TEST REPORT

Report No.....:	KS2503S1056E02
FCC ID.....:	2A98M-EV7000
Applicant.....:	Shenzhen Doke Communication Co.,Ltd
Address.....:	1301-1302，13th Floor, Block B, WeiDongLong Business Building, Meilong Road 2113, Longhua District, ShenZhen, P.R.C
Manufacturer.....:	Shenzhen Doke Communication Co.,Ltd
Address.....:	1301-1302，13th Floor, Block B, WeiDongLong Business Building, Meilong Road 2113, Longhua District, ShenZhen, P.R.C
Product Name.....:	Wall Mounted-AC EV Charging
Model/Type reference.....:	EV7000, EV7000 Pro, EV7000 Plus
Standard.....:	47 CFR Part 15.247
Date of Receipt.....:	March 11, 2025
Date of Test Date.....:	March 11, 2025 to March 25, 2025
Date of issue.....:	March 25, 2025
Test result.....:	**Pass**
Conclusion.....:	The submitted sample was found to COMPLY with the standards above.

Prepared by:	Name: Chad Lin Title: Project Engineer	Chad Lin
Approved by:	Name: Sky Dong Title: EMC Supervisor	Sky dong

Testing Laboratory Name...:	**KSIGN(Guangdong) Testing Co., Ltd.**
Address.....:	West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

47 CFR Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

KDB 558074 D01 15.247 Meas Guidance v05r02: Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules.

1.2. Report Version

Revised No.	Date of issue	Description
01	March 25, 2025	Original

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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1.3. Test Description

Test Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15.247	47 CFR 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	Pass
Occupied Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(2)	Pass
Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(3)	Pass
Power Spectral Density	47 CFR Part 15.247	47 CFR 15.247(e)	Pass
Emissions in non-restricted frequency bands	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass
Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass
Emissions in frequency bands (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass
Emissions in frequency bands (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass

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1.4. Test Facility

KSIGN(Guangdong) Testing Co., Ltd .
West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu,Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified, or accredited by the following organizations:
CNAS-Lab Code: L 13261
KSIGN(Guangdong) Testing Co., Ltd. has been assessed and proved to be in Compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.
A2LA-Lab Cert. No.: 5457.01
KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.
ISED# : 25693 CAB identifier.: CN0096
KSIGN(Guangdong) Testing Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.
FCC-Registration No.: 294912 Designation Number: CN1328
KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

1.5. Measurement Uncertainty

Test Items	Measurement Uncertainty
Conducted Emission (150k-30MHz)	± 3.34dB
Output Power, Conducted	± 1.4dB
PSD, Conducted	± 1.0dB
Spurious Emissions, Conducted	± 3.3dB
RSE (1-18GHz)	± 4.68dB
RSE (30-1000MHz)	± 5.7dB
RSE (18-40GHz)	± 5.18dB

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %. Otherwise required by the applicant or Product Regulations.Decision Rule in this report did not consider the uncertainty.

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2. GENERAL INFORMATION

2.1. General Description Of EUT

Test Sample Number:	KS2503S1056E-01, KS2503S1056E-02
Product Name:	Wall Mounted-AC EV Charging
Model / Type reference:	EV7000, EV7000 Pro, EV7000 Plus
Model Difference:	The only difference product models is logo of appearance. Different model names are available to meet market demands. Other power supply methods, appearance, internal structures, circuits and key components are the same, and do not affect safety and electromagnetic compatibility performance.According to the above information, all tests were performed on EV7000.
Power Supply:	Input:AC 240V/60Hz
Operation Frequency:	2402MHz to 2480MHz
Number of Channels:	40
Modulation Type:	GFSK
Antenna Type:	FPC
Antenna Gain:	3.28dBi
Max TX Power:	0.68dBm
Hardware Version:	7KW-39
Software Version:	V1.0

Note: Antenna gain provided by the applicant Can affect the validity of results

2.2. Accessory Equipment Information

Title	Manufacturer	Model No.	Technical Parameters	Provided by
Computer	HP	15-cd028AX	/	Laboratory

2.3. Description of Test Modes

No.	Title	Description of Mode
Test Mode1	TX mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation at lowest, middle and highest channel.

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2.4. Operation channel list

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

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2.5. Measurement Instruments List

Conducted Emission at AC power line				
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
LISN	R&S	ENV432	1326.6105.02	2025-12-22
EMI Test Receiver	R&S	ESR	102524	2026-01-10
Manual RF Switch	JS TOYO	/	MSW-01/002	2025-12-22
ISN CAT6	Schwarzbeck	CAT5 8158	227	2025-12-22
Color Signal Generator	Philips	PM5418	672926	2025-12-22
Power Absorbing Clamp	R&S	MDS-21	100925	2025-12-25
LISN	EVERFINE	LS-5	G657431CD14311 12	2025-12-22
Current Sensor Probe	Beijin ZHINAN	ZN23101	23013	2025-12-10
PV Artificial power network	Beijing KeHuan	KH8301	830120007	2025-07-23

Emissions in non-restricted frequency bands 6dB Bandwidth Maximum Conducted Output Power Power Spectral Density				
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Wideband Radio Communication Tester	R&S	CMU200	115297	2025-12-22
Audio Analyzer	R&S	UPL16	100001	2025-12-22
Shielding box	Gxiong	GX-5915A	2201113	2025-12-22
High Pass Filter	COM-MW Technology Co., Ltd	ZHPF-M1.2-9G-1 87	09203403	2025-12-22
Band Stop Filter	COM-MW Technology Co., Ltd	ZBSF6-C820-920 -188	09203401	2025-12-22
Splitter	COM-MW Technology Co., Ltd	ZPD-M1-8-2103	09203407	2025-12-22
Coaxial Cable	BEBES	A40-2.92M2.92F-4.5M	1907021	2025-12-22
Hygrothermograph	Anymetre	JB913	/	2025-12-22
Climate Chamber	Angul	AGNH80L	1903042120	2025-12-22
Spectrum Analyzer	HP	8593E	3831U02087	2025-12-22
Dual Output DC Power Supply	Agilent	E3646A	MY40009992	2025-12-29
RF Control Unit	Tonscend	JS0806-2	/	2025-12-22
Analog Signal Generator	HP	83752A	3344A00337	2025-12-22
Vector Signal Generator	Agilent	N5182A	MY50142520	2025-12-22
Wideband Radio Communication Tester	R&S	CMW500	157282	2025-12-22
Spectrum Analyzer	R&S	FSV40-N	101798	2026-02-11

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Emissions in frequency bands (above 1GHz) Band edge emissions (Radiated) Emissions in frequency bands (below 1GHz)				
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Color Signal Generator	Philips	PM5418	672926	2025-12-22
Log Periodic Antenna	Schwarzbeck	VULB 9163	1230	2026-01-13
Pre-Amplifier	Schwarzbeck	BBV 9745	9745#129	2025-12-22
Broadcast Television Signal Generator	R&S	SFE100	141038	2025-12-22
Analog Signal Generator	Agilent	8648A	3847M00445	2025-12-22
EMI Test Receiver	R&S	ESR	102525	2026-01-10
Loop Antenna	Beijin ZHINAN	ZN30900C	18050	2025-12-22
Horn Antenna	Schwarzbeck	BBHA 9120 D	2023	2025-12-25
Pre-Amplifier	EMCI	EMC051835SE	980662	2025-12-22
Spectrum Analyzer	Keysight	N9020A	MY46471971	2025-12-22

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3. Evaluation Results (Evaluation)

3.1. Antenna requirement

Test Requirement:	Refer to 47 CFR Part 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.
Conclusion:	The EUT uses a Internal antenna, the max antenna gain is less than 6dBi, which is deemed to comply with the antenna requirement.

4. Radio Spectrum Matter Test Results (RF)

4.1. Conducted Emission at AC power line

Test Requirement:	Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Limit:	Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 *Decreases with the logarithm of the frequency.
Test Method:	ANSI C63.10-2013 section 6.2
Procedure:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.1.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

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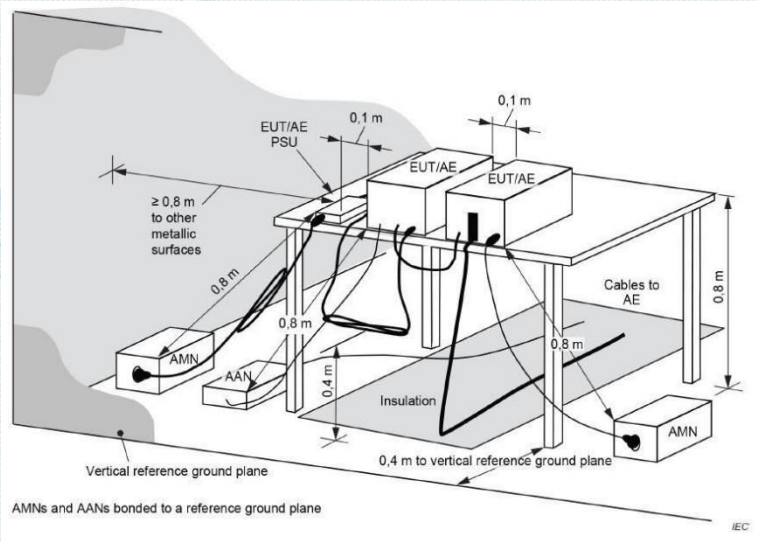
4.1.2. Test Setup Diagram:



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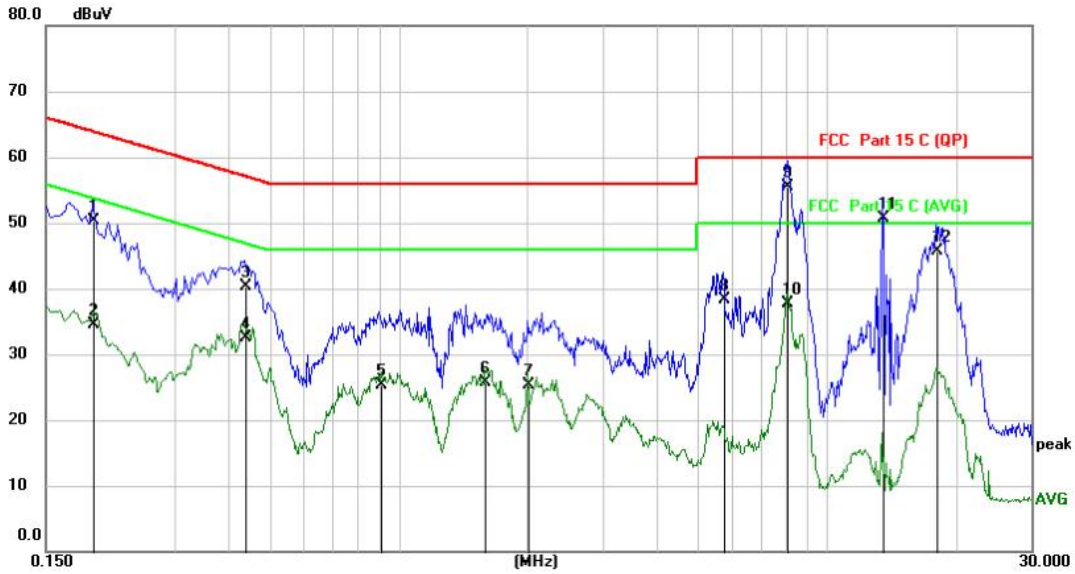
4.1.3. Test Data:

Test Mode1 / Line: Line1 / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1940	29.43	20.81	50.24	63.86	-13.62	QP	
2		0.1940	13.60	20.81	34.41	53.86	-19.45	AVG	
3		0.4380	19.50	20.72	40.22	57.10	-16.88	QP	
4		0.4380	11.85	20.72	32.57	47.10	-14.53	AVG	
5		0.9100	4.79	20.57	25.36	46.00	-20.64	AVG	
6		1.5900	5.04	20.59	25.63	46.00	-20.37	AVG	
7		2.0019	4.70	20.60	25.30	46.00	-20.70	AVG	
8		5.7218	17.72	20.68	38.40	60.00	-21.60	QP	
9	*	8.0859	34.68	20.75	55.43	60.00	-4.57	QP	
10		8.0859	16.92	20.75	37.67	50.00	-12.33	AVG	
11		13.4939	29.70	20.93	50.63	60.00	-9.37	QP	
12		17.9779	24.83	20.92	45.75	60.00	-14.25	QP	

