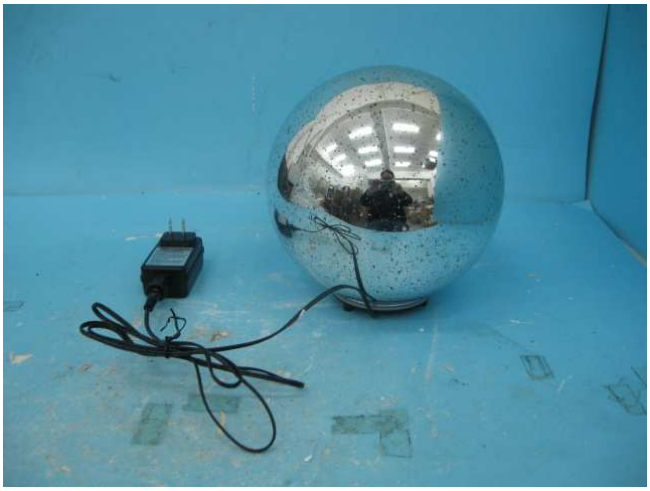
TEST REPORT No: (5217)009-0707(A)

RF EXPOSURE REPORT

To:	**MR. CHRISTMAS LIMITED**	To:	-
Attn:	Daniel Liao	Attn:	-
Address:	Suite 901, Railway Plaza, 39 Chatham Road South, TST, Kowloon, Hong Kong	Address:	-
Fax:	2369 0136	Fax:	-
E-mail:	dliao@mrchristmas.com	E-mail:	-
Folder No.:	MRC-16DE203MTHS-B		

Factory name:	--
Location:	--
Product:	Mercury Glass Wireless Sphere by Valerie Model No.: 11952



Sample No:	HK161216/003 HK170103/006 HK170106/004
Date of Receipt:	December 12, 2016
Test date:	January 17, 2017 to February 21, 2017
Requirement:	FCC Part 2 (section 2.1091)
Method:	KDB 447498 D01 IEEE C95.1
FCC ID:	SHV11952

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: Law Man kit
Date: March 10, 2017	Date: March 10, 2017

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Result Summary

RF EXPOSURE EVALUATION			
Requirement: FCC Part 2 (Section 2.1091)			
Required Item	Method	Result	
		Pass	Failed
RF EXPOSURE EVALUATION	KDB 447498 D01 IEEE C95.1	☒	☐

Report Revision & Sample Re-submit History:

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Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 – 2013. An Open Area Test Site and Full Anechoic Chamber 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.	CAL. DATE	CAL. DUE DATE
EMI TEST RECEIVER	R&S	ESCI	100379	23-FEB-2016	22-FEB-2017
SIGNAL ANALYZER 40GHZ	R&S	FSV 40	100977	16-AUG-2016	15-AUG-2017
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	27-FEB-2016	26-FEB-2018
OPEN AREA TEST SITE	BVCPS	N/A	N/A	18-JUN-2016	17-JUN-2017
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	11-MAY-2016	10-MAY-2017
BICONICAL ANTENNA	R&S	HK116	100179	14-APR-2016	13-APR-2018
LOG-PERIODIC DIPOLE ARRAY ANTENNA	R&S	HL223	832369/001	07-APR-2016	06-APR-2018
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	06-NOV-2015	05-NOV-2017
HORN ANTENNA (1-18GHZ)	SCHWARZBECK	BBHA9120D	9120D-692	05-NOV-2016	04-NOV-2018
HORN ANTENNA (7.5 – 18GHZ)	SCHWARZBECK	HWRD 750	00015	17-JUN-2016	16-JUN-2018
WIDEBAND HORN ANTENNA	STEATITE	QWH-SL-18-40-K-SG	12688	03-SEP-2015	02-SEP-2017
COAXIAL CABLE	SUHNER	N/A	N/A	07-JAN-2016	06-JAN-2017
COAXIAL CABLE	HUBER + SUHNER	RG214	N/A	04-OCT-2016	03-OCT-2017

Measurement Uncertainty

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	9kHz to 30MHz	4.2dB
	30MHz to 200MHz	4.5dB
	200MHZ to 1GHz	5.6dB
	1GHz to 18GHz	4.7dB
	18GHz to 40GHz	5.2dB
Maximum Peak Conducted Output Power	30MHz to 18GHz	2.0dB

Remarks:-

N/A : Not Applicable or Not Available
The measurement instrumentation uncertainty would be taking into consideration on each of the test result

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Equipment Under Test [EUT]
Description of Sample:

Model Name:	Mercury Glass Wireless Sphere by Valerie
Model Number:	11952
Rating:	120Va.c, 60Hz

Description of EUT Operation:

The Equipment Under Test (EUT) is a **MR. CHRISTMAS LTD.** of Remote Control Transceiver. It is a 1 button transceiver and operating at 2402MHz to 2480MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while received the corresponding signal, Modulation by IC, and type is GFSK.
There are total 79 channels and below is the frequency list :

2402	2403	2404	2405	2406	2407	2408	2409	2410	2411
2412	2413	1414	2415	2416	2417	2418	2419	2420	2421
2422	2423	2424	2425	2426	2427	2428	2429	2430	2431
2432	2433	2434	2435	2436	2437	2438	2439	2440	2441
2442	2443	2444	2445	2446	2447	2448	2449	2450	2451
2452	2453	2454	2455	2456	2457	2458	2459	2460	2461
2462	2463	2464	2465	2466	2467	2468	2469	2470	2471
2472	2473	2474	2475	2476	2477	2478	2479	2480	

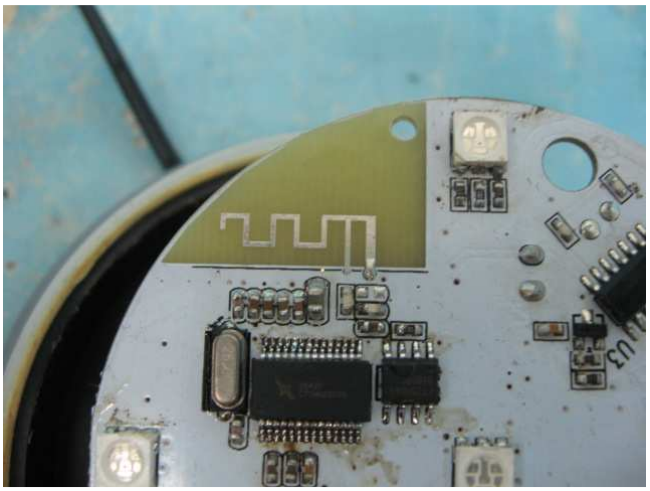
The transmitter has different control:

1. ON/OFF button – power control

Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is a PCB trace antanna. The antenna is not replaceable or user serviceable. The requirements of S15.203 are met. There are no deviations or exceptions to the specifications. Which gain is -0.68dBi.

Photo of Antenna



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Limits for Maximum Permissible Exposure (MPE):

Frequency Range [MHz]	Power Density [mW/cm^2]	Average Time [minutes]
300 – 1,500	F/1500	30
1,500 – 100,000	1.0	30

Calculation Formula:

$P_d = (P_{out} \times G) / (4 \times \pi \times r^2)$

Where:

P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

Calculation Result of Maximum Conducted Power:

Frequency Band (MHz)	Maximum Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2402-2480	0.072	-0.68	20	0.000012	1.0

*The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

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

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