



# Part 15C

# TEST REPORT

Product Name	WCDMA/GSM uFi Hot Spot
Model	MF50
FCC ID	Q78-ZTEMF50
Client	ZTE CORPORATION

**TA Technology (Shanghai) Co., Ltd.**

**TA Technology (Shanghai) Co., Ltd.**  
**Test Report**

Report No.: RZA1110-1809RF

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**GENERAL SUMMARY**

<b>Product Name</b>	WCDMA/GSM uFi Hot Spot	<b>Model</b>	MF50
<b>FCC ID</b>	Q78-ZTEMF50	<b>Report No.</b>	RZA1110-1809RF
<b>Client</b>	ZTE CORPORATION		
<b>Manufacturer</b>	ZTE CORPORATION		
<b>Reference Standard(s)</b>	<p><b>FCC CFR47 Part 15C (2010-12)</b> Radio Frequency Devices</p> <p><b>15.205</b> Restricted bands of operation;</p> <p><b>15.207</b> Conducted limits;</p> <p><b>15.209</b> Radiated emission limits; general requirements;</p> <p><b>15.247</b> Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz.</p> <p><b>ANSI C63.4</b> Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40GHz. (2003)</p> <p><b>KDB 558074</b> Measurement of Digital Transmission Systems Operating under Section 15.247 (2005)</p>		
<b>Conclusion</b>	<p>Test results refer to Chapter 2 of this test report.</p> <p style="text-align: right;">(Stamp) Date of issue: November 3<sup>rd</sup>, 2011</p> 		
<b>Comment</b>	The test result only responds to the measured sample.		

Approved by 初伟中  
Director

Revised by 范冲  
EMC Manager

Performed by 蓝江鹏  
EMC Engineer

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## 1. General Information

### 1.1. Notes of the test report

**TA Technology (Shanghai) Co., Ltd.** guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

**TA Technology (Shanghai) Co., Ltd.** is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report standalone dose not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

If the electrical report is inconsistent with the printed one, it should be subject to the latter.

### 1.2. Testing laboratory

Company: TA Technology (Shanghai) Co., Ltd.  
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong  
City: Shanghai  
Post code: 201201  
Country: P. R. China  
Contact: Yang Weizhong  
Telephone: +86-021-50791141/2/3  
Fax: +86-021-50791141/2/3-8000  
Website: <http://www.ta-shanghai.com>  
E-mail: [yangweizhong@ta-shanghai.com](mailto:yangweizhong@ta-shanghai.com)

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### 1.3. Applicant Information

Company: ZTE CORPORATION  
Address: ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District,  
Shenzhen, Guangdong, 518057, P.R. China  
City: Shenzhen  
Postal Code: 518057  
Country: P.R. China  
Contact: Zhang Min  
Telephone: 021-68897541  
Fax: 021-50801070

### 1.4. Manufacturer Information

Company: ZTE CORPORATION  
Address: ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District,  
Shenzhen, Guangdong, 518057, P.R. China  
City: Shenzhen  
Postal Code: 518057  
Country: P.R. China  
Telephone: 021-68897541  
Fax: 021-50801070

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**1.5. Information of EUT**

**General information**

Name of EUT:	WCDMA/GSM uFi Hot Spot
IMEI:	868380000005279
Hardware Version:	d30B
Software Version:	EN_ZTE_MF50TVV1.0.0B01
Antenna Type:	Internal Antenna
Device Operating Configurations:	
Network Standards:	802.11b, 802.11g, 802.11n(HT20); (tested)
Test Modulation:	(802.11b)CCK; (802.11g/n)OFDM
Power Supply:	Battery or Adapter
Operating Frequency Range(s)	2400MHz~ 2483.5 MHz

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### Auxiliary Equipment Details

#### AE1: Battery

Model: Li3715T42P3h654251  
Manufacturer: ZTE CORPORATION  
S/N: 60121103040368331

#### AE2: Adapter

Model: STC-A22O50I700USBA-Z  
Manufacturer: DOKOCOM  
S/N: /

Equipment Under Test (EUT) is WCDMA/GSM uFi Hot Spot. The detail about these is in chapter 1.5 in this report. The EUT supports WiFi.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

### 1.6. Test Date

The test is performed from October 31, 2011 to November 1, 2011.

**TA Technology (Shanghai) Co., Ltd.**  
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## 2. Test Information

### 2.1. Summary of test results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Radiates Emission	15.247(d), 15.205, 15.209	PASS
2	Conducted Emissions	15.207, 15.107	PASS

## 2.2. Radiates Emission

### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

### Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.4-2003. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration. Sweep the whole frequency band through the range from 30MHz to 26GHz During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

Below 1GHz:

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

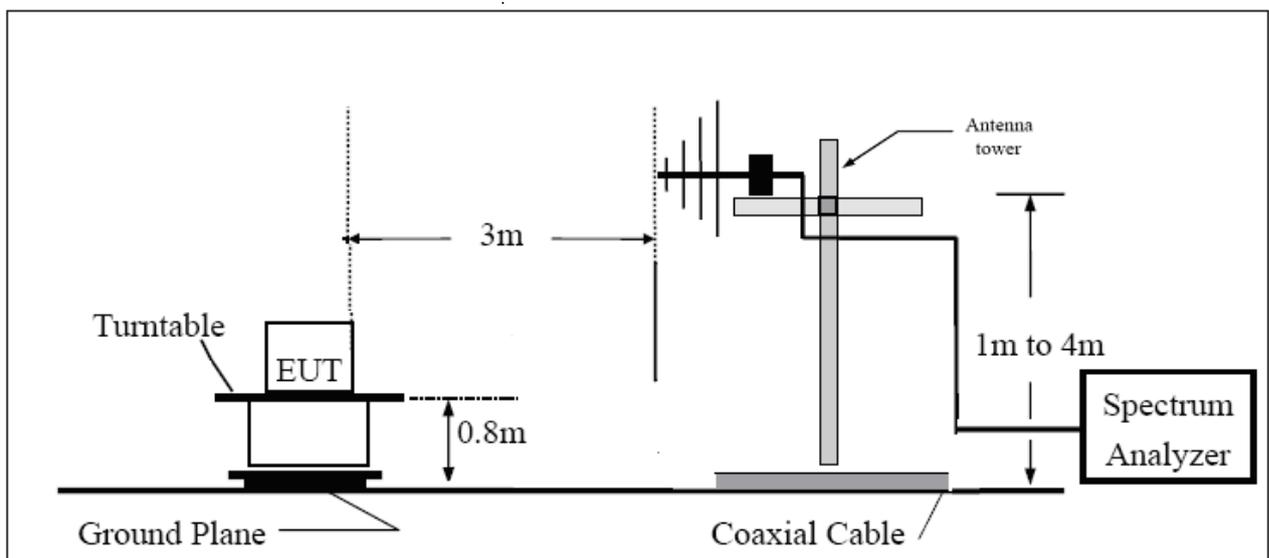
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

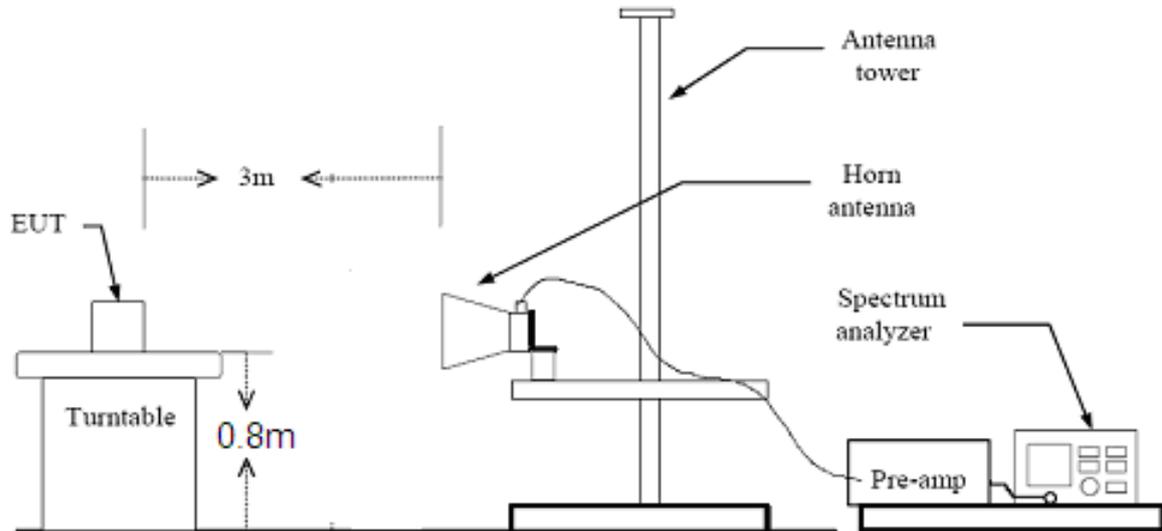
The test is in transmit mode.

### Test setup

#### Below 1GHz



**Above 1GHz**



**Limits**

Rule Part 15.247(d) specifies that “In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

**Measurement Uncertainty**

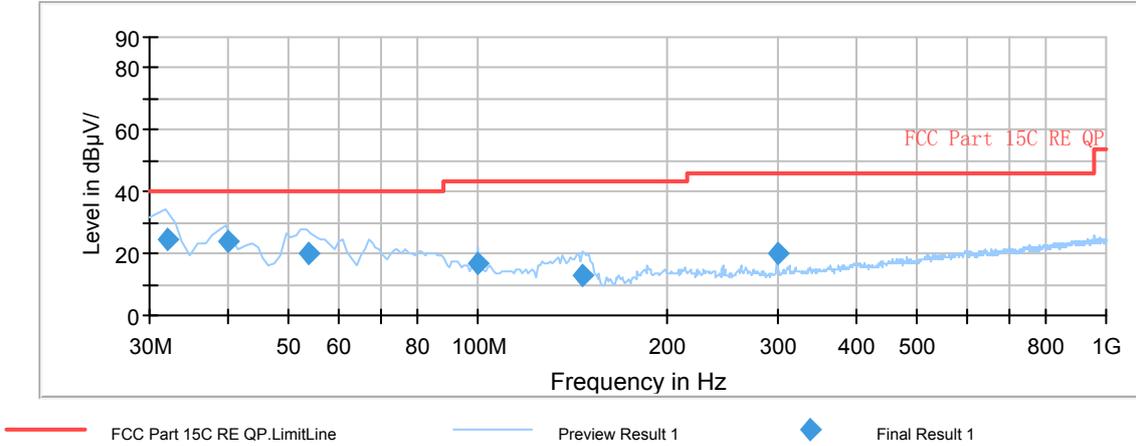
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ .

Frequency	Uncertainty
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
1GHz – 6GHz	3.68 dB

# TA Technology (Shanghai) Co., Ltd. Test Report

**Test result**  
**802.11b CH1**

RE 30M-1GHz (BT&WIFI) QP

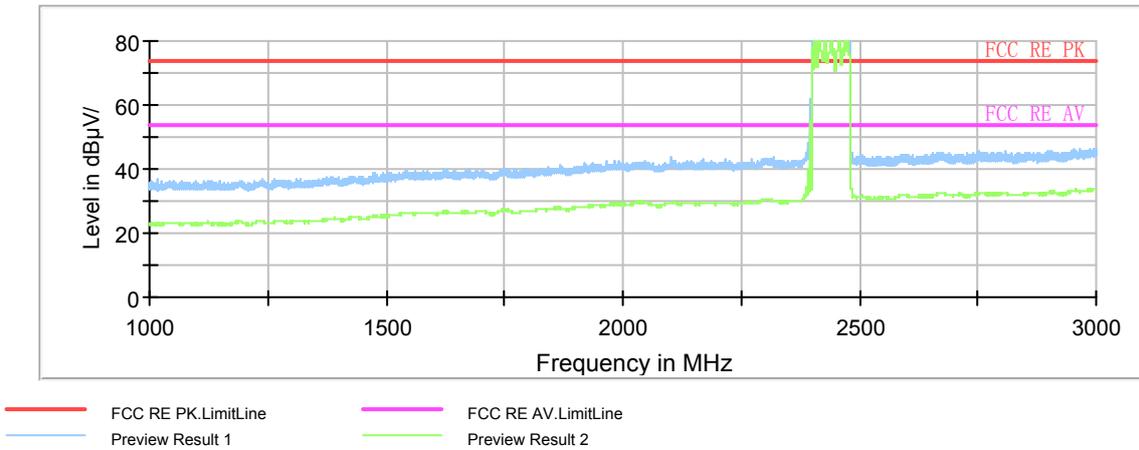


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
32.060000	24.4	100.0	V	7.0	48.5	-24.1	15.6	40.0
40.020000	24.3	175.0	V	67.0	48.3	-24.0	15.7	40.0
53.810000	20.1	100.0	V	0.0	46.3	-26.2	19.9	40.0
100.000000	17.1	100.0	V	299.0	44.8	-27.7	26.4	43.5
146.280000	13.0	100.0	V	22.0	45.8	-32.8	30.5	43.5
300.020000	20.0	125.0	V	6.0	47.1	-27.1	26.0	46.0

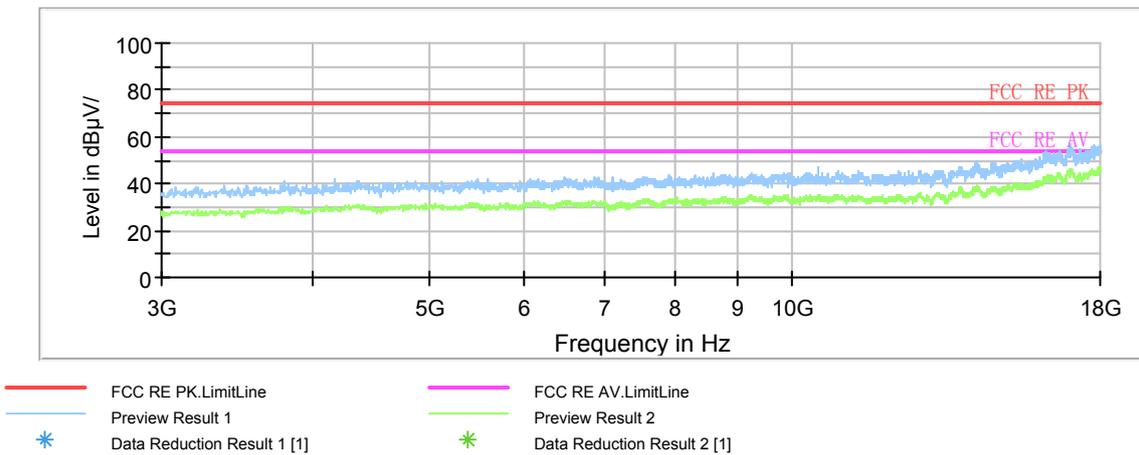
- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

RE 1G-3GHz (BT&WIFI) PK+AV



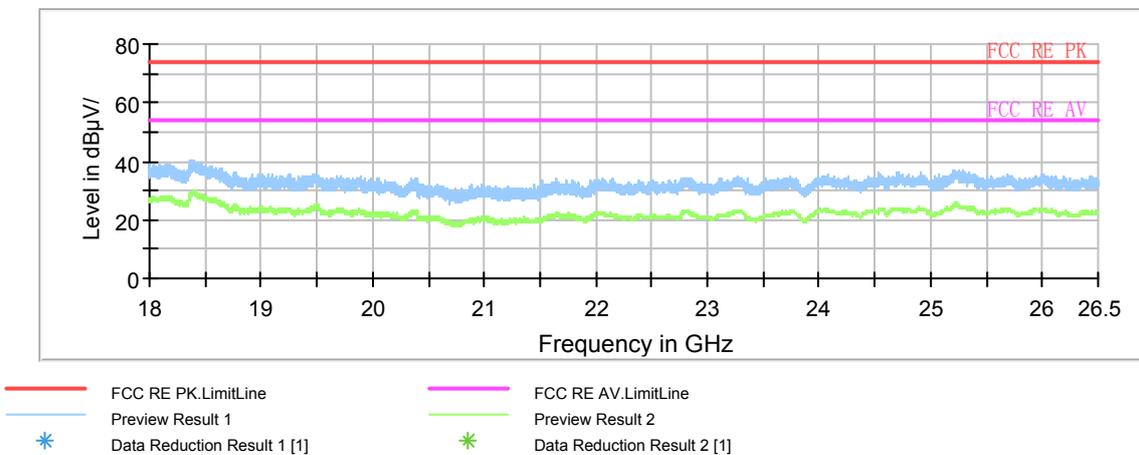
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

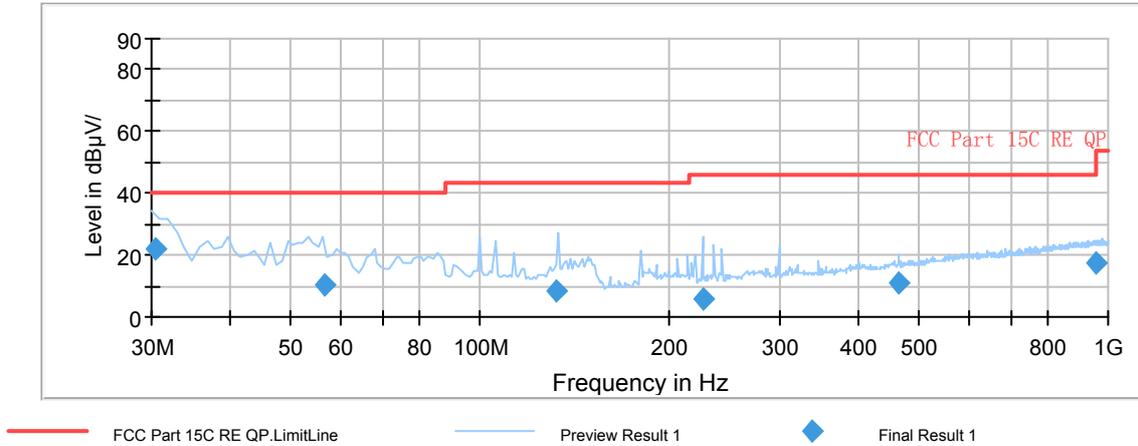


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11b CH6

RE 30M-1GHz (BT&WIFI) QP



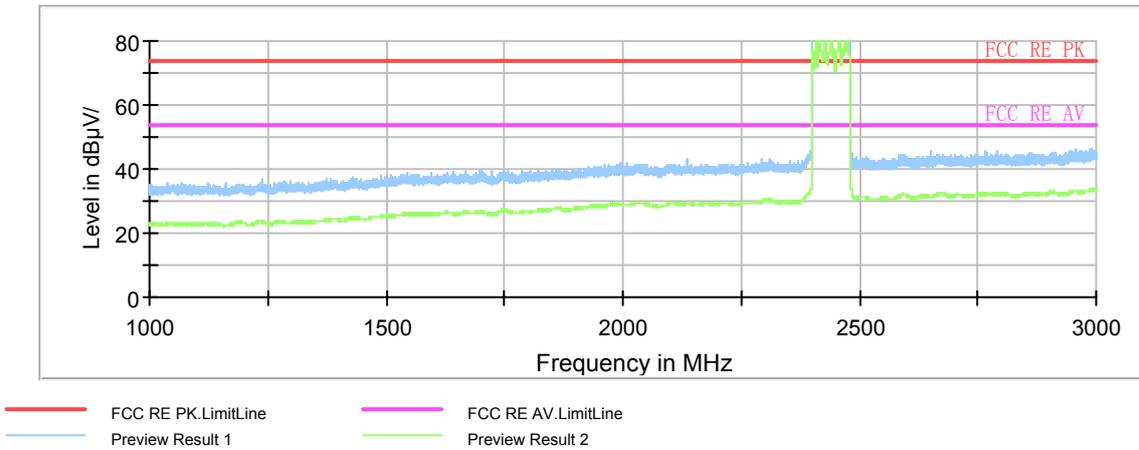
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.360000	22.2	125.0	V	197.0	46.1	-23.9	17.8	40.0
56.790000	10.6	100.0	V	128.0	37.2	-26.6	29.4	40.0
132.220000	8.4	100.0	V	31.0	40.7	-32.3	35.1	43.5
226.220000	5.6	100.0	V	27.0	35	-29.4	40.4	46.0
464.120000	11.0	100.0	V	35.0	34.4	-23.4	35.0	46.0
955.540000	17.2	175.0	H	80.0	33.6	-16.4	28.8	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

