

Date: 2015-08-29 Page 1 of 29

No.: DM120756

Applicant: Spin Master Toys Far East Ltd.

Room 1113, 11/F., Chinachem Golden Plaza, 77 Mody Road,

Tsim Sha Tsui East, Kowloon, Hong Kong

Manufacturer: Spin Master Toys Far East Ltd.

Room 1113, 11/F., Chinachem Golden Plaza, 77 Mody Road,

Tsim Sha Tsui East, Kowloon, Hong Kong

Description of Sample(s): Submitted sample(s) said to be

Product: 44541 ARH RDC Batmobile

Brand Name: Air Hogs Model Number: 44541RX

FCC ID: PQN44541RX2G4

Date Sample(s) Received: 2015-08-21

Date Tested: 2015-08-25 to 2015-08-26

Investigation Requested: Perform ElectroMagnetic Interference measurement in

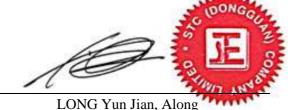
accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2014 and ANSI C63.4: 2009 for FCC Certification.

Conclusion(s): The submitted product <u>COMPLIED</u> with the requirements of

Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this

Test Report.

Remark(s): --



Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
STC (Dongguan) Company Limited



Date: 2015-08-29 Page 2 of 29

No.: DM120756

CONTENT:

	Cover Content	Page 1 of 29 Page 2 of 29
<u>1.0</u>	General Details	·
1.1	Equipment Under Test [EUT]	Page 3 of 29
1.2	Description of EUT Operation	Page 3 of 29
1.3	Date of Order	Page 3 of 29
1.4	Submitted Sample	Page 3 of 29
1.5	Test Duration	Page 3 of 29
1.6	Country of Origin	Page 3 of 29
<u>2.0</u>	Technical Details	
2.1	Investigations Requested	Page 4 of 29
2.2	Test Standards and Results Summary	Page 4 of 29
<u>3.0</u>	<u>Test Results</u>	
3.1	Emission	Page 5-17 of 29
3.2	Bandwidth Measurement	Page 18-24 of 29
	Appendix A	
	List of Measurement Equipment	Page 25 of 29
	Appendix B	
	Ancillary Equipment	Page 25 of 29
	Appendix C	
	Photographs	Page 26-29 of 29

STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)

Tel : (86 769) 8111 9888 Fax : (86 769) 8111 6222 E-mail : dgstc@dgstc.org Homepage : www.dgstc.org



Date: 2015-08-29 Page 3 of 29

No.: DM120756

1.0 General Details

1.1 Equipment Under Test [EUT] Description of Sample(s)

Product: 44541 ARH RDC Batmobile
Manufacturer: Spin Master Toys Far East Ltd.

Brand Name: Air Hogs Model Number: 44541RX

Rating: 5.0Vd.c. (Powered by USB port) / Li-ion rechargeable battery

x1 = 3.7Vd.c

1.2 Description of EUT Operation

The Equipment Under Test (EUT) is a remote control model car of Spin Master Toys. The transceiver operating in the 2.4GHz ISM frequency band. The RF signal is modulated by IC, the type of modulation used is FSK.

1.3 Date of Order

2015-08-21

1.4 Submitted Sample(s):

1 Sample

1.5 Test Duration

2015-08-25 to 2015-08-26

1.6 Country of Origin

China



Date: 2015-08-29 Page 4 of 29

No.: DM120756

2.0 Technical Details

2.1 Investigations Requested

Perform Electromagnetic Interference measurements in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2014 Regulations and ANSI C63.4:2009 for FCC Certification. The device was realized by test software.

2.2 Test Standards and Results Summary Tables

EMISSION Results Summary									
Test Condition	Test Requirement	Test Method	Class /	T	est Resi	ılt			
			Severity	Pass	Fail	N/A			
Field Strength of Fundamental & Harmonics Emissions	FCC 47CFR 15.249	ANSI C63.4:2009	N/A						
Radiated Emissions	FCC 47CFR 15.209	ANSI C63.4:2009	N/A						
AC Mains Conducted Emissions	FCC 47CFR 15.207	ANSI C63.4:2009	N/A						

Note: N/A - Not Applicable



Date: 2015-08-29 Page 5 of 29

No.: DM120756

3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions

Test Requirement: FCC 47CFR 15.249 & FCC 47CFR 15.209

Test Method: ANSI C63.4:2009
Test Date: 2015-08-27
Mode of Operation: TX mode

Test Method:

The sample was placed 0.8m above the ground plane of semi-anechoic Chamber*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

Semi-anechoic chamber located on the STC (Dongguan) Company Ltd. 68 Fumin Nan Road, Dalang, Dongguan, Guangdong, PRC with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 629686.



