

TEST REPORT No.: (5212)206-0490(A)

## TEST REPORT

To:	<b>SILVERLIT TOYS MANUFACTORY LIMITED</b>	To:	-
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E-mail:	<a href="mailto:edmond@silverlit.com">edmond@silverlit.com</a>	E-mail:	-
Folder No.:	ITM-12MY242MTHS-B-B		

Factory name:	--
Location:	--
Product:	Peregrine Eye VC Model No.: 84603

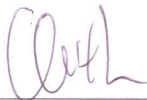



Sample No:	HK120511/024
Test date:	June 7, 2012
Test Requested:	FCC Part 15 - 2011
Test Method:	ANSI C63.4 - 2009
FCC ID:	OYK-FCC84603

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 Date: August 7, 2012	Approved by: Steven Tsang Date: August 7, 2012



**TEST REPORT No.: (5212)206-0490(A)**

**Test Result Summary**

<b>EMISSION TEST</b>			
<b>Test requirement: FCC Part 15 - 2011</b>			
Test Condition	Test Method	Test Result	
		Pass	Failed
Conducted Emission Test, 0.15MHz to 30MHz	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emission Test, 9kHz to 40GHz	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

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**DESCRIPTION OF SUPPORT UNITS**

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	PC	DELL	DCSM	SC94JBX	CE & FCC DoC Approved
2	LCD MONITOR	DELL	E178WFPC	CN-0G349J64180-88T-5PYL-A00	CE & FCC DoC Approved
3	KEYBOARD	DELL	L100	CN0RH659658084B02NV	CE & FCC DoC Approved
4	MOUSE	DELL	MOA8BO	H0T00H92	CE & FCC DoC Approved
5	PRINTER	EPSON	B163A	ELPK004488	CE & FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB Cable, Shielded, with core, 0.3m
2	VGA Cable, Shielded, with core, 0.8m
3	USB Cable, Shielded, with core, 1.5m
4	USB Cable, Shielded, without core, 1.5m
5	Parallel Cable, Shielded, without core, 1.5m

**NOTE: All power cords of the above support units are non-shielded (1.8m).**



## TEST REPORT No.: (5212)206-0490(A)

### 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

#### Conducted Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCS30	830986/030	05-JAN-2013
LISN	R&S	ENV216	100024	19-JUN-2013

#### Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	18-OCT-2012
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	07-AUG-2012
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	16-SEP-2012
OPEN AREA TEST SITE	BVCPS	N/A	N/A	10-JUL-2013
ANECHOIC CHAMBER	ALBÁTROSS	M-CDC	80374004499B	25-OCT-2012
COAXIAL CABLE	SUHNER	N/A	N/A	10-NOV-2012

#### Remarks:-

N/A : Not Applicable or Not Available

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

## TEST REPORT No.: (5212)206-0490(A)

### Equipment Under Test [EUT]

#### Description of Sample:

Model Name: Peregrine Eye VC  
Model Number: 84603  
Rating: 3.7Vd.c. (Rechargeable battery x 1)

#### Description of EUT Operation:

The Equipment Under Test (EUT) is a **SILVERLIT TOYS MANUFACTORY LIMITED** of Remote Control Transceiver. It is a 1 switch transceiver and operating at 2402MHz to 2477.5MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while power on, Modulation by IC, and type is FHSS.

The transmitter has different control:

1. ON/OFF switch – ON/OFF control

#### Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It 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.



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**Test Results**

**Conducted Emissions (150kHz to 30MHz)**

Test Requirement: FCC Part 15 Section 15.207  
 Test Method: ANSI C63.4  
 Test Limits: Class B  
 Test Date(s): 2012-05-24  
 Temperature: 25.0 °C  
 Humidity: 67.0 %  
 Atmospheric Pressure: 100.3 kPa  
 Mode of Operation: Charge and Test program mode  
 Tested Voltage: 117Va.c., 60Hz (computer)

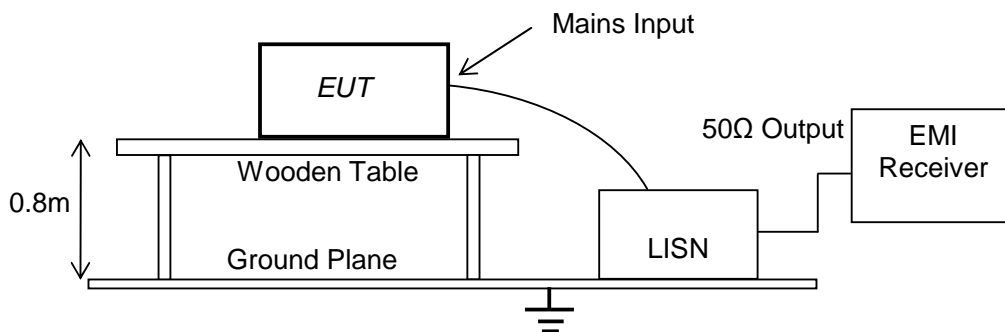
**Test Method:**

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 - 2009. The EUT was setup as described in the procedures, and both lines were measured.

