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## FCC PART 15 SUBPART C TEST REPORT

#### FCC Part 15.249

Report Reference No..... CTL1401150079-WF

Compiled by

( position+printed name+signature)..: File administrators Jacky Chen

Name of the organization performing

the tests

Test Engineer Tracy Qi

( position+printed name+signature)...

Approved by

( position+printed name+signature)..: Manager Tracy Qi

Date of issue....: Feb. 12, 2014

Test Firm.... Shenzhen CTL Testing Technology Co., Ltd.

Address....: Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road,

Nanshan, Shenzhen 518055 China.

Applicant's name.....: **Dov Enterprises Inc / SHARKK** 

Address.....: 2001 Rt 46 E Suite 310 Parsippany NJ 07054, United States

Test specification:

FCC Part 15.249: Operation within the bands 920-928 MHz, 2400-Standard ....:

2483.5 MHz, 5725-5850 MHz and 24.0 - 24.25 GHz.

TRF Originator....: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF.....: Dated 2011-01

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Bluetooth Keyboard Test item description .....:

Trade Mark .....: SHARKK

Models/Type reference....: K361, K362, K561, K562, K563, K564, K365, K560, ABK05,

ABK06, ABK07, ABK08, ABK09, ABK10, LY05B, LY05C, K363,

K335, K338, K331, K360, K355, K366

Modulation ....: **FHSS** 

Work Frequency.....: 2402 MHz~2480 MHz

Antenna Type..... internal

FCC ID .....: 2ABCA-K361

Result..... Positive

## TEST REPORT

Test Report No. :	CTL1401150079-WF	Jan. 03, 2014
	C1L1401150075-WF	Date of issue

**Equipment under Test** : Bluetooth Keyboard

Model /Type : K361

Listed Modes : K362, K561, K562, K563, K564, K365, K560, ABK05,

ABK06, ABK07, ABK08, ABK09, ABK10, LY05B, LY05C,

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K363, K335, K338, K331, K360, K355, K366

Difference Description : Only the color and model's name is different.

Applicant : Dov Enterprises Inc / SHARKK

Address : 2001 Rt 46 E Suite 310 Parsippany NJ 07054, United

States

Manufacturer Brave Sword Technology Co., Limited

Address Xin'gu Industrial Park, Gushu Town, Bao'an District,

Shenzhen, China

Test Result according to the standards on page 4:	Positive
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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# 1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz.

**ANSI C63.4-2009** 



## 2. SUMMARY

## 2.1. General Remarks

Date of receipt of test sample : Jan. 15, 2014

Testing commenced on : Jan. 16, 2014

Testing concluded on : Jan. 18, 2014

## 2.2. Equipment Under Test

## Power supply system utilised

Power supply voltage : o 120V / 60 Hz o 115V / 60Hz o 24 V DC

Other (specified in blank below)

DC 3.7V from battery

# 2.3. Short description of the Equipment under Test (EUT)

The EUT is a Bluetooth Keyboard work at 2402~2480 MHz. Channel List:

Channel         Frequency (MHz)         Channel         Frequency (MHz)         Channel           00         2402         27         2429         54           01         2403         28         2430         55           02         2404         29         2431         56           03         2405         30         2432         57           04         2406         31         2433         58           05         2407         32         2434         59           06         2408         33         2435         60           07         2409         34         2436         61	Frequency (MHz) 2456 2457 2458 2459 2460 2461 2462 2463
01     2403     28     2430     55       02     2404     29     2431     56       03     2405     30     2432     57       04     2406     31     2433     58       05     2407     32     2434     59       06     2408     33     2435     60	2457 2458 2459 2460 2461 2462 2463
02     2404     29     2431     56       03     2405     30     2432     57       04     2406     31     2433     58       05     2407     32     2434     59       06     2408     33     2435     60	2458 2459 2460 2461 2462 2463
03     2405     30     2432     57       04     2406     31     2433     58       05     2407     32     2434     59       06     2408     33     2435     60	2459 2460 2461 2462 2463
04     2406     31     2433     58       05     2407     32     2434     59       06     2408     33     2435     60	2460 2461 2462 2463
05     2407     32     2434     59       06     2408     33     2435     60	2461 2462 2463
06 2408 33 2435 60	2462 2463
	2463
07 2409 34 2436 61	
07 2400 04 2400 01	
08 2410 35 2437 62	2464
09 2411 36 2438 63	2465
10 2412 37 2439 64	2466
11 2413 38 2440 65	2467
12 2414 39 2441 66	2468
13 2415 40 2442 67	2469
14 2416 41 2443 68	2470
15 2417 42 2444 69	2471
16 2418 43 2445 70	2472
17 2419 44 2446 71	2473
18 2420 45 2447 72	2474
19 2421 46 2448 73	2475
20 2422 47 2449 74	2476
21 2423 48 2450 75	2477
22 2424 49 2451 76	2478
23 2425 50 2452 77	2479
24 2426 51 2453 78	2480
25 2427 52 2454	
26 2428 53 2455	<u> </u>

