

TEST REPORT

Applicant : Satellite Electronic (Zhong shan) Co Ltd.

Product Name : CEILING FAN REMOTE CONTROL

Brand Name : N/A

Model Name : TRD050G2Z

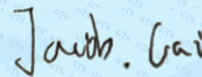
Series Model : N/A

FCC ID : 2AQZU-18066

Test Standard : FCC Part 15, Subpart C, Section 15.231

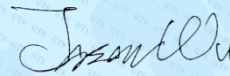
Date of Test : 2025.07.23-2025.08.04

Report Prepared by :



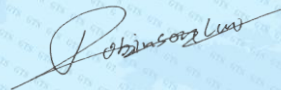
(Jacob Cai)

Report Approved by :



(Jason Wu)

Authorized Signatory :



(Robinson Luo)

Authorized Signature:



Laboratory Manager

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Table of Contents

REVISION HISTORY	4
1. SUMMARY OF TEST RESULTS	5
2. GENERAL INFORMATION	6
2.1 APPLICANT	6
2.2 MANUFACTURER	6
2.3 FACTORY	6
2.4 GENERAL DESCRIPTION OF THE EUT	7
2.5 ENVIRONMENTAL CONDITIONS	7
2.6 DESCRIPTION OF THE TEST MODES	8
2.7 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	8
2.8 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	8
2.9 TEST FACILITY	9
2.10 TEST LOCATION	9
2.11 MEASUREMENT UNCERTAINTY	9
2.12 EQUIPMENTS LIST	10
3. EMC EMISSION TEST	12
3.1 CONDUCTED EMISSION MEASUREMENT	12
3.2 TEST PROCEDURE	12
3.3 TEST SETUP	13
3.4 EUT OPERATING CONDITIONS	13
3.5 TEST RESULTS	13
4. RADIATED EMISSION MEASUREMENT	14
4.1 RADIATED EMISSION LIMITS	14
4.2 TEST PROCEDURE	16
4.3 TEST SETUP	17
4.4 EUT OPERATING CONDITIONS	17
4.5 FIELD STRENGTH CALCULATION	18
5. BANDWIDTH TEST	24
5.1 LIMIT	24

Table of Contents

5.2 TEST SETUP	24
5.3 EUT OPERATION CONDITIONS	24
5.4 TEST RESULTS	25
6. DUTY CYCLE	26
6.1 TEST PROCEDURE	26
6.2 TEST SETUP	26
6.3 EUT OPERATION CONDITIONS	26
6.4 TEST RESULTS	27
7. AUTOMATICALLY DEACTIVATE	28
7.1 STANDARD REQUIREMENT	28
7.2 TEST PROCEDURE	28
7.3 TEST SETUP	28
7.4 TEST RESULTS	29
8. ANTENNA REQUIREMENT	30
8.1 STANDARD REQUIREMENT	30
8.2 EUT ANTENNA	30
9. TEST SETUP PHOTOGRAPHS	31
10. EXTERNAL AND INTERNAL PHOTOS OF THE EUT	31

REVISION HISTORY

Rev.	Issue Date	Revisions	Contents
A0	2025.08.04	Initial Release	N/A

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part 15.231,Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	--
15.209/ 15.231.(b)	Radiated Spurious Emission	PASS	--
15.231.(b)	Field Strength of Fundamental Emissions	PASS	--
15.231(a)(1)	Transmission requirement	PASS	--
15.231(C)	20dB&99% Bandwidth	PASS	--
15.203	Antenna Requirement	PASS	--
15.35	Duty Cycle	PASS	--

NOTE:

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

(2)All tests are according to ANSI C63.10-2020.

2. GENERAL INFORMATION**2.1 APPLICANT**

Name : Satellite Electronic (Zhong shan) Co Ltd.

Address : No.8, Chuang Ye Road, Torch Development Zone, Zhongshan, Guangdong, China

2.2 MANUFACTURER

Name : Satellite Electronic (Zhong shan) Co Ltd.

Address : No.8, Chuang Ye Road, Torch Development Zone, Zhongshan, Guangdong, China

2.3 FACTORY

Name : CHUNGEAR INDUSTRIAL CO., LTD.

Address : No.12, Jingke 8th Rd., Nantun Dist., Taichung City 40852, Taiwan (R.O.C.)

2.4 GENERAL DESCRIPTION OF THE EUT

Product Name	CEILING FAN REMOTE CONTROL
Trade Name	N/A
Model Name	TRD050G2Z
Series Model	N/A
Model Difference	N/A
Frequency band	433.92MHz
Power supply	DC 3V
Modulation Type	ASK
Antenna type	PCB Antenna
Antenna gain	-6dBi
Hardware version number	250508
Software version number	VX30E92C

Note:

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

2.5 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

Temperature	Normal Temperature:	25°C
Voltage	Normal Voltage:	DC 3V
Other	Relative Humidity:	54%
	Air Pressure:	100kPa

2.6 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Pretest Mode	Description
Mode 1	TX Mode

Note:

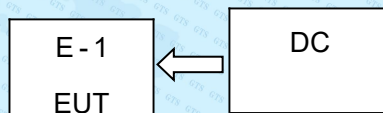
For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.

For Conducted Emission

Test Case	
Conducted Emission	N/A

2.7 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During test, Keep EUT is in continuous transmission mode, Both open button and closed button have been tested, The two keys were tested to assess and only record the worst case in the report (Open button).



2.8 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model	Type No.	Note
N/A	N/A	N/A	N/A	N/A	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.9 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC—Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **ISED —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

2.10 TEST LOCATION

All tests were performed at:

Global United Technology Services Co., Ltd.

