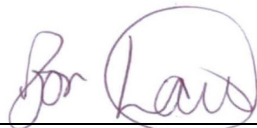




L C I E

TEST REPORT No: (5215)125-0515(F)

TEST REPORT

To:	SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD	To:	-
Attn:	--	Attn:	-
Address:	NO. 2 WEST XINGYE ROAD LAIMEI INDUSTRIAL AREA CHENGHAI SHANTOU GUANGDONG CHINA	Address:	-
Fax:	--	Fax:	-
E-mail:	--	E-mail:	-
Folder No.:	BVCS15MY037MTHS-B		
Factory name:	--		
Location:	--		
Product:	R/C TOYS Model No.: X5SC Additional model: (Please see page 4)		
		Sample No:	HK150504/038
		Test date:	May 07, 2015 to June 03, 2015
		Test Requested:	FCC Part 15 - 2012
		Test Method:	ANSI C63.4 - 2009
		FCC ID:	QV7-GC887552-9
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 11, 2015		Date: June 11, 2015	



L C I E

TEST REPORT No: (5215)125-0515(F)

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:

Sample first submission date: May 05, 2015

Sample second submission date: June 03, 2015



TEST REPORT No: (5215)125-0515(F)

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	27-MAR-2015	26-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	12-MAY-2015	11-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

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



L C I E

TEST REPORT No: (5215)125-0515(F)

Equipment Under Test [EUT]

Description of Sample:

Model Name: R/C TOYS

Model Number: X5SC

Additional Model Name: --

Additional Model Number: X3, X3S, X4, X4S, X5, X5C, X5S, X5SW, X5G, X5H, X6, X8, X8C, X8G, X8W, X8H, X10, X11, X11C, X12, X12S, X13, X13S, X18, XQ6

Additional Model information: Declare the Circuit, PCB layout, Electrical parts and Appearance of the products are identical to the basic model, except the packaging

Rating: 6Vd.c. ("AA" size battery x 4)

Description of EUT Operation:

The Equipment Under Test (EUT) is a **SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD.** of Remote Control Transceiver. It is a 1 switch, 2 sticks and 6 buttons transmitter and operating at 2410MHz to 2474MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while buttons are being pressed or sticks are being pushed or pulled, Modulation by IC, and type is GFSK.

There are total 65 channels and below is the frequency list (GHz) :

ch.no	freq.	ch.no	freq.	ch.no	freq.	ch.no	freq.	ch.no	freq.	ch.no	freq.	ch.no	freq.
1	2.410	11	2.420	21	2.430	31	2.440	41	2.450	51	2.460	61	2.470
2	2.411	12	2.421	22	2.431	32	2.441	42	2.451	52	2.461	62	2.471
3	2.412	13	2.422	23	2.432	33	2.442	43	2.452	53	2.462	63	2.472
4	2.413	14	2.423	24	2.433	34	2.443	44	2.453	54	2.463	64	2.473
5	2.414	15	2.424	25	2.434	35	2.444	45	2.454	55	2.464	65	2.474
6	2.415	16	2.425	26	2.435	36	2.445	46	2.455	56	2.465		
7	2.416	17	2.426	27	2.436	37	2.446	47	2.456	57	2.466		
8	2.417	18	2.427	28	2.437	38	2.447	48	2.457	58	2.467		
9	2.418	19	2.428	29	2.438	39	2.448	49	2.458	59	2.468		
10	2.419	20	2.429	30	2.439	40	2.449	50	2.459	60	2.469		

The transmitter has different control:

1. Switch – control ON/OFF
2. Left stick – control the accelerator
3. Right stick – control the quadcopter rotate
4. Left upper button – control the speed
5. Right upper button – 3D eversion
6. Left button – photo & video
7. Right button – forward & backward trimmer
8. Left lower button – left fine and sideward fine tuning
9. Right lower button – switch mode of left find and sideward fine



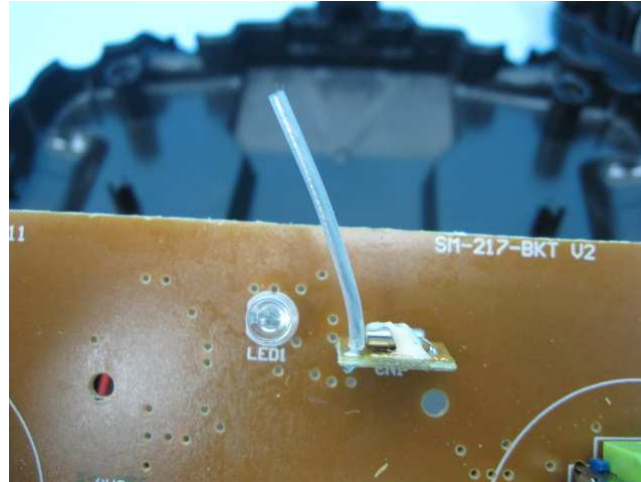
L C I E

TEST REPORT No: (5215)125-0515(F)

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.

