

# TEST REPORT

		<u> </u>			
To:	NEW BRIGHT INDUSTRIAL CO., LTD.		To:	-	
Attn:	Eric Kwok		Attn:	-	
Address:	9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY KOWLOON, HONG KONG.	΄,	Address:	-	
Fax:	852 2795 3665		Fax:	-	
E-mail:	ypeng01@newbright.com / chkwok01@newbright.com		E-mail:	-	
Folder No.:	NBT-	16MA	217MTHS-B-B		
Factory name:	NEW BRIG	HT IN	DUSTRIAL CO., LT	D.	
Location:	9/F., NEW BRIGHT BUILDING, 11 S	HON	G KONG.	OWLOON BAY, KOWLOON,	
Product:			nitter & Receiver o.: GF31HA2		
			Sample No:	HK160322/022 HK160322/023	
2			Date of Receipt:	March 22, 2016	
			Test date:	April 07, 2016	
2			Test Requested:	FCC Part 15 - 2012	
			Test Method:	ANSI C63.4 - 2009	
P			FCC ID:	G6DGF31HA2	
The results	given in this report are related to the tes	ted sp	ecimen of the des	cribed electrical apparatus.	
CONCLUSION:	The submitted sample was found to CO	MPL	with requirement	of FCC Part 15 Subpart C.	
	Authorized	Signa	ure:		
Reviewed by: Ke	but	(od by: Law Mart/	ud la		
		oved by: Law Man Kit April 18, 2016			

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# TEST REPORT No: (5216)084-0888(C) Test Result Summary

EMISSION TEST								
Test requirement: FCC Part 15 - 2012	Test requirement: FCC Part 15 - 2012							
Test Condition	Toot Mothod	Test	Result					
Test Condition	Test Method	Pass	Failed					
Radiated Emission Test,	ANSI C63.4	$\boxtimes$						
9kHz to 40GHz								
Frequency range of Fundamental Emission	ANSI C63.4	$\boxtimes$						
26dB Bandwidth of Fundamental Emission	ANSI C63.4	$\boxtimes$						
Duty Cycle Correction During 100msec	ANSI C63.4	$\square$						

**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 C63.4 – 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

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## List of measuring equipment

Radiated Emission								
EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CALIBRATION	CALIBRATION DUE			
EMI TEST RECEIVER	R&S	ESCI	100379	23-FEB-2016	22-FEB-2017			
SPECTRUM ANALYZER	R&S	R3127	111000909	27-APR-2015	26-APR-2016			
LOOP ANTENNA	ETS LINDGREN	6502	00102266	06-NOV-2015	05-NOV-2016			
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	27-FEB-2016	26-FEB-2017			
HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D-692	26-DEC-2015	25-DEC-2016			
PREAMPLIFIER	SCHWARZBECK	BBV9718	9718-152	13-OCT-2015	12-OCT-2016			
OPEN AREA TEST SITE	BVCPS	N/A	N/A	06-JUL-2015	05-JUL-2016			
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	12-FEB-2016	11-FEB-2017			
COAXIAL CABLE	HUBER + SUHNER	RG223	N/A	22-DEC-2015	21-DEC-2016			
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	22-DEC-2015	21-DEC-2016			
Signal Analyzer 40GHz	Rohde & Schwarz	FSV 40	100977	13-MAY-2015	12-MAY-2016			
Wideband Horn Antenna 18 to 40GHz	STEATITE	QWH-SL-18-40-K-SG	12688	03-SEP-2015	02-SEP-2016			
High frequency RF cable	Rohde & Schwarz	N/A	N/A	04-NOV-2015	03-NOV-2016			

#### **Measurement Uncertainty**

MEASUREMENT	FREQUENCY	UNCERTAINTY
	9kHz to 30MHz	4.2dB
Radiated emissions	30MHz to 1GHz	5.0dB
naulateu errissions	1GHz to 18GHz	4.9dB
	18GHz to 40GHz	4.8dB

#### Remarks:-

N/A : Not Applicable or Not Available

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

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Equipment Under Test [EUT]	
Description of Sample:	
Model Name:	TOY Transmitter & Receiver
Model Number:	GF31HA2
Additional Model Name:	
Additional Model Number:	
Additional Model information:	
Rating:	3Vd.c. ("AA" size battery x 2)

