

Date: 2010-09-17 Page 1 of 21

No. : MH184446

Dong Guan City FLYSKY Remote Model Co., Ltd. **Applicant (C00001):**

No 41 Road West, BanHu Village, HuangJiang Town,

DongGuan City, GuangDong Province, China

Dong Guan City FLYSKY Remote Model Co., Ltd. Manufacturer:

No 41 Road West, BanHu Village, HuangJiang Town,

DongGuan City, GuangDong Province, China

Description of Sample(s): Product: 2.4G 3CH Control Radio

Brand Name:

Model Number: FS-GT3B

FCC ID: VPOFLYSKYGT3B

Date Sample(s) Received: 2010-08-23

Date Tested: 2010-09-13

Investigation Requested: Perform ElectroMagnetic Interference measurement in

> accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2009 and ANSI C63.4:2003 for FCC Certification.

Conclusion(s): The submitted product **COMPLIED** with the requirements of

> Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this

Test Report.

Remark(s):

Dr. LEE Kam Chuen **Authorized Signatory** ElectroMagnetic Compatibility Department For and on behalf of The Hong Kong Standards and Testing Centre Ltd.



Date: 2010-09-17 Page 2 of 21

No. : MH184446

CONTENT:

	Cover Content	Page 1 of 21 Page 2-3 of 21
1.0	General Details	
1.1	Test Laboratory	Page 4 of 21
1.2	Applicant Details Applicant Manufacturer	Page 4 of 21
1.3	Equipment Under Test [EUT] Description of EUT operation	Page 5 of 21
1.4	Date of Order	Page 5 of 21
1.5	Submitted Sample	Page 5 of 21
1.6	Test Duration	Page 5 of 21
1.7	Country of Origin	Page 5 of 21
<u>2.0</u>	Technical Details	
2.1	Investigations Requested	Page 6 of 21
2.2	Test Standards and Results Summary	Page 6 of 21
<u>3.0</u>	<u>Test Results</u>	
3.1	Radiated Emission	Page 7-16 of 21



Date: 2010-09-17 Page 3 of 21

: MH184446 No.

Appendix A

Page 17 of 21 List of Measurement Equipment

Appendix B

Page 18-19 of 21 Duty Cycle Correction During 100 msec

Appendix C

Page 20-21 of 21 Photographs



Date : 2010-09-17 Page 4 of 21

No. : MH184446

1.0 General Details

1.1 Test Laboratory

The Hong Kong Standards and Testing Centre Ltd. EMC Laboratory 10 Dai Wang Street, Taipo Industrial Estate New Territories, Hong Kong

1.2 Applicant Details Applicant

Dong Guan City FLYSKY Remote Model Co., Ltd.
No 41 Road West, BanHu Village, HuangJiang Town, DongGuan City, GuangDong Province, China

Manufacturer

Dong Guan City FLYSKY Remote Model Co., Ltd.
No 41 Road West, BanHu Village, HuangJiang Town, DongGuan City, GuangDong Province, China



Date : 2010-09-17 Page 5 of 21

No. : MH184446

1.3 Equipment Under Test [EUT] Description of Sample(s)

Product: 2.4G 3CH Control Radio

Manufacturer: Dong Guan City FLYSKY Remote Model Co., Ltd.

Brand Name: FS

Model Number: FS-GT3B

Input Voltage: 12Vd.c. ("AA" size battery x 8)

1.3.1 Description of EUT Operation

The Equipment Under Test (EUT) is a Dong Guan City FLYSKY Remote Model Co., Ltd., 2.4G 3CH Control Radio. The transmission signal is frequency hopping with channel frequency range 2401.-2480MHz during normal use. The EUT was set to fixed frequency test mode by application

1.4 Date of Order

2010-08-23

1.5 Submitted Sample(s):

1 Sample

1.6 Test Duration

2010-09-13

1.7 Country of Origin

China



Date : 2010-09-17 Page 6 of 21

No. : MH184446

2.0 Technical Details

2.1 Investigations Requested

Perform Electromagnetic Interference measurements in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2009 Regulations and ANSI C63.4:2003 for FCC Certification.