Power Range: -5dBm~5dBm

Modulation: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps(8DPSK)

For more details, refer to the user's manual of the EUT.

Serial number: Prototype

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## 2.4. EUT operation mode

Test Mode(TM)	Description	Remark
TM1	Bottom Channel Transmitting	/
TM2	Middle Channel Transmitting	/
TM3	Top Channel Transmitting	/
TM4	Charging	USB power by PC

The field strength of radiation emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis).

The following data show only with the worst case setup.

The worst case of Y axis was reported.

Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report.

#### Remark:

All of the modulation modes, Top Channel, Middle Channel and Bottom Channel have been tested, the worst case mode is TM1(1Mbps, GFSK) reported in this report.

## 2.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

o - supplied by the manufacturer

supplied by the lab

● Notebook PC Manufacturer : DELL

Model No.: PP18L

## 2.6. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: 2ABCA-K361 filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

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#### 2.7. Modifications

No modifications were implemented to meet testing criteria.

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## 3. TEST ENVIRONMENT

## 3.1. Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd. Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.4 and CISPR 22/EN 55022 requirements.

## 3.2. Test Facility

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

## IC Registration No.: 9618B

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration No.: 9618B on November 13, 2013.

## FCC-Registration No.: 970318

Shenzhen CTL Testing Technology Co., Ltd. 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 our files. Registration 970318, December 19, 2011.

#### 3.3. Environmental conditions

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

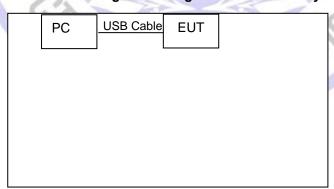
Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 950-1050mbar

## 3.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System



#### **Cable List and Details**

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.2	Unshielded	Without Core

## 3.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10dB	(1)
Radiated Emission	1~26.5GHz	4.32dB	(1)
Conducted Disturbance	0.15~30MHz	3.20dB	(1)

<sup>(1)</sup> This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 3.6. Equipments Used during the Test

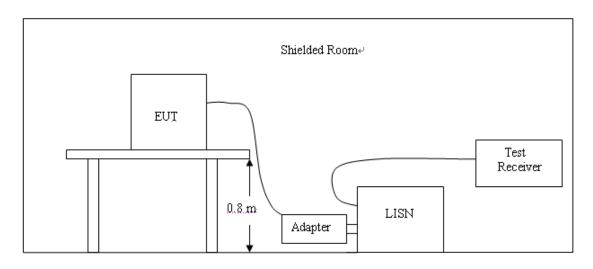
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
Bilog Antenna	Sunol Sciences Corp.	JB1	A061713	2013/07/12	2014/07/11
EMI Test Receiver	R&S	ESCI3	103710	2013/07/10	2014/07/09
EMI Test Receiver	R&S	ESPI	1164.6407.07	2013/07/10	2014/07/09
Spectrum Analyzer	Agilent	E4407B	MY45108355	2013/07/06	2014/07/05
Controller	EM Electronics	Controller EM 1000	N/A	2013/07/06	2014/07/05
Horn Antenna	Sunol Sciences Corp.	DRH-118	A062013	2013/07/12	2014/07/11
Horn Antenna	SCHWARZBECK	BBHA9170	1562	2013/07/12	2014/07/11
Active Loop Antenna	SCHWARZBECK	FMZB1519	1519-037	2013/07/12	2014/07/11
LISN	R&S	ENV216	101316	2013/07/10	2014/07/09
LISN	SCHWARZBECK	NSLK8127	8127687	2013/07/10	2014/07/09
Microwave Preamplifier	HP	8349B	3155A00882	2013/07/10	2014/07/09
Amplifier	HP	8447D	3113A07663	2013/07/10	2014/07/09
Transient Limiter	Com-Power	LIT-153	532226	2013/07/10	2014/07/09

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## 4. TEST CONDITIONS AND RESULTS

#### 4.1. Conducted Emissions Test

#### **TEST CONFIGURATION**



#### TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4.
- 2 Support equipment, if needed, was placed as per ANSI C63.4.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4 If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded 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 EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected 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.
- 8 During the above scans, the emissions were maximized by cable manipulation.

