NVLAP TESTING
NVLAP LAB CODE 600341-0

BACL Bay Area Compliance Labs Corp.

TEST REPORT

Applicant:	**Anker Innovations Limited**
Address:	**Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong**
Product Name:	**eufy FamiLock S3 Max, eufy FamiLock S3**
FCC ID:	**2AOKB-T85V0**
Standard(s):	**47 CFR Part 15, Subpart C(15.249) ANSI C63.10-2013**
Report Number:	**2402Z106115E-RF-00D**
Report Date:	**2024/12/24**

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

Reviewed By: Pedro Yun	**Approved By:** Gavin Xu
Title: Project Engineer	Title: RF Supervisor

Bay Area Compliance Laboratories Corp. (Dongguan)
No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China
Tel: +86-769-86858888
Fax: +86-769-86858891
www.baclcorp.com.cn

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402Z106115E-RF-00D	Original Report	2024/12/24

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	eufy FamiLock S3 Max, eufy FamiLock S3
EUT Model:	T85V0
Multiple Model:	T85V0C
Operation Frequency:	24.06GHz-24.24GHz
Modulation Type:	FMCW
Rated Input Voltage:	DC 3.85V from Battery or DC 1.5V*4 AAA from Battery
Serial Number:	For Radiated Spurious Emissions Above 1G test: 2UV0-3(Model:T85V0) For Radiated Spurious Emissions Below 1G test: 2UV0-3(Model:T85V0) 2UV2-4(Model:T85V0C)
EUT Received Date:	2024/11/22
EUT Received Status:	Good
Note: The difference between the two models is that the T85V0 with a screen and the T85V0C without. Please refer to the declaration letter for more detail, which was provided by manufacturer.	

1.2 Accessory Information

Accessory Description	Manufacturer	Model	Parameters
/	/	/	/

1.3 Antenna Information Detail▲:

Antenna Manufacturer	Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
Socionext Techology(Shanghai) Co., Ltd.	Chip Integrateion	Unknown	24-24.25GHz	2dBi
The design of compliance with §15.203:				
☒ Unit uses a permanently attached antenna.				
☐ Unit uses a unique coupling to the intentional radiator.				
☐ Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.				

1.4 Equipment Modifications

No modifications are made to the EUT during all test items.

2. SUMMARY OF TEST RESULTS

Standard(s)/Rule(s)	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conduction Emissions	Not applicable
15.205, §15.209, §15.249	Radiated Emissions	Compliant
§15.215 (c)	20 dB Bandwidth	Compliant
Note 1: Not Applicable, the device was powered by battery when operating. Note 2: For Radiated Spurious Emissions 9kHz~ 1GHz, the maximum output power mode and channel was tested.		

3. DESCRIPTION OF TEST CONFIGURATION

3.1 EUT Operation Condition

The device employs FMCW modulation in the frequency range: 24.06GHz-24.24GHz.

According to § 15.31(c), Except as otherwise indicated in §§ 15.255 and 15.256, for swept frequency equipment, measurements shall be made with the frequency sweep stopped at those frequencies chosen for the measurements to be reported.

The device was tested with the frequency sweep stopped mode, the test frequency: 24.06GHz, 24.15GHz, 24.24GHz.

3.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

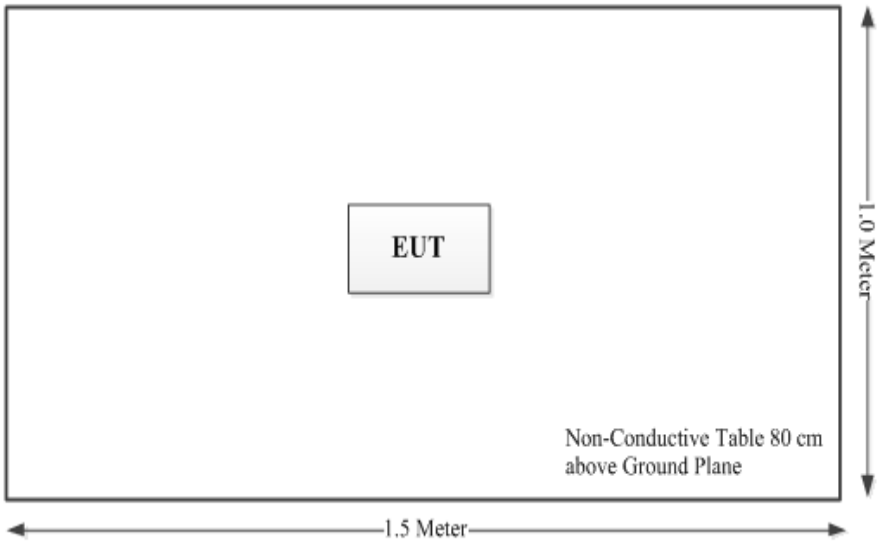
3.3 Support Cable List and Details

Manufacturer	Shielding Type	Ferrite Core	Length (m)	From Port	To
/	/	/	/	/	/

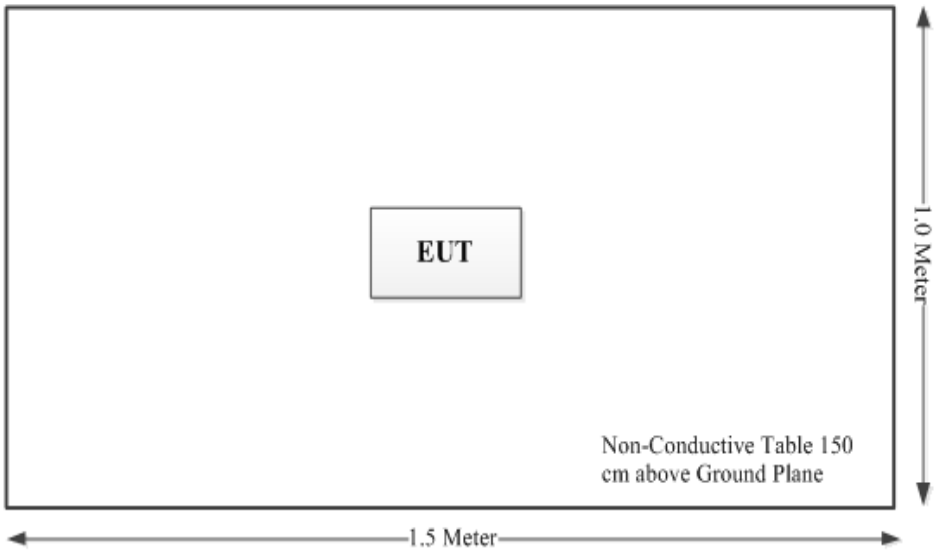
3.4 Block Diagram of Test Setup

Spurious Emissions:

Below 1GHz:



Above 1GHz:


EUT
1.0 Meter
Non-Conductive Table 150 cm above Ground Plane
1.5 Meter

3.5 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 829273, the FCC Designation No. : CN5044.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

3.6 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
Unwanted Emissions, radiated	9kHz~30MHz: 3.3dB, 30MHz~200MHz: 4.55 dB, 200MHz~1GHz: 5.92 dB, 1GHz~6GHz: 4.98 dB, 6GHz~18GHz: 5.89 dB, 18GHz~26.5GHz:5.47 dB, 26.5GHz~40GHz:5.63 dB 40~60G: 4.83dB, 60G~90G: 4.94dB, 90G-140G: 5.46dB, 140G-220G: 6.00dB, 220G-325G: 7.35dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
AC Power Lines Conducted Emission	3.11 dB (150 kHz to 30 MHz)

4. REQUIREMENTS AND TEST RESULTS

4.1 AC Line Conducted Emissions

Not Applicable, the device was powered by battery when operating.

4.2 Radiated Emissions

4.2.1 Applicable Standard

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

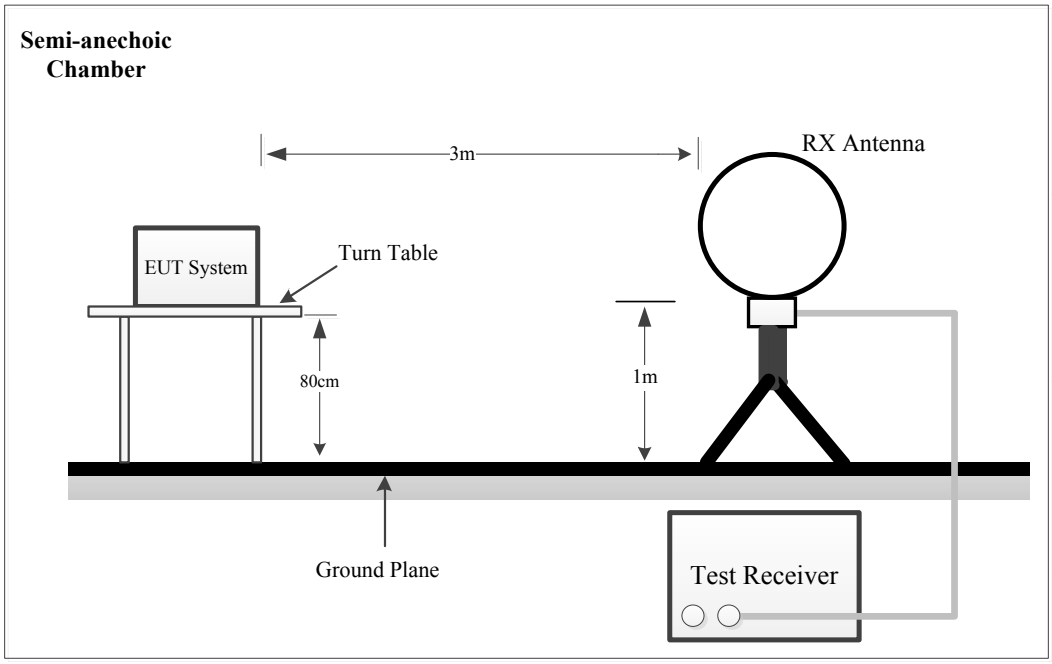
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

