CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

Sensor System

MODEL NUMBER: FRD2488

REPORT NUMBER: 4791353869-1-RF-1

ISSUE DATE: August 24, 2024

FCC ID: 2A46G-FRD2488

Prepared for

Guangzhou Xaircraft Technology CO., LTD
Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R. 510663 China

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	August 24, 2024	Initial Issue	

Summary of Test Results			
Clause	Test Items	FCC Rules	Test Results
1	20dB Bandwidth	FCC Part 2.1049	Pass
2	99%dB Bandwidth	N/A	Pass
3	TX Spurious Emission	CFR 47 FCC §15.249 (a)(d)(e) CFR 47 FCC §15.205 and §15.209	Pass
4	Conducted Emission Test for AC Power Port	CFR 47 FCC §15.207	Pass
5	Antenna Requirement	CFR 47 FCC §15.203	Pass
Note 1: This test report is only published to and used by the applicant, and it is not for evidence purpose in China. Note 2: The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C> when <Simple Acceptance> decision rule is applied.			

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Guangzhou Xaircraft Technology CO., LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R. 510663 China

Manufacturer Information

Company Name:	Guangzhou Xaircraft Technology CO., LTD
Address:	Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R. 510663 China

EUT Description

EUT Name:	Sensor System
Model:	FRD2488
Sample Status:	normal
Sample ID:	7284012
Sample Received Date:	June 25, 2024
Date of Tested:	June 25, 2024 ~ August 24, 2024

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 FCC PART 15 SUBPART C	PASS

Prepared By:

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Approved By:

Stephen Guo

Operations Manager

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20192 and R-20202 Shielding Room B, the VCCI registration No. is C-20153 and T-20155

Note 1:
All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China.

Note 2:
The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd.
Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3:
For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62dB
Radiation Emission test(include Fundamental emission) (9kHz-30MHz)	2.2dB
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.00dB
Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	5.78dB (1GHz-18Gz)
	5.23dB (18GHz-26Gz)
Radiated Emission (Included Fundamental Emission) (40 GHz to 110 GHz)	5.385 dB (40 GHz ~ 60 GHz)
	5.320 dB (60 GHz ~ 90 GHz)
	5.312 dB (90 GHz ~ 110 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Sensor System
Model	FRD2488

Frequency Range:	24.15 GHz
Channel Number:	1
Type of Modulation:	FMCW
Antenna Type:	Antenna for terrain radar: Linear Antenna Antenna for 4D Imaging radar: Linear Antenna
Antenna Gain:	Antenna gain for terrain radar: 11.5 dBi Antenna gain for 4D Imaging radar: 10 dBi
Normal Test Voltage:	DC 24 V

5.2. SUPPORT UNITS FOR SYSTEM TEST

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N
1	PC	Lenovo	E42-80	/
3	UART	/	/	/

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	/	/	/	/

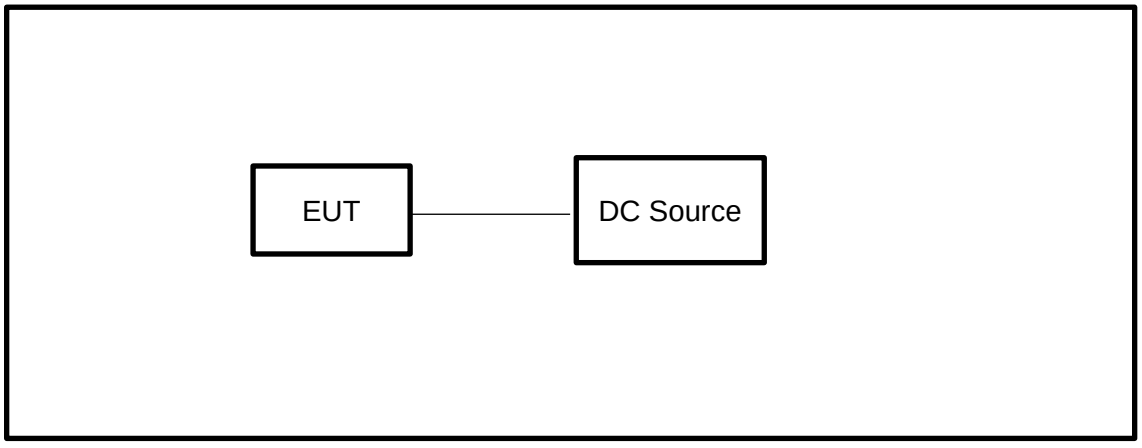
ACCESSORY

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
/	/	/	/	/	/

TEST SETUP

The EUT have the engineer mode inside.

SETUP DIAGRAM FOR TEST



6. MEASURING EQUIPMENT AND SOFTWARE USED

Radiated Emissions for below 40GHz						
Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	/	Oct.12, 2023	Oct.11, 2024
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug.02, 2021	June 28, 2024	June 27, 2027
Preamplifier	HP	8447D	2944A09099	/	Oct.12, 2023	Oct.11, 2024
EMI Measurement Receiver	R&S	ESR26	101377	/	Oct.12, 2023	Oct.11, 2024
Horn Antenna	TDK	HRN-0118	130939	/	Apr.29, 2022	Apr.28, 2025
Preamplifier	TDK	PA-02-0118	TRS-305-00067	/	Oct.12, 2023	Oct.11, 2024
Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	June 30, 2024	June 29, 2027
Preamplifier	TDK	PA-02-2	TRS-307-00003	/	Oct.12, 2023	Oct.11, 2024
Preamplifier	TDK	PA-02-3	TRS-308-00002	/	Oct.12, 2023	Oct.11, 2024
Loop antenna	Schwarzbeck	1519B	00008	/	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	/	Oct.12, 2023	Oct.11, 2024
Software						
Description			Manufacturer	Name		Version
Test Software for Radiated Emissions			Farad	EZ-EMC		Ver. UL-3A1

Radiated Emissions for above 40GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
MXA Signal Analyzer	KESIGHT	N9020A	MY54432249	Mar.07, 2024	Mar.07, 2025
Millimeter Wave Frequency Conversion Receiving Unit and Antenna (40-60GHz)	Tonscend	Tonscend MMFC-R190-L0F0	202305240000	May 14, 2024	May 13, 2025
Millimeter Wave Frequency Conversion Receiving Unit and Antenna (60-90GHz)	Tonscend	Tonscend MMFC-R120-L0F0	202305240000	Jan.01, 2024	Jan.01, 2025
Millimeter Wave Frequency Conversion Receiving Unit and Antenna (75-110GHz)	Tonscend	Tonscend MMFC-R100-L0F0	202305240000	May 09, 2024	May 08, 2025

Software			
Description	Manufacturer	Name	Version
mmWave Test Software	Tonscend	JS1120-mmWave Test Software	V1.0

Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Oct.13, 2023	Oct.12, 2024
Two-Line V-Network	R&S	ENV216	101983	Oct.13, 2023	Oct.12, 2024
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Oct.13, 2023	Oct.12, 2024

Software			
Description	Manufacturer	Name	Version
Test Software for Conducted Emissions	Farad	EZ-EMC	Ver. UL-3A1

7. TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

LIMITS

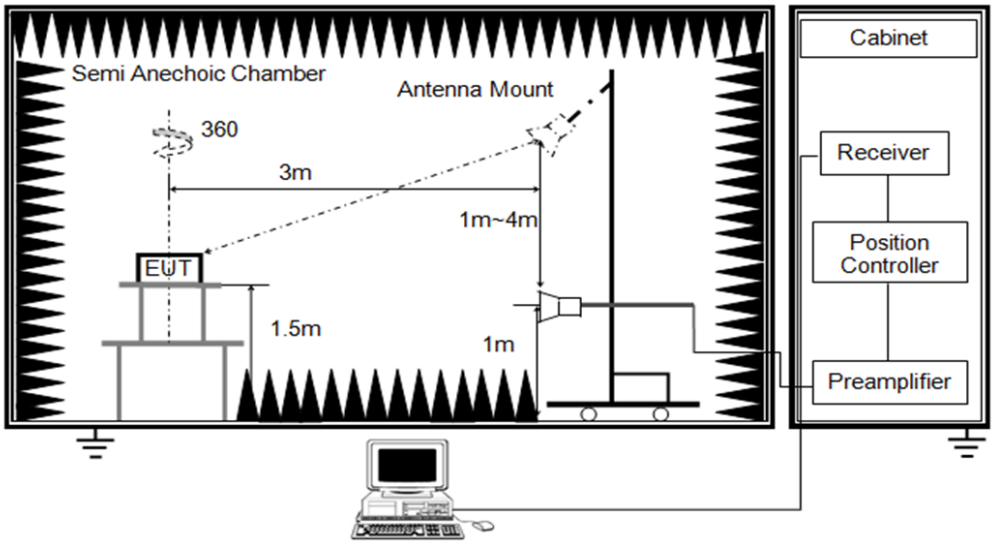
None; for reporting purposes only.

TEST PROCEDURE

Refer to ANSI C63.10-2013 Zero – Span Spectrum Analyzer method.

TEST SETUP

Above 1 GHz



a. Set RBW of spectrum analyzer to 8 MHz and VBW to 8 MHz.
b. Use a video trigger with the trigger level set to enable triggering only on full pulses.
c. Sweep Time is at least a 100 ms.
d. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
e. Measure the maximum time duration of one single pulse.

TEST ENVIRONMENT

Temperature	24.2°C	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

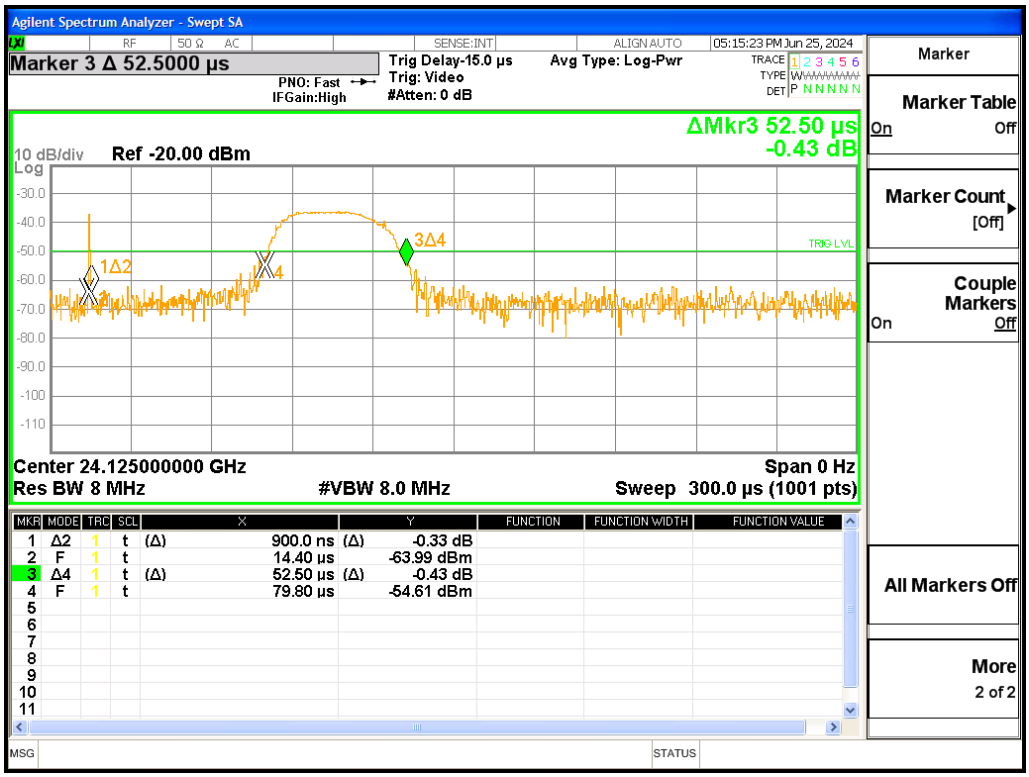
Test data for terrain radar:

Ton1 (ms)	Ton2 (ms)	Total Ton times (ms)
0.0009	0.0525	0.0534

Total Ton times (ms)	Period (ms)	Duty Cycle (Linear)	Duty Cycle Correction Factor
0.0534	1.000	0.0534	-25.45

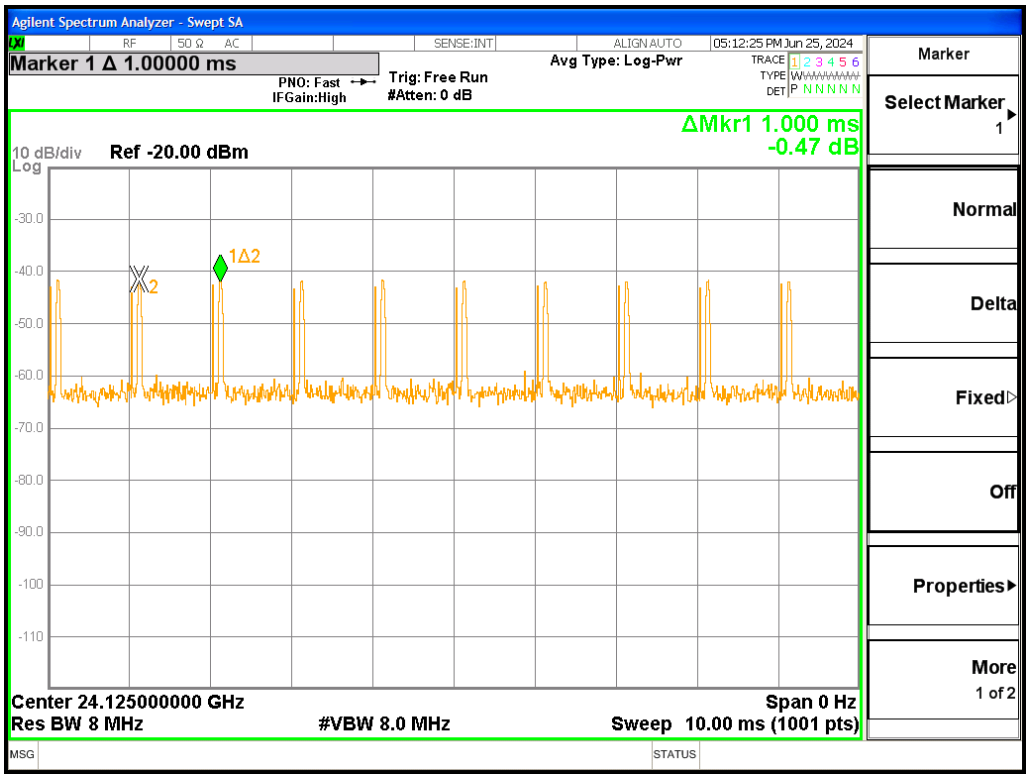
Note: Duty Cycle Correction Factor=20log(x).
Where: x is Duty Cycle

Ton



Period

(ms)



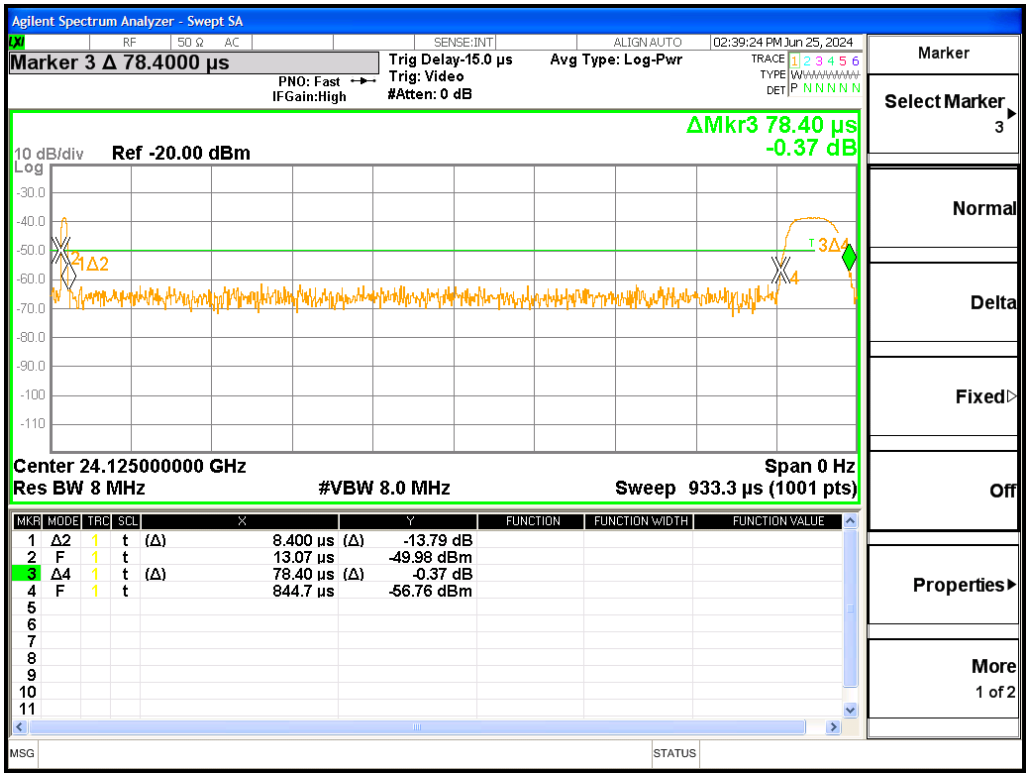
Test data for 4D Imaging radar:

Ton1 (ms)	Ton2 (ms)	Total Ton times (ms)
0.0084	0.0784	0.0868

Total Ton times (ms)	Period (ms)	Duty Cycle (Linear)	Duty Cycle Correction Factor
0.0868	6.020	0.0144	-36.83

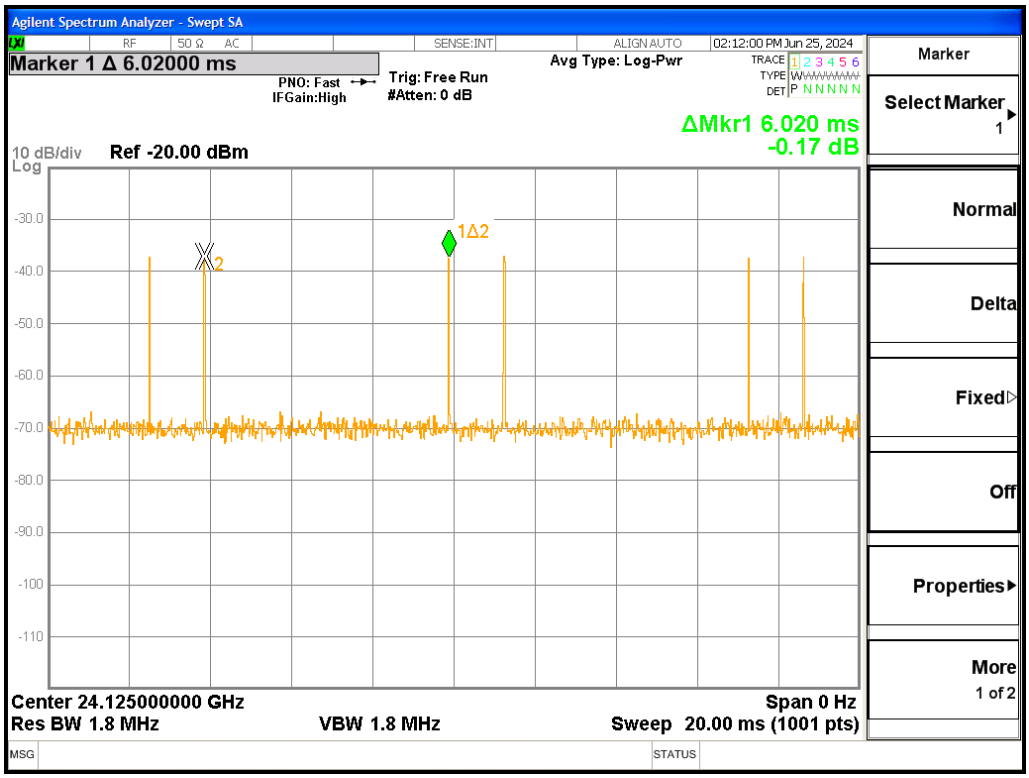
Note: Duty Cycle Correction Factor=20log(x).
Where: x is Duty Cycle

Ton



Period

(ms)



7.2. 20 DB BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15 (15.249) Subpart C			
Section	Test Item	Limit	Frequency Range (GHz)
CFR 47 FCC 15.249(d)	20dB Bandwidth	for reporting purposes only	24~24.25 GHz

TEST PROCEDURE

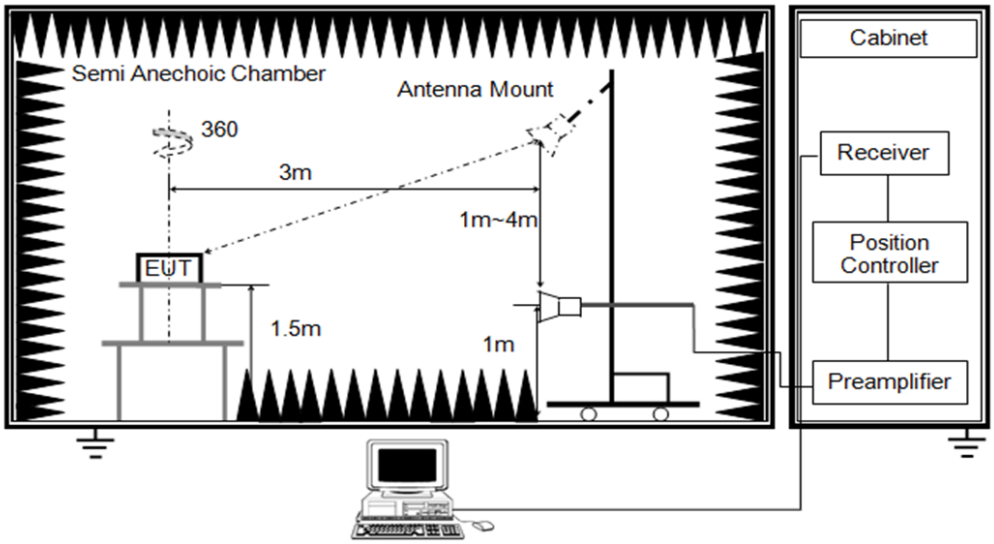
Spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1 % to 5 % of the occupied bandwidth
VBW	approximately 3×RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB / 99 % relative to the maximum level measured in the fundamental emission.

TEST SETUP

Above 1 GHz



TEST ENVIRONMENT

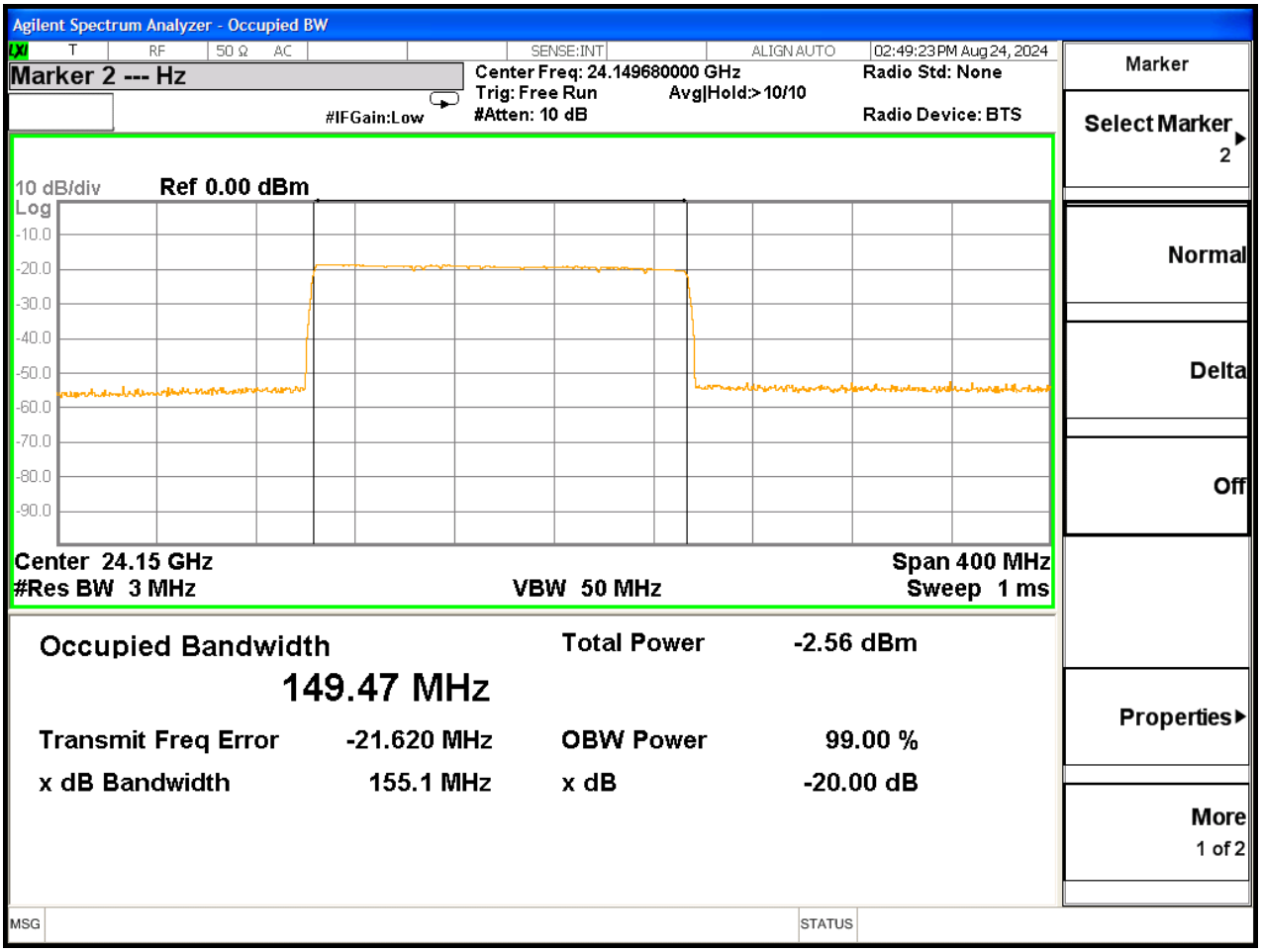
Temperature	24.2°C	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	DC 24 V

RESULTS

Test data for terrain radar:

Channel	20 dB bandwidth (MHz)	99 % bandwidth (MHz)	Result
1	155.1	149.47	PASS

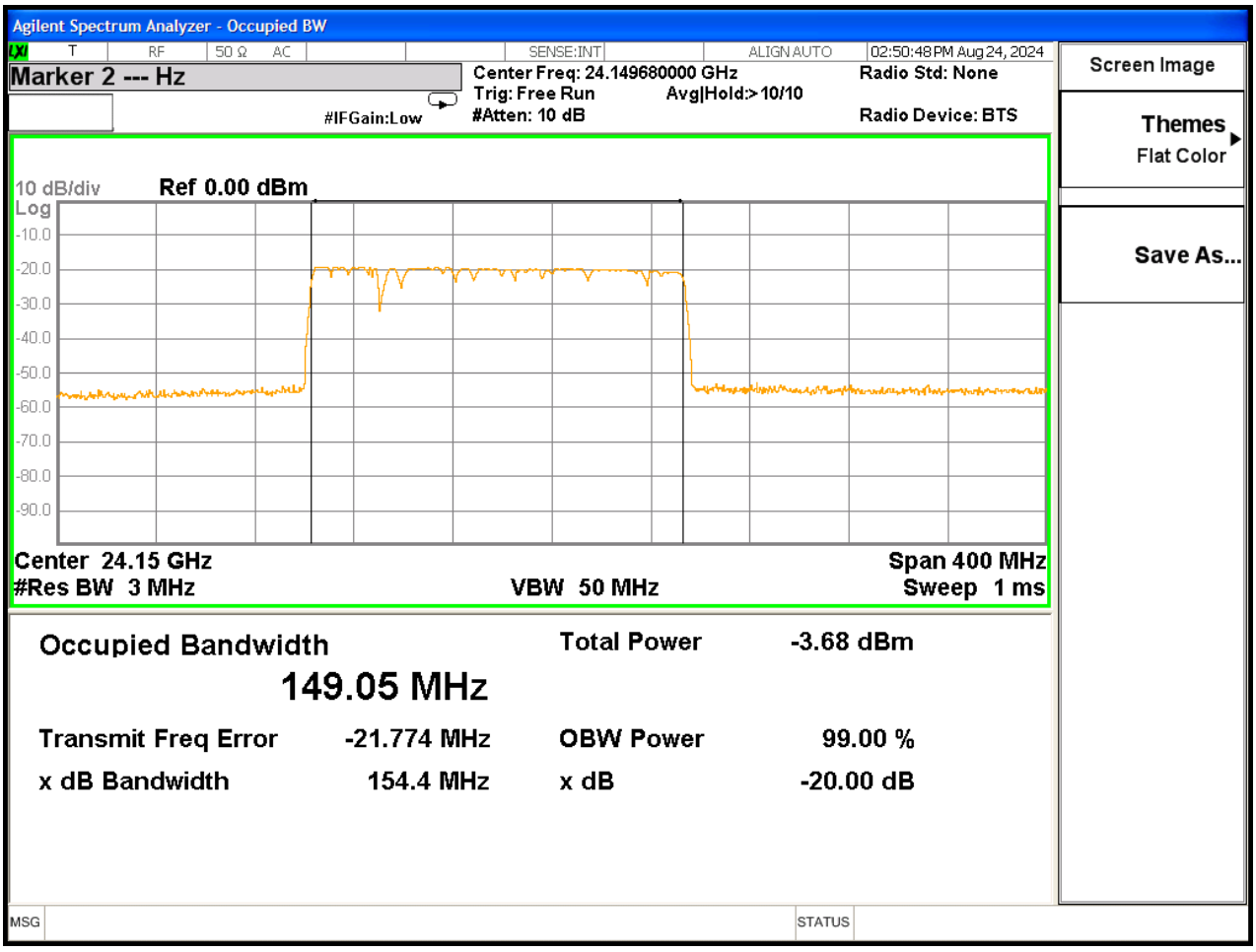
BANDWIDTH LOW CH



Test data for 4D Imaging radar:

Channel	20 dB bandwidth (MHz)	99 % bandwidth (MHz)	Result
1	154.4	149.05	PASS

BANDWIDTH LOW CH



7.3. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

CFR 47 FCC §15.249 (a)(d)(c)(e)

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

The field strength of emissions from intentional radiators operated within these frequency bands			
Frequency (MHz)	Average Field strength of Fundamental	Average Field strength of Harmonics	Distance (m)
24000 - 24250	250 mV/m (107.96dBuV/m)	2500 uV/m (67.96dBuV/m)	3
	Peak Field strength of Fundamental	Peak Field strength of Harmonics	3
	127.96dBuV/m	87.96dBuV/m	3

Frequency (MHz)	Average Field strength of Fundamental	Average Field strength of Harmonics	Distance (m)
24000 - 24250	117.50	77.50	1
	Peak Field strength of Fundamental	Peak Field strength of Harmonics	1
	137.50	97.50	1

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

Emissions radiated outside of the specified frequency bands above 30 MHz							
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m		Field Strength Limit (dBuV/m) at 1 m		Field Strength Limit (dBuV/m) at 0.75 m	
		Quasi-Peak		Quasi-Peak		Quasi-Peak	
30 - 88	100	40		/		/	
88 - 216	150	43.5		/		/	
216 - 960	200	46		/		/	
Above 960	500	54		/		/	
Above 1000	500	Peak	Average	Peak	Average	Peak	Average
		74	54	83.54	63.54	86	66

$$E_{SpecLimit} = E_{Meas} + 20\log\left(\frac{d_{Meas}}{d_{SpecLimit}}\right) \quad (20)$$

where

$E_{SpecLimit}$ is the field strength of the emission at the distance specified by the limit, in dBµV/m
E_{Meas} is the field strength of the emission at the measurement distance, in dBµV/m
d_{Meas} is the measurement distance, in m
$d_{SpecLimit}$ is the distance specified by the limit, in m

Distance factor=20log (1.00 m/3.00 m) = -9.5 dB

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyzer

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz to 18 GHz

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For average value=peak average + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

Above 18 GHz to 90 GHz

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 1 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For average value=peak average + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

Above 90 GHz to 110 GHz

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

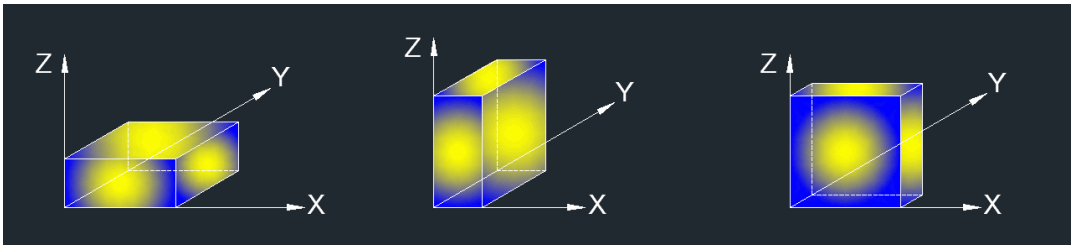
4. The EUT was set 0.75 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For average value=peak average + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

For Radiate Spurious emission (9 kHz ~ 30 MHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. All modes have been tested, but only the worst data was recorded in the report.
5. dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5

For Radiate Spurious Emission (30 MHz ~ 1 GHz):
Note:
1. Result Level = Read Level + Correct Factor.
2. If the peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All modes have been tested, but only the worst data was recorded in the report.

