



FCC Part 15C Test Report

FCC ID: 2BU7A-ZEXRC

Applicant: Shenzhen Zex Future Technology Co., Ltd.

Address: Building 8A, No. 4080 Qiaoxiang Road, Qiaochengfang, ShaheStreet, Nanshan District, Shenzhen

Manufacturer: Shenzhen Zex Future Technology Co., Ltd.

Address: Building 8A, No. 4080 Qiaoxiang Road, Qiaochengfang, ShaheStreet, Nanshan District, Shenzhen

Product Name: ZEX X-200 Drone Soccer

Trade Mark: N/A

Model Number: ZEX4000001

Date of Receipt: Dec. 05, 2025

Test Date: Dec. 05, 2025 - Mar. 02, 2026

Date of Report: Mar. 02, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: FCC PART 15 C 15.249
ANSI C63.10:2020

Test Result: Pass

Report Number: DLE-251205025R

Prepared (Test Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 MEASUREMENT UNCERTAINTY	4
2 . GENERAL INFORMATION	5
2.1 GENERAL DESCRIPTION OF EUT	5
2.2 DESCRIPTION OF TEST MODES	6
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	6
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	7
2.5 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING	7
2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS	8
3 . EMC EMISSION TEST	9
3.1 CONDUCTED EMISSION MEASUREMENT	9
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	9
3.1.2 TEST PROCEDURE	9
3.1.3 DEVIATION FROM TEST STANDARD	9
3.1.4 TEST SETUP	10
3.1.5 EUT OPERATING CONDITIONS	10
3.1.6 TEST RESULTS	11
3.2 RADIATED EMISSION MEASUREMENT	13
3.2.1 RADIATED EMISSION LIMITS	13
3.2.2 TEST PROCEDURE	14
3.2.3 DEVIATION FROM TEST STANDARD	14
3.2.4 TEST SETUP	15
3.2.5 EUT OPERATING CONDITIONS	16
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)	17
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)	18
3.2.8 TEST RESULTS (1GHZ~25GHZ)	20
3.3 RADIATED BAND EMISSION MEASUREMENT	21
3.3.1 TEST REQUIREMENT:	21
3.3.2 TEST PROCEDURE	21
3.3.3 DEVIATION FROM TEST STANDARD	21
3.3.4 TEST SETUP	22
3.3.5 EUT OPERATING CONDITIONS	22
4 . BANDWIDTH TEST	24
4.1 APPLIED PROCEDURES / LIMIT	24
4.1.1 TEST PROCEDURE	24
4.1.2 DEVIATION FROM STANDARD	24
4.1.3 TEST SETUP	24
4.1.4 EUT OPERATION CONDITIONS	24



Table of Contents	Page
4.1.5 TEST RESULTS	25
5 . ANTENNA REQUIREMENT	26
5.1 STANDARD REQUIREMENT	26
5.2 EUT ANTENNA	26
6 . TEST SEUUP PHOTO	26
7 . EUT PHOTO	26



1.. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.249) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.205(a), 15.209(a) 15.249(a), 15.249(c)	Fundamental & Radiated Spurious Emission Measurement	PASS	
15.249(d)	Band Edge Emission	PASS	
15.215(c)	20dB Bandwidth	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

Test lab: Shenzhen DL Testing Technology Co., Ltd.

101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1

Address: Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

FCC Test Firm Registration Number: 854456

Designation Number: CN1307

IC Registered No.: 27485

CAB ID.: CN0118

1.1. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.42\text{dB}$
3	Spurious emissions, conducted	$\pm 2.76\text{dB}$
4	All emissions, radiated (<1G)	$\pm 3.65\text{dB}$
5	All emissions, radiated (>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$
8	20dB Bandwidth	$\pm 0.2\%$

**2.. GENERAL INFORMATION****2.1. GENERAL DESCRIPTION OF EUT**

Product Name:	ZEX X-200 Drone Soccer
Trade Mark:	N/A
Model Number:	ZEX4000001
Test Model:	ZEX4000001
Model difference:	N/A
Operation Frequency:	2405.4~2478.4MHz
Channel numbers:	74 Channels
Modulation technology:	GFSK
Antenna Type:	Internal Antenna
Antenna gain:	2.08dBi
Power Supply:	DC 5V from type-c DC 3.7V from battery

Note:

1.For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.The EUT's all information provided by client.

3.

Channel List

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2405.4MHz	20	2424.4MHz	39	2443.4MHz	58	2462.4MHz
02	2406.4MHz	21	2425.4MHz	40	2444.4MHz	59	2463.4MHz
03	2407.4MHz	22	2426.4MHz	41	2445.4MHz	60	2464.4MHz
04	2408.4MHz	23	2427.4MHz	42	2446.4MHz	61	2465.4MHz
05	2409.4MHz	24	2428.4MHz	43	2447.4MHz	62	2466.4MHz
06	2410.4MHz	25	2429.4MHz	44	2448.4MHz	63	2467.4MHz
07	2411.4MHz	26	2430.4MHz	45	2449.4MHz	64	2468.4MHz
08	2412.4MHz	27	2431.4MHz	46	2450.4MHz	65	2469.4MHz
09	2413.4MHz	28	2432.4MHz	47	2451.4MHz	66	2470.4MHz
10	2414.4MHz	29	2433.4MHz	48	2452.4MHz	67	2471.4MHz
11	2415.4MHz	30	2434.4MHz	49	2453.4MHz	68	2472.4MHz
12	2416.4MHz	31	2435.4MHz	50	2454.4MHz	69	2473.4MHz
13	2417.4MHz	32	2436.4MHz	51	2455.4MHz	70	2474.4MHz
14	2418.4MHz	33	2437.4MHz	52	2456.4MHz	71	2475.4MHz
15	2419.4MHz	34	2438.4MHz	53	2457.4MHz	72	2476.4MHz
16	2420.4MHz	35	2439.4MHz	54	2458.4MHz	73	2477.4MHz
17	2421.4MHz	36	2440.4MHz	55	2459.4MHz	74	2478.4MHz
18	2422.4MHz	37	2441.4MHz	56	2460.4MHz		
19	2423.4MHz	38	2442.4MHz	57	2461.4MHz		



