

TEST REPORT

Product : Xquad
Trade mark : goTele
Model/Type reference : Xquad03, Xquad04, Xquad05,
Xquad06, Xquad07, Xquad08,
Xquad09
Serial Number : N/A
Report Number : EED32M00310401
FCC ID : 2AJLNGT915NA
Date of Issue : Dec. 04, 2020
Test Standards : 47 CFR Part 15Subpart C
Test result : PASS

Prepared for:

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Dec. 04, 2020

Check No.: 4762169715



2 Version

Version No.	Date	Description
00	Dec. 04, 2020	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15Subpart C Section 15.203/15.247 (c)	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15Subpart C Section 15.207	ANSI C63.10-2013	PASS Note 1
Conducted Peak Output Power	47 CFR Part 15Subpart C Section 15.247 (b)(3)	ANSI C63.10-2013	PASS Note 1
6dB Occupied Bandwidth	47 CFR Part 15Subpart C Section 15.247 (a)(2)	ANSI C63.10-2013	PASS Note 1
Power Spectral Density	47 CFR Part 15Subpart C Section 15.247 (e)	ANSI C63.10-2013	PASS Note 1
Band-edge for RF Conducted Emissions	47 CFR Part 15Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS Note 1
RF Conducted Spurious Emissions	47 CFR Part 15Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS Note 1
Radiated Spurious Emissions	47 CFR Part 15Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS Note 1

Remark:

Test according to ANSI C63.4-2014 & ANSI C63.10-2013.

Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

Note 1: Refer to report No.: RSZ170620005-00

Model No.: Xquad03, Xquad04, Xquad05, Xquad06, Xquad07, Xquad08, Xquad09

Only the model Xquad03 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance, pack and model name.

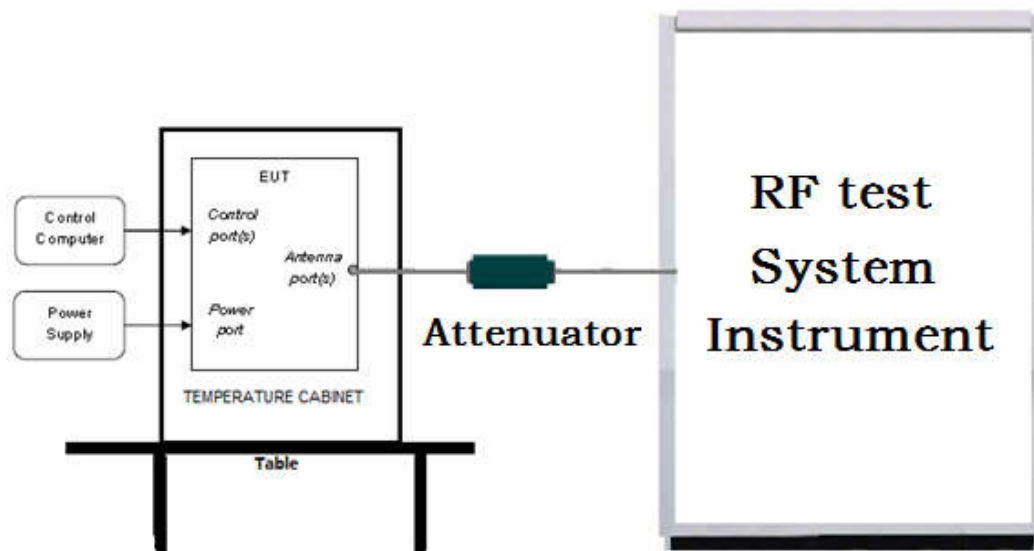
4 Content

1 COVER PAGE	1
2 VERSION	2
3 TEST SUMMARY	3
4 CONTENT	4
5 TEST REQUIREMENT	5
5.1 TEST SETUP	5
5.1.1 For Conducted test setup	5
5.1.2 For Radiated Emissions test setup	5
5.1.3 For Conducted Emissions test setup	6
5.2 TEST ENVIRONMENT	6
5.3 TEST CONDITION	6
6 GENERAL INFORMATION	7
6.1 CLIENT INFORMATION	7
6.2 GENERAL DESCRIPTION OF EUT	7
6.3 DESCRIPTION OF SUPPORT UNITS	9
6.4 TEST LOCATION	9
6.5 DEVIATION FROM STANDARDS	9
6.6 ABNORMALITIES FROM STANDARD CONDITIONS	9
6.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER	9
6.8 MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2)	9
7 EQUIPMENT LIST	10
8 RADIO TECHNICAL REQUIREMENTS SPECIFICATION	13
PHOTOGRAPHS OF TEST SETUP	22
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	23

