



# Test Report

Report No.: MTi160623E005

Date of issue: Jul. 15, 2016

Sample Description:	PIN PAD
Model(s):	G3
Applicant:	Shenzhen Xinguodu Technology Co., Ltd.
Address:	17/A, Jinsong Building Tairan Industry And Trading Garden, Shenzhen, China
Date of Test:	Jun.23, 2016 to Jul.15, 2016

Shenzhen Microtest Co., Ltd.  
<http://www.mtitest.com>



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Test result certification	
<b>Applicant's name:</b>	<b>Shenzhen Xinguodu Technology Co., Ltd.</b>
Address:	17/A, Jinsong Building Tairan Industry And Trading Garden, Shenzhen, China
<b>Manufacture's Name:</b>	<b>Shenzhen Xinguodu Technology Co., Ltd.</b>
Address:	17/A, Jinsong Building Tairan Industry And Trading Garden, Shenzhen, China
<b>Product description</b>	
Product name:	PIN PAD
Trademark:	<b>NEXGO</b>
Model name:	G3
<b>Standards:</b>	FCC Part 15 Subpart B
<b>Test Method:</b>	ANSI C63.4-2014

*This device described above has been tested by Shenzhen Toby Technology Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.*

Tested by:

*David Chen*

David Chen

Jul. 15, 2016

Reviewed by:

*Leon Chen*

Leon Chen

Jul. 15, 2016

Approved by:

*Ares Liu*

Ares Liu

Jul. 15, 2016

## Summary of Test Result

Item	Description of Test	Result
FCC Part 15 Subpart B		
1	Conducted emission	Pass
2	Radiated emission	Pass

## 1 General description

### 1.1 Feature of equipment under test (EUT)

Product name:	PIN PAD
Model name:	G3
Power supply:	DC 5V from adapter
Adapter information:	Model: ADS-6MA-06 05050EPCU Input: 100-240V 50/60Hz Max. 0.3A Output: 5V 1A

### 1.2 Test mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test mode	Description
Mode 1	Communication with PC

NOTE: The test modes were carried out for all operation modes. The final test mode of the EUT was the worst test mode for EMI, and its test data was showed.

### 1.3 Test conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 20°C~30°C
- Humidity: 30%~70%
- Atmospheric pressure: 98kPa~101kPa

### 1.4 EUT test setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

### 1.5 Ancillary equipment

Equipment	Model	S/N	Manufacturer	Certification Type
Display	U2879VF	KBWFBJA00068	AOC	FCC DOC
PC computer	VOSTRO3900	18006239306	Dell	FCC DOC
Printer	HPLASERJET10 20PLUS	CNCGC60435	HP	FCC DOC
Keyboard	SK-8120	CN-ODJ365-716 16-571-1ROV-A OO	DELL	FCC DOC
Mouse	MS111-7	CN-OKW2YH-71 616-58R-17BA	DELL	FCC DOC

## 1.6 Measurement Uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2xUc(y)$

Conducted emission(150kHz~30MHz)	$\pm 2.5$ dB
Radiated emission(30MHz~1GHz)	$\pm 4.2$ dB
Radiated emission (above 1GHz)	$\pm 4.3$ dB
Temperature	$\pm 1$ degree
Humidity	$\pm 5$ %

## 2 Testing Site

Test Site	Shenzhen Toby Technology Co., Ltd.
Test Site Location	1 A/F., Bldg.6, Yusheng Industrial Zone The National Road No.107 Xixiang Section 467, Shenzhen, Guangdong, China
FCC Registration No.:	811562
CNAS Registration No.:	CNAS L5813

### 3 List of test equipment

Conducted emission:

Equipment	Manufacturer	Model	Serial No.	Calibration Due
LISN	R&S	ENV216	101313	2016.12.06
LISN	SCHWARZBECK	NNLK 8129	8129245	2016.12.25
Pulse Limiter	SCHWARZBECK	VTSD 9561F	9716	2016.12.25
Test Cable	N/A	N/A	C01	2016.12.06
EMI Test Receiver	R&S	ESCI	101160	2016.12.06