For Radiate Spurious Emission (1 GHz ~ 3 GHz):
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.7.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. All modes have been tested, but only the worst data was recorded in the report.

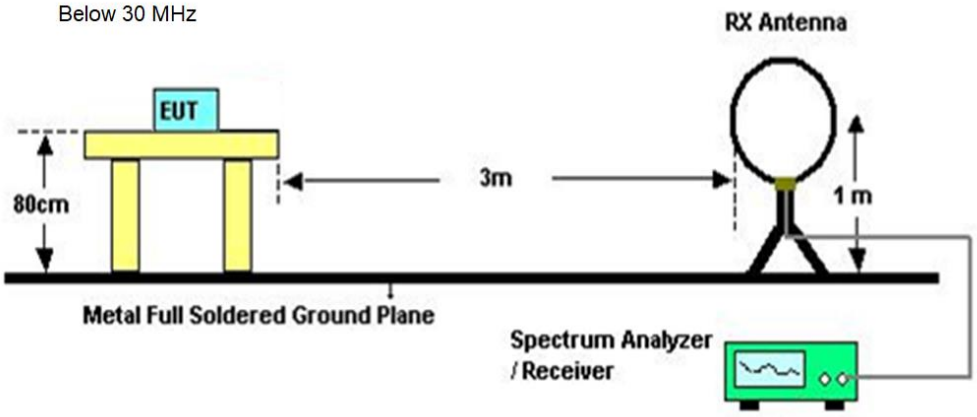
For Radiate Spurious Emission (3 GHz ~ 18 GHz):
Note:
1. Peak Result = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG Result=Peak Result + Duty Cycle Correction Factor.
5. For the transmitting duration, please refer to clause 7.7.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. All modes have been tested, but only the worst data was recorded in the report.

For Radiate Spurious emission (18 GHz ~ 26 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG Result=Peak Result + Duty Cycle Correction Factor.
5. All modes have been tested, but only the worst data was recorded in the report.

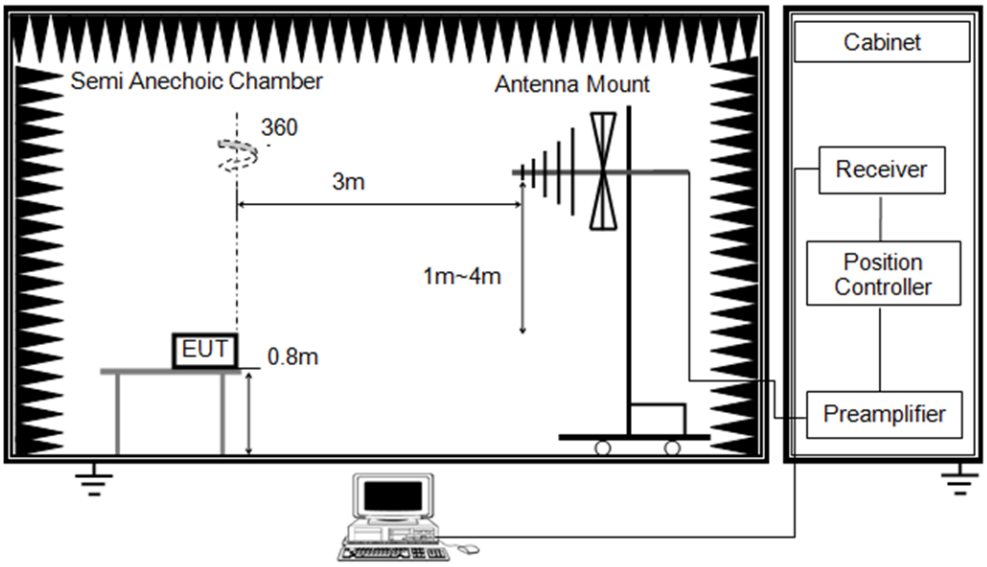
For Radiate Spurious emission (26 GHz ~ 110 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG Result=Peak Result + Duty Cycle Correction Factor.
5. All modes have been tested, but only the worst data was recorded in the report.

TEST SETUP

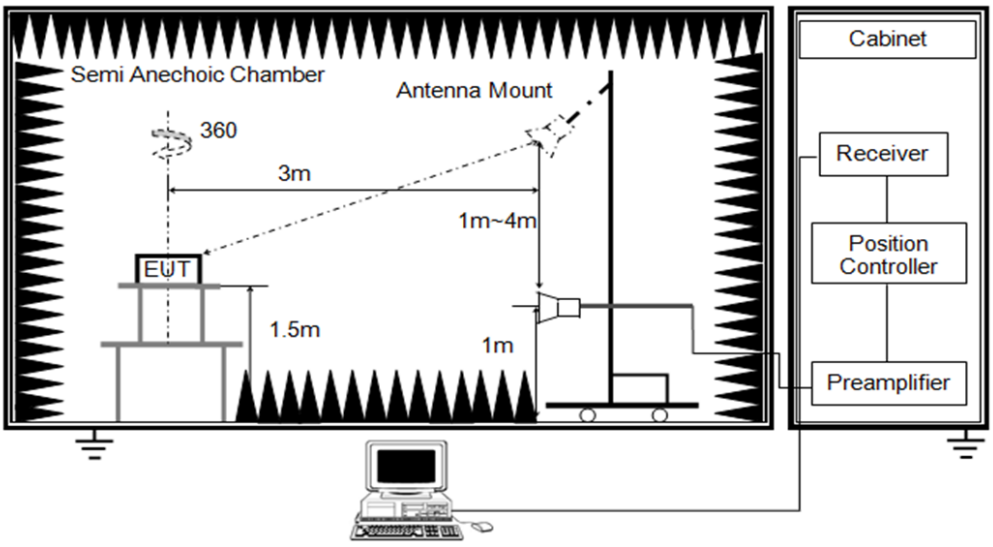
Below 30 MHz



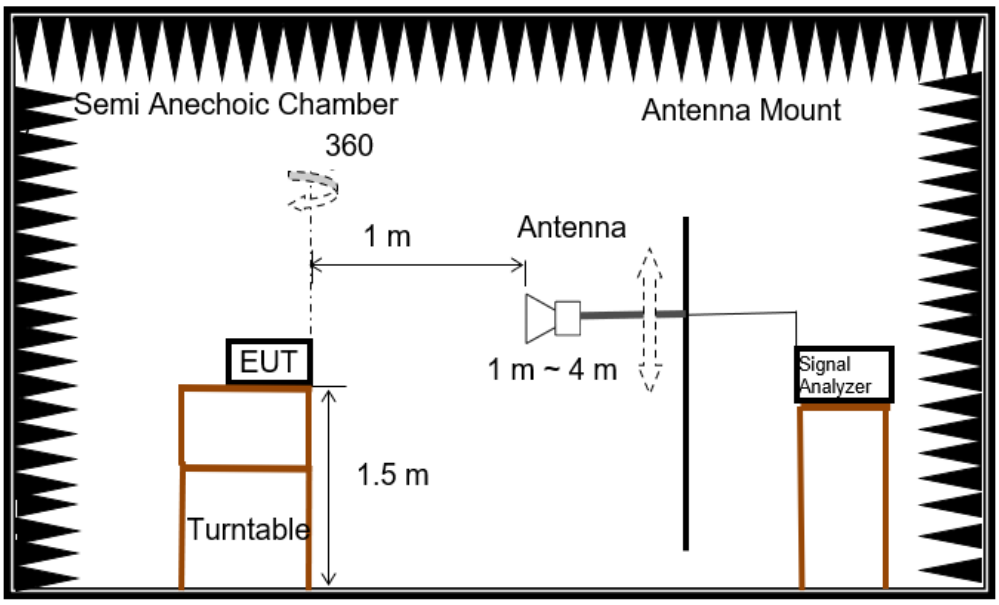
Below 1 GHz and above 30 MHz



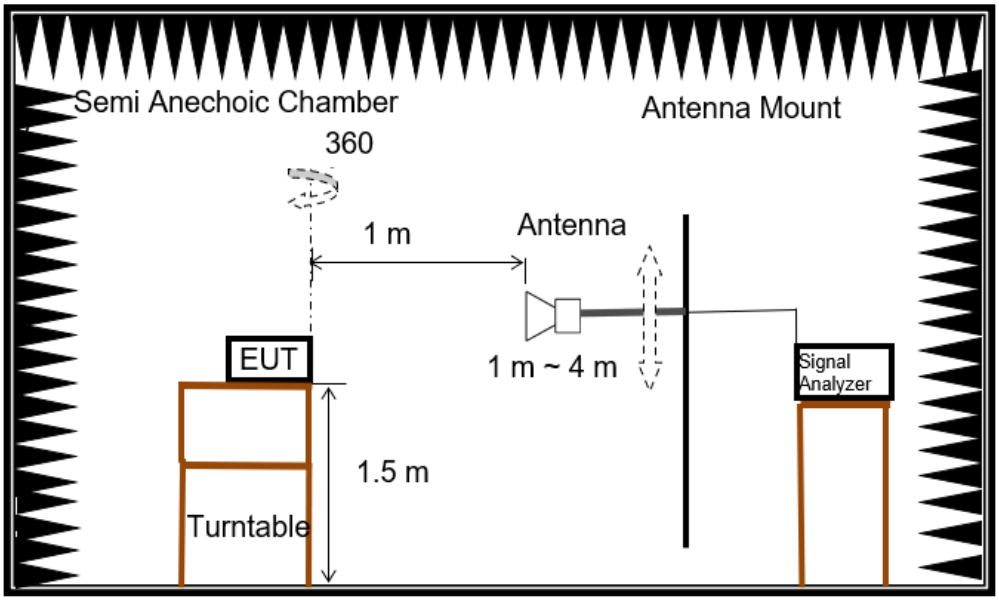
Above 1 GHz



Above 26~110 GHz



For Bandedge and Fundamental



TEST ENVIRONMENT

Temperature	24.7 °C	Relative Humidity	59%
Atmosphere Pressure	101 kPa	Test Voltage	DC 24 V

TEST RESULTS

7.3.1. FIELD STRENGTH OF FUNDAMENTAL

Test data for terrain radar:

Frequency	Reading	Correct	Peak Result@1m	AVG Result@1m		Peak	AVG	Margin Peak	Margin AVG	Polarity
						Limit@1m	Limit@1m			
(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)		(dBuV/m)	(dBuV/m)	(dB)	(dB)	
24214.000	93.54	-0.60	92.94	67.49		137.5	117.5	-44.56	-50.01	H
24214.400	110.12	-0.60	109.52	84.07		137.5	117.5	-27.98	-33.43	V

Peak Result@3m	AVG Result@3m	Peak	AVG	Margin Peak	Margin AVG	Polarity
		Limit@3m	Limit@3m			
(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
83.44	57.99	128	108	-44.56	-50.01	H
100.02	74.57	128	108	-27.98	-33.43	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test data for 4D Imaging radar:

Frequency	Reading	Correct	Peak Result@1m	AVG Result@1m	Peak	AVG	Margin Peak	Margin AVG	Polarity
					Limit@1m	Limit@1m			
(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
24198.400	110.22	-0.63	109.59	72.76	137.5	117.5	-27.91	-44.74	H
24200.000	98.09	-0.63	97.46	60.63	137.5	117.5	-40.04	-56.87	V

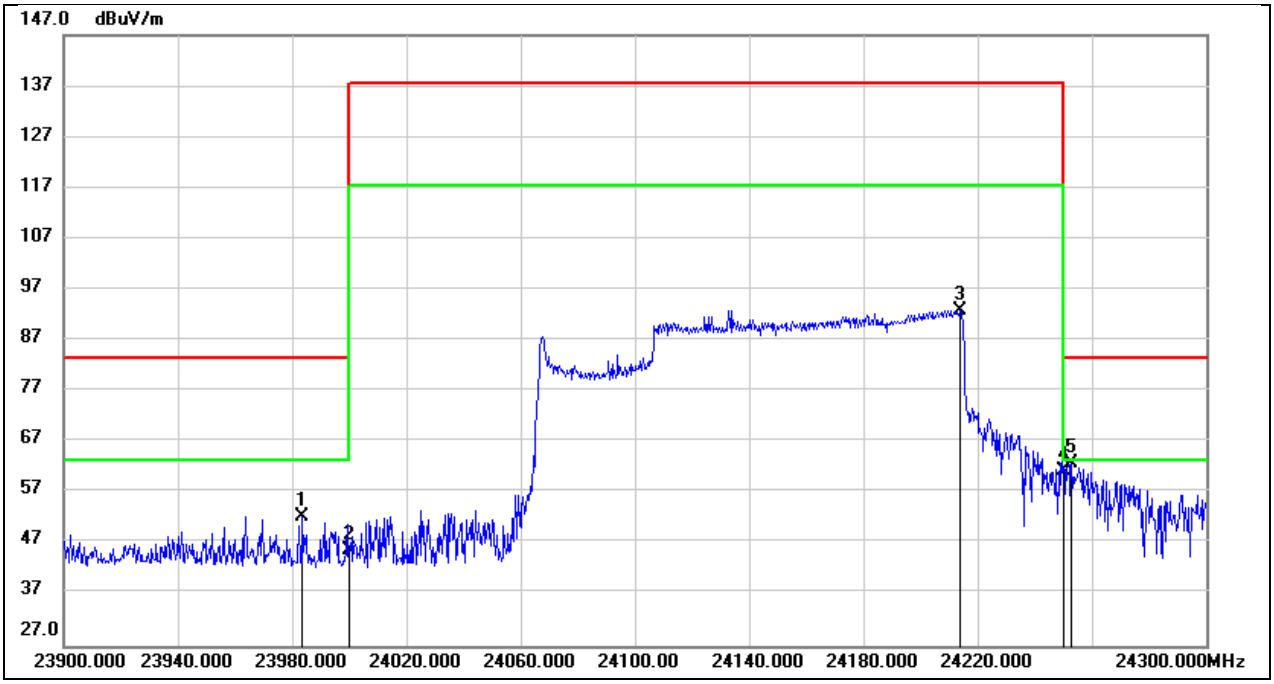
Peak Result@3m	AVG Result@3m	Peak	AVG	Margin Peak	Margin AVG	Polarity
		Limit@3m	Limit@3m			
(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
100.09	63.26	128	108	-27.91	-44.74	H
87.96	51.13	128	108	-40.04	-56.87	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.2. RESTRICTED BANDEDGE

Test data for terrain radar:

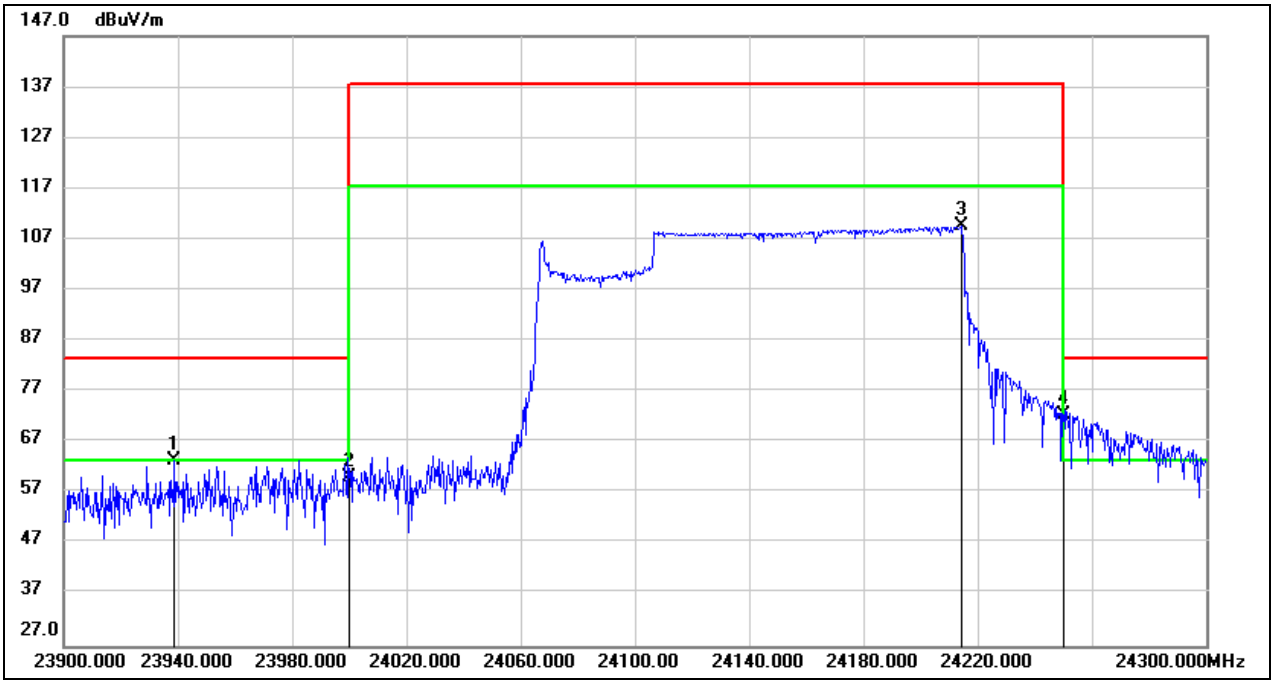
Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	23983.600	53.49	-1.02	52.47	83.54	42.97	74.04	-31.07	peak
2	24000.000	46.77	-1.01	45.76	83.54	36.26	74.04	-37.78	peak
3	24214.000	93.54	-0.6	/	/	/	/	/	Fundamental
4	24250.000	61.95	-0.54	61.41	83.54	51.91	74.04	-22.13	peak
5	24252.800	63.39	-0.53	62.86	83.54	53.36	74.04	-20.68	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB
For the fundamental result, please refer to clause 7.3.1.

