Report No. : FE432831-01





TEST REPORT

FCC ID	: JNZPR0007
Equipment	: Charging Coin
Brand Name	: Logitech G, G
Model Name	: PR0007
Applicant	: LOGITECH FAR EAST LTD.
	No. 2 Creation Rd. 4, Science-Based Ind. Park Hsinchu
	Taiwan, R.O.C.
Standard	: 47 CFR FCC Rules and Regulations Part 18

The product was received on Mar. 29, 2024, and testing was started from Jun. 22, 2024 and completed on Jul. 04, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in FCC MP-5 - 1986 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: William Li

SPORTON INTERNATIONAL INC. Hsinhua Laboratory No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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Photographs of EUT v01





History of this test report

Report No.	Version	Description	Issued Date
FE432831-01	01	Initial issue of report	Sep. 27, 2024
FE432831-01	02	Remove "SDoC by:" on page 1 (This report is the latest version replacing for the report issued on Sep. 27, 2024)	Oct. 15, 2024



Summary of Test Result

Report Clause	Methods of Measurement Clause	Test Items	Result	Remark
4	18.307(b)	Conducted Emissions of Powerline	PASS	Under limit 14.15 dB at 475.794 kHz
		Radiated Emissions below 30MHz	PASS	Under limit 15.83 dB at 20.358 MHz
5.1	18.305(b)	Radiated Emissions below 1 GHz	PASS	Under limit 31.83 dB at 212 MHz
-	18.305(b)	Radiated Emissions above 1 GHz	Not Applicable	Note 1
Nata 4. The		the manufacture intermed for an and a second of	00 MIL	

Note 1: The test conditions apply only when the maximum internal frequency exceeds 100 MHz.

Conformity Assessment Condition:

The test results with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. Please refer to the evaluation results for each test item provided in Appendix A.

Disclaimer:

- 1. The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.
- 2. The test configuration, test mode, and test software presented in this report are as defined by the manufacturer.

Comments and explanations:

None

Reviewed by: Andrew Yang

Report Producer: Julie Tseng



1. General Description of Equipment under Test

1.1. Basic Description of Equipment under Test

Equipment	:	Charging Coin
Model No.	:	PR0007
Powered by	:	From Host system to Charging pad
Highest internal frequency	:	6.78 MHz

1.2. ISM operating frequencies

ISM frequency	Tolerance
6.78 MHz	±15.0 kHz
13.56 MHz	±7.0 kHz
27.12 MHz	±163.0 kHz
40.68 MHz	±20.0 kHz
915 MHz	±13.0 MHz
2,450 MHz	±50.0 MHz
5,800 MHz	±75.0 MHz
24,125 MHz	±125.0 MHz
61.25 GHz	±250.0 MHz
122.50 GHz	±500.0 MHz
245.00 GHz	±1.0 GHz

1.3. Feature of Equipment under Test

For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

1.4. Modification of EUT

No modifications were made to the EUT.





2. Test Configuration of Equipment under Test

2.1. Details of EUT Test Modes

Main Test Model	PR0007		
 The test modes are as follows, and the corresponding data are presented in this report. "X" indicates that the function is activated. 			
Conducted Emission			
Description / Test Mode 1			
5V/500mA	Х		
Power: from Host system to Charging pad	Х		

Radiated Emissions < 9 kHz to 30 MHz>			
Description / Test Mode	1		
5V/500mA	X		
Power: from Host system to Charging pad	X		

Radiated Emissions < 30 MHz to 1 GHz>			
Test Mode	Description		
5V/500mA	Х		
Power: from Host system to Charging pad	Х		

2.2. Description of Test System

Conducted emission and radiated emission

No.	Peripheral	Manufacturer	Model Number	FCC ID	Remarks
For	Local				
А	Laptop	DELL	Latitude 5410	DoC	Provided by client
В	Printer	EPSON	C61	N/A	-
С	Portable SSD	Transcend	TS240GESD240C	DoC	-
D	USB Dongle+Mouse	Logitech G	MR0097	DoC	Provided by client
Е	Charging Pad	Logitech G	PR0006	N/A	Provided by client



2.3. Connection Diagram of Test System









2.4. Conditions for Exercising the EUT Test Setup

- The laptop provided by the client, equipped with the Windows 11 Pro operating system, serves as a peripheral device.
- Run the 'BurnInTest' program on the laptop to activate the functions of the connected peripheral devices and display an 'H' character pattern on the screen.
- The mouse was placed on the EUT for charging.
- Run the 'Logitech G Hub' program on the laptop to display the mouse's charging status.



