

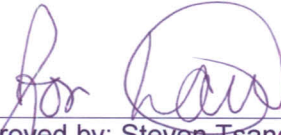


TEST REPORT No: (5213)205-0689

TEST REPORT

To:	ASIAN EXPRESS HOLDING LTD.	To:	-
Attn:	Bob Cheng	Attn:	-
Address:	4-F, -4, No.669 Jingping Rd., Zhonghe City, TaiPei county 235, Taiwan	Address:	-
Fax:	61675805-2633	Fax:	-
E-mail:	bob@icl.net.cn	E-mail:	-
Folder No.:	--		
Factory name:	--		
Location:	--		
Product:	CLOUD QUEST Model No.: PL-1120 / PL-1121 / PL-1122 / PL-1123 / PL-1124		
		Sample No:	(5213)205-0689
		Test date:	August 7, 2013
		Test Requested:	FCC Part 15 - 2012
		Test Method:	ANSI C63.4 - 2009
		FCC ID:	VLEPL1120-T
The results given in this report are related to the tested specimen of the described electrical apparatus.			
CONCLUSION: The submitted sample was found to <u>COMPLY</u> with requirement of FCC Part 15 Subpart C.			
Authorized Signature:			
			
Reviewed by: Keith Yeung		Approved by: Steven Tsang	
Date: September 2, 2013		Date: September 2, 2013	



TEST REPORT No: (5213)205-0689
Test Result Summary

EMISSION TEST			
Test requirement: FCC Part 15 - 2012			
Test Condition	Test Method	Test Result	
		Pass	Failed
Radiated Emission Test, 9kHz to 24GHz	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"/>
Duty Cycle Correction During 100msec	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>



TEST REPORT No: (5213)205-0689

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.	LAST CALIBRATION	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	29-JAN-2013	28-JAN-2014
SPECTRUM ANALYZER	R&S	R3127	111000909	30-JAN-2013	29-JAN-2014
LOOP ANTENNA	ETS LINDGREN	6502	00102266	13-AUG-2013	12-AUG-2014
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	12-SEP-2012	11-SEP-2013
HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D-692	13-SEP-2013	12-SEP-2013
PYRAMIDAL STANDARD GAIN HORN ANTENNA	ETS-LINDGREN	3160-09	00130130	24-JAN-2012	23-JAN-2014
OPEN AREA TEST SITE	BVCPS	N/A	N/A	09-JUL-2013	08-JUL-2014
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	06-FEB-2013	05-FEB-2014
COAXIAL CABLE	SUHNER	N/A	N/A	08-NOV-2012	07-NOV-2013
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	25-SEP-2012	24-SEP-2013

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: (5213)205-0689

Equipment Under Test [EUT]

Description of Sample:

Model Name: CLOUD QUEST
 Model Number: PL-1120
 Additional Model Name: --
 Additional Model Number: PL-1121 / PL-1122 / PL-1123 / PL-1124
 Additional Model information: Declare the Circuit, PCB layout and Electrical parts of the products are identical to the basic model, except the model number for market purpose
 Rating: 9Vd.c. ("AA" size battery x 6)

Description of EUT Operation:

The Equipment Under Test (EUT) is a **ASIAN EXPRESS HOLDINGS LIMITED** of Remote Control Transmitter. It is a 1 switch, 6 buttons and 2 sticks transceiver and operating at 2405.5MHz to 2475MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while buttons is being pressed or sticks are being pushed or pulled, Modulation by IC, and type is GFSK.

There are total 140 channels and below is the frequency list :

