



ISO/IEC17025 Accredited Lab.

Report No: FCC 1312137-03

File reference No: 2014-01-15

Applicant: TD Semi, Inc.

Product: Tron Tab Mega

Model No: T4238

Trademark: N/A

Test Standards: FCC Part 15 Subpart B: 2012

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of electromagnetic compatibility

Approved By

*Jack Chung*

Jack Chung

Manager

Dated: Jan 15, 2014

**Results appearing herein relate only to the sample tested**

**The technical reports is issued errors and omissions exempt and is subject to withdrawal at**

**SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD**

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996



### **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

#### **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

#### **FCC-Registration No.: 899988**

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

#### **IC- Registration No.: IC5205A-02**

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-02.

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## Test Report Conclusion

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## 1.0 General Details

### 1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD  
Address: East 5/Block 4, Anhua Industrial Zone, No.8,Tairan Rd. CheGongMiao, FuTian District, Shenzhen, CHINA.  
Telephone: (755) 83448688  
Fax: (755) 83442996

### 1.2 Applicant Details

Applicant: TD Semi, Inc.  
Address: 3704 Marlborough Ct., Plano, TX 75075, USA  
Telephone: (972) 346-1201  
Fax: (972) 810-4326

### 1.3 Description of EUT

Product: Tron Tab Mega  
Manufacturer: Shenzhen Jizhao Information Technology Co., Ltd  
Address: 4th Floor, Yuxing Sanwei Tech Park, HangKong Road, Xixiang Town, Bao'an, Shenzhen, China.  
Brand Name: N/A  
Model Number: T4238  
Additional Model Number: N/A

### 1.4 Submitted Sample: 2 Sample

### 1.5 Test Duration: 2014-01-04 to 2014-01-14

### 1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB  
Radiated Emissions Uncertainty =4.7dB

### 1.7 Test Engineer

The sample tested by

Print Name: Terry Tong

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## 2.0 List of Measurement Equipment

### 2.1 Conducted Emission Test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESH3	860905/006	RS	2013-08-23	1 Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2013-08-23	1 Year
PULSE LIMITER	ESH3-Z2	100281	RS	2013-08-23	1 Year
LISN	ESH3-Z5	100294	RS	2013-08-23	1 Year
LISN	ESH3-Z5	100253	RS	2013-08-23	1 Year
LISN	LS16C	10010947251	AFJ	2013-08-23	1 Year
LISN (Three Phase)	NSLK 8126	8126453	Schwarebeck	2013-08-23	1 Year

### 2.2 Radiated electromagnetic disturbance test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESVD	100008	RS	2013-08-23	1 Year
Coaxial Switch	MP59B	M70585	ANRITSU	2013-08-23	1 Year
Test Receiver	ESI26	838786/013	RS	2013-08-23	1 Year
Amplifier	8447D	2727A05017	HP	2013-07-24	1 Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2013-08-24	1 Year
Horn Antenna	BBHA 9120D	9120D-631	Schwarebeck	2013-08-23	1 Year

### 2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Cable	FCC DOC/ ID
U-disk	U208	--	Netac	--	FCC DOC
SD	--	--	Kingston	--	--
PC	R400	--	IBM	--	FCC DOC
Mouse	M-F105	--	L.SEletron	--	FCC DOC
TF	--	--	--	--	--
Monitor	IN1920c		DELL		DOC

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### 3.0 Technical Details

#### 3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

#### 3.2 Test Standards

**FCC Part 15 Subpart B: 2012**

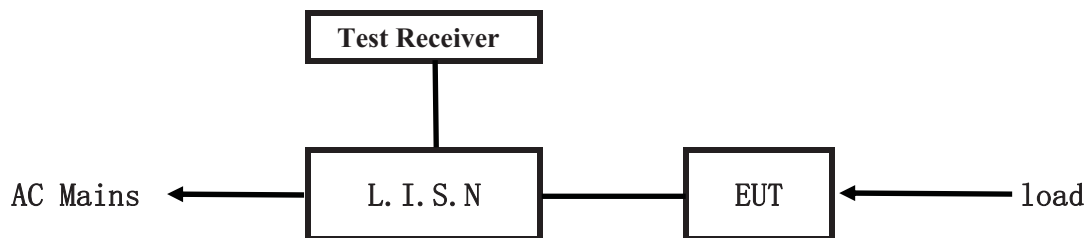
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#### 4.0 Conducted Power line Test