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

The Equipment Under Test (EUT) is a **NEW BRIGHT INDUSTRIAL CO., LTD.** of Remote Control Transceiver. It is a 2 sticks transceiver and operating at 2410MHz to 2473MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT continues to transmit while sticks are being pushed or pulled, Modulation by IC, and type is GFSK. There are total 64 channels and below is the frequency list (MHz) :

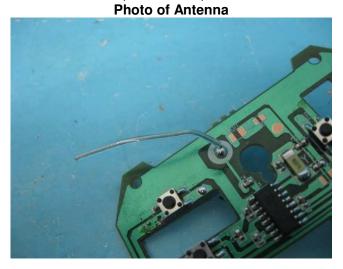
ch.no	freq.												
1	2410	11	2420	21	2430	31	2440	41	2450	51	2460	61	2470
2	2411	12	2421	22	2431	32	2441	42	2451	52	2461	62	2471
3	2412	13	2422	23	2432	33	2442	43	2452	53	2462	63	2472
4	2413	14	2423	24	2433	34	2443	44	2453	54	2463	64	2473
5	2414	15	2424	25	2434	35	2444	45	2454	55	2464		
6	2415	16	2425	26	2435	36	2445	46	2455	56	2465		
7	2416	17	2426	27	2436	37	2446	47	2456	57	2466		
8	2417	18	2427	28	2437	38	2447	48	2457	58	2467		
9	2418	19	2428	29	2438	39	2448	49	2458	59	2468		
10	2419	20	2429	30	2439	40	2449	50	2459	60	2469		

The transmitter has different control:

- 1. Left stick control leftward and rightward
- 2. Right stick control forward and backward

#### Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is soldered on the PCB. The antenna consists of 3.5cm 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.



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# **Test Results**

# **Radiated Emissions (Fundamental)**

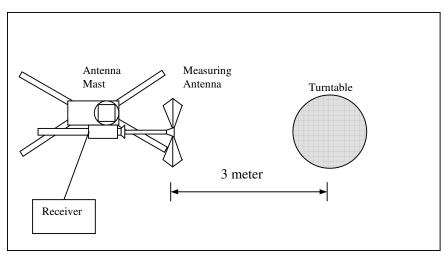
Test Requirement:	FCC Part 15 Section 15.249
Test Method:	ANSI C63.4
Test Date(s):	2016-04-07
Temperature:	23.0 °C
Humidity:	72.0 %
Atmospheric Pressure:	100.4 kPa
Mode of Operation:	Transmission mode
Tested Voltage:	3Vd.c. ("AA" size battery x 2)

## **Test Procedure:**

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

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

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



# Test Setup: Open Area Test Site

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

Frequency Range of	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)
2410.00	н	-3.7	-24.4	71.5	114.0	-42.5	**47.1	94.0	-46.9
2410.00	V	-3.7	-24.4	72.8	114.0	-41.2	**48.4	94.0	-45.6

# 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 (dBuV/m)	Limit at 3m – Peak (dBµV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBuV/m)	Limit at 3m – Average (dBµV/m)	Margin - Average (dB)
2442.00	Н	-3.7	-24.4	72.0	114.0	-42.0	**47.6	94.0	-46.4
2442.00	V	-3.7	-24.4	72.5	114.0	-41.5	**48.1	94.0	-45.9

# 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)
2473.00	Н	-3.7	-24.4	72.1	114.0	-41.9	**47.7	94.0	-46.3
2473.00	V	-3.7	-24.4	72.8	114.0	-41.2	**48.4	94.0	-45.6

# 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(0.06) = -24.4dB.

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier. Receiver setting: RBW = 1MHz VBW = 1MHz

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

Test Requirement:	FCC Part 15 Section 15.249
Test Method:	ANSI C63.4
Test Date(s):	2016-04-07
Temperature:	23.0 °C
Humidity:	72.0 %
Atmospheric Pressure:	100.4 kPa
Mode of Operation:	Transmission mode
Tested Voltage:	3Vd.c. ("AA" size battery x 2)