Initial measurements were performed in peak and average detection modes on the live line, any emissions recorded within 30dB of the relevant limit lines were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Location: No. 603, 6/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

**Test Setup: Shielding Room**





**TEST REPORT No.: (5212)206-0490(A)**

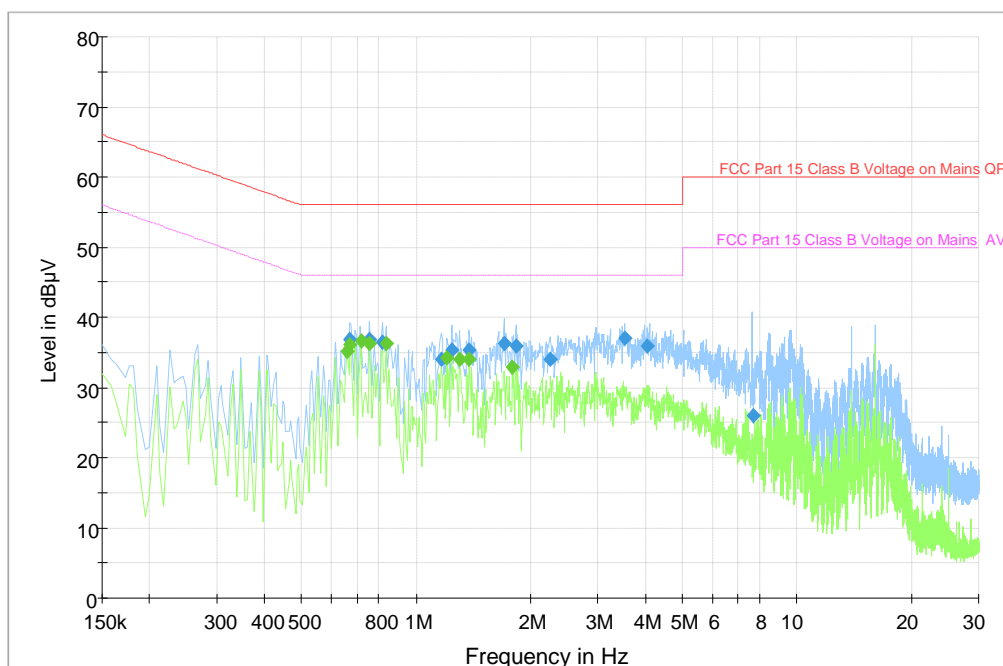
**Measurement Data: Live**

**Test Result of (Charge and test program mode): PASS**

**Results and limit lines for Conducted Emission:**

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

FCC Part 15 Class B Voltage





## TEST REPORT No.: (5212)206-0490(A)

### Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following tables.

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Bandwidth (kHz)	Line	Margin (dB)	Limit (dB $\mu$ V)
0.672000	36.7	9.000	L1	19.3	56.0
0.757500	36.8	9.000	L1	19.2	56.0
0.816000	36.4	9.000	L1	19.6	56.0
1.162500	34.0	9.000	L1	22.0	56.0
1.243500	35.4	9.000	L1	20.6	56.0
1.383000	35.2	9.000	L1	20.8	56.0
1.707000	36.3	9.000	L1	19.7	56.0
1.828500	36.0	9.000	L1	20.0	56.0
2.247000	34.0	9.000	L1	22.0	56.0
3.534000	37.0	9.000	L1	19.0	56.0
4.056000	35.9	9.000	L1	20.1	56.0
7.660500	26.1	9.000	L1	33.9	60.0

Frequency (MHz)	Average (dB $\mu$ V)	Bandwidth (kHz)	Line	Margin (dB)	Limit (dB $\mu$ V)
0.658500	35.2	9.000	L1	10.8	46.0
0.672000	36.1	9.000	L1	9.9	46.0
0.717000	36.6	9.000	L1	9.4	46.0
0.757500	36.3	9.000	L1	9.7	46.0
0.834000	36.2	9.000	L1	9.8	46.0
1.207500	34.3	9.000	L1	11.7	46.0
1.306500	34.0	9.000	L1	12.0	46.0
1.383000	34.1	9.000	L1	11.9	46.0
1.792500	32.9	9.000	L1	13.1	46.0