5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

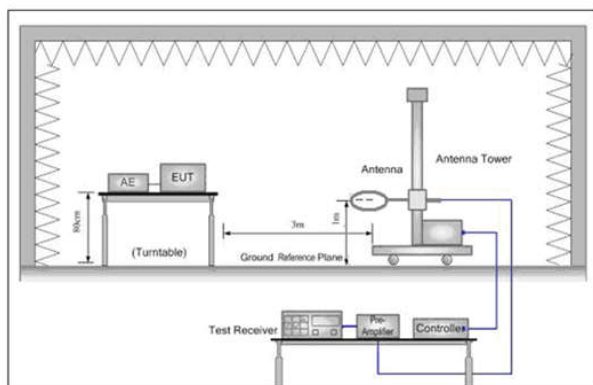


Figure 1. Below 30MHz

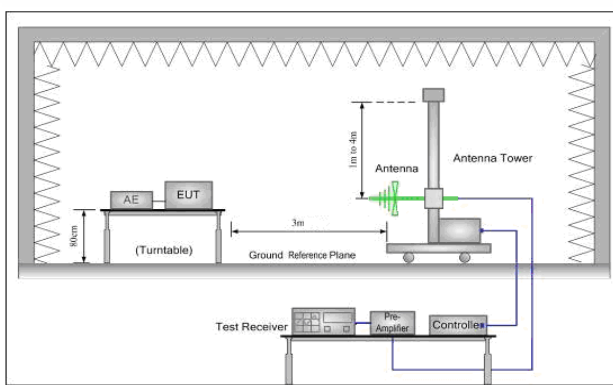


Figure 2. 30MHz to 1GHz

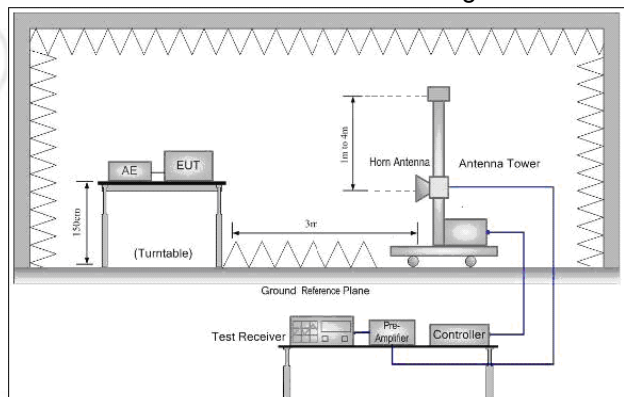
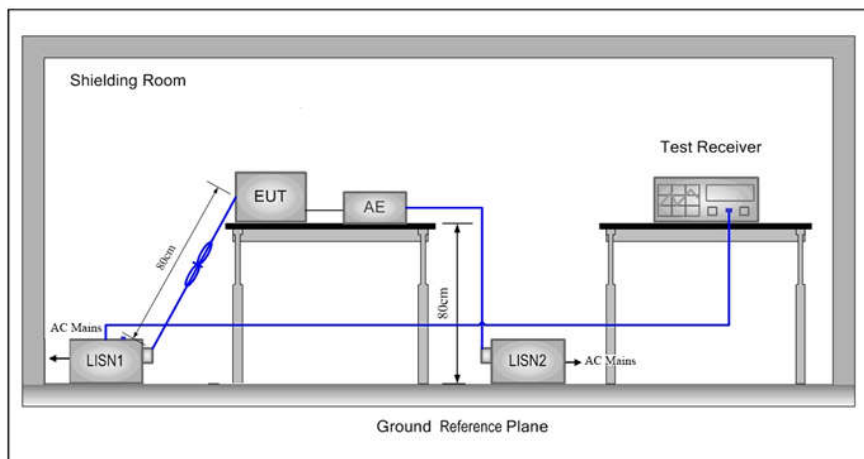