The RBW/VBW for 150KHz to 30MHz: 9KHz

### **CONDUCTED POWER LINE EMISSION LIMIT**

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following:

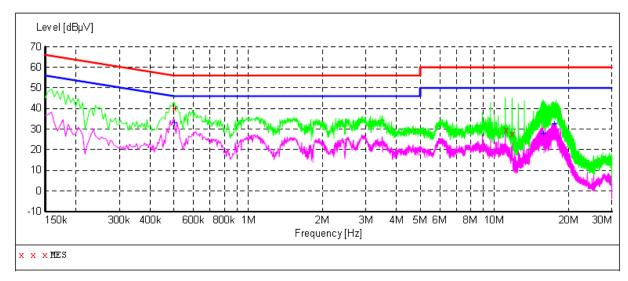
Eroguenov	Maximum RF Line Voltage (dBμV)					
Frequency (MHz)	CLAS	SS A	CLASS B			
(111112)	Q.P. Ave.		Q.P.	Ave.		
0.15 - 0.50	79	66	66-56*	56-46*		
0.50 - 5.00	73	60	56	46		
5.00 - 30.0	73	60	60	50		

<sup>\*</sup> 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.

## **TEST RESULTS**

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



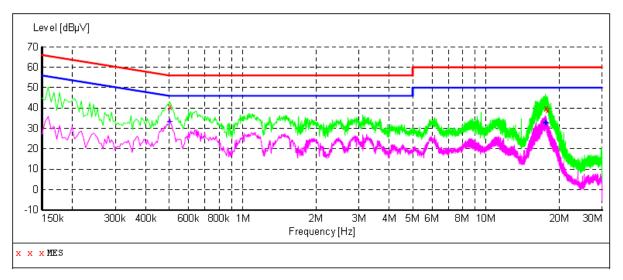
#### MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	40.00	9.8	56	16.0	QP	N	GND
11.089500	29.40	10.2	60	30.6	QP	N	GND
11.760000	27.50	10.2	60	32.5	QP	N	GND

## MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	33.10	9.8	46	12.9	AV	N	GND
15.711000	27.60	10.3	50	22.4	AV	N	GND
17.502000	32.60	10.4	50	17.4	AV	N	GND

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



#### MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	40.40	9.8	56	15.6	QP	L1	GND
17.614500	39.90	10.4	60	20.1	QP	L1	GND
17.871000	39.00	10.4	60	21.0	QP	L1	GND

#### MEASUREMENT RESULT:

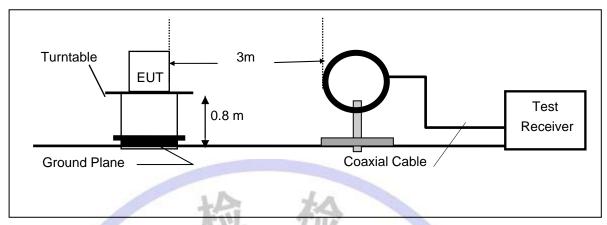
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE	
0.501000 17.502000 17.515500	33.40 32.80 32.60	9.8 10.4 10.4	46 50 50	12.6 17.2 17.4	AV AV AV	L1 L1 L1	GND GND GND	
		? 70	04'		ahn	010	2	
			STI	ng I	6CI.			