2.2. DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

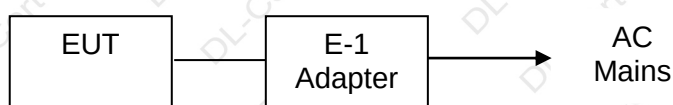
Pretest Mode	Modulation	Channel
Mode 1	GFSK	CH01
Mode 2		CH37
Mode 3		CH74

Note: (1) The measurements are performed at the highest, middle, lowest available channels.

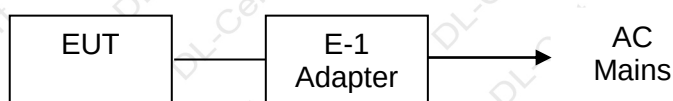
(2) For the two items of conducted disturbance at the power supply end and space radiation below 1GHz, all modes have undergone pre-tests. The report only shows the worst test results of mode 3.

2.3. BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Power Line Conducted Emission Test





2.4. DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
E-1	Adapter	HW-0501000E	N/A	Adapter (Provide by test lab): Manufacturer: HAIWEI Model: HW-0501000E I/P: AC 100-240V 50/60Hz O/P: DC 5V 1A

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5. TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Test software Version	Test program: LR3 ELRS3		
Frequency	2405.4 MHz	2441.4 MHz	2478.4 MHz
Power Setting of Software	10	10	10



2.6. EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation test, Band-edge test and 20db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	966 chamber	YIHENG	966 Room	966	Nov. 06, 2023	Nov. 05, 2026
2	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
3	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
4	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 25, 2025	Oct. 24, 2026
5	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 25, 2025	Oct. 24, 2026
6	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
7	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
8	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
9	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
10	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
11	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
12	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
13	Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
14	Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
15	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
16	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
17	D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	ChengYu	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Oct. 25, 2025	Oct. 24, 2026
3	LISN	R&S	ENV216	102417	Oct. 25, 2025	Oct. 24, 2026
4	843 Cable 1#	ChengYu	CE Cable	001	Oct. 25, 2025	Oct. 24, 2026

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ_EMCC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ_EMCC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0



3.. EMC EMISSION TEST

3.1. CONDUCTED EMISSION MEASUREMENT

3.1.1. POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2. TEST PROCEDURE

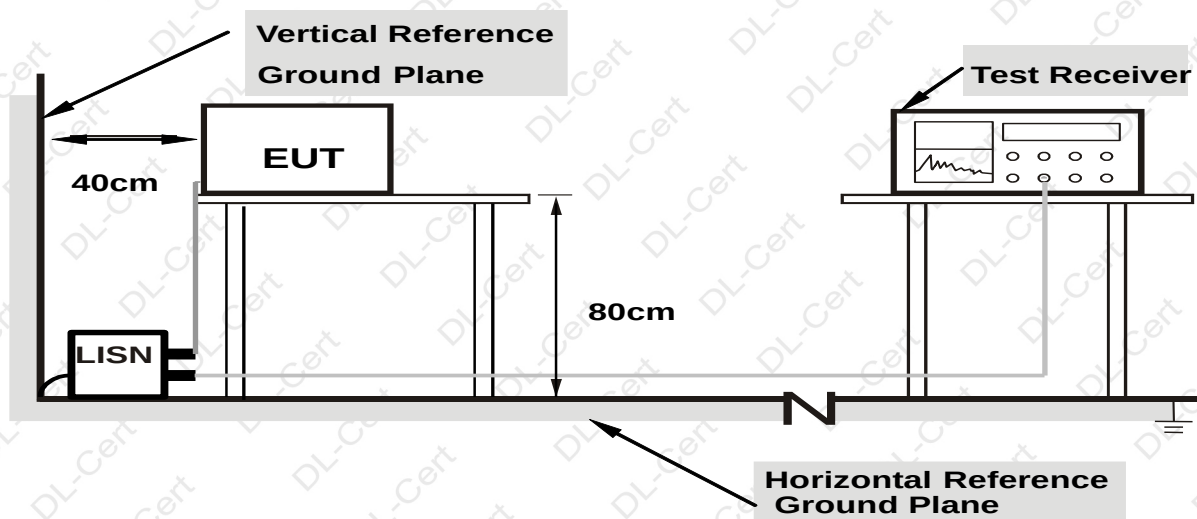
- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3. DEVIATION FROM TEST STANDARD