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
GFSK	2402MHz ~2480 MHz	Channel 1	Channel 20	Channel 40
		2402MHz	2440MHz	2480MHz
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
FSK	902.6MHz ~927.5 MHz	Channel 1	Channel 9	Channel 10
		902.6MHz	915MHz	927.5MHz
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			

6 General Information

6.1 Client Information

Applicant:	Beijing Tele Industry Information Technology Co., Ltd.
Address of Applicant:	Room A201, 2/F, GuoDong LOFT, Huilongguan, Changping District, Beijing, China
Manufacturer:	Xiaolang Communications Technology (Shenzhen) Co., Ltd.
Address of Manufacturer:	Room 406, City Shanghai V Valley, No.1 Yongxiang Road, Longgang District, Shenzhen, China
Factory:	Xiaolang Communications Technology (Shenzhen) Co., Ltd.
Address of Factory:	Room 406, City Shanghai V Valley, No.1 Yongxiang Road, Longgang District, Shenzhen, China

6.2 General Description of EUT

Product Name:	Xquad
Model No.(EUT):	Xquad03
Add Model No.:	Xquad04, Xquad05, Xquad06, Xquad07, Xquad08, Xquad09
Trade mark:	goTele
Software Version:	V1.0
Hardware Version:	V2.6
EUT Supports Radios application:	Bluetooth LE, Lora
Operation Frequency:	Bluetooth LE: 2402MHz~2480MHz Lora: 902.6MHz ~927.5 MHz
Modulation Technique:	DSSS
Modulation Type:	Bluetooth LE:GFSK Lora: FSK
Number of Channel:	Bluetooth LE: 40 Lora: 9
Sample Type:	Portable production
Test Power Grade:	default
Test Software of EUT:	default
Antenna Type and:	Bluetooth LE: PCB antenna Lora: Monopole Antenna
Antenna Gain:	Bluetooth LE: 0 dBi Lora: -2.5dBi
Power Supply:	Li-ion battery: DC3.7V, 1700mAh
Sample Received Date:	Oct.10, 2020
Sample tested Date:	Oct. 25, 2020 to Dec. 03, 2020
Test Voltage:	DC 3.7V

For Bluetooth LE, Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	11	2422MHz	21	2442MHz	31	2462MHz
2	2404MHz	12	2424MHz	22	2444MHz	32	2464MHz
3	2406MHz	13	2426MHz	23	2446MHz	33	2466MHz
4	2408MHz	14	2428MHz	24	2448MHz	34	2468MHz
5	2410MHz	15	2430MHz	25	2450MHz	35	2470MHz
6	2412MHz	16	2432MHz	26	2452MHz	36	2472MHz
7	2414MHz	17	2434MHz	27	2454MHz	37	2474MHz
8	2416MHz	18	2436MHz	28	2456MHz	38	2476MHz
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	2480MHz

For Lora: Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	902.6MHz	4	906.8MHz	7	911.6MHz	9	915MHz
2	903.6MHz	5	908.4MHz	8	913.2MHz	10	927.5MHz
3	905.2MHz	6	910MHz				

6.3 Description of Support Units

The EUT has been tested independently

6.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd
Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China
Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

6.5 Deviation from Standards

None.

6.6 Abnormalities from Standard Conditions

None.

6.7 Other Information Requested by the Customer

None.

6.8 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.3dB (30MHz-1GHz)
		4.5dB (1GHz-12.75GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

7 Equipment List

RF test system					
Equipment	Manufacturer	Mode No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	Keysight	N9010A	MY54510339	02-17-2020	02-16-2021
Signal Generator	Keysight	N5182B	MY53051549	02-17-2020	02-16-2021
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	06-29-2020	06-28-2021
High-pass filter	Sinoscite	FL3CX03WG18N M12-0398-002	---	---	---
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	---	---
DC Power	Keysight	E3642A	MY56376072	02-17-2020	02-16-2021
PC-1	Lenovo	R4960d	---	---	---
BT&WI-FI Automatic control	R&S	OSP120	101374	02-17-2020	02-16-2021
RF control unit	JS Tonscend	JS0806-2	158060006	02-17-2020	02-16-2021
BT&WI-FI Automatic test software	JS Tonscend	JS1120-3	---	---	---