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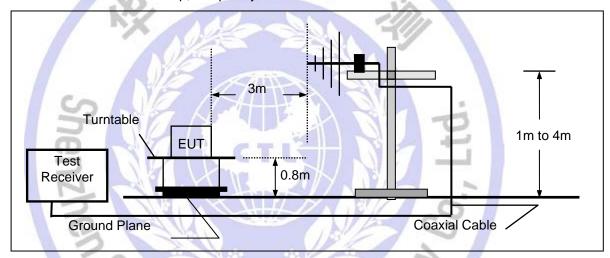
## 4.2. Radiated Emission Test

## **TEST CONFIGURATION**

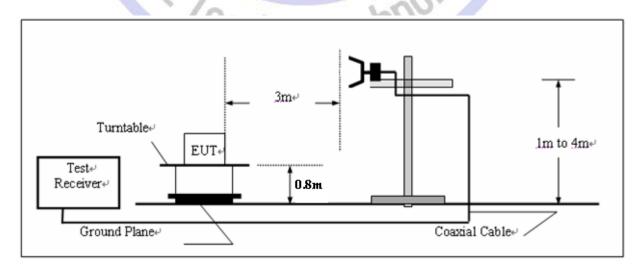
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



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#### 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:

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)				
RA = Reading Amplitude	AG = Amplifier Gain				
AF = Antenna Factor					

#### RADIATION LIMIT

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency	Distance	Radiated	Radiated	
(MHz)	(Meters)	(dBµV/m)	(μV/m)	
30-88	3	40.0	100	
88-216	3/1	43.5	150	
216-960	3	46.0	200	
Above 960	3	54.0	500	

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

#### TEST PROCEDURE

- 1. The EUT is placed on a turntable, which is 0.8m 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 highest emissions.
- 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 both horizontal and vertical.
- Repeat above procedures until the measurements for all frequencies are complete.
- 7. Based on the Frequency Generator in the device include 24MHz. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

#### Note:

Three axes are chosen for pretest, the Y axis is the worst mode for final test. For battery operated equipment, the equipment tests shall be performed using a new battery.

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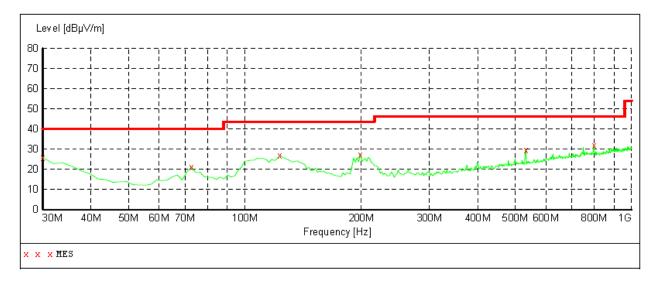
### **TEST RESULTS**

All the test modes (TM1, TM2, TM3 and TM4) completed for test. The worst case of Radiated Emission is TM1; the test data of this mode was reported.

Below 1GHz Test Results:

SWEEP TABLE: "test (30M-1G)"

Field Strength Short Description: Transducer Start Stop Detector Meas. IF Frequency Frequency Time Bandw. 30.0 MHz 1.0 GHz MaxPeak 300.0 ms 120 kHz JB1



#### MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	25.70	21.1	40.0	14.3		0.0	0.00	VERTICAL
72.680000	21.10	8.5	40.0	18.9		0.0	0.00	VERTICAL
123.120000	26.80	15.1	43.5	16.7		0.0	0.00	VERTICAL
198.780000	27.50	14.2	43.5	16.0		0.0	0.00	VERTICAL
532.460000	29.70	20.6	46.0	16.3		0.0	0.00	VERTICAL
798.240000	32.00	24.8	46.0	14.0		0.0	0.00	VERTICAL

#### Remark:

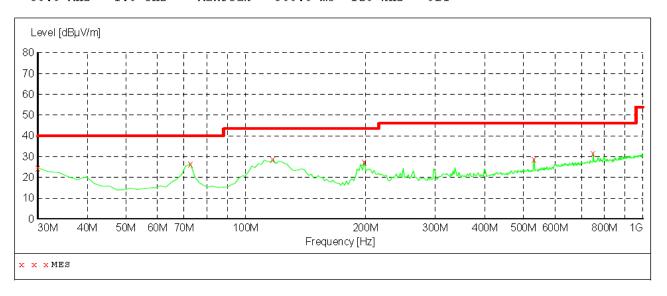
- (1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- \* denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated 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.

