



**TEST REPORT No: (5216)132-0692**

## **TEST REPORT**

To:	<b>CEPIA LLC</b>	To:	-
Attn:	Joseph McGowan	Attn:	-
Address:	121 Hunter Ave, Suite 103, St. Louis (Missouri), MO 63124, USA	Address:	-
Fax:	314-725-4919	Fax:	-
E-mail:	<a href="mailto:jmcgowan@cepiallc.com">jmcgowan@cepiallc.com</a>	E-mail:	-
Folder No.:	--		
Factory name:	--		
Location:	--		
Product:	Big Robots, Data Rate / Big Robots, Dr. Nine Brain / Big Robots, Tenderizer 1019 Model No.: BF16001 / BF16002 / BF16003		



Sample No:	(5216)132-0692
Date of Receipt:	May 11, 2016
Test date:	May 24, 2016 to June 13, 2016
Test Requested:	FCC Part 15 - 2012
Test Method:	ANSI C63.4 - 2009
FCC ID:	T4616000

**The results given in this report are related to the tested specimen of the described electrical apparatus.**

**CONCLUSION: The submitted sample was found to COMPLY with requirement of FCC Part 15 Subpart C.**

Authorized Signature:

Reviewed by: Keith Yeung

Approved by: Law Man Kit

Date: June 16, 2016

Date: June 16, 2016

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**Kowloon Bay Office**  
**1/F Pacific Trade Centre,**  
**2 Kai Hing Road, Kowloon Bay,**  
**Kowloon, HONG KONG**  
Tel: +852 2331 0888  
Fax: +852 2331 0889  
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**TEST REPORT No: (5216)132-0692**  
**Test Result Summary**

<b>EMISSION TEST</b>			
<b>Test requirement: FCC Part 15 - 2012</b>			
Test Condition	Test Method	Test Result	
		Pass	Failed
Radiated Emission Test, 9kHz to 40GHz	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frequency range of Fundamental Emission	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
26dB Bandwidth of Fundamental Emission	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Duty Cycle Correction During 100msec	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Report Revision & Sample Re-submit History:**

Sample first submission date: May 19, 2016

Sample second submission date: June 07, 2016

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**Kowloon Bay Office**  
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### Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. An Open Area Test Site and Full Anechoic Chamber (FCC Listed Site, Registration No. 642151) are set up for investigation and located at :

### BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE

No. 2106-2107, 21/F., Westin Centre,  
26 Hung To Road,  
Kwun Tong, Kowloon,  
Hong Kong

### List of measuring equipment

#### Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	22-FEB-2017
LOOP ANTENNA	ETS LINDGREN	6502	00102266	05-NOV-2016
BICONICAL ANTENNA	ROHDE & SCHWARZ	HK116	100179	13-APR-2018
LOG-PERIODIC DIPOLE ARRAY ANTENNA	ROHDE & SCHWARZ	HL223	832369/001	06-APR-2018
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	26-FEB-2018
HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D-692	04-APR-2018
PREAMPLIFIER	SCHWARZBECK	BBV9718	9718-152	12-OCT-2016
OPEN AREA TEST SITE	BVCPS	N/A	N/A	18-JUN-2016
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	10-MAY-2017
COAXIAL CABLE	SUHNER	N/A	N/A	06-JAN-2017
Signal Analyzer 40GHz	Rohde & Schwarz	FSV 40	100977	29-JUN-2016
Wideband Horn Antenna 18 to 40GHz	STEATITE	QWH-SL-18-40-K-SG	12688	02-SEP-2016
High frequency RF cable	Rohde & Schwarz	N/A	N/A	03-NOV-2016

### Measurement Uncertainty

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	9kHz to 30MHz	4.2dB
	30MHz to 200MHz	4.5dB
	200MHz to 1GHz	5.6dB
	1GHz to 18GHz	4.7dB
	18GHz to 40GHz	5.2dB