**TEST REPORT No.: (5212)206-0490(A)**

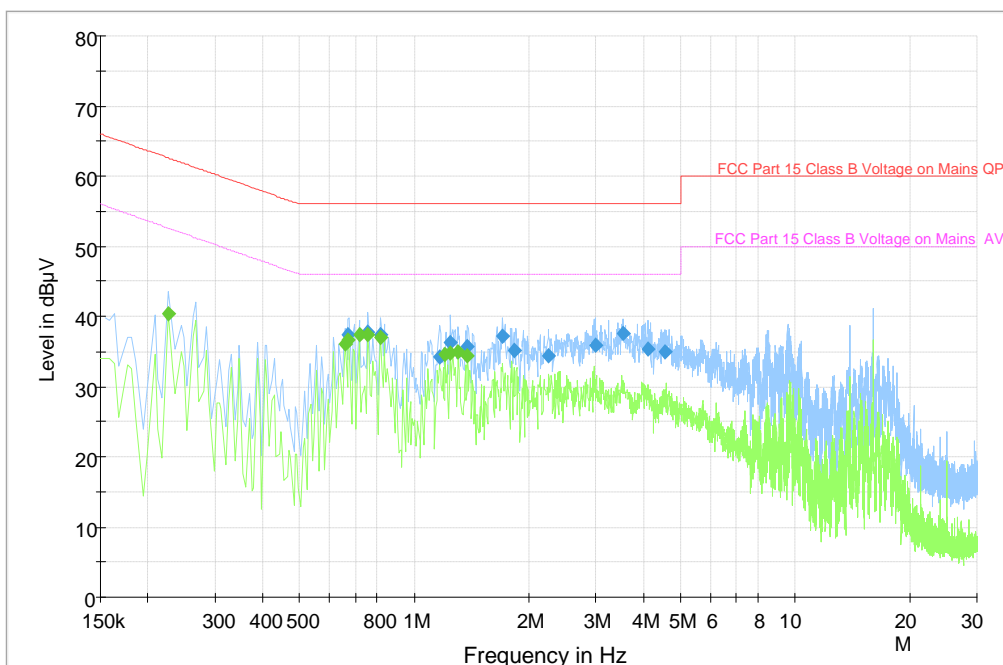
**Measurement Data: Neutral**

**Test Result of (Charge and test program mode): PASS**

**Results and limit lines for Conducted Emission:**

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

FCC Part 15 Class B Voltage





## TEST REPORT No.: (5212)206-0490(A)

### Results and limit lines for Conducted Emission:

Limits for Conducted Emission Test, please refer to limit lines (Quasi-Peak and Average) in the following tables.

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Bandwidth (kHz)	Line	Margin (dB)	Limit (dB $\mu$ V)
0.672000	37.3	9.000	N	18.7	56.0
0.757500	37.8	9.000	N	18.2	56.0
0.816000	37.3	9.000	N	18.7	56.0
1.162500	34.2	9.000	N	21.8	56.0
1.243500	36.3	9.000	N	19.7	56.0
1.383000	35.7	9.000	N	20.3	56.0
1.711500	37.2	9.000	N	18.8	56.0
1.833000	35.2	9.000	N	20.8	56.0
2.247000	34.4	9.000	N	21.6	56.0
2.985000	36.0	9.000	N	20.0	56.0
3.538500	37.5	9.000	N	18.5	56.0
4.110000	35.3	9.000	N	20.7	56.0
4.542000	35.0	9.000	N	21.0	56.0

Frequency (MHz)	Average (dB $\mu$ V)	Bandwidth (kHz)	Line	Margin (dB)	Limit (dB $\mu$ V)
0.226500	40.3	9.000	N	12.3	52.6
0.658500	36.0	9.000	N	10.0	46.0
0.672000	36.7	9.000	N	9.3	46.0
0.717000	37.4	9.000	N	8.6	46.0
0.757500	37.4	9.000	N	8.6	46.0
0.816000	37.1	9.000	N	8.9	46.0
1.207500	34.6	9.000	N	11.4	46.0
1.243500	34.8	9.000	N	11.2	46.0
1.306500	35.0	9.000	N	11.0	46.0
1.383000	34.4	9.000	N	11.6	46.0

