




TEST REPORT No: (5212)256-1092

TEST REPORT

To:	SILVERLIT TOYS MANUFACTORY LTD.	To:	-
Attn:	Ms. May Choi / Mr. Nelson Ng / Mr. Edmond / Ms. Angel Zhang	Attn:	-
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Folder No.:	--		
Factory name:	--		
Location:	--		
Product:	Mercedes-Benz SLS AMG Model No.: 86074		
	Sample No:	(5212)256-1092	
	Test date:	September 14, 2012 to November 12, 2012	
	Test Requested:	FCC Part 15 - 2011	
	Test Method:	ANSI C63.4 - 2009	
	FCC ID:	OYK-TX0002G4-1210	
<p>The results given in this report are related to the tested specimen of the described electrical apparatus.</p> <p>CONCLUSION: The submitted sample was found to <u>COMPLY</u> with requirement of FCC Part 15 Subpart C.</p> <p>Authorized Signature:</p>			
			
Reviewed by: Keith Yeung		Approved by: Steven Tsang	
Date: November 15, 2012		Date: November 15, 2012	



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Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. An Open Area Test Site and Full Anechoic Chamber (FCC Listed Site, Registration No. 642151) are set up for investigation and located at :

BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE

No. 2106-2107, 21/F., Westin Centre,
26 Hung To Road,
Kwun Tong, Kowloon,
Hong Kong

List of measuring equipment

Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	18-OCT-2012
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	14-AUG-2013
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	15-SEP-2013
OPEN AREA TEST SITE	BVCPS	N/A	N/A	09-JUL-2013
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	01-DEC-2012
COAXIAL CABLE	SUHNER	RG214	N/A	06-OCT-2012

Remarks:-

N/A : Not Applicable or Not Available

The measurement instrumentation uncertainty would be taking into consideration on each of the test result

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Equipment Under Test [EUT]

Description of Sample:

Model Name: Mercedes-Benz SLS AMG
Model Number: 86074
Rating: 6V.d.c. ("AA" size battery x 4)

Description of EUT Operation:

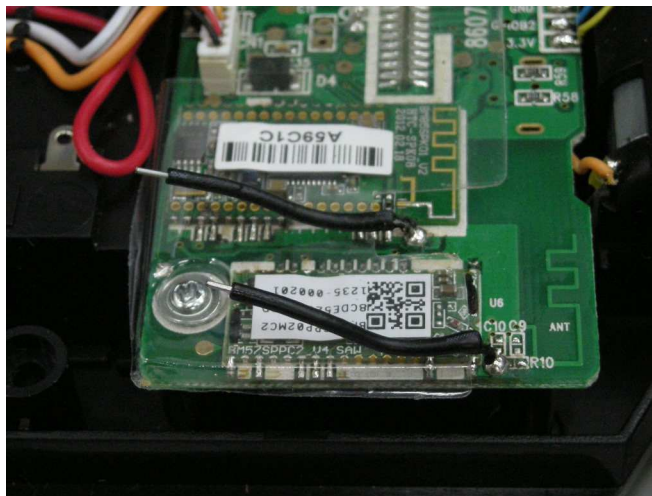
The Equipment Under Test (EUT) is a **SILVERLIT TOYS MANUFACTORY LIMITED** of Remote Control Transceiver. It is a 1 switch transceiver and operating at 2402MHz to 2480MHz. The lowest, middle and highest frequencies were tested and the results are shown in the report. The EUT transmit while buttons is being pressed at the operate interface, Modulation by IC, and type is FHSS.

The transmitter has different control:

1. ON/OFF switch – ON/OFF control

Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. It is a 30.6mm long copper wire and soldered on the PCB. The antenna is not replaceable or user serviceable. The requirements of S15.203 are met. There are no deviations or exceptions to the specifications.



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Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.249
 Test Method: ANSI C63.4
 Test Date(s): 2012-11-12
 Temperature: 29.0 °C
 Humidity: 67.0 %
 Atmospheric Pressure: 100.3 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

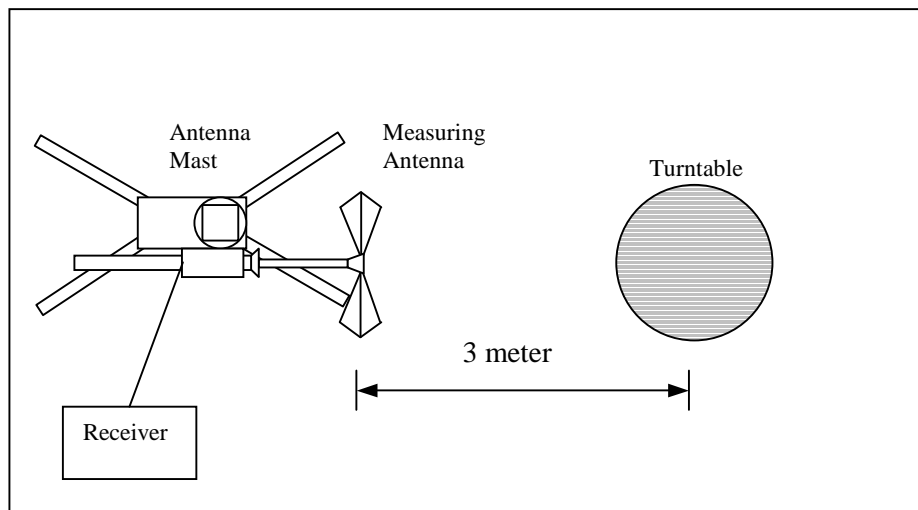
Test Procedure:

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using new battery. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

Location: The Roof, Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

Test Setup: Open Area Test Site





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

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission (Average) [mV/m]	Field Strength of Harmonics Emission (Average) [µV/m]
2400-2483.5	50	500

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Lowest frequency):
PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
2402.00	H	-5.2	88.2	114.0	-25.8
2402.00	V	-5.2	88.4	114.0	-25.6

Detection mode: # Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
2402.00	H	-5.2	**78.3	94.0	-15.7
2402.00	V	-5.2	**78.5	94.0	-15.5

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



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Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Middle frequency):
PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2441.00	H	-4.6	89.8	114.0	-24.2
2441.00	V	-4.6	87.3	114.0	-26.7

Detection mode: # Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2441.00	H	-4.6	**79.9	94.0	-14.1
2441.00	V	-4.6	**77.4	94.0	-16.6

**Test Result of (FerrariENZO module, Transmission mode, Highest frequency):
PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2480.00	H	-4.3	91.2	114.0	-22.8
2480.00	V	-4.3	87.5	114.0	-26.5

Detection mode: # Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2480.00	H	-4.3	**81.3	94.0	-12.7
2480.00	V	-4.3	**77.6	94.0	-16.4

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



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Measurement Data

Test Result of (Music module, Transmission mode, Lowest frequency): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
2402.00	H	-5.2	89.5	114.0	-24.5
2402.00	V	-5.2	88.8	114.0	-25.2

Detection mode: # Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
2402.00	H	-5.2	**79.6	94.0	-14.4
2402.00	V	-5.2	**78.9	94.0	-15.1

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



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Measurement Data

Test Result of (Music module, Transmission mode, Middle frequency): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2441.00	H	-4.6	91.0	114.0	-23.0
2441.00	V	-4.6	87.4	114.0	-26.6

Detection mode: # Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2441.00	H	-4.6	**81.1	94.0	-12.9
2441.00	V	-4.6	**77.5	94.0	-16.5

Test Result of (Music module, Transmission mode, Highest frequency): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2480.00	H	-4.3	91.6	114.0	-22.4
2480.00	V	-4.3	88.2	114.0	-25.8

Detection mode: # Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
2480.00	H	-4.3	**81.7	94.0	-12.3
2480.00	V	-4.3	**78.3	94.0	-15.7

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



TEST REPORT No: (5212)256-1092

Radiated Emissions (Spurious Emission)

Test Requirement: FCC Part 15 Section 15.249
 Test Method: ANSI C63.4
 Test Date(s): 2012-11-12
 Temperature: 29.0 °C
 Humidity: 67.0 %
 Atmospheric Pressure: 100.3 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Lowest frequency):
 PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
4804.00	H	5.5	58.5	74.0	-15.5
7206.00	H	12.4	57.0	74.0	-17.0
9608.00	H	15.1	56.2	74.0	-17.8
12010.00	H	17.5	52.0	74.0	-22.0
14412.00	H	22.1	52.9	74.0	-21.1
16814.00	H	30.8	53.7	74.0	-20.3
19216.00	H	31.8	52.7	74.0	-21.3
21618.00	H	32.3	52.7	74.0	-21.3
24020.00	H	33.7	53.5	74.0	-20.5
26422.00	H	34.6	55.0	74.0	-19.0

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
 VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Lowest frequency):
PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4804.00	V	5.5	58.1	74.0	-15.9
7206.00	V	12.4	57.9	74.0	-16.1
9608.00	V	15.1	55.9	74.0	-18.1
12010.00	V	17.5	52.8	74.0	-21.2
14412.00	V	22.1	52.6	74.0	-21.4
16814.00	V	30.8	53.0	74.0	-21.0
19216.00	V	31.8	52.1	74.0	-21.9
21618.00	V	32.3	53.1	74.0	-20.9
24020.00	V	33.7	52.5	74.0	-21.5
26422.00	V	34.6	55.6	74.0	-18.4

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



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Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Lowest frequency):
PASS**

Detection mode: #Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4804.00	H	5.5	**48.6	54.0	-5.4
7206.00	H	12.4	**47.1	54.0	-6.9
9608.00	H	15.1	**46.3	54.0	-7.7
12010.00	H	17.5	**42.1	54.0	-11.9
14412.00	H	22.1	**43.0	54.0	-11.0
16814.00	H	30.8	**43.8	54.0	-10.2
19216.00	H	31.8	**42.8	54.0	-11.2
21618.00	H	32.3	**42.8	54.0	-11.2
24020.00	H	33.7	**43.6	54.0	-10.4
26422.00	H	34.6	**45.1	54.0	-8.9

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4804.00	V	5.5	**48.2	54.0	-5.8
7206.00	V	12.4	**48.0	54.0	-6.0
9608.00	V	15.1	**46.0	54.0	-8.0
12010.00	V	17.5	**42.9	54.0	-11.1
14412.00	V	22.1	**42.7	54.0	-11.3
16814.00	V	30.8	**43.1	54.0	-10.9
19216.00	V	31.8	**42.2	54.0	-11.8
21618.00	V	32.3	**43.2	54.0	-10.8
24020.00	V	33.7	**42.6	54.0	-11.4
26422.00	V	34.6	**45.7	54.0	-8.3

