

# FCC Part15, Subpart B ICES-003

#### **TEST REPORT**

For

**TOY Receiver** 

**MODEL NUMBER: RF7MR** 

FCC ID: G6DRF7MR

REPORT NUMBER: 4788949778-3

ISSUE DATE: September 5, 2019

Prepared for

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

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

> Tel: +86 769 22038881 Fax: +86 769 33244054 Website: www.ul.com

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.



Page 2 of 15

# **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	05/29/2018	Initial Issue	
V1	09/05/2019	Change FCC ID number and model number	Gary Zhang



Page 3 of 15

Summary of Test Results								
Standard Test Item Limit Result Ren								
FCC Part15, Subpart B	Conducted Disturbance	Class B	N/A	NOTE (1)				
ANSI C63.4-2014	Radiated Disturbance below 1 GHz	Class B	PASS					
ICES-003 Issue 6	Radiated Disturbance above 1 GHz	Class B	N/A	NOTE (1) NOTE (2)				

#### Note:

<sup>(1) &</sup>quot;N/A" denotes test is not applicable in this Test Report

<sup>(2)</sup> If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.



# **CONTENTS**

1. ATTE	STATION OF TEST RESULTS	5
2. TEST	METHODOLOGY	6
3. FACI	LITIES AND ACCREDITATION	6
4. CALI	BRATION AND UNCERTAINTY	7
4.1.	Measuring Instrument Calibration	7
4.2.	Measurement Uncertainty	
5. EQUI	PMENT UNDER TEST	8
5.1.	Description of EUT	8
5.2.	Test Mode	8
5.3.	EUT Accessory	8
5.4.	Support Units or Accessories for System Test	9
6. MEAS	SURING EQUIPMENT AND SOFTWARE USED	10
7. EMIS	SION TEST	11
7.1.	Radiated Disturbance Measurement	
7.1.1.		
7.1.2.		
7.1.3. 7.1.4.		
7.1.4. 7.1.5.		
7.1.5.		



Page 5 of 15

## 1. ATTESTATION OF TEST RESULTS

**Applicant Information** 

Company Name: NEW BRIGHT INDUSTRIAL CO., LTD

Address: 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD,

KOWLOON BAY, KOWLOON, HONG KONG.

**Manufacturer Information** 

Company Name: NEW BRIGHT INDUSTRIAL CO., LTD

Address: 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD,

KOWLOON BAY, KOWLOON, HONG KONG.

**EUT Information** 

EUT Name: TOY Receiver

Model: RF7MR

Brand:

Sample Status: Normal Sample ID: 2215351

Sample Received Date: April 12, 2019
Date of Tested: May 20, 2019

APPLICABLE STANDARDS				
STANDARDS TEST RESULTS				
FCC Part15, Subpart B ANSI C63.4-2014 ICES-003 Issue 6	PASS			

Prepared By:

Checked By:

Gary Zhang

**Engineer Project Associate** 

Sephenbus

Approved By:

Shawn Wen

**Laboratory Leader** 

Stephen Guo

Laboratory Manager



Page 6 of 15

## 2. TEST METHODOLOGY

All tests were performed in accordance with the standard FCC Part15 Subpart B & ICES-003 Issue 6 & ANSI C63.4-2014.

## 3. FACILITIES AND ACCREDITATION

	A2LA (Certificate No.: 4102.01)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with A2LA.
	FCC (FCC Recognized No.: CN1187)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	Has been recognized to perform compliance testing on equipment subject to
	the Commission's Declaration of Conformity (DoC) and Certification rules
	IC(Company No.: 21320)
Accreditation	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Certificate	has been registered and fully described in a report filed with
Continoato	Industry Canada. The Company Number is 21320.
	VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
	has been assessed and proved to be in compliance with VCCI, the
	Membership No. is 3793.
	Facility Name:
	Chamber D, the VCCI registration No. is G-20019 and R-20004
	,
	Shielding Room B, the VCCI registration No. is C-20012 and T-20011

Note: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

Page 7 of 15

## 4. CALIBRATION AND UNCERTAINTY

## 4.1. Measuring Instrument Calibration

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

# 4.2. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports	0.009MHz ~ 0.15MHz	2	4.00
Conducted emissions from the AC mains power ports	0.15MHz ~ 30MHz	2	3.62
Radiated emissions	30MHz ~ 1GHz	2	4.00
Radiated emissions	1GHz ~ 18GHz	2	5.78

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



Page 8 of 15

# 5. EQUIPMENT UNDER TEST

# 5.1. Description of EUT

EUT Name	TOY Receiver				
Model	RF7MR				
	Dower Adenter	Input	/		
Power Supply	Power Adapter	Output	/		
	Battery	7.5V			

## 5.2. Test Mode

Test Mode	Description
Mode 1	Running

# 5.3. EUT Accessory

Item	Accessory	Brand Name	Model Name	Description
1	Controller	NEW BRIGHT	G6DGF21HH1RR	/



Page 9 of 15

# 5.4. Support Units or Accessories for System Test

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
/	/	/	/	/	/

The following cables were used to form a representative test configuration during the tests.