Photo of Antenna



TEST REPORT No: (5215)125-0515(F)

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: 26.0 °C
Humidity: 78.0 %
Atmospheric Pressure: 100.7 kPa
Mode of Operation: Transmission mode
Tested Voltage: 6Vd.c. ("AA" size battery x 4)

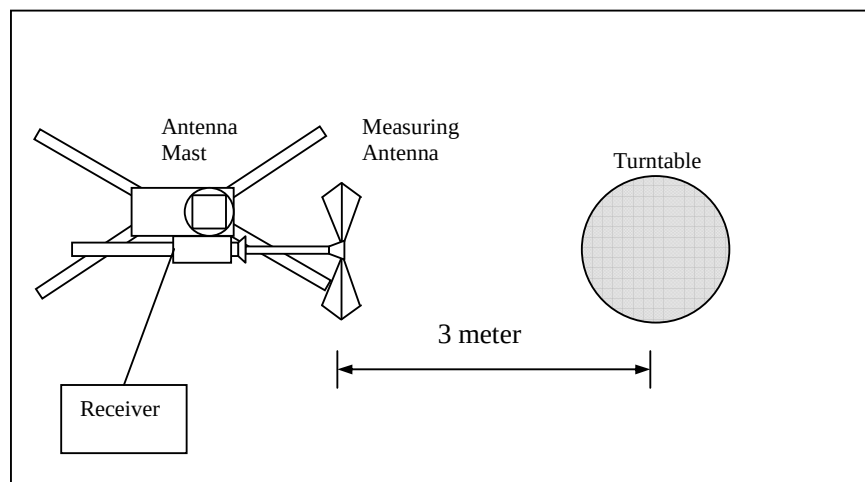
Test Procedure:

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

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

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

Test Setup: Open Area Test Site





L C I E

TEST REPORT No: (5215)125-0515(F)

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)
2410.00	H	0.0	-20.0	90.1	114.0	-23.9	**70.1	94.0	-23.9
2410.00	V	0.0	-20.0	91.2	114.0	-22.8	**71.2	94.0	-22.8

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	H	0.0	-20.0	91.4	114.0	-22.6	**71.4	94.0	-22.6
2442.00	V	0.0	-20.0	92.9	114.0	-21.1	**72.9	94.0	-21.1

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)
2474.00	H	0.0	-20.0	90.4	114.0	-23.6	**70.4	94.0	-23.6
2474.00	V	0.0	-20.0	91.8	114.0	-22.2	**71.8	94.0	-22.2

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

**Duty Cycle Correction = $20\log(0.036) = -28.8\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5215)125-0515(F)

Radiated Emissions (Spurious Emission)

Test Requirement: FCC Part 15 Section 15.249
 Test Method: ANSI C63.4
 Test Date(s): 2015-05-12
 Temperature: 26.0 °C
 Humidity: 78.0 %
 Atmospheric Pressure: 100.7 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

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	H	5.9	-20.0	55.3	74.0	-18.7	**35.3	54.0	-18.7
7230.00	H	12.7	-20.0	52.9	74.0	-21.1	**32.9	54.0	-21.1
9640.00	H	16.4	-20.0	52.0	74.0	-22.0	**32.0	54.0	-22.0
12050.00	H	18.4	-20.0	53.6	74.0	-20.4	**33.6	54.0	-20.4
14460.00	H	23.2	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
16870.00	H	22.0	-20.0	61.1	74.0	-12.9	**41.1	54.0	-12.9
19280.00	H	46.3	-20.0	64.0	74.0	-10.0	**44.0	54.0	-10.0
21690.00	H	47.1	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7
24100.00	H	47.5	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
26510.00	H	48.5	-20.0	62.9	74.0	-11.1	**42.9	54.0	-11.1