Radiated emission:

Equipment	Manufacturer	Model	Serial No.	Calibration Due
Log-Bicon Antenna	MESS-ELEKTRO NIK	VULB 9160	3058	2016.12.11
Horn Antenna	Schwarzbeck	BBHA 9120D	631	2016.12.05
Test Cable	United Microwave	57793	1m	2016.12.05
Test Cable	United Microwave	A30A30-5006	10m	2016.12.05
Microwave Pre_amplifier	Agilent	8449B	3008A01714	2016.12.05
Pre-Amplifier	Anritsu	MH648A	M09961	2016.12.05
EMI Test Receiver	R&S	ESPI-7	101318	2016.12.05
Spectrum analyzer	Agient	E4470B	MY41441082	2017.06.01

Note: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



## 4 EMC emission test

### 4.1 Conducted emission

#### 4.1.1 Limits

Frequency (MHz)		Class B (dB $\mu$ V)	
		Quasi-peak	Average
0.15 -0.5		66 - 56 *	56 - 46 *
0.5 -5		56	46
5 -30		60	50

Note 1: the tighter limit applies at the band edges.

Note 2: the limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

#### 4.1.2 Test Procedures

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

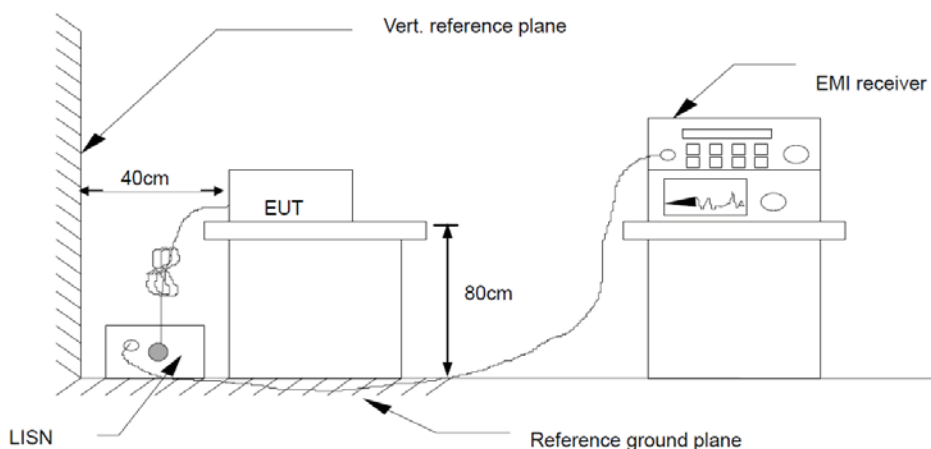
Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