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V

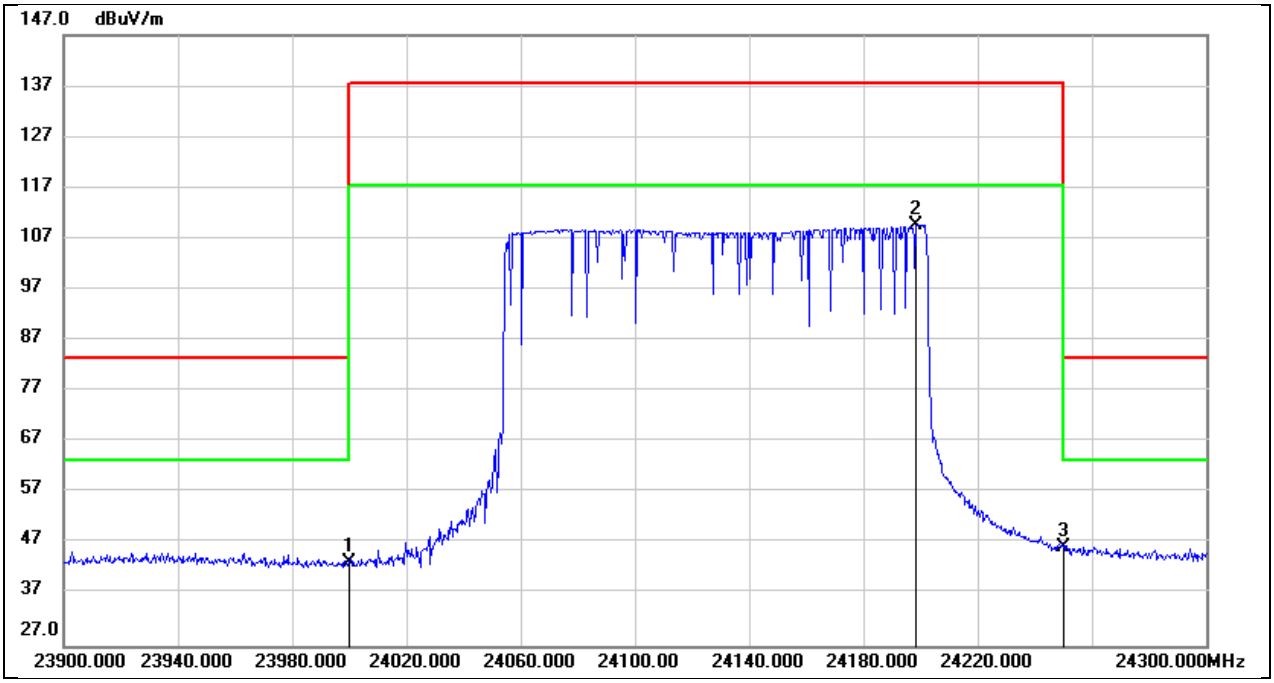


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	23938.800	64.64	-1.05	63.59	83.54	54.09	74.04	-19.95	peak
2	24000.000	61.18	-1.01	60.17	83.54	50.67	74.04	-23.37	peak
3	24214.400	110.12	-0.60	/	/	/	/	/	Fundamental
4	24250.000	73.08	-0.54	72.54	83.54	63.04	74.04	-11	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB
For the fundamental result, please refer to clause 7.3.1.

Test data for 4D Imaging radar:

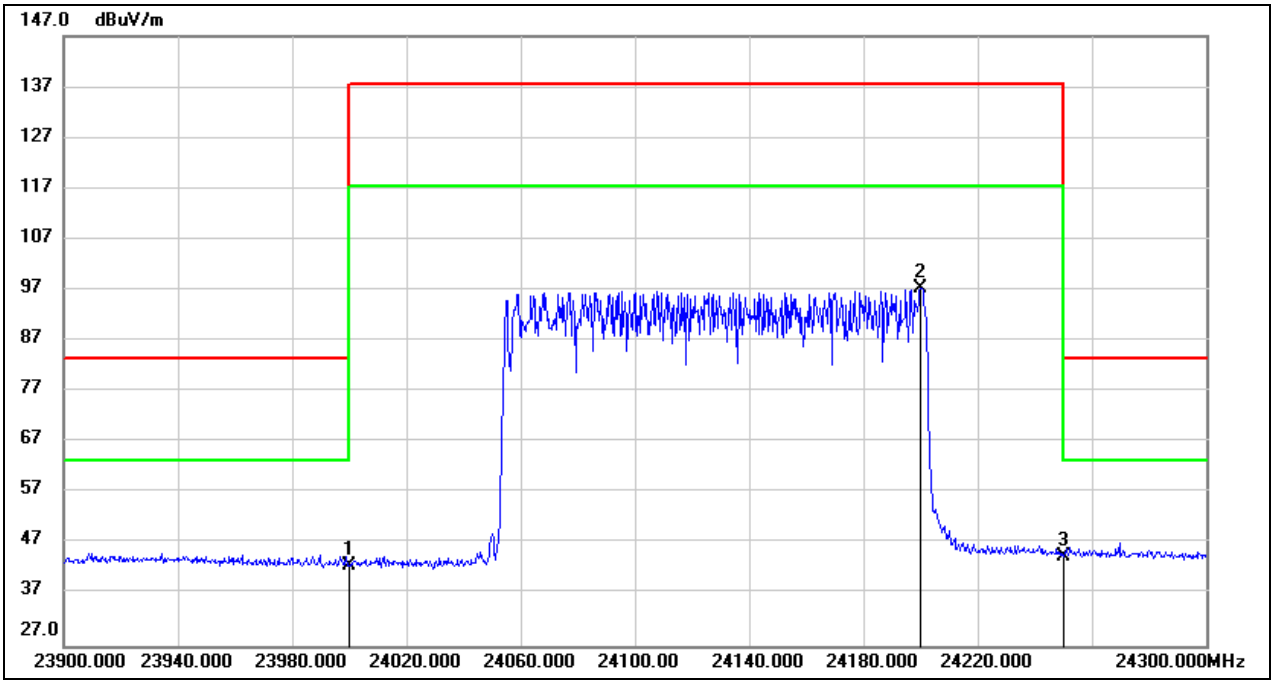
Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	24000.000	44.48	-1.01	43.47	83.54	33.97	74.04	-40.07	peak
2	24198.400	110.22	-0.63	/	/	/	/	/	Fundamental
3	24250.000	47.04	-0.54	46.5	83.54	37	74.04	-37.04	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB
For the fundamental result, please refer to clause 7.3.1.

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V



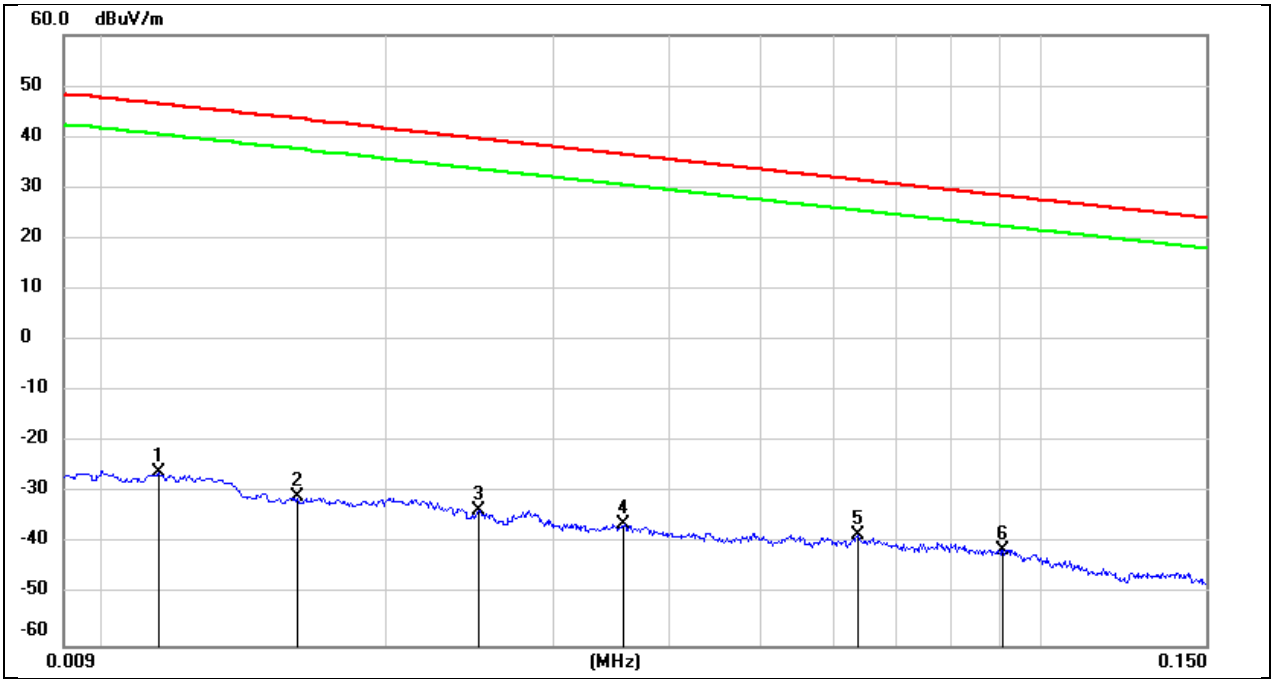
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	24000.000	43.63	-1.01	42.62	83.54	33.12	74.04	-40.92	43.63
2	24200.000	98.09	-0.63	/	/	/	/	/	98.09
3	24250.000	45.16	-0.54	44.62	83.54	35.12	74.04	-38.92	45.16

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB
For the fundamental result, please refer to clause 7.3.1.

7.3.3. SPURIOUS EMISSIONS (9 kHz~30 MHz)

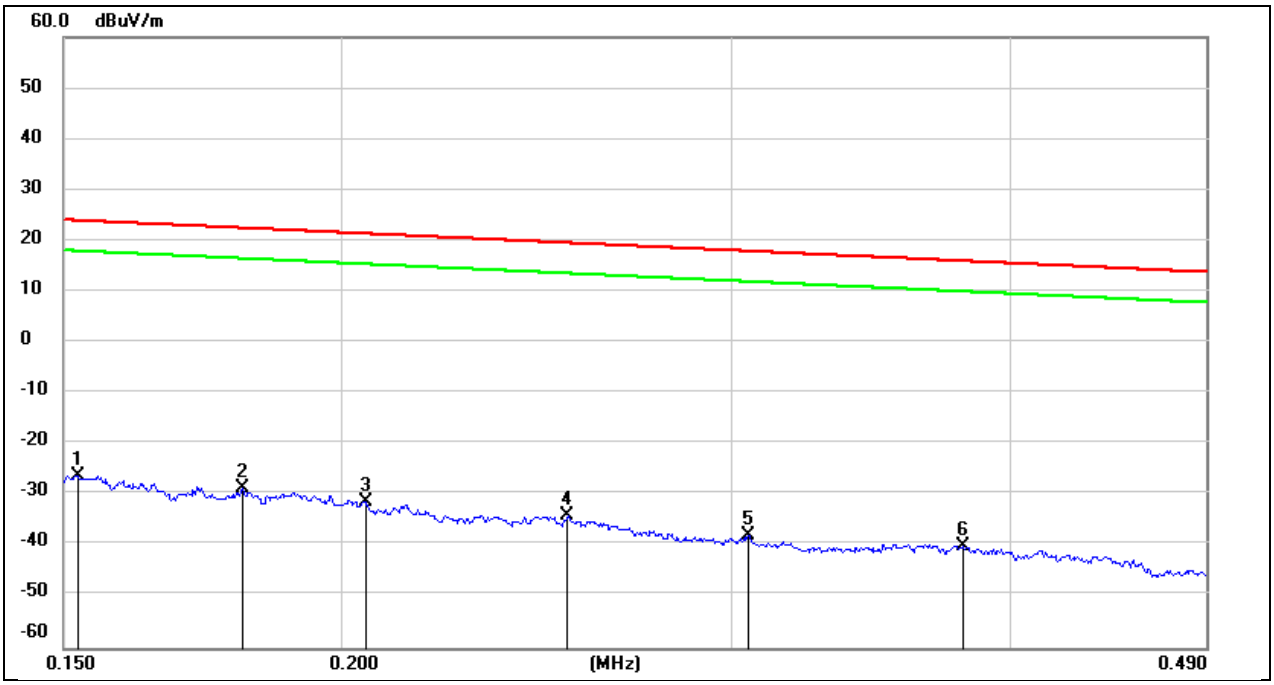
Test data for 4D Imaging radar (Worst Case):

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



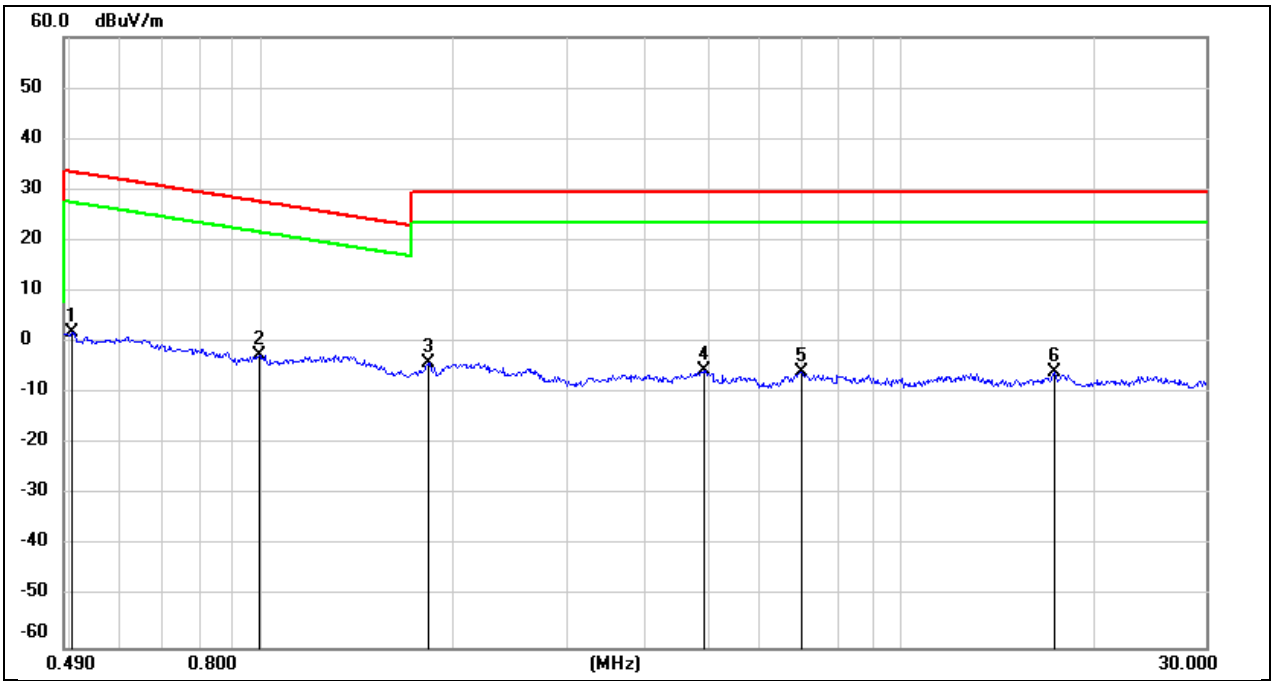
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0114	75.38	-101.40	-26.02	46.46	-72.48	peak
2	0.0160	70.47	-101.37	-30.90	43.52	-74.42	peak
3	0.0250	67.79	-101.37	-33.58	39.64	-73.22	peak
4	0.0357	65.32	-101.41	-36.09	36.55	-72.64	peak
5	0.0636	63.31	-101.54	-38.23	31.53	-69.76	peak
6	0.0911	60.61	-101.72	-41.11	28.41	-69.52	peak

