FCC RADIO TEST REPORT

FCC ID:2A255-EYESCAN

Product： Eyescan

Trade Name： NeuroTek

Model Name： Deluxe Eyescan & Mini Eyescan

Serial Model： NT-DES-1, NT-MES-1

Report No.： UNIA21092305ER-61

Prepared for

Neurotek Technologies, LLC.

17116 Journeys End Dr., Odessa, FL, USA 33556

Prepared by

Shenzhen United Testing Technology Co., Ltd.

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

TEST RESULT CERTIFICATION

Applicant's name	:	Neurotek Technologies, LLC.
Address	:	17116 Journeys End Dr., Odessa, FL, USA 33556
Manufacture's Name	:	Outcome Driven Innovation, Inc.
Address	:	974 Comercial St, Palo Alto, CA 94303

Product description

Product name	:	Eyescan
Trade Mark	:	NeuroTek
Model and/or type reference	:	Deluxe Eyescan& Mini Eyescan，NT-DES-1, NT-MES-1
Standards	:	FCC Rules and Regulations Part 15 Subpart C Section 15.247 ANSI C63.10: 2013

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test	:	
Date (s) of performance of tests	:	Jul. 08, 2021 ~ Sep. 24, 2021
Date of Issue	:	Sep. 24, 2021
Test Result	:	Pass

Prepared by: Bob liao

Bob liao/Editor

Reviewer: kahn.yang

Kahn yang/Supervisor

Approved & Authorized Signer: liuze

Liuze/Manager

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1.TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	STANDARD	RESULT
CONDUCTED EMISSION	FCC Part 15.207	COMPLIANT
RADIATED EMISSION	FCC Part 15.209(a)	COMPLIANT
OCCUPIED BANDWIDTH	FCC Part15.247(a)(2)	COMPLIANT
POWER SPECTRAL DENSITY	FCC Part15.247(e)	COMPLIANT
PEAK OUTPUT POWER	FCC Part15.247(b)	COMPLIANT
OUT OF BAND EMISSIONS	FCC Part15.247(d)	COMPLIANT
CONDUCTED SPURIOUS EMISSION	FCC Part15.247(d)	COMPLIANT
ANTENNA REQUIREMENT	FCC Part 15.203	COMPLIANT

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.

Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd,Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

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

A2LA Certificate Number: 4747.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 MEASUREMENT UNCERTAINTY

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 ofapproximately 95 %.

Measurement Uncertainty		
Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Eyescan
Trade Mark	NeuroTek
Model Name	Deluxe Eyescan& Mini Eyescan
Serial No.	NT-DES-1, NT-MES-1
Model Difference	All the model are the same circuit and RF module, except the model name colour and number of LED beads.
FCC ID	2A255-EYESCAN
Antenna Type	Chip Antenna
Antenna Gain	0dBi
Frequency Range	2405MHz
Number of Channels	1
Modulation Type	O-QPSK
Battery	3.7V, 1100mAh
PowerSource	DC5V from Adapter or DC3.7V from battery
Adapter	Model:YNQX09T050100UL Input:100-240V~ 50/60Hz 0.3A Output: DC 5V 1A

2.2 Carrier Frequency of Channels

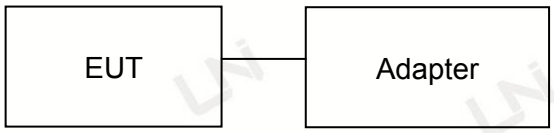
Channel	Frequency (MHz)
01	2405

2.3 Operation of EUT during testing

Operating Mode
The mode is used:
Transmitting modefor TX running at 2405MHz

2.4DESCRIPTION OF TEST SETUP

Operation of EUT during Conducted testing:



Operation of EUT during Radiation and Above1GHz Radiation testing:

Table for auxiliary equipment:

Equipment Description	Manufacturer	Model	Calibration Due Date
Adapter	N/A	YNQX09T050100UL	N/A

2.5MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
CONDUCTED EMISSIONS TEST					
1	AMN	Schwarzbeck	NNLK8121	8121370	2022.9.9
2	AMN	ETS	3810/2	00020199	2022.9.9
3	EMI TEST RECEIVER	Rohde&Schwarz	ESCI	101210	2022.9.9
4	AAN	TESEQ	T8-Cat6	38888	2022.9.9
RADIATED EMISSION TEST					
1	Horn Antenna	Sunol	DRH-118	A101415	2022.9.9
2	BicoNILog Antenna	Sunol	JB1 Antenna	A090215	2022.9.9
3	PREAMP	HP	8449B	3008A00160	2022.9.9
4	PREAMP	HP	8447D	2944A07999	2022.9.9
5	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2022.9.9
6	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2021.9.28
7	Signal Generator	Agilent	E4421B	MY4335105	2021.9.28
8	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2021.9.28
9	MXA Signal Analyzer	Agilent	N9020A	MY51110104	2022.9.9
10	ANT Tower&Turn table Controller	Champro	EM 1000	60764	2021.9.28
11	Anechoic Chamber	Taihe Maorui	9m*6m*6m	966A0001	2022.9.9
12	Shielding Room	Taihe Maorui	6.4m*4m*3m	643A0001	2022.9.9
13	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2022.3.14

14	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2022.3.14
15	RF power divider	Anritsu	K241B	992289	2021.9.28
16	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2021.9.28
17	Biconical antenna	Schwarzbeck	VHA 9103	91032360	2022.9.8
18	Biconical antenna	Schwarzbeck	VHA 9103	91032361	2022.9.8
19	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2022.9.8
20	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2022.1.12
21	Active Receive Loop Antenna	Schwarzbeck	FMZB 1919B	00023	2022.9.8
22	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170651	2022.03.14
23	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2022.9.8
24	Active Loop Antenna	Com-Power	AL-130R	10160009	2022.05.10
25	Power Meter	KEYSIGHT	N1911A	MY50520168	2022.05.10
26	Frequency Meter	VICTOR	VC2000	997406086	2022.05.10
27	DC Power Source	HYELEC	HY5020E	055161818	2022.05.10
24*	Active Loop Antenna	Com-Power	AL-130R	10160009	2022.05.09
25*	Power Meter	KEYSIGHT	N1911A	MY50520168	2022.05.09
26*	Frequency Meter	VICTOR	VC2000	997406086	2022.05.09
27*	DC Power Source	HYELEC	HY5020E	055161818	2022.05.09

3. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

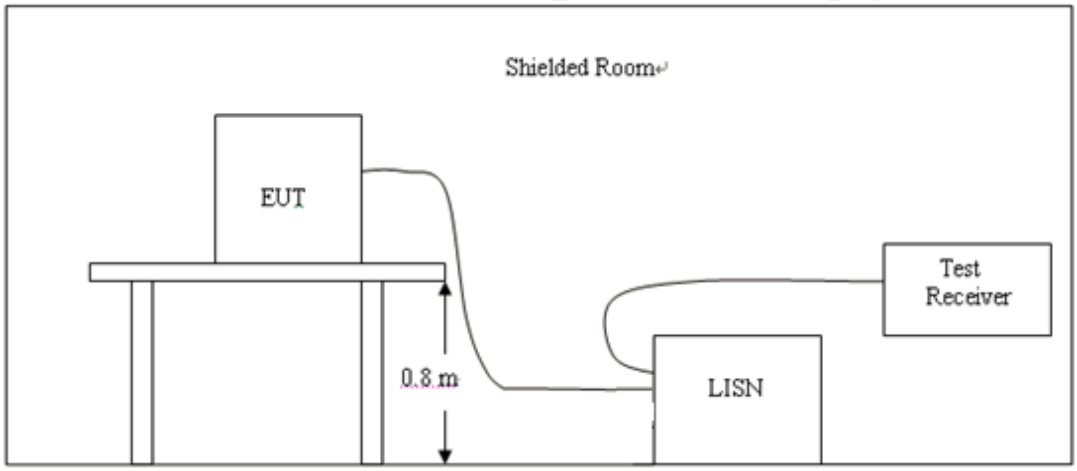
For unintentional device, according to § 15.207(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage(dB V)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15~0.50	79	66	66~56*	56~46*
0.50~5.00	73	60	56	46
5.00~30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