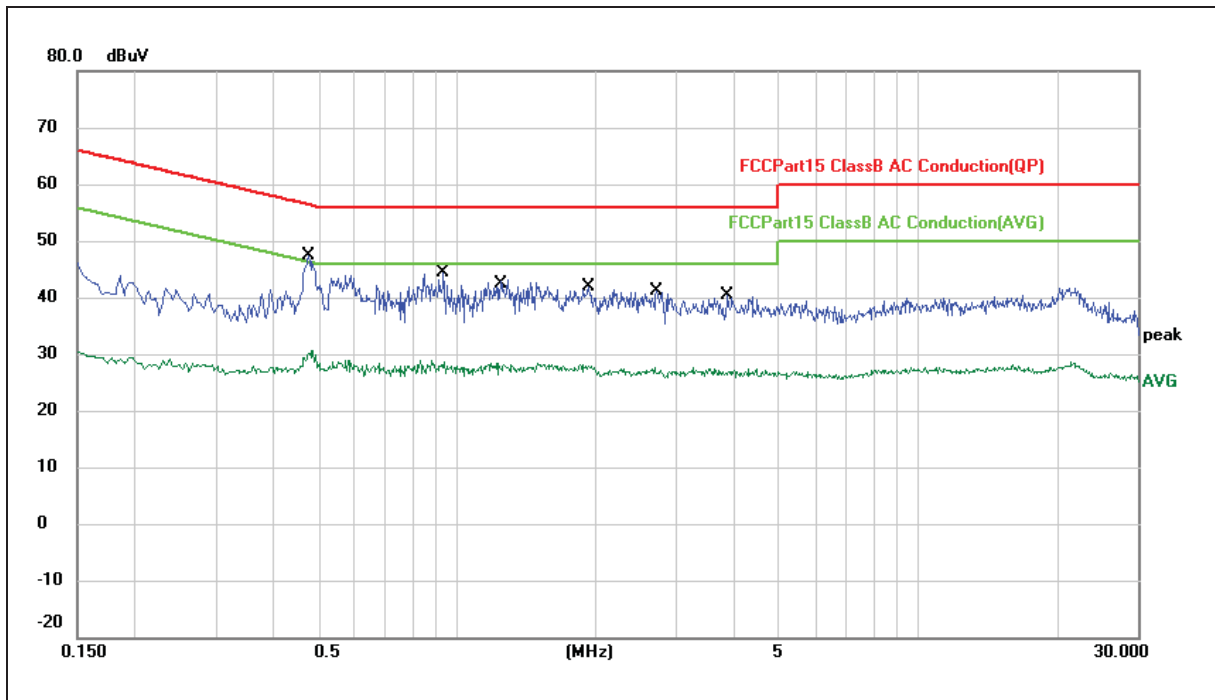
For the actual test configuration, please refer to the related Item – photographs of the test setup.

