

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
ZEGO ELECTRONIC COMPANY LIMITED

Zeraxa PRO
Model No.: 66223

FCC ID: 2ACS627TX

Prepared for : ZEGO ELECTRONIC COMPANY LIMITED
Address : ROOM 703, KOWLOON BUILDING, 555 NATHAN
ROAD, KOWLOON, HONG KONG

Prepared by : Shenzhen Accurate Technology Co., Ltd.
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Report Number : ATE20181577
Date of Test : September 4, 2018
Date of Report : September 10, 2018

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Test Report Certification

Applicant : ZEGO ELECTRONIC COMPANY LIMITED
Address : ROOM 703, KOWLOON BUILDING, 555 NATHAN ROAD,
KOWLOON, HONG KONG

Manufacturer : Shenzhen Yangri Electronic Company Limited
Address : The Third Industrial Area, Luotian community, Songgang town,
Shenzhen City, China

Product : Zeraxa PRO

Model No. : 66223

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2013

The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.249 limits. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test : September 4, 2018
Date of Report : September 10, 2018

Prepared by :
(Sean Yang, Engineer)

Approved & Authorized Signer :
(Sean Liu, Manager)



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Zeraxa PRO
Model Number	:	66223
Frequency Range	:	2415MHz-2465MHz
Number of Channels	:	51
Modulation mode	:	GFSK
Antenna Gain	:	0dBi
Antenna type	:	Wire antenna
Power Supply	:	DC 6V
Applicant	:	ZEGO ELECTRONIC COMPANY LIMITED
Address	:	ROOM 703, KOWLOON BUILDING, 555 NATHAN ROAD, KOWLOON, HONG KONG
Manufacturer	:	Shenzhen Yangri Electronic Company Limited
Address	:	The Third Industrial Area, Luotian community, Songgang town, Shenzhen City, China

1.2. Frequency List

Channel	Freq (MHz)	Channel	Freq (MHz)	Channel	Freq (MHz)	Channel	Freq (MHz)	Channel	Freq (MHz)
1	2415	12	2426	23	2437	34	2448	45	2459
2	2416	13	2427	24	2438	35	2449	46	2460
3	2417	14	2428	25	2439	36	2450	47	2461
4	2418	15	2429	26	2440	37	2451	48	2462
5	2419	16	2430	27	2441	38	2452	49	2463
6	2420	17	2431	28	2442	39	2453	50	2464
7	2421	18	2432	29	2443	40	2454	51	2465
8	2422	19	2433	30	2444	41	2455		
9	2423	20	2434	31	2445	42	2456		
10	2424	21	2435	32	2446	43	2457		
11	2425	22	2436	33	2447	44	2458		

1.3. Special Accessory and Auxiliary Equipment

N/A

1.4. Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISED) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd.
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

1.5. 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. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 06, 2018	One Year
EMI Test Receiver	Rohde&Schwarz	ESR	101817	Jan. 06, 2018	One Year
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 06, 2018	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 06, 2018	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 06, 2018	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 06, 2018	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 06, 2018	One Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 06, 2018	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 06, 2018	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 06, 2018	One Year
Conducted Emission Measurement Software: ES-K1 V1.71					
Radiated Emission Measurement Software: EZ EMC V1.1.4.2					

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

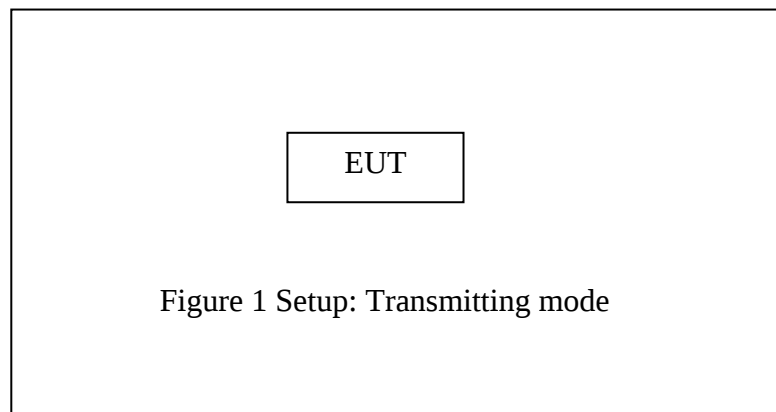
The mode is used: **Transmitting mode**

Low Channel: 2415MHz

Middle Channel: 2445MHz

High Channel: 2465MHz

3.2.Configuration and peripherals



4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.215(c)	20dB Bandwidth	Compliant
Section 15.249(d)	Band Edge Compliance Test	Compliant
Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	N/A
Section 15.203	Antenna Requirement	Compliant

Note: The power supply mode of the EUT is DC 6V, According to the FCC standard requirements, conducted emission is not applicable.

5. 20DB BANDWIDTH MEASUREMENT

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.215(c)

The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset while the long-term distribution appears evenly distributed.

5.3. Operating Condition of EUT

5.3.1. Setup the EUT and simulator as shown as Section 5.1.

5.3.2. Turn on the power of all equipment.

5.3.3. Let the EUT work in TX modes measure it. The transmit frequency are 2415, 2445, 2465MHz.

5.4. Test Procedure

5.4.1. Place the EUT on the table and set it in transmitting mode.

5.4.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

5.4.3. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

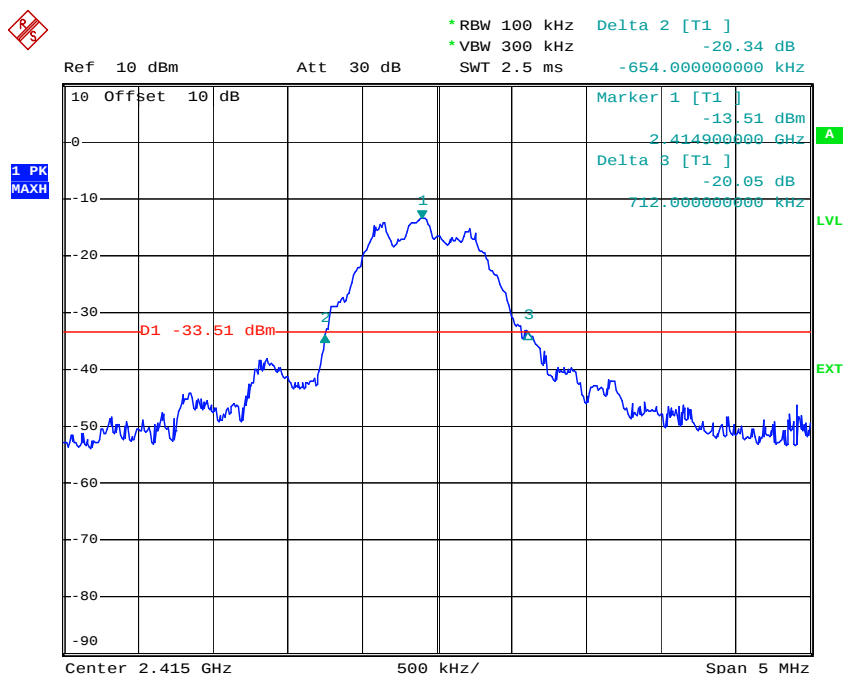
5.4.4. Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5. Test Result

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2415	1.366
Middle	2445	1.310
High	2465	1.350

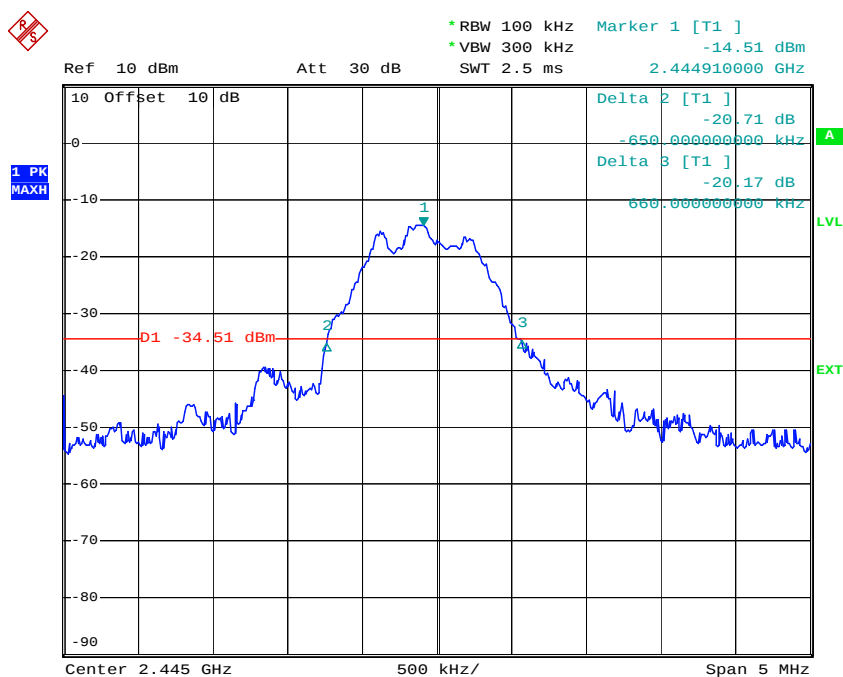
The spectrum analyzer plots are attached as below.