**TEST REPORT No: (5212)206-0490(A)**

**Radiated Emissions (Fundamental)**

Test Requirement: FCC Part 15 Section 15.249  
 Test Method: ANSI C63.4  
 Test Date(s): 2012-06-07  
 Temperature: 28.0 °C  
 Humidity: 65.0 %  
 Atmospheric Pressure: 100.2 kPa  
 Mode of Operation: Transmission mode  
 Tested Voltage: 3.7Vd.c. ("Rechargeable battery" x 1)

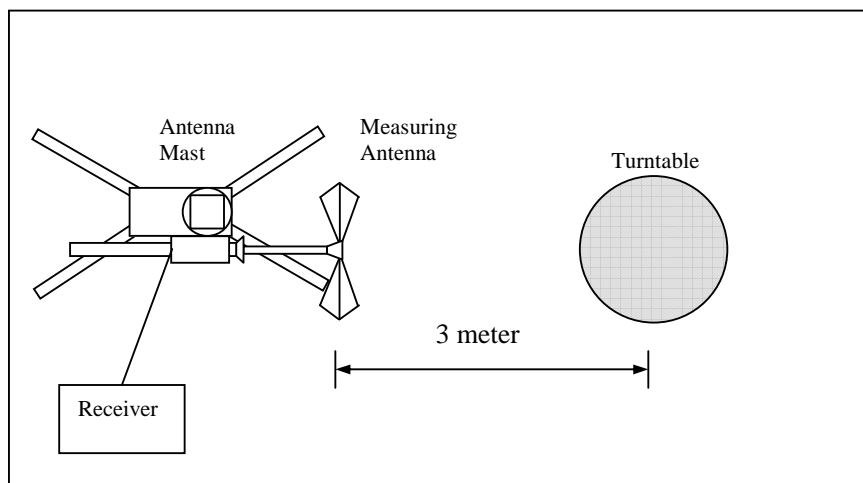
**Test Procedure:**

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**





**TEST REPORT No: (5212)206-0490(A)**

**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**

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2402.00	H	-5.2	72.7	114.0	-41.3
2402.00	V	-5.2	81.7	114.0	-32.3

**Detection mode: # Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2402.00	H	-5.2	**56.2	94.0	-37.8
2402.00	V	-5.2	**65.2	94.0	-28.8

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

\*\*Duty Cycle Correction =  $20\log(0.15) = -16.5\text{dB}$ .

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2440.00	H	-4.6	83.8	114.0	-30.2
2440.00	V	-4.6	80.8	114.0	-33.2

**Detection mode: # Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2440.00	H	-4.6	**67.3	94.0	-26.7
2440.00	V	-4.6	**64.3	94.0	-29.7

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

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2477.50	H	-4.3	73.7	114.0	-40.3
2477.50	V	-4.3	78.2	114.0	-35.8

**Detection mode: # Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2477.50	H	-4.3	**57.2	94.0	-36.8
2477.50	V	-4.3	**61.7	94.0	-32.3

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

\*\*Duty Cycle Correction = 20Log(0.15) = -16.5dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



**TEST REPORT No: (5212)206-0490(A)**

**Radiated Emissions (Spurious Emission)**

Test Requirement: FCC Part 15 Section 15.249  
 Test Method: ANSI C63.4  
 Test Date(s): 2012-06-07  
 Temperature: 28.0 °C  
 Humidity: 65.0 %  
 Atmospheric Pressure: 100.2 kPa  
 Mode of Operation: Transmission mode  
 Tested Voltage: 3.7Vd.c. ("Rechargeable battery" x 1)

**Measurement Data**

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

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4804.00	H	5.5	48.1	74.0	-25.9
7206.00	H	12.4	52.3	74.0	-21.7
9608.00	H	15.1	53.5	74.0	-20.5
12010.00	H	17.5	52.1	74.0	-21.9
14412.00	H	22.1	51.1	74.0	-22.9
16814.00	H	30.8	57.6	74.0	-16.4
19216.00	H	31.8	53.0	74.0	-21.0
21618.00	H	32.3	52.2	74.0	-21.8
24020.00	H	33.7	54.5	74.0	-19.5
26422.00	H	34.6	56.1	74.0	-17.9

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
 VBW = 1MHz



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
4804.00	V	5.5	53.4	74.0	-20.6
7206.00	V	12.4	52.3	74.0	-21.7
9608.00	V	15.1	53.1	74.0	-20.9
12010.00	V	17.5	51.8	74.0	-22.2
14412.00	V	22.1	50.5	74.0	-23.5
16814.00	V	30.8	56.6	74.0	-17.4
19216.00	V	31.8	53.1	74.0	-20.9
21618.00	V	32.3	52.5	74.0	-21.5
24020.00	V	33.7	54.2	74.0	-19.8
26422.00	V	34.6	55.3	74.0	-18.7

