

# EMC TEST REPORT

For

**Boardcon Technology Limited.**

**MINI9G45 Computer on Module**

**Model No. : MINI9G45**

**Prepared For : Boardcon Technology Limited.**  
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**Report Number : PRSZ15110502E**  
**Date of Test : November 05 to November 10, 2015**  
**Date of Report : November 11, 2015**

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## TEST REPORT VERIFICATION

Applicant : Boardcon Technology Limited.  
Manufacturer : Boardcon Technology Limited.  
EUT : MINI9G45 Computer on Module  
Model No. : MINI9G45  
Input Voltage : 5 V<sub>DC</sub> , 450mA

**Measurement Procedure Used:**

EN 55022:2010+AC:2011

EN 55024:2010

(EN 61000-4-2:2009, EN 61000-4-3:2006+A2:2010, EN 61000-4-8:2010)

The device described above is tested by Shenzhen PTSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels that the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen PTSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT is technically compliant with EN 55022 and EN 55024 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen PTSI Testing Co., Ltd.

Prepared by

: Tina Tiao  
(Tina Tiao, Engineer)



Reviewed by

: Jack Chan  
(Jack Chan, Manager)

## 1. General Information

### 1.1 Description of Device (EUT)

EUT : MINI9G45 Computer on Module

Model Number : MINI9G45

Test Model Number : MINI9G45

*Remark:*

--

Trade Mark : /

Power Supply : 5 V  $\equiv$ , 450mA

Applicant : Boardcon Technology Limited.

Address : Room 702, Hua Feng Xin An Business Building, 45 Zone, Bao An District, Shenzhen, Guangdong Province, China

Manufacturer : Boardcon Technology Limited.

Address : Room 702, Hua Feng Xin An Business Building, 45 Zone, Bao An District, Shenzhen, Guangdong Province, China

Date of Sample Receipt : November 05, 2015

Date of Test : November 05, 2015 –November 10, 2015

### 1.2 Measurement Uncertainty

Radiation Emission Uncertainty :  $U_r = 3.3$

Conduction Emission Uncertainty :  $U_c = 2.8$

Power clamp Emission Uncertainty :  $U_c = 2.6$

## 2. Measuring Devices and Test Equipment

### 2.1 Test Equipment List and Details

Item	Equipment	Manufacturer	Model No.	Last Cal	Cal. Interval
1	EMI Test Receiver	R&S	ESCI	2015-5-20	1 Year
2	EMI Test Receiver	R&S	ESPI	2015-5-20	1 Year
3	Amplifier	HP	8447D	2015-5-20	1 Year
4	Single Power Conductor Module	R&S	NNBM 8124	2015-5-20	1 Year
5	Single Power Conductor Module	R&S	NNBM 8124	2015-5-20	1 Year
6	Power Clamp	SCHWARZBECK	MDS-21	2015-5-20	1 Year
7	Positioning Controller	C&C	CC-C-1F	N/A	N/A
8	Electrostatic Discharge Simulator	TESEQ	NSG437	2015-5-20	1 Year
9	Fast Transient Burst Generator	SCHAFFNER	MODULA6150	2015-5-20	1 Year
10	Fast Transient Noise Simulator	Noiseken	FNS-105AX	2015-5-20	1 Year
11	Color TV Pattern Generator	PHILIPS	PM5418	N/A	N/A
12	Power Frequency Magnetic Field Generator	EVERFINE	EMS61000-8K	2015-5-20	1 Year
14	Capacitive Coupling Clamp	TESEQ	CDN8014	2015-5-20	1 Year
15	High Field Biconical Antenna	ELECTRO-METR ICS	EM-6913	2015-5-20	1 Year
16	Log Periodic Antenna	ELECTRO-METR ICS	EM-6950	2015-5-20	1 Year
17	Remote Active Vertical Antenna	ELECTRO-METR ICS	EM-6892	2015-5-20	1 Year
18	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	2015-5-20	1 Year
19	Horn Antenna	SCHWARZBECK	BBHA9120A	2015-5-20	1 Year
20	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	2015-5-20	1 Year
21	Triple-Loop Antenna	EVERFINE	LLA-2	2015-5-20	1 Year
22	Electric bridge	Jhai	JK2812C	N/A	N/A
23	RF POWER AMPLIFIER	FRANKONIA	FLL-75	2015-5-20	1 Year
24	CDN	FRANKONIA	CDN M2+M3	2015-5-20	1 Year
25	6DB Attenuator	FRANKONIA	N/A	2015-5-20	1 Year
26	EM Injection clamp	FCC	F-203I-23mm	2015-5-20	1 Year

27	9kHz-2.4GHz signal generator 2024	MARCONI	10S/6625-99-457-8730	2015-5-20	1 Year
28	10dB attenuator	ELECTRO-METRICS	EM-7600	2015-5-20	1 Year
29	ISN	TESEQ	ISN-T800	2015-5-20	1 Year
30	10KV surge generator	SANKI	SKS-0510M	2015-5-20	1 Year
31	HRMONICS&FLICKR E ANALYSER	VOLTECH	PM6000	2015-5-20	1 Year
32	Spectrum Analyzer	R&S	FSP	2015-5-20	1 Year
33	Broadband preamplifier	SCHWARZBECK	BBV9718	2015-5-20	1 Year

## 2.2 Test Summary

For the EUT described above, The standards used were EN55022 Class B for Emissions & EN 55024 for Immunity		
Standard	Test Items	Status
Test Carried Out Under EN 55022:2010+AC:2011		
EN 55022:2010+AC:2011	Disturbance Voltage at The Mains Terminals (150KHz to 30MHz)	√
	Radiated Disturbance (30MHz to 1000MHz)	√
Test Carried Out Under EN 61000-3-2:2014/ EN 61000-3-3:2013		
EN 61000-3-2:2014	Harmonic Current Measurement	×
EN 61000-3-3:2013	Voltage Fluctuations & Flicker Measurement	×
Test Carried Out Under EN 55024:2010		
EN 61000-4-2:2009	Electrostatic Discharge Measurement	√
EN 61000-4-3:2006+A2: 2010	RF Field Strength Susceptibility Measurement	√
EN 61000-4-4:2012	Electrical Fast Transient/Burst Measurement	×
EN 61000-4-5:2006	Surge Immunity Measurement	×
EN 61000-4-6:2014	Conducted Susceptibility Measurement	×
EN 61000-4-8:2010	Power Frequency Magnetic Field Immunity	√
EN 61000-4-11:2004	Voltage Dips and Interruptions Measurement	×
√ Indicates that the test is applicable. × Indicates that the test is not applicable.		

