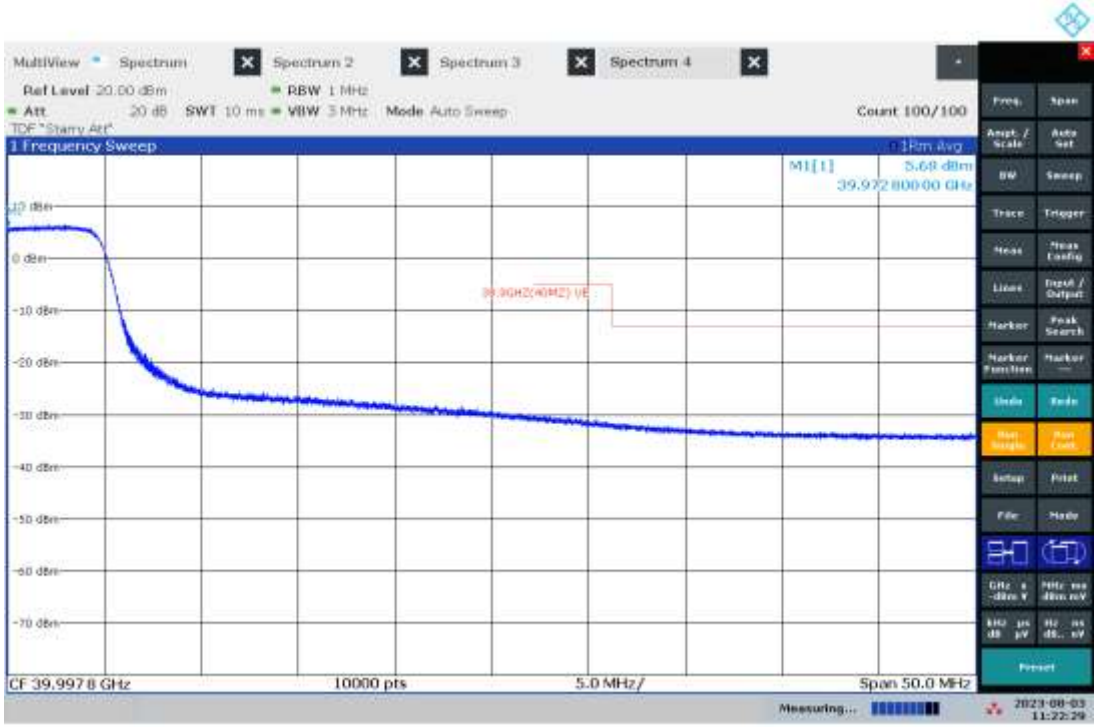
11:11:22 AM 08/03/2023

Lower Band Edge – Path 6, Modulation: MCS9, Bandwidth: 40 MHz

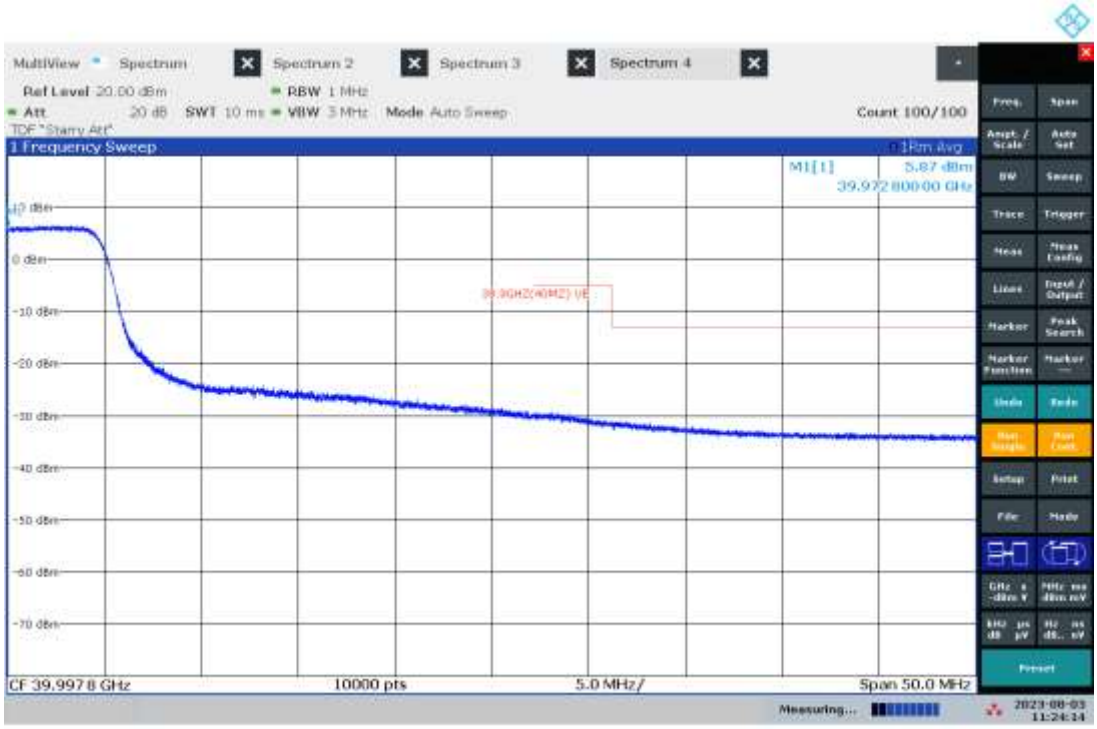


11:13:44 AM 08/03/2023

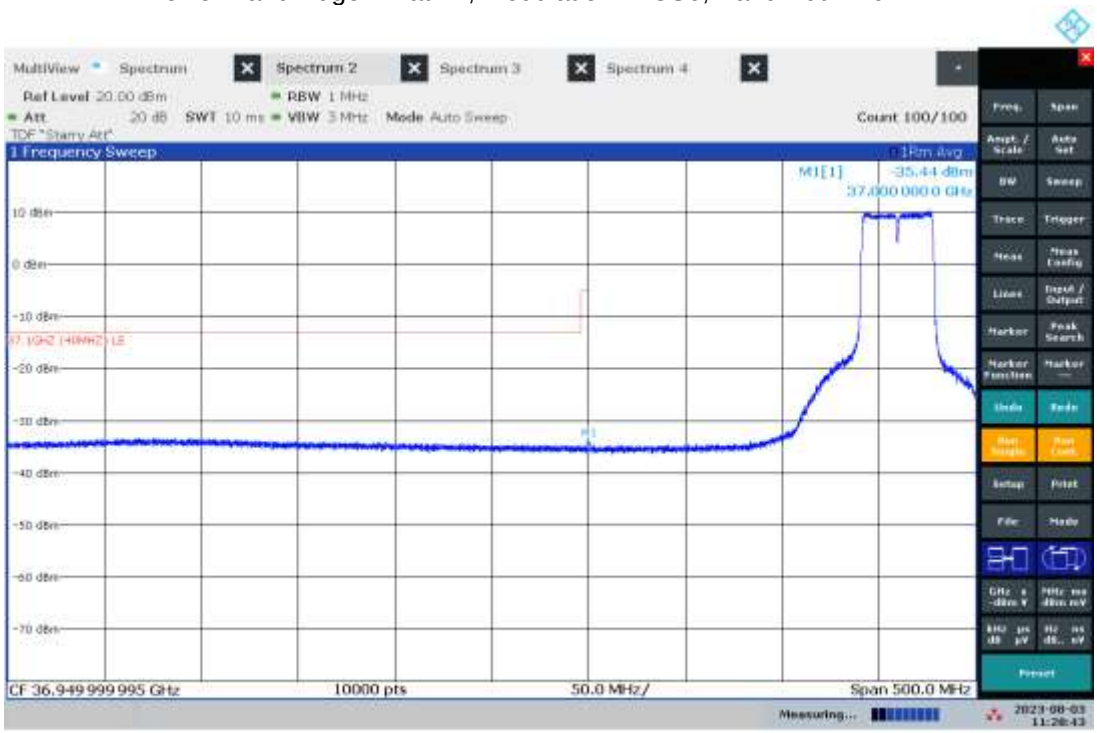
Upper Band Edge – Path 6, Modulation: MCS0, Bandwidth: 40 MHz



Upper Band Edge – Path 6, Modulation: MCS9, Bandwidth: 40 MHz

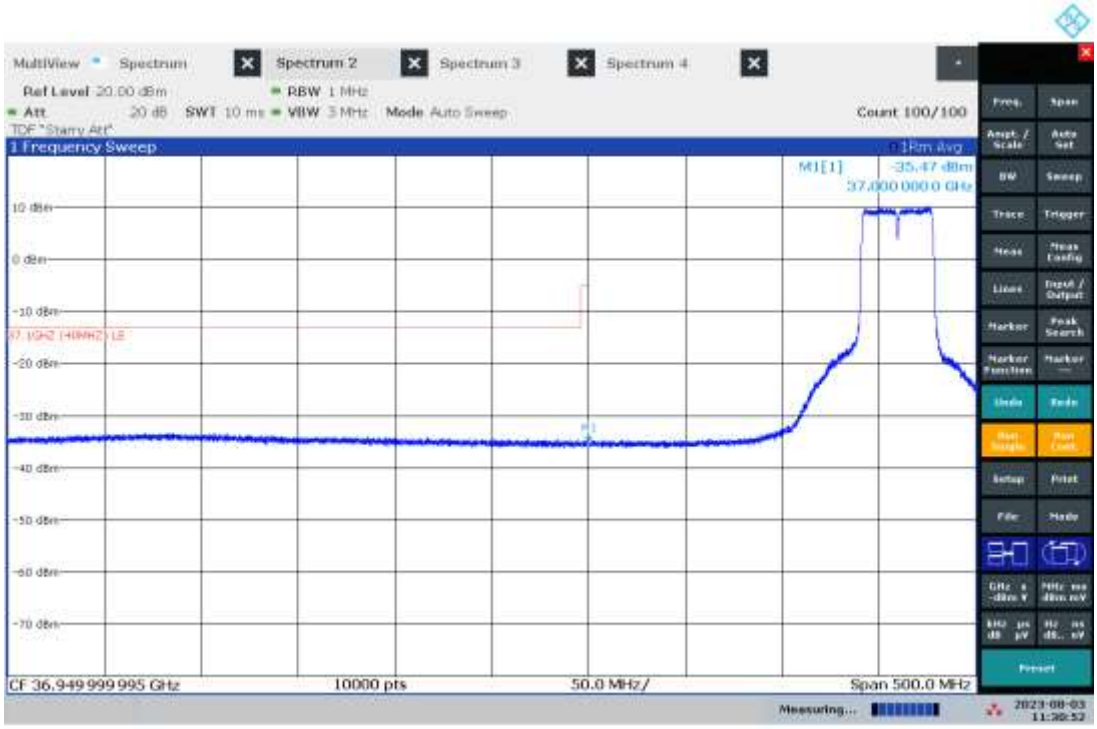


Lower Band Edge – Path 7, Modulation: MCS0, Bandwidth: 40 MHz



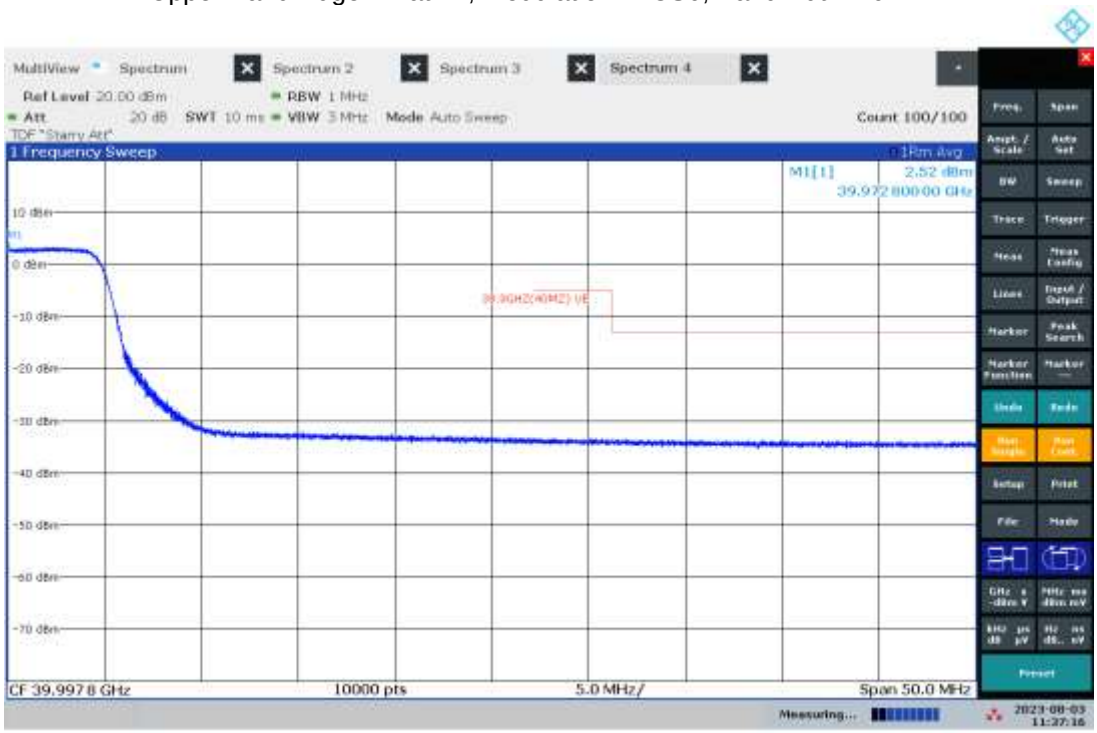
11:28:43 AM 08/03/2023

Lower Band Edge – Path 7, Modulation: MCS9, Bandwidth: 40 MHz

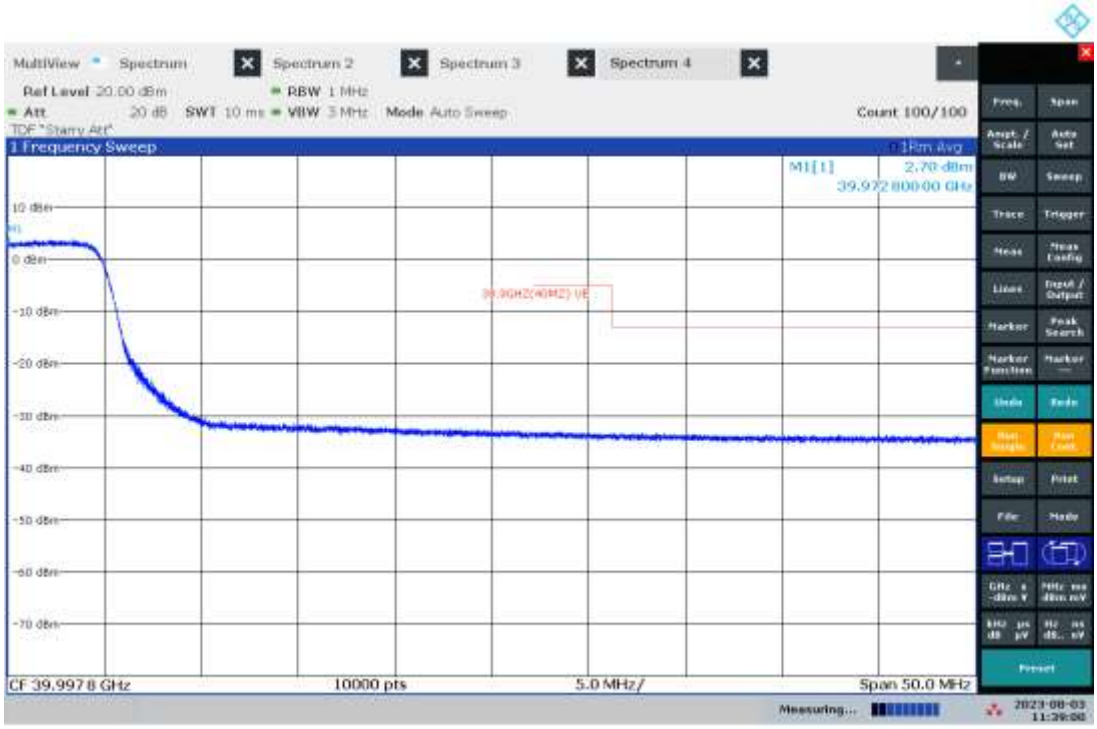


11:30:52 AM 08/03/2023

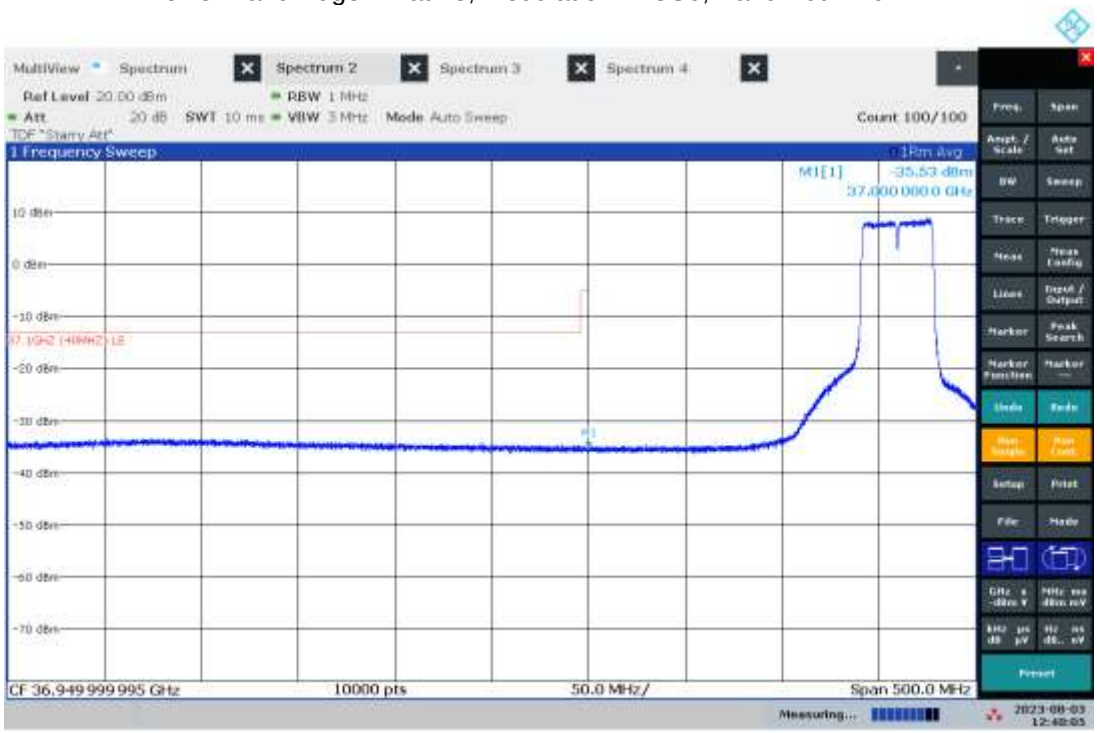
Upper Band Edge – Path 7, Modulation: MCS0, Bandwidth: 40 MHz