2.2 Test Standards and Results Summary Tables

	EMISSION						
	Result	ts Summary					
Test Condition	Test Requirement	Test Method	Class /	To	est Resu	ılt	
			Severity	Pass	Fail	N/A	
Field Strength of Fundamental & Harmonics Emissions	FCC 47CFR 15.249	ANSI C63.4:2003	N/A				
Radiated Emissions	FCC 47CFR 15.209	ANSI C63.4:2003	N/A	\boxtimes			
	A		4				

Note: N/A - Not Applicable



Date : 2010-09-17 Page 7 of 21

No. : MH184446

3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions

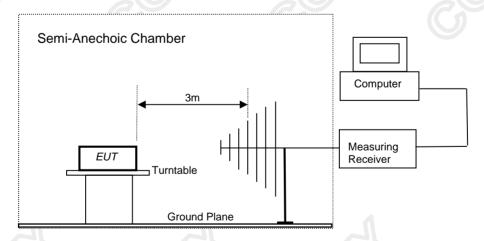
Test Requirement: FCC 47CFR 15.249
Test Method: ANSI C63.4:2003
Test Date: 2010-09-13
Mode of Operation: Tx mode

Test Method:

The sample was placed 0.8m above the ground plane of semi-anechoic Chamber*. Measurements in both horizontal and vertical polarities were performed. 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, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

* Semi-anechoic chamber located on the G/F of The Hong Kong Standards and Testing Centre Ltd. with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 607756.

Test Setup:





Date : 2010-09-17 Page 8 of 21

No. : MH184446

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

Frequency Range of Fundamental	Field Strength of Fundamental Emission	Field Strength of Harmonics Emission	
[MHz]	[microvolts/meter]	[microvolts/meter]	
902-928	50,000 [Average]	500 [Average]	
2400-2483.5	50,000 [Average]	500 [Average]	

Results of Tx mode: Pass

	Field Strength of Fundamental Emissions					
			Peak Value			
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field
	Level @3m	Factor	Strength	Strength		Polarity
MHz	dBμV/m	dΒμV/m	dΒμV/m	μV/m	μV/m	
2401.0	57.6	36.8	94.4	52,480.7	500,000	Vertical
4802.0	23.0	41.9	64.9	1,757.9	5,000	Vertical
7203.0					500	Vertical
9604.0					500	Vertical
* 12005.0					500	Vertical
14406.0					500	Vertical
16807.0					500	Vertical
* 19208.0					500	Vertical
21609.0	No Emission Detected			500	Vertical	
24010.0	6				500	Vertical

	Field Strength of Fundamental Emissions						
	A verage Value						
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
	Level @3m	Factor	Strength	Strength		Polarity	
MHz	dBμV/m	dΒμV/m	dBμV/m	μV/m	μV/m_		
+ 2401.0	37.6	36.8	74.4	5,248.1	50,000	Vertical	
+ 4802.0	3.0	41.9	44.9	175.8	500	Vertical	

Remarks:

No additional spurious emissions found between lowest internal used/generated frequency and 30 MHz

*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

+: Adjusted by Duty Cycle = -20.0dB

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB 1GHz to 18GHz 5.1dB

10 Dai Wang Street, Taipo Industrial Estate, N.T., Hong Kong Tel: (852) 2666 1888 Fax: (852) 2664 4353 Homepage: www.hkstc.org E-mail: hkstc@hkstc.org



Date : 2010-09-17 Page 9 of 21

No. : MH184446

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

Frequency Range of Fundamental	Field Strength of Fundamental Emission	Field Strength of Harmonics Emission	
[MHz]	[microvolts/meter]	[microvolts/meter]	
902-928	50,000 [Average]	500 [Average]	
2400-2483.5	50,000 [Average]	500 [Average]	

Results of Tx mode: Pass

	Field Strength of Fundamental Emissions					
			Peak Value			
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field
	Level @3m	Factor	Strength	Strength		Polarity
MHz	dBμV/m	dΒμV/m	dΒμV/m	μV/m_	μV/m	
2440.0	56.9	36.9	93.8	48,977.9	500,000	Vertical
4880.0	20.9	42.0	62.9	1,396.4	5,000	Vertical
7320.0					500	Vertical
9760.0					500	Vertical
* 12200.0					500	Vertical
14640.0					500	Vertical
17080.0			500	Vertical		
* 19520.0	500					Vertical
21960.0			500	Vertical		
24400.0	24400.0 No Emission Detected				500	Vertical

