TEST REPORT

Product	:	Automotive Radar
Trade mark	:	N/A
Model/Type reference	:	S3CF
Serial Number	:	N/A
Report Number	:	EED32R80178201
FCC ID	:	2BFO8D9IECMN85ZT6NS
Date of Issue	:	Mar. 21, 2025
Test Standards	:	47 CFR Part 2 47 CFR Part 95 Subpart M
Test result	:	PASS

Prepared for:

Mindcruise Technology Co., ltd
Room 502-503, Building 1, Hongqiao International Exhibition Hall, 2377 Shenkun Road, Minhang District,Shanghai

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Compiled by: Frazer Li — Frazer Li

Reviewed by: Tom Chen — Tom Chen

Approved by: Aaron Ma — Aaron Ma

Date: Mar. 21, 2025

Check No.: 2738170225

1 Content

2 Version

Version No.	Date	Description
00	Mar. 21, 2025	Original

3 Test Summary

Test Item	Test Requirement	Result
EIRP (Effective Isotropic Radiated Power)	47 CFR Part 95, Subpart M Section 95.3367 47 CFR Part 2, Subpart J Section 2.1046	PASS
Modulation characteristics	47 CFR Part 2, Subpart J Section 2.1047	PASS
99% Occupied Bandwidth	47 CFR Part 2, Subpart J Section 2.1049	PASS
Unwanted emissions	47 CFR Part 95, Subpart M Section 95.3379 (a) 47 CFR Part 2, Subpart J Section 2.1053	PASS
Frequency stability	47 CFR Part 95, Subpart M Section 95.3379 (b) 47 CFR Part 2, Subpart J Section 2.1055	PASS

4 General Information

4.1 Client Information

Applicant:	Mindcruise Technology Co., ltd
Address of Applicant:	Room 502-503, Building 1, Hongqiao International Exhibition Hall, 2377 Shenkun Road, Minhang District,Shanghai
Manufacturer:	Mindcruise Technology Co., ltd
Address of Manufacturer:	Room 502-503, Building 1, Hongqiao International Exhibition Hall, 2377 Shenkun Road, Minhang District,Shanghai
Factory:	Jiangsu Mindcruise Technology Co., ltd
Address of Factory:	Floors 1-4, North Side of Building 3, Gaochuang Park, Yandu District, Yancheng City, Jiangsu Province (D)

4.2 General Description of EUT

Product Name:	Automotive Radar
Model No.:	S3CF
Trade mark:	N/A
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Operating Frequency:	76GHz to 81GHz
Center frequency:	76.35GHz
Number of channel:	1
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)
Test Power Grade:	Default (manufacturer declare)
Test Software of EUT:	Faaastseer_Installer_Ver_2.0.08.exe (manufacturer declare)
Antenna Type:	Microstrip antenna
Antenna Gain:	16.1dBi
Power Supply:	DC 9V to DC 36V
Test Voltage:	DC 12V
Sample Received Date:	Feb. 17, 2025
Sample tested Date:	Feb. 17, 2025 to Mar. 19, 2025

4.3 Test Environment

Operating Environment:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar

4.4 Description of Support Units

1）Support equipment

Description	Manufacturer	Model No.	Supplied by
PCAN-PRO FD analyzer	Mindcruise Technology Co., ltd	PCAN-PRO FD	Client
Netbook	DELL	P77F	CTI

4.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd
Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385
No tests were sub-contracted.
FCC Designation No.: CN1164

4.6 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	3.3dB (9kHz-30MHz)
		4.3dB (30MHz-1GHz)
		4.5dB (1GHz-18GHz)
		3.4dB (18GHz-40GHz)
		4.62dB (40GHz-60GHz)
		4.80dB (60GHz-90GHz)
		4.90dB (90GHz-140GHz)
		5.11dB (140GHz-220GHz)
		5.14dB (220GHz-325GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

5 Equipment List

3M Semi-anechoic Chamber (2)					
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05-22-2022	05-21-2025
Receiver	R&S	ESCI7	100938-003	09-07-2024	09-06-2025
Spectrum Analyzer	R&S	FSV40	101200	07-18-2024	07-17-2025
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-16-2024	04-15-2025
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-618	05-18-2024	05-17-2025
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-16-2024	04-15-2025
Horn Antenna	A.H.SYSTEMS	SAS-574	374	06-17-2024	06-16-2025
Preamplifier	Agilent	11909A	12-1	03-22-2024	03-21-2025
Preamplifier	EMCI	EMC051845SE	980380	12-05-2024	12-04-2025
Preamplifier	CD	PAP-1840-60	6041.6042	06-19-2024	06-18-2025
Spectrum Analyzer	R&S	FSV3044	101509	02-14-2025	02-13-2026
Spectrum Analyzer	R&S	FSW43	102978	08-12-2024	08-11-2025
Receive unit	R&S	TC-RSE60	100729	N/A	N/A
Receive unit	R&S	TC-RSE90	100721	N/A	N/A
Receive unit	R&S	TC-RSE140	101254	N/A	N/A
Receive unit	R&S	TC-RSE220	100716	N/A	N/A
Receive unit	R&S	TC-RSE325	100638	N/A	N/A

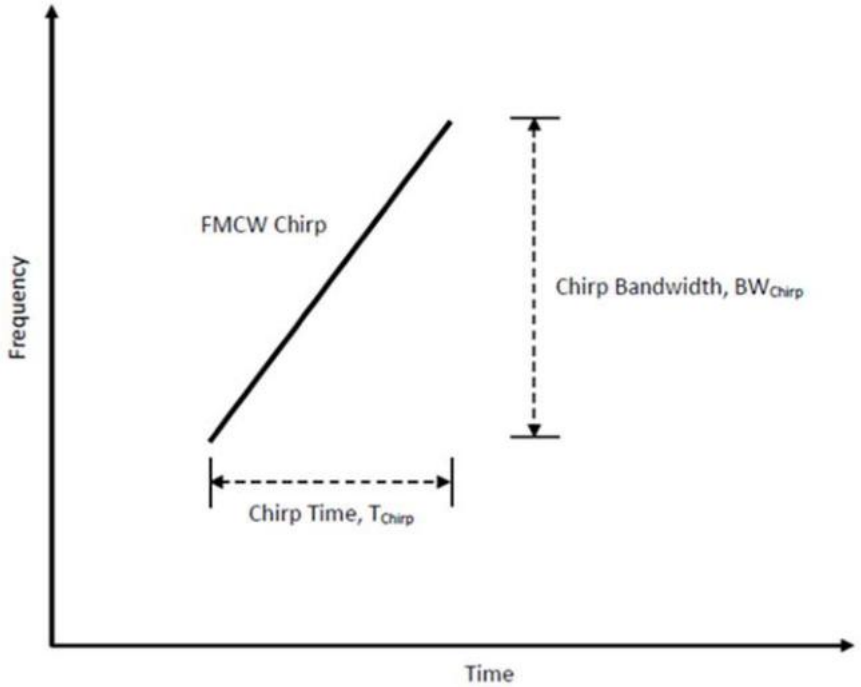
Note:
N/A:Calibrated by the equipment manufacturer.

3M full-anechoic Chamber (3)					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
RSE Automatic test software	JS Tonscend	JS36-RSE	10166	---	---
Receiver	Keysight	N9038A	MY57290136	01-04-2025	01-03-2026
Spectrum Analyzer	Keysight	N9020B	MY57111112	01-14-2025	01-13-2026
Spectrum Analyzer	Keysight	N9030B	MY57140871	01-14-2025	01-13-2026
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-28-2024	04-27-2025
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-16-2024	04-15-2025
Horn Antenna	ETS-LINDGREN	3117	57407	07-03-2024	07-02-2025
Preamplifier	EMCI	EMC184055SE	980597	04-12-2024	04-11-2025
Preamplifier	EMCI	EMC001330	980563	03-08-2024 03-03-2025	03-07-2025 03-02-2026
Preamplifier	JS Tonscend	TAP-011858	AP21B806112	07-18-2024	07-17-2025
Communication test set	R&S	CMW500	102898	01-04-2025	01-03-2026
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	04-07-2024	04-06-2025
Fully Anechoic Chamber	TDK	FAC-3	---	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-09-2024	01-08-2027
Cable line	Times	EMC104-NMNM-1000	SN160710	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-09-2024	01-08-2027
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-09-2024	01-08-2027
Spectrum Analyzer	R&S	FSV3044	100509	02-14-2025	02-13-2026
Spectrum Analyzer	R&S	FSW43	102978	08-12-2024	08-11-2025
Receive unit	R&S	TC-RSE60	100729	N/A	N/A
Receive unit	R&S	TC-RSE90	100721	N/A	N/A
Receive unit	R&S	TC-RSE140	101254	N/A	N/A
Receive unit	R&S	TC-RSE220	100716	N/A	N/A
Receive unit	R&S	TC-RSE325	100638	N/A	N/A

Note:
N/A:Calibrated by the equipment manufacturer.

6 Test results and Measurement Data

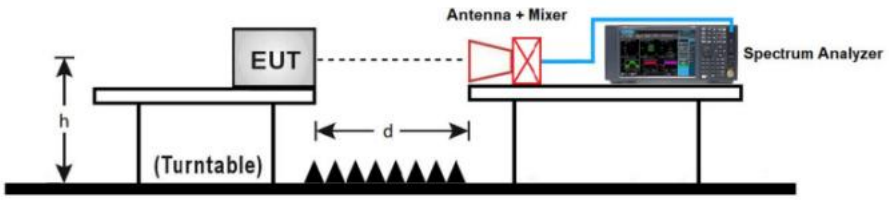
6.1 Modulation characteristics

Standard requirements:	47 CFR Part 2, Subpart J Section 2.1047 (b), KDB 653005 D01 76-81 GHz Radars v01r01 Section 3 g) 2)
	47 CFR Part 2, Subpart J Section 2.1047 requirements: (b) Equipment which employs modulation limiting. A curve or family of curves showing the percentage of modulation versus the modulation input voltage shall be supplied. The information submitted shall be sufficient to show modulation limiting capability throughout the range of modulating frequencies and input modulating signal levels employed. KDB 653005 D01 76-81 GHz Radars v01r01 Section 3 g) 2) requirements: g) Concerning the Section 2.1047 modulation characteristics requirement, the following information should be provided: 1) Pulsed radar: pulse width and pulse repetition frequency (if PRF is variable, then report maximum and minimum values). 2) Non-pulsed radar (e.g., FMCW): modulation type (i.e., sawtooth, sinusoid, triangle, or square wave) and sweep characteristics (sweep bandwidth, sweep rate, sweep time).
FMCW signals characteristic:	F_s=sweep width and T_s=sweep time,are designated as BW_{chirp}=Chirp Bandwidth (or Chirp BW) and T_{chirp}=Chirp Time,respectively.  **Figure L.1—Frequency-time characteristics of an FMCW chirp with linear sweep**

Conclusion
According to § 2.1047, A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed
Comments from manufacturer on modulation characteristics according to KDB:

Parameter	
Duty Cycle(%):	17.375
Time RF on(ms):	34.75
Time RF off(ms):	165.25
Power:	Constant during RF on
Steepness of Ramps(GHz/s):	8.787
Calibration:	N/A
Antenna Beam Steering(TX):	N/A
Characteristics	
Type of Modulation:	FMCW(Frequency Modulated Continuous Wave)
Sweep Width(MHz):	800
Sweep Time(μs):	100
Chirp Bandwidth(MHz):	571 or 747
Chirp Time(μs):	65 or 85
Chirp Rate(MHz/μs):	8.787
Chirp Length(μs):	80 or 100

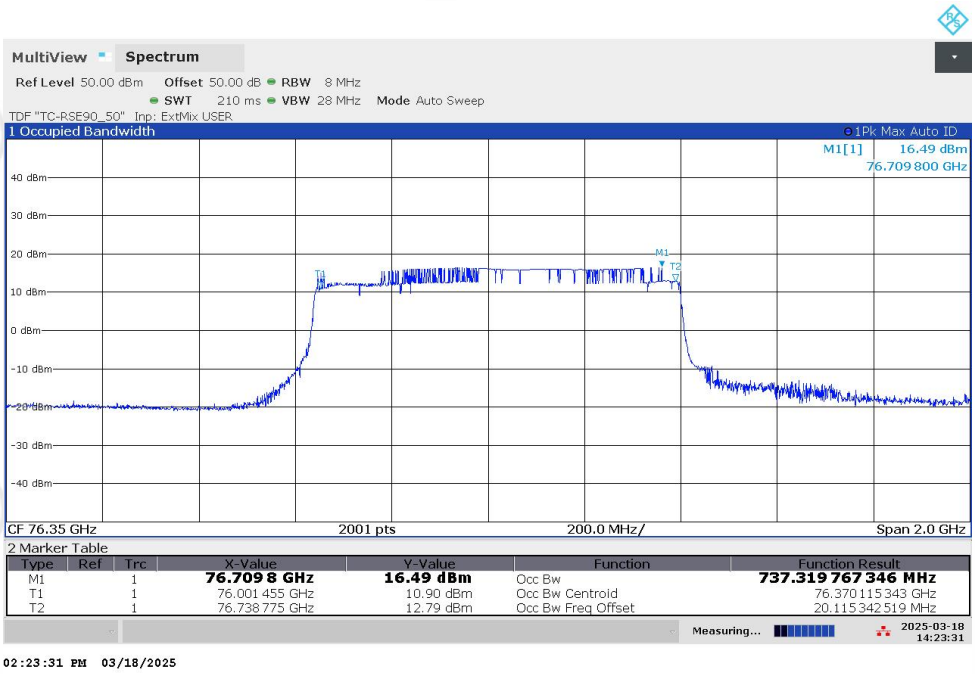
6.2 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 2, Subpart J Section 2.1049
Test Method:	ANSI C63.10:2020 Section 9.4
Limit:	Within the designated 76~81GHz frequency band
Test Setup:	 h=1.5m,d=1.0m
Test Procedure:	a) The following procedure shall be used for measuring 99% power bandwidth: Use the following spectrum analyzer settings: 1) Span equal to approximately 1.5 times the OBW, centered on the carrier frequency. 2) RBW, prefer 1% to 5% of OBW, or a minimum of 1 MHz if this is not possible due to a large OBW. 3) VBW approximately 3 × RBW. 4) Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation. 5) Sweep = No faster than coupled (auto) time. 6) Detector function = peak. 7) Trace = max-hold. b) The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize. c) Repeat this test for each modulation scheme.
Test Mode:	TX mode_Make EUT continuously emit radar signals.

