

# **TEST REPORT**

	1 - 0 1 11			
To:	ASIAN EXPRESS HOLDING LTD.		То:	-
Attn:	Bob Cheng		Attn:	-
Address:	4F, -4, No.669 Jingping Rd., Zhonghe Ci TaiPei county 235, Taiwan	ty,	Address:	-
Fax:	61675805-2633		Fax:	-
E-mail:	bob@icl.net.cn		E-mail:	-
Folder No.:				
Factory name:				
Location:				
Product:	Air C Model No.: PL-1170 /		with Flight Stick '1 / PL-1172 / PL-1	173 / PL-1174
			Sample No:	(5213)200-0472
	To.		Test date:	July 30, 2013
			Test Requested:	FCC Part 15 - 2011
	***************************************		Test Method:	ANSI C63.4 - 2009
			FCC ID:	VLEPL1170-R
The results	given in this report are related to the tes	ted sp	ecimen of the des	scribed electrical apparatus.
CONCLUSION:	The submitted sample was found to CC	MPLY	with requirement	of FCC Part 15 Subpart C.
	Authorized	Signat	ure:	
	(Qu)L		for Le	
Reviewed by:			ved by: Steven T	sang
Date: August 15	2013	Data: /	Way et 15 2012	

BUREAU VERITAS HONG KONG LIMITED – 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 www.cps.bureauveritas.com

Date: August 15, 2013

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Date: August 15, 2013



TEST REPORT No: (5213)200-0472(A) **Test Result Summary** 

EMISSION TEST										
Test requirement: FCC Part 15 - 2011	Test requirement: FCC Part 15 - 2011									
Test Condition	Test Method	Test	Result							
rest Condition	rest Method	Pass	Failed							
Radiated Emission Test,	ANSI C63.4									

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

9kHz to 40GHz

www.cps.bureauveritas.com



### 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	28-JAN-2014
SPECTRUM ANALYZER	R&S	R3127	111000909	29-JAN-2014
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	12-SEP-2013
HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D-692	12-SEP-2013
PREAMLIFIER	SCHWARZBECK	BBV9718	9718-152	15-OCT-2013
OPEN AREA TEST SITE	BVCPS	N/A	N/A	08-JUL-2014
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	05-FEB-2014
COAXIAL CABLE	SUHNER	N/A	N/A	07-NOV-2013
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	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



# Equipment Under Test [EUT]

**Description of Sample:** 

Model Name: Air Combat with Flight Stick

Model Number: PL-1170

Additional Model Name:

Additional Model Number: PL-1171 / PL-1172 / PL-1173 / PL-1174

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: 3.7Vd.c. ("internal rechargeable battery" x 1)

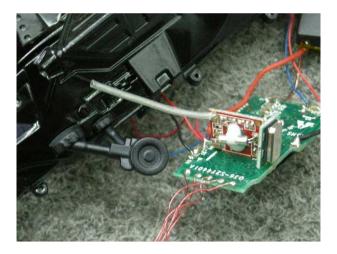
#### **Description of EUT Operation:**

The Equipment Under Test (EUT) is a **ASIAN EXPRESS HOLDINGS LIMITED** of Remote Control Transmitter. It is a 1 switch transceiver and operating at 2405MHz to 2478MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while received the controller commands, Modulation by IC, and type is GFSK. 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 consists of 3cm 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.





### **Radiated Emissions (Fundamental)**

Test Requirement: FCC Part 15 Section 15.249

Test Method: ANSI C63.4

Test Date(s): 2013-07-30
Temperature: 31.0 °C
Humidity: 79.0 %
Atmospheric Pressure: 100.2 kPa

Mode of Operation: Transmission mode

Tested Voltage: 3.7Vd.c. ("internal rechargeable battery" x 1)

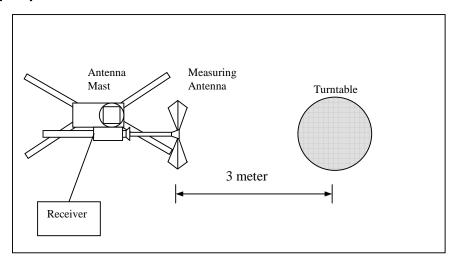
#### **Test Procedure:**

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**





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

Frequency Range of	Field Strength of	Field Strength of
Fundamental	Fundamental Emission	Harmonics Emission
	(Average)	(Average)
[MHz]	[mV/m]	[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)
2405.00	Н	-2.7	-20.0	74.2	114.0	-39.8	**54.2	94.0	-39.8
2405.00	V	-2.7	-20.0	76.2	114.0	-37.8	**56.2	94.0	-37.8