Date: 2015-08-29 Page 6 of 29

No.: DM120756

Spectrum Analyzer Setting:

9KHz – 30MHz (Pk & Av) RBW: 10kHz

VBW: 30kHz Sweep: Auto

Span: Fully capture the emissions being measured

Trace: Max. hold

30MHz - 1GHz (QP) RBW: 120kHz

VBW: 120kHz Sweep: Auto

Span: Fully capture the emissions being measured

Trace: Max. hold

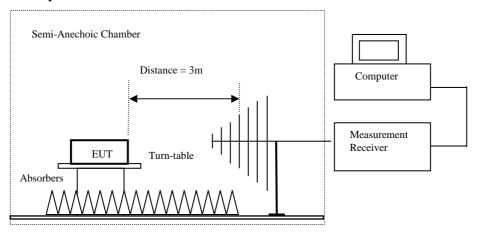
Above 1GHz (Pk & Av) RBW: 1MHz

VBW: 1MHz Sweep: Auto

Span: Fully capture the emissions being measured

Trace: Max. hold

Test Setup:



Ground Plane

- Absorbers placed on top of the ground plane are for measurements above 1000MHz only.
- Measurements between 30MHz to 1000MHz made with Bi-log antennas, above 1000MHz horn antennas are used, 9kHz to 30MHz loop antennas are used.



Date: 2015-08-29 Page 7 of 29

No.: DM120756

Limits for Field Strength of Fundamental & Harmonics Emissions [FCC 47CFR 15.249]:

Frequency Range of Fundamental	Field Strength of Fundamental Emission	Field Strength of Harmonics Emission
[MHz]	[microvolts/meter]	[microvolts/meter]
902-928	50,000 [Quasi-Peak]	500 [Average]
2400-2483.5	50,000 [Average]	500 [Average]

Results of Tx mode (Lowest Frequency Channel-2420 MHz): Pass

Field Strength of Fundamental Emissions									
Peak Value									
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field			
	Level @3m	Factor	Strength	Strength		Polarity			
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m				
2420.00	51.2	36.8	88.0	25,118.9	500,000	Vertical			
2420.00	58.6	36.4	95.0	56,234.1	500,000	Horizontal			

Field Strength of Fundamental Emissions Average Value									
Frequency	Frequency Measured Correction Field Field Limit @3m E-Field								
	Level @3m	Factor	Strength	Strength		Polarity			
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m				
2420.00	46.1	36.8	82.9	13,963.7	50,000	Vertical			
2420.00	53.7	36.4	90.1	31,989.0	50,000	Horizontal			

	Field Strength of Harmonics Emission Peak Value										
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field					
	Level @3m	Factor	Strength	Strength		Polarity					
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m						
4840.0	13.3	41.5	54.8	549.5	5,000	Vertical					
4840.0	15.7	42.4	58.1	803.5	5,000	Horizontal					
7260.0	11.5	45.1	56.6	676.1	5,000	Vertical					
7260.0	11.8	46.2	58.0	794.3	5,000	Horizontal					
9628.0	4.4	48.0	52.4	416.9	5,000	Vertical					
9628.0	3.9	48.8	52.7	431.5	5,000	Horizontal					
12035.0	3.7	51.5	55.2	575.4	5,000	Vertical					
12035.0	3.3	52.4	55.7	609.5	5,000	Horizontal					



Date: 2015-08-29 Page 8 of 29

No.: DM120756

	Field Strength of Harmonics Emission Average Value										
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field					
	Level @3m	Factor	Strength	Strength		Polarity					
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m						
4840.0	5.2	41.5	46.7	216.3	500	Vertical					
4840.0	8.0	42.4	50.4	331.1	500	Horizontal					
7260.0	3.1	45.1	48.2	257.0	500	Vertical					
7260.0	4.1	46.2	50.3	327.3	500	Horizontal					
9628.0	-9.3	48.0	38.7	86.1	500	Vertical					
9628.0	-12.9	48.8	35.9	62.4	500	Horizontal					
12035.0	-11.4	51.5	40.1	101.2	500	Vertical					
12035.0	-11.8	52.4	40.6	107.2	500	Horizontal					

Results of Tx mode (Middle Frequency Channel- 2435MHz): Pass

Results of TAIL	Field Strength of Fundamental Emissions								
	Peak Value								
Frequency	Frequency Measured Correction Field Field Limit @3m E-Field								
	Level @3m	Factor	Strength	Strength		Polarity			
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m				
2435.00	2435.00 51.0 36.8 87.8 24,547.1 500,000 Vertical								
2435.00	58.1	36.4	94.5	53,088.4	500,000	Horizontal			