#### 4.1.3 Test Setup



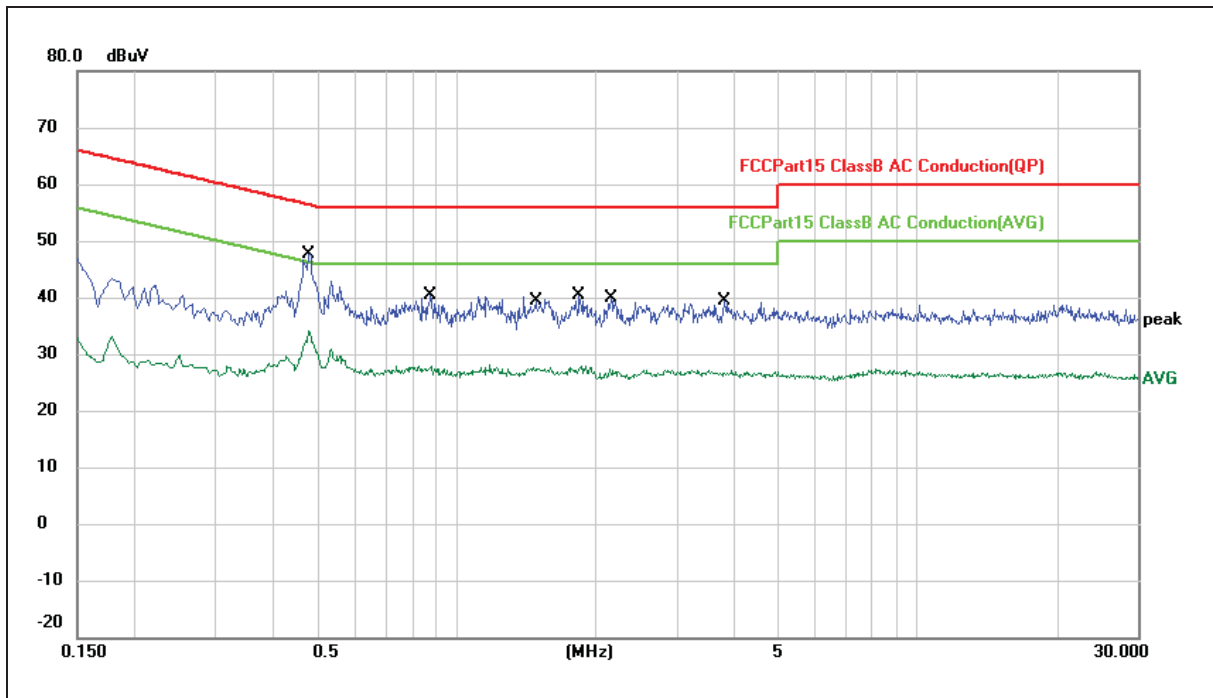
#### 4.1.4 Test Result

Temperature:	26°C	Relative Humidity:	67%
Pressure:	101kPa	Phase:	L
Test voltage:	AC 120V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.4779	12.65	30.02	42.67	56.38	-13.71	QP	
2		0.4779	0.24	30.02	30.26	46.38	-16.12	AVG	
3		0.9315	4.67	30.02	34.69	56.00	-21.31	QP	
4		0.9315	-2.73	30.02	27.29	46.00	-18.71	AVG	
5		1.2737	3.96	30.02	33.98	56.00	-22.02	QP	
6		1.2737	-2.84	30.02	27.18	46.00	-18.82	AVG	
7		1.9002	3.43	30.02	33.45	56.00	-22.55	QP	
8		1.9002	-2.98	30.02	27.04	46.00	-18.96	AVG	
9		2.7120	2.73	30.03	32.76	56.00	-23.24	QP	
10		2.7120	-4.12	30.03	25.91	46.00	-20.09	AVG	
11		3.8334	2.75	30.04	32.79	56.00	-23.21	QP	
12		3.8334	-3.93	30.04	26.11	46.00	-19.89	AVG	

Temperature:	26°C	Relative Humidity:	67%
Pressure:	101kPa	Phase:	N
Test voltage:	AC 120V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.4771	11.29	30.02	41.31	56.39	-15.08	QP	
2	*	0.4771	3.12	30.02	33.14	46.39	-13.25	AVG	
3		0.8687	2.09	30.02	32.11	56.00	-23.89	QP	
4		0.8687	-2.80	30.02	27.22	46.00	-18.78	AVG	
5		1.4617	1.11	30.02	31.13	56.00	-24.87	QP	
6		1.4617	-3.21	30.02	26.81	46.00	-19.19	AVG	
7		1.8582	1.43	30.02	31.45	56.00	-24.55	QP	
8		1.8582	-3.00	30.02	27.02	46.00	-18.98	AVG	
9		2.1835	1.66	30.02	31.68	56.00	-24.32	QP	
10		2.1835	-3.99	30.02	26.03	46.00	-19.97	AVG	
11		3.7738	0.85	30.04	30.89	56.00	-25.11	QP	
12		3.7738	-4.21	30.04	25.83	46.00	-20.17	AVG	

## 4.2 Radiated emission

### 4.2.1 Limits

Limits of radiated emission measurement

Frequency (MHz)	Class B device (at 3m) dB $\mu$ V/m		Detector
30-88	40		QP
88-216	43.5		QP
216-960	46		QP
960-1000	54		QP
Above 1000	54		AV
Above 1000	74		PK

### 4.2.2 Test Procedures

The radiated emission tests were performed in the 3 meters.

The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.

