

## FCC/IC - TEST REPORT

Report Number : **68.760.14.214.01** 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  
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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, Shahe 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.: 70GT-X 、EPR8AX0070 、QIT1X70 、TWB-N70 、TWB-NB70 、TWB-N70X 、TWB-NB70X 、OTS-70VX 、OTS-70V2 、OTS-70X 、P-70 、X-70 、P-70X 、TID-70 、TID-70X 、Avtek TouchScreen 70P 、Avtek TouchScreen 70X 、70GT 、70GT-X ( standard ) 、70GT-X ( deluxe ) 、70GT(standard) 、70GT(deluxe) 、CCS-TS-700X-CA 、HD-I70XXE 、WS-Z70XX 、WS-Z70AX 、WB-E70X 、WB-L70X 、WB-N70X 、WB-K70X 、WB-Z70X 、TT-7014X ( "X" represent 0-9 random numbers or A-Z random letters )

FCC ID: 2ACYT-06970

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 70GT-X(Non-intelligent) and other models are identical except the model name, so all the EMC requirements were applied on 70GT-X(Non-intelligent) 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:                     Jane 13, 2014                    

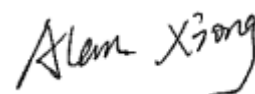
Testing Start Date:                     Jane 16, 2014                    

Testing End Date:                     August 05, 2014                    

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

Reviewed by:

Prepared by:



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John Zhi  
EMC Project Manager

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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	USB In	Connect to U-Disk
TC4	Audio & Video In	Connect to DVD Player
TC5	YPbPr In	Connect to DVD Player

### 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
WAN Cable	1.5	Unshielded	Without Core

The EUT has been tested under two frequencies of input voltage (50Hz, 60Hz) and five operational models (VGA In, HDMI In, USB In, AV In and YPbPr 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

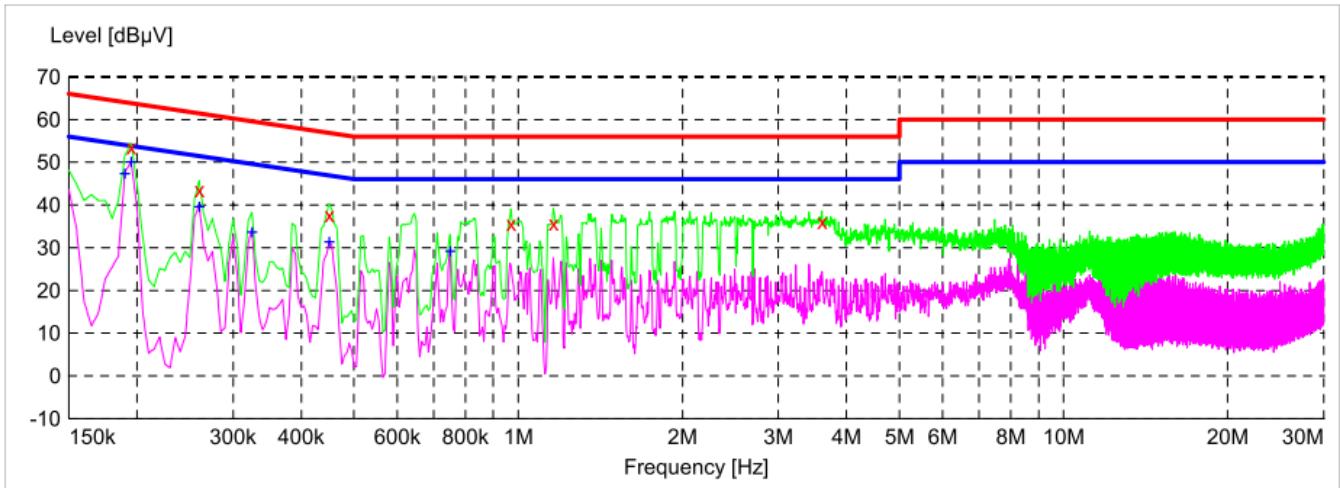
According to §15.107, conducted emissions limit as below:

Frequency MHz	QP Limit dB $\mu$ V	AV Limit dB $\mu$ 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 : 70GT-X  
 Operating Condition : VGA In  
 Test Specification : Line  
 Comment : AC 120V/60Hz



