

No. 1 Workshop, M-10, Middle section, Science & Technology Park,

Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Report No.: SZEM170300153601

Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com
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TEST REPORT

Application No.: SZEM1703001536CR(GZEM1703001068CR)

Applicant: Mattel Asia Pacific Sourcing Limited.

Address of Applicant: Room 1301, South Tower, World Finance Centre, Harbour City Tsim Sha Tsui

Kowloon Hong Kong.

Manufacturer: Mattel Electronics Dongguan

Address of Manufacturer: Long Yan Management Area, Humen Town, DongGuan City, Guang Dong

Province

Equipment Under Test (EUT):

EUT Name: Fisher-Price® Laugh & Learn® First Words Smart Puppy

Model No.: FFN33, DYM70, FJB46, FJB47, FJC10, FJC13, FJC19, FJC20, FJC21, FJC22,

FJC23, FJC24, FJC25, FJC26, FJC42, FJC43, FJC44, FJC45, FJC46, FJC48, FJC49, FJC50, FMR83, FPL57, FFK34, DYM84, FFM84, FFM85, FDJ59, FDJ60, FFL76, FFL79, FGW17, FJB98, FJG34, FJG36, FJG38, FJG40, FJG41, FJG43, FJG44, FJG42, FJG48, FJG47, FKD82, FJG17, FJG18, FJG20, FJG23, FJG22, FJG25, FJG26, FJG30, FJG31, FJG32, FJG24, FJG27, FJC39, FJC51,

FMR63, FMR56 &

Please refer to section 2 of this report which indicates which model was actually

tested and which were electrically identical.

Trade mark: Mattel

FCC ID: PIYFFN33-17A1T

Standards: 47 CFR Part 15, Subpart C 15.225

Date of Receipt: 2017-03-07

Date of Test: 2017-03-13 to 2017-03-15

Date of Issue: 2017-03-20

Test Result : Pass*



Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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^{*} In the configuration tested, the EUT complied with the standards specified above.



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Revision Record								
Version	Version Chapter Date			Remark				
01		2017-03-20		Original				

Authorized for issue by:		
Tested By	Peter Gene	2017-03-16
	Peter Geng /Project Engineer	Date
Checked By	Eric Fu	2017-03-20
	Eric Fu /Reviewer	Date



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2 Test Summary

Radio Spectrum Technical Requirement							
Item	Standard	Method	Requirement	Result			
Antenna Requirement	47 CFR Part 15, Subpart C 15.225	N/A	47 CFR Part 15, Subpart C 15.203	Pass			

Radio Spectrum Matter Part							
Item	Standard	Method	Requirement	Result			
Emission Mask	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.225(a)&(b)&(C	Pass			
Radiated Emissions (9kHz-30MHz)	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass			
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass			
Frequency tolerance	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.225(e)	Pass			
20dB Bandwidth	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass			

Remark:

Model No.: FFN33, DYM70, FJB46, FJB47, FJC10, FJC13, FJC19, FJC20, FJC21, FJC22, FJC23, FJC24, FJC25, FJC26, FJC42, FJC43, FJC44, FJC45, FJC46, FJC48, FJC49, FJC50, FMR83, FPL57, FFK34, DYM84, FFM84, FFM85, FDJ59, FDJ60, FFL76, FFL79, FGW17, FJB98, FJG34, FJG36, FJG38, FJG40, FJG41, FJG43, FJG44, FJG42, FJG48, FJG47, FKD82, FJG17, FJG18, FJG20, FJG23, FJG22, FJG25, FJG26, FJG30, FJG31, FJG32, FJG24, FJG27, FJC39, FJC51, FMR63, FMR56

Only the model FFN33 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on colour and decorations.



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4 General Information

4.1 Details of E.U.T.

EUT Name: Fisher-Price® Laugh & Learn® First Words Smart Puppy

Model No.: FFN33

Power supply: 6.0V DC by 4×1.5V "AA" batteries

Operation frequency: 13.56MHz

Modulation type: FSK

Antenna type: Loop antenna

4.2 Description of Support Units

The EUT has been tested as an independent unit.