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: #Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4804.00	H	5.5	**31.6	54.0	-22.4
7206.00	H	12.4	**35.8	54.0	-18.2
9608.00	H	15.1	**37.0	54.0	-17.0
12010.00	H	17.5	**35.6	54.0	-18.4
14412.00	H	22.1	**34.6	54.0	-19.4
16814.00	H	30.8	**41.1	54.0	-12.9
19216.00	H	31.8	**36.5	54.0	-17.5
21618.00	H	32.3	**35.7	54.0	-18.3
24020.00	H	33.7	**38.0	54.0	-16.0
26422.00	H	34.6	**39.6	54.0	-14.4

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4804.00	V	5.5	**36.9	54.0	-17.1
7206.00	V	12.4	**35.8	54.0	-18.2
9608.00	V	15.1	**36.6	54.0	-17.4
12010.00	V	17.5	**35.3	54.0	-18.7
14412.00	V	22.1	**34.0	54.0	-20.0
16814.00	V	30.8	**40.1	54.0	-13.9
19216.00	V	31.8	**36.6	54.0	-17.4
21618.00	V	32.3	**36.0	54.0	-18.0
24020.00	V	33.7	**37.7	54.0	-16.3
26422.00	V	34.6	**38.8	54.0	-15.2

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

\*\*Duty Cycle Correction = 20Log(0.15) = -16.5dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz





**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
4880.00	H	5.7	53.4	74.0	-20.6
7320.00	H	13.9	54.2	74.0	-19.8
9760.00	H	14.0	53.3	74.0	-20.7
12200.00	H	18.6	53.2	74.0	-20.8
14640.00	H	23.2	51.5	74.0	-22.5
17080.00	H	31.2	57.8	74.0	-16.2
19520.00	H	32.0	51.7	74.0	-22.3
21960.00	H	33.5	53.3	74.0	-20.7
24400.00	H	34.1	54.2	74.0	-19.8
26840.00	H	35.2	56.1	74.0	-17.9

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
4880.00	V	5.7	53.2	74.0	-20.8
7320.00	V	13.9	55.5	74.0	-18.5
9760.00	V	14.0	54.3	74.0	-19.7
12200.00	V	18.6	52.7	74.0	-21.3
14640.00	V	23.2	51.0	74.0	-23.0
17080.00	V	31.2	58.3	74.0	-15.7
19520.00	V	32.0	52.1	74.0	-21.9
21960.00	V	33.5	53.4	74.0	-20.6
24400.00	V	34.1	53.9	74.0	-20.1
26840.00	V	35.2	56.3	74.0	-17.7

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: #Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4880.00	H	5.7	**36.9	54.0	-17.1
7320.00	H	13.9	**37.7	54.0	-16.3
9760.00	H	14.0	**36.8	54.0	-17.2
12200.00	H	18.6	**36.7	54.0	-17.3
14640.00	H	23.2	**35.0	54.0	-19.0
17080.00	H	31.2	**41.3	54.0	-12.7
19520.00	H	32.0	**35.2	54.0	-18.8
21960.00	H	33.5	**36.8	54.0	-17.2
24400.00	H	34.1	**37.7	54.0	-16.3
26840.00	H	35.2	**39.6	54.0	-14.4

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4880.00	V	5.7	**36.7	54.0	-17.3
7320.00	V	13.9	**39.0	54.0	-15.0
9760.00	V	14.0	**37.8	54.0	-16.2
12200.00	V	18.6	**36.2	54.0	-17.8
14640.00	V	23.2	**34.5	54.0	-19.5
17080.00	V	31.2	**41.8	54.0	-12.2
19520.00	V	32.0	**35.6	54.0	-18.4
21960.00	V	33.5	**36.9	54.0	-17.1
24400.00	V	34.1	**37.4	54.0	-16.6
26840.00	V	35.2	**39.8	54.0	-14.2

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

\*\* Duty Cycle Correction =  $20\text{Log}(0.15) = -16.5\text{dB}$ .