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100435	04-28-2020	04-27-2021
Temperature/ Humidity Indicator	Defu	TH128	/	---	---
LISN	R&S	ENV216	100098	03-05-2020	03-04-2021
Barometer	changchun	DYM3	1188	---	---

3M Semi/full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05-24-2019	05-23-2022
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	05-16-2020	05-15-2021
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
Receiver	R&S	ESCI7	100938-003	10-16-2020	10-15-2021
Multi device Controller	maturo	NCD/070/107 11112	---	---	---
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	06-29-2020	06-28-2021
Cable line	Fulai(7M)	SF106	5219/6A	---	---
Cable line	Fulai(6M)	SF106	5220/6A	---	---
Cable line	Fulai(3M)	SF106	5216/6A	---	---
Cable line	Fulai(3M)	SF106	5217/6A	---	---

3M full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
RSE Automatic test software	JS Tonscend	JS36-RSE	10166	---	---
Receiver	Keysight	N9038A	MY57290136	03-05-2020	03-04-2021
Spectrum Analyzer	Keysight	N9020B	MY57111112	03-05-2020	03-04-2021
Spectrum Analyzer	Keysight	N9030B	MY57140871	03-05-2020	03-04-2021
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-25-2018	04-24-2021
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-25-2018	04-24-2021
Horn Antenna	ETS-LINDGREN	3117	00057407	07-10-2018	07-09-2021
Preamplifier	EMCI	EMC184055SE	980597	05-20-2020	05-19-2021
Preamplifier	EMCI	EMC001330	980563	04-22-2020	04-21-2021
Preamplifier	JS Tonscend	980380	EMC051845 SE	01-09-2020	01-08-2021
Temperature/Humidity Indicator	biaozhi	GM1360	EE1186631	04-27-2020	04-26-2021
Fully Anechoic Chamber	TDK	FAC-3	---	01-17-2018	01-16-2021
Filter bank	JS Tonscend	JS0806-F	188060094	04-10-2018	04-09-2021
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	---	---
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	---	---
Cable line	Times	EMC104-NMNM-1000	SN160710	---	---
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	---	---
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	---	---
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	---	---
Cable line	Times	HF160-KMKM-3.00M	393493-0001	---	---

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part15C Section 15.203/15.247 (c)	ANSI C63.10	Antenna Requirement	PASS	Appendix A
Part15C Section 15.205/15.209	ANSI C63.10	Radiated Spurious Emissions	PASS	Appendix B

Appendix A: Antenna Requirement

15.203 requirement:

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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:



For Bluetooth LE, the antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0 dBi.

For Lora, the antenna is monopole antenna, The best case gain of the antenna is -2.5 dBi.

Appendix B: Radiated Spurious Emissions

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Test Procedure:					
Below 1GHz test procedure as below:					
Test method Refer as KDB 558074 D01 v04, Section 12.1					
a. 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.					
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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable 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.					
Above 1GHz test procedure as below:					
g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).					
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel					
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.					
j. Repeat above procedures until all frequencies measured was complete.					
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBµV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	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
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				

Radiated Spurious Emissions test Data:

During the test, the Radiated Spurious Emissions from 30MHz to 1GHz was performed in all modes with all channels, Lora, Channel 902.6MHz was selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Radiated Emission below 1GHz

Mode:			BLE GFSK Transmitting					Channel:		2440	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	36.5967	11.21	0.67	-31.38	42.17	22.67	40.00	17.33	Pass	H	PK
2	115.3685	9.99	1.27	-32.07	59.33	38.52	43.50	4.98	Pass	H	PK
3	132.7333	7.56	1.35	-32.01	59.76	36.66	43.50	6.84	Pass	H	PK
4	304.0524	13.29	2.07	-31.60	37.85	21.61	46.00	24.39	Pass	H	PK
5	600.0290	19.00	2.96	-31.50	42.82	33.28	46.00	12.72	Pass	H	PK
6	770.9601	20.58	3.32	-32.08	48.24	40.06	46.00	5.94	Pass	H	PK
7	36.5967	11.21	0.67	-31.38	43.51	24.01	40.00	15.99	Pass	V	PK
8	53.0883	12.71	0.82	-32.02	39.77	21.28	40.00	18.72	Pass	V	PK
9	130.0170	7.70	1.33	-32.02	44.23	21.24	43.50	22.26	Pass	V	PK
10	208.8859	11.13	1.71	-31.94	41.69	22.59	43.50	20.91	Pass	V	PK
11	304.0524	13.29	2.07	-31.60	38.76	22.52	46.00	23.48	Pass	V	PK
12	600.0290	19.00	2.96	-31.50	42.89	33.35	46.00	12.65	Pass	V	PK