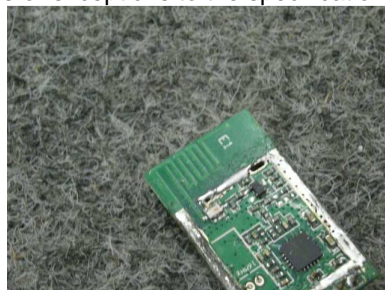
2405.5	2406.0	2406.5	2407.0	2407.5	2408.0	2408.5	2409.0	2409.5	2410.0	2410.5	2411.0	2411.5	2412.0
2412.5	2413.0	2413.5	2414.0	2414.5	2415.0	2415.5	2416.0	2416.5	2417.0	2417.5	2418.0	2418.5	2419.0
2419.5	2420.0	2420.5	2421.0	2421.5	2422.0	2422.5	2423.0	2423.5	2424.0	2424.5	2425.0	2425.5	2426.0
2426.5	2427.0	2427.5	2428.0	2428.5	2429.0	2429.5	2430.0	2430.5	2431.0	2431.5	2432.0	2432.5	2433.0
2433.5	2434.0	2434.5	2435.0	2435.5	2436.0	2436.5	2437.0	2437.5	2438.0	2438.5	2439.0	2439.5	2440.0
2440.5	2441.0	2441.5	2442.0	2442.5	2443.0	2443.5	2444.0	2444.5	2445.0	2445.5	2446.0	2446.5	2447.0
2447.5	2448.0	2448.5	2449.0	2449.5	2450.0	2450.5	2451.0	2451.5	2452.0	2452.5	2453.0	2453.5	2454.0
2454.5	2455.0	2455.5	2456.0	2456.5	2457.0	2457.5	2458.0	2458.5	2459.0	2459.5	2460.0	2460.5	2461.0
2461.5	2462.0	2462.5	2463.0	2463.5	2464.0	2464.5	2465.0	2465.5	2466.0	2466.5	2467.0	2467.5	2468.0
2468.5	2469.0	2469.5	2470.0	2470.5	2471.0	2471.5	2472.0	2472.5	2473.0	2473.5	2474.0	2474.5	2475.0

The transmitter has different control:

1. ON / OFF switch – Power control
2. Left stick – Left and right turning control
3. Right stick – Left and right control
4. Speed select button – Select speeds
5. Channel select button – Select channels
6. Throttle Sensitive trim – Adjust the sensitive
7. Forward and backward trim – Adjust the forward and backward trim control
8. Left and right turning trim – Adjust the left and right trim control
9. Banking trim – Left and right banking control

Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is soldered on the PCB. The antenna consists of 7.7cm long wire The antenna is not replaceable or user serviceable. The requirements of S15.203 are met. There are no deviations or exceptions to the specifications.



TEST REPORT No: (5213)205-0689

Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.249
Test Method: ANSI C63.4
Test Date(s): 2013-08-07
Temperature: 32.0 °C
Humidity: 81.0 %
Atmospheric Pressure: 100.3 kPa
Mode of Operation: Transmission mode
Tested Voltage: 9Vd.c. ("AA" size battery x 6)

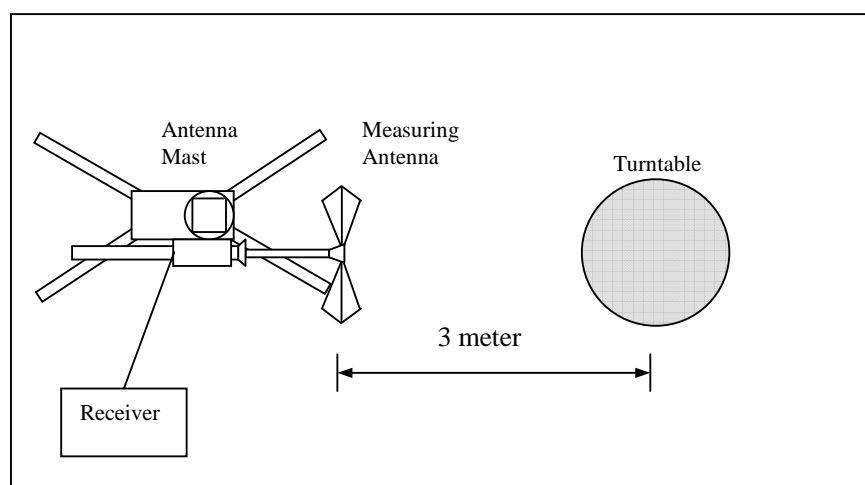
Test Procedure:

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 performed 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: (5213)205-0689

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2405.50	H	-2.7	-20.0	106.8	114.0	-7.2	**86.8	94.0	-7.2
2405.50	V	-2.7	-20.0	107.3	114.0	-6.7	**87.3	94.0	-6.7

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2436.00	H	-2.7	-20.0	107.2	114.0	-6.8	**87.2	94.0	-6.8
2436.00	V	-2.7	-20.0	106.8	114.0	-7.2	**86.8	94.0	-7.2

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2475.00	H	-2.7	-20.0	107.6	114.0	-6.4	**87.6	94.0	-6.4
2475.00	V	-2.7	-20.0	107.9	114.0	-6.1	**87.9	94.0	-6.1

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

**Duty Cycle Correction = $20\log(0.025) = -32\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5213)205-0689

Radiated Emissions (Spurious Emission)

