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Applicant (NEB001):	NEW BRIGHT INDUSTRIAL CO., LTD. 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON, H.K.					
Manufacturer:	NEW BRIGHT INDUSTRIAL CO., LTD. 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON, H.K.					
Description of Samples:	Product: Brand Name: Model Number: FCC ID:	Radio Control Toy Transmitter NEW BRIGHT G6D202HKW G6D202HKW				
Date Samples Received:	2010-05-25					
Date Tested:	2010-05-28					
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.					
Conclusions:	The submitted product <u>COMPLIED</u> 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.					

Remarks:

Dr. LEE Kam Chuen, Authorized Signatory ElectroMagnetic Compatibility Department

For and on behalf of The Hong Kong Standards and Testing Centre Ltd.

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<u>Appendix A</u>

List of Measurement Equipment

Appendix B

Duty Cycle Correction During 100 msec

Appendix C

Photographs of EUT

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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

852 2666 1888 Telephone: Fax: 852 2664 4353

1.2 **Applicant Details**

Applicant

NEW BRIGHT INDUSTRIAL CO., LTD. 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON, H.K.

Manufacturer

NEW BRIGHT INDUSTRIAL CO., LTD. 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON, H.K.



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1.3 Equipment Under Test [EUT] Description of Sample

Product: Manufacturer: Brand Name: Model Number: Rating:

Radio Control Toy Transmitter NEW BRIGHT INDUSTRIAL CO., LTD. NEW BRIGHT G6D202HKW 3Vd.c. ("AA" size battery x 2)

1.3.1 Description of EUT Operation

The Equipment Under Test (EUT) is a NEW BRIGHT INDUSTRIAL CO., LTD., Radio Control Toy Transmitter. The EUT is a transmitter of radio control toy. The transmitter was operating with button, the EUT continues to transmit while button is being on, It is pulse transmitter, Modulation by IC, and type is pulse modulation.

1.4 Date of Order

2010-05-25

1.5 Submitted Sample(s):

1 Sample

1.6 Test Duration

2010-05-28

1.7 Country of Origin

China



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2.0 Technical Details

2.1 Investigations 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.

2.2 Test Standards and Results Summary Tables

EMISSION Results Summary								
Test Condition	Test Requirement	Test Method	Class /	Т	est Result			
			Severity	Pass	Failed	N/A		
Field Strength of Fundamental Emissions & Spurious Emissions	FCC 47CFR 15.227	ANSI C63.4:2003	N/A	\boxtimes				
Radiated Emissions	FCC 47CFR 15.209	ANSI C63.4:2003	N/A	\boxtimes				

Note: N/A - Not Applicable



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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions (30 – 1000MHz)

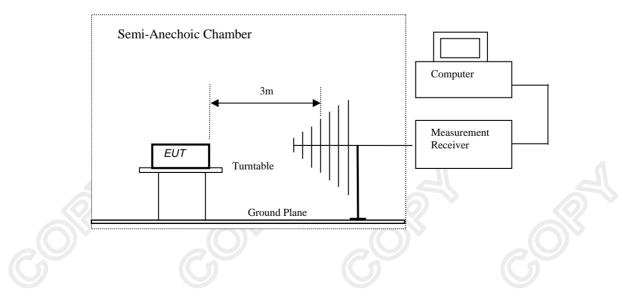
Test Requirement: Test Method: Test Date: Mode of Operation: FCC 47CFR 15.227 ANSI C63.4:2003 2010-05-28 Tx mode

Test Method:

The sample was placed 0.8m above the ground plane on a standard radiated emission test site. 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. In the frequency range of 9kHz to 30MHz, The center of the loop antenna shall be 1 meter above the ground and rotated loop axis for maximum reading. 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:



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Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.227]:

Frequency Range of	Field Strength of	Field Strength of	
Fundamental	Fundamental Emission	Fundamental Emission	
	[Peak]	[Average]	
[MHz]	[µV/m]	[µV/m]	
26.96-27.28	100,000	10,000	

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	dB/m	dBµV/m	μV/m	μV/m	_	
27.15	49.30	8.7	58.0	794.3	100,000	Horizontal	

Field Strength of Fundamental Emissions								
Average Value Frequency Measured Adjusted by Correction Field Field Limit @3m E-Field								
	Level @3m	Duty Cycle	Factor	Strength	Strength		Polarity	
MHz	dBµV	dB	dB/m	dBµV/m	μV/m	μV/m	5	
27.15	44.0	-5.25	8.7	52.7	431.5	10,000	Horizontal	