#### Remarks:-

N/A : Not Applicable or Not Available

The measurement instrumentation uncertainty would be taking into consideration on each of the test result

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## TEST REPORT No: (5216)132-0692

### Equipment Under Test [EUT]

#### Description of Sample:

Model Name:	Big Robots, Data Rate / Big Robots, Dr. Nine Brain / Big Robots, Tenderizer 1019
Model Number:	BF16001 / BF16002 / BF16003
Additional Model Name:	--
Additional Model Number:	--
Additional Model information:	Declare the Circuit, PCB layout, Electrical parts and appearance of the products are identical to the basic model, expect the frequency as below: BF16001: 2435MHz / 2439MHz BF16002: 2415MHz / 2419MHz BF16003: 2405MHz / 2409MHz
Rating:	3Vd.c. ("AA" size battery x 2)

#### Description of EUT Operation:

The Equipment Under Test (EUT) is a **CEPIA LLC** of Remote Control Transceiver. It is a 1 switch, 1 button, 2 triggers and 2 marbles transmitters and operating at 2405MHz to 2439MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT continues to transmit while activate the trigger or marble, Modulation by IC, and type is GFSK. There are total 6 channels and below is the frequency list (MHz) :

BF16001: 2435MHz / 2439MHz

BF16002: 2415MHz / 2419MHz

BF16003: 2405MHz / 2409MHz

The transmitter has different control:

1. A/B switch – channel selection
2. On/Off buttons – power on/off control
3. Left trigger – control the left wheel
4. Right trigger – control the right wheel
5. Left marble – control the left punch
6. Right marble – control the right punch

#### Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is soldered on the PCB. The antenna is soldered on the PCB. The antenna is not replaceable or user serviceable. The requirements of S15.203 are met. There are no deviations or exceptions to the specifications.

**Photo of Antenna**



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## TEST REPORT No: (5216)132-0692

### Test Results

#### Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.249  
Test Method: ANSI C63.4  
Test Date(s): 2016-06-13  
Temperature: 28.0 °C  
Humidity: 72.0 %  
Atmospheric Pressure: 99.8 kPa  
Mode of Operation: Transmission mode  
Tested Voltage: 3Vd.c. ("AAA" size battery x 2)

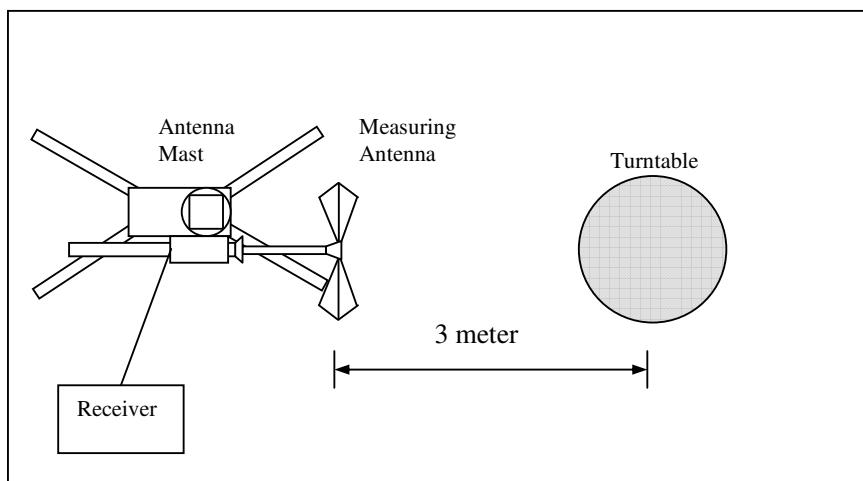
#### Test Procedure:

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using new battery. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

Location: The Roof, Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

#### Test Setup: Open Area Test Site



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### Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.249]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission (Average) [mV/m]	Field Strength of Harmonics Emission (Average) [μV/m]
2400-2483.5	50	500