## **Measurement Data**

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

Frequency (MHz)	Polarity (H/V)	Antenna Factor & Cable Loss (dB/m)	Duty- cycle correction (dB)	Field Strength at 3m – Peak (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)
4820.00	Н	4.3	-24.4	64.0	74.0	-10.0	**39.6	54.0	-14.4
7230.00	Н	11.8	-24.4	48.5	74.0	-25.5	**24.1	54.0	-29.9
9640.00	Н	15.8	-24.4	49.0	74.0	-25.0	**24.6	54.0	-29.4
12050.00	Н	19.1	-24.4	57.9	74.0	-16.1	**33.5	54.0	-20.5
14460.00	Н	21.5	-24.4	56.8	74.0	-17.2	**32.4	54.0	-21.6
16870.00	Н	24.7	-24.4	60.6	74.0	-13.4	**36.2	54.0	-17.8
19280.00	Н	46.5	-24.4	61.5	74.0	-12.5	**37.1	54.0	-16.9
21690.00	Н	46.8	-24.4	61.1	74.0	-12.9	**36.7	54.0	-17.3
24100.00	Н	47.6	-24.4	61.8	74.0	-12.2	**37.4	54.0	-16.6
26510.00	Н	48.6	-24.4	61.9	74.0	-12.1	**37.5	54.0	-16.5

# For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation. \*\*Duty Cycle Correction = 20Log(0.06) = -24.4dB.

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

RBW = 1MHz Receiver setting: VBW = 1MHz



# **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 (dBuV/m)	Limit at 3m – Peak (dBµV/m)	Margin - Peak (dB)	Field Strength at 3m – Average (dBuV/m)	Limit at 3m – Average (dBµV/m)	Margin - Average (dB)
4820.00	V	4.3	-24.4	60.6	74.0	-13.4	**36.2	54.0	-17.8
7230.00	V	11.8	-24.4	45.0	74.0	-29.0	**20.6	54.0	-33.4
9640.00	V	15.8	-24.4	49.6	74.0	-24.4	**25.2	54.0	-28.8
12050.00	V	19.1	-24.4	59.0	74.0	-15.0	**34.6	54.0	-19.4
14460.00	V	21.5	-24.4	58.4	74.0	-15.6	**34.0	54.0	-20.0
16870.00	V	24.7	-24.4	61.4	74.0	-12.6	**37.0	54.0	-17.0
19280.00	V	46.5	-24.4	62.6	74.0	-11.4	**38.2	54.0	-15.8
21690.00	V	46.8	-24.4	62.3	74.0	-11.7	**37.9	54.0	-16.1
24100.00	V	47.6	-24.4	63.1	74.0	-10.9	**38.7	54.0	-15.3
26510.00	V	48.6	-24.4	62.9	74.0	-11.1	**38.5	54.0	-15.5

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

\*\*Duty Cycle Correction = 20Log(0.06) = -24.4dB.

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

RBW = 1MHz VBW = 1MHz

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 testine of the sample or the origin was arrow or or origination and expressly may from the provided howards rule houries additional testine of the sample or the origin was arrow or or origination and the results thereof. You shall have thirty days from receipt of this report to request the net for the sample or the origination of the sample or the provided howards rule houries additional testine of the sample or the origination of the sample or the provided howards rule houries and the provided howards rule houries the provided howards rule houries and the origination of the sample or the provided howards rule houries and the provided howards rule houries are rule houries and the sample of the sample or the provided howards rule houries and the provided howards rule houries are rule houries are rule houries and the sample or the sample or the provided howards rule houries are rule howards rule houries are rule howards rule houries are 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.



## 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	4.3	-24.4	62.8	74.0	-11.2	**38.4	54.0	-15.6
7326.00	Н	11.8	-24.4	47.3	74.0	-26.7	**22.9	54.0	-31.1
9768.00	Н	15.8	-24.4	49.9	74.0	-24.1	**25.5	54.0	-28.5
12210.00	Н	19.1	-24.4	56.5	74.0	-17.5	**32.1	54.0	-21.9
14652.00	Н	23.2	-24.4	55.9	74.0	-18.1	**31.5	54.0	-22.5
17094.00	Н	28.7	-24.4	59.8	74.0	-14.2	**35.4	54.0	-18.6
19536.00	Н	46.6	-24.4	62.5	74.0	-11.5	**38.1	54.0	-15.9
21978.00	Н	47.1	-24.4	61.2	74.0	-12.8	**36.8	54.0	-17.2
24420.00	Н	47.8	-24.4	60.5	74.0	-13.5	**36.1	54.0	-17.9
26862.00	Н	48.6	-24.4	63.3	74.0	-10.7	**38.9	54.0	-15.1