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

**Duty Cycle Correction = $20\log(0.036) = -28.8\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5215)125-0515(F)

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	V	5.9	-20.0	49.4	74.0	-24.6	**29.4	54.0	-24.6
7230.00	V	12.7	-20.0	49.1	74.0	-24.9	**29.1	54.0	-24.9
9640.00	V	16.4	-20.0	50.4	74.0	-23.6	**30.4	54.0	-23.6
12050.00	V	18.4	-20.0	53.3	74.0	-20.7	**33.3	54.0	-20.7
14460.00	V	23.2	-20.0	60.9	74.0	-13.1	**40.9	54.0	-13.1
16870.00	V	22.0	-20.0	61.6	74.0	-12.4	**41.6	54.0	-12.4
19280.00	V	46.3	-20.0	62.4	74.0	-11.6	**42.4	54.0	-11.6
21690.00	V	47.1	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
24100.00	V	47.5	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9
26510.00	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 = $20\log(0.036) = -28.8\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz

**L C I E****TEST REPORT No: (5215)125-0515(F)****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	H	5.9	-20.0	51.5	74.0	-22.5	**31.5	54.0	-22.5
7326.00	H	12.7	-20.0	49.4	74.0	-24.6	**29.4	54.0	-24.6
9768.00	H	16.4	-20.0	52.5	74.0	-21.5	**32.5	54.0	-21.5
12210.00	H	18.6	-20.0	55.1	74.0	-18.9	**35.1	54.0	-18.9
14652.00	H	25.0	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
17094.00	H	27.2	-20.0	62.5	74.0	-11.5	**42.5	54.0	-11.5
19536.00	H	46.5	-20.0	62.8	74.0	-11.2	**42.8	54.0	-11.2
21978.00	H	46.9	-20.0	63.0	74.0	-11.0	**43.0	54.0	-11.0
24420.00	H	48.0	-20.0	63.1	74.0	-10.9	**43.1	54.0	-10.9
26862.00	H	48.3	-20.0	63.9	74.0	-10.1	**43.9	54.0	-10.1

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	5.9	-20.0	48.5	74.0	-25.5	**28.5	54.0	-25.5
7326.00	V	12.7	-20.0	48.2	74.0	-25.8	**28.2	54.0	-25.8
9768.00	V	16.4	-20.0	51.1	74.0	-22.9	**31.1	54.0	-22.9
12210.00	V	18.6	-20.0	54.8	74.0	-19.2	**34.8	54.0	-19.2
14652.00	V	25.0	-20.0	60.5	74.0	-13.5	**40.5	54.0	-13.5
17094.00	V	27.2	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
19536.00	V	46.5	-20.0	63.3	74.0	-10.7	**43.3	54.0	-10.7
21978.00	V	46.9	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
24420.00	V	48.0	-20.0	62.0	74.0	-12.0	**42.0	54.0	-12.0
26862.00	V	48.3	-20.0	62.3	74.0	-11.7	**42.3	54.0	-11.7

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

**Duty Cycle Correction = $20\log(0.036) = -28.8\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



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TEST REPORT No: (5215)125-0515(F)

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)
4948.00	H	5.9	-20.0	48.5	74.0	-25.5	**28.5	54.0	-25.5
7422.00	H	13.3	-20.0	49.4	74.0	-24.6	**29.4	54.0	-24.6
9896.00	H	16.4	-20.0	51.9	74.0	-22.1	**31.9	54.0	-22.1
12370.00	H	18.6	-20.0	54.6	74.0	-19.4	**34.6	54.0	-19.4
14844.00	H	25.0	-20.0	61.9	74.0	-12.1	**41.9	54.0	-12.1
17318.00	H	27.2	-20.0	63.9	74.0	-10.1	**43.9	54.0	-10.1
19792.00	H	46.6	-20.0	64.4	74.0	-9.6	**44.4	54.0	-9.6
22266.00	H	47.0	-20.0	61.0	74.0	-13.0	**41.0	54.0	-13.0
24740.00	H	48.1	-20.0	62.1	74.0	-11.9	**42.1	54.0	-11.9
27214.00	H	48.5	-20.0	63.5	74.0	-10.5	**43.5	54.0	-10.5

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)
4948.00	V	5.9	-20.0	46.5	74.0	-27.5	**26.5	54.0	-27.5
7422.00	V	13.3	-20.0	49.2	74.0	-24.8	**29.2	54.0	-24.8
9896.00	V	16.4	-20.0	52.4	74.0	-21.6	**32.4	54.0	-21.6
12370.00	V	18.6	-20.0	54.0	74.0	-20.0	**34.0	54.0	-20.0
14844.00	V	25.0	-20.0	61.1	74.0	-12.9	**41.1	54.0	-12.9
17318.00	V	27.2	-20.0	61.9	74.0	-12.1	**41.9	54.0	-12.1
19792.00	V	46.6	-20.0	63.8	74.0	-10.2	**43.8	54.0	-10.2
22266.00	V	47.0	-20.0	61.8	74.0	-12.2	**41.8	54.0	-12.2
24740.00	V	48.1	-20.0	62.7	74.0	-11.3	**42.7	54.0	-11.3
27214.00	V	48.5	-20.0	64.1	74.0	-9.9	**44.1	54.0	-9.9