Low channel



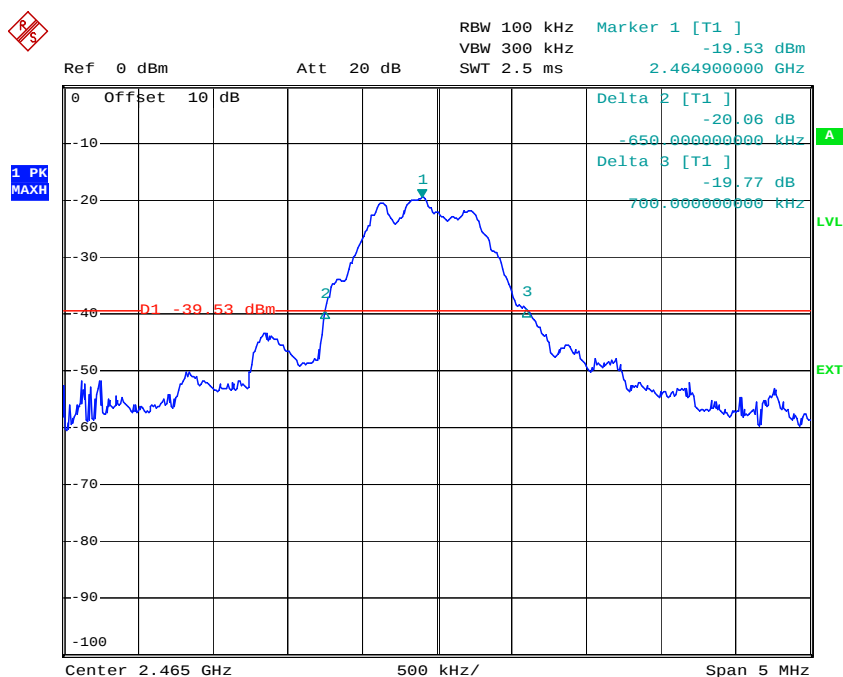
Comment A:
Date: 12.SEP.2018 18:10:24

Middle channel



Comment A:
Date: 12.SEP.2018 18:14:45

High channel

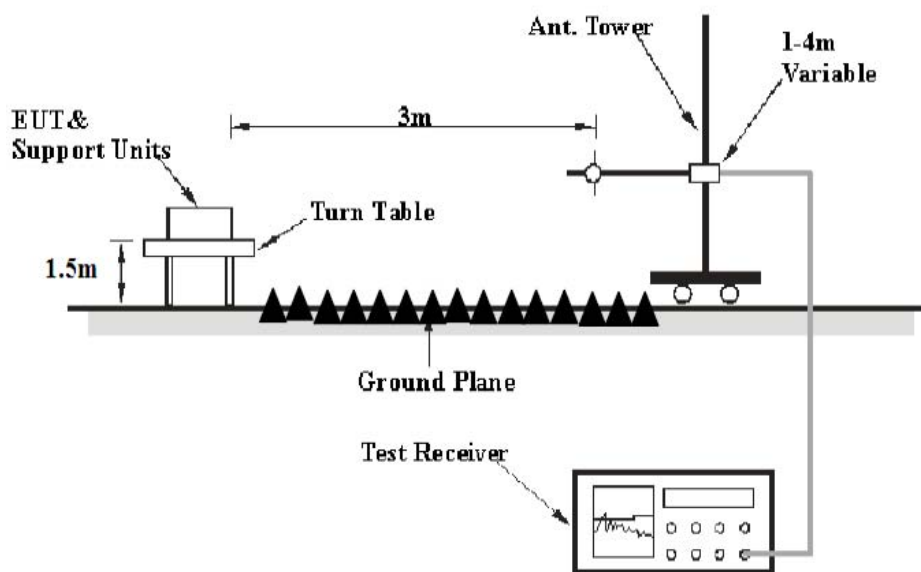


Comment A:
Date: 12.SEP.2018 16:03:57

6. BAND EDGE COMPLIANCE TEST

6.1. Block Diagram of Test Setup

(C) Radiated Emission Test Set-Up, Frequency above 1GHz



6.2. The Requirement For Section 15.249

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 A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

6.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4. Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 6.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2415, 2465MHz.

6.5. Test Procedure

Radiate Band Edge:

6.5.1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

6.5.2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

6.5.3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

6.5.4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

6.5.5. The band edges was measured and recorded.

6.6. Test Result

Pass.

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

3. Display the measurement of peak values.
4. The average measurement was not performed when peak measured data under the limit of average detection.

The spectrum analyzer plots are attached as below.

Job No.: frank2018 #1309

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2415MHz

Model: 66223

Manufacturer: Yangri

Polarization: Horizontal

Power Source: DC 6V

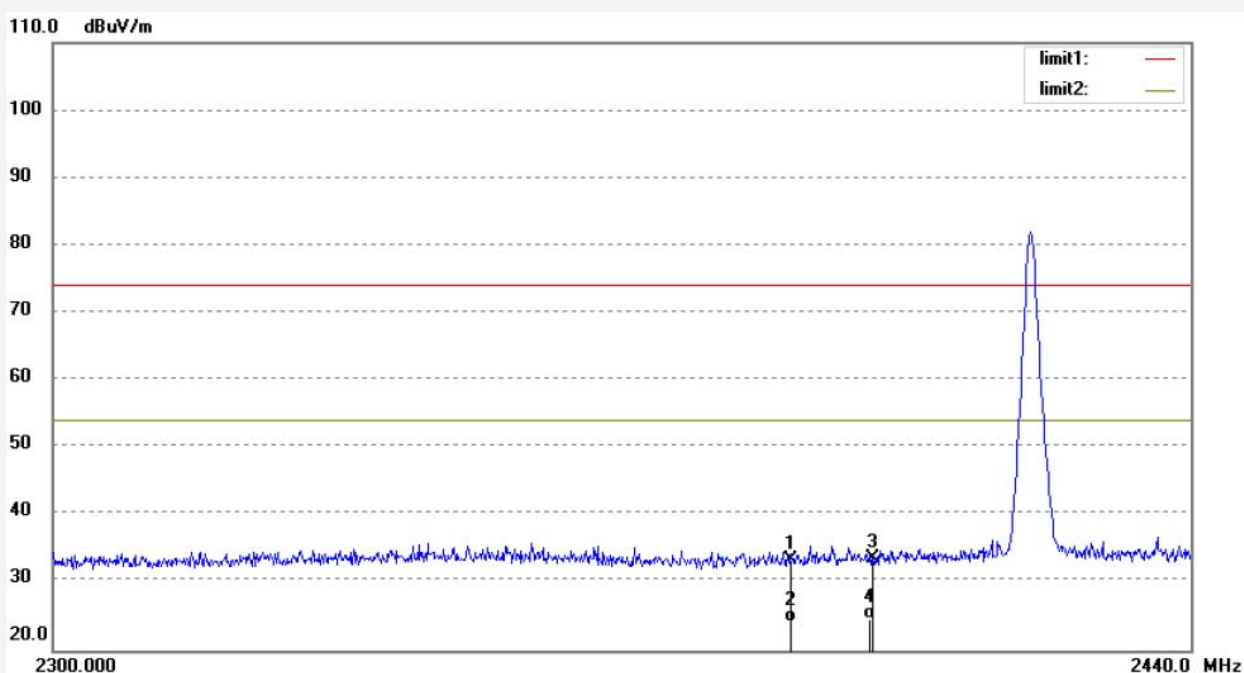
Date: 2018/09/04

Time: 15:27:18

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577

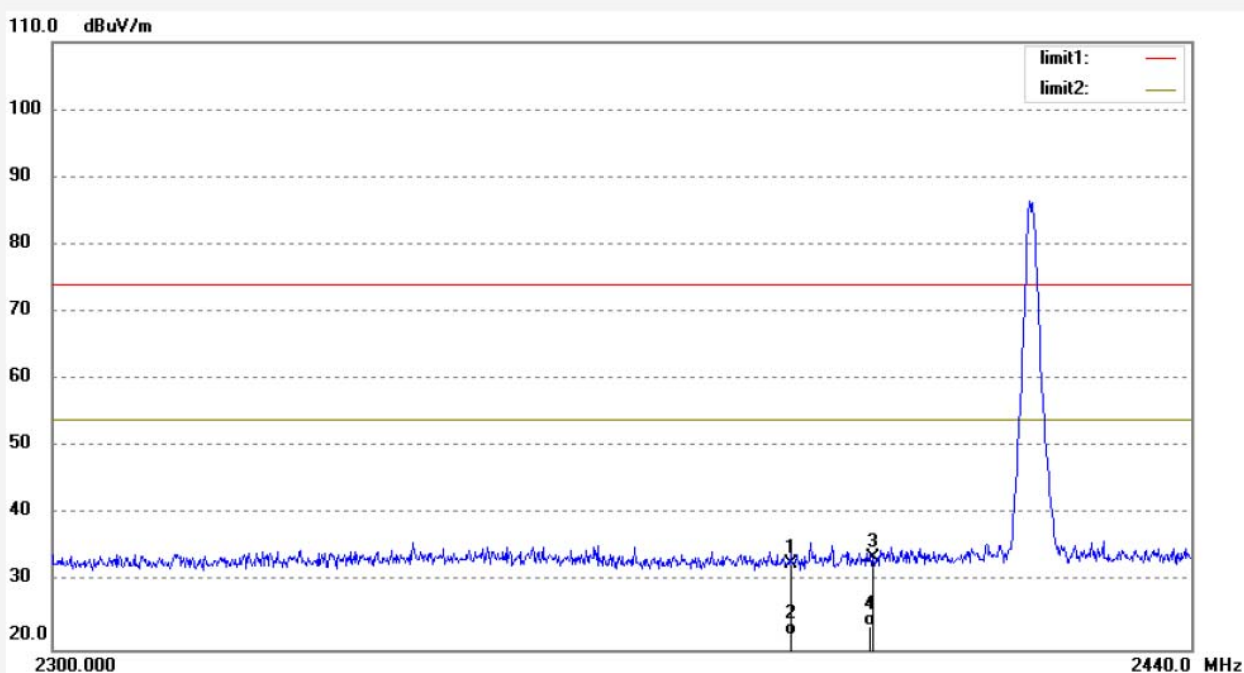


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	41.36	-8.00	33.36	74.00	-40.64	peak	200	302	
2	2390.000	32.12	-8.00	24.12	54.00	-29.88	AVG	200	158	
3	2400.000	41.54	-7.97	33.57	74.00	-40.43	peak	200	26	
4	2400.000	32.65	-7.97	24.68	54.00	-29.32	AVG	200	48	