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
4955.00	H	5.7	46.8	74.0	-27.2
7432.50	H	14.7	56.5	74.0	-17.5
9910.00	H	12.9	51.9	74.0	-22.1
12387.50	H	19.5	53.6	74.0	-20.4
14865.00	H	25.1	55.7	74.0	-18.3
17342.50	H	33.4	59.4	74.0	-14.6
19820.00	H	34.7	55.3	74.0	-18.7
22297.50	H	35.6	54.9	74.0	-19.1
24775.00	H	36.8	58.3	74.0	-15.7
27252.50	H	37.5	59.5	74.0	-14.5

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
4955.00	V	5.7	54.2	74.0	-19.8
7432.50	V	14.7	56.2	74.0	-17.8
9910.00	V	12.9	52.4	74.0	-21.6
12387.50	V	19.5	53.5	74.0	-20.5
14865.00	V	25.1	55.0	74.0	-19.0
17342.50	V	33.4	59.3	74.0	-14.7
19820.00	V	34.7	55.3	74.0	-18.7
22297.50	V	35.6	54.8	74.0	-19.2
24775.00	V	36.8	57.3	74.0	-16.7
27252.50	V	37.5	59.3	74.0	-14.7

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

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

**Detection mode: #Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4955.00	H	5.7	**30.3	54.0	-23.7
7432.50	H	14.7	**40.0	54.0	-14.0
9910.00	H	12.9	**35.4	54.0	-18.6
12387.50	H	19.5	**37.1	54.0	-16.9
14865.00	H	25.1	**39.2	54.0	-14.8
17342.50	H	33.4	**42.9	54.0	-11.1
19820.00	H	34.7	**38.8	54.0	-15.2
22297.50	H	35.6	**38.4	54.0	-15.6
24775.00	H	36.8	**41.8	54.0	-12.2
27252.50	H	37.5	**43.0	54.0	-11.0

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4955.00	V	5.7	**37.7	54.0	-16.3
7432.50	V	14.7	**39.7	54.0	-14.3
9910.00	V	12.9	**35.9	54.0	-18.1
12387.50	V	19.5	**37.0	54.0	-17.0
14865.00	V	25.1	**38.5	54.0	-15.5
17342.50	V	33.4	**42.8	54.0	-11.2
19820.00	V	34.7	**38.8	54.0	-15.2
22297.50	V	35.6	**38.3	54.0	-15.7
24775.00	V	36.8	**41.0	54.0	-13.0
27252.50	V	37.5	**42.8	54.0	-11.2

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

\*\*Duty Cycle Correction =  $20\text{Log}(0.15) = -16.5\text{dB}$ .

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz



**TEST REPORT No: (5212)206-0490(A)**

**Radiated Emissions (30MHz – 2.4GHz)**

Test Requirement: FCC Part 15 Section 15.209  
 Test Method: ANSI C63.4  
 Test Date(s): 2012-06-07  
 Temperature: 28.0 °C  
 Humidity: 65.0 %  
 Atmospheric Pressure: 100.2 kPa  
 Mode of Operation: On mode, Charge mode, Change and Test Program mode  
 Tested Voltage: 3.7Vd.c. ("Rechargeable battery" x 1) /  
 117Va.c., 60Hz (computer)

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

Frequency Range [MHz]	Quasi-Peak Limits [ $\mu$ V/m]
1.705-30	300
30-88	100
88-216	150
216-960	200
Above960	500



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

**Test Result of (On mode, battery operated): 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)
192.56	H	24.2	43.5	-19.3
279.28	H	27.1	46.0	-18.9
339.96	H	37.2	46.0	-8.8
352.32	H	39.6	46.0	-6.4
363.84	H	37.5	46.0	-8.5
408.00	H	30.3	46.0	-15.7

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
192.56	V	20.6	43.5	-22.9
279.28	V	23.4	46.0	-22.6
339.96	V	25.2	46.0	-20.8
352.32	V	31.3	46.0	-14.7
363.84	V	32.5	46.0	-13.5
408.00	V	34.7	46.0	-11.3

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz  
VBW = 120KHz



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

**Test Result of (Charge mode, battery operated): 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)
46.48	H	28.3	40.0	-11.7
73.56	H	25.4	40.0	-14.6
157.68	H	20.6	43.5	-22.9
210.28	H	21.2	43.5	-22.3
322.72	H	24.6	46.0	-21.4
379.20	H	25.7	46.0	-20.3

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
46.48	V	27.9	40.0	-12.1
73.56	V	25.2	40.0	-14.8
157.68	V	20.1	43.5	-23.4
210.28	V	22.4	43.5	-21.1
322.72	V	24.5	46.0	-21.5
379.20	V	27.2	46.0	-18.8

Note: Field Strength includes Antenna Factor and Cable Loss.



