

FCC/IC - TEST REPORT

Report Number : **68.760.14.210.01** Date of Issue: August 5, 2014

Model : See Page 4

Product Type : LED Interactive Multi-Touch Display

Applicant : SHENZHEN Hitevision Technology Co., Ltd.

Address : 1th-3th floor and 6th floor No.1 Building 1th floor No.2 Building,
1th floor No.4 Building, HongHui Industrial Park, Liu Xian No.2
Road, Xin An District, Shenzhen

Production Facility : SHENZHEN Hitevision Technology Co., Ltd.

Address : 1th-3th floor and 6th floor No.1 Building 1th floor No.2 Building,
1th floor No.4 Building, HongHui Industrial Park, Liu Xian No.2
Road, Xin An District, Shenzhen

Test Result : **Positive** **Negative**

Total pages including
 Appendices : 17

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2 Details about the Test Laboratory

Details about the Test Laboratory

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2, Nanshan District,
Shenzhen City, 518052,
P. R. China

Telephone: 86 755 8828 6998

Fax: 86 755 8828 5299

Test Site 2

Company name: Shenzhen CTL Testing Technology Co., Ltd
Floor 1-A, Baisha Technology Park, No.3011, Shahehexi Road, Nanshan District,
Shenzhen, China 518055

FCC Registration
No: 970318

Telephone: 86 755 8948 6194

3 Description of the Equipment Under Test

Product: LED Interactive Multi-Touch Display

Model no.: 80GT-X、EPR8AX0080、QIT1X80、TWB-N80、TWB-NB80、TWB-N80X、TWB-NB80X、OTS-80VX、OTS-80V2、OTS-80X、P-80、X-80、P-80X、TID-80、TID-80X、Avtek TouchScreen 80P、Avtek TouchScreen 80X、80GT、80GT-X(standard)、80GT-X(deluxe)、80GT(standard)、80GT(deluxe)、CCS-TS-800X-CA、HD-I80XXE、WS-Z80XX、WS-Z80AX、WB-E80X、WB-L80X、WB-N80X、WB-K80X、WB-Z80X、TT-8014X("X" represent 0-9 random numbers or A-Z random letters)

FCC ID: 2ACYT-90180

IC ID: NIL

Brand Name: Hitevision

Options and accessories: 1KHz Color Bar and the program of "H"

Rating: 100-240VAC~50/60Hz, Max 4.5A

Description of the EUT: Class B Equipment



4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart B 10-1-13 Edition	Unintentional Radiators
ICES-003 Issue 5 August 2012	Information Technology Equipment (ITE) – Limits and methods of measurement



5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart B 10-1-13 Edition/ICES-003 Issue 5				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
Conducted Emission on AC 150kHz to 30MHz	9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Emission 30MHz to 1000MHz	13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Emission 1GHz to 6GHz	15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6 General Remarks

Remarks

The model 80GT-X and other models are identical except the model name, so all the EMC requirements were applied on 80GT-X and other models are deemed to fulfill the relevant EMC requirements without further testing.

SUMMARY:

All tests according to the regulations cited on page 5 were

- Performed

- **Not** Performed

The Equipment under Test

- **Fulfills** the general approval requirements.

- **Does not** fulfill the general approval requirements.

Sample Received Date: June 13, 2014

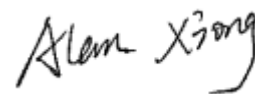
Testing Start Date: June 16, 2014

Testing End Date: August 05, 2014

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

Prepared by:



John Zhi
EMC Project Manager

Alan Xiong
EMC Project Engineer

7 Systems test configuration

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Configuration List:

TEST MODE	DESCRIPTION	REMARK
TC1	VGA In	Connect to Notebook
TC2	HDMI In	Connect to Notebook
TC3	VGA Out	Connect to Notebook
TC4	USB In	Connect to U-Disk
TC5	SD Card In	SD-Card
TC6	Audio & Video In	Connect to DVD Player
TC7	YPbPr In	Connect to DVD Player
TC8	S-Video In	Connect to analog signal