Upper Band Edge – Path 7, Modulation: MCS9, Bandwidth: 40 MHz

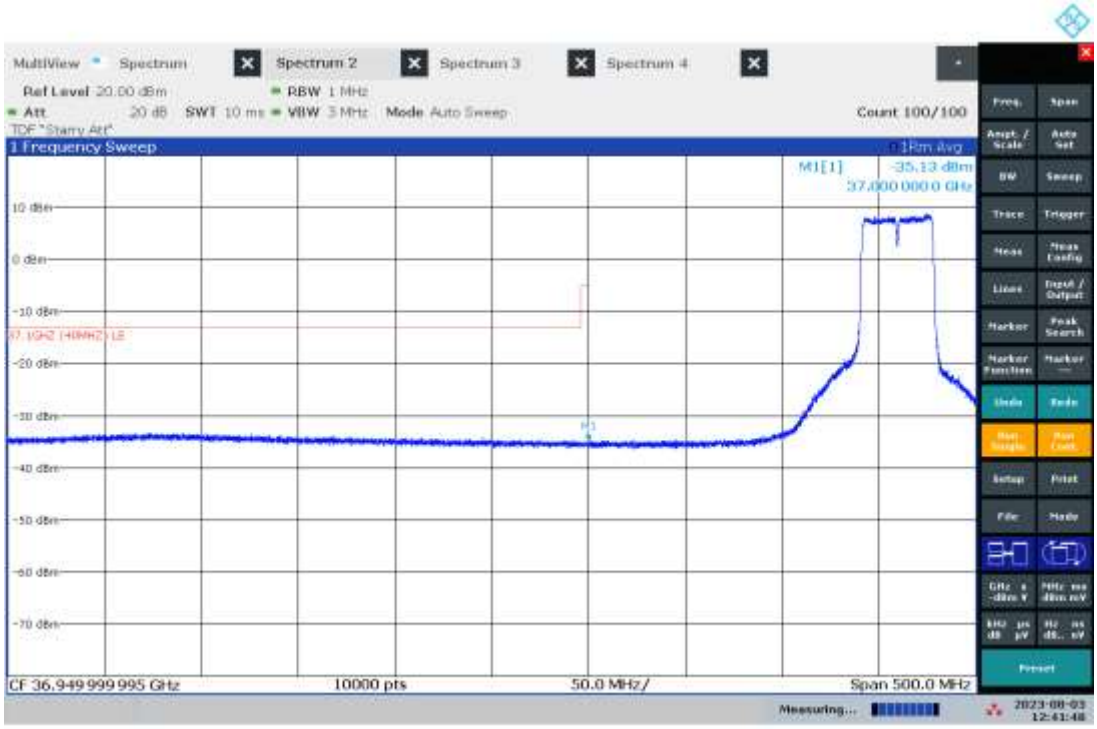


Lower Band Edge – Path 8, Modulation: MCS0, Bandwidth: 40 MHz



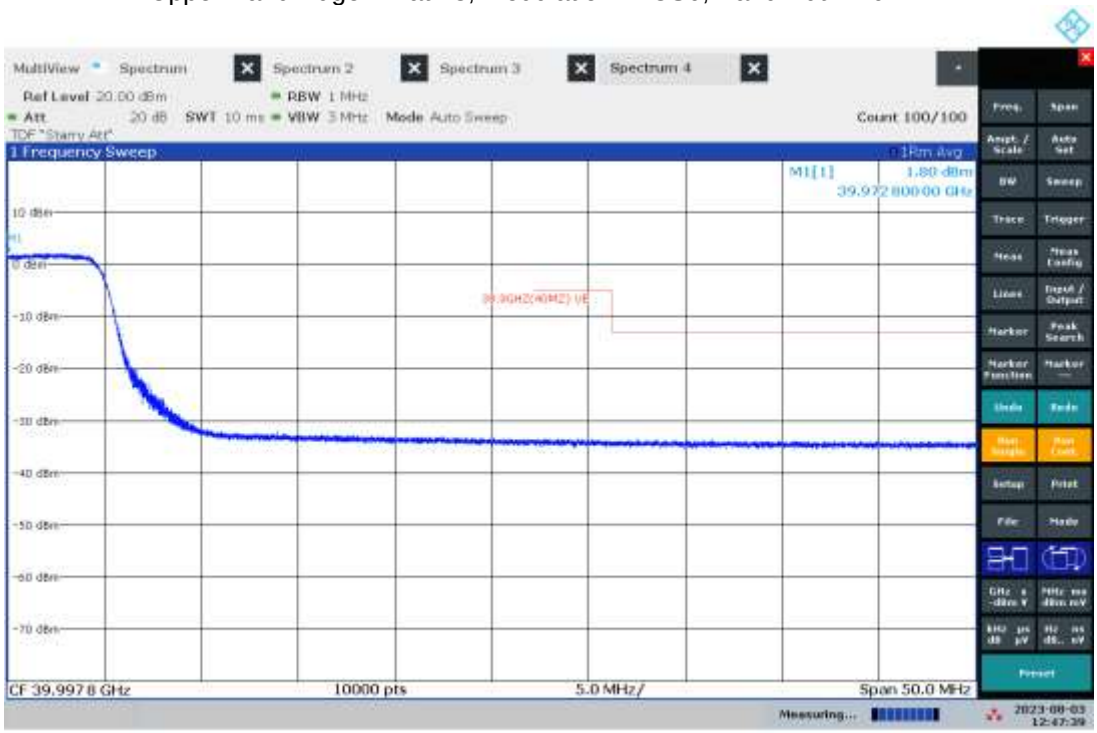
12:40:06 PM 08/03/2023

Lower Band Edge – Path 8, Modulation: MCS9, Bandwidth: 40 MHz

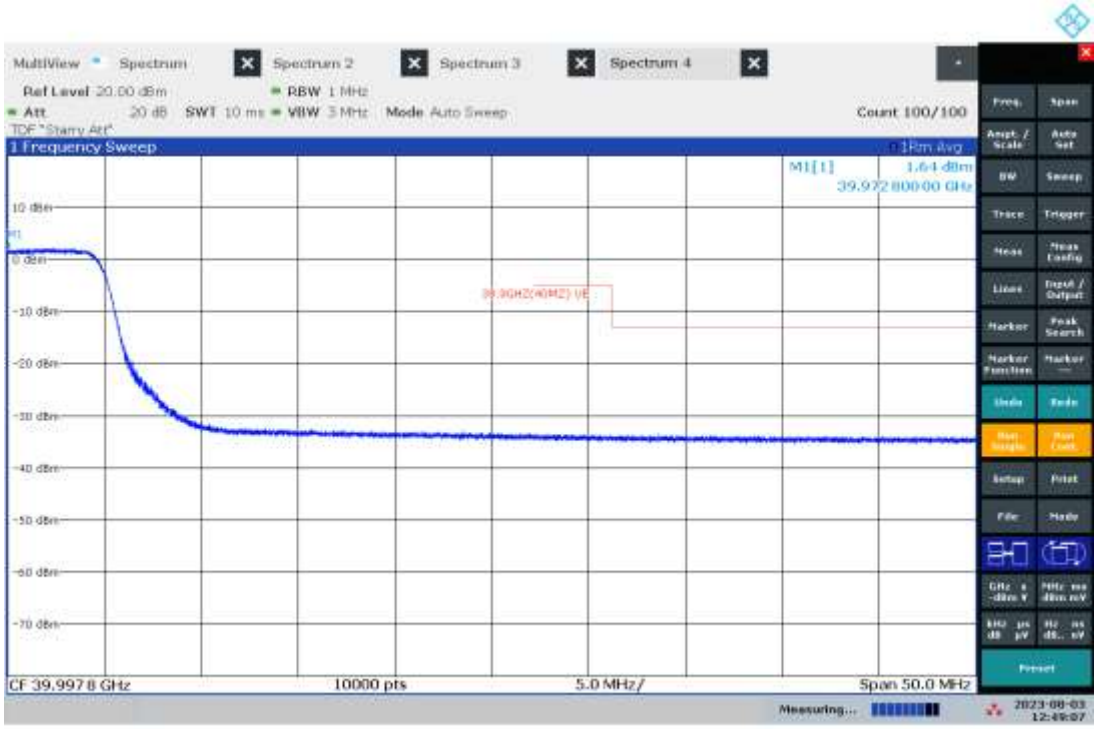


12:41:48 PM 08/03/2023

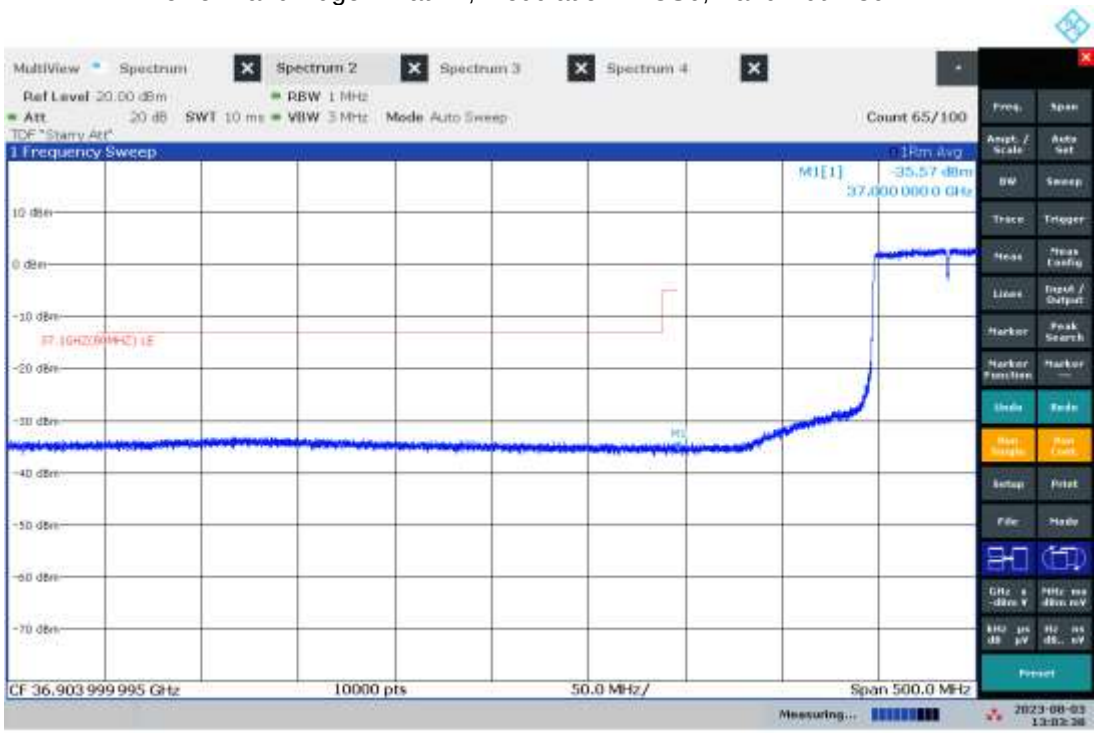
Upper Band Edge – Path 8, Modulation: MCS0, Bandwidth: 40 MHz



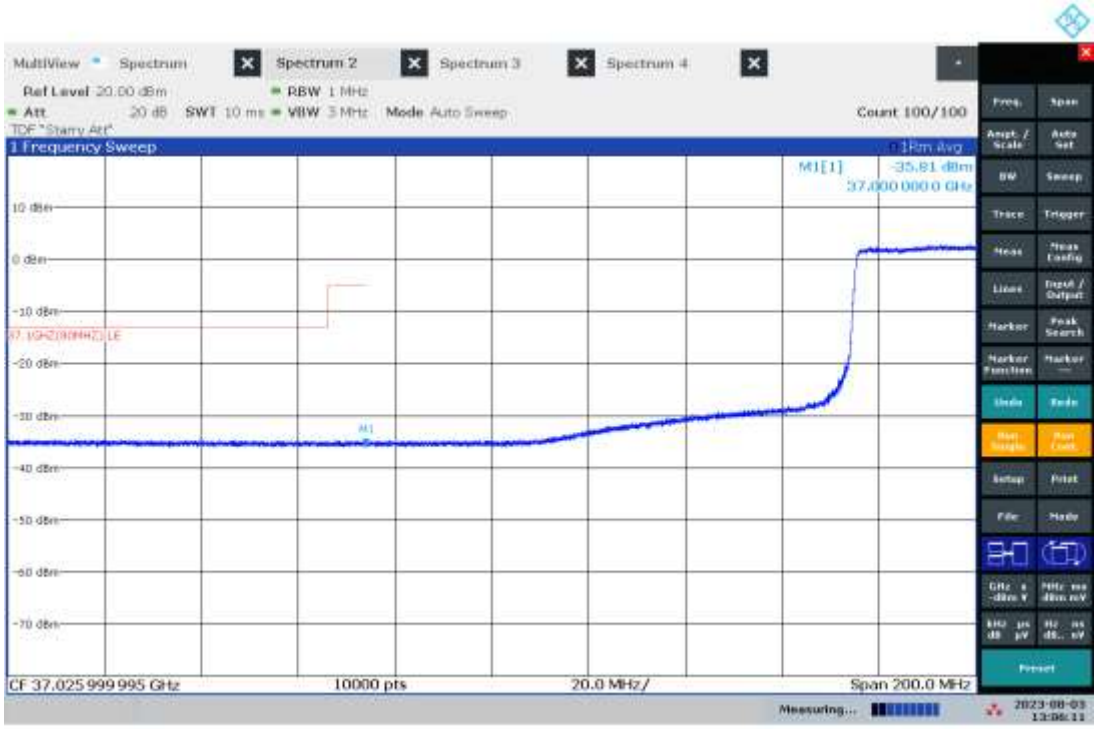
Upper Band Edge – Path 8, Modulation: MCS9, Bandwidth: 40 MHz



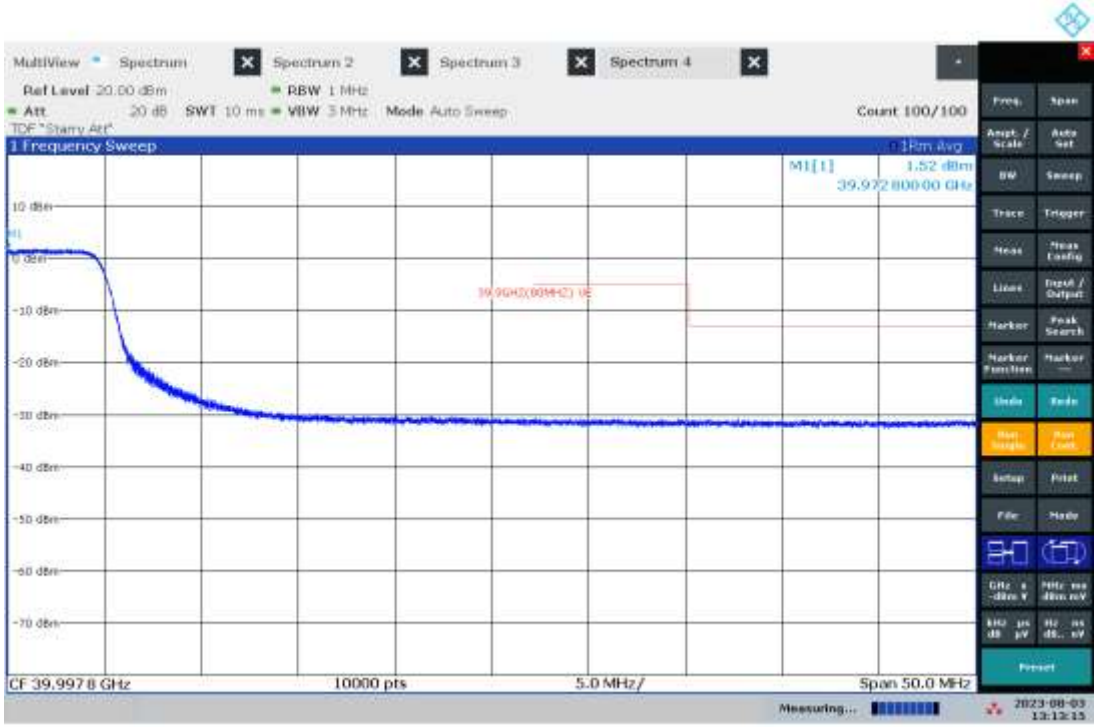
Lower Band Edge – Path 1, Modulation: MCS0, Bandwidth: 80 MHz



Lower Band Edge – Path 1, Modulation: MCS9, Bandwidth: 80 MHz

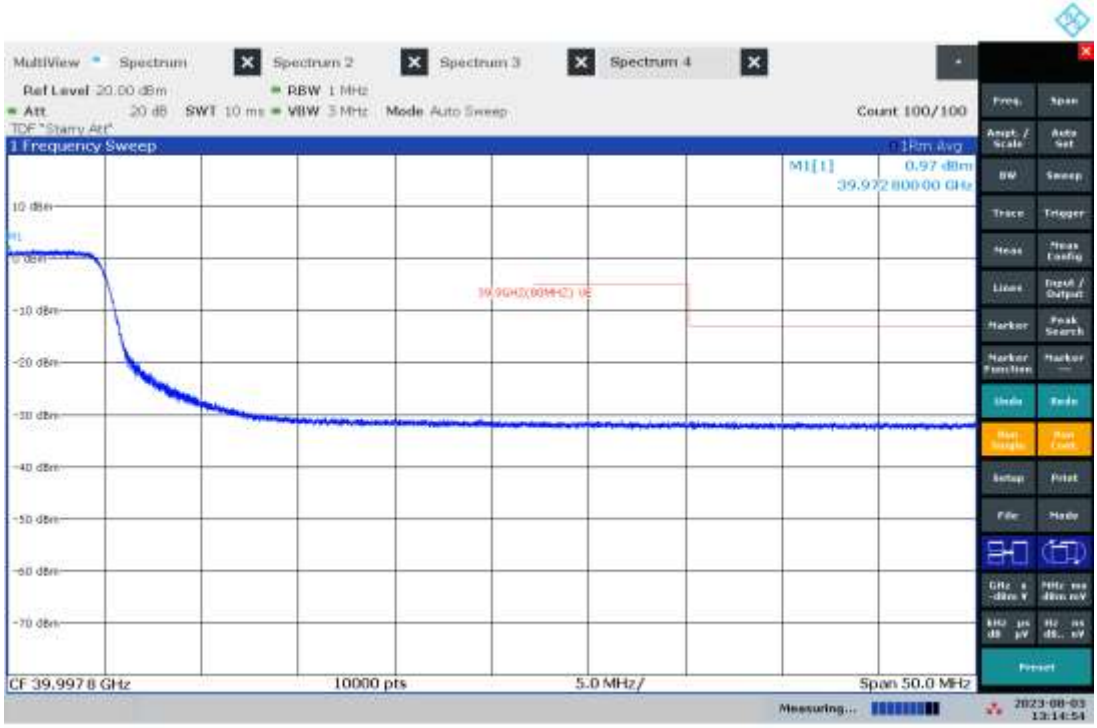


Upper Band Edge – Path 1, Modulation: MCS0, Bandwidth: 80 MHz



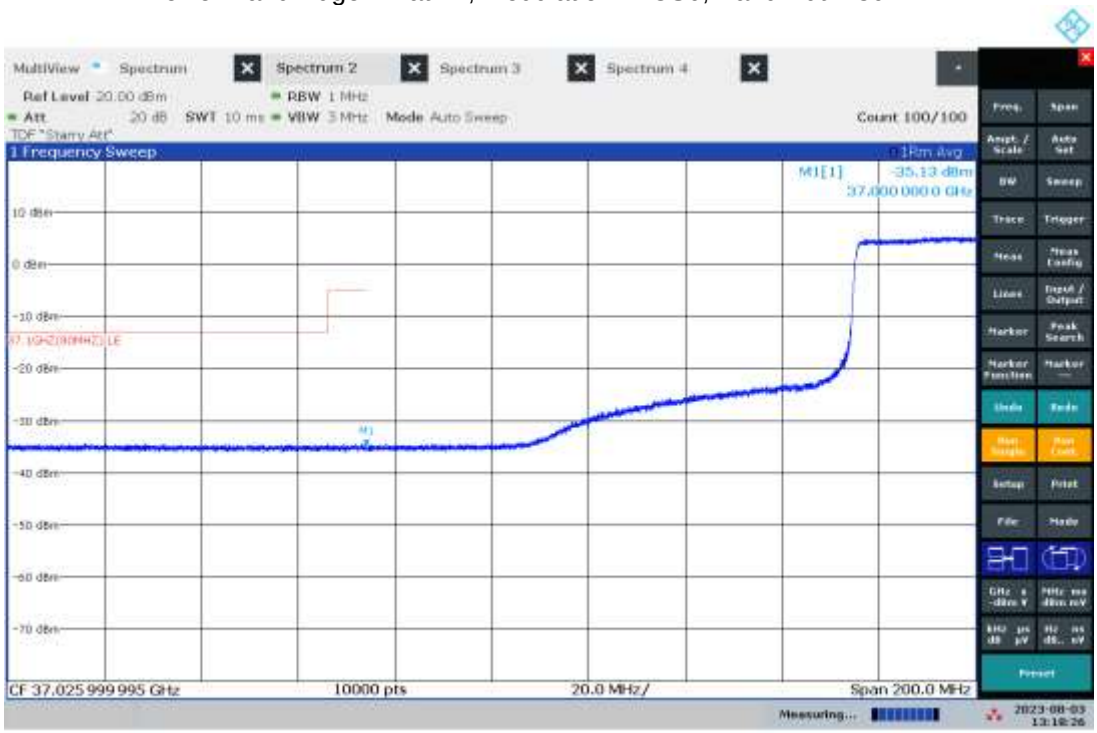
01:13:15 PM 08/03/2023

Upper Band Edge – Path 1, Modulation: MCS9, Bandwidth: 80 MHz



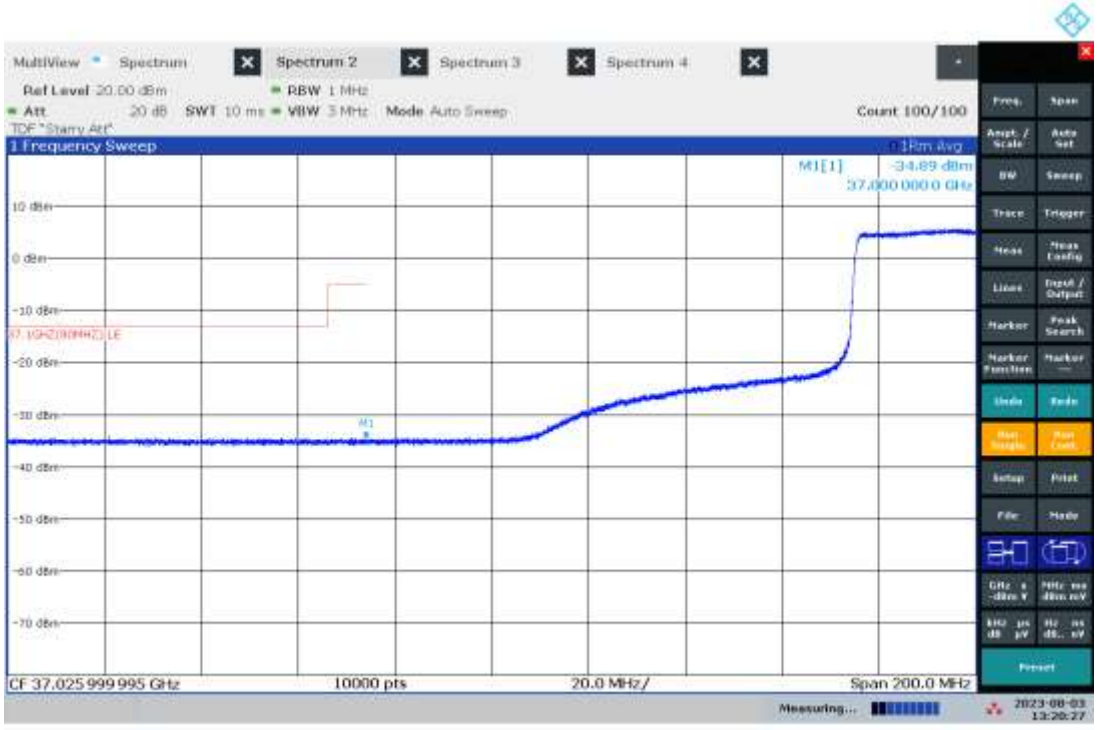
01:14:54 PM 08/03/2023

Lower Band Edge – Path 2, Modulation: MCS0, Bandwidth: 80 MHz



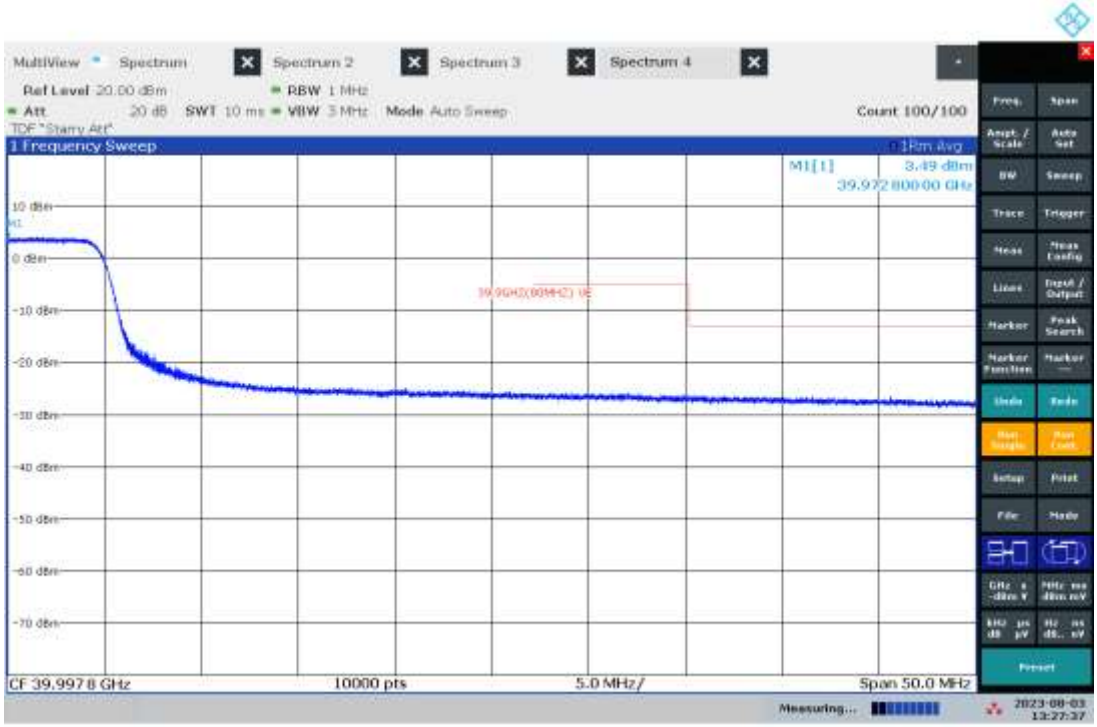
01:18:26 PM 08/03/2023

Lower Band Edge – Path 2, Modulation: MCS9, Bandwidth: 80 MHz

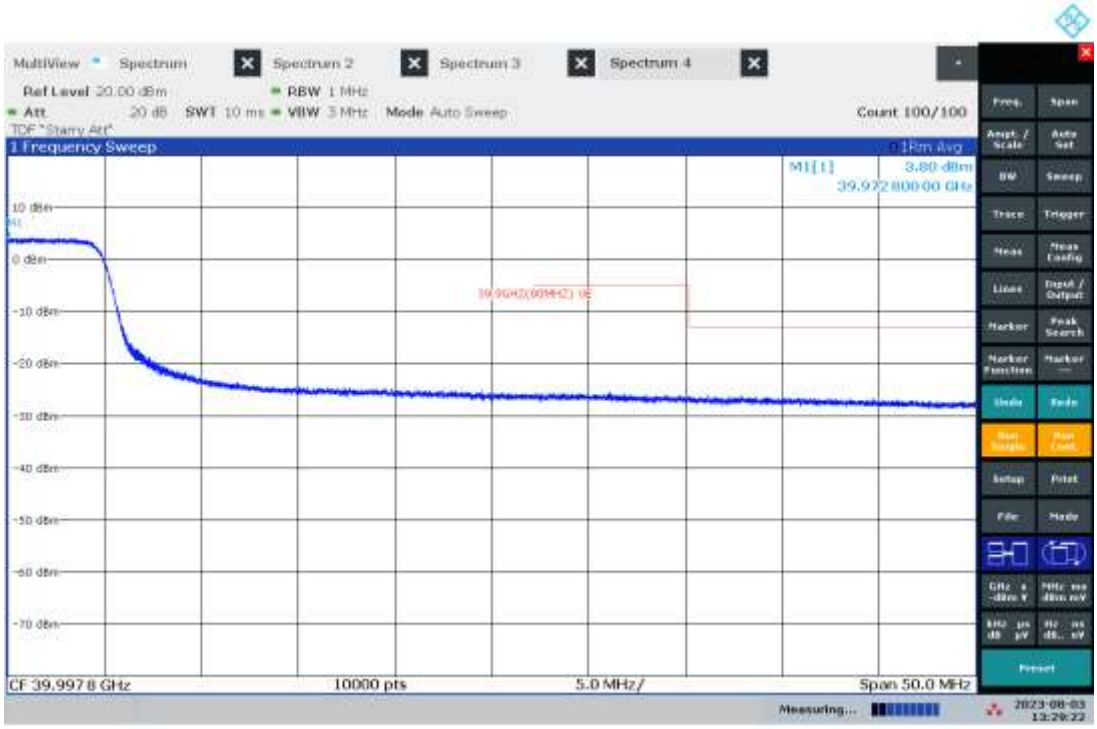


01:20:28 PM 08/03/2023

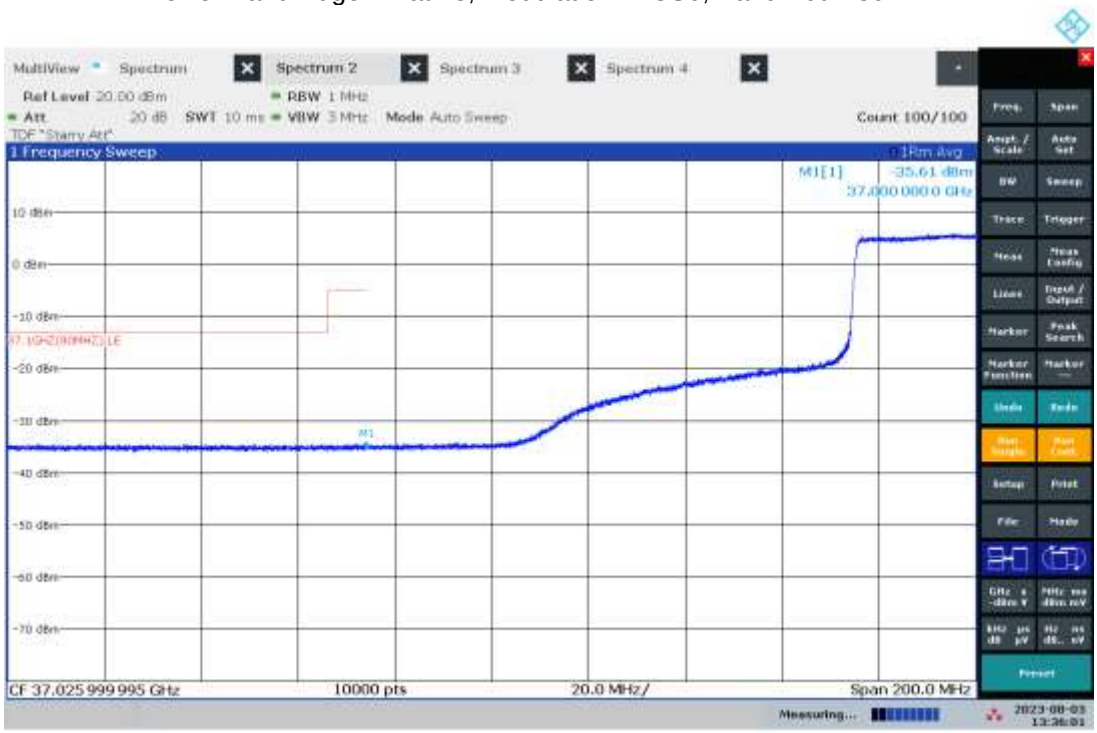
Upper Band Edge – Path 2, Modulation: MCS0, Bandwidth: 80 MHz