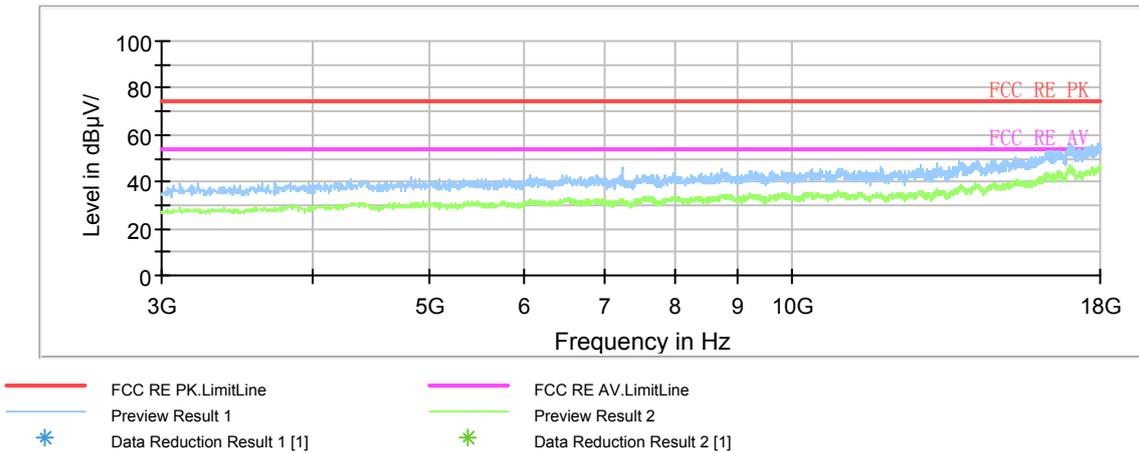
# TA Technology (Shanghai) Co., Ltd. Test Report

RE 1G-3GHz (BT&WIFI) PK+AV



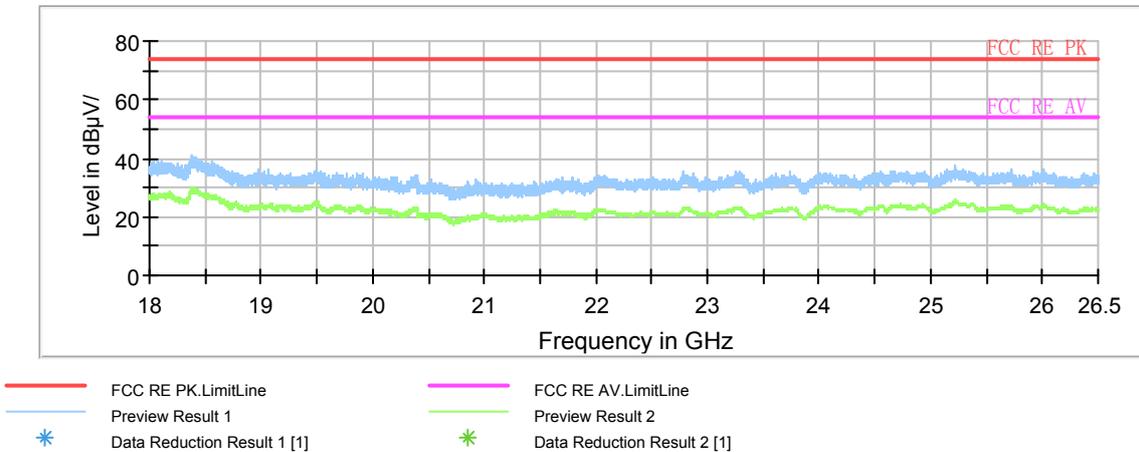
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

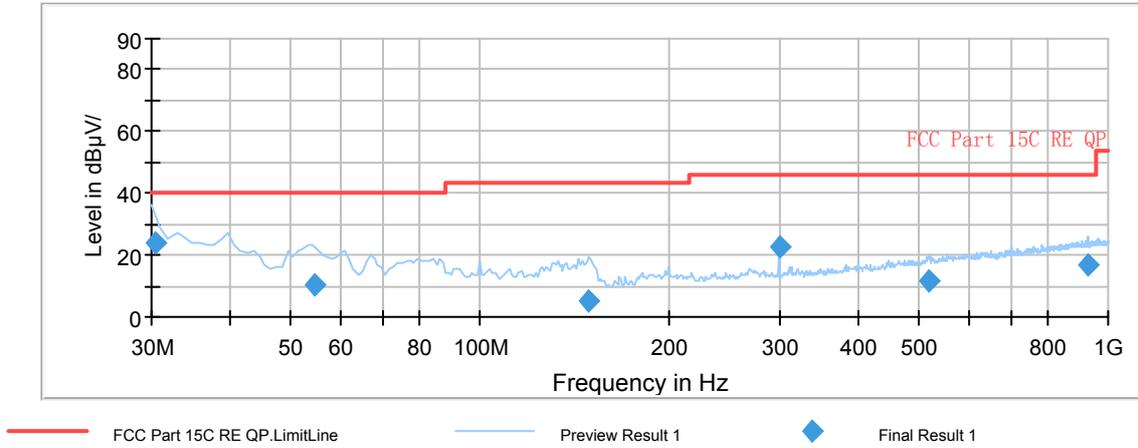


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11b CH11

RE 30M-1GHz (BT&WIFI) QP

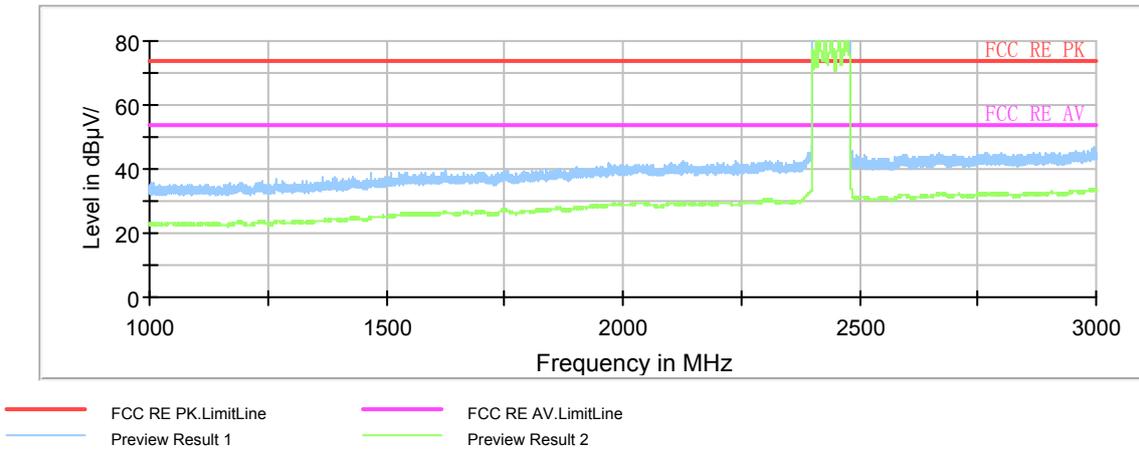


Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.360000	24.0	100.0	V	251.0	47.9	-23.9	16.0	40.0
54.730000	10.6	100.0	V	0.0	37	-26.4	29.4	40.0
148.910000	5.1	100.0	V	244.0	37.9	-32.8	38.4	43.5
300.020000	22.8	100.0	H	278.0	49.9	-27.1	23.2	46.0
520.260000	11.9	100.0	H	246.0	34.1	-22.2	34.1	46.0
927.330000	16.8	208.0	H	156.0	33.6	-16.8	29.2	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

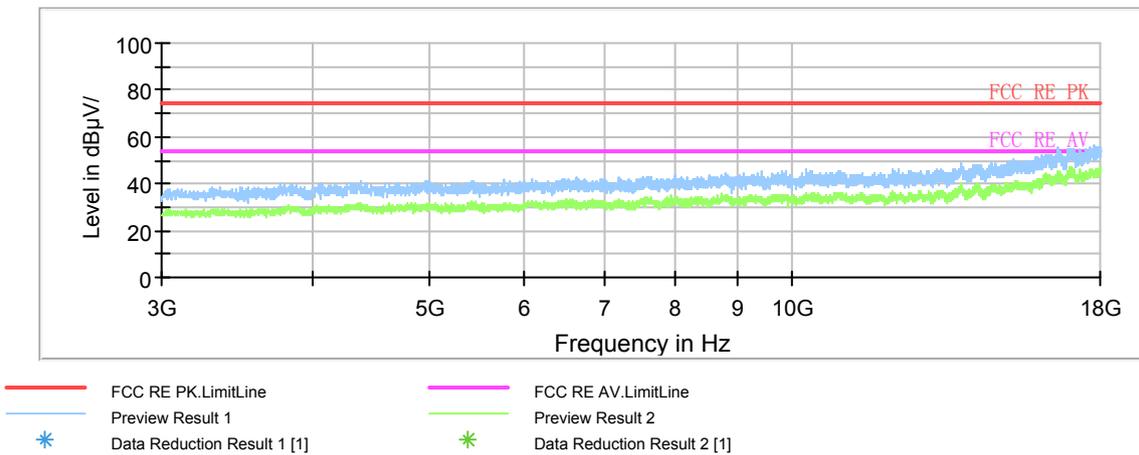
# TA Technology (Shanghai) Co., Ltd. Test Report