### Measurement Data

#### Test Result of (Transmission mode, Lowest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
2405.00	H	-3.6	-40.0	75.0	114.0	-39.0	**35.0	94.0	-59.0
2405.00	V	-3.6	-40.0	74.2	114.0	-39.8	**34.2	94.0	-59.8

#### Test Result of (Transmission mode, Middle frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
2419.00	H	-3.5	-40.0	73.7	114.0	-40.3	**33.7	94.0	-60.3
2419.00	V	-3.5	-40.0	72.3	114.0	-41.7	**32.3	94.0	-61.7

#### Test Result of (Transmission mode, Highest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
2439.00	H	-3.5	-40.0	73.9	114.0	-40.1	**33.9	94.0	-60.1
2439.00	V	-3.5	-40.0	74.1	114.0	-39.9	**34.1	94.0	-59.9

# For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

\*\*Duty Cycle Correction =  $20\log(0.01) = -40.0\text{dB}$ .

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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## TEST REPORT No: (5216)132-0692

### Radiated Emissions (Spurious Emission)

Test Requirement: FCC Part 15 Section 15.249  
Test Method: ANSI C63.4  
Test Date(s): 2016-06-13  
Temperature: 28.0 °C  
Humidity: 72.0 %  
Atmospheric Pressure: 99.8 kPa  
Mode of Operation: Transmission mode  
Tested Voltage: 3Vd.c. ("AAA" size battery x 2)

### Measurement Data

#### Test Result of (Transmission mode, Lowest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
4810.00	H	1.6	-40.0	69.7	74.0	-4.3	**29.7	54.0	-24.3
7215.00	H	10.7	-40.0	53.0	74.0	-21.0	**13.0	54.0	-41.0
9620.00	H	15.5	-40.0	53.3	74.0	-20.7	**13.3	54.0	-40.7
12025.00	H	17.8	-40.0	54.0	74.0	-20.0	**14.0	54.0	-40.0
14430.00	H	24.0	-40.0	55.1	74.0	-18.9	**15.1	54.0	-38.9
16835.00	H	19.1	-40.0	56.2	74.0	-17.8	**16.2	54.0	-37.8
19240.00	H	46.2	-40.0	58.8	74.0	-15.2	**18.8	54.0	-35.2
21645.00	H	46.8	-40.0	58.6	74.0	-15.4	**18.6	54.0	-35.4
24050.00	H	47.6	-40.0	57.4	74.0	-16.6	**17.4	54.0	-36.6
26455.00	H	48.6	-40.0	60.1	74.0	-13.9	**20.1	54.0	-33.9

# For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

\*\*Duty Cycle Correction =  $20\log(0.01) = -40.0\text{dB}$ .

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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### Measurement Data

#### Test Result of (Transmission mode, Lowest frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
4810.00	V	1.6	-40.0	70.8	74.0	-3.2	**30.8	54.0	-23.2
7215.00	V	10.7	-40.0	52.1	74.0	-21.9	**12.1	54.0	-41.9
9620.00	V	15.5	-40.0	53.5	74.0	-20.5	**13.5	54.0	-40.5
12025.00	V	17.8	-40.0	54.4	74.0	-19.6	**14.4	54.0	-39.6
14430.00	V	24.0	-40.0	55.2	74.0	-18.8	**15.2	54.0	-38.8
16835.00	V	19.1	-40.0	56.6	74.0	-17.4	**16.6	54.0	-37.4
19240.00	V	46.2	-40.0	59.5	74.0	-14.5	**19.5	54.0	-34.5
21645.00	V	46.8	-40.0	58.8	74.0	-15.2	**18.8	54.0	-35.2
24050.00	V	47.6	-40.0	58.2	74.0	-15.8	**18.2	54.0	-35.8
26455.00	V	48.6	-40.0	59.8	74.0	-14.2	**19.8	54.0	-34.2

# For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

\*\*Duty Cycle Correction =  $20\log(0.01) = -40.0\text{dB}$ .