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Middle frequency):
PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4882.00	H	5.7	56.8	74.0	-17.2
7323.00	H	13.9	54.1	74.0	-19.9
9764.00	H	14.0	54.8	74.0	-19.2
12205.00	H	18.6	51.5	74.0	-22.5
14646.00	H	23.2	52.5	74.0	-21.5
17087.00	H	31.2	53.4	74.0	-20.6
19528.00	H	32.0	53.0	74.0	-21.0
21969.00	H	33.5	53.8	74.0	-20.2
24410.00	H	34.1	53.4	74.0	-20.6
26851.00	H	35.2	53.9	74.0	-20.1

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4882.00	V	5.7	57.8	74.0	-16.2
7323.00	V	13.9	54.5	74.0	-19.5
9764.00	V	14.0	54.1	74.0	-19.9
12205.00	V	18.6	51.0	74.0	-23.0
14646.00	V	23.2	53.2	74.0	-20.8
17087.00	V	31.2	53.9	74.0	-20.1
19528.00	V	32.0	52.3	74.0	-21.7
21969.00	V	33.5	53.7	74.0	-20.3
24410.00	V	34.1	53.8	74.0	-20.2
26851.00	V	35.2	54.5	74.0	-19.5

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Middle frequency):
PASS**

Detection mode: #Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4882.00	H	5.7	**46.9	54.0	-7.1
7323.00	H	13.9	**44.2	54.0	-9.8
9764.00	H	14.0	**44.9	54.0	-9.1
12205.00	H	18.6	**41.6	54.0	-12.4
14646.00	H	23.2	**42.6	54.0	-11.4
17087.00	H	31.2	**43.5	54.0	-10.5
19528.00	H	32.0	**43.1	54.0	-10.9
21969.00	H	33.5	**43.9	54.0	-10.1
24410.00	H	34.1	**43.5	54.0	-10.5
26851.00	H	35.2	**44.0	54.0	-10.0

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4882.00	V	5.7	**47.9	54.0	-6.1
7323.00	V	13.9	**44.6	54.0	-9.4
9764.00	V	14.0	**44.2	54.0	-9.8
12205.00	V	18.6	**41.1	54.0	-12.9
14646.00	V	23.2	**43.3	54.0	-10.7
17087.00	V	31.2	**44.0	54.0	-10.0
19528.00	V	32.0	**42.4	54.0	-11.6
21969.00	V	33.5	**43.8	54.0	-10.2
24410.00	V	34.1	**43.9	54.0	-10.1
26851.00	V	35.2	**44.6	54.0	-9.4

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz

**BUREAU VERITAS HONG KONG LIMITED –
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TEST REPORT No: (5212)256-1092

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Highest frequency):
PASS**

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4960.00	H	5.7	57.4	74.0	-16.6
7440.00	H	14.7	53.3	74.0	-20.7
9920.00	H	12.9	55.1	74.0	-18.9
12400.00	H	19.5	50.0	74.0	-24.0
14880.00	H	25.1	55.3	74.0	-18.7
17360.00	H	33.4	53.1	74.0	-20.9
19840.00	H	34.7	53.6	74.0	-20.4
22320.00	H	35.6	52.8	74.0	-21.2
24800.00	H	36.8	54.4	74.0	-19.6
27280.00	H	37.5	56.5	74.0	-17.5

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4960.00	V	5.7	56.8	74.0	-17.2
7440.00	V	14.7	55.8	74.0	-18.2
9920.00	V	12.9	54.7	74.0	-19.3
12400.00	V	19.5	51.5	74.0	-22.5
14880.00	V	25.1	54.1	74.0	-19.9
17360.00	V	33.4	53.6	74.0	-20.4
19840.00	V	34.7	52.9	74.0	-21.1
22320.00	V	35.6	52.8	74.0	-21.2
24800.00	V	36.8	54.4	74.0	-19.6
27280.00	V	37.5	55.8	74.0	-18.2

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

**Test Result of (FerrariENZO module, Transmission mode, Highest frequency):
PASS**

Detection mode: #Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4960.00	H	5.7	**47.5	54.0	-6.5
7440.00	H	14.7	**43.4	54.0	-10.6
9920.00	H	12.9	**45.2	54.0	-8.8
12400.00	H	19.5	**40.1	54.0	-13.9
14880.00	H	25.1	**45.4	54.0	-8.6
17360.00	H	33.4	**43.2	54.0	-10.8
19840.00	H	34.7	**43.7	54.0	-10.3
22320.00	H	35.6	**42.9	54.0	-11.1
24800.00	H	36.8	**44.5	54.0	-9.5
27280.00	H	37.5	**46.6	54.0	-7.4

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4960.00	V	5.7	**46.9	54.0	-7.1
7440.00	V	14.7	**45.9	54.0	-8.1
9920.00	V	12.9	**44.8	54.0	-9.2
12400.00	V	19.5	**41.6	54.0	-12.4
14880.00	V	25.1	**44.2	54.0	-9.8
17360.00	V	33.4	**43.7	54.0	-10.3
19840.00	V	34.7	**43.0	54.0	-11.0
22320.00	V	35.6	**42.9	54.0	-11.1
24800.00	V	36.8	**44.5	54.0	-9.5
27280.00	V	37.5	**45.9	54.0	-8.1

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = 20Log(0.32) = -9.9dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (Music module, Transmission mode, Lowest frequency): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4804.00	H	5.5	57.8	74.0	-16.2
7206.00	H	12.4	56.1	74.0	-17.9
9608.00	H	15.1	55.1	74.0	-18.9
12010.00	H	17.5	52.3	74.0	-21.7
14412.00	H	22.1	52.7	74.0	-21.3
16814.00	H	30.8	51.4	74.0	-22.6
19216.00	H	31.8	53.3	74.0	-20.7
21618.00	H	32.3	52.5	74.0	-21.5
24020.00	H	33.7	53.7	74.0	-20.3
26422.00	H	34.6	54.2	74.0	-19.8