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Transducer

SWEEP TABLE: "test (30M-1G)"
Short Description: Fi Field Strength Start Detector Meas. IF stop Frequency Frequency Bandw. Time

30.0 MHz 1.0 GHz MaxPeak 300.0 ms 120 kHz JB1



#### MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	24.60	21.1	40.0	15.4		0.0	0.00	HORIZONTAL
72.680000	26.40	8.5	40.0	13.6		0.0	0.00	HORIZONTAL
117.300000	28.60	15.1	43.5	14.9		0.0	0.00	HORIZONTAL
198.780000	27.40	14.2	43.5	16.1		0.0	0.00	HORIZONTAL
532.460000	28.70	20.6	46.0	17.3		0.0	0.00	HORIZONTAL
749.740000	31.40	24.3	46.0	14.6		0.0	0.00	HORIZONTAL

### Remark:

- (1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- \* denotes emission frequency which appearing within the Restricted Bands specified in (2)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:**

Freq. (MHz)	Ant.Pol. H/V	DetectorMode (PK/AV)	Reading (dBuV)	Ant./CL/ Amp. CF(dB)	Actual FS (dBu√/m)	Limit3m (dBuV/m)	Safe Margin (dB)
2480	$\overline{}$	Peak	76.45	-3.30	73.15	113.98	-40.83
2480	Н	Peak	69.52	-3.30	66.22	113.98	-47.76
4960	V	Peak	48.23	3.90	52.13	74.00	-21.87
4960	Н	Peak	42.38	3.90	46.28	74.00	-27.72
7440	V						
7440	Н						
Others							

Freq.	Ant.Pol.	DetectorMode	Reading	Ant./CL/	Actual FS	Limit3m	Safe Margin
(MHz)	H//	(PK/AV)	(dBuV)	Amp. CF(dB)	(dBu√/m)	(dBuV/m)	(dB)
2441		Peak	75.32	-3.40	71.92	113.98	-42.06
2441	Н	Peak	69.25	-3.40	65.85	113.98	-48.13
4882	V	Peak	48.18	3.70	51.88	74.00	-22.12
4882	Н	Peak	42.11	3.70	45.81	74.00	-28.19
7323	V						
7323	Н						
Others							

Freq.	Ant.Pol.	DetectorMode	Reading	Ant./CL/	Actual FS	Limit3m	Safe Margin
(MHz)	H//	(PK/AV)	(dBuV)	Amp. CF(dB)	(dBu∀/m)	_(dBuV/m)_	(dB)
2402		Peak	74.56	-3.30	71.26	113.98	-42.72
2402	Н	Peak	68.32	-3.30	65.02	113.98	-48.96
4804	V	Peak	47.73	3.50	51.23	74.00	-22.77
4804	Н	Peak	41.49	3.50	44.99	74.00	-29.01
7206	V						
7206	Н						
Others							

#### 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.
- (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 73.15dBuV/m(PK Value) <93.98(AV Limit), at harmonic 52.13 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.</p>

## 4.3. Band Edge Measurement

#### **TEST CONFIGURATION**

Same as Section 4.2

#### **TEST PROCEDURE**

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.

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The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBM to 300 KHz, to measure the conducted peak band edge.

#### **LIMIT**

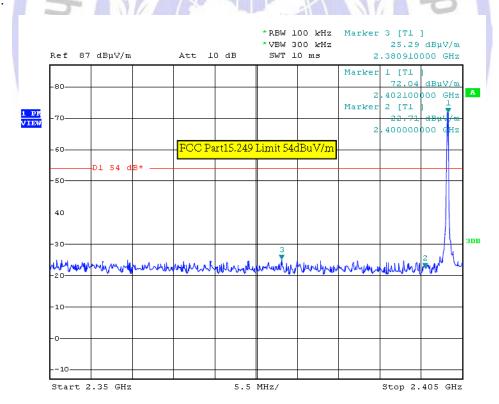
FCC PART 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

#### **TEST RESULTS**

#### **Radiated Test:**

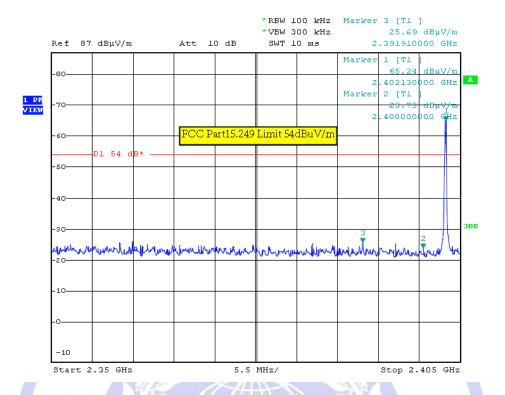
Operation Mode: TX on Bot Channel

Polarity: Hor.



Operation Mode: TX on Bot Channel

Polarity: Ver.



