

FCC Test Report

Report No.: AGC07814220402FE03

FCC ID : 2AZCSSL-00003

APPLICATION PURPOSE: Original Equipment

PRODUCT DESIGNATION: Remote control car

BRAND NAME : N/A

MODEL NAME : Please see the page 6.

CLIENT: GUANGDONG HAOYUAN STEM TOYS CO.,LTD.

DATE OF ISSUE : Apr. 13, 2022

STANDARD(S)

TEST PROCEDURE(S)

: FCC Part 15 Rules

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	/	Apr. 13, 2022	Valid	Initial Release



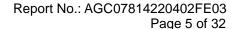
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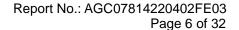
1. VERIFICATION OF CONFORMITY

Applicant	GUANGDONG HAOYUAN STEM TOYS CO.,LTD.	
Address	MIDDLE SECTION OF FU'AN ROAD, CHENGHAI DISTRICT, SHANTOU CITY,	
Address	GUANGDONG, CHINA	
Manufacturer	GUANGDONG HAOYUAN STEM TOYS CO.,LTD.	
Address	MIDDLE SECTION OF FU'AN ROAD, CHENGHAI DISTRICT, SHANTOU CITY,	
Address	GUANGDONG, CHINA	
Factory	GUANGDONG HAOYUAN STEM TOYS CO.,LTD.	
Address	MIDDLE SECTION OF FU'AN ROAD, CHENGHAI DISTRICT, SHANTOU CITY,	
Address	GUANGDONG, CHINA	
Product Designation	Remote control car	
Brand Name	N/A	
Test Model	SL-00003	
Series Model	Please see the page 6.	
Difference description	All the series models are the same as the test model except for the model names	
Difference description	and the color of appearance.	
Date of test	Apr. 11, 2022 to Apr. 13, 2022	
Deviation	No any deviation from the test method	
Condition of Test Sample	Normal	
Test Result	Pass	
Report Template	AGCRT-US-BR/RF	

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 Rules Part 15.249.

Prepared By	Bibo zhay	
	Bibo Zhang (Project Engineer)	Apr. 13, 2022
Reviewed By	Calin Lin	
	Calvin Liu (Reviewer)	Apr. 13, 2022
Approved By	Max Zhang	
	Max Zhang (Authorized Officer)	Apr. 13, 2022





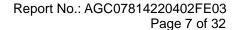
2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Amajor technical description of EoT is described as following				
2.405 GHz to 2.475GHz				
79.91dBuV/m(average)@3m				
GFSK				
71				
0dBi				
Wire Antenna (Met 15.203 Antenna requirement)				
V1.0				
V1.0				
DC 3V by battery				

Test Model	SL-00003
Series Model	SL-00001, SL-00002, SL-00004, SL-00005, SL-00006, SL-00007, SL-00008, SL-00009, SL-00010, SL-00011, SL-00012, SL-00013, SL-00014, SL-00015, SL-00016, SL-00017, SL-00018, SL-00019, SL-00020, SL-00021, SL-00022, SL-00023, SL-00024, SL-00025, SL-00026, SL-00027, SL-00028, SL-00029, SL-00030, SL-00031, SL-00032, SL-00033, SL-00034, SL-00035, SL-00036, SL-00037, SL-00038, SL-00039, SL-00040, SL-00041, SL-00042, SL-00043, SL-00044, SL-00045, SL-00046, SL-00047, SL-00048, SL-00049, SL-00050, SL-00051, SL-00052, SL-00053, SL-00054, SL-00055, SL-00056, SL-00057, SL-00058, SL-00059, SL-00060, SL-00061, SL-00062, SL-00063, SL-00064, SL-00065, SL-00066, SL-00067, SL-00068, SL-00069, SL-00070, SL-00071, SL-00072, SL-00073, SL-00074, SL-00075, SL-00076, SL-00077, SL-00078, SL-00079, SL-00080, SL-00081, SL-00082, SL-00083, SL-00084, SL-00085, SL-00086, SL-00087, SL-00088, SL-00090, SL-00091, SL-00092, SL-00093, SL-00094, SL-00095, SL-00096, SL-00097, SL-00099, SL-000