Upper Band Edge – Path 2, Modulation: MCS9, Bandwidth: 80 MHz

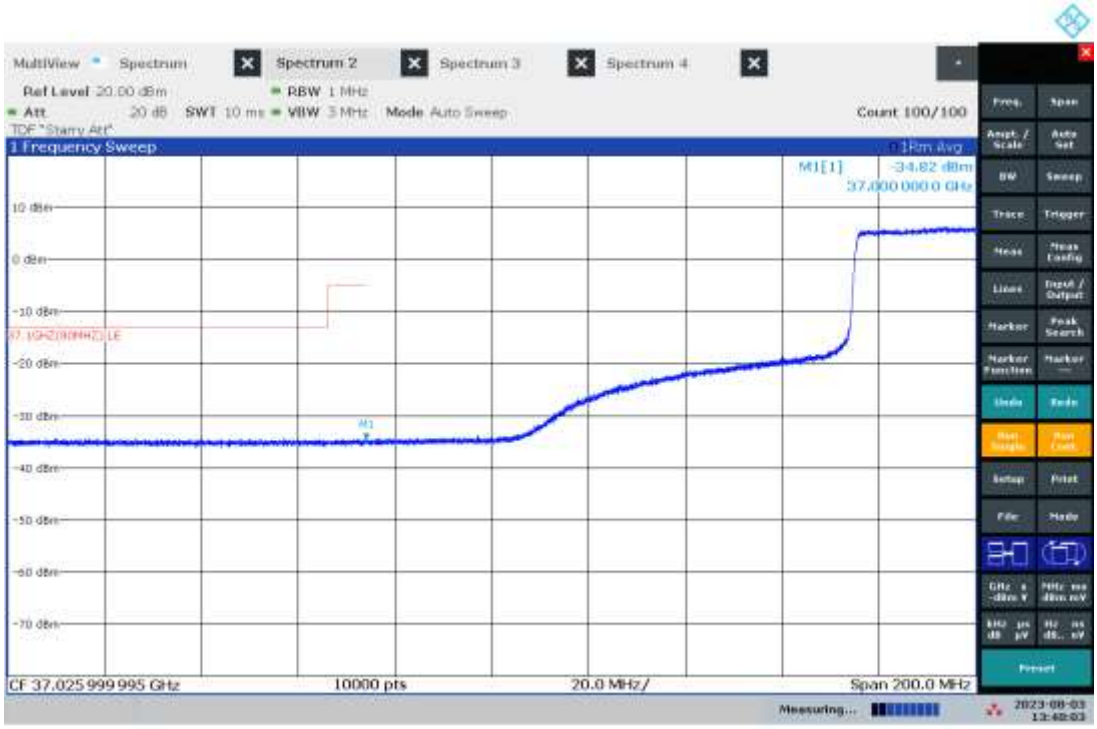


Lower Band Edge – Path 3, Modulation: MCS0, Bandwidth: 80 MHz



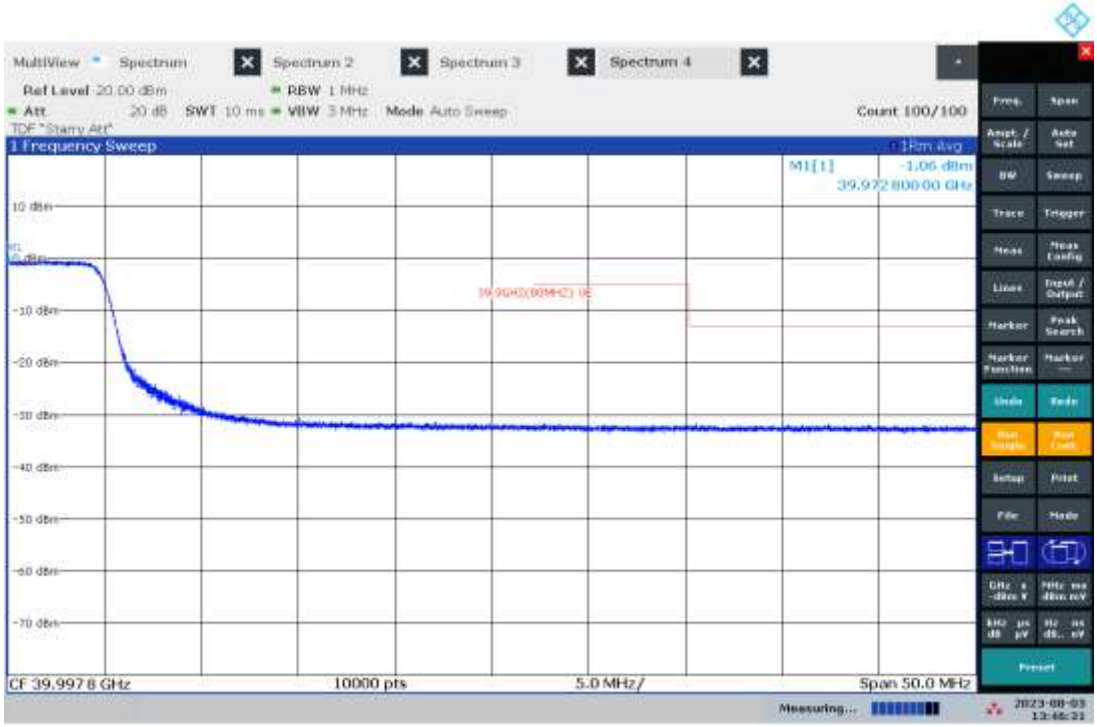
01:36:01 PM 08/03/2023

Lower Band Edge – Path 3, Modulation: MCS9, Bandwidth: 80 MHz

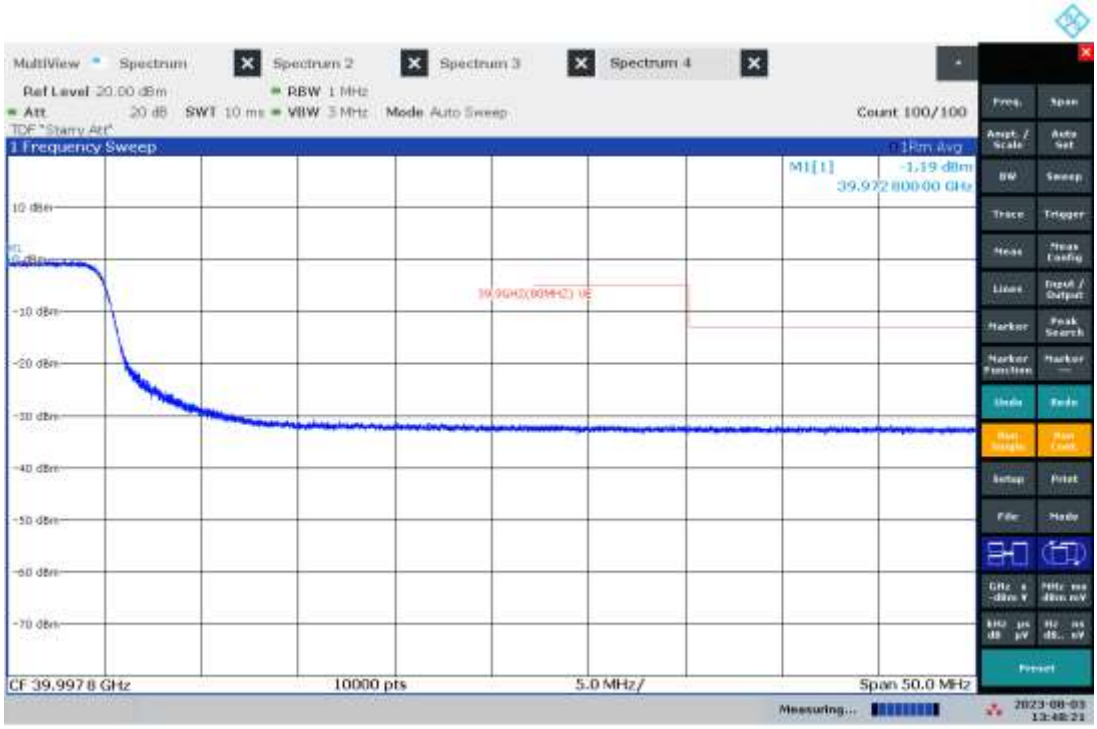


01:40:03 PM 08/03/2023

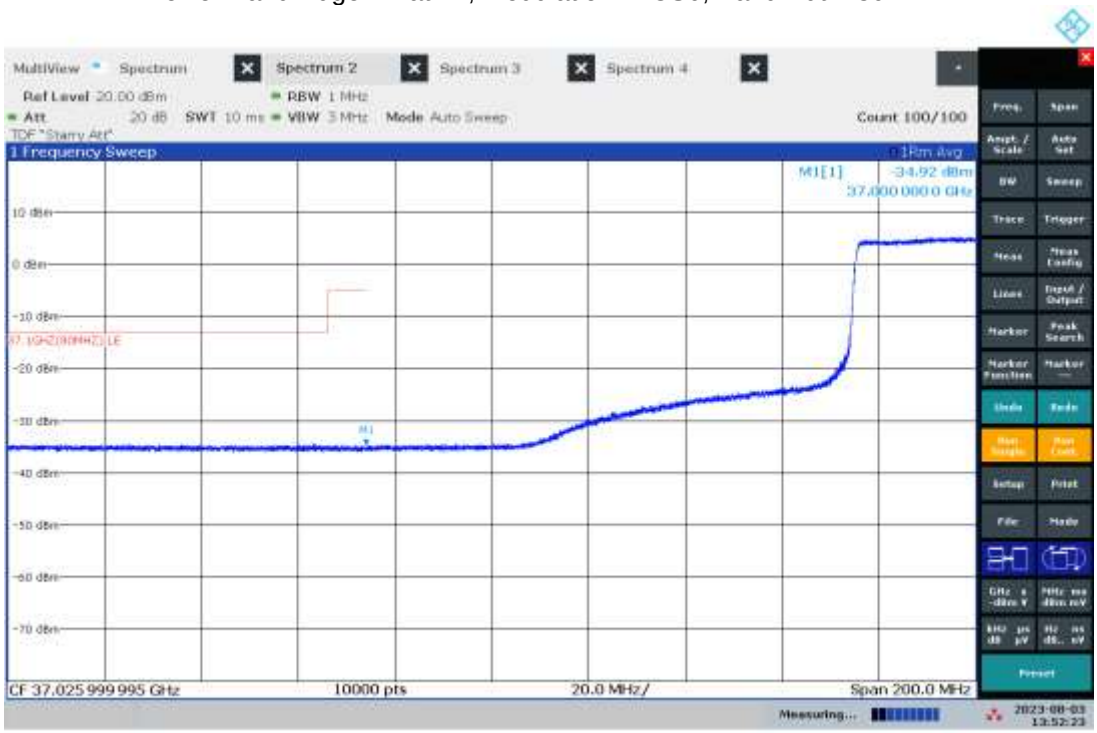
Upper Band Edge – Path 3, Modulation: MCS0, Bandwidth: 80 MHz



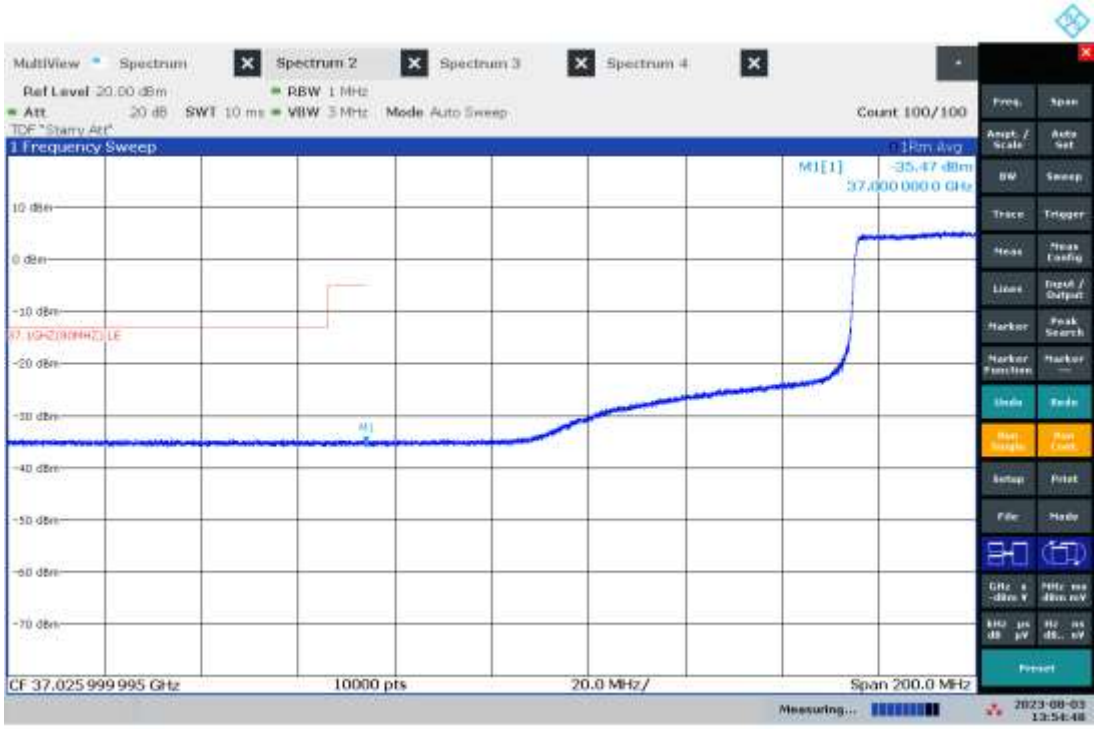
Upper Band Edge – Path 3, Modulation: MCS9, Bandwidth: 80 MHz



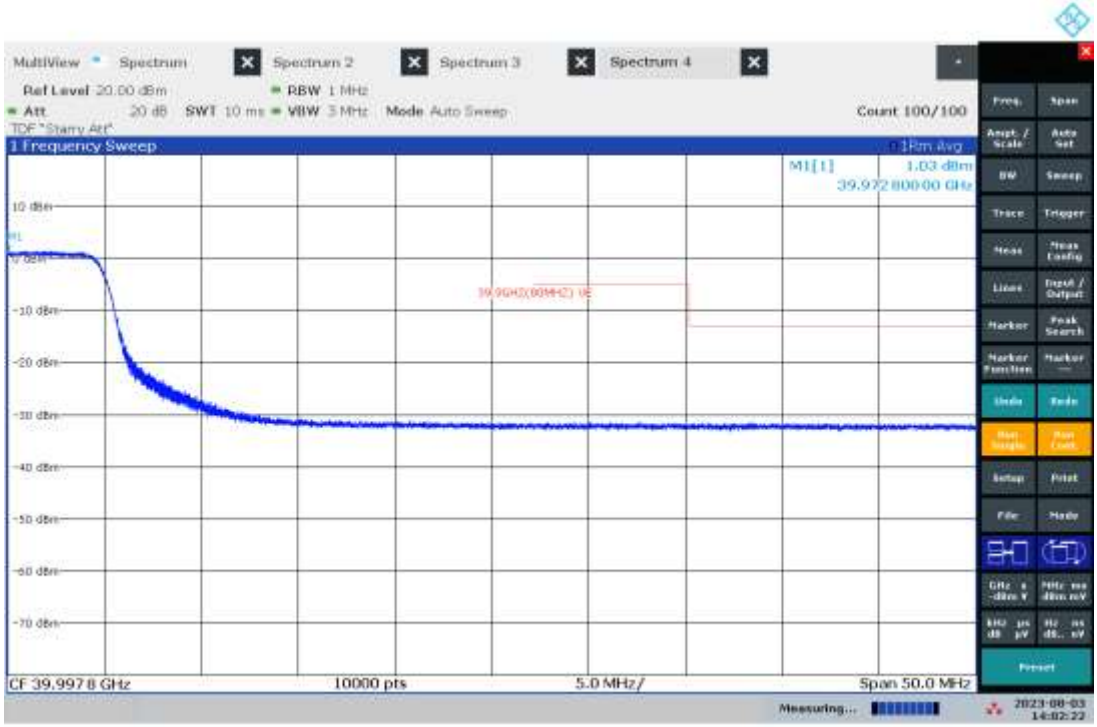
Lower Band Edge – Path 4, Modulation: MCS0, Bandwidth: 80 MHz