## 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 (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)
2442.00	Н	-2.7	-20.0	71.3	114.0	-42.7	**51.3	94.0	-42.7
2442.00	V	-2.7	-20.0	73.9	114.0	-40.1	**53.9	94.0	-40.1

## 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)
2478.00	Н	-2.7	-20.0	65.1	114.0	-48.9	**45.1	94.0	-48.9
2478.00	V	-2.7	-20.0	71.4	114.0	-42.6	**51.4	94.0	-42.6

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

Note: Field Strength includes Antenna Factor and Cable Loss.

RBW = 1MHz Receiver setting:

VBW = 1MHz

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.00317) = -50.0dB.

<sup>\*\*</sup>Therefore, -20dB is taken.



## **Radiated Emissions (Spurious Emission)**

FCC Part 15 Section 15.249 Test Requirement:

Test Method: **ANSI C63.4** 2013-07-30 Test Date(s): 31.0 °C Temperature: 79.0 % Humidity: Atmospheric Pressure: 100.2 kPa

Mode of Operation: Transmission mode

Tested Voltage: 3.7Vd.c. ("internal rechargeable battery" x 1)

#### **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)
4810.00	Н	6.3	-20.0	61.5	74.0	-12.5	**41.5	54.0	-12.5
7215.00	Н	13.5	-20.0	61.7	74.0	-12.3	**41.7	54.0	-12.3
9620.00	Н	13.2	-20.0	61.3	74.0	-12.7	**41.3	54.0	-12.7
12025.00	Н	18.5	-20.0	61.3	74.0	-12.7	**41.3	54.0	-12.7
14430.00	Ι	19.2	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
16835.00	Н	25.4	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
19240.00	Н	27.3	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
21645.00	Н	29.3	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
24050.00	Н	32.1	-20.0	62.6	74.0	-11.4	**42.6	54.0	-11.4
26455.00	Н	33.9	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6

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

Note: Field Strength includes Antenna Factor and Cable Loss.

RBW = 1MHzReceiver setting:

VBW = 1MHz

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.00317) = -50.0dB.

<sup>\*\*</sup>Therefore, -20dB is taken.



#### **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)
4810.00	V	6.3	-20.0	61.4	74.0	-12.6	**41.4	54.0	-12.6
7215.00	V	13.5	-20.0	61.2	74.0	-12.8	**41.2	54.0	-12.8
9620.00	V	13.2	-20.0	61.7	74.0	-12.3	**41.7	54.0	-12.3
12025.00	V	18.5	-20.0	60.9	74.0	-13.1	**40.9	54.0	-13.1
14430.00	V	19.2	-20.0	61.7	74.0	-12.3	**41.7	54.0	-12.3
16835.00	V	25.4	-20.0	62.6	74.0	-11.4	**42.6	54.0	-11.4
19240.00	V	27.3	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
21645.00	V	29.3	-20.0	61.2	74.0	-12.8	**41.2	54.0	-12.8
24050.00	V	32.1	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9
26455.00	V	33.9	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9

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

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz

as pulse desensitisation.
\*\*Duty Cycle Correction = 20Log(0.00317) = -50.0dB.

<sup>\*\*</sup>Therefore, -20dB is taken.



### **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)
4884.00	Н	6.3	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
7326.00	Н	13.5	-20.0	61.4	74.0	-12.6	**41.4	54.0	-12.6
9768.00	Н	13.2	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
12210.00	Н	18.5	-20.0	61.4	74.0	-12.6	**41.4	54.0	-12.6
14652.00	Η	19.2	-20.0	61.3	74.0	-12.7	**41.3	54.0	-12.7
17094.00	Ι	25.4	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
19536.00	Н	27.3	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
21978.00	Н	29.3	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
24420.00	Н	32.1	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
26862.00	Н	33.9	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7

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)
4884.00	V	6.3	-20.0	61.2	74.0	-12.8	**41.2	54.0	-12.8
7326.00	V	13.5	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
9768.00	V	13.2	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
12210.00	V	18.5	-20.0	61.1	74.0	-12.9	**41.1	54.0	-12.9
14652.00	V	19.2	-20.0	61.6	74.0	-12.4	**41.6	54.0	-12.4
17094.00	V	25.4	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
19536.00	V	27.3	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7
21978.00	V	29.3	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
24420.00	V	32.1	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
26862.00	V	33.9	-20.0	62.9	74.0	-11.1	**42.9	54.0	-11.1

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

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz

**BUREAU VERITAS HONG KONG LIMITED -**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 www.cps.bureauveritas.com This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the samples of a positive of any arrows or organization to a provided howaver such positive. additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.00317) = -50.0dB.