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4.3 Measurement Uncertainty

No.	ltem	Measurement Uncertainty
1	Radio Frequency	7.25 x 10 ⁻⁸
2	Duty cycle	0.37%
3	Occupied Bandwidth	3%
4	Dadiated Courieus emission test	4.5dB (30MHz-1GHz)
5	Radiated Spurious emission test	4.8dB (1GHz-18GHz)
	Temperature test	1℃
6	Humidity test	3%
7	Time	3%



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4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCC

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

Radiated Emissions(9kHz-30MHz)							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2016-05-13	2017-05-13		
EMI Test Receiver (9k-3GHz)	Rohde & Schwarz	ESCI	SEM004-01	2016-04-25	2017-04-25		
Trilog-Broadband Antenna(30M-1GHz)	Schwarzbeck	VULB9168	SEM003-17	2017-01-26	2018-01-26		
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-03	2016-04-25	2017-04-25		
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015-08-14	2018-08-14		

Radiated Emissions(30MHz-1GHz)							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2016-05-13	2017-05-13		
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-01	2016-04-25	2017-04-25		
(9k-3GHz)							
Trilog-Broadband Antenna(30M-1GHz)	Schwarzbeck	VULB9168	SEM003-17	2017-01-26	2018-01-26		
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-03	2016-04-25	2017-04-25		
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015-08-14	2018-08-14		

RF connected test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2016-10-09	2017-10-09
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2016-10-09	2017-10-09
Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2016-04-25	2017-04-25
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2016-10-09	2017-10-09



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General used equipment							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2016-10-12	2017-10-12		
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2016-10-12	2017-10-12		
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2016-10-12	2017-10-12		
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2016-05-18	2017-05-18		



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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

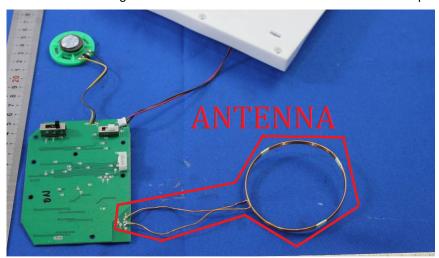
6.1.2 Conclusion

Standard Requirment:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement.





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7 Radio Spectrum Matter Test Results

7.1 Emission Mask

Test Requirement: 47 CFR Part 15, Subpart C 15.225
Test Method: ANSI C63.10 (2013) Section 6.4

Measurement Distance: 10m

Limit:

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15.848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.



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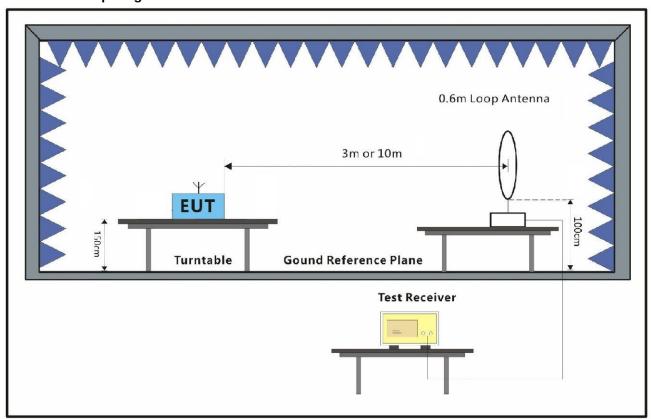
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:TX mode_Keep the EUT in transmitting mode

7.1.2 Test Setup Diagram



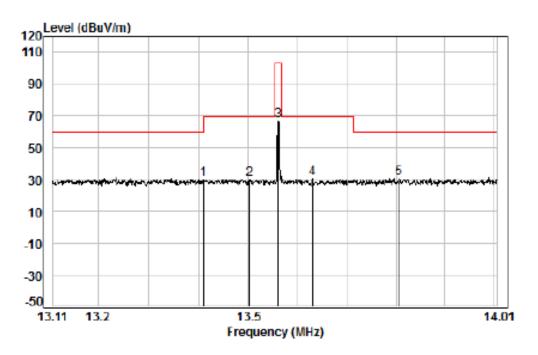
7.1.3 Measurement Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.