3. General Information of Test

3.1. Test Facilities

Tes	Test Lab : Sporton International Inc. Hsinhua Laboratory						
ADD : No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwa					333411, Taiwan	(R.O.C.)	
\boxtimes	\boxtimes	TEL : 886-3-327-3456			FAX : 886-3-327-0973		
	Hsinhua	FCC Designa	ation Number:	TW1129			
	(TAF: 3785)	ADD : No.3,	ADD : No.3, Ln. 238, Kangle St., Neihu Dist., Taipei City 114040, Taiwan (R.O.C.)				R.O.C.)
		TEL: 886-2-	2631-5551		FAX : 886-2-26	631-9740	
		FCC Designation Number: TW1133					
			Test	Test Environment			
		Toot Site	Teet	Test Env	ironment		
	Test Items	Test Site No.	Test Engineer	Test Env temp °C	ironment humidity %	Test Date	Remark
Powe	Test Items	Test Site No. CO04-HY	Test Engineer Shuyu Li	Test Env temp °C 23.8~24.2	ironment humidity % 43~45	Test Date 04/Jul/2024	Remark -
Powe Emis Radia (belo	Test Items erline Conducted sions ated Emissions w 30MHz)	Test Site No.CO04-HY10CH02-HY	Test Engineer Shuyu Li Nicky Chen	Test Env *C 23.8~24.2 27~27.5	ironment humidity % 43~45 61~62	Test Date 04/Jul/2024 25/Jun/2024	Remark -

3.2. Test Standards

Test items	Test Standards and Test Procedures
Radiated and Conducted Emissions	FCC MP-5 - 1986 with FCC Method 47 CFR Part 18

3.3. Test Voltage/Frequencies

Input, mains	Voltage/Frequencies
DC	5V

3.4. Test Distance and Frequency Range Investigated

Test Items	Frequency Range	Remark
Powerline Conducted Emissions	150 kHz to 30 MHz	-
Radiated Emissions (below 30 MHz)	9 kHz to 30 MHz	Measurement distance is 10 m.
Radiated Emissions (below 1 GHz)	30 MHz to 1,000 MHz	Measurement distance is 10 m.

3.5. Operating Condition

Full System



4. Conducted Emissions Measurement

4.1. Limit

Limits for All other part 18 consumer devices								
Frequency range MHz	Coupling device	Detector type / bandwidth	limits dB(µV)					
0,15 – 0,5			66 - 56					
0,5 – 5	LISN	Quasi-peak / 9 kHz	56					
5 – 30			60					
0,15 – 0,5			56 - 46					
0,5 – 5	LISN	Average / 9 kHz	46					
5 – 30			50					
Note 1. The limit degrades	linearly with the legerithm	f the frequency in the range						

Note 1: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

4.2. Test Procedures

- a). The EUT was warmed up for 15 minutes before testing started.
- b). The EUT was placed on a desk 0.8 meter height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meter from any other grounded conducting surface.
- c). Connect EUT to the power mains through a line impedance stabilization network (LISN).
- d). All the support units are connect to the other LISN.
- e). The LISN provides 50 ohm, coupling impedance for the measuring instrument.
- f). The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- g). Both sides of AC line were checked for maximum conducted interference.
- h). The frequency range from 150 kHz to 30 MHz was searched.
- i). Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- j). All emissions not reported here are more than 10 dB below the prescribed limit.