No deviation



3.1.4. TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

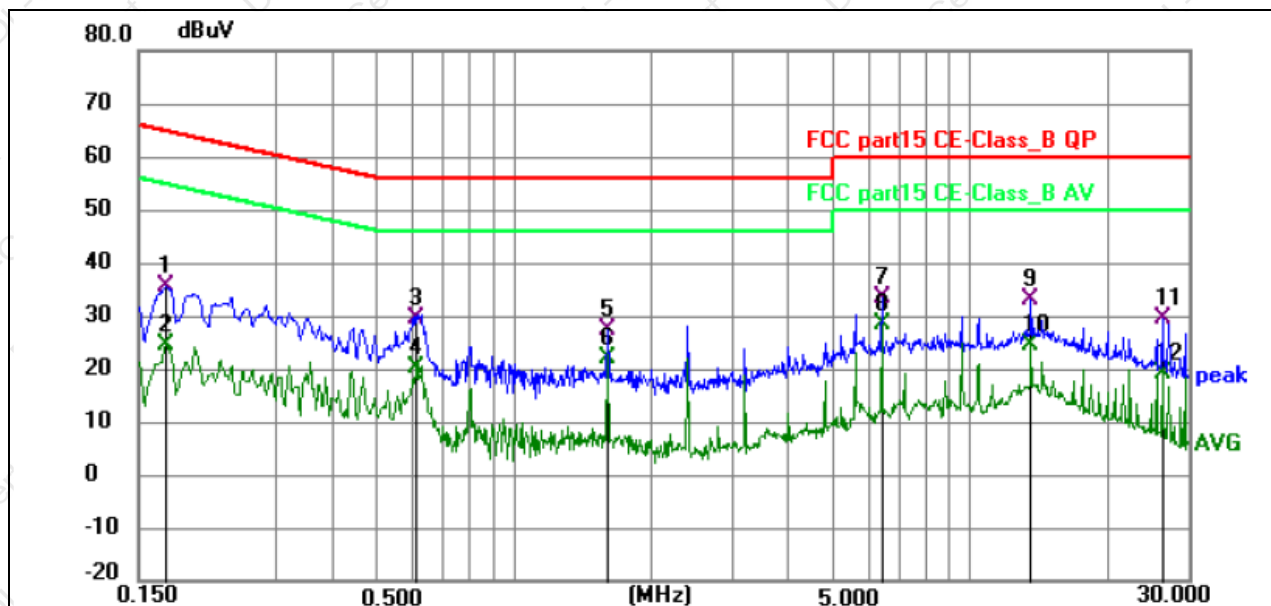
3.1.5. EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

We pretest AC 120V and AC 230V, the worst voltage was AC 120V and the data recording in the report.

**3.1.6. TEST RESULTS**

Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 3



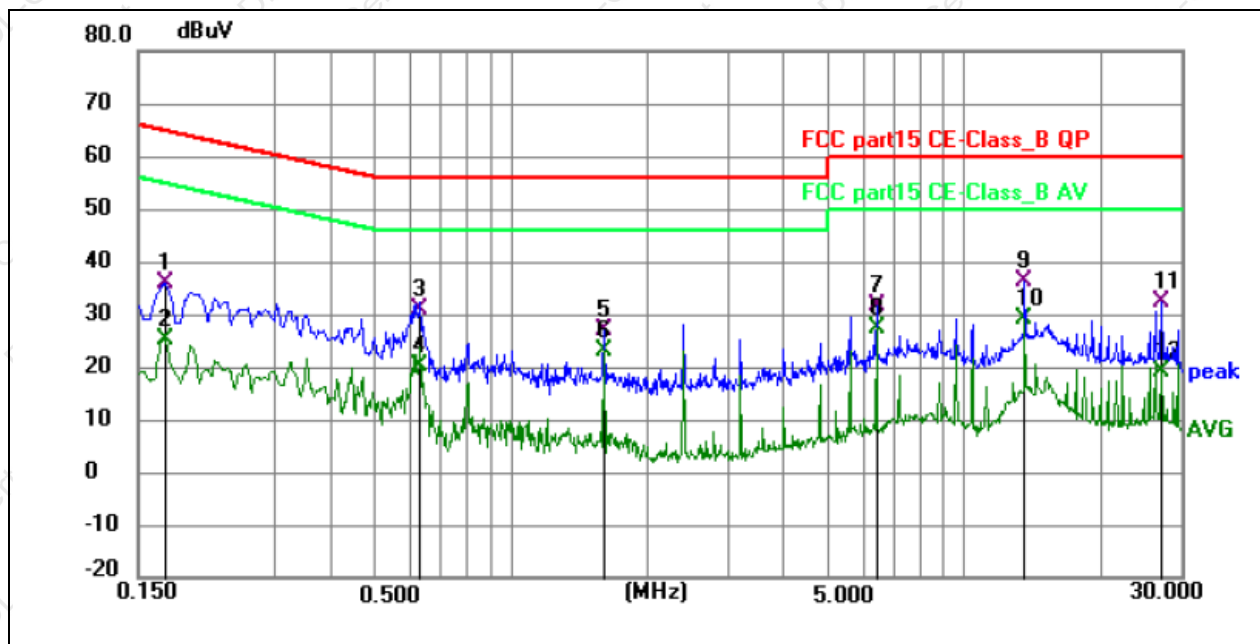
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1725	25.53	9.92	35.45	64.84	-29.39	QP	P	
2	0.1725	14.57	9.92	24.49	54.84	-30.35	AVG	P	
3	0.6134	19.71	9.87	29.58	56.00	-26.42	QP	P	
4	0.6134	10.26	9.87	20.13	46.00	-25.87	AVG	P	
5	1.5990	17.48	9.86	27.34	56.00	-28.66	QP	P	
6	1.5990	12.06	9.86	21.92	46.00	-24.08	AVG	P	
7	6.4005	23.05	10.19	33.24	60.00	-26.76	QP	P	
8 *	6.4005	18.19	10.19	28.38	50.00	-21.62	AVG	P	
9	13.5960	22.77	10.26	33.03	60.00	-26.97	QP	P	
10	13.5960	14.29	10.26	24.55	50.00	-25.45	AVG	P	
11	26.4030	19.19	10.41	29.60	60.00	-30.40	QP	P	
12	26.4030	8.54	10.41	18.95	50.00	-31.05	AVG	P	