<sup>\*\*</sup>Therefore, -20dB is taken.



### **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)
4956.00	Н	6.3	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
7434.00	Η	13.5	-20.0	61.4	74.0	-12.6	**41.4	54.0	-12.6
9912.00	Н	13.2	-20.0	61.6	74.0	-12.4	**41.6	54.0	-12.4
12390.00	Н	18.5	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
14868.00	Н	19.2	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9
17346.00	Н	26.2	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
19824.00	Н	27.3	-20.0	63.0	74.0	-11.0	**43.0	54.0	-11.0
22302.00	Н	29.3	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8
24780.00	Н	32.1	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8
27258.00	Н	33.9	-20.0	63.2	74.0	-10.8	**43.2	54.0	-10.8

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)
4956.00	V	6.3	-20.0	60.8	74.0	-13.2	**40.8	54.0	-13.2
7434.00	V	13.5	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
9912.00	V	13.2	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9
12390.00	V	18.5	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7
14868.00	V	19.2	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8
17346.00	V	26.2	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7
19824.00	V	27.3	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
22302.00	V	29.3	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
24780.00	V	32.1	-20.0	63.5	74.0	-10.5	**43.5	54.0	-10.5
27258.00	V	33.9	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2

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

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

BUREAU VERITAS HONG KONG LIMITED – 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

www.cps.bureauveritas.com

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.00317) = -50.0dB.

<sup>\*\*</sup>Therefore, -20dB is taken.



### Radiated Emissions (30MHz - 2.4GHz)

Test Requirement: FCC Part 15 Section 15.209

Test Method:

ANSI C63.4

Test Date(s):

Temperature:

Humidity:

Atmospheric Pressure:

Mode of Operation:

ANSI C63.4

2013-07-30

31.0 °C

79.0 %

100.2 kPa

On mode

Tested Voltage: 3.7Vd.c. ("internal rechargeable battery" x 1)

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

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



**Measurement Data** 

Test Result of (On mode): PASS

**Detection mode: Quasi-Peak** 

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBμV/m)	Margin (dB)
37.26	Н	28.9	40.0	-11.1
70.28	Н	24.7	40.0	-15.3
256.72	Н	22.5	46.0	-23.5
322.88	Н	24.6	46.0	-21.4
445.16	Н	27.5	46.0	-18.5
581.22	Н	29.2	46.0	-16.8

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
37.26	V	29.0	40.0	-11.0
70.28	V	24.3	40.0	-15.7
256.72	V	22.6	46.0	-23.4
322.88	V	24.1	46.0	-21.9
445.16	V	27.2	46.0	-18.8
581.22	V	29.9	46.0	-16.1

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz

VBW = 120KHz



## 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): 2013-07-30
Temperature: 31.0 °C
Humidity: 79.0 %
Atmospheric Pressure: 100.2 kPa

Mode of Operation: Transmission mode

Tested Voltage: 3.7Vd.c. ("internal rechargeable battery" x 1)

#### 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:

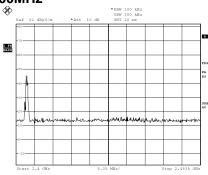
Frequency	FCC Limits		
[MHz]	[MHz]		
2405.00 – 2478.00	2400 – 2483.5		



**Measurement Data:** 

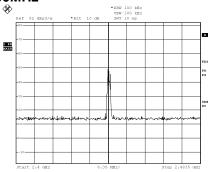
Test Result of Frequency Range of Fundamental Emission: PASS

### Lowest Frequency - 2405.00MHz



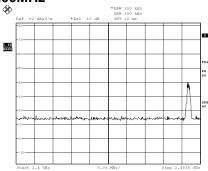
Date: 30.JUL.2013 11:11:01

## Middle Frequency - 2442.00MHz



Date: 30.JUL.2013 12:16:37

## Highest Frequency - 2478.00MHz



Date: 30.JUL.2013 11:19:37

BUREAU VERITAS HONG KONG LIMITED – 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 www.cps.bureauveritas.com