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1524	75.30	-101.63	-26.33	23.94	-50.27	peak
2	0.1804	72.93	-101.68	-28.75	22.48	-51.23	peak
3	0.2051	70.31	-101.73	-31.42	21.36	-52.78	peak
4	0.2530	67.64	-101.80	-34.16	19.54	-53.70	peak
5	0.3048	64.04	-101.86	-37.82	17.92	-55.74	peak
6	0.3809	61.91	-101.94	-40.03	15.99	-56.02	peak

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V

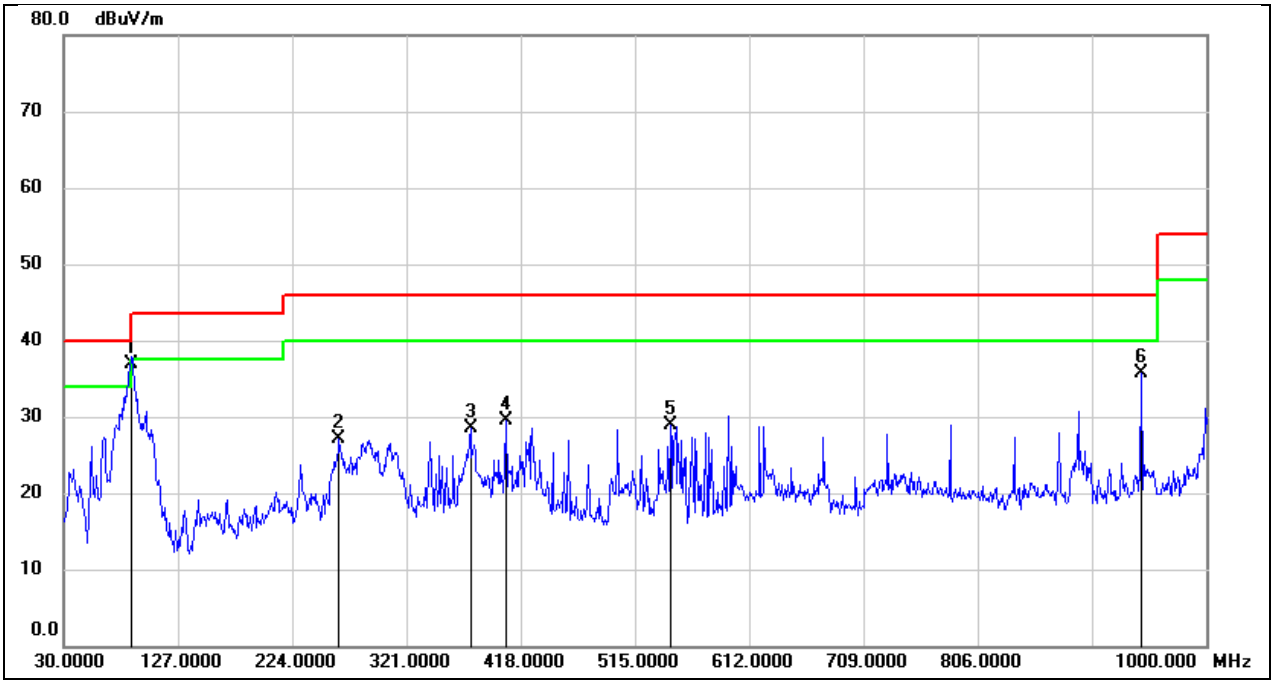


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.5039	63.93	-62.07	1.86	33.56	-31.70	peak
2	0.9917	59.80	-62.26	-2.46	27.67	-30.13	peak
3	1.8205	57.95	-61.90	-3.95	29.54	-33.49	peak
4	4.9165	55.88	-61.48	-5.60	29.54	-35.14	peak
5	7.0117	55.42	-61.21	-5.79	29.54	-35.33	peak
6	17.3992	54.93	-60.92	-5.99	29.54	-35.53	peak

7.3.4. SPURIOUS EMISSIONS (30 MHz~1 GHz)

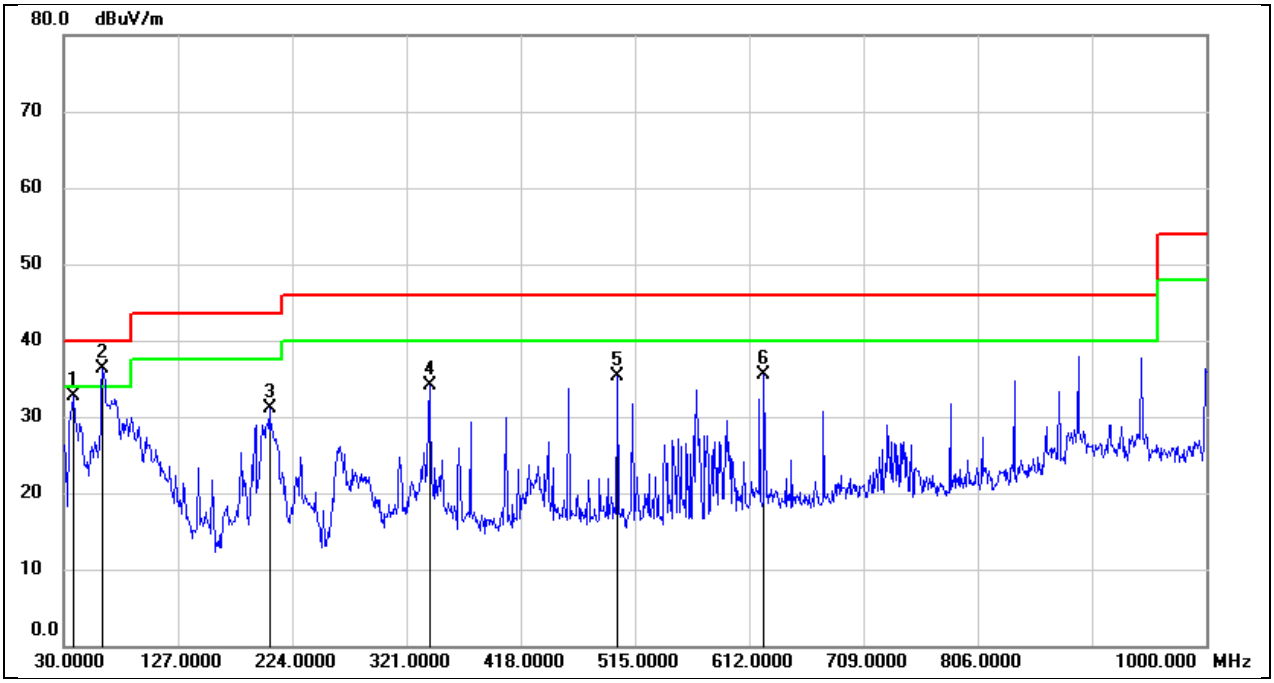
Test data for 4D Imaging radar (Worst Case):

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	87.2300	53.67	-16.77	36.90	40.00	-3.10	QP
2	263.7700	40.76	-13.74	27.02	46.00	-18.98	QP
3	375.3200	38.34	-9.79	28.55	46.00	-17.45	QP
4	405.3900	39.20	-9.78	29.42	46.00	-16.58	QP
5	545.0700	36.33	-7.47	28.86	46.00	-17.14	QP
6	944.7100	37.31	-1.59	35.72	46.00	-10.28	QP

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V

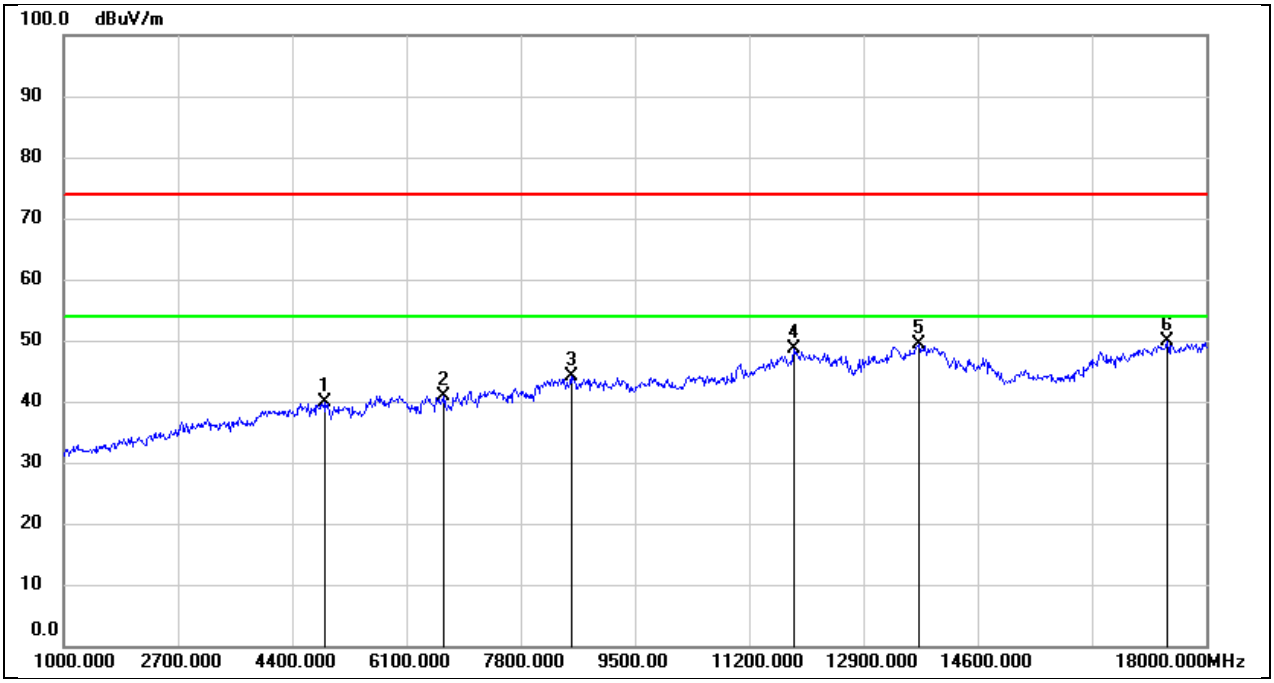


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	37.7599	47.72	-15.09	32.63	40.00	-7.37	QP
2	62.9800	51.51	-15.25	36.26	40.00	-3.74	QP
3	204.6000	43.50	-12.39	31.11	43.50	-12.39	QP
4	340.4000	43.99	-9.97	34.02	46.00	-11.98	QP
5	500.4500	43.33	-8.07	35.26	46.00	-10.74	QP
6	624.6100	41.61	-6.19	35.42	46.00	-10.58	QP

7.3.5. SPURIOUS EMISSIONS (1 GHz~18 GHz)

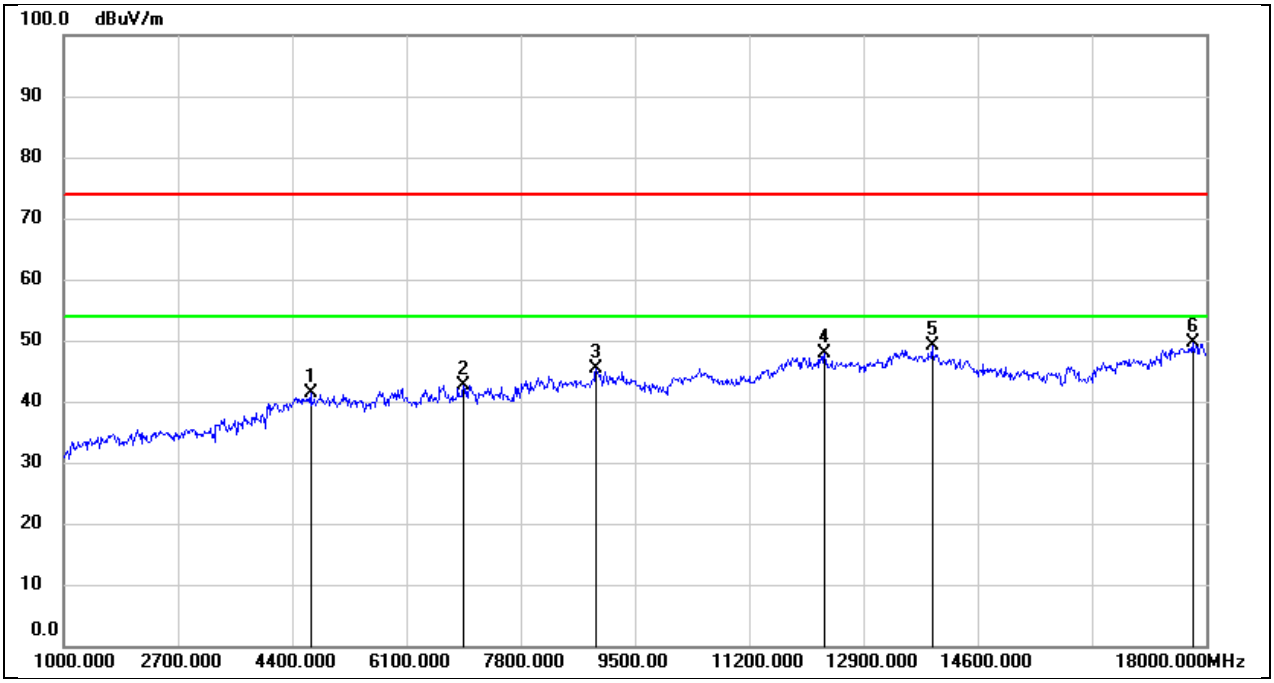
Test data for terrain radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4876.000	39.89	0.06	39.95	74.00	-34.05	peak
2	6661.000	36.56	4.41	40.97	74.00	-33.03	peak
3	8548.000	36.09	7.97	44.06	74.00	-29.94	peak
4	11863.000	31.14	17.46	48.60	74.00	-25.40	peak
5	13733.000	27.48	21.79	49.27	74.00	-24.73	peak
6	17422.000	27.01	22.78	49.79	74.00	-24.21	peak

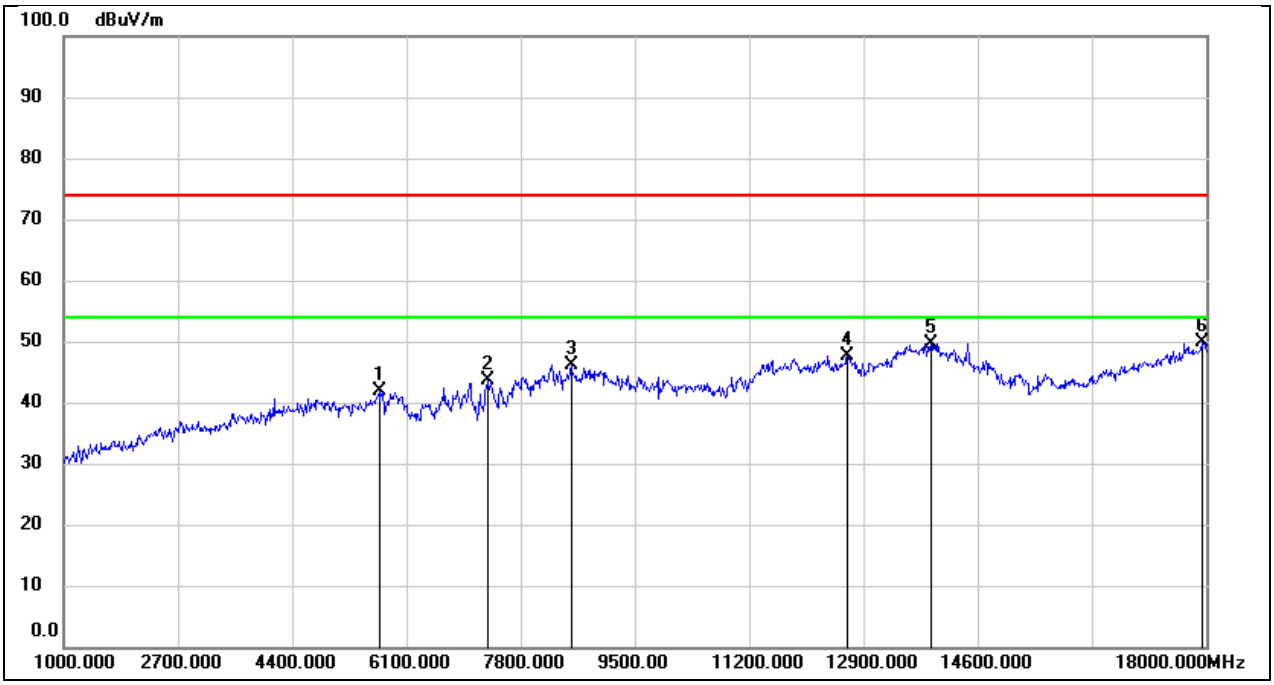
Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4672.000	42.21	-0.92	41.29	74.00	-32.71	peak
2	6950.000	36.47	6.23	42.70	74.00	-31.30	peak
3	8922.000	35.84	9.44	45.28	74.00	-28.72	peak
4	12322.000	29.52	18.28	47.80	74.00	-26.20	peak
5	13920.000	27.04	22.17	49.21	74.00	-24.79	peak
6	17796.000	24.57	25.12	49.69	74.00	-24.31	peak