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

**Duty Cycle Correction = $20\log(0.036) = -28.8\text{dB}$.

**Therefore, -20dB is taken.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



L C I E

TEST REPORT No: (5215)125-0515(F)

Radiated Emissions (9kHz – 40GHz)

Test Requirement: FCC Part 15 Section 15.209
Test Method: ANSI C63.4
Test Date(s): 2015-05-12
Temperature: 26.0 °C
Humidity: 78.0 %
Atmospheric Pressure: 100.7 kPa
Mode of Operation: On mode
Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]	Measurement Distance m
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Measurement Data

Test Result of (On mode): PASS

Detection mode: Quasi-Peak

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

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 200Hz
VBW = 200Hz



L C I E

TEST REPORT No: (5215)125-0515(F)

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	24.0	43.5	-19.5
229.92	H	22.5	46.0	-23.5
370.12	H	29.3	46.0	-16.7
464.72	H	31.5	46.0	-14.5
601.26	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
370.12	V	29.1	46.0	-16.9
464.72	V	31.6	46.0	-14.4
601.26	V	34.6	46.0	-11.4

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



TEST REPORT No: (5215)125-0515(F)

Frequency range of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249
Test Method: ANSI C63.4
Test Date(s): 2015-05-12
Temperature: 26.0 °C
Humidity: 78.0 %
Atmospheric Pressure: 100.7 kPa
Mode of Operation: Transmission mode
Tested Voltage: 6Vd.c. ("AA" size battery x 4)

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]
2409.300 – 2474.760	2400.00 – 2483.50



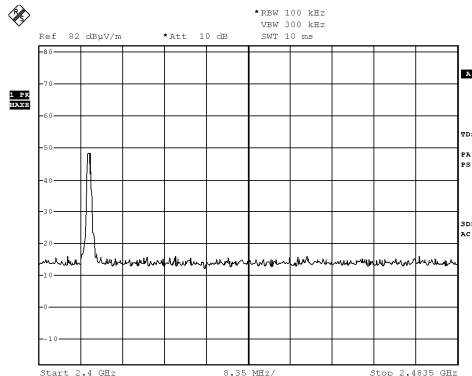
L C I E

TEST REPORT No: (5215)125-0515(F)

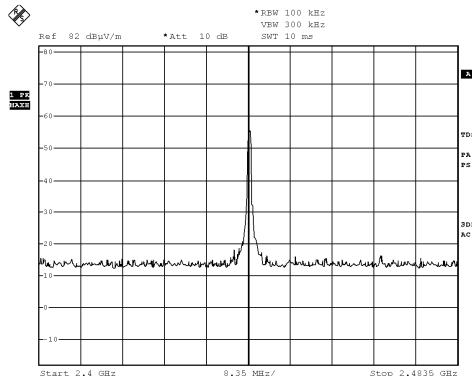
Measurement Data :

Test Result of Frequency Range of Fundamental Emission: PASS

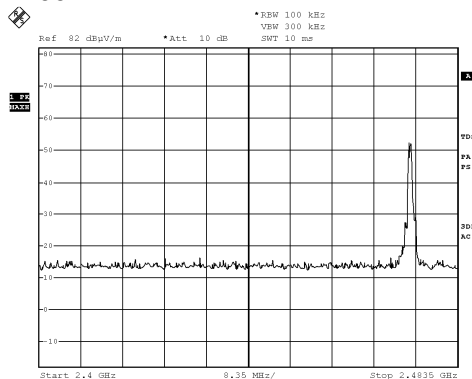
Lowest Frequency – 2410.00MHz



Middle Frequency – 2442.00MHz



Highest Frequency – 2474.00MHz







TEST REPORT No: (5215)125-0515(F)

Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 6 pulses (0.6 msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered $\frac{0.6 \times 6}{100} = 3.6\%$ duty cycle.