Remark:

Margin = Limit – Level, Correct Factor = Cable lose + LISN insertion loss, Level= Reading + Correct factor



Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 3



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1725	25.97	9.91	35.88	64.84	-28.96	QP	P	
2	0.1725	15.25	9.91	25.16	54.84	-29.68	AVG	P	
3	0.6270	21.17	9.86	31.03	56.00	-24.97	QP	P	
4	0.6270	10.47	9.86	20.33	46.00	-25.67	AVG	P	
5	1.5990	17.15	9.99	27.14	56.00	-28.86	QP	P	
6	1.5990	13.10	9.99	23.09	46.00	-22.91	AVG	P	
7	6.4005	21.41	10.20	31.61	60.00	-28.39	QP	P	
8	6.4005	16.95	10.20	27.15	50.00	-22.85	AVG	P	
9	13.6005	25.93	10.25	36.18	60.00	-23.82	QP	P	
10 *	13.6005	18.81	10.25	29.06	50.00	-20.94	AVG	P	
11	27.1950	21.89	10.36	32.25	60.00	-27.75	QP	P	
12	27.1950	8.72	10.36	19.08	50.00	-30.92	AVG	P	

Remark:

Margin = Limit – Level, Correct Factor = Cable lose + LISN insertion loss, Level= Reading + Correct factor



3.2. RADIATED EMISSION MEASUREMENT

3.2.1. RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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.

Frequency (MHz)	Field Strength (microvolt/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

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

Fundamental Frequency	Field Strength of Fundamental (millivolt/meter)	Field Strength of Harmonics (microvolt/meter)
902 - 928 MHz	50	500
2400 - 2483.5 MHz	50	500
5725 - 5875 MHz	50	500
24.0 - 24.25 GHz	250	2500

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).



Receiver setup:

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

3.2.2. TEST PROCEDURE

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber.
- Test the EUT in the lowest channel ,the middle channel ,the Highest channel

Note:

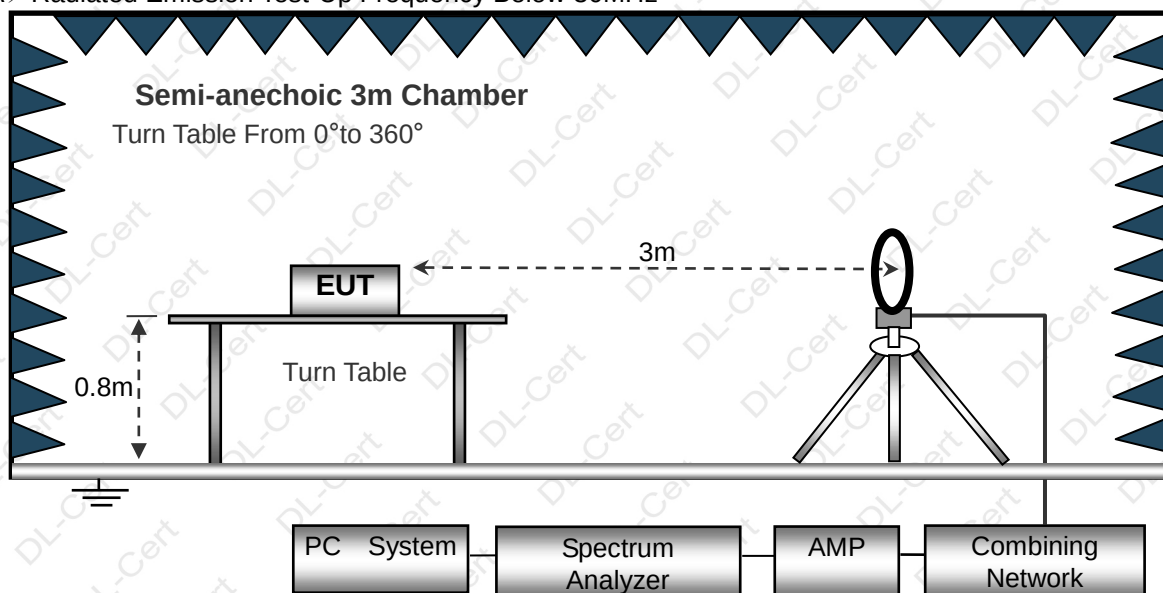
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3. DEVIATION FROM TEST STANDARD