Lower Band Edge – Path 4, Modulation: MCS9, Bandwidth: 80 MHz

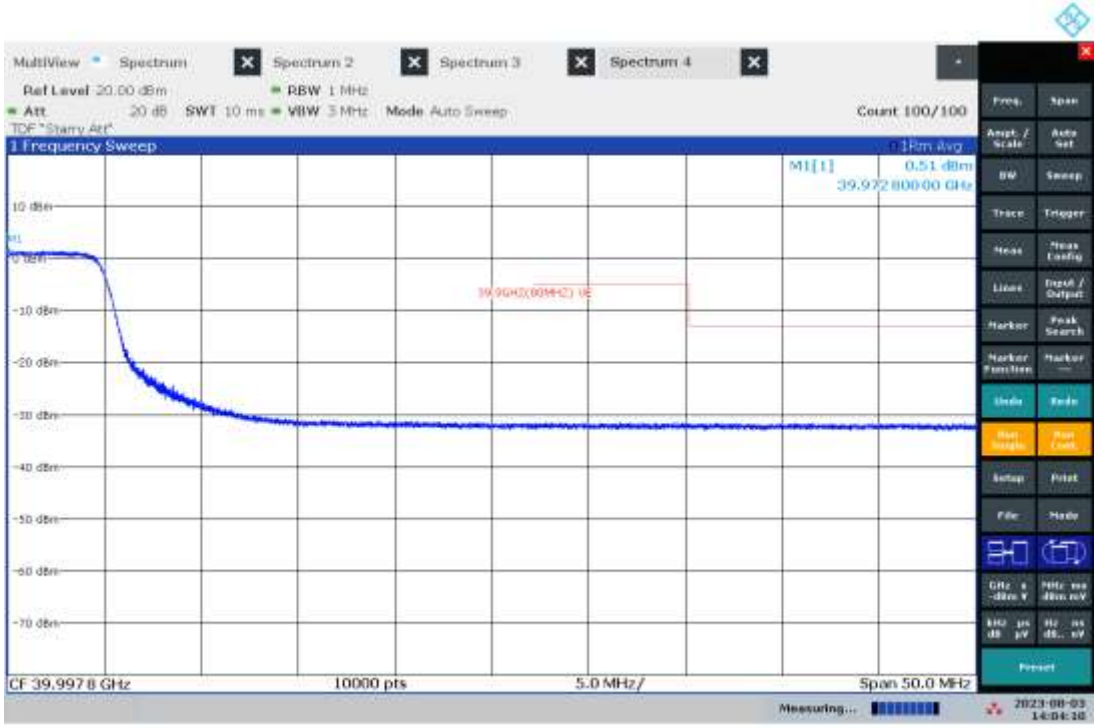


Upper Band Edge – Path 4, Modulation: MCS0, Bandwidth: 80 MHz



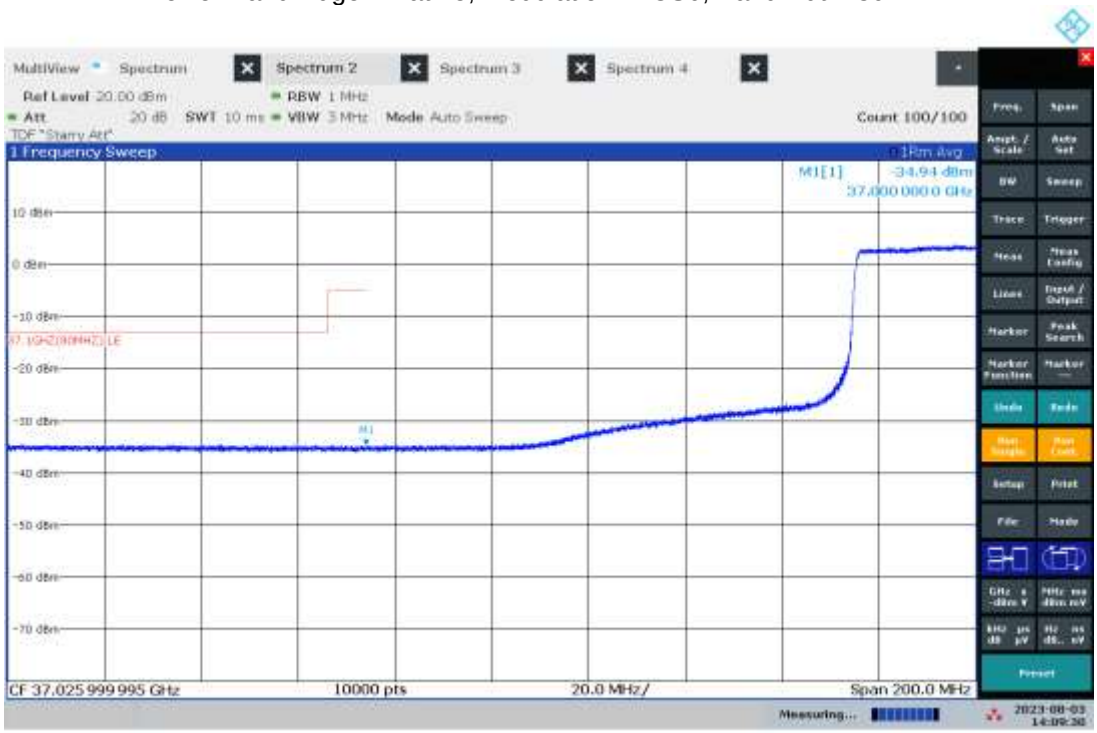
02:02:22 PM 08/03/2023

Upper Band Edge – Path 4, Modulation: MCS9, Bandwidth: 80 MHz



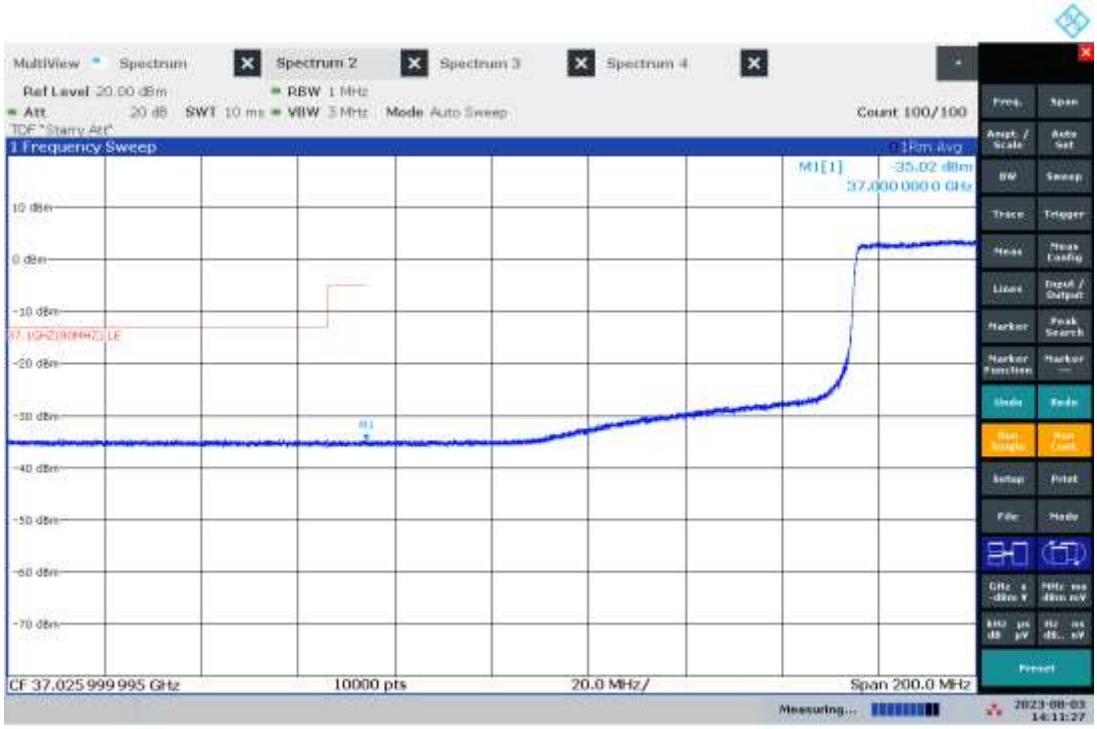
02:04:10 PM 08/03/2023

Lower Band Edge – Path 5, Modulation: MCS0, Bandwidth: 80 MHz



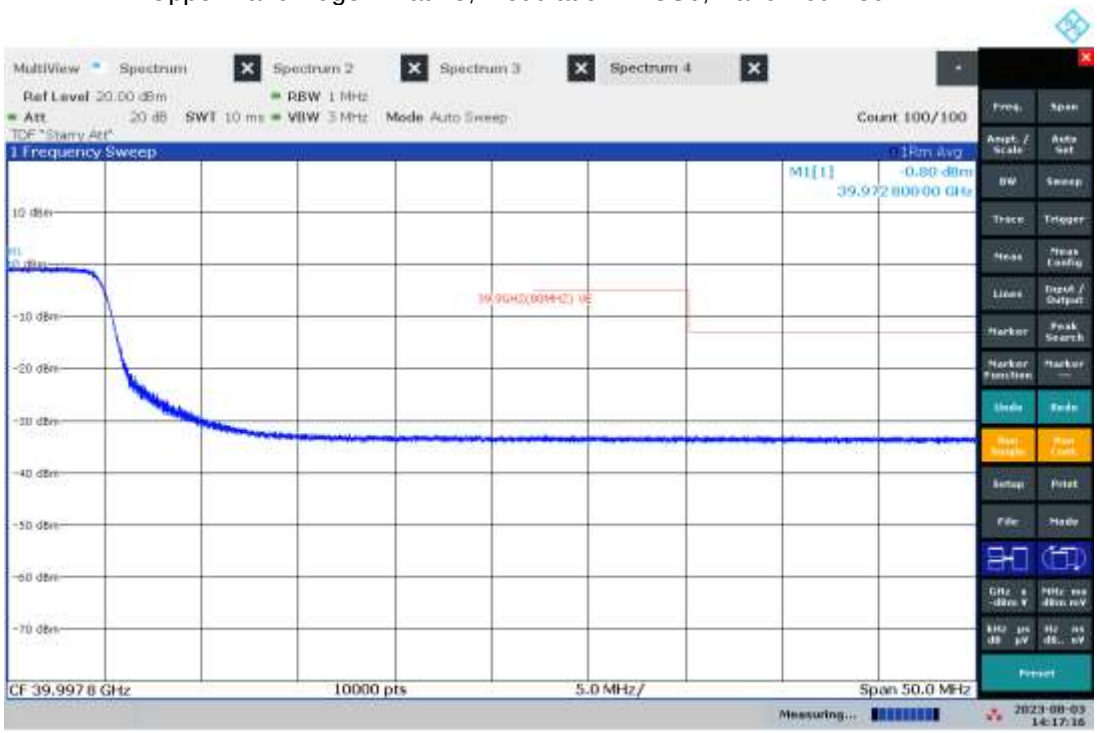
02:09:31 PM 08/03/2023

Lower Band Edge – Path 5, Modulation: MCS9, Bandwidth: 80 MHz

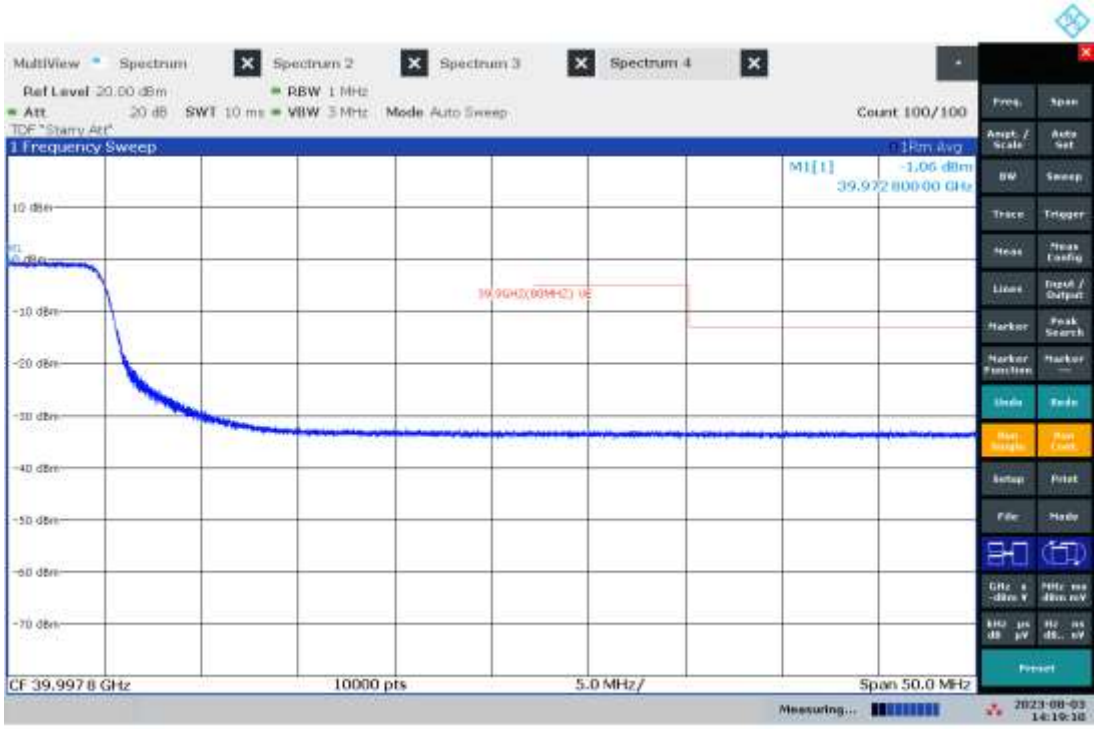


02:11:27 PM 08/03/2023

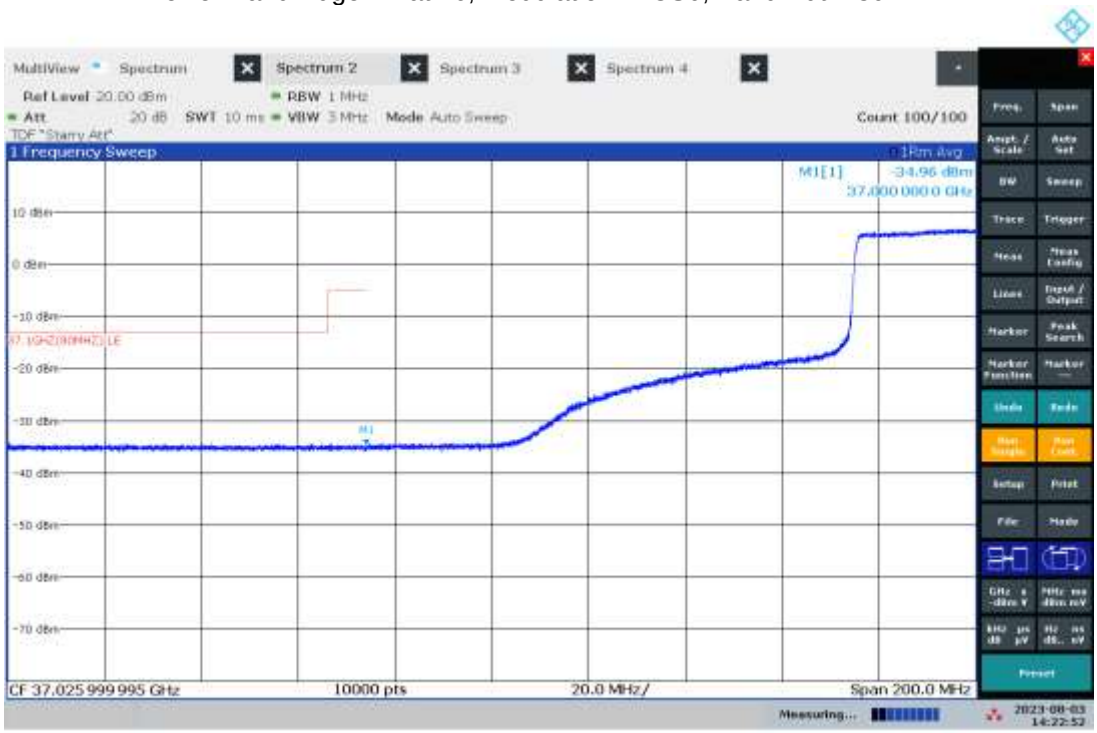
Upper Band Edge – Path 5, Modulation: MCS0, Bandwidth: 80 MHz



Upper Band Edge – Path 5, Modulation: MCS9, Bandwidth: 80 MHz

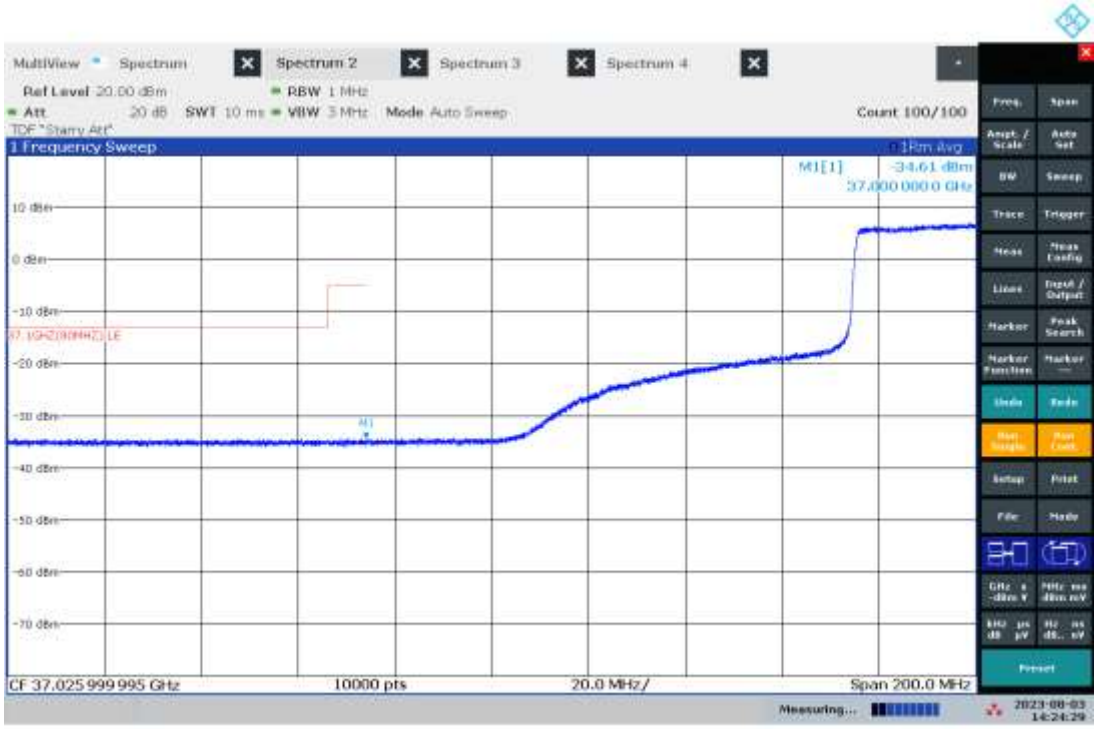


Lower Band Edge – Path 6, Modulation: MCS0, Bandwidth: 80 MHz



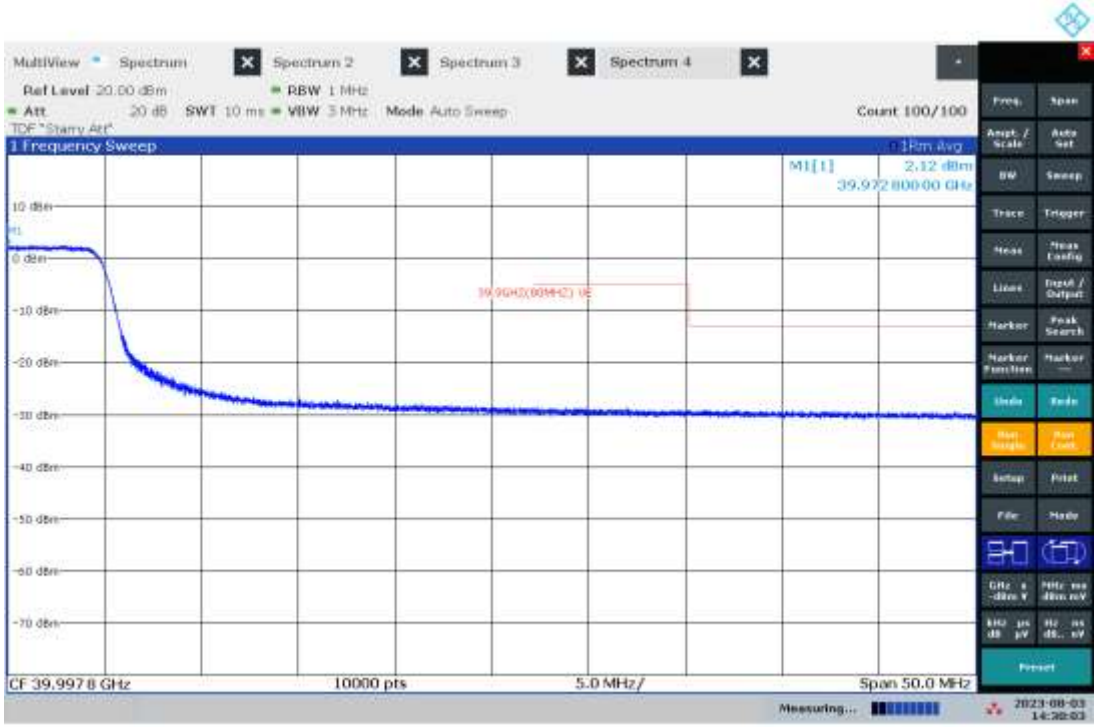
02:22:52 PM 08/03/2023

Lower Band Edge – Path 6, Modulation: MCS9, Bandwidth: 80 MHz

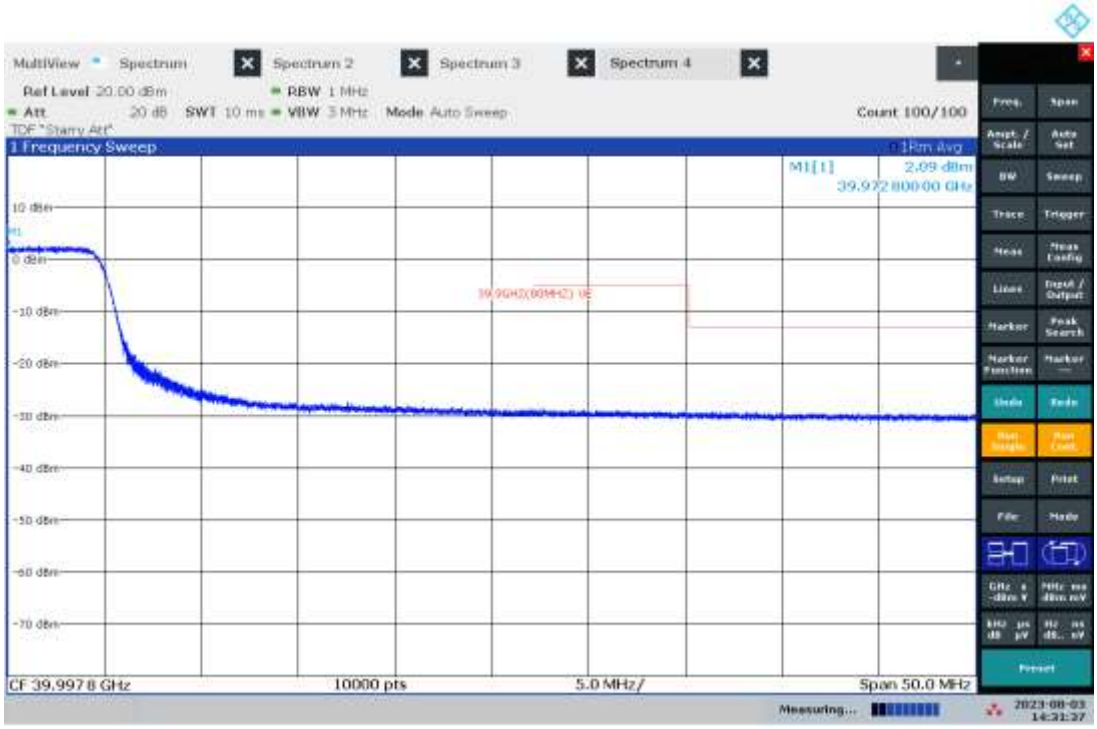


02:24:29 PM 08/03/2023

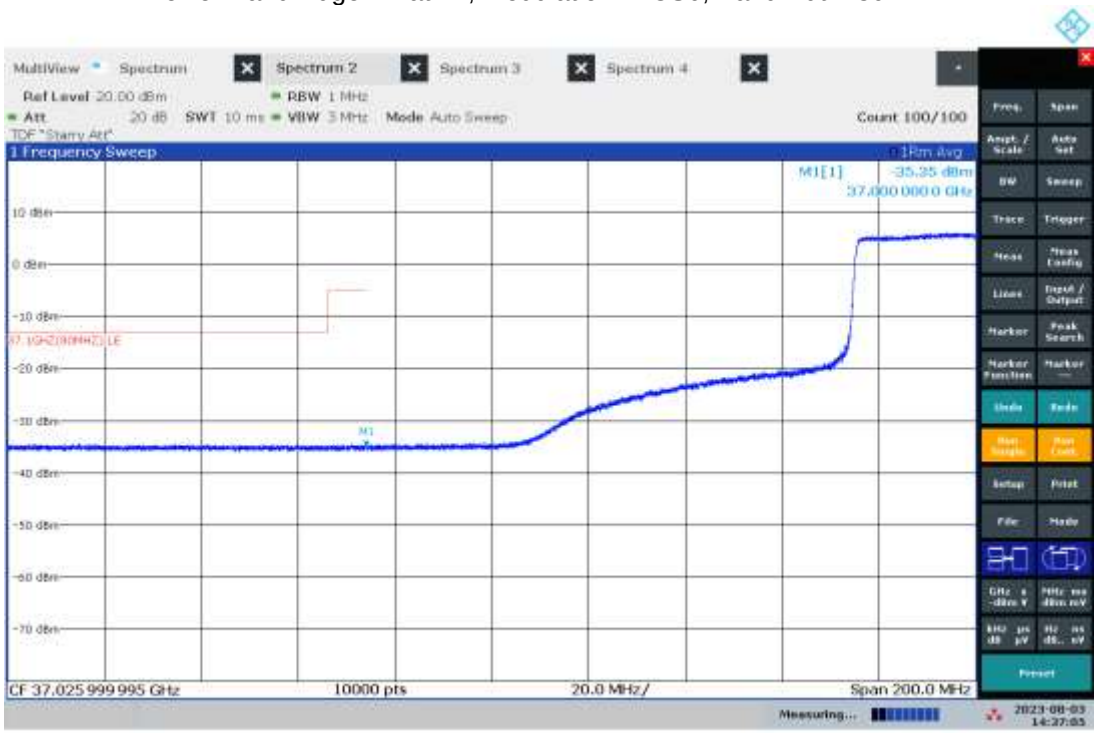
Upper Band Edge – Path 6, Modulation: MCS0, Bandwidth: 80 MHz



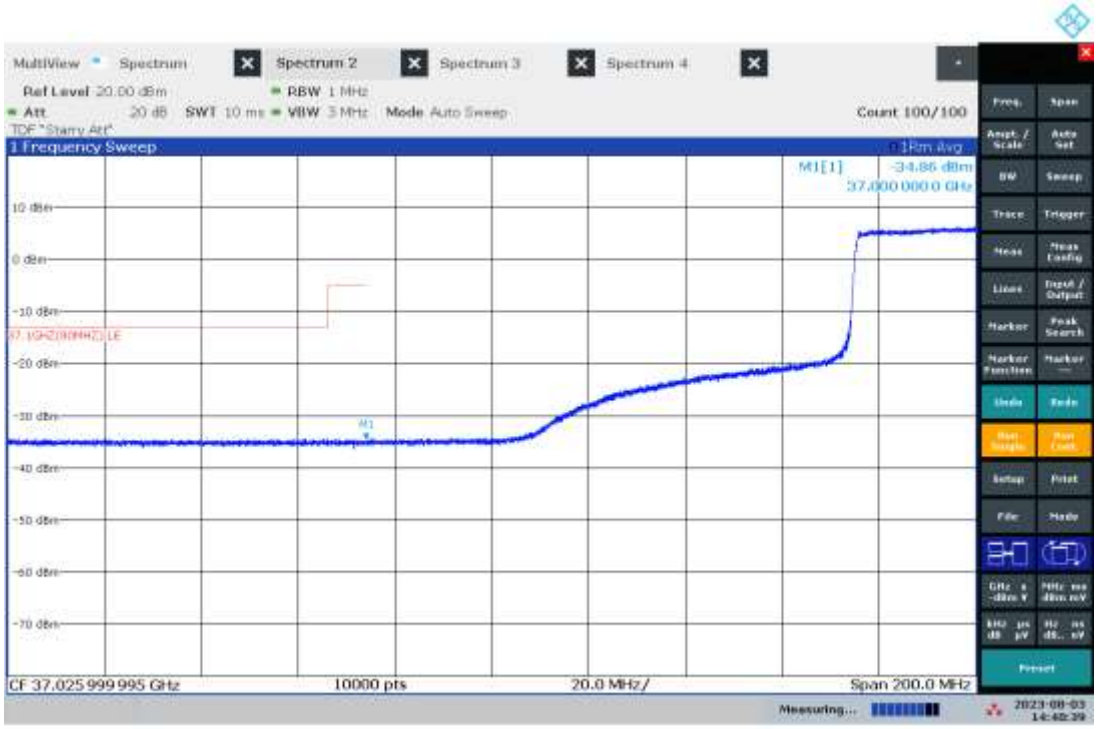
Upper Band Edge – Path 6, Modulation: MCS9, Bandwidth: 80 MHz



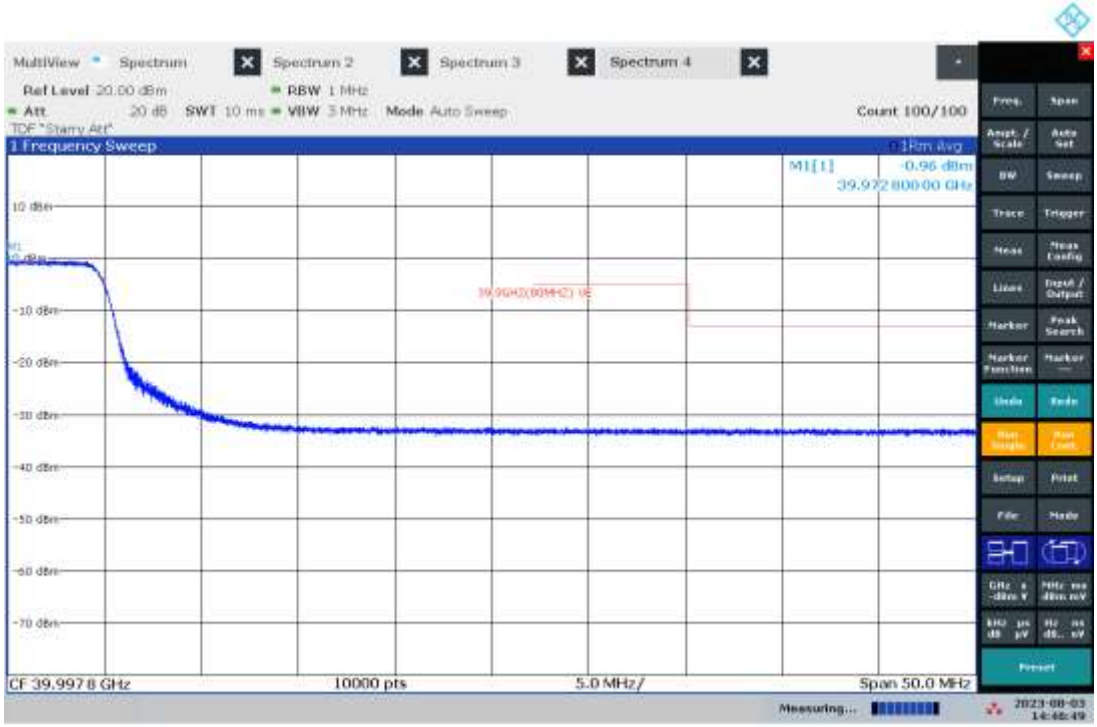
Lower Band Edge – Path 7, Modulation: MCS0, Bandwidth: 80 MHz