According to FCC 47CFR15.35, the limit on the radio frequency emissions as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation. Calculated measurement uncertainty: 30MHz to 1GHz 5.1dB



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Limits for Radiated Emissions [FCC 47 CFR 15.209]:

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

Radiated Emissions							
Quasi-Peak							
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
	Level @3m	Factor	Strength	Strength		Polarity	
MHz	dBµV	dB/m	dBµV/m	μV/m	μV/m		
54.3	< 1.0	8.7	< 9.7	< 3.1	100	Vertical	
81.4	< 1.0	8.4	< 9.4	< 3.0	100	Vertical	
108.6	< 1.0	9.2	< 10.2	< 3.2	150	Vertical	
135.7	13.6	9.1	22.7	13.6	150	Horizontal	
162.9	12.5	10.8	23.3	14.6	150	Horizontal	
190.0	16.3	11.3	27.6	24.0	150	Horizontal	
217.2	14.6	12.4	27.0	22.4	200	Horizontal	
244.3	< 1.0	14.1	< 15.1	< 5.7	200	Vertical	
271.4	13.5	14.3	27.8	24.5	200	Horizontal	
298.6	10.5	15.2	25.7	19.3	200	Horizontal	

Remarks:

No further spurious emissions found between lowest internal frequency and 30MHz Correction Factor includes Antenna Factor and Cable Attenuation. Calculated measurement uncertainty: 30MHz to 1GHz 5.1dB



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3.2 20dB Bandwidth of Fundamental Emission

Test Requirement: Test Method: Test Date: Mode of Operation: FCC 47 CFR 15.227 ANSI C63.4:2003 (Section 13.1.7) 2010-05-28 On mode

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.

Test Setup:

As Test Setup of clause 3.1.1 in this test report.

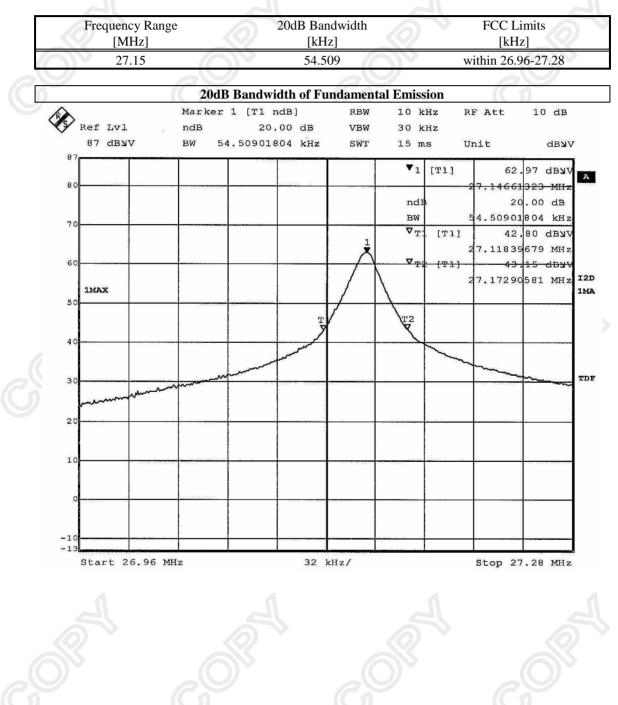


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Limits for 20dB Bandwidth of Fundamental Emission:



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Appendix A

EQP NO.

EM020

EM215 EM216 EM217 EM218

EM194

EM229

EM022

List of Measurement Equipment

	Radiated Emission									
6	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL				
	HORN ANTENNA	EMCO	3115	4032	2009/09/02	2010/09/02				
	MULTIDEVICE CONTROLLER	ЕМСО	2090	00024676	N/A	N/A				
	MINI MAST SYSTEM	EMCO	2075	00026842	N/A	N/A				
	ELECTRIC POWERED TURNTABLE	ЕМСО	2088	00029144	N/A	N/A				
	ANECHOIC CHAMBER	ETS-Linggren	FACT-3		2008/12/01	2011/12/01				
	BICONILOG ANTENNA	EMCO	3142B	1795	2008/09/08	2010/09/08				

R&S

EMCO

ESIB40

6502

100248

1189-2424

Remarks:-

CM Corrective Maintenance

EMI Test Receiver

LOOP ANTENNA

N/A Not Applicable or Not Available

TBD To Be Determined

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2010/09/27

2011/07/26

2009/09/27

2009/07/26



Appendix B

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 long pulses (1.503msec) and 85 short pulses (501.002 μ sec). Assuming any combination of short and long pulses may be obtained due to encoding the worst case transmit duty cycle would be considered (8x1.503msec)+(85x501.002 μ sec) per 100msec=54.609% duty cycle. Figure A through C show the characteristics of the pulse train for one of these functions.