Job No.: frank2018 #1308
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Zeraxa PRO
Mode: TX 2415MHz
Model: 66223
Manufacturer: Yangri

Polarization: Vertical
Power Source: DC 6V
Date: 2018/09/04
Time: 15:26:42
Engineer Signature:
Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	40.75	-8.00	32.75	74.00	-41.25	peak	200	302	
2	2390.000	30.21	-8.00	22.21	54.00	-31.79	AVG	150	156	
3	2400.000	41.54	-7.97	33.57	74.00	-40.43	peak	200	112	
4	2400.000	31.52	-7.97	23.55	54.00	-30.45	AVG	150	45	

Job No.: frank2018 #1307

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2465MHz

Model: 66223

Manufacturer: Yangri

Polarization: Horizontal

Power Source: DC 6V

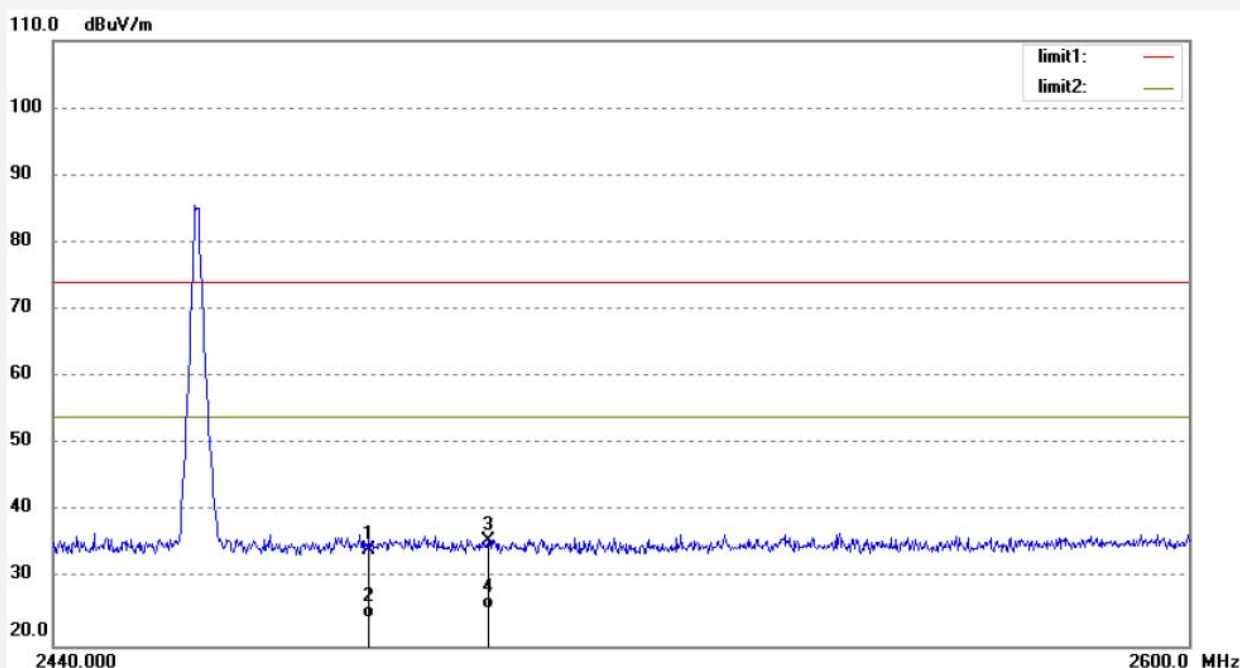
Date: 2018/09/04

Time: 15:25:58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	42.07	-7.76	34.31	74.00	-39.69	peak	250	302	
2	2483.500	32.01	-7.76	24.25	54.00	-29.75	AVG	200	156	
3	2500.000	43.38	-7.71	35.67	74.00	-38.33	peak	250	74	
4	2500.000	33.25	-7.71	25.54	54.00	-28.46	AVG	200	246	

Job No.: frank2018 #1306

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2465MHz

Model: 66223

Manufacturer: Yangri

Polarization: Vertical

Power Source: DC 6V

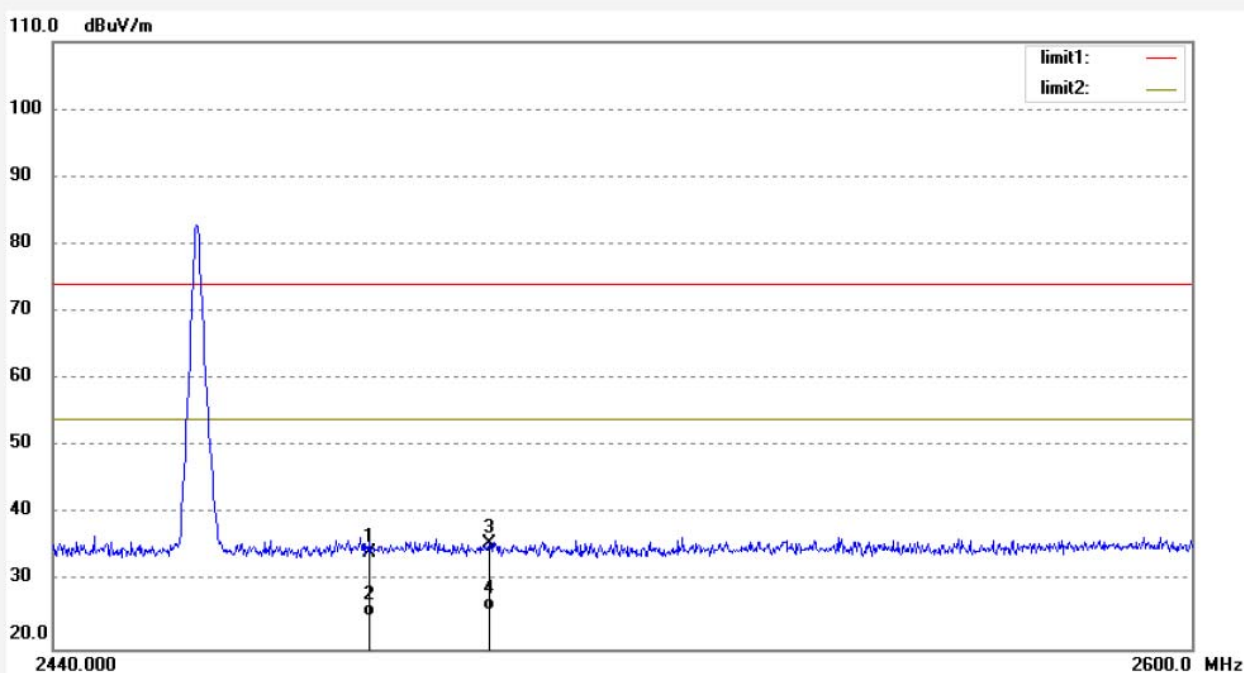
Date: 2018/09/04

Time: 15:23:58

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577

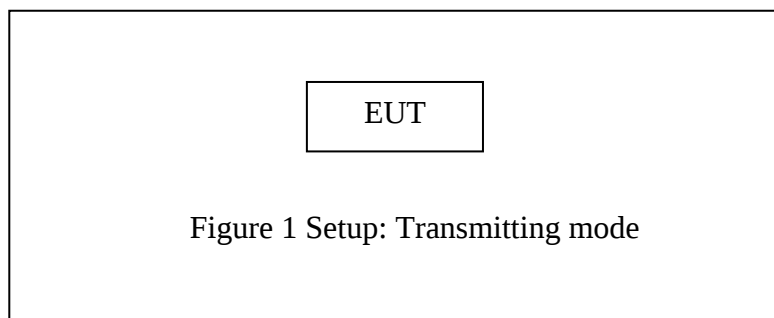


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	42.07	-7.76	34.31	74.00	-39.69	peak	200	201	
2	2483.500	32.51	-7.76	24.75	54.00	-29.25	AVG	150	154	
3	2500.000	43.38	-7.71	35.67	74.00	-38.33	peak	200	265	
4	2500.000	33.54	-7.71	25.83	54.00	-28.17	AVG	150	223	