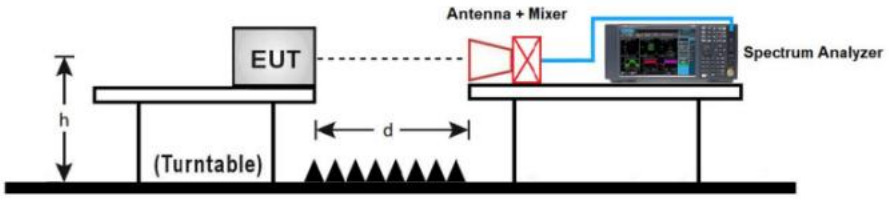
Test data:

99% emission bandwidth (MHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit (GHz)	Result
737.319767346	76.001455	76.738775	76 to 81	Pass

Test graph:



6.3 EIRP(Effective Isotropic Radiated Power)

Test Requirement:	47 CFR Part 95, Subpart M Section 95.3367, KDB 653005 D01 76-81 GHz Radars v01r01 Section 4 a),b),c)
Test Method:	ANSI C63.26:2015 Section 5.2
Limit:	Peak EIRP ≤55dBm/MHz; Average EIRP ≤50dBm/MHz;
Test Setup:	 h=1.5m,d=1.0m
Test Procedure:	(1)Maximum peak power(EIRP) – Peak detector 1. Set RBW = 1MHz; 2. Set VBW ≥ 3*RBW; 3. Span to 2~3*OBW; 4. Detector = Peak; 5. Set number of points in sweep ≥ 2*Span/RBW; 6. Sweep time=Auto couple; 7. Trace = Max hold; (2)Maximum power(EIRP) – Averaging detector Note: The maximum power(averaging detector) measurements are performed using the “channel power” measurement capability and integrated over the 99% OBW to obtain the result. 1. Measurement capability of instrument = Channel power; 2. Set RBW = 1MHz; 3. Set VBW ≥ 3*RBW; 4. Span to 2~3*OBW; 5. Channel bandwidth setting of instrument ≥ OBW; 6. Detector = Power averaging (RMS); 7. Set number of points in sweep ≥ 2*Span/RBW; 8. Sweep time = Auto couple; 9. Trace = Averaging;
Test Mode:	TX mode_Make EUT continuously emit radar signals.

Test data:

Frequency (GHz)	Distance (m)	EIRP (dBm/MHz)	FMCW Chirps Correction Factor (dB)	Corrected EIRP (dBm/MHz)	EIRP Limit (dBm/MHz)	Result	Remark
76.35	1.0	11.12	12.13	23.25	≤55.0	Pass	Peak
		-23.59	12.13	-11.46	≤50.0	Pass	AVG

Remark:
①This is a radiated test,and test distance of 1.0m was used for the fundamental emissions measurement.
②EIRP(dBm/MHz) has added free space loss of 1.0m distance.
③The FMCW Chirps Correction Factor was calculated using the formula:

$$\mathbf{CF_{chirp} = 5 * log\left(1 + K * \left(\frac{Span}{t * RBW^2}\right)^2\right.}$$

With t being the length of the chirp and K a correction factor for the setting process of the gaussian shaped filter (~0.1947).

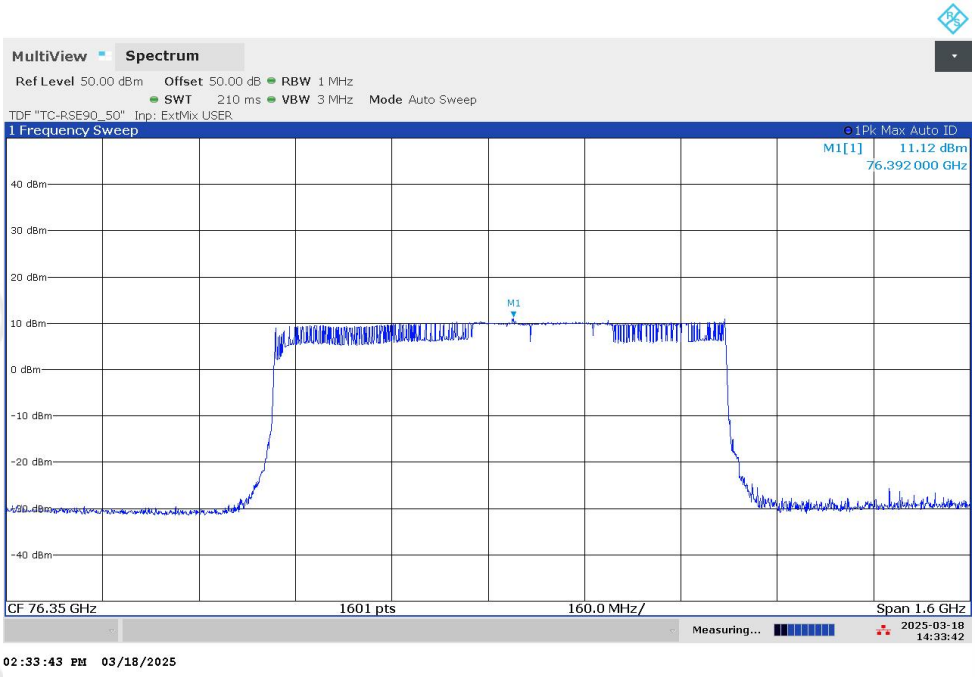
Sample calculation for FMCW chirps correction factor:

$$CF_{chirp}=5*\log_{10}(1+0.1947*(738MHz/(20\mu s*1MHz^2))^2=12.13dB$$

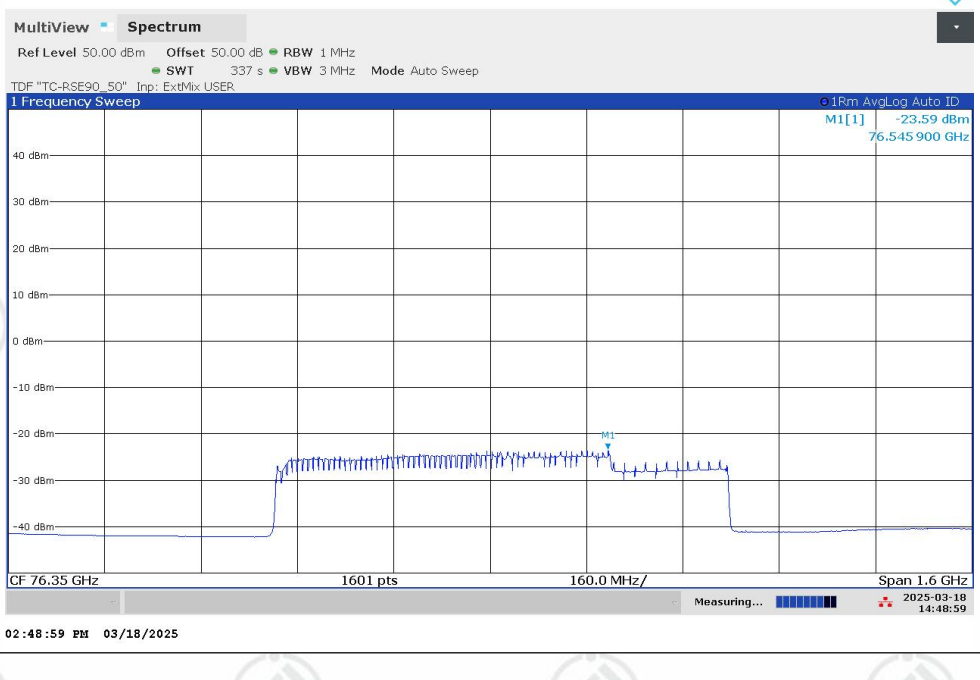
Note:Span is the measured maximum occupied bandwidth,refer to the section of 6.2,t claimed by the customer.
④Guidance for calculating the correction factor is from Application Note 1EF107-1E Rohde & Schwarz Peak and Mean Power measurements on wideband FMCW radar signals.
⑤Corrected EIRP(dBm/MHz)=EIRP(dBm/MHz)+FMCW Chirps Correction Factor(dB).
⑥Only the worst case data of Vertical was recorded in the report.

Test graph:

Peak EIRP

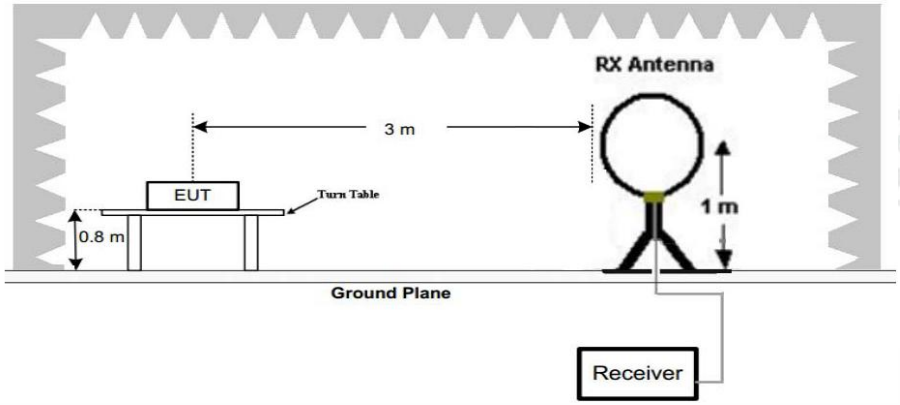
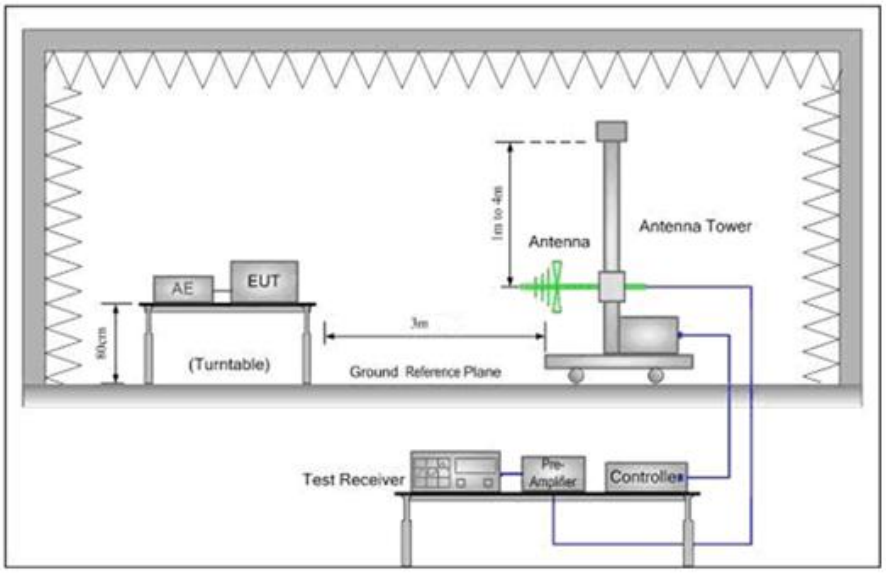


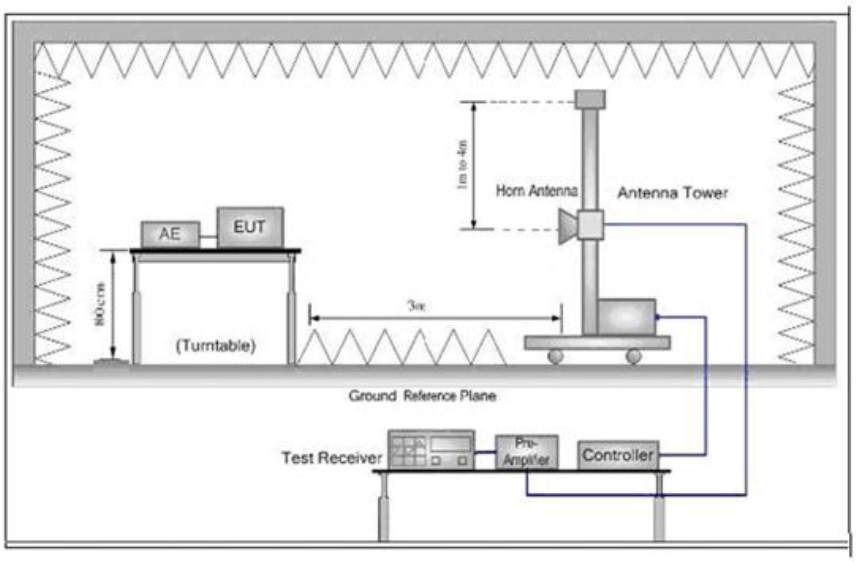
Average EIRP



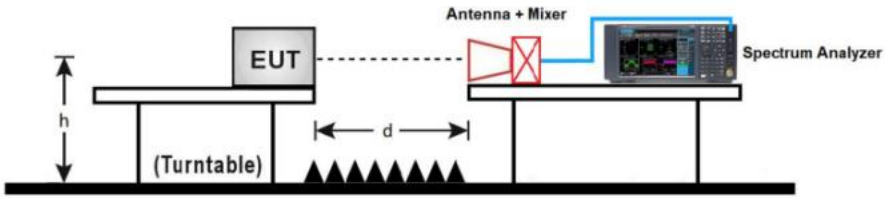
6.4 Unwanted emissions

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 95, Subpart M Section 95.3379 (a),
KDB 653005 D01 76-81 GHz Radars v01r01 Section 4 e)</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2020 Section 9.10 & Section 9.11</td></tr>
<tr><td>Limit:</td><td>The power density of any emissions outside the 76GHz-81GHz band shall consist solely of spurious emissions and shall not exceed the following:
(1) Radiated emissions below 40GHz shall not exceed the field strength as shown in the following emissions table.
<table>
<tr><th>Frequency (MHz)</th><th>Field Strength (uV/m)</th><th>Measurement Distance (m)</th></tr>
<tr><td>0.009 ~ 0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490 ~ 1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705 ~ 30.0</td><td>30</td><td>30</td></tr>
<tr><td>30 ~ 88</td><td>100</td><td>3</td></tr>
<tr><td>88 ~ 216</td><td>150</td><td>3</td></tr>
<tr><td>216 ~ 960</td><td>200</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
(i) The tighter limit applies at the band edges.
(ii) The limits in the table are based on the frequency of the unwanted emissions and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
(iii) The emissions limits shown in the table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90kHz,110kHz-490kHz,and above 1000MHz.Radiated emissions limits in these three bands are based on measurements employing an average detector with a 1MHz RBW.
(2) The power density of radiated emissions outside the 76GHz-81GHz band above 40GHz shall not exceed the following,based on measurements employing an average detector with a 1MHz.
(i) For radiated emissions between 40GHz and 200GHz: 600pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.
(ii) For radiated emissions above 200GHz: 1000pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.
(3) For field disturbance sensors and radar systems operating in the 76GHz-81GHz band, the spectrum shall be investigated up to 231GHz (preferably 243GHz).</td></tr>
</table>

Test Setup:	Below 30MHz:  30MHz-1GHz:  1GHz-41GHz:



Above 41GHz:



h=1.5m,d=1.0m

Test Procedure:

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

	The measurement frequency range form 9kHz - 231GHz was investigated (preferably 243GHz).
Test Mode:	TX mode_Make EUT continuously emit radar signals.