RE 1G-3GHz (BT&WIFI) PK+AV



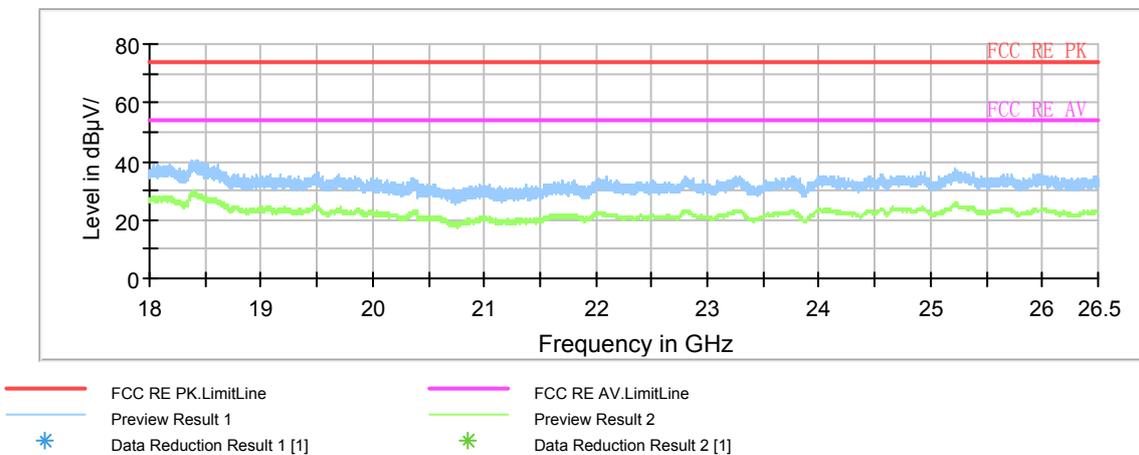
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

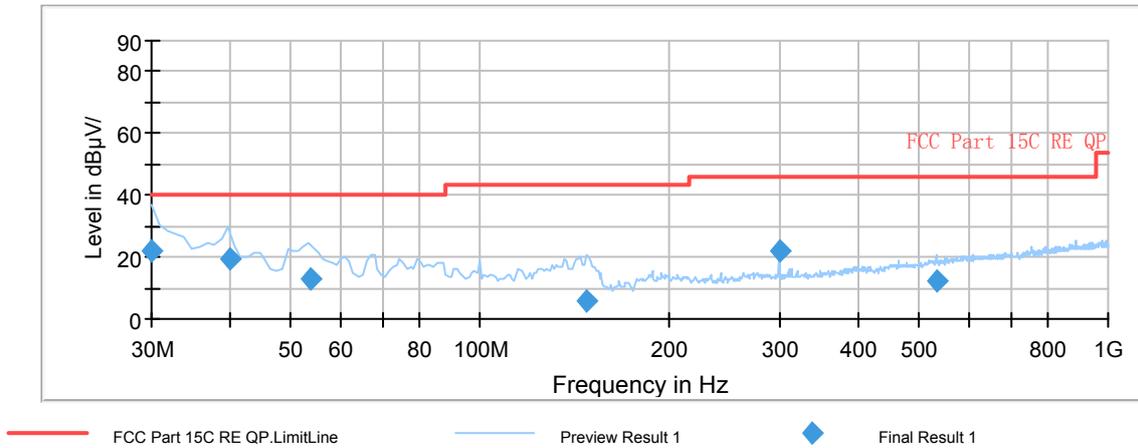


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11g CH1

RE 30M-1GHz (BT&WIFI) QP

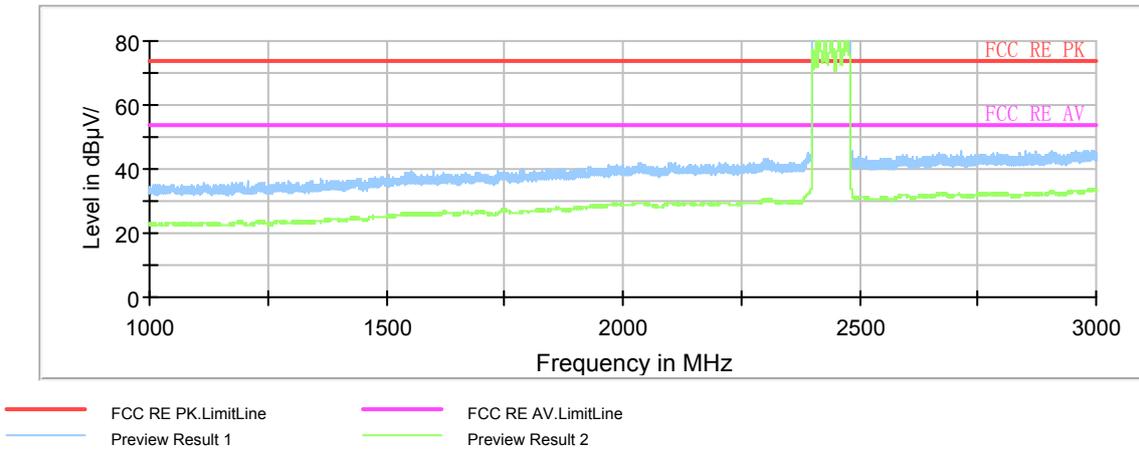


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.040000	22.3	100.0	V	328.0	46.1	-23.8	17.7	40.0
40.020000	19.4	120.0	V	6.0	43.4	-24.0	20.6	40.0
53.890000	12.9	100.0	V	334.0	39.1	-26.2	27.1	40.0
147.930000	6.0	100.0	V	45.0	38.8	-32.8	37.5	43.5
300.020000	22.2	120.0	H	272.0	49.3	-27.1	23.8	46.0
532.220000	12.1	100.0	V	205.0	34.3	-22.2	33.9	46.0

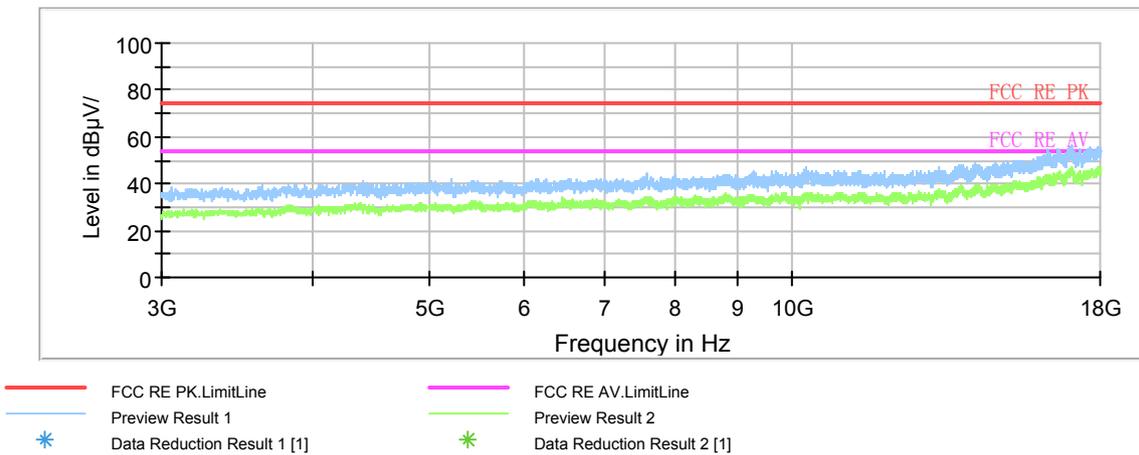
- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

RE 1G-3GHz (BT&WIFI) PK+AV



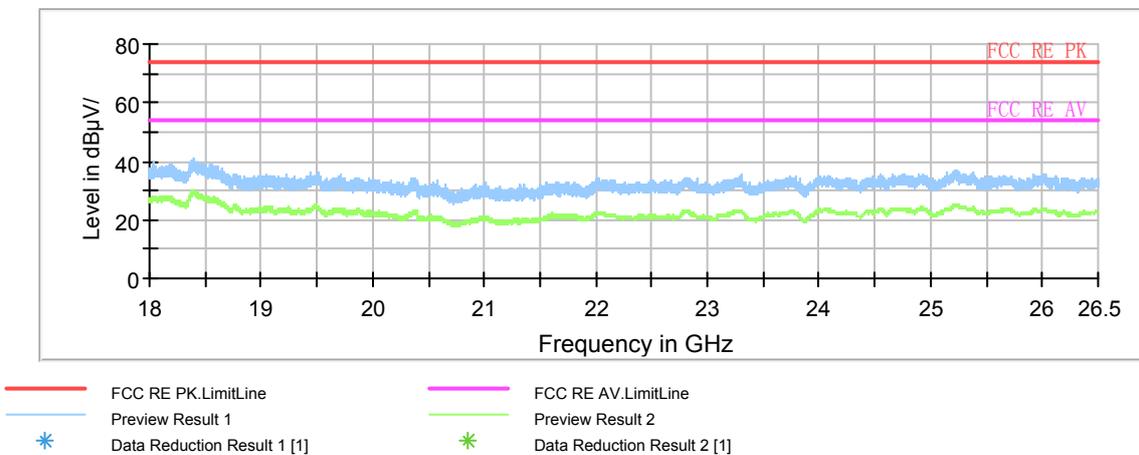
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