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Condition: 10m

Job No. : 01536CR

Test Mode: TX

	Freq			Preamp Factor				
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	13.41	0.57	10.38	0.00	19.32	30.27	69.56	-39.29
2	13.50	0.57	10.38	0.00	19.42	30.37	69.56	-39.19
3	13.56	0.57	10.37	0.00	56.22	67.16	103.08	-35.92
4	13.63	0.57	10.37	0.00	19.62	30.56	69.56	-39.00
5 pp	13.81	0.58	10.36	0.00	20.12	31.06	59.59	-28.53



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Below 30MHz

The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

 $L_{30} / L_{10} = D_{10} / D_{30}$

Note:

 L_{30} : Level @ 30m distance. Unit: uV/m; L_{10} : Level @ 10m distance. Unit: uV/m;

 D_{30} : 30m distance. Unit: m D_{10} : 10m distance. Unit: m

The level at 30m test distance is below:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 30m (uV/m)	Level @ 30m (dBuV/m)	Limit @ 30m (dBuV/m)	Margin (dB)
13.41	30.27	32.62	10.87	1.65	40.510	-38.86
13.50	30.37	33.00	11.00	1.75	50.470	-48.72
13.56	67.16	2280.34	760.11	38.54	84.000	-45.46
13.63	30.56	33.73	11.24	1.94	50.470	-48.53
13.81	31.06	35.73	11.91	2.44	40.510	-38.07



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7.2 Radiated Emissions(9kHz-30MHz)

Test Requirement: 47 CFR Part 15, Subpart C 15.225
Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Measurement Distance: 10m

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30
30-88	100	40.0	QP	3
88-216	150	43.5	QP	3
216-960	200	46.0	QP	3
960-1000	500	54.0	QP	3
Above 1000	500	54.0	AV	3



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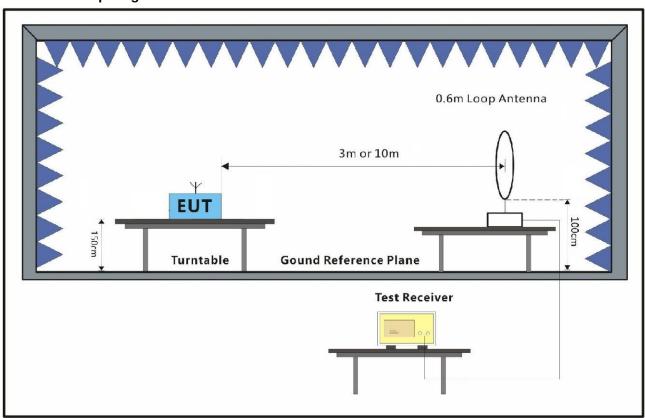
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:TX mode_Keep the EUT in transmitting mode

7.2.2 Test Setup Diagram



7.2.3 Measurement Data

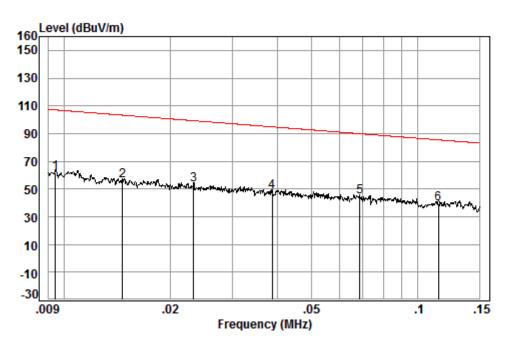
For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.



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Mode:a; Polarization:Horizontal



Condition: 10m Job No. : 01536CR

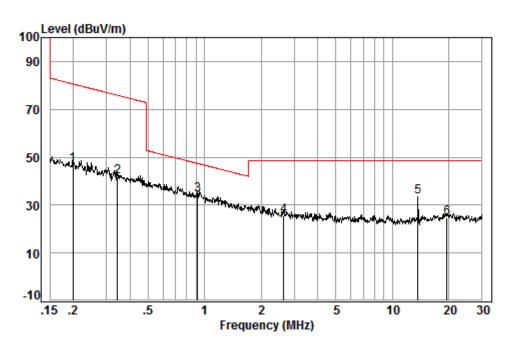
Test Mode: a · x

		Cable	Ant	Preamp	Read		Limit	0ver
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	0.01	0.29	19.66	32.27	74.15	61.83	107.06	-45.23
2	0.01	0.25	16.93	32.49	70.95	55.64	103.27	-47.63
3	0.02	0.20	14.58	32.49	70.49	52.78	99.27	-46.49
4	0.04	0.15	13.12	32.50	66.90	47.67	94.82	-47.15
5	0.07	0.09	12.17	32.51	64.43	44.18	89.87	-45.69
6	0.11	0.06	11.90	32.51	60.16	39.61	85.42	-45.81



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Condition: 10m Job No. : 01536CR