**MEASUREMENT RESULT: "071471\_fin"**

7/15/2014 00:30

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	53.60	11.5	64	10.2	QP	L1	GND
0.260000	43.60	11.1	61	17.8	QP	L1	GND
0.450000	37.70	10.6	57	19.2	QP	L1	GND
0.970000	35.60	10.4	56	20.4	QP	L1	GND
1.160000	35.70	10.4	56	20.3	QP	L1	GND
3.605000	36.10	10.4	56	19.9	QP	L1	GND

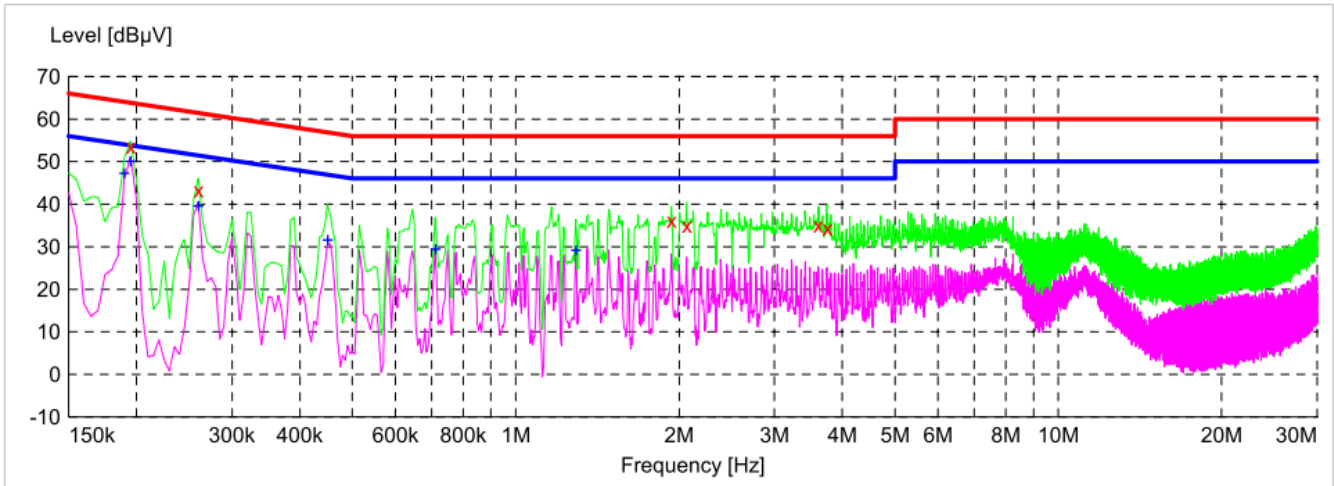
**MEASUREMENT RESULT: "071471\_fin2"**

7/15/2014 00:30

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.190000	47.30	11.7	54	6.7	AV	L1	GND
0.195000	50.10	11.5	54	3.7	AV	L1	GND
0.260000	39.60	11.1	51	11.8	AV	L1	GND
0.325000	33.60	10.9	50	16.0	AV	L1	GND
0.450000	31.40	10.6	47	15.5	AV	L1	GND
0.750000	29.10	10.4	46	16.9	AV	L1	GND

**Conducted Emission**

Product Type : LED Interactive Multi-Touch Display  
 M/N : 70GT-X  
 Operating Condition : VGA In  
 Test Specification : Neutral  
 Comment : AC 120V/60Hz



**MEASUREMENT RESULT: "071470\_fin"**

7/15/2014 00:27

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	53.60	11.5	64	10.2	QP	N	GND
0.260000	43.30	11.1	61	18.1	QP	N	GND
1.935000	36.20	10.4	56	19.8	QP	N	GND
2.065000	35.00	10.4	56	21.0	QP	N	GND
3.605000	35.10	10.4	56	20.9	QP	N	GND
3.750000	34.40	10.4	56	21.6	QP	N	GND