7. RADIATED SPURIOUS EMISSION TEST

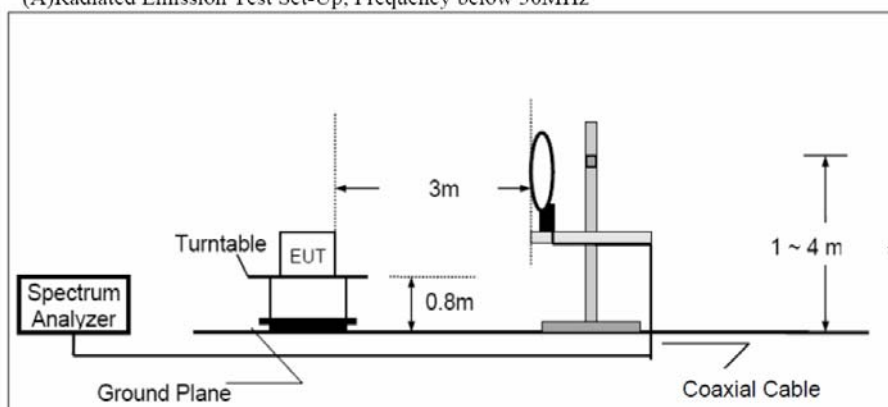
7.1. Block Diagram of Test Setup

7.1.1. Block diagram of connection between the EUT and peripherals

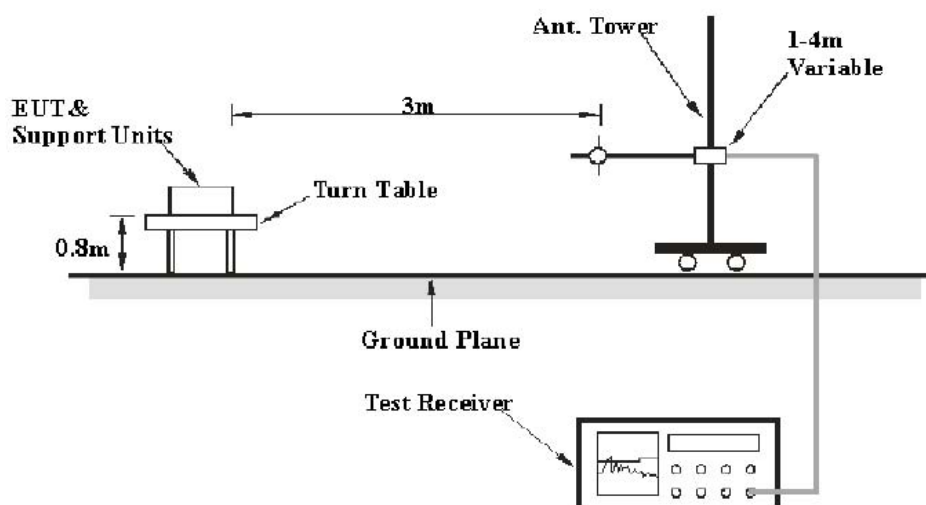


7.1.2. Semi-Anechoic Chamber Test Setup Diagram

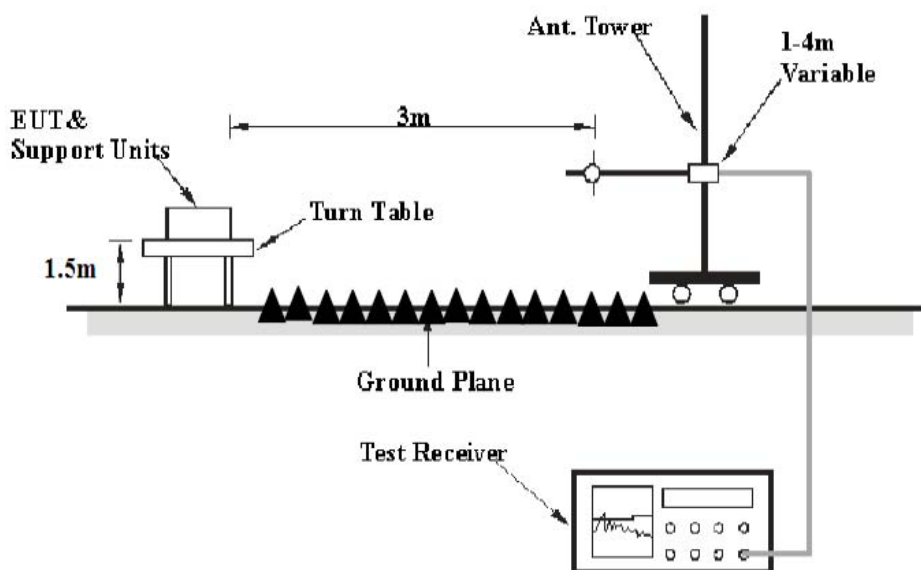
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



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



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



7.2.The Limit For Section 15.249

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 A8.4(4), the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

7.3. Restricted bands of operation

7.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 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	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

²Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

7.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.5. Operating Condition of EUT

7.5.1. Setup the EUT and simulator as shown as Section 7.1.

7.5.2. Turn on the power of all equipment.

7.5.3. Let the EUT work in TX modes and measure it. The transmit frequency are 2415, 2445, 2465MHz.

7.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter (Below 1GHz) and 1.5m (above 1GHz) high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 26.5GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

7.7. Data Sample

Frequency (MHz)	Reading (dB μ v)	Factor (dB/m)	Result (dB μ v/m)	Limit (dB μ v/m)	Margin (dB)	Remark
X.XX	48.69	-13.35	35.34	46	-10.66	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB μ v) = Uncorrected Analyzer/Receiver reading

Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain

Result(dB μ v/m) = Reading(dB μ v) + Factor(dB/m)

Limit (dB μ v/m) = Limit stated in standard

Margin (dB) = Result(dB μ v/m) - Limit (dB μ v/m)

QP = Quasi-peak Reading

Calculation Formula:

Margin(dB) = Result (dB μ V/m)–Limit(dB μ V/m)

Result(dB μ V/m)= Reading(dB μ V)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

7.8.The Field Strength of Radiation Emission Measurement Results

Pass.

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The EUT is tested radiation emission in three axes. The worst emissions are reported in all channels.

4. The radiation emissions from 9KHz-30MHz and 18GHz-26.5GHz are not reported, because the test values lower than the limits of 20dB.

The spectrum analyzer plots are attached as below.

Below 1GHz



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

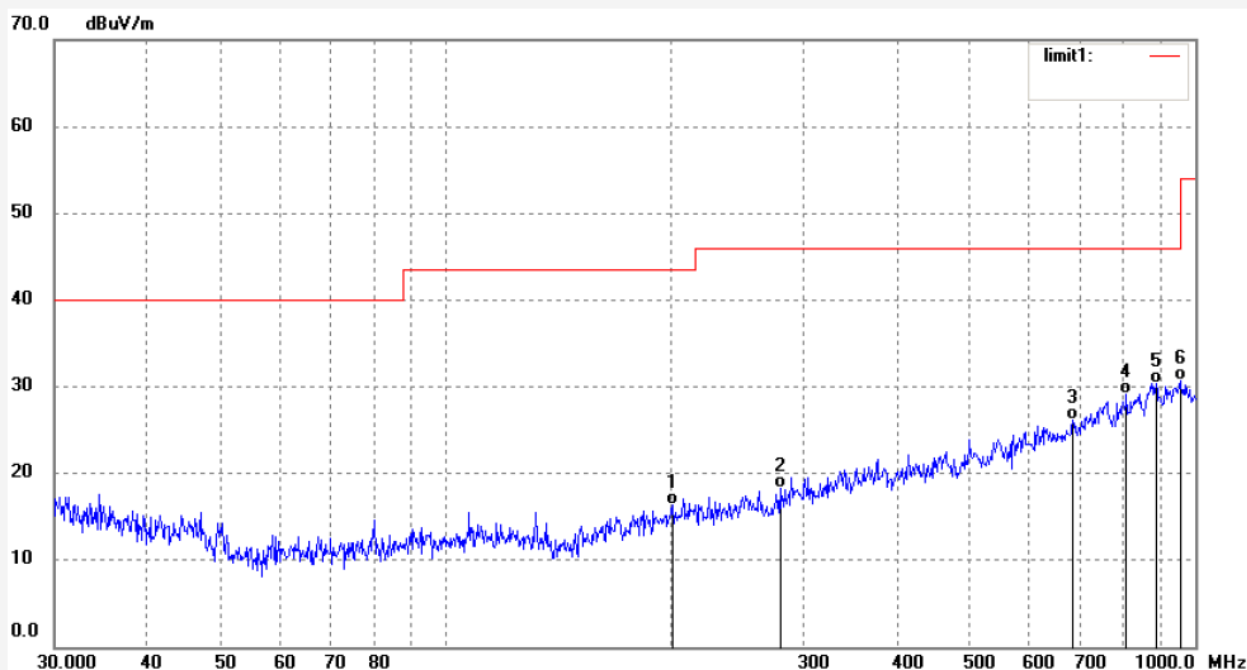
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: frank2018 #1247
Standard: FCC Part 15C 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Zeraxa PRO
Mode: TX 2415MHz
Model: 66223
Manufacturer: YangRi

Polarization: Horizontal
Power Source: DC 6V
Date: 18/09/04/
Time: 10/26/44
Engineer Signature:
Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	200.7471	35.05	-18.68	16.37	43.50	-27.13	QP	200	93	
2	279.3104	34.97	-16.73	18.24	46.00	-27.76	QP	200	215	
3	686.6340	34.30	-8.20	26.10	46.00	-19.90	QP	200	116	
4	809.9238	34.88	-5.72	29.16	46.00	-16.84	QP	200	166	
5	887.3976	34.77	-4.39	30.38	46.00	-15.62	QP	200	233	
6	955.3509	34.09	-3.35	30.74	46.00	-15.26	QP	200	252	