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier.

Receiver setting: RBW = 1MHz  
VBW = 1MHz



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### Measurement Data

#### Test Result of (Transmission mode, Middle frequency): PASS

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
4838.00	H	1.6	-40.0	66.8	74.0	-7.2	**26.8	54.0	-27.2
7257.00	H	10.7	-40.0	51.9	74.0	-22.1	**11.9	54.0	-42.1
9676.00	H	15.5	-40.0	52.2	74.0	-21.8	**12.2	54.0	-41.8
12095.00	H	18.0	-40.0	53.3	74.0	-20.7	**13.3	54.0	-40.7
14514.00	H	24.5	-40.0	56.1	74.0	-17.9	**16.1	54.0	-37.9
16933.00	H	19.3	-40.0	56.9	74.0	-17.1	**16.9	54.0	-37.1
19352.00	H	46.5	-40.0	57.3	74.0	-16.7	**17.3	54.0	-36.7
21771.00	H	47.0	-40.0	57.7	74.0	-16.3	**17.7	54.0	-36.3
24190.00	H	47.6	-40.0	59.2	74.0	-14.8	**19.2	54.0	-34.8
26609.00	H	48.6	-40.0	58.9	74.0	-15.1	**18.9	54.0	-35.1

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
4838.00	V	1.6	-40.0	64.5	74.0	-9.5	**24.5	54.0	-29.5
7257.00	V	10.7	-40.0	53.2	74.0	-20.8	**13.2	54.0	-40.8
9676.00	V	15.5	-40.0	53.7	74.0	-20.3	**13.7	54.0	-40.3
12095.00	V	18.0	-40.0	54.6	74.0	-19.4	**14.6	54.0	-39.4
14514.00	V	24.5	-40.0	56.3	74.0	-17.7	**16.3	54.0	-37.7
16933.00	V	19.3	-40.0	56.7	74.0	-17.3	**16.7	54.0	-37.3
19352.00	V	46.5	-40.0	58.7	74.0	-15.3	**18.7	54.0	-35.3
21771.00	V	47.0	-40.0	59.4	74.0	-14.6	**19.4	54.0	-34.6
24190.00	V	47.6	-40.0	59.1	74.0	-14.9	**19.1	54.0	-34.9
26609.00	V	48.6	-40.0	57.7	74.0	-16.3	**17.7	54.0	-36.3

# For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

\*\*Duty Cycle Correction =  $20\log(0.01) = -40.0\text{dB}$ .

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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**1/F Pacific Trade Centre,**  
**2 Kai Hing Road, Kowloon Bay,**  
**Kowloon, HONG KONG**  
Tel: +852 2331 0888  
Fax: +852 2331 0889  
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## TEST REPORT No: (5216)132-0692

### Measurement Data

**Test Result of (Transmission mode, Highest frequency): PASS**

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
4878.00	H	1.6	-40.0	64.5	74.0	-9.5	**24.5	54.0	-29.5
7317.00	H	10.7	-40.0	53.3	74.0	-20.7	**13.3	54.0	-40.7
9756.00	H	15.8	-40.0	54.5	74.0	-19.5	**14.5	54.0	-39.5
12195.00	H	18.0	-40.0	55.0	74.0	-19.0	**15.0	54.0	-39.0
14634.00	H	24.5	-40.0	55.3	74.0	-18.7	**15.3	54.0	-38.7
17073.00	H	22.1	-40.0	56.9	74.0	-17.1	**16.9	54.0	-37.1
19512.00	H	46.4	-40.0	59.2	74.0	-14.8	**19.2	54.0	-34.8
21951.00	H	47.0	-40.0	58.0	74.0	-16.0	**18.0	54.0	-36.0
24390.00	H	47.7	-40.0	58.6	74.0	-15.4	**18.6	54.0	-35.4
26829.00	H	48.6	-40.0	58.8	74.0	-15.2	**18.8	54.0	-35.2