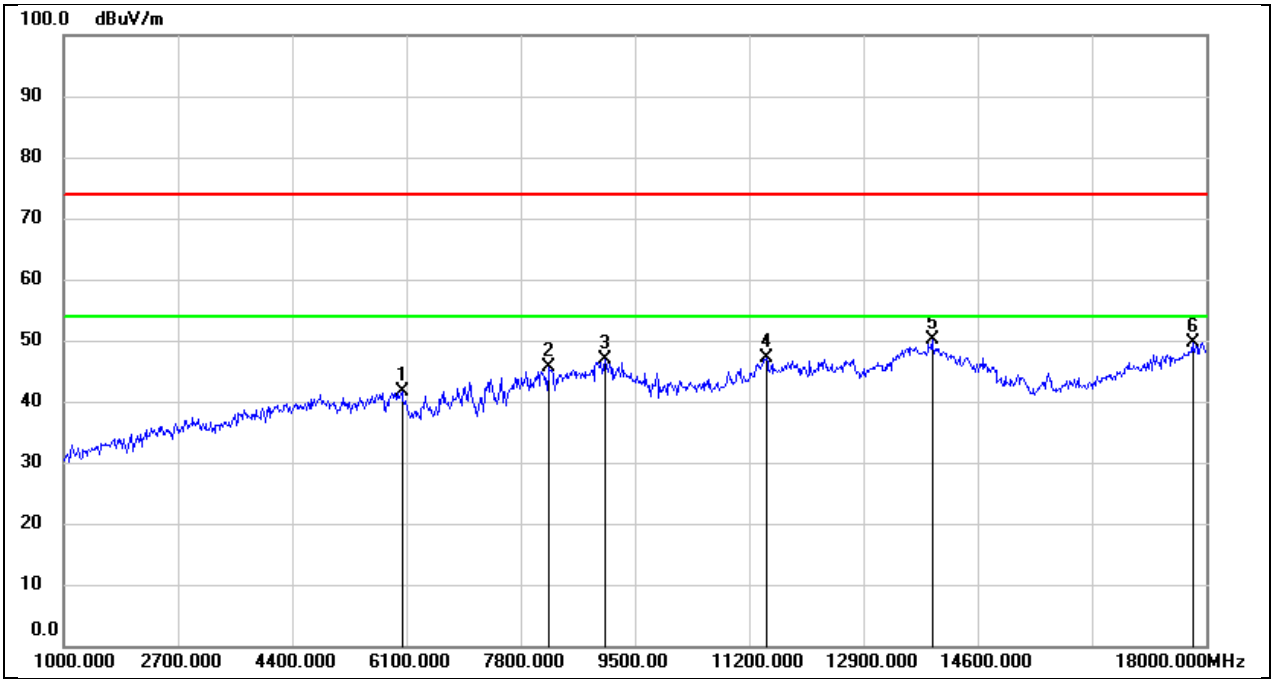
Test data for 4D Imaging radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5692.000	39.73	2.06	41.79	74.00	-32.21	peak
2	7307.000	37.09	6.50	43.59	74.00	-30.41	peak
3	8548.000	38.09	7.97	46.06	74.00	-27.94	peak
4	12662.000	29.68	17.98	47.66	74.00	-26.34	peak
5	13903.000	27.58	22.16	49.74	74.00	-24.26	peak
6	17932.000	24.21	25.71	49.92	74.00	-24.08	peak

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V

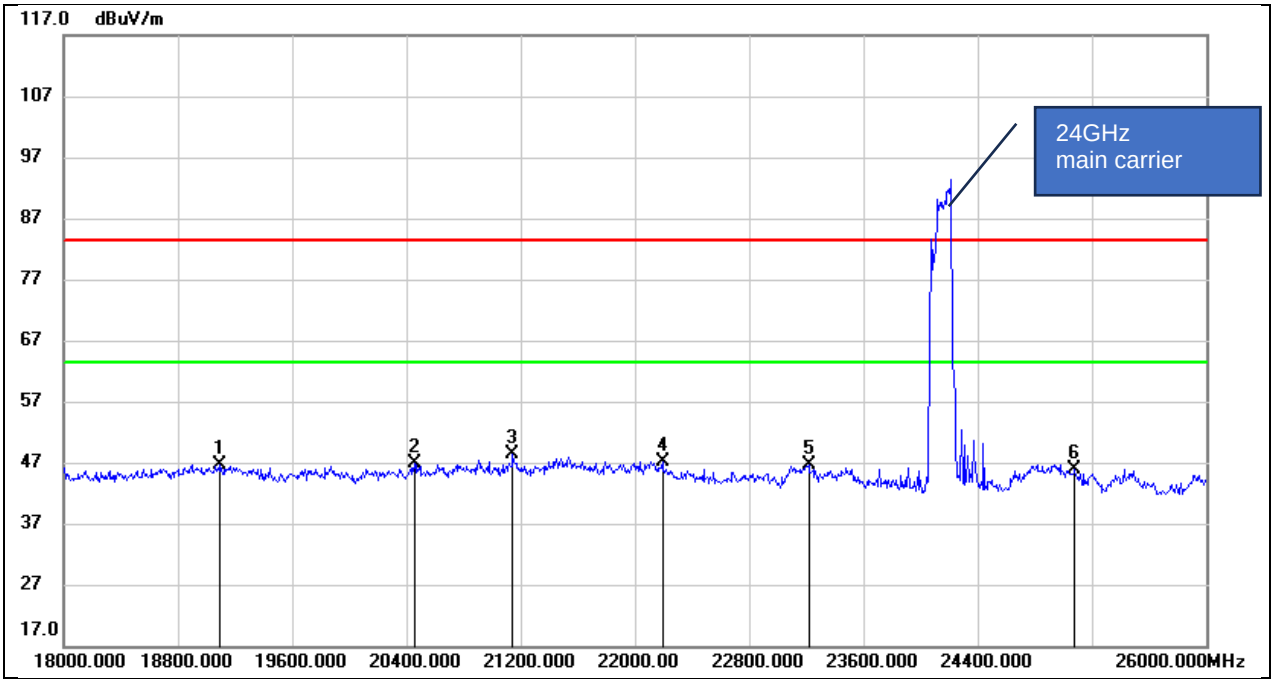


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6032.000	38.82	2.74	41.56	74.00	-32.44	peak
2	8225.000	37.40	8.24	45.64	74.00	-28.36	peak
3	9058.000	36.78	10.12	46.90	74.00	-27.10	peak
4	11455.000	30.82	16.39	47.21	74.00	-26.79	peak
5	13920.000	28.04	22.17	50.21	74.00	-23.79	peak
6	17796.000	24.57	25.12	49.69	74.00	-24.31	peak

7.3.6. SPURIOUS EMISSIONS (18 GHz~26 GHz)

Test data for terrain radar:

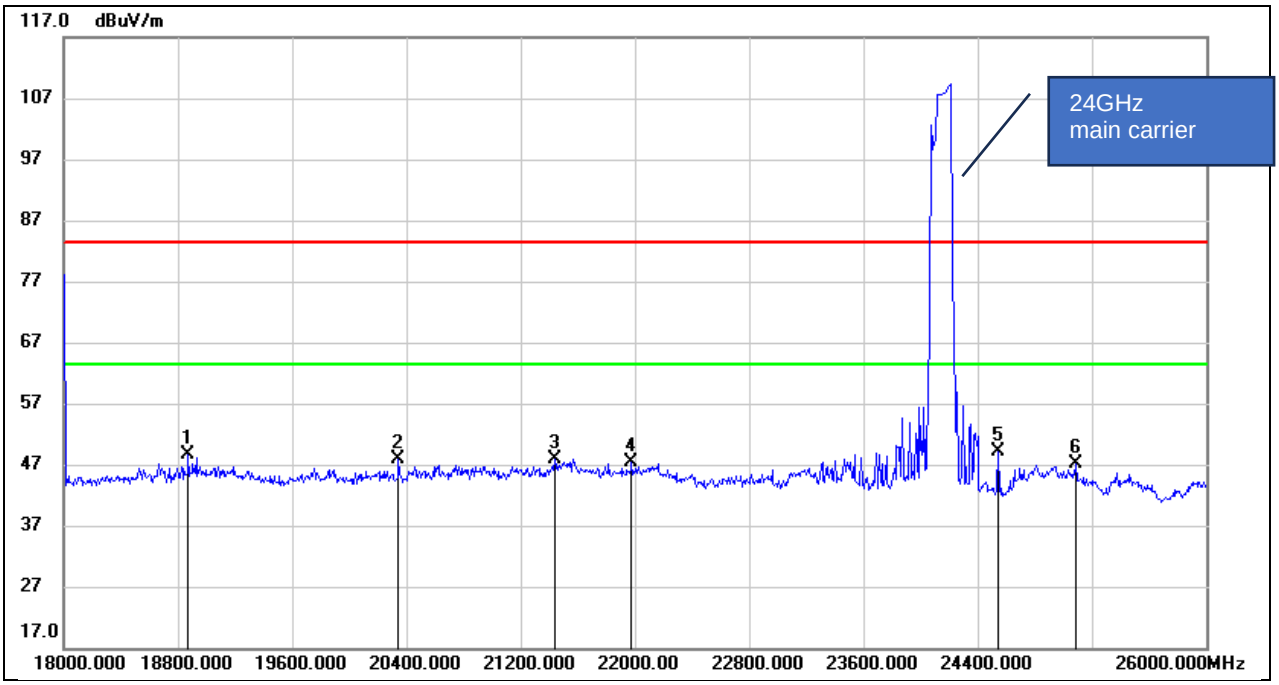
Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	19088	48.79	-2.28	46.51	83.5	37.01	74	-36.99	peak
2	20456	49.9	-2.93	46.97	83.5	37.47	74	-36.53	peak
3	21144	50.95	-2.59	48.36	83.5	38.86	74	-35.14	peak
4	22192	49.01	-1.85	47.16	83.5	37.66	74	-36.34	peak
5	23216	47.46	-0.75	46.71	83.5	37.21	74	-36.79	peak
6	25080	44.99	0.95	45.94	83.5	36.44	74	-37.56	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V

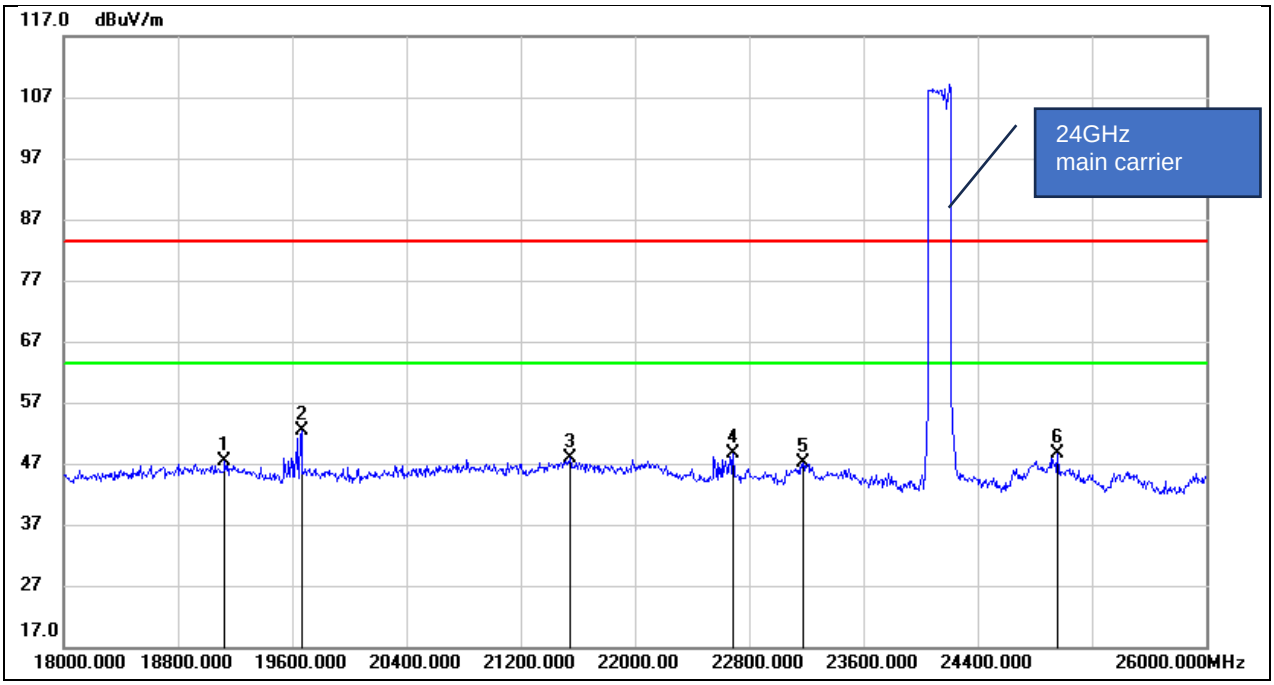


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	18872	50.92	-2.41	48.51	83.5	39.01	74	-34.99	peak
2	20344	50.55	-2.77	47.78	83.5	38.28	74	-35.72	peak
3	21440	49.98	-2.01	47.97	83.5	38.47	74	-35.53	peak
4	21976	48.81	-1.53	47.28	83.5	37.78	74	-36.22	peak
5	24544	49.42	-0.27	49.15	83.5	39.65	74	-34.35	peak
6	25088	46.11	0.94	47.05	83.5	37.55	74	-36.45	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test data for 4D Imaging radar:

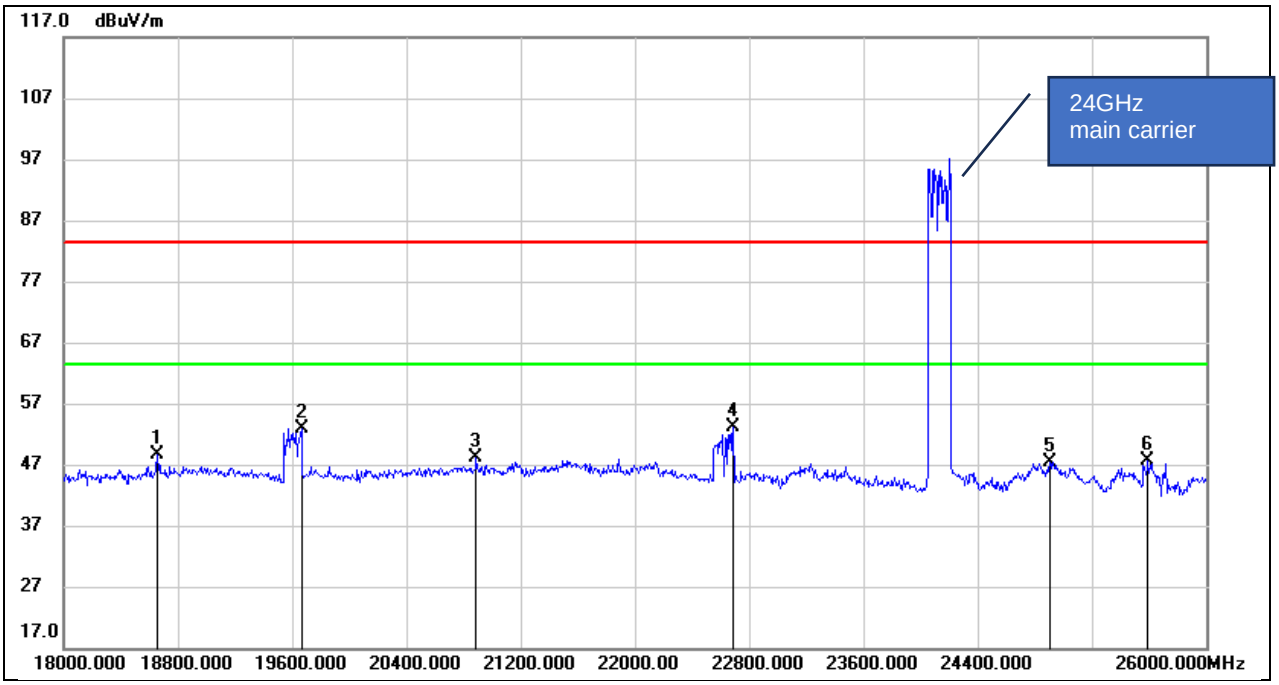
Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	19128	49.78	-2.35	47.43	83.5	37.93	74	-36.07	peak
2	19664	55.82	-3.48	52.34	83.5	42.84	74	-31.16	peak
3	21544	49.74	-1.89	47.85	83.5	38.35	74	-35.65	peak
4	22688	50.3	-1.66	48.64	83.5	39.14	74	-34.86	peak
5	23176	47.96	-0.85	47.11	83.5	37.61	74	-36.39	peak
6	24960	47.66	0.91	48.57	83.5	39.07	74	-34.93	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V