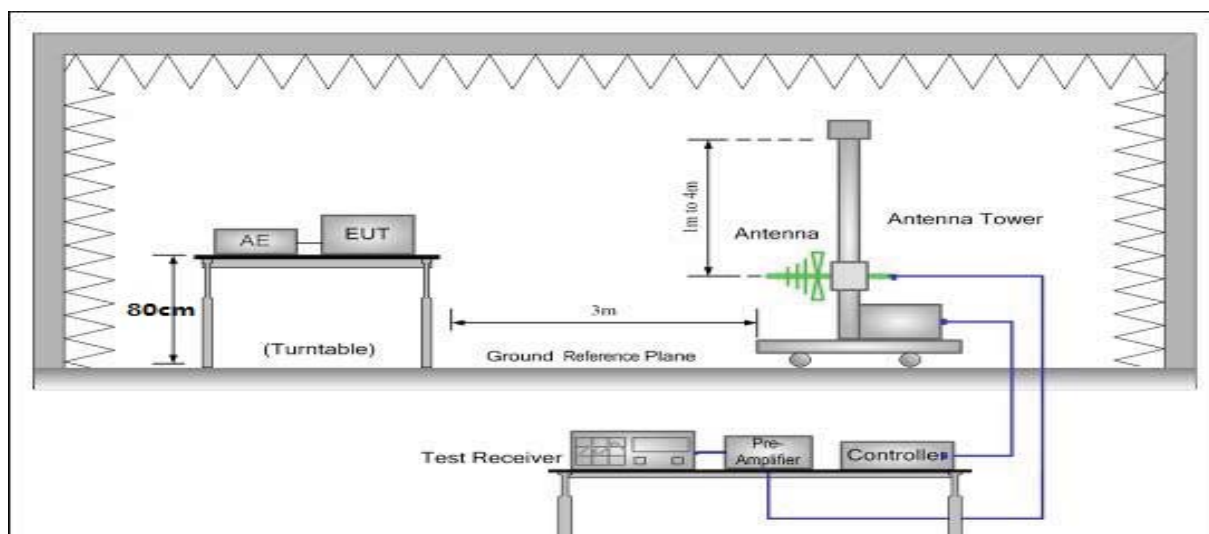
The height of the test antenna shall vary between 1m to 4m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

If the peak mode measured value compliance with and lower than quasi peak mode limit, the EUT shall be deemed to meet QP limits and then no additional QP mode measurement performed.

If the peak mode measured value compliance with and lower than average mode limit, the EUT shall be deemed to meet average limits and then no additional average mode measurement performed.

For the actual test configuration, please refer to the related item – EUT test photos.

