TEST REPORT No: (5215)089-1486(A)

TEST REPORT

To:	**G.TECH TECHNOLOGY LTD.**	To:	-
Attn:	Jenny	Attn:	-
Address:	No.21, Jinding Industrial Park, West Jinfeng Road, Tangjiawan Town, Xiangzhou District, Zhuhai, Guangdong, China	Address:	-
Fax:	86 756 3393338	Fax:	-
E-mail:	fjy@fuhlenstyle.com	E-mail:	-
Folder No.:	RCN-15MA254ETHP-B-B		
Factory name:	**G.TECH TECHNOLOGY LTD.**		
Location:	No.21, Jinding Industrial Park, West Jinfeng Road, Tangjiawan Town, Xiangzhou District, Zhuhai, Guangdong, China.		
Product:	2.4GHz Wireless Keyboard Model No.: GK381 Item No.: 28036		

Sample No:	HK150504/017
Test date:	May 12, 2015
Test Requested:	FCC Part 15 - 2012
Test Method:	ANSI C63.4 - 2009
FCC ID:	OO9GK381

The results given in this report are related to the tested specimen of the described electrical apparatus.

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

Authorized Signature:

Reviewed by: Keith Yeung	Approved by: Steven Tsang
Date: June 09, 2015	Date: June 09, 2015

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

TEST REPORT No: (5215)089-1486(A)
Test Result Summary

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

Report Revision & Sample Re-submit History:
--

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

TEST REPORT No: (5215)089-1486(A)

Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. An Open Area Test Site and Full Anechoic Chamber (FCC Listed Site, Registration No. 642151) are set up for investigation and located at :

BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE

No. 2106-2107, 21/F., Westin Centre,
26 Hung To Road,
Kwun Tong, Kowloon,
Hong Kong

List of measuring equipment

Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CALIBRATION	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	21-JAN-2015	20-JAN-2016
SPECTRUM ANALYZER	R&S	R3127	111000909	26-MAR-2015	25-MAR-2016
LOOP ANTENNA	ETS LINDGREN	6502	00102266	28-SEP-2014	27-SEP-2015
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	02-JAN-2015	02-JAN-2016
HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D-692	27-DEC-2014	26-DEC-2015
OPEN AREA TEST SITE	BVCPS	N/A	N/A	07-JUL-2014	06-JUL-2015
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	05-FEB-2014	03-FEB-2016
COAXIAL CABLE	HUBER + SUHNER	RG223	N/A	23-DEC-2014	22-DEC-2015
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	23-DEC-2014	22-DEC-2015
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	02-SEP-2014	01-SEP-2015
High frequency RF cable	Rohde & Schwarz	N/A	N/A	15-SEP-2014	14-SEP-2015

Measurement Uncertainty

Measurement	Frequency	Uncertainty
Radiated emissions	9kHz to 30MHz	4.2dB
	30MHz to 1GHz	5.0dB
	1GHz to 18GHz	4.9dB
	18GHz to 40GHz	4.8dB

Remarks:-
N/A : Not Applicable or Not Available

TEST REPORT No: (5215)089-1486(A)

Equipment Under Test [EUT]

Description of Sample:

Model Name:	2.4GHz Wireless Keyboard
Model Number:	GK381
Item Number:	28036
Item Number information:	This assortment include the follow items: 1.) RG10: 2.4GHz Wireless Receiver (FCC ID: OO9RG10) 2.) GK381: 2.4GHz Wireless Keyboard (FCC ID: OO9GK381) 3.) MA102W-D: 2.4GHz Wireless Mouse (FCC ID: OO9MA102WD)
Rating:	1.5Vd.c. ("AAA" size battery x 1)

Description of EUT Operation:

The Equipment Under Test (EUT) is a **G.TECH TECHNOLOGY LTD.** of Remote Control Transceiver. It is a 106 buttons transceiver and operating at 2402MHz to 2479MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while buttons is being pressed, Modulation by IC, and type is GFSK.