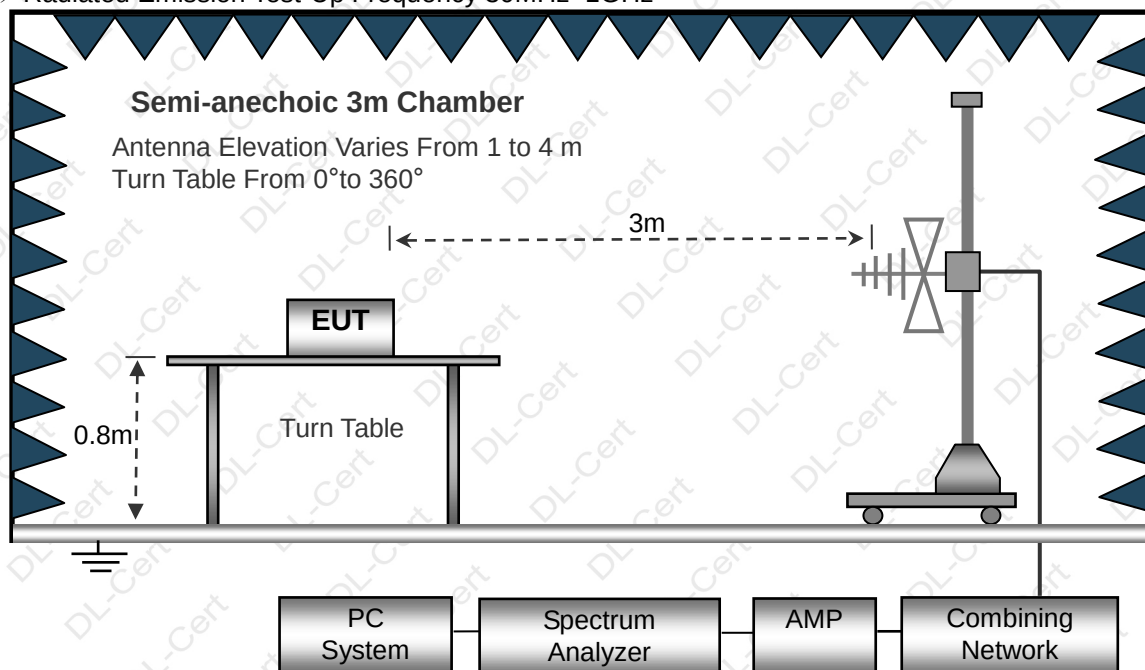
No deviation

**3.2.4. TEST SETUP**

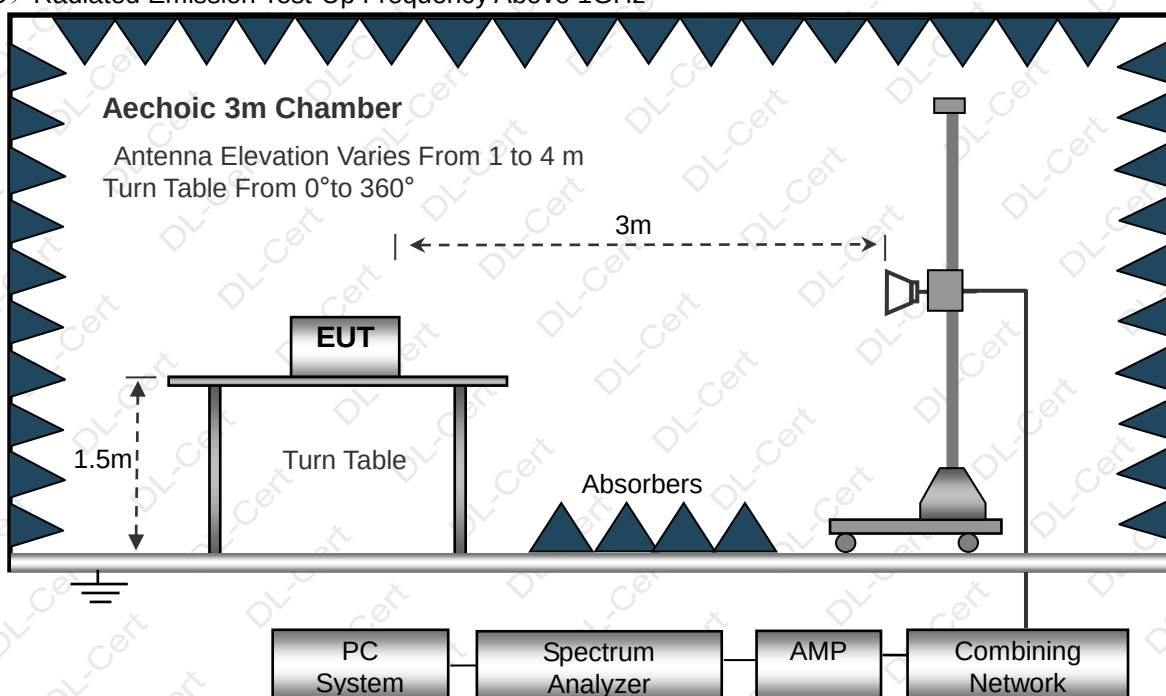
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5. EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**3.2.6. TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)**

Temperature:	20°C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Mode 3	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

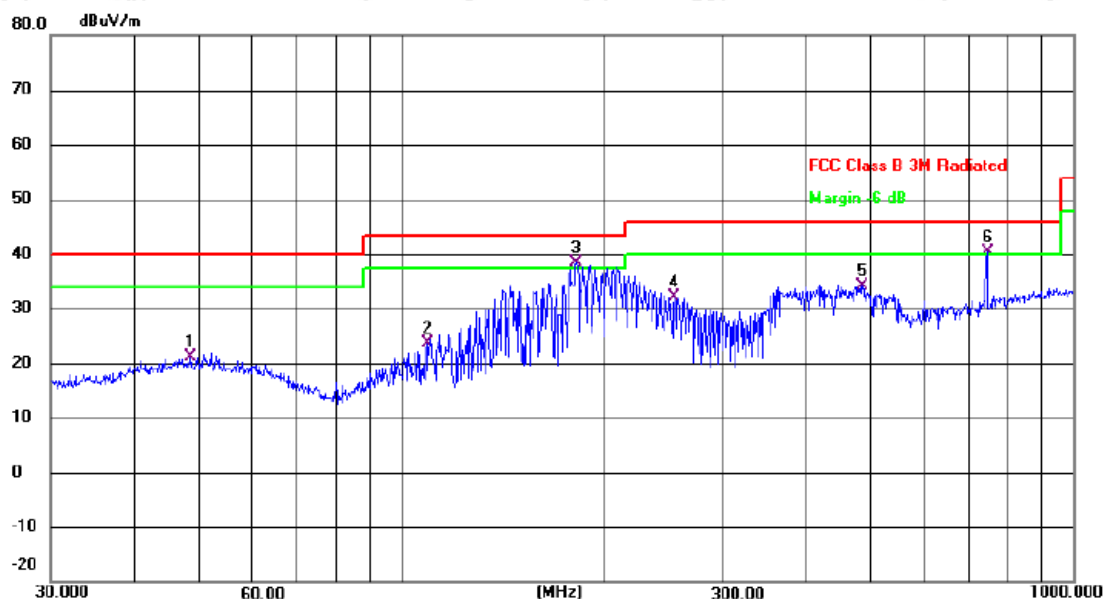
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuV) + distance extrapolation factor.