**MEASUREMENT RESULT: "071470\_fin2"**

7/15/2014 00:27

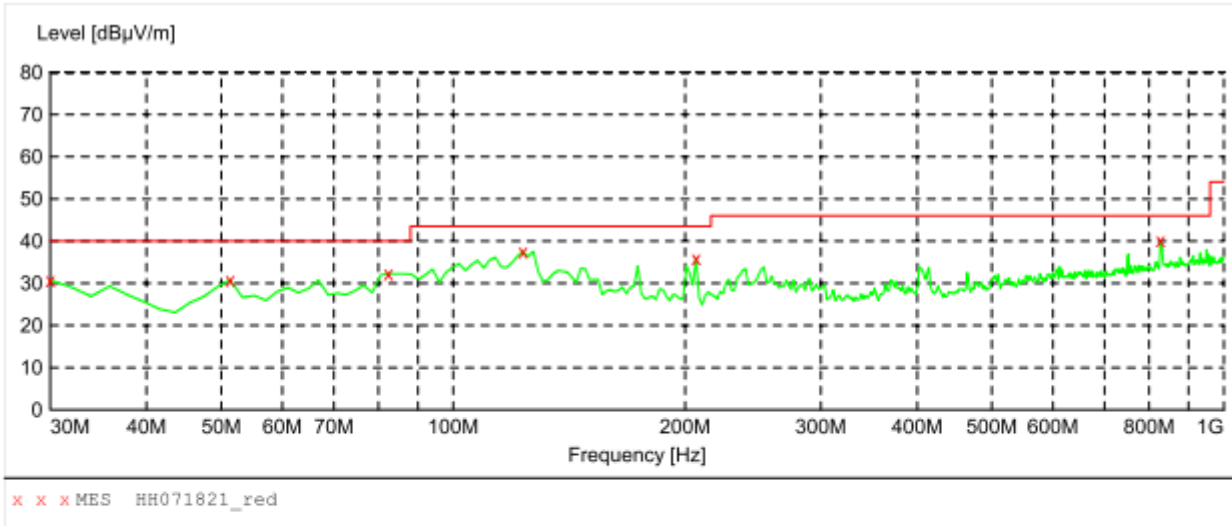
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.190000	47.20	11.7	54	6.8	AV	N	GND
0.195000	50.10	11.5	54	3.7	AV	N	GND
0.260000	39.60	11.1	51	11.8	AV	N	GND
0.450000	31.60	10.6	47	15.3	AV	N	GND
0.710000	29.40	10.4	46	16.6	AV	N	GND
1.290000	29.10	10.4	46	16.9	AV	N	GND

**Test Equipment List****Conducted emission test**

<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal. due. date</b>
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 : 70GT-X  
 Operating Condition : VGA In  
 Ant. Polarity : Vertical  
 Comment : 30-1000MHz



