

To:	NEW BRIGHT INDUSTRIAL CO., LTD	To:	-
Attn:	Eric Kwok	Attn:	-
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E-mail:	ypeng01@newbright.com / chkwok01@newbright.com	E-mail:	-
older No.:	NBT-17M	Y433MTHS-B-B	
actory name:	NEW BRIGHT I	NDUSTRIAL CO., L	TD
_ocation:	9/F., NEW BRIGHT BUILDING, 11 SHEUNG		
Product:		Y Receiver lo.: GF1448RR	
		Sample No:	HK170524/017
		Sample No:  Date of Receipt:	HK170524/017 May 26, 2017
		·	
		Date of Receipt:	May 26, 2017 May 31, 2017 to
		Date of Receipt:  Test date:	May 26, 2017  May 31, 2017  to  June 05, 2017

CONCLUSION: The submitted sample was found to <u>COMPLY</u> with requirement of FCC Part 15 Subpart C.

Authorized Signature:

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Reviewed by: Kinko Wong Date: June 26, 2017

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Approved by: Law Man Kit

Date: June 26, 2017

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

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



**Test Result Summary** 

EMISS	EMISSION TEST										
Test requirement: FCC Part 15 - 2015											
Test Condition	Test Method	Test	Result								
rest Condition	rest Method	Pass	Failed								
Radiated Emission Test,	ANSI C63.10	$\boxtimes$									
9kHz to 24GHz											
Frequency range of Fundamental Emission	ANSI C63.10	$\boxtimes$									
26dB Bandwidth of Fundamental Emission	ANSI C63.10	$\boxtimes$									
Duty Cycle Correction During 100msec	ANSI C63.10	$\boxtimes$									

# Report Revision & Sample Re-submit History:



# Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 - 2013. An Open Area Test Site and Full Anechoic Chamber 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**

	riddiated Elificolon										
EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE						
EMI TEST RECEIVER	R&S	ESCI	100379	22-FEB-2017	21-FEB-2018						
SIGNAL ANALYZER 40GHZ	R&S	FSV 40	100977	16-AUG-2016	15-AUG-2017						
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	27-FEB-2016	26-FEB-2018						
OPEN AREA TEST SITE	BVCPS	N/A	N/A	18-JUN-2016	17-JUN-2017						
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	10-MAY-2017	09-MAY-2018						
BICONICAL ANTENNA	R&S	HK116	100179	14-APR-2016	13-APR-2018						
LOG-PERIODIC DIPOLE ARRAY ANTENNA	R&S	HL223	832369/001	07-APR-2016	06-APR-2018						
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	06-NOV-2015	05-NOV-2017						
HORN ANTENNA (1-18GHZ)	SCHWARZBECK	BBHA9120D	9120D-692	05-NOV-2016	04-NOV-2018						
HORN ANTENNA (7.5 – 18GHZ)	SCHWARZBECK	HWRD 750	00015	17-JUNE-2016	16-JUNE-2018						
WIDEBAND HORN ANTENNA	STEATITE	QWH-SL-18-40- K-SG	12688	03-SEP-2015	02-SEP-2017						
COAXIAL CABLE	SUHNER	N/A	N/A	06-JAN-2017	05-JAN-2018						
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	04-OCT-2016	03-OCT-2017						

### Measurement Uncertainty

Micasarcinent	Officer turnity	
MEASUREMENT	FREQUENCY	UNCERTAINTY
	9kHz to 30MHz	4.2dB
	30MHz to 200MHz	4.5dB
Radiated emissions	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



# **Equipment Under Test [EUT] Description of Sample:**

Model Name: TOY Receiver Model Number: GF1448RR

Additional Model Name: --Additional Model Number: --Additional Model information: ---

Rating: 9.6Vd.c. ("Rechargeable battery" x 1)



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

The Equipment Under Test (EUT) is a **NEW BRIGHT INDUSTRIAL CO., LTD.** of Remote Control Transceiver. It is a 1 switch transceiver and operating at 2411MHz to 2472MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while corresponding remote controller sticks are being pushed or pulled, Modulation by IC, and type is GFSK.