Field Strength of Fundamental Emissions									
		A	Average Valu	e					
Frequency	Frequency Measured Correction Field Field Limit @3m E-Field								
	Level @3m	Factor	Strength	Strength		Polarity			
MHz	dBμV/m	dΒμV/m	dBμV/m	μV/m	μV/m				
2435.00	46.1	36.8	82.9	13,963.7	50,000	Vertical			
2435.00	53.2	36.4	89.6	30,199.5	50,000	Horizontal			

	Field Strength of Harmonics Emission Peak Value										
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field					
	Level @3m	Factor	Strength	Strength		Polarity					
MHz	dBμV/m	dΒμV/m	dBμV/m	μV/m	μV/m	-					
4870.0	13.4	41.6	55.0	562.3	5,000	Vertical					
4870.0	15.4	42.5	57.9	785.2	5,000	Horizontal					
7305.0	10.3	45.2	55.5	595.7	5,000	Vertical					
7305.0	10.0	46.3	56.3	653.1	5,000	Horizontal					
9740.0	5.0	48.1	53.1	451.9	5,000	Vertical					
9740.0	5.4	48.9	54.3	518.8	5,000	Horizontal					
12175.0	4.1	51.6	55.7	609.5	5,000	Vertical					
12175.0	3.5	52.5	56.0	631.0	5,000	Horizontal					



Date: 2015-08-29 Page 9 of 29

No.: DM120756

Field Strength of Harmonics Emission Avarage Value										
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field				
	Level @3m	Factor	Strength	Strength		Polarity				
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m					
4870.0	5.3	41.6	46.9	221.3	500	Vertical				
4870.0	7.5	42.5	50.0	316.2	500	Horizontal				
7305.0	2.3	45.2	47.5	237.1	500	Vertical				
7305.0	1.8	46.3	48.1	254.1	500	Horizontal				
9740.0	-8.9	48.1	39.2	91.2	500	Vertical				
9740.0	-8.7	48.9	40.2	102.3	500	Horizontal				
12175.0	-10.8	51.6	40.8	109.6	500	Vertical				
12175.0	-10.9	52.5	41.6	120.2	500	Horizontal				

Results of Tx mode (Highest Frequency Channel - 2450MHz): Pass

ICSUIDS OF TAIL	Results of 1x mode (fighest Frequency Chaimer – 2430W1112). I ass									
Field Strength of Fundamental Emissions										
	Peak Value									
Frequency	Frequency Measured Correction Field Field Limit @3m E-Field									
	Level @3m	Factor	Strength	Strength		Polarity				
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m					
2450.00	2450.00 51.0 36.8 87.8 24,547.1 500,000 Vertical									
2450.00	58.2	36.4	94.6	53,703.2	500,000	Horizontal				

Field Strength of Fundamental Emissions							
	Average Value						
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
	Level @3m Factor Strength Strength Polarity						
MHz	MHz $dB\mu V/m$ $dB\mu V/m$ $dB\mu V/m$ $\mu V/m$ $\mu V/m$						
2450.00	45.9	36.8	82.7	13,645.8	50,000	Vertical	
2450.00	53.3	36.4	89.7	30,549.2	50,000	Horizontal	



Date: 2015-08-29 Page 10 of 29

No.: DM120756

	Field Strength of Harmonics Emission Peak Value						
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
1 ,	Level @3m	Factor	Strength	Strength		Polarity	
MHz	dBμV/m	dBμV/m	dBμV/m	μV/m	μV/m	-	
4900.0	14.6	41.4	56.0	631.0	5,000	Vertical	
4900.0	13.8	42.7	56.5	668.3	5,000	Horizontal	
7350.0	10.4	45.6	56.0	631.0	5,000	Vertical	
7350.0	13.2	46.5	59.7	966.1	5,000	Horizontal	
9800.0	5.9	48.6	54.5	530.9	5,000	Vertical	
9800.0	5.2	49.7	54.9	555.9	5,000	Horizontal	
12250.0	3.5	51.7	55.2	575.4	5,000	Vertical	
12250.0	3.0	52.7	55.7	609.5	5,000	Horizontal	

	Field Strength of Harmonics Emission						
	Avarage Value						
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field	
	Level @3m	Factor	Strength	Strength		Polarity	
MHz	dΒμV/m	dΒμV/m	dΒμV/m	μV/m	μV/m		
4900.0	6.4	41.4	47.8	245.5	500	Vertical	
4900.0	5.7	42.7	48.4	263.0	500	Horizontal	
7350.0	2.3	45.6	47.9	248.3	500	Vertical	
7350.0	5.0	46.5	51.5	375.8	500	Horizontal	
9800.0	-8.8	48.6	39.8	97.7	500	Vertical	
9800.0	-9.4	49.7	40.3	103.5	500	Horizontal	
12250.0	-11.6	51.7	40.1	101.2	500	Vertical	
12250.0	-11.8	52.7	40.9	110.9	500	Horizontal	

Remarks:

No additional spurious emissions found between lowest internal used/generated frequency and 30 MHz

Calculated measurement uncertainty (9kHz - 30MHz): 3.3dB

(30MHz – 1GHz): 4.6dB (1GHz - 26GHz): 4.4dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.



