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No. : MH185600

**Applicant (DOY012):** Striiv Inc.

2400 Broadway Ave. Suite 220, Redwood City, CA 94063

Manufacturer: DongGuan YF Technology

No.62.South Fumin Road, Fumin Industrial Park, Dalang

Town, Dongguan Ctiy, Guang Dong, P.R. China

**Description of Sample(s):** Product: Striiv Activity Motivator

Brand Name: Striiv

Model Number: ACTVGM0001 FCC ID: ZXO-ACTVGM0001

**Date Sample(s) Received:** 2011-08-15

**Date Tested:** 2011-08-15, 2011-08-18

**Investigation Requested:** Perform ElectroMagnetic Interference measurement in

accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2010 and ANSI C63.4:2009 for FCC Certification.

**Conclusion(s):** The submitted product COMPLIED 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): --

Dr. LEE Kam Chuen
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of

The Hong Kong Standards and Testing Centre Ltd.



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#### 1.0 General Details

# 1.1 Test Laboratory

The Hong Kong Standards and Testing Centre Ltd. EMC Laboratory 10 Dai Wang Street, Taipo Industrial Estate New Territories, Hong Kong

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

Product: Striiv Activity Motivator
Manufacturer: DongGuan YF Technology

Brand Name: Striiv

Model Number: ACTVGM0001

Input Voltage: 5.0Vd.c. with Jack and Recharge Battery 3.7V\*1Pc

The AC/DC adapter was provided by the applicant with following details:

Brand name: N/A; Model no.: LFS050500D-A8S; Input: 100-240Va.c. 50/60Hz 0.2A;

Output: 5.0Vd.c. 500mA.

#### 1.2.1 Description of EUT Operation

The Equipment Under Test (EUT) is a Striiv Inc., Striiv Activity Motivator. The transmission signal is frequency hopping with channel frequency range 2401.0.-2480.0MHz during normal use. The EUT was set to fixed frequency test mode by application.

#### 1.3 Date of Order

2011-08-15

#### 1.4 Submitted Sample(s):

1 Sample

# 1.5 Test Duration

2011-08-15, 2011-08-18

# 1.6 Country of Origin

China

#### The Hong Kong Standards and Testing Centre Ltd.



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# 2.0 Technical Details

# 2.1 Investigations Requested

Perform Electromagnetic Interference measurements in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2010 Regulations and ANSI C63.4:2009 for FCC Certification.

# 2.2 Test Standards and Results Summary Tables

EMISSION									
	Results Summary								
Test Condition	Test Requirement	Test Method	Class /	Class / Test Result					
			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						
Conducted Emissions	FCC 47CFR 15.207	N/A	N/A	$\boxtimes$					

Note: N/A - Not Applicable



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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions

Test Requirement: FCC 47CFR 15.249
Test Method: ANSI C63.4:2009
Test Date: 2011-08-15

Mode of Operation: Tx mode / Charge mode / Connected to PC 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, rotated about all 3 axis (X, Y & Z) and 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 G/F of The Hong Kong Standards and Testing Centre Ltd. with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 607756.



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# **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

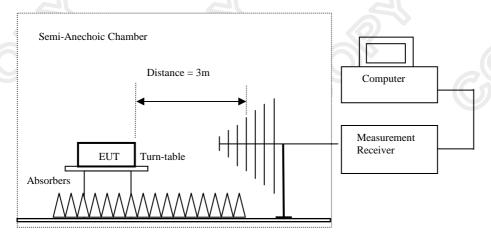
Above 1GHz (Pk & Av) RBW: 3MHz

VBW: 3MHz 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.



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# 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 [Average]	500 [Average]	
2400-2483.5	50,000 [Average]	500 [Average]	

#### Results of Tx mode (Low): 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	dΒμV/m	dΒμV/m	μV/m	μV/m		
2401.0	45.0	35.4	80.4	10,471.3	500,000	Vertical	
4802.0	7.4	41.5	48.9	278.6	5,000	Vertical	
7203.0	1.9	48.8	50.7	342.8	5,000	Vertical	
* 12005.0					5,000	Vertical	
14406.0					5,000	Vertical	
16807.0	5,000 Vertical						
* 19208.0	No Emission Detected 5,000 Vertical						
21609.0	5,000 Vertical						
24010.0		5,000 Vertical					

Field Strength of Fundamental Emissions						
	Average Value					
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field
	Level @3m	Factor	Strength	Strength		Polarity
MHz	dBμV/m	dΒμV/m	dΒμV/m	μV/m	μV/m	
+ 2401.0	29.7	35.4	65.1	1,798.9	50,000	Vertical
+ 4802.0	-7.9	41.5	33.6	47.9	500	Vertical
+ 7203.0	-13.4	48.8	35.4	58.9	500	Vertical