Test Requirement: FCC Part 15 Section 15.249
 Test Method: ANSI C63.4
 Test Date(s): 2013-08-07
 Temperature: 32.0 °C
 Humidity: 81.0 %
 Atmospheric Pressure: 100.3 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 9Vd.c. ("AA" size battery x 6)

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2400.00	H	-2.7	-20.0	73.6	74.0	-0.4	**53.6	54.0	-0.4
4811.00	H	6.3	-20.0	66.1	74.0	-7.9	**46.1	54.0	-7.9
7216.50	H	13.5	-20.0	60.7	74.0	-13.3	**40.7	54.0	-13.3
9622.00	H	13.2	-20.0	61.1	74.0	-12.9	**41.1	54.0	-12.9
12027.50	H	18.5	-20.0	60.4	74.0	-13.6	**40.4	54.0	-13.6
14433.00	H	19.2	-20.0	61.3	74.0	-12.7	**41.3	54.0	-12.7
16838.50	H	25.4	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
19244.00	H	27.3	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8
21649.50	H	29.3	-20.0	61.9	74.0	-12.1	**41.9	54.0	-12.1
24055.00	H	32.1	-20.0	62.6	74.0	-11.4	**42.6	54.0	-11.4
26460.50	H	33.9	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8

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

**Duty Cycle Correction = $20\log(0.025) = -32\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

TEST REPORT No: (5213)205-0689

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2400.00	V	-2.7	-20.0	72.9	74.0	-1.1	**52.9	54.0	-1.1
4811.00	V	6.3	-20.0	69.9	74.0	-4.1	**49.9	54.0	-4.1
7216.50	V	13.5	-20.0	60.7	74.0	-13.3	**40.7	54.0	-13.3
9622.00	V	13.2	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
12027.50	V	18.5	-20.0	60.7	74.0	-13.3	**40.7	54.0	-13.3
14433.00	V	19.2	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
16838.50	V	25.4	-20.0	60.9	74.0	-13.1	**40.9	54.0	-13.1
19244.00	V	27.3	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
21649.50	V	29.3	-20.0	61.2	74.0	-12.8	**41.2	54.0	-12.8
24055.00	V	32.1	-20.0	61.9	74.0	-12.1	**41.9	54.0	-12.1
26460.50	V	33.9	-20.0	61.2	74.0	-12.8	**41.2	54.0	-12.8

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

**Duty Cycle Correction = $20\log(0.025) = -32\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

TEST REPORT No: (5213)205-0689

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
4872.00	H	6.3	-20.0	66.3	74.0	-7.7	**46.3	54.0	-7.7
7308.00	H	13.5	-20.0	61.7	74.0	-12.3	**41.7	54.0	-12.3
9744.00	H	13.2	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
12180.00	H	18.5	-20.0	60.1	74.0	-13.9	**40.1	54.0	-13.9
14616.00	H	19.2	-20.0	61.3	74.0	-12.7	**41.3	54.0	-12.7
17052.00	H	25.4	-20.0	62.9	74.0	-11.1	**42.9	54.0	-11.1
19488.00	H	27.3	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
21924.00	H	29.3	-20.0	63.2	74.0	-10.8	**43.2	54.0	-10.8
26360.00	H	32.1	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
26796.00	H	33.9	-20.0	62.9	74.0	-11.1	**42.9	54.0	-11.1

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
4872.00	V	6.3	-20.0	71.8	74.0	-2.2	**51.8	54.0	-2.2
7308.00	V	13.5	-20.0	61.5	74.0	-12.5	**41.5	54.0	-12.5
9744.00	V	13.2	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
12180.00	V	18.5	-20.0	60.4	74.0	-13.6	**40.4	54.0	-13.6
14616.00	V	19.2	-20.0	60.7	74.0	-13.3	**40.7	54.0	-13.3
17052.00	V	25.4	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
19488.00	V	27.3	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
21924.00	V	29.3	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
26360.00	V	32.1	-20.0	62.9	74.0	-11.1	**42.9	54.0	-11.1
26796.00	V	33.9	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3

