

FCC Test Report

Report No.: AGC10358200602FE02

FCC ID	© 	2AW3GTM-004
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Mouse
BRAND NAME	:	N/A
MODEL NAME	•	TM-004, TM-217, TM-218, TM-219, TM-220, TM-221, TM-222, TM-223, TM-224, TM-225, TM-226, TM-227, TM-228, TM-229, TM-230, TM-505, TM-1000, TM-1500, TM-3000, TM-5100, TM-5500, TM-7400, TM-8100, TM-8900B, GM-W-680
APPLICANT	:	Shenzhen Torich Electronic Technology Co., Ltd
DATE OF ISSUE	:	Aug. 27, 2020
STANDARD(S)	:	FCC Part 15.247
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0		Aug. 27, 2020	Valid	Initial Release

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1. VERIFICATION OF COMPLIANCE

Road, No.231, Road, No.231,			
Road, No.231,			
4/5F, Unit B2, Fenghuang Gang 3Rd Industiral Area, Baotian 1st Road, No.231, Bao'An District, Shenzhen			
0			
- G			
I-224, TM-225 M-1500, I-W-680			
5			
- 6			
Ν			

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Prepared By

John Zerry

John Zeng (Project Engineer)

Aug. 26, 2020

Max Zhang

Reviewed By

Max Zhang (Reviewer)

Aug. 27, 2020

Approved By

owa

Forrest Lei (Authorized Officer)

Aug. 27, 2020

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as a "Mouse". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.40365GHz to 2.47965GHz				
RF Output Power	-6.401dBm (Max)				
Modulation	GFSK				
Number of channels	16 Channel				
Antenna Designation	PCB Antenna (Comply with requirements of the FCC part 15.203)				
Antenna Gain	0dBi				
Hardware Version	V7.0				
Software Version	V7.0				
Power Supply	DC 1.5V				

2.2. TABLE OF CARRIER FREQUENCYS

Channel Number	Frequency(MHz)	Channel Number	Frequency(MHz) 2414.65	
1	2403.65	9		
2	2426.65	10	2436.65	
3	2441.65	11	2459.65	
4	2463.65	12	2473.65	
5	2407.65	13	2419.65	
6	2422.65	14	2439.65	
7	2445.65	15	2453.65	
8	2466.65	16	2479.65	

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2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID:** 2AW3GTM-004 filing to comply with the FCC Part 15.247 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

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3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y $\pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission, Uc = ±3.1 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±4.0dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of total RF power, conducted, $Uc = \pm 0.8 dB$
- Uncertainty of RF power density, conducted, Uc = ±2.6 dB
- Uncertainty of spurious emissions, conducted, $Uc = \pm 2.7 dB$
- Uncertainty of Occupied Channel Bandwidth: $Uc = \pm 2 \%$

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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
	Low channel TX(2403.65MHz)
2	Middle channel TX(2441.65MHz)
3	High channel TX(2479.65MHz)

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.
- 4. Set the EUT into the individual test modes by pressing the EUT buttons.
- 5. For battery operated equipment, the equipment tests are performed using a new battery.

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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF TESTED SYSTEM

Radiated Emission Configure:

EUT

5.2. EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment Model No.		ID or Specification	Remark
1	Mouse	TM-004	2AW3GTM-004	EUT

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(3)	Peak Output Power	Compliant
15.247 (a)(2)	7 (a)(2) 6 dB Bandwidth	
15.247 (d)	Conducted Spurious Emission	Compliant
15.247 (e) Maximum Conducted Output Power Density		Compliant
15.209	Radiated Emission	Compliant
15.207	Conducted Emission	N/A

Note: The conducted emission tests at AC port are not required for devices which only employ battery power for operation.

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6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd			
Location	I-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China			
Designation Number	CN1259			
FCC Test Firm Registration Number	975832			
A2LA Cert. No.	5054.02			
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA			

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2020	May 14, 2022
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 12, 2019	Dec. 11, 2020
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	ZHINAN	E-002	N/A	Aug. 26, 2019	Aug. 25, 2020
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 09, 2019	Sep. 08, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May 17, 2019	May 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Oct. 15, 2019	Oct. 16, 2020
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 09, 2019	Jan. 08, 2021
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A

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7. PEAK OUTPUT POWER

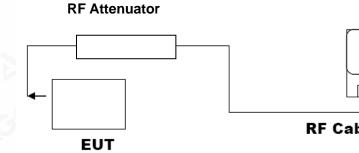
7.1. MEASUREMENT PROCEDURE

For peak power test:

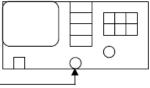
- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. RBW≥DTS bandwidth
- 3. VBW≥3*RBW.
- 4. SPAN≥VBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) PEAK POWER TEST SETUP



Spectrum Analyzer



RF Cable

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7.3. LIMITS AND MEASUREMENT RESULT

	PEAK OUTPUT POWER MEASUREMENT RESULT						
	FOR GFSK MOUDULA	TION					
Frequency (GHz)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail				
2.40365	-6.401	30	Pass				
2.44165	-7.124	30	Pass				
2.47965	-7.778	30	Pass				

CH0

Keysight Spectrum Analyzer - Swept				
⊈ ⊾ RF 50 Ω Marker 1 2.403026000	000 GHz PNO: Fast Trig: Free			Peak Search
0 dB/div Ref 10.00 dB	IFGain:Low Atten: 20		1 2.403 026 GHz -6.401 dBm	Next Pea
0.00	1			Next Pk Righ
20.0 10.0				Next Pk Le
30.0				Marker Delt
50.0				Mkr→C
70.0				Mkr→RefL
80.0 Center 2.403650 GHz			Span 6.000 MHz	Mor 1 of
Res BW 2.0 MHz	#VBW 6.0 MHz	Sweep	1.000 ms (1001 pts)	

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CH19



CH39

🚺 Keysight Spectrum Analyzer - Swept SA					
K L RF 50 Ω AC Marker 1 2.47897800000		SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr	11:15:22 PM Aug 26, 2020 TRACE 1 2 3 4 5 6	Peak Search
Marker 1 2.47897800000	PNO: Fast 😱	Trig: Free Run	Avg Hold:>100/100		
	IFGain:Low	Atten: 20 dB			Next Peak
			Mkr1	2.478 978 GHz	Nextreak
10 dB/div Ref 10.00 dBm				-7.778 dBm	
0.00					Next Pk Right
	_ 1				
-10.0					
					Next Pk Left
-20.0					Next I K Len
-30.0					
					Marker Delta
-40.0					
-50.0					Mkr→CF
-60.0					
-70.0					Mkr→RefLvl
-80.0					
					More
Center 2.479650 GHz				Span 6.000 MHz	1 of 2
#Res BW 2.0 MHz	#VBW (6.0 MHz	Sweep 1	.000 ms (1001 pts)	
MSG			STATUS		

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8.6 DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 kHz, VBW≥3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

8.3. LIMITS AND MEASUREMENT RESULTS

LIMITS AND MEASUREMENT RESULT						
Annliaghla Limita		Applicable Limits				
Applicable Limits	Test Data	(kHz)	Criteria			
>500KHZ	Low Channel	1689	PASS			
	Middle Channel	1773	PASS			
	High Channel	1819	PASS			



TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT						
	Measurement Result					
Applicable Limits	Test Data	Criteria				
In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.	At least -20dBc than the reference level	PASS				

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TEST RESULT FOR ENTIRE FREQUENCY RANGE GFSK MODULATION IN LOW CHANNEL

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GFSK MODULATION IN MIDDLE CHANNEL

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GFSK MODULATION IN HIGH CHANNEL

Note: The peak emissions without marker on the above plots are fundamental wave and need not to compare with the limit.

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TEST RESULT FOR BAND EDGE GFSK MODULATION IN LOW CHANNEL

GFSK MODULATION IN HIGH CHANNEL



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10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

10.1. MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set the SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 10.2 was used in this testing.

10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer to Section 7.2.

10.3. MEASUREMENT EQUIPMENT USED

Refer to Section 6.