#### Remarks:

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

\*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

+: Adjusted by Duty Cycle = -15.3dB

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB 1GHz to 18GHz 5.1dB

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# 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 [Average]	500 [Average]		
2400-2483.5	50,000 [Average]	500 [Average]		

#### Results of Tx mode (Middle): 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	
2440.0	42.9	35.5	78.4	8,317.6	500,000	Vertical
4880.0	5.3	41.4	46.7	216.3	5,000	Vertical
7320.0	0.8	48.7	49.5	298.5	5,000	Vertical
9760.0					5,000	Vertical
* 12200.0					5,000	Vertical
14640.0	No Emission Detected 5,000 Vertical 5,000 Vertical				Vertical	
17080.0						
* 19520.0	5,000 Vertical					
21960.0	5,000 Vertical					

Field Strength of Fundamental Emissions						
	Average Value					
Frequency	Measured	Correction	Field	Field	Limit @3m	E-Field
	Level @3m	Factor	Strength	Strength		Polarity
MHz	dBμV/m	dBμV/m	dΒμV/m	μV/m	μV/m	
+ 2440.0	27.6	35.5	63.1	1,428.9	50,000	Vertical
+ 4880.0	-10.0	41.4	31.4	37.2	500	Vertical
+ 7320.0	-14.5	48.7	34.2	51.3	500	Vertical

#### Remarks:

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

\*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

+: Adjusted by Duty Cycle = -15.3dB

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB 1GHz to 18GHz 5.1dB



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# 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 [Average]	500 [Average]	
2400-2483.5	50,000 [Average]	500 [Average]	

#### Results of Tx mode (High): 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	dΒμV/m	dBμV/m	μV/m	μV/m	
2480.0	42.6	35.7	78.3	8,222.4	500,000	Vertical
4960.0	7.8	41.9	49.7	305.5	5,000	Vertical
7440.0	4.5	48.7	53.2	457.1	5,000	Vertical
9920.0			-		5,000	Vertical
* 12400.0					5,000	Vertical
14880.0					5,000	Vertical
17360.0	No Emission Detected 5,000 Vertical					
* 19840.0	5,000 Vertical					
22320.0	5,000 Vertical					
24800.0	5,000 Vertical					

Field Strength of Fundamental Emissions						
	Average 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	
+ 2480.0	27.3	35.7	63.0	1,412.5	50,000	Vertical
+ 4960.0	-7.5	41.9	34.4	52.5	500	Vertical
+ 7440.0	-10.8	48.7	37.9	78.5	500	Vertical

#### Remarks:

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

\*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any en

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

+: Adjusted by Duty Cycle = -15.3dB

Calculated measurement uncertainty : 30MHz to 1GHz 5.2dB 1GHz to 18GHz 5.1dB



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

Emilia for Rudiated Emissions [1 CC 47 CTR 13	:.20> 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		

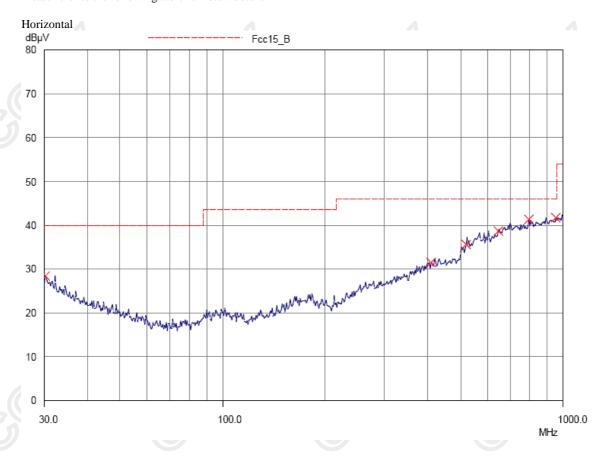
The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

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

Emissions detected are more than 20 dB below the FCC Limits

## Results of Tx mode(30MHz-1000MHz): PASS

Please refer to the following table for result details





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# Results of Tx mode(30MHz-1000MHz): 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		
30.1	Horizontal	28.5	40.0	26.6	100		
408.8	Horizontal	31.6	46.0	38.0	200		
516.4	Horizontal	35.5	46.0	59.6	200		
643.3	Horizontal	38.6	46.0	85.1	200		
791.6	Horizontal	40.4	46.0	104.7	200		
947.0	Horizontal	40.8	46.0	109.6	200		

#### Results of Tx on mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions						
Peak Value						
Frequency	Measured	Correction	Field	Field	Limit	E-Field
4	Level	Factor	Strength	Strength		Polarity
MHz	$dB\mu V$ $dB/m$ $dB\mu V/m$ $\mu V/m$ $\mu V/m$					
Emissions detected are more than 20 dB below the FCC Limits						