No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

2.11 MEASUREMENT UNCERTAINTY

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

2.12 EQUIPMENTS LIST

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Apr. 11, 2025	Apr. 10, 2026
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Apr. 12, 2025	Apr. 11, 2026
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	Apr. 12, 2025	Apr. 11, 2026
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	Apr. 11, 2025	Apr. 10, 2026
6	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	Jul. 01, 2025	Jun. 30, 2026
7	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov.16, 2024	Nov.15, 2025
8	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	Apr. 11, 2025	Apr. 10, 2026
9	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	Apr. 11, 2025	Apr. 10, 2026
10	Horn Antenna (18GH-40GHz)	Schwarzbeck	BBHA 9170	GTS691	Apr. 11, 2025	Apr. 10, 2026
11	FSV -Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	Mar. 11, 2025	Mar. 10, 2026
12	Amplifier	/	LNA-1000-30S	GTS650	Apr. 11, 2025	Apr. 10, 2026
13	CDNE M2+M3-16A	HCT	30MHz-300MHz	GTS692	Nov. 13, 2024	Nov. 12, 2025
14	Wideband Amplifier	/	WDA-01004000-15P3 5	GTS602	Apr. 11, 2025	Apr. 10, 2026
15	Thermo meter	JINCHUANG	GSP-8A	GTS643	Apr. 15, 2025	Apr. 14, 2026
16	RE cable 1	GTS	N/A	GTS675	Jul. 11, 2025	Jul. 10, 2026
17	RE cable 2	GTS	N/A	GTS676	Jul. 11, 2025	Jul. 10, 2026
18	RE cable 3	GTS	N/A	GTS677	Jul. 11, 2025	Jul. 10, 2026
19	RE cable 4	GTS	N/A	GTS678	Jul. 11, 2025	Jul. 10, 2026
20	RE cable 5	GTS	N/A	GTS679	Jul. 11, 2025	Jul. 10, 2026
21	RE cable 6	GTS	N/A	GTS680	Jul. 11, 2025	Jul. 10, 2026
22	RE cable 7	GTS	N/A	GTS681	Jul. 11, 2025	Jul. 10, 2026
23	RE cable 8	GTS	N/A	GTS682	Jul. 11, 2025	Jul. 10, 2026
24	EMI Test Software	AUDIX	E3-6.100614a	GTS725	N/A	N/A

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	Jul. 12, 2022	Jul. 11, 2027
2	EMI Test Receiver	R&S	ESCI 7	GTS552	Apr. 12, 2025	Apr. 11, 2026
3	LISN	ROHDE & SCHWARZ	ENV216	GTS226	Apr. 11, 2025	Apr. 10, 2026
4	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
5	Thermo meter	JINCHUANG	GSP-8A	GTS642	Apr. 15, 2025	Apr. 14, 2026
6	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	Apr. 12, 2025	Apr. 11, 2026
7	ISN	SCHWARZBECK	NTFM 8158	GTS565	Apr. 11, 2025	Apr. 10, 2026
8	High voltage probe	SCHWARZBECK	TK9420	GTS537	Apr. 11, 2025	Apr. 10, 2026
9	Antenna end assembly	Weinschel	1870A	GTS560	Apr. 11, 2025	Apr. 10, 2026
10	EMI Test Software	AUDIX	E3-6.100622	GTS726	N/A	N/A
11	Current probe	CYBERTEK	EM5011	GTS698	Jan. 13, 2025	Jan. 12, 2026

RF Conducted Test:						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	Apr. 11, 2025	Apr. 10, 2026
2	EMI Test Receiver	R&S	ESCI 7	GTS552	Apr. 12, 2025	Apr. 11, 2026
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	Apr. 11, 2025	Apr. 10, 2026
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	Apr. 11, 2025	Apr. 10, 2026
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	Apr. 11, 2025	Apr. 10, 2026
6	Wideband Power Meter	Keysight	N1924A	GTS673	Apr. 11, 2025	Apr. 10, 2026
7	USB RF Power Sensor	DARE	RPR3006W	GTS569	Apr. 11, 2025	Apr. 10, 2026
8	RF Switch Box	Shongyi	RFSW3003328	GTS571	Apr. 11, 2025	Apr. 10, 2026
9	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	Apr. 11, 2025	Apr. 10, 2026
10	Thermo meter	JINCHUANG	GSP-8A	GTS641	Apr. 15, 2025	Apr. 14, 2026

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Barometer	KUMAO	SF132	GTS647	Jul. 16, 2025	Jul. 15, 2026

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

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 .

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

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.

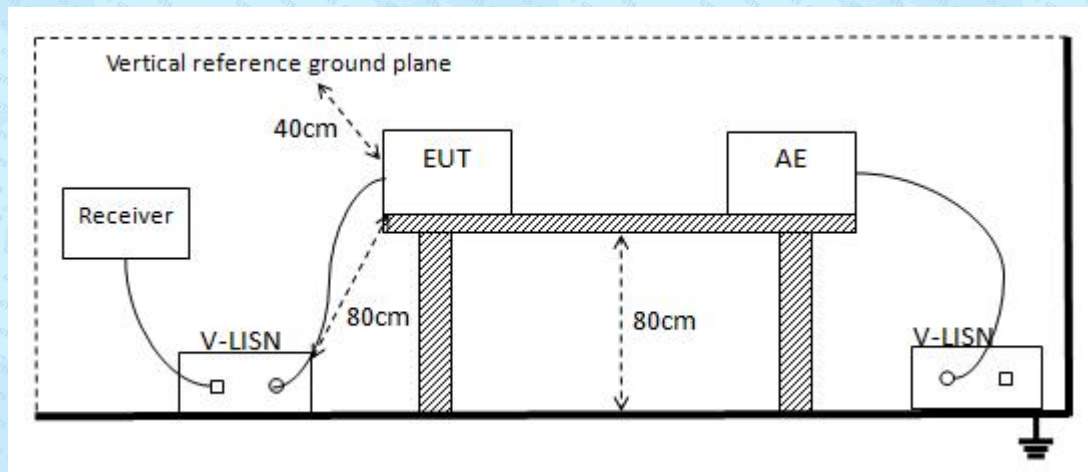
The following table is the setting of the receiver

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

3.2 TEST PROCEDURE

- a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. 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.
- c. 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.
- d. LISN is at least 80 cm from the nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP



3.4 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.