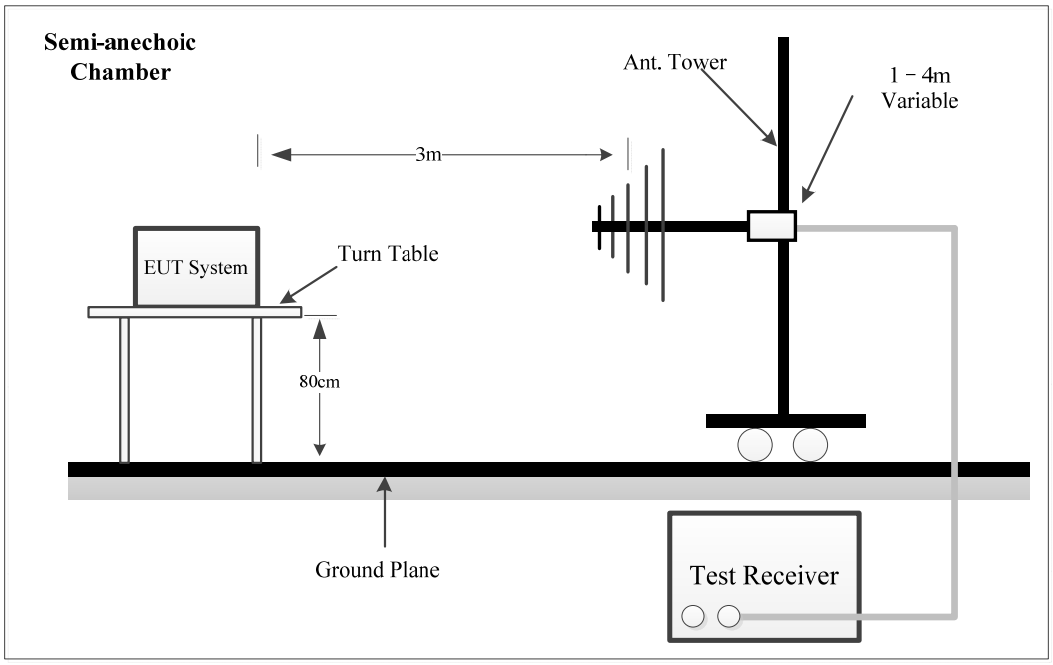
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

4.2.2 EUT Setup

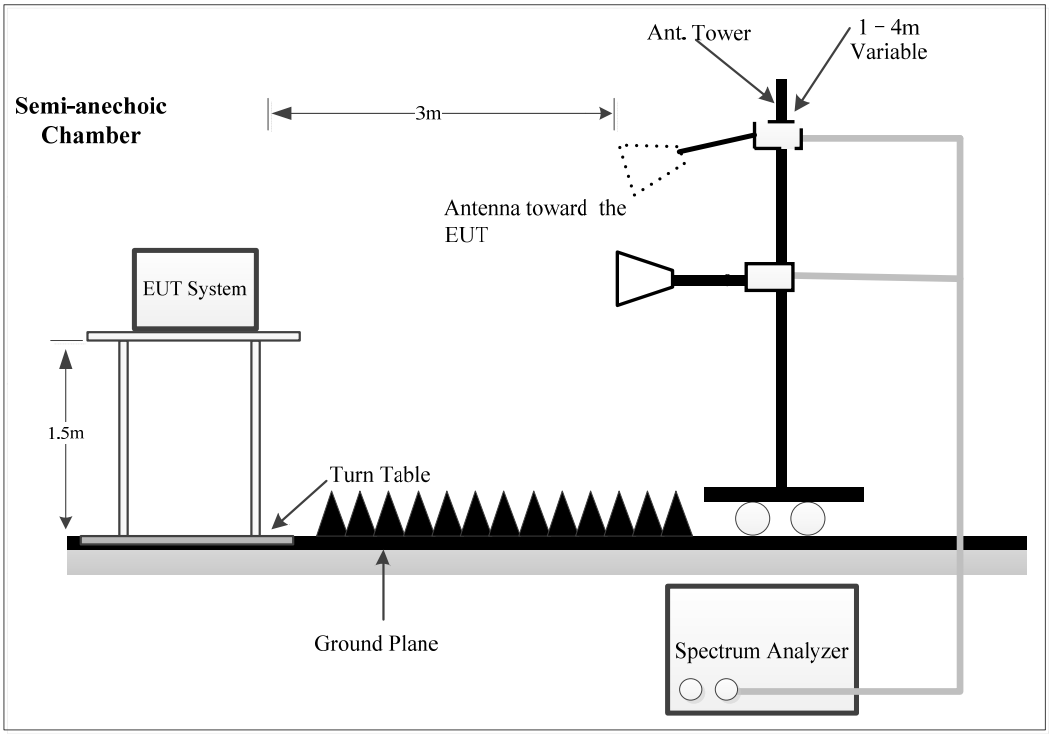
9kHz~30MHz:



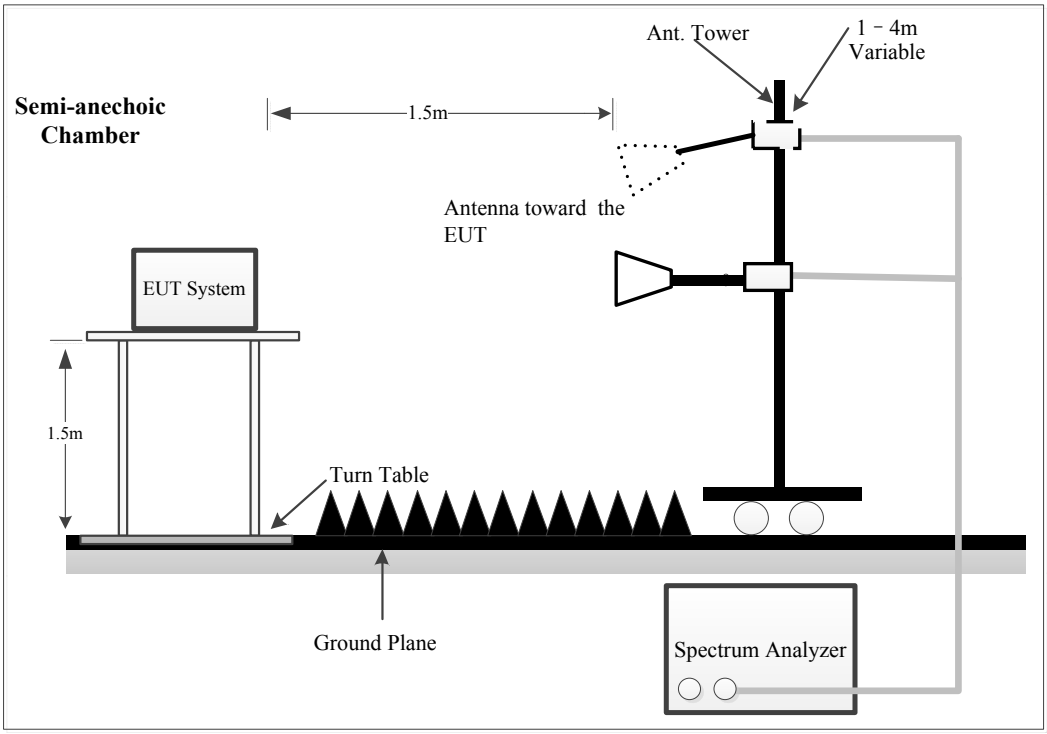
30MHz-1GHz:



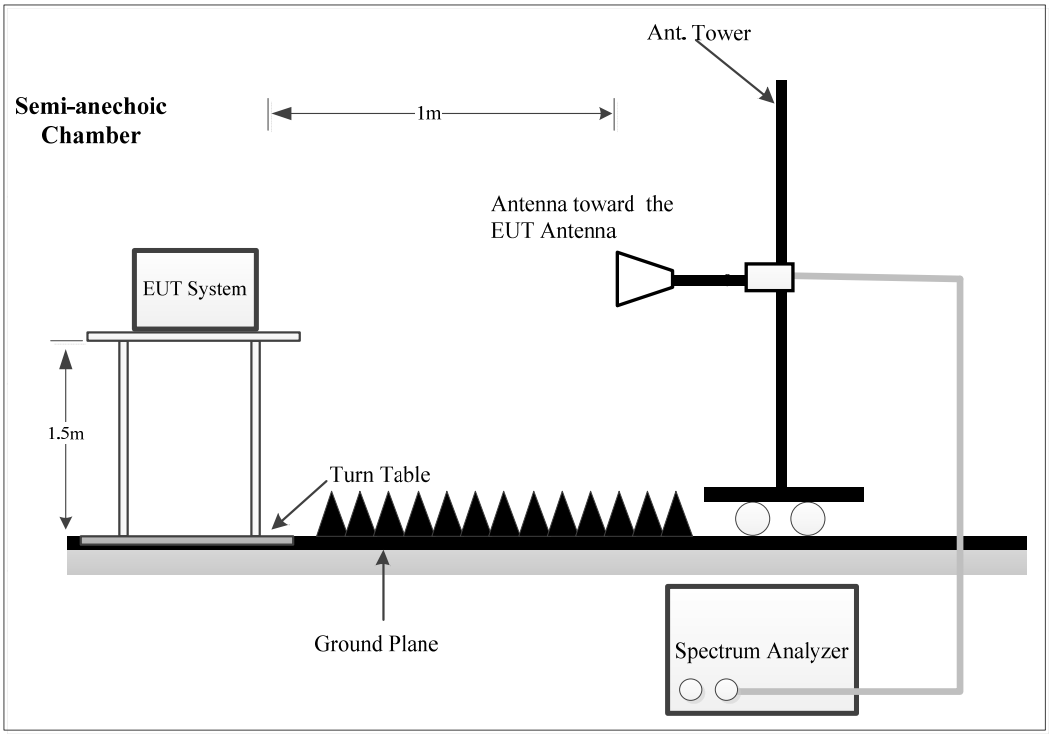
1GHz-26.5 GHz:



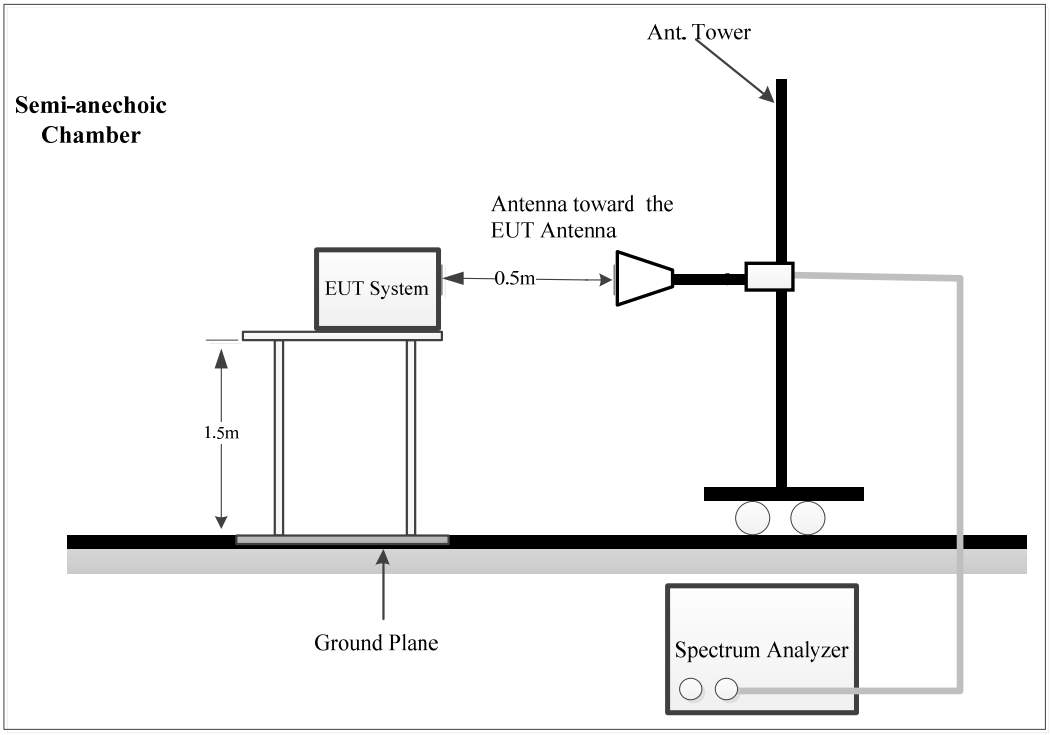
26.5-40GHz:



40~90 GHz:



90~100 GHz:



For 9kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

For above 40GHz: The antenna is scanned around the entire perimeter surface of the EUT, in both horizontal and vertical polarizations, at the distance of 1.0 m from 40 GHz to 90 GHz, and 0.5 m from 90 GHz to 100 GHz.

The radiated emission test was performed in the 3 meters chamber, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209/15.205,FCC 15.249 limits.

4.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 100 GHz.

9kHz-1000MHz:

Frequency Range	Measurement	RBW	Video B/W	IF B/W	Detector
9 kHz-150 kHz	QP/AV	200 Hz	1 kHz	200 Hz	QP/AV
150 kHz-30 MHz	QP/AV	9 kHz	30 kHz	9 kHz	QP/AV
30 MHz-1000 MHz	Peak	100 kHz	300 kHz	/	PK
	QP	/	/	120 kHz	QP

Above 1GHz:
Pre-scan:

Frequency Range	Measurement	RBW	Video B/W	Detector
Above 1 GHz	Peak	1MHz	3 MHz	PK
	AV	1MHz	5kHz	PK

Final measurement for emission identified during the pre-scan:

Frequency Range	Measurement	RBW	Video B/W	Detector
Above 1 GHz	Peak	1MHz	3 MHz	PK
	AV	1MHz	10 Hz	PK

4.2.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was required in Quasi-peak measurement for frequency range of 9 kHz-1 GHz except 9-90 kHz, 110-490 kHz, employing an average measurement, peak and Average measurement for frequencies above 1 GHz.

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

For Radiated 26.5-40GHz test:
Which was performed at 1.5 m distance, according to C63.10, the test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.0 dB

For 40-90GHz:
Test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1m.

Distance extrapolation factor =20 log (specific distance [3m]/test distance [1m]) dB= 9.54 dB.

For 90-100GHz:
Test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 0.5m.

Distance extrapolation factor =20 log (specific distance [3m]/test distance [0.5m]) dB=15.56 dB.

External harmonic mixers are utilized. The antenna is scanned around the entire perimeter surface of the EUT, in both horizontal and vertical polarizations. The Mixers and it`s RF cables is compose a system for calibration, the conversion factor was added into the test Spectrum Analyzer in testing.

The far-field boundary is given in ANSI C63.10-2013:

$$R_m = 2D^2 / \lambda$$

Where:

D is the largest dimension of the antenna aperture in m and

λ is the free-space wavelength in m at the frequency of measurement.

The minimum test distance for the frequency range 40GHz-100GHz determine as below:

Model	Frequency Range (GHz)	Largest Dimension of the Horn Antenna (mm)	Minimum Test Distance R_m (m)
M19RH	40-60	46.3	0.57
M12RH	60-90	30.02	0.36
M08RH	90-140	19.7	0.23

Note: the test distances used were 1.0 m from 40 GHz to 90 GHz, and 0.5 m from 90 GHz to 100GHz, it can be seen that the EUT was always in the Far-field of the Receive Antenna during all Radiated Emissions Tests.

4.2.5 Corrected Amplitude & Margin Calculation

The basic equation except 26.5-100GHz test is as follows:
Factor = Antenna Factor + Cable Loss- Amplifier Gain

For Radiated 26.5-100GHz test:
Factor = Antenna Factor + Cable Loss- Distance extrapolation Factor

Result = Reading + Factor

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

4.2.6 Test Result

Serial Number:	2UV0-3, 2UV2-4	Test Date:	Below 1GHz: 2024/12/3-2024/12/12 Above 1GHz: 2024/12/5
Test Site:	Chamber 10m, Chamber B	Test Mode:	Transmitting
Tester:	Leesin Xiang, Colin Yang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	22.4~24.2	Relative Humidity: (%)	52~58	ATM Pressure: (kPa)	101.7~102

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
9kHz~1000MHz					
EMCO	Passive Loop Antenna	6512	9706-1206	2023/10/25	2026/10/24
Sunol Sciences	Hybrid Antenna	JB3	A060611-1	2023/9/6	2026/9/5
Narda	Coaxial Attenuator	779-6dB	04269	2023/9/6	2026/9/5
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2024/7/1	2025/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-04	2024/7/1	2025/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2024/7/1	2025/6/30
Sonoma	Amplifier	310N	185914	2024/8/26	2025/8/25
R&S	EMI Test Receiver	ESCI	100224	2024/8/26	2025/8/25
Audix	Test Software	E3	191218 V9	N/A	N/A
Above 1GHz					
ETS-Lindgren	Horn Antenna	3115	000 527 35	2023/9/7	2026/9/6
Xinhang Macrowave	Coaxial Cable	XH750A-N/J-SMA/J-10M	20231117004 #0001	2024/11/17	2025/11/16
AH	Preamplifier	PAM-0118P	469	2024/4/15	2025/4/14
Audix	Test Software	E3	191218 V9	N/A	N/A
R&S	Spectrum Analyzer	FSV40	101944	2024/9/6	2025/9/5
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2023/2/22	2026/2/21
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2023/2/22	2026/2/21
Xinhang Macrowave	Coaxial Cable	XH360A-2.92/J-2.92/J-6M-A	20231208001 #0001	2023/12/11	2024/12/10
AH	Preamplifier	PAM-1840VH	191	2024/9/5	2025/9/4
OML	Waveguide Mixer	WR19/M19HWD	U60313-1	2023/2/16	2026/2/15
OML	Horn Antenna	M19RH	11648-01	2023/2/27	2026/2/26
OML	Waveguide Mixer	WR12/M12HWD	E60120-1	2023/2/16	2026/2/15
OML	Horn Antenna	M12RH	E60120-2	2023/2/27	2026/2/26
OML	Waveguide Mixer	WR08/M08HWD	F60313-1	2023/2/16	2026/2/15
OML	Horn Antenna	M08RH	F60313-2	2023/2/27	2026/2/26

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

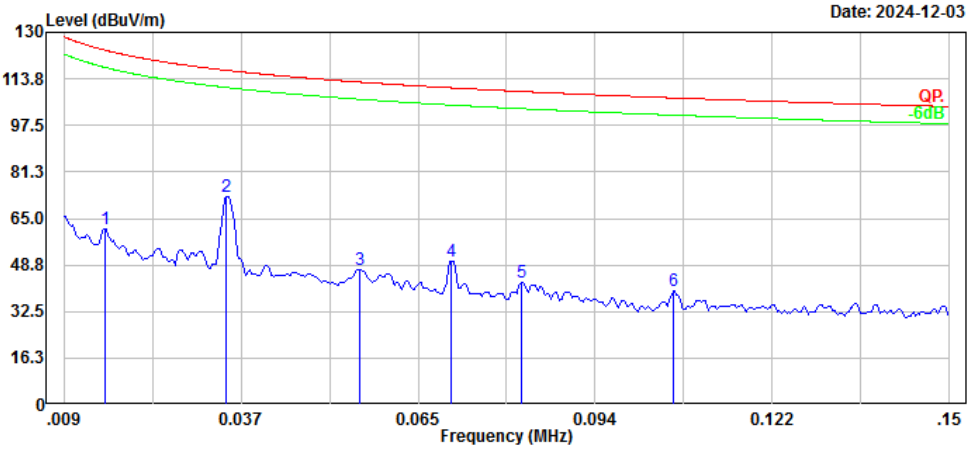
Please refer to the below table and plots.