Date: 2015-08-29 Page 11 of 29

No.: DM120756

Limits for Radiated Emissions [FCC 47 CFR 15.209 Class B]:

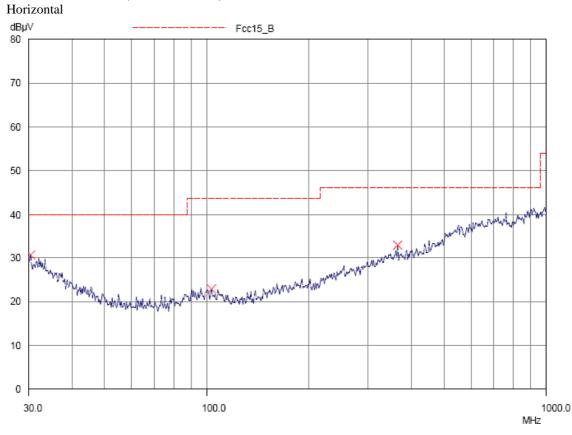
Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
0.009-0.490	2400/F (kHz)
0.490-1.705	24000/F (kHz)
1.705-30	30
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of TX mode (9kHz - 30MHz): PASS

Emissions detected are more than 20 dB below the FCC Limits

Results of TX mode (30MHz - 1GHz): PASS





Date: 2015-08-29 Page 12 of 29

No.: DM120756

Results of TX mode (30MHz - 1GHz): PASS

	Radiated Emissions					
	Quasi-Peak					
Emission	E-Field	Level	Limit	Level	Limit	
Frequency	Polarity	@3m	@3m	@3m	@3m	
MHz		dBμV/m	dBμV/m_	μV/m_	μV/m	
30.2	Horizontal	30.7	40.0	34.3	100	
103.5	Horizontal	22.9	43.5	14.0	150	
363.4	Horizontal	32.9	46.0	44.2	150	



Date: 2015-08-29 Page 13 of 29

No.: DM120756

Limits for Radiated Emissions [FCC 47 CFR 15.209 Class B]:

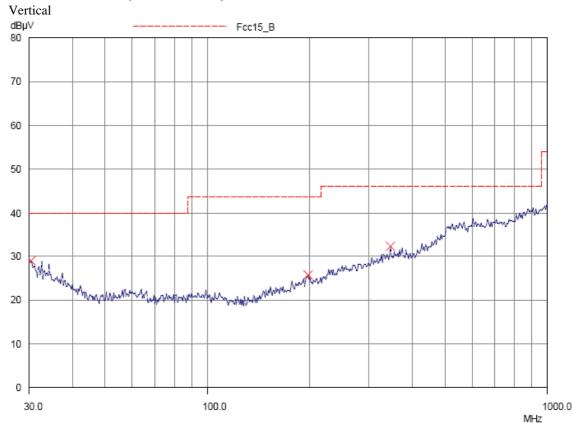
Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
0.009-0.490	2400/F (kHz)
0.490-1.705	24000/F (kHz)
1.705-30	30
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of TX mode (9kHz - 30MHz): PASS

Emissions detected are more than 20 dB below the FCC Limits

Results of TX mode (30MHz - 1GHz): PASS



STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)

Tel: (86 769) 8111 9888 Fax: (86 769) 8111 6222 E-mail: dgstc@dgstc.org Homepage: www.dgstc.org



Date: 2015-08-29 Page 14 of 29

No.: DM120756

Results of TX mode (30MHz - 1GHz): PASS

Radiated Emissions Quasi-Peak					
Emission	E-Field	Level	Limit	Level	Limit
Frequency	Polarity	@3m	@3m	@3m	@3m
MHz		dBμV/m	dBμV/m_	μV/m_	μV/m
30.3	Vertical	29.1	40.0	28.5	100
197.3	Vertical	25.7	43.5	19.3	150
344.4	Vertical	32.2	46.0	40.7	200

Remarks:

Calculated measurement uncertainty (9kHz - 30MHz): 3.3dB

(30MHz – 1GHz): 4.6dB (1GHz - 26GHz): 4.4dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.