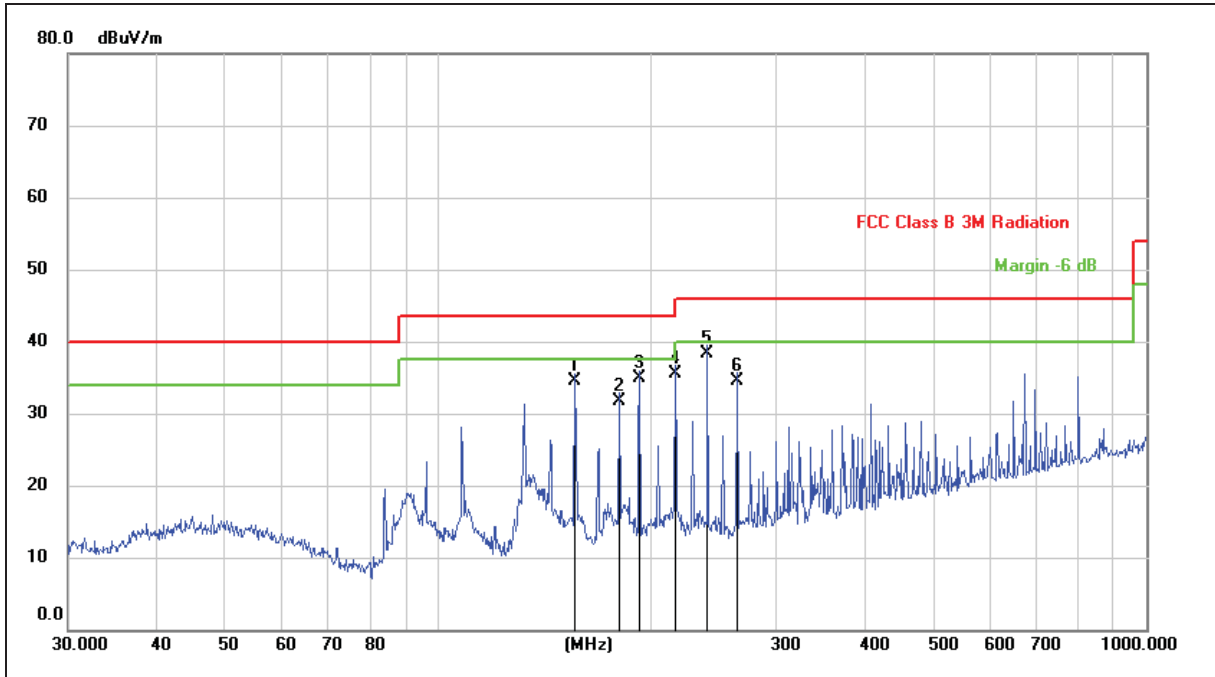
### 4.2.3 Test Setup



### 4.2.4 Test Result

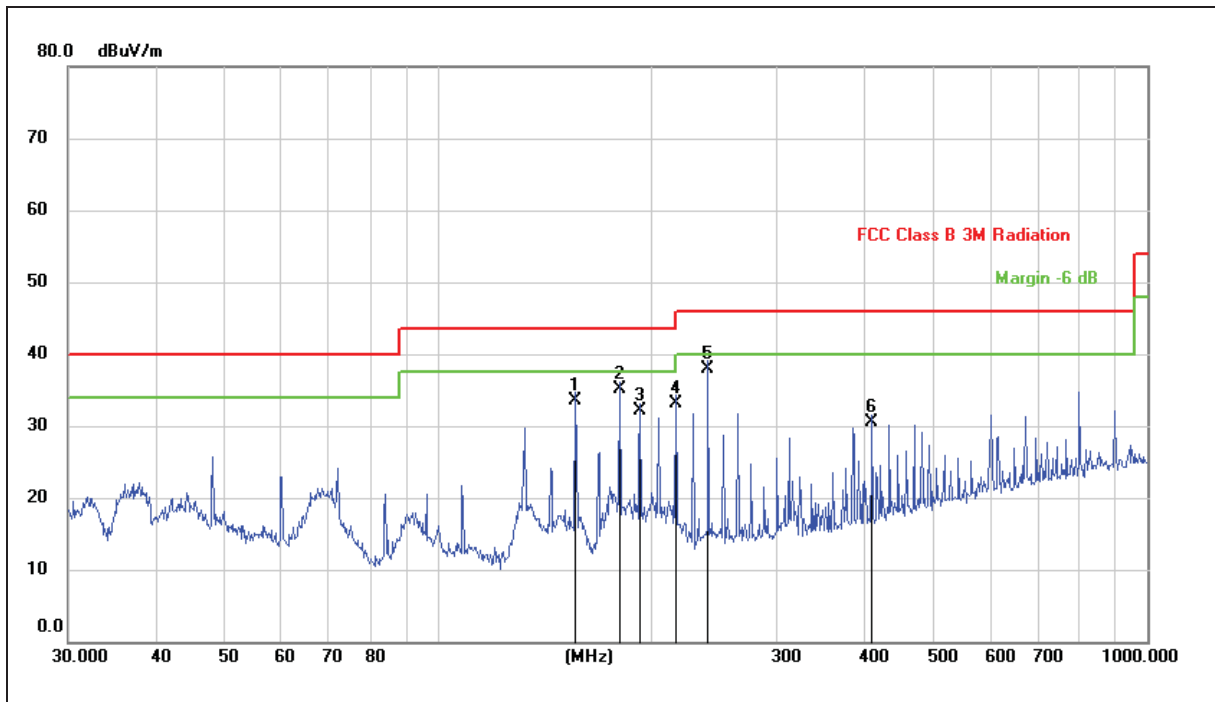
Note: Test from 30MHz to 25GHz , only worse case is reported , above 5GHz to 25GHz , no emission found