	Field Strength of Fundamental Emissions						
	A verage Value						
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
	Level @3m	Factor	Strength	Strength		Polarity	
MHz	dBμV/m	dΒμV/m	dBμV/m	μV/m	μV/m		
+ 2440.0	36.9	36.9	73.8	4,897.8	50,000	Vertical	
+ 4880.0	0.9	42.0	42.9	139.6	500	Vertical	

Remarks:

No additional spurious emissions found between lowest internal used/generated frequency and 30 MHz

*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

+: Adjusted by Duty Cycle = -20.0dB

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB 1GHz to 18GHz 5.1dB



Date : 2010-09-17 Page 10 of 21

No. : MH184446

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

Frequency Range of Fundamental	Field Strength of Fundamental Emission	Field Strength of Harmonics Emission	
[MHz]	[microvolts/meter]	[microvolts/meter]	
902-928	50,000 [Average]	500 [Average]	
2400-2483.5	50,000 [Average]	500 [Average]	

Results of Tx mode: Pass

	Field Strength of Fundamental Emissions					
			Peak Value			
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field
	Level @3m	Factor	Strength	Strength		Polarity
MHz	dBμV/m	dΒμV/m	dBμV/m	μV/m	μV/m	
2480.0	54.8	37.2	92.0	39,810.7	500,000	Vertical
4960.0	20.7	42.0	62.7	1,364.6	5,000	Vertical
7440.0					500	Vertical
9920.0					500	Vertical
* 12400.0					500	Vertical
14880.0					500	Vertical
17360.0					500	Vertical
* 19840.0					500	Vertical
22320.0			500	Vertical		
24800.0	No Emission Detected				500	Vertical

	Field Strength of Fundamental Emissions						
	A verage Value						
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
	Level @3m	Factor	Strength	Strength		Polarity	
MHz	dBμV/m	dΒμV/m	dBμV/m	μV/m	μV/m		
+ 2480.0	34.8	37.2	72.0	3,981.1	50,000	Vertical	
+ 4960.0	0.7	42.0	42.7	136.5	500	Vertical	

Remarks:

No additional spurious emissions found between lowest internal used/generated frequency and 30 MHz

*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

+: Adjusted by Duty Cycle = -20.0dB

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB 1GHz to 18GHz 5.1dB

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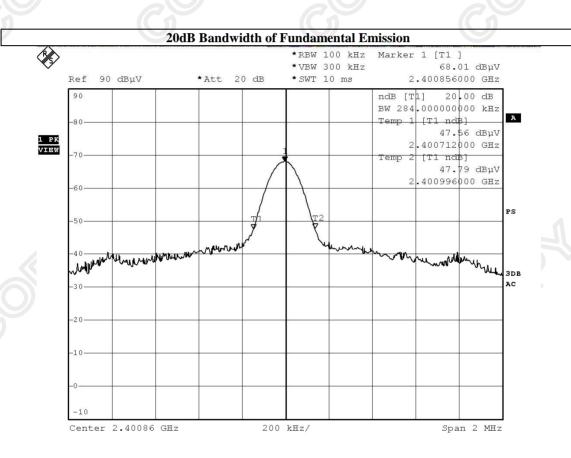


Date: 2010-09-17 Page 11 of 21

No. : MH184446

Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range	20dB Bandwidth
[MHz]	[MHz]
2401	0.248





Date: 2010-09-17 Page 12 of 21

No. : MH184446

Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range	20dB Bandwidth
[MHz]	[MHz]
2440	0.268

20dB Bandwidth of Fundamental Emission *RBW 100 kHz Marker 1 [T1] *VBW 300 kHz 71.38 dBµV 100 dBμV *Att 10 dB SWT 2.5 ms 2.439835200 GHz 100 20.00 dB ndB [T1] BW 268 0000000000 kHz Temp 1 [T1 ndB] 51.54 dBµV 1 PK MAXH 2.439699200 GHz [T1 ndB] 51.69 dBµV 439967200 GHz 3DB Span 2 MHz Center 2.4398312 GHz 200 kHz/