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
PC	DELL	INSPIRON 3420	---

Auxiliary Cable List and Details:

CABLE DESCRIPTION	LENGTH (M)	SHIELDED/ UNSHIELDED	WITH CORE/ WITHOUT CORE
HDMI Cable	1.6	Shielded	Without Core
AV Cable	1.65	Unshielded	Without Core
VGA Cable	1.6	Shielded	Without Core
S-Video Cable	1.75	Shielded	Without Core
WAN Cable	1.5	Unshielded	Without Core

The EUT has been tested under two frequencies of input voltage (50Hz, 60Hz) and eight operational models (VGA In, HDMI In, VGA Out, USB In, SD Card In, AV In, YPbPr In and S-Video In), the worst test result are listed in the report.

8 Technical Requirement

8.1 Conducted Emission Test

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

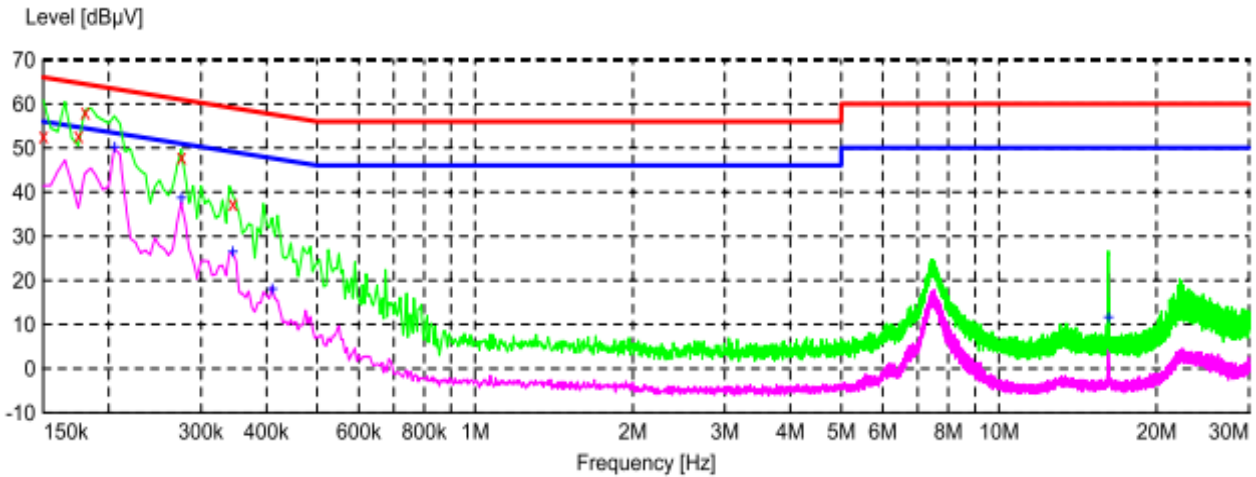
According to §15.107, conducted emissions limit as below:

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Conducted Emission

Product Type : LED Interactive Multi-Touch Display
 M/N : 80GT-X
 Operating Condition : VGA In
 Test Specification : Line
 Comment : AC 120V/60Hz



MEASUREMENT RESULT: "14FR237E23_fin"

7/11/2014 02:23

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	52.80	13.4	66	13.2	QP	L1	GND
0.175000	52.90	12.3	65	11.8	QP	L1	GND
0.180000	58.20	12.1	65	6.3	QP	L1	GND
0.275000	48.00	11.0	61	13.0	QP	L1	GND
0.345000	37.50	10.8	59	21.6	QP	L1	GND