3.5 TEST RESULTS

Temperature:	N/A	Relative Humidity:	N/A
Test Voltage:	N/A	Phase :	L/N
Test Mode:	N/A		

Note: EUT is only power by battery, So it is not applicable for this test.

4. RADIATED EMISSION MEASUREMENT

4.1 RADIATED EMISSION LIMITS

In case the emission fall within the restricted band specified on Part 15.205(a), then the Part 15.209(a) and Part 15.231(b) limit in the table below has to be followed.

FREQUENCIES (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

According to §15.231(b), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)
40.66–40.70	2,250	225
70–130	1,250	125
130–174	11,250 to 3,750	1125 to 375
174–260	3,750	375
260–470	13,750 to 12,500	1375 to 1,250
Above 470	12,500	1,250

NOTE:

1. Linear interpolations.
2. The lower limit shall apply at the transition frequencies.
3. Emission level (dBuV/m) = 20 log Emission level (uV/m).
4. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

Spectrum Parameter	Setting
Detector	Peak
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 3MHz

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2 TEST PROCEDURE

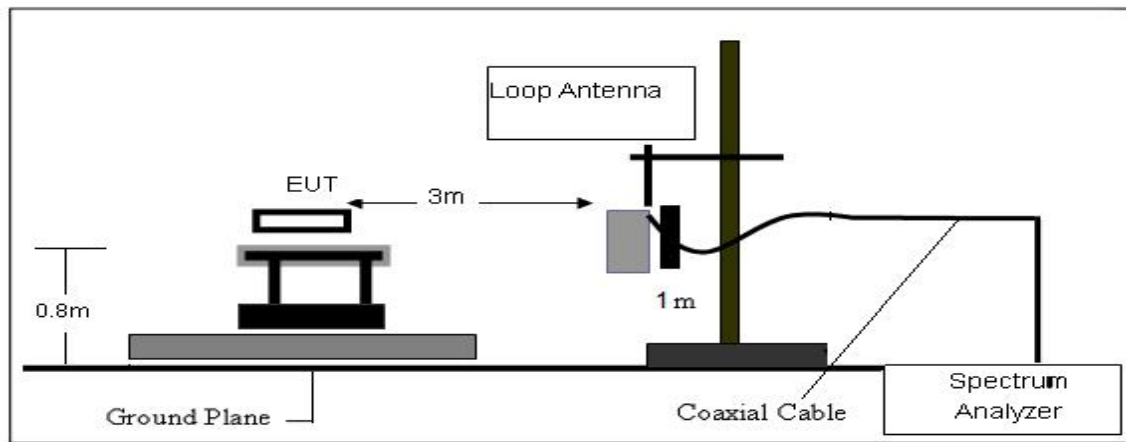
- a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

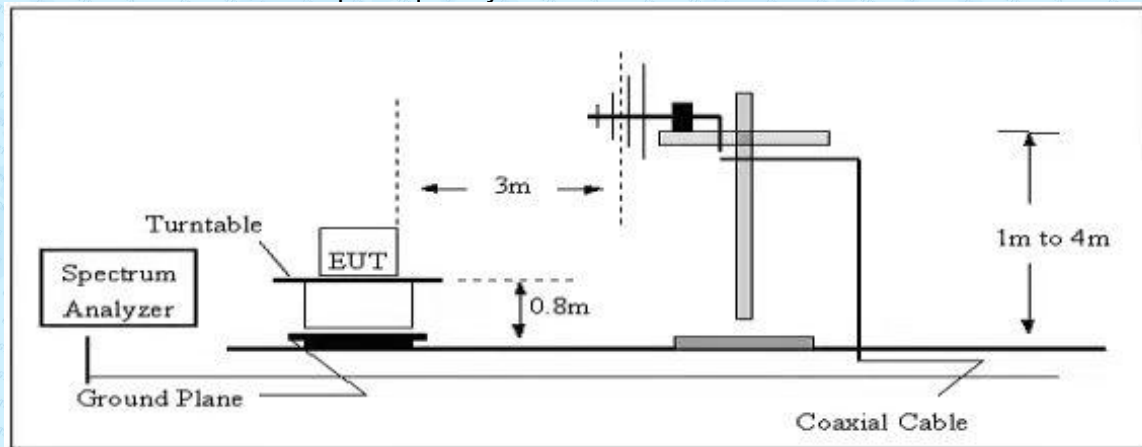
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