Test Mode: a : X

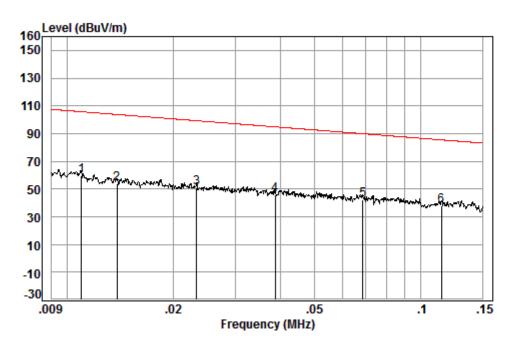
	Freq			Preamp Factor				
	MHz	dB		——dB				dB
1	0.20	0.08	12.80	32.51	66.45	46.82	80.64	-33.82
2	0.34	0.10	12.66	32.51	61.68	41.93	75.86	-33.93
3 pp	0.92	0.22	12.74	32.45	53.63	34.14	47.36	-13.22
4	2.64	0.37	12.30	32.47	45.50	25.70	48.50	-22.80
5	13.70	0.57	10.37	32.50	55.23	33.67	48.50	-14.83
6	19.53	0.67	10.76	32.52	45.67	24.58	48.50	-23.92



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Mode:a; Polarization:Vertical



Condition: 10m Job No. : 01536CR

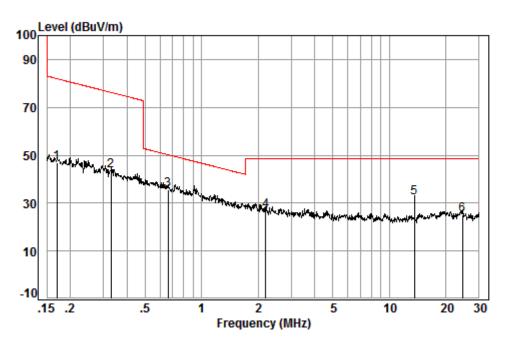
Test Mode: a · v

	Freq			Preamp Factor				Over Limit
_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	0.01	0.28	18.71	32.48	72.85	59.36	105.77	-46.41
2	0.01	0.26	17.28	32.49	68.63	53.68	103.76	-50.08
3	0.02	0.20	14.58	32.49	68.49	50.78	99.27	-48.49
4	0.04	0.15	13.12	32.50	64.90	45.67	94.82	-49.15
5	0.07	0.09	12.17	32.51	62.43	42.18	89.87	-47.69
6	0.11	0.06	11.90	32.51	58.16	37.61	85.42	-47.81



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Condition: 10m

Job No. : 01536CR

Test Mode: a

: Y

	Freq			Preamp Factor				
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	0.17	0.07	12.80	32.50	66.47	46.84	81.97	-35.13
2	0.33	0.09	12.68	32.51	63.11	43.37	76.22	-32.85
3 pp	0.66	0.16	12.57	32.47	55.34	35.60	50.16	-14.56
4	2.19	0.35	12.43	32.46	46.30	26.62	48.50	-21.88
5	13.57	0.57	10.37	32.50	53.70	32.14	48.50	-16.36
6	24.40	0.73	10.09	32.53	46.85	25.14	48.50	-23.36



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7.3 Radiated Emissions(30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart C 15.225
Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Measurement Distance: 10m

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3



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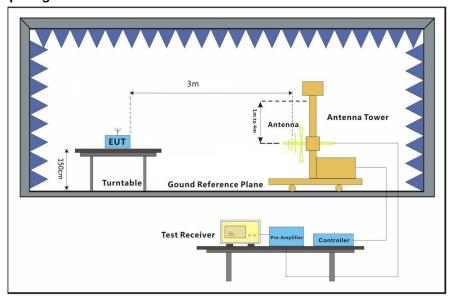
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:TX mode_Keep the EUT in transmitting mode

7.3.2 Test Setup Diagram



7.3.3 Measurement Data

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

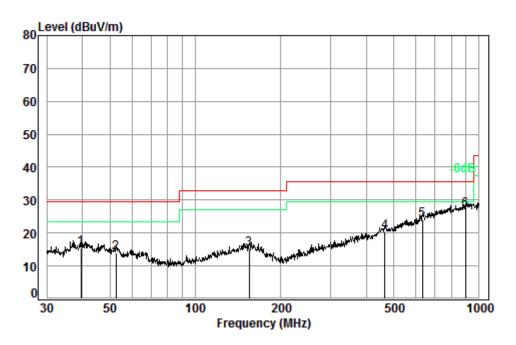
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Mode:a; Polarization:Horizontal