Job No.: frank2018 #1246

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2415MHz

Model: 66223

Manufacturer: YangRi

Polarization: Vertical

Power Source: DC 6V

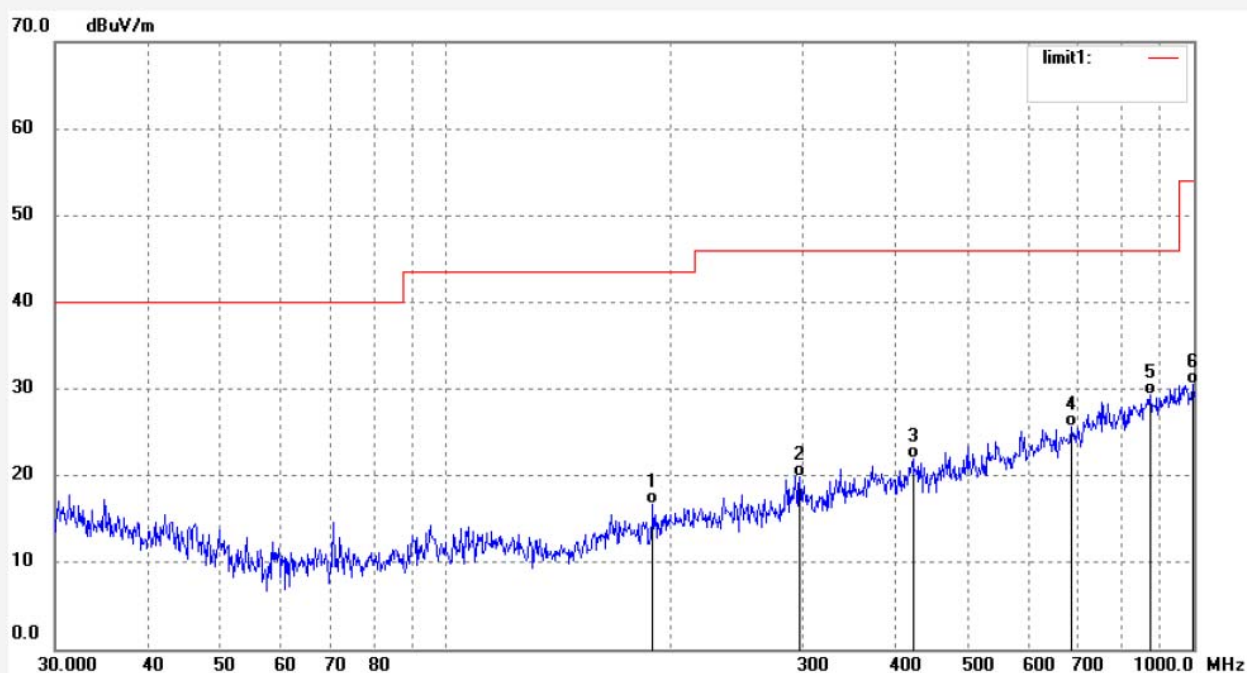
Date: 18/09/04/

Time: 10/26/22

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	189.1074	36.23	-19.52	16.71	43.50	-26.79	QP	100	103	
2	297.5459	36.19	-16.33	19.86	46.00	-26.14	QP	100	251	
3	421.3287	35.68	-13.69	21.99	46.00	-24.01	QP	100	185	
4	686.6340	33.84	-8.20	25.64	46.00	-20.36	QP	100	123	
5	875.0131	33.86	-4.61	29.25	46.00	-16.75	QP	100	255	
6	996.4926	33.26	-2.74	30.52	54.00	-23.48	QP	100	21	

Job No.: frank2018 #1248

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2445MHz

Model: 66223

Manufacturer: YangRi

Polarization: Horizontal

Power Source: DC 6V

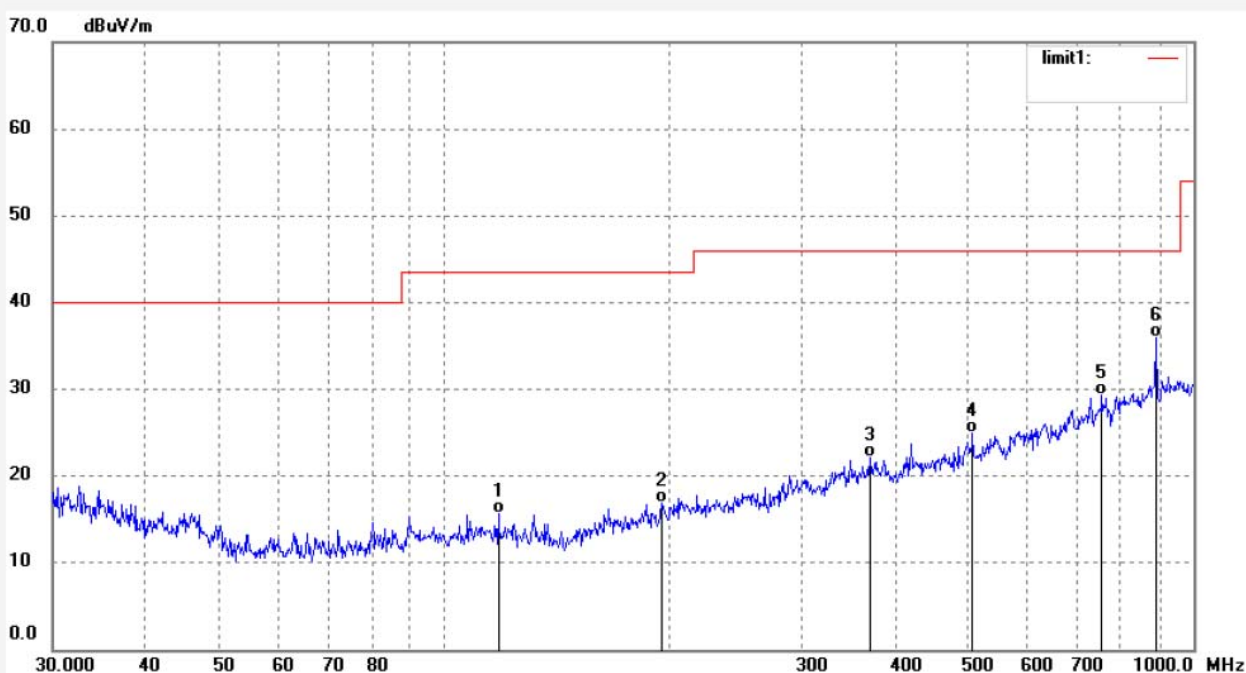
Date: 18/09/04/

Time: 10/27/20

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	118.0956	36.98	-21.27	15.71	43.50	-27.79	QP	200	114	
2	195.1830	35.86	-18.96	16.90	43.50	-26.60	QP	200	165	
3	369.9658	36.43	-14.23	22.20	46.00	-23.80	QP	200	48	
4	507.5693	36.92	-12.06	24.86	46.00	-21.14	QP	200	159	
5	754.9628	36.04	-6.65	29.39	46.00	-16.61	QP	200	113	
6	890.5212	40.36	-4.32	36.04	46.00	-9.96	QP	200	102	

Job No.: frank2018 #1249

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2445MHz

Model: 66223

Manufacturer: YangRi

Polarization: Vertical

Power Source: DC 6V

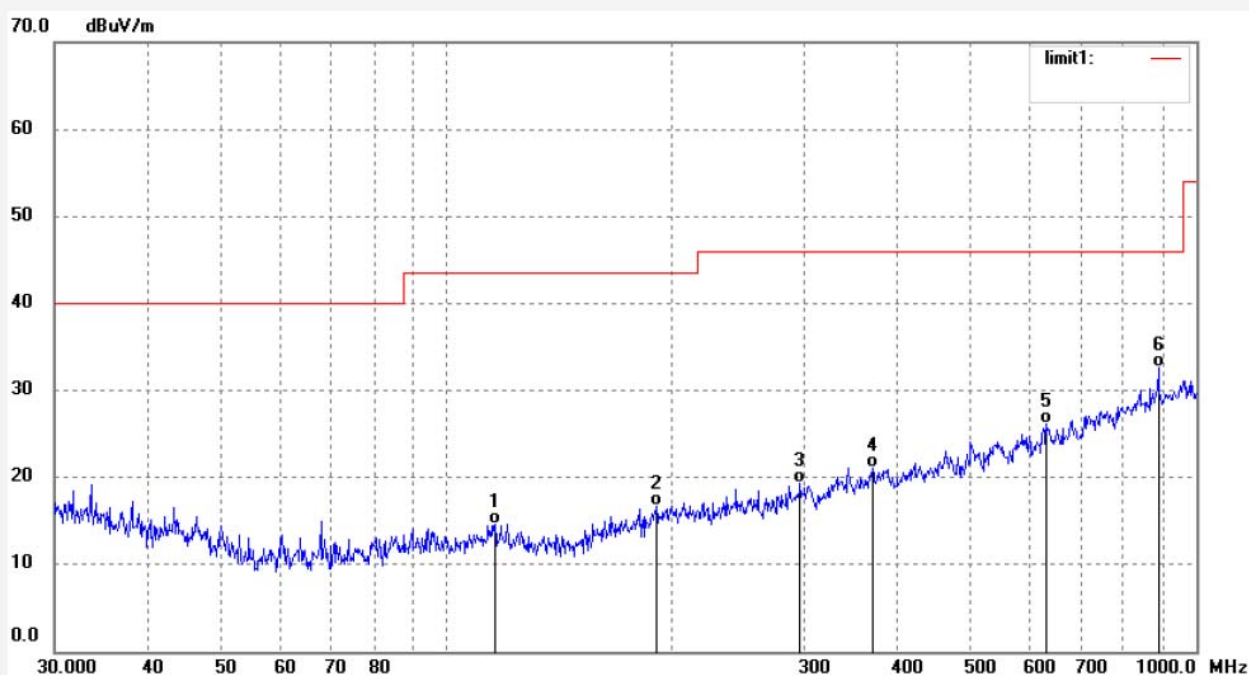
Date: 18/09/04/

Time: 10/27/56

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	116.0391	35.93	-21.23	14.70	43.50	-28.80	QP	100	95	
2	190.4411	36.09	-19.41	16.68	43.50	-26.82	QP	100	156	
3	296.5022	35.60	-16.34	19.26	46.00	-26.74	QP	100	129	
4	369.9658	35.31	-14.23	21.08	46.00	-24.92	QP	100	41	
5	631.1070	35.45	-9.24	26.21	46.00	-19.79	QP	100	156	
6	890.5212	36.97	-4.32	32.65	46.00	-13.35	QP	100	302	