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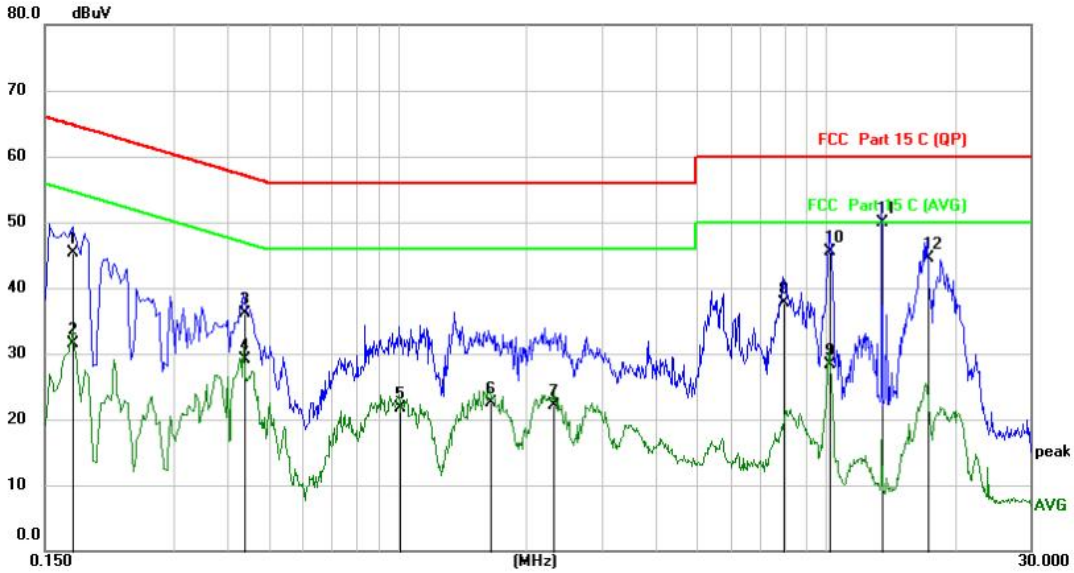
Test Mode1 / Line: Line2 / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1739	24.48	20.75	45.23	64.77	-19.54	QP	
2		0.1739	10.78	20.75	31.53	54.77	-23.24	AVG	
3		0.4380	15.39	20.72	36.11	57.10	-20.99	QP	
4		0.4380	8.30	20.72	29.02	47.10	-18.08	AVG	
5		1.0060	1.22	20.57	21.79	46.00	-24.21	AVG	
6		1.6419	1.99	20.59	22.58	46.00	-23.42	AVG	
7		2.3100	1.47	20.60	22.07	46.00	-23.93	AVG	
8		7.9538	16.90	20.73	37.63	60.00	-22.37	QP	
9		10.1737	7.23	21.07	28.30	50.00	-21.70	AVG	
10		10.1899	24.44	21.07	45.51	60.00	-14.49	QP	
11	*	13.5338	28.98	20.93	49.91	60.00	-10.09	QP	
12		17.2179	23.51	20.90	44.41	60.00	-15.59	QP	

Note:
1.Measurement = Reading level + Correct Factor
2.Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

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4.2. Occupied Bandwidth

Test Requirement:	47 CFR 15.247(a)(2)
Test Limit:	Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	ANSI C63.10-2013, section 11.8 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	DTS Occupied Bandwidth: a) Set RBW = 100 kHz. b) Set the 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 6 dB relative to the maximum level measured in the fundamental emission. 99% Occupied Bandwidth: a) Set RBW = 1% to 5% of the OBW. b) Set the VBW >= [3 × RBW]. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth

4.2.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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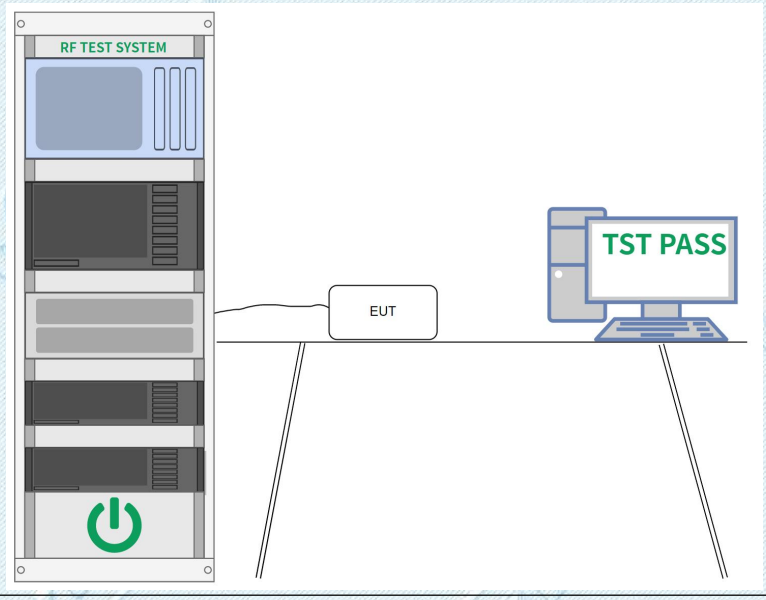
4.2.2. Test Setup Diagram:



4.2.3. Test Data:

Please Refer to Appendix for Details.

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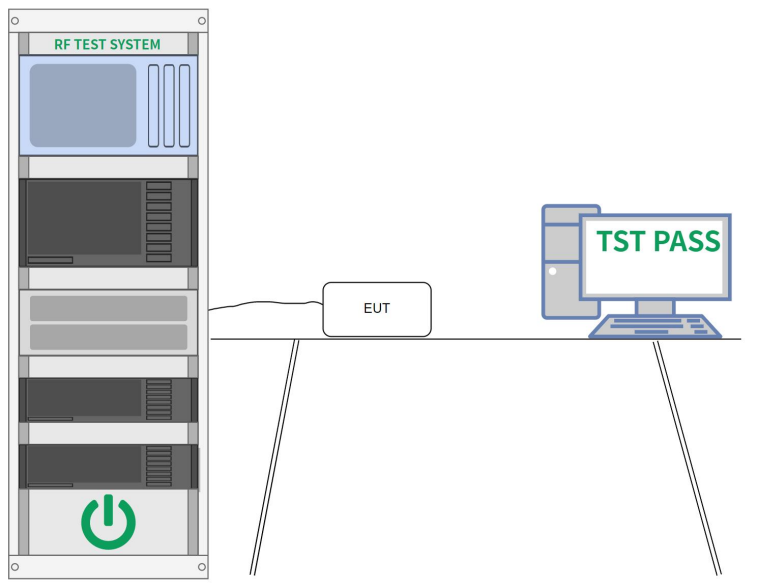
4.3. Maximum Conducted Output Power

Test Requirement:	47 CFR 15.247(b)(3)
Test Limit:	Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	ANSI C63.10-2013, section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013, section 11.9.1 Maximum peak conducted output power

4.3.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.3.2. Test Setup Diagram:



4.3.3. Test Data:

Please Refer to Appendix for Details.

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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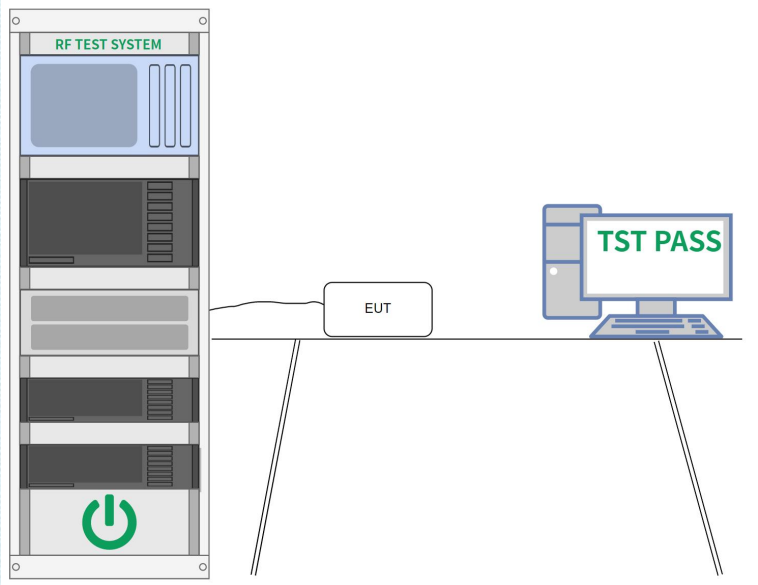
4.4. Power Spectral Density

Test Requirement:	47 CFR 15.247(e)
Test Limit:	Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	ANSI C63.10-2013, section 11.10 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013, section 11.10, Maximum power spectral density level in the fundamental emission

4.4.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.4.2. Test Setup Diagram:



4.4.3. Test Data:

Please Refer to Appendix for Details.

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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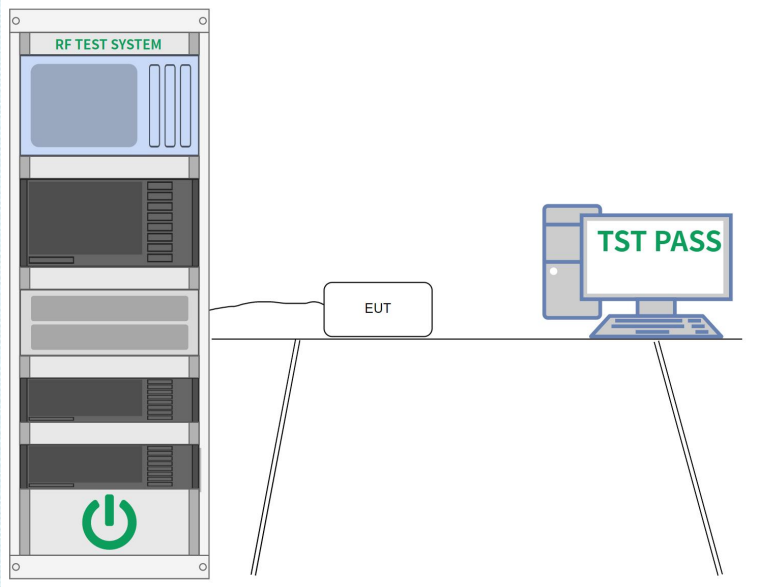
4.5. Emissions in non-restricted frequency bands

Test Requirement:	47 CFR 15.247(d), 15.209, 15.205
Test Limit:	Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	ANSI C63.10-2013 section 11.11 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013 Section 11.11.1, Section 11.11.2, Section 11.11.3

4.5.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.5.2. Test Setup Diagram:



4.5.3. Test Data:

Please Refer to Appendix for Details.

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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4.6. Band edge emissions (Radiated)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Limit:	

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
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

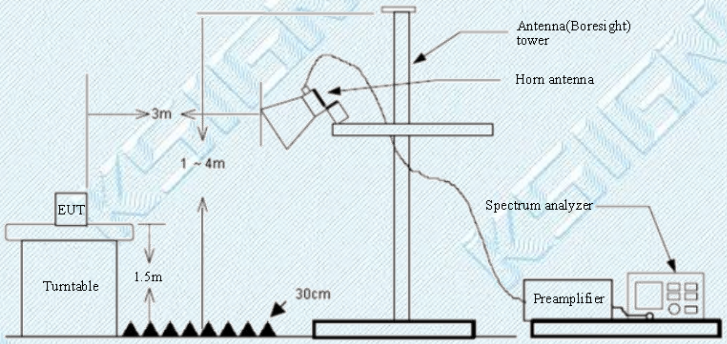
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table 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.