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
4804.00	V	5.5	57.4	74.0	-16.6
7206.00	V	12.4	58.2	74.0	-15.8
9608.00	V	15.1	54.9	74.0	-19.1
12010.00	V	17.5	53.5	74.0	-20.5
14412.00	V	22.1	53.3	74.0	-20.7
16814.00	V	30.8	54.3	74.0	-19.7
19216.00	V	31.8	52.5	74.0	-21.5
21618.00	V	32.3	53.2	74.0	-20.8
24020.00	V	33.7	53.3	74.0	-20.7
26422.00	V	34.6	55.4	74.0	-18.6

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (Music module, Transmission mode, Lowest frequency): PASS

Detection mode: #Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4804.00	H	5.5	**47.9	54.0	-6.1
7206.00	H	12.4	**46.2	54.0	-7.8
9608.00	H	15.1	**45.2	54.0	-8.8
12010.00	H	17.5	**42.4	54.0	-11.6
14412.00	H	22.1	**42.8	54.0	-11.2
16814.00	H	30.8	**41.5	54.0	-12.5
19216.00	H	31.8	**43.4	54.0	-10.6
21618.00	H	32.3	**42.6	54.0	-11.4
24020.00	H	33.7	**43.8	54.0	-10.2
26422.00	H	34.6	**44.3	54.0	-9.7

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4804.00	V	5.5	**47.5	54.0	-6.5
7206.00	V	12.4	**48.3	54.0	-5.7
9608.00	V	15.1	**45.0	54.0	-9.0
12010.00	V	17.5	**43.6	54.0	-10.4
14412.00	V	22.1	**43.4	54.0	-10.6
16814.00	V	30.8	**44.4	54.0	-9.6
19216.00	V	31.8	**42.6	54.0	-11.4
21618.00	V	32.3	**43.3	54.0	-10.7
24020.00	V	33.7	**43.4	54.0	-10.6
26422.00	V	34.6	**45.5	54.0	-8.5

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (Music module, Transmission mode, Middle frequency): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4882.00	H	5.7	57.4	74.0	-16.6
7323.00	H	13.9	56.1	74.0	-17.9
9764.00	H	14.0	55.2	74.0	-18.8
12205.00	H	18.6	51.1	74.0	-22.9
14646.00	H	23.2	52.7	74.0	-21.3
17087.00	H	31.2	51.9	74.0	-22.1
19528.00	H	32.0	53.2	74.0	-20.8
21969.00	H	33.5	54.1	74.0	-19.9
24410.00	H	34.1	53.8	74.0	-20.2
26851.00	H	35.2	53.4	74.0	-20.6

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4882.00	V	5.7	56.9	74.0	-17.1
7323.00	V	13.9	55.6	74.0	-18.4
9764.00	V	14.0	52.3	74.0	-21.7
12205.00	V	18.6	47.7	74.0	-26.3
14646.00	V	23.2	53.0	74.0	-21.0
17087.00	V	31.2	52.2	74.0	-21.8
19528.00	V	32.0	52.9	74.0	-21.1
21969.00	V	33.5	53.0	74.0	-21.0
24410.00	V	34.1	53.0	74.0	-21.0
26851.00	V	35.2	54.4	74.0	-19.6

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (Music module, Transmission mode, Middle frequency): PASS

Detection mode: #Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4882.00	H	5.7	**47.5	54.0	-6.5
7323.00	H	13.9	**46.2	54.0	-7.8
9764.00	H	14.0	**45.3	54.0	-8.7
12205.00	H	18.6	**41.2	54.0	-12.8
14646.00	H	23.2	**42.8	54.0	-11.2
17087.00	H	31.2	**42.0	54.0	-12.0
19528.00	H	32.0	**43.3	54.0	-10.7
21969.00	H	33.5	**44.2	54.0	-9.8
24410.00	H	34.1	**43.9	54.0	-10.1
26851.00	H	35.2	**43.5	54.0	-10.5

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4882.00	V	5.7	**47.0	54.0	-7.0
7323.00	V	13.9	**45.7	54.0	-8.3
9764.00	V	14.0	**42.4	54.0	-11.6
12205.00	V	18.6	**37.8	54.0	-16.2
14646.00	V	23.2	**43.1	54.0	-10.9
17087.00	V	31.2	**42.3	54.0	-11.7
19528.00	V	32.0	**43.0	54.0	-11.0
21969.00	V	33.5	**43.1	54.0	-10.9
24410.00	V	34.1	**43.1	54.0	-10.9
26851.00	V	35.2	**44.5	54.0	-9.5

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = 20Log(0.32) = -9.9dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz

VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (Music module, Transmission mode, Highest frequency): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4960.00	H	5.7	56.3	74.0	-17.7
7440.00	H	14.7	52.6	74.0	-21.4
9920.00	H	12.9	53.9	74.0	-20.1
12400.00	H	19.5	51.5	74.0	-22.5
14880.00	H	25.1	57.8	74.0	-16.2
17360.00	H	33.4	50.5	74.0	-23.5
19840.00	H	34.7	52.9	74.0	-21.1
22320.00	H	35.6	53.0	74.0	-21.0
24800.00	H	36.8	54.5	74.0	-19.5
27280.00	H	37.5	55.8	74.0	-18.2