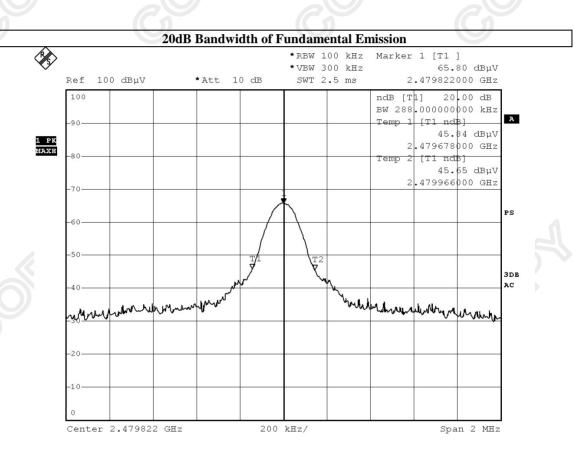


Date: 2010-09-17 Page 13 of 21

No. : MH184446

Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range		20dB Bandwidth
	[MHz]	[MHz]
	2480	0.288





Date: 2010-09-17 Page 14 of 21

No. : MH184446

Band Edge Measurement:

Frequency Range	Radiated Emission Attenuated below the			
Fundamental				
[MHz]	[dB]			
2400.0 – Lowest Fundamental	-28.69			
	(Actual Radiated Emission level = 37.36 dB μ V/m)			

Radiated Emission Attenuation From The Lowest Fundamental Frequency to 2.4000GHz *RBW 100 kHz Marker 1 [T1] *VBW 300 kHz *SWT 10 ms 2.400848640 GHz 80 dBµV *Att 5 dB Ref Delta [T1] .69 dB -28 A 64000рроо кнг 1 PK MAXH -50 PS 3DB AC -10 Start 2.4 GHz 96 kHz/ Stop 2.40096 GHz

Date: 14.SEP.2010 09:22:29

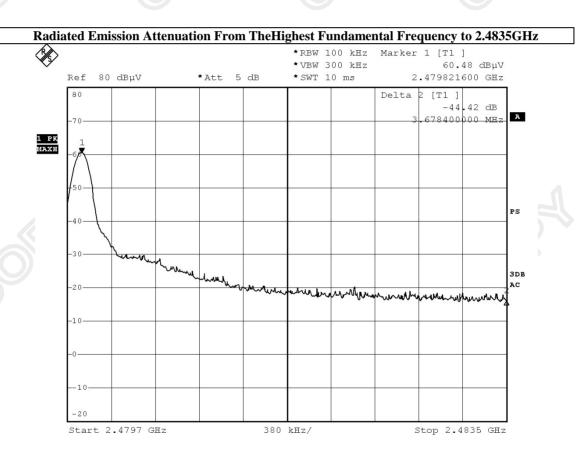


Date: 2010-09-17 Page 15 of 21

No. : MH184446

Band Edge Measurement:

Frequency Range	Radiated Emission Attenuated below the			
	Fundamental			
[MHz]	[dB]			
Highest Fundamental – 2483.5	-44.42			
(Actual Radiated Emission level = 16.06 dB μ				





Date : 2010-09-17 Page 16 of 21

No. : MH184446

Limits for Radiated Emissions [FCC 47 CFR 15.209 Class B]:

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

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of Tx mode: PASS

Please refer to the following table for result details

Radiated Emissions						
Quasi-Peak						
Emission	E-Field	Level	Limit	Level	Limit	
Frequency	Polarity	@3m	@ 3m	@3m		
MHz		dBµV/m	dBμV/m	μV/m_	μV/m_	
39.6	Vertical	29.8	40.0	30.9	100	
176.5	Horizontal	30.2	43.5	32.4	150	
190.2	Horizontal	17.0	43.5	7.1	150	
226.7	Vertical	19.6	46.0	9.5	200	
387.6	Horizontal	24.6	46.0	17.0	200	
475.0	Vertical	27.9	46.0	24.8	200	

Remarks:

No additional spurious emissions found between lowest internal used/generated frequency and 30 MHz

Correction Factor included Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB

1GHz to 18GHz 5.1dB



Date: 2010-09-17 Page 17 of 21

No. : MH184446

Appendix A

List of Measurement Equipment

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL	
EM062	HORN ANTENNA	EMCO	3117	0075933	2008/11/06	2010/11/06	
EM215	MULTIDEVICE CONTROLER	EMCO	2090	00024676	N/A	N/A	
EM216	MINI MAST SYSTEM	EMCO	2075	00026842	N/A	N/A	
EM217	ELECTRIC POWERED TURNTABLE	EMCO	2088	00029144	N/A	N/A	
EM218	ANECHOIC CHAMBER	ETS-Linggren	FACT-3		2009/05/02	2012/05/02	
EM174	BICONILOG ANTENNA	EMCO	3142B	00029071	2010/01/24	2012/01/24	
EM229	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB40	100248	2009/09/27	2010/09/27	
EM022	LOOP ANTENNA	EMCO	6502	1189-2424	2009/07/26	2011/07/26	