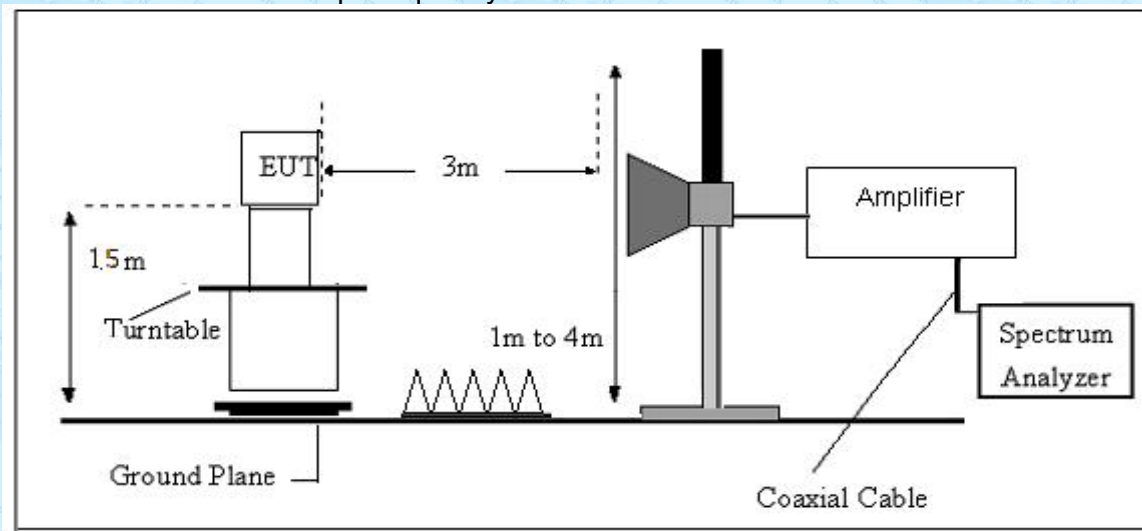
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.4 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.

4.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

$$\text{Factor} = AF + CL - AG$$

4.6 TEST RESULTS

Field Strength of Fundamental Emissions and Field strength of spurious emissions Value					
Operating Frequency (MHz)	Field Strength (dBuV/m)	Detector	Limit @3m (dBuV/m)	Margin (dB)	Antenna
433.92	61.57	Peak	100.82	-39.25	Horizontal
	61.10	Peak	100.82	-39.72	Vertical
869.13	33.67	Peak	80.82	-47.15	Horizontal
	23.26	Peak	80.82	-57.56	Vertical
433.92	53.67	Avg	80.82	-27.15	Horizontal
	53.20	Avg	80.82	-27.62	Vertical
869.13	25.77	Avg	60.82	-34.43	Horizontal
	15.36	Avg	60.82	-44.84	Vertical

(Radiated Emission<30MHz (9kHz-30MHz, H-field))

Temperature:	25℃	Relative Humidity	54%RH
Test Voltage:	DC 3V	Polarization:	N/A
Test Mode:	TX Mode		

Note:

- 1.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 2.Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuV) + distance extrapolation factor.
3. The verdict please refer to the A.6 field strength of fundamental emissions and field strength of spurious emissions value.
- 4.Limit field strength of fundamental: $20 \cdot \log((12500-3750)/(470-260)+(f_c-260)+3750)$ dBuV/m+20dB =100.82dBuV/m@3m (PK).
5. Limit field strength of harmonics: $20 \cdot \log((1250-375)/(470-260)+(f_c-260)+375)$ dBuV/m+20dB =80.82dBuV/m@3m (PK).

(30MHz -1000MHz)

Temperature:	25°C	Relative Humidity:	54%RH
Test Voltage:	DC 3V	Phase:	Horizontal
Test Mode:	TX Mode		

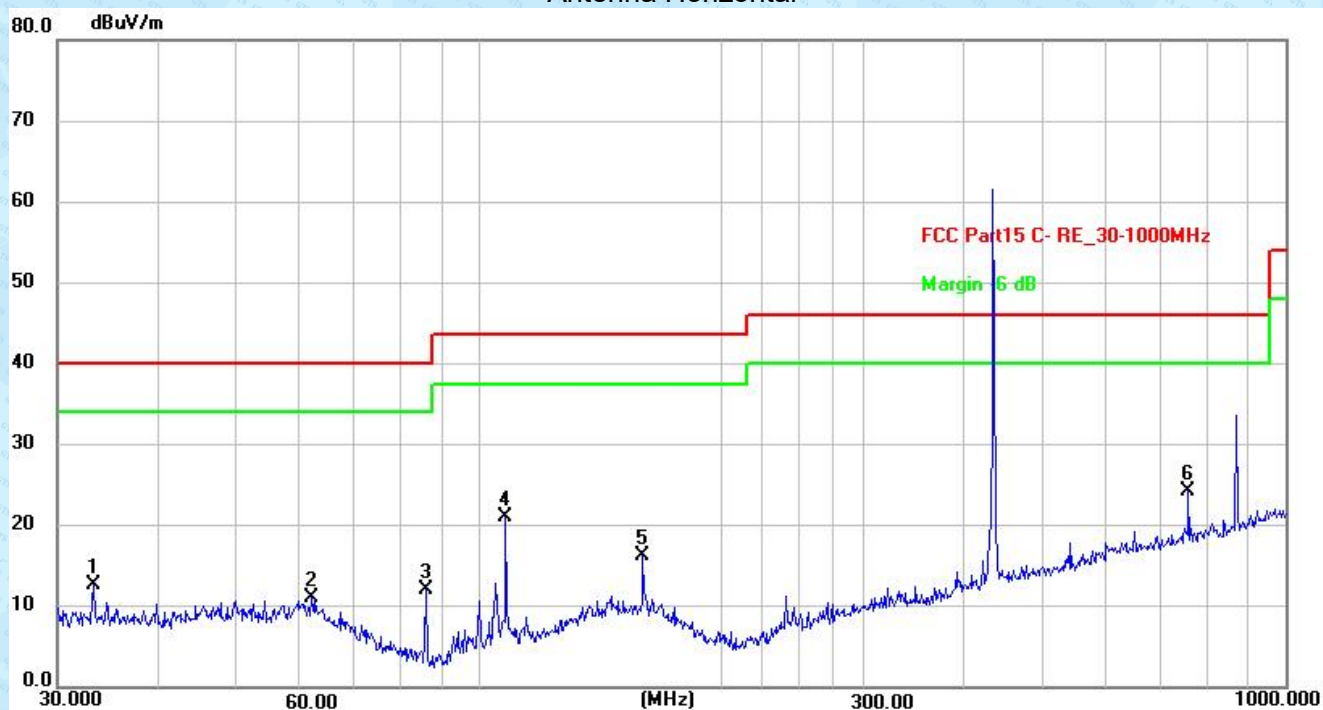
Remark:

1. Margin = Result (Result =Reading + Factor)-Limit

2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

3. Fundamental AV value =PK Emission +20*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(40.28%)=-7.9dB, Please see page 25.