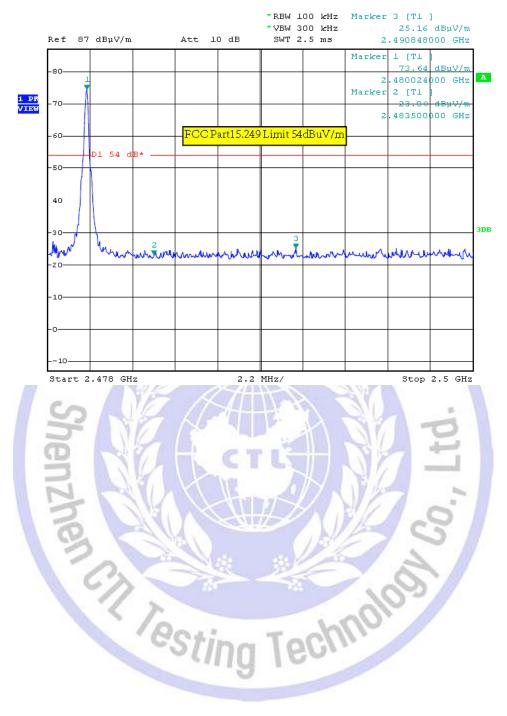
#### Note:

- 1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.
- 2. The average measurement was not performed when the peak measured data under the limit of average detection.

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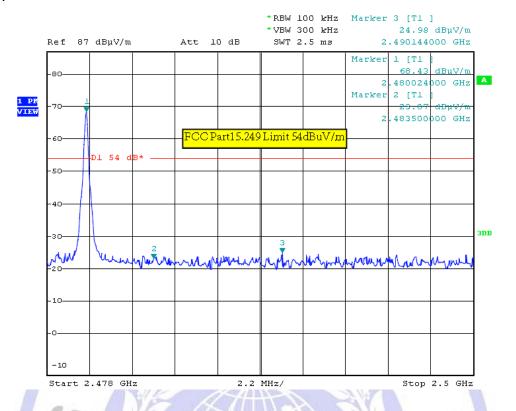
Operation Mode: TX on Top Channel

Polarity: Hor.



Operation Mode: TX on Top Channel

Polarity: Ver.



#### Note:

- 1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.
- 2. The average measurement was not performed when the peak measured data under the limit of average detection.

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## 5. Antenna Requirement

#### **Standard Applicable**

For intentional device, according to FCC 47 CFR 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.

And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### Refer to statement below for compliance.

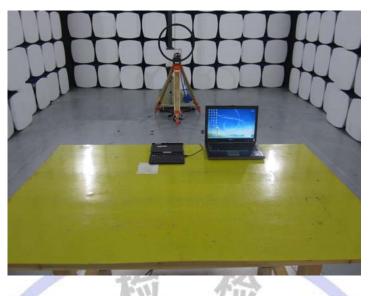
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

#### **Antenna Connected Construction**

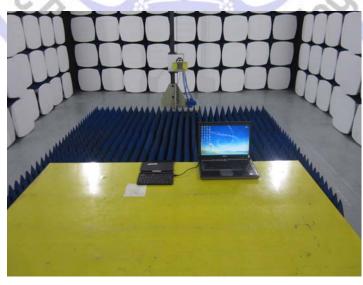
The antenna used in this product is a PCB Antenna, The directional gains of antenna used for transmitting is 0 dBi.



# 6. Test Setup Photos of the EUT











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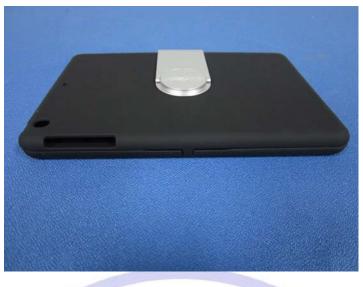
# 7. External and Internal Photos of the EUT

## **External Photos of EUT**











## **Internal Photos of EUT**

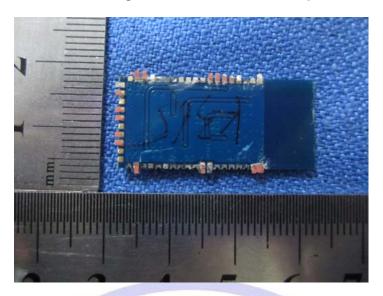












.....End of Report.....