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dB $\mu$ V/m)	Limit at 3m – Peak (dB $\mu$ V/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dB $\mu$ V/m)	Limit at 3m – Average (dB $\mu$ V/m)	Margin - Average (dB)
4878.00	V	1.6	-40.0	59.7	74.0	-14.3	**19.7	54.0	-34.3
7317.00	V	10.7	-40.0	52.1	74.0	-21.9	**12.1	54.0	-41.9
9756.00	V	15.8	-40.0	53.5	74.0	-20.5	**13.5	54.0	-40.5
12195.00	V	18.0	-40.0	54.4	74.0	-19.6	**14.4	54.0	-39.6
14634.00	V	24.5	-40.0	56.0	74.0	-18.0	**16.0	54.0	-38.0
17073.00	V	22.1	-40.0	56.8	74.0	-17.2	**16.8	54.0	-37.2
19512.00	V	46.4	-40.0	59.1	74.0	-14.9	**19.1	54.0	-34.9
21951.00	V	47.0	-40.0	58.8	74.0	-15.2	**18.8	54.0	-35.2
24390.00	V	47.7	-40.0	58.6	74.0	-15.4	**18.6	54.0	-35.4
26829.00	V	48.6	-40.0	60.3	74.0	-13.7	**20.3	54.0	-33.7

# For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

\*\*Duty Cycle Correction =  $20\log(0.01) = -40.0\text{dB}$ .

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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## TEST REPORT No: (5216)132-0692

### Radiated Emissions (9kHz – 40GHz)

Test Requirement: FCC Part 15 Section 15.209  
Test Method: ANSI C63.4  
Test Date(s): 2016-05-24  
Temperature: 30.0 °C  
Humidity: 77.0 %  
Atmospheric Pressure: 99.7 kPa  
Mode of Operation: On mode  
Tested Voltage: 3Vd.c. ("AAA" size battery x 2)

#### Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]	Measurement Distance m
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

### Measurement Data

#### Test Result of (On mode): PASS

#### Detection mode: Quasi-Peak

Frequency	Polarity (H/V)	Field Strength	Limit	Margin (dB)
Emissions detected are more than 20 dB below the limit line(s) in 9kHz to 30MHz				

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 200Hz  
VBW = 200Hz

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## TEST REPORT No: (5216)132-0692

### Measurement Data

**Test Result of (On mode): PASS**

**Detection mode: Quasi-Peak**

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
36.72	H	26.8	40.0	-13.2
153.66	H	22.4	43.5	-21.1
220.48	H	23.2	46.0	-22.8
359.60	H	27.1	46.0	-18.9
467.28	H	28.5	46.0	-17.5
532.42	H	30.6	46.0	-15.4

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
36.72	V	26.5	40.0	-13.5
153.66	V	22.3	43.5	-21.2
220.48	V	23.4	46.0	-22.6
359.60	V	26.6	46.0	-19.4
467.28	V	28.2	46.0	-17.8
532.42	V	31.0	46.0	-15.0

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz  
VBW = 120KHz



## TEST REPORT No: (5216)132-0692

### Frequency range of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249  
Test Method: ANSI C63.4:2009 (Section 13.1.7)  
Test Date(s): 2016-05-24  
Temperature: 30.0 °C  
Humidity: 77.0 %  
Atmospheric Pressure: 99.7 kPa  
Mode of Operation: Transmission mode  
Tested Voltage: 3Vd.c. ("AAA" size battery x 2)