##### 4.1 Schematics of the test



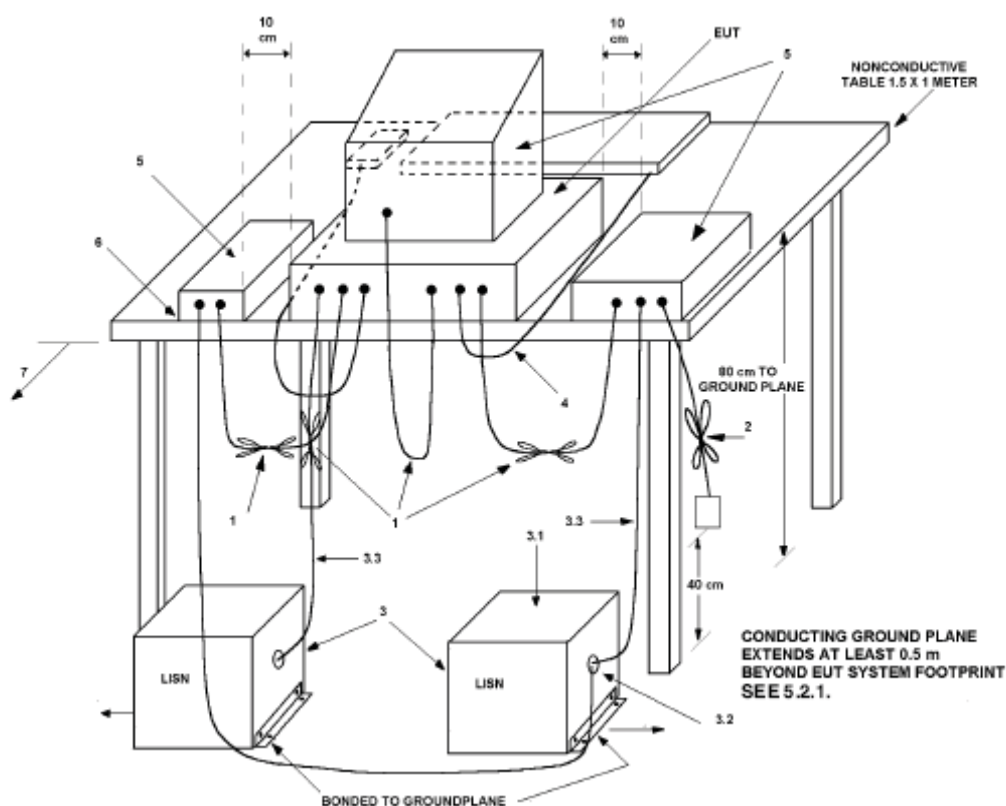
EUT: Equipment Under Test

##### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2009. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2009. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Actual Working Voltage and Frequency: 120V~, 60Hz

Block diagram of Test setup



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#### 4.3 Power line conducted Emission Limit

Frequency(MHz)	Class A Limits dB( $\mu$ V)		Class B Limits dB( $\mu$ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*
0.50 ~ 5.00	73.00	60.00	56.00	46.00
5.00 ~ 30.00	73.00	60.00	60.00	50.00

- Notes:
1. \*decreasing linearly with logarithm of frequency.
  2. The tighter limit shall apply at the transition frequencies