Antenna Horizontal



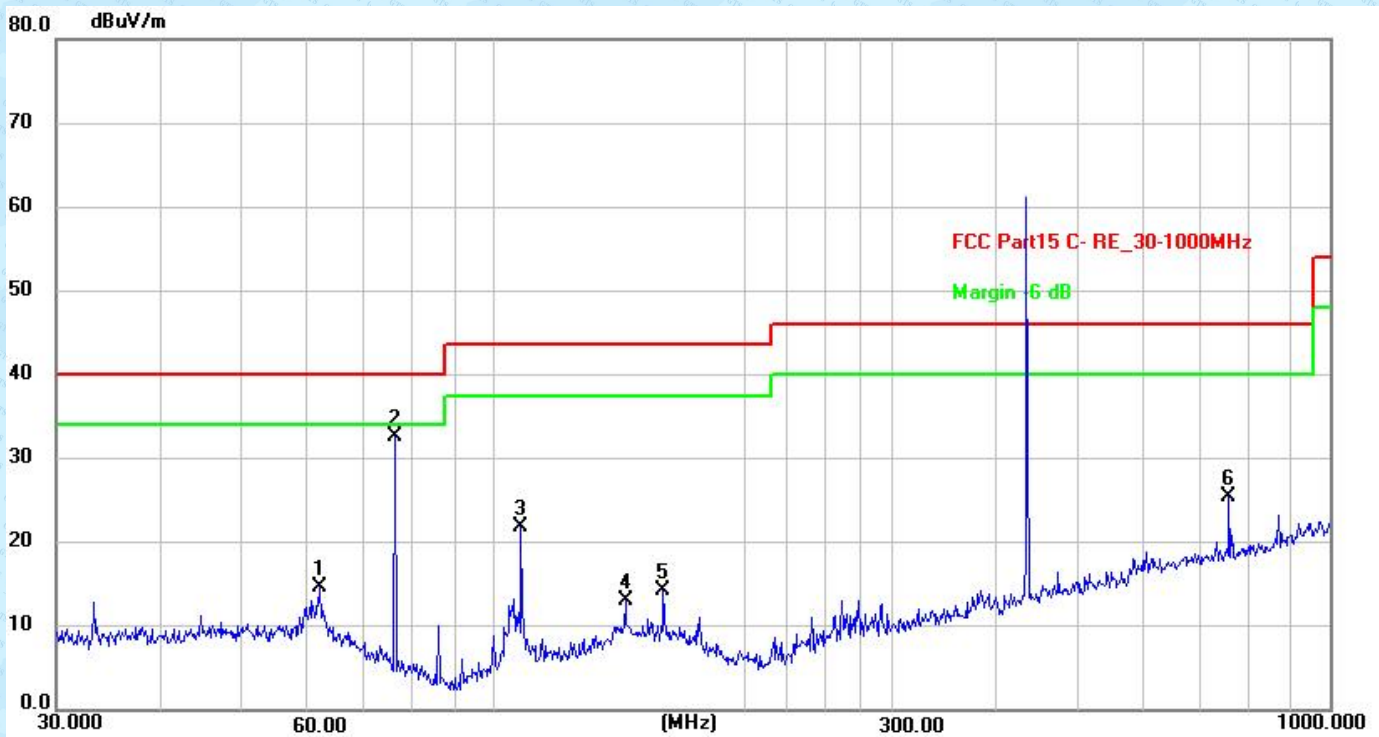
Frequency (MHz)	Read_Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Det.
33.2111	42.26	-29.66	12.60	40.00	-27.40	QP
61.9950	40.74	-29.67	11.07	40.00	-28.93	QP
85.8984	47.14	-35.00	12.14	40.00	-27.86	QP
107.8877	53.56	-32.48	21.08	43.50	-22.42	QP
159.7844	45.08	-28.92	16.16	43.50	-27.34	QP
758.0408	42.51	-18.35	24.16	46.00	-21.84	QP

Temperature:	25°C	Relative Humidity:	54%RH
Test Voltage:	DC 3V	Phase:	Vertical
Test Mode:	TX Mode		

Remark:

1. Margin = Result (Result = Reading + Factor) - Limit
2. Factor = Antenna factor + Cable attenuation factor (cable loss) - Amplifier gain
3. Fundamental AV value = PK Emission + 20 * log(duty cycle) Where the duty factor is calculated from following formula: $20 \log(\text{Duty cycle}) = 20 \log(40.28\%) = -7.9 \text{ dB}$, Please see page 25.

Antenna Vertical



Frequency (MHz)	Read Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Det.
61.9950	44.24	-29.67	14.57	40.00	-25.43	QP
76.2442	65.60	-32.89	32.71	40.00	-7.29	QP
107.8877	54.42	-32.48	21.94	43.50	-21.56	QP
143.8295	42.48	-29.37	13.11	43.50	-30.39	QP
159.7844	43.11	-28.92	14.19	43.50	-29.31	QP
758.0408	43.75	-18.35	25.40	46.00	-20.60	QP

(1000MHz -5000MHz)

Temperature:	25°C	Relative Humidity:	54%RH
Test Voltage:	DC 3V	Phase:	Horizontal
Test Mode:	TX Mode		

Remark:

1. Margin = Result (Result = Reading + Factor)-Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain
3. Fundamental AV value =PK Emission +20*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(40.28%)=-7.9dB, Please see page 25.