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4960.00	V	5.7	54.3	74.0	-19.7
7440.00	V	14.7	55.9	74.0	-18.1
9920.00	V	12.9	53.5	74.0	-20.5
12400.00	V	19.5	51.4	74.0	-22.6
14880.00	V	25.1	53.9	74.0	-20.1
17360.00	V	33.4	52.7	74.0	-21.3
19840.00	V	34.7	54.6	74.0	-19.4
22320.00	V	35.6	52.9	74.0	-21.1
24800.00	V	36.8	54.9	74.0	-19.1
27280.00	V	37.5	54.9	74.0	-19.1

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
 VBW = 1MHz



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (Music module, Transmission mode, Highest frequency): PASS

Detection mode: #Average

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4960.00	H	5.7	**46.4	54.0	-7.6
7440.00	H	14.7	**42.7	54.0	-11.3
9920.00	H	12.9	**44.0	54.0	-10.0
12400.00	H	19.5	**41.6	54.0	-12.4
14880.00	H	25.1	**47.9	54.0	-6.1
17360.00	H	33.4	**40.6	54.0	-13.4
19840.00	H	34.7	**43.0	54.0	-11.0
22320.00	H	35.6	**43.1	54.0	-10.9
24800.00	H	36.8	**44.6	54.0	-9.4
27280.00	H	37.5	**45.9	54.0	-8.1

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
4960.00	V	5.7	**44.4	54.0	-9.6
7440.00	V	14.7	**46.0	54.0	-8.0
9920.00	V	12.9	**43.6	54.0	-10.4
12400.00	V	19.5	**41.5	54.0	-12.5
14880.00	V	25.1	**44.0	54.0	-10.0
17360.00	V	33.4	**42.8	54.0	-11.2
19840.00	V	34.7	**44.7	54.0	-9.3
22320.00	V	35.6	**43.0	54.0	-11.0
24800.00	V	36.8	**45.0	54.0	-9.0
27280.00	V	37.5	**45.0	54.0	-9.0

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = 20Log(0.32) = -9.9dB.

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz
 VBW = 1MHz



TEST REPORT No: (5212)256-1092

Radiated Emissions (30MHz – 1GHz)

Test Requirement: FCC Part 15 Section 15.209
Test Method: ANSI C63.4
Test Date(s): 2012-09-14
Temperature: 29.0 °C
Humidity: 67.0 %
Atmospheric Pressure: 100.3 kPa
Mode of Operation: Transmission mode
Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V}/\text{m}$]
1.705-30	300
30-88	100
88-216	150
216-960	200
Above960	500



TEST REPORT No: (5212)256-1092

Measurement Data

Test Result of (On mode): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
216.24	H	26.7	46.0	-19.3
246.56	H	32.5	46.0	-13.5
290.68	H	31.6	46.0	-14.4
378.28	H	36.2	46.0	-9.8
455.16	H	31.2	46.0	-14.8
591.56	H	39.3	46.0	-6.7

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
216.24	V	21.2	46.0	-24.8
246.56	V	22.6	46.0	-23.4
290.68	V	24.8	46.0	-21.2
378.28	V	26.9	46.0	-19.1
455.16	V	28.0	46.0	-18.0
591.56	V	30.5	46.0	-15.5

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



TEST REPORT No: (5212)256-1092

Frequency range of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249
 Test Method: ANSI C63.4 (Section 13.1.7)
 Test Date(s): 2012-09-14
 Temperature: 28.0 °C
 Humidity: 71.0 %
 Atmospheric Pressure: 100.5 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

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.

FerrariENZO module

Limits for Frequency range of Fundamental Emission:

Frequency [MHz]	FCC Limits [MHz]
2402.00 – 2480.00	2400 – 2483.5

Music module

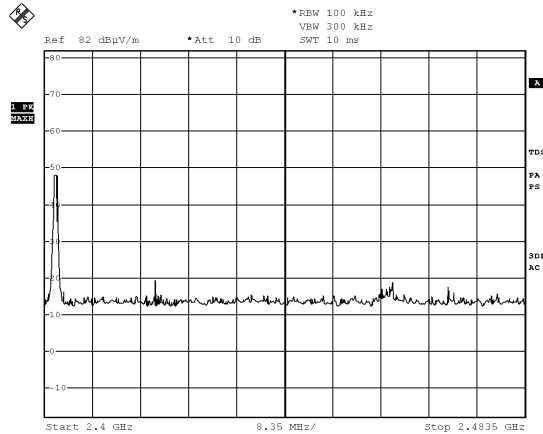
Limits for Frequency range of Fundamental Emission:

Frequency [MHz]	FCC Limits [MHz]
2402.00 – 2480.00	2400 – 2483.5

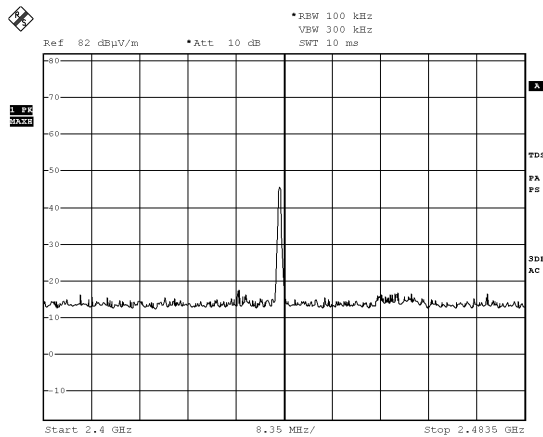
TEST REPORT No: (5212)256-1092

Measurement Data :