Remarks:-

CM Corrective Maintenance

N/A Not Applicable **TBD** To Be Determined



Date: 2010-09-17 Page 18 of 21

No. : MH184446

Appendix B

Duty Cycle Correction During 100msec

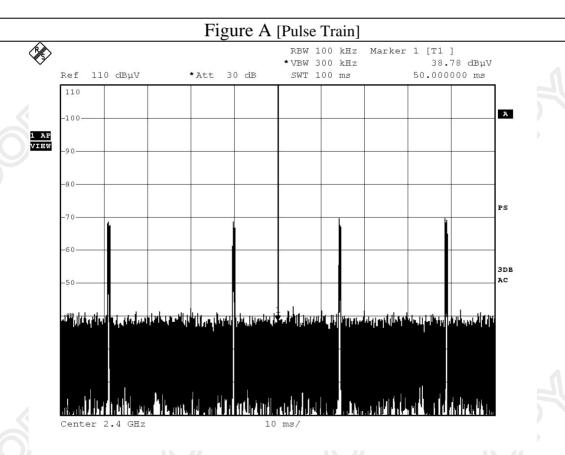
Each sample unit sends a different series of characters, but each pulse period (100msec) never exceeds a series of 4 sole (0.58msec) pulses. Assuming any combination of sole pulses may be obtained due to encoding the worst case transmit duty cycle would be considered 4x0.58msec per 100msec=2.32% duty cycle. Figure A through B show the characteristics of the pulse train for one of these functions.

Remarks:

Duty Cycle Correction = 20Log (0.0232) =-32.7 dB

Duty Cycle Correction = -20dB, if the calculation duty cycle correction >-20dB.

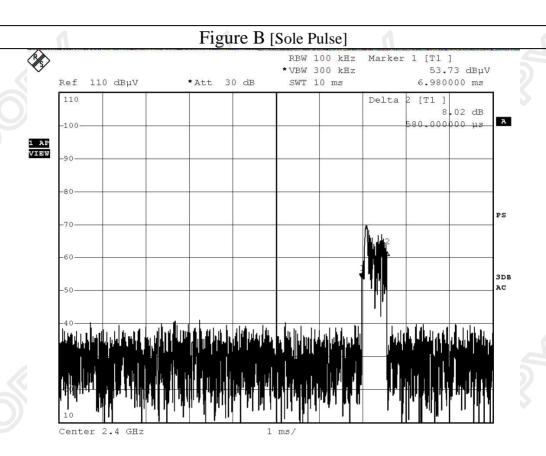
The following figures [Figure A to Figure B] showed the characteristics of the pulse train for one of these functions.





Date: 2010-09-17 Page 19 of 21

No. : MH184446





Date: 2010-09-17 Page 20 of 21

No. : MH184446

Appendix C

Photographs of EUT

Front View of the product

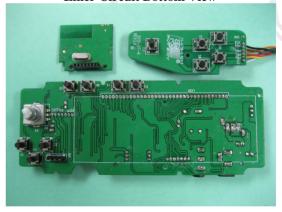




Inner Circuit Top View



Inner Circuit Bottom View

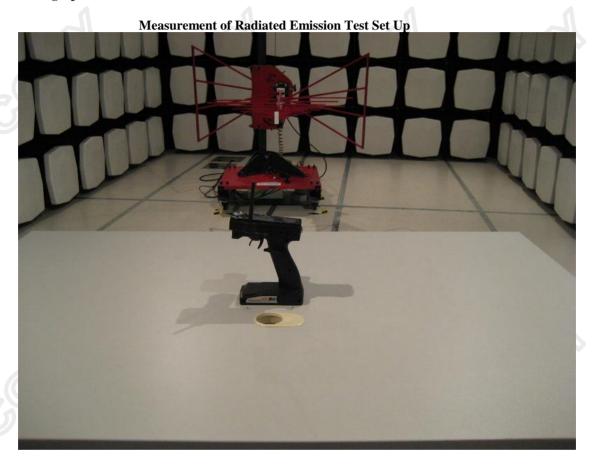




Date: 2010-09-17 Page 21 of 21

No. : MH184446

Photographs of EUT



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

The Hong Kong Standards and Testing Centre Ltd.

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