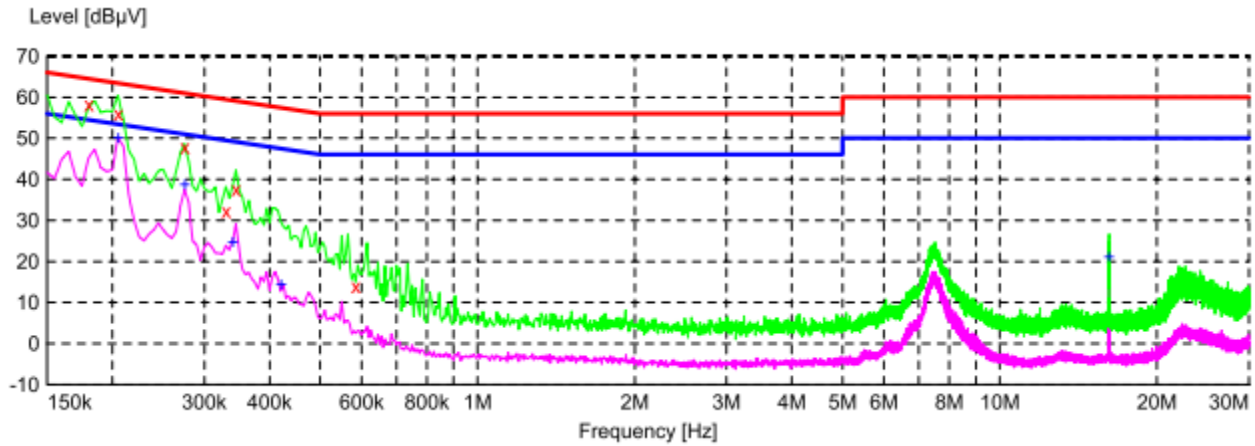
MEASUREMENT RESULT: "14FR237E23_fin2"

7/11/2014 02:23

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.205000	50.20	11.3	53	3.2	AV	L1	GND
0.275000	38.70	11.0	51	12.3	AV	L1	GND
0.345000	26.50	10.8	49	22.6	AV	L1	GND
0.410000	18.00	10.7	48	29.6	AV	L1	GND
16.180000	11.60	10.8	50	38.4	AV	L1	GND

Conducted Emission

Product Type : LED Interactive Multi-Touch Display
 M/N : 80GT-X
 Operating Condition : VGA In
 Test Specification : Neutral
 Comment : AC 120V/60Hz



MEASUREMENT RESULT: "14FR237E24_fin"

7/11/2014 02:27

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.180000	58.30	12.1	65	6.2	QP	N	GND
0.205000	56.00	11.3	63	7.4	QP	N	GND
0.275000	47.90	11.0	61	13.1	QP	N	GND
0.330000	32.30	10.9	60	27.2	QP	N	GND
0.345000	37.60	10.8	59	21.5	QP	N	GND
0.585000	14.00	10.4	56	42.0	QP	N	GND

MEASUREMENT RESULT: "14FR237E24_fin2"

7/11/2014 02:27

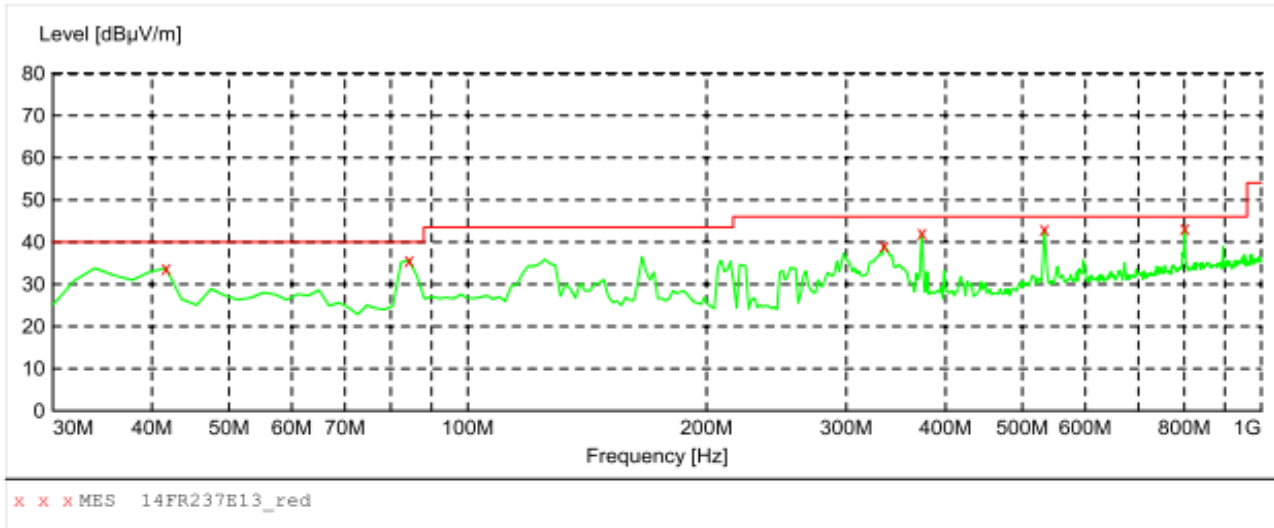
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.205000	50.00	11.3	53	3.4	AV	N	GND
0.275000	38.70	11.0	51	12.3	AV	N	GND
0.340000	24.70	10.8	49	24.5	AV	N	GND
0.420000	14.40	10.6	47	33.0	AV	N	GND
16.175000	21.10	10.8	50	28.9	AV	N	GND