#### Results of Tx on mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions						
		A	verage Valu	e		n
Frequency	Measured	Correction	Field	Field	Limit	E-Field
	Level	Factor	Strength	Strength		Polarity
MHz	dΒμV	dB/m	dΒμV/m	μV/m	μV/m	
	Emissions detected are more than 20 dB below the FCC Limits					

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.1dB



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

Elinits for Radiated Elinssions [Fee 47 ef R 13.2	os Chass B].		
Frequency Range	Quasi-Peak Limits		
[MHz]	[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		

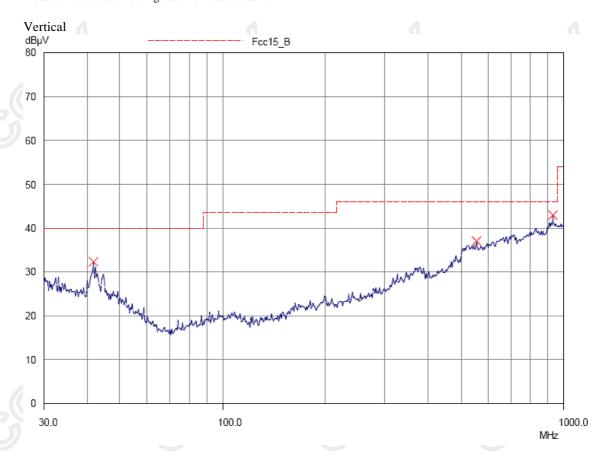
The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

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

Emissions detected are more than 20 dB below the FCC Limits

#### Results of Tx mode(30MHz-1000MHz): PASS

Please refer to the following table for result details





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Results of Tx mode(30MHz-1000MHz): 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		
41.8	Vertical	32.3	40.0	41.2	100		
551.9	Vertical	37.0	46.0	70.8	200		
926.0	Vertical	40.7	46.0	108.4	200		

# Results of Tx on mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions						
Peak Value						
Frequency	Measured	Correction	Field	Field	Limit	E-Field
	Level	Factor	Strength	Strength		Polarity
MHz	$d B \mu V$	dB/m	dBμV/m	μV/m	μV/m	
	Emissions detected are more than 20 dB below the FCC Limits					

# Results of Tx on mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions						
Average Value						
Frequency	Measured	Correction	Field	Field	Limit	E-Field
	Level	Factor	Strength	Strength		Polarity
MHz	dΒμV	dB/m	dBμV/m	μV/m	μV/m	
Emissions detected are more than 20 dB below the FCC Limits						

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.1dB



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

Emits for Radiated Emissions [1 ee 47 ef R 13.	os etass Ej.		
Frequency Range	Quasi-Peak Limits		
[MHz]	$[\mu V/m]$		
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		

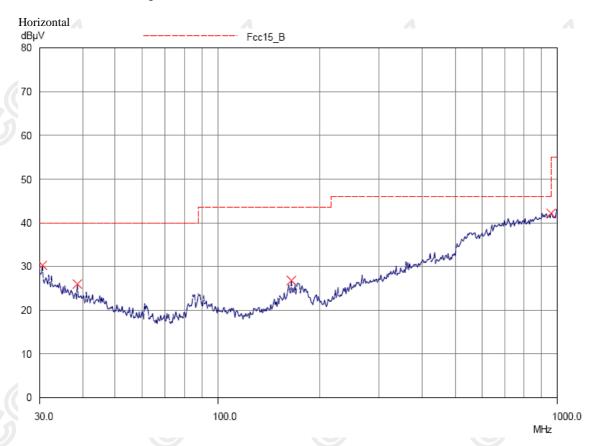
The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

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

Emissions detected are more than 20 dB below the FCC Limits

#### Results of Charge mode(30MHz-1000MHz): PASS

Please refer to the following table for result details





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Results of Charge mode(30MHz-1000MHz): 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		
30.4	Horizontal	30.2	40.0	32.4	100		
38.5	Horizontal	26.1	40.0	20.2	100		
165.2	Horizontal	26.9	43.5	22.1	150		
954.0	Horizontal	40.2	46.0	102.3	200		

#### Results of Charge mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions						
Peak Value						
Frequency	Measured	Correction	Field	Field	Limit	E-Field
	Level	Factor	Strength	Strength		Polarity
MHz $dB\mu V$ $dB/m$ $dB\mu V/m$ $\mu V/m$ $\mu V/m$						
	Emissions detected are more than 20 dB below the FCC Limits					

# Results of Charge mode (Above 1000MHz): PASS

	Field Strength of Spurious Emissions						
		A	verage Valu	e			
Frequency	Measured	Correction	Field	Field	Limit	E-Field	
	Level	Factor	Strength	Strength		Polarity	
MHz	dΒμV	dB/m	dBμV/m_	μV/m	μV/m	S)	
	Emissions detected are more than 20 dB below the FCC Limits						