3.3 Test Procedure

1, The equipment was set up as per the test configuration to simulate typical actual usage per the user'smanual. A wooden table with a height of 0.8 meters is used and is placed onthe ground plane as per ANSI C63.10.
2, Support equipment, if needed, was placed as per ANSI C63.10.
3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4,If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hzpower through a Line Impedance Stabilization Network (LISN) which supplied power source and wasgrounded to the ground plane.
5, All support equipments received AC power from a second LISN, if any.
6, The EUT test program was started. Emissions were measured on each current carrying line of the EUTusing a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has twomonitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

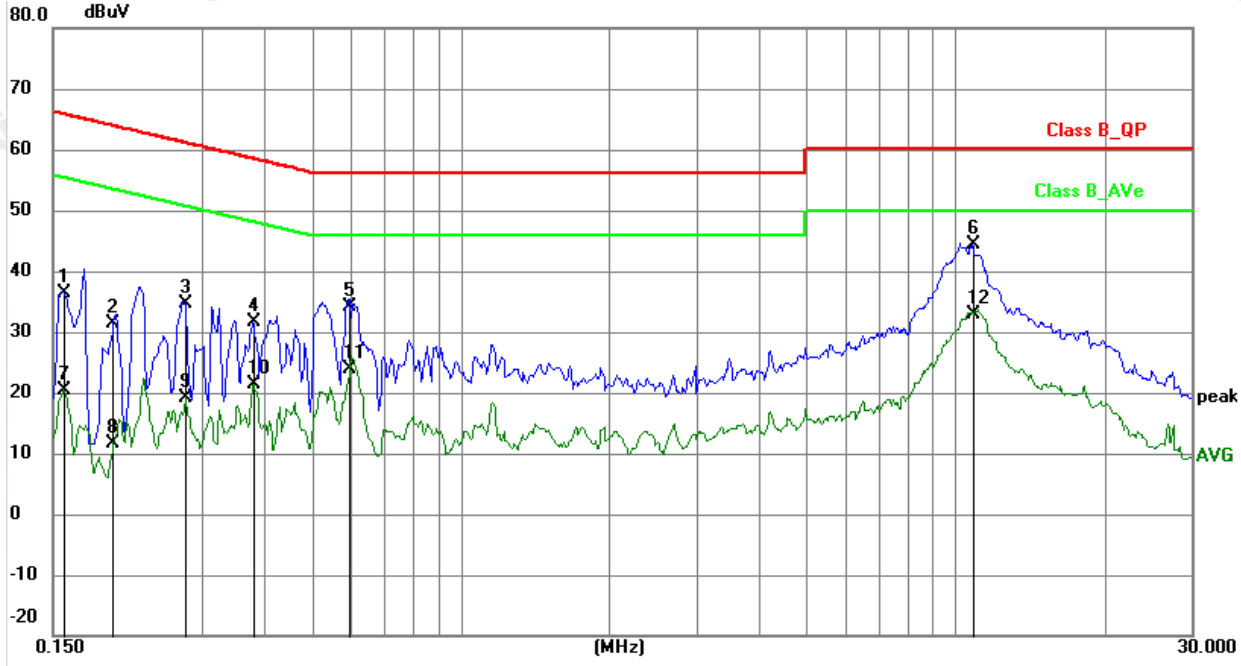
3.4 Test Result

Pass

Remark:

1. All modes were tested at AC 120V and 240V, only the worst result of AC 120V was reported.

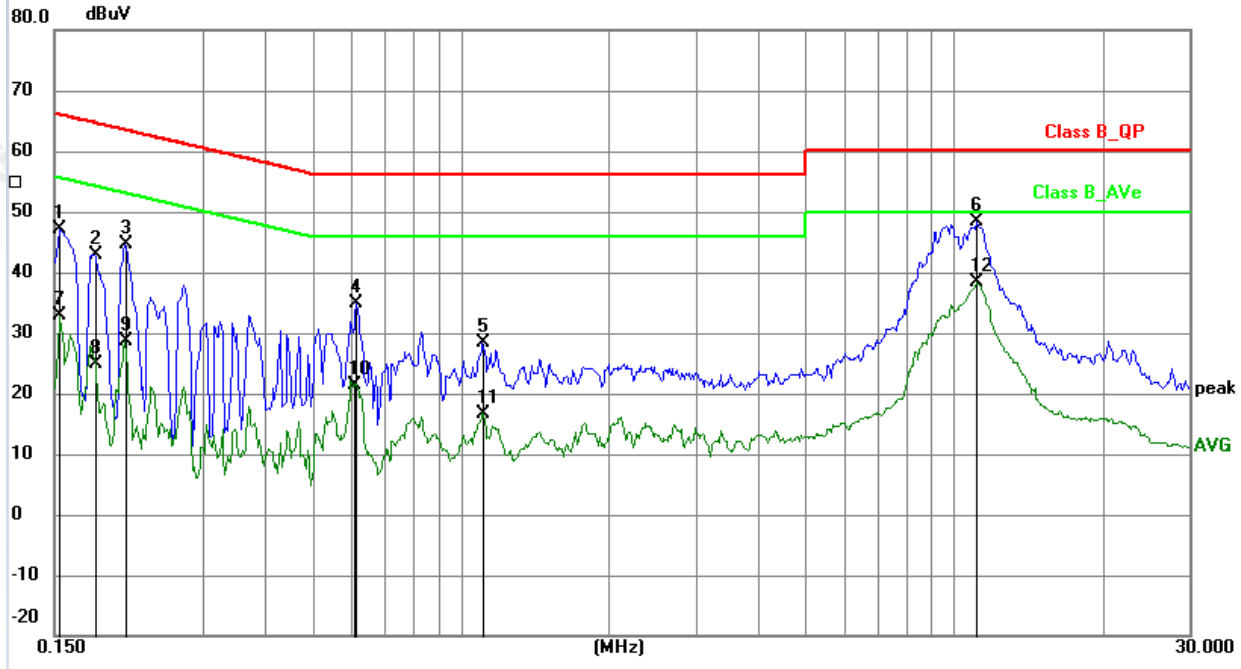
Temperature:	24℃	Relative Humidity:	48%
Test Date:	2021-08-02	Pressure:	1010hPa
Test Voltage:	AC 120V/60Hz for Adapter	Phase:	Line
Test Mode:	TX		



Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1580	26.66	9.78	36.44	65.57	-29.13	peak	P
2	0.1985	21.60	9.75	31.35	63.67	-32.32	peak	P
3	0.2787	24.93	9.76	34.69	60.85	-26.16	peak	P
4	0.3800	21.76	9.76	31.52	58.28	-26.76	peak	P
5	0.5977	24.40	9.77	34.17	56.00	-21.83	peak	P
6	10.8039	34.14	10.20	44.34	60.00	-15.66	peak	P
7	0.1580	10.63	9.78	20.41	55.57	-35.16	AVG	P
8	0.1985	1.76	9.75	11.51	53.67	-42.16	AVG	P
9	0.2787	9.36	9.76	19.12	50.85	-31.73	AVG	P
10	0.3810	11.51	9.76	21.27	48.26	-26.99	AVG	P
11	0.5977	14.23	9.77	24.00	46.00	-22.00	AVG	P
12	10.8780	22.76	10.20	32.96	50.00	-17.04	AVG	P

Temperature:	24℃	Relative Humidity:	48%
Test Date:	2021-08-02	Pressure:	1010hPa
Test Voltage:	AC 120V/60Hz for Adapter	Phase:	Neutral
Test Mode:	TX		



Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	37.29	9.78	47.07	65.79	-18.72	peak	P
2	0.1811	33.22	9.76	42.98	64.44	-21.46	peak	P
3	0.2084	34.91	9.75	44.66	63.27	-18.61	peak	P
4	0.6139	25.01	9.78	34.79	56.00	-21.21	peak	P
5	1.1088	18.61	9.79	28.40	56.00	-27.60	peak	P
6	11.1234	38.19	10.21	48.40	60.00	-11.60	peak	P
7	0.1539	23.20	9.78	32.98	55.79	-22.81	AVG	P
8	0.1814	15.24	9.76	25.00	54.42	-29.42	AVG	P
9	0.2084	18.78	9.75	28.53	53.27	-24.74	AVG	P
10	0.6075	11.58	9.78	21.36	46.00	-24.64	AVG	P
11	1.1110	6.75	9.79	16.54	46.00	-29.46	AVG	P
12	11.1385	28.10	10.21	38.31	50.00	-11.69	AVG	P

4 RADIATED EMISSION TEST

4.1 Radiation Limit

For unintentional device, according to § 15.209(a), except for Class A digital devices, the field strength ofradiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the followingvalues：

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)	-	Quasi-peak	300
0.490MHz-1.705MHz	24000/F (kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	-	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3
		74.0	Peak	3

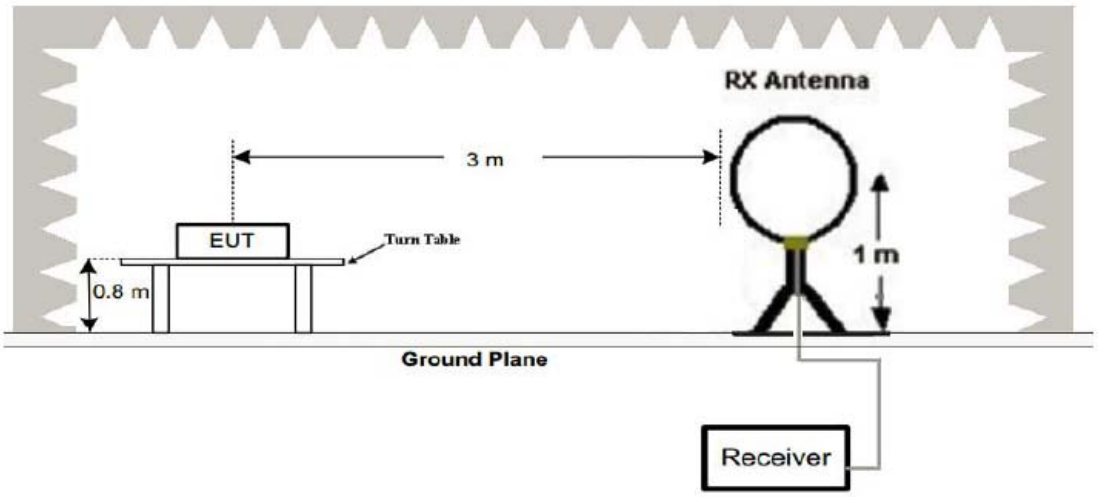
Limit calculation and transfer to 3m distance as showed in the following table:

Frequency (MHz)	**Limit (dBuV/m)**	**Distance (m)**
0.009-0.490	20log(2400/F(KHz))+40log(300/3)	3
0.490-1.705	20log(24000/F(KHz))+40log(30/3)	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

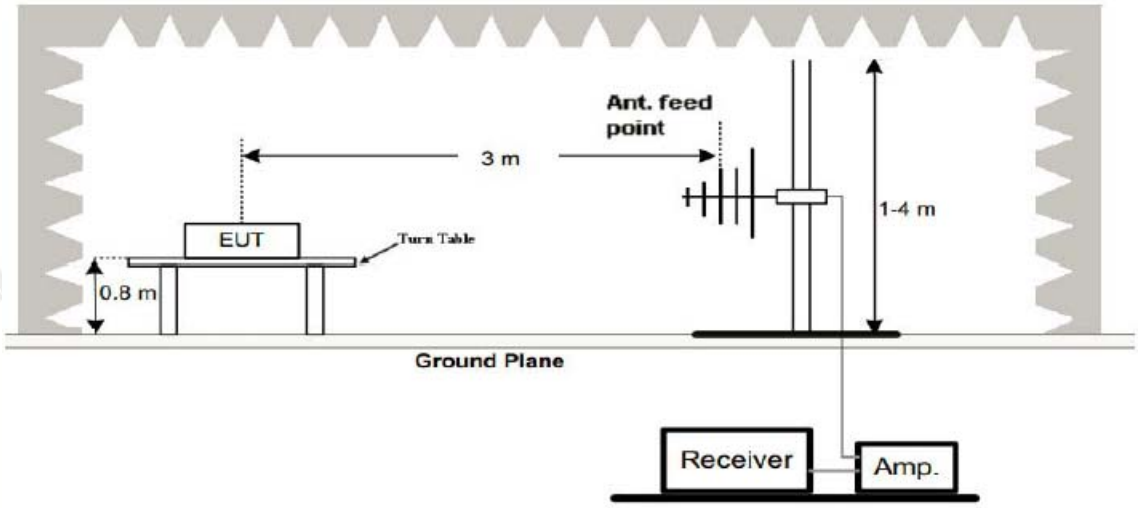
For intentional device, according to § 15.209(a), the general requirement of field strength of radiatedemissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

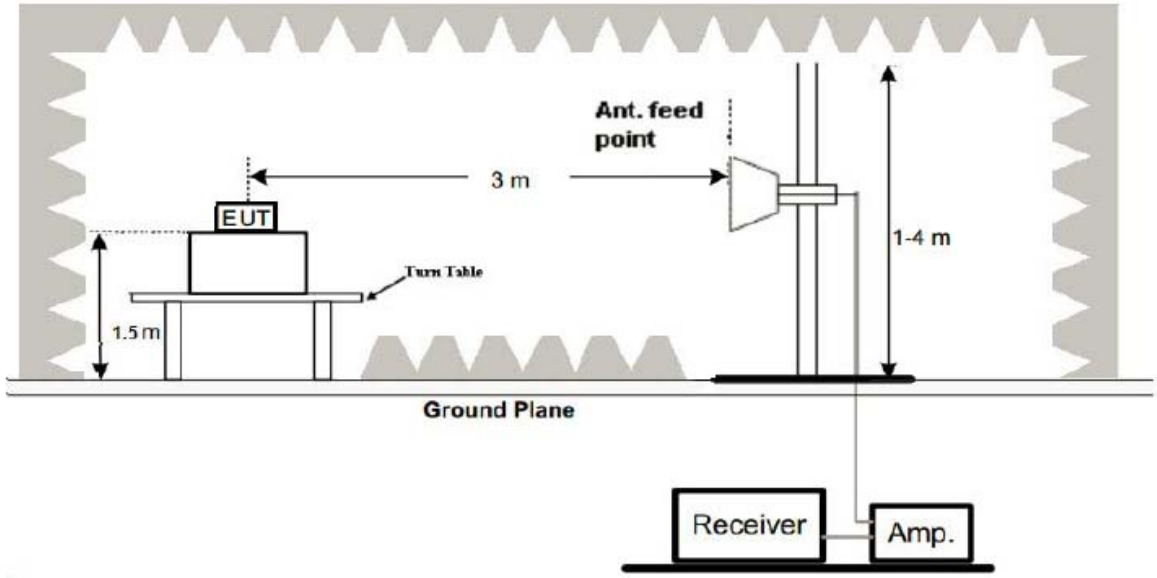
1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz



3. Radiated Emission Test-Up Frequency Above 1GHz



4.3 Test Procedure

1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highestemissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna bothhorizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The test frequency range from 9KHz to25GHz per FCC PART 15.33(a).