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

**Duty Cycle Correction = $20\log(0.025) = -32\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz

TEST REPORT No: (5213)205-0689

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 (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2483.50	H	-2.7	-20.0	72.2	74.0	-1.8	**52.2	54.0	-1.8
4950.00	H	6.3	-20.0	67.3	74.0	-6.7	**47.3	54.0	-6.7
7425.00	H	13.5	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
9900.00	H	13.2	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
12375.00	H	18.5	-20.0	60.3	74.0	-13.7	**40.3	54.0	-13.7
14850.00	H	19.2	-20.0	61.9	74.0	-12.1	**41.9	54.0	-12.1
17325.00	H	26.2	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
19800.00	H	27.3	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
22275.00	H	29.3	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
24750.00	H	32.1	-20.0	61.7	74.0	-12.3	**41.7	54.0	-12.3
27225.00	H	33.9	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty-cycle correction (dB)	Field Strength at 3m – Peak (dBμV/m)	Limit at 3m – Peak (dBμV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBμV/m)	Limit at 3m – Average (dBμV/m)	Margin - Average (dB)
2483.50	V	-2.7	-20.0	70.5	74.0	-3.5	**50.5	54.0	-3.5
4950.00	V	6.3	-20.0	70.4	74.0	-3.6	**50.4	54.0	-3.6
7425.00	V	13.5	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
9900.00	V	13.2	-20.0	60.9	74.0	-13.1	**40.9	54.0	-13.1
12375.00	V	18.5	-20.0	60.5	74.0	-13.5	**40.5	54.0	-13.5
14850.00	V	19.2	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
17325.00	V	26.2	-20.0	63.1	74.0	-10.9	**43.1	54.0	-10.9
19800.00	V	27.3	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8
22275.00	V	29.3	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7
24750.00	V	32.1	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
27225.00	V	33.9	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5

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

**Duty Cycle Correction = $20\log(0.025) = -32\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



TEST REPORT No: (5213)205-0689

Radiated Emissions (30MHz – 2.4GHz)

Test Requirement: FCC Part 15 Section 15.209
Test Method: ANSI C63.4
Test Date(s): 2013-08-07
Temperature: 32.0 °C
Humidity: 81.0 %
Atmospheric Pressure: 100.3 kPa
Mode of Operation: On mode
Tested Voltage: 9Vd.c. ("AA" size battery x 6)

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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Measurement Data

Test Result of (On mode): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
42.26	H	28.4	40.0	-11.6
78.66	H	25.6	40.0	-14.4
262.42	H	22.8	46.0	-23.2
300.22	H	23.1	46.0	-22.9
450.38	H	26.7	46.0	-19.3
620.70	H	30.2	46.0	-15.8

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
42.26	V	27.9	40.0	-12.1
78.66	V	26.0	40.0	-14.0
262.42	V	22.7	46.0	-23.3
300.22	V	23.5	46.0	-22.5
450.38	V	27.1	46.0	-18.9
620.70	V	30.6	46.0	-15.4

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



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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): 2013-08-07
Temperature: 32.0 °C
Humidity: 81.0 %
Atmospheric Pressure: 100.3 kPa
Mode of Operation: Transmission mode
Tested Voltage: 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:

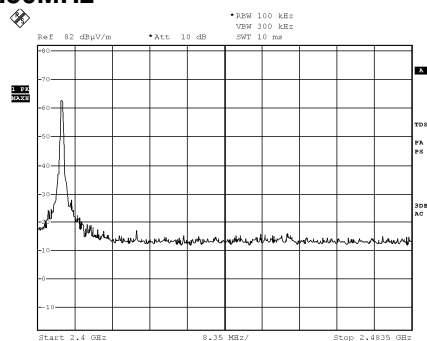
Frequency [MHz]	FCC Limits [MHz]
2405.50 – 2475.00	2400 – 2483.5

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Measurement Data :

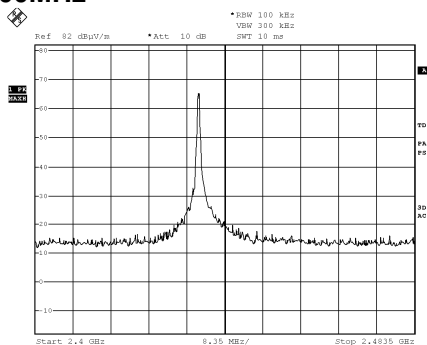
Test Result of Frequency Range of Fundamental Emission: PASS