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.1dB



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

Elinits for Radiated Elinssions [Fee 47 ef R 13.2	os Chass B].		
Frequency Range	Quasi-Peak Limits		
[MHz]	[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		

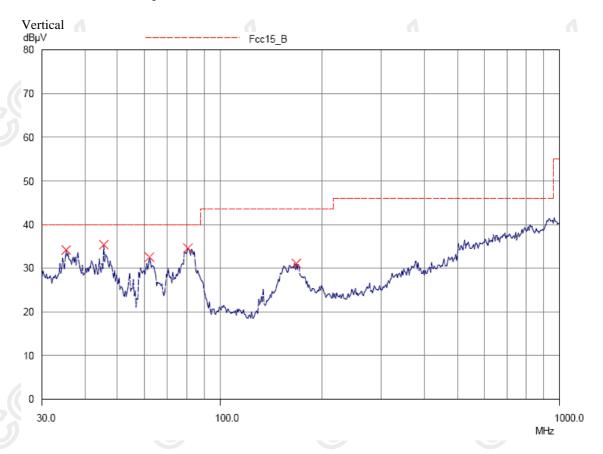
The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

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

Emissions detected are more than 20 dB below the FCC Limits

#### Results of Charge mode(30MHz-1000MHz): PASS

Please refer to the following table for result details





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Results of Charge mode (30MHz-1000MHz). DASS

	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			
35.2	Vertical	34.3	40.0	51.9	100			
45.6	Vertical	35.4	40.0	58.9	100			
62.1	Vertical	32.5	40.0	42.2	100			
80.4	Vertical	34.5	40.0	53.1	100			
168.3	Vertical	31.2	43.5	36.3	150			

# Results of Charge mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions							
Peak Value							
Frequency	Measured	Correction	Field	Field	Limit	E-Field	
	Level	Factor	Strength	Strength		Polarity	
MHz	MHz $dB\mu V$ $dB/m$ $dB\mu V/m$ $\mu V/m$ $\mu V/m$						
Emissions detected are more than 20 dB below the FCC Limits							

# Results of Charge mode (Above 1000MHz): PASS

		Field Streng	th of Spuriou verage Valu				
Frequency	Measured	Correction	Field	Field	Limit	E-Field	
	Level	Factor	Strength	Strength		Polarity	
MHz	dΒμV	dB/m	dBμV/m_	μV/m	μV/m_		
	Emissions detected are more than 20 dB below the FCC Limits						

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.1dB



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

Emits for Radiated Emissions [Fee 47 et R 13:207 etass b].					
Frequency Range	Quasi-Peak Limits				
[MHz]	[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				

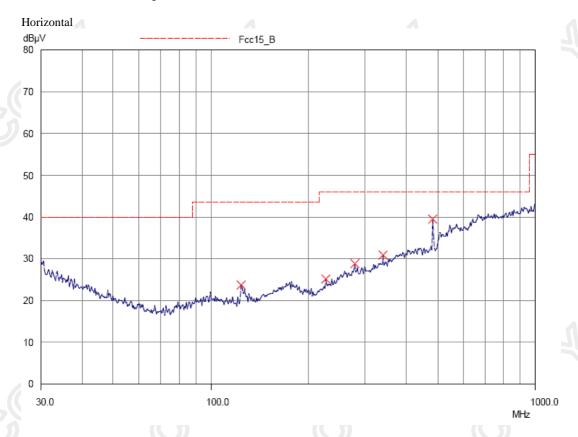
The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

### Results of Connected to PC mode(9kHz-30MHz): PASS

Emissions detected are more than 20 dB below the FCC Limits

#### Results of Connected to PC mode(30MHz-1000MHz): PASS

Please refer to the following table for result details





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Results of Connected to PC mode(30MHz-1000MHz). DASS

	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			
123.9	Horizontal	23.7	43.5	15.3	150			
224.9	Horizontal	25.2	46.0	18.2	200			
276.3	Horizontal	28.9	46.0	27.9	200			
338.7	Horizontal	30.9	46.0	35.1	200			
480.0	Horizontal	39.5	46.0	94.4	200			

# Results of Connected to PC mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions							
Peak Value							
Frequency	Measured	Correction	Field	Field	Limit	E-Field	
	Level	Factor	Strength	Strength		Polarity	
MHz	$dB\mu V$	dB/m	dBμV/m_	μV/m	μV/m		
Emissions detected are more than 20 dB below the FCC Limits							