**Test Result of Frequency Range of Fundamental Emission: PASS
 FerrariENZO module, Lowest Frequency – 2402.00MHz**



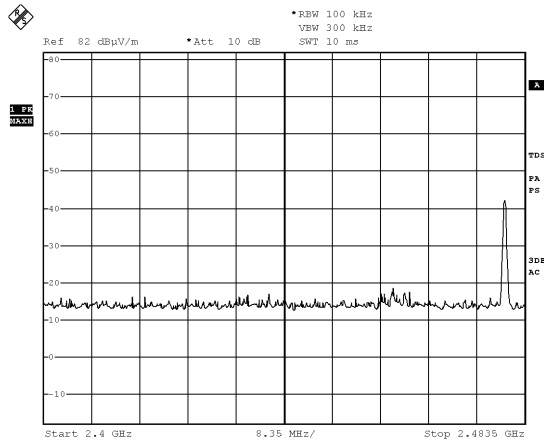
**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
 FerrariENZO module, Middle Frequency – 2441.00MHz**



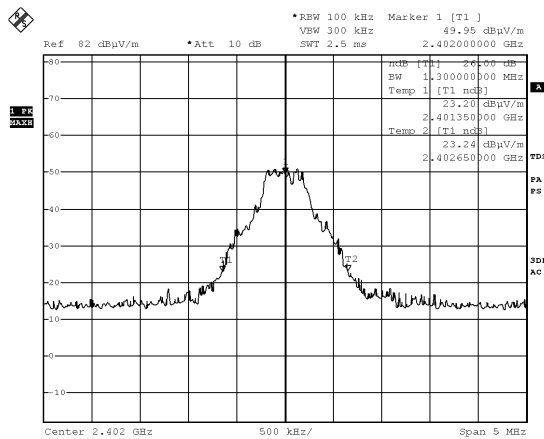
TEST REPORT No: (5212)256-1092

Measurement Data :

**Test Result of Frequency Range of Fundamental Emission: PASS
FerrariENZO module, Highest Frequency – 2480.00MHz**



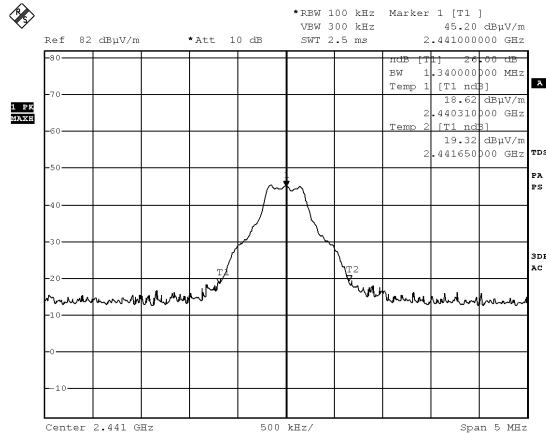
**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
FerrariENZO module, Lowest Frequency – 2402.00MHz**



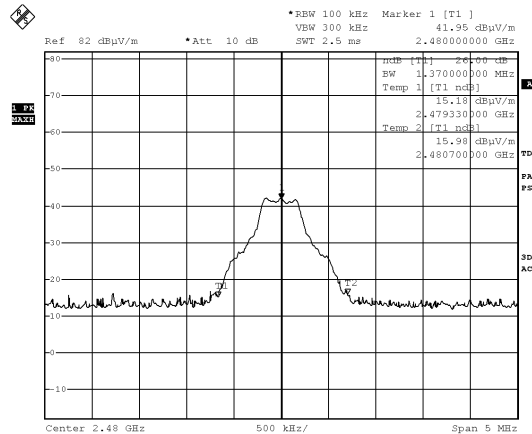
TEST REPORT No: (5212)256-1092

Measurement Data :

**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
FerrariENZO module, Middle Frequency – 2441.00MHz**



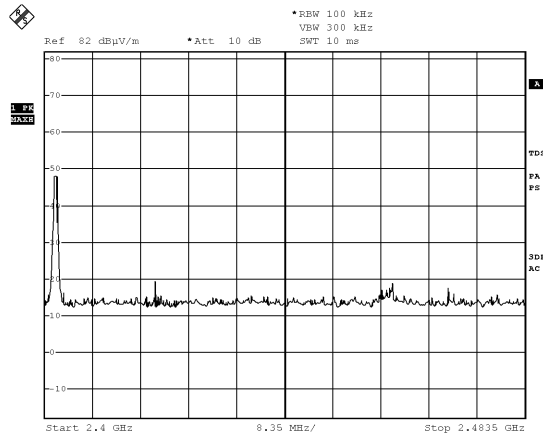
**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
FerrariENZO module, Highest Frequency – 2480.00MHz**



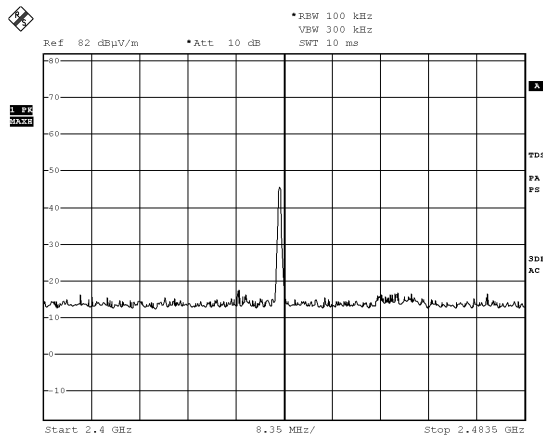
TEST REPORT No: (5212)256-1092

Measurement Data :