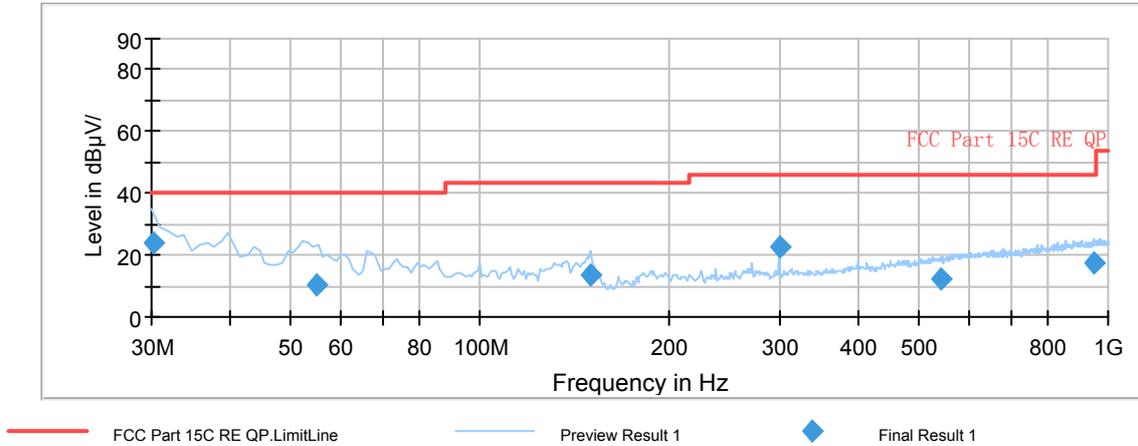


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11g CH6

RE 30M-1GHz (BT&WIFI) QP



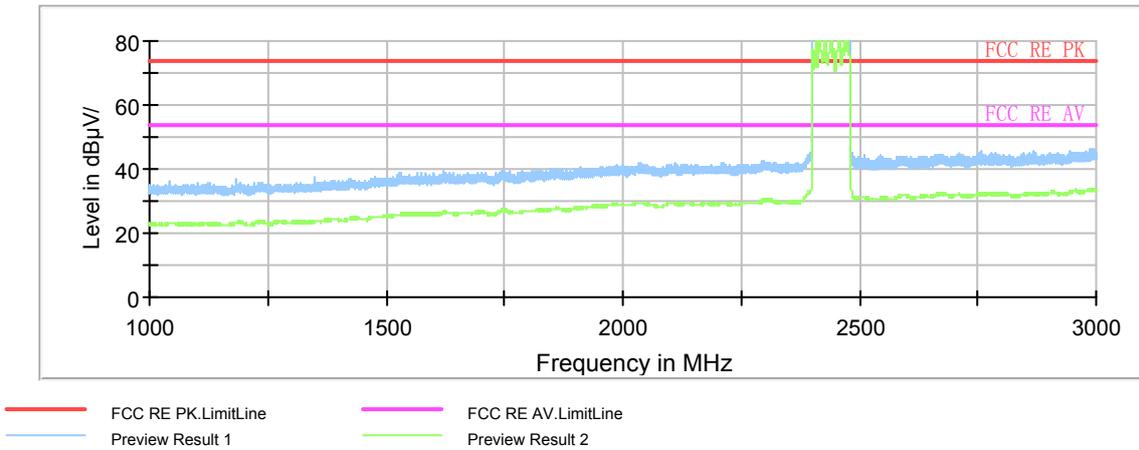
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.160000	24.0	100.0	V	190.0	47.8	-23.8	16.0	40.0
54.780000	10.2	175.0	V	191.0	36.6	-26.4	29.8	40.0
150.000000	13.8	120.0	V	0.0	46.6	-32.8	29.7	43.5
300.020000	22.5	100.0	H	282.0	49.6	-27.1	23.5	46.0
542.160000	12.3	100.0	V	34.0	34.4	-22.1	33.7	46.0
946.290000	17.3	200.0	H	121.0	33.8	-16.5	28.7	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

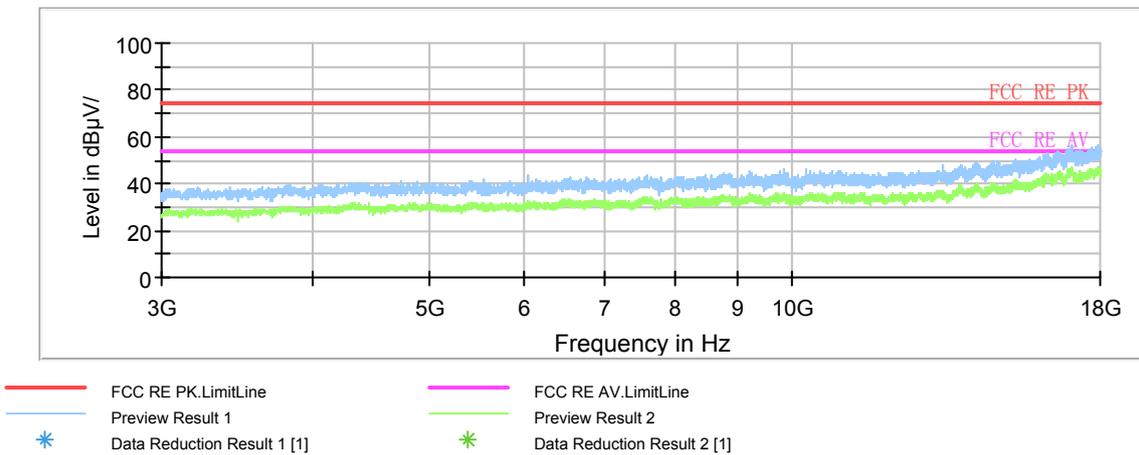
# TA Technology (Shanghai) Co., Ltd. Test Report

RE 1G-3GHz (BT&WIFI) PK+AV



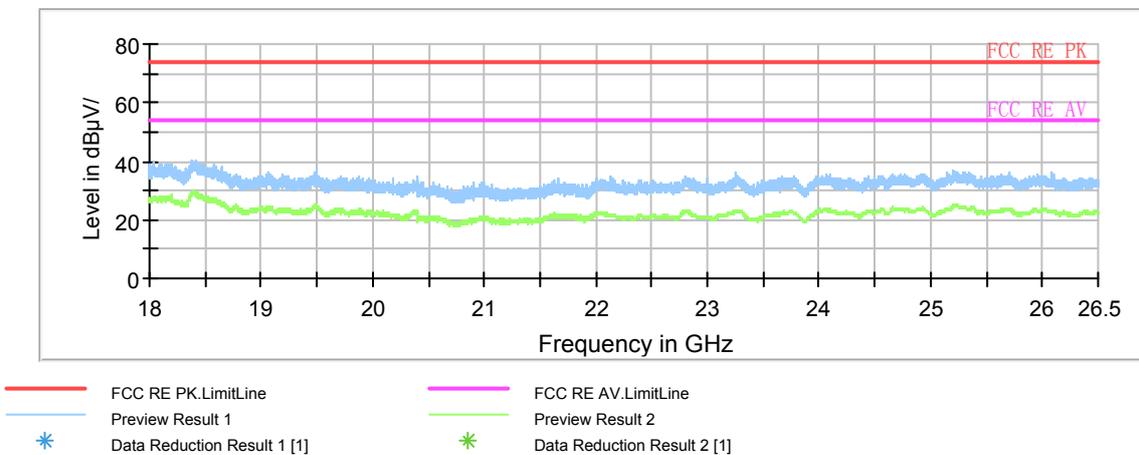
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

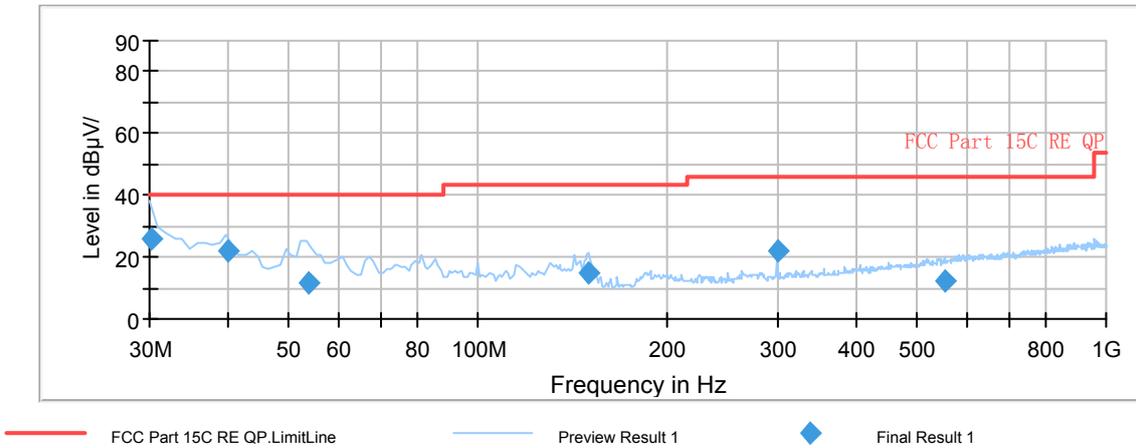


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11g CH11

RE 30M-1GHz (BT&WIFI) QP



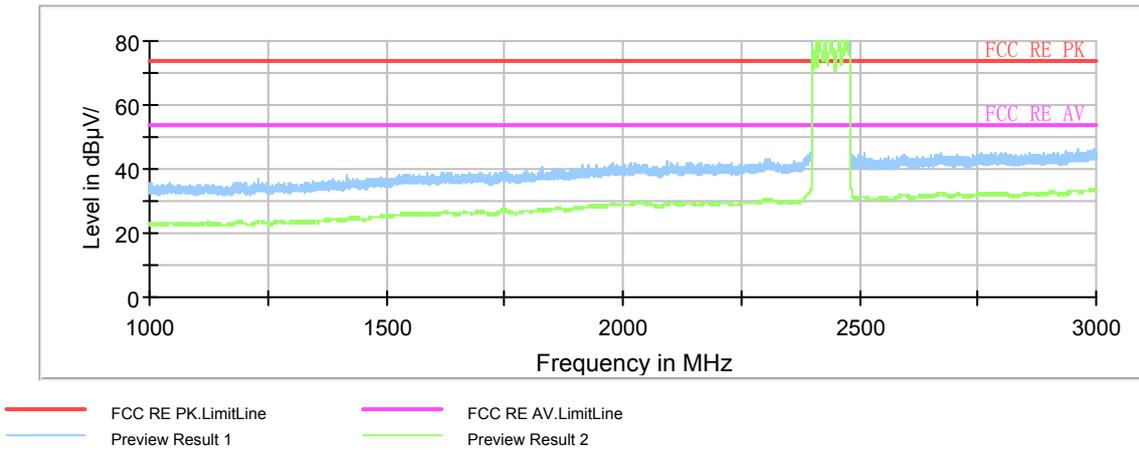
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.120000	25.9	100.0	V	208.0	49.7	-23.8	14.1	40.0
40.020000	22.3	120.0	V	69.0	46.3	-24.0	17.7	40.0
53.930000	11.7	100.0	V	6.0	37.9	-26.2	28.3	40.0
150.000000	15.1	100.0	V	0.0	47.9	-32.8	28.4	43.5
300.020000	21.9	121.0	H	284.0	49	-27.1	24.1	46.0
553.430000	12.1	100.0	V	39.0	33.9	-21.8	33.9	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