## 2.3 System Test Configuration

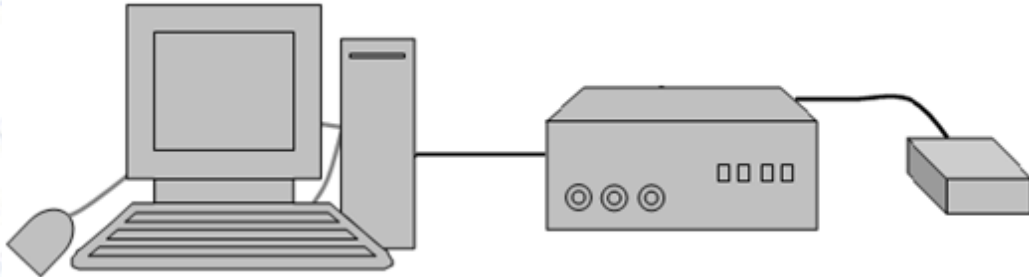
### 2.3.1 Description of Test Configuration

The final qualification test was performed with the EUT operating at normal mode

### 2.3.2 Equipment Modifications

No modifications were made to the EUT

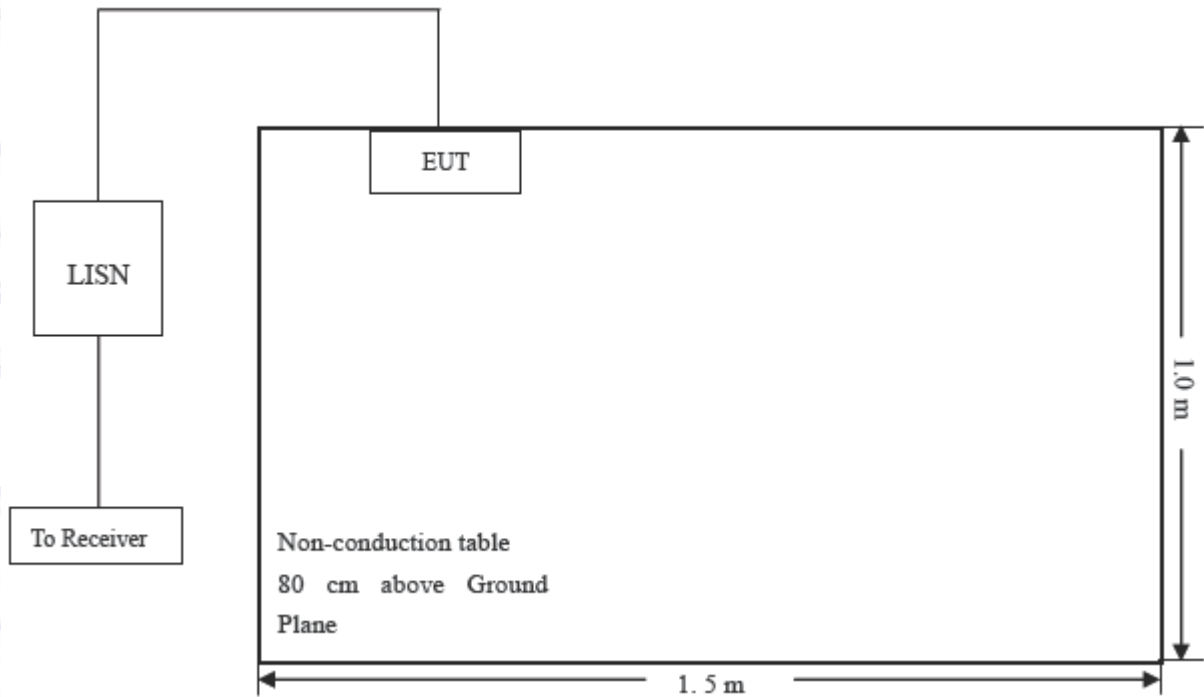
### 2.3.3 Basic Configuration of Test System





### 3. CONDUCTED EMISSION

#### 3.1 Block Diagram of Test Setup



(EUT: MINI9G45 Computer on Module)

#### 3.2 Measurement Standard and Limits of Radiated Disturbances

##### 3.2.1 Standard:

EN 55022:2010+AC:2011

##### 3.2.2 Limits

Frequency (MHz)	Limit (dB $\mu$ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Note:

- (1) The tighter limit shall apply at the edge between two frequency bands.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

#### 3.3 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is  $\pm 2.88$  dB.

### 3.4 Test Procedure

Test is conducting under the description of EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

All scanning waveform is attached in Appendix I.