#### Test Method:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

#### Limits for Frequency range of Fundamental Emission:

Frequency [MHz]	FCC Limits [MHz]
2403.820 – 2440.220	2400.00 – 2483.50

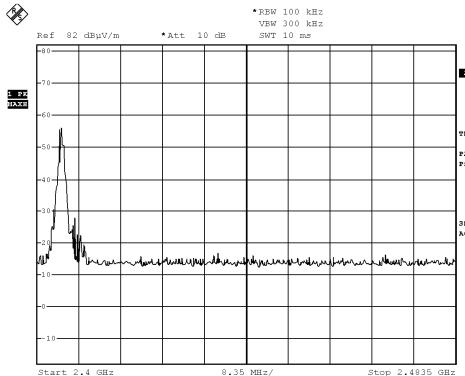


## TEST REPORT No: (5216)132-0692

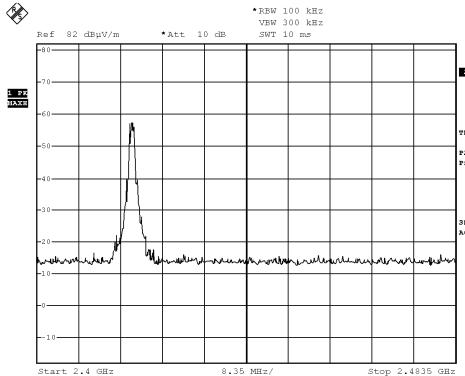
### Measurement Data :

#### Test Result of Frequency Range of Fundamental Emission: PASS

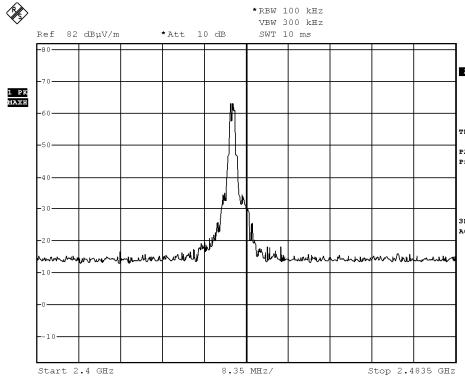
##### Lowest Frequency – 2405.00MHz



##### Middle Frequency – 2419.00MHz



##### Highest Frequency – 2439.00MHz



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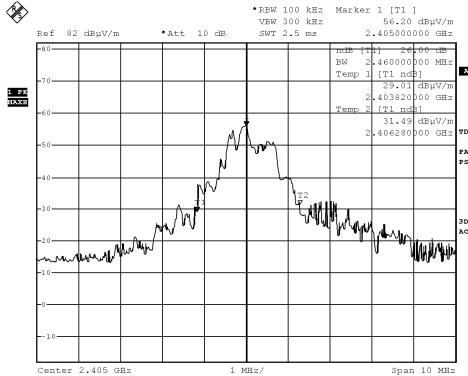
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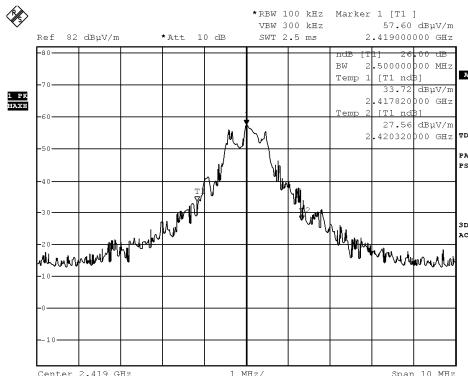
**TEST REPORT No: (5216)132-0692**  
**Measurement Data :**

**Test Result of 26dB Bandwidth of Fundamental Emission: PASS**

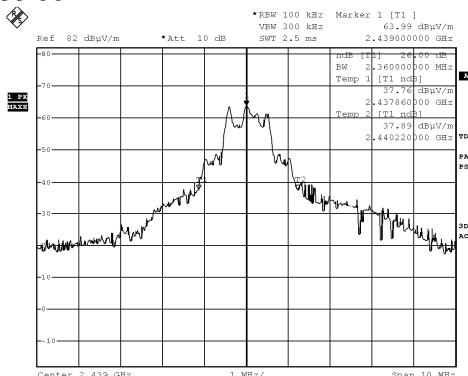
**Lowest Frequency – 2405.00MHz**



**Middle Frequency – 2419.00MHz**



**Highest Frequency – 2439.00MHz**



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## TEST REPORT No: (5216)132-0692

### Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 2 pulses (0.5 msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered 2\*0.5 per 100msec = 1% duty cycle.