4.3. Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading (dB μ V) = Raw(Read Level)+(LISN Factor) + CL(Cable Loss) +AT(Attenuator) For example at 0.3 MHz if the LISN Factor is 10.48 dB, the cable loss is 0.10 dB, the measured voltage is 36.39 dB μ V, attenuation 10dB, the signal strength would be calculated: Corrected Reading (dB μ V) = 36.39 dB μ V+10.48 dB + 0.10 dB + 10 dB = 56.97 dB μ V



4.4. Typical Test Setup Layout









- a). LISN is 80 cm from the EUT and at least 80 cm from other units and other metal planes.
- b). EUT is connected to one artificial mains network (LISN).
- c). All other units of a system are powered from a second LISN. A multiple outlet strip can be used for multiple mains cords.
- d). Rear of EUT to be flushed with rear of table top.
- e). Peripherals shall be placed at a distance of 10 cm from each other and from the controller, except for the monitor which, if this is an acceptable installation practice, shall be placed directly on the top of the controller.
- f). If cables, which hang closer than 40 cm to the horizontal metal ground plane, cannot be shortened to appropriate length, the excess shall be folded back and forth forming a bundle 30 cm to 40 cm long.
- g). Mains cords and signal cables shall be positioned for their entire lengths, as far as possible, at 40 cm from the vertical reference plane.
- h). Cables of hand operated devices, such as keyboards, mice, etc. shall be placed as for normal usage.

4.5. Test Result

Refer to Appendix B



5. Radiated Emissions Measurement

5.1. Frequency range of measurements

(a) For field strength measurements:

Frequency band in which device operates	Range of frequency measurements				
(MHz)	Lowest frequency	Highest frequency			
Below 1.705	Lowest frequency generated in the device, but not lower than 9 kHz	30 MHz.			
1.705 to 30	Lowest frequency generated in the device, but not lower than 9 kHz	400 MHz.			
30 to 500	Lowest frequency generated in the device or 25 MHz, whichever is lower	Tenth harmonic or 1,000 MHz, whichever is higher.			
500 to 1,000	Lowest frequency generated in the device or 100 MHz, whichever is lower	Tenth harmonic.			
Above 1,000	do	Tenth harmonic or highest detectable emission.			

(b) For conducted powerline measurements, the frequency range over which the limits are specified will be scanned.



5.2. Radiated Emission below 1 GHz

5.2.1.Limit

Equipment	Operating frequency	Detector type / Bandwidth (Average)	RF Power generated by equipment (watts)	Field strength limit (uV/m) (Distance at 300 m)	Field strength limit dB(μV/m) (Distance at 3m/10m)
Any type unless otherwise specified	Any non-ISM frequency	Below 150 kHz 200Hz	Below 500	15	63.52/53.06
(miscellaneous)		150 kHz~30 MHz 9 kHz 30~1000 MHz 100 kHz	500 or more	15 × SQRT (power/500)	63.52/53.06 × SQRT
Note 1: $dB(\mu V/m) = 2$ Note 2: It should be	20log(0.000015 \ noted that the f	//m) + 120 = 23.52 ield strength is inve	dB(µV/m) ersely proportional t	o distance, so the	e field strength at

300m is 1/100 the strength at 3m, i.e. L300m/Lx = X/300.

Ex. L300m dB-Lx dB = 20log(300/x); L3m dB = 23.52 + 20log (300/3) = 63.52 dB(µV/m)

Ex. L300m dB-Lx dB = 20log(300/x); L10m dB = 23.52 + 20log (300/10) = 53.06 dB(µV/m)

Equipment	Operating frequency	Detector type / Bandwidth (Average)	RF Power generated by equipment (watts)	Field strength limit (uV/m) (Distance at 300 m)	Field strength limit dB(μV/m) (Distance at 3m/10m)
Any type unless otherwise specified	Any ISM frequency	Below 150 kHz 200Hz	Below 500	25	67.96/57.5
(miscellaneous)		150 kHz~30 MHz 9 kHz 30~1000 MHz 100 kHz	500 or more	25 × SQRT (power/500)	67.96/57.5 × SQRT

Note 1: dB(µV/m) = 20log(0.000025 V/m) + 120 = 27.96 dB(µV/m)

Note 2: It should be noted that the field strength is inversely proportional to distance, so the field strength at 300m is 1/30 the strength at 10m, i.e. L300m/Lx = X/300.