Note:
For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 Test Result

PASS
Remark:
1. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “Z axis” position was the worst, and test data recorded in this report.

Below 30M

Temperature:	22℃	Relative Humidity:	48%
Test Date:	2021-08-02	Pressure:	1010hPa
Test Voltage:	DC3.7V from battery	Polarization:	Horizontal
Test Mode:	TX		

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

Note:

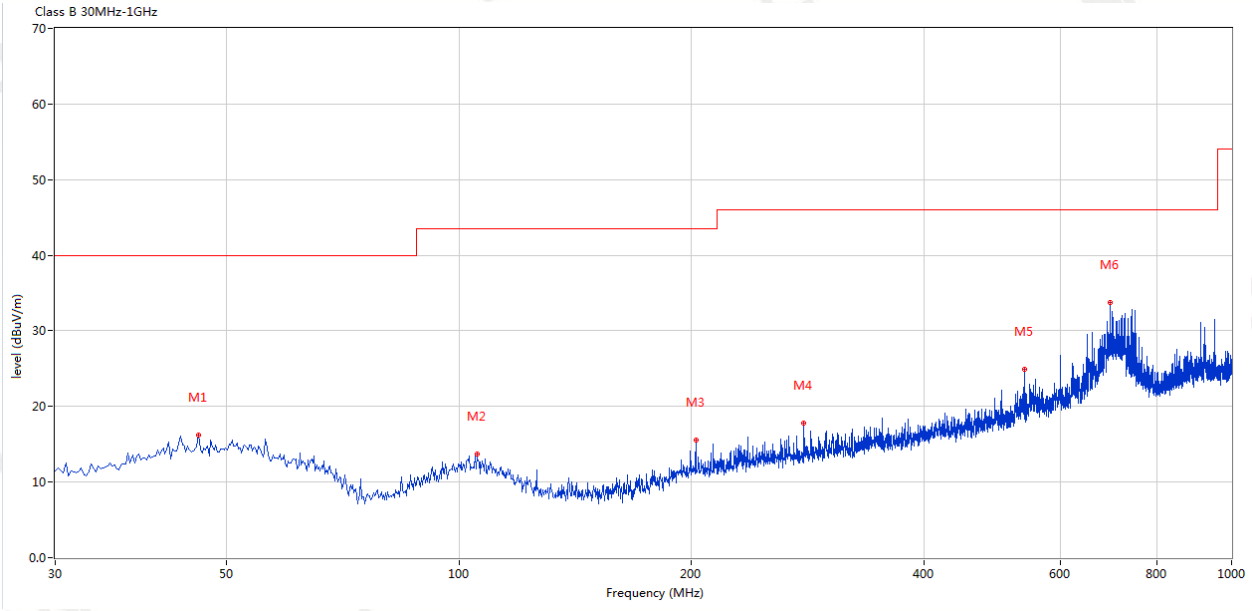
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =20 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor

Below 1GHz Test Results:

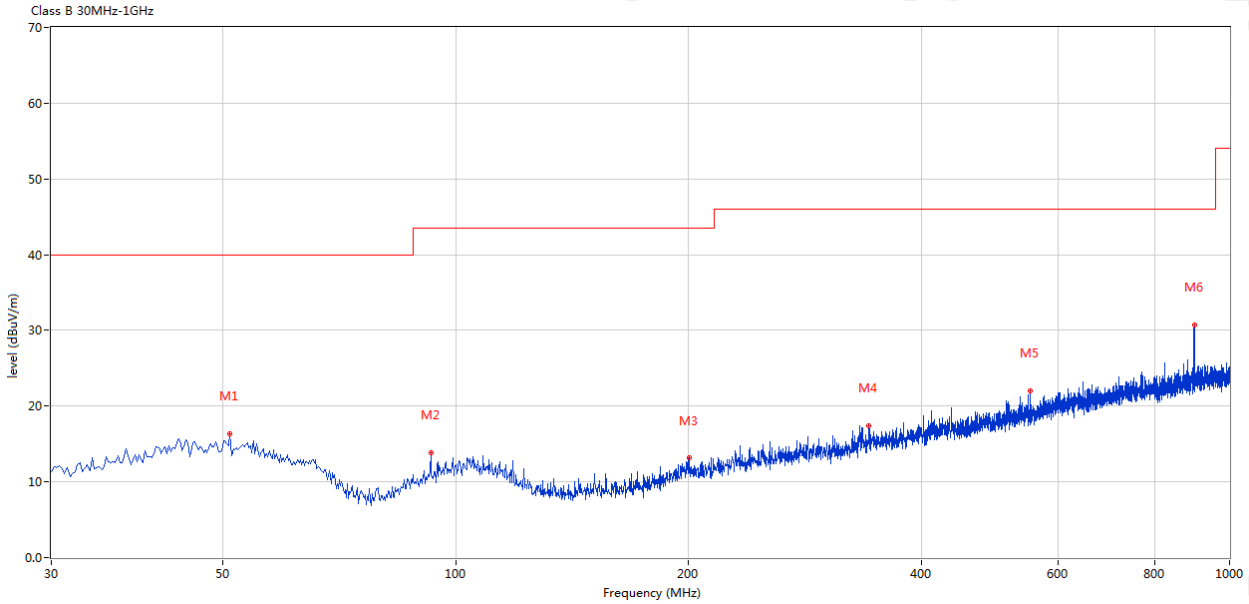
Temperature:	22℃	Relative Humidity:	48%
Test Date:	2021-08-02	Pressure:	1010hPa
Test Voltage:	DC3.7V from battery	Polarization:	Horizontal
Test Mode:	TX		



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	46.001	16.26	-11.40	40.0	-23.74	Peak	Horizontal	Pass
2	105.399	13.69	-13.25	43.5	-29.81	Peak	Horizontal	Pass
3	202.617	15.50	-13.40	43.5	-28.00	Peak	Horizontal	Pass
4	279.470	17.81	-11.52	46.0	-28.19	Peak	Horizontal	Pass
5	540.092	24.88	-6.52	46.0	-21.12	Peak	Horizontal	Pass
6	695.981	33.72	-4.14	46.0	-12.28	Peak	Horizontal	Pass

Remark: Absolute Level= Reading Level+ Factor, Margin= Absolute Level – Limit
Factor=Ant. Factor + Cable Loss – Pre-amplifier

Temperature:	22℃	Relative Humidity:	48%
Test Date:	2021-08-02	Pressure:	1010hPa
Test Voltage:	DC3.7V from battery	Polarization:	Vertical
Test Mode:	TX		



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	51.092	16.38	-11.41	40.0	-23.62	Peak	Vertical	Pass
2	92.792	13.81	-14.52	43.5	-29.69	Peak	Vertical	Pass
3	200.435	13.12	-13.44	43.5	-30.38	Peak	Vertical	Pass
4	341.777	17.42	-9.71	46.0	-28.58	Peak	Vertical	Pass
5	553.184	22.06	-6.25	46.0	-23.94	Peak	Vertical	Pass
6	900.115	30.74	-1.86	46.0	-15.26	Peak	Vertical	Pass

Remark: Absolute Level= Reading Level+ Factor, Margin= Absolute Level – Limit
Factor=Ant. Factor + Cable Loss – Pre-amplifier

Remark：

(1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHzwas verified, and no any emission was found except system noise floor.