Test Method:	ANSI C63.10-2013 section 6.10 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013 section 6.10.5.2

4.6.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.6.2. Test Setup Diagram:



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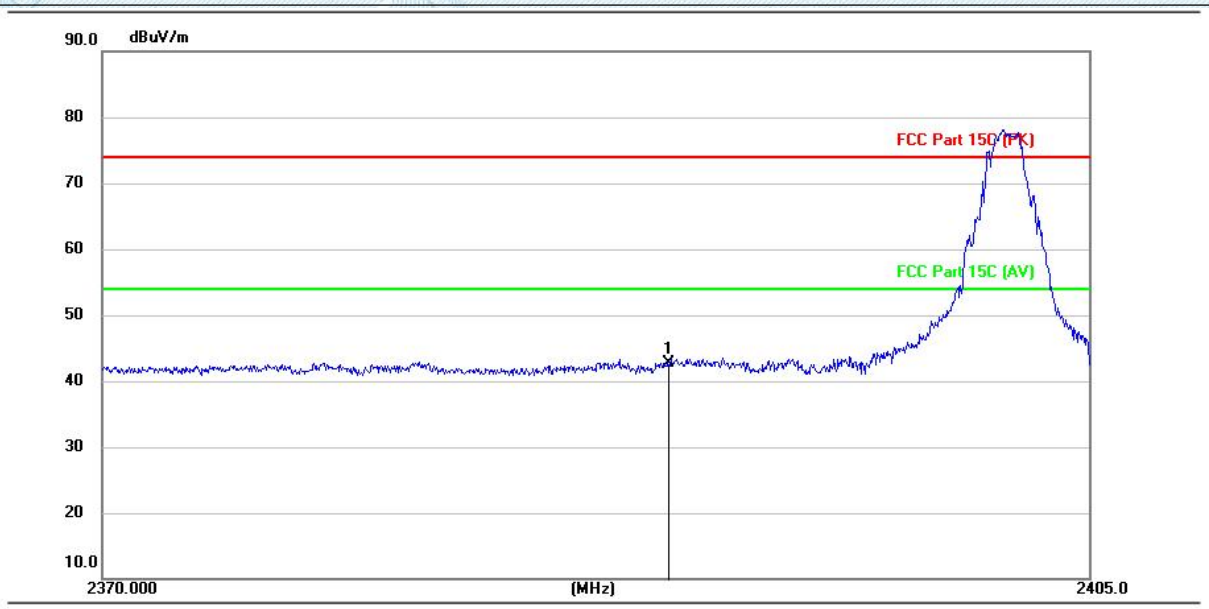
4.6.3. Test Data:

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	*	2390.000	58.49	-15.87	42.62	74.00	-31.38	peak

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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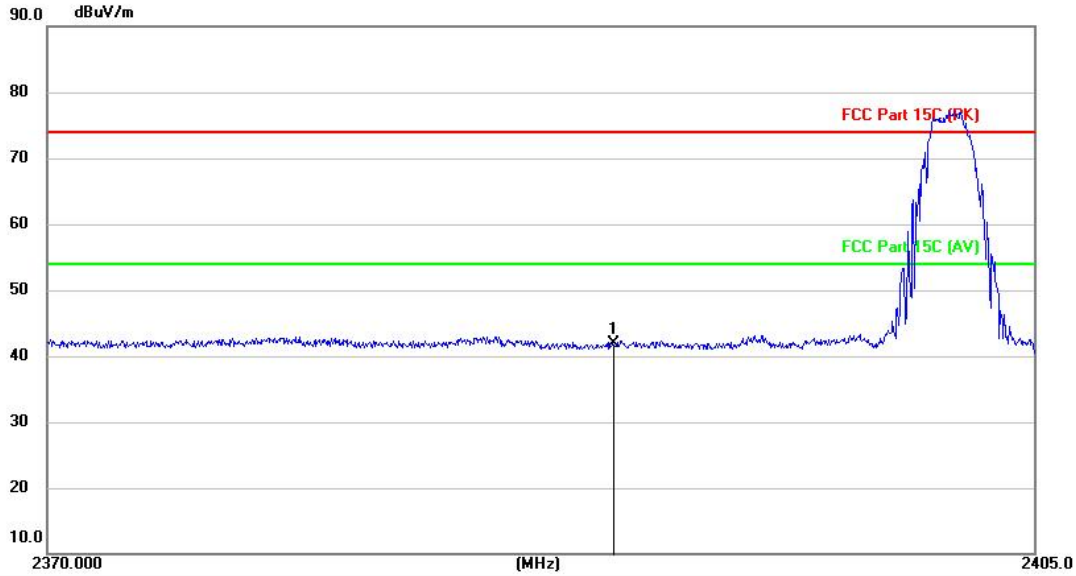
Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	*	2390.000	57.87	-15.87	42.00	74.00	-32.00	peak

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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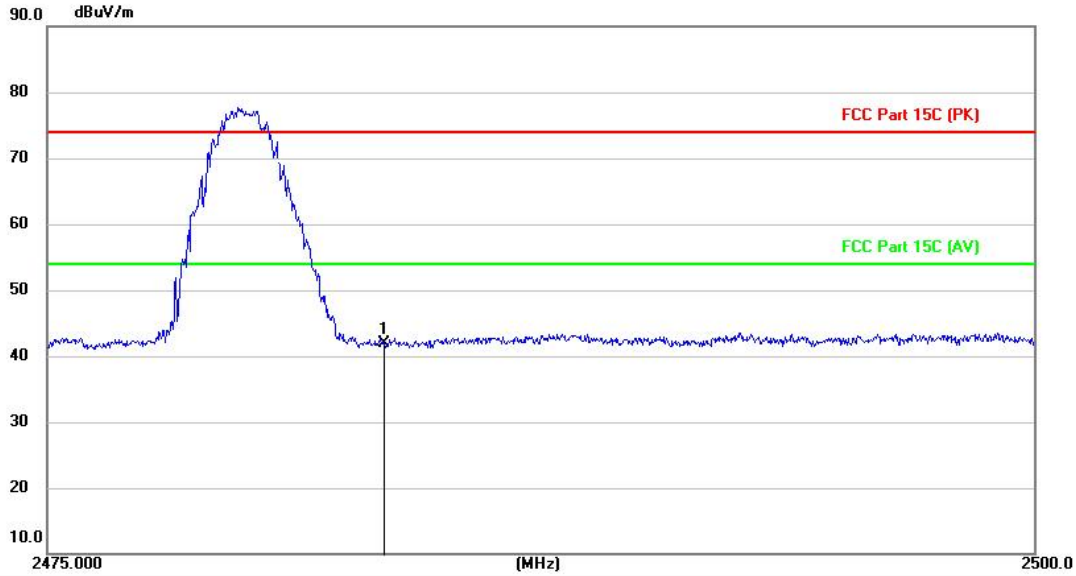
Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	*	2483.500	58.11	-16.18	41.93	74.00	-32.07	peak

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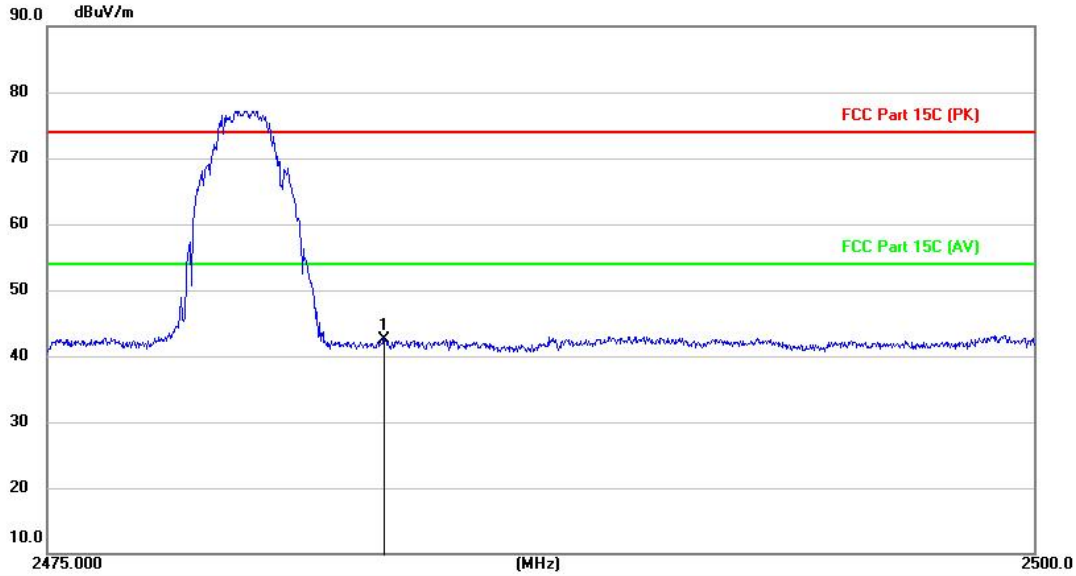
Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1	*	2483.500	58.78	-16.18	42.60	74.00	-31.40	peak

Note:
1.Measurement = Reading level + Correct Factor
Correct Factor=Antenna Factor + Cable Loss - Preamplifier Factor
Over = Measurement -Limit
2. Since the peak value is less than the limit of the AVG value, there is no AVG data.

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4.7. Emissions in frequency bands (below 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Limit:	

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
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

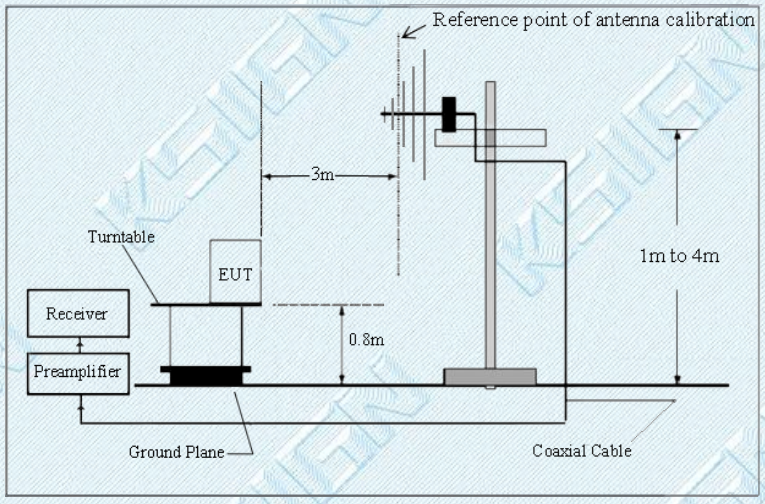
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table 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.

Test Method:	ANSI C63.10-2013 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013 section 6.6.4

4.7.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.7.2. Test Setup Diagram:



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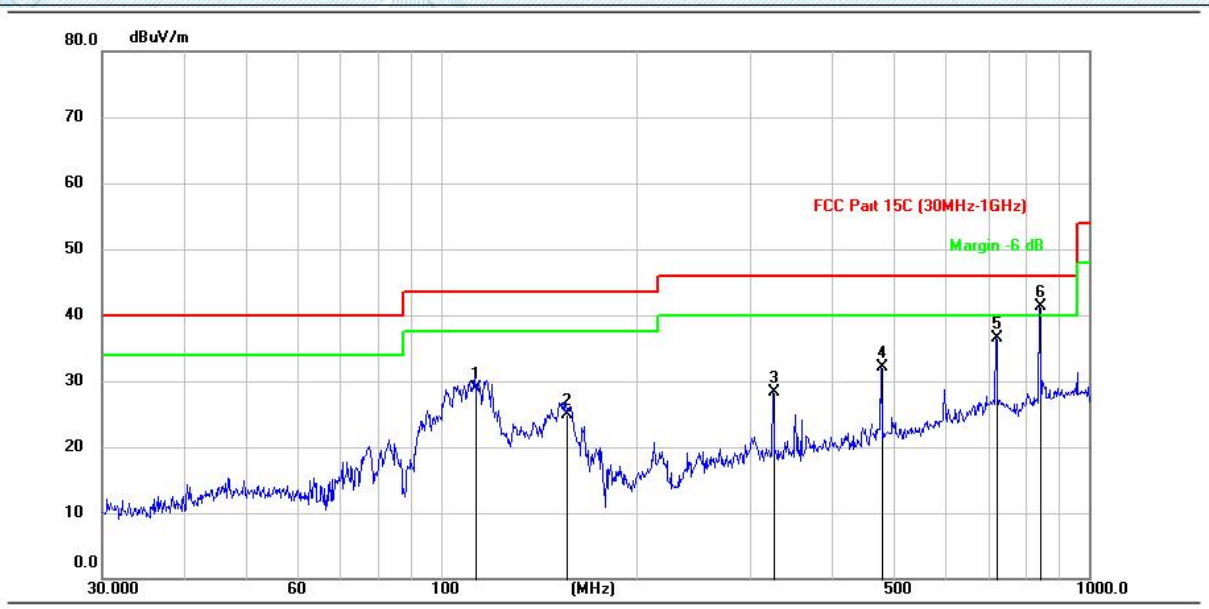
4.7.3. Test Data:

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		112.9988	43.30	-14.49	28.81	43.50	-14.69	QP
2		156.2384	42.23	-17.29	24.94	43.50	-18.56	QP
3		325.4816	37.44	-9.21	28.23	46.00	-17.77	QP
4		480.0221	37.82	-5.75	32.07	46.00	-13.93	QP
5		720.2087	37.88	-1.43	36.45	46.00	-9.55	QP
6	*	840.0650	41.62	-0.41	41.21	46.00	-4.79	QP

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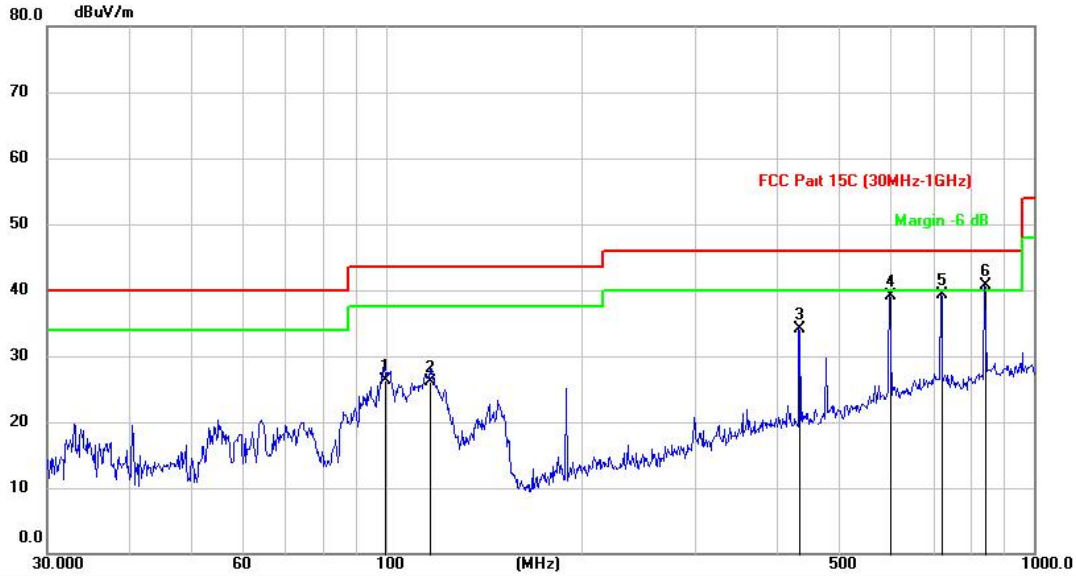
Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		99.5978	41.28	-15.04	26.24	43.50	-17.26	QP
2		116.9903	41.52	-15.50	26.02	43.50	-17.48	QP
3		433.9128	40.61	-6.44	34.17	46.00	-11.83	QP
4		600.1624	42.69	-3.60	39.09	46.00	-6.91	QP
5		720.2087	40.83	-1.43	39.40	46.00	-6.60	QP
6	*	840.0650	41.16	-0.41	40.75	46.00	-5.25	QP

9 KHz - 30 MHz:
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Note:
1.2402MHz channel is worse case for below 1GHz, so only show the test data for worse case.
2. Measurement = Reading level + Correct Factor
Correct Factor=Antenna Facto

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4.8. Emissions in frequency bands (above 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Limit:	

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
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

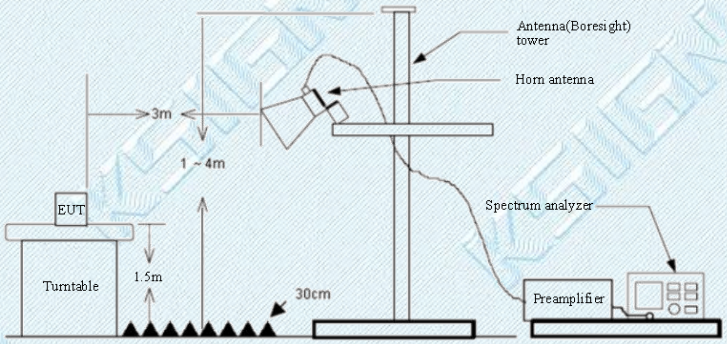
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table 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.

Test Method:	ANSI C63.10-2013 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013 section 6.6.4

4.8.1. E.U.T. Operation:

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.8 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.8.2. Test Setup Diagram:



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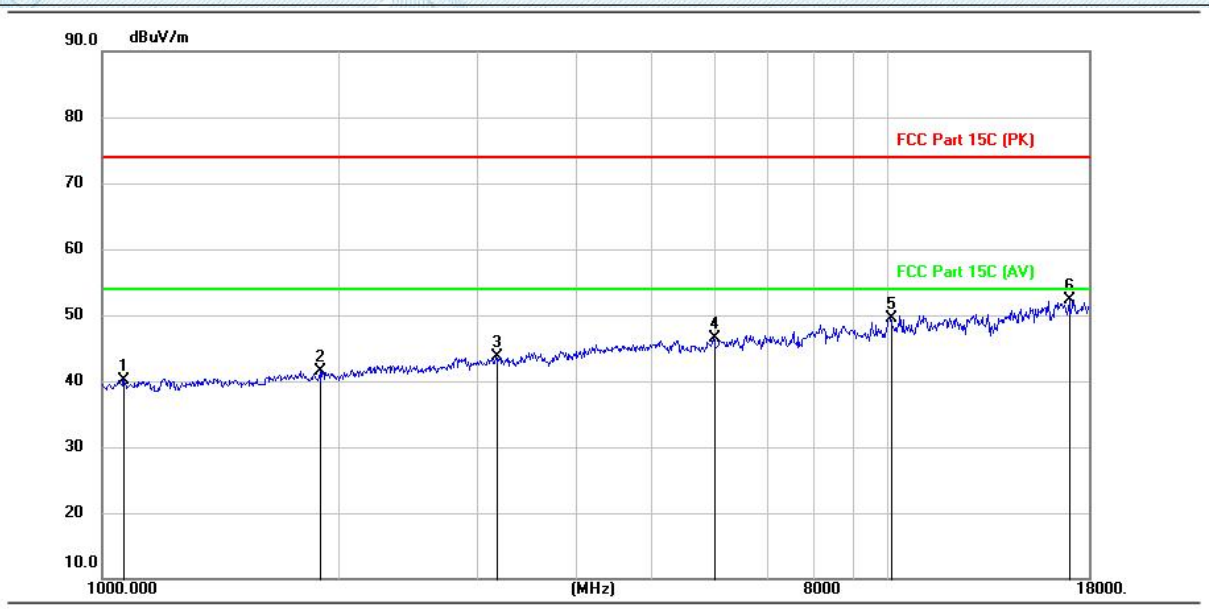
4.8.3. Test Data:

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		1064.600	52.51	-12.41	40.10	74.00	-33.90	peak
2		1892.500	52.17	-10.70	41.47	74.00	-32.53	peak
3		3170.900	52.84	-9.22	43.62	74.00	-30.38	peak
4		5984.400	49.04	-2.54	46.50	74.00	-27.50	peak
5		10089.900	44.59	4.93	49.52	74.00	-24.48	peak
6	*	17022.500	37.95	14.45	52.40	74.00	-21.60	peak

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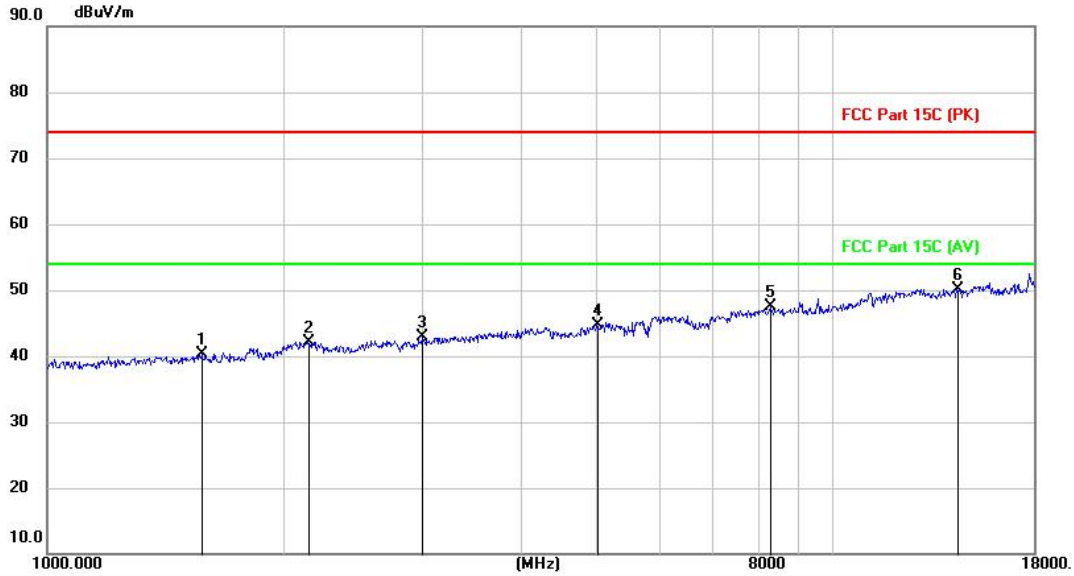
Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		1571.200	51.76	-11.50	40.26	74.00	-33.74	peak
2		2154.300	52.53	-10.40	42.13	74.00	-31.87	peak
3		2999.200	52.26	-9.39	42.87	74.00	-31.13	peak
4		5005.200	49.93	-5.30	44.63	74.00	-29.37	peak
5		8308.300	44.73	2.74	47.47	74.00	-26.53	peak
6	*	14399.400	40.08	10.02	50.10	74.00	-23.90	peak

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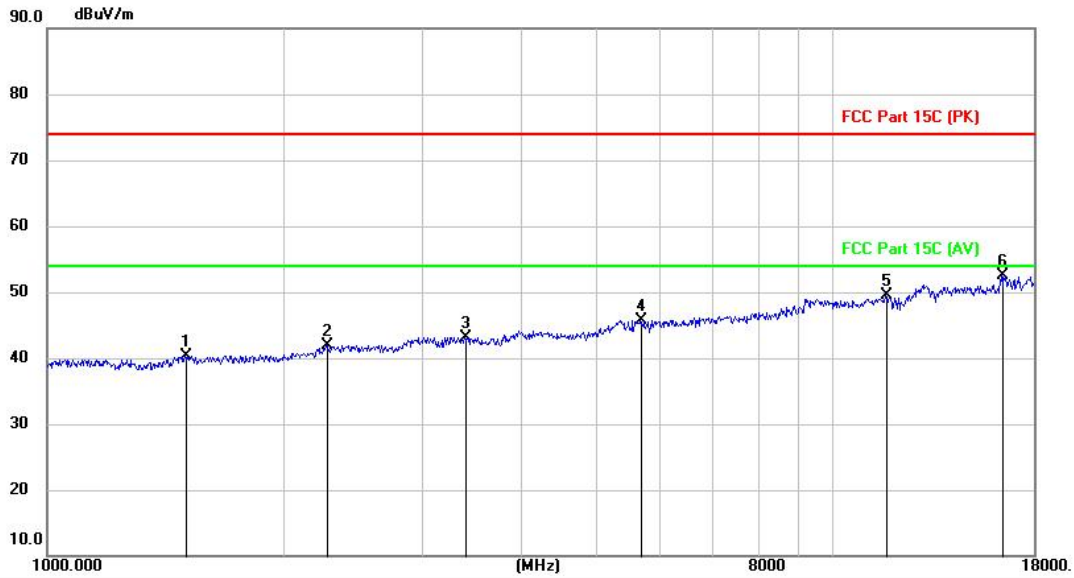
Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: M