There are total 78 channels and below is the frequency list (MHz) :

Ch. No.	Freq	Ch. No.	Freq	Ch. No.	Freq	Ch. No.	Freq	Ch. No.	Freq	Ch. No.	Freq	Ch. No.	Freq	Ch. No.	Freq
1	2402	**2**	2403	**3**	2404	**4**	2405	**5**	2406	**6**	2407	**7**	2408	**8**	2409
9	2410	**10**	2411	**11**	2412	**12**	2413	**13**	2414	**14**	2415	**15**	2416	**16**	2417
17	2418	**18**	2419	**19**	2420	**20**	2421	**21**	2422	**22**	2423	**23**	2424	**24**	2425
25	2426	**26**	2427	**27**	2428	**28**	2429	**29**	2430	**30**	2431	**31**	2432	**32**	2433
33	2434	**34**	2435	**35**	2436	**36**	2437	**37**	2438	**38**	2439	**39**	2440	**40**	2441
41	2442	**42**	2443	**43**	2444	**44**	2445	**45**	2446	**46**	2447	**47**	2448	**48**	2449
49	2450	**50**	2451	**51**	2452	**52**	2453	**53**	2454	**54**	2455	**55**	2456	**56**	2457
57	2458	**58**	2459	**59**	2460	**60**	2461	**61**	2462	**62**	2463	**63**	2464	**64**	2465
65	2466	**66**	2467	**67**	2468	**68**	2469	**69**	2470	**70**	2471	**71**	2472	**72**	2473
73	2474	**74**	2475	**75**	2476	**76**	2477	**77**	2478	**78**	2479				

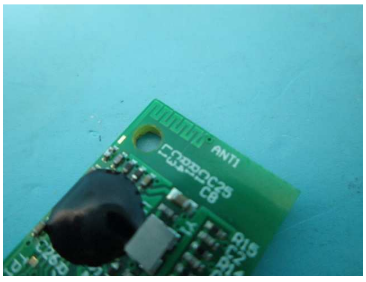
The transmitter has different control:

1. 106 buttons – press for normal use

Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is a PCB trace antenna. 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 C63.4
Test Date(s):	2015-05-12
Temperature:	25.0 °C
Humidity:	77.0 %
Atmospheric Pressure:	100.3 kPa
Mode of Operation:	Transmission mode
Tested Voltage:	1.5Vd.c. (“AAA” size battery x 1)

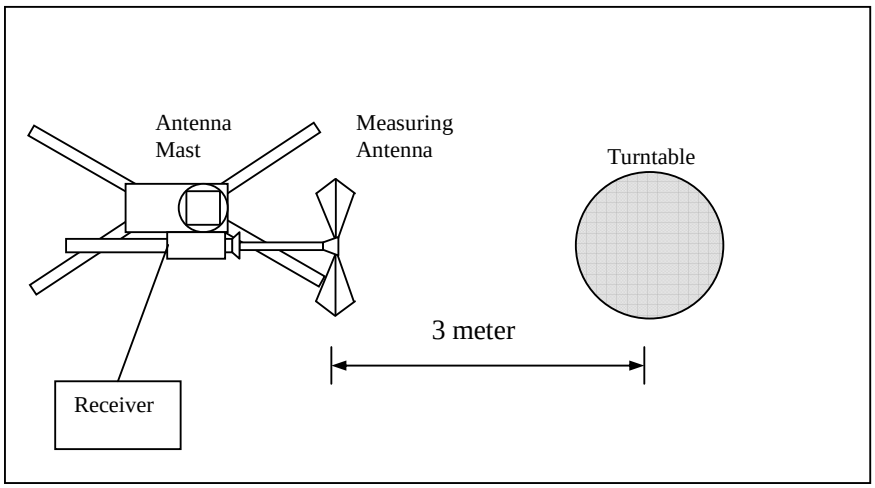
Test Procedure:

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



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

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)
2402.00	H	0.0	-20.0	78.6	114.0	-35.4	**58.6	94.0	-35.4
2402.00	V	0.0	-20.0	88.6	114.0	-25.4	**68.6	94.0	-25.4

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)
2439.00	H	0.0	-20.0	78.0	114.0	-36.0	**58.0	94.0	-36.0
2439.00	V	0.0	-20.0	88.0	114.0	-26.0	**68.0	94.0	-26.0

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)
2479.00	H	0.0	-20.0	77.7	114.0	-36.3	**57.7	94.0	-36.3
2479.00	V	0.0	-20.0	87.0	114.0	-27.0	**67.0	94.0	-27.0

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(0.036) = -28.8dB.
**Therefore, -20dB is taken.