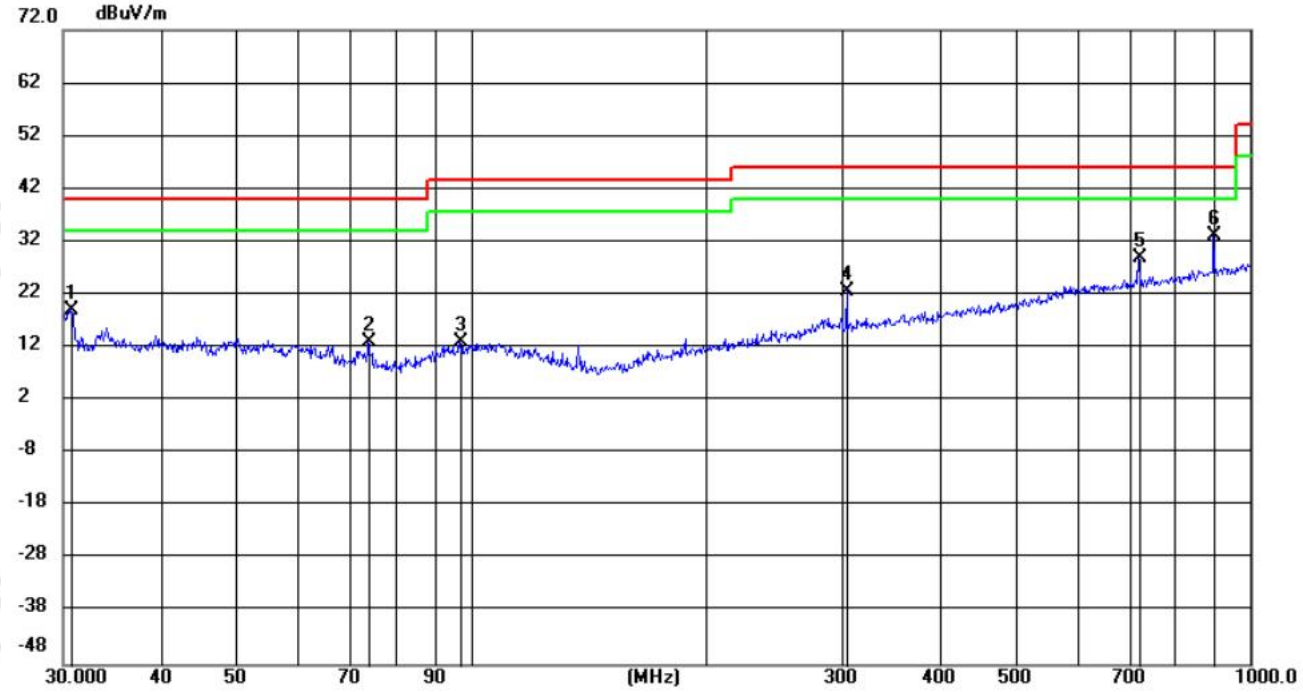
Radiated Spurious Emission below 30MHz:

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Radiated Spurious Emission 30MHz-1GHz:

Test data:

Polarization: Horizontal



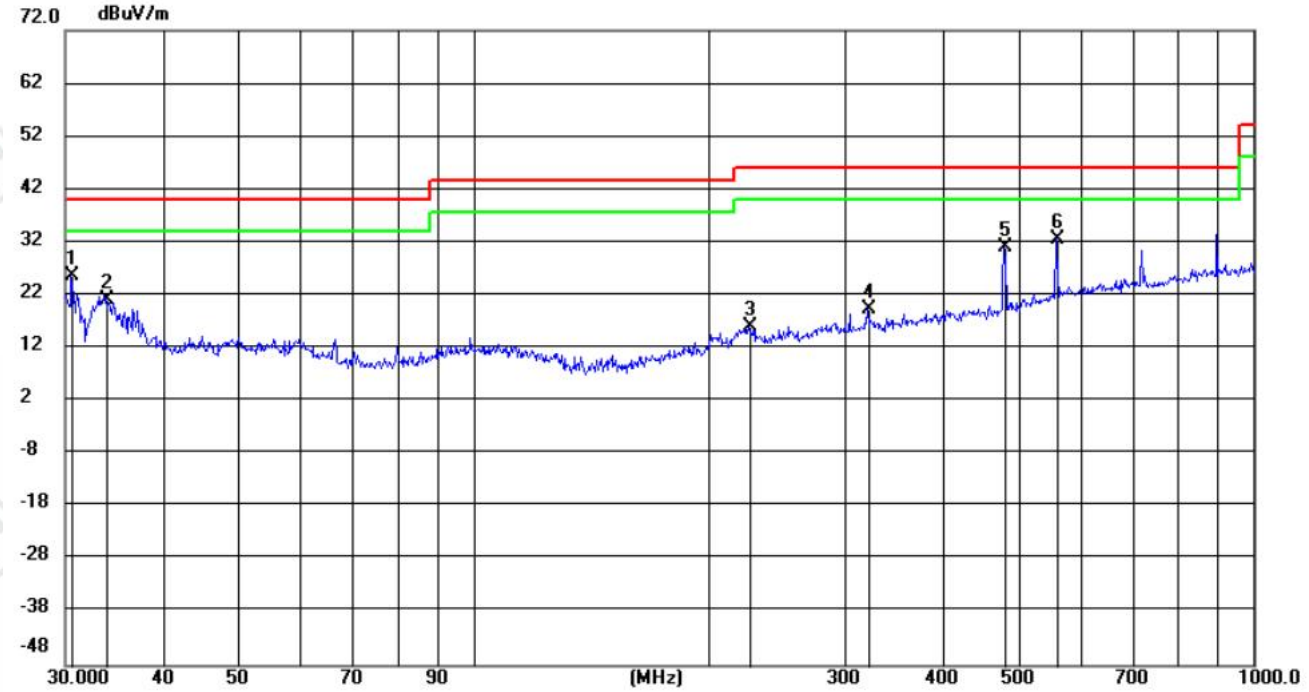
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.6916	6.85	12.33	19.18	40.00	-20.82	QP	199	352	
2		74.0312	2.98	9.93	12.91	40.00	-27.09	QP	100	7	
3		96.9617	0.24	12.71	12.95	43.50	-30.55	QP	199	207	
4		304.2363	6.56	16.23	22.79	46.00	-23.21	QP	100	37	
5		720.0827	5.74	23.30	29.04	46.00	-16.96	QP	199	269	
6	*	900.1474	7.33	25.92	33.25	46.00	-12.75	QP	100	322	

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.6003	13.36	12.31	25.67	40.00	-14.33	QP	100	259	
2		33.8223	8.31	12.77	21.08	40.00	-18.92	QP	200	17	
3		225.9805	2.58	13.36	15.94	46.00	-30.06	QP	100	322	
4		320.0492	2.87	16.53	19.40	46.00	-26.60	QP	100	239	
5		480.0224	11.69	19.48	31.17	46.00	-14.83	QP	100	239	
6	*	560.0051	11.30	21.29	32.59	46.00	-13.41	QP	100	239	

Note:

①Measurement(dBuV/m)=Reading Level(dBuV)+Correct Factor(dB);

②Margin(dB)=Measurement(dBuV/m)-Limit(dBuV/m);

Radiated Spurious Emission 1GHz-18GHz:

Test data:

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1388.9593	-22.77	59.34	36.57	74.00	37.43	PASS	Horizontal	PK
2	2280.0853	-17.77	57.83	40.06	74.00	33.94	PASS	Horizontal	PK
3	3801.0534	-11.90	51.98	40.08	74.00	33.92	PASS	Horizontal	PK
4	6104.2069	-5.82	47.76	41.94	74.00	32.06	PASS	Horizontal	PK
5	9470.4314	2.22	44.31	46.53	74.00	27.47	PASS	Horizontal	PK
6	14246.7498	12.30	39.90	52.20	74.00	21.80	PASS	Horizontal	PK
7	1265.751	-23.68	60.92	37.24	74.00	36.76	PASS	Vertical	PK
8	2039.936	-17.63	57.89	40.26	74.00	33.74	PASS	Vertical	PK
9	3382.0255	-13.14	53.58	40.44	74.00	33.56	PASS	Vertical	PK
10	5376.1584	-8.34	48.03	39.69	74.00	34.31	PASS	Vertical	PK
11	7963.3309	-2.82	46.86	44.04	74.00	29.96	PASS	Vertical	PK
12	12987.6658	8.28	42.22	50.50	74.00	23.50	PASS	Vertical	PK

Radiated Spurious Emission 18GHz-41GHz:

Test data:

NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19595.5038	-23.94	62.26	38.32	74.00	35.68	PASS	Horizontal	PK
2	21739.2696	-24.75	61.90	37.15	74.00	36.85	PASS	Horizontal	PK
3	23924.397	-20.59	59.04	38.45	74.00	35.55	PASS	Horizontal	PK
4	26560.9824	-19.42	58.13	38.71	74.00	35.29	PASS	Horizontal	PK
5	28972.2789	-20.19	59.26	39.07	74.00	34.93	PASS	Horizontal	PK
6	31085.2434	-17.58	55.88	38.30	74.00	35.70	PASS	Horizontal	PK
7	19848.954	-23.48	62.54	39.06	74.00	34.94	PASS	Vertical	PK
8	21821.1128	-24.75	61.24	36.49	74.00	37.51	PASS	Vertical	PK
9	25661.5865	-18.78	58.15	39.37	74.00	34.63	PASS	Vertical	PK
10	29718.5487	-19.45	57.26	37.81	74.00	36.19	PASS	Vertical	PK
11	32388.5755	-15.51	54.54	39.03	74.00	34.97	PASS	Vertical	PK
12	35368.3747	-14.87	52.10	37.23	74.00	36.77	PASS	Vertical	PK

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
   Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
2) For 40GHz to 41GHz,the limit is 600pW/cm^2 equivalent to an electric field strength of 93.57dBuV/m@3m.
   Only the worst case data was recorded in the report.

Radiated Spurious Emission 41GHz-243GHz:

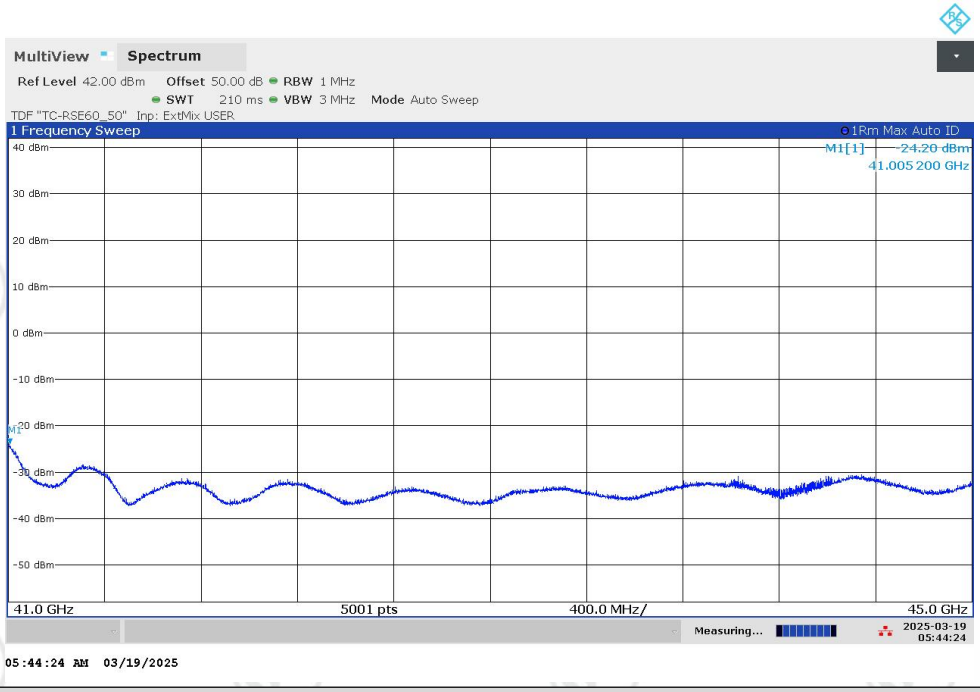
Test data:

Test Frequency (GHz)	EIRP/1MHz (dBm)	Power density(pW/cm^2) @3m distance	Limit of Power density(pW/cm^2) @3m distance	Result
41.005200	-24.20	3.36	≤600	Pass
47.967900	-28.85	1.15	≤600	Pass
53.292800	-27.18	1.69	≤600	Pass
59.826500	-32.10	0.55	≤600	Pass
60.026500	-27.13	1.71	≤600	Pass
65.396400	-10.09	86.61	≤600	Pass
71.478200	-32.07	0.55	≤600	Pass
77.539000	-36.66	0.19	≤600	Pass
82.641000	-36.34	0.21	≤600	Pass
89.953500	-39.95	0.09	≤600	Pass
90.426400	-46.97	0.02	≤600	Pass
99.815500	-45.23	0.03	≤600	Pass
104.609600	-43.96	0.04	≤600	Pass
105.147500	-44.25	0.03	≤600	Pass
114.227700	-46.16	0.02	≤600	Pass
115.222500	-47.28	0.02	≤600	Pass
120.487400	-47.19	0.02	≤600	Pass
126.984100	-47.95	0.01	≤600	Pass
131.032390	-45.64	0.02	≤600	Pass
134.333230	-47.54	0.02	≤600	Pass
139.116700	-46.25	0.02	≤600	Pass
141.624200	-43.17	0.04	≤600	Pass
145.858300	-46.27	0.02	≤600	Pass
150.669400	-47.65	0.02	≤600	Pass
155.362400	-48.62	0.01	≤600	Pass
164.196700	-48.10	0.01	≤600	Pass
165.152500	-48.54	0.01	≤600	Pass
174.280600	-46.31	0.02	≤600	Pass
175.858300	-46.77	0.02	≤600	Pass
180.083500	-48.83	0.01	≤600	Pass
187.615000	-48.56	0.01	≤600	Pass
190.079500	-49.67	0.01	≤600	Pass
199.454600	-48.75	0.01	≤600	Pass
202.456000	-47.33	0.02	≤1000	Pass
205.131500	-47.72	0.01	≤1000	Pass
211.273200	-48.50	0.01	≤1000	Pass
219.886500	-47.44	0.02	≤1000	Pass
222.249100	-41.41	0.06	≤1000	Pass
225.006500	-44.64	0.03	≤1000	Pass
234.978500	-45.10	0.03	≤1000	Pass
235.254400	-44.73	0.03	≤1000	Pass
241.702160	-45.83	0.02	≤1000	Pass