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		1498.100	51.96	-11.67	40.29	74.00	-33.71	peak
2		2269.900	52.11	-10.23	41.88	74.00	-32.12	peak
3		3400.400	52.52	-9.38	43.14	74.00	-30.86	peak
4		5695.400	49.94	-4.29	45.65	74.00	-28.35	peak
5		11689.600	42.30	7.28	49.58	74.00	-24.42	peak
6	*	16374.800	38.50	14.01	52.51	74.00	-21.49	peak

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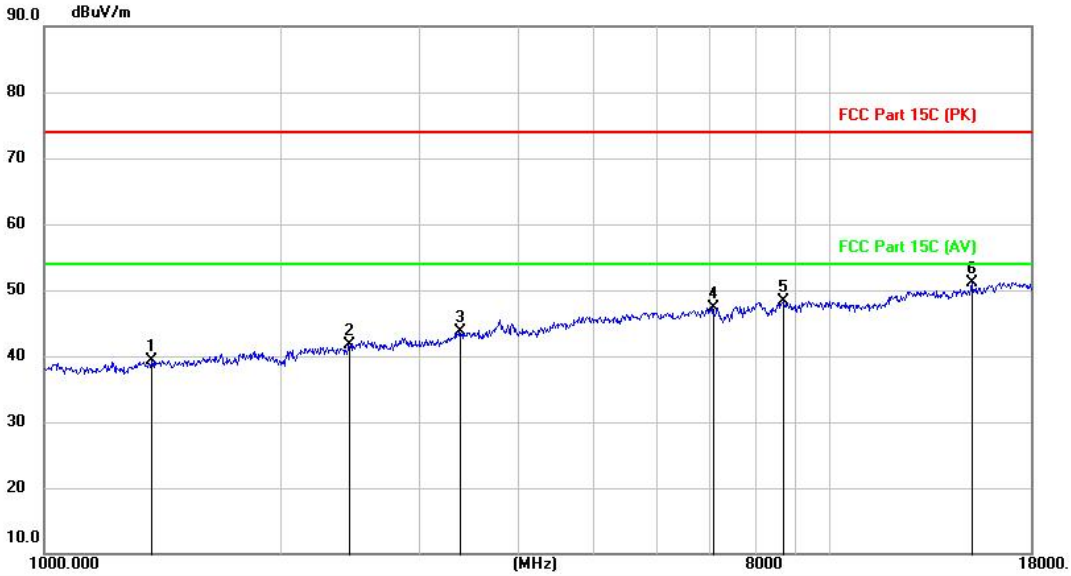
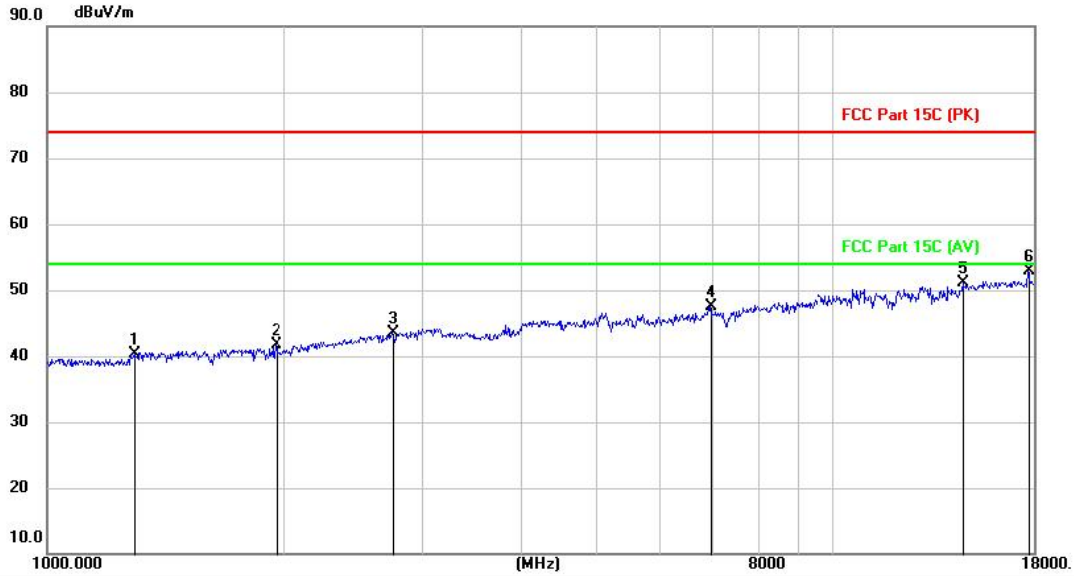
Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: M



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		1367.200	51.24	-11.94	39.30	74.00	-34.70	peak
2		2448.400	51.78	-10.09	41.69	74.00	-32.31	peak
3		3376.600	52.98	-9.36	43.62	74.00	-30.38	peak
4		7079.200	46.56	0.80	47.36	74.00	-26.64	peak
5		8689.100	45.64	2.71	48.35	74.00	-25.65	peak
6	*	15161.000	39.68	11.51	51.19	74.00	-22.81	peak

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		1292.400	52.37	-12.11	40.26	74.00	-33.74	peak
2		1952.000	52.35	-10.74	41.61	74.00	-32.39	peak
3		2751.000	53.37	-9.96	43.41	74.00	-30.59	peak
4		6955.100	46.91	0.61	47.52	74.00	-26.48	peak
5		14649.300	40.66	10.45	51.11	74.00	-22.89	peak
6	*	17704.200	37.93	14.89	52.82	74.00	-21.18	peak

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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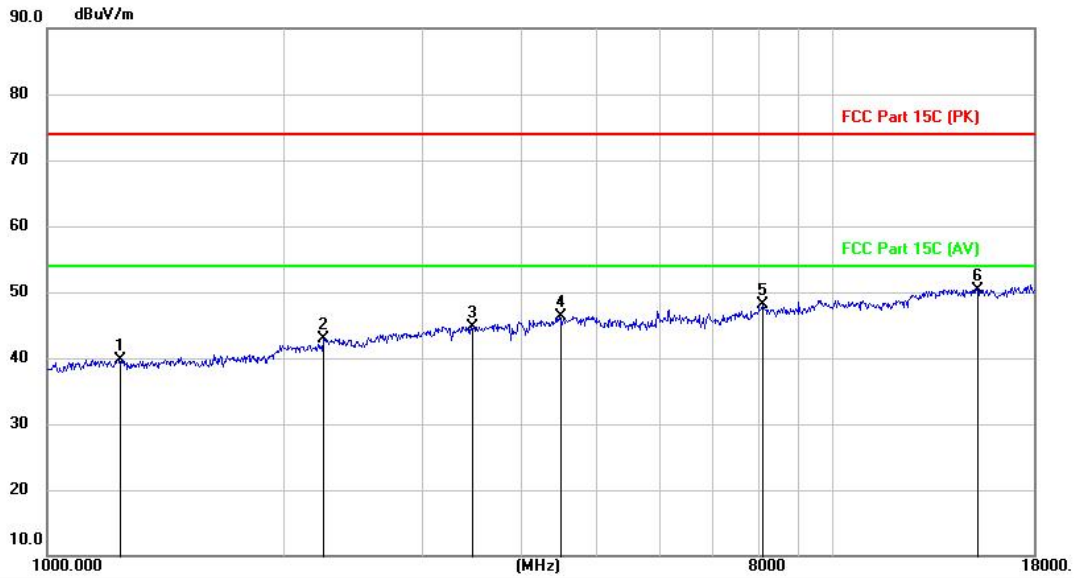
Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		1236.300	52.04	-12.24	39.80	74.00	-34.20	peak
2		2251.200	53.23	-10.24	42.99	74.00	-31.01	peak
3		3468.400	53.82	-9.07	44.75	74.00	-29.25	peak
4		4490.100	53.29	-6.97	46.32	74.00	-27.68	peak
5		8114.500	45.17	2.88	48.05	74.00	-25.95	peak
6	*	15263.000	38.76	11.61	50.37	74.00	-23.63	peak

Note:
1.Measurement = Reading level + Correct Factor
Correct Factor=Antenna Factor + Cable Loss - Preamplifier Factor
Over = Measurement -Limit
2. Since the peak value is less than the limit of the AVG value, there is no AVG data.
3.From 18GHz to 26.5GHz,the amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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5. EUT TEST PHOTOS

Conducted Emission at AC power line

Emissions in frequency bands (below 1GHz)

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Emissions in frequency bands (above 1GHz)

RF

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Refer to Appendix - EUT Photos for KS2503S1056E.

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Appendix

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.1. Appendix A: DTS Bandwidth

6.1.1. Test Result

TestMode	Antenna	Freq[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.73	2401.72	2402.45	0.5	PASS
		2440	0.74	2439.71	2440.44	0.5	PASS
		2480	0.74	2479.71	2480.45	0.5	PASS

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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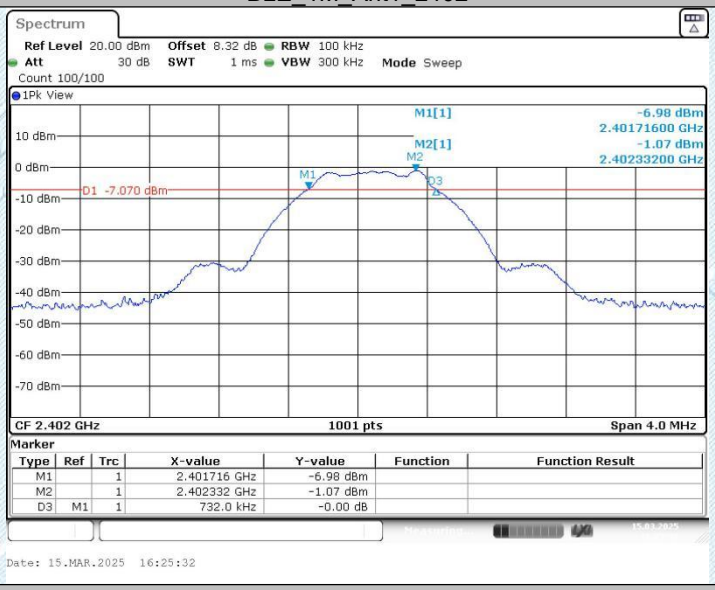
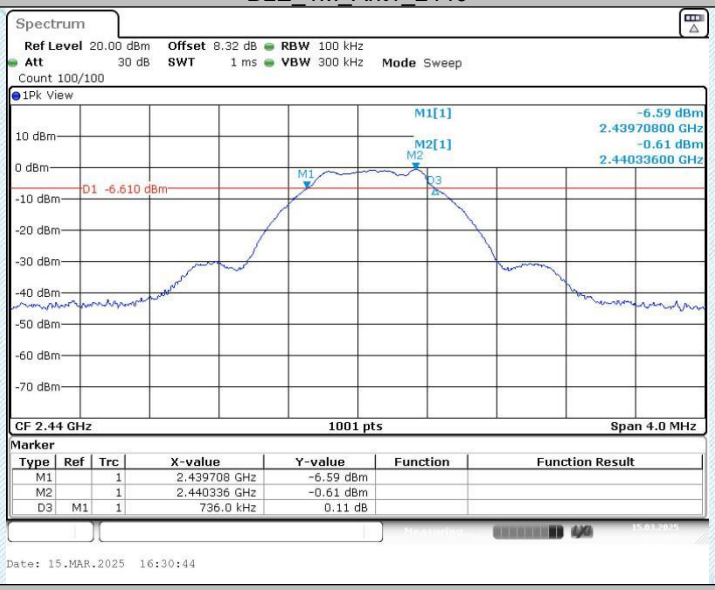
6.1.2. Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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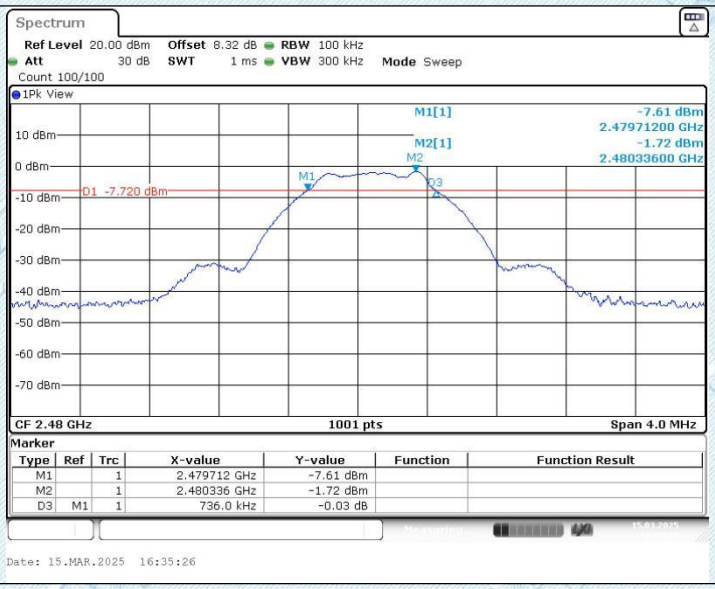