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

TEST REPORT No: (5215)089-1486(A)

Radiated Emissions (Spurious Emission)

Test Requirement:	FCC Part 15 Section 15.249
Test Method:	ANSI C63.4
Test Date(s):	2015-05-12
Temperature:	25.0 °C
Humidity:	77.0 %
Atmospheric Pressure:	100.3 kPa
Mode of Operation:	Transmission mode
Tested Voltage:	1.5Vd.c. ("AAA" size 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)
4804.00	H	5.9	-20.0	45.6	74.0	-28.4	**25.6	54.0	-28.4
7206.00	H	12.7	-20.0	47.2	74.0	-26.8	**27.2	54.0	-26.8
9608.00	H	16.4	-20.0	51.0	74.0	-23.0	**31.0	54.0	-23.0
12010.00	H	18.4	-20.0	53.8	74.0	-20.2	**33.8	54.0	-20.2
14412.00	H	23.2	-20.0	59.9	74.0	-14.1	**39.9	54.0	-14.1
16814.00	H	22.0	-20.0	60.9	74.0	-13.1	**40.9	54.0	-13.1
19216.00	H	46.3	-20.0	61.9	74.0	-12.1	**41.9	54.0	-12.1
21618.00	H	47.1	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
24020.00	H	47.5	-20.0	61.1	74.0	-12.9	**41.1	54.0	-12.9
26422.00	H	48.5	-20.0	63.7	74.0	-10.3	**43.7	54.0	-10.3

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.
**Duty Cycle Correction = 20Log(0.036) = -28.8dB.
**Therefore, -20dB is taken.

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

TEST REPORT No: (5215)089-1486(A)

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)
4804.00	V	5.9	-20.0	48.4	74.0	-25.6	**28.4	54.0	-25.6
7206.00	V	12.7	-20.0	49.4	74.0	-24.6	**29.4	54.0	-24.6
9608.00	V	16.4	-20.0	50.2	74.0	-23.8	**30.2	54.0	-23.8
12010.00	V	18.4	-20.0	53.9	74.0	-20.1	**33.9	54.0	-20.1
14412.00	V	23.2	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
16814.00	V	22.0	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
19216.00	V	46.3	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
21618.00	V	47.1	-20.0	64.3	74.0	-9.7	**44.3	54.0	-9.7
24020.00	V	47.5	-20.0	62.6	74.0	-11.4	**42.6	54.0	-11.4
26422.00	V	48.5	-20.0	63.2	74.0	-10.8	**43.2	54.0	-10.8

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.
**Duty Cycle Correction = 20Log(0.036) = -28.8dB.
**Therefore, -20dB is taken.

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

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)
4878.00	H	5.9	-20.0	45.0	74.0	-29.0	**25.0	54.0	-29.0
7317.00	H	12.7	-20.0	47.9	74.0	-26.1	**27.9	54.0	-26.1
9756.00	H	16.4	-20.0	51.0	74.0	-23.0	**31.0	54.0	-23.0
12195.00	H	18.6	-20.0	54.0	74.0	-20.0	**34.0	54.0	-20.0
14634.00	H	25.0	-20.0	60.3	74.0	-13.7	**40.3	54.0	-13.7
17073.00	H	27.2	-20.0	61.1	74.0	-12.9	**41.1	54.0	-12.9
19512.00	H	46.5	-20.0	63.2	74.0	-10.8	**43.2	54.0	-10.8
21951.00	H	46.9	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
24390.00	H	48.0	-20.0	62.6	74.0	-11.4	**42.6	54.0	-11.4
26829.00	H	48.3	-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)
4878.00	V	5.9	-20.0	46.4	74.0	-27.6	**26.4	54.0	-27.6
7317.00	V	12.7	-20.0	47.7	74.0	-26.3	**27.7	54.0	-26.3
9756.00	V	16.4	-20.0	51.4	74.0	-22.6	**31.4	54.0	-22.6
12195.00	V	18.6	-20.0	55.0	74.0	-19.0	**35.0	54.0	-19.0
14634.00	V	25.0	-20.0	63.1	74.0	-10.9	**43.1	54.0	-10.9
17073.00	V	27.2	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9
19512.00	V	46.5	-20.0	62.2	74.0	-11.8	**42.2	54.0	-11.8
21951.00	V	46.9	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
24390.00	V	48.0	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
26829.00	V	48.3	-20.0	63.4	74.0	-10.6	**43.4	54.0	-10.6