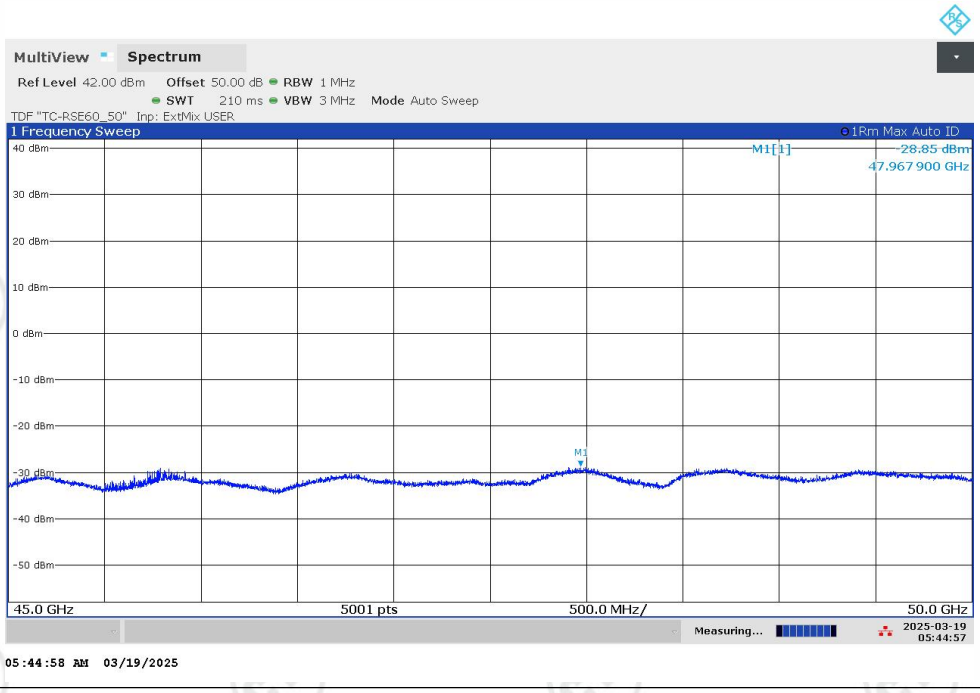
Note:
①EIRP(dBm/MHz) has added free space loss of 1.0m distance.
②Only the worst case data of Vertical was recorded in the report.
③Power density(pW/cm^2)=$10^{EIRP/1MHz(dBm)\div10}$*$10^9$÷[4*π*(3m*100)^2];

Test graph:

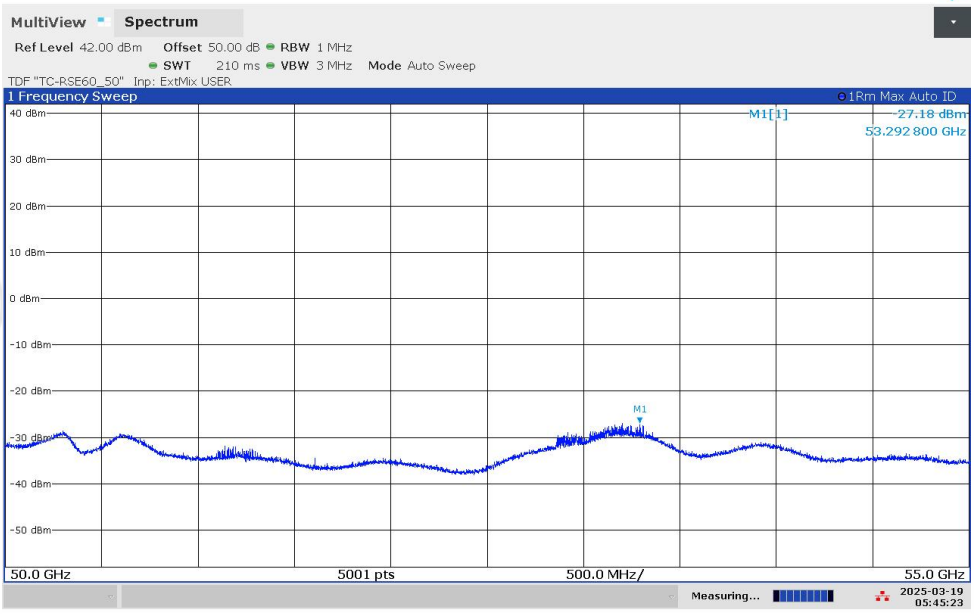
41GHz-45GHz



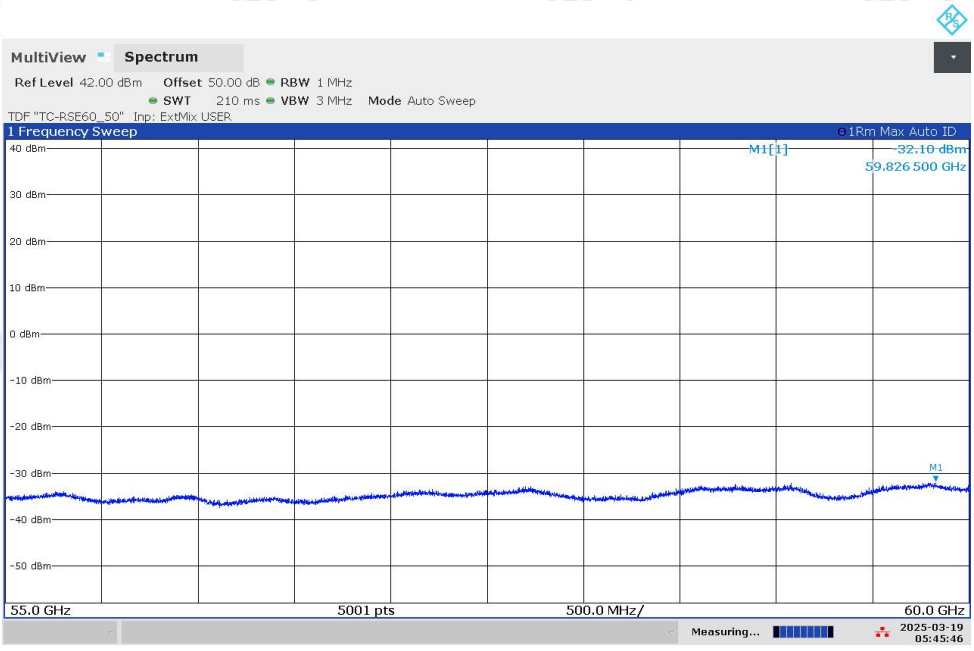
45GHz-50GHz



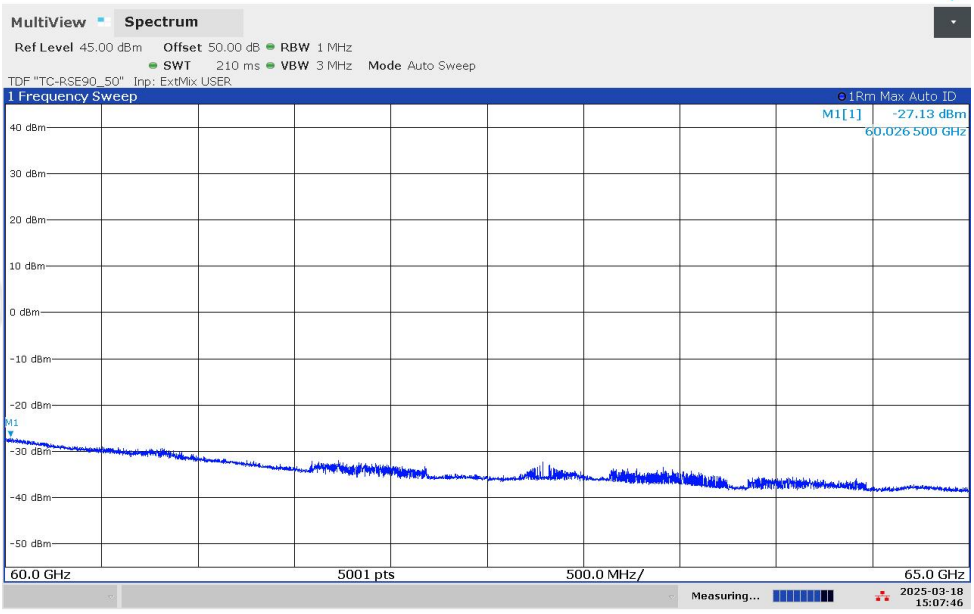
50GHz-55GHz



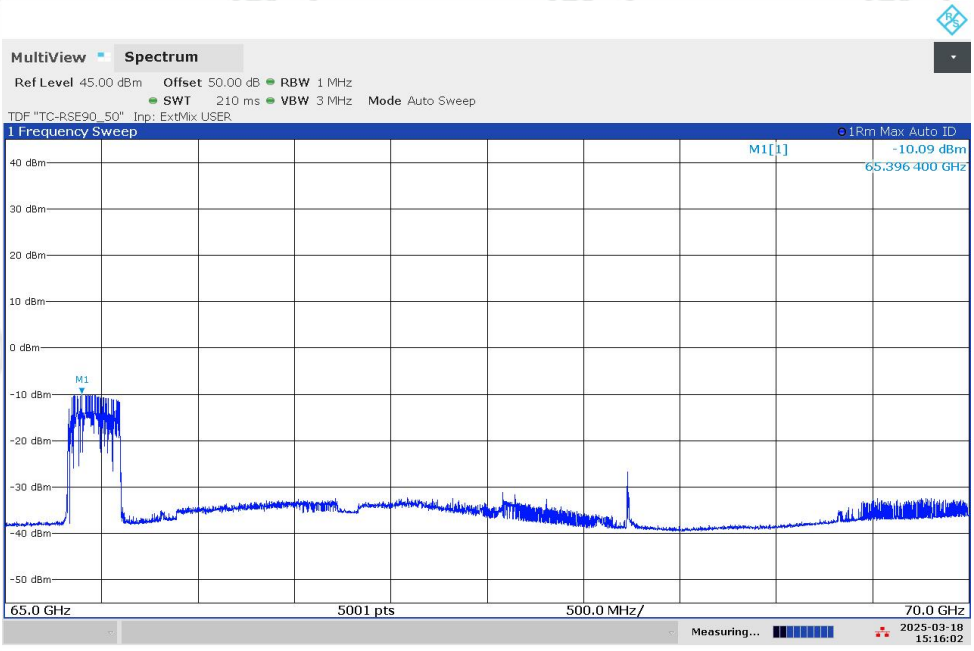
55GHz-60GHz



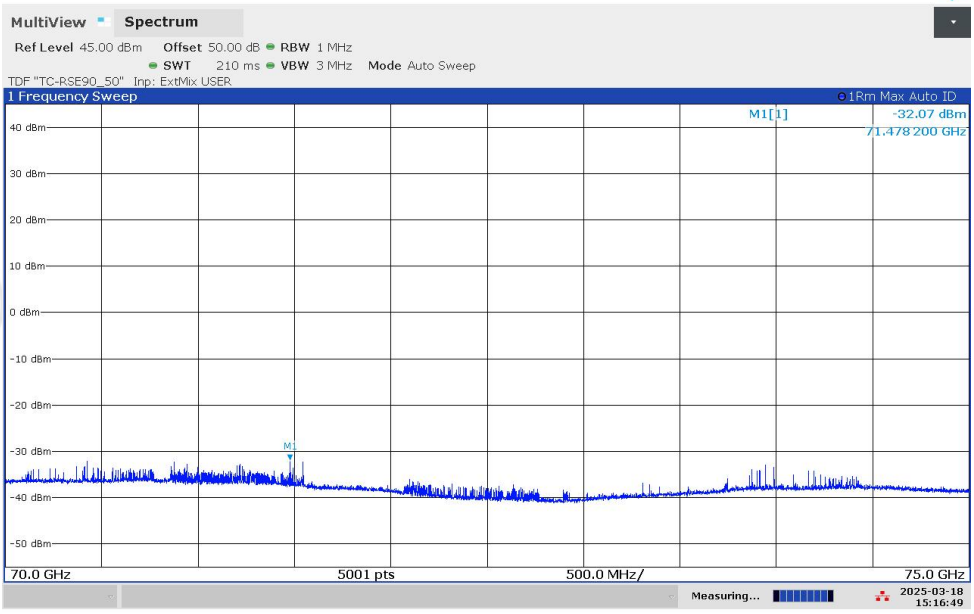
60GHz-65GHz



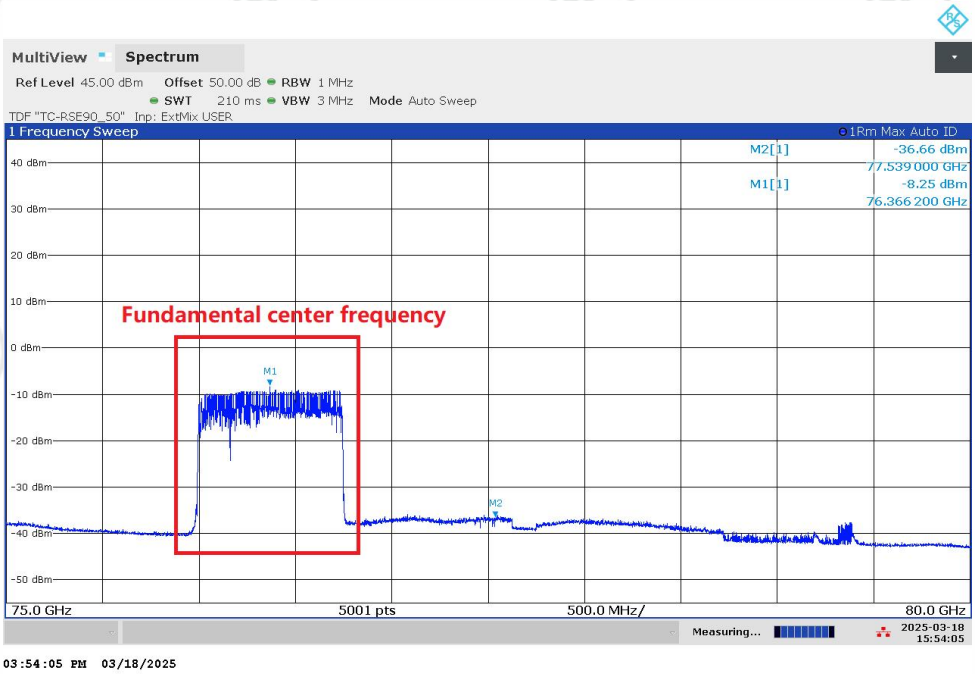
65GHz-70GHz



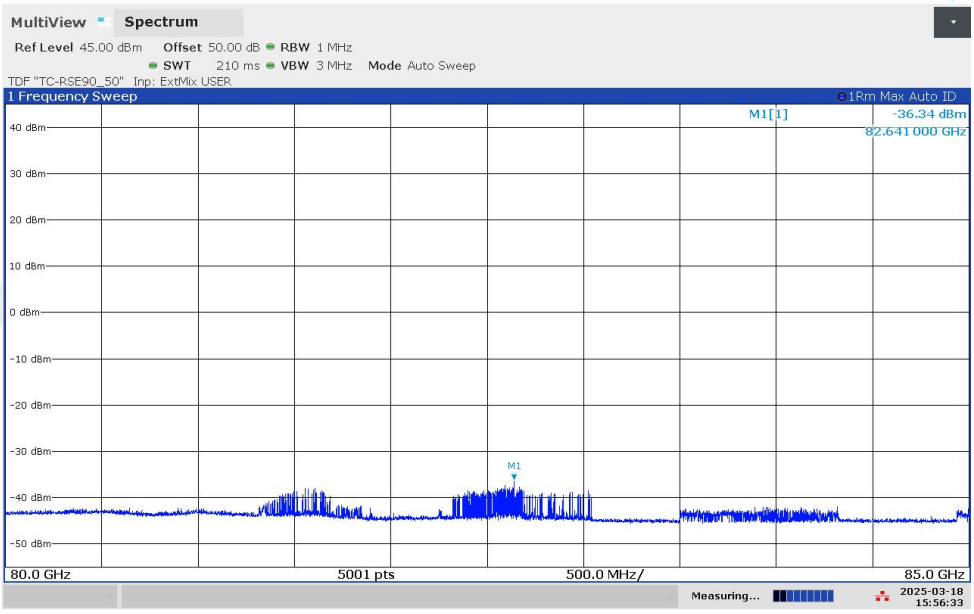
70GHz-75GHz



75GHz-80GHz

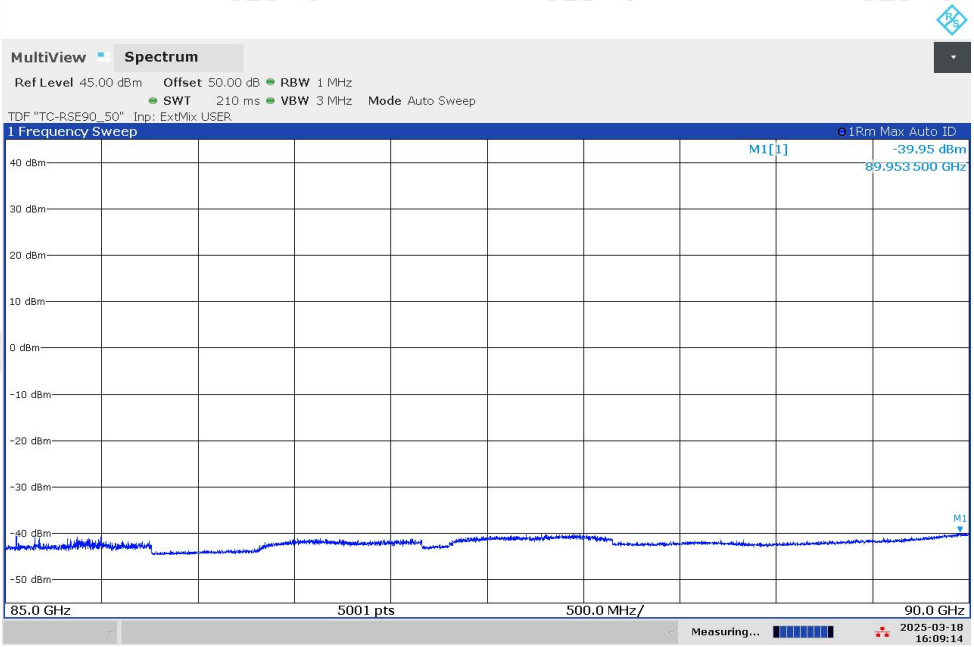


80GHz-85GHz



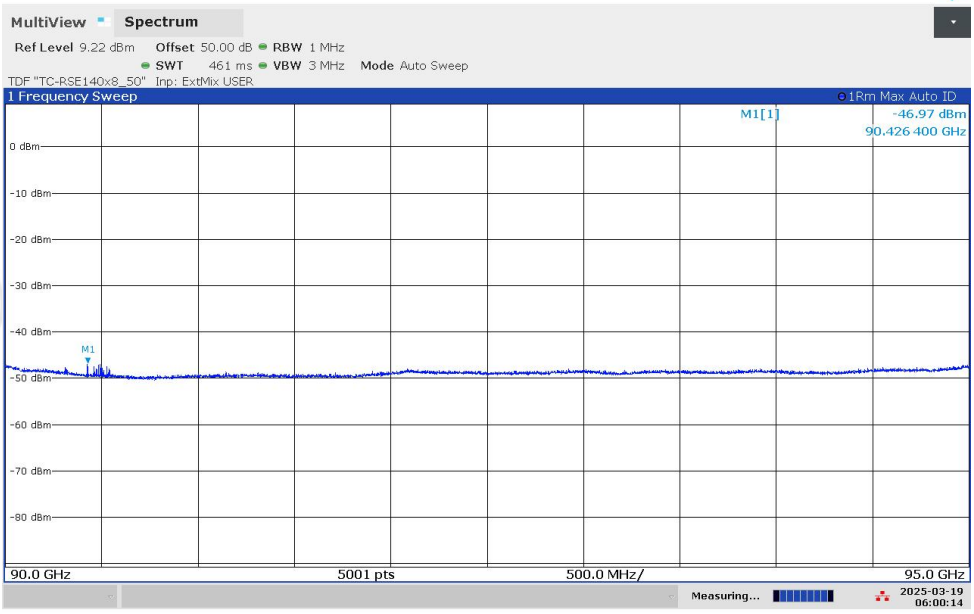
03:56:34 PM 03/18/2025

85GHz-90GHz

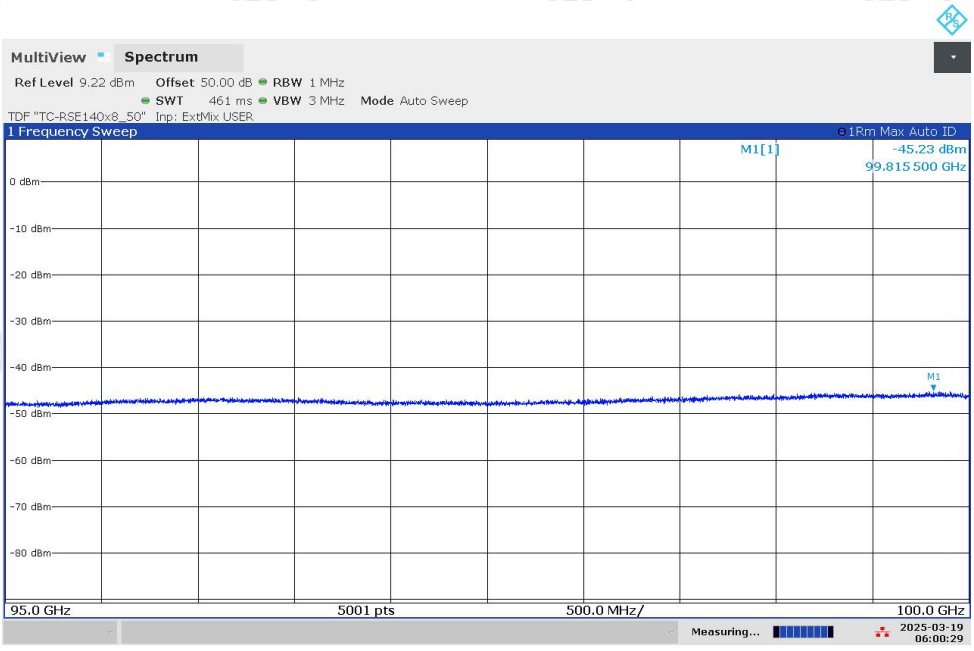