There are total 21 channels and below is the frequency list:

ch.no	freq.	ch.no	freq.	ch.no	freq.
1	2411	11	2441	21	2472
2	2413	12	2443	22	
3	2420	13	2445	23	
4	2422	14	2451	24	
5	2424	15	2453	25	
6	2426	16	2455	26	
7	2428	17	2457	27	
8	2435	18	2461	28	
9	2437	19	2468	29	
10	2439	20	2470	30	

The transmitter has different control:

1. Switch - control on / off

### **Antenna Requirement (Section 15.203)**

The EUT is use of a permanently antenna. It is soldered on the PCB. The antenna consists of 3.3cm 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.

#### Photo of Antenna





# **Test Results**

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

Test Requirement: FCC Part 15 Section 15.249

 Test Method:
 ANSI C63.10

 Test Date(s):
 2017-05-31

 Temperature:
 30.0 °C

 Humidity:
 70.0 %

Atmospheric Pressure: 99.5 kPa Mode of Operation: Transmission mode

Tested Voltage: 9.6Vd.c. ("Rechargeable battery" x 1)

#### **Test Procedure:**

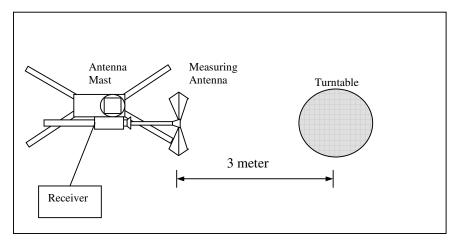
Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 - 2013.

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 for measurement frequency below 1GHz and 1.5m high above the ground for measurement frequency above 1GHz. 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.

For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.

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)
2411.00	Н	-4.8	-21.8	94.5	114.0	-19.5	**72.7	94.0	-21.3
2411.00	V	-4.8	-21.8	91.7	114.0	-22.3	**69.9	94.0	-24.1

# 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)
2441.00	Н	-4.8	-21.8	93.0	114.0	-21.0	**71.2	94.0	-22.8
2441.00	V	-4.8	-21.8	91.5	114.0	-22.5	**69.7	94.0	-24.3

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

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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)		
2472.00	Н	-4.8	-21.8	89.9	114.0	-24.1	**68.1	94.0	-25.9		
2472.00	V	-4.8	-21.8	91.3	114.0	-22.7	**69.5	94.0	-24.5		

<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

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.08112) = -21.8



# **Radiated Emissions (Spurious Emission)**

Test Requirement: FCC Part 15 Section 15.249

Test Method: ANSI C63.10 Test Date(s): 2017-05-31 Temperature: 30.0 °C Humidity: 70.0 % Atmospheric Pressure: 99.5 kPa

Mode of Operation: Transmission mode

Tested Voltage: 9.6Vd.c. ("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)
4822.00	Н	4.8	-21.8	59.6	74.0	-14.4	**37.8	54.0	-16.2
7233.00	Ι	12.4	-21.8	56.2	74.0	-17.8	**34.4	54.0	-19.6
9644.00	Н	13.5	-21.8	47.3	74.0	-26.7	**25.5	54.0	-28.5
12055.00	Н	19.6	-21.8	52.5	74.0	-21.5	**30.7	54.0	-23.3
14466.00	Н	25.8	-21.8	54.7	74.0	-19.3	**32.9	54.0	-21.1
16877.00	Н	21.2	-21.8	55.1	74.0	-18.9	**33.3	54.0	-20.7
19288.00	Н	46.7	-21.8	55.2	74.0	-18.8	**33.4	54.0	-20.6
21699.00	Н	46.9	-21.8	55.5	74.0	-18.5	**33.7	54.0	-20.3
24110.00	Н	48.0	-21.8	55.6	74.0	-18.4	**33.8	54.0	-20.2
26521.00	Н	48.5	-21.8	55.9	74.0	-18.1	**34.1	54.0	-19.9

<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

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.08112) = -21.8dB.