Ex. L300m dB-Lx dB = $20\log(300/x)$; L03m dB = $27.96 + 20\log(300/03) = 67.96 \text{ dB}(\mu\text{V/m})$

Ex. L300m dB-Lx dB = $20\log(300/x)$; L10m dB = $27.96 + 20\log(300/10) = 57.5 dB(\mu V/m)$



5.2.2. Test Procedures

- a). The EUT was placed on a rotatable table top 0.8 meter above ground.
- b). The EUT was set 3 meters or 10 meters from the interference-receiving antenna (Loop) / (Bi-log) which was mounted on the top of a variable height antenna tower.
- c). The table was rotated 360 degrees to determine the position of the highest radiation.
- d). For a loop antenna. The antenna height shall be set at around 2 meters. Care should be taken to assure that readings are no taken in nulls.
- e). The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- f). For each suspected emission the EUT was arranged to its worst case and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- g). Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- h). If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the Average method and reported.

5.2.3. Measurement Results Calculation

Below 30MHz

The measured Level is calculated using:

Corrected Reading $(dB_{\mu}V/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss)$

For example at 13 MHz if the Antenna Factor is 22 dB/m, the cable loss is 1.28 dB, the measured voltage is 10 dB μ V the signal strength would be calculated:

Corrected Reading $(dB\mu V/m) = 10 dB\mu V + 22 dB/m + 1.28 dB = 33 dB\mu V/m$

Below 1 GHz

The measured Level is calculated using:

Corrected Reading (dB μ V/m) = Raw(Read Level)+AF(Antenna Factor)+CL(Cable Loss)–PA(Preamp Factor) For example at 125 MHz if the Antenna Factor is 17.24 dB/m, the cable loss is 1.20 dB, the measured voltage is 35.80 dB μ V and the Preamp Factor is 27.18 dB, the signal strength would be calculated: Corrected Reading (dB μ V/m) = 35.80 dB μ V + 17.24 dB/m + 1.20 dB - 27.18 dB = 27.06 dB μ V/m Note: If a hybrid antenna is used, the antenna factor shall be the sum of the Antenna Factor + Attenuator Factor.



5.2.4. Typical Test Setup Layout



5.2.5. Test Result

Refer to Appendix C



6. List of Measuring Equipment Used

Conducted Emission - Test Date: 04/Jul/2024

Instrument	Manufacturer/ Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025	Conduction (CO04-HY)
LISN	SCHWARZBECK	NSLK 8127	8127477	9kHz ~ 30MHz	12/Apr/2024	11/Apr/2025	Conduction (CO04-HY)
LISN (Support Unit)	SCHAFFNER	NNB 41	06/10024	9kHz ~ 30MHz	11/Mar/2024	10/Mar/2025	Conduction (CO04-HY)
RF Cable 5m	TITAN	RG142	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025	Conduction (CO04-HY)
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024	Conduction (CO04-HY)
Software	Sporton	SENSE-EMI	V5.11	-	NCR	NCR	Conduction (CO04-HY)

NCR: No Calibration Required

Radiated Emission below 30MHz - Test Date: 25/Jun/2024

Instrument	Manufacturer/ Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Receiver	R&S	ESU26	100422	20Hz ~ 26.5GHz	30/Oct/2023	29/Oct/2024	Radiation (10CH02-HY)
Turn Table	EM Electronics	EM 1000	60546	0 -360 degree	NCR	NCR	Radiation (10CH02-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	19/Mar/2024	18/Mar/2025	Radiation (10CH02-HY)
RF Cable-R10m	HUBER+SUHNER	RG223/U + RG8/U	CB026-B30M	9 kHz ~ 30MHz	30/Aug/2023	29/Aug/2024	Radiation (10CH02-HY)
Software	Sporton	SENSE-NFC	V5.11	-	NCR	NCR	Radiation (10CH02-HY)