04:09:14 PM 03/18/2025

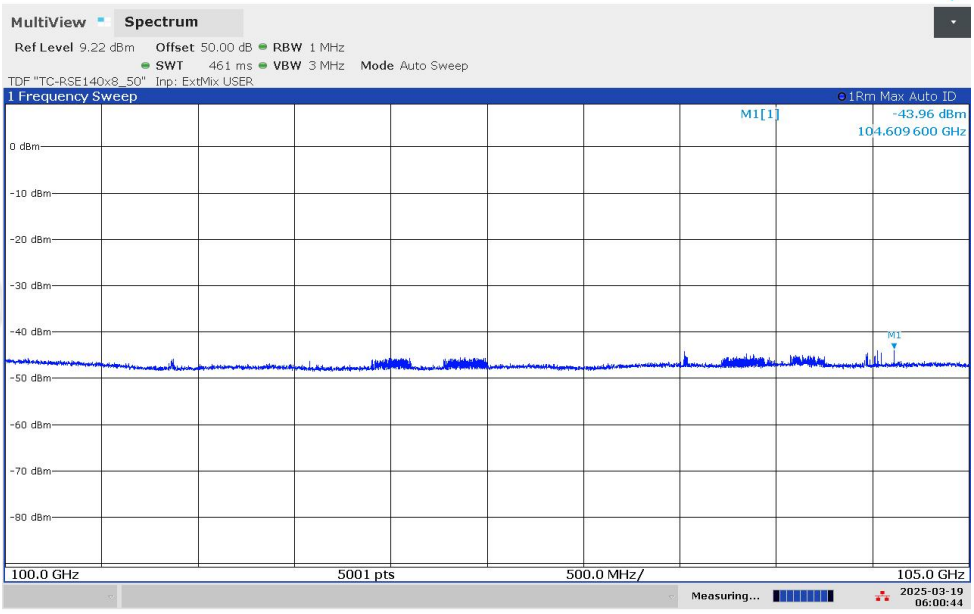
90GHz-95GHz



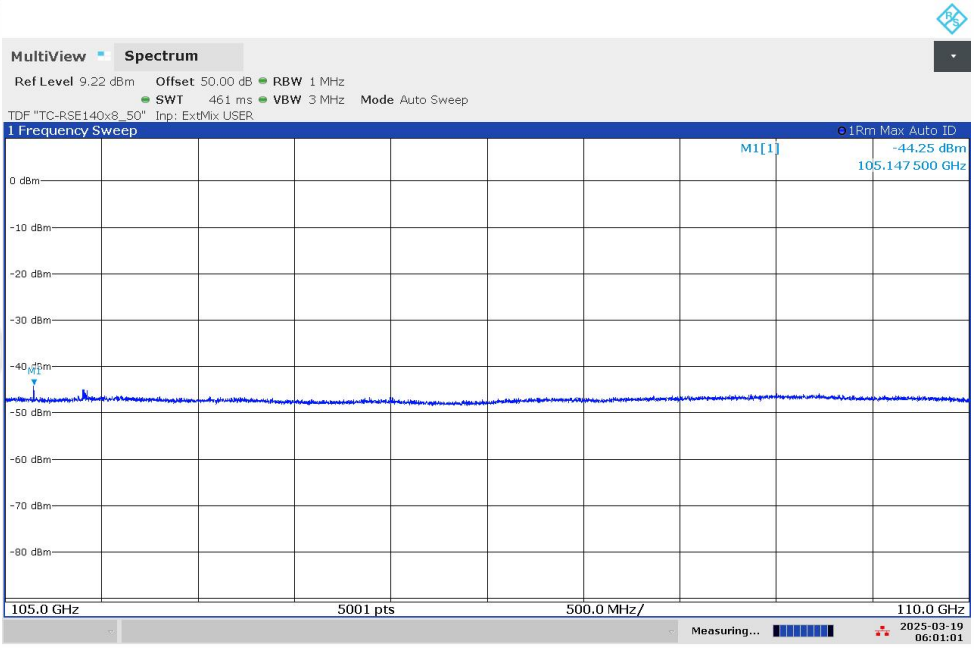
95GHz-100GHz



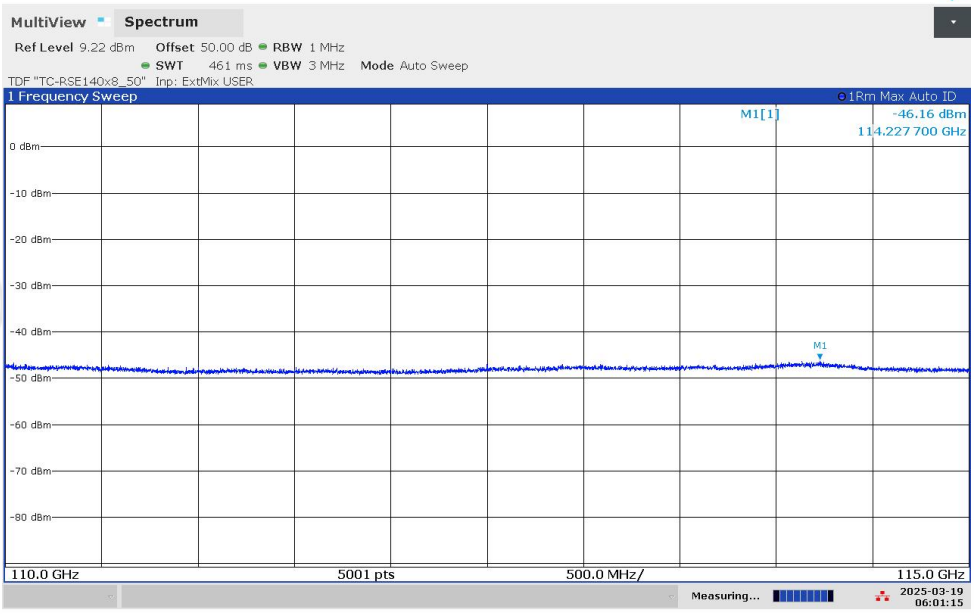
100GHz-105GHz



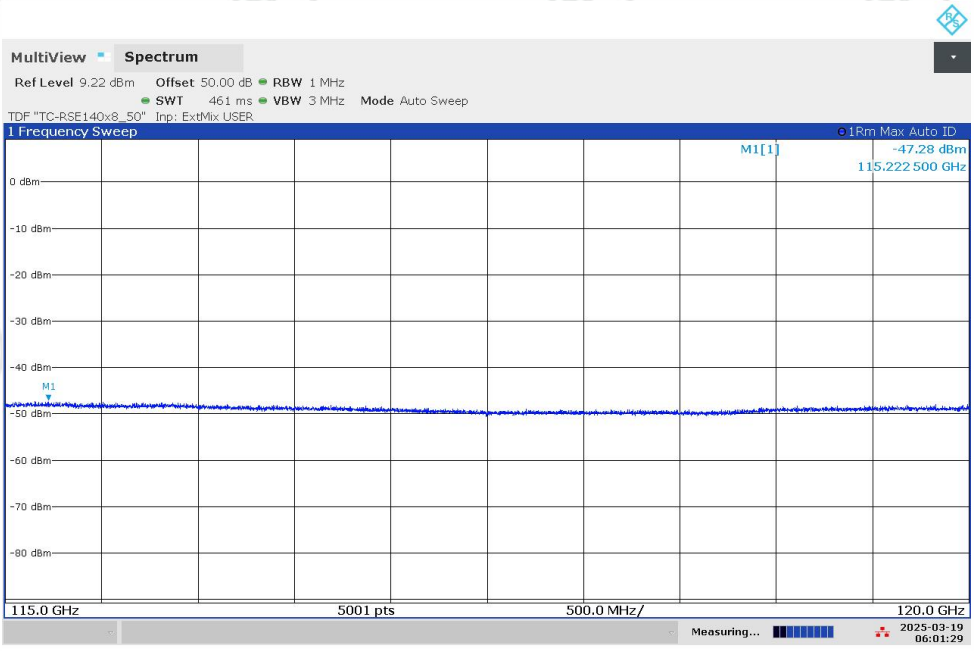
105GHz-110GHz



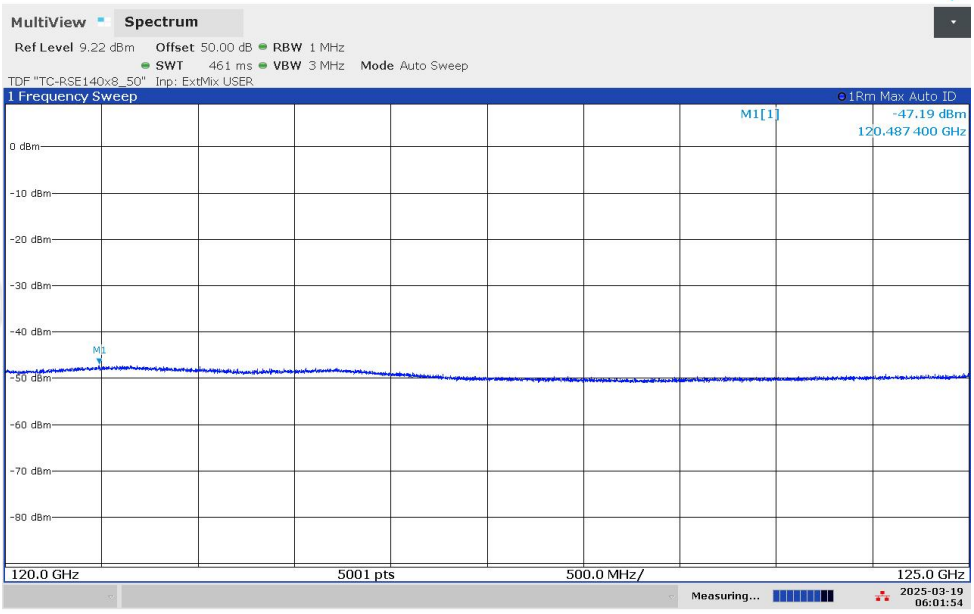
110GHz-115GHz



115GHz-120GHz

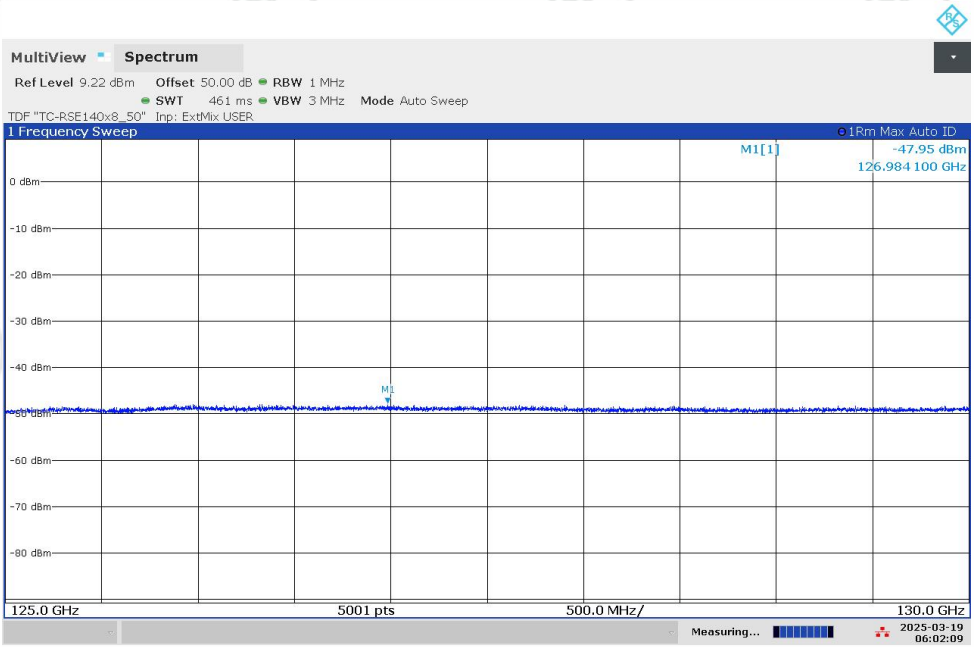


120GHz-125GHz



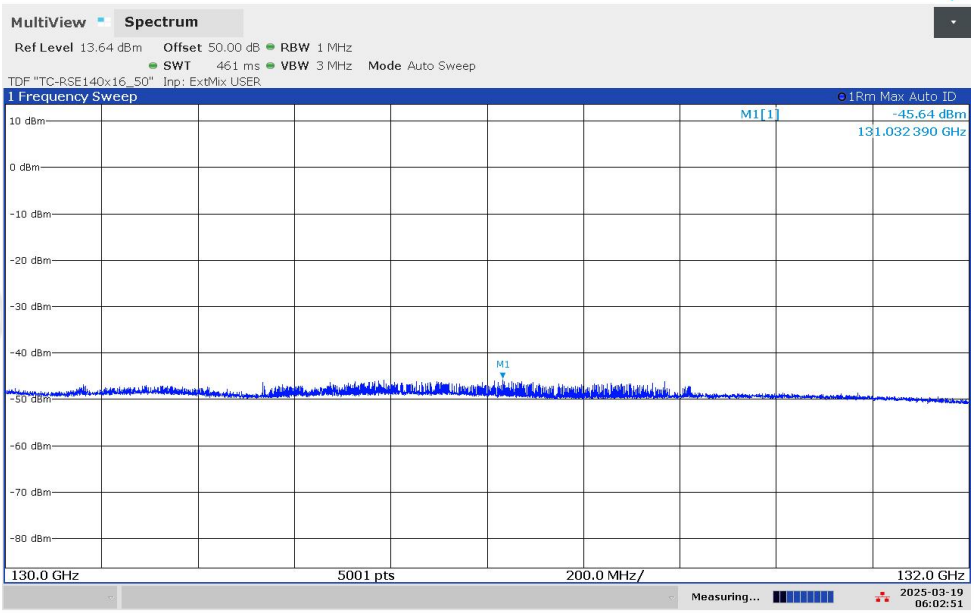
06:01:54 AM 03/19/2025

125GHz-130GHz



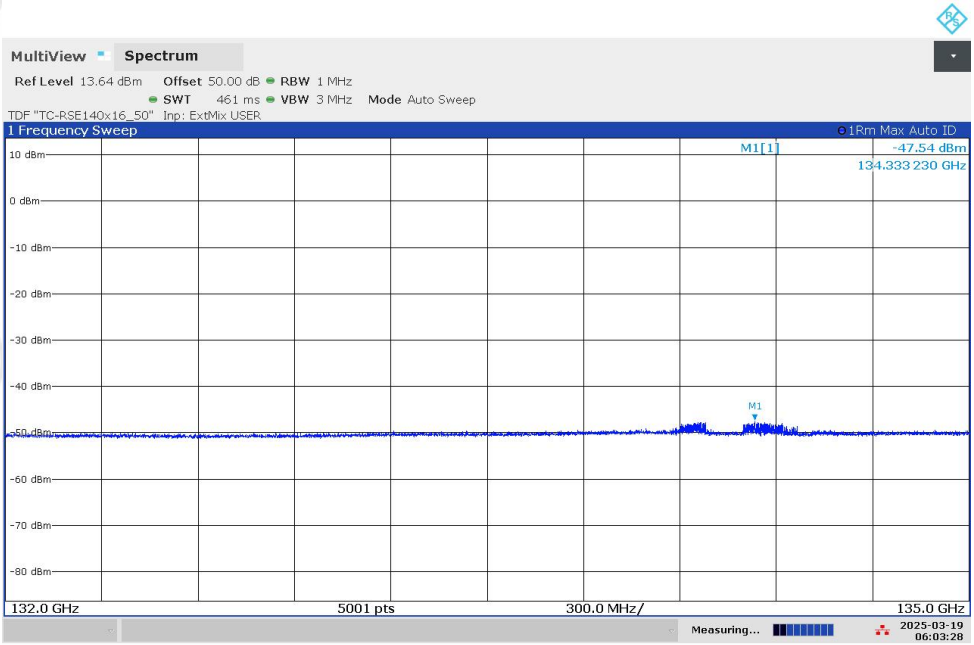
06:02:09 AM 03/19/2025

130GHz-132GHz