### 3.5 Measurement Results

**PASS.**

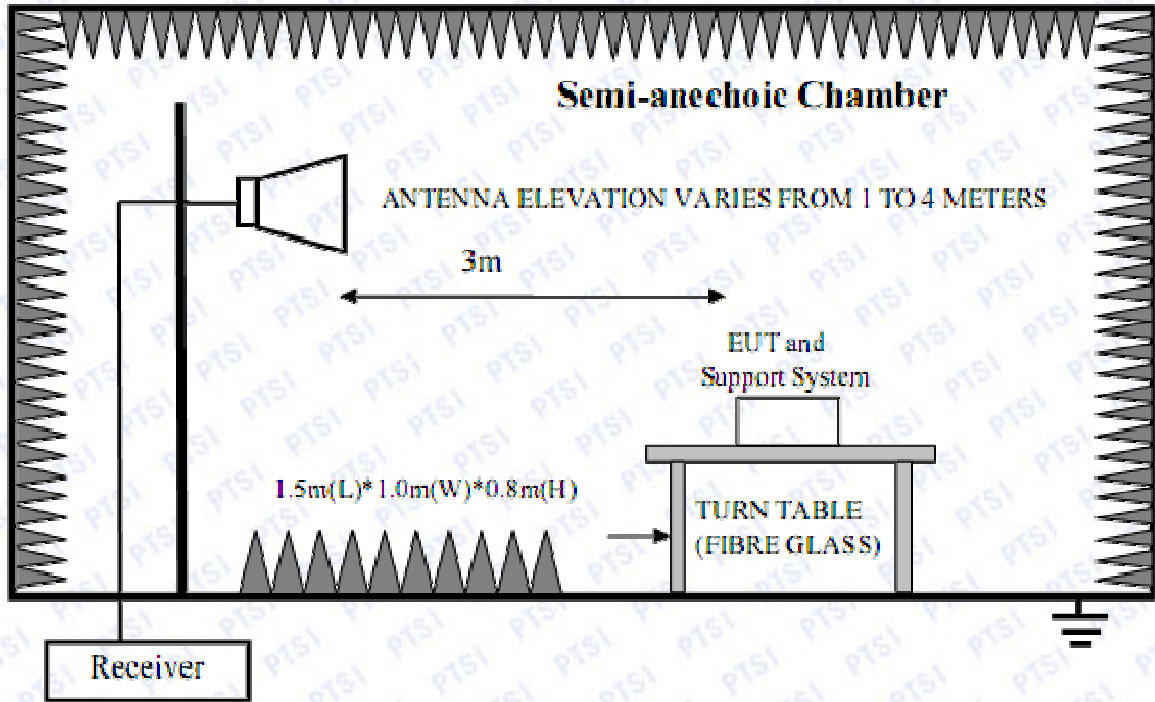
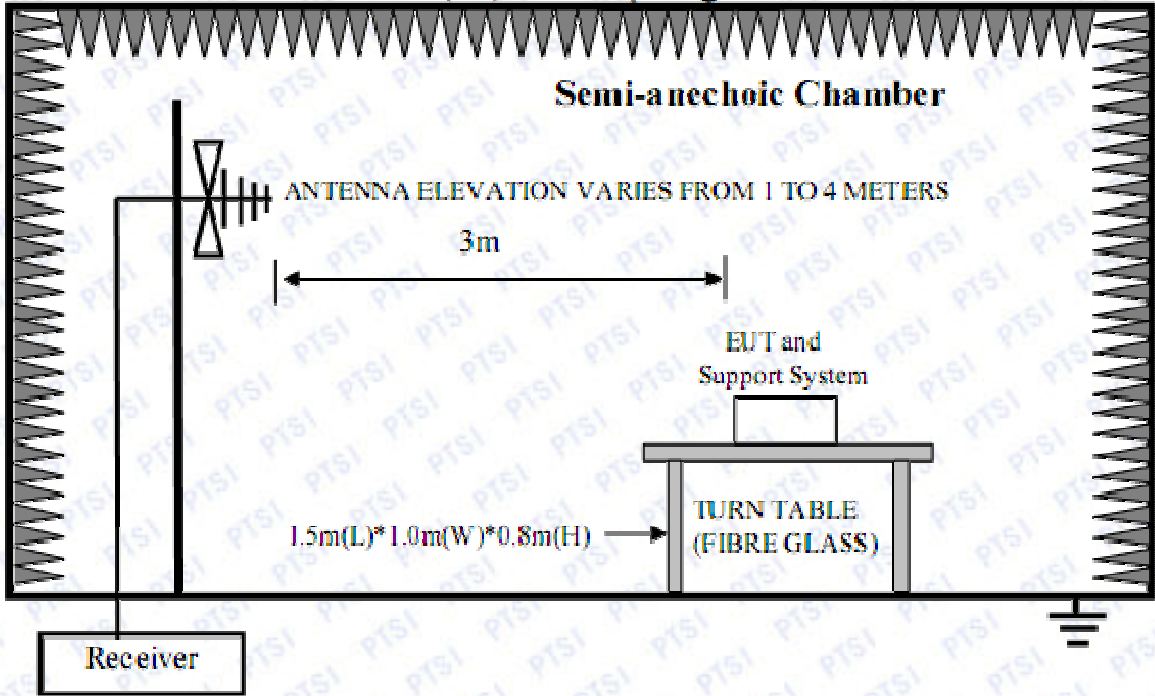
According to the data in Appendix I, the EUT complied with the EN 55022 Conducted margin for a Class B device.

The frequency range from 150KHz to 30MHz is investigated.

All scanning waveform is attached in Appendix I.

## 4. RADIATED DISTURBANCE

### 4.1 Block Diagram of Test Setup



(EUT: MINI9G45 Computer on Module)

### 4.2 Measuring Standard

EN 55022:2010+AC:2011

### 4.3 Limit of Radiated Disturbances (Class B)

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB $\mu$ V/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

#### 4.4 EUT Configuration on Measurement

The EN 55022 Regulations test method must be used to find the maximum emission during radiated emission measurement. The configuration of the EUT is the same as used in conducted emission measurement.

#### 4.5 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is  $\pm 4.0$  dB.

#### 4.6 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the peak detection mode. Quasi-peak readings performed only when an emission was found to be marginal (within -10 dB $\mu$ V of specification limits), and are distinguished with a "QP" in the data table.

All scanning waveform is attached in Appendix II.

#### 4.7 Instrument Setup

According to EN 55022 rules, the frequency was investigated from 30 to 1000 MHz. During the radiated emission test, the test receiver was set with the following configurations:

Test Receiver Setting:

Frequency Range	: 30MHz to 1000MHz
Detector	: Peak & Quasi-Peak
Turntable Rotated	: 0 to 360 degrees

IF Band Width	:	120 KHz
Antenna Position:		
Height	:	1m to 4m
Polarity	:	Horizontal and Vertical

#### 4.8 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of  $-7\text{dB}\mu\text{V}$  means the emission is  $7\text{dB}\mu\text{V}$  below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Class B Limit} - \text{Corr. Ampl.}$$

#### 4.9 Measurement Results

**PASS.**

Remark:(1) During the respective Radiated Emission test on Rx in normal operation operating, only the worst test result was recorded and presented.

(2) When PK reading is less than relevant limit 30dB, the QP reading will not be recorded.