1) 9kHz-30MHz:

Three antenna orientations (parallel, perpendicular, and ground-parallel) was measured, the worst orientations was below:

Model:T85V0

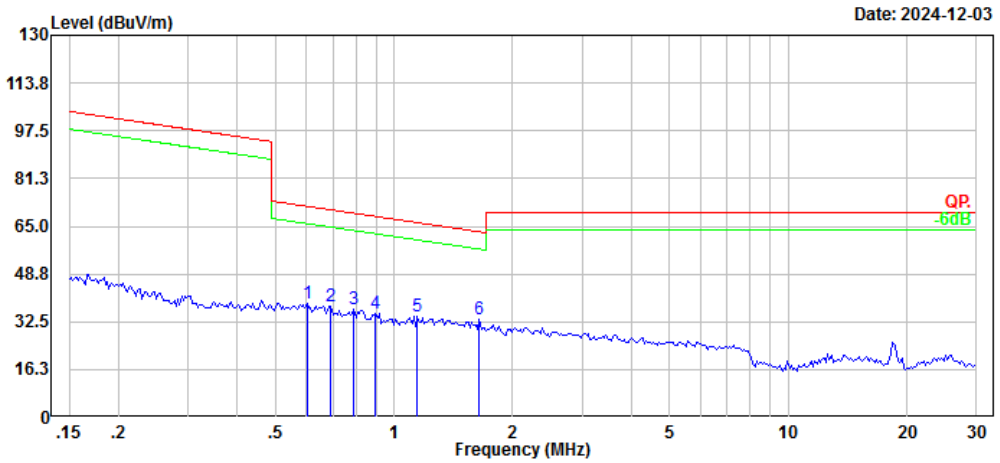
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Parallel Tester: Leesin Xiang
Test Mode: Transmitting



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.015	10.12	51.31	61.43	123.81	62.38	Peak
2	0.035	25.91	46.67	72.58	116.74	44.16	Peak
3	0.056	4.16	43.00	47.16	112.63	65.47	Peak
4	0.071	9.75	40.46	50.21	110.61	60.40	Peak
5	0.082	4.10	38.61	42.71	109.35	66.64	Peak
6	0.106	4.47	35.07	39.54	107.10	67.56	Peak

Project No.: 2402Z106115E-RF
Polarization: Parallel
Test Mode: Transmitting

Serial No.: 2UV0-3
Tester: Leesin Xiang

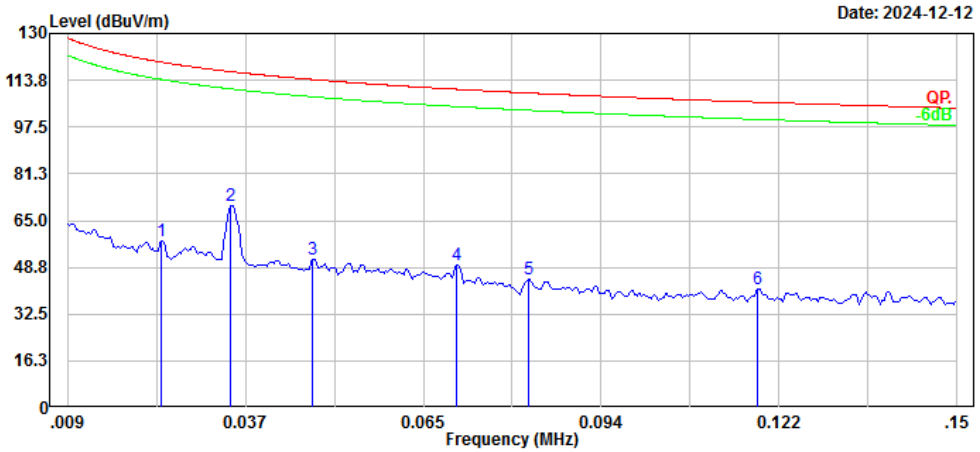


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.601	16.46	22.45	38.91	71.99	33.08	Peak
2	0.690	16.44	21.57	38.01	70.77	32.76	Peak
3	0.792	16.27	20.63	36.90	69.54	32.64	Peak
4	0.899	16.67	18.58	35.25	68.42	33.17	Peak
5	1.147	18.57	15.91	34.48	66.25	31.77	Peak
6	1.645	19.71	13.70	33.41	63.06	29.65	Peak

Model:T85V0C

Project No.: 2402Z106115E-RF
Polarization: Parallel
Test Mode: Transmitting
RBW:300Hz VBW:1kHz

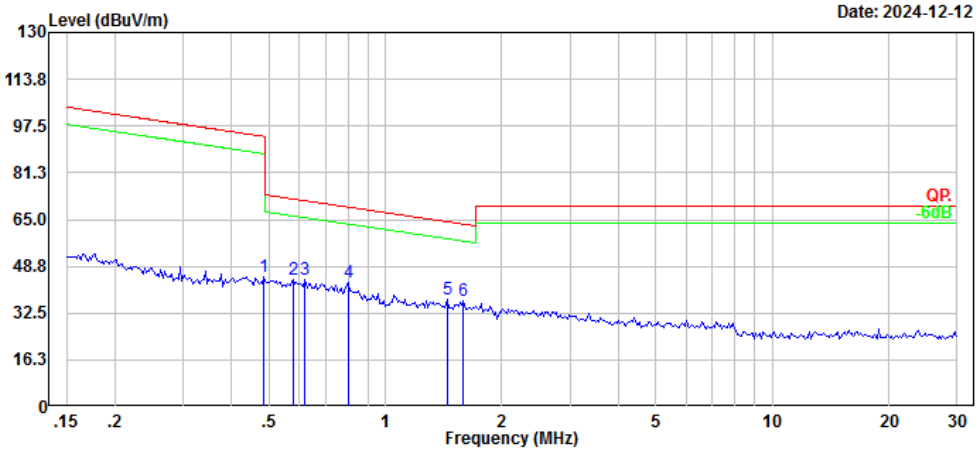
Serial No.: 2UV2-4
Tester: Leesin Xiang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.024	8.66	49.05	57.71	120.02	62.31	Peak
2	0.035	23.52	46.67	70.19	116.74	46.55	Peak
3	0.048	6.93	44.41	51.34	113.99	62.65	Peak
4	0.071	8.86	40.46	49.32	110.61	61.29	Peak
5	0.082	6.24	38.56	44.80	109.32	64.52	Peak
6	0.118	6.67	34.39	41.06	106.14	65.08	Peak

Project No.: 2402Z106115E-RF
Polarization: Parallel
Test Mode: Transmitting
RBW:10kHz VBW:30kHz

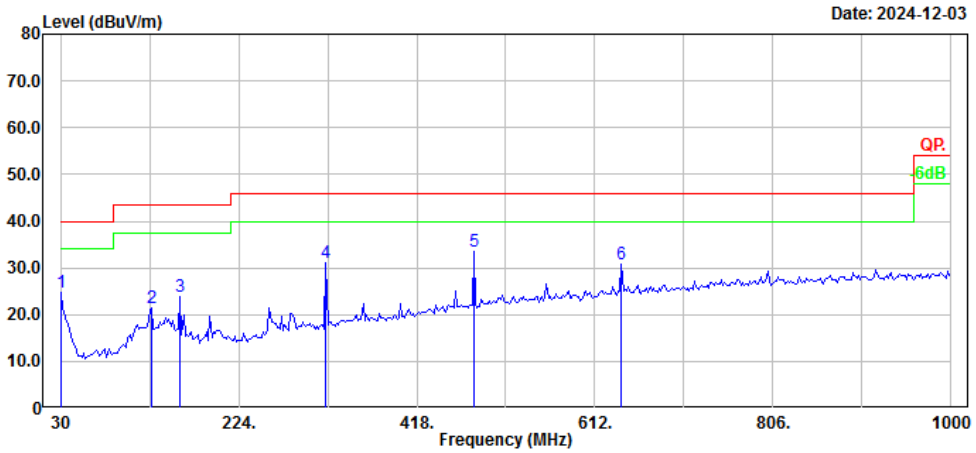
Serial No.: 2UV2-4
Tester: Leesin Xiang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	0.486	21.69	23.56	45.25	93.87	48.62	Peak
2	0.576	21.60	22.71	44.31	72.36	28.05	Peak
3	0.621	21.99	22.25	44.24	71.71	27.47	Peak
4	0.800	22.42	20.56	42.98	69.45	26.47	Peak
5	1.449	22.57	14.57	37.14	64.19	27.05	Peak
6	1.593	22.85	13.93	36.78	63.34	26.56	Peak