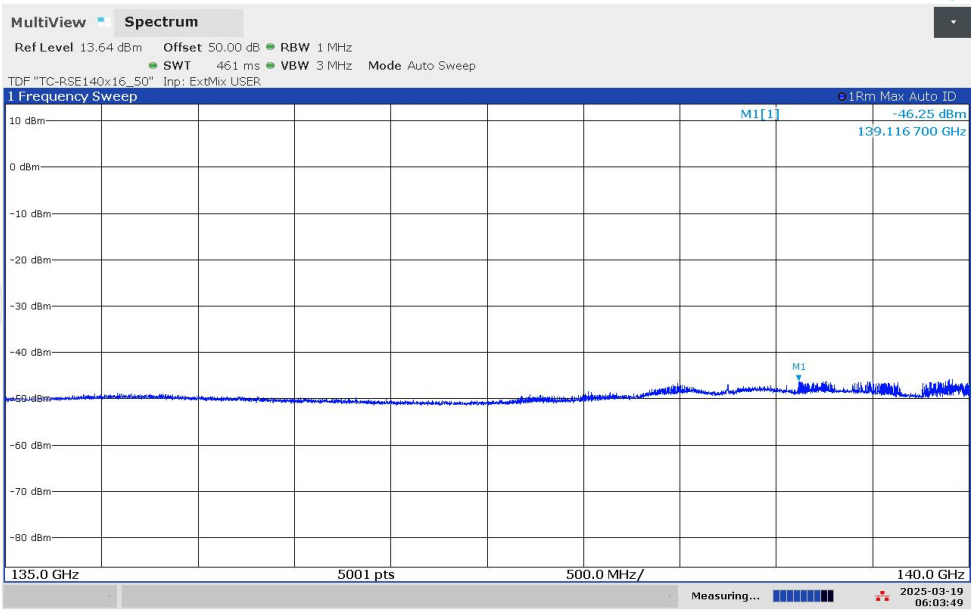
06:02:52 AM 03/19/2025

132GHz-135GHz

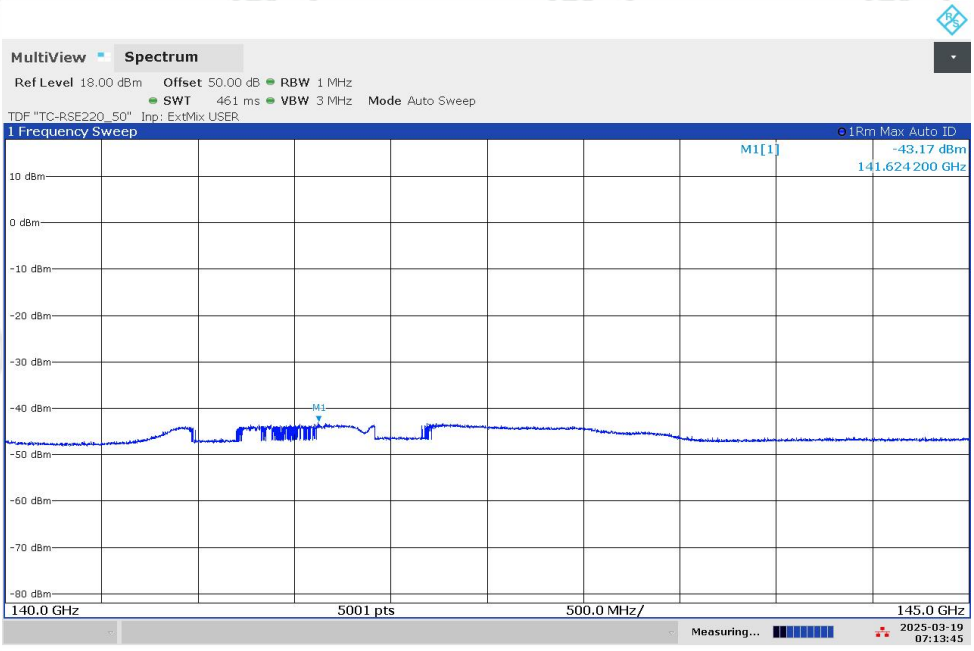


06:03:28 AM 03/19/2025

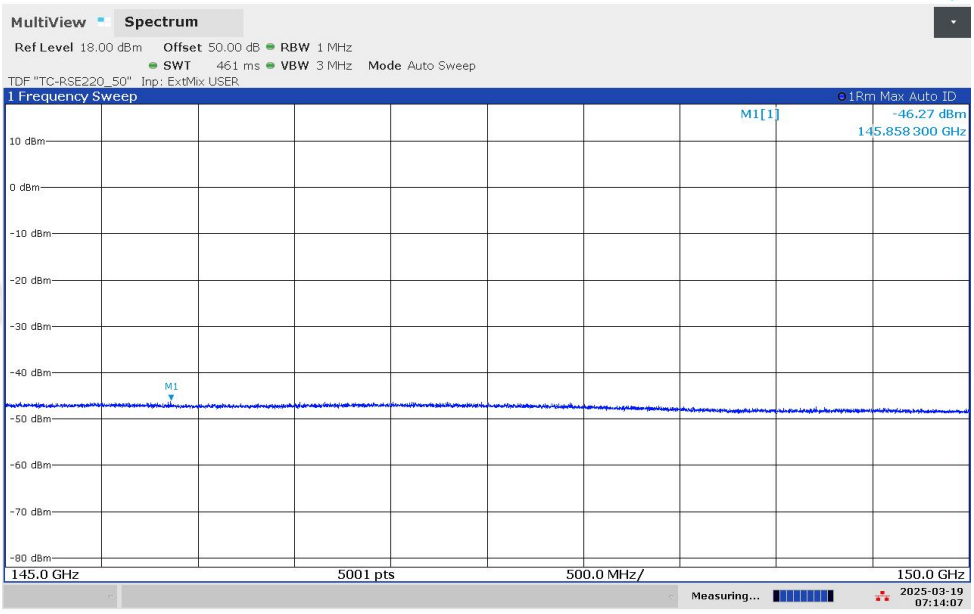
135GHz-140GHz



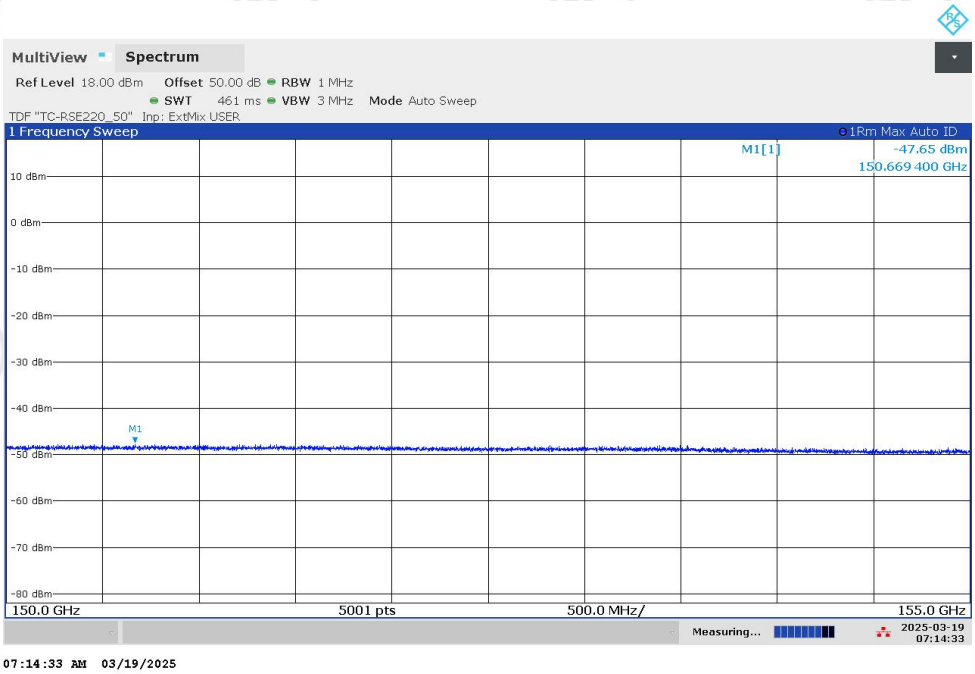
140GHz-145GHz



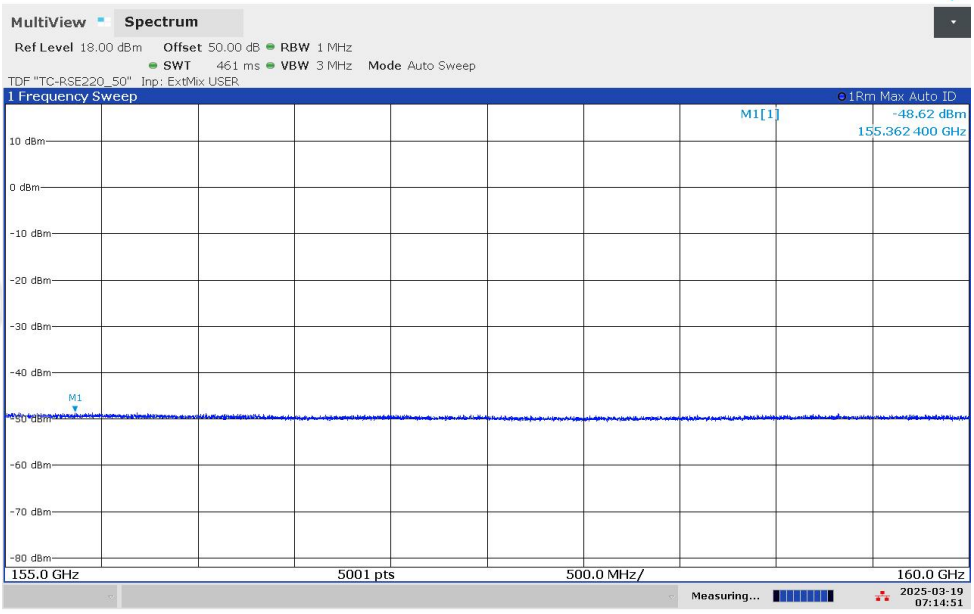
145GHz-150GHz



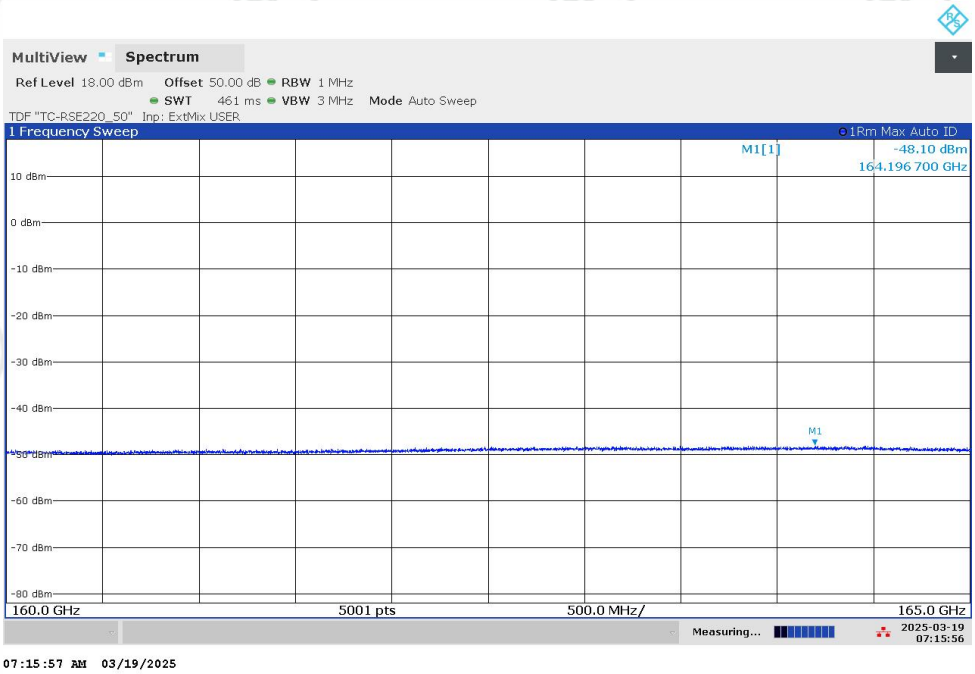
150GHz-155GHz



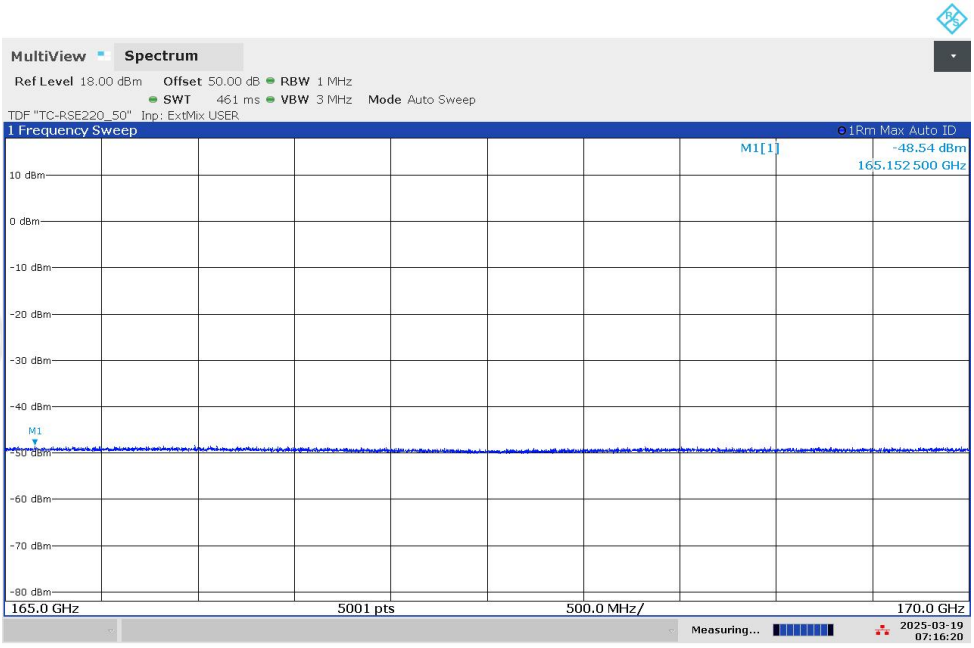
155GHz-160GHz



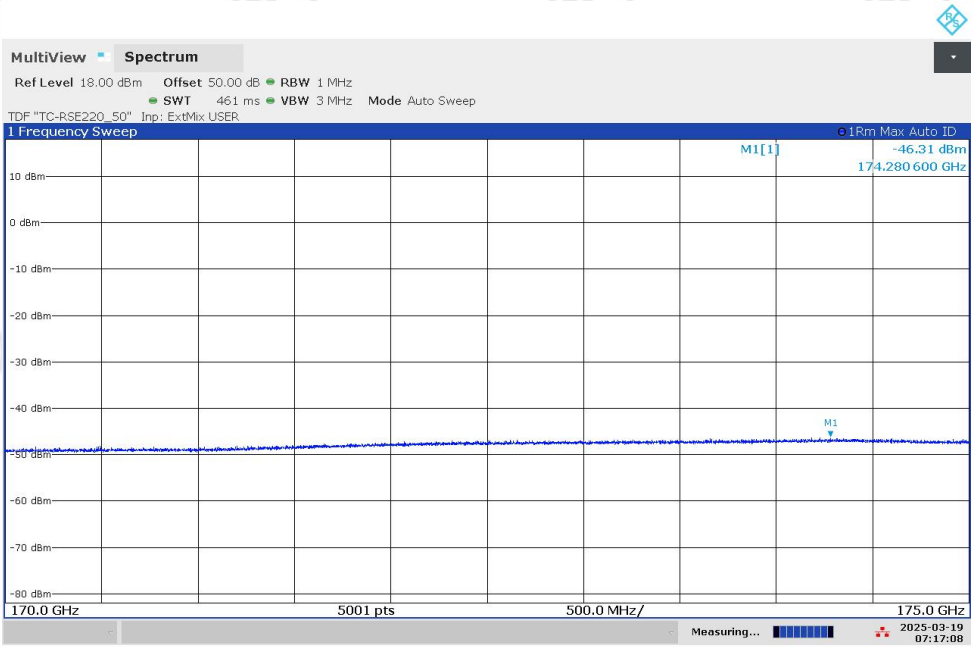
160GHz-165GHz



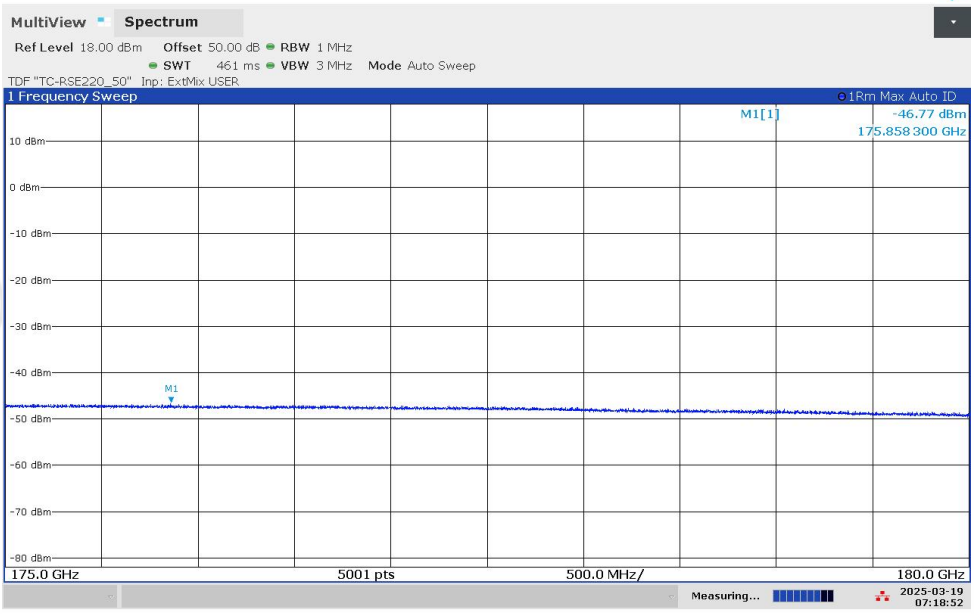
165GHz-170GHz



170GHz-175GHz