2.2. TABLE OF CARRIER FREQUENCY

Frequency Band	Channel	Frequency	Channel	Frequency	Channel	Frequency
Troquonoy Bana	Number	(MHz)	Number	(MHz)	Number	(MHz)
	1	2405	25	2429	49	2453
	2	2406	26	2430	50	2454
	3	2407	27	2431	51	2455
	4	2408	28	2432	52	2456
	5	2409	29	2433	53	2457
	6	2410	30	2434	54	2458
	7	2411	31	2435	55	2459
	8	2412	32	2436	56	2460
	9	2413	33	2437	57	2461
	10	2414	34	2438	58	2462
	11	2415	35	2439	59	2463
0400 0400 5141.17	12	2416	36	2440	60	2464
2400~2483.5MHZ	13	2417	37	2441	61	2465
	14	2418	38	2442	62	2466
	15	2419	39	2443	63	2467
	16	2420	40	2444	64	246+8
	17	2421	41	2445	65	2469
	18	2422	42	2446	66	2470
	19	2423	43	2447	67	2471
	20	2424	44	2448	68	2472
	21	2425	45	2449	69	2473
	22	2426	46	2450	70	2474
	23	2427	47	2451	71	2475
	24	2428	48	2452		



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3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±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 = ±2.9 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±3.8 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.9 dB
- Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %



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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK

Note:

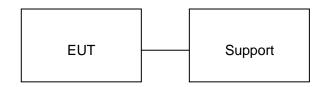
- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. The EUT adjusts the frequency through the button.
- 4. For battery operated equipment, the equipment tests are performed using a new battery.



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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM



5.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Remote control car	SL-00003	2AZCSSL-00003	EUT

5.3. SUMMARY OF TEST RESULTS

E00 BIII E0	DECORIDATION OF TEXT	DECLUT
FCC RULES	DESCRIPTION OF TEST	RESULT
§15.249&15.209	Radiated Emission	Compliant
§15.249	Band Edges	Compliant
§15.215	20dB bandwidth	Compliant
§15.207	Conducted Emission	Not applicable

Note: The conducted limits 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	1-2/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 CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	May 15, 2021	May 14, 2022
LISN	R&S	ESH2-Z5	100086	Jun. 09, 2021	Jun. 08, 2022

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2021	May 14, 2022
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Nov. 17, 2021	Nov. 16, 2022
2.4GHz Fliter	EM Electronics	2400-2500MHz	N/A	Mar. 22, 2022	Mar. 21, 2024
Attenuator	ZHINAN	E-002	N/A	Sep. 03, 2020	Sep. 02, 2022
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Oct. 31, 2021	Oct. 30, 2023
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	Apr. 23, 2021	Apr. 22, 2022
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08, 2020	Jan. 07, 2023



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7. RADIATED EMISSION

7.1TEST LIMIT

Standard FCC15.249

Fundamental Frequency	Field Strength of Fundamental	Field Strength of Harmonics
	(millivolts/meter)	(microvolts/meter)
900-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

Standard FCC 15.209

Frequency	Distance	Field Strengths Limit			
(MHz)	Meters	μ V/m	dB(μV)/m		
0.009 ~ 0.490	300	2400/F(kHz)			
0.490 ~ 1.705	30	24000/F(kHz)			
1.705 ~ 30	30	30			
30 ~ 88	3	100	40.0		
88 ~ 216	3	150	43.5		
216 ~ 960	3	200	46.0		
960 ~ 1000	3	500	54.0		
Above 1000	3	Other:74.0 dB(µV)/m (Peal	k) 54.0 dB(μV)/m (Average)		

Remark:

- (1) Emission level dB μ V = 20 log Emission level μ V/m
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.



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7.2. 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 emissions, 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 minimum resolution bandwidth of 1 MHz. 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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The following table is the setting of spectrum analyzer and receiver.