Remarks:

Duty Cycle Correction =  $20\log(0.01) = -40.0\text{dB}$

The following figures [Figure A] show the characteristics of the pulse train for one of these functions.

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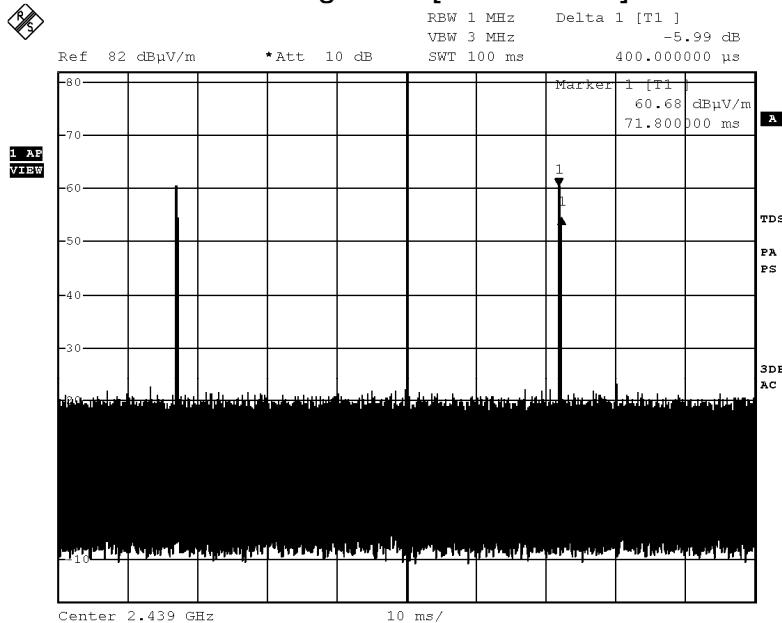


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## TEST REPORT No: (5216)132-0692

### Measurement Data :

Figure A [Pulse Train]



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## TEST REPORT No: (5216)132-0692

### Photographs of EUT

Front View of the product



Rear View of the product



Top View of the product



Bottom View of the product



Side View of the product



Side View of the product



Battery compartment



Battery Cover



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## TEST REPORT No: (5216)132-0692

### Photographs of EUT

Internal View of the product



Internal View of the product



Inner Circuit Top View



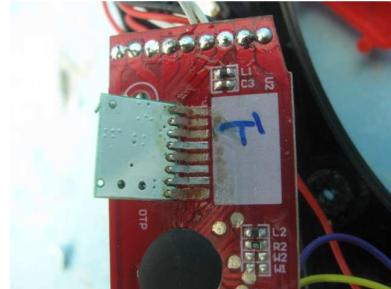
Inner Circuit Bottom View



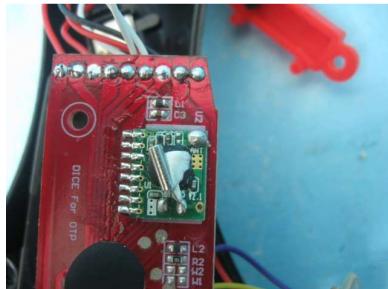
Inner Circuit Top View



Inner Circuit Bottom View



Antenna



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**1/F Pacific Trade Centre,**  
**2 Kai Hing Road, Kowloon Bay,**  
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**TEST REPORT No: (5216)132-0692**

**Measurement of Radiated Emission Test Set Up**



**\*\*\*\*\* End of Report \*\*\*\*\***

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