(2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

Above 1 GHz Test Results:

EUT：	Eyescan	Model Name ：	Deluxe Eyescan & Mini Eyescan
Temperature：	25 ℃	Test Date:	2021-08-02
Pressure：	1010 hPa	Relative Humidity：	60%
Test Mode ：	1Mbps	Test Voltage ：	DC3.7V from battery
Measurement Distance	3 m	Frenqucy Range	1GHz to 25GHz
RBW/VBW	1MHz/1MHz for Peak, 1MHz/10Hz for Average.		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark	Comment
(2405 MHz)-Above 1G							
4809.260	57.05	-3.64	53.41	74.00	-20.59	Pk	Vertical
4809.260	43.69	-3.64	40.05	54.00	-13.95	AV	Vertical
7227.540	51.11	-0.95	50.16	74.00	-23.84	Pk	Vertical
7227.540	40.03	-0.95	39.08	54.00	-14.92	AV	Vertical
4809.260	54.26	-3.64	50.62	74.00	-23.38	Pk	Horizontal
4809.260	41.58	-3.64	37.94	54.00	-16.06	AV	Horizontal
7227.540	53.69	-0.95	52.74	74.00	-21.26	Pk	Horizontal
7227.540	35.77	-0.95	34.82	54.00	-19.18	AV	Horizontal

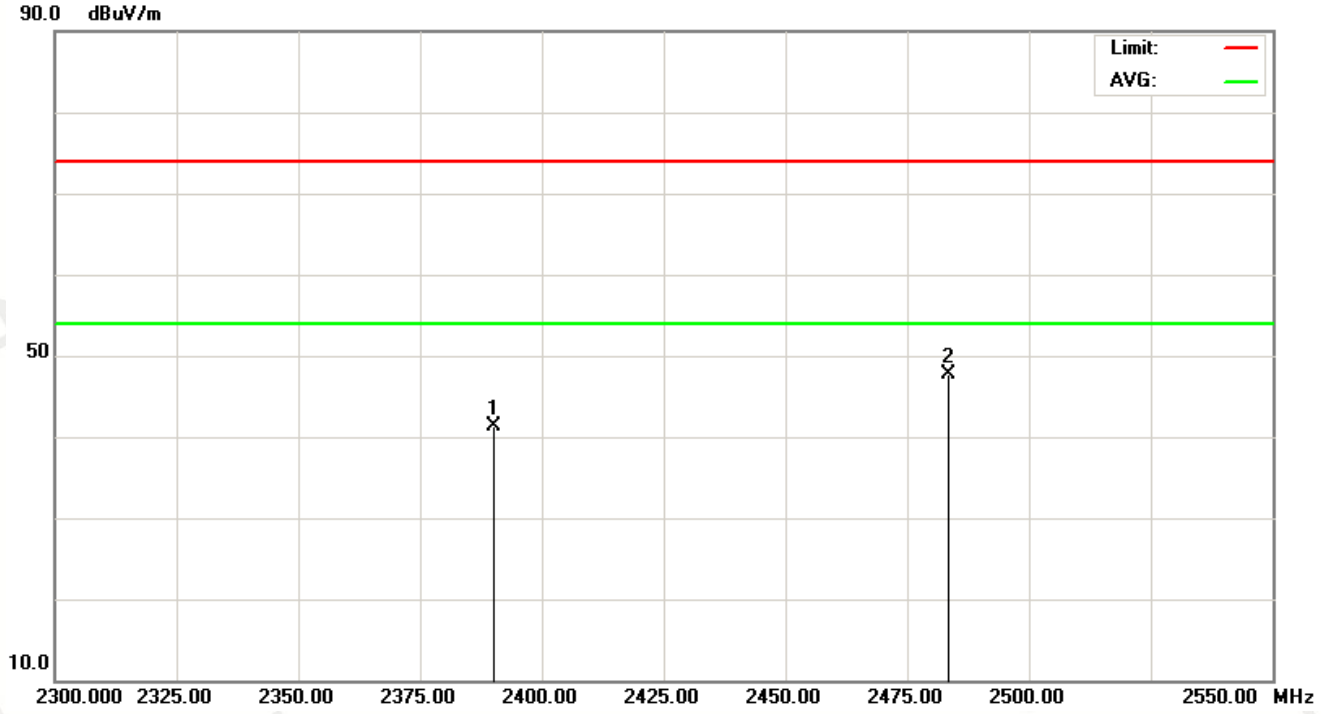
Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.The resolution bandwidth of test receiver/spectrum analyzer is 1MHzand video bandwidth is 3MHz for peak measurement with peak detectorat frequency above 1GHz.The resolution bandwidth of test receiver/spectrum analyzer is 1MHzand video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

Operation Mode:TX Mode

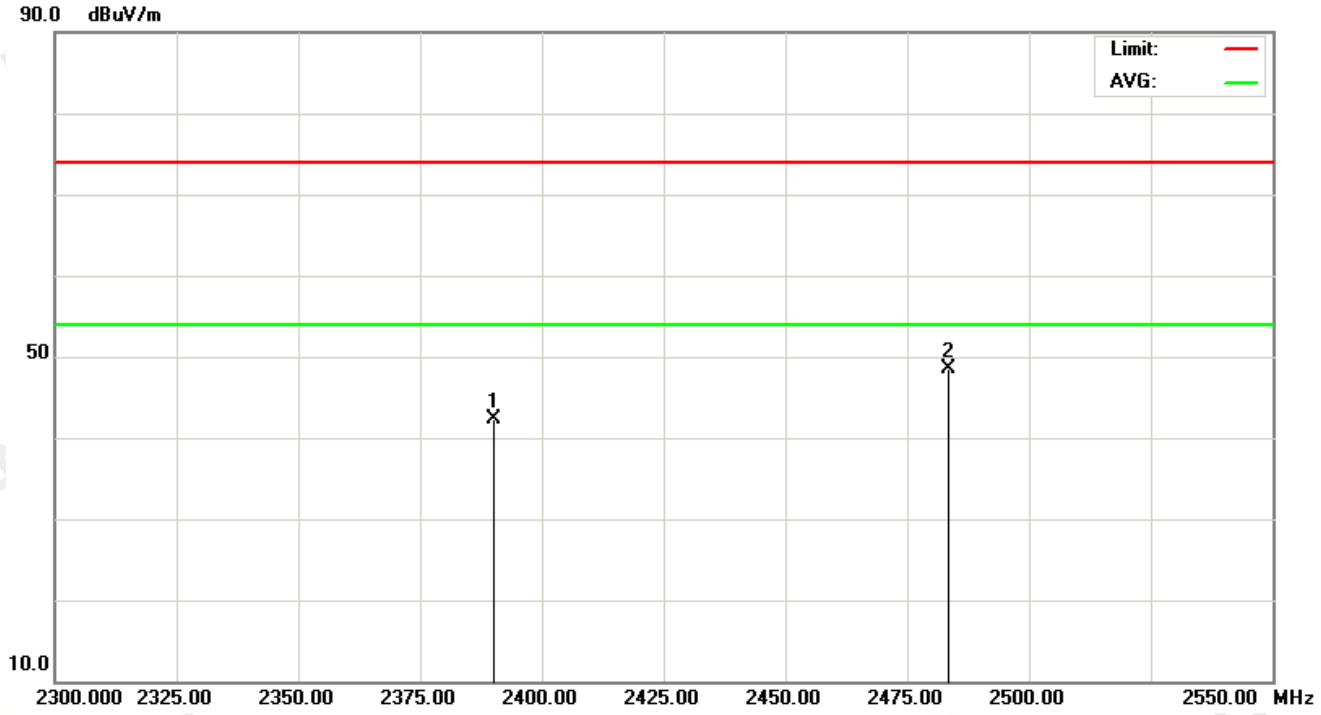
Test Mode	Ant.Pol. H/V	Freq. (MHz)	Reading		Ant/CF CF(dB)	Act		Limit	
			Peak (dBuv)	AV (dBuv)		Peak (dBuv/m)	AV (dBuv/m)	Peak (dBuv/m)	AV (dBuv/m)
Mode 1	V	2390.00	47.25	--	-5.79	41.46	--	74.00	54.00
	H	2390.00	47.96	--	-5.79	42.17	--	74.00	54.00
	V	2483.50	51.87	--	-4.98	46.89	--	74.00	54.00
	H	2483.50	52.93	--	-4.98	47.95	--	74.00	54.00