Lowest Frequency – 2405.50MHz



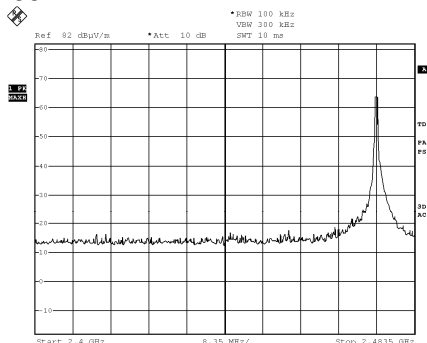
Date: 7.AUG.2013 09:19:08

Middle Frequency – 2436.00MHz



Date: 7.AUG.2013 09:21:36

Highest Frequency – 2475.00MHz



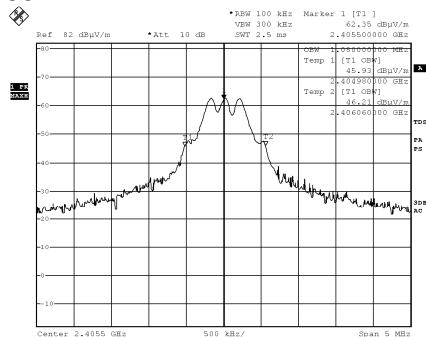
Date: 7.AUG.2013 09:24:33

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Measurement Data :

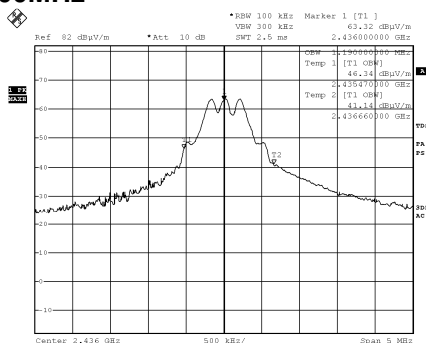
Test Result of 26dB Bandwidth of Fundamental Emission: PASS

Lowest Frequency – 2405.50MHz



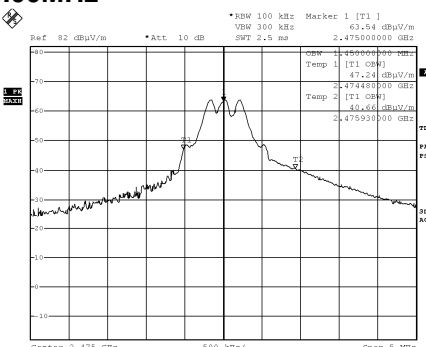
Date: 7.AUG.2013 09:29:00

Middle Frequency – 2436.00MHz



Date: 7.AUG.2013 09:30:26

Highest Frequency – 2475.00MHz



Date: 7.AUG.2013 09:27:21



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Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (24.115msec) never exceeds a series of 1 pulse (0.615msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered $0.615 \text{ per } 24.115\text{msec} = 2.5\%$ duty cycle.

Remarks:

Duty Cycle Correction = $20\text{Log}(0.025) = -32\text{dB}$
Therefore -20dB is taken

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

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Measurement Data :

Figure A [Pulse Train]

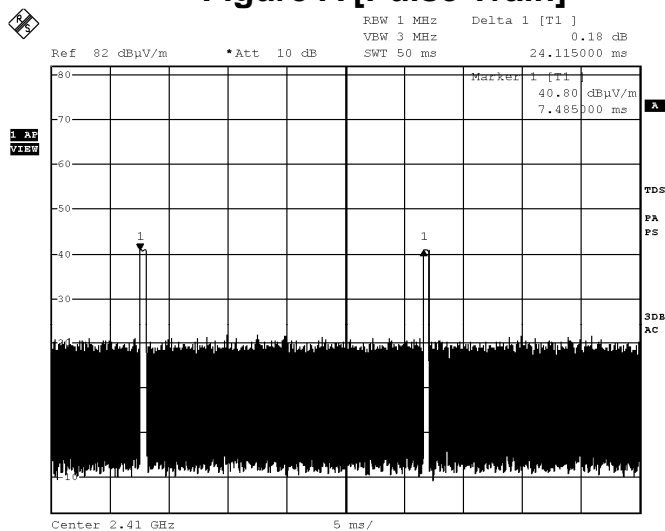
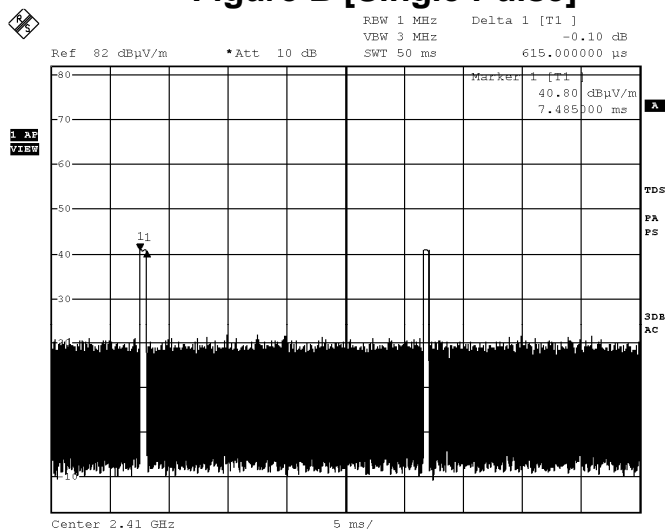