Date: 2015-08-29 Page 15 of 29

No.: DM120756

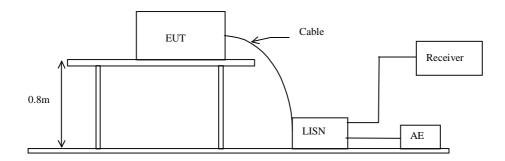
3.1.2 AC Mains Conducted Emissions (0.15MHz to 30MHz)

Test Requirement: FCC 47CFR 15.207
Test Method: ANSI C63.4:2009
Test Date: 2015-08-26
Mode of Operation: Charging mode
Test Voltage: 120Va.c. 60Hz

Test Method:

The test was performed in accordance with ANSI C63.4: 2009, with the following: an initial measurement was performed in peak and average detection mode on the live line, any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:





Date: 2015-08-29 Page 16 of 29

No.: DM120756

Limit for Conducted Emissions (FCC 47 CFR 15.207):

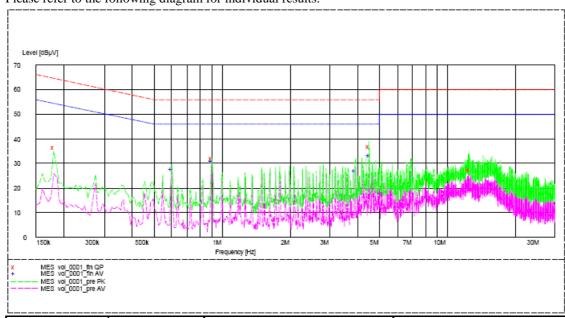
Frequency Range	Quasi-Peak Limits	Average
[MHz]	[dBµV]	[dBµV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

^{*} Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Result of Charging mode(USB connect to PC) (L): PASS

Please refer to the following diagram for individual results.



		Quasi-peak		Ave	rage
Conductor	Frequency	Level	Limit	Level	Limit
Live or Neutral	MHz	dΒμV	dΒμV	dΒμV	dΒμV
Live	0.180	36.3	65.0	_*_	_*_
Live	0.900	32.2	56.0	_*_	_*_
Live	4.500	36.9	56.0	_*_	_*_
Live	12.480	27.4	60.0	_*_	_*_
Live	0.600	_*_	_*_	28.0	46.0
Live	0.900	_*_	_*_	31.1	46.0
Neutral	3.905	_*_	_*_	27.2	46.0
Neutral	4.505	_*_	_*_	33.1	46.0

Limit for Conducted Emissions (FCC 47 CFR 15.207):



Date: 2015-08-29 Page 17 of 29

No.: DM120756

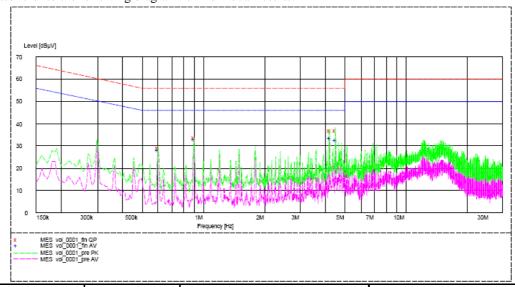
Frequency Range	Quasi-Peak Limits	Average
[MHz]	[dBµV]	[dBµV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

^{*} Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Result of Charging mode(USB connect to PC) (N): PASS

Please refer to the following diagram for individual results.



		Quasi-peak		Ave	rage
Conductor	Frequency	Level	Limit	Level	Limit
Live or Neutral	MHz	dΒμV	dBμV	dΒμV	dΒμV
Neutral	0.600	28.8	56.0	_*_	_*_
Neutral	0.900	33.4	56.0	_*_	_*_
Neutral	4.205	36.7	56.0	_*_	_*_
Neutral	4.505	36.9	56.0	_*_	_*_
Neutral	0.600	_*_	_*_	28.1	46.0
Neutral	0.900	_*_	_*_	33.0	46.0
Neutral	4.205	_*_	_*_	33.7	46.0
Neutral	4.505	_*_	_*_	32.5	46.0

Remarks:

Calculated measurement uncertainty (0.15MHz - 30MHz): 3.2dB

^{-*-} Emission(s) that is far below the corresponding limit line.



Date: 2015-08-29 Page 18 of 29

No.: DM120756

3.2 20dB Bandwidth of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249
Test Method: ANSI C63.4:2009
Test Date: 2015-08-25
Mode of Operation: Tx mode

Test Method:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

Test Setup:

As Test Setup of clause 3.1.1 in this test report.