**Test Result of Frequency Range of Fundamental Emission: PASS
Music module, Lowest Frequency – 2402.00MHz**



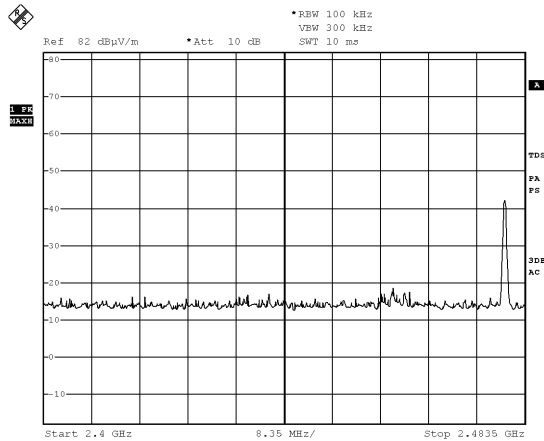
**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
Music module, Middle Frequency – 2441.00MHz**



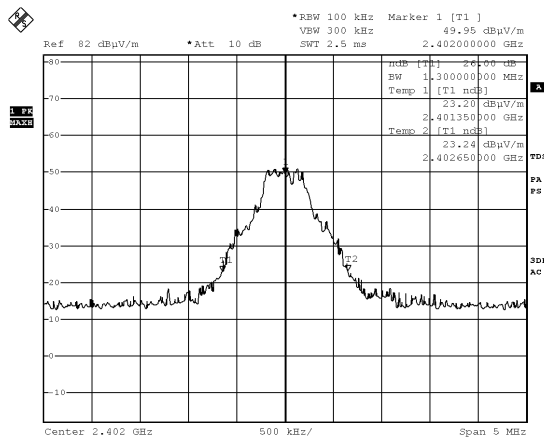
TEST REPORT No: (5212)256-1092

Measurement Data :

**Test Result of Frequency Range of Fundamental Emission: PASS
Music module, Highest Frequency – 2480.00MHz**



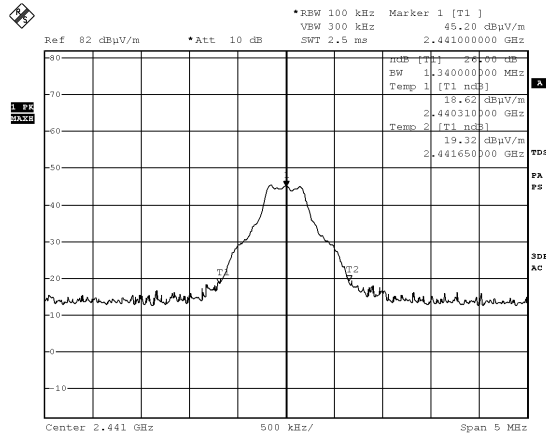
**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
Music module, Lowest Frequency – 2402.00MHz**



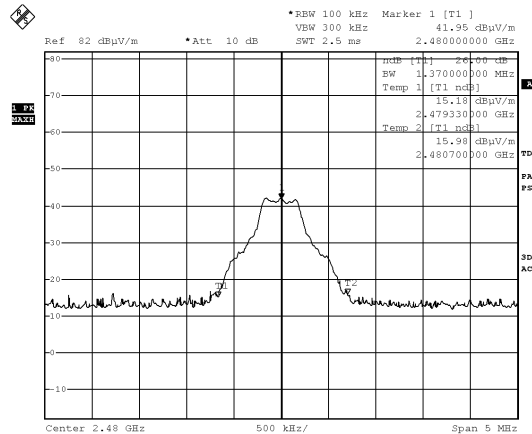
TEST REPORT No: (5212)256-1092

Measurement Data :

**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
Music module, Middle Frequency – 2441.00MHz**



**Test Result of 26dB Bandwidth of Fundamental Emission: PASS
Music module, Highest Frequency – 2480.00MHz**





TEST REPORT No: (5212)256-1092

Duty Cycle Correction During 100msec:

FerrariENZO module:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 80 pulse (0.4msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered (80×0.4) per 100msec = 32% duty cycle.

Remarks:

Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$

Music module:

Each function key sends a different series of characters, but each packet period (100msec) never exceeds a series of 80 pulse (0.4msec). Assuming any combination of short and long pulses maybe obtained due to encoding the worst case transmit duty cycle would be considered (80×0.4) per 100msec = 32% duty cycle.

Remarks:

Duty Cycle Correction = $20\text{Log}(0.32) = -9.9\text{dB}$

The following figures [Figure A & B] show the characteristics of the pulse train for one of these functions.