10.4. LIMITS AND MEASUREMENT RESULT

Channel No.	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-19.570	8	Pass
Middle Channel	-20.353	8	Pass
High Channel	-21.348	8	Pass

TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



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TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

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11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

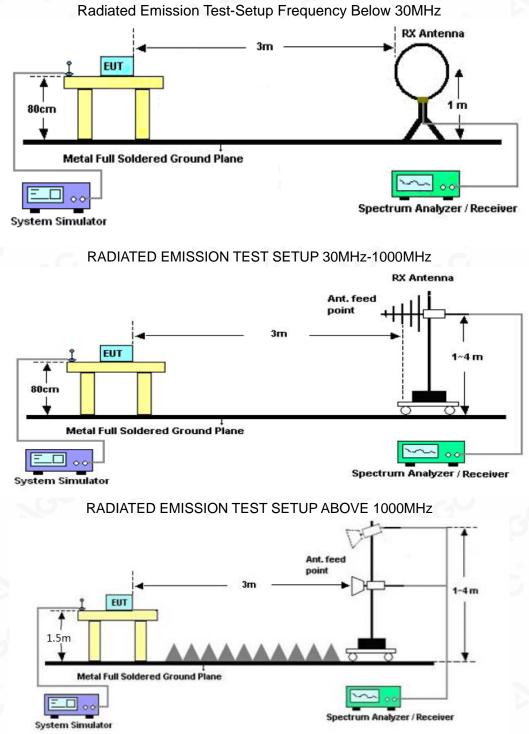
- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8. If the emissions level of the EUT in peak mode was 3 dB lower than the average 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 quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

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11.2. TEST SETUP



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11.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

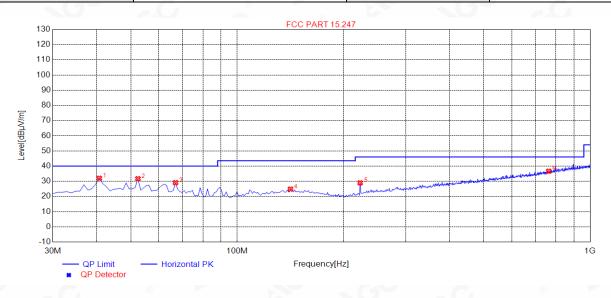
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EUT	Mouse	Model Name	TM-004			
Temperature	25° C	Relative Humidity	55.4%			
Pressure	960hPa	Test Voltage	Normal Voltage			
Test Mode	Mode 1	Antenna	Horizontal			

RADIATED EMISSION BELOW 1GHZ



NO.	Freq. [MHz]	Level [dBµV/ m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.6700	31.98	17.91	40.00	8.02	200	262	Horizontal
2	52.3100	31.68	17.49	40.00	8.32	100	227	Horizontal
3	66.8600	29.07	15.76	40.00	10.93	100	166	Horizontal
4	141.5500	24.84	17.88	43.50	18.66	100	21	Horizontal
5	223.0300	28.95	16.51	46.00	17.05	200	1	Horizontal
6	763.3200	36.63	30.53	46.00	9.37	100	322	Horizontal

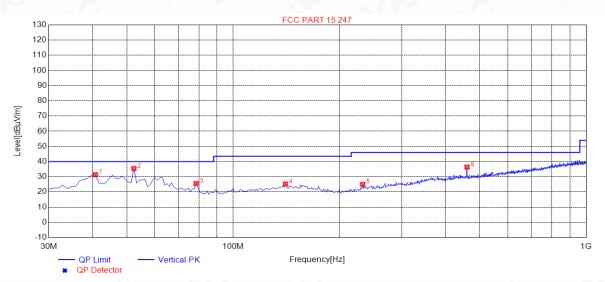
RESULT: PASS

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.6700	31.38	17.91	40.00	8.62	100	132	Vertical
2	52.3100	35.46	17.49	40.00	4.54	100	275	Vertical
3	78.5000	25.58	13.46	40.00	14.42	100	357	Vertical
4	140.5800	25.24	17.88	43.50	18.26	100	185	Vertical
5	232.7300	24.98	17.25	46.00	21.02	100	105	Vertical
6	459.7100	36.37	24.18	46.00	9.63	100	354	Vertical

RESULT: PASS

Note:

1. Factor=Antenna Factor + Cable loss, Margin=Limit.-Level.

2. All test modes had been tested. The mode 1 is the worst case and recorded in the report.

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RADIATED EMISSION ABOVE 1GHZ

EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
45.26	0.08	45.34	74	-28.66	peak
34.18	0.08	34.26	54	-19.74	AVG
40.19	2.21	42.4	74	-31.6	peak
31.22	2.21	33.43	54	-20.57	AVG
8			- C.	8	
					8
0 - 0		0			a.G
nna Factor + Cabl	e Loss – Pre-	amplifier.			
	(dBµV) 45.26 34.18 40.19 31.22	(dBµV) (dB) 45.26 0.08 34.18 0.08 40.19 2.21 31.22 2.21	(dBµV) (dB) (dBµV/m) 45.26 0.08 45.34 34.18 0.08 34.26 40.19 2.21 42.4	(dBµV) (dB) (dBµV/m) (dBµV/m) 45.26 0.08 45.34 74 34.18 0.08 34.26 54 40.19 2.21 42.4 74 31.22 2.21 33.43 54	(dBµV) (dB) (dBµV/m) (dBµV/m) (dB) 45.26 0.08 45.34 74 -28.66 34.18 0.08 34.26 54 -19.74 40.19 2.21 42.4 74 -31.6 31.22 2.21 33.43 54 -20.57

EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4807.300	44.61	0.08	44.69	74	-29.31	peak
4807.300	34.27	0.08	34.35	54	-19.65	AVG
7210.950	39.52	2.21	41.73	74	-32.27	peak
7210.950	30.19	2.21	32.4	54	-21.6	AVG
		60	©			6
mark:			L C	8		

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Meter Reading	Factor	Emission	Limite	Margin	
					Value Type
(dBµV)	(dB)	(aBhA/W)	(αθμν/m)	(dB)	
45.91	0.14	46.05	74	-27.95	peak
35.26	0.14	35.4	54	-18.6	AVG
40.15	2.36	42.51	74	-31.49	peak
31.43	2.36	33.79	54	-20.21	AVG
			(C)		
8			C.		
	8			C.	8
na Factor + Cable	Loss – Pre-	amplifier.			- 6
	35.26 40.15 31.43	(dBµV) (dB) 45.91 0.14 35.26 0.14 40.15 2.36 31.43 2.36	(dBµV) (dB) (dBµV/m) 45.91 0.14 46.05 35.26 0.14 35.4 40.15 2.36 42.51	(dBµV) (dB) (dBµV/m) (dBµV/m) 45.91 0.14 46.05 74 35.26 0.14 35.4 54 40.15 2.36 42.51 74 31.43 2.36 33.79 54	(dBµV) (dB) (dBµV/m) (dBµV/m) (dB) 45.91 0.14 46.05 74 -27.95 35.26 0.14 35.4 54 -18.6 40.15 2.36 42.51 74 -31.49 31.43 2.36 33.79 54 -20.21

EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4883.300	46.18	0.14	46.32	74	-27.68	peak
4883.300	37.23	0.14	37.37	54 💿	-16.63	AVG
7324.950	41.09	2.36	43.45	74	-30.55	peak
7324.950	32.61	2.36	34.97	54	-19.03	AVG
		-6-				6

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz) 💿	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4959.300	45.19	0.22	45.41	74	-28.59	peak
4959.300	35.23	0.22	35.45	54	-18.55	AVG
7438.950	39.47	2.64	42.11	74	-31.89	peak
7438.950	30.06	2.64	32.7	54	-21.3	AVG
C	8			6	®	
						8
emark:			6			- 6
actor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.			

EUT **Model Name** TM-004 Mouse Temperature 25° C **Relative Humidity** 55.4% Pressure 960hPa **Test Voltage** Normal Voltage **Test Mode** Mode 3 Antenna Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4959.300	43.57	0.22	43.79	74 💿	-30.21	peak
4959.300	34.26	0.22	34.48	54	-19.52	AVG
7438.950	39.14	2.64	41.78	74	-32.22	peak
7438.950	29.52	2.64	32.16	54	-21.84	AVG
			CO		0	
emark:						

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: PASS

Note:

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit. The "Factor" value can be calculated automatically by software of measurement system.

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

TEST RESULT FOR RESTRICTED BANDS REQUIREMENTS

PK



AV



RESULT: PASS

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical
		DIZ	







RESULT: PASS

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal
		DI	





RESULT: PASS

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EUT	Mouse	Model Name	TM-004
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

PK ALIGN AUTO Avg Type: Log-Pw Avg|Hold:>100/100 Peak Sear 478975000000 GH Trig: Free Run Atten: 10 dB NextPe Ref 106.99 dBµV/m Next Pk Rig _{()}² Next Pk Le Marker Del 2.47500 GHz BW 1.0 MHz p 2.50000 GHz) ms (1001 pts) #VBW 3.0 MHz Mkr→C Sweep 2.478 975 GHz 86.109 dBµV/m 2.483 500 GHz 61.788 dBµV/m Mkr→RefL Mor 1 of





RESULT: PASS Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.

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