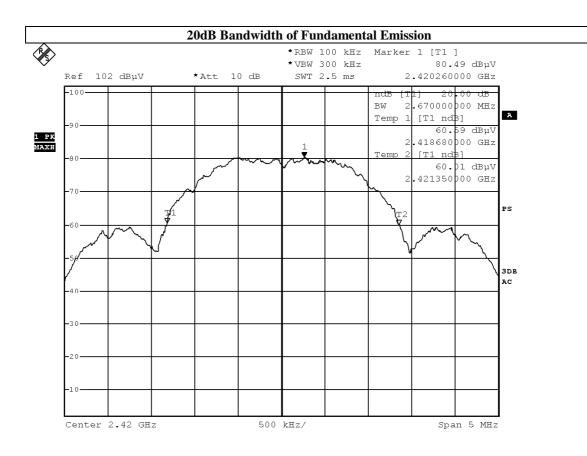


Date: 2015-08-29 Page 19 of 29

No.: DM120756

Limits for 20dB Bandwidth of Fundamental Emission (Low Frequency Channel):

Frequency Range	20dB Bandwidth
[MHz]	[MHz]
2420	2.67



ВМР

Date: 25.AUG.2015 16:54:15

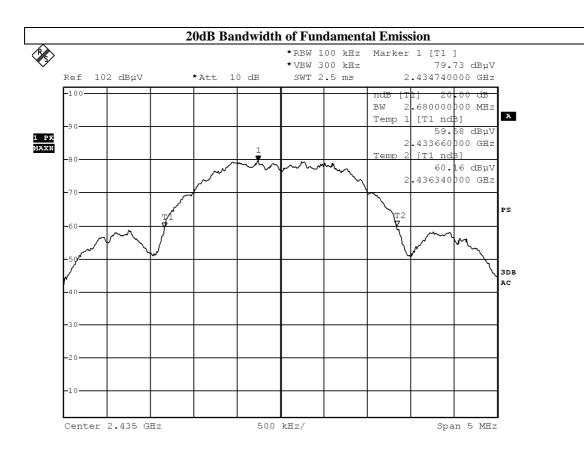


Date: 2015-08-29 Page 20 of 29

No.: DM120756

Limits for 20dB Bandwidth of Fundamental Emission (Middle Frequency Channel):

Frequency Range	20dB Bandwidth		
[MHz]	[MHz]		
2435	2.68		



BMP

Date: 25.AUG.2015 16:57:06

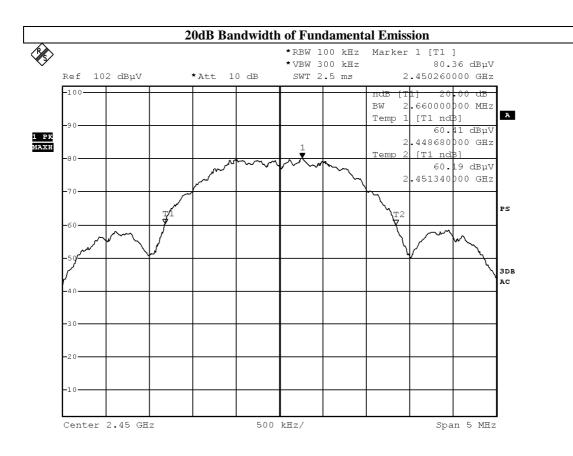


Date: 2015-08-29 Page 21 of 29

No.: DM120756

Limits for 20dB Bandwidth of Fundamental Emission (High Frequency Channel):

Frequency Range	20dB Bandwidth		
[MHz]	[MHz]		
2450	2.66		



ВМР

Date: 25.AUG.2015 16:57:49



Date: 2015-08-29 Page 22 of 29

No.: DM120756

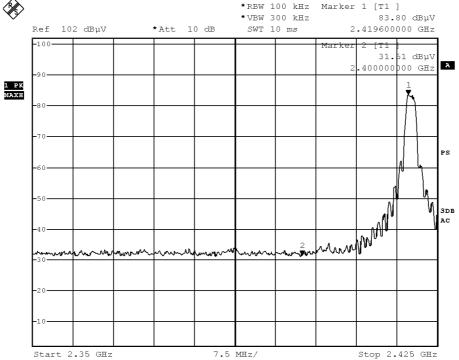
Band-edge Compliance of RF Conducted Emissions Measurement:

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

Frequency Range	Radiated Emission Attenuated below the
	Fundamental
[MHz]	[dB]
2400 – Lowest Fundamental (2420)	52.29