Antenna Horizontal



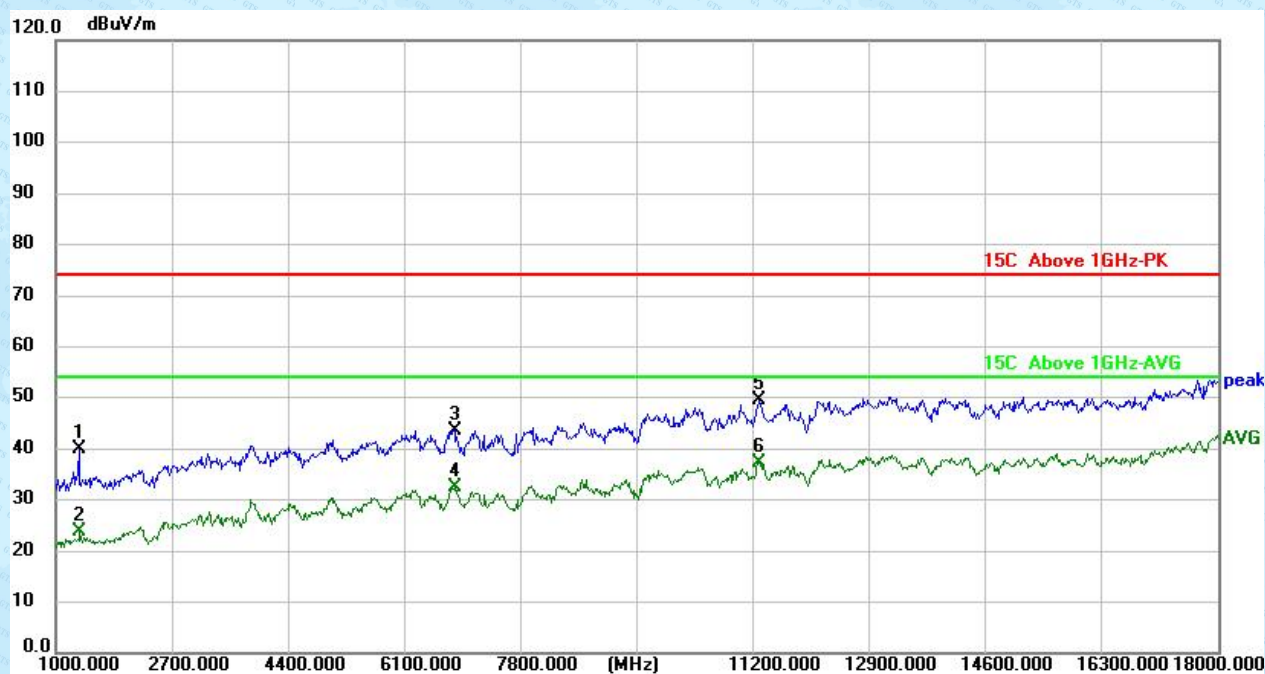
Frequency (MHz)	Read_Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Det.
1340.000	59.93	-19.95	39.98	74.00	-34.02	peak
1357.000	43.55	-19.90	23.65	54.00	-30.35	AVG
6831.000	44.07	-0.51	43.56	74.00	-30.44	peak
6831.000	32.90	-0.51	32.39	54.00	-21.61	AVG
11285.000	41.98	7.53	49.51	74.00	-24.49	peak
11285.000	29.82	7.53	37.35	54.00	-16.65	AVG

Temperature:	25°C	Relative Humidity:	54%RH
Test Voltage:	DC 3V	Phase:	Vertical
Test Mode:	TX Mode		

Remark:

1. Margin = Result (Result = Reading + Factor)-Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain
3. Fundamental AV value =PK Emission +20*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(40.28%)=-7.9dB, Please see page 25.

Antenna Vertical



Frequency (MHz)	Read_Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Det.
1340.000	59.93	-19.95	39.98	74.00	-34.02	peak
1357.000	43.55	-19.90	23.65	54.00	-30.35	AVG
6831.000	44.07	-0.51	43.56	74.00	-30.44	peak
6831.000	32.90	-0.51	32.39	54.00	-21.61	AVG
11285.000	41.98	7.53	49.51	74.00	-24.49	peak
11285.000	29.82	7.53	37.35	54.00	-16.65	AVG

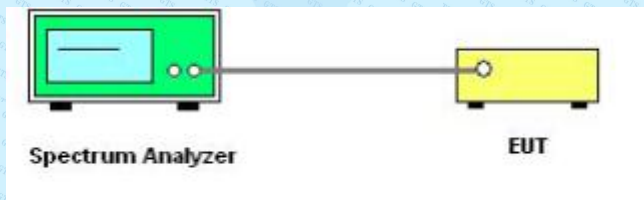
5. BANDWIDTH TEST

5.1 LIMIT

FCC Part15.231, Subpart C			
Section	Test Item	Limit	Result
15.231(C)	20 Bandwidth	The 20dB bandwidth of the emissions shall not exceed 0.25% of the center frequency	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth
RB	10 kHz (20dB Bandwidth)
VB	30 kHz (20dB Bandwidth)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.2 TEST SETUP