Condition: 10m HORIZONTAL

Job No. : 01536CR

Test Mode: a

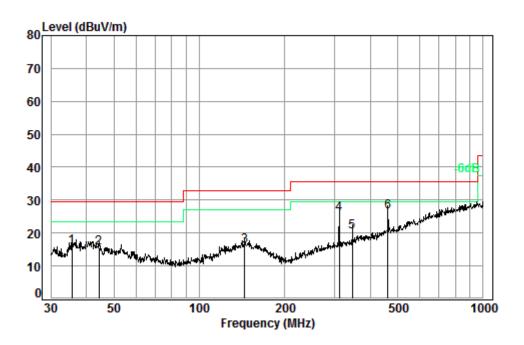
	Freq			Preamp Factor				
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	39.58	7.07	13.27	32.99	28.16	15.51	29.50	-13.99
2	52.58	6.24	12.57	32.99	28.15	13.97	29.50	-15.53
3	154.82	7.46	13.40	32.74	26.96	15.08	33.00	-17.92
4	465.60	8.68	16.35	32.60	27.85	20.28	35.60	-15.32
5	631.69	9.20	19.31	32.60	28.15	24.06	35.60	-11.54
6 pp	897.00	10.05	22.18	32.50	27.22	26.95	35.60	-8.65



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Mode:a; Polarization:Vertical



Condition: 10m VERTICAL

Job No. : 01536CR

Test Mode: a

		Cable	Ant	Preamp	Read		Limit	0ver
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	35.62	6 00	12 72	32.98	20 10	15 03	20 50	12 57
_	33.02	0.55	12./3	32.30	25.15	13.33	25.50	-13.37
2	44.43	6.63	12.95	32.99	28.86	15.45	29.50	-14.05
3	144.33	7.46	13.05	32.75	28.42	16.18	33.00	-16.82
4	311.09	8.13	12.98	32.60	37.30	25.81	35.60	-9.79
5	346.81	8.28	13.78	32.60	31.04	20.50	35.60	-15.10
6 рр	462.35	8.66	16.32	32.60	34.00	26.38	35.60	-9.22



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7.4 Frequency tolerance

Test Requirement: 47 CFR Part 15, Subpart C 15.225
Test Method: ANSI C63.10 (2013) Section 6.8

Measurement Distance: 10m

Limit: 1.356kHz

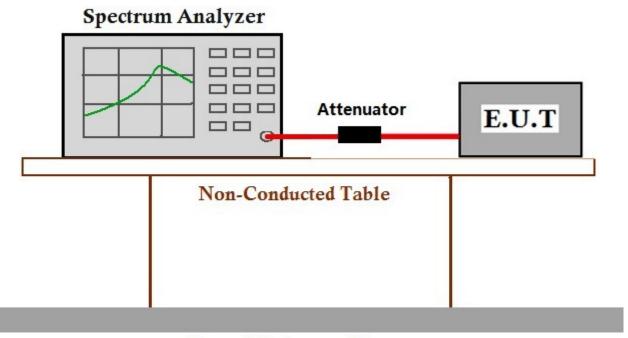
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:TX mode_Keep the EUT in transmitting mode

7.4.2 Test Setup Diagram



Ground Reference Plane

7.4.3 Measurement Data



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Test Frequency: 13.56MHz Temperature:20℃									
Supply Voltage	Test Result	Deviation	Limit	Result					
(V) DC	(MHz)	(kHz)							
6	13.560900	0.900	1.356	Pass					

Test Frequency: 13.5	e:6V				
Temperature	Test Result	Deviation	Limit	Result	
(℃)	(MHz)	(kHz)	(kHz)		
-20	13.560904	0.904	1.356		
-10	13.560900	0.900	1.356		
0	13.560912	0.912	1.356		
10	13.560900	0.900	1.356	Pass	
20	13.560904	0.904	1.356	Fd55	
30	13.560900	0.900	1.356		
40	13.560912	0.912	1.356		
50	13.560900	0.900	1.356		



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7.5 20dB Bandwidth

Test Requirement: 47 CFR Part 15, Subpart C 15.225
Test Method: ANSI C63.10 (2013) Section 6.9