#### 4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

EUT Operating Environment

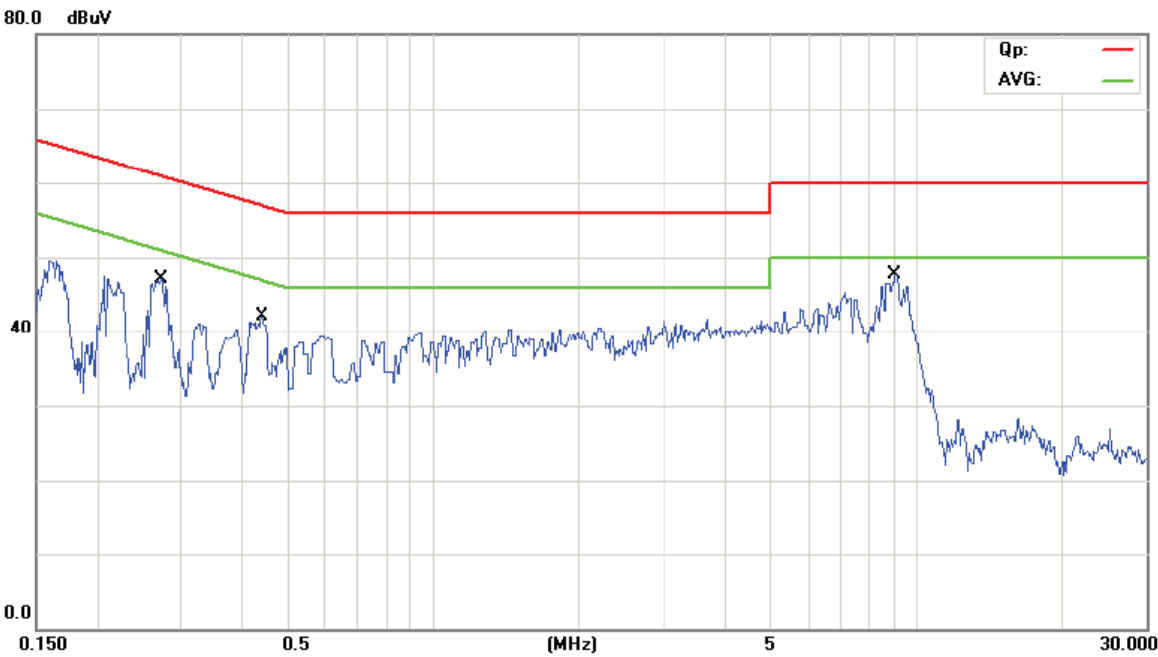
Temperature: 26℃      Humidity: 65%RH      Atmospheric Pressure: 101 KPa

EUT set Condition: data communicate with PC by USB port

Equipment Level: Class B

Results: PASS

Please refer to following diagram for individual



Frequency (MHz)	Line	Reading(dBμV)		Limit(dBμV)	
		Quasi-peak	Average	Quasi-peak	Average
0.270	Live	45.24	30.18	61.11	51.11
0.436	Live	39.55	24.00	57.14	47.14
9.045	Live	41.81	30.91	60.00	50.00

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**B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)**

**EUT Operating Environment**

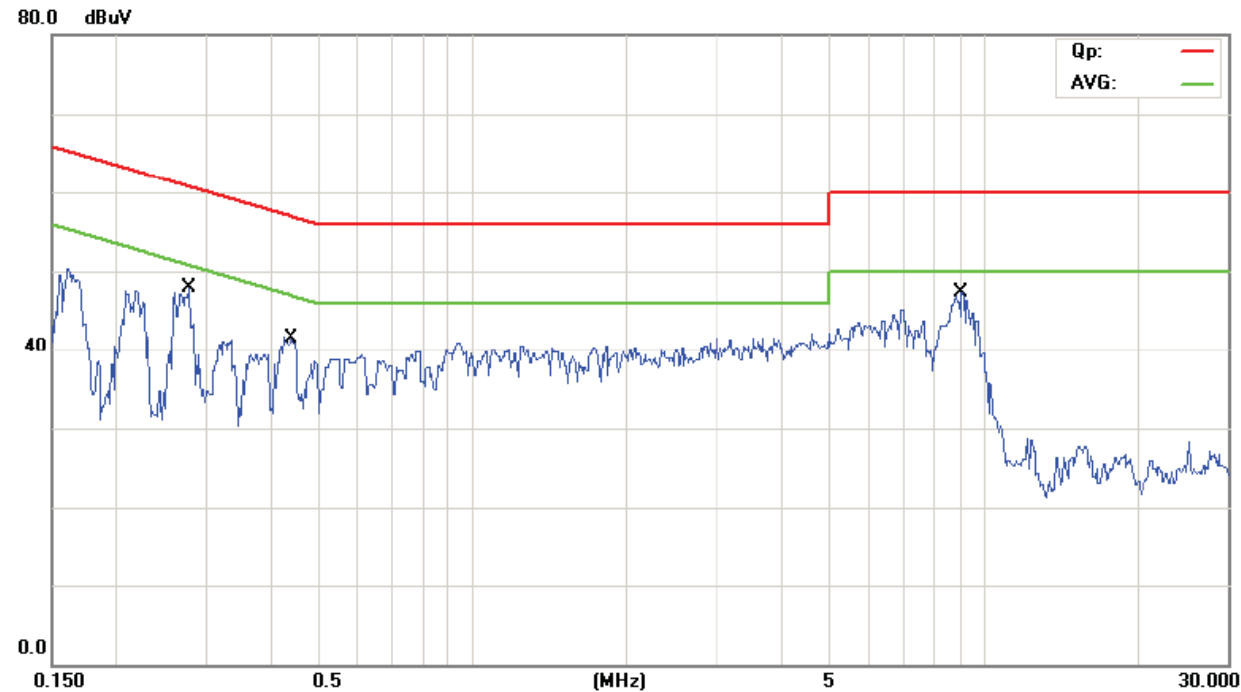
Temperature: 26°C      Humidity: 65%RH      Atmospheric Pressure: 101 KPa