**3.2.7. TEST RESULTS (BETWEEN 30MHZ – 1GHZ)**

Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 3		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	48.5015	28.25	-7.03	21.22	40.00	-18.78	QP	
2	109.4116	32.56	-8.81	23.75	43.50	-19.75	QP	
3 *	181.9201	48.55	-10.19	38.36	43.50	-5.14	QP	
4	254.7282	39.60	-7.37	32.23	46.00	-13.77	QP	
5	485.6091	35.58	-1.51	34.07	46.00	-11.93	QP	
6 !	744.8659	37.63	2.75	40.38	46.00	-5.62	QP	

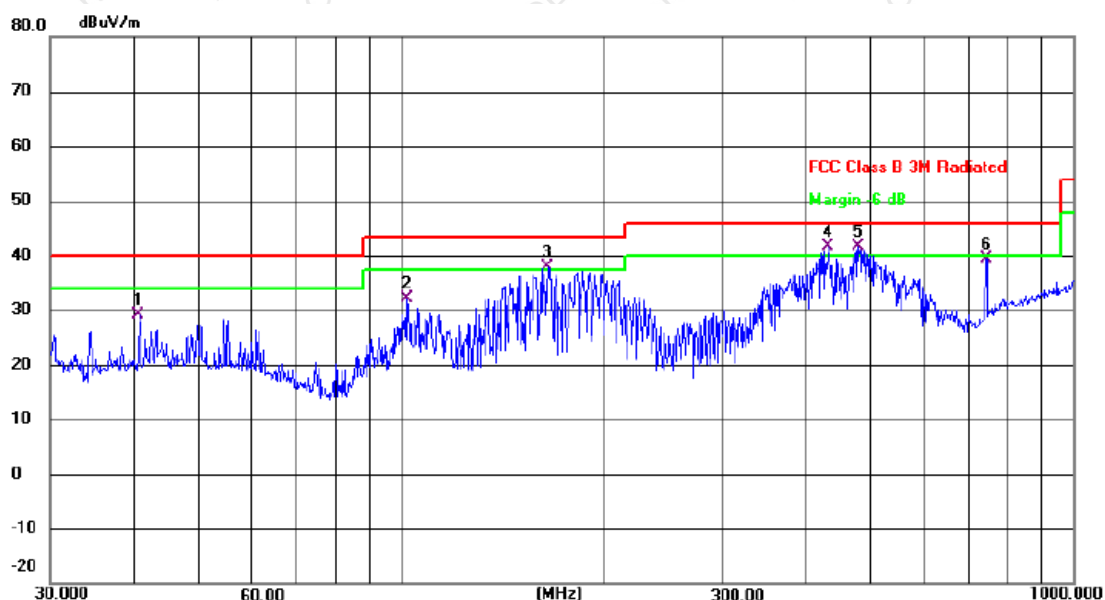
Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;



Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 3		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		40.7014	36.78	-7.73	29.05	40.00	-10.95	QP	
2		101.6443	41.14	-8.90	32.24	43.50	-11.26	QP	
3	!	165.4866	49.69	-11.76	37.93	43.50	-5.57	QP	
4	!	432.5455	44.63	-2.98	41.65	46.00	-4.35	QP	
5	*	478.8455	43.62	-1.96	41.66	46.00	-4.34	QP	
6		742.2586	36.35	2.94	39.29	46.00	-6.71	QP	

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;