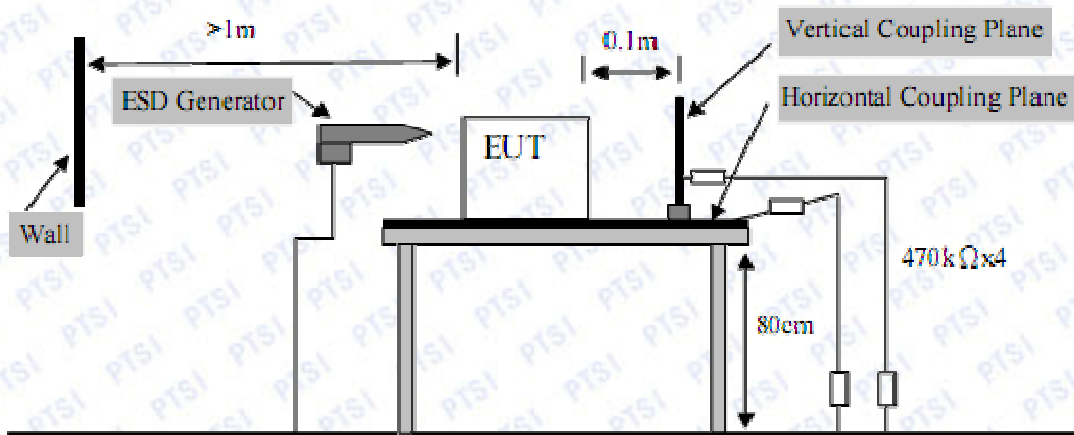
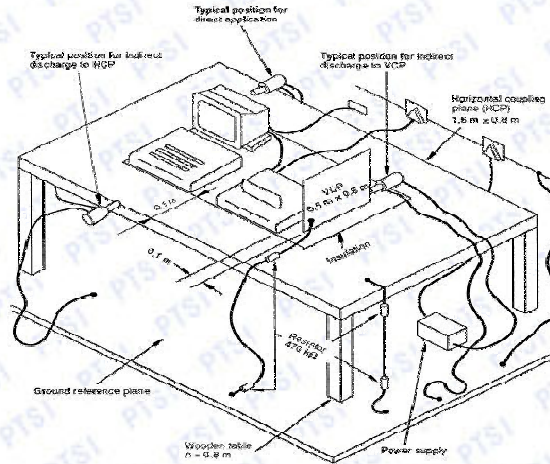
(3) The highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. So the frequency rang 1GHz-6GHz radiation test not applicable.

All scanning waveform is attached in Appendix II.

## 5. ELECTROSTATIC DISCHARGE MEASUREMENT (EN 61000-4-2)

### 5.1 Block Diagram of Test Setup

Block Diagram of connection between the EUT and simulators



(EUT: MINI9G45 Computer on Module)

### 5.2 Test Standard

EN 55024:2010 (EN 61000-4-2:2009 (Severity Level: 2 / Contact Discharge:  $\pm 4\text{KV}$   
Severity Level: 3 / Air Discharge:  $\pm 8\text{KV}$ ))

### 5.3 Severity Levels and Performance Criterion

#### 5.3.1 Severity Level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	$\pm 2$	$\pm 2$
2.	$\pm 4$	$\pm 4$
3.	$\pm 6$	$\pm 8$
4.	$\pm 8$	$\pm 15$
X	Special	Special

#### 5.3.2 Performance Criterion: B

### 5.4 Operating Condition of EUT

#### 5.4.1 Setup the EUT as shown in Section 5.1.

5.4.2 Turn on the power of all equipments.

5.4.3 Let the EUT work in test mode (ON) and measure it.

## 5.5 Test Procedure

### 5.5.1 Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. Then the generator is re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharges are completed.

### 5.5.2 Contact Discharge:

All the procedure shall be same as Section 7.6.1, except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

### 5.5.3 Indirect discharge for horizontal coupling plane:

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

### 5.5.4 Indirect discharge for vertical coupling plane:

At least 20 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

## 5.6 Test Results

### **PASS**

Please refer to the following page.

## Electrostatic Discharge Test Results

Shenzhen PTSI Testing Co., Ltd.

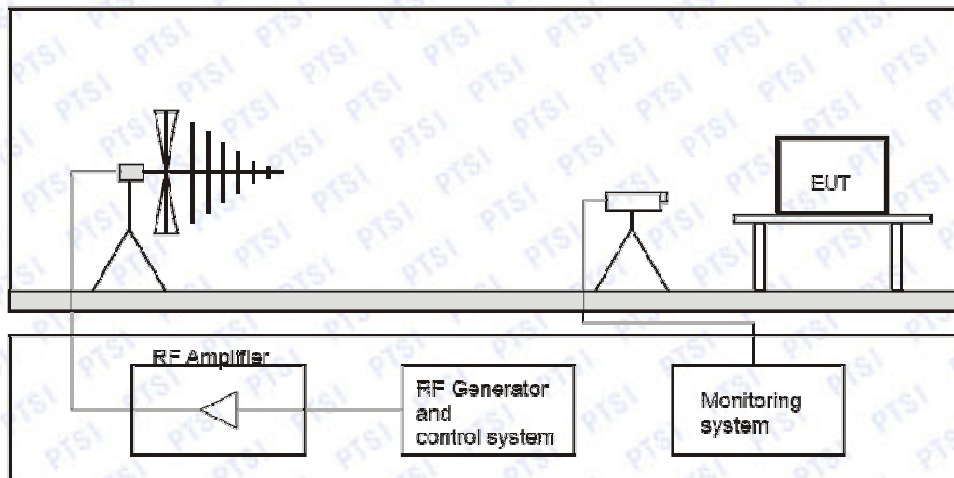
Applicant : Boardcon Technology Limited.	Test Date : November 05, 2015	
EUT : MINI9G45 Computer on Module	Temperature : 24°C	
M/N : MINI9G45	Humidity : 63%	
Power Supply : DC 5V	Test Engineer : Tina	
Test Mode : ON	Criterion : B	
Air Discharge: ±2, 4, 6, 8KV		
Contact Discharge: ±2, 4KV # Positive 25 times and negative 25 times for each point		
Location	Mode A-Air Discharge C-Contact Discharge	Result
HCP-Button Contact Discharge ±2, 4KV	A	PASS
VCP-Front Contact Discharge ±2, 4KV	A	PASS
VCP-Rear Contact Discharge ±2, 4KV	A	PASS
VCP-Left Contact Discharge ±2, 4KV	A	PASS
VCP-Right Contact Discharge ±2, 4KV	A	PASS
Remark :	Test Equipment : ESD Tester (Schaffner, NSG432)	

Discharges should be conducted on Contact, Air, Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).