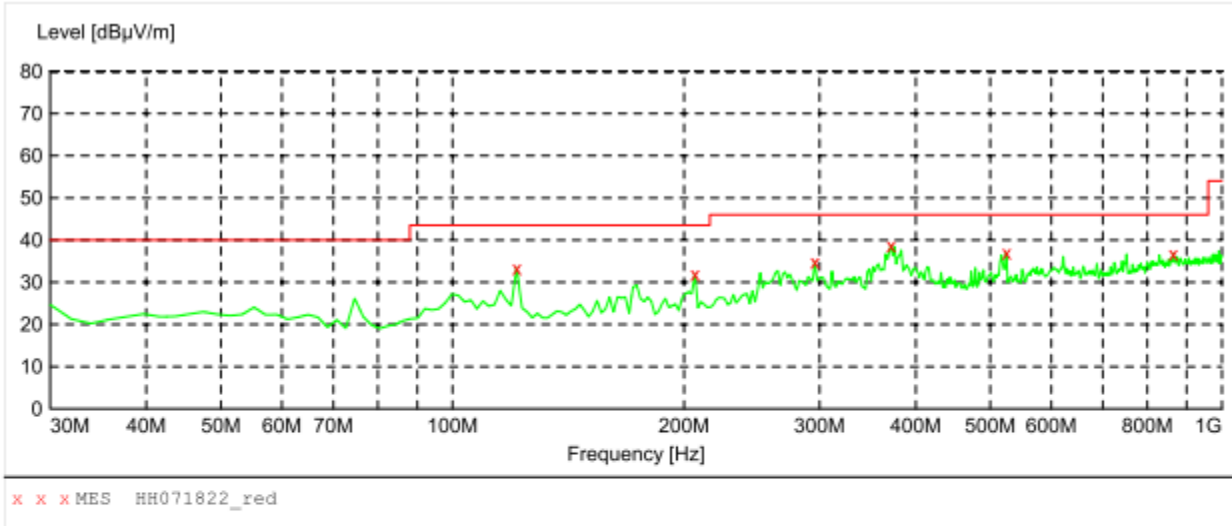
**MEASUREMENT RESULT: "HH071821\_red"**

7/18/2014 18:49

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	30.70	14.3	40.0	9.3	---	100.0	0.00	VERTICAL
51.340000	30.80	15.7	40.0	9.2	---	100.0	0.00	VERTICAL
82.380000	32.30	13.4	40.0	7.7	---	100.0	0.00	VERTICAL
123.120000	37.50	14.2	43.5	6.0	---	200.0	0.00	VERTICAL
206.540000	35.90	15.0	43.5	7.6	---	100.0	0.00	VERTICAL
827.340000	40.20	28.3	46.0	5.8	---	100.0	0.00	VERTICAL

## Radiated Emission Test 30MHz – 1000MHz

Product Type : LED Interactive Multi-Touch Display  
 M/N : 70GT-X  
 Operating Condition : VGA In  
 Ant. Polarity : Horizontal  
 Comment : 30-1000MHz



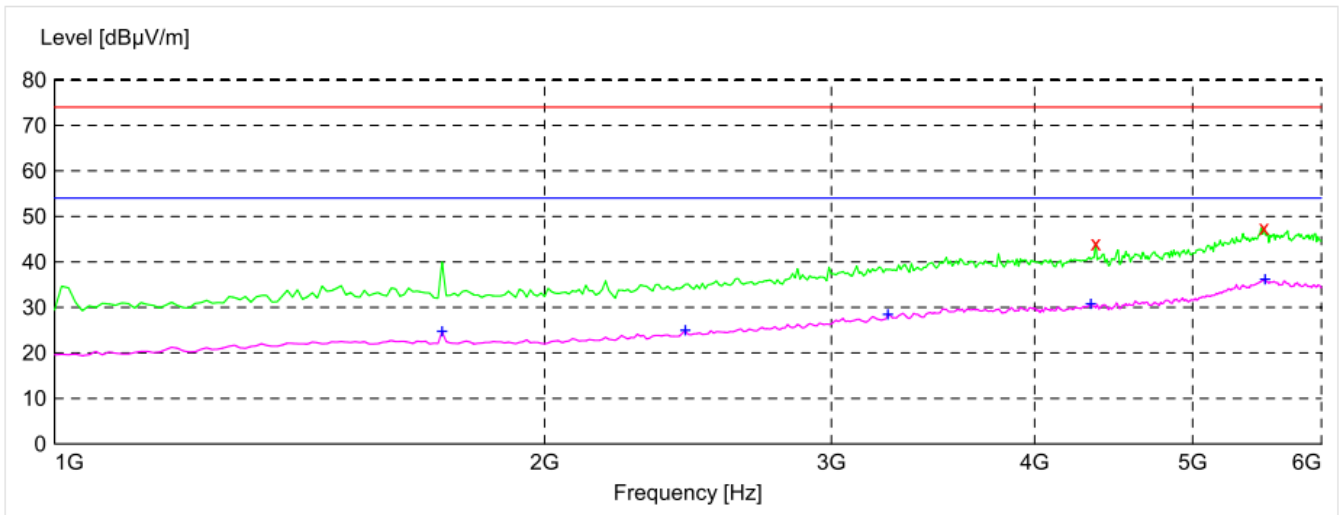
### MEASUREMENT RESULT: "HH071822\_red"

7/18/2014 18:51

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
121.180000	33.30	14.5	43.5	10.2	---	300.0	0.00	HORIZONTAL
206.540000	31.90	15.0	43.5	11.6	---	100.0	0.00	HORIZONTAL
295.780000	34.80	18.6	46.0	11.2	---	100.0	0.00	HORIZONTAL
371.440000	38.70	20.8	46.0	7.3	---	300.0	0.00	HORIZONTAL
524.700000	37.00	24.4	46.0	9.0	---	100.0	0.00	HORIZONTAL
864.200000	36.70	28.8	46.0	9.3	---	100.0	0.00	HORIZONTAL