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(0.036) = -28.8dB.
**Therefore, -20dB is taken.

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

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)
4958.00	H	5.9	-20.0	43.8	74.0	-30.2	**23.8	54.0	-30.2
7437.00	H	13.3	-20.0	48.2	74.0	-25.8	**28.2	54.0	-25.8
9916.00	H	16.4	-20.0	52.3	74.0	-21.7	**32.3	54.0	-21.7
12395.00	H	18.6	-20.0	54.2	74.0	-19.8	**34.2	54.0	-19.8
14874.00	H	25.0	-20.0	60.7	74.0	-13.3	**40.7	54.0	-13.3
17353.00	H	27.2	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7
19832.00	H	46.6	-20.0	63.3	74.0	-10.7	**43.3	54.0	-10.7
22311.00	H	47.0	-20.0	61.7	74.0	-12.3	**41.7	54.0	-12.3
24790.00	H	48.1	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
27269.00	H	48.5	-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)
4958.00	V	5.9	-20.0	46.2	74.0	-27.8	**26.2	54.0	-27.8
7437.00	V	13.3	-20.0	48.6	74.0	-25.4	**28.6	54.0	-25.4
9916.00	V	16.4	-20.0	52.1	74.0	-21.9	**32.1	54.0	-21.9
12395.00	V	18.6	-20.0	53.8	74.0	-20.2	**33.8	54.0	-20.2
14874.00	V	25.0	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
17353.00	V	27.2	-20.0	64.3	74.0	-9.7	**44.3	54.0	-9.7
19832.00	V	46.6	-20.0	63.0	74.0	-11.0	**43.0	54.0	-11.0
22311.00	V	47.0	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
24790.00	V	48.1	-20.0	64.2	74.0	-9.8	**44.2	54.0	-9.8
27269.00	V	48.5	-20.0	62.6	74.0	-11.4	**42.6	54.0	-11.4

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(0.036) = -28.8dB.
**Therefore, -20dB is taken.

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

TEST REPORT No: (5215)089-1486(A)

Radiated Emissions (9kHz – 40GHz)

Test Requirement:	FCC Part 15 Section 15.209
Test Method:	ANSI C63.4
Test Date(s):	2015-05-12
Temperature:	25.0 °C
Humidity:	77.0 %
Atmospheric Pressure:	100.3 kPa
Mode of Operation:	On mode
Tested Voltage:	1.5Vd.c. (“AAA” size battery x 1)

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
Above960	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

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

TEST REPORT No: (5215)089-1486(A)

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)
45.24	H	22.4	40.0	-17.6
114.68	H	24.6	43.5	-18.9
229.92	H	22.5	46.0	-23.5
370.42	H	29.3	46.0	-16.7
464.72	H	31.5	46.0	-14.5
601.16	H	34.2	46.0	-11.8

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
45.24	V	23.6	40.0	-16.4
114.68	V	24.2	43.5	-19.3
229.92	V	22.3	46.0	-23.7
370.42	V	29.1	46.0	-16.9
464.72	V	32.0	46.0	-14.0
601.16	V	34.6	46.0	-11.4

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz

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

TEST REPORT No: (5215)089-1486(A)