#### **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)
4822.00	V	4.8	-21.8	55.2	74.0	-18.8	**33.4	54.0	-20.6
7233.00	V	12.4	-21.8	51.8	74.0	-22.2	**30.0	54.0	-24.0
9644.00	V	13.5	-21.8	46.4	74.0	-27.6	**24.6	54.0	-29.4
12055.00	V	19.6	-21.8	53.8	74.0	-20.2	**32.0	54.0	-22.0
14466.00	V	25.8	-21.8	53.8	74.0	-20.2	**32.0	54.0	-22.0
16877.00	V	21.2	-21.8	54.9	74.0	-19.1	**33.1	54.0	-20.9
19288.00	V	46.7	-21.8	55.3	74.0	-18.7	**33.5	54.0	-20.5
21699.00	V	46.9	-21.8	55.6	74.0	-18.4	**33.8	54.0	-20.2
24110.00	V	48.0	-21.8	55.8	74.0	-18.2	**34.0	54.0	-20.0
26521.00	V	48.5	-21.8	56.0	74.0	-18.0	**34.2	54.0	-19.8

<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

<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.08112) = -21.8dB.



**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)
4882.00	Н	4.8	-21.8	57.7	74.0	-16.3	**35.9	54.0	-18.1
7323.00	Н	12.4	-21.8	54.4	74.0	-19.6	**32.6	54.0	-21.4
9764.00	Н	13.8	-21.8	47.2	74.0	-26.8	**25.4	54.0	-28.6
12205.00	Н	19.5	-21.8	51.8	74.0	-22.2	**30.0	54.0	-24.0
14646.00	Н	26.5	-21.8	54.5	74.0	-19.5	**32.7	54.0	-21.3
17087.00	Н	23.1	-21.8	55.6	74.0	-18.4	**33.8	54.0	-20.2
19528.00	Н	46.7	-21.8	56.0	74.0	-18.0	**34.2	54.0	-19.8
21969.00	Н	47.3	-21.8	56.2	74.0	-17.8	**34.4	54.0	-19.6
24410.00	Н	48.2	-21.8	56.4	74.0	-17.6	**34.6	54.0	-19.4
26851.00	Н	48.5	-21.8	56.8	74.0	-17.2	**35.0	54.0	-19.0

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)
4882.00	٧	4.8	-21.8	53.4	74.0	-20.6	**31.6	54.0	-22.4
7323.00	٧	12.4	-21.8	50.6	74.0	-23.4	**28.8	54.0	-25.2
9764.00	V	13.8	-21.8	46.1	74.0	-27.9	**24.3	54.0	-29.7
12205.00	V	19.5	-21.8	52.5	74.0	-21.5	**30.7	54.0	-23.3
14646.00	V	26.5	-21.8	54.7	74.0	-19.3	**32.9	54.0	-21.1
17087.00	V	23.1	-21.8	55.2	74.0	-18.8	**33.4	54.0	-20.6
19528.00	٧	46.7	-21.8	55.9	74.0	-18.1	**34.1	54.0	-19.9
21969.00	V	47.3	-21.8	56.3	74.0	-17.7	**34.5	54.0	-19.5
24410.00	V	48.2	-21.8	56.7	74.0	-17.3	**34.9	54.0	-19.1
26851.00	V	48.5	-21.8	56.4	74.0	-17.6	**34.6	54.0	-19.4

<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

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<sup>\*\*</sup>Duty Cycle Correction = 20Log(0.08112) = -21.8dB.