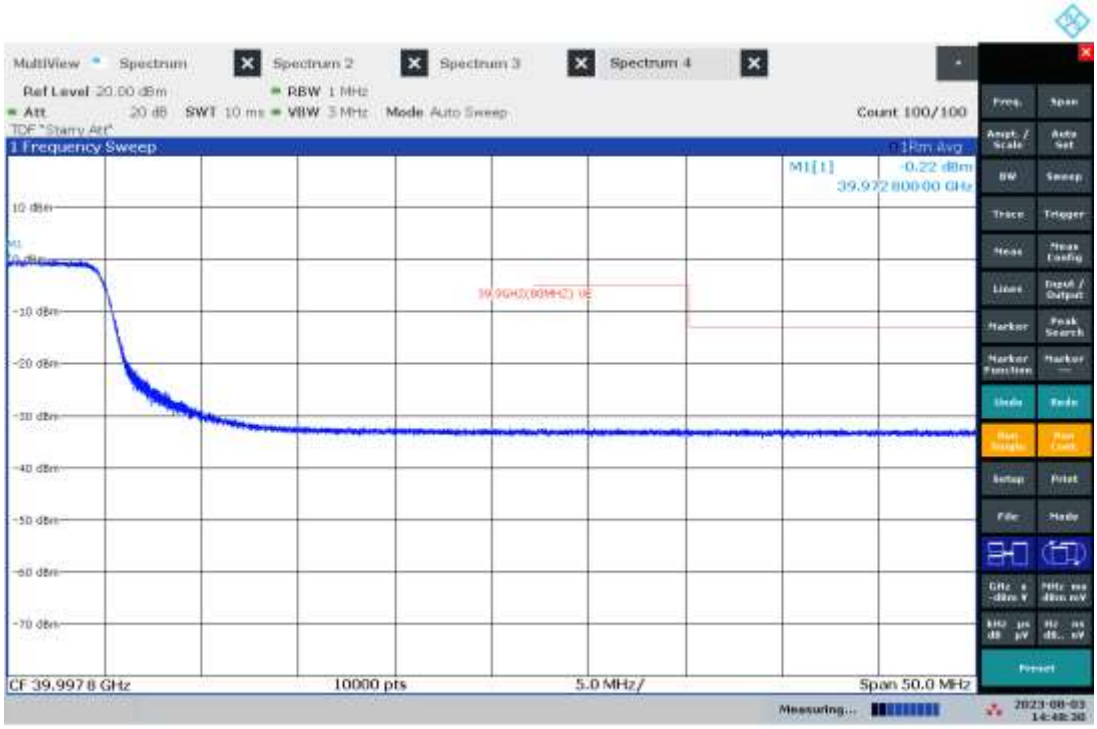
Lower Band Edge – Path 7, Modulation: MCS9, Bandwidth: 80 MHz



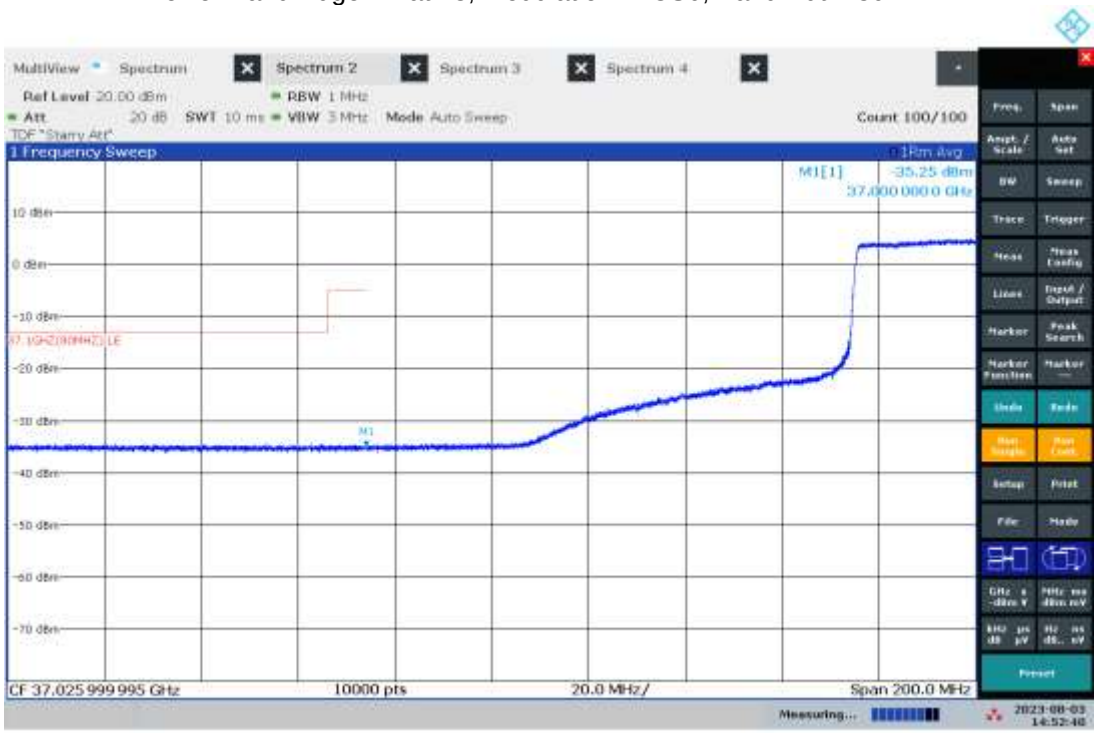
Upper Band Edge – Path 7, Modulation: MCS0, Bandwidth: 80 MHz



Upper Band Edge – Path 7, Modulation: MCS9, Bandwidth: 80 MHz

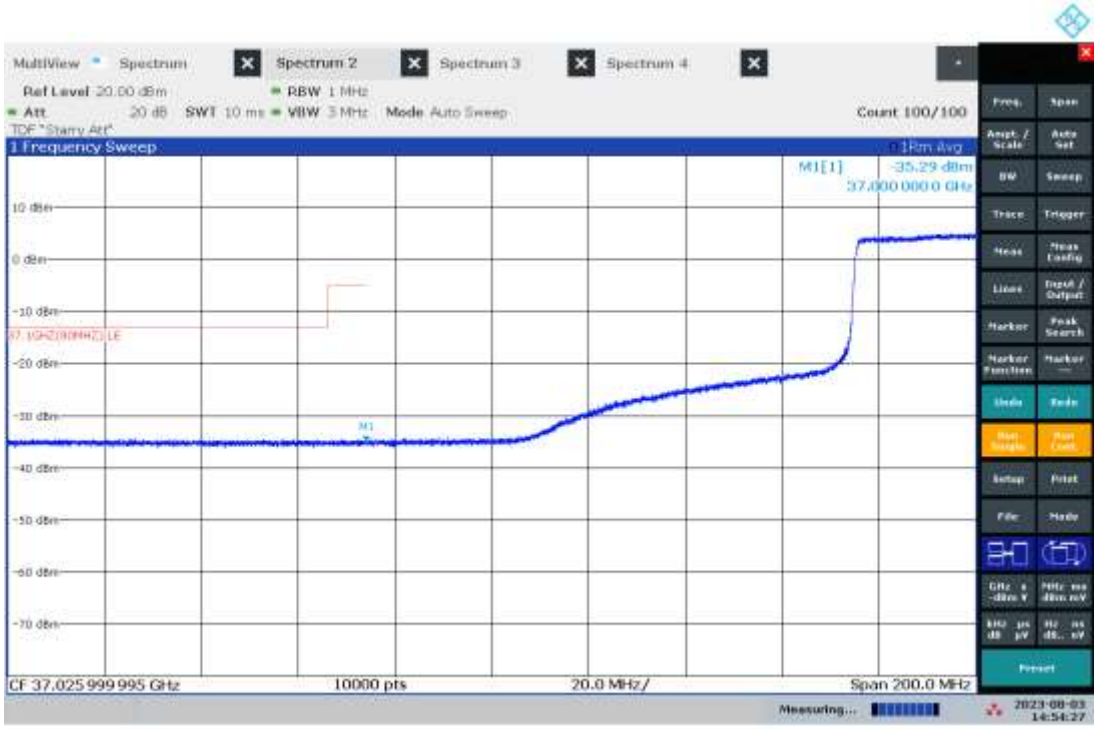


Lower Band Edge – Path 8, Modulation: MCS0, Bandwidth: 80 MHz



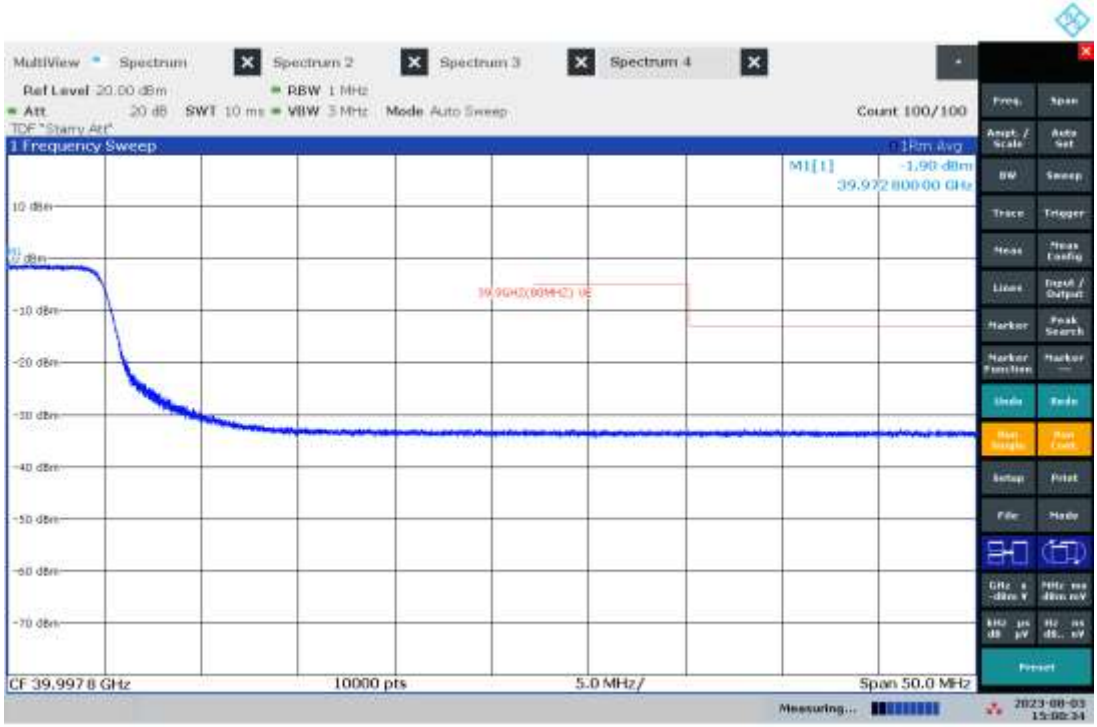
02:52:40 PM 08/03/2023

Lower Band Edge – Path 8, Modulation: MCS9, Bandwidth: 80 MHz



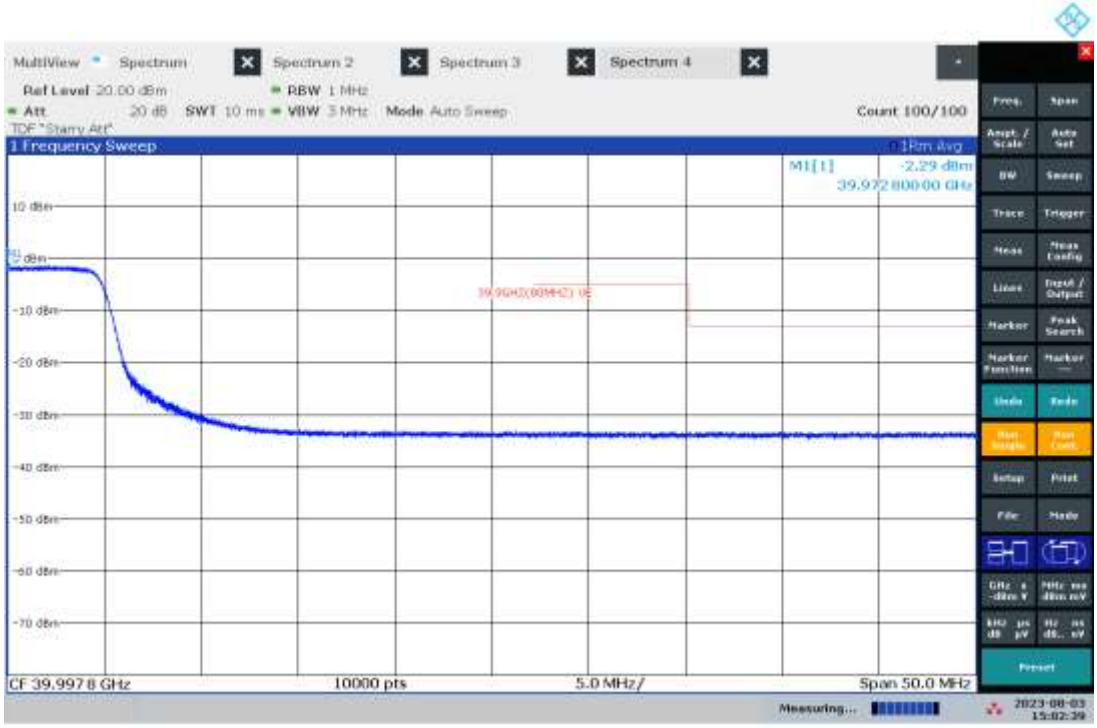
02:54:27 PM 08/03/2023

Upper Band Edge – Path 8, Modulation: MCS0, Bandwidth: 80 MHz



03:00:34 PM 08/03/2023

Upper Band Edge – Path 8, Modulation: MCS9, Bandwidth: 80 MHz



03:02:39 PM 08/03/2023

Product Standard: FCC 47CFR Part 30 Subparts C and E				Limit applied: See Report Section 7.2			
Test Date	Test Personnel/ Initials	Supervising Engineer/ Initials	Input Voltage	Mode	Atmospheric Data		
					Temp °C	Relative Humidity %	Atmospheric Pressure mbar
04/20/2023	Kouma Sinn	N/A	48VDC Via External P/S	See Report Section 4	22	21	1021
04/21/2023	Kouma Sinn	N/A	48VDC Via External P/S	See Report Section 4	24	24	1024
08/03/2023	Kouma Sinn	N/A	48VDC Via External P/S	See Report Section 4	23	55	1022

Deviations, Additions, or Exclusions: None

8 Radiated Spurious Emissions

8.1 Method

Tests are performed in accordance with FCC 47CFR Part 30 Subpart C, KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 April 20, 2021 Subclause 4.4.3.

From 9kHz to 40 GHz both conducted and radiated methods were used and above 40 GHz only radiated method was used.

Radiated Method From 9kHz-30 MHz: The EUT was placed on a non-conductive structure 3 meters away from the receiving antenna. The automated testing was performed using Nexio software with antenna height fixed at 1 meter and EUT rotated from 0 to 360° with receiver antenna in X, Y, and Z axis.

Radiated Method From 30 MHz-18 GHz: The EUT was placed on a non-conductive structure 3 meters away from the receiving antenna with RF absorbers placed between the EUT and receiving antenna. The automated testing was performed using Nexio software. For pre-scan, the EUT was rotated from 0 to 360° at 1, 2, 3, and 4 meters in both vertical and horizontal polarities. For final measurements, the Nexio software picked 6 highest points and performed the final measurement with EUT rotated from 0 to 360° and receiving antenna varied from 1 to 4 meters to find the maximum emission level.

Radiated Method From 18-220 GHz: The EUT was placed on a non-conductive structure 3 meters away from the receiving antenna with RF absorbers placed between the EUT and receiving antenna. The testing was performed manually. The EUT was rotated from 0 to 360° and the receiving antenna was varied from 1 to 4 meters to find the maximum emission.

TEST SITE: 10m ALSE

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)
Radiated Emissions, 10m	30-1000 MHz	5.0 dB
Radiated Emissions, 3m	30-1000 MHz	4.6 dB
Radiated Emissions, 3m	1-6 GHz	4.9 dB
Radiated Emissions, 3m	6-15 GHz	5.1 dB
Radiated Emissions, 3m	15-18 GHz	4.7 dB
Radiated Emissions, 3m	18-40 GHz	4.7 dB

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.

8.2 Limits:

Limit – FCC 47CFR Part 30 Subpart C, Section 30.203 (a) (b): 2021

(a) The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be −13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be −5 dBm/MHz or lower.

(b)

(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges as the design permits.

(3) The measurements of emission power can be expressed in peak or average values.

8.3 Test Equipment used:

Test equipment used for conducted spurious emissions measurements

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
Starry cable	Flexible 10' 40 GHz coaxial cable, 2.92mm M - 2.92mm M	San-tron	99139-02 M120	None	04/19/2023	N/A
Starry attenuator	20 dB Fixed Attenuator, 2.92mm M - 2.92mm F, 2W	Pasternack	PE7395-20	None	04/19/2023	N/A
None	Coaxial interface (2.92mm F - 2.92mm F) notch filter, 37-40 GHz	United Microwave Technologies	812SB38783	SB20100002	None	N/A
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	11/18/2022	11/18/2023
DAV009'	weather station	Davis Instruments	6351 Vantage VUE	DAV009	03/27/2023	03/27/2024

Notch Filter: Coaxial interface (2.92mm F - 2.92mm F) notch filter, 37-40 GHz | United Microwave Technologies | 812SB38783 |SB20100002 | Cal Date: 19 April 2023 | Cal due: NA

Software Utilized:

Name	Manufacturer	Version
None	N/A	N/A

Test equipment used radiated emissions from 9 kHz-30 MHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
ETS003'	9kHz-30MHz Active Loop Antenna	ETS Lindgren	6502	00143396	09/06/2022	09/06/2023
IW006'	DC-18GHz cable 8.4m long	Insulated Wire	2800-NPS	IW006	07/14/2022	07/14/2023
IW002'	2 meter Armored cable	Insulated Wire	2800-NPS	002	10/11/2022	10/11/2023
IW002'	2 meter Armored cable	Insulated Wire	2800-NPS	002	10/11/2022	10/11/2023
145-414'	Cable 145-414	Huber + Suhner	3m Track A cable	145-414	07/14/2022	07/14/2023
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/23/2022	06/23/2023

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	NEXIO	3.18.0.16

Test equipment used for radiated emissions from 30-1000 MHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
145145'	Broadband Hybrid Antenna 30 MHz - 3 GHz	Sunol Sciences Corp.	JB3	A122313	06/16/2022	06/16/2023
145-408'	10m Chamber - 3m Track B In-floor Cable	Huber + Suhner	sucoflex 106-11000mm	001	07/14/2022	07/14/2023
PRE11'	50dB gain pre-amp	Pasternack	PRE11	PRE11	09/20/2022	09/20/2023
HS002'	DC-18GHz cable 1.5M long	Huber & Suhner	SucoFlex 106A	HS002	07/17/2022	07/17/2023
145-406'	10m Track A In-floor Cable #1	Huber + Suhner	sucoflex 160-19220mm	001	07/14/2022	07/14/2023
IW001'	2 meter cable	Insulated Wire	2801-NPS	001	07/14/2022	07/14/2023
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/23/2022	06/23/2023
DAV006'	Weather Station	Davis	6250	MS191218071	02/21/2022	02/21/2024

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	NEXIO	3.18.0.16

Test equipment used for radiated emissions from 1-18 GHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
ETS002'	1-18GHz DRG Horn Antenna	ETS Lindgren	3117	00143260	09/27/2022	09/27/2023
IW006'	DC-18GHz cable 8.4m long	Insulated Wire	2800-NPS	IW006	07/14/2022	07/14/2023
PRE12'	Pre-amplifier	Com Power	PAM-118A	18040117	12/17/2022	12/17/2023
IW002'	2 meter Armored cable	Insulated Wire	2800-NPS	002	10/11/2022	10/11/2023
IW002'	2 meter Armored cable	Insulated Wire	2800-NPS	002	10/11/2022	10/11/2023
145-414'	Cable 145-414	Huber + Suhner	3m Track A cable	145-414	07/09/2021	07/09/2022
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/23/2022	06/23/2023
DAV006'	Weather Station	Davis	6250	MS191218071	02/21/2022	02/21/2024

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	NEXIO	3.18.0.16

Test equipment used for radiated emissions from 18-40 GHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
PRE9'	100MHz-40GHz Preamp	MITEQ	NSP4000-NFG	1260417	09/23/2022	09/23/2023
CBLHF2012-5M-2'	5m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252676002	02/25/2023	02/25/2024
CBLHF2012-2M-2'	2m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252675002	02/18/2023	02/18/2024
145108'	EMI Test Receiver (20Hz - 40GHz)	Rohde & Schwarz	ESIB40	100209	06/23/2022	06/23/2023
ETS004'	18-40GHZ horn antenna	ets004	3116C	00218579	02/23/2023	02/23/2024
DAV006'	Weather Station	Davis	6250	MS191218071	02/21/2022	02/21/2024

Software Utilized:

Name	Manufacturer	Version
BAT-EMC	NEXIO	3.18.0.16

Tests equipment used from 40-220 GHz

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV007'	Weather Station Vantage Vue	Davis	6250	MS191212003	03/15/2023	03/15/2024
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	11/18/2022	11/18/2023
CBLHF2012-5M-2'	5m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252676002	02/25/2023	02/25/2024
---	40-60 GHz Spectrum Analyzer Extension Module	Virginia Diodes, Inc.	VDIWR19.0SAX-F	SAX835	See note below	N/A
---	60-90 GHz Spectrum Analyzer Extension Module	Virginia Diodes, Inc.	VDIWR12.0SAX-F	SAX836	See note below	N/A
---	90-140 GHz Spectrum Analyzer Extension Module	Virginia Diodes, Inc.	VDIWR8.0SAX-F	SAX837	See note below	N/A
---	140-220 GHz Spectrum Analyzer Extension Module	Virginia Diodes, Inc.	VDIWR5.1SAX-F	SAX838	See note below	N/A

Notes: There is no cal date / cal due date for the VDI converter modules; all relevant calibration information regarding these instruments can be found in Appendix A

Software Utilized:

Name	Manufacturer	Version
None	N/A	N/A

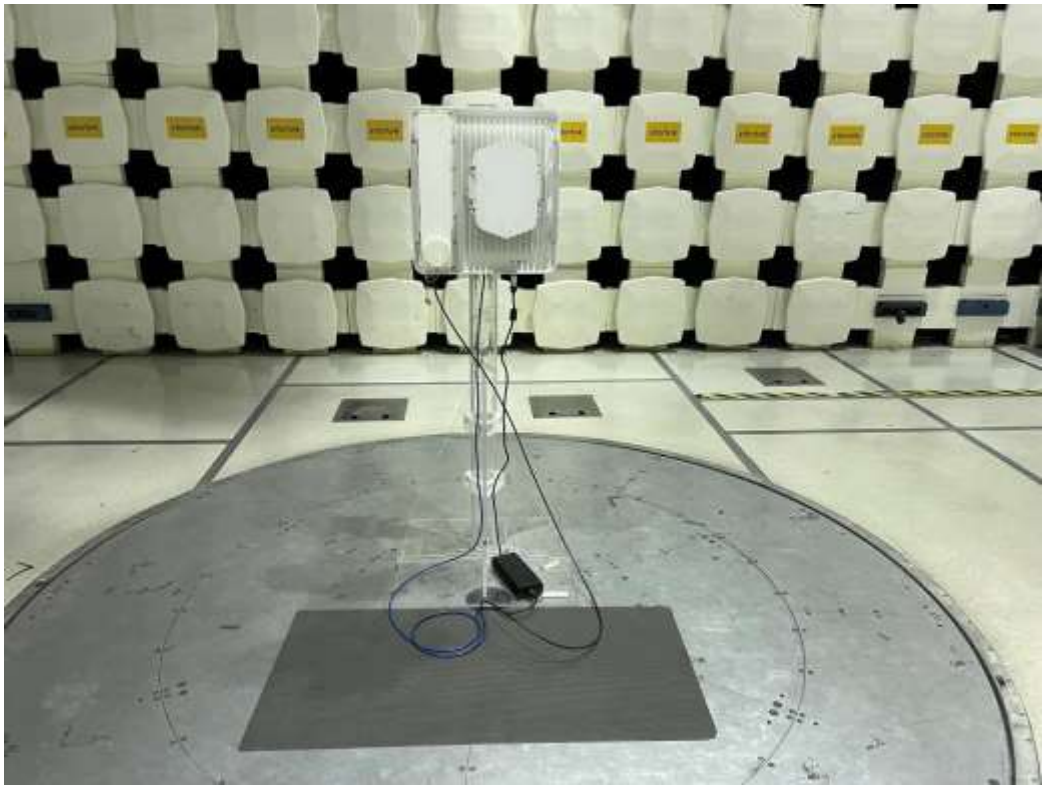
8.4 Results:

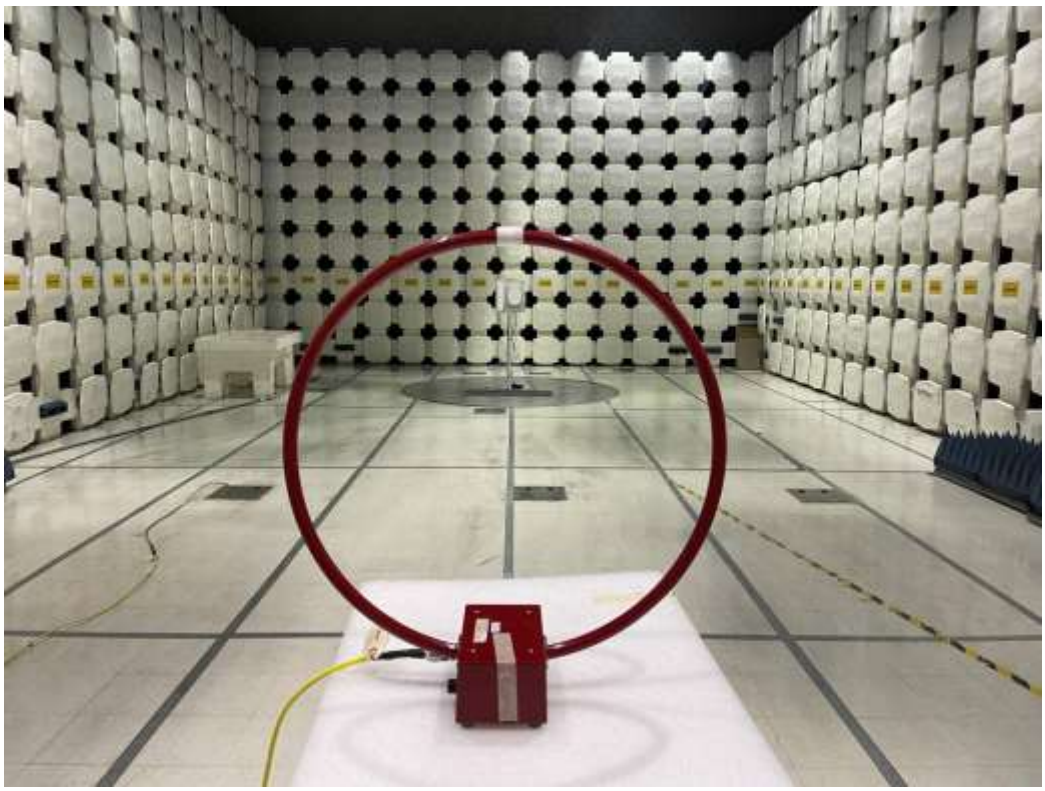
The sample tested was found to Comply.

8.5 Setup Photographs:

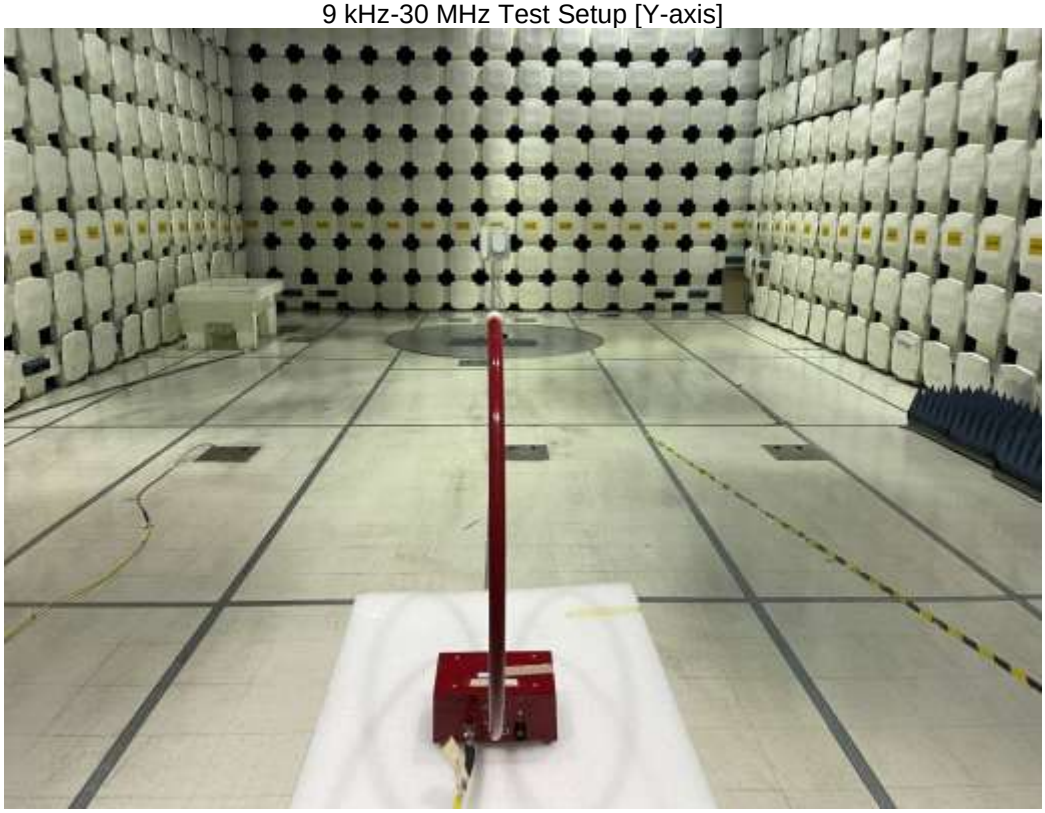
Conducted Power and Spurious Test Setup

9 kHz-30 MHz Test Setup [X-axis]

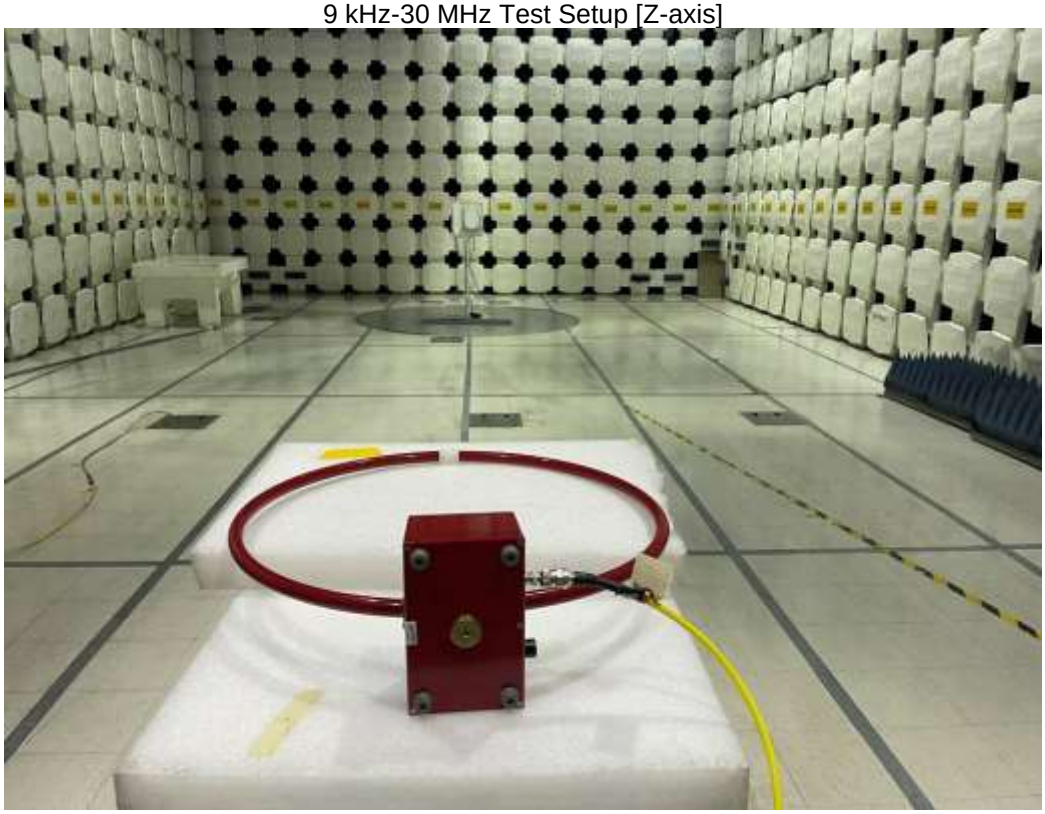




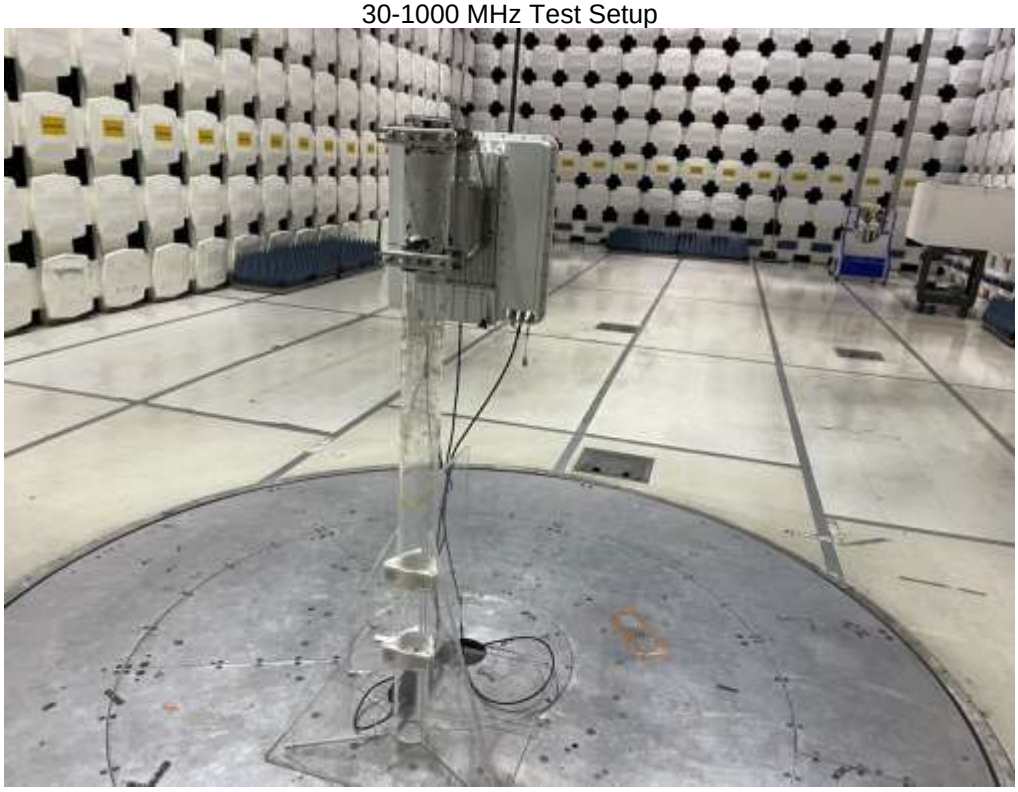
9 kHz-30 MHz Test Setup [Y-axis]

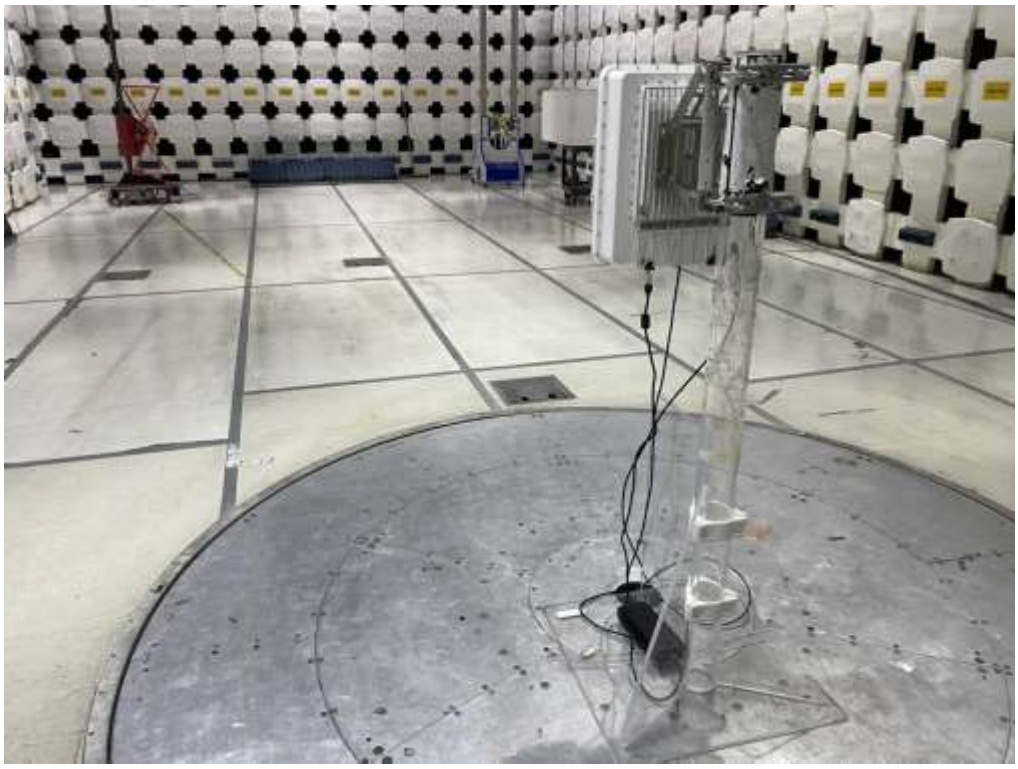


9 kHz-30 MHz Test Setup [Z-axis]



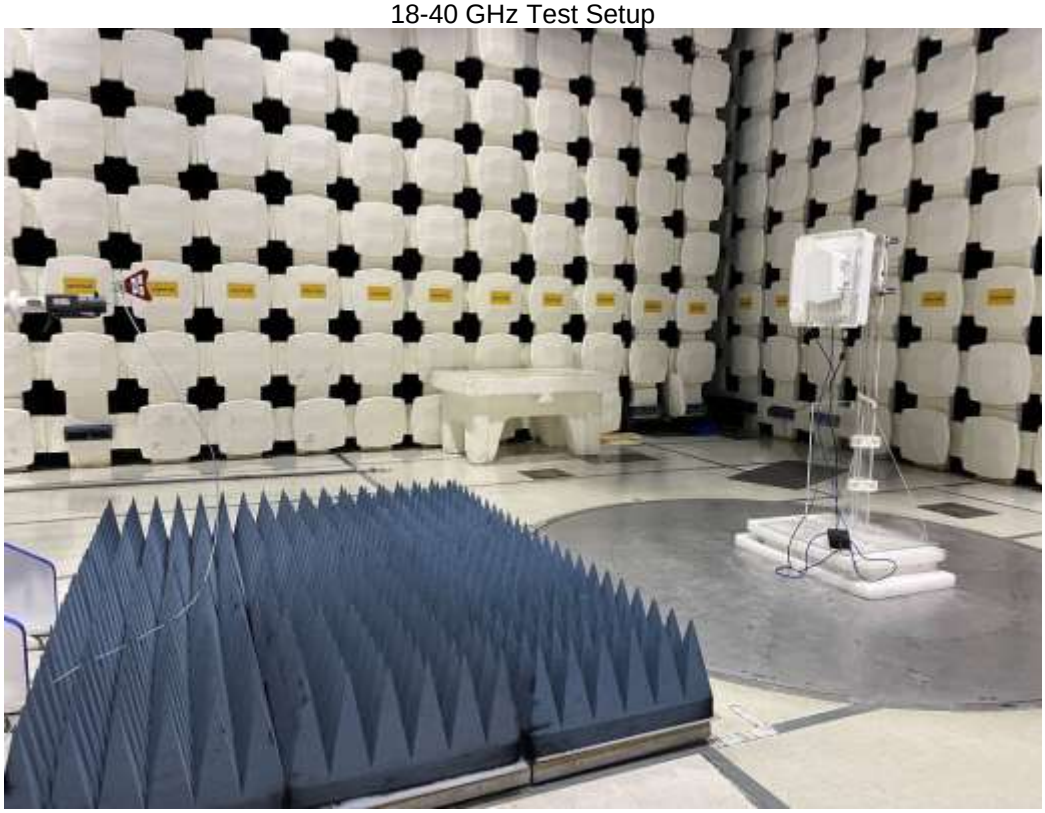
30-1000 MHz Test Setup



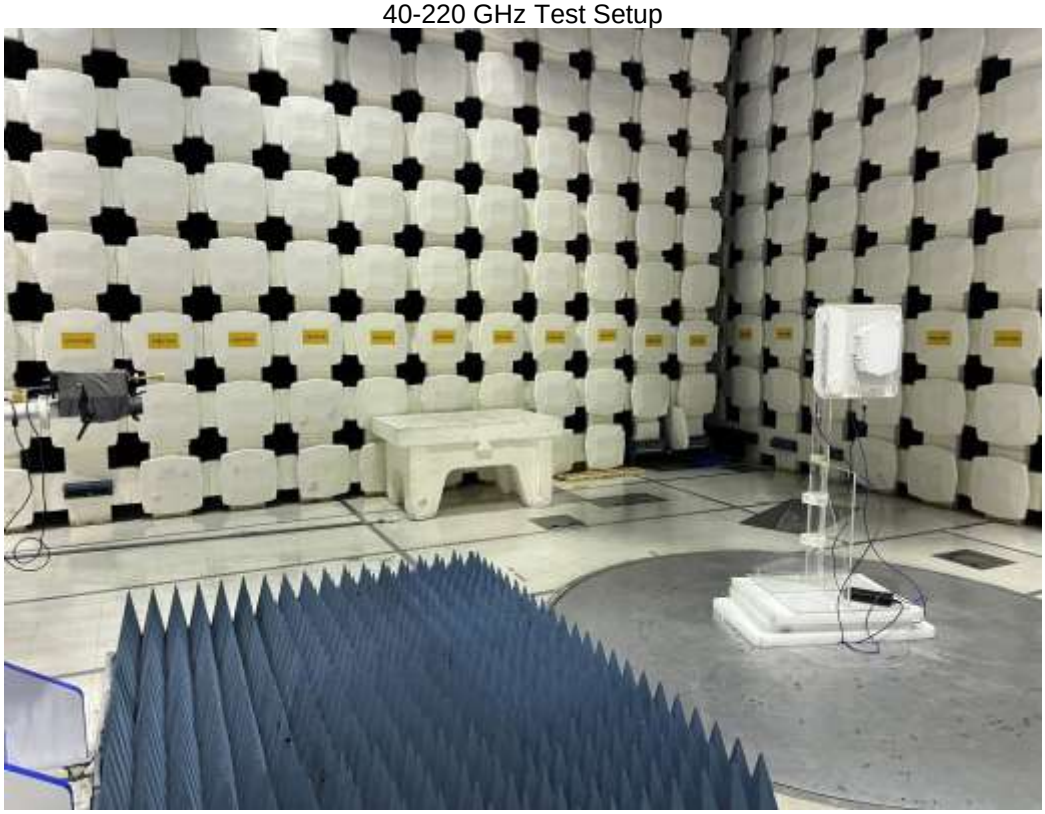


1-18 GHz Test Setup
Not available

18-40 GHz Test Setup

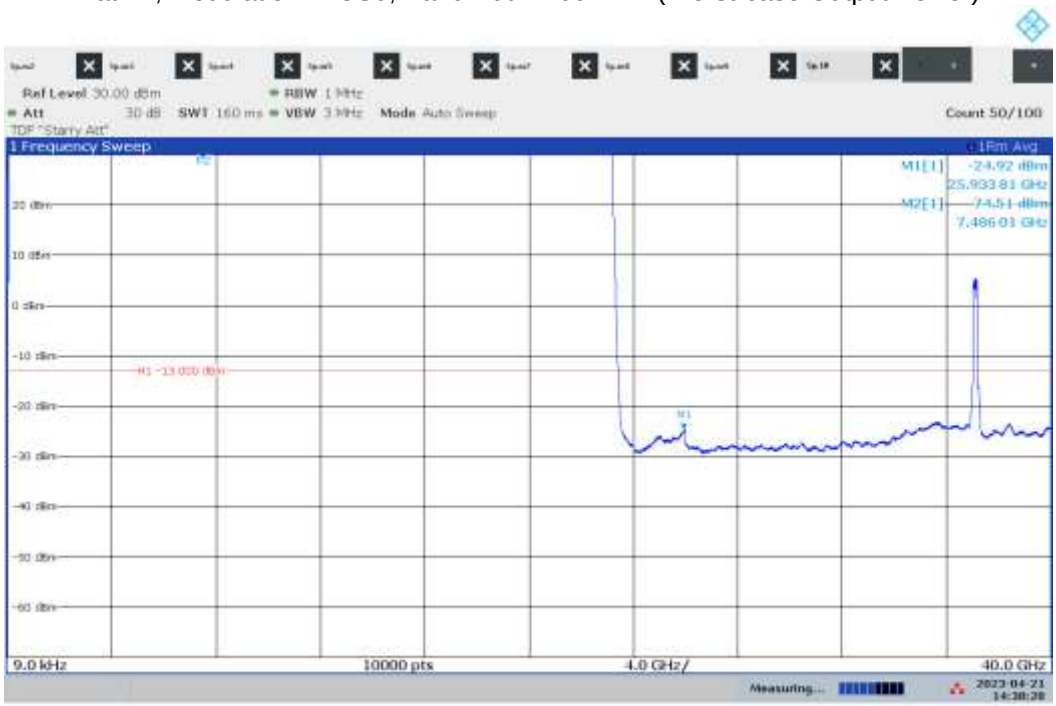


40-220 GHz Test Setup



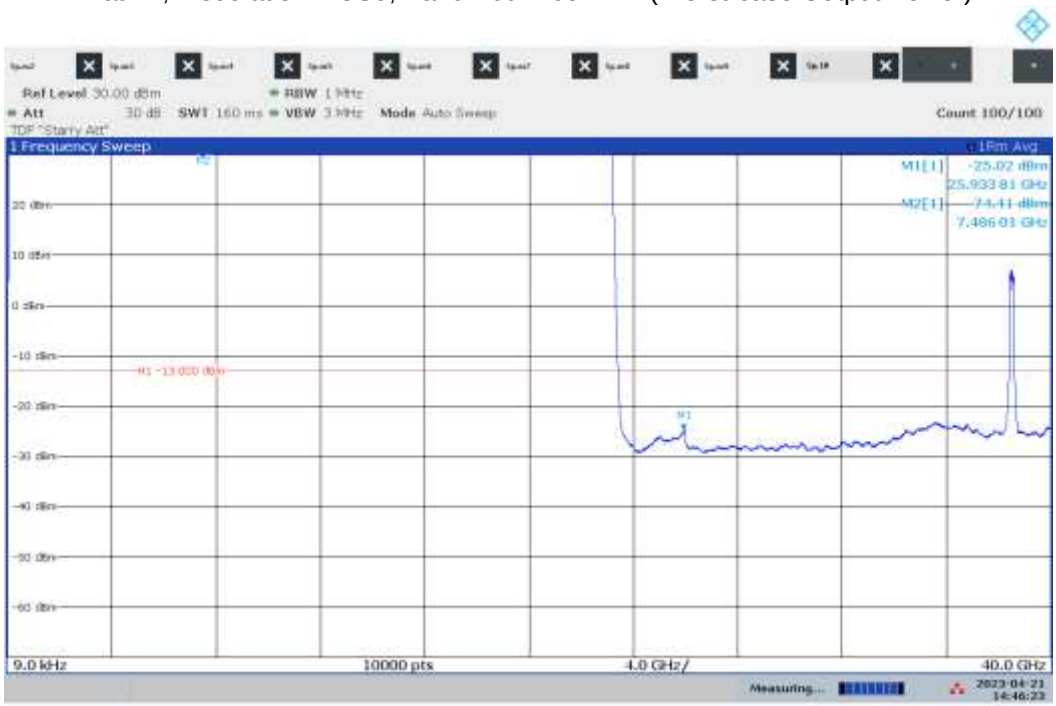
8.6 Plots/Data:

Low Channel Conducted Spurious Emissions, 9 kHz-40 GHz
Path 4, Modulation: MCS9, Bandwidth: 160 MHz (Worst-case Output Power)



02:38:28 PM 04/21/2023

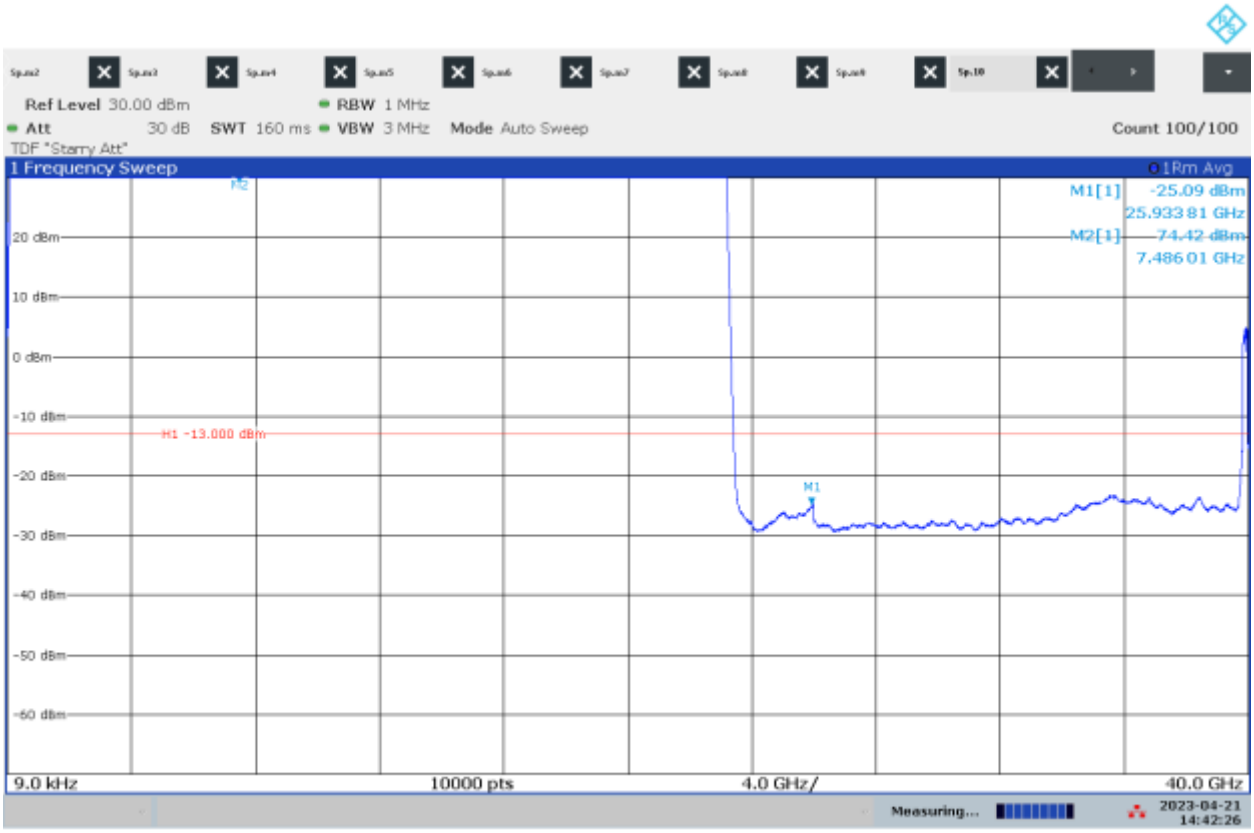
Mid Channel Conducted Spurious Emissions, 9 kHz-40 GHz
Path 7, Modulation MCS9, Bandwidth 160 MHz (Worst-case Output Power)



02:46:23 PM 04/21/2023

Notes: Due to high attenuation of the notch filter, only the frequency range as shown were measurable.

High Channel Conducted Spurious Emissions, 9 kHz-40 GHz
Path 4, Modulation MCS0, Bandwidth 160 MHz (Worst-case Output Power)



02:42:26 PM 04/21/2023

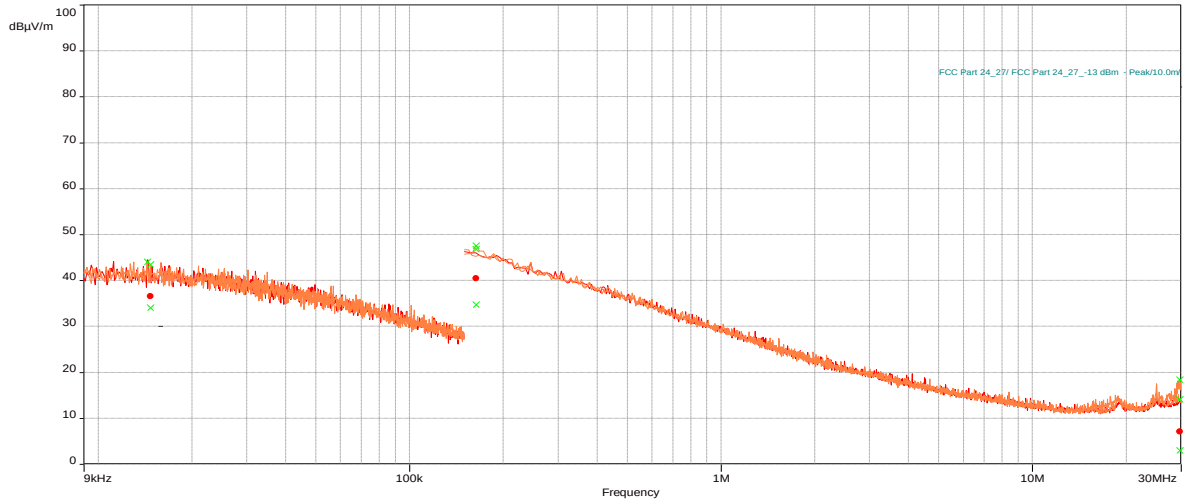
Notes: Due to high attenuation of the notch filter, only the frequency range as shown were measurable.

Radiated Emissions From 9 kHz-30 MHz
[Worst-case Output Power: Path 4, Bandwidth = 160 MHz, Modulation: MCS0]

Test Information:

Date and Time	4/26/2023 8:56:02 AM
Client and Project Number	Starry
Engineer	Kouma Sinn
Temperature	23 C
Humidity	34 %
Atmospheric Pressure	1015 mbar
Comments	Scan 4: High Ch _Path 4_160 MHz BW_MCS0 (Worst-case Output Power), RE 9kHz-30MHz Loop antenna, Electric Field, 10M Location (FCC Part 18)

Graph:



Results:

EIRP Peak (PASS) (3)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
0.01466315789	43.50	-41.3	-13	-28.3	96.00	1.00	Vertical	200.00	0.14
0.1640263158	46.84	-37.96	-13	-24.96	358.00	1.00	Vertical	200.00	0.16
29.72813158	14.19	-70.61	-13	-57.61	121.00	1.00	Vertical	200.00	1.81

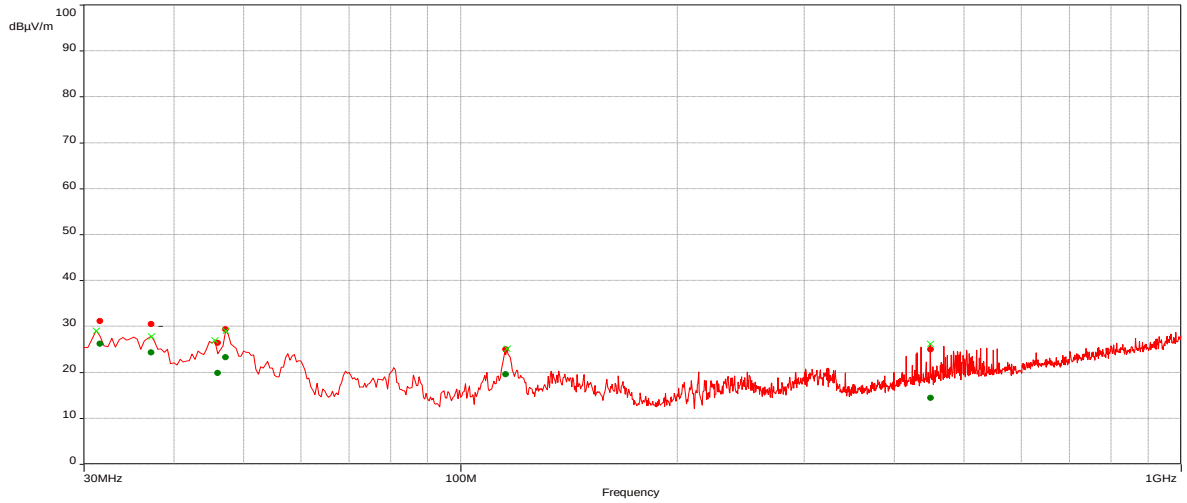
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter. No emission was detected above the instrument noise floor signals. Readings above are noise floor readings.

Radiated Emissions From 30-1000 MHz (V/H), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]

Test Information:

Date and Time	4/25/2023 9:26:09 AM
Client and Project Number	Starry
Engineer	Kouma Sinn
Temperature	23 C
Humidity	35 %
Atmospheric Pressure	1011 mbar
Comments	Scan 1: Low Ch _Path 4_160 MHz BW_MCS9 (Worst-case Output Power), RE 30-1000MHz SA mode

Graph:



Results:

EIRP Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
31.51578947	31.22	-53.58	-13	-40.58	114.00	1.36	Vertical	120k	-13.37
37.32631579	30.53	-54.27	-13	-41.27	31.00	1.55	Vertical	120k	-17.42
45.94736842	26.47	-58.33	-13	-45.33	83.00	1.97	Vertical	120k	-23.41
47.23157895	29.40	-55.4	-13	-42.4	75.00	1.52	Vertical	120k	-24.11
115.6842105	25.01	-59.79	-13	-46.79	274.00	2.15	Vertical	120k	-19.12
449.2736842	24.99	-59.81	-13	-46.81	65.00	2.14	Vertical	120k	-14.04

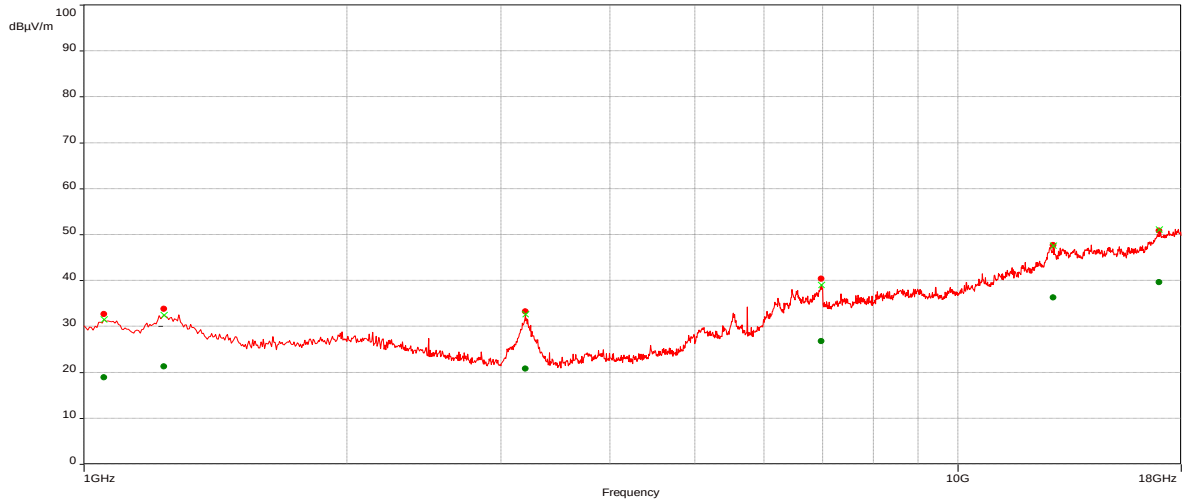
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions From 1-18 GHz (V/H), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]

Test Information:

Date and Time	4/26/2023 2:57:57 PM
Client and Project Number	Starry
Engineer	Kouma Sinn
Temperature	23 C
Humidity	34 %
Atmospheric Pressure	1015 mbar
Comments	Scan 7: Low Ch _Path 4_160 MHz BW_MCS9 (Worst-case Output Power), RE 1 to 18 GHz SA mode

Graph:



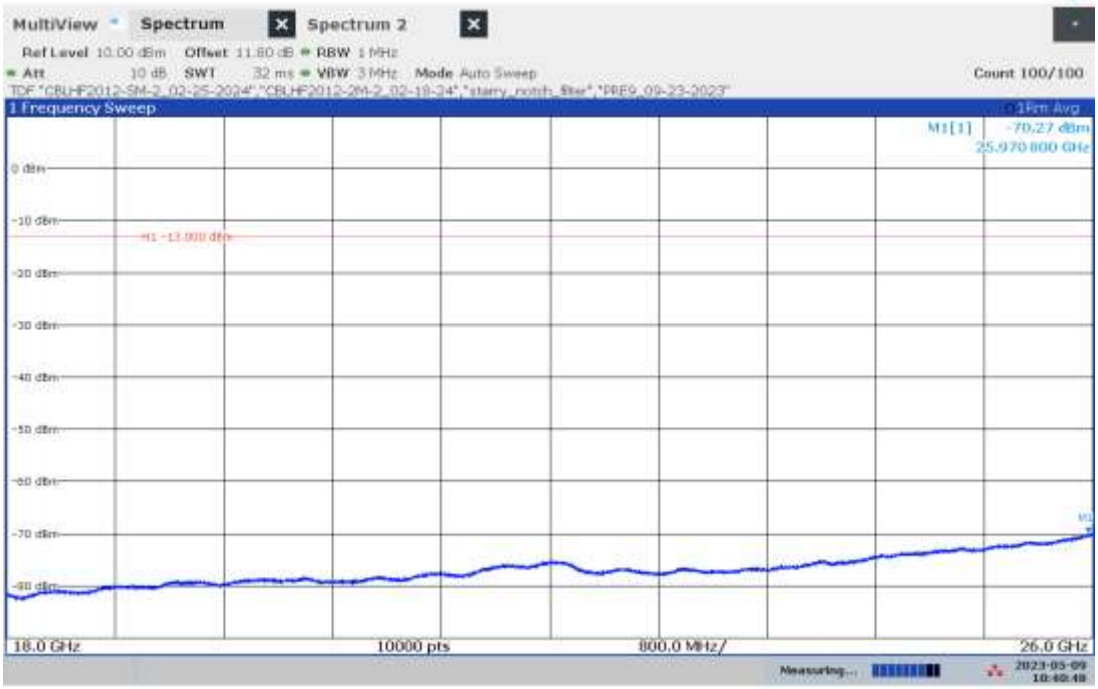
Results:

EIRP Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1055.263158	32.70	-62.56	-13	-49.56	345.00	2.35	Vertical	1M	-10.16
1232.631579	33.83	-61.43	-13	-48.43	357.00	1.61	Horizontal	1M	-8.44
3198.421053	33.31	-61.95	-13	-48.95	335.00	3.36	Horizontal	1M	6.53
6978.684211	40.39	-54.87	-13	-41.87	61.00	2.28	Horizontal	1M	3.30
12862.36842	47.73	-47.53	-13	-34.53	122.00	1.00	Horizontal	1M	13.64
16990.26316	50.87	-44.39	-13	-31.39	297.00	2.95	Vertical	1M	19.63

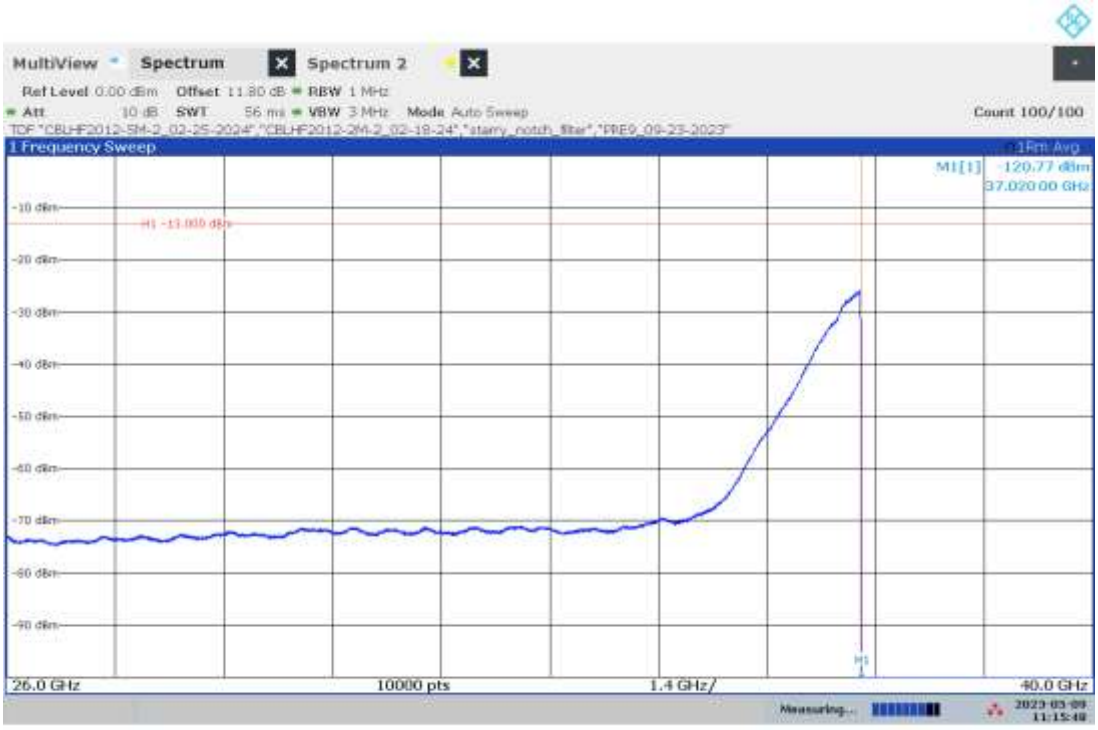
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions From 18-26 GHz (V/H), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



10:40:48 AM 05/09/2023

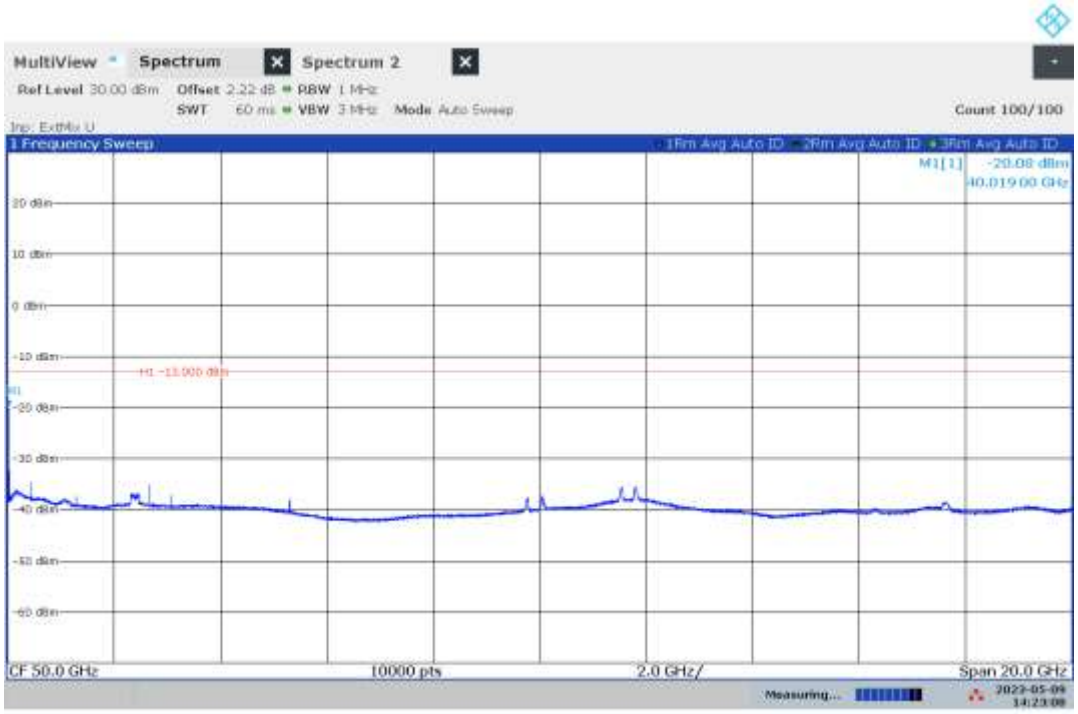
Radiated Emissions From 26-40 GHz (V/H), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



11:15:48 AM 05/09/2023

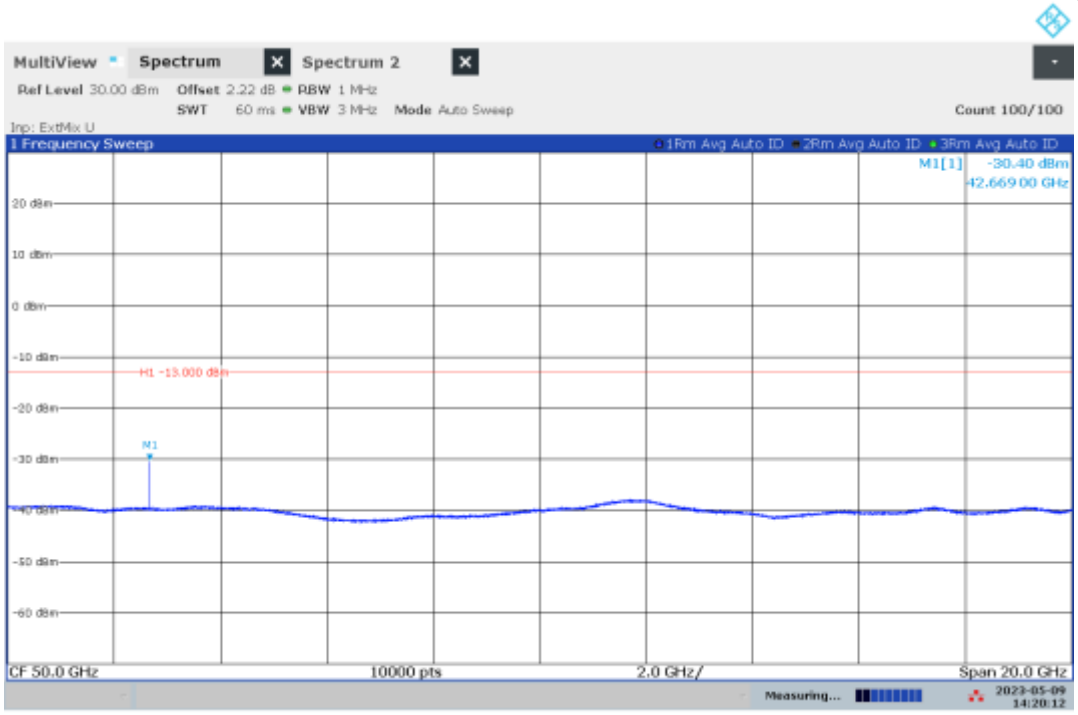
Notes: No emission was detected above the test instrument noise floor noise floor.