Temperature:	21°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Horizontal
Test voltage:	AC 120V/60Hz	Test mode:	Mode 1



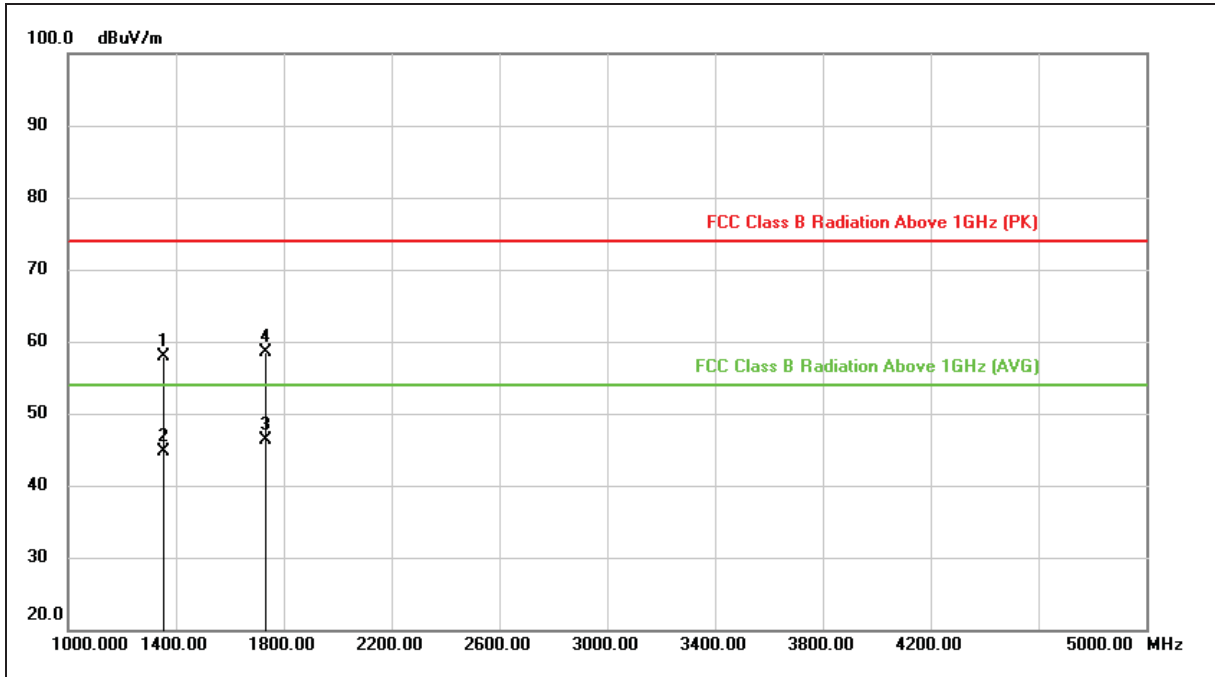
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		155.9101	51.50	-17.00	34.50	43.50	-9.00	QP			
2		180.0165	47.54	-15.74	31.80	43.50	-11.70	QP			
3		192.4186	49.45	-14.55	34.90	43.50	-8.60	QP			
4		216.0240	49.00	-13.40	35.60	46.00	-10.40	QP			
5	*	239.9874	51.16	-12.76	38.40	46.00	-7.60	QP			
6		264.7457	46.79	-12.19	34.60	46.00	-11.40	QP			

Temperature:	21°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Vertical
Test voltage:	AC 120V/60Hz	Test mode:	Mode 1