Transmitter Emission above 1GHz

Mode:			BLE GFSK Transmitting					Channel:		2402MHz	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	2027.1027	31.74	3.52	-43.20	50.32	42.38	74.00	31.62	Pass	H	PK
2	3889.0593	33.71	4.34	-43.02	49.61	44.64	74.00	29.36	Pass	H	PK
3	5001.1334	34.50	4.82	-42.80	50.66	47.18	74.00	26.82	Pass	H	PK
4	6949.2633	36.08	5.81	-42.23	48.89	48.55	74.00	25.45	Pass	H	PK
5	9253.4169	37.65	6.60	-42.05	48.79	50.99	74.00	23.01	Pass	H	PK
6	11386.5591	38.83	7.42	-42.00	48.81	53.06	74.00	20.94	Pass	H	PK
7	1843.8844	30.67	3.37	-42.82	49.87	41.09	74.00	32.91	Pass	H	PK
8	3475.0317	33.39	4.46	-43.10	49.91	44.66	74.00	29.34	Pass	V	PK
9	5023.1349	34.52	4.85	-42.79	50.24	46.82	74.00	27.18	Pass	V	PK
10	6967.2645	36.09	5.77	-42.23	49.34	48.97	74.00	25.03	Pass	V	PK
11	8380.3587	36.55	6.27	-42.05	49.96	50.73	74.00	23.27	Pass	V	PK
12	10471.4981	38.46	7.04	-42.00	49.13	52.63	74.00	21.37	Pass	V	PK

Mode:			BLE GFSK Transmitting					Channel:		2440MHz	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1820.8821	30.52	3.35	-42.77	50.78	41.88	74.00	32.12	Pass	H	PK
2	2929.5930	33.09	4.39	-43.10	51.63	46.01	74.00	27.99	Pass	H	PK
3	5076.1384	34.58	4.83	-42.78	51.40	48.03	74.00	25.97	Pass	H	PK
4	6933.2622	36.07	5.83	-42.23	48.93	48.60	74.00	25.40	Pass	H	PK
5	9230.4154	37.65	6.54	-42.04	49.34	51.49	74.00	22.51	Pass	H	PK
6	10433.4956	38.41	7.08	-42.02	49.11	52.58	74.00	21.42	Pass	H	PK
7	1365.8366	28.27	2.85	-42.72	51.43	39.83	74.00	34.17	Pass	V	PK
8	1987.0987	31.61	3.46	-43.17	50.84	42.74	74.00	31.26	Pass	V	PK
9	5017.1345	34.52	4.84	-42.80	50.93	47.49	74.00	26.51	Pass	V	PK
10	7328.2886	36.43	5.85	-42.14	48.94	49.08	74.00	24.92	Pass	V	PK
11	8377.3585	36.55	6.26	-42.05	49.53	50.29	74.00	23.71	Pass	V	PK
12	10612.5075	38.52	6.94	-41.99	49.32	52.79	74.00	21.21	Pass	V	PK