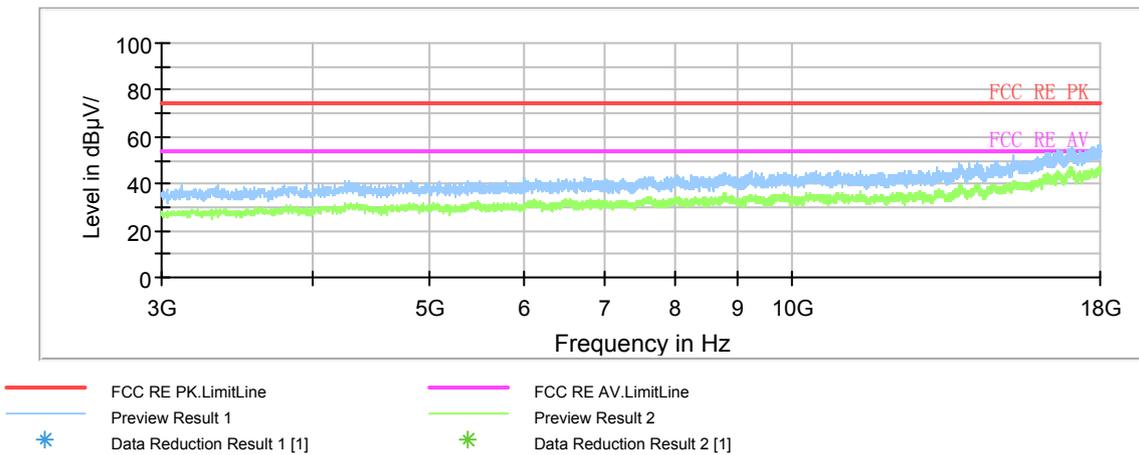
# TA Technology (Shanghai) Co., Ltd. Test Report

RE 1G-3GHz (BT&WIFI) PK+AV



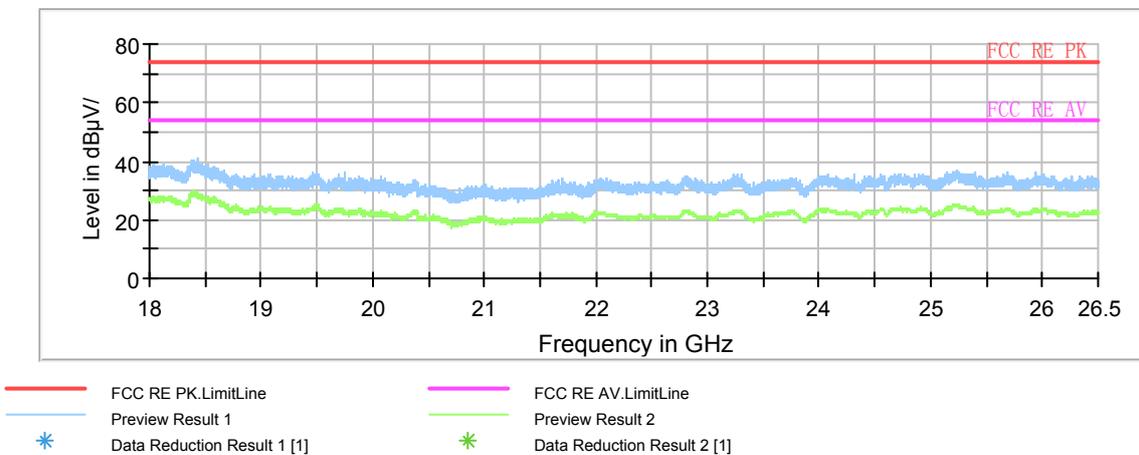
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

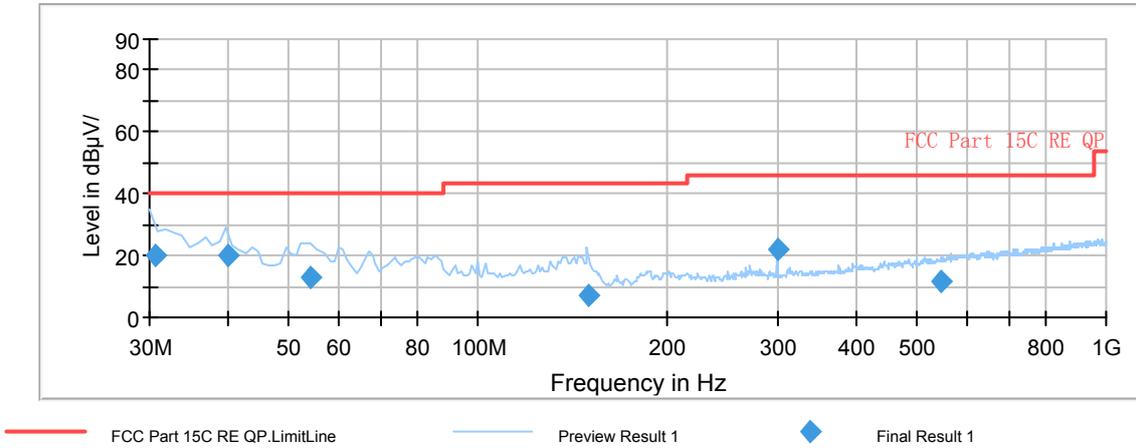


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11n CH1

RE 30M-1GHz (BT&WIFI) QP



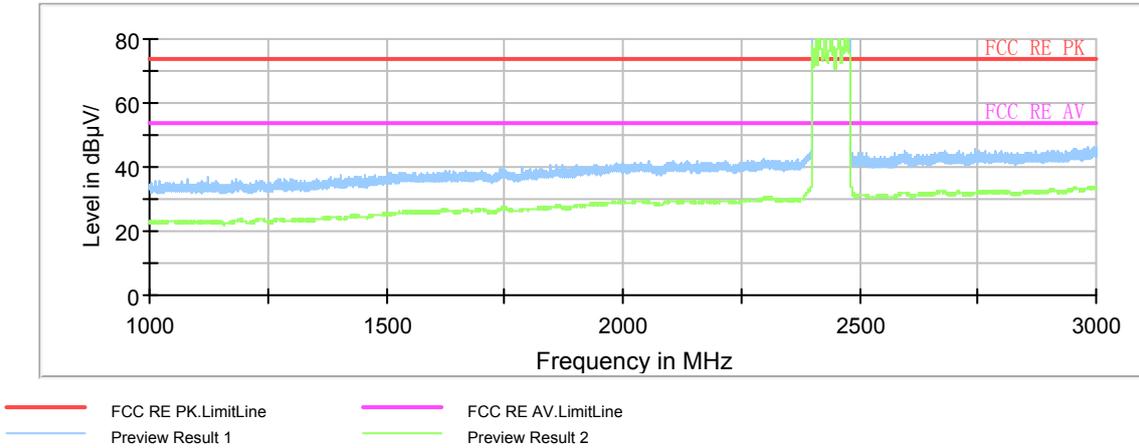
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.600000	19.8	100.0	V	283.0	43.7	-23.9	20.2	40.0
40.020000	20.1	120.0	V	116.0	44.1	-24.0	19.9	40.0
54.010000	12.8	100.0	V	352.0	39	-26.2	27.2	40.0
149.790000	6.9	120.0	V	32.0	39.7	-32.8	36.6	43.5
300.020000	22.2	120.0	H	279.0	49.3	-27.1	23.8	46.0
546.530000	11.8	125.0	H	77.0	33.8	-22.0	34.2	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

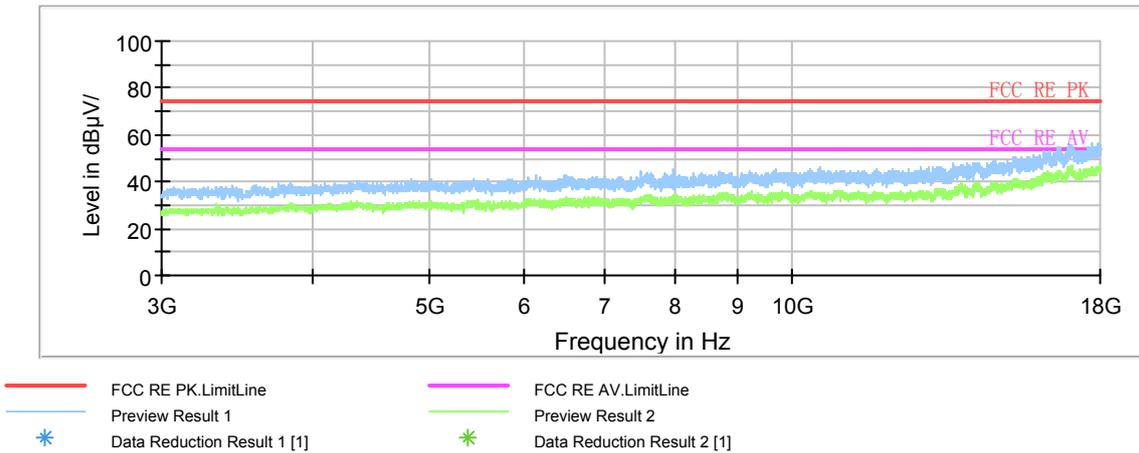
# TA Technology (Shanghai) Co., Ltd. Test Report