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



TEST REPORT No: (5213)200-0472(A) Measurement Data:

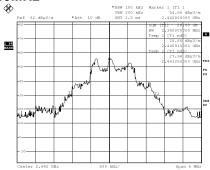
Test Result of 26dB Bandwidth of Fundamental Emission: PASS

### Lowest Frequency - 2405.00MHz

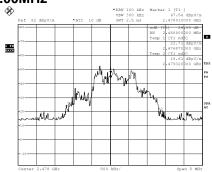


Date: 30.JUL.2013 11:10:39

### Middle Frequency - 2442.00MHz



### Highest Frequency - 2478.00MHz



Date: 30.JUL.2013 11:22:14

BUREAU VERITAS HONG KONG LIMITED – 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 www.cps.bureauveritas.com

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request delitional testing of the complex of a positive of any agrees or opicious relation to the provided however such portion. additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report



### **Duty Cycle Correction During 100msec:**

Each function key sends a different series of characters, but each packet period (63msec) never exceeds a series of 1 pulse (0.2msec). Assuming any combination of short or long pulses may be obtained due to encoding the worst case transmit duty cycle would be considered 0.2msec per 63msec=0.377% duty cycle. Figure A to B show the characteristics of the pulse train for one of these functions

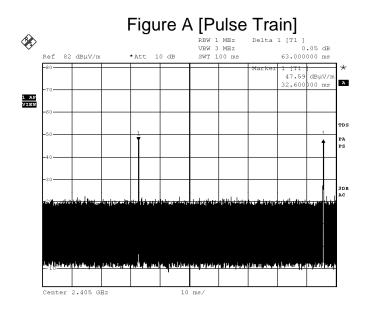
#### Remarks:

Duty Cycle Correction = 20Log(0.00317) = -50.0dB Therefore, -20dB is taken

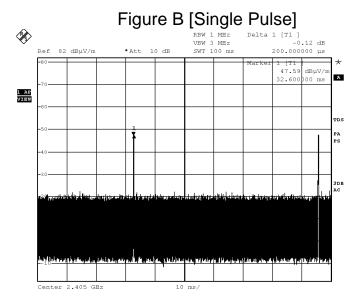
The following figures [Figure A to B] show the characteristics of the pulse train for one of these functions.



### **Measurement Data:**



Date: 30.JUL.2013 11:14:14



Date: 30.JUL.2013 11:14:27

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report



## **Photographs of EUT**

Front View of the product



**Top View of the product** 



Side View of the product



**USB** cable connection



Rear View of the product



**Bottom view of the product** 



Side View of the product



**USB Cable** 



BUREAU VERITAS HONG KONG LIMITED – 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 www.cps.bureauveritas.com

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report



## Photographs of EUT

Inner view of product



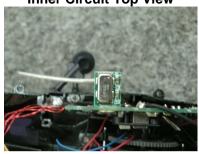
**Inner Circuit Top View** 



**Inner Circuit Top View** 



**Inner Circuit Top View** 



Inner view of product



**Inner Circuit Bottom View** 



**Inner Circuit Bottom View** 



**Inner Circuit Bottom View** 



BUREAU VERITAS HONG KONG LIMITED – 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

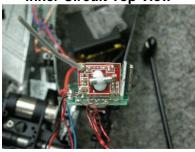
www.cps.bureauveritas.com

This report is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Our report is limited to the test samples identified herein. The results set forth in this report are not necessarily indicative or representative of the statistical quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof. You shall have thirty days from receipt of this report to request additional testing of the examples of a positive of any agrees or organization to our except of the provided however such ordinary. additional testing of the samples or to notify us of any errors or omissions relating to our report, provided, however, such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report



## Photographs of EUT

**Inner Circuit Top View** 



**Inner Circuit Top View of USB Cable** 



**Inner Circuit Bottom View** 

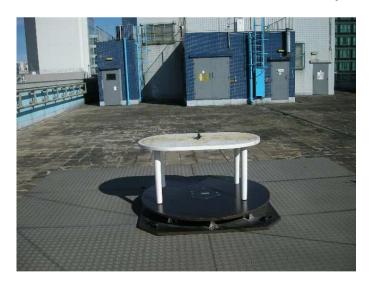


**Inner Circuit Bottom View of USB Cable** 





### Measurement of Radiated Emission Test Set Up



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