# Results of Connected to PC mode (Above 1000MHz): PASS

		Field Streng	th of Spuriou verage Valu			
Frequency	Measured	Correction	Field	Field	Limit	E-Field
	Level	Factor	Strength	Strength		Polarity
MHz	dΒμV	dB/m	dBμV/m_	μV/m	μV/m_	
Emissions detected are more than 20 dB below the FCC Limits						

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.1dB



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

Emits for Radiated Emissions [Fee 47 et R 15:207 etass b].					
Frequency Range	Quasi-Peak Limits				
[MHz]	[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				

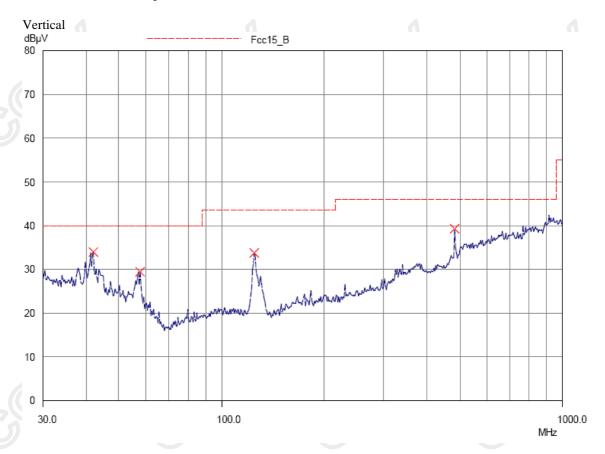
The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

### Results of Connected to PC mode(9kHz-30MHz): PASS

Emissions detected are more than 20 dB below the FCC Limits

#### Results of Connected to PC mode(30MHz-1000MHz): PASS

Please refer to the following table for result details





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# Results of Connected to PC mode(30MHz-1000MHz): PASS

			Emissions		
		Quas	-Peak		
Emission	E-Field	Level	Limit	Level	Limit
Frequency	Polarity	@3m	@3m	@3m	@3m
MHz		dBµV/m	dBµV/m	μV/m	μV/m
42.0	Vertical	34.0	40.0	50.1	100
57.5	Vertical	29.5	40.0	29.9	100
125.1	Vertical	33.8	43.5	49.0	150
480.0	Vertical	39.2	46.0	91.2	200

#### Results of Connected to PC mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions							
Peak Value							
Frequency	Measured	Correction	Field	Field	Limit	E-Field	
	Level	Factor	Strength	Strength		Polarity	
MHz	MHz $dB\mu V$ $dB/m$ $dB\mu V/m$ $\mu V/m$ $\mu V/m$						
Emissions detected are more than 20 dB below the FCC Limits							

# Results of Connected to PC mode (Above 1000MHz): PASS

Field Strength of Spurious Emissions Average Value						
Frequency	Measured	Correction	Field	Field	Limit	E-Field
	Level	Factor	Strength	Strength		Polarity
MHz	dΒμV	dB/m	_dBμV/m_	μV/m	μV/m_	
Emissions detected are more than 20 dB below the FCC Limits						

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz 5.1dB



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# 3.1.6 Conducted Emissions (0.15MHz to 30MHz)

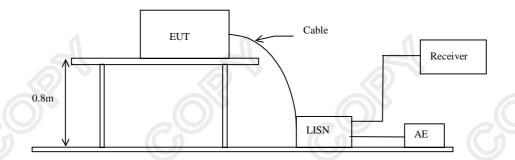
Test Requirement: FCC 47CFR 15.207
Test Method: ANSI C63.4:2003
Test Date: 2011-08-18

Mode of Operation: Charge mode / Connected to PC mode Measurement Range: 150KHz -30MHz (RBW:10KHz, VBW:30KHz)

#### **Test Method:**

The test was performed in accordance with ANSI C63.4: 2003, 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:**





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# Limit for Conducted Emissions (FCC 47 CFR 15.207):

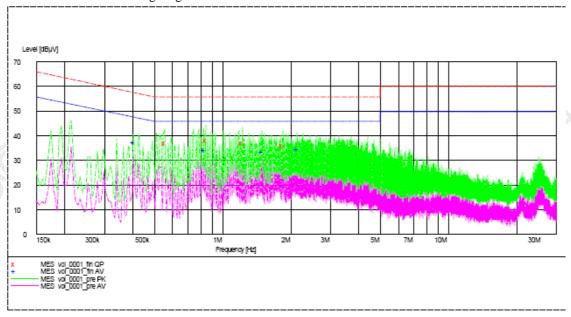
Frequency Range	Quasi-Peak Limits	Average	
[MHz]	[dBµV]	[dBµV]	
0.15-0.5	66 to 56*	56 to 46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

<sup>\*</sup> 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.

#### Results of Charge mode(L): PASS

Please refer to the following diagram for individual results.