Measurement Distance: 10m Limit: N/A

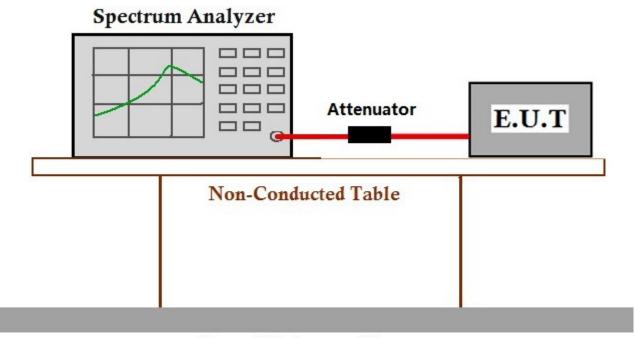
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:TX mode_Keep the EUT in transmitting mode

7.5.2 Test Setup Diagram



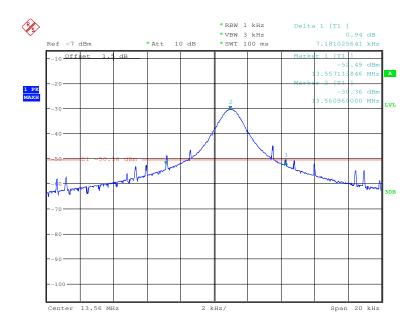
Ground Reference Plane

7.5.3 Measurement Data



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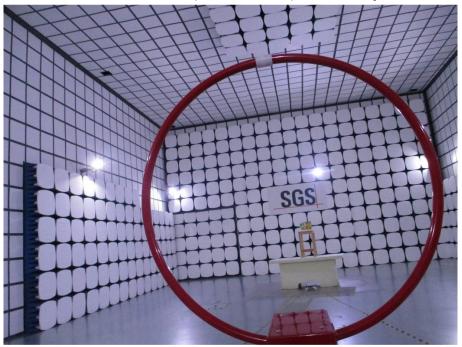


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8 Photographs

8.1 Radiated Emissions(9kHz-30MHz) Test Setup



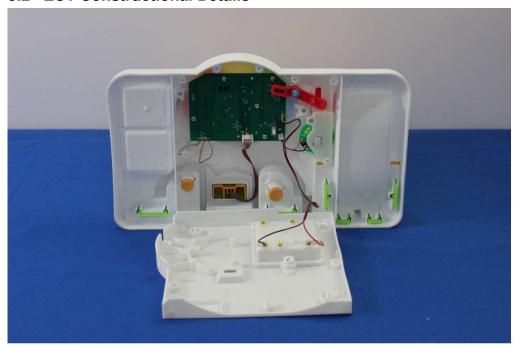


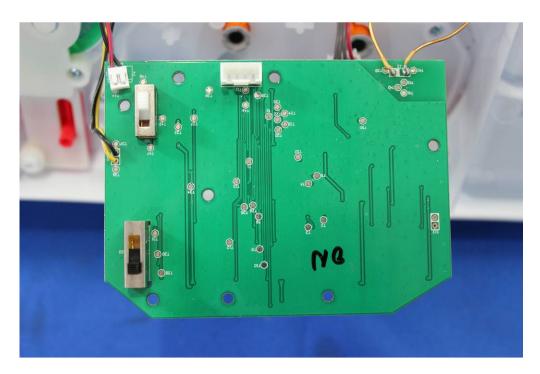


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8.2 EUT Constructional Details