**TEST REPORT No: (5212)206-0490(A)**

**Measurement Data**

**Test Result of (Charge and test program mode, computer operated): 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)
109.84	H	25.2	43.5	-18.3
156.12	H	26.7	43.5	-16.8
240.04	H	35.8	46.0	-10.2
336.04	H	33.7	46.0	-12.3
369.00	H	34.2	46.0	-11.8
412.88	H	32.5	46.0	-13.5

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
109.84	V	22.6	43.5	-20.9
156.12	V	25.1	43.5	-18.4
240.04	V	40.2	46.0	-5.8
336.04	V	32.9	46.0	-13.1
369.00	V	27.8	46.0	-18.2
412.88	V	26.6	46.0	-19.4

Note: Field Strength includes Antenna Factor and Cable Loss.





## TEST REPORT No: (5212)206-0490(A)

### 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): 2012-06-07  
Temperature: 28.0 °C  
Humidity: 65.0 %  
Atmospheric Pressure: 100.2 kPa  
Mode of Operation: Transmission mode  
Tested Voltage: Remote: 9Vd.c. ("AA" size battery x 6)

#### 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.

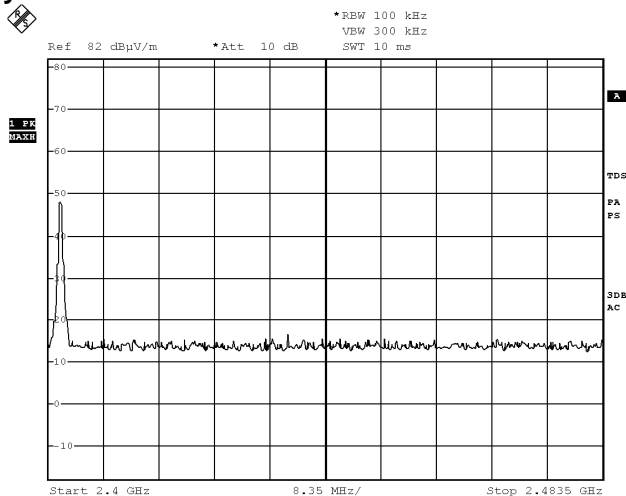
#### Limits for Frequency range of Fundamental Emission:

Frequency [MHz]	FCC Limits [MHz]
2402.00 – 2477.50	2400 – 2483.5

**TEST REPORT No: (5212)206-0490(A)**

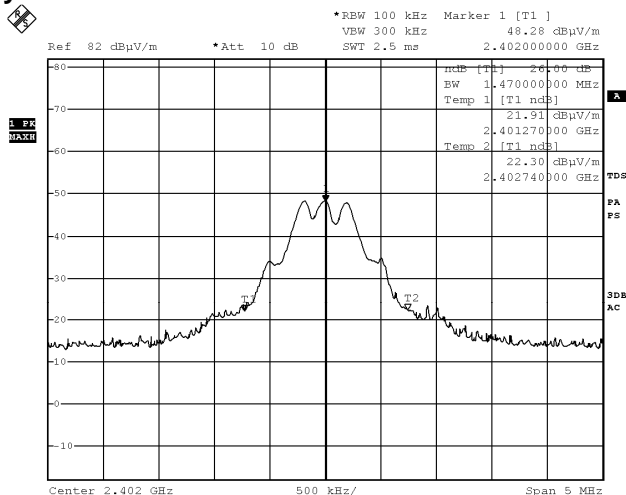
**Measurement Data :**

**Test Result of Frequency Range of Fundamental Emission: PASS**  
**Lowest Frequency – 2402.00MHz**



Date: 7.JUN.2012 17:52:45

**Test Result of 26dB Bandwidth of Fundamental Emission: PASS**  
**Lowest Frequency – 2402.00MHz**

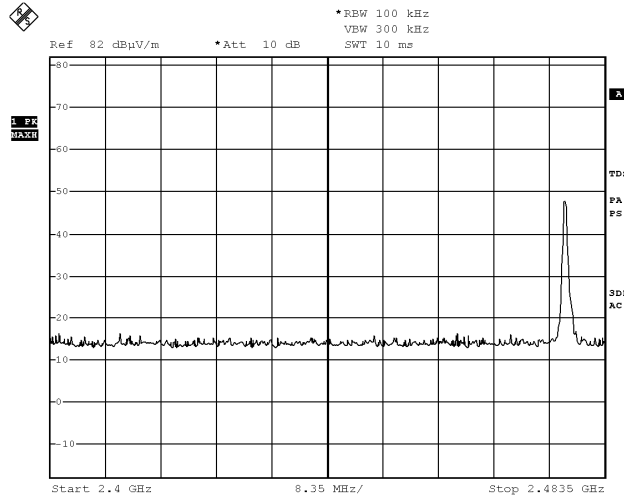


Date: 7.JUN.2012 17:47:10

**TEST REPORT No: (5212)206-0490(A)**

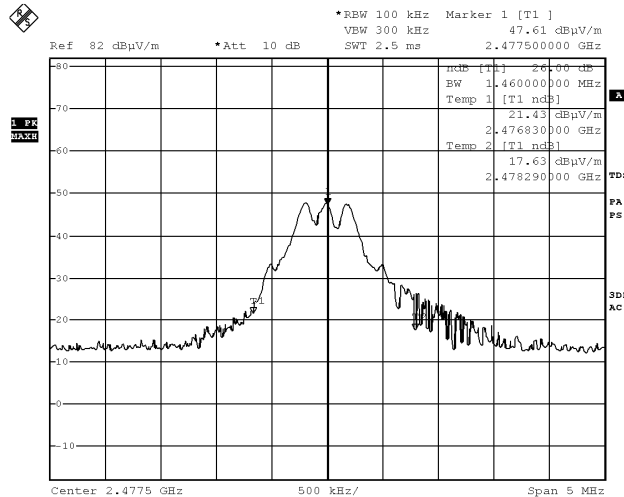
**Measurement Data :**

**Test Result of Frequency Range of Fundamental Emission: PASS  
Highest Frequency – 2477.50MHz**



Date: 7.JUN.2012 17:57:42

**Test Result of 26dB Bandwidth of Fundamental Emission: PASS  
Highest Frequency – 2477.50MHz**



Date: 7.JUN.2012 17:58:17



## TEST REPORT No: (5212)206-0490(A)

### Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 25 pulses (0.6msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered  $(25 \times 0.6)$  per 100msec = 15% duty cycle.

Remarks:

Duty Cycle Correction =  $20\text{Log}(0.15) = -16.5\text{dB}$

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

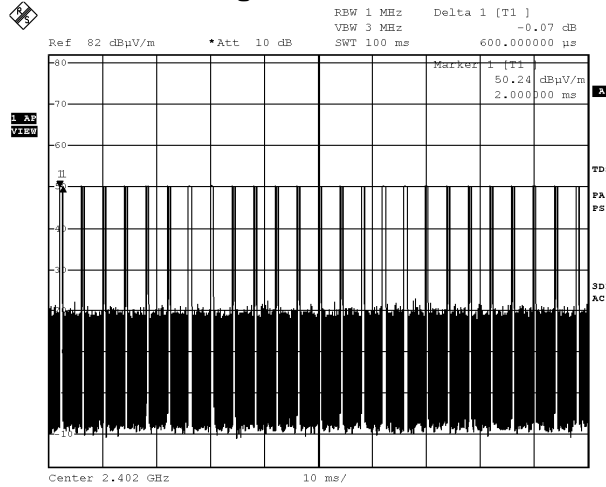


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## TEST REPORT No: (5212)206-0490(A)

### Measurement Data :

### Figure A [Pulse Train]



Date: 7.JUN.2012 18:09:38

**TEST REPORT No: (5212)206-0490(A)**

**Photographs of EUT**

**Top View of the product**



**Bottom View of the product**



**Bottom View of the product**



**Connection of the product**



**Connection of the product**



**Cable**



**TEST REPORT No: (5212)206-0490(A)**

**Photographs of EUT**

**Internal View of the product**



**Internal View of the product**



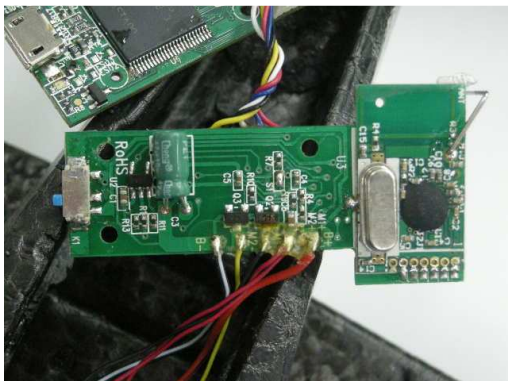
**Inner Circuit Top View**



**Inner Circuit Bottom View**



**Inner Circuit View**



**Antenna**



**TEST REPORT No: (5212)206-0490(A)**

**Measurement of Conducted Emission Test Set Up**





**TEST REPORT No: (5212)206-0490(A)**

**Measurement of Radiated Emission Test Set Up**



**TEST REPORT No: (5212)206-0490(A)**

**Measurement of Radiated Emission Test Set Up**



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