**EUT set Condition: data communicate with PC by USB port**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual

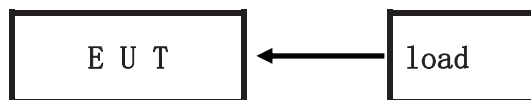


Frequency (MHz)	Line	Reading(dBμV)		Limit(dBμV)	
		Quasi-peak	Average	Quasi-peak	Average
0.277	Neutral	43.61	27.44	60.88	50.91
0.443	Neutral	40.51	24.73	57.01	47.01
9.013	Neutral	34.72	29.67	60.00	50.00

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## 5.0 Radiated Disturbance Test

### 5.1 Schematics of the test

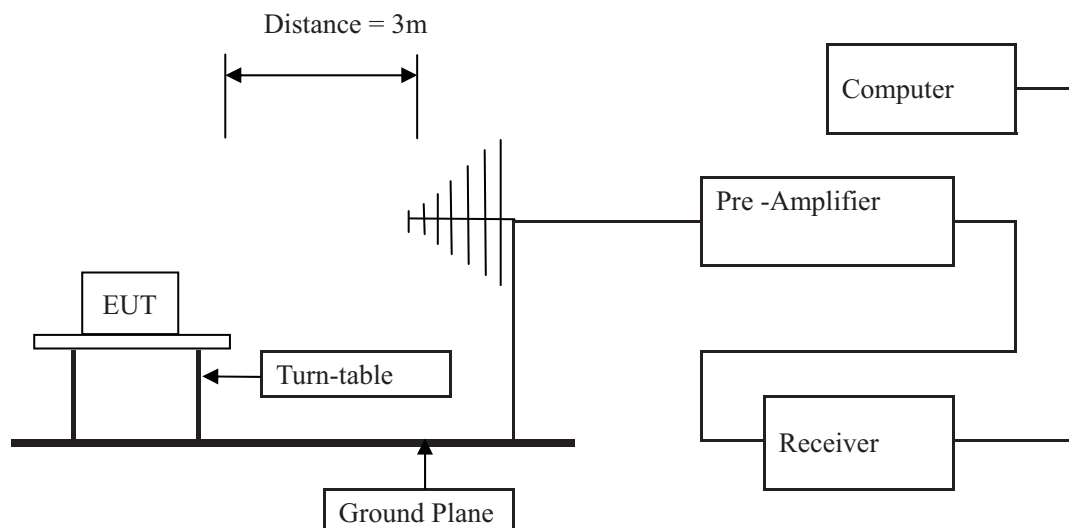


### 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2009; The frequency spectrum from 30MHz to 18GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector

Actual Working Voltage and Frequency: 120V~, 60Hz

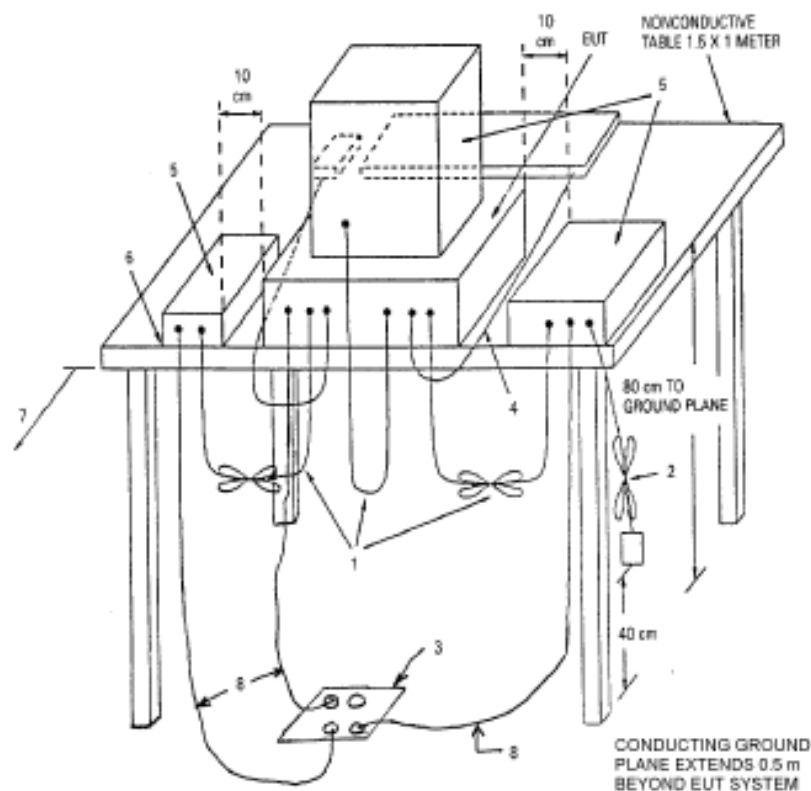
#### Block diagram of Test setup



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Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

2.This is a handheld device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

The frequency spectrum from 30MHz to 18GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector. Measurements were made at 3 meters.

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**Test result**

**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal/ In Vertical (30MHz----1000MHz)**

**EUT set Condition:** data communicate with PC by USB port

**Results:** Pass

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
63.720	32.88	H	40.00
127.280	40.13	H	43.50
159.080	35.80	H	43.50
445.520	42.32	H	46.00
63.640	33.69	V	40.00
95.400	34.26	V	43.50
158.960	30.05	V	43.50
445.560	43.86	V	46.00