Job No.: frank2018 #1251

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2465MHz

Model: 66223

Manufacturer: YangRi

Polarization: Horizontal

Power Source: DC 6V

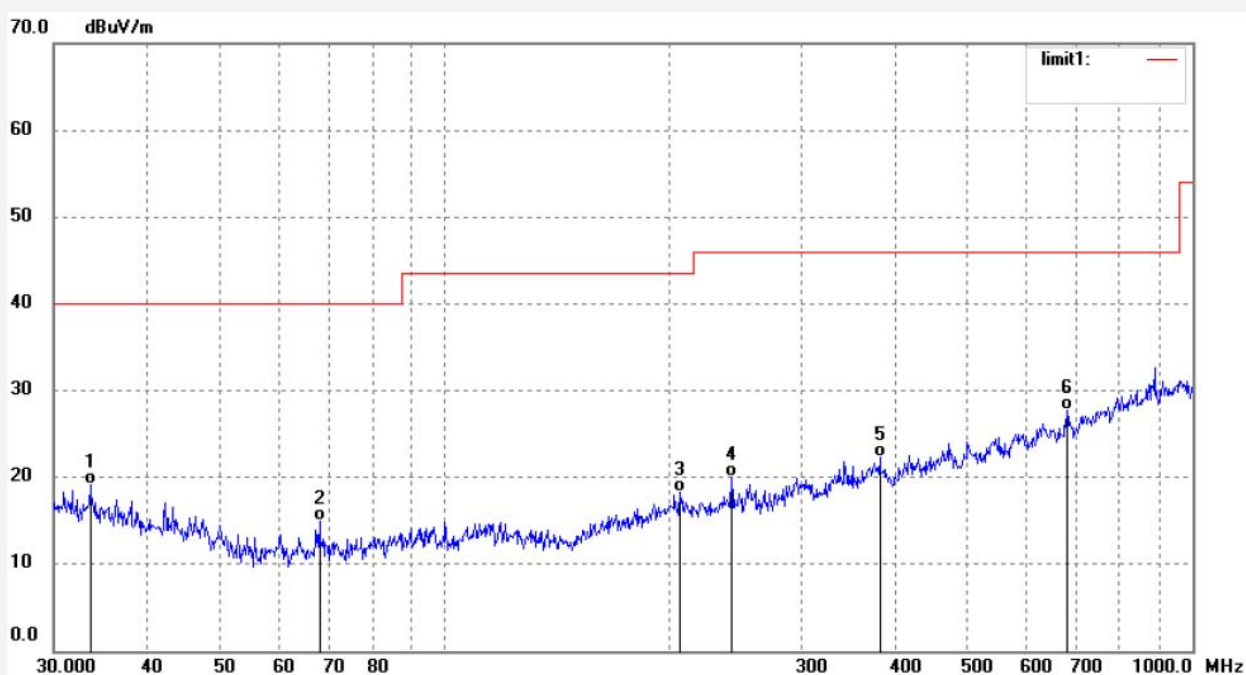
Date: 18/09/04/

Time: 10/28/24

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.5700	36.48	-17.30	19.18	40.00	-20.82	QP	200	45	
2	68.0241	37.82	-22.78	15.04	40.00	-24.96	QP	200	169	
3	206.4701	36.76	-18.51	18.25	43.50	-25.25	QP	200	158	
4	241.8377	38.31	-18.23	20.08	46.00	-25.92	QP	200	48	
5	381.8519	36.49	-14.14	22.35	46.00	-23.65	QP	200	159	
6	679.4346	36.04	-8.33	27.71	46.00	-18.29	QP	200	302	

Job No.: frank2018 #1250

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2465MHz

Model: 66223

Manufacturer: YangRi

Polarization: Vertical

Power Source: DC 6V

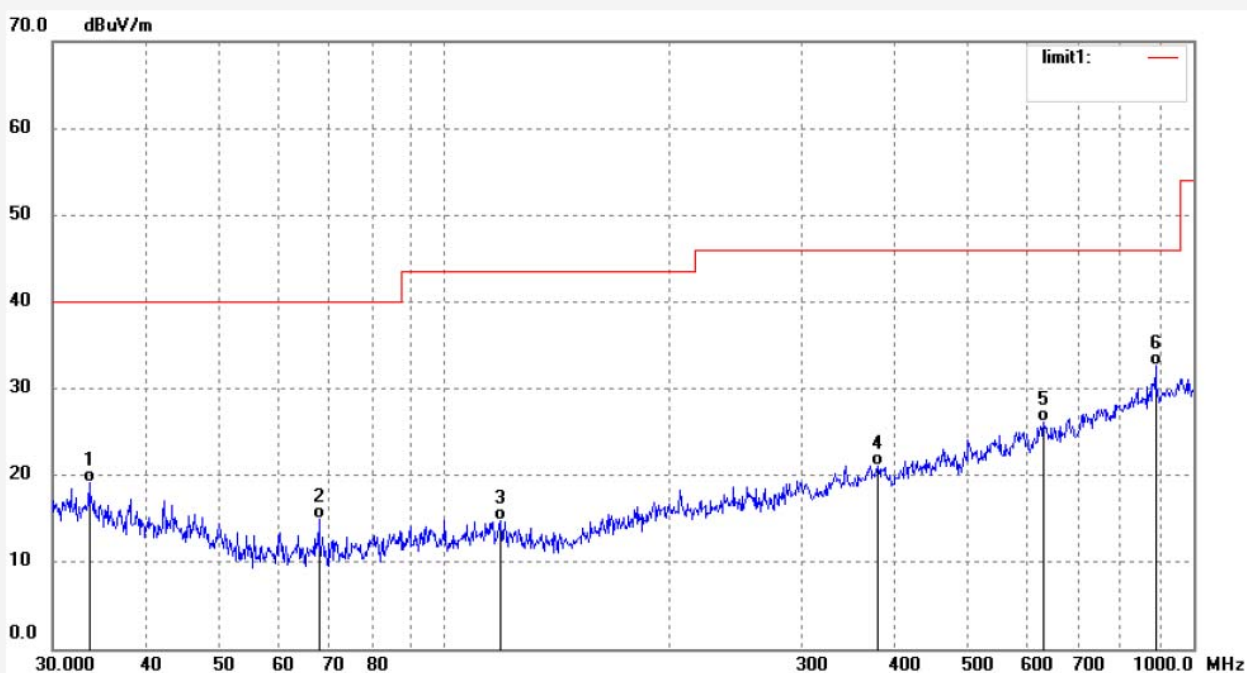
Date: 18/09/04/

Time: 10/28/05

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.5700	36.48	-17.30	19.18	40.00	-20.82	QP	100	159	
2	68.0241	37.82	-22.78	15.04	40.00	-24.96	QP	100	200	
3	118.9284	36.10	-21.30	14.80	43.50	-28.70	QP	100	123	
4	379.1779	35.29	-14.15	21.14	46.00	-24.86	QP	100	136	
5	631.1070	35.45	-9.24	26.21	46.00	-19.79	QP	100	215	
6	890.5212	36.97	-4.32	32.65	46.00	-13.35	QP	100	132	

Above 1GHz



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Fax:+86-0755-26503396

Job No.: frank2018 #1252

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2415MHz

Model: 66223

Manufacturer: YangRi

Polarization: Horizontal

Power Source: DC 6V

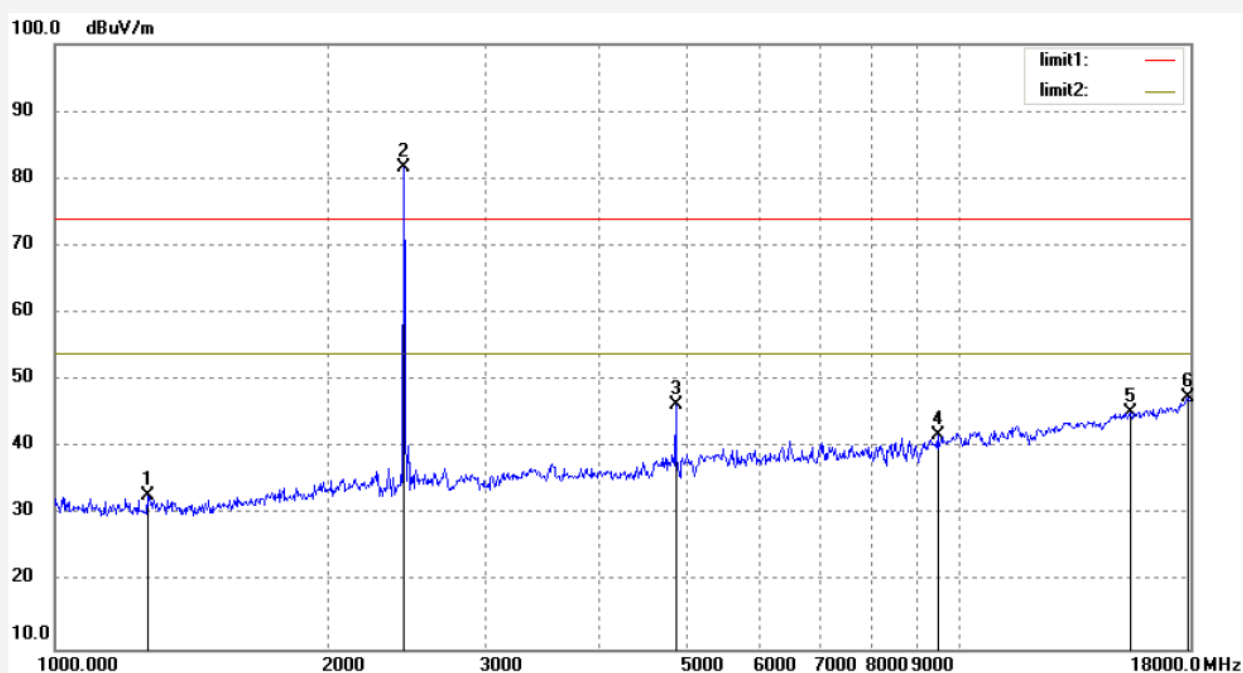
Date: 18/09/04/

Time: 10/31/38

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1265.884	44.77	-11.99	32.78	74.00	-41.22	peak	200	198	
2	2415.024	89.47	-7.90	81.57	114.00	-32.43	peak	200	45	
3	4830.057	48.39	-2.10	46.29	74.00	-27.71	peak	200	158	
4	9460.230	36.39	5.45	41.84	74.00	-32.16	peak	200	159	
5	15471.706	32.53	12.64	45.17	74.00	-28.83	peak	200	115	
6	17895.518	32.02	15.42	47.44	74.00	-26.56	peak	200	302	