Corr.Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Horizontal



Vertical



5 OCCUPIED BANDWIDTH MEASUREMENT

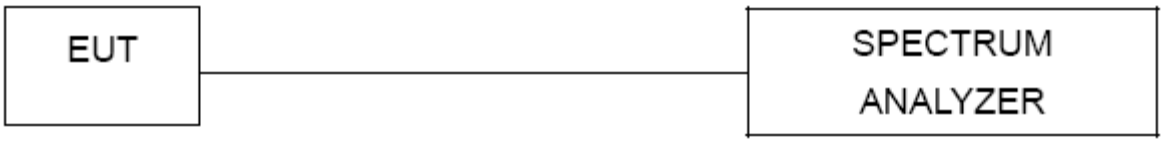
5.1 Test Limit

FCC Part15(15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

5.2 Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
2. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto, Span=6MHz.

5.3 TEST SETUP



5.4 Test Result

PASS

Mode	Freq	6dB	99%OBW	Conclusion
	(MHz)	(MHz)	(MHz)	
TX	2405	1.624	--	PASS

2405 MHZ


Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω
AC
CORREC
SENSE:INT
ALIGN AUTO/NORF
11:42:35 PM Aug 01, 2021
Span 6.0000 MHz
Center Freq: 2.405000000 GHz
Trig: Free Run
Avg|Hold: 1/1
#IFGain:Low
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Span
Span
6.0000 MHz
10 dB/div
Log
Ref 30.00 dBm
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
Full Span
Last Span
Center 2.405 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 6 MHz
Sweep 1 ms
Occupied Bandwidth
2.6284 MHz
Total Power
17.2 dBm
Transmit Freq Error
48.293 kHz
OBW Power
99.00 %
x dB Bandwidth
1.624 MHz
x dB
-6.00 dB
MSG
STATUS

6 POWER SPECTRAL DENSITY

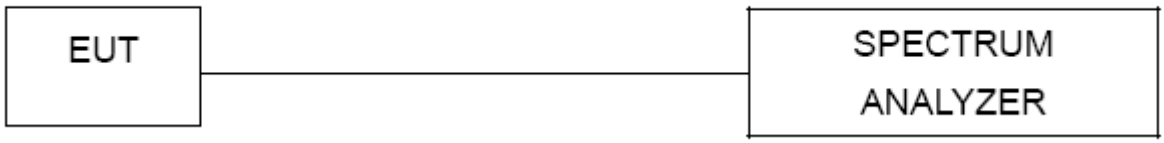
6.1 TESTLIMIT

FCC Part15(15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3kHz)	2400-2483.5	PASS

6.2 TEST PROCEDURE

1. The EUT was directly connected to the spectrum analyzer.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.247: RBW=3kHz, VBW=10kHz.
4. Set detected by the spectrum analyzer with peak detector.

6.3TEST SETUP



6.4 TESTRESULT

PASS

Mode	Freq	Power Density	Limit	Result
	(MHz)	(dBm/3kHz)	(dBm/3kHz)	
TX	2405	-4.925	8	PASS

2405 MHZ


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.405471900000 GHz
PNO: Far
IFGain:Low
Trig: Free Run
Atten: 20 dB
Avg Type: Log-Pwr
Avg|Hold: 1/1
12:00:21 AM Aug 01, 2021
Mkr1 2.405 471 9 GHz
-4.925 dBm
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 2.405000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 3.900 MHz
Sweep 411 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

7 PEAK OUTPUT POWER

7.1 TESTLIMIT

FCC Part15(15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

7.2 TEST PROCEDURE

1. The EUT was directly connected to the Power meter.

7.3TEST SETUP

7.4 TESTRESULT

PASS

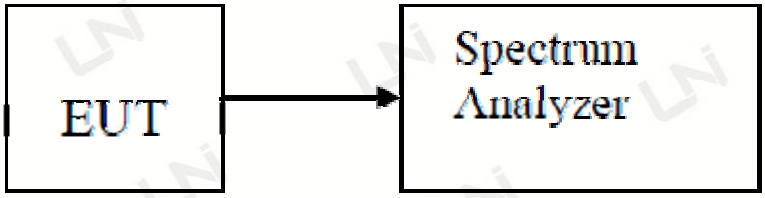
Test Mode	Frequency (MHz)	Maximum Peak Conducted Output Power(dBm)	LIMIT (dBm)
TX	2405	11.26	30

8 OUT OF BAND EMISSIONS

8.1 TESTLIMIT

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.