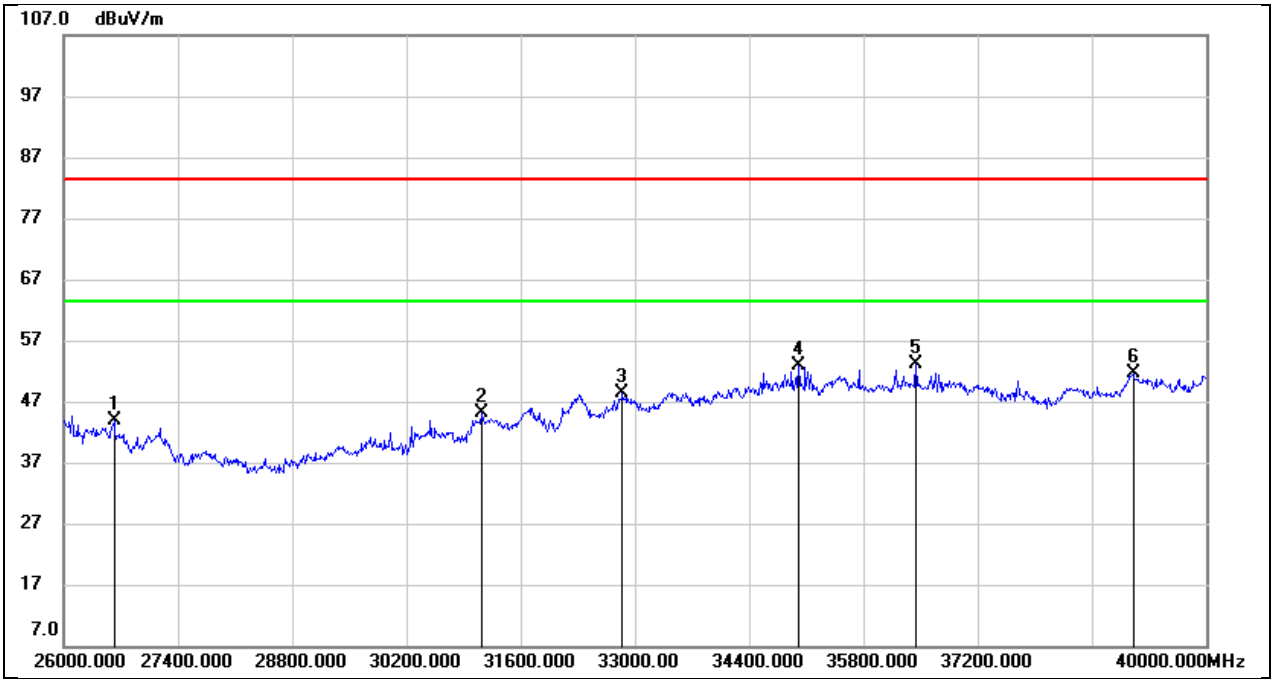
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	18656	51.4	-2.85	48.55	83.5	39.05	74	-34.95	peak
2	19664	56.45	-3.48	52.97	83.5	43.47	74	-30.53	peak
3	20888	50.52	-2.46	48.06	83.5	38.56	74	-35.44	peak
4	22688	54.69	-1.66	53.03	83.5	43.53	74	-30.47	peak
5	24904	46.47	0.84	47.31	83.5	37.81	74	-36.19	peak
6	25592	47.46	0.17	47.63	83.5	38.13	74	-35.87	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.7. SPURIOUS EMISSIONS (26 GHz~40 GHz)

Test data for obstacle avoidance radar:

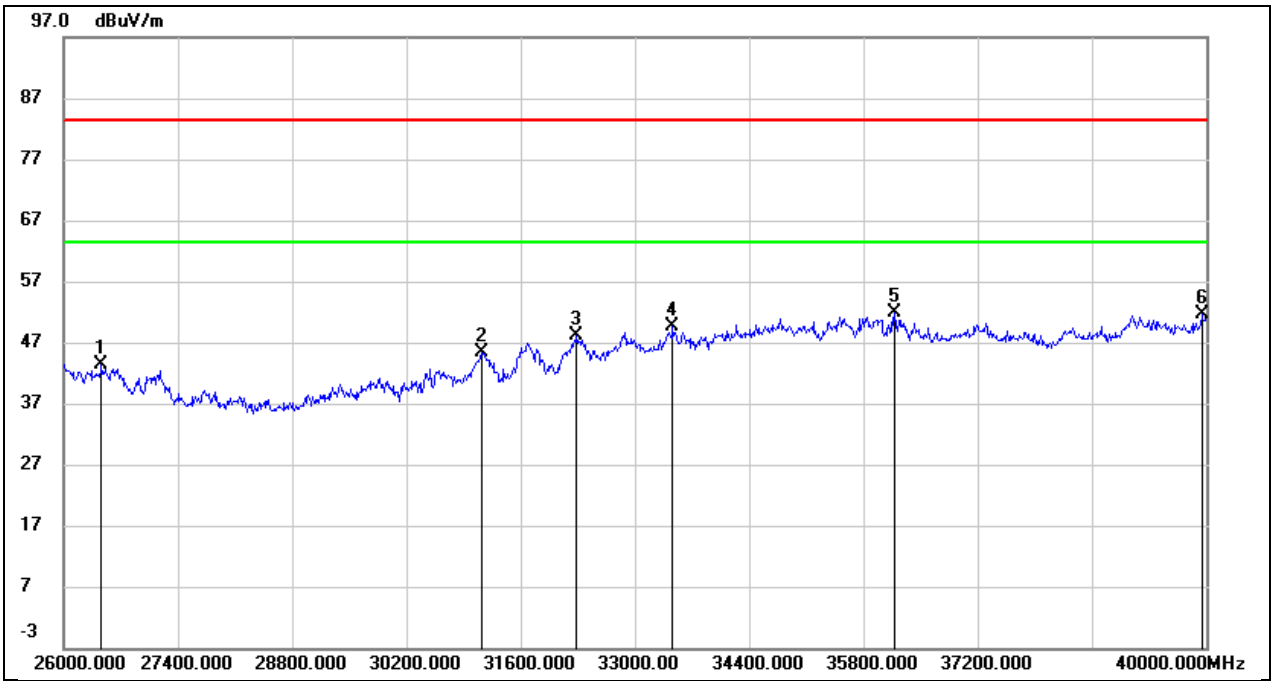
Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	26616	45.72	-1.9	43.82	83.5	34.32	74	-39.68	peak
2	31124	43.38	1.74	45.12	83.5	35.62	74	-38.38	peak
3	32846	45.82	2.49	48.31	83.5	38.81	74	-35.19	peak
4	35002	47.7	5.2	52.9	83.5	43.4	74	-30.6	peak
5	36444	46.6	6.46	53.06	83.5	43.56	74	-30.44	peak
6	39104	42.86	8.8	51.66	83.5	42.16	74	-31.84	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V

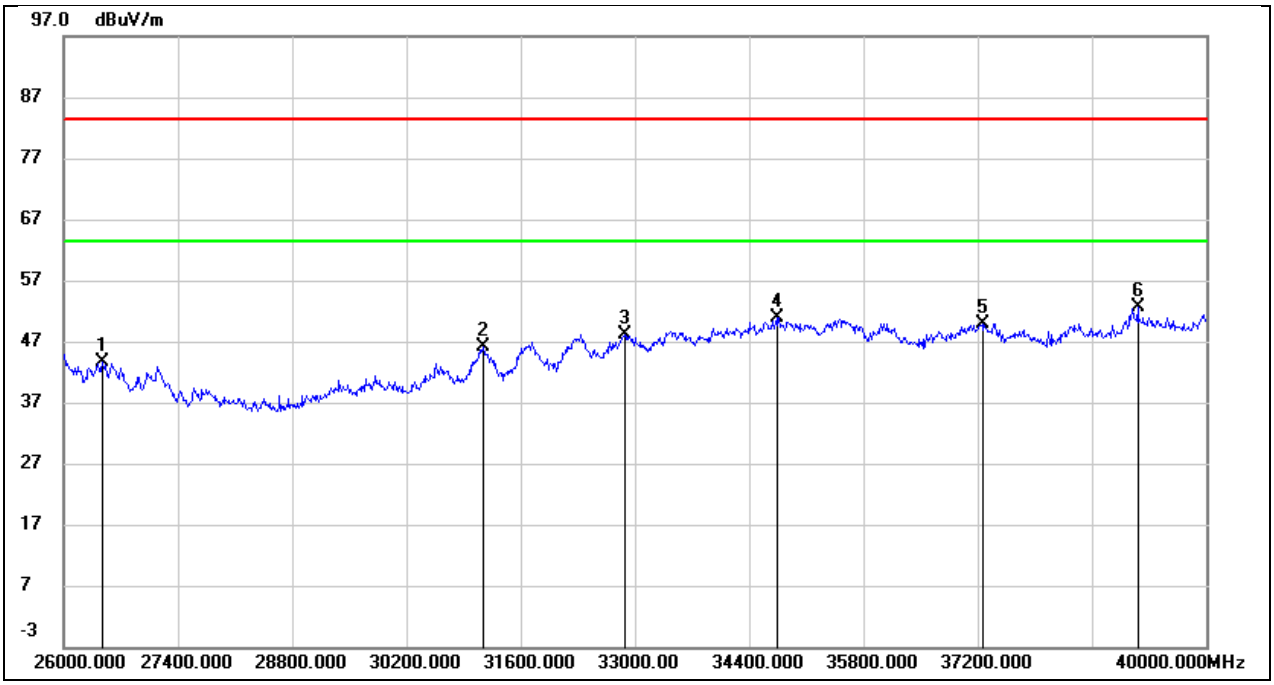


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	26462	45.33	-1.98	43.35	83.5	33.85	74	-40.15	peak
2	31124	43.68	1.74	45.42	83.5	35.92	74	-38.08	peak
3	32286	46.32	1.82	48.14	83.5	38.64	74	-35.36	peak
4	33462	45.91	3.68	49.59	83.5	40.09	74	-33.91	peak
5	36178	45.4	6.45	51.85	83.5	42.35	74	-31.65	peak
6	39944	43.25	8.39	51.64	83.5	42.14	74	-31.86	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test data for 4D Imaging radar:

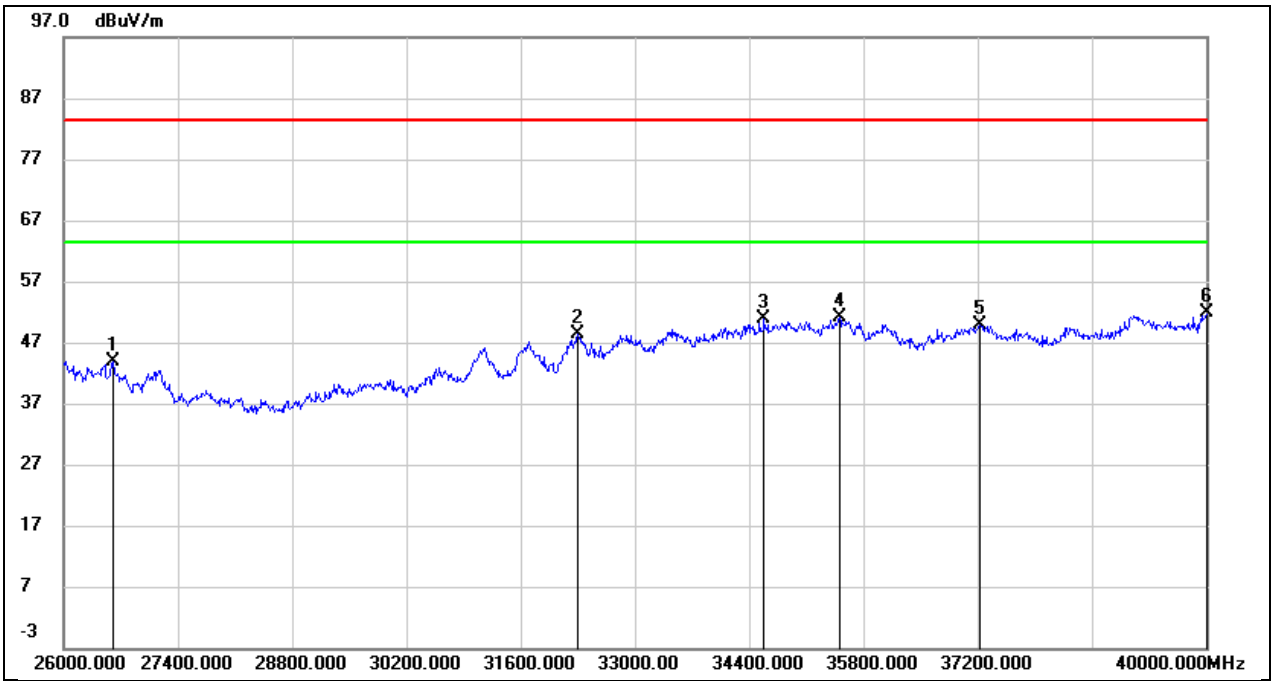
Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 24 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	26476	45.63	-1.97	43.66	83.5	34.16	74	-39.84	peak
2	31138	44.44	1.73	46.17	83.5	36.67	74	-37.33	peak
3	32874	45.52	2.56	48.08	83.5	38.58	74	-35.42	peak
4	34736	45.94	5.04	50.98	83.5	41.48	74	-32.52	peak
5	37256	42.75	7.13	49.88	83.5	40.38	74	-33.62	peak
6	39160	43.77	8.77	52.54	83.5	43.04	74	-30.96	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	FMCW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 24 V



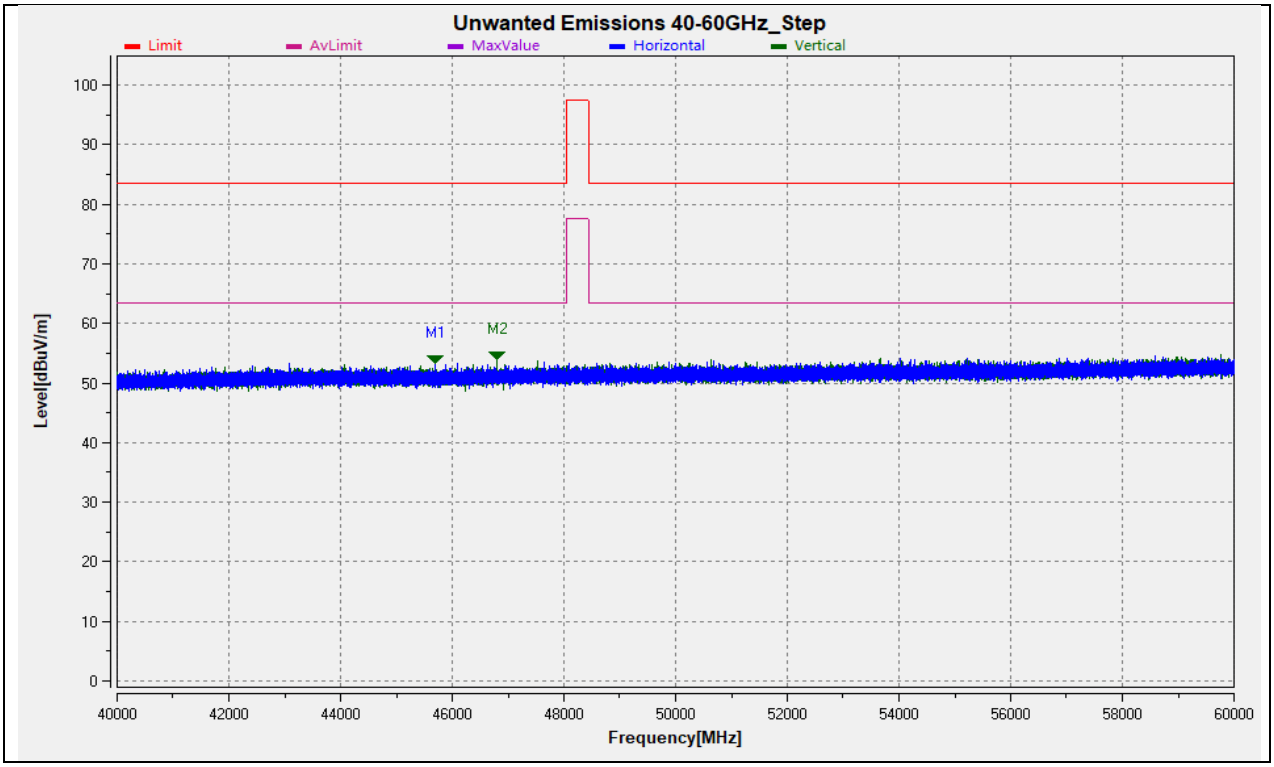
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result@1m (dBuV/m)	Limit@1m (dBuV/m)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark
1	26602	45.74	-1.91	43.83	83.5	34.33	74	-39.67	peak
2	32300	46.45	1.82	48.27	83.5	38.77	74	-35.23	peak
3	34582	46.04	4.75	50.79	83.5	41.29	74	-32.71	peak
4	35506	45.03	6.07	51.1	83.5	41.6	74	-32.4	peak
5	37228	42.71	7.12	49.83	83.5	40.33	74	-33.67	peak
6	40000	43.53	8.4	51.93	83.5	42.43	74	-31.57	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.8. SPURIOUS EMISSIONS (40 GHz ~ 60 GHz)