#### Remark:

Calculated measurement uncertainty: 3.97dB





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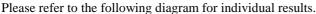
# Limit for Conducted Emissions (FCC 47 CFR 15.207):

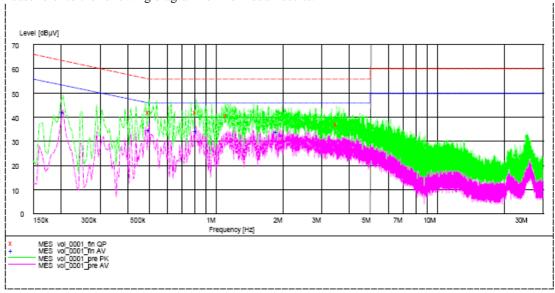
Frequency Range	Quasi-Peak Limits	Average	
[MHz]	[dBµV]	[dBµV]	
0.15-0.5	66 to 56*	56 to 46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

<sup>\*</sup> 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.

#### Results of Charge mode(N): PASS





#### Remarks

Calculated measurement uncertainty: 3.97dB



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# Limit for Conducted Emissions (FCC 47 CFR 15.207):

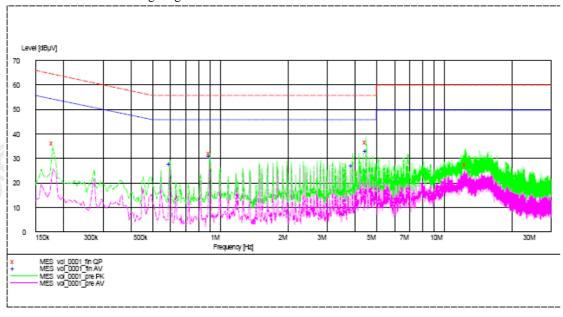
Frequency Range	Quasi-Peak Limits	Average	
[MHz]	[dBµV]	[dBµV]	
0.15-0.5 66 to 56*		56 to 46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

<sup>\*</sup> 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.

#### Results of Connected to PC mode, PC mains (L): PASS

Please refer to the following diagram for individual results.



Remark:

Calculated measurement uncertainty: 3.97dB



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# Limit for Conducted Emissions (FCC 47 CFR 15.207):

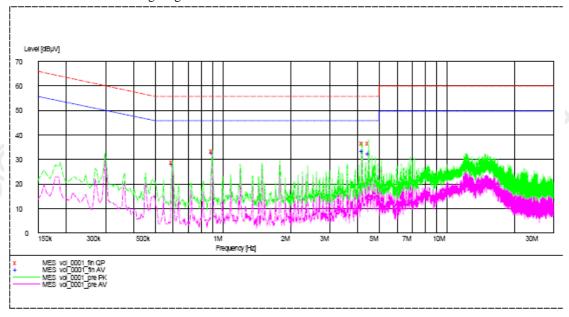
Frequency Range	Quasi-Peak Limits	Average	
[MHz]	[dBµV]	[dBµV]	
0.15-0.5	66 to 56*	56 to 46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

<sup>\*</sup> 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.

#### Results of Connected to PC mode, PC mains (N): PASS

Please refer to the following diagram for individual results.



#### Remarks

Calculated measurement uncertainty: 3.97dB

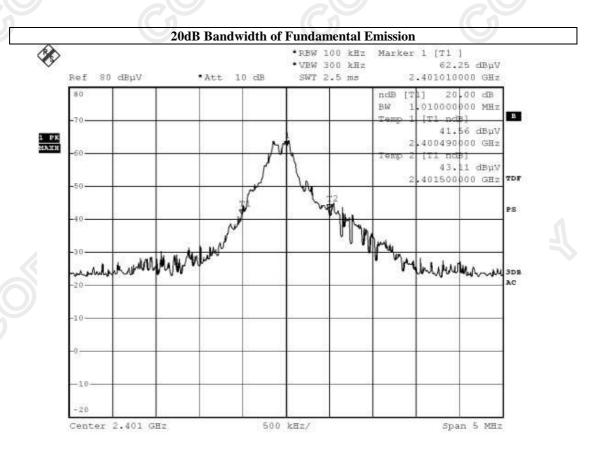


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# Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range [MHz]	20dB Bandwidth [MHz]
2401	1.01



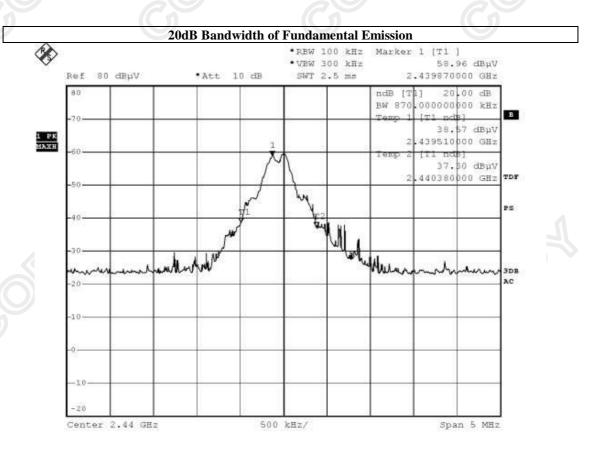


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# Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range	20dB Bandwidth		
[MHz]	[MHz]		
2440	0.87		