**3.2.8. TEST RESULTS (1GHZ~25GHZ)**

GFSK

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:2405.4									
V	2405.4	80.36	52.16	2.78	27.41	58.39	114	-55.61	PK
V	2405.4	74.52	52.16	2.78	27.41	52.55	94	-41.45	AV
V	4810.8	53.46	51.74	3.08	31.25	36.05	74	-37.95	PK
V	4810.8	41.41	51.74	3.08	31.25	24	54	-30	AV
V	16837.8	48.23	51.56	7.36	41.57	45.6	74	-28.4	PK
H	2405.4	81.85	52.16	2.78	27.41	59.88	114	-54.12	PK
H	2405.4	73.43	52.16	2.78	27.41	51.46	94	-42.54	AV
H	4810.8	52.58	51.74	3.08	31.25	35.17	74	-38.83	PK
H	4810.8	40.41	51.74	3.08	31.25	23	54	-31	AV
H	16837.8	47.36	51.56	7.36	41.57	44.73	74	-29.27	PK
operation frequency:2441.4									
V	2441.4	81.52	52.11	2.82	27.47	59.7	114	-54.3	PK
V	2441.4	75.63	52.11	2.82	27.47	53.81	94	-40.19	AV
V	4882.8	54.28	51.77	3.03	31.34	36.88	74	-37.12	PK
V	4882.8	42.52	51.77	3.03	31.34	25.12	54	-28.88	AV
V	17089.8	47.26	51.56	7.36	41.57	44.63	74	-29.37	PK
H	2441.4	80.41	52.11	2.82	27.47	58.59	114	-55.41	PK
H	2441.4	74.39	52.11	2.82	27.47	52.57	94	-41.43	AV
H	4882.8	55.52	51.77	3.03	31.34	38.12	74	-35.88	PK
H	4882.8	43.85	51.77	3.03	31.34	26.45	54	-27.55	AV
H	17089.8	44.21	51.56	7.36	41.57	41.58	74	-32.42	PK
operation frequency:2478.4									
V	2478.4	81.85	52.23	2.86	27.44	59.92	114	-54.08	PK
V	2478.4	76.14	52.23	2.86	27.44	54.21	94	-39.79	AV
V	4956.8	52.36	51.69	3.05	31.39	35.11	74	-38.89	PK
V	4956.8	43.44	51.69	3.05	31.39	26.19	54	-27.81	AV
V	17348.8	47.82	51.56	7.36	41.57	45.19	74	-28.81	PK
H	2478.4	81.41	52.23	2.86	27.44	59.48	114	-54.52	PK
H	2478.4	75.33	52.23	2.86	27.44	53.4	94	-40.6	AV
H	4956.8	54.25	51.69	3.05	31.39	37	74	-37	PK
H	4956.8	43.85	51.69	3.05	31.39	26.6	54	-27.4	AV
H	17348.8	41.36	51.56	7.36	41.57	38.73	74	-35.27	PK

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



3.3 RADIATED BAND EMISSION MEASUREMENT

3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.205

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	2300MHz
Stop Frequency	2520MHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

3.3.2 TEST PROCEDURE

Above 1GHz test procedure as below:

- a. 1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel,the Highest channel

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

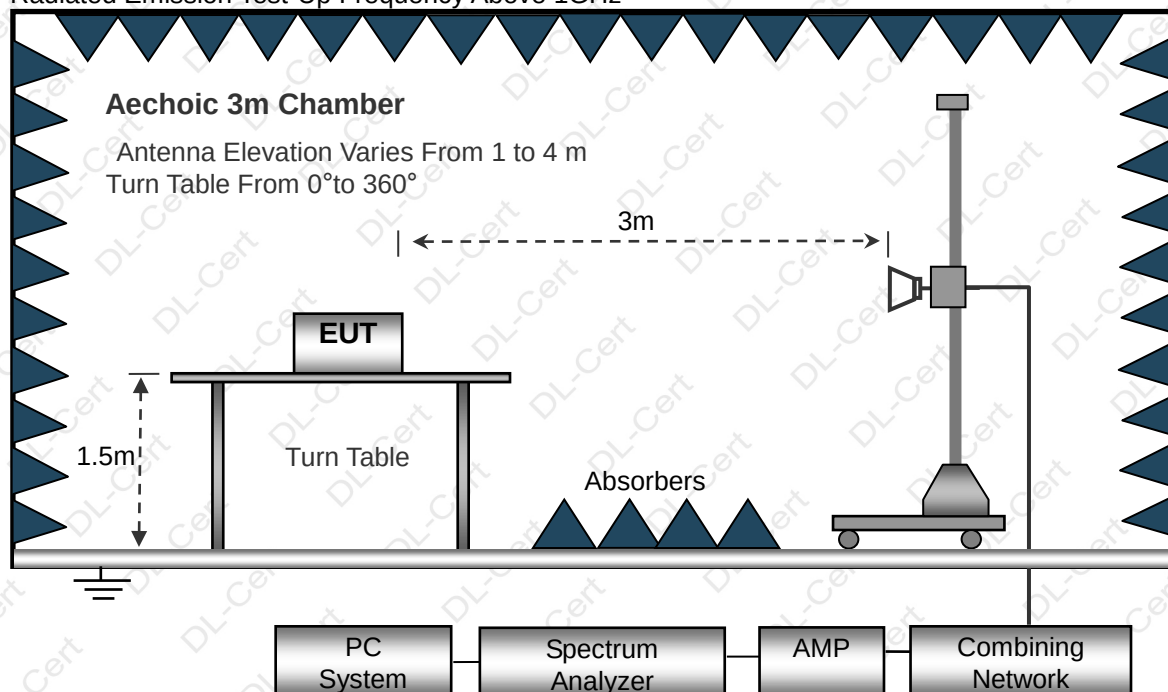
3.3.3 DEVIATION FROM TEST STANDARD

No deviation



3.3.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



3.3.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



3.3.6 TEST RESULT

GFSK

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:2405.4									
V	2390.00	76.22	52.12	2.73	27.38	54.21	74	-19.79	PK
V	2390.00	65.14	52.12	2.73	27.38	43.13	54	-10.87	AV
V	2400.00	77.66	52.16	2.78	27.41	55.69	74	-18.31	PK
V	2400.00	65.85	52.16	2.78	27.41	43.88	54	-10.12	AV
H	2390.00	77.26	52.12	2.73	27.38	55.25	74	-18.75	PK
H	2390.00	65.52	52.12	2.73	27.38	43.51	54	-10.49	AV
H	2400.00	76.36	52.16	2.78	27.41	54.39	74	-19.61	PK
H	2400.00	65.25	52.16	2.78	27.41	43.28	54	-10.72	AV