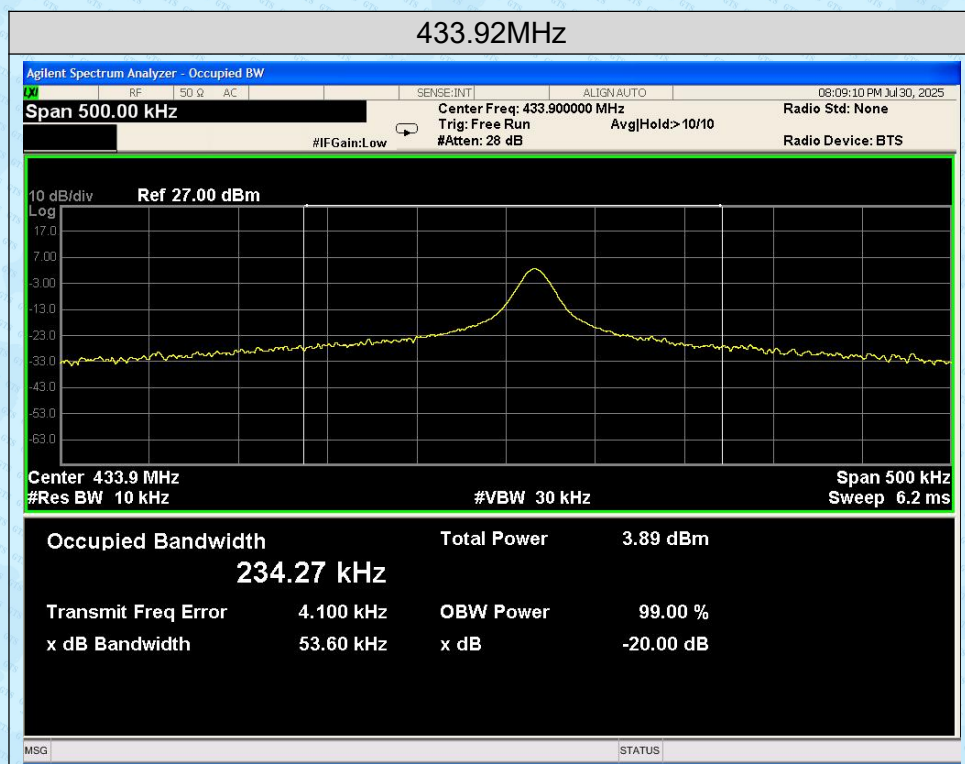
The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

5.3 EUT OPERATION CONDITIONS

TX mode.

5.4 TEST RESULTS

Centre Frequency	Measurement		
	20dB Bandwidth (kHz)	Limit(kHz)	Frequency Range (MHz)
433.92	53.60	1084.75	PASS



6. DUTY CYCLE

6.1 TEST PROCEDURE

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

The Duty Cycle Was Determined By The Following Equation: To Calculate The Actual Field Intensity,The Duty Cycle Correction Factor In Decibel Is Needed For Later Use And Can Be Obtained From Following Conversion

Duty Cycle(%)=Total On Interval In A Complete Pulse Train/ Length Of A Complete Pulse Train * %
Duty Cycle Correction Factor(Db)=20 * Log10(Duty Cycle(%))

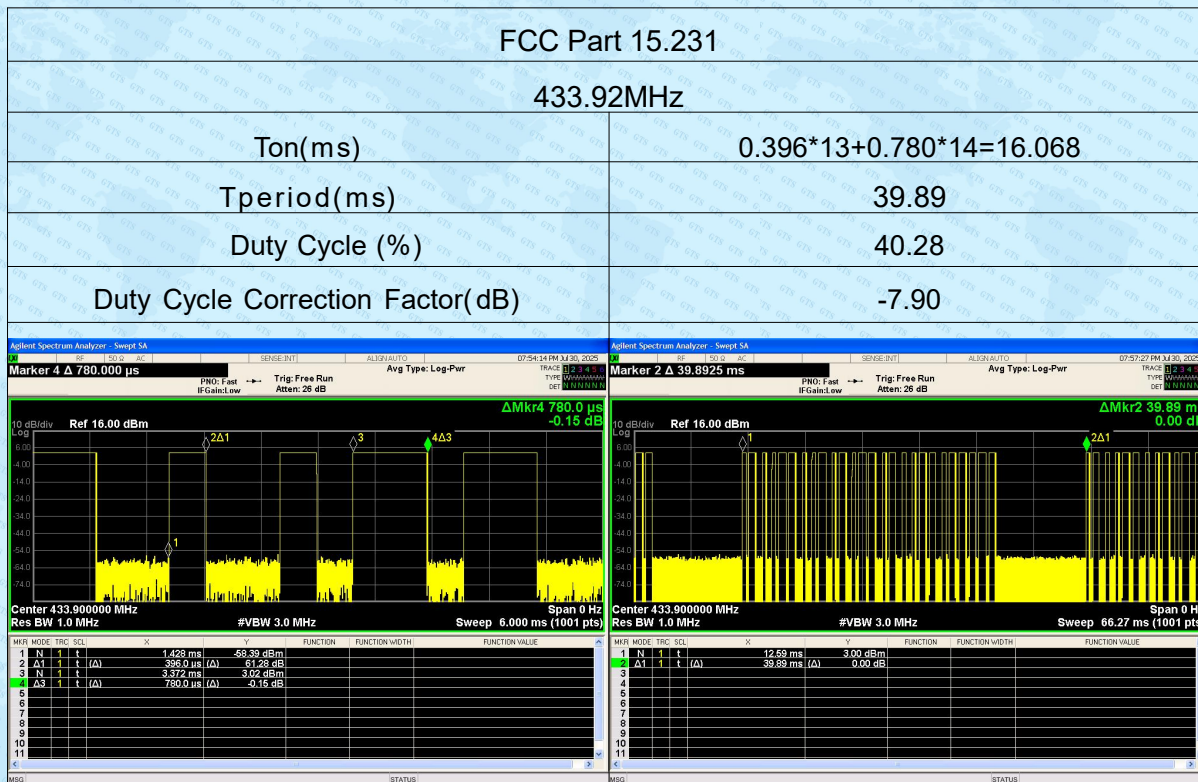
6.2 TEST SETUP



6.3 EUT OPERATION CONDITIONS

TX mode.