Radiated Emissions From 40-60 GHz (Vertical Polarity 1), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



02:23:08 PM 05/09/2023

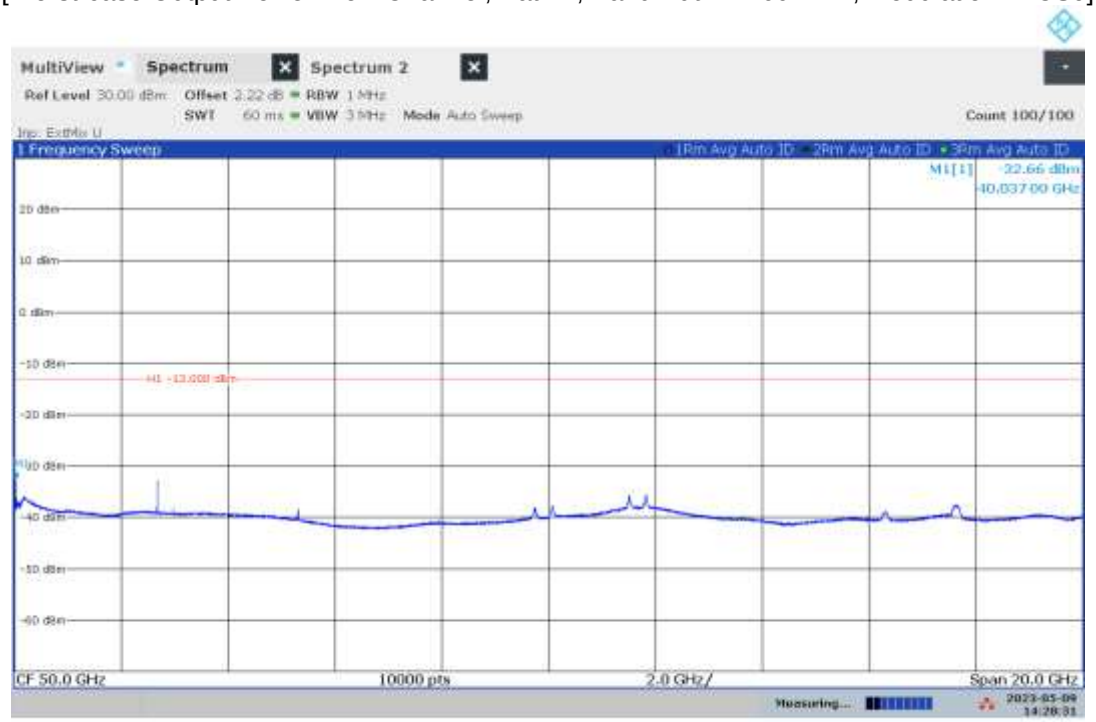
Radiated Emissions From 40-60 GHz (Vertical Polarity 2), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



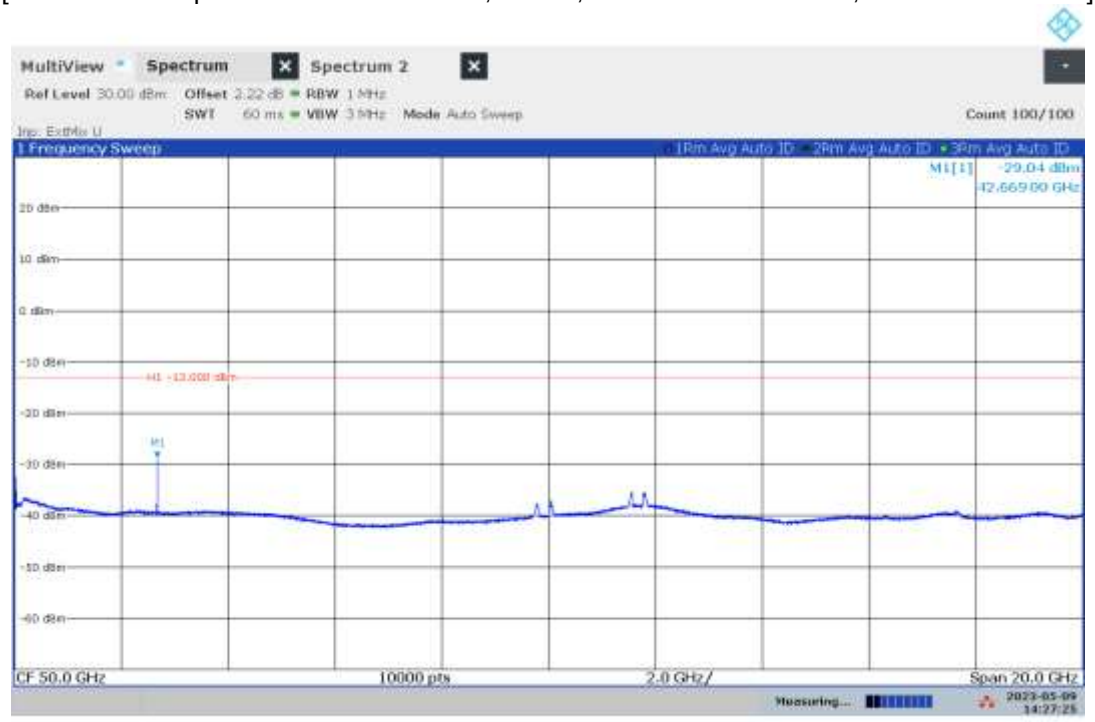
02:20:12 PM 05/09/2023

Notes: Two plots were taken due to emission levels are located at different angle of the EUT. The mixer loss and antenna factor includes in Inp: ExtMix U while the cable loss was compensated as dB offset.

Radiated Emissions From 40-60 GHz (Horizontal Polarity 1), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



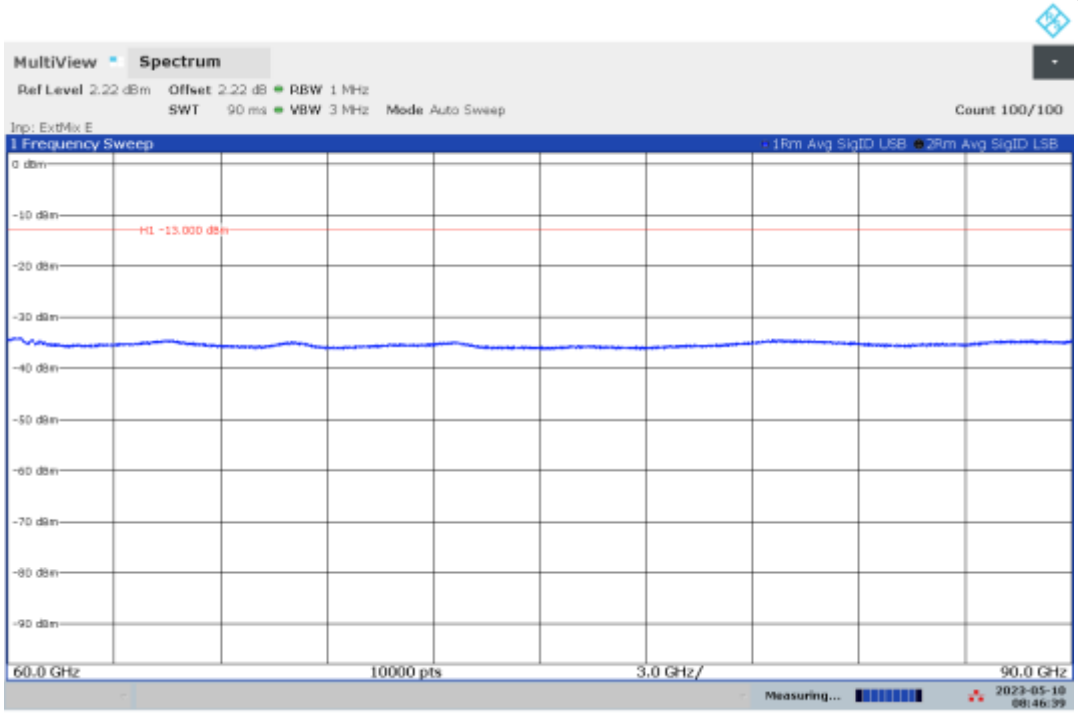
Radiated Emissions From 40-60 GHz (Horizontal Polarity 2), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



Notes: Two plots were taken due to emission levels are located at different angle of the EUT. The mixer loss and antenna factor include in Inp: ExtMix U while the cable loss was compensated as dB offset.

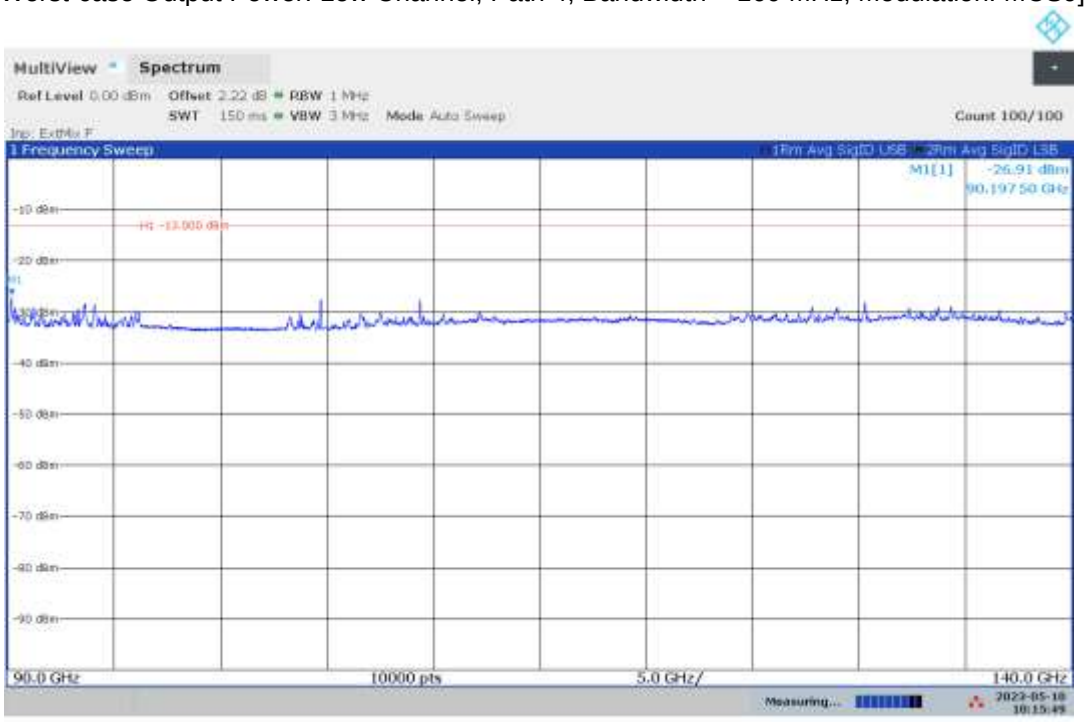
Radiated Emissions From 60-90 GHz (V/H Polarity), Low Channel

[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



08:46:39 AM 05/10/2023

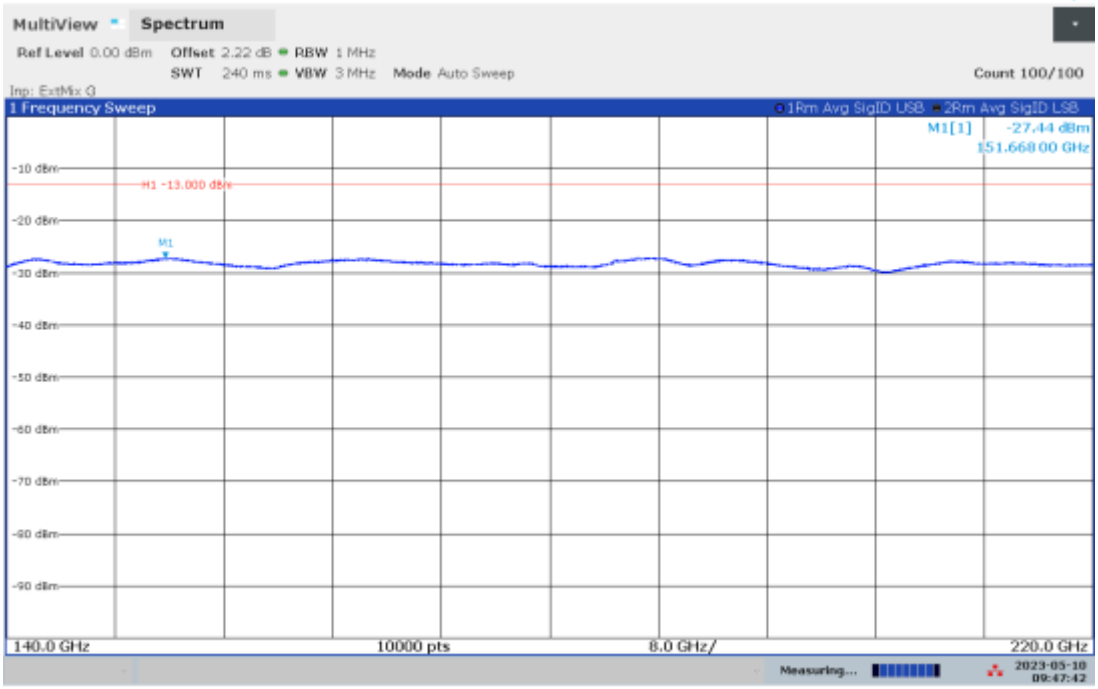
Radiated Emissions From 90-140 GHz (V/H Polarity), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



10:15:49 AM 05/10/2023

Notes: No emission was detected above the test instrument noise floor noise floor. The mixer loss and antenna factor include in Inp: ExtMix U while the cable loss was compensated as dB offset.

Radiated Emissions From 140- 220 GHz (V/H Polarity), Low Channel
[Worst-case Output Power: Low Channel, Path 4, Bandwidth = 160 MHz, Modulation: MCS9]



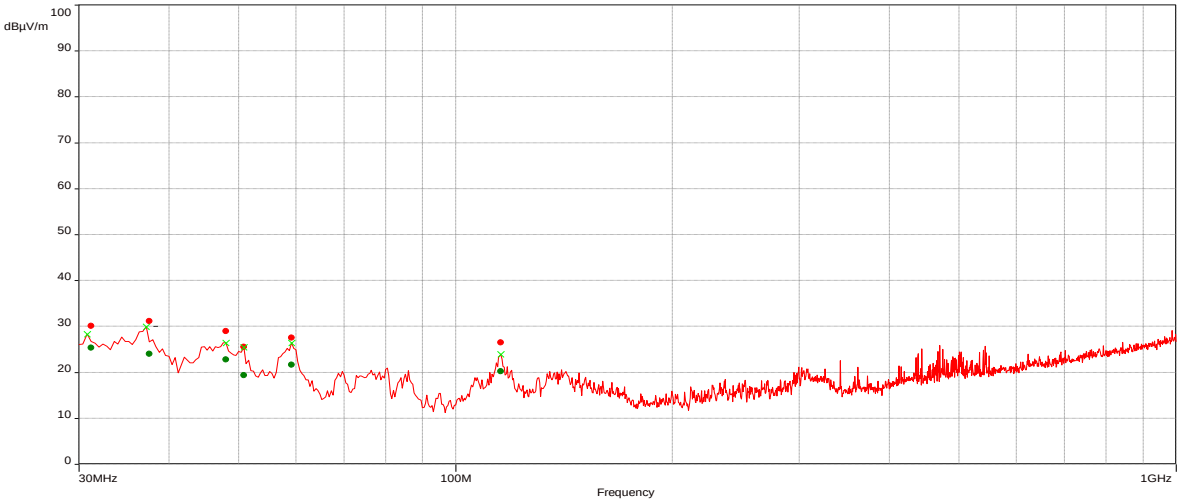
Notes: No emission was detected above the test instrument noise floor noise floor. The mixer loss and antenna factor include in Inp: ExtMix U while the cable loss was compensated as dB offset.

Radiated Emissions From 30-1000 MHz (V/H), Mid Channel
[Worst-case Output Power: Mid Channel, Path 7, Bandwidth = 160 MHz, Modulation: MCS9]

Test Information:

Date and Time	4/25/2023 9:57:25 AM
Client and Project Number	Starry
Engineer	Kouima Sinn
Temperature	23 C
Humidity	35 %
Atmospheric Pressure	1011 mbar
Comments	Scan 2: Mid Ch _Path 7_160 MHz BW_MCS9 (Worst-case Output Power), RE 30-1000MHz SA mode

Graph:



Results:

EIRP Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
31.14736842	30.12	-54.68	-13	-41.68	99.00	1.30	Vertical	120k	-13.23
37.51578947	31.17	-53.63	-13	-40.63	67.00	1.29	Vertical	120k	-17.57
47.87368421	29.05	-55.75	-13	-42.75	77.00	1.85	Vertical	120k	-24.36
50.76842105	25.62	-59.18	-13	-46.18	234.00	1.70	Vertical	120k	-25.30
59.2	27.59	-57.21	-13	-44.21	191.00	2.34	Vertical	120k	-25.55
115.5684211	26.56	-58.24	-13	-45.24	280.00	1.00	Vertical	120k	-19.13

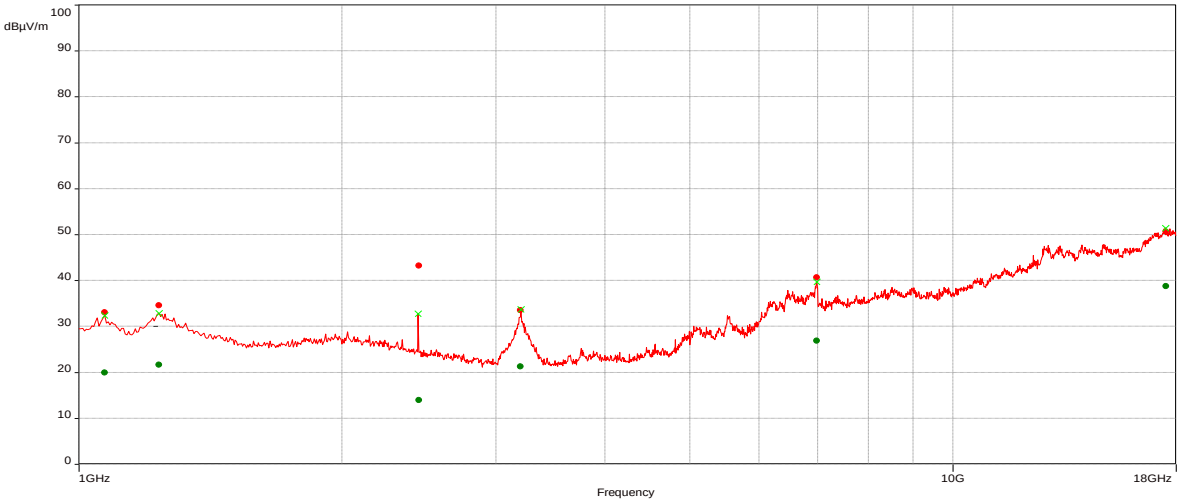
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions From 1-18 GHz (V/H), Mid Channel
[Worst-case Output Power: Mid Channel, Path 7, Bandwidth = 160 MHz, Modulation: MCS9]

Test Information:

Date and Time	4/26/2023 2:26:45 PM
Client and Project Number	Starry
Engineer	Kouma Sinn
Temperature	23 C
Humidity	34 %
Atmospheric Pressure	1015 mbar
Comments	Scan 6: Mid Ch _Path 7_160 MHz BW_MCS9 (Worst-case Output Power), RE 1 to 18 GHz SA mode

Graph:



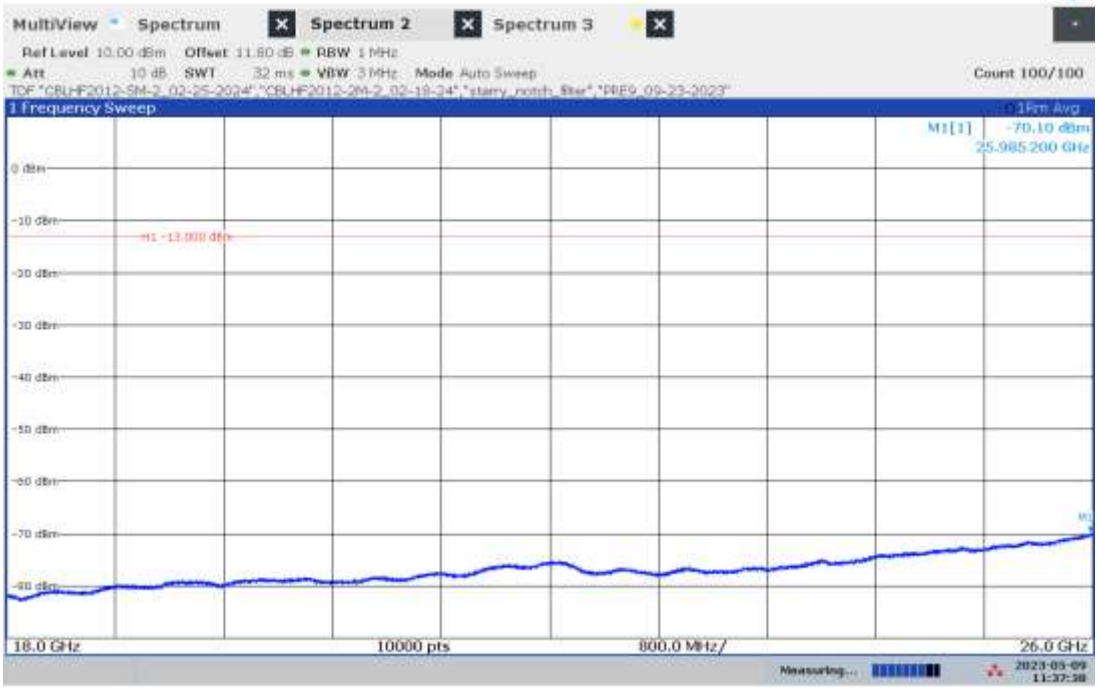
Results:

EIRP Peak (PASS) (6)

Frequency (MHz)	Peak Level (dBµV/m)	EIRP Level (dBm)	Limit (dBm)	EIRP Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
1067.631579	33.09	-62.17	-13	-49.17	2.00	2.75	Horizontal	1M	-9.93
1237.105263	34.57	-60.69	-13	-47.69	359.00	1.00	Vertical	1M	-8.44
2448.947368	43.30	-51.96	-13	-38.96	235.00	1.61	Vertical	1M	-4.28
3201.842105	33.61	-61.65	-13	-48.65	207.00	2.85	Vertical	1M	6.50
6985.789474	40.65	-54.61	-13	-41.61	190.00	3.22	Horizontal	1M	3.31
17523.68421	50.67	-44.59	-13	-31.59	206.00	1.98	Vertical	1M	19.71

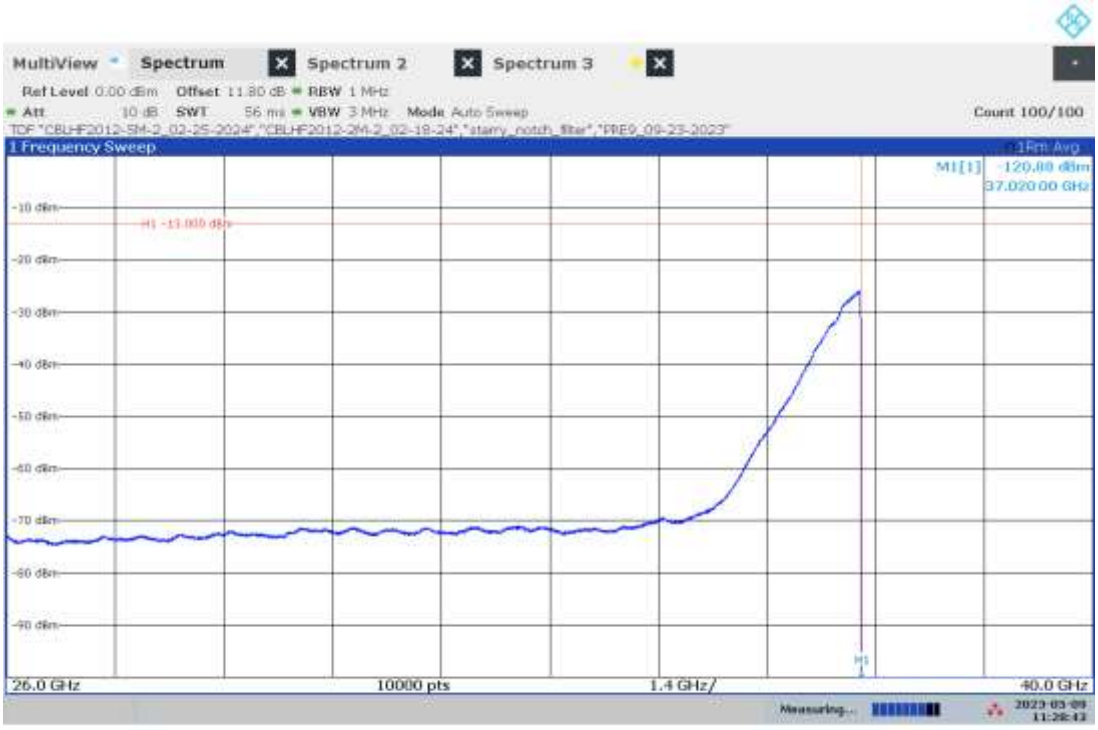
Notes: The EIRP level (dBm) is calculated from the peak level readings (dBuV/m) as EIRP Level (dBm) = Peak Level (dBuV/m) + 20*Log(d)-104.8, where d is the measurement distance (in far field region) in meter.

Radiated Emissions From 18-26 GHz (V/H), Mid Channel
[Worst-case Output Power: Mid Channel, Path 7, Bandwidth = 160 MHz, Modulation: MCS9]



11:37:38 AM 05/09/2023

Radiated Emissions From 26-40 GHz (V/H), Mid Channel
[Worst-case Output Power: Mid Channel, Path 7, Bandwidth = 160 MHz, Modulation: MCS9]



11:28:43 AM 05/09/2023

Notes: No emission was detected above the test instrument noise floor noise floor.