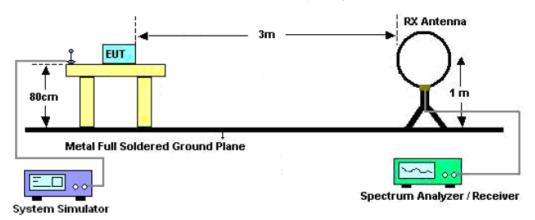
Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
	1GHz~26.5GHz
Start ~Stop Frequency	RBW 2.4MHz/ VBW 8MHz for Peak,
	RBW 2.4MHz/10Hz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

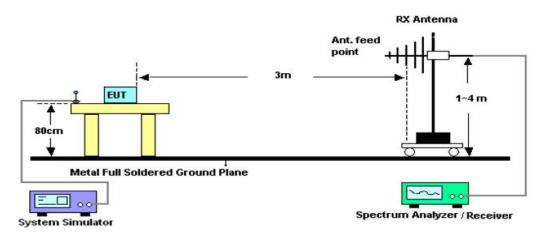


7.3. TEST SETUP

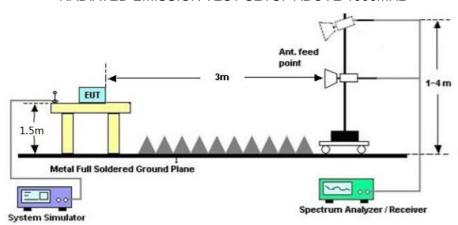
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz





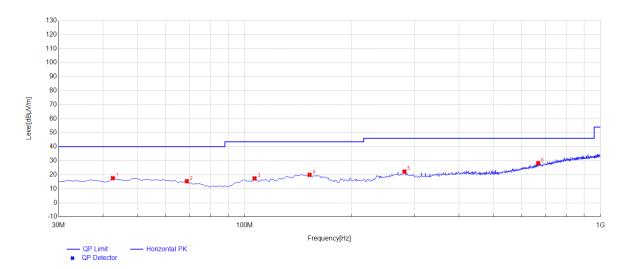
7.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION 30MHz-1GHZ

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 1	Polarization :	Horizontal



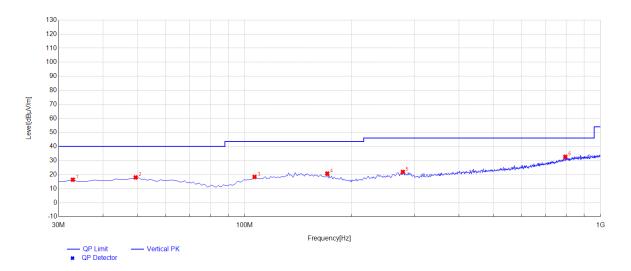
Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	42.61	17.56	10.98	40.00	22.44	100	19	Horizontal
2	68.8	15.39	9.43	40.00	24.61	100	151	Horizontal
3	106.63	17.39	11.40	43.50	26.11	100	91	Horizontal
4	152.22	19.94	14.90	43.50	23.56	100	217	Horizontal
5	281.23	22.30	16.21	46.00	23.70	100	332	Horizontal
6	668.26	28.31	22.00	46.00	17.69	100	104	Horizontal

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Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 1	Polarization:	Vertical



Suspe	Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	32.91	16.36	10.36	40.00	23.64	100	22	Vertical	
2	49.4	17.96	11.61	40.00	22.04	100	328	Vertical	
3	106.63	18.34	12.07	43.50	25.16	100	98	Vertical	
4	170.65	20.72	13.89	43.50	22.78	100	29	Vertical	
5	278.32	21.91	16.14	46.00	24.09	100	142	Vertical	
6	796.3	32.68	26.38	46.00	13.32	100	145	Vertical	

RESULT: PASS

Note:

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

The "Factor" value can be calculated automatically by software of measurement system.

The mode 1 is the worst case, and only the data of the worst case recorded in this test report.