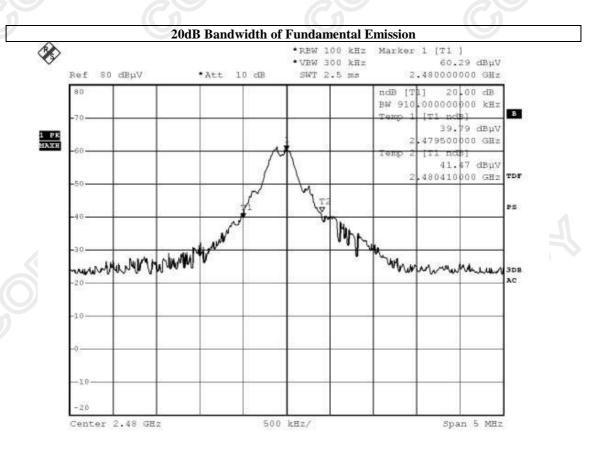


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# Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range	20dB Bandwidth		
[MHz]	[MHz]		
2480	0.91		



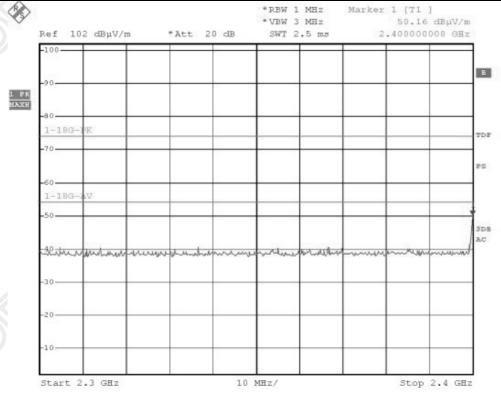


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# **Band Edge Measurement:**

# Band-edge Compliance of RF Radiated Emissions(Lowest)



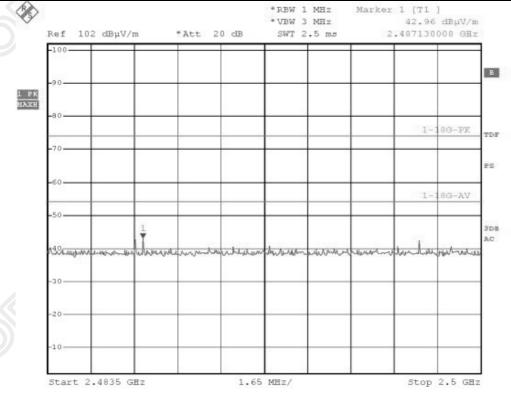


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# **Band Edge Measurement:**

# Band-edge Compliance of RF Radiated Emissions (Highest)





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# **Channel Centre Frequency**

# **Requirements:**

Frequency hopping system in the 2400-2483.5MHz band shall use at least 15 non-overlapping channels.

Item	Frequency (MHz)	Item	Frequency (MHz)	Item	Frequency (MHz)	
1	2401	28	2428	55	2456	
2	2402	29	2429	56	2457	
3	2403	30	2430	57	2458	
4	2404	31	2432	58	2459	
5	2405	32	2433	59	2460	
6	2406	33	2434	60	2461	
7	2407	34	2435	61	2462	
8	2408	35	2436	62	2463	
9	2409	36	2437	63	2464	
10	2410	37	2438	64	2465	
11	2411	38	2439	65	2466	
12	2412	39	2440	66	2467	
13	2413	40	2441	67	2468	
14	2414	41	2442	68	2469	
15	2415	42	2443	69	2470	
16	2416	43	2444	70	2471	
17	2417	44	2445	71	2472	
18	2418	45	2446	72	2473	
19	2419	46	2447	73	2474	
20	2420	47	2448	74	2475	
21	2421	48	2449	75	2476	
22	2422	49	2450	76	2477	
23	2423	50	2451	77	2478	
24	2424	51	2452	78	2479	
25	2425	52	2453	79	2480	
26	2426	53	2454	79	2480	
27	2427	54	2455			