Test Equipment List**Conducted emission test**

Equipment	Manufacturer	Model No.	Serial No.	Cal. due. date
EMI Test Receiver	R&S	ESCI	100687	2014.11.21
Teo Line Single Phase Module	R&S	ENV216	8128247	2014.11.21
10dB attenuator	SCHWARZCECK	VTSD 9561F	836	2014.11.21

8.2 Radiated Emission Test 30MHz – 1000MHz

Product Type : LED Interactive Multi-Touch Display
 M/N : 80GT-X
 Operating Condition : VGA In
 Ant. Polarity : Vertical
 Comment : 30-1000MHz



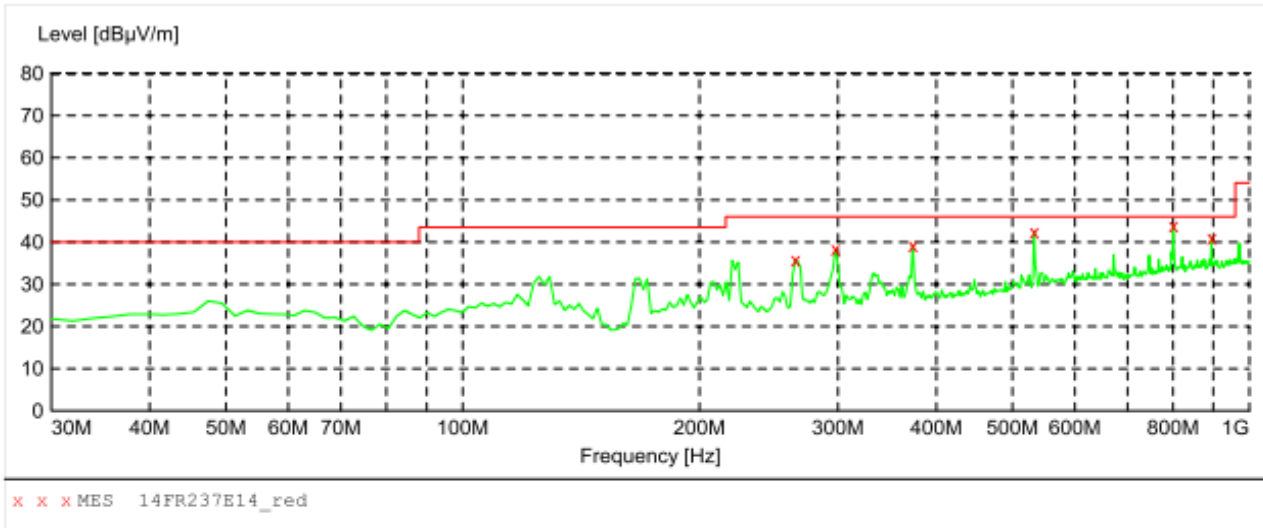
MEASUREMENT RESULT: "14FR237E13_red"