8.2 TEST SETUP



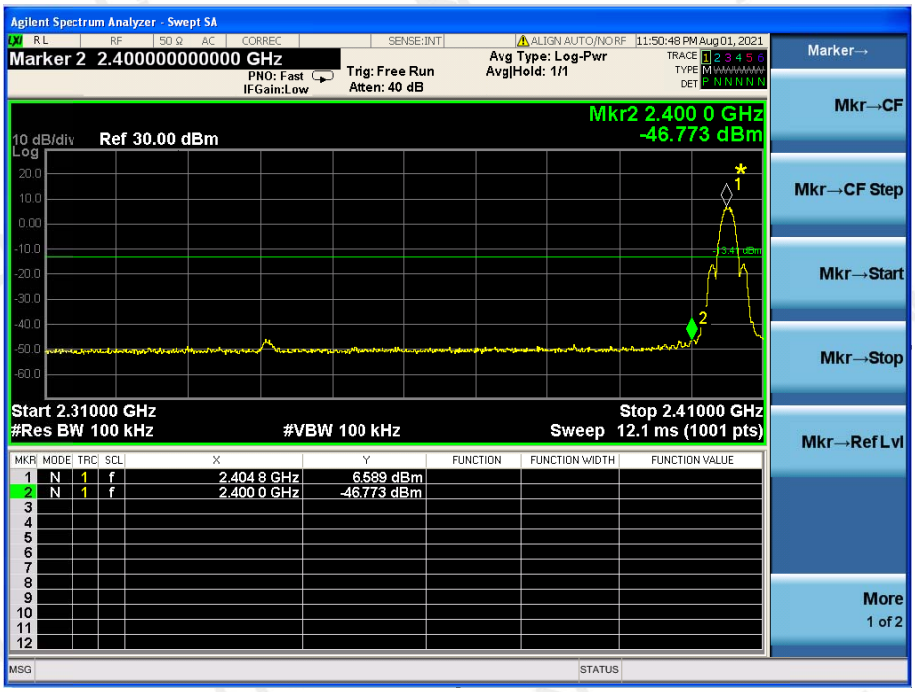
8.3TEST PROCEDURE

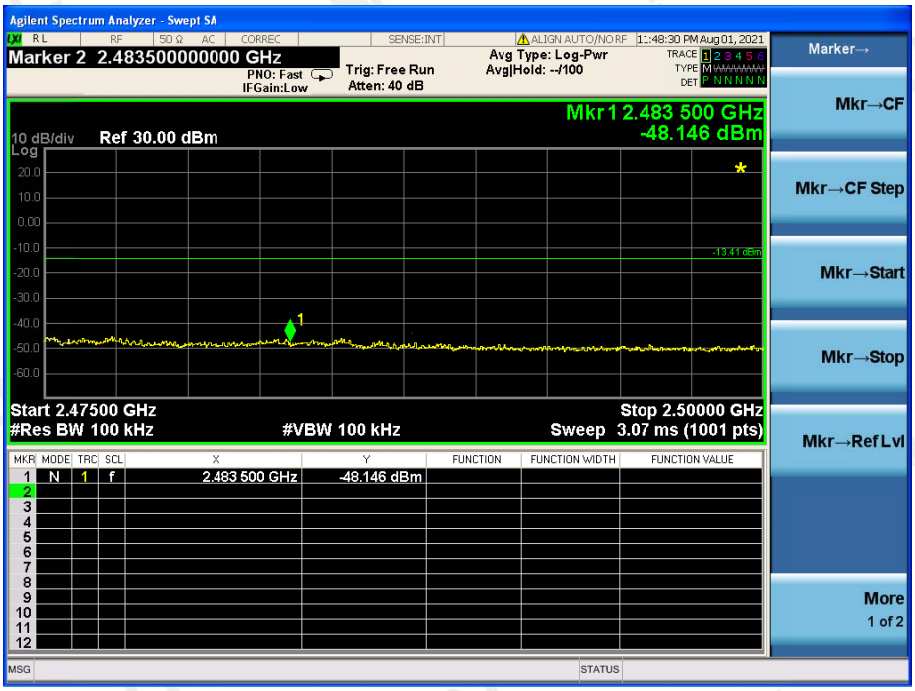
1. Set EUT as TX operation and connect directly to the spectrum analyzer.
2. Based on FCC Part15 C Section 15.247: RBW=100kHz, VBW=300kHz.
3. Set detected by the spectrum analyzer with peak detector.

8.4 TESTRESULT

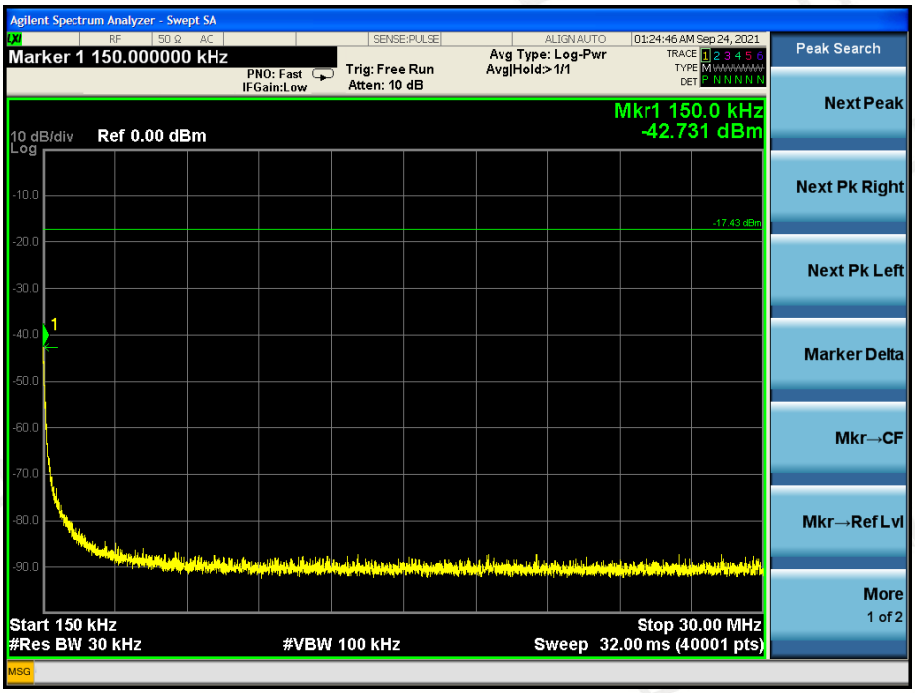
PASS

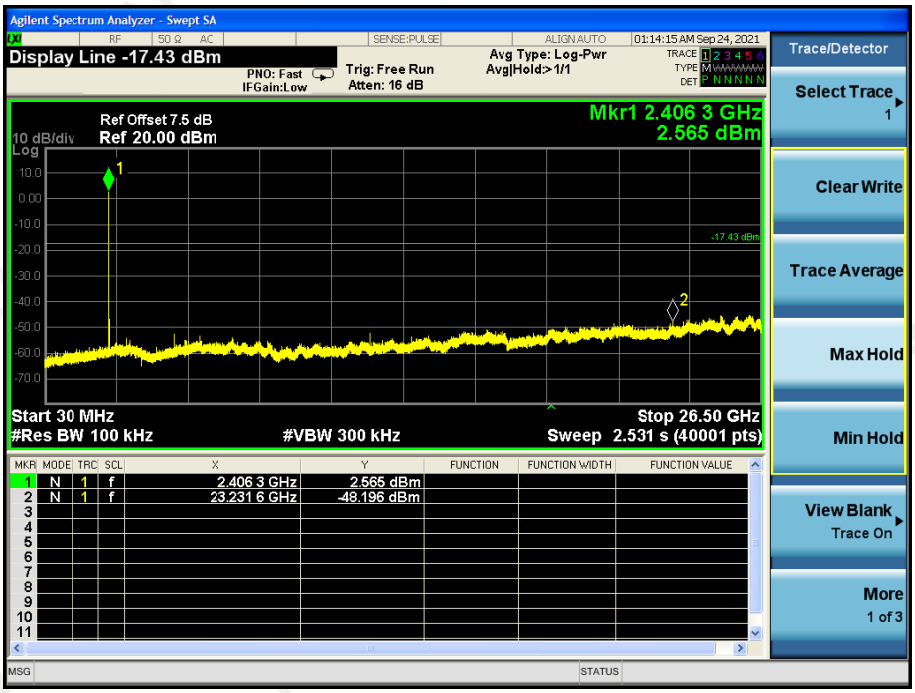
Frequency Band	Delta Peak to band emission (dBc)	＞Limit (dBc)	Result
2400	53.36	20	Pass
2483.5	54.74	20	Pass