2) 30MHz-1GHz
Model:T85V0

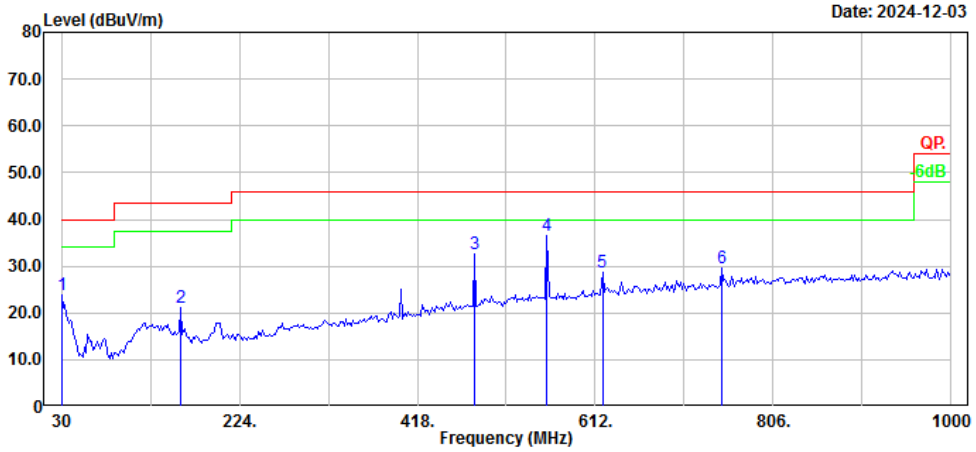
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Horizontal Tester: Leesin Xiang
Test Mode: Transmitting



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.00	28.60	-3.80	24.80	40.00	15.20	Peak
2	128.94	31.30	-9.86	21.44	43.50	22.06	Peak
3	159.98	34.98	-11.15	23.83	43.50	19.67	Peak
4	319.06	40.24	-9.10	31.14	46.00	14.86	Peak
5	480.08	38.17	-4.71	33.46	46.00	12.54	Peak
6	641.10	32.88	-2.06	30.82	46.00	15.18	Peak

Project No.: 2402Z106115E-RF
Polarization: Vertical
Test Mode: Transmitting

Serial No.: 2UV0-3
Tester: Leesin Xiang

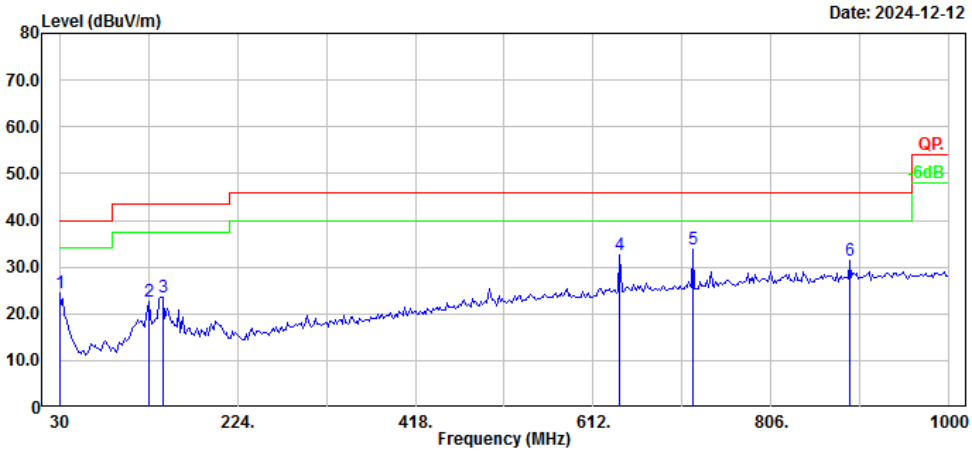


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.00	27.61	-3.80	23.81	40.00	16.19	Peak
2	159.98	32.37	-11.15	21.22	43.50	22.28	Peak
3	480.08	37.29	-4.71	32.58	46.00	13.42	Peak
4	559.62	39.85	-3.33	36.52	46.00	9.48	Peak
5	619.76	31.08	-2.51	28.57	46.00	17.43	Peak
6	749.74	30.04	-0.31	29.73	46.00	16.27	Peak

Model:T85V0C

Project No.: 2402Z106115E-RF
Polarization: Horizontal
Test Mode: Transmitting

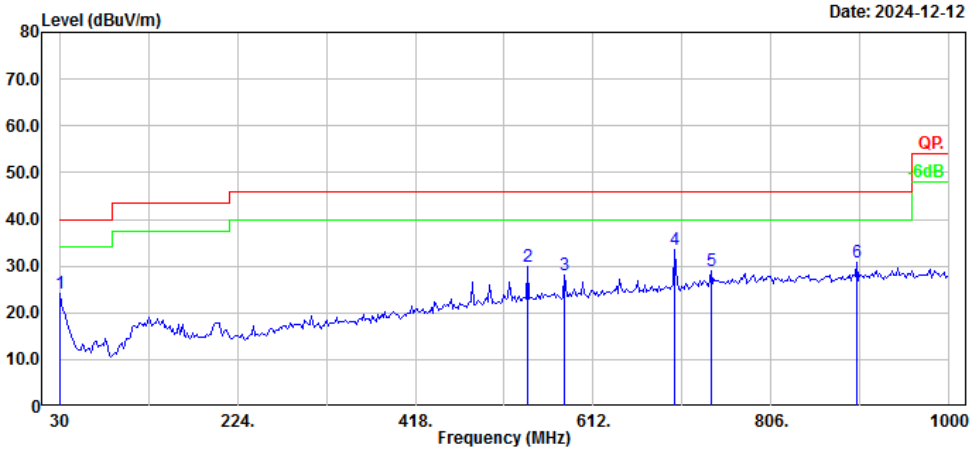
Serial No.: 2UV2-4
Tester: Leesin Xiang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.00	28.31	-3.80	24.51	40.00	15.49	Peak
2	127.00	32.44	-9.89	22.55	43.50	20.95	Peak
3	142.52	34.29	-10.61	23.68	43.50	19.82	Peak
4	641.10	34.69	-2.06	32.63	46.00	13.37	Peak
5	720.64	34.81	-0.89	33.92	46.00	12.08	Peak
6	891.36	30.17	1.32	31.49	46.00	14.51	Peak

Project No.: 2402Z106115E-RF
Polarization: Vertical
Test Mode: Transmitting

Serial No.: 2UV2-4
Tester: Leesin Xiang

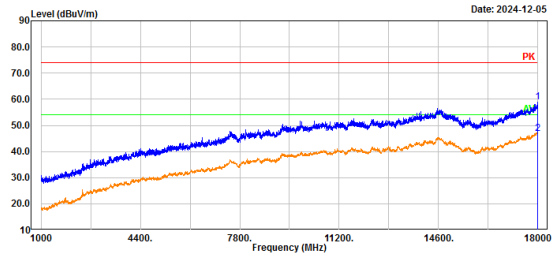


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.00	27.90	-3.80	24.10	40.00	15.90	Peak
2	540.22	33.37	-3.59	29.78	46.00	16.22	Peak
3	580.96	31.12	-3.12	28.00	46.00	18.00	Peak
4	701.24	34.79	-1.27	33.52	46.00	12.48	Peak
5	740.04	29.57	-0.51	29.06	46.00	16.94	Peak
6	899.12	29.47	1.40	30.87	46.00	15.13	Peak

3) 1-40GHz:
Low channel

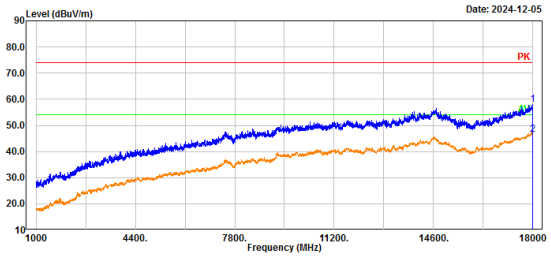
Horizontal	Vertical

Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Horizontal Tester: Colin Yang
Test Mode: Transmitting
Note: Radar low channel 24.06GHz



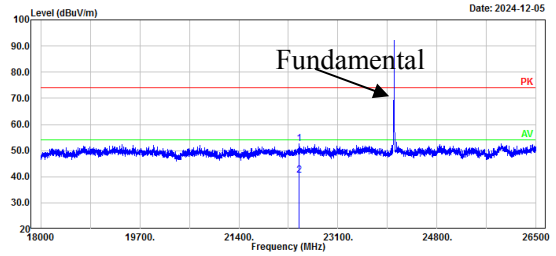
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	17983.00	48.37	10.65	59.02	74.00	14.98	Peak
2	17983.00	36.15	10.65	46.80	54.00	7.20	Average

Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Vertical Tester: Colin Yang
Test Mode: Transmitting
Note: Radar low channel 24.06GHz



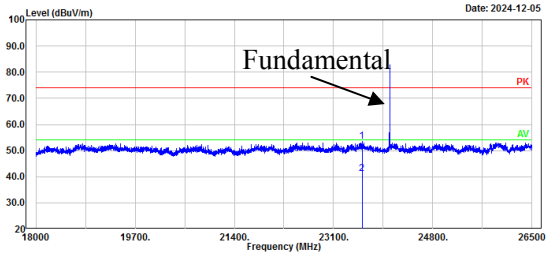
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	17989.80	47.19	10.68	57.87	74.00	16.13	Peak
2	17989.80	35.98	10.68	46.66	54.00	7.34	Average

Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Horizontal Tester: Colin Yang
Test Mode: Transmitting
Note: Radar low channel 24.06GHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	22431.90	44.81	7.83	52.64	74.00	21.36	Peak
2	22431.90	32.62	7.83	40.45	54.00	13.55	Average

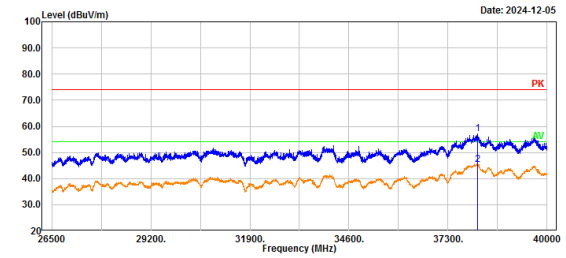
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Vertical Tester: Colin Yang
Test Mode: Transmitting
Note: Radar low channel 24.06GHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23586.20	44.70	8.72	53.42	74.00	20.58	Peak
2	23586.20	32.43	8.72	41.15	54.00	12.85	Average

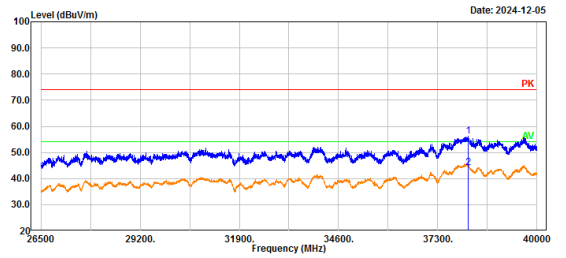
Horizontal	Vertical

Project No.: 2402Z106115E-RF
Polarization: Horizontal
Test Mode: Transmitting
Note: Radar low channel 24.06GHz
Serial No.: 2UV0-3
Tester: Colin Yang



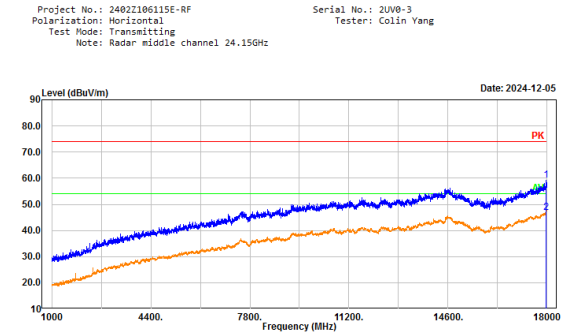
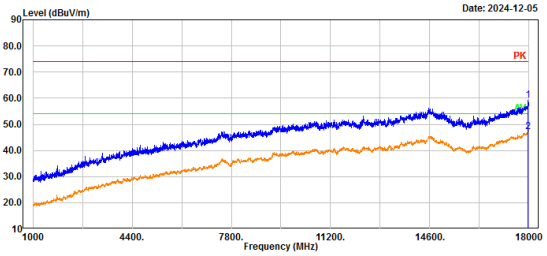
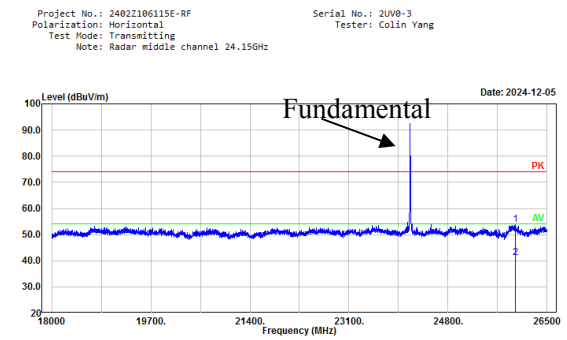
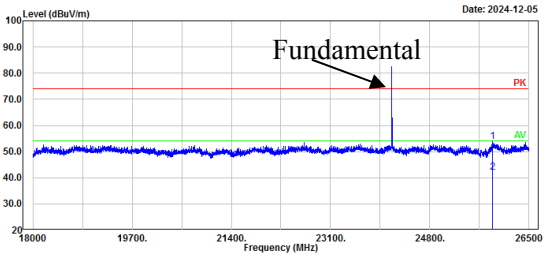
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38096.50	45.30	11.79	57.09	74.00	16.91	Peak
2	38096.50	33.42	11.79	45.21	54.00	8.79	Average

Project No.: 2402Z106115E-RF
Polarization: Vertical
Test Mode: Transmitting
Note: Radar low channel 24.06GHz
Serial No.: 2UV0-3
Tester: Colin Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38137.00	44.35	11.73	56.08	74.00	17.92	Peak
2	38137.00	32.49	11.73	44.22	54.00	9.78	Average

Middle channel

Horizontal	Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	17962.60	48.64	10.45	59.09	74.00	14.91	Peak
2	17962.60	36.36	10.45	46.81	54.00	7.19	Average

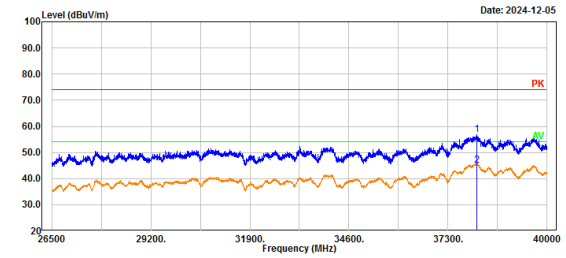
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	17972.80	48.79	10.55	59.34	74.00	14.66	Peak
2	17972.80	36.44	10.55	46.99	54.00	7.01	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	25954.30	42.94	10.76	53.70	74.00	20.30	Peak
2	25954.30	30.43	10.76	41.19	54.00	12.81	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	25879.50	43.08	10.64	53.72	74.00	20.28	Peak
2	25879.50	31.42	10.64	42.06	54.00	11.94	Average

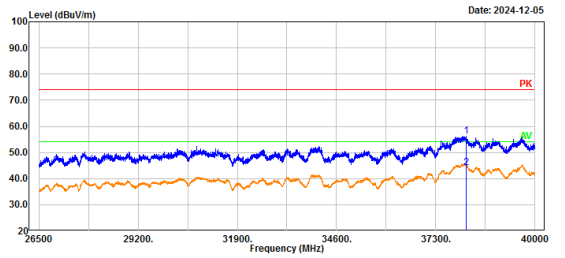
Horizontal	Vertical

Project No.: 2402Z106115E-RF
Polarization: Horizontal
Test Mode: Transmitting
Note: Radar middle channel 24.15GHz
Serial No.: 2UV0-3
Tester: Colin Yang



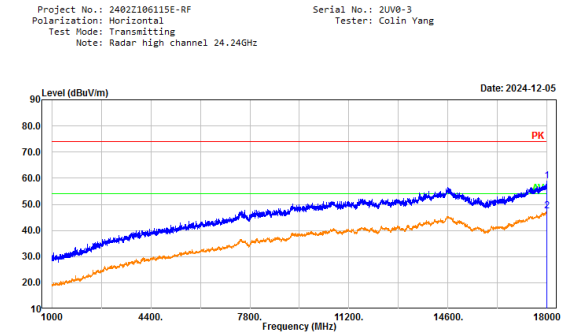
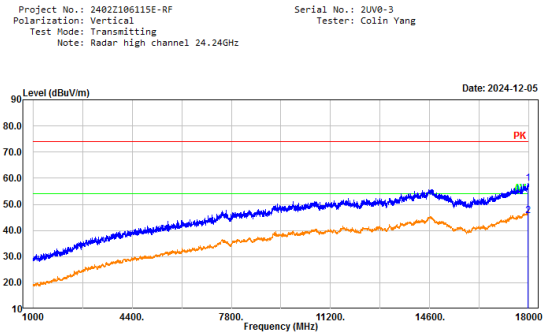
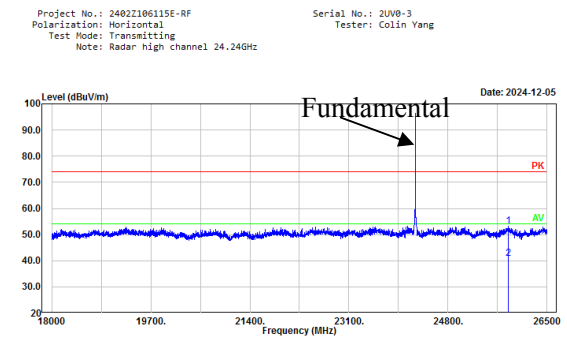
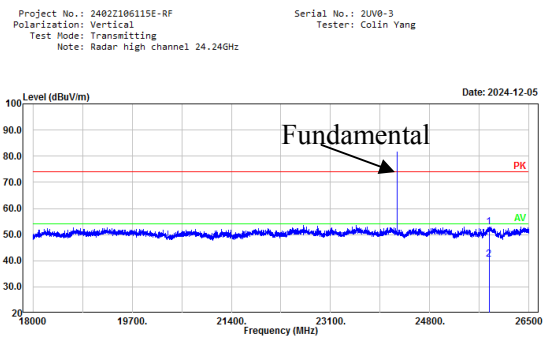
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38088.40	45.05	11.80	56.85	74.00	17.15	Peak
2	38088.40	33.32	11.80	45.12	54.00	8.88	Average