FIELD STRENGTH OF FUNDAMENTAL

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Modulation :	GFSK	Polarization:	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type		
2405.031	92.99	-9.61	83.38	114.00	-30.62	peak		
2405.031	88.92	-9.61	79.31	94.00	-14.69	AVG		
2440.031	93.02	-9.61	83.41	114.00	-30.59	peak		
2440.031	89.17	-9.61	79.56	94.00	-14.44	AVG		
2475.031	93.06	-9.61	83.45	114.00	-30.55	peak		
2475.031	2475.031 89.52 -9.61 79.91 94.00 -14.09 AVG							
Remark:								
Factor = Ante	Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Modulation :	GFSK	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
2405.031	90.12	-9.61	80.51	114.00	-33.49	peak
2405.031	84.66	-9.61	75.05	94.00	-18.95	AVG
2440.031	89.57	-9.61	79.96	114.00	-34.04	peak
2440.031	84.47	-9.61	74.86	94.00	-19.14	AVG
2475.031	89.13	-9.61	79.52	114.00	-34.48	peak
2475.031	84.33	-9.61	74.72	94.00	-19.28	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



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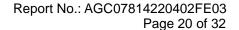
RADIATED EMISSION ABOVE 1GHZ

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	re: 1010 hPa Test Voltage:		DC3V
Test Mode :	Mode 1	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4810	48.31	3.76	52.07	74.00	-21.93	peak
4810	42.16	3.76	45.92	54.00	-8.08	AVG
7215	42.57	8.17	50.74	74.00	-23.26	peak
7215 38.64 8.17 46.81 54.00 -7.19 AVG						
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 1	Polarization:	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type	
4810	48.64	3.76	52.40	74.00	-21.60	peak	
4810	43.57	3.76	47.33	54.00	-6.67	AVG	
7215	42.15	8.17	50.32	74.00	-23.68	peak	
7215 38.54 8.17 46.71 54.00 -7.29 AVG							
Remark:							
Factor = Antenna Factor + Cable Loss – Pre-amplifier.							



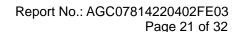


EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 2	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type	
4880	47.69	3.78	51.47	74.00	-22.53	peak	
4880	42.15	3.78	45.93	54.00	-8.07	AVG	
7320	43.58	8.23	51.81	74.00	-22.19	peak	
7320 38.66 8.23 46.89 54.00 -7.11 AVG							
Remark:							
Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 2	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880	49.64	3.78	53.42	74.00	-20.58	peak
4880	43.52	3.78	47.30	54.00	-6.70	AVG
7320	43.18	8.23	51.41	74.00	-22.59	peak
7320	37.42	8.23	45.65	54.00	-8.35	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						





EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 3	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type	
4950	48.52	3.81	52.33	74.00	-21.67	peak	
4950	43.27	3.81	47.08	54.00	-6.92	AVG	
7425	43.98	8.27	52.25	74.00	-21.75	peak	
7425 39.51 8.27 47.78 54.00 -6.22 AVG							
Remark:							
Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 3	Polarization:	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4950	49.61	3.81	53.42	74.00	-20.58	peak
4950	43.28	3.81	47.09	54.00	-6.91	AVG
7425	42.16	8.27	50.43	74.00	-23.57	peak
7425	38.72	8.27	46.99	54.00	-7.01	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: Other emissions from 8G to 25 GHz are considered as ambient noise. No recording in the test report. Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

The GFSK modulation was the worst case and only the data of worst recorded in this report



8. BAND EDGE EMISSION

8.1TEST LIMIT

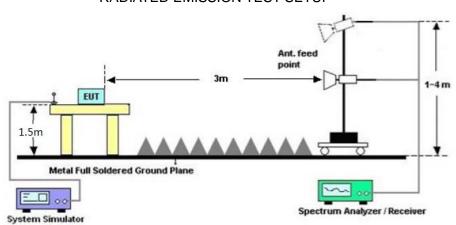
	Limit of the Field Strength (dBµV/m)		
Frequency Band	Peak	Average	
f≤2390MHz	74	54	
f≥2483.5MHz	74	54	

8.2. MEASUREMENT PROCEDURE

- 1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
- 2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO
- (b) AVERAGE: RBW=1MHz; VBW=1/on time(1KHz) / Sweep=AUTO
- 3. Other procedures refer to clause 7.2.