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)
4884.00	V	4.3	-24.4	58.6	74.0	-15.4	**34.2	54.0	-19.8
7326.00	V	11.8	-24.4	45.2	74.0	-28.8	**20.8	54.0	-33.2
9768.00	V	15.8	-24.4	50.7	74.0	-23.3	**26.3	54.0	-27.7
12210.00	V	19.1	-24.4	58.6	74.0	-15.4	**34.2	54.0	-19.8
14652.00	V	23.2	-24.4	58.0	74.0	-16.0	**33.6	54.0	-20.4
17094.00	V	28.7	-24.4	62.2	74.0	-11.8	**37.8	54.0	-16.2
19536.00	V	46.6	-24.4	61.9	74.0	-12.1	**37.5	54.0	-16.5
21978.00	V	47.1	-24.4	62.7	74.0	-11.3	**38.3	54.0	-15.7
24420.00	V	47.8	-24.4	64.5	74.0	-9.5	**40.1	54.0	-13.9
26862.00	V	48.6	-24.4	63.5	74.0	-10.5	**39.1	54.0	-14.9

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

\*\*Duty Cycle Correction = 20Log(0.06) = -24.4dB.

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier. Receiver setting: RBW = 1MHz

VBW = 1MHz

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## Measurement Data Test Result of (Transmission mode, 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)
4946.00	Н	4.3	-24.4	60.8	74.0	-13.2	**36.4	54.0	-17.6
7419.00	Н	11.6	-24.4	46.5	74.0	-27.5	**22.1	54.0	-31.9
9892.00	Н	15.8	-24.4	49.0	74.0	-25.0	**24.6	54.0	-29.4
12365.00	Н	19.1	-24.4	56.7	74.0	-17.3	**32.3	54.0	-21.7
14838.00	Н	23.2	-24.4	58.5	74.0	-15.5	**34.1	54.0	-19.9
17311.00	Н	28.7	-24.4	60.6	74.0	-13.4	**36.2	54.0	-17.8
19784.00	Н	46.6	-24.4	63.6	74.0	-10.4	**39.2	54.0	-14.8
22257.00	Н	47.5	-24.4	60.7	74.0	-13.3	**36.3	54.0	-17.7
24730.00	Н	47.9	-24.4	60.3	74.0	-13.7	**35.9	54.0	-18.1
27203.00	Н	48.7	-24.4	64.0	74.0	-10.0	**39.6	54.0	-14.4

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)
4946.00	V	4.3	-24.4	59.1	74.0	-14.9	**34.7	54.0	-19.3
7419.00	V	11.6	-24.4	45.3	74.0	-28.7	**20.9	54.0	-33.1
9892.00	V	15.8	-24.4	50.2	74.0	-23.8	**25.8	54.0	-28.2
12365.00	V	19.1	-24.4	57.4	74.0	-16.6	**33.0	54.0	-21.0
14838.00	V	23.2	-24.4	57.5	74.0	-16.5	**33.1	54.0	-20.9
17311.00	V	28.7	-24.4	62.7	74.0	-11.3	**38.3	54.0	-15.7
19784.00	V	46.6	-24.4	63.2	74.0	-10.8	**38.8	54.0	-15.2
22257.00	V	47.5	-24.4	60.9	74.0	-13.1	**36.5	54.0	-17.5
24730.00	V	47.9	-24.4	62.1	74.0	-11.9	**37.7	54.0	-16.3
27203.00	V	48.7	-24.4	63.2	74.0	-10.8	**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(0.06) = -24.4dB.