BMP

Date: 25.AUG.2015 17:03:36

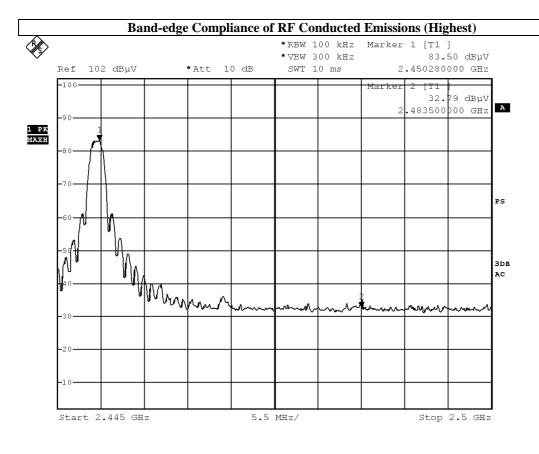


Date: 2015-08-29 Page 23 of 29

No.: DM120756

Band-edge Compliance of RF Conducted Emissions Measurement:

Frequency Range	Radiated Emission Attenuated below the
	Fundamental
[MHz]	[dB]
Highest Fundamental (2450) - 2483.5	50.71



ВМР

Date: 25.AUG.2015 17:02:15



Date: 2015-08-29 Page 24 of 29

No.: DM120756

Band-edge Compliance of RF Radiated Emissions Measurement:

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).

Result: Band-edge Compliance of RF Radiated Emissions (Lowest)

Field Strength of Band-edge Compliance						
Peak Value						
Frequency	Measured	Correction	Field	Limit	Margin	E-Field
	Level @3m Factor Strength @3m Polarity					
MHz $dB\mu V$ dB/m $dB\mu V/m$ $dB\mu V/m$ $dB\mu V/m$						
2390.0	4.4	36.8	41.2	74.0	32.8	Vertical

Field Strength of Band-edge Compliance						
Average Value						
Frequency	Measured	Correction	Field	Limit	Margin	E-Field
	Level @3m Factor Strength @3m Polarity					
MHz	dΒμV	dB/m	dBμV/m	dBμV/m	$dB\mu V/m$	
2390.0	-6.3	36.8	30.5	54.0	23.5	Vertical

Result: Band-edge Compliance of RF Radiated Emissions (Highest)

Field Strength of Band-edge Compliance							
Peak Value							
Frequency	Measured	Correction	Field	Limit	Margin	E-Field	
	Level @3m Factor Strength @3m Polarity						
MHz $dB\mu V$ dB/m $dB\mu V/m$ $dB\mu V/m$ $dB\mu V/m$							
2483.5	4.5	36.4	40.9	74.0	33.1	Horizontal	

Field Strength of Band-edge Compliance Average Value						
Frequency	Measured	Correction	Field	Limit	Margin	E-Field
Level @3m Factor Strength @3m Polarity					Polarity	
MHz	dΒμV	dB/m	dBμV/m	$dB\mu V/m$	$dB\mu V/m$	
2483.5	-5.8	36.4	30.6	54.0	23.4	Horizontal



Date: 2015-08-29 Page 25 of 29

No.: DM120756

Appendix A

List of Measurement Equipment

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EMD004	LISN	ROHDE & SCHWARZ	ESH3-Z5	100102	2015.3.24	2016.3.24
EMD022	EMI Test Receiver	ROHDE & SCHWARZ	ESCS30	100314	2015.3.24	2016.3.24
EMD035	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100441	2015.3.24	2016.3.24
EMD036	EMI Test Receiver	ROHDE & SCHWARZ	ESIB 26	100388	2015.3.24	2016.3.24
EMD041	TWO-LINE V- NETWORK	ROHDE & SCHWARZ	ENV216	100261	2015.3.24	2016.3.24
EMD061	Biconilog Antenna	ETS.LINDGREN	3142C	00060439	2014.11.29	2016.11.29
EMD062	Double-Ridged Waveguide (1GHz – 18GHz)	ETS.LINDGREN	3117	00075933	2014.11.15	2015.11.15
EMD084	MULTI-DVICE CONTROLLER	ETS.LINDGREN	2090	00060107	N/A	N/A
EMD088	Video Contol Unit	ETS.LINDGREN	Y21953A	2601073	N/A	N/A
EMD093	Monitor	ViewSonic	VA9036	Q8X064201876	N/A	N/A
EMD102	Intelligent Frequency	Ainuo Instrument Co., Ltd	AN97005SS	79707454	N/A	N/A
EMD103	Intelligent Frequency	Ainuo Instrument Co., Ltd	AN97005SS	79707455	N/A	N/A
EMD105	FACT-3 EMC Chamber	ETS.LINDGREN	FACT-3	3803	N/A	N/A
EMD106	Shielding Room #1	ETS.LINDGREN	RFD-100	3802	N/A	N/A
	100V Insertion Unit	ROHDE & SCHWARZ	URV5-Z4	100464	2015.3.24	2016.3.24
EMD113	Pre-Amplifier	ROHDE & SCHWARZ	N/A	1129588	2015.3.24	2016.3.24
EMD124	Loop Antenna	ETS-Lindgren	6502	00104905	2014.04.28	2016.04.28
EMD131	Standard Gain Horn Antenna (18GHz – 26.5GHz)	Chengdu AINFO Inc.	JXTXLB-42- 15-C-KF	J2021100721001	2015.06.27	2017.06.27