NCR: No Calibration Required



Instrument	Manufacturer/ Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
10m Semi Anechoic Chamber	TDK	SAC-10M	10CH02-HY	30 MHz ~ 1 GHz 10m,3m	02/Sep/2023	01/Sep/2024	Radiation (10CH02-HY)
Amplifier	AGILENT	8447D	2944A10828	100 kHz ~ 1.3 GHz	02/Jan/2024	01/Jan/2025	Radiation (10CH02-HY)
Amplifier	AGILENT	8447D	2944A10827	100 kHz ~ 1.3 GHz	02/Jan/2024	01/Jan/2025	Radiation (10CH02-HY)
Receiver	R&S	ESU26	100422	20Hz ~ 26.5GHz	30/Oct/2023	29/Oct/2024	Radiation (10CH02-HY)
Spectrum Analyzer	R&S	FSP30	100793	9 kHz ~ 30GHz	18/Jun/2024	17/Jun/2025	Radiation (10CH02-HY)
Biconical Antenna & 3dB Attenuator	Schwarzbeck	BBA 9106 (VHBB 9124) / EM-ATT3000-3- NN	287	30 MHz ~ 200 MHz	18/Nov/2023	17/Nov/2024	Radiation (10CH02-HY)
Log-Periodic Antenna & 3dB Attenuator	Schwarzbeck	VUSLP 9111 / EM-ATT3000-3- NN	207	200 MHz ~ 1 GHz	18/Nov/2023	17/Nov/2024	Radiation (10CH02-HY)
Turn Table	EM Electronics	EM 1000	60546	0 -360 degree	NCR	NCR	Radiation (10CH02-HY)
Antenna Mast	HD	MA240	240/664	1 m - 4 m	NCR	NCR	Radiation (10CH02-HY)
Antenna Mast	MF	MFA-515BSN	1308569	1 m - 4 m	NCR	NCR	Radiation (10CH02-HY)
RF Cable-R10m	Jye Bao	RG142	CB027-INSIDE	30 MHz ~ 1 GHz	30/Aug/2023	29/Aug/2024	Radiation (10CH02-HY)
RF Cable-R10m	MTJ	RG223/U + RG8/U	CB026-DOOR	30 MHz ~ 1 GHz	30/Aug/2023	29/Aug/2024	Radiation (10CH02-HY)
Software	Sporton	SENSE-EMI	V5.11	-	NCR	NCR	Radiation (10CH02-HY)

Radiated Emission below 1 GHz - Test Date: 22/Jun/2024

NCR: No Calibration Required



Uncertainty of Test Site

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2).

Measurement Uncertainty

Test Items	Test Site No.	ULAB
Conducted Emissions	CO04-HY	3.34 dB
Radiated Emissions below 30 MHz	10CH02-HY	3.04 dB
Radiated Emissions below 1 GHz	10CH02-HY	5.48 dB



Conducted Emissions at Powerline

Summary										
Mode	Туре	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition			
		()		(***)	V: 7	1.1				
Mode 1	AV	475.794k	32.27	46.42	-14.15	9.93	Line			





Note: Frequencies marked with 'MASK' in the data indicate that there are no limits applied by the ITU to these intentional transmissions for the fundamental ISM frequencies (6.78 MHz, 13.56 MHz, 27.12 MHz).





Note: Frequencies marked with 'MASK' in the data indicate that there are no limits applied by the ITU to these intentional transmissions for the fundamental ISM frequencies (6.78 MHz, 13.56 MHz, 27.12 MHz).



Summary									
Mode	Туре	Freq	Level	Limit	Margin	Factor	Condition	Azimuth	Height
		(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)		(°)	(m)
Mode 1	PK	20.358M	41.67	57.50	-15.83	24.23	Vertical	-	-









Note: Frequencies marked with 'MASK' in the data indicate that there are no limits applied by the ITU to these intentional transmissions for the fundamental ISM frequencies (6.78 MHz, 13.56 MHz).









Note: Frequencies marked with 'MASK' in the data indicate that there are no limits applied by the ITU to these intentional transmissions for the fundamental ISM frequencies (6.78 MHz, 13.56 MHz).



Summary									
Mode	Туре	Freq	Level	Limit	Margin	Factor	Condition	Azimuth	Height
		(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)		(°)	(m)
Mode 1	PK	212M	25.67	57.50	-31.83	-6.51	Vertical	114	1.00