Item	Type of cable	Shielded Type	Ferrite Core	Specification
/	/	/	/	/



Page 10 of 15

# 6. MEASURING EQUIPMENT AND SOFTWARE USED

Radiated Emissions							
Equipment	Manufacturer	Model I	No.	Serial No.	Last Cal.	Next Cal.	
MXE EMI Receiver	KESIGHT	N9038	3A	MY56400036	Dec. 10, 2018	Dec. 10, 2019	
Hybrid Log Periodic Antenna	TDK	HLP-30	03C	130960	Sept. 17, 2018	Sept. 17, 2021	
Preamplifier	HP	8447D		2944A09099	Dec. 10, 2018	Dec. 10, 2019	
Software							
Description				lanufacturer	Name	Version	
Test Software for Radiated Emissions				Farad	EZ-EMC	Ver. UL-3A1	



Page 11 of 15

# 7. EMISSION TEST

#### 7.1. Radiated Disturbance Measurement

#### 7.1.1. Limits of radiated disturbance measurement

#### Below 1 GHz

#### **Measurement Method and Applied Limits:**

#### ANSI C63.4:

Frequency		Class B	
(MHz)	Field strength (uV/m) (at 10m)	Field strength (dBuV/m) (at 3m)	Field strength (dBuV/m) (at 3m)
30 - 88	90	49.5	40
88 - 216	150	53.9	43.5
216 - 960	210	56.9	46
Above 960	300	60	54

#### Above 1 GHz

### **Measurement Method and Applied Limits:**

#### ANSI C63.4:

Frequency	Class A				Class B	
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
(MHz)	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

**Frequency Range of Radiated Disturbance Measurement** 

requested remainded a remainded a remainded in control						
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)					
Below 1.705	30					
1.705 - 108	1000					
108 - 500	2000					
500 - 1000	5000					
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower					

#### NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart B;
- (2) The tighter limit applies at the band edges;
- (3) Emission level (dBuV/m) = 20log Emission level (uV/m), 3m Emission level = 10m Emission level + 20log(10m/3m);

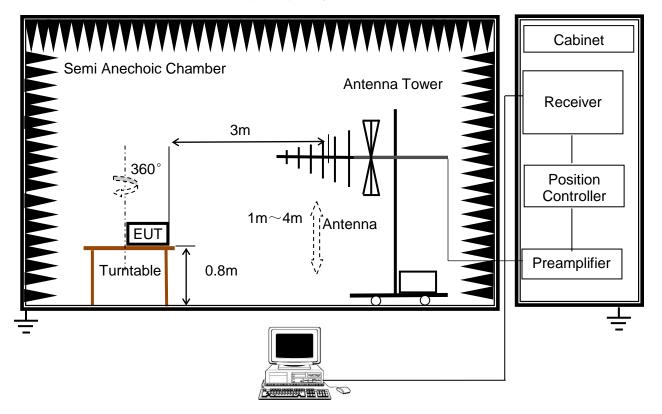


7.1.2. Test Procedure

- a. The measuring distance of at 3m shall be used for measurements at frequency up to 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the actual test configuration, please refer to the related Item:EUT Photographs of Test Configuration.