8.3 TEST SETUP

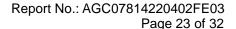
RADIATED EMISSION TEST SETUP



8.4 TEST RESULT

Note:

- 1. Factor=Antenna Factor + Cable loss Amplifier gain. Field Strength=Factor + Reading level
- 2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μ V) to represent the Amplitude. Use the F dB(μ V/m) to represent the Field Strength. So A=F.

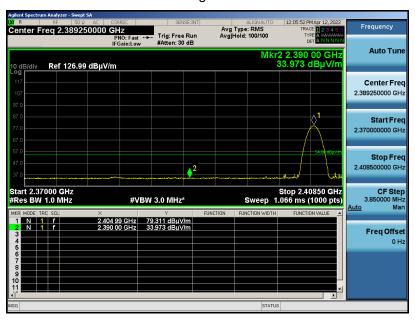




EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 1	Polarization :	Horizontal

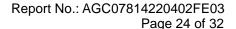


Average Value



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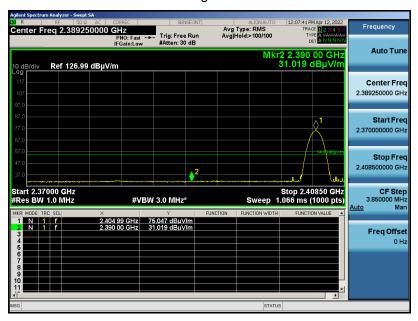


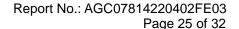


EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	DC3v
Test Mode :	Mode 1	Polarization :	Vertical



Average Value



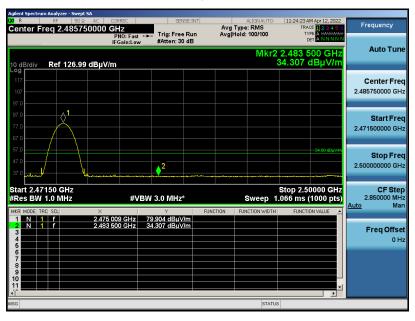




EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	DC3v
Test Mode :	Mode 3	Polarization :	Horizontal

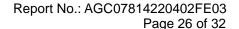


Average Value



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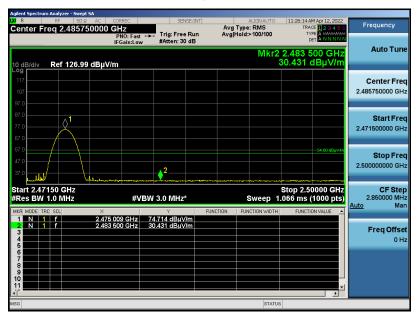




EUT:	Remote control car	Model Name. :	SL-00003
Temperature:	20 ℃	Relative Humidtity:	48%
Pressure :	1010 hPa	Test Voltage :	DC3V
Test Mode :	Mode 3	Polarization :	Vertical

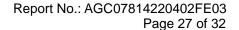


Average Value



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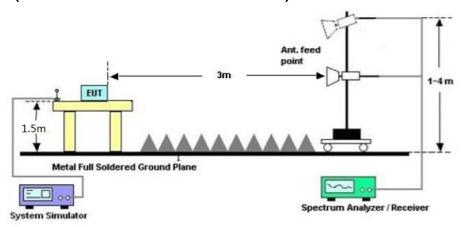


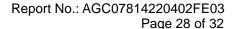
9. 20DB BANDWIDTH

9.1. MEASUREMENT PROCEDURE

- 1. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 2. Set SPA Centre Frequency = Operation Frequency, RBW= 30 KHz, VBW ≥3×RBW.
- 3. Set SPA Trace 1 Max hold, then View.