Note: Field Strength includes Antenna Factor, Cable Loss and Gain of pre-amplifier. Receiver setting:  $\begin{array}{rcl} RBW &=& 1MHz \end{array}$ 

VBW = 1MHz

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# Radiated Emissions (9kHz - 40GHz)

Test Requirement:	FCC Part 15 Section 15.209
Test Method:	ANSI C63.4
Test Date(s):	2016-04-07
Temperature:	23.0 °C
Humidity:	72.0 %
Atmospheric Pressure:	100.4 kPa
Mode of Operation:	On mode
Tested Voltage:	3Vd.c. ("AA" size battery x 2)

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

Quasi-Peak Limits	Measurement Distance
[µV/m]	m
2400/F(kHz)	300
24000/F(kHz)	30
30	30
100	3
150	3
200	3
500	3
	[μV/m] 2400/F(kHz) 24000/F(kHz) 30 100 150 200

## Measurement Data

## Test Result of (On mode): PASS

## **Detection mode: Quasi-Peak**

in

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)
148.20	Н	23.5	43.5	-20.0
218.60	Н	24.6	46.0	-21.4
329.96	Н	25.4	46.0	-20.6
417.76	Н	27.6	46.0	-18.4
511.16	Н	29.3	46.0	-16.7
632.48	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)
148.20	V	23.1	43.5	-20.4
218.60	V	24.8	46.0	-21.2
329.96	V	25.5	46.0	-20.5
417.76	V	27.2	46.0	-18.8
511.16	V	29.0	46.0	-17.0
632.48	V	30.5	46.0	-15.5

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):	2016-04-07
Temperature:	23.0 °C
Humidity:	72.0 %
Atmospheric Pressure:	100.4 kPa
Mode of Operation:	Transmission mode
Tested Voltage:	3Vd.c. ("AA" size battery x 2)

Test Method:

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

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

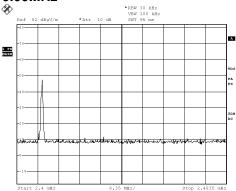
Frequency	FCC Limits
[MHz]	[MHz]
2409.420 - 2473.640	2400.00 - 2483.50



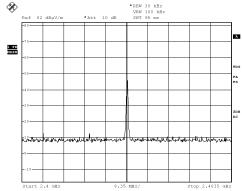
Measurement Data :

Test Result of Frequency Range of Fundamental Emission: PASS

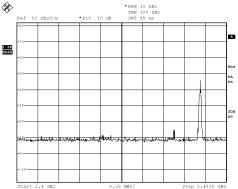
Lowest Frequency – 2410.00MHz







# Highest Frequency – 2473.00MHz



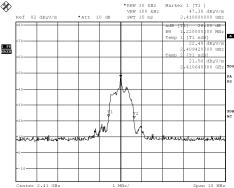
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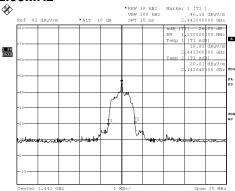
## TEST REPORT No: (5216)084-0888(C) Measurement Data :

Test Result of 26dB Bandwidth of Fundamental Emission: PASS

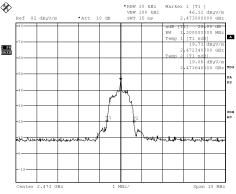
Lowest Frequency – 2410.00MHz



Middle Frequency – 2442.00MHz







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

Each function key sends a different series of characters, but each packet period (<u>100</u>msec) never exceeds a series of 12 pulses (<u>0.5</u> msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered <u>12\*0.5</u> per <u>100</u>msec = <u>6</u>% duty cycle.

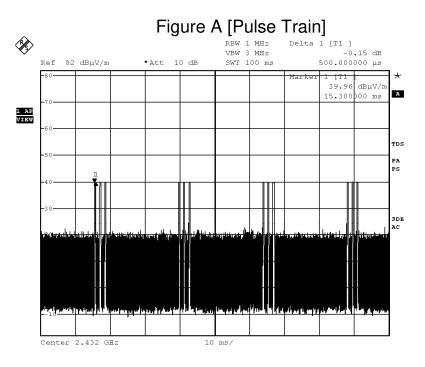
Remarks:

Duty Cycle Correction = 20Log(0.06) = -24.4dB

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



# Measurement Data :





# Photographs of EUT

## Front View of the product



Top View of the product



Side View of the product



## **Battery compartment**



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## **Rear View of the product**



Bottom View of the product



## Side View of the product



## **Battery Cover**





## Photographs of EUT

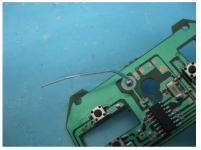
## Internal View of the product



## Inner Circuit Top View



#### Antenna



#### Internal View of the product



## **Inner Circuit Bottom View**



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# Measurement of Radiated Emission Test Set Up

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

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