Frequency range of Fundamental Emission

Test Requirement:	FCC 47 CFR 15.249
Test Method:	ANSI C63.4:2009 (Section 13.1.7)
Test Date(s):	2015-05-12
Temperature:	25.0 °C
Humidity:	77.0 %
Atmospheric Pressure:	100.3 kPa
Mode of Operation:	Transmission mode
Tested Voltage:	1.5Vd.c.("AAA" size 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 [MHz]	FCC Limits [MHz]
2401.340 – 2479.860	2400.00 – 2483.50

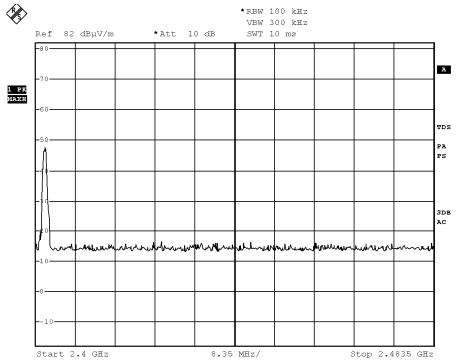
BUREAU VERITAS HONG KONG LIMITED – Kowloon Bay Office
1/F Pacific Trade Centre,
2 Kai Hing Road, Kowloon Bay,
Kowloon,HONG KONG
Tel: +852 2331 0888
Fax: +852 2331 0889
www.cps.bureauveritas.com

TEST REPORT No: (5215)089-1486(A)

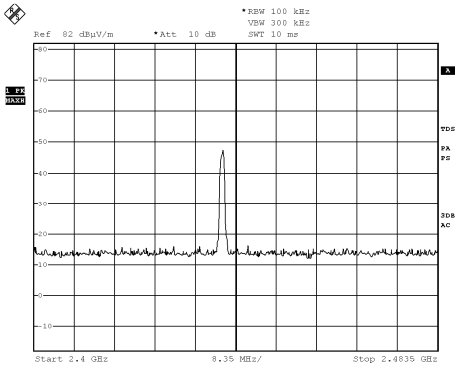
Measurement Data :

Test Result of Frequency Range of Fundamental Emission: PASS

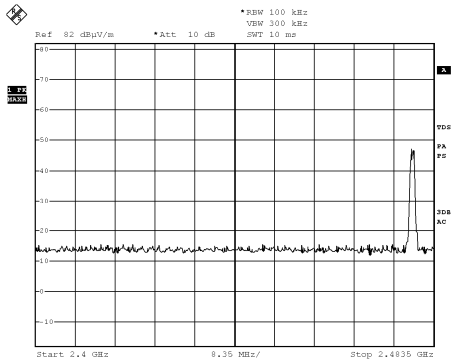
Lowest Frequency – 2402.00MHz



Middle Frequency – 2439.00MHz



Highest Frequency – 2479.00MHz

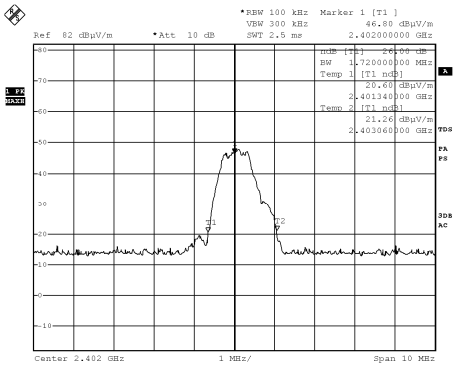


BUREAU VERITAS HONG KONG LIMITED – Kowloon Bay Office
1/F Pacific Trade Centre,
2 Kai Hing Road, Kowloon Bay,
Kowloon,HONG KONG
Tel: +852 2331 0888
Fax: +852 2331 0889
www.cps.bureauveritas.com

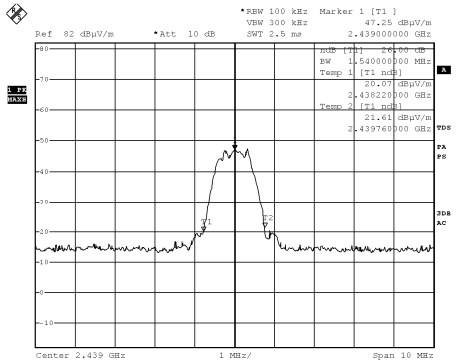
TEST REPORT No: (5215)089-1486(A)
Measurement Data :