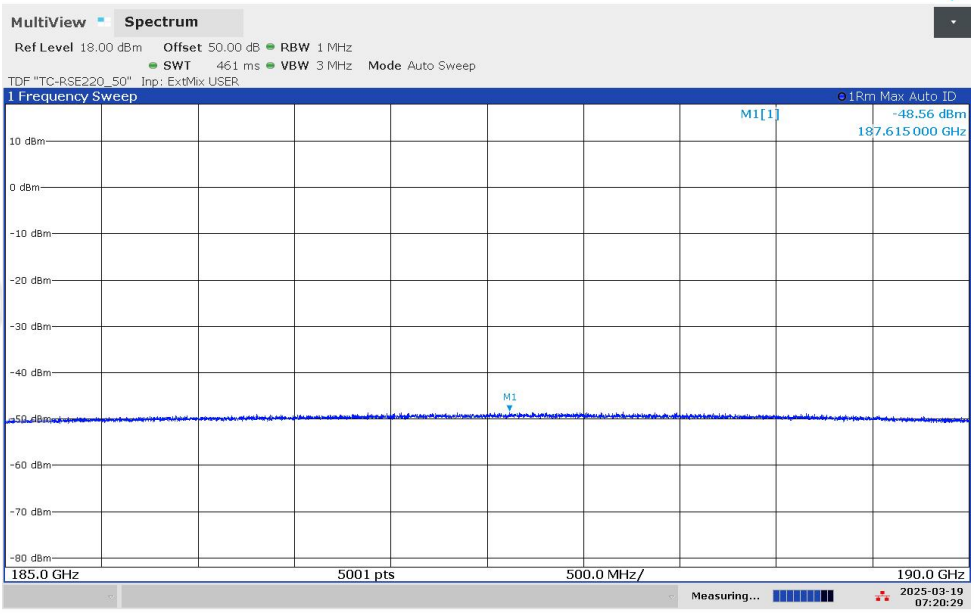


175GHz-180GHz

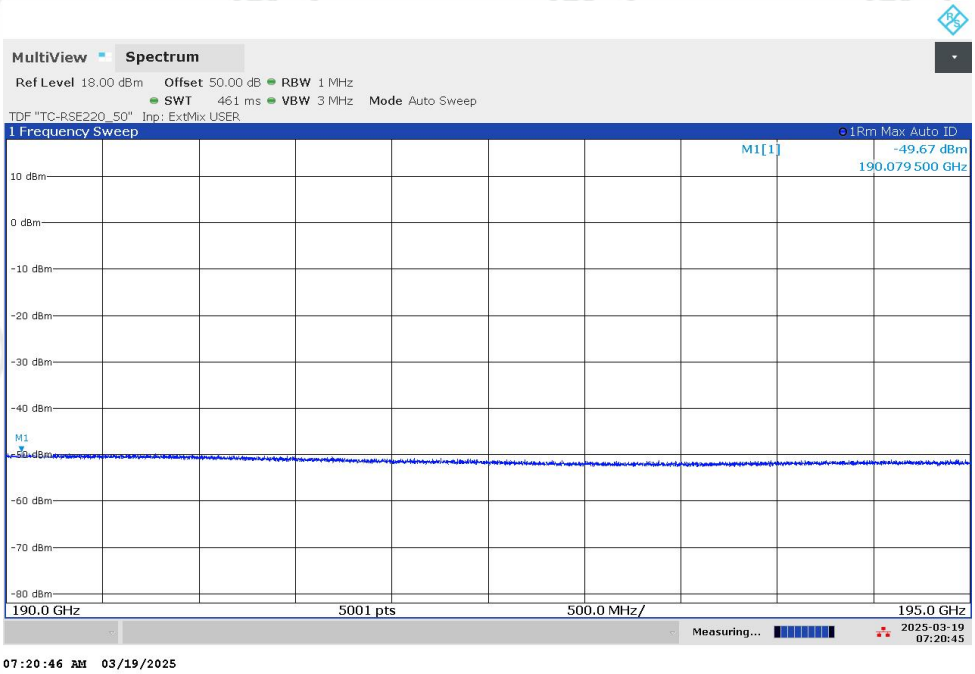


180GHz-185GHz

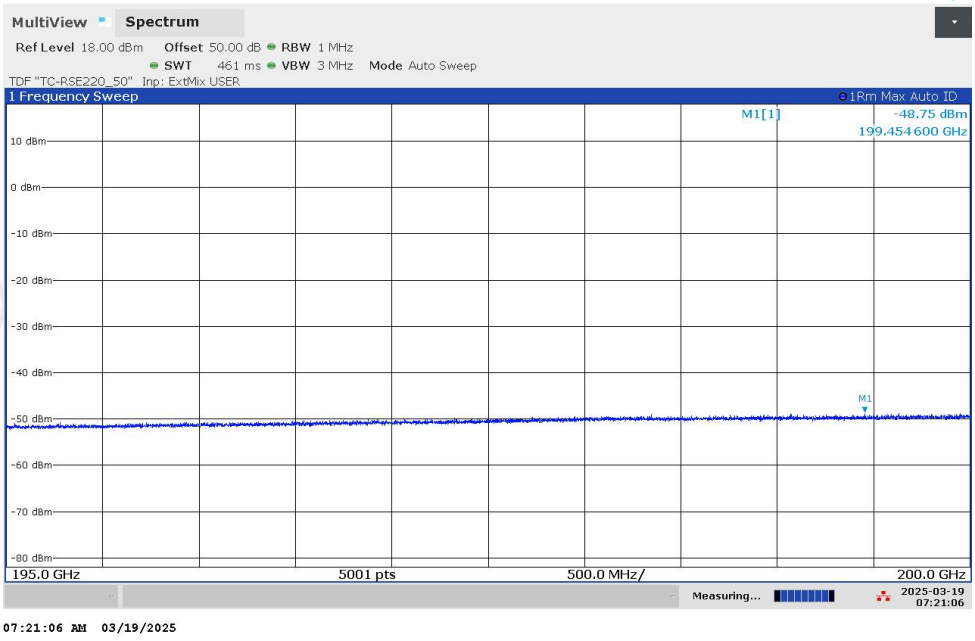
185GHz-190GHz



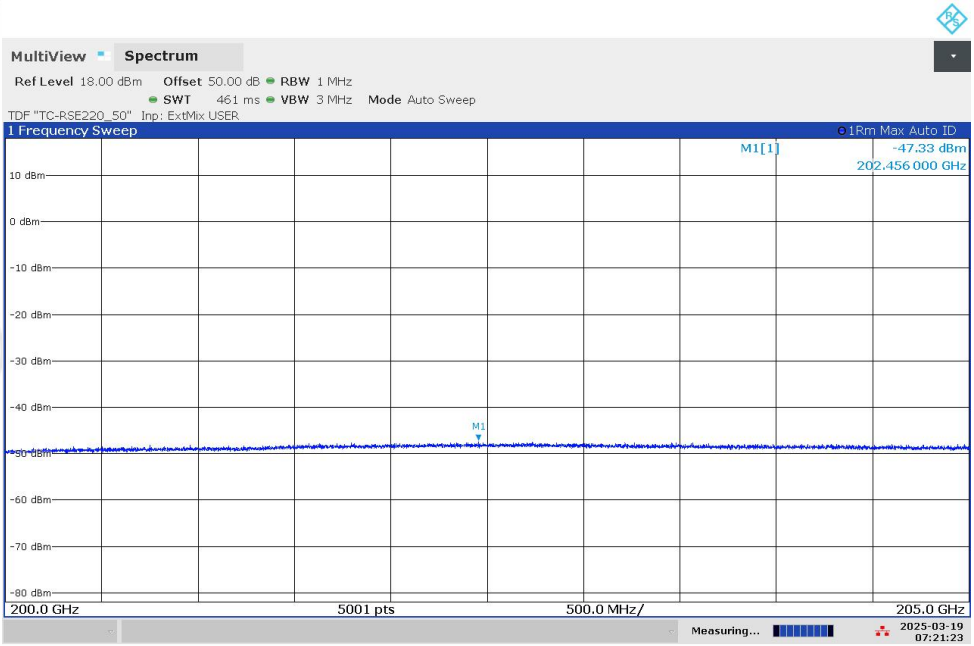
190GHz-195GHz



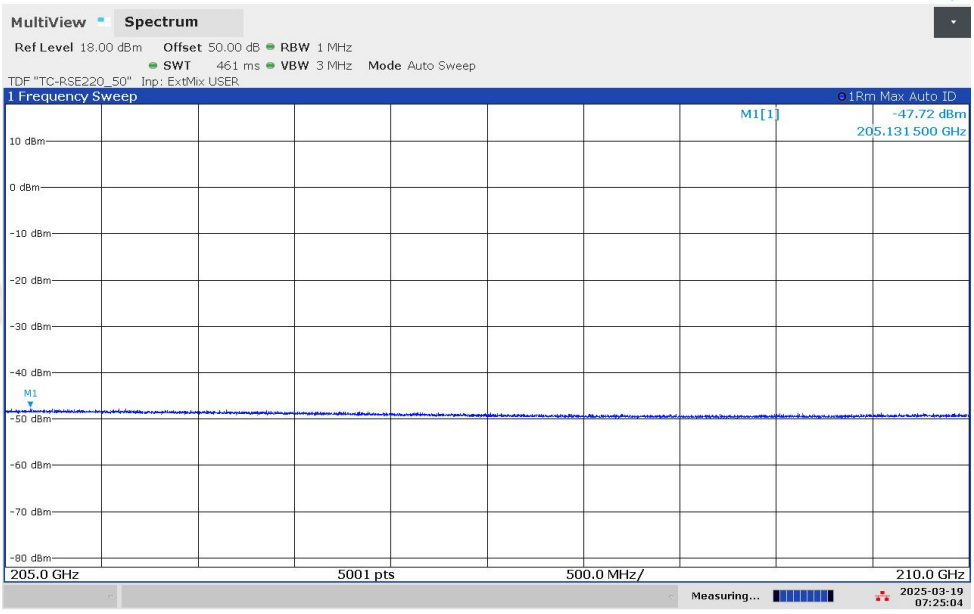
195GHz-200GHz



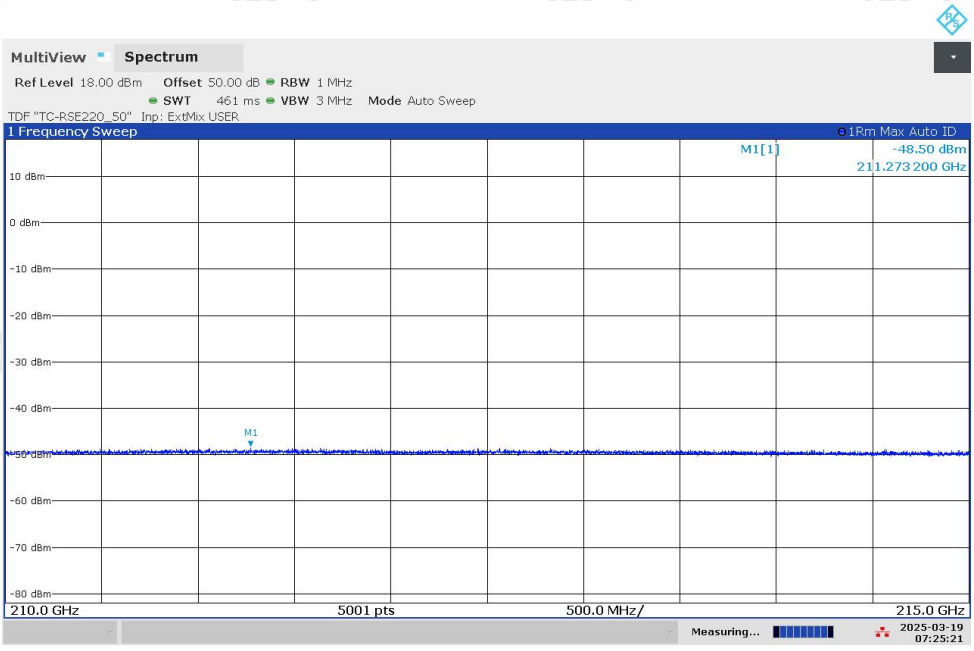
200GHz-205GHz



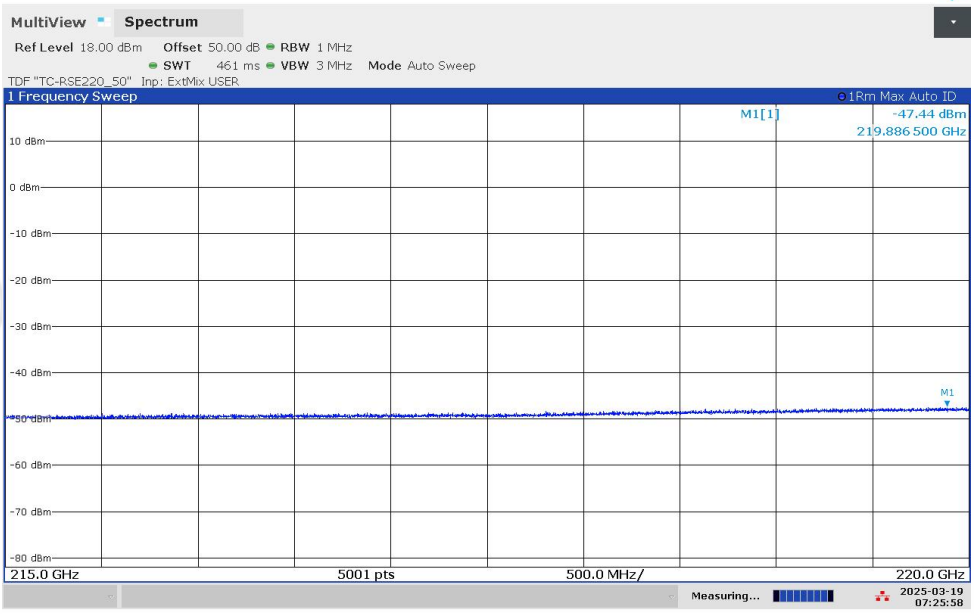
205GHz-210GHz



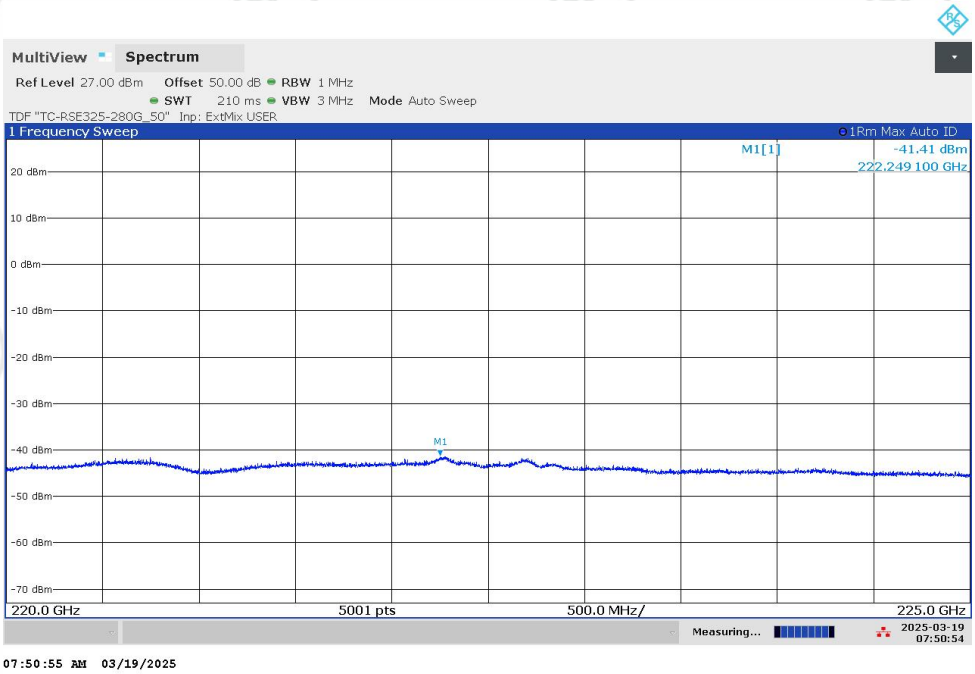
210GHz-215GHz



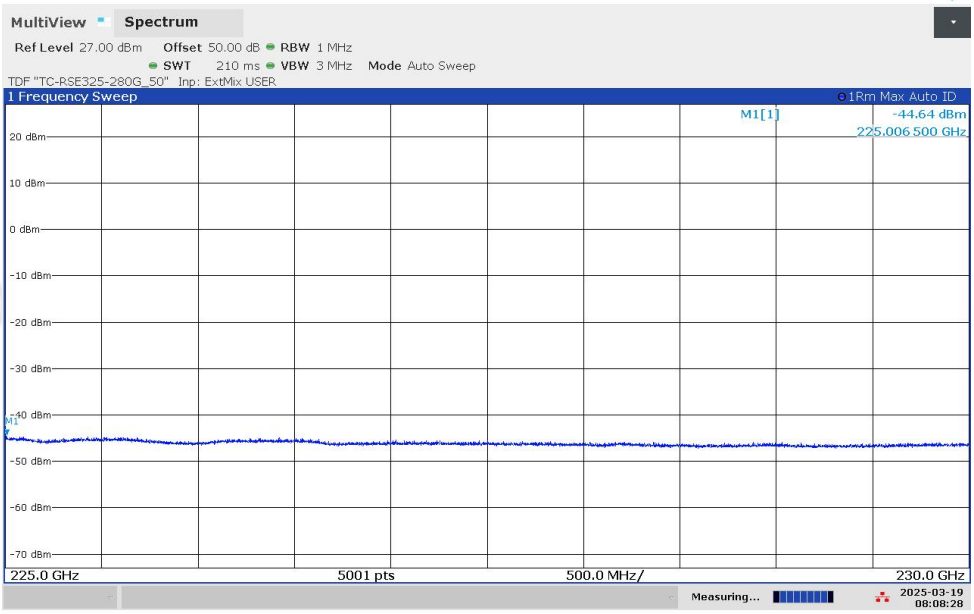
215GHz-220GHz



220GHz-225GHz



225GHz-230GHz



230GHz-235GHz