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.2. Appendix B: Occupied Channel Bandwidth

6.2.1. Test Result

TestMode	Antenna	Freq[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.039	2401.560	2402.599	---	---
		2440	1.039	2439.560	2440.599	---	---
		2480	1.043	2479.560	2480.603	---	---

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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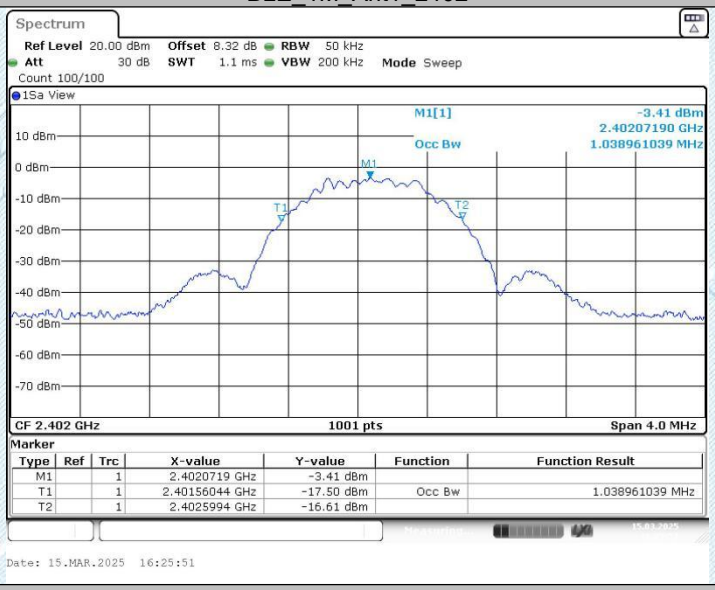
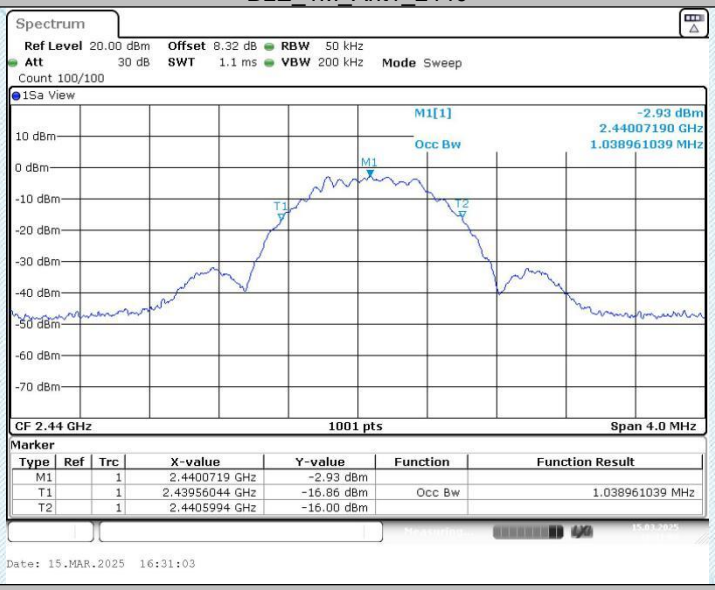
6.2.2. Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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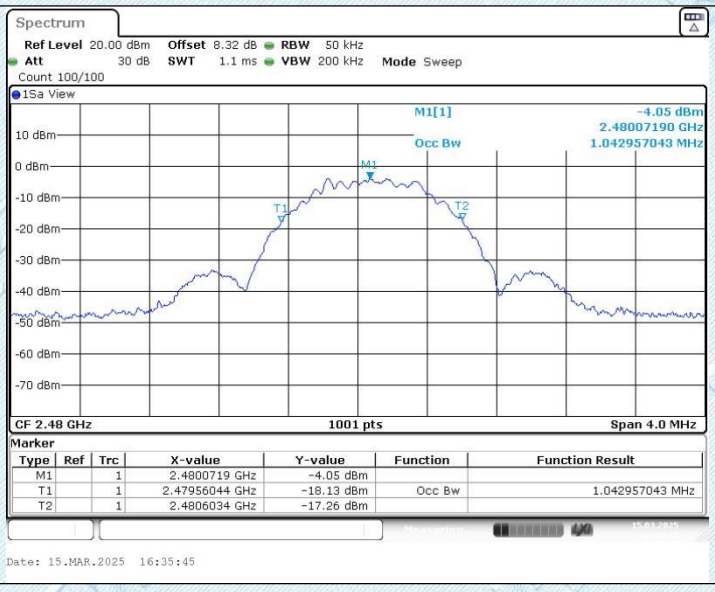

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.3. Appendix C: Maximum conducted output power

6.3.1. Test Result Peak

TestMode	Antenna	Freq[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.12	≤30	0.12	≤36	PASS
		2440	0.68	≤30	0.68	≤36	PASS
		2480	-0.38	≤30	-0.38	≤36	PASS

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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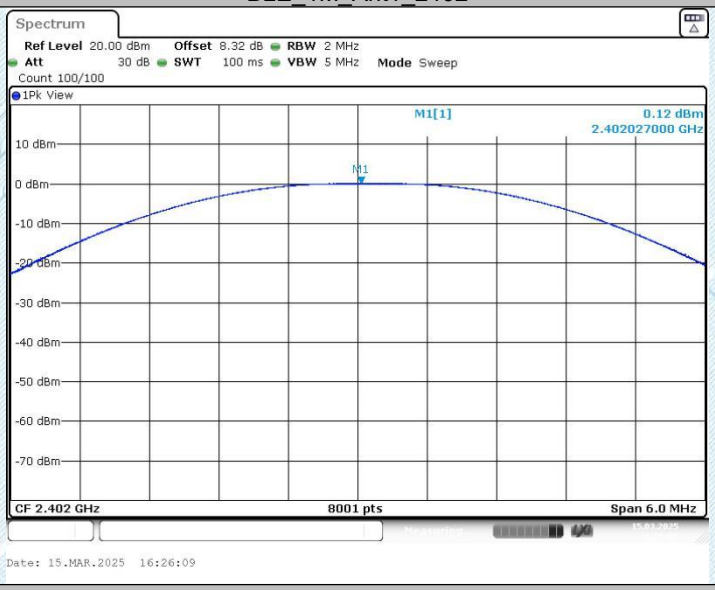
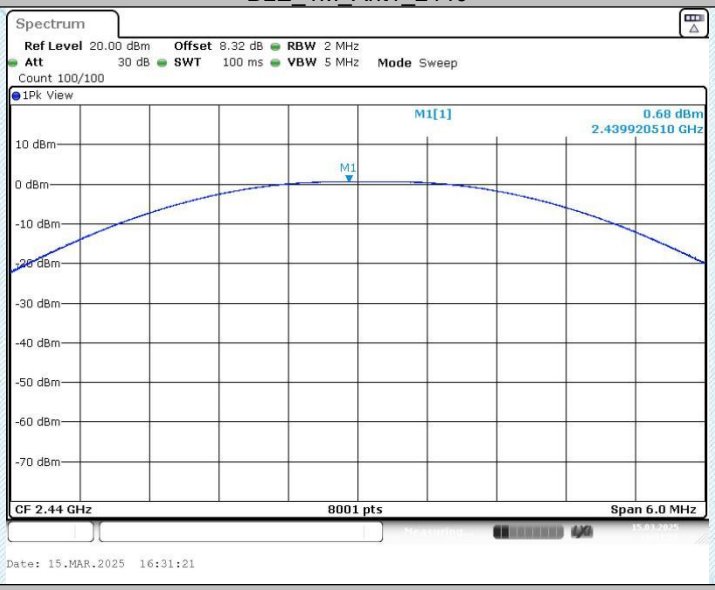
6.3.2. Test Graphs Peak

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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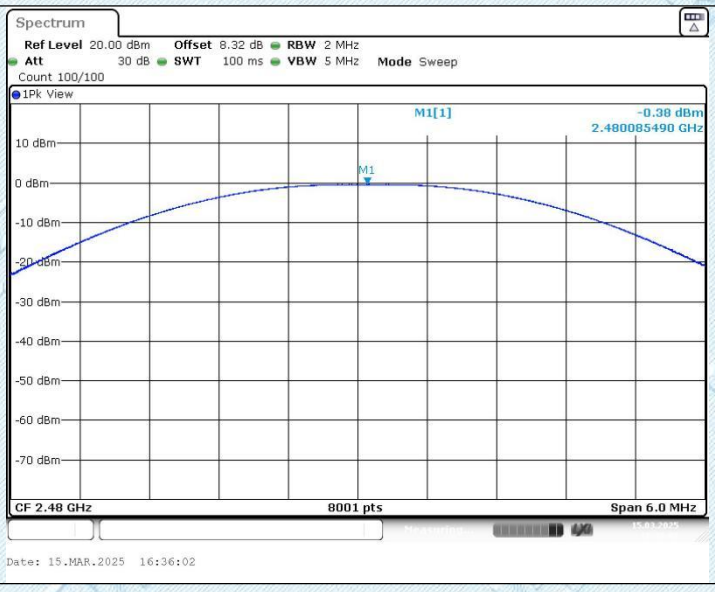

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.4. Appendix D: Maximum power spectral density

6.4.1. Test Result

TestMode	Antenna	Freq[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.39	≤8.00	PASS
		2440	-15.73	≤8.00	PASS
		2480	-16.7	≤8.00	PASS

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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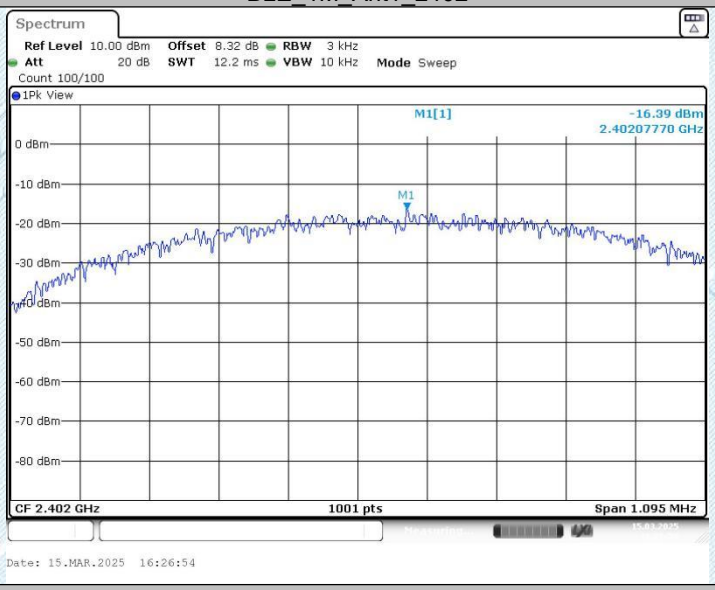
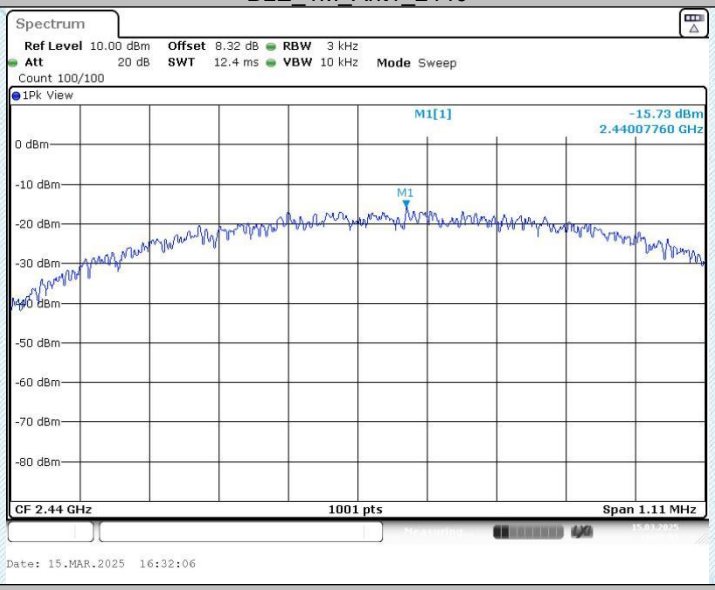
6.4.2. Test Graphs