Test Result of 26dB Bandwidth of Fundamental Emission: PASS

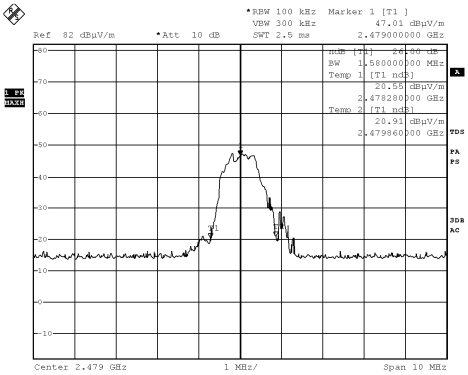
Lowest Frequency – 2402.00MHz



Middle Frequency – 2439.00MHz



Highest Frequency – 2479.00MHz



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

TEST REPORT No: (5215)089-1486(A)

Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 18 pulses (0.2 msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered 0.2*18 per 100msec = 3.6% duty cycle.

Remarks:

Duty Cycle Correction = 20Log(0.036) = -28.8dB
Therefore, -20dB is taken

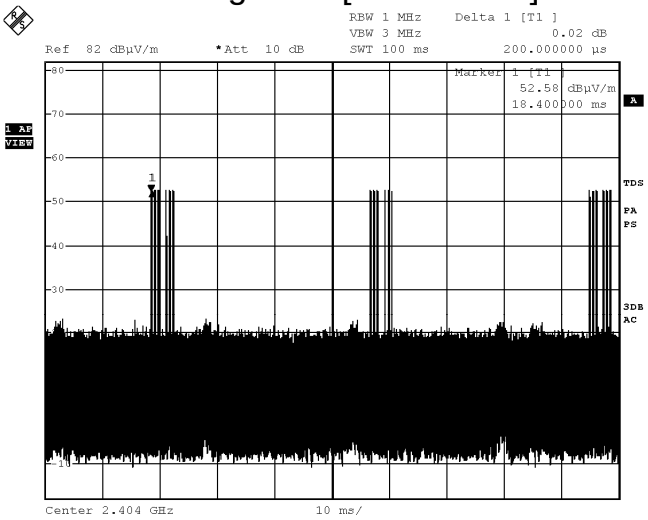
The following figures [Figure A] show the characteristics of the pulse train for one of these functions.

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

TEST REPORT No: (5215)089-1486(A)

Measurement Data :

Figure A [Pulse Train]



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

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

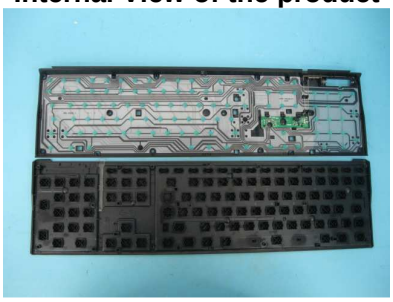
Battery Cover

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

TEST REPORT No: (5215)089-1486(A)

Photographs of EUT

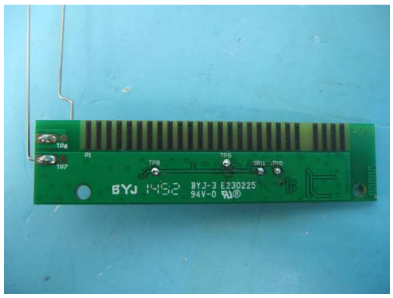
Internal View of the product



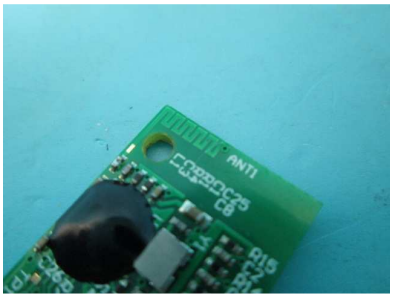
Internal View of the product

Inner Circuit Top View

Inner Circuit Bottom View



Antenna



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

Measurement of Radiated Emission Test Set Up

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

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