Project No.: 2402Z106115E-RF
Polarization: Vertical
Test Mode: Transmitting
Note: Radar middle channel 24.15GHz
Serial No.: 2UV0-3
Tester: Colin Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38126.20	44.47	11.75	56.22	74.00	17.78	Peak
2	38126.20	32.34	11.75	44.09	54.00	9.91	Average

High channel

Horizontal	Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	17979.60	48.39	10.62	59.01	74.00	14.99	Peak
2	17979.60	36.83	10.62	47.45	54.00	6.55	Average

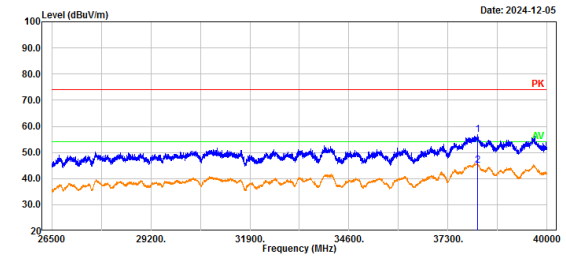
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	17972.80	47.41	10.55	57.96	74.00	16.04	Peak
2	17972.80	35.18	10.55	45.73	54.00	8.27	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	25833.60	42.56	10.55	53.11	74.00	20.89	Peak
2	25833.60	30.15	10.55	40.70	54.00	13.30	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	25813.20	42.48	10.50	52.98	74.00	21.02	Peak
2	25813.20	30.17	10.50	40.67	54.00	13.33	Average

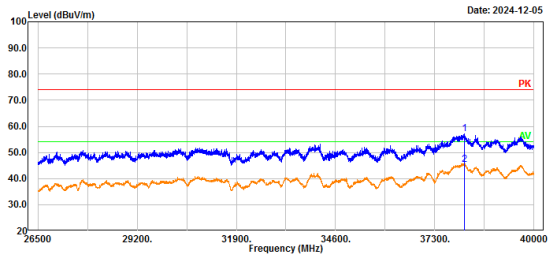
Horizontal	Vertical

Project No.: 2402Z106115E-RF
Polarization: Horizontal
Test Mode: Transmitting
Note: Radar high channel 24.24GHz
Serial No.: 2UV0-3
Tester: Colin Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38101.90	45.14	11.79	56.93	74.00	17.07	Peak
2	38101.90	33.37	11.79	45.16	54.00	8.84	Average

Project No.: 2402Z106115E-RF
Polarization: Vertical
Test Mode: Transmitting
Note: Radar high channel 24.24GHz
Serial No.: 2UV0-3
Tester: Colin Yang

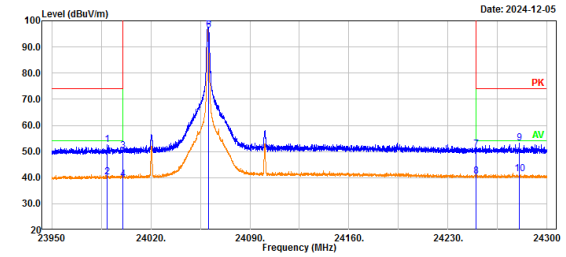


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38115.40	45.44	11.76	57.20	74.00	16.80	Peak
2	38115.40	33.62	11.76	45.38	54.00	8.62	Average

Fundamental strength and Bandedge:

Low Channel Horizontal

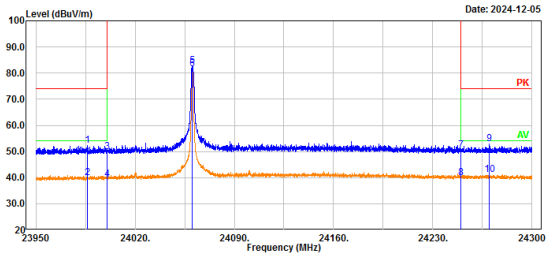
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Horizontal Tester: Colin Yang
Test Mode: Transmitting
Note: Radar low channel 24.06GHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23989.27	43.72	8.77	52.49	74.00	21.51	Peak
2	23989.27	31.45	8.77	40.22	54.00	13.78	Average
3	24000.00	41.29	8.76	50.05	74.00	23.95	Peak
4	24000.00	30.62	8.76	39.38	54.00	14.62	Average
5	24060.60	88.87	8.80	97.67	127.96	30.29	Peak
6	24060.60	87.49	8.80	96.29	107.96	11.67	Average
7	24250.00	41.88	8.92	50.80	74.00	23.20	Peak
8	24250.00	31.61	8.92	40.53	54.00	13.47	Average
9	24280.40	44.34	8.94	53.28	74.00	20.72	Peak
10	24280.40	32.61	8.94	41.55	54.00	12.45	Average

Low Channel Vertical

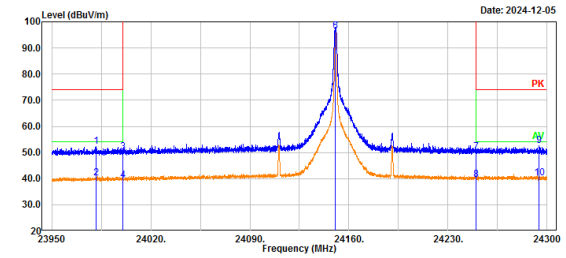
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Vertical Tester: Colin Yang
Test Mode: Transmitting
Note: Radar low channel 24.06GHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23986.54	43.48	8.76	52.24	74.00	21.76	Peak
2	23986.54	31.16	8.76	39.92	54.00	14.08	Average
3	24000.00	41.08	8.76	49.84	74.00	24.16	Peak
4	24000.00	30.42	8.76	39.18	54.00	14.82	Average
5	24060.46	73.95	8.80	82.75	127.96	45.21	Peak
6	24060.46	72.89	8.80	81.69	107.96	26.27	Average
7	24250.00	41.58	8.92	50.50	74.00	23.50	Peak
8	24250.00	31.02	8.92	39.94	54.00	14.06	Average
9	24270.04	43.89	8.92	52.81	74.00	21.19	Peak
10	24270.04	32.22	8.92	41.14	54.00	12.86	Average

Middle Channel Horizontal

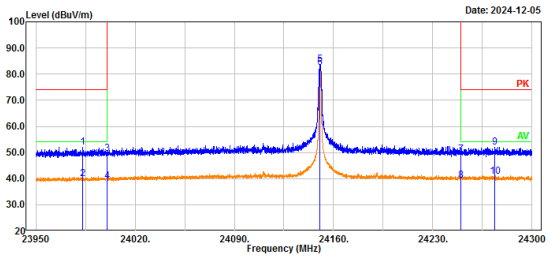
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Horizontal Tester: Colin Yang
Test Mode: Transmitting
Note: Radar middle channel 24.15GHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23981.22	43.49	8.76	52.25	74.00	21.75	Peak
2	23981.22	31.36	8.76	40.12	54.00	13.88	Average
3	24000.00	41.30	8.76	50.06	74.00	23.94	Peak
4	24000.00	30.42	8.76	39.18	54.00	14.82	Average
5	24150.55	88.92	8.85	97.77	127.96	30.19	Peak
6	24150.55	87.49	8.85	96.34	107.96	11.62	Average
7	24250.00	41.18	8.92	50.10	74.00	23.90	Peak
8	24250.00	30.84	8.92	39.76	54.00	14.24	Average
9	24294.05	43.70	8.94	52.64	74.00	21.36	Peak
10	24294.05	31.16	8.94	40.10	54.00	13.90	Average

Middle Channel Vertical

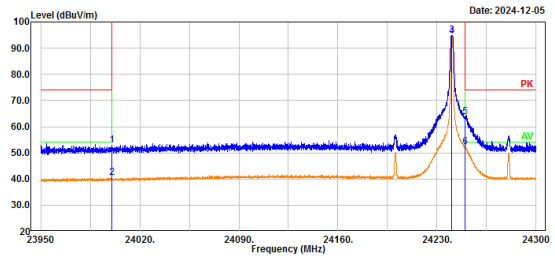
Project No.: 2402Z106115E-RF Serial No.: 2UV0-3
Polarization: Vertical Tester: Colin Yang
Test Mode: Transmitting
Note: Radar middle channel 24.15GHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23983.11	43.19	8.76	51.95	74.00	22.05	Peak
2	23983.11	31.26	8.76	40.02	54.00	13.98	Average
3	24000.00	40.74	8.76	49.50	74.00	24.50	Peak
4	24000.00	30.16	8.76	38.92	54.00	15.08	Average
5	24150.55	74.71	8.85	83.56	127.96	44.40	Peak
6	24150.55	73.49	8.85	82.34	107.96	25.62	Average
7	24250.00	40.44	8.92	49.36	74.00	24.64	Peak
8	24250.00	30.41	8.92	39.33	54.00	14.67	Average
9	24273.61	43.23	8.92	52.15	74.00	21.85	Peak
10	24273.61	31.90	8.92	40.82	54.00	13.18	Average

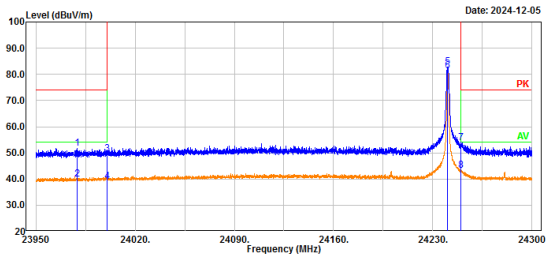
High Channel Horizontal	High Channel Vertical