Remarks:-

N/A Not Applicable or Not Available

Appendix B

Ancillary Equipment

ITEM NO.	DESCRIPTION	MODEL NO.	FCC ID	REMARK
1	DELL COMPUTER	DMC	N/A	N/A



Date: 2015-08-29 Page 26 of 29

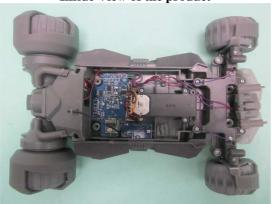
No.: DM120756

Appendix B

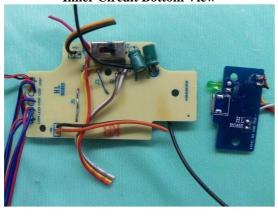
Photographs of EUT Front View of the product



Inside View of the product



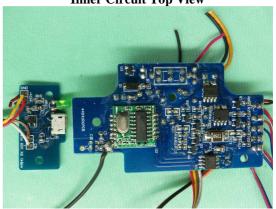
Inner Circuit Bottom View



Rear View of the product



Inner Circuit Top View



Inner Circuit Top View



STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)

Tel : (86 769) 8111 9888 Fax : (86 769) 8111 6222 E-mail : dgstc@dgstc.org Homepage : www.dgstc.org

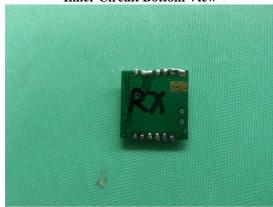


Date: 2015-08-29 Page 27 of 29

No.: DM120756

Photographs of EUT

Inner Circuit Bottom View

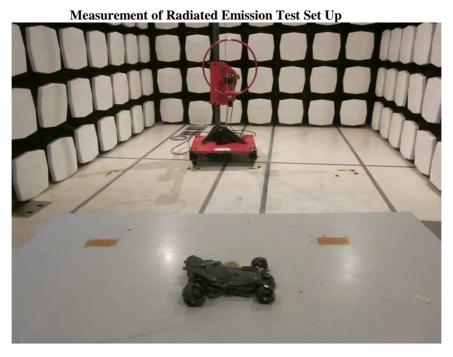


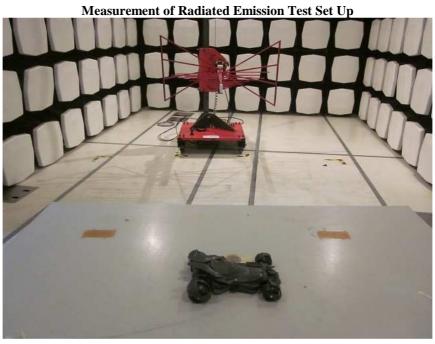


Date: 2015-08-29 Page 28 of 29

No.: DM120756

Photographs of EUT





STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)

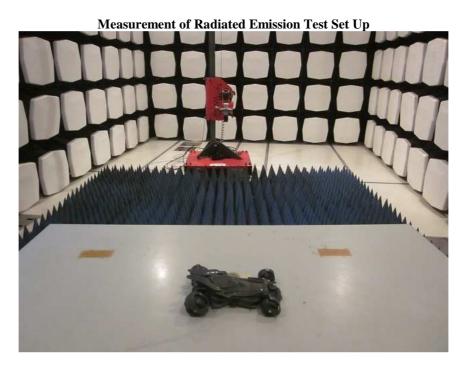
Tel : (86 769) 8111 9888 Fax : (86 769) 8111 6222 E-mail : dgstc@dgstc.org Homepage : www.dgstc.org



Date: 2015-08-29 Page 29 of 29

No.: DM120756

Photographs of EUT



Measurement of Conducted Emission Test Set Up

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

STC (Dongguan) Company Limited

68 Fumin Nan Road, Dalang, Dongguan, China. (Zip Code : 523 770)

Tel : (86 769) 8111 9888 Fax : (86 769) 8111 6222 E-mail : dgstc@dgstc.org Homepage : www.dgstc.org