## 6. RF Field Strength Susceptibility Measurement (EN 61000-4-3)

### 6.1 Block Diagram of Test Setup



(EUT: MINI9G45 Computer on Module)

### 6.2 Test Standard

EN 55024:2010 (EN 61000-4-3:2006+A2:2010, Severity Level: 2, 3V / m)

### 6.3 Severity Levels and Performance Criterion

#### 6.3.1 Severity Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X.	Special

#### 6.3.2 Performance Criterion: A

### 6.4 Operating Condition of EUT

6.4.1 Setup the EUT as shown in Section 6.1.

6.4.2 Turn on the power of all equipments.

6.4.3 Let the EUT work in test mode (ON) and measure it.

### 6.5 Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor EUT screen. All the scanning conditions are as follows:

Condition of Test

Remarks

-----

- |                           |                          |
|---------------------------|--------------------------|
| 1. Fielded Strength       | 3 V/m (Severity Level 2) |
| 2. Radiated Signal        | Modulated                |
| 3. Scanning Frequency     | 80 – 1000 MHz            |
| 4. Dwell time of radiated | 0.0015 decade/s          |
| 5. Waiting Time           | 1 Sec.                   |

## 6.6 Test Results

PASS.

Please refer to the following page.

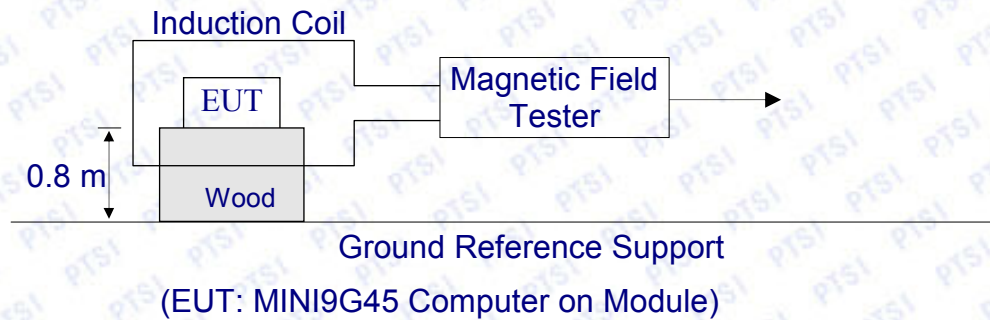
## RF Field Strength Susceptibility Test Results

Shenzhen PTSI Testing Co., Ltd.

Applicant : Boardcon Technology Limited.	Test Date : November 06, 2015																									
EUT : MINI9G45 Computer on Module	Temperature : 24°C																									
M/N : MINI9G45	Humidity : 60%																									
Field Strength : 3 V/m	Criterion : A																									
Power Supply : DC 5V	Frequency : 80-1000 MHz																									
Test Engineer : Tina	Range																									
Modulation : <input checked="" type="checkbox"/> AM <input type="checkbox"/> Pulse <input type="checkbox"/> none 1 KHz 80%																										
Test Mode : ON																										
Frequency Rang	80-1000MHz /																									
Steps	1 %																									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 25%;">Horizontal</th> <th style="width: 25%;">Vertical</th> <th style="width: 25%;">Horizontal</th> <th style="width: 25%;">Vertical</th> </tr> </thead> <tbody> <tr> <td>Front</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">/</td> <td style="text-align: center;">/</td> </tr> <tr> <td>Right</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">/</td> <td style="text-align: center;">/</td> </tr> <tr> <td>Rear</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">/</td> <td style="text-align: center;">/</td> </tr> <tr> <td>Left</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">PASS</td> <td style="text-align: center;">/</td> <td style="text-align: center;">/</td> </tr> </tbody> </table>		Horizontal	Vertical	Horizontal	Vertical	Front	PASS	PASS	/	/	Right	PASS	PASS	/	/	Rear	PASS	PASS	/	/	Left	PASS	PASS	/	/
	Horizontal	Vertical	Horizontal	Vertical																						
Front	PASS	PASS	/	/																						
Right	PASS	PASS	/	/																						
Rear	PASS	PASS	/	/																						
Left	PASS	PASS	/	/																						
Test Equipment : 1. Signal Generator : 2023B (AEROFLEX) 2. Power Amplifier : AS0102-55 (MILMEGA)& AP32MT215 (PRANA) 3. Log.-Per. Antenna: VULP 9118E(SCHWARZBECK) 4. Broad-Band Horn Antenna: BBHA9120L3F (SCHWARZBECK) 5. RF Power Meter. Dual Channel : 4232A (BOONTON) 6. Field Strength Meter: HI-6005(HOLADAY)																										
Note:																										

## 7. MAGNETIC FIELD IMMUNITY TEST (EN 61000-4-8)

### 7.1 Block Diagram of Test Setup



### 7.2 Test Standard

EN 55024:2010 (EN 61000-4-8, Severity Level 1: 1A/m)

### 7.3 Severity Levels and Performance Criterion

#### 7.3.1 Severity Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
4.	30
5.	100
X.	Special

#### 7.3.2 Performance Criterion: A

### 7.4 Operating Condition of EUT

7.4.1 Setup the EUT as shown in Section 7.1.

7.4.2 Turn on the power of all equipments.

7.4.3 Let the EUT work in test mode and measure it.

### 7.5 Test Procedure

The EUT is placed in the middle of a induction coil (1\*1m), under which is a 1\*1\*0.1m (high)table, this small table is also placed on a larger table, 0.8m above the ground. X, Y and Z polarization of the induction coil are set on test, so that each side of the EUT is affected by the magnetic field. And, also can reach the same aim by changing the position of the EUT.