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
operation frequency:2478.4									
V	2483.50	75.41	52.23	2.86	27.44	53.48	74	-20.52	PK
V	2483.50	66.33	52.23	2.86	27.44	44.4	54	-9.6	AV
V	2500.00	75.46	52.26	2.88	27.49	53.57	74	-20.43	PK
V	2500.00	65.25	52.26	2.88	27.49	43.36	54	-10.64	AV
H	2483.50	75.63	52.23	2.86	27.44	53.7	74	-20.3	PK
H	2483.50	64.84	52.23	2.86	27.44	42.91	54	-11.09	AV
H	2500.00	75.14	52.26	2.88	27.49	53.25	74	-20.75	PK
H	2500.00	66.63	52.26	2.88	27.49	44.74	54	-9.26	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



4.. BANDWIDTH TEST

4.1. APPLIED PROCEDURES / LIMIT

FCC Part15 (15.215) , Subpart C	
Section	Test Item
15.215	Bandwidth

4.1.1. TEST PROCEDURE

1. Set RBW = 30 kHz.
2. Set the video bandwidth (VBW) $\geq$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. 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.

4.1.2. DEVIATION FROM STANDARD

No deviation.

4.1.3. TEST SETUP



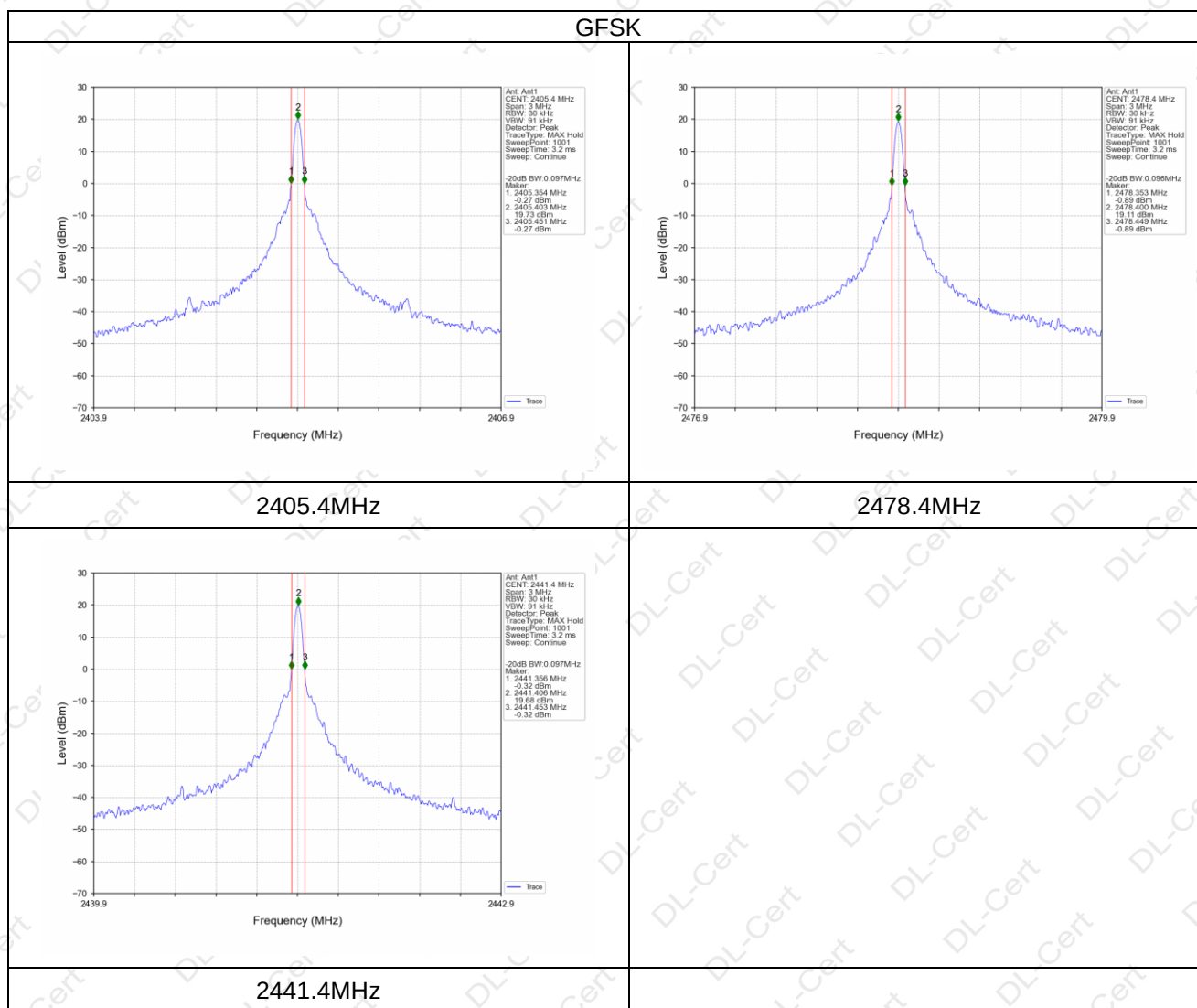
4.1.4. EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**4.1.5. TEST RESULTS**

Temperature:	25°C	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX Mode /CH01, CH37, CH74		

	Frequency (MHz)	20dB Bandwidth (MHz)	Result
GFSK	2405.4	0.097	Pass
	2441.4	0.097	Pass
	2478.4	0.096	Pass





5.. ANTENNA REQUIREMENT

5.1. STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

5.2. EUT ANTENNA

The EUT antenna is internal antenna, It comply with the standard requirement.

6.. TEST SEUUP PHOTO

Reference to the appendix I for details.

7.. EUT PHOTO

Reference to the appendix II for details.

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