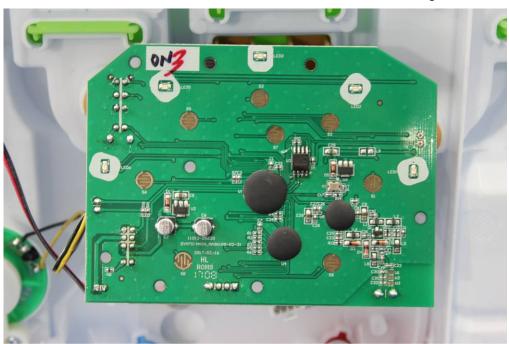


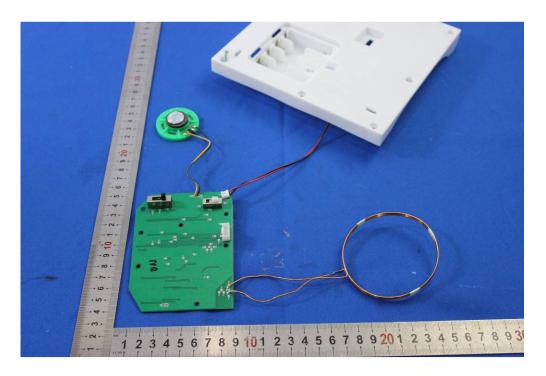




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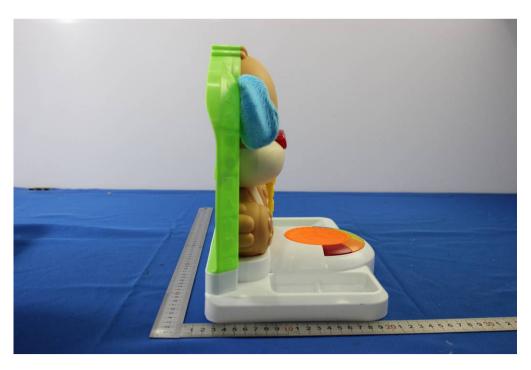




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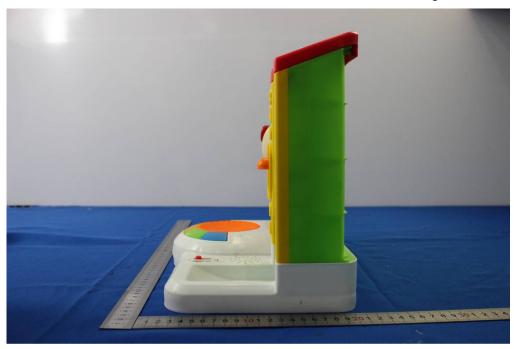






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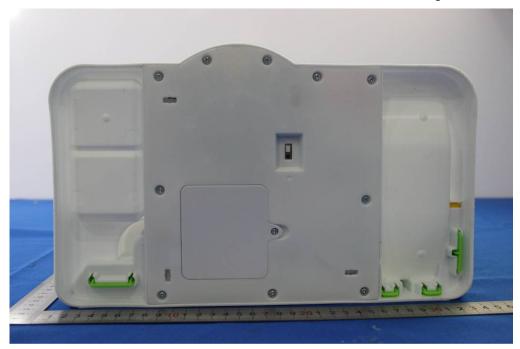


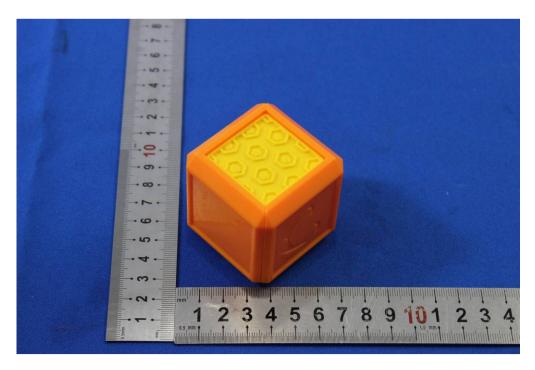




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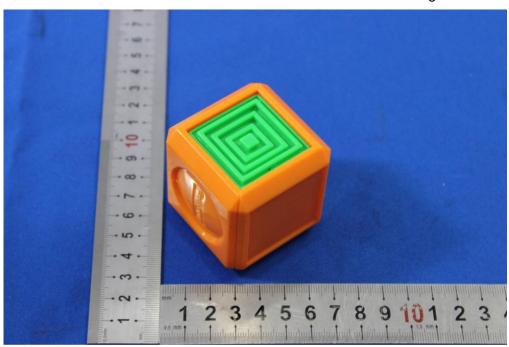


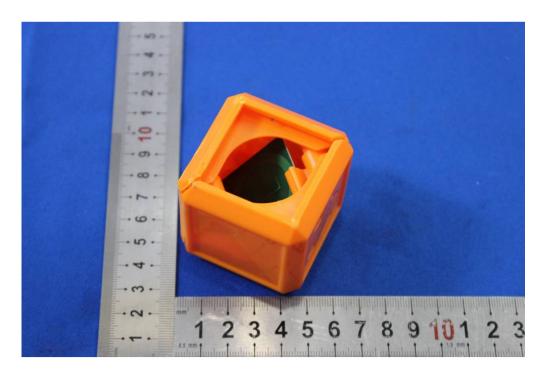




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