BLE_1M_Ant1_2402

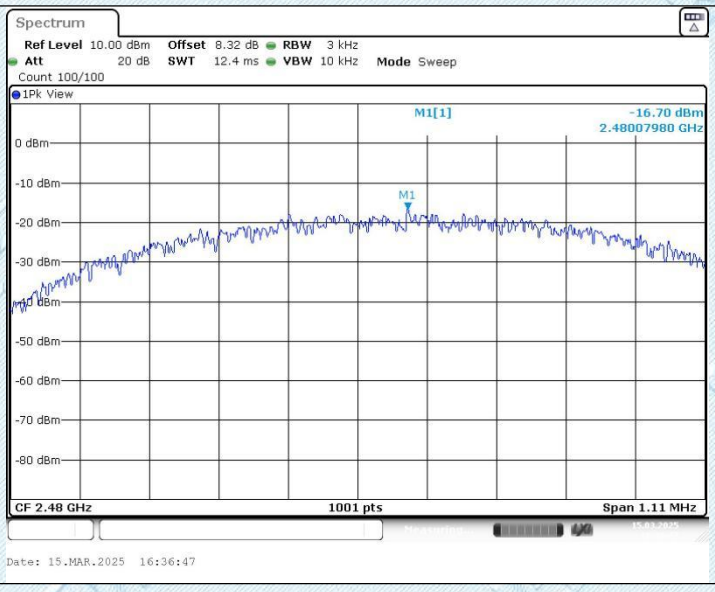


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.5. ppendix E: Reference level measurement

6.5.1. Test Result

TestMode	Antenna	Freq[MHz]	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.33	-1.30
		2440	2440.33	-0.63
		2480	2480.33	-1.67

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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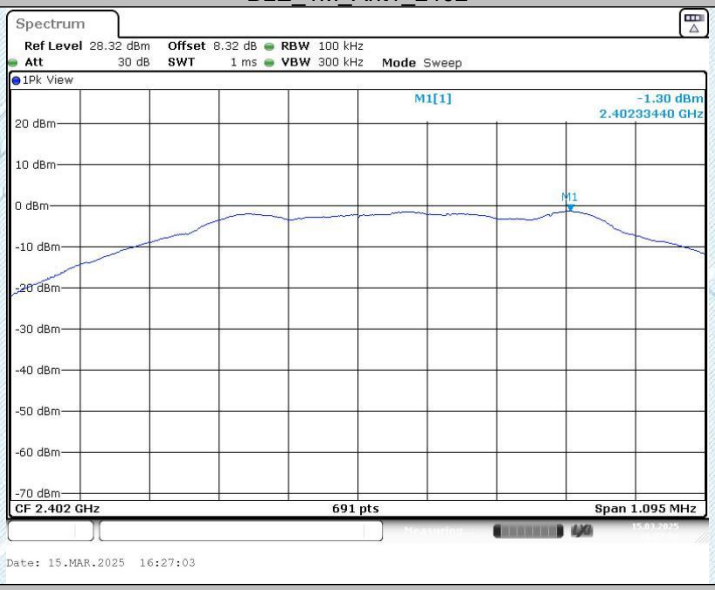
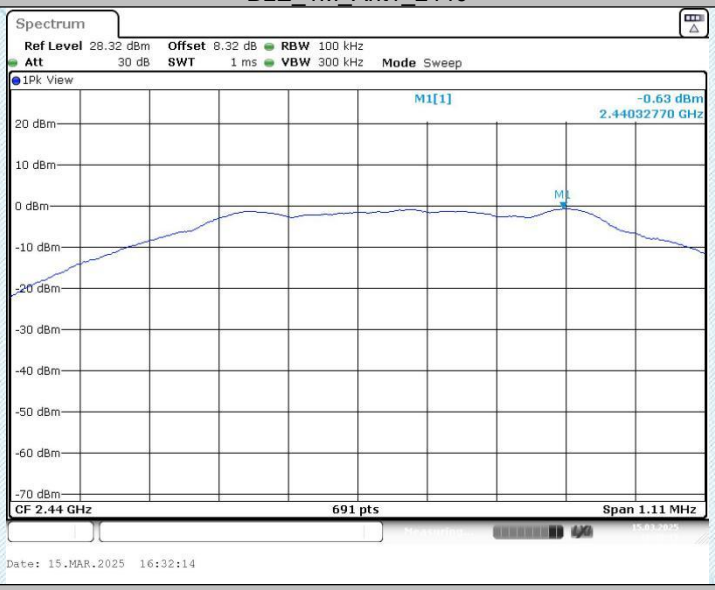
6.5.2. Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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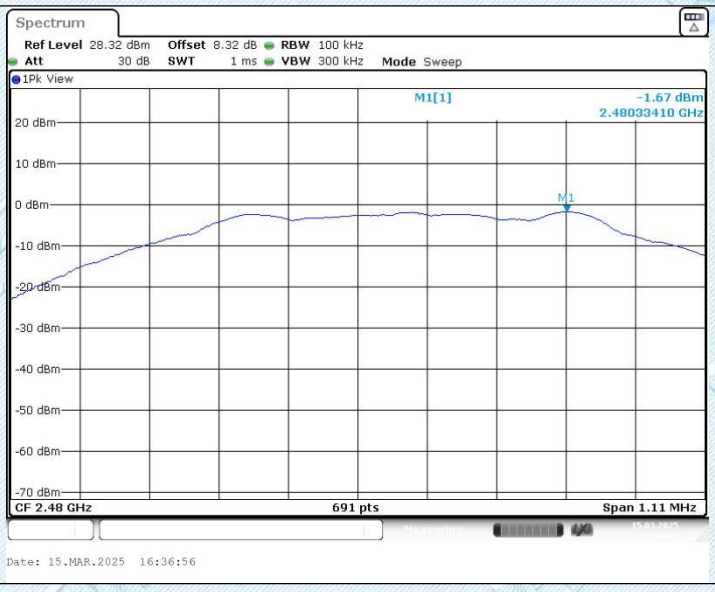

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.6. Appendix F: Band edge measurements

6.6.1. Test Result

TestMode	Antenna	ChName	Freq[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.30	-41.73	≤-21.3	PASS
		High	2480	-1.67	-41.13	≤-21.67	PASS

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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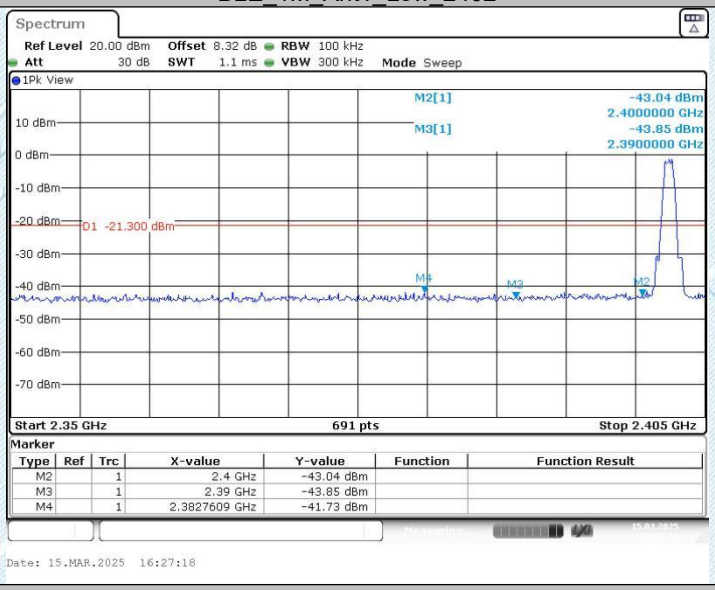
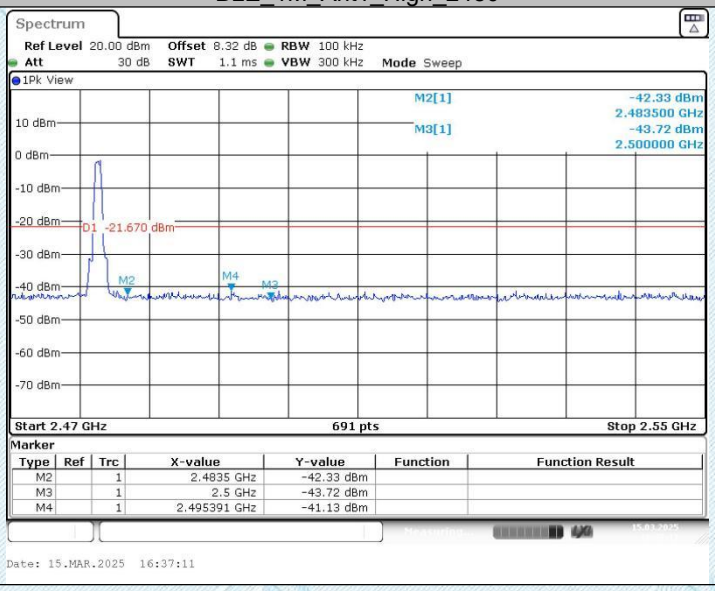
6.6.2. Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.7. Appendix G: Conducted Spurious Emission

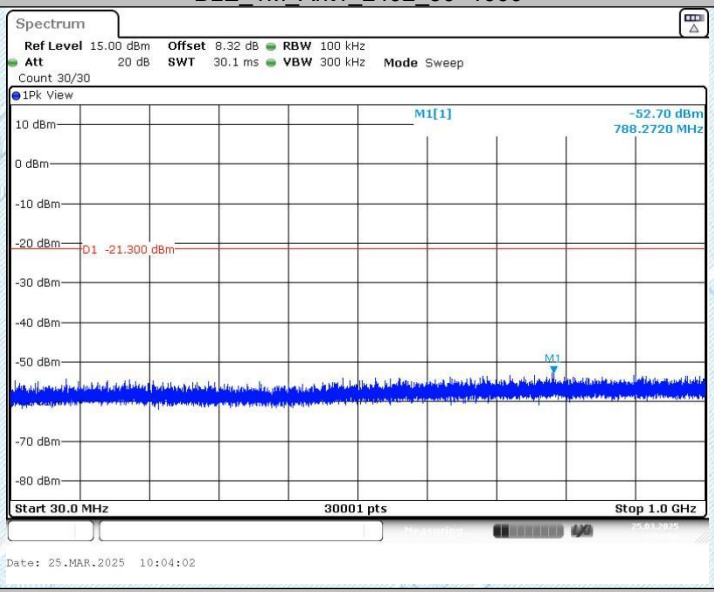
6.7.1. Test Result

TestMode	Antenna	Freq[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-1.30	-52.7	≤-21.3	PASS
			1000~26500	-1.30	-47.47	≤-21.3	PASS
		2440	30~1000	-0.63	-52.27	≤-20.63	PASS
			1000~26500	-0.63	-47.25	≤-20.63	PASS
		2480	30~1000	-1.67	-52.52	≤-21.67	PASS
			1000~26500	-1.67	-47.33	≤-21.67	PASS