Figure B [Single Pulse]



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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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Photographs of EUT

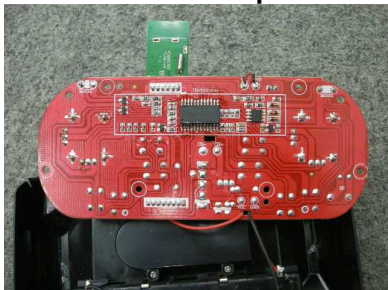
Inner view of product



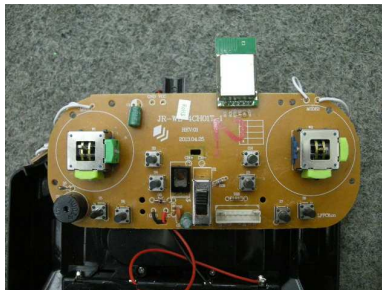
Inner view of product



Inner Circuit Top View



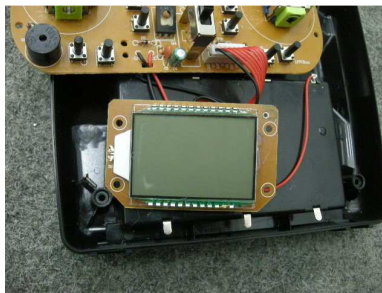
Inner Circuit Bottom View



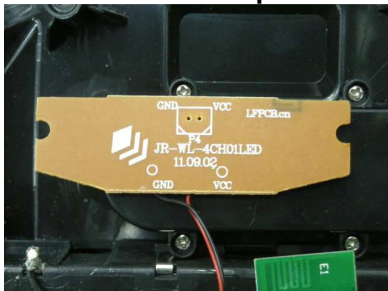
Inner Circuit Top View



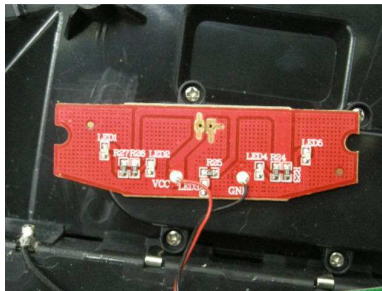
Inner Circuit Bottom View



Inner Circuit Top View



Inner Circuit Bottom View



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Photographs of EUT

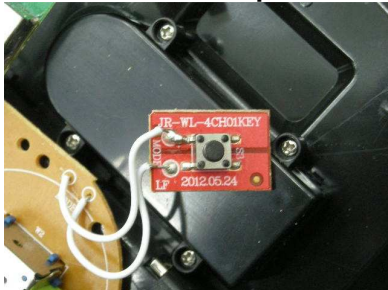
Inner Circuit Top View



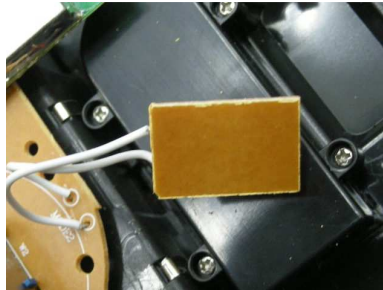
Inner Circuit Top View



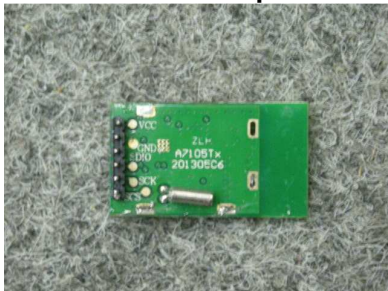
Inner Circuit Top View



Inner Circuit Bottom View



Inner Circuit Top View



Inner Circuit Bottom View



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Measurement of Radiated Emission Test Set Up



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