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





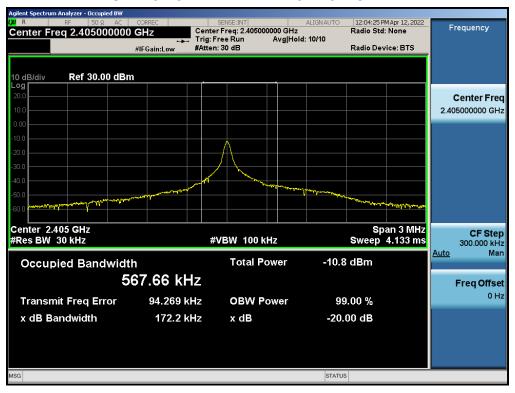


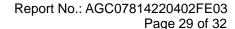
9.3. MEASUREMENT RESULTS

TEST ITEM	20DB BANDWIDTH
TEST MODULATION	GFSK

Test Data (kHz)	Criteria	
Low Channel	172.2	PASS
Middle Channel	159.5	PASS
High Channel	162.1	PASS

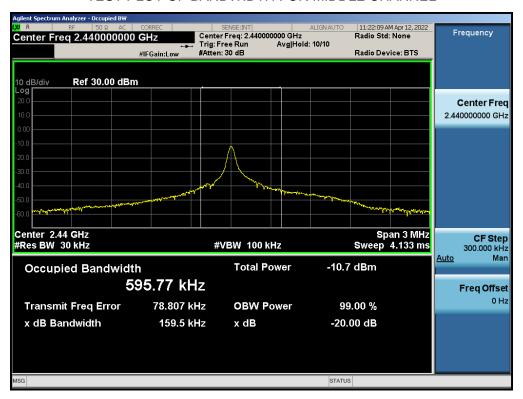
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



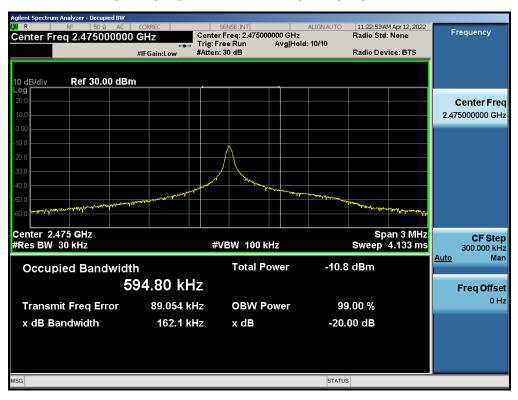




TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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10. FCC LINE CONDUCTED EMISSION TEST

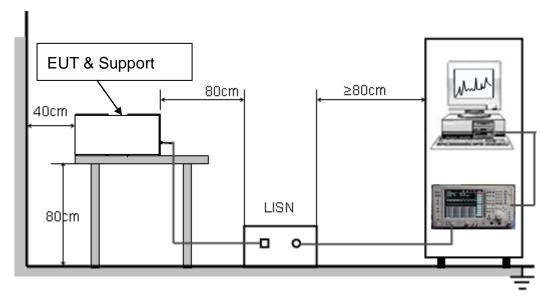
10.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Francisco	Maximum RF Line Voltage		
Frequency	Q.P.(dBuV)	Average(dBuV)	
150kHz~500kHz	66-56	56-46	
500kHz~5MHz	56	46	
5MHz~30MHz	60	50	

Note:

- 1. The lower limit shall apply at the transition frequency.
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

10.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST





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10.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipments received AC120VV/60Hz power from a LISN, if any.
- 5. The EUT received charging voltage by adapter which received 120V/60Hzpower by a LISN..
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

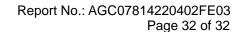
10.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.

10.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

N/A

Note: The conducted limits are not required for devices which only employ battery power for operation.





APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC07814220402AP01

APPENDIX B: PHOTOGRAPHS OF THE EUT

Refer to the Report No.: AGC07814220402AP02

----END OF REPORT----



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