Test data for terrain radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 24 V

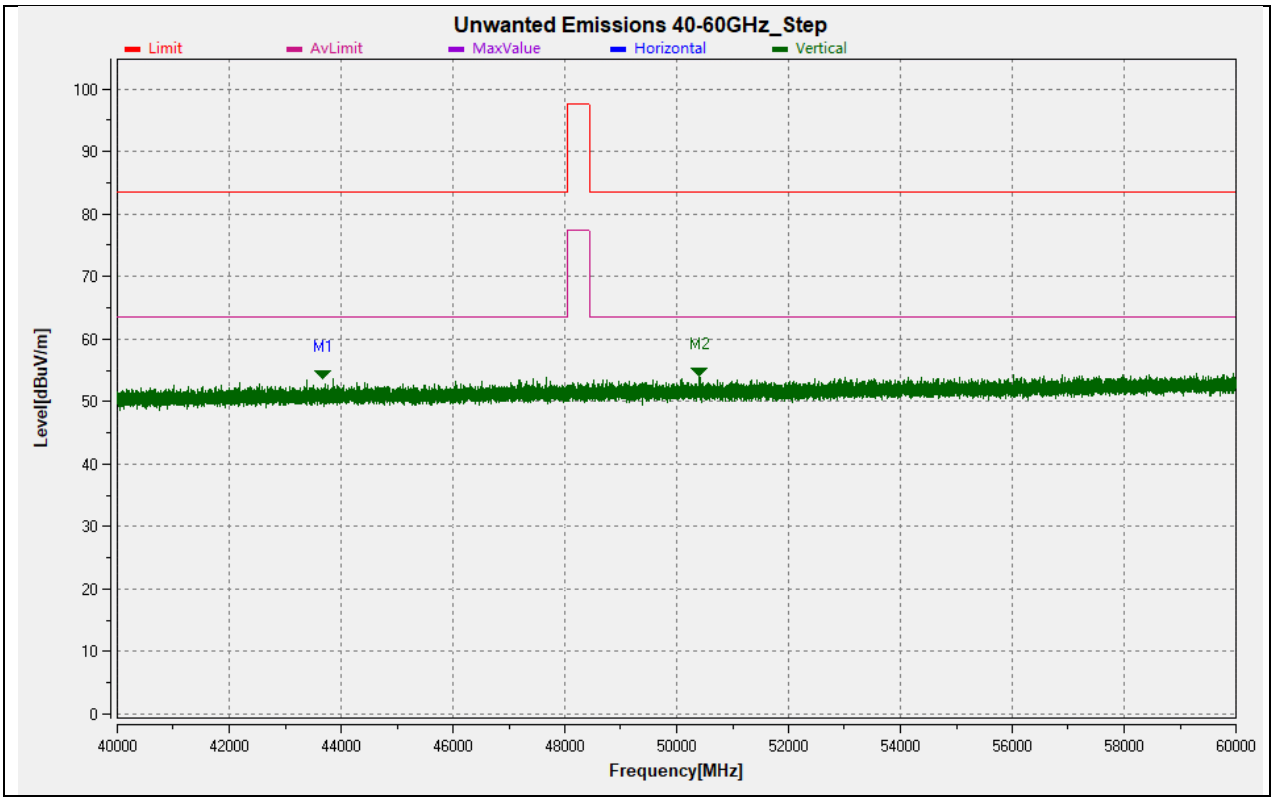


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	46808.5	14.898	39.044	53.942	83.5	44.442	74	-29.558	peak	H
2	45696.5	14.482	38.822	53.304	83.5	43.804	74	-30.196	peak	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test data for 4D Imaging radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 24 V



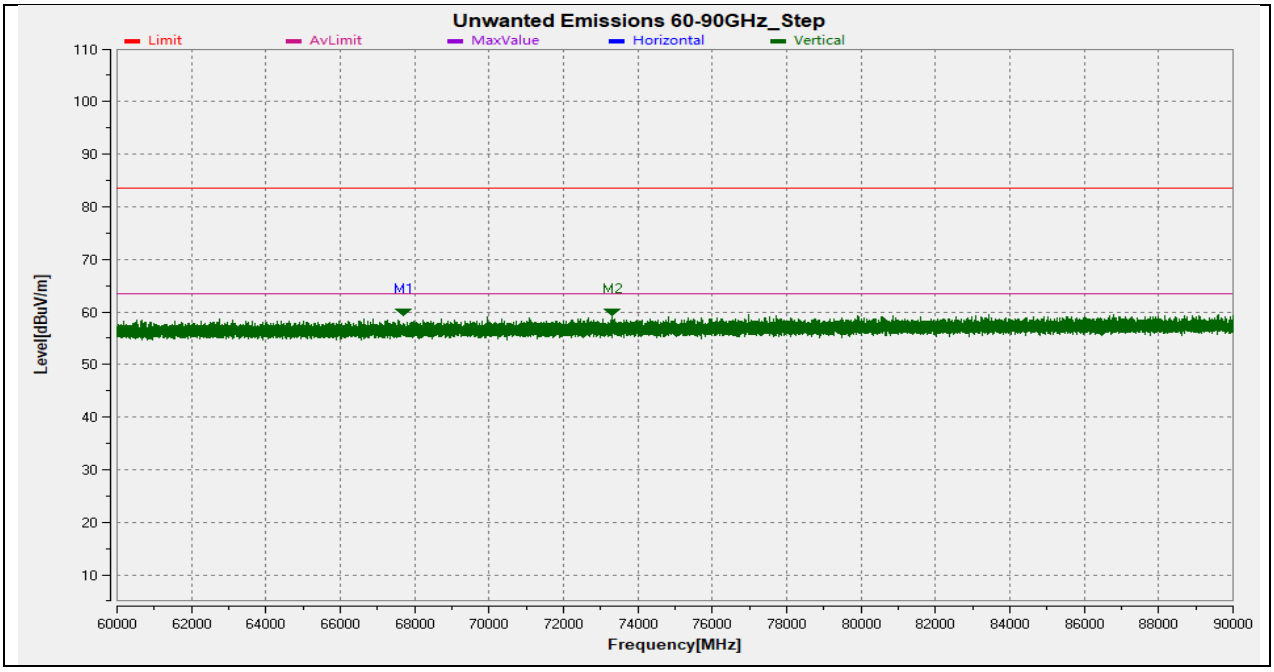
No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	50390	14.66	39.4	54.06	83.5	44.56	74	-29.44	peak	H
2	43680.5	14.809	38.75	53.559	83.5	44.059	74	-29.941	peak	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.9. SPURIOUS EMISSIONS (60 GHz ~ 90 GHz)

Test data for terrain radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 24 V

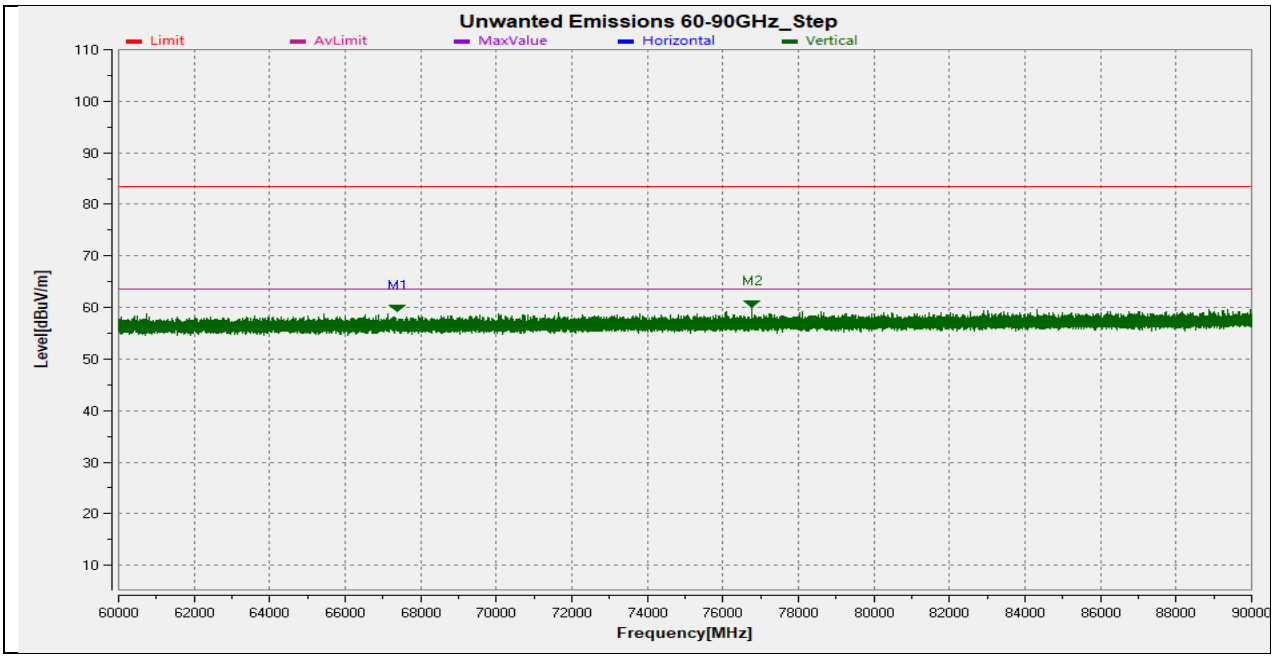


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	67686.5	14.881	44.338	59.219	83.5	49.719	74	-24.281	peak	H
2	73289.5	14.637	44.624	59.261	83.5	49.761	74	-24.239	peak	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test data for 4D Imaging radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 24 V



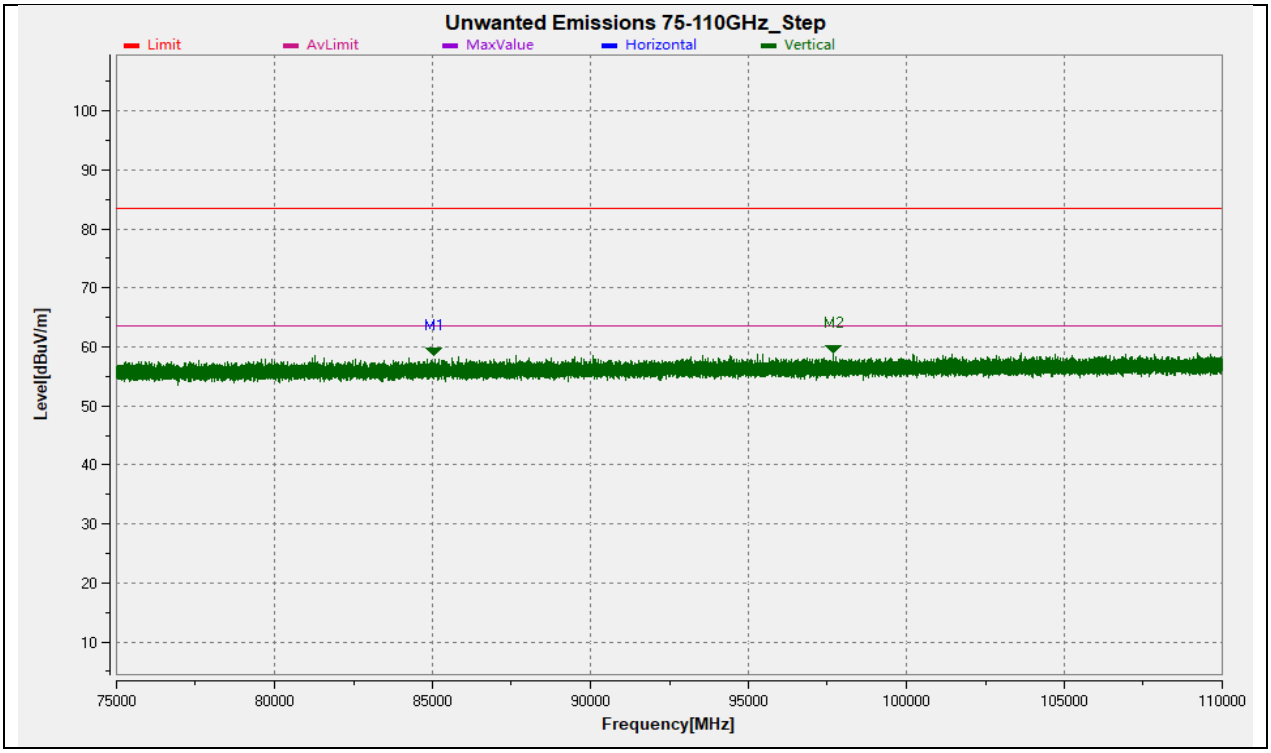
No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	67365.5	14.759	44.368	59.127	83.5	49.627	74	-24.373	peak	H
2	76769.5	15.244	44.756	60	83.5	50.5	74	-23.5	peak	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.10. SPURIOUS EMISSIONS (75 GHz ~ 110 GHz)

Test data for terrain radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 24 V

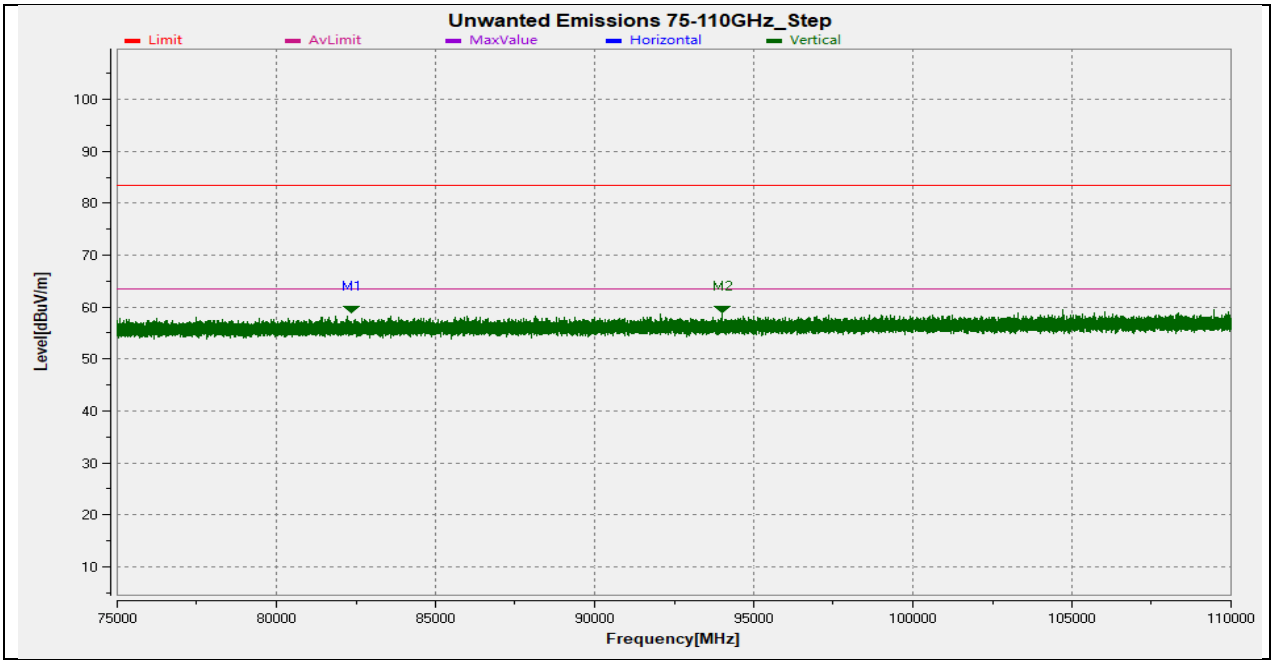


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	85049	14.827	43.787	58.614	83.5	49.114	74	-24.886	peak	H
2	97692	14.793	44.235	59.028	83.5	49.528	74	-24.472	peak	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test data for 4D Imaging radar:

Test Mode:	FMCW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 24 V



No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	82372.5	15.207	43.74	58.947	83.5	49.447	74	-24.553	peak	H
2	94022.5	14.779	44.087	58.866	83.5	49.366	74	-24.634	peak	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

8. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

RESULTS

Complies

END OF REPORT