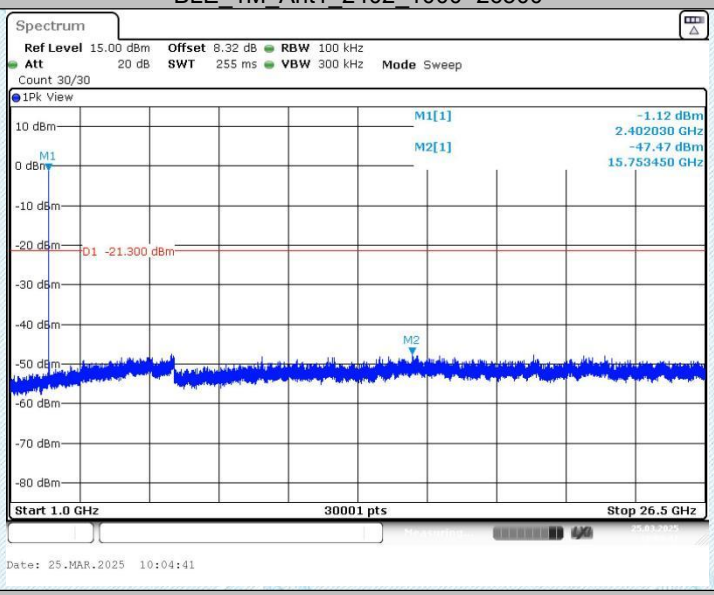
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

6.7.2. Test Graphs

BLE_1M_Ant1_2402_30~1000

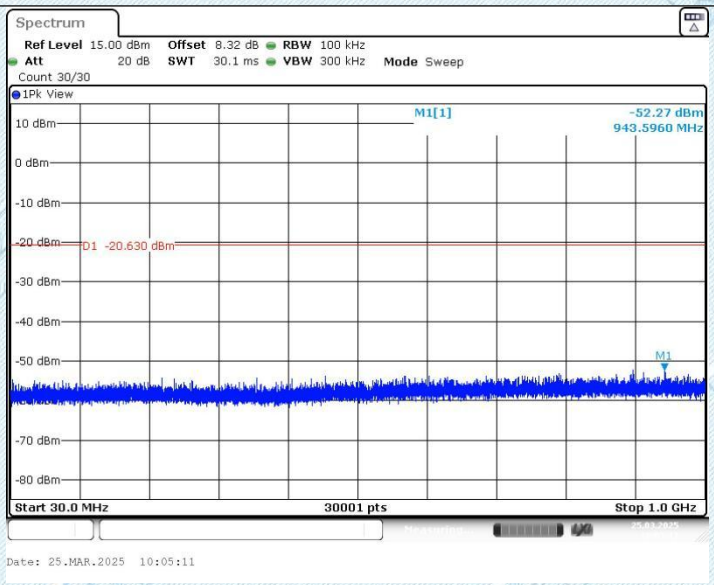


BLE_1M_Ant1_2402_1000~26500

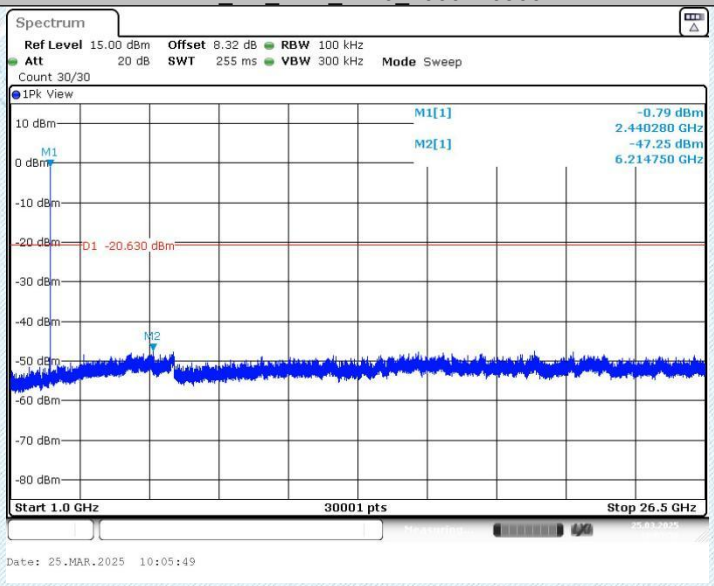


BLE_1M_Ant1_2440_30~1000

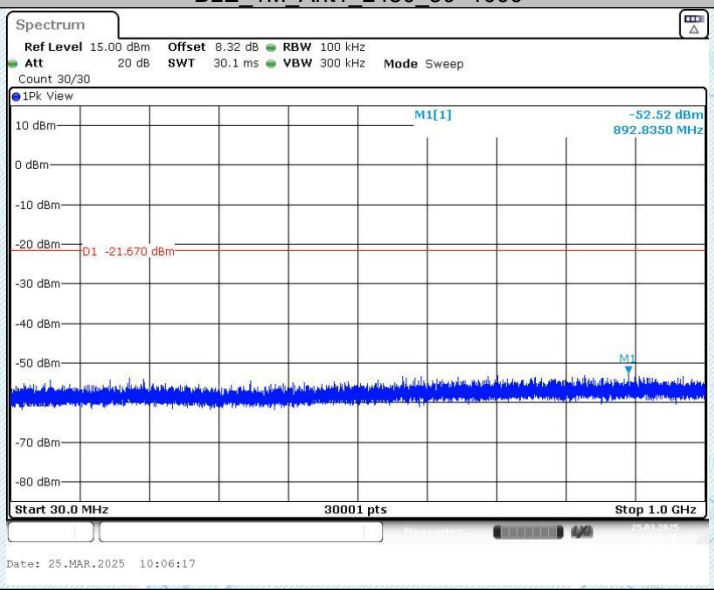
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

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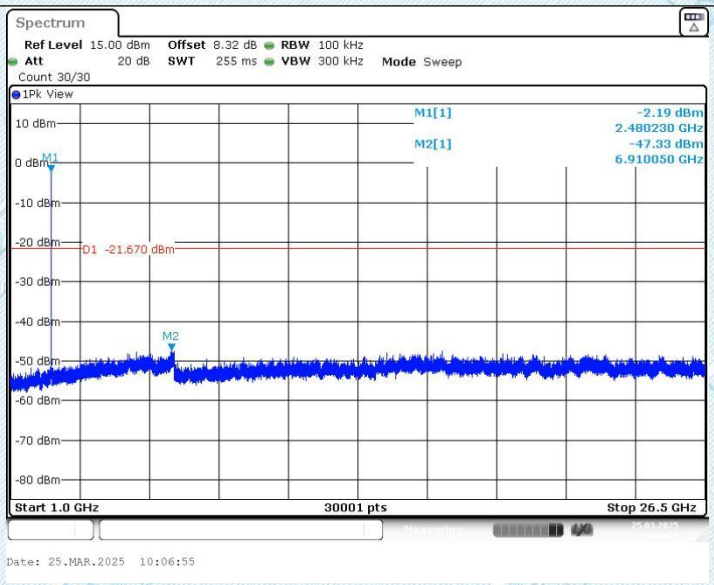

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China
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6.8. Appendix H: Duty Cycle

6.8.1. Test Result

TestMode	Antenna	Freq[MHz]	ON Time [ms]	Period [ms]	DC [%]	Limit	Verdict
BLE_1M	Ant1	2402	20.00	20.00	100	---	---
		2440	20.00	20.00	100	---	---
		2480	20.00	20.00	100	---	---

DC=ON Time/Period*100%

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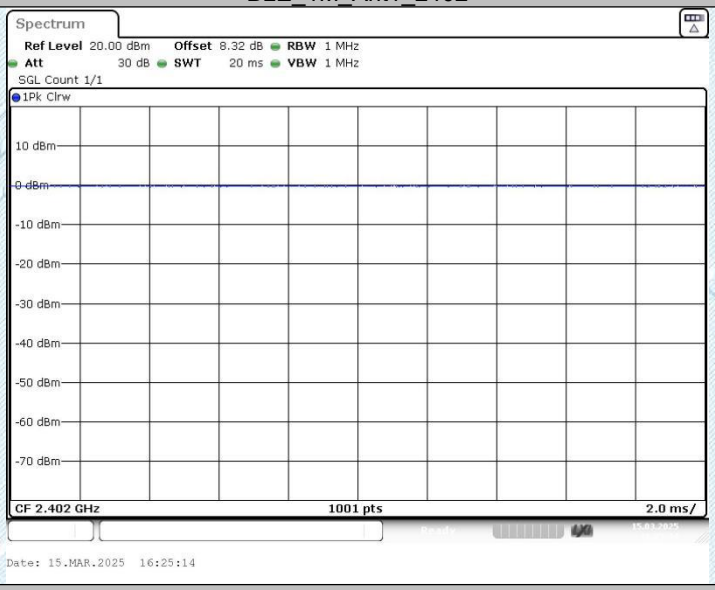
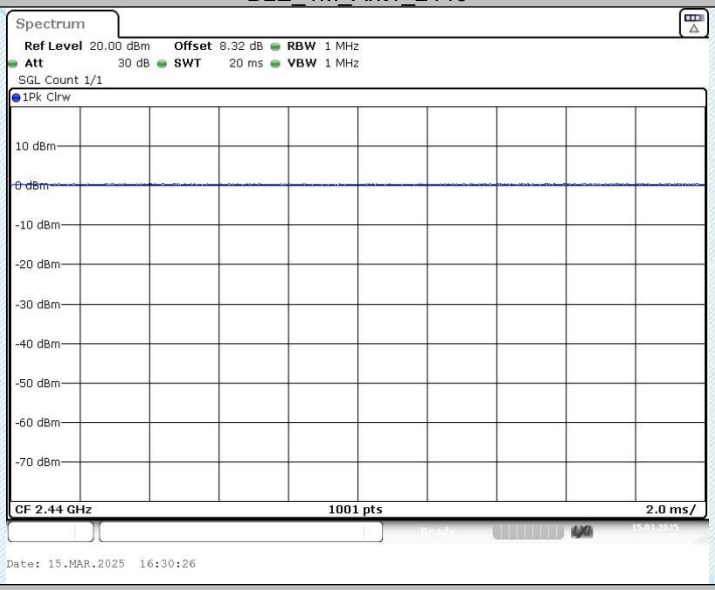
6.8.2. Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

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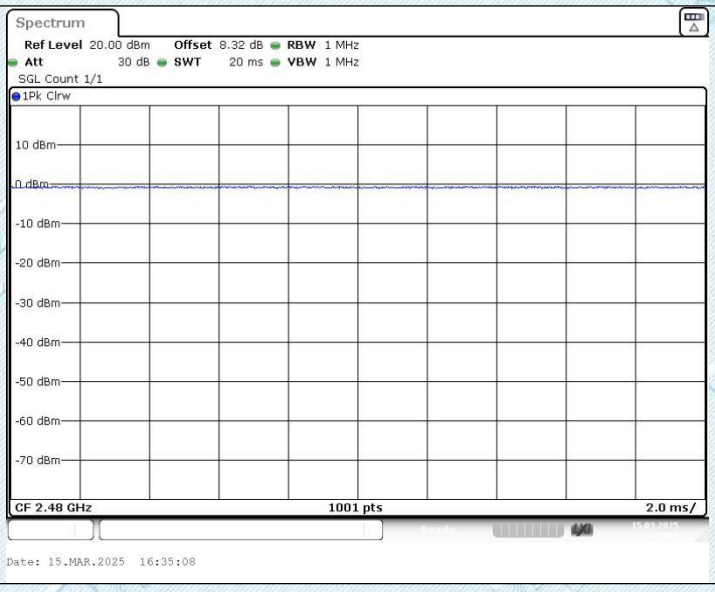

--THE END--

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3. This report is invalid without the signature of the main inspector, reviewer, or approver.
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10. For situations where compliance decision needs to be made based on test result, such as when there are no relevant decision rules required by the regulations, standards, or technical specifications used, or when there are no relevant customer requirements, the report issued by our laboratory refer to ILAC-G8:09-2019 and CNAS-GL015:2022 using simple acceptance decision rules.

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