### 7.6 Test Results

**PASS.**

Please refer to the following page.

## Magnetic Field Immunity Test Results

Shenzhen PTSI Testing Co., Ltd.

Applicant : Boardcon Technology Limited.	Test Date : November 09, 2015			
EUT : MINI9G45 Computer on Module	Temperature : 24°C			
M/N : MINI9G45	Humidity : 61%			
Power Supply : DC 5V	Test Engineer : Jeess			
Test Mode : ON				
Test Level	Testing Duration	Coil Orientation	Criterion	Result
1A/m	5 mins	X	A	PASS
1A/m	5 mins	Y	A	PASS
1A/m	5 mins	Z	A	PASS
Test Mode:				
Test Level	Testing Duration	Coil Orientation	Criterion	Result
Test Equipment : 1. Signal Generator : 2023B (AEROFLEX) 2. Power Amplifier : AS0102-55 (MILMEGA)& AP32MT215 (PRANA) 3. Log.-Per. Antenna: VULP 9118E(SCHWARZBECK) 4. Broad-Band Horn Antenna: BBHA9120L3F (SCHWARZBECK) 5. RF Power Meter. Dual Channel : 4232A (BOONTON) 6. Field Strength Meter: HI-6005(HOLADAY)				
Note:				

## 8. IMMUNITY MEASUREMENT RESULTS

### 8.1 IEC 61000-4-2 Electrostatic Discharge Test Results

The EUT was subjected to the electrostatic discharge tests required by EN 55024 and all lower levels specified in IEC 61000-4-2.

The EUT continued to perform as intended during and after the application of the ESD.

### 8.2 IEC 61000-4-3 Radio Frequency Electromagnetic Field Test Results

The EUT was subjected to a 3-volt/meter, 80% Amplitude, 1 kHz Sine wave field as required by EN 55024 and all lower levels specified in IEC 61000-4-3.

The EUT continued to perform as intended during and after the application of the electromagnetic field.

### 8.3 IEC 61000-4-8 Magnetic Field immunity test

The EUT was subjected to the Magnetic Field immunity test required by EN 55024 and all lower levels specified in IEC 61000-4-8.

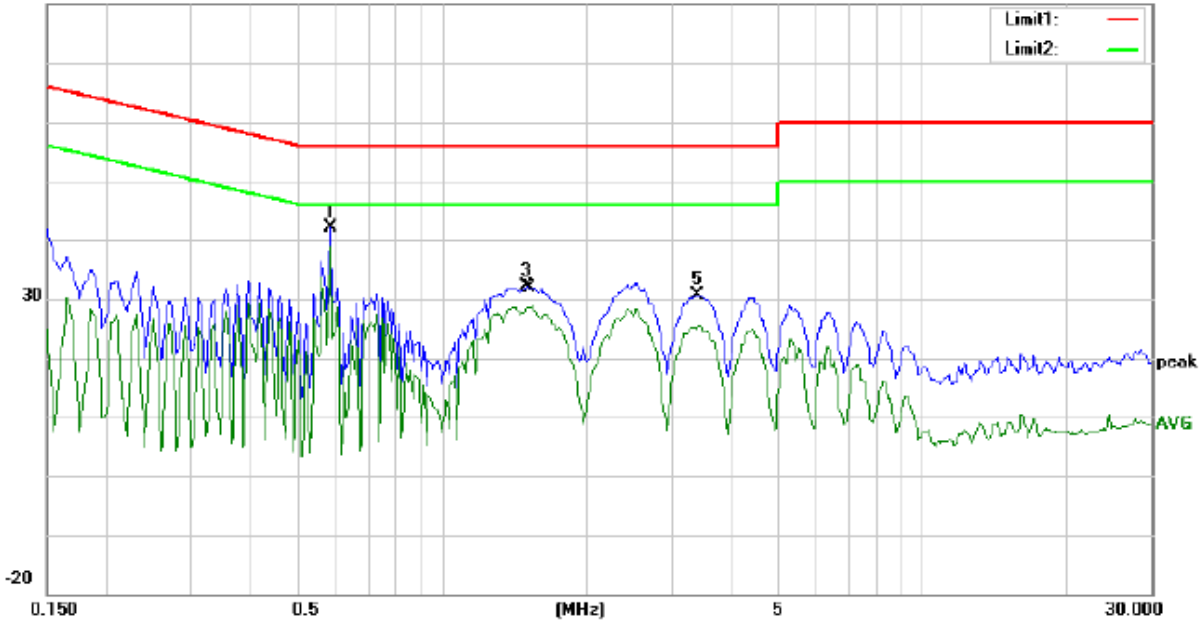
The EUT continued to perform as intended during and after the application of the Magnetic Field immunity Test.