Mode:			BLE GFSK Transmitting					Channel:		2480	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Readin g [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1446.8447	28.35	2.95	-42.88	51.06	39.48	74.00	34.52	Pass	H	PK
2	1943.6944	31.33	3.42	-43.06	50.24	41.93	74.00	32.07	Pass	H	PK
3	3274.0183	33.31	4.51	-43.10	49.92	44.64	74.00	29.36	Pass	H	PK
4	4974.1316	34.50	4.82	-42.80	50.22	46.74	74.00	27.26	Pass	H	PK
5	6907.2605	36.06	5.87	-42.25	49.47	49.15	74.00	24.85	Pass	H	PK
6	9252.4168	37.65	6.60	-42.05	48.59	50.79	74.00	23.21	Pass	H	PK
7	1318.8319	28.22	2.78	-42.77	51.82	40.05	74.00	33.95	Pass	V	PK
8	1948.2948	31.36	3.42	-43.07	51.29	43.00	74.00	31.00	Pass	V	PK
9	2672.5673	32.68	4.10	-43.10	51.28	44.96	74.00	29.04	Pass	V	PK
10	3818.0545	33.65	4.37	-43.04	49.33	44.31	74.00	29.69	Pass	V	PK
11	6455.2303	35.89	5.51	-42.50	49.62	48.52	74.00	25.48	Pass	V	PK
12	9339.4226	37.63	6.62	-42.07	48.70	50.88	74.00	23.12	Pass	V	PK

Mode:			Lora Transmitting					Channel:		902.6MHz	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	2709.2709	32.73	3.71	-43.10	58.54	51.88	74.00	22.12	Pass	H	PK
2	3612.0612	33.49	4.05	-43.07	55.99	50.46	74.00	23.54	Pass	H	PK
3	5417.6418	34.92	4.94	-42.64	56.40	53.62	74.00	20.38	Pass	H	PK
4	6321.3321	35.86	5.30	-42.53	56.58	55.21	74.00	18.79	Pass	H	PK
5	7225.0225	36.33	5.75	-42.16	60.75	60.67	74.00	13.33	Pass	H	PK
6	8128.7129	36.45	6.18	-42.15	64.47	64.95	74.00	9.05	Pass	H	PK
7	7224.5955	36.32	5.75	-42.16	48.81	48.72	54.00	5.28	Pass	H	AV
8	8128.2699	36.45	6.18	-42.15	50.46	50.94	54.00	3.06	Pass	H	AV
9	6321.0291	35.86	5.30	-42.54	46.13	44.75	54.00	9.25	Pass	H	AV
10	2708.3708	32.73	3.71	-43.10	59.83	53.17	74.00	20.83	Pass	H	PK
11	3612.0612	33.49	4.05	-43.07	58.41	52.88	74.00	21.12	Pass	V	PK
12	5417.6418	34.92	4.94	-42.64	56.79	54.01	74.00	19.99	Pass	V	PK
13	6321.3321	35.86	5.30	-42.53	56.11	54.74	74.00	19.26	Pass	V	PK
14	7222.3222	36.32	5.76	-42.16	61.83	61.75	74.00	12.25	Pass	V	PK
15	8127.8128	36.45	6.18	-42.15	66.06	66.54	74.00	7.46	Pass	V	PK
16	6321.3351	35.86	5.30	-42.54	43.76	42.38	54.00	11.62	Pass	V	AV
17	7222.7842	36.32	5.75	-42.16	48.70	48.61	54.00	5.39	Pass	V	AV
18	8127.7008	36.45	6.18	-42.15	33.23	33.71	54.00	20.29	Pass	V	AV
19	5418.0638	34.92	4.94	-42.63	48.02	45.25	54.00	8.75	Pass	V	AV