Remarks:

Duty Cycle Correction = 20Log(0.54609) =-5.25dB Duty Cycle Correction =-20dB, if the calculation duty cycle correction >-20dB.



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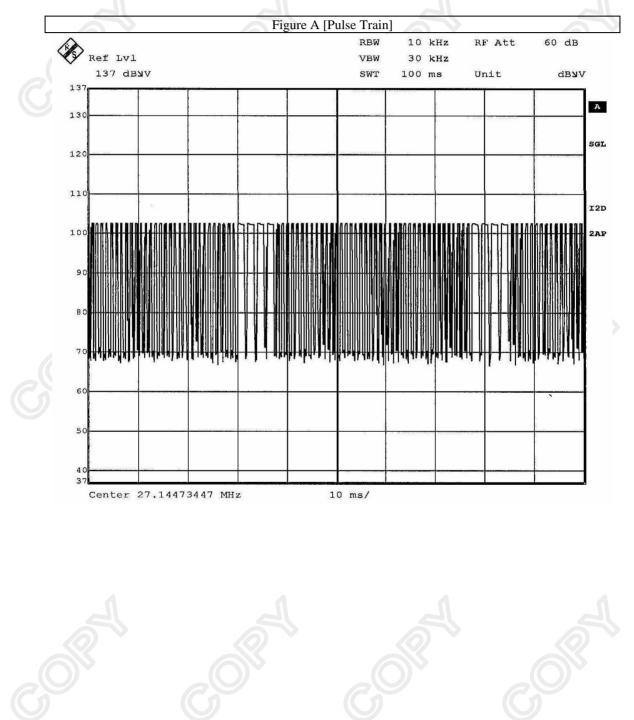
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The following figures [Figure A to Figure C] show the characteristics of the pulse train for one of these functions.

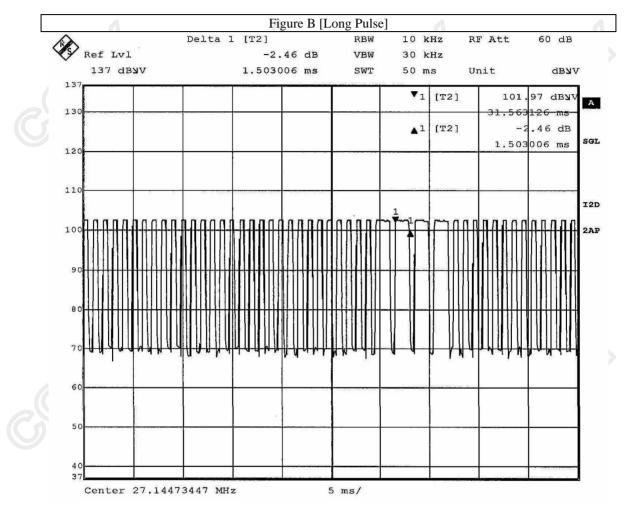


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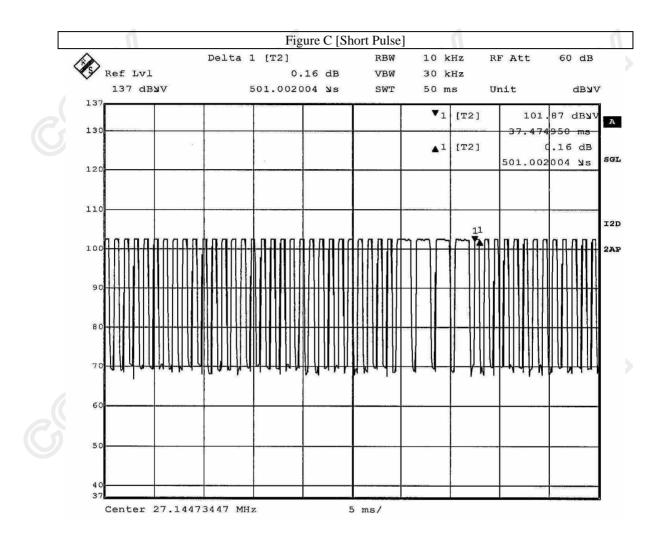


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Page 17 of 18 No. : HM165307 Appendix C **Photographs of EUT** Front View of the product **Rear View of the product** 27 MHz **Inner Circuit Top View Inner Circuit Bottom View**



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



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