Project No.: 2402Z106115E-RF
Polarization: Horizontal
Test Mode: Transmitting
Note: Radar high channel 24.24GHz
Serial No.: 2UV0-3
Tester: Colin Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	24000.00	44.10	8.76	52.86	74.00	21.14	Peak
2	24000.00	31.91	8.76	40.67	54.00	13.33	Average
3	24240.36	86.00	8.91	94.91	127.96	33.05	Peak
4	24240.36	85.67	8.91	94.58	107.96	13.38	Average
5	24250.00	54.79	8.92	63.71	74.00	10.29	Peak
6	24250.00	43.50	8.92	52.42	54.00	1.58	Average

Project No.: 2402Z106115E-RF
Polarization: Vertical
Test Mode: Transmitting
Note: Radar high channel 24.24GHz
Serial No.: 2UV0-3
Tester: Colin Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23979.33	42.99	8.76	51.75	74.00	22.25	Peak
2	23979.33	31.12	8.76	39.88	54.00	14.12	Average
3	24000.00	40.71	8.76	49.47	74.00	24.53	Peak
4	24000.00	30.13	8.76	38.89	54.00	15.11	Average
5	24240.43	73.79	8.91	82.70	127.96	45.26	Peak
6	24240.43	72.48	8.91	81.39	107.96	26.57	Average
7	24250.00	44.83	8.92	53.75	74.00	20.25	Peak
8	24250.00	34.45	8.92	43.37	54.00	10.63	Average

4) 40-100GHz:

Frequency (GHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
			channel	24.06	GHz		
48.120	45.79	PK	H	40.06	76.31	87.96	11.65
48.120	33.86	AV	H	40.06	64.38	67.96	3.58
48.120	45.73	PK	V	40.06	76.25	87.96	11.71
48.120	33.49	AV	V	40.06	64.01	67.96	3.95
72.180	42.97	PK	H	43.81	77.24	87.96	10.72
72.180	30.17	AV	H	43.81	64.44	67.96	3.52
72.180	42.73	PK	V	43.81	77.00	87.96	10.96
72.180	30.55	AV	V	43.81	64.82	67.96	3.14
			channel	24.15	GHz		
48.300	45.98	PK	H	40.08	76.52	87.96	11.44
48.300	33.77	AV	H	40.08	64.31	67.96	3.65
48.300	45.16	PK	V	40.08	75.70	87.96	12.26
48.300	33.24	AV	V	40.08	63.78	67.96	4.18
72.450	42.79	PK	H	43.85	77.10	87.96	10.86
72.450	30.61	AV	H	43.85	64.92	67.96	3.04
72.450	42.17	PK	V	43.85	76.48	87.96	11.48
72.450	30.76	AV	V	43.85	65.07	67.96	2.89
			channel	24.24	GHz		
48.480	45.73	PK	H	40.11	76.30	87.96	11.66
48.480	33.62	AV	H	40.11	64.19	67.96	3.77
48.480	45.16	PK	V	40.11	75.73	87.96	12.23
48.480	33.43	AV	V	40.11	64.00	67.96	3.96
72.720	42.19	PK	H	43.89	76.54	87.96	11.42
72.720	30.34	AV	H	43.89	64.69	67.96	3.27
72.720	42.81	PK	V	43.89	77.16	87.96	10.80
72.720	30.36	AV	V	43.89	64.71	67.96	3.25

Result = Reading + Factor- Distance extrapolation Factor
For 40-90GHz:
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1m]) dB= 9.54 dB
For 90-100GHz:
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [0.5m]) dB= 15.56 dB

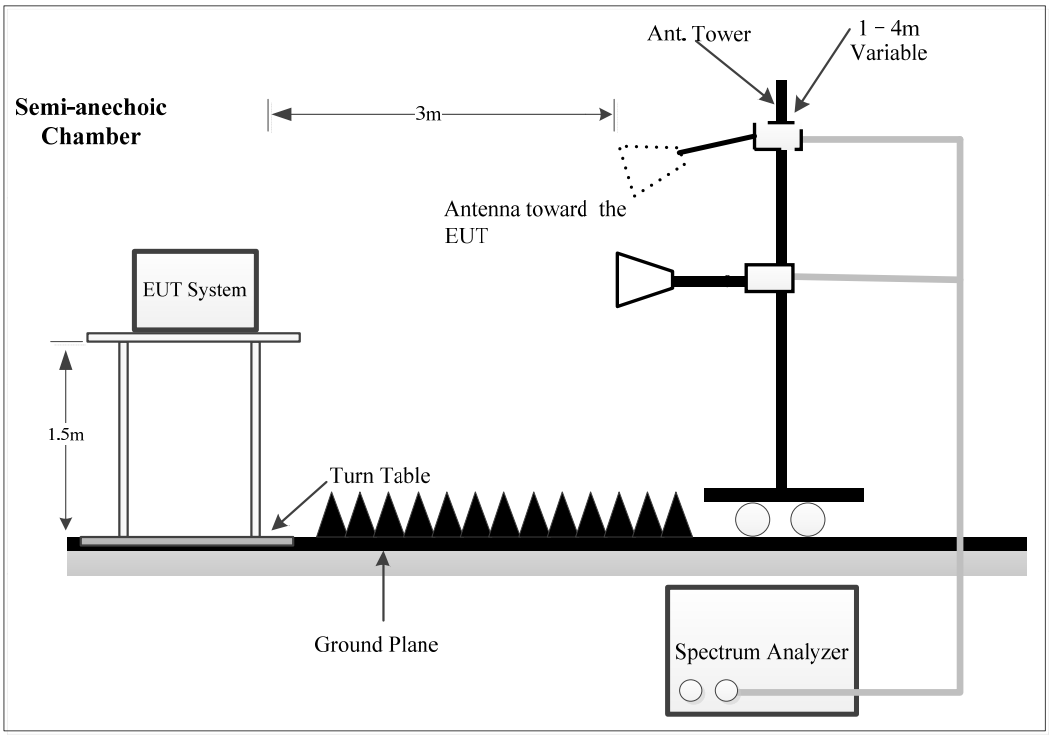
4.3 20 dB Emission Bandwidth

4.3.1 Applicable Standard

FCC §15.215

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.3.2 EUT Setup



4.3.3 Test Procedure

According to ANSI C63.10-2013 Section 6.9.2

a) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, unless otherwise specified by the applicable requirement.
b) Set the video bandwidth (VBW) ≥ 3×RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) 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 relative to the maximum level measured in the fundamental emission.

4.3.4 Test Result

Serial Number:	2UV0-3	Test Date:	2024/12/24
Test Site:	Chamber B	Test Mode:	Transmitting
Tester:	Colin Yang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	20.1	Relative Humidity: (%)	27	ATM Pressure: (kPa)	102.3

Test Equipment List and Details:

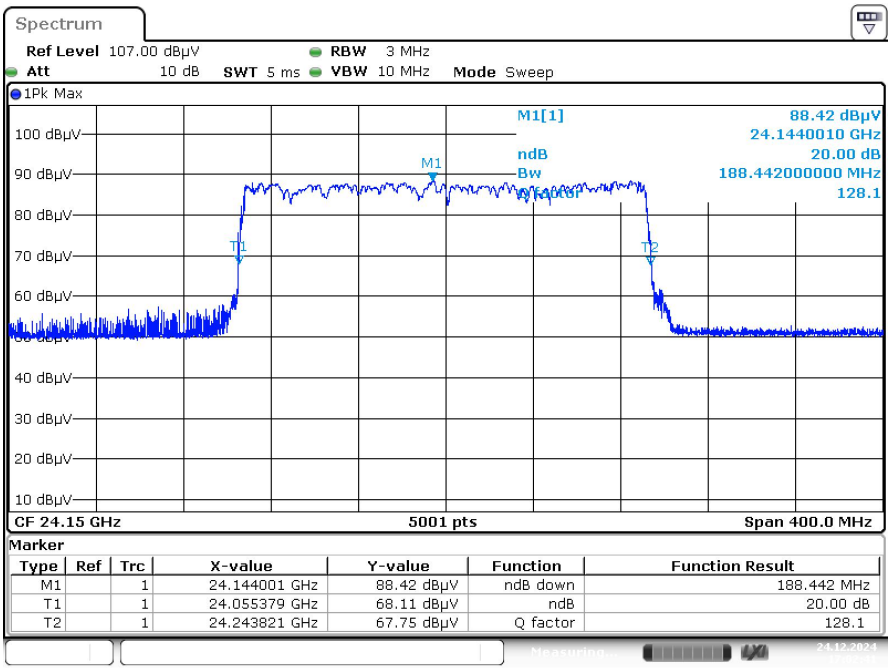
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2023/2/22	2026/2/21
AH	Preamplifier	PAM-1840VH	191	2024/9/5	2025/9/4
Xinhang Macrowave	Coaxial Cable	XH360A-2.92/J-2.92/J-6M-A	20231208001 #0001	2024/12/9	2025/12/8
R&S	Spectrum Analyzer	FSV40	101944	2024/9/6	2025/9/5

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Mode	20 dB Bandwidth (MHz)	Result
Sweep Mode	188.442	Pass
Note: the 20 dB bandwidth of the emission is contained within the operation frequency band. Please refer to the below plots.		

20 dB Bandwidth



ProjectNo.:2402Z106115E-RF Tester:Colin Yang

Date: 24.DEC.2024 17:02:41

4.4 Antenna Requirement

4.4.1 Applicable Standard

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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

4.4.2 Judgment

Compliant. Please refer to the Antenna Information detail in Section 1.3.

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402Z106115E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Z106115E-RF-INP EUT INTERNAL PHOTOGRAPHS

EXHIBIT B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2402Z106115E-RF-00D-TSP TEST SETUP PHOTOGRAPHS.

******* END OF REPORT *******