Job No.: frank2018 #1253

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2415MHz

Model: 66223

Manufacturer: YangRi

Polarization: Vertical

Power Source: DC 6V

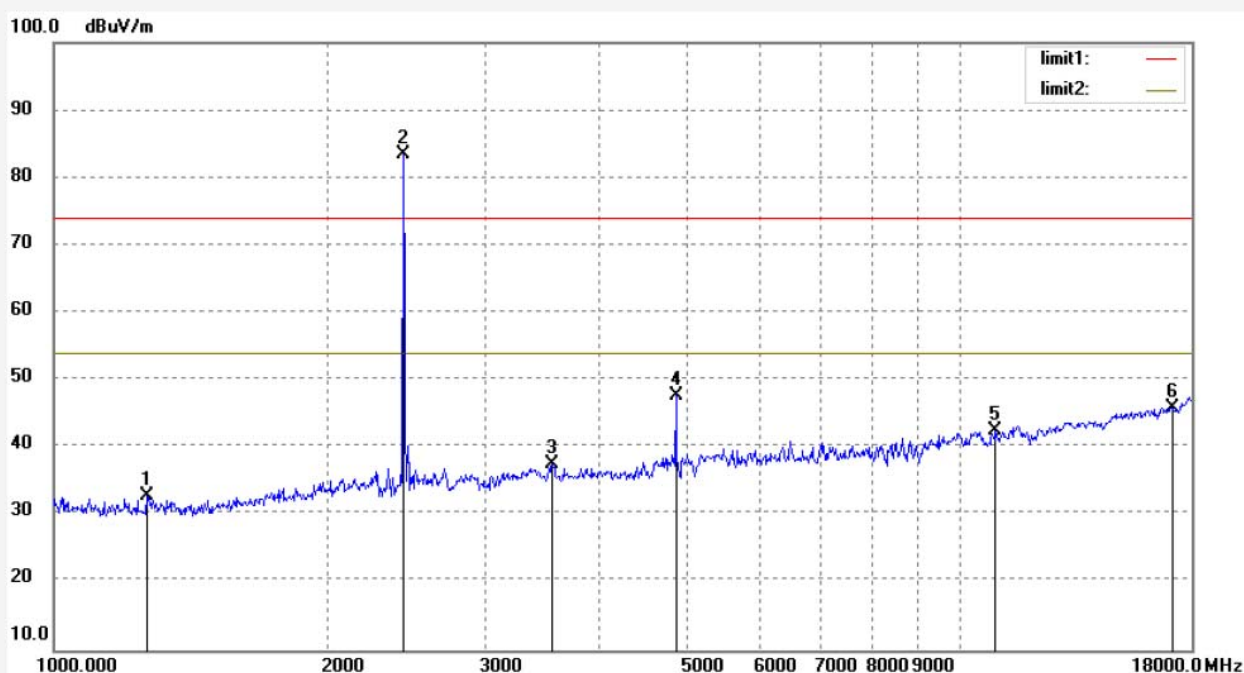
Date: 18/09/04/

Time: 10/31/38

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1265.884	44.77	-11.99	32.78	74.00	-41.22	peak	150	126	
2	2415.024	91.47	-7.90	83.57	114.00	-30.43	peak	150	56	
3	3547.258	41.92	-4.39	37.53	74.00	-36.47	peak	150	89	
4	4830.057	49.89	-2.10	47.79	74.00	-26.21	peak	150	159	
5	10942.278	36.79	5.80	42.59	74.00	-31.41	peak	150	154	
6	17180.926	30.94	15.02	45.96	74.00	-28.04	peak	150	302	

Job No.: frank2018 #1254

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2445MHz

Model: 66223

Manufacturer: YangRi

Polarization: Horizontal

Power Source: DC 6V

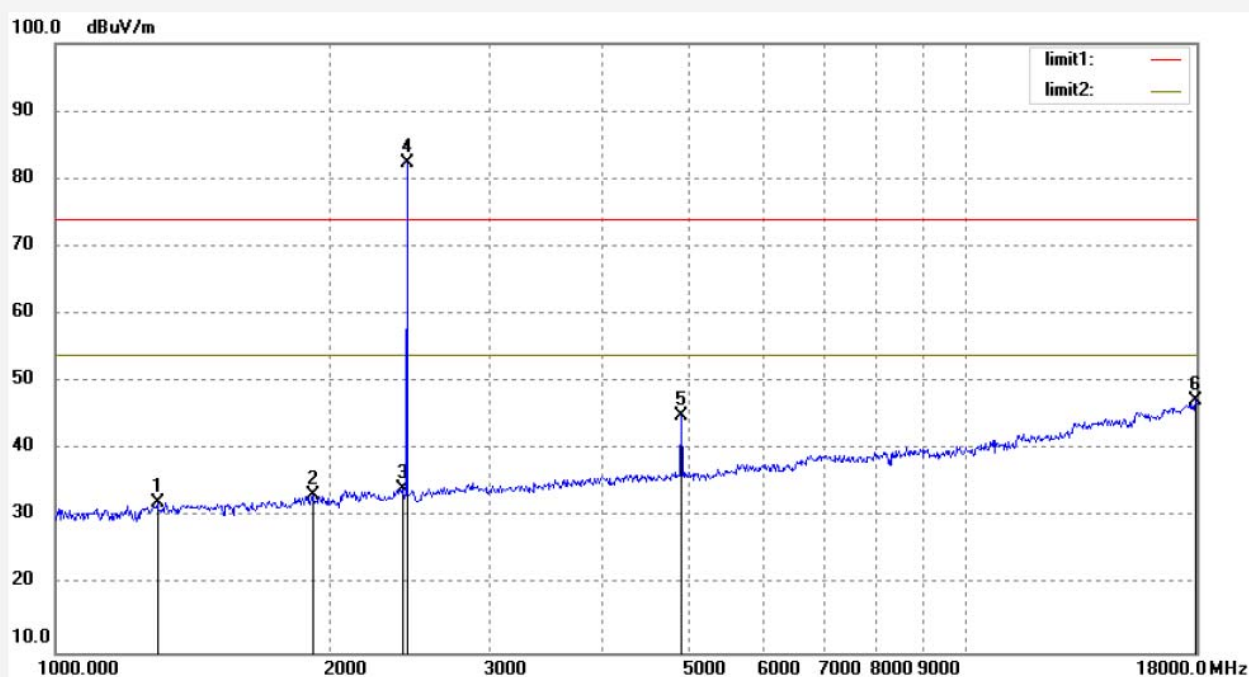
Date: 18/09/04/

Time: 10/33/06

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1295.707	44.11	-11.90	32.21	74.00	-41.79	peak	150	124	
2	1919.389	42.58	-9.39	33.19	74.00	-40.81	peak	150	123	
3	2408.600	42.10	-7.96	34.14	74.00	-39.86	peak	150	156	
4	2445.007	90.21	-7.88	82.33	114.00	-31.67	peak	150	48	
5	4890.017	47.07	-2.02	45.05	74.00	-28.95	peak	150	165	
6	17947.683	31.90	15.45	47.35	74.00	-26.65	peak	150	302	

Job No.: frank2018 #1255

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2445MHz

Model: 66223

Manufacturer: YangRi

Polarization: Vertical

Power Source: DC 6V

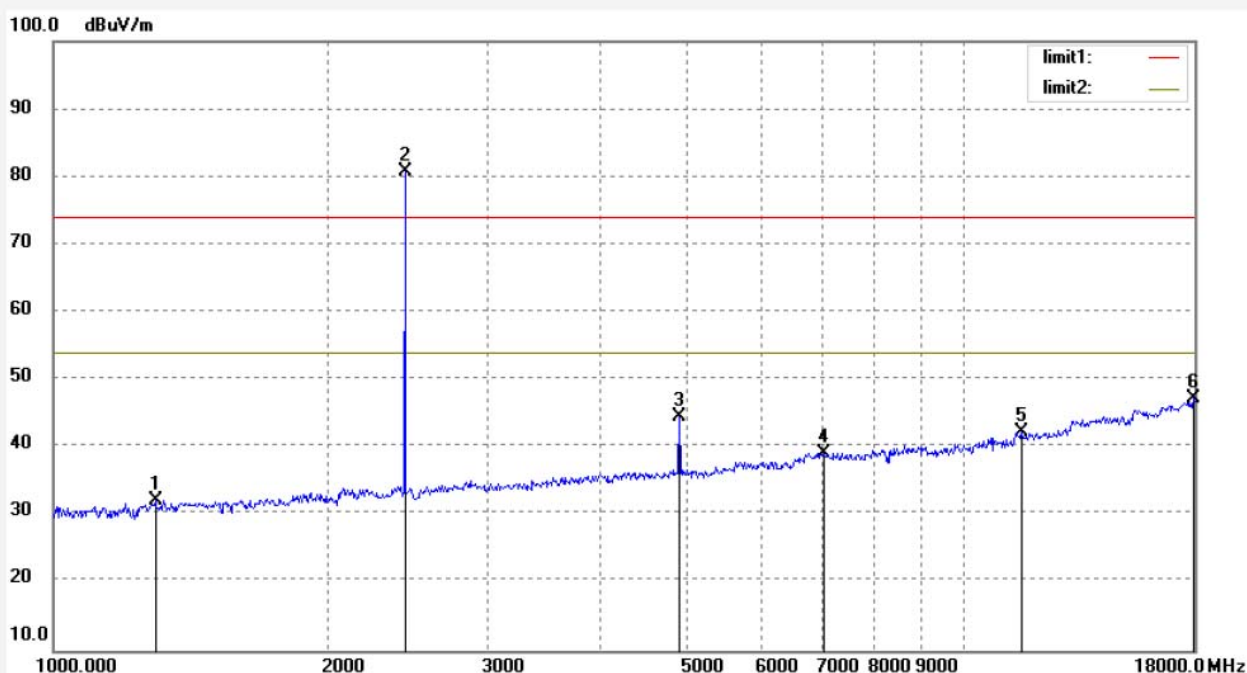
Date: 18/09/04/

Time: 10/33/06

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1295.707	44.11	-11.90	32.21	74.00	-41.79	peak	200	176	
2	2445.007	88.71	-7.88	80.83	114.00	-33.17	peak	200	112	
3	4890.017	46.57	-2.02	44.55	74.00	-29.45	peak	200	41	
4	7050.590	37.33	1.86	39.19	74.00	-34.81	peak	200	188	
5	11631.997	35.64	6.71	42.35	74.00	-31.65	peak	200	48	
6	17947.683	31.90	15.45	47.35	74.00	-26.65	peak	200	301	