### 8.3 Radiated Emission Test 1GHz – 6GHz

Product Type : LED Interactive Multi-Touch Display  
 M/N : 70GT-X  
 Operating Condition : VGA In  
 Ant. Polarity : Vertical  
 Comment : 1GHz-6GHz



**MEASUREMENT RESULT: "0805 07\_red"**

8/5/2014 09:45

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
4360.000000	44.10	-3.1	74.0	29.9	---	100.0	0.00	VERTICAL
5530.000000	47.50	3.9	74.0	26.5	---	100.0	0.00	VERTICAL

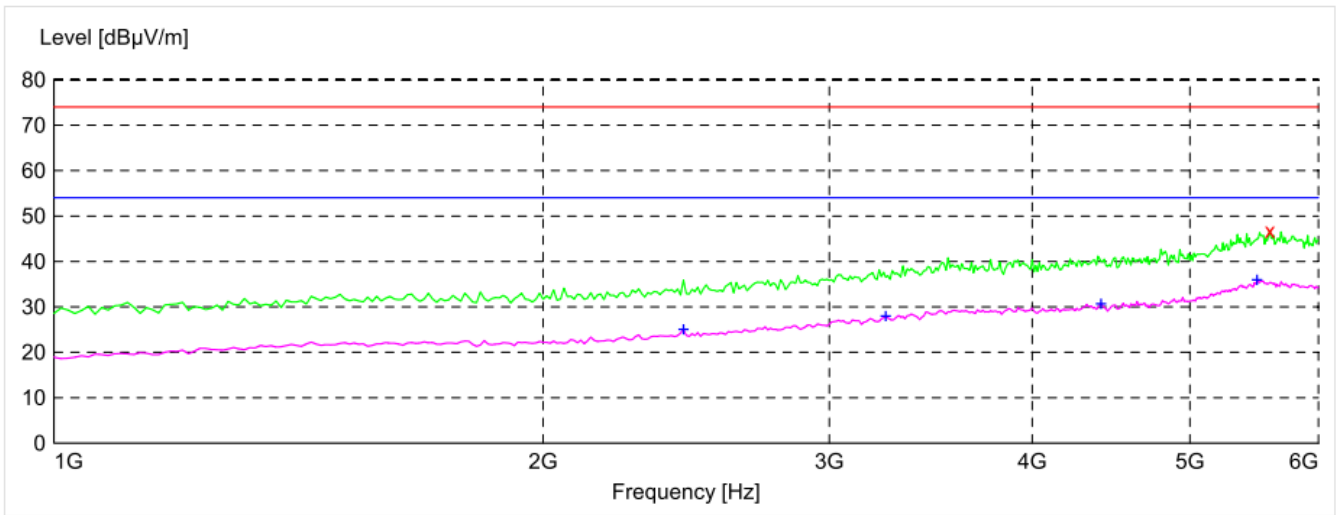
**MEASUREMENT RESULT: "0805 07\_red2"**

8/5/2014 09:45

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1730.000000	24.70	-11.6	54.0	29.3	---	100.0	0.00	VERTICAL
2440.000000	24.90	-9.7	54.0	29.1	---	100.0	0.00	VERTICAL
3250.000000	28.40	-6.2	54.0	25.6	---	100.0	0.00	VERTICAL
4330.000000	30.70	-3.2	54.0	23.3	---	100.0	0.00	VERTICAL
5540.000000	36.10	3.8	54.0	17.9	---	100.0	0.00	VERTICAL

## Radiated Emission Test 1GHz – 6GHz

Product Type : LED Interactive Multi-Touch Display  
 M/N : 70GT-X  
 Operating Condition : VGA In  
 Ant. Polarity : Horizontal  
 Comment : 1GHz-6GHz



### MEASUREMENT RESULT: "0805 08\_red"

8/5/2014 09:46

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
5600.000000	46.80	3.7	74.0	27.2	---	100.0	0.00	HORIZONTAL

### MEASUREMENT RESULT: "0805 08\_red2"

8/5/2014 09:46

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
2440.000000	25.00	-9.7	54.0	29.0	---	100.0	0.00	HORIZONTAL
3250.000000	27.90	-6.2	54.0	26.1	---	100.0	0.00	HORIZONTAL
4410.000000	30.60	-3.0	54.0	23.4	---	100.0	0.00	HORIZONTAL
5500.000000	35.90	3.9	54.0	18.1	---	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