TEST REPORT No: (5212)256-1092

Measurement Data :

Figure A [FerrariENZO module Pulse Train]

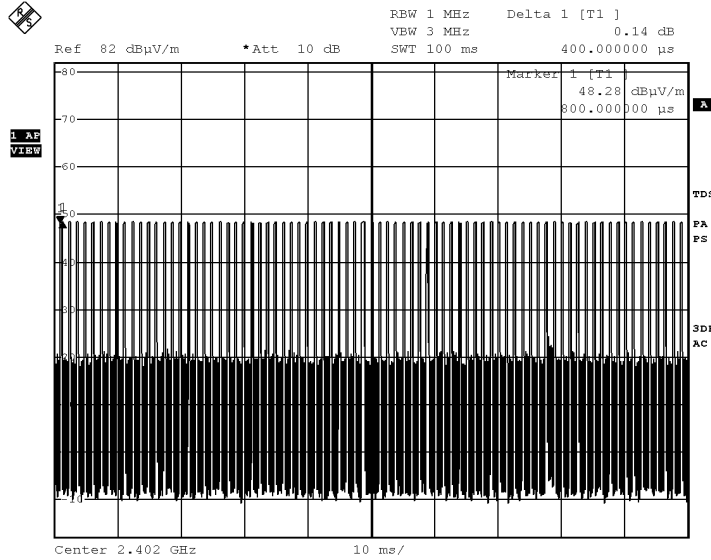
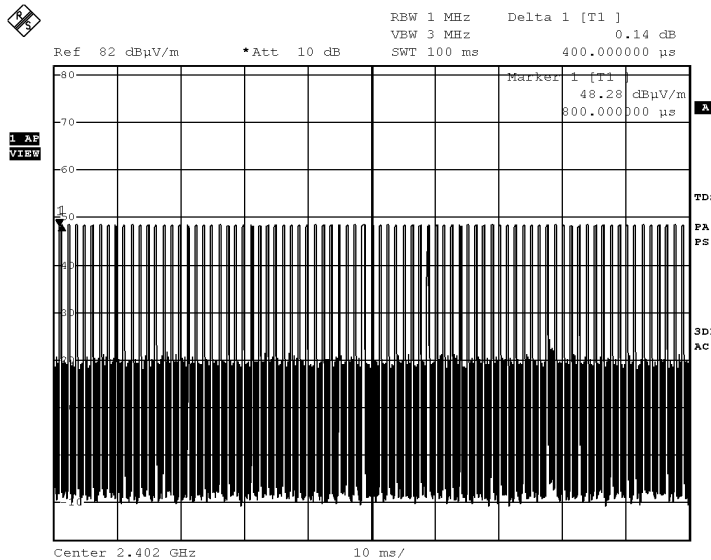


Figure B [Music module Pulse Train]



TEST REPORT No: (5212)256-1092

Photographs of EUT

Front View of the product



Rear View of the product



Side View of the product



Side View of the product



Battery compartment



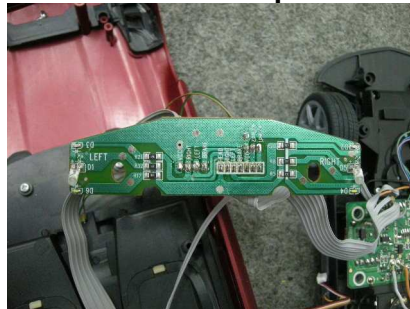
Battery Cover



Internal View of Product



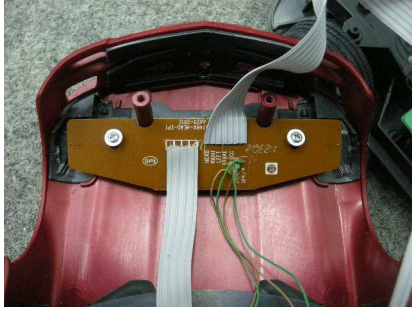
Inner Circuit Top View



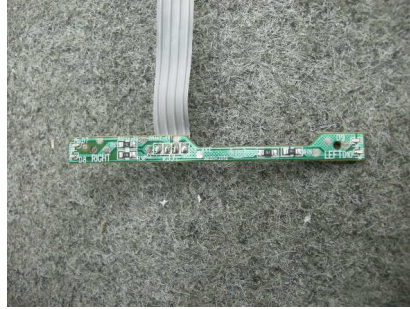
TEST REPORT No: (5212)256-1092

Photographs of EUT

Inner Circuit Bottom View



Inner Circuit Top View



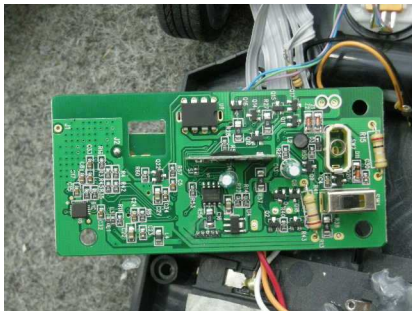
Inner Circuit Bottom View



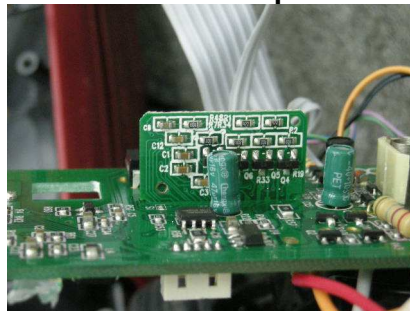
Inner Circuit Top View



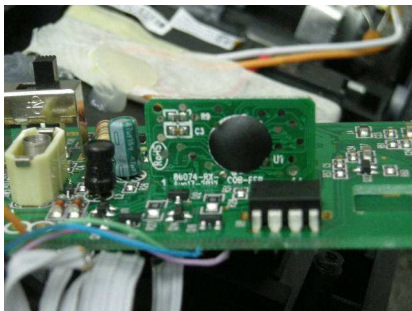
Inner Circuit Bottom View



Inner Circuit Top View



Inner Circuit Bottom View



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Measurement of Radiated Emission Test Set Up



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