7/10/2014 23:48

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
41.640000	33.80	15.9	40.0	6.2	---	100.0	0.00	VERTICAL
84.320000	35.70	14.1	40.0	4.3	---	100.0	0.00	VERTICAL
334.580000	39.20	19.9	46.0	6.8	---	100.0	0.00	VERTICAL
373.380000	42.20	20.8	46.0	3.8	---	100.0	0.00	VERTICAL
532.460000	43.10	24.6	46.0	2.9	QP	100.0	0.00	VERTICAL
800.180000	43.30	28.0	46.0	2.7	QP	100.0	0.00	VERTICAL

Radiated Emission Test 30MHz – 1000MHz

Product Type : LED Interactive Multi-Touch Display
 M/N : 80GT-X
 Operating Condition : VGA In
 Ant. Polarity : Horizontal
 Comment : 30-1000MHz



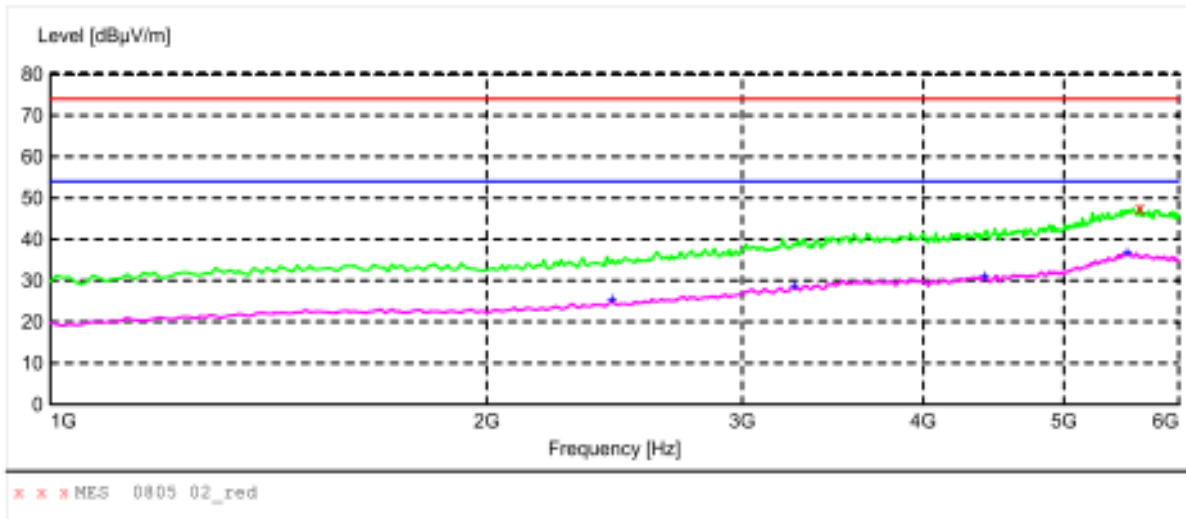
MEASUREMENT RESULT: "14FR237E14_red"

7/10/2014 23:51

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarizatio
264.740000	35.80	17.5	46.0	10.2	---	100.0	0.00	HORIZONTAL
297.720000	38.40	18.7	46.0	7.6	---	100.0	0.00	HORIZONTAL
373.380000	39.20	20.8	46.0	6.8	---	100.0	0.00	HORIZONTAL
532.460000	42.40	24.6	46.0	3.6	---	100.0	0.00	HORIZONTAL
800.180000	43.90	28.0	46.0	2.1	QP	100.0	0.00	HORIZONTAL
895.240000	41.00	29.1	46.0	5.0	---	100.0	0.00	HORIZONTAL

8.3 Radiated Emission Test 1GHz – 6GHz

Product Type : LED Interactive Multi-Touch Display
 M/N : 80GT-X
 Operating Condition : VGA In
 Ant. Polarity : Vertical
 Comment : 1GHz-6GHz



MEASUREMENT RESULT: "0805 02_red"

8/5/2014 09:19

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarizatic
5640.000000	47.60	3.6	74.0	26.4	---	100.0	0.00	VERTICAL