Remarks:

Duty Cycle Correction = $20\log(0.036) = -28.8\text{dB}$
Therefore, -20dB is taken

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

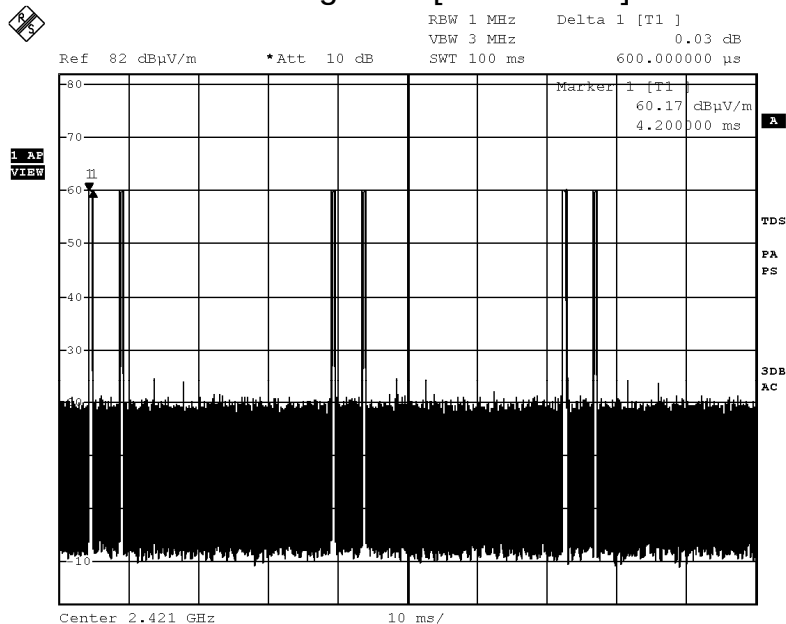


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TEST REPORT No: (5215)125-0515(F)

Measurement Data :

Figure A [Pulse Train]





L C I E

TEST REPORT No: (5215)125-0515(F)

Photographs of EUT

Front View of the product



Rear View of the product



Top View of the product



Bottom View of the product



Side View of the product



Side View of the product



Battery compartment



Battery Cover





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TEST REPORT No: (5215)125-0515(F)

Photographs of EUT

Internal View of the product



Internal View of the product



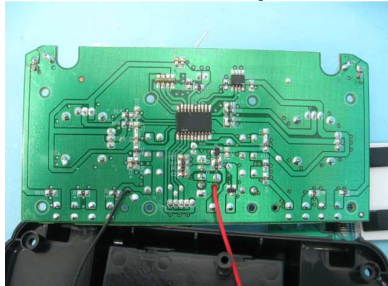
Inner Circuit Top View



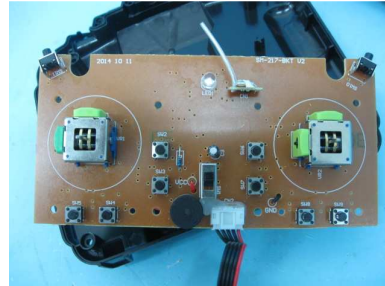
Inner Circuit Bottom View



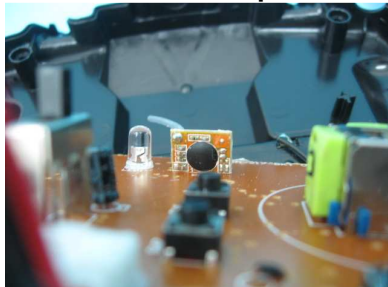
Inner Circuit Top View



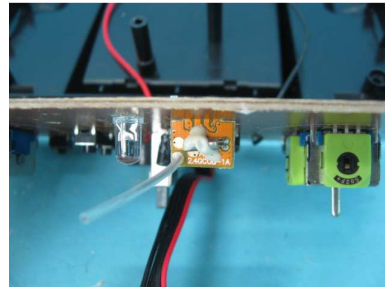
Inner Circuit Bottom View



Inner Circuit Top View



Inner Circuit Bottom View



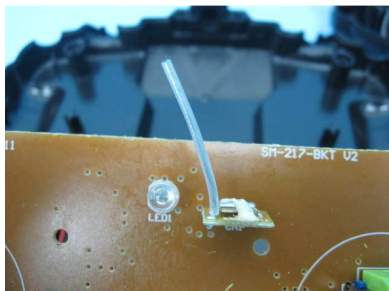


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TEST REPORT No: (5215)125-0515(F)

Photographs of EUT

Antenna





L C I E

TEST REPORT No: (5215)125-0515(F)

Measurement of Radiated Emission Test Set Up



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