**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)
4944.00	Н	4.9	-21.8	56.0	74.0	-18.0	**34.2	54.0	-19.8
7416.00	Н	12.6	-21.8	53.3	74.0	-20.7	**31.5	54.0	-22.5
9888.00	Н	13.9	-21.8	46.9	74.0	-27.1	**25.1	54.0	-28.9
12360.00	Н	19.2	-21.8	51.9	74.0	-22.1	**30.1	54.0	-23.9
14832.00	Н	25.9	-21.8	54.5	74.0	-19.5	**32.7	54.0	-21.3
17304.00	Н	24.5	-21.8	56.8	74.0	-17.2	**35.0	54.0	-19.0
19776.00	Н	46.8	-21.8	56.5	74.0	-17.5	**34.7	54.0	-19.3
22248.00	Н	47.3	-21.8	56.9	74.0	-17.1	**35.1	54.0	-18.9
24720.00	Н	48.2	-21.8	57.2	74.0	-16.8	**35.4	54.0	-18.6
27192.00	Н	48.7	-21.8	57.0	74.0	-17.0	**35.2	54.0	-18.8

<sup>#</sup> 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(0.08112) = -21.8dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

RBW = 1MHz Receiver setting: VBW = 1MHz



#### **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)
4944.00	V	4.9	-21.8	53.6	74.0	-20.4	**31.8	54.0	-22.2
7416.00	V	12.6	-21.8	51.1	74.0	-22.9	**29.3	54.0	-24.7
9888.00	V	13.9	-21.8	46.8	74.0	-27.2	**25.0	54.0	-29.0
12360.00	V	19.2	-21.8	51.4	74.0	-22.6	**29.6	54.0	-24.4
14832.00	V	25.9	-21.8	54.2	74.0	-19.8	**32.4	54.0	-21.6
17304.00	V	24.5	-21.8	56.5	74.0	-17.5	**34.7	54.0	-19.3
19776.00	V	46.8	-21.8	57.0	74.0	-17.0	**35.2	54.0	-18.8
22248.00	V	47.3	-21.8	57.2	74.0	-16.8	**35.4	54.0	-18.6
24720.00	V	48.2	-21.8	57.8	74.0	-16.2	**36.0	54.0	-18.0
27192.00	V	48.7	-21.8	57.6	74.0	-16.4	**35.8	54.0	-18.2

<sup>#</sup> 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(0.08112) = -21.8dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

RBW = 1MHz Receiver setting: VBW 1MHz



# Radiated Emissions (30MHz – 2.4GHz)

Test Requirement: FCC Part 15 Section 15.209

Test Method:

ANSI C63.10

Test Date(s):

Temperature:

30.0 °C

Humidity:

Atmospheric Pressure:

Mode of Operation:

ANSI C63.10

2017-05-31

70.0 °C

70.0 %

99.5 kPa

On mode

Tested Voltage: 9.6Vd.c. ("Rechargeable battery" x 1)

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

		4
Frequency Range	Quasi-Peak Limits	Measurement Distance
[MHz]	[μV/m]	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
Above960	500	3

#### **Measurement Data**

Test Result of (On mode): PASS

**Detection mode: Quasi-Peak** 

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

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 (dBµV/m)	Limit at 3m (dBμV/m)	Margin (dB)
230.12	Н	20.7	46.0	-25.3
257.24	Н	21.6	46.0	-24.4
301.26	Н	23.5	46.0	-22.5
467.28	Н	27.1	46.0	-18.9
513.80	Н	29.2	46.0	-16.8
683.76	Н	30.1	46.0	-15.9

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBμV/m)	Margin (dB)
230.12	V	20.9	46.0	-25.1
257.24	V	21.5	46.0	-24.5
301.26	V	23.0	46.0	-23.0
467.28	V	27.4	46.0	-18.6
513.80	V	29.7	46.0	-16.3
683.76	V	30.3	46.0	-15.7

Note: Field Strength includes Antenna Factor and Cable Loss.