Mode:			Lora Transmitting					Channel:		915MHz	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Readin g [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	2746.1746	32.79	3.66	-43.10	59.79	53.14	74.00	20.86	Pass	H	PK
2	3658.8659	33.53	3.99	-43.07	61.75	56.20	74.00	17.80	Pass	H	PK
3	5489.6490	34.99	5.08	-42.60	56.32	53.79	74.00	20.21	Pass	H	PK
4	6404.1404	35.88	5.40	-42.52	56.96	55.72	74.00	18.28	Pass	H	PK
5	7322.2322	36.42	5.90	-42.14	63.09	63.27	74.00	10.73	Pass	H	PK
6	8235.8236	36.49	6.17	-42.11	63.64	64.19	74.00	9.81	Pass	H	PK
7	7321.7412	36.42	5.90	-42.14	44.15	44.33	54.00	9.67	Pass	H	AV
8	8235.6966	36.49	6.17	-42.11	32.45	33.00	54.00	21.00	Pass	H	AV
9	3658.5942	33.53	3.99	-43.07	52.23	46.68	54.00	7.32	Pass	H	AV
10	6403.9529	35.88	5.40	-42.52	49.65	48.41	54.00	5.59	Pass	H	AV
11	2746.1746	32.79	3.66	-43.10	60.28	53.63	74.00	20.37	Pass	V	PK
12	3660.6661	33.53	3.99	-43.07	60.87	55.32	74.00	18.68	Pass	V	PK
13	4575.1575	34.50	4.51	-42.80	56.34	52.55	74.00	21.45	Pass	V	PK
14	6404.1404	35.88	5.40	-42.52	56.86	55.62	74.00	18.38	Pass	V	PK
15	7320.4320	36.42	5.89	-42.13	65.91	66.09	74.00	7.91	Pass	V	PK
16	8235.8236	36.49	6.17	-42.11	64.73	65.28	74.00	8.72	Pass	V	PK
17	3660.4962	33.53	3.99	-43.07	55.60	48.94	54.00	5.06	Pass	V	AV
18	6403.5634	35.88	5.40	-42.52	54.35	53.11	54.00	0.89	Pass	V	AV
19	7320.5343	36.42	5.89	-42.13	49.54	49.72	54.00	4.28	Pass	V	AV
20	8235.4345	36.49	6.17	-42.11	50.56	51.11	54.00	2.89	Pass	V	AV

Mode:			Lora Transmitting					Channel:		927.5MHz	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1854.1854	30.74	3.09	-42.84	64.46	55.45	74.00	18.55	Pass	H	PK
2	3708.3708	33.57	4.00	-43.06	60.82	55.33	74.00	18.67	Pass	H	PK
3	5561.6562	35.10	4.90	-42.60	57.44	54.84	74.00	19.16	Pass	H	PK
4	6489.6490	35.90	5.58	-42.51	59.73	58.70	74.00	15.30	Pass	H	PK
5	7415.8416	36.52	5.90	-42.12	65.05	65.35	74.00	8.65	Pass	H	PK
6	8342.0342	36.54	6.33	-42.06	64.05	64.86	74.00	9.14	Pass	H	PK
7	7416.1786	36.52	5.90	-42.12	52.93	53.23	54.00	0.77	Pass	H	AV
8	8342.5042	36.54	6.33	-42.06	48.45	49.26	54.00	4.74	Pass	H	AV
9	1854.6831	30.74	3.09	-42.84	56.64	47.63	54.00	6.37	Pass	H	AV
10	3707.9456	33.57	4.00	-43.06	52.35	46.86	54.00	7.14	Pass	H	AV
11	5561.1287	35.10	4.90	-42.60	54.42	51.82	54.00	2.18	Pass	H	AV
12	6489.3436	35.90	5.58	-42.51	52.96	51.93	54.00	2.07	Pass	H	AV
13	2780.3780	32.85	3.66	-43.10	62.63	56.04	74.00	17.96	Pass	V	PK
14	3708.3708	33.57	4.00	-43.06	59.08	53.59	74.00	20.41	Pass	V	PK
15	5560.7561	35.10	4.90	-42.60	58.25	55.65	74.00	18.35	Pass	V	PK
16	6487.8488	35.90	5.57	-42.50	57.37	56.34	74.00	17.66	Pass	V	PK
17	7415.8416	36.52	5.90	-42.12	67.89	68.19	74.00	5.81	Pass	V	PK
18	8341.1341	36.54	6.33	-42.07	66.05	66.85	74.00	7.15	Pass	V	PK
19	7416.3146	36.52	5.90	-42.12	53.12	53.42	54.00	0.58	Pass	V	AV
20	2780.54327	32.85	3.66	-43.10	58.52	51.93	54.00	2.07	Pass	V	AV
21	5560.4432	35.10	4.90	-42.60	50.56	47.96	54.00	6.04	Pass	V	AV
22	6487.5634	35.90	5.57	-42.50	52.15	51.12	54.00	2.88	Pass	V	AV
23	8340.1124	36.54	6.32	-42.06	49.34	50.14	54.00	3.86	Pass	V	AV

NOTE:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

2) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.