# 9. APPENDIX

## 9.1 APPENDIX I

### Conducted Emission Measurement

File :BODEKANG      Data :#2      Date: 15/11/10/      Time: 16/28/44

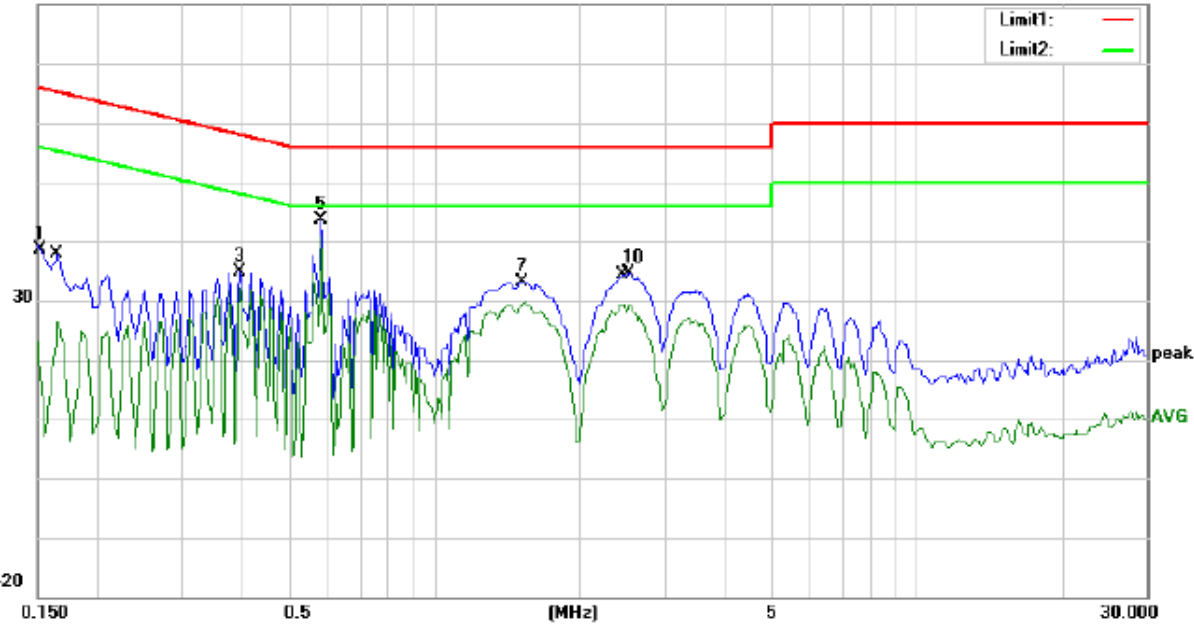


Site Conduction #2      Phase: **N**      Temperature: 26  
 Limit: (CE)EN55022 class B\_QP      Power: AC 230V/50Hz      Humidity: 55 %  
 EUT:  
 M/N: MINI9G45  
 Mode: COMPUTER ON MODULE  
 Note: 5V 2.5A

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.5850	42.05	0.00	42.05	56.00	-13.95	peak	
2	*	0.5850	38.86	0.00	38.86	46.00	-7.14	AVG	
3		1.5000	32.03	0.00	32.03	56.00	-23.97	peak	
4		1.5400	28.78	0.00	28.78	46.00	-17.22	AVG	
5		3.4150	30.67	0.00	30.67	56.00	-25.33	peak	
6		3.4350	25.39	0.00	25.39	46.00	-20.61	AVG	

**Conducted Emission Measurement**

File :BODEKANG      Data :#1      Date: 15/11/10/      Time: 16/25/16



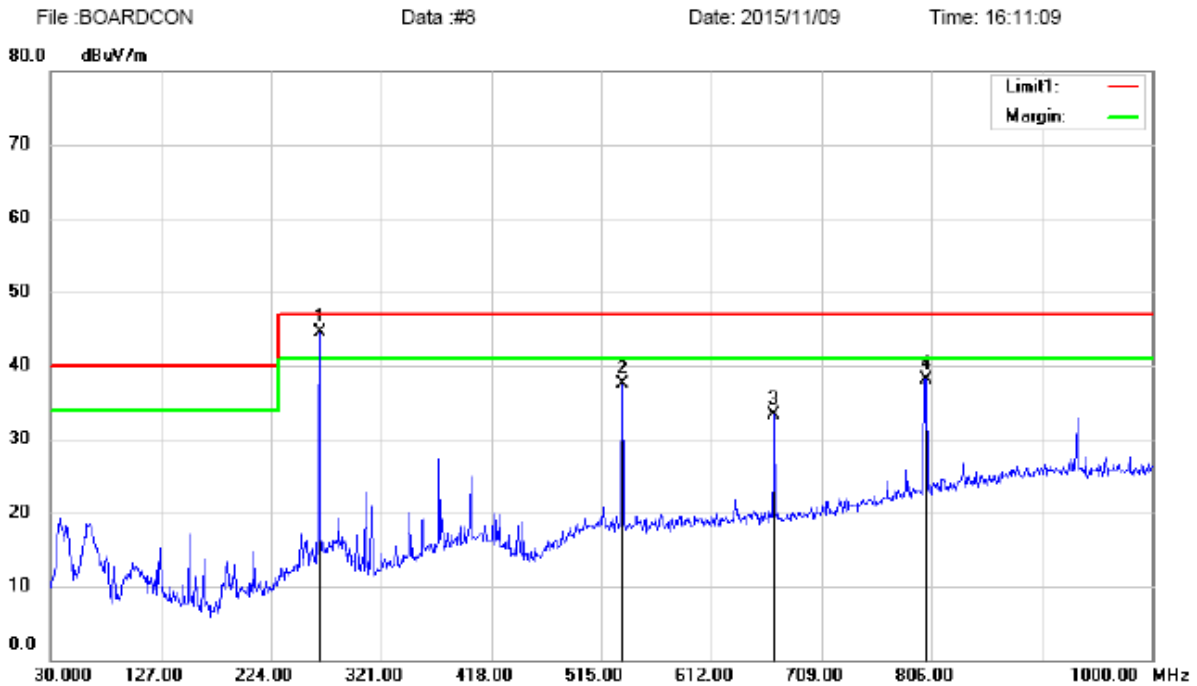
Site Conduction #2      Phase: **L1**      Temperature: 26  
 Limit: (CE)EN55022 class B\_QP      Power: AC 230V/50Hz      Humidity: 55 %  
 EUT:  
 M/N: MINI9G45  
 Mode: COMPUTER ON MODULE  
 Note: 5V 2.5A

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1516	38.62	0.00	38.62	65.91	-27.29	peak	
2		0.1650	26.44	0.00	26.44	55.21	-28.77	AVG	
3		0.3950	34.81	0.00	34.81	57.96	-23.15	peak	
4		0.3950	32.04	0.00	32.04	47.96	-15.92	AVG	
5		0.5800	43.65	0.00	43.65	56.00	-12.35	peak	
6	*	0.5800	40.83	0.00	40.83	46.00	-5.17	AVG	
7		1.5200	33.16	0.00	33.16	56.00	-22.84	peak	
8		1.5400	29.80	0.00	29.80	46.00	-16.20	AVG	
9		2.4550	29.50	0.00	29.50	46.00	-16.50	AVG	
10		2.5400	34.56	0.00	34.56	56.00	-21.44	peak	