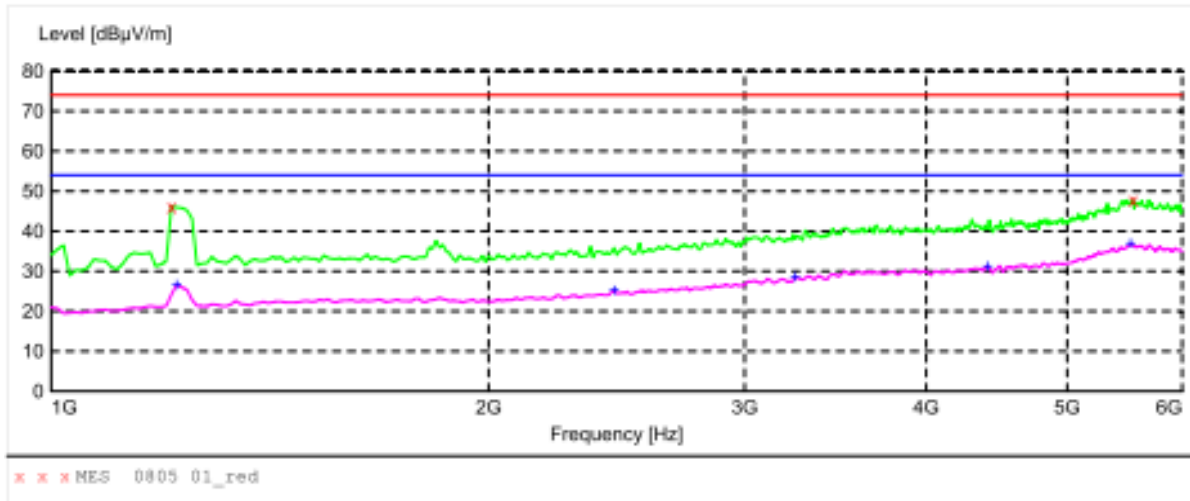
MEASUREMENT RESULT: "0805 02_red2"

8/5/2014 09:19

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarizatic
2440.000000	25.40	-9.7	54.0	28.6	---	100.0	0.00	VERTICAL
3260.000000	28.70	-6.1	54.0	25.3	---	100.0	0.00	VERTICAL
4410.000000	31.00	-3.0	54.0	23.0	---	100.0	0.00	VERTICAL
5530.000000	36.70	3.9	54.0	17.3	---	100.0	0.00	VERTICAL

Radiated Emission Test 1GHz – 6GHz

Product Type : LED Interactive Multi-Touch Display
 M/N : 80GT-X
 Operating Condition : VGA In
 Ant. Polarity : Horizontal
 Comment : 1GHz-6GHz



MEASUREMENT RESULT: "0805 01_red"

8/5/2014 09:18

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1210.000000	46.10	-13.3	74.0	27.9	---	100.0	0.00	HORIZONTAL
5550.000000	47.80	3.8	74.0	26.2	---	100.0	0.00	HORIZONTAL

MEASUREMENT RESULT: "0805 01_red2"

8/5/2014 09:18

Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1220.000000	26.60	-13.2	54.0	27.4	---	100.0	0.00	HORIZONTAL
2440.000000	25.20	-9.7	54.0	28.8	---	100.0	0.00	HORIZONTAL
3250.000000	28.60	-6.2	54.0	25.4	---	100.0	0.00	HORIZONTAL
4410.000000	31.20	-3.0	54.0	22.8	---	100.0	0.00	HORIZONTAL
5530.000000	36.90	3.9	54.0	17.1	---	100.0	0.00	HORIZONTAL

Test Equipment List

Radiated Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	R&S	ESCI	100687	2014.11.21
EMI Test Receiver	R&S	ESPI	100097	2014.11.21
TRILOG Broadband Test-Antenna	Sunol Sciences Corp.	JB1	9163-324	2014.11.21
Horn Antenna	Sunol Sciences Corp.	DRH-118	0499	2014.11.21
EMI Test Receiver	R&S	ESCI	100687	2014.11.21