RBW Receiver setting: 120KHz

VBW 120KHz



# Frequency range of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249
Test Method: ANSI C63.10 Clause 6.10

Test Date(s): 2017-06-05
Temperature: 30.0 °C
Humidity: 70.0 %
Atmospheric Pressure: 99.5 kPa

Mode of Operation: Transmission mode

Tested Voltage: 9.6Vd.c. ("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:

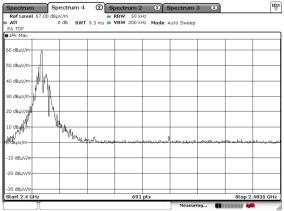
Frequency	FCC Limits
[MHz]	[MHz]
2409.726 – 2472.753	2400 – 2483.5



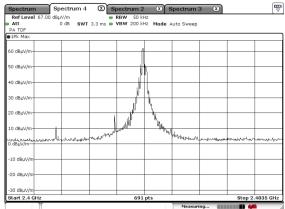
**Measurement Data:** 

Test Result of Frequency Range of Fundamental Emission: PASS

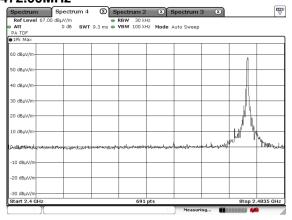
# Lowest Frequency - 2411.00MHz



# Middle Frequency - 2441.00MHz



# Highest Frequency - 2472.00MHz



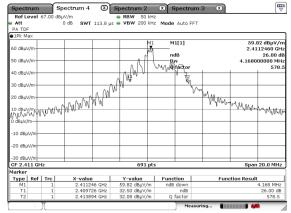
BUREAU VERITAS HONG KONG LIMITED – Kowloon Bay Office 1/F Pacific Trade Centre, 2 Kai Hing Road, Kowloon Bay, Kowloon,HONG KONG Tel: +852 2331 0888 Fax: +852 2331 0889 www.cps.bureauveritas.com This report is intended for your exclusive use. Any copying or replication of this report to or for any other 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



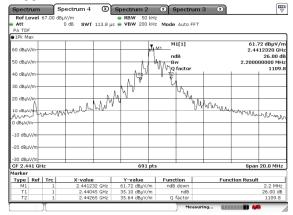
**Measurement Data:** 

Test Result of 26dB Bandwidth of Fundamental Emission: PASS

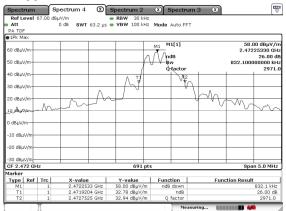
### Lowest Frequency - 2411.00MHz



# Middle Frequency - 2441.00MHz



# Highest Frequency - 2472.00MHz



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

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 8 (1.014msec) pulses. Assuming any combination of short or long pulses may be obtained due to encoding the worst case transmit duty cycle would be considered 8 x (1.014msec) per 100msec = 8.1% duty cycle.

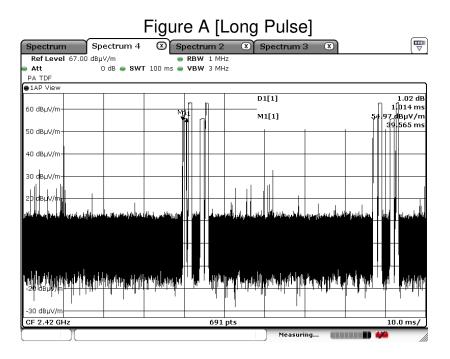
Remarks:

Duty Cycle Correction = 20Log(0.08112) = -21.8dB

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



### **Measurement Data:**



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# **Photographs of EUT**

Front View of the product



Top View of the product



Side View of the product



**Battery compartment** 



Rear View of the product



**Bottom View of the product** 



**Side View of the product** 



**Battery Cover** 



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# **Photographs of EUT**

# Internal View of the product



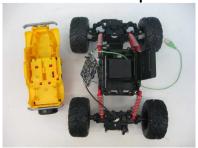
**Inner Circuit Top View** 



**Antenna** 



# Internal View of the product



**Inner Circuit Bottom View** 





Measurement of Radiated Emission Test Set Up



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