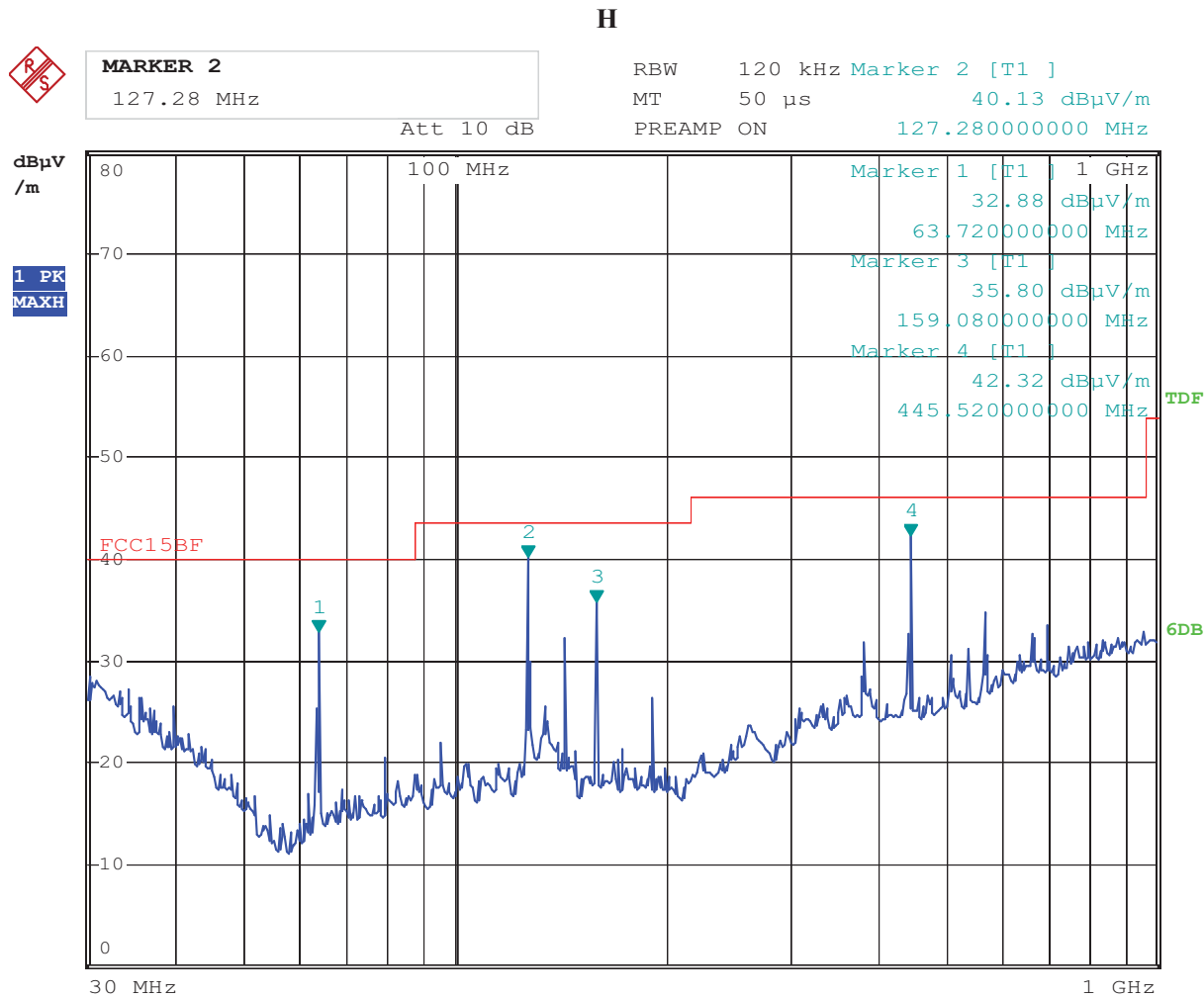
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Test Figure:

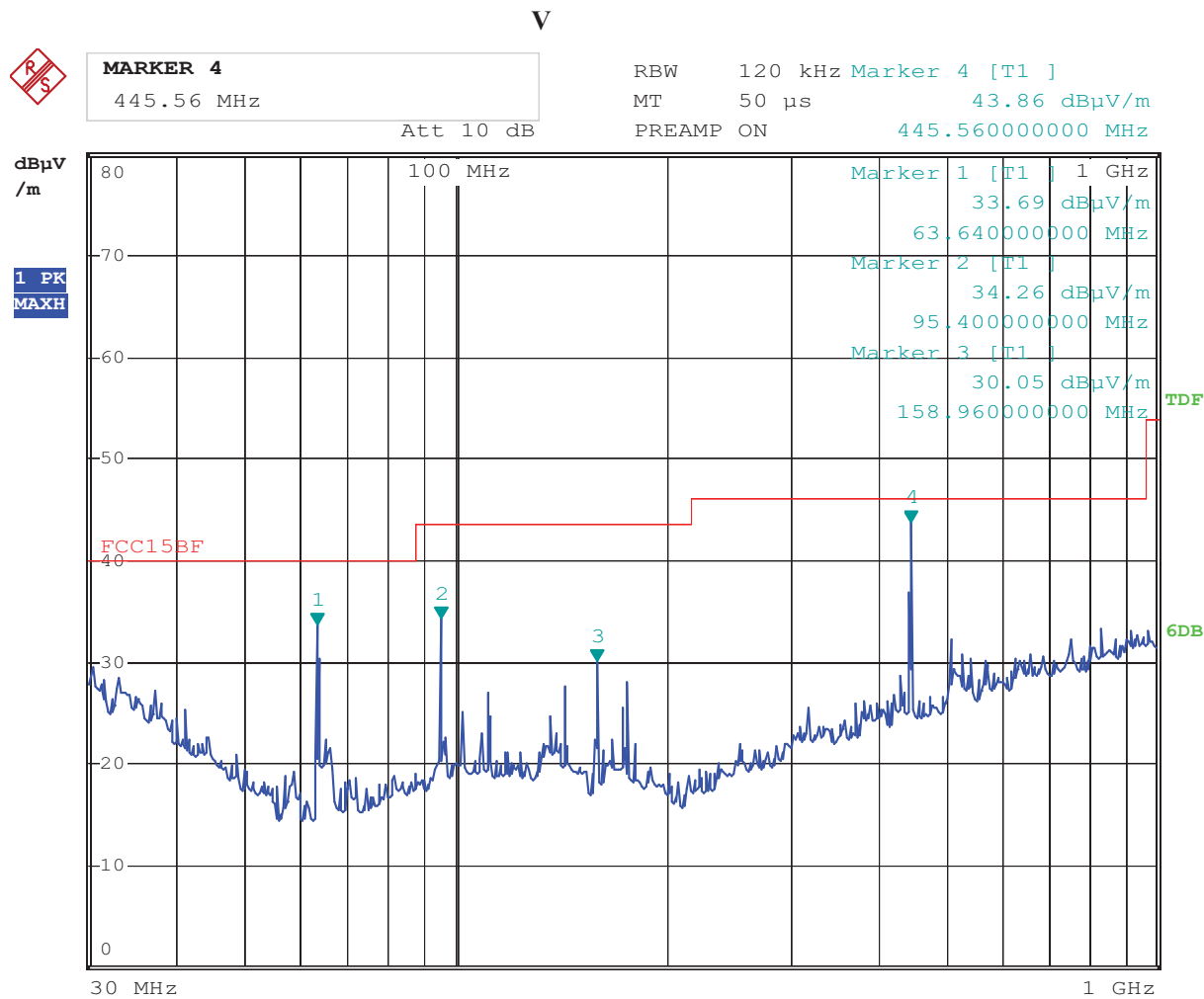


Date: 13.JAN.2014 15:54:40

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Test Figure:



Date: 13.JAN.2014 15:50:35

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**Radiated Disturbance (1000MHz----18000MHz)**

**EUT Operating Environment**

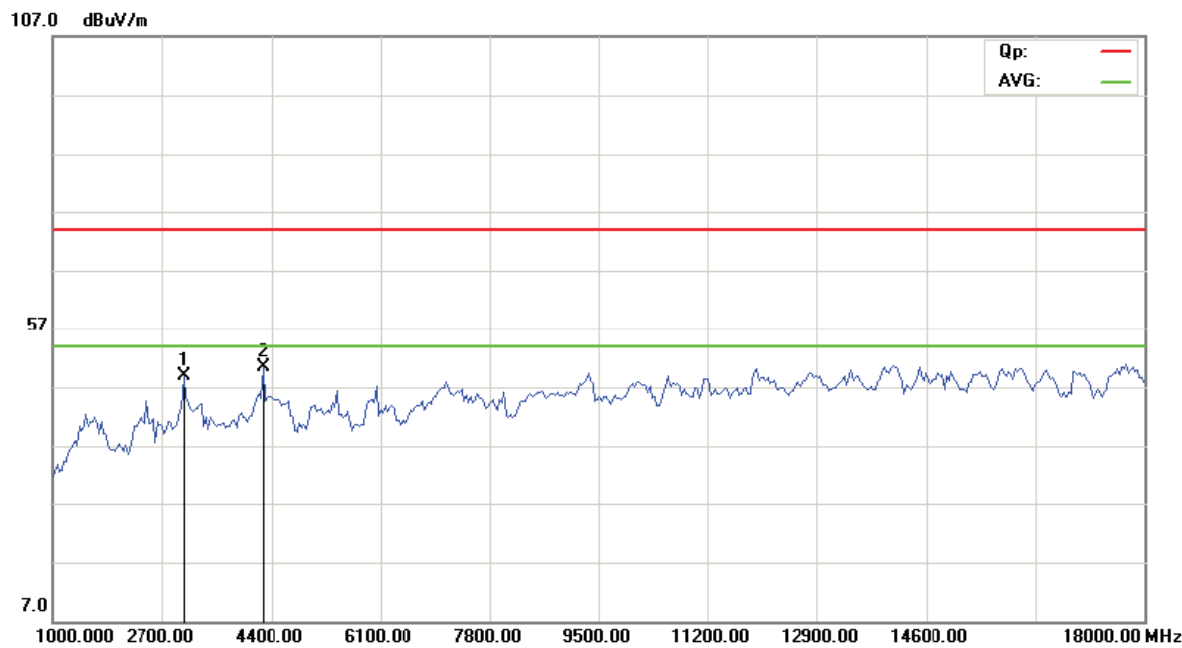
Temperature: 25℃      Humidity: 75%RH      Atmospheric Pressure: 101 KPa