## 9.2 APPENDIX II

### Radiated Emission Measurement



Site 3m Chamber #3      Polarization: **Horizontal**      Temperature: 24 C  
 Limit: (RE)EN55022 class B      Power: AC 230V/50Hz      Humidity: 53 %  
 EUT: Module  
 M/N: MINI9G45  
 Mode:  
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Detector	Comment
1	*	266.6800	57.20	-12.72	44.48	47.00	-2.52			peak	
2		533.4300	45.03	-7.53	37.50	47.00	-9.50			peak	
3		667.2900	39.69	-6.30	33.39	47.00	-13.61			peak	
4		801.1500	40.95	-2.85	38.10	47.00	-8.90			peak	

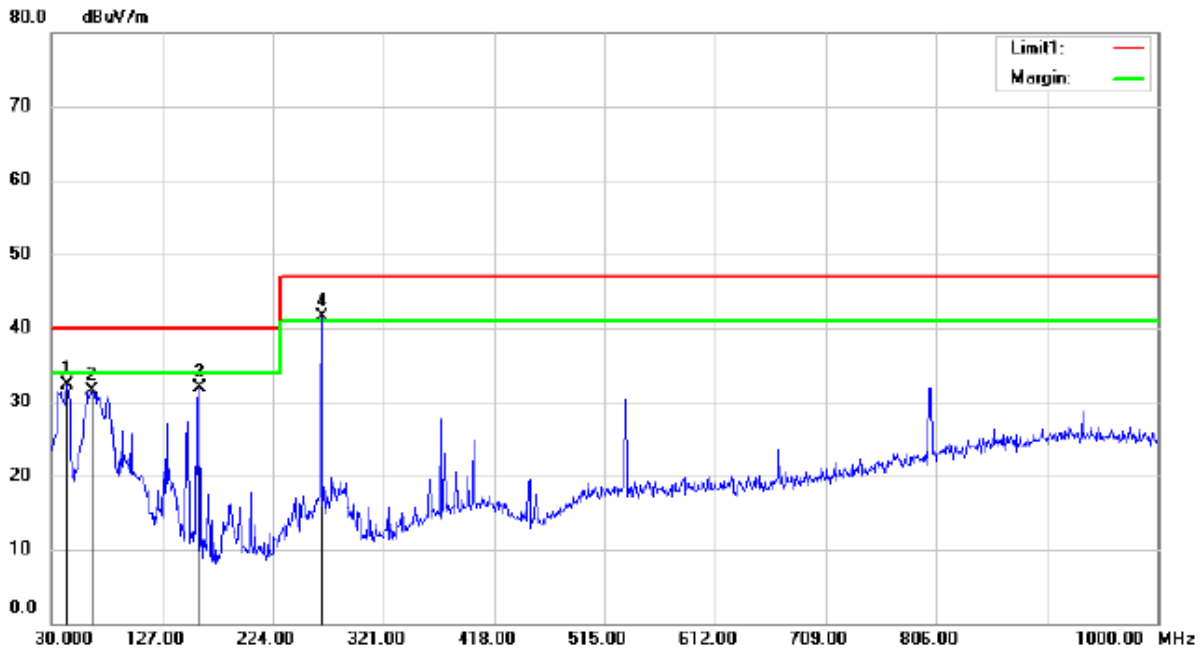
## Radiated Emission Measurement

File :BOARDCON

Data :#7

Date: 2015/11/09

Time: 16:08:24



Site 3m Chamber #3

 Polarization: *Vertical*

Temperature: 24 C

Limit: (RE)EN55022 class B

Power: AC 230V/50Hz

Humidity: 53 %

EUT: Module

M/N: MINI9G45

Mode:

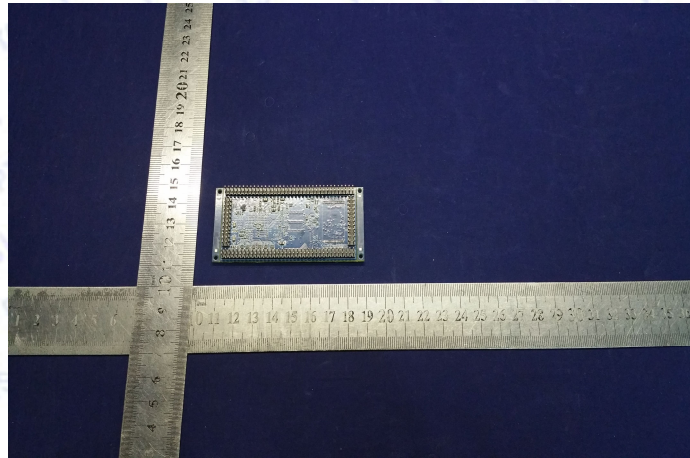
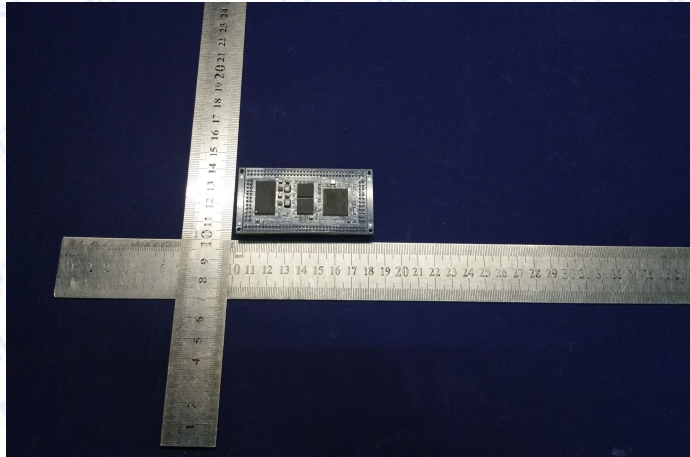
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Detector	Comment
1		43.5800	45.47	-13.13	32.34	40.00	-7.66			peak	
2		64.9200	48.50	-16.99	31.51	40.00	-8.49			peak	
3		159.9800	50.67	-18.72	31.95	40.00	-8.05			peak	
4	*	266.6800	54.21	-12.72	41.49	47.00	-5.51			peak	

### 9.3 APPENDIX III Photos of EUT

#### Photo documentation

Type of equipment, model: MINI9G45 Computer on Module, MINI9G45



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