6.4 TEST RESULTS



7. AUTOMATICALLY DEACTIVATE

7.1 STANDARD REQUIREMENT

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

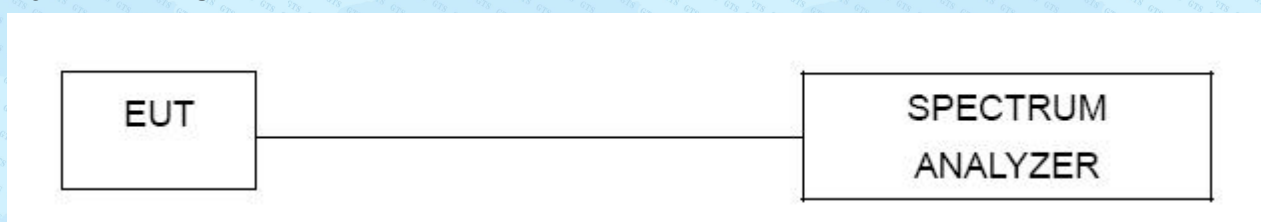
7.2 TEST PROCEDURE

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

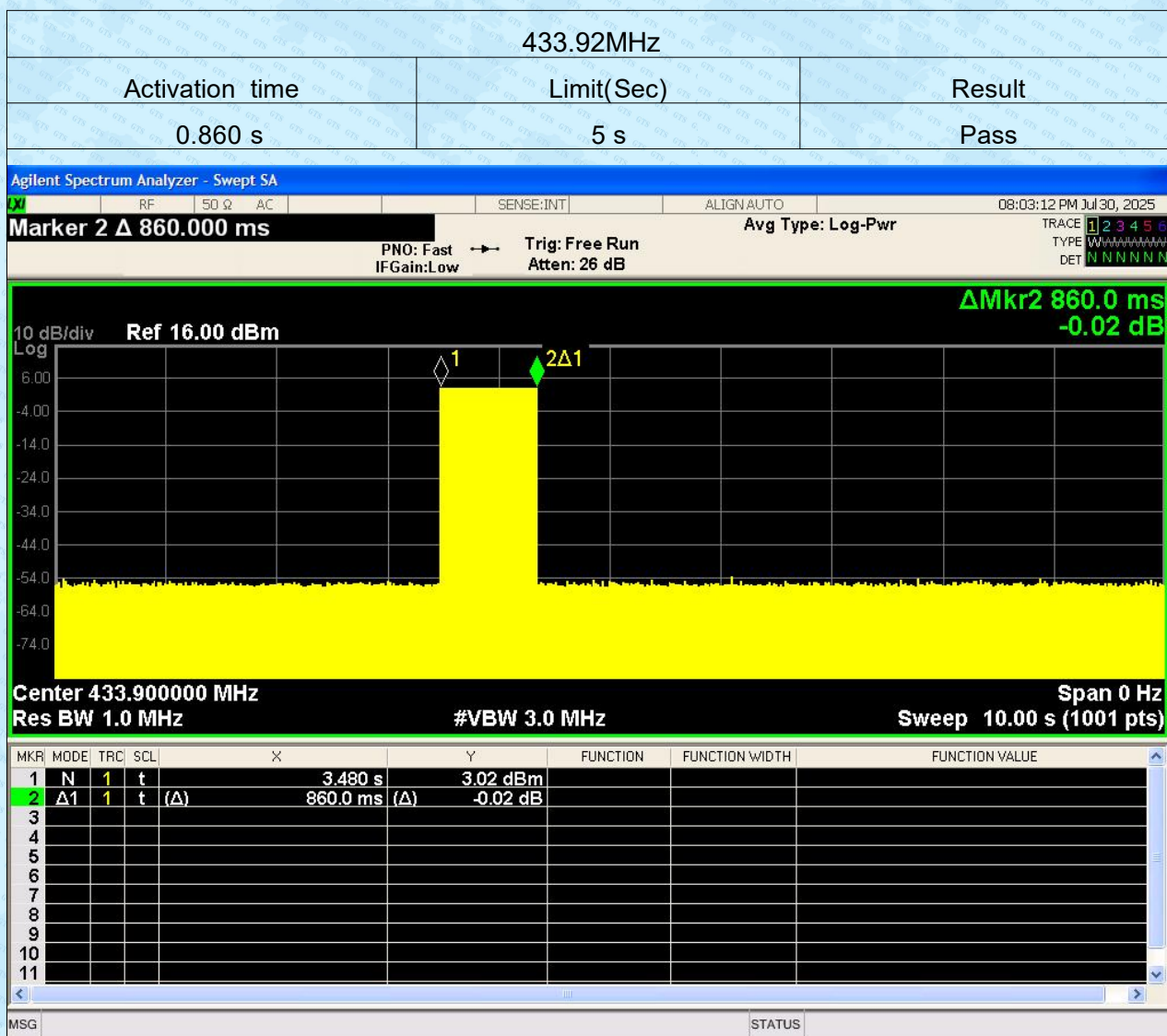
Spectrum Setting: RBW= 1MHz, VBW=3MHz, Sweep time = 40ms.

Set the EUT to transmit by manually operated. Use the “View” function of SPA to find the transmission time of being released.

7.3 TEST SETUP



7.4 TEST RESULTS



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

FCC Part 15 Paragraph 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 to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

8.2 EUT ANTENNA

The EUT antenna is PCB Antenna. It conforms to the standard requirements.

9. TEST SETUP PHOTOGRAPHS

Please refer to the Appendix F.

10. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

External Please refer to the Appendix G.

Internal Please refer to the Appendix H.

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