**EUT set Condition: data communicate with PC by USB port**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
3044.088	48.96 (PK)	H	54(AV)
4270.541	50.26 (PK)	H	54(AV)

Note: Due to the final PK measurement level much less than the AV limit, so no necessary to take down final AV measurement level.

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**Radiated Disturbance (1000MHz---18000MHz)**

**EUT Operating Environment**

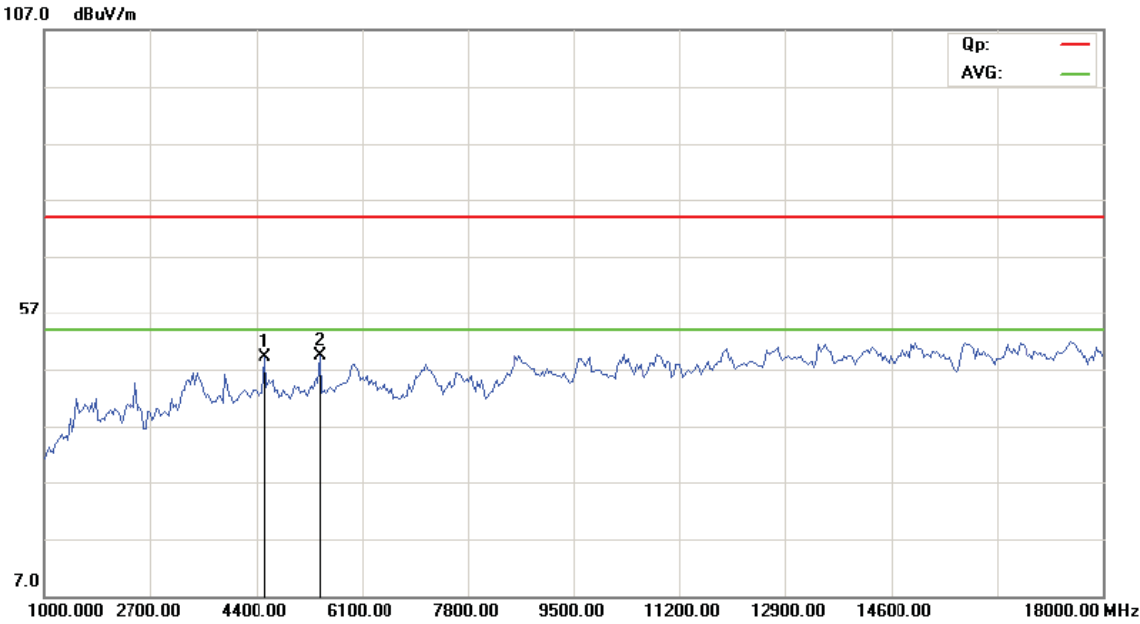
Temperature:25℃      Humidity: 75%RH      Atmospheric Pressure: 101 KPa

**EUT set Condition: data communicate with PC by USB port**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBμV/m)
4543.086	49.01 (PK)	V	54(AV)
5428.858	49.41 (PK)	V	54(AV)

Note: Due to the final PK measurement level much less than the AV limit, so no necessary to take down final AV measurement level.

**--End of the Report--**

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