Job No.: frank2018 #1257

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2465MHz

Model: 66223

Manufacturer: YangRi

Polarization: Horizontal

Power Source: DC 6V

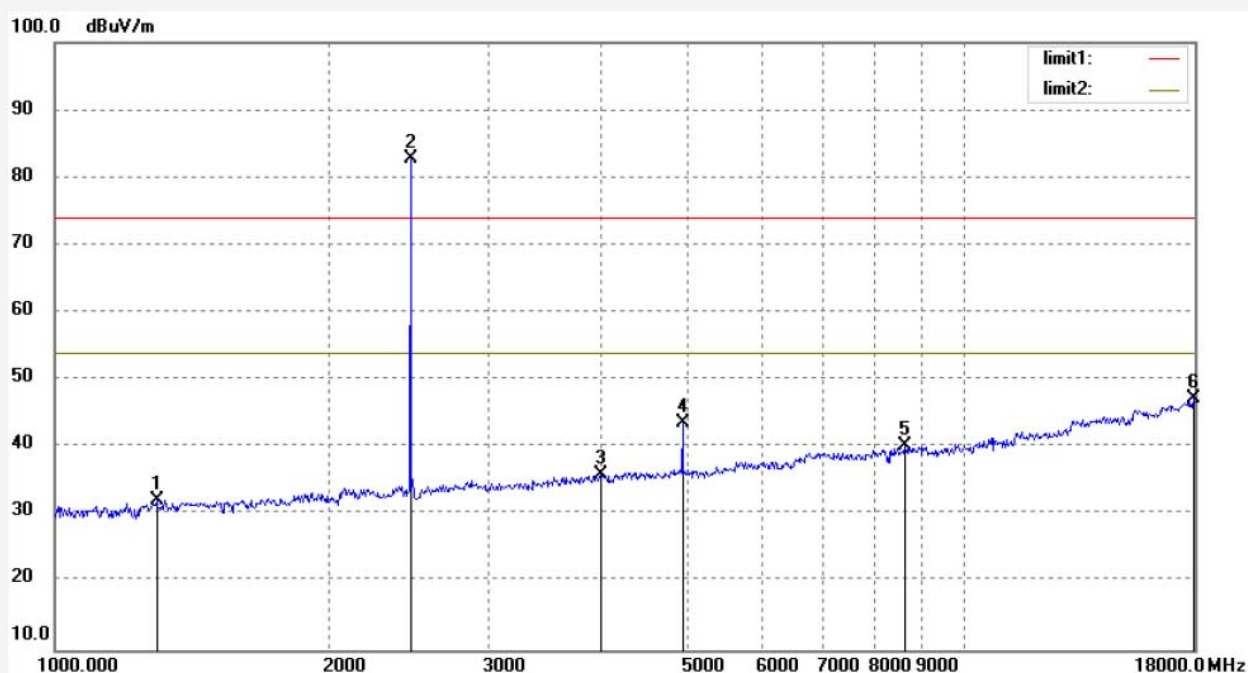
Date: 18/09/04/

Time: 10/33/06

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1295.707	44.11	-11.90	32.21	74.00	-41.79	peak	150	210	
2	2465.045	90.64	-7.80	82.84	114.00	-31.16	peak	150	132	
3	3996.886	39.18	-3.30	35.88	74.00	-38.12	peak	150	46	
4	4930.044	45.59	-1.92	43.67	74.00	-30.33	peak	150	136	
5	8643.983	35.81	4.42	40.23	74.00	-33.77	peak	150	156	
6	17947.683	31.90	15.45	47.35	74.00	-26.65	peak	150	302	

Job No.: frank2018 #1256

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Zeraxa PRO

Mode: TX 2465MHz

Model: 66223

Manufacturer: YangRi

Polarization: Vertical

Power Source: DC 6V

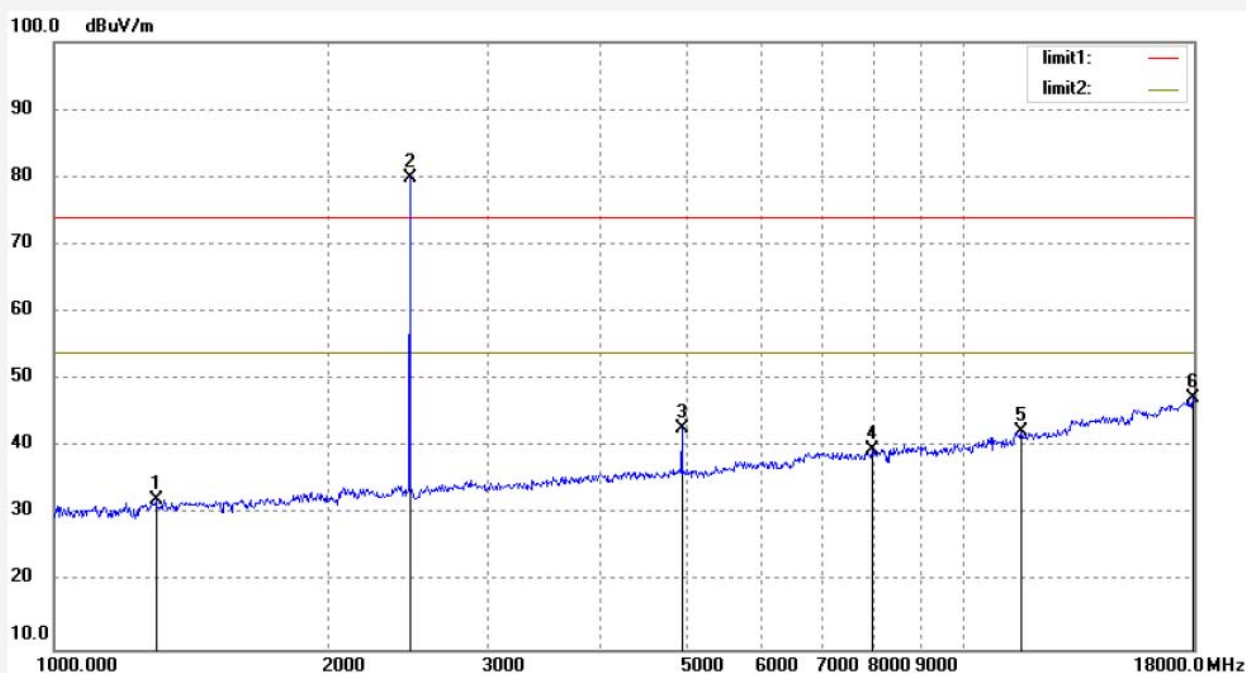
Date: 18/09/04/

Time: 10/33/06

Engineer Signature:

Distance:

Note: Report NO.:ATE20181577



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1295.707	44.11	-11.90	32.21	74.00	-41.79	peak	200	143	
2	2465.045	87.64	-7.80	79.84	114.00	-34.16	peak	200	166	
3	4930.044	44.59	-1.92	42.67	74.00	-31.33	peak	200	46	
4	7967.435	36.35	3.30	39.65	74.00	-34.35	peak	200	199	
5	11631.997	35.64	6.71	42.35	74.00	-31.65	peak	200	152	
6	17947.683	31.90	15.45	47.35	74.00	-26.65	peak	200	302	

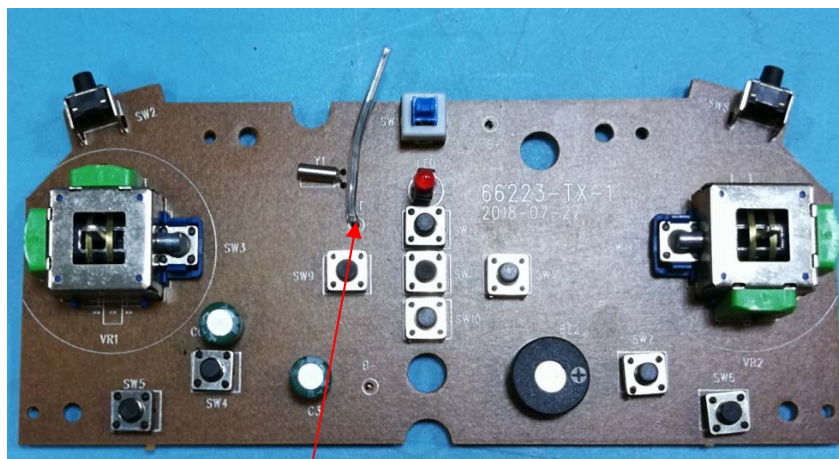
8. ANTENNA REQUIREMENT

8.1.The Requirement

According to Section 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.

8.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna

******* End of Test Report *******