Agilent Spectrum Analyzer - Swept SA
Marker 2 2.400000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold: 1/1
11:50:48 PM Aug 01, 2021
Mkr2 2.400 0 GHz
-46.773 dBm
10 dB/div
Log
Ref 30.00 dBm
-13.41 dBm
Start 2.31000 GHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 2.41000 GHz
Sweep 12.1 ms (1001 pts)
1 N 1 f 2.404 8 GHz 6.589 dBm
2 N 1 f 2.400 0 GHz -46.773 dBm
Marker→
Mkr→CF
Mkr→CF Step
Mkr→Start
Mkr→Stop
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Marker 2 2.483500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 40 dB
Avg Type: Log-Pwr
Avg|Hold: --/100
11:48:30 PM Aug 01, 2021
Mkr1 2.483 500 GHz
-48.146 dBm
10 dB/div
Log
Ref 30.00 dBm
-13.41 dBm
Start 2.47500 GHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 2.50000 GHz
Sweep 3.07 ms (1001 pts)
1 N 1 f 2.483 500 GHz -48.146 dBm
Marker→
Mkr→CF
Mkr→CF Step
Mkr→Start
Mkr→Stop
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Marker 1 25.151550 kHz
PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
01:22:36 AM Sep 24, 2021
Mkr1 25.152 kHz
-68.416 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.43 dBm
Start 9.00 kHz
#Res BW 10 kHz
#VBW 30 kHz
Stop 150.00 kHz
Sweep 2.667 ms (40001 pts)
Trace/Detector
Select Trace 1
Clear Write
Trace Average
Max Hold
Min Hold
View Blank Trace On
More 1 of 3


Agilent Spectrum Analyzer - Swept SA
Marker 1 150.000000 kHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
01:24:46 AM Sep 24, 2021
Mkr1 150.0 kHz
-42.731 dBm
10 dB/div
Log
Ref 0.00 dBm
-17.43 dBm
Start 150 kHz
#Res BW 30 kHz
#VBW 100 kHz
Stop 30.00 MHz
Sweep 32.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More 1 of 2

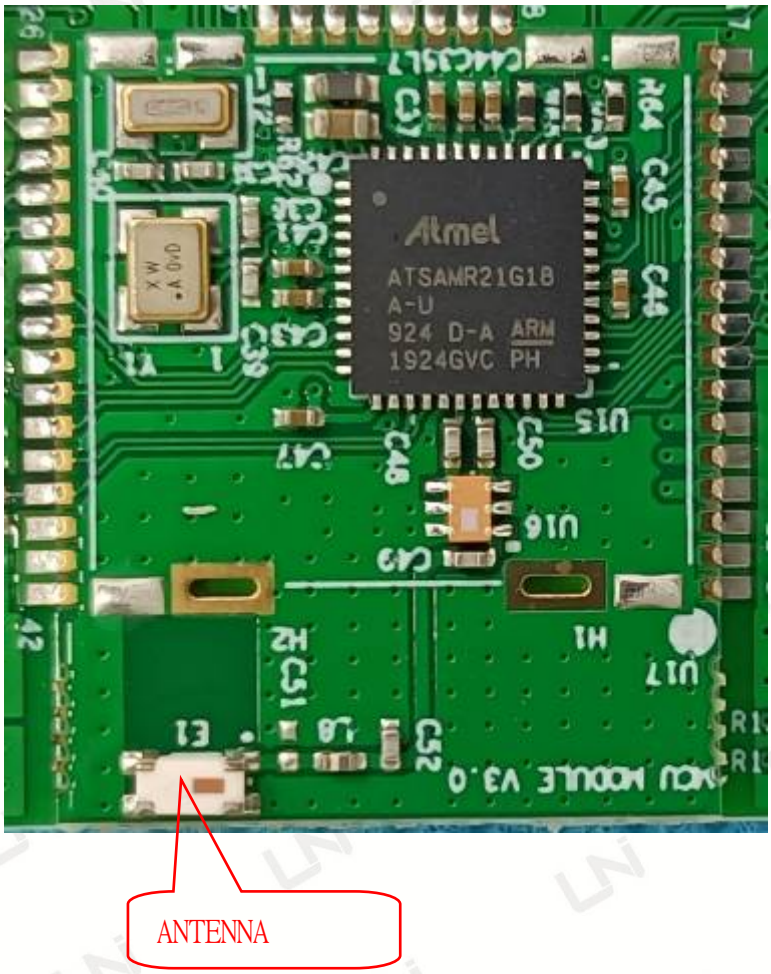

Agilent Spectrum Analyzer - Swept SA
Display Line -17.43 dBm
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 16 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
01:14:15 AM Sep 24, 2021
Ref Offset 7.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.406 3 GHz
2.565 dBm
-17.43 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.531 s (40001 pts)
1 N 1 f 2.406 3 GHz 2.565 dBm
2 N 1 f 23.231 6 GHz -48.196 dBm
Trace/Detector
Select Trace 1
Clear Write
Trace Average
Max Hold
Min Hold
View Blank Trace On
More 1 of 3
MSG
STATUS

9 ANTENNA REQUIREMENT

Standard Applicable:
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed toensure that no antenna other than that furnished by the responsible party shall be used with the device.

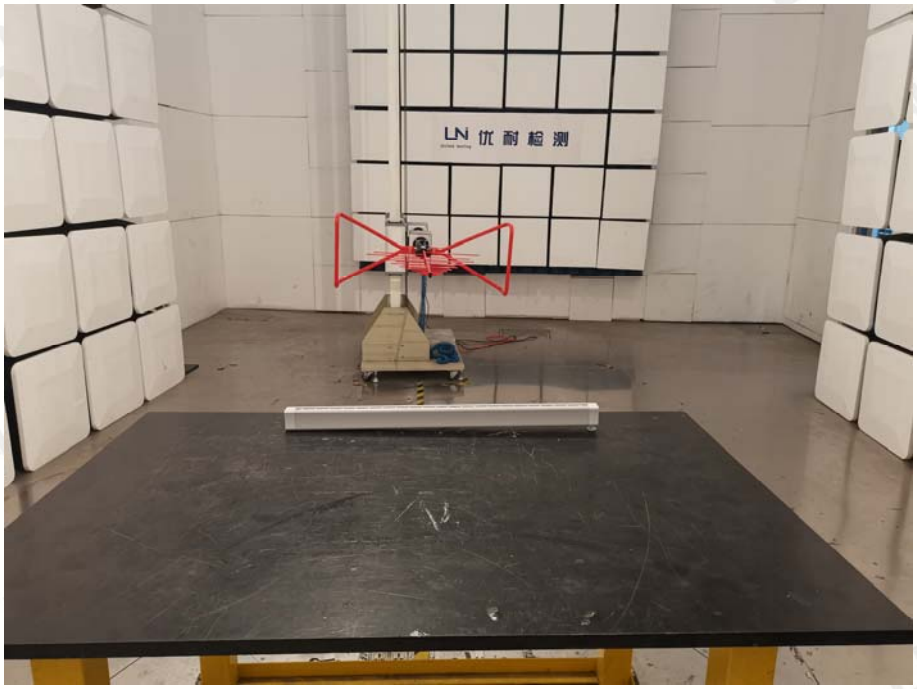
Antenna Connected Construction
The antenna used in this product is a Chip Antenna, The directional gains of antenna used for transmitting is 0dBi.

ANTENNA:



10PHOTO OF TEST

10.1RADIATED EMISSION



10.2CONDUCTED EMISSION

End of Report