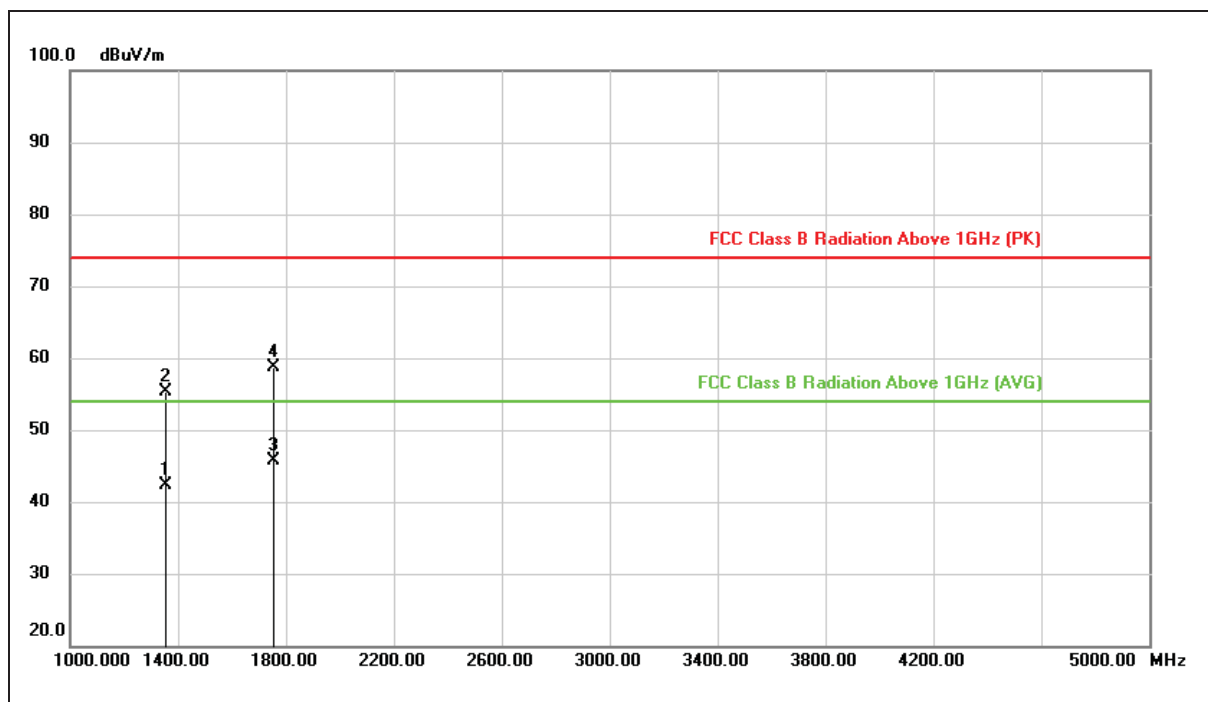
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dBuV/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		155.9101	50.60	-17.00	33.60	43.50	-9.90	QP		
2		180.0165	50.84	-15.74	35.10	43.50	-8.40	QP		
3		192.4186	46.75	-14.55	32.20	43.50	-11.30	QP		
4		216.0240	46.60	-13.40	33.20	46.00	-12.80	QP		
5	*	239.9874	50.76	-12.76	38.00	46.00	-8.00	QP		
6		408.9460	39.51	-9.01	30.50	46.00	-15.50	QP		

Temperature:	21°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Horizontal
Test voltage:	AC 120V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		1350.000	59.71	-1.77	57.94	74.00	-16.06	peak			
2		1351.000	46.44	-1.77	44.67	54.00	-9.33	AVG			
3	*	1730.000	47.31	-1.07	46.24	54.00	-7.76	AVG			
4		1732.000	59.52	-1.05	58.47	74.00	-15.53	peak			

Temperature:	21°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Vertical
Test voltage:	AC 120V/60Hz	Test mode:	Mode 1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	1353.000	44.06	-1.75	42.31	54.00	-11.69	AVG			
2	1354.000	57.02	-1.75	55.27	74.00	-18.73	peak			
3	* 1749.000	46.64	-1.02	45.62	54.00	-8.38	AVG			
4	1751.000	59.62	-1.01	58.61	74.00	-15.39	peak			

----END OF REPORT----