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# Appendix A

# **List of Measurement Equipment**

#### **Radiated Emission**

Auditive Emission						
EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM020	HORN ANTENNA	EMCO	3115	4032	2009/09/02	2011/09/02
EM215	MULTIDEVICE CONTROLLER	EMCO	2090	00024676	N/A	N/A
EM216	MINI MAST SYSTEM	EMCO	2075	00026842	N/A	N/A
EM217	ELECTRIC POWERED TURNTABLE	EMCO	2088	00029144	N/A	N/A
EM218	ANECHOIC CHAMBER	ETS-Linggren	FACT-3		2010/10/25	2011/11/25
EM174	BICONILOG ANTENNA	EMCO	3142B	1671	2010/02/09	2012/02/09
EM022	LOOP ANTENNA	EMCO	6502	1189-2424	2009-09-07	2011-09-07
EM229	EMI Test Receiver	R&S	ESIB40	100248	2011/04/26	2012/04/26

#### **Line Conducted**

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM197	LISN	EMCO	4825/2	1193	2010/10/13	2011/10/13
EM181	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB7	100072	2011/04/26	2012/04/26
EM154	SHIELDING ROOM	SIEMENS MATSUSHITA COMPONENTS	N/A	803-740-057- 99A	2011/01/23	2012/01/23

# Remarks:-

CM Corrective Maintenance

N/A Not Applicable TBD To Be Determined



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# Appendix B

#### **Duty Cycle Correction During 100msec**

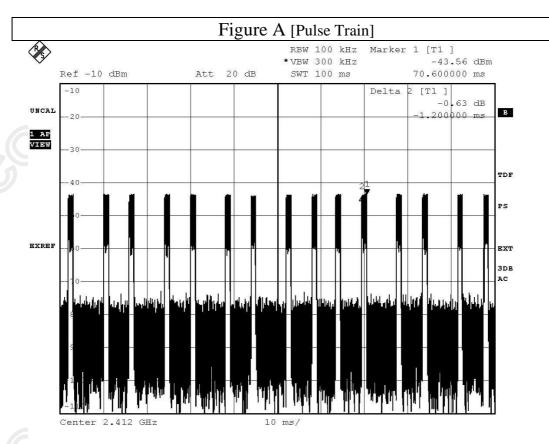
Each sample unit sends a different series of characters, but each pulse period (100msec) never exceeds a series of 15 sole (1.15msec) pulses. Assuming any combination of sole pulses may be obtained due to encoding the worst case transmit duty cycle would be considered 15×1.15msec per 100msec=17.25% duty cycle. Figure A through B show the characteristics of the pulse train for one of these functions.

#### Remarks:

Duty Cycle Correction = 20Log (0.1725) =-15.3 dB

Duty Cycle Correction = -20dB, if the calculation duty cycle correction >-20dB.

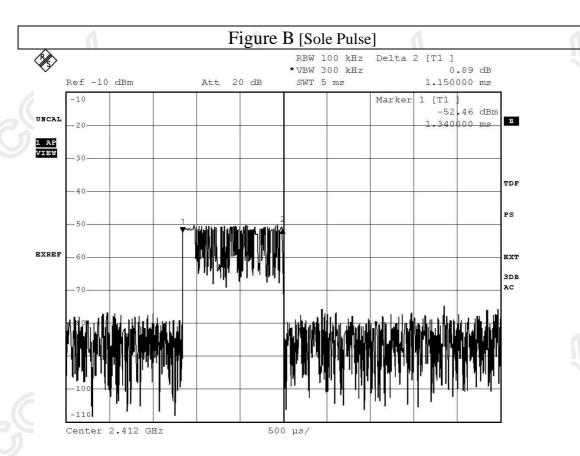
The following figures [Figure A to Figure B] showed the characteristics of the pulse train for one of these functions.





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# Appendix C

# Photographs of EUT

Front View of the product



**Inner Circuit Top View** 



**Inner Circuit Bottom View** 

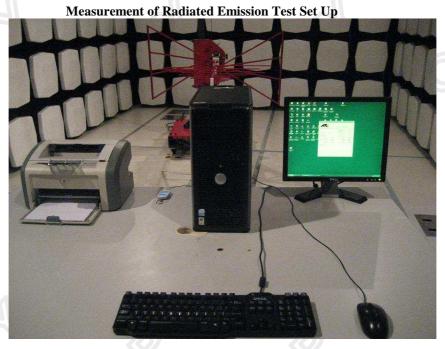


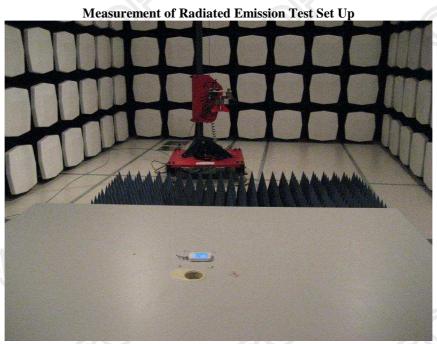


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# Photographs of EUT







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**Measurement of Conducted Emission Test Set Up** 

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