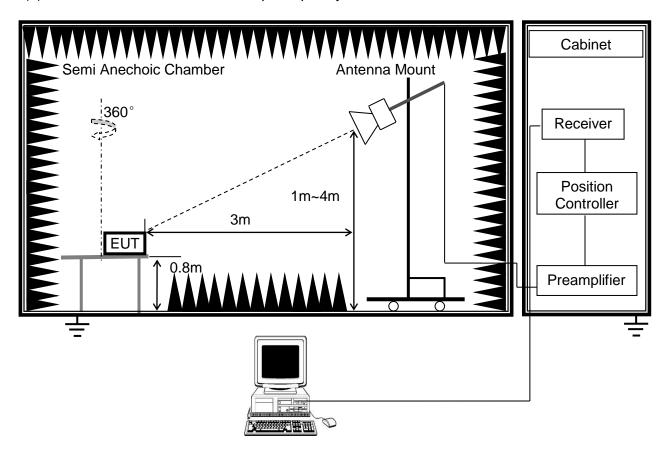
## 7.1.3. Test Setup

(a) Radiated Disturbance Test Set-Up Frequency 30MHz - 1GHz





(b) Radiated Disturbance Test Set-Up Frequency above 1GHz



For the actual test configuration, please refer to Appendix I: Photographs of Test Configuration.

#### 7.1.4. Test Environment

Radiated Dist	urbance - below 1 GHz	Radiated Disturbance - above 1 GHz		
Temperature:	20.5°C	Temperature:	N/A	
Humidity:	58%	Humidity:	N/A	
ATM pressure:	101kPa	ATM pressure:	N/A	

## 7.1.5. Test Mode

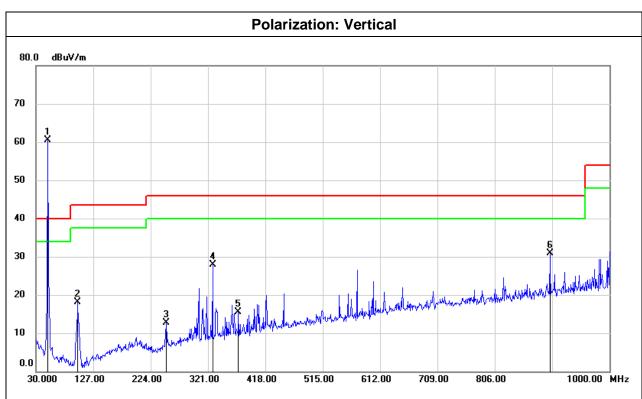
Radiated Dist	urbance - below 1 GHz	Radiated Disturbance - above 1 GHz		
Pre-test Mode: Mode 1		Pre-test Mode: N/A		
Final Test Mode:	Mode 1	Final Test Mode:	N/A	



REPORT NO.: 4788949778-3 Page 14 of 15

#### 7.1.6. Test Results - below 1GHz

Test Mode: Mode 1



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	49.4000	78.73	-18.31	60.42	40.00	20.42	peak
2	100.8100	39.94	-21.79	18.15	43.50	-25.35	QP
3	250.1900	28.80	-16.12	12.68	46.00	-33.32	QP
4	328.7600	41.57	-13.57	28.00	46.00	-18.00	QP
5	372.4100	28.24	-12.77	15.47	46.00	-30.53	QP
6	899.1200	34.97	-4.13	30.84	46.00	-15.16	QP

#### Remark:

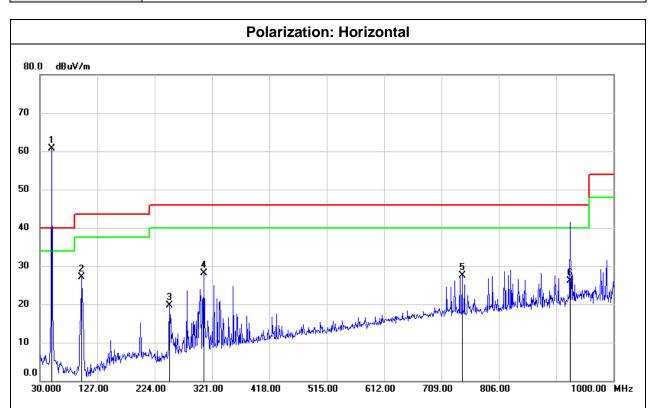
Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)

Margin = Result - Limit

Note, the 49.4MHz is TX frequency from the transmitter (remote control)  $\,$ 



Test Mode: Mode 1



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	49.4000	78.98	-18.31	60.67	40.00	20.67	peak
2	99.8399	48.90	-21.82	27.08	43.50	-16.42	QP
3	249.2200	35.89	-16.19	19.70	46.00	-26.30	QP
4	307.4200	41.93	-13.81	28.12	46.00	-17.88	QP
5	743.9200	33.62	-6.09	27.53	46.00	-18.47	QP
6	927.2500	29.72	-3.71	26.01	46.00	-19.99	QP

#### Remark:

Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)

Margin = Result - Limit

Note, the 49.4MHz is TX frequency from the transmitter (remote control)