RE 1G-3GHz (BT&WIFI) PK+AV



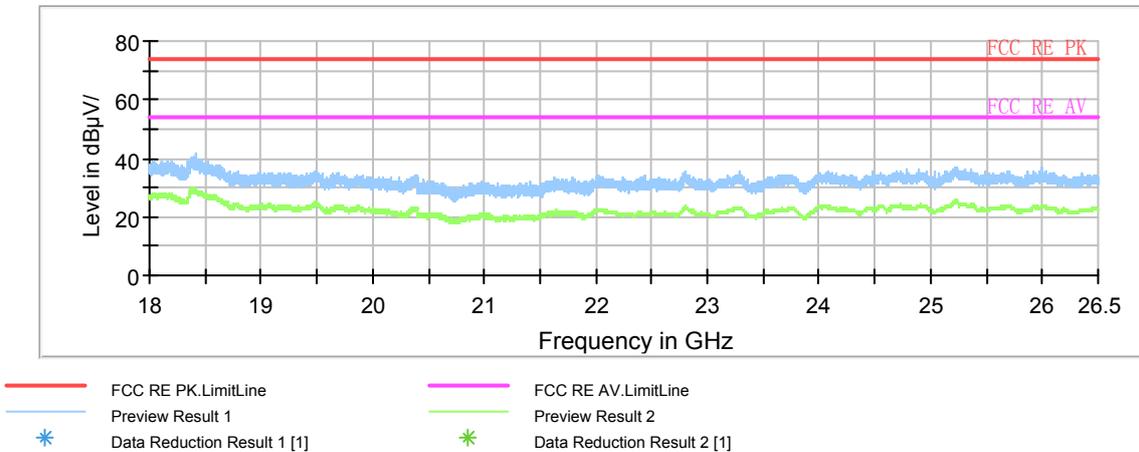
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

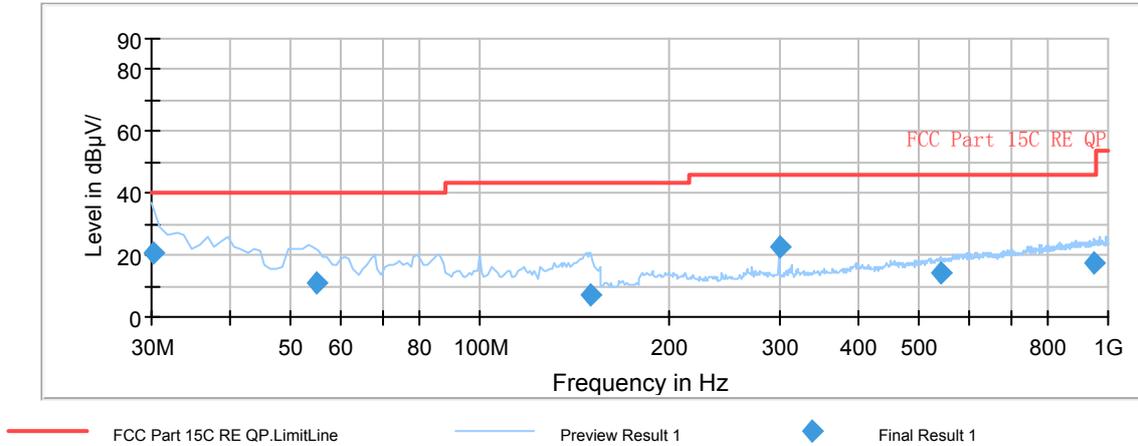


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11n CH6

RE 30M-1GHz (BT&WIFI) QP

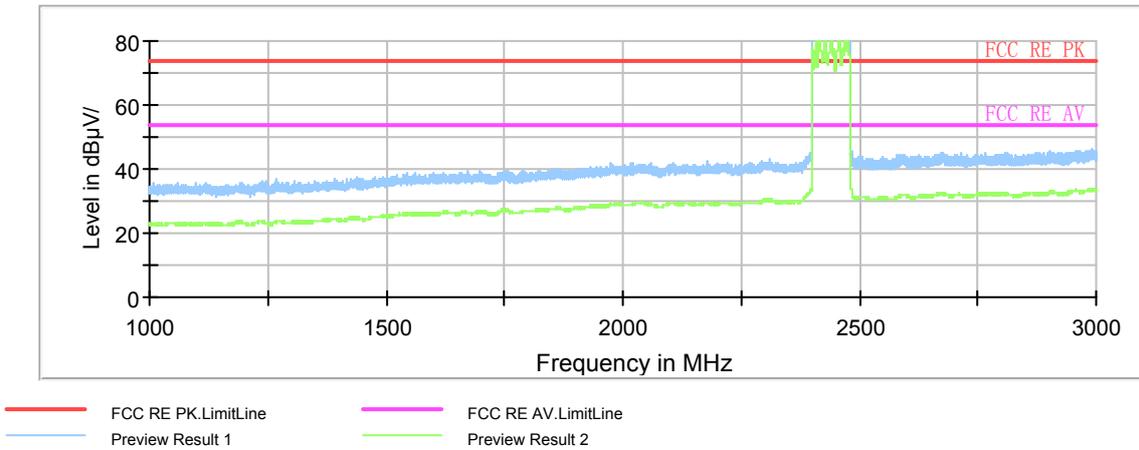


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.320000	20.4	100.0	V	242.0	44.2	-23.8	19.6	40.0
54.850000	11.2	225.0	V	186.0	37.6	-26.4	28.8	40.0
149.470000	7.0	100.0	V	8.0	39.8	-32.8	36.5	43.5
300.020000	22.7	100.0	H	288.0	49.8	-27.1	23.3	46.0
539.980000	14.3	100.0	H	221.0	36.5	-22.2	31.7	46.0
950.120000	17.3	209.0	H	226.0	33.7	-16.4	28.7	46.0

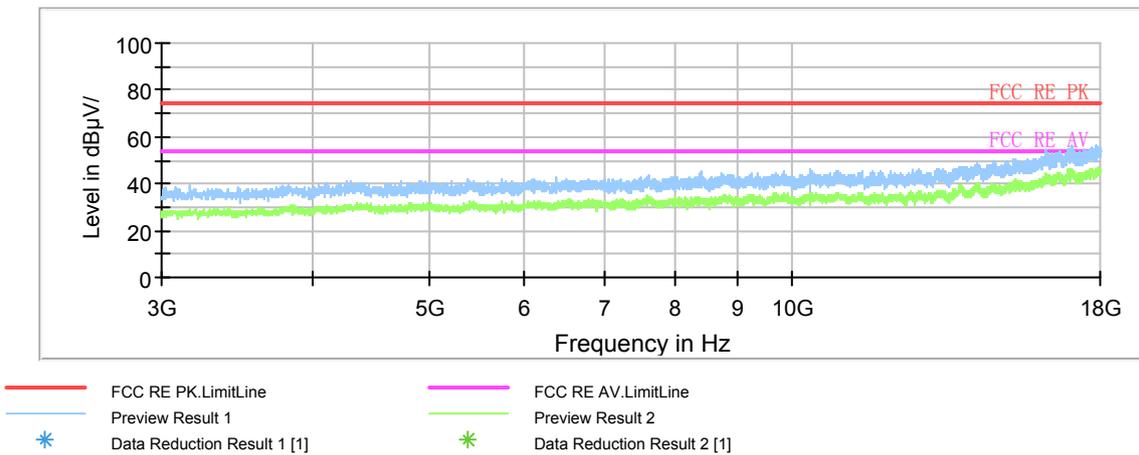
- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

RE 1G-3GHz (BT&WIFI) PK+AV



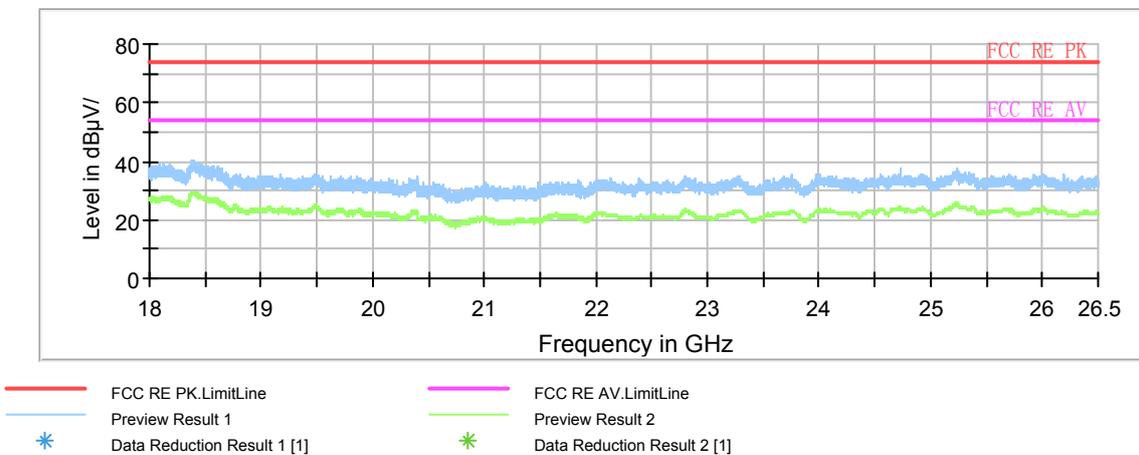
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV

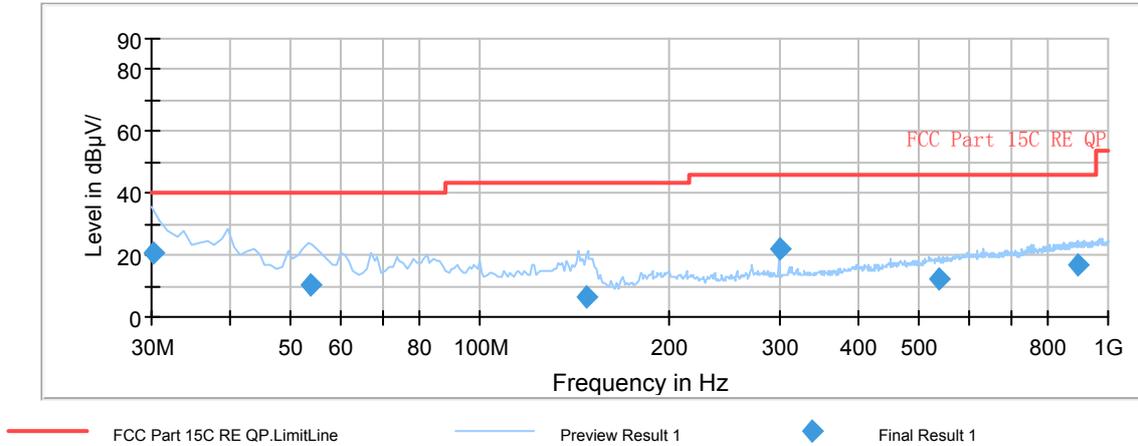


Radiates Emission from 18GHz to 26.5GHz

# TA Technology (Shanghai) Co., Ltd. Test Report

## 802.11n CH11

RE 30M-1GHz (BT&WIFI) QP



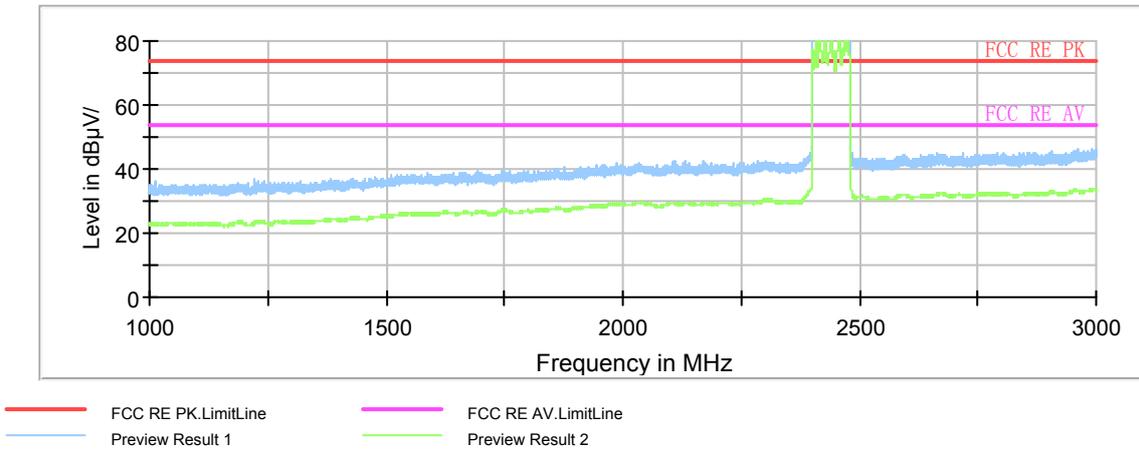
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.240000	20.8	120.0	V	271.0	44.6	-23.8	19.2	40.0
53.770000	10.1	100.0	V	0.0	36.3	-26.2	29.9	40.0
147.820000	6.6	100.0	V	12.0	39.4	-32.8	36.9	43.5
300.020000	22.2	120.0	H	284.0	49.3	-27.1	23.8	46.0
537.880000	12.5	100.0	V	38.0	34.7	-22.2	33.5	46.0
895.520000	16.9	200.0	V	133.0	33.7	-16.8	29.1	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
  2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
  3. Margin = Limit – Quasi-Peak

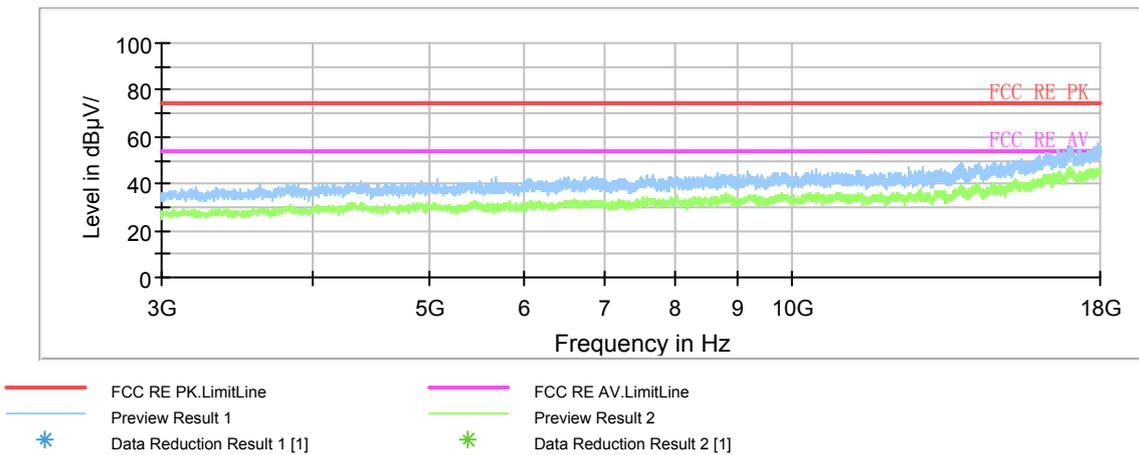
# TA Technology (Shanghai) Co., Ltd. Test Report

RE 1G-3GHz (BT&WIFI) PK+AV



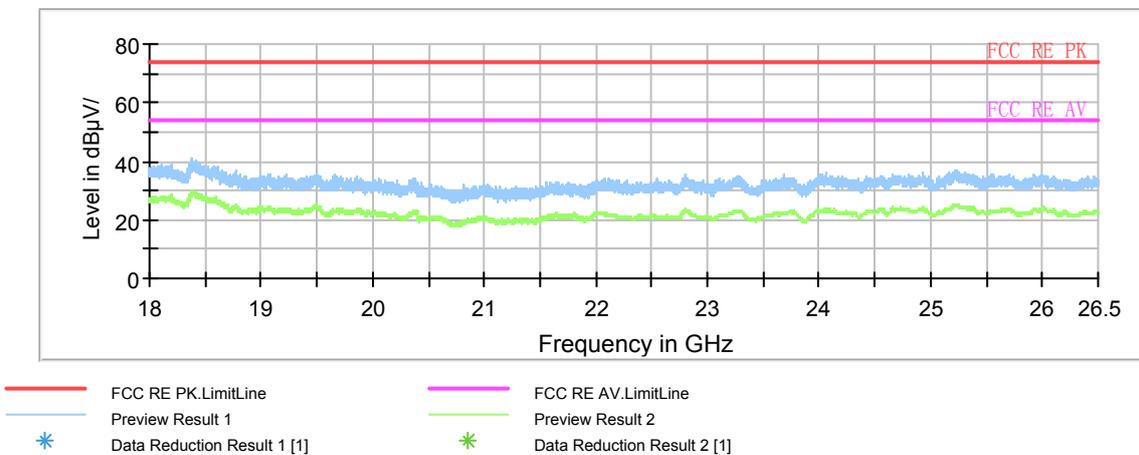
Note: The signal beyond the limit is carrier.  
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

### 2.3. Conducted Emissions

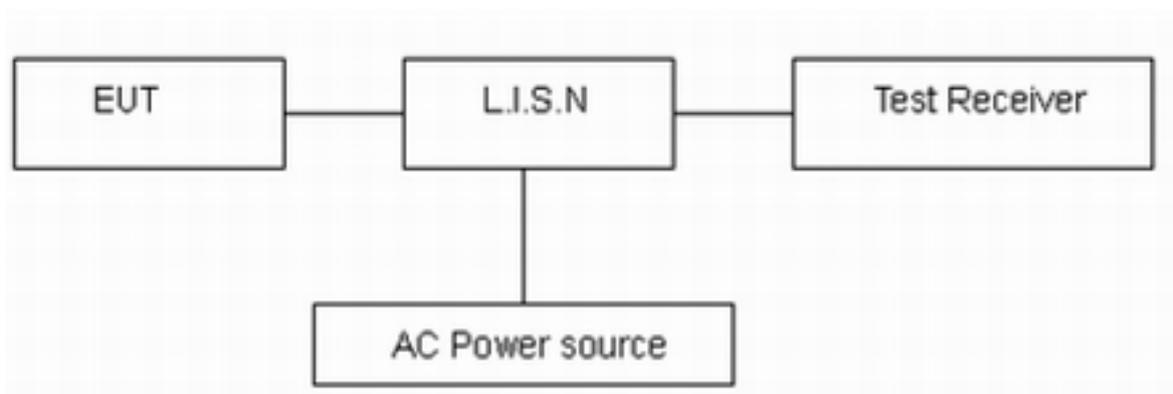
#### Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### Method of Measurement

The EUT IS placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSIC63.4-2003. Connect the AC power line of the EUT to the LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz,VBW is set to 30kHz The measurement result should include both L line and N line. The test is in transmit mode.

#### Test setup



Note: AC Power source is used to change the voltage from 220V/50Hz to 110V/60Hz.

#### Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

\*: Decreases with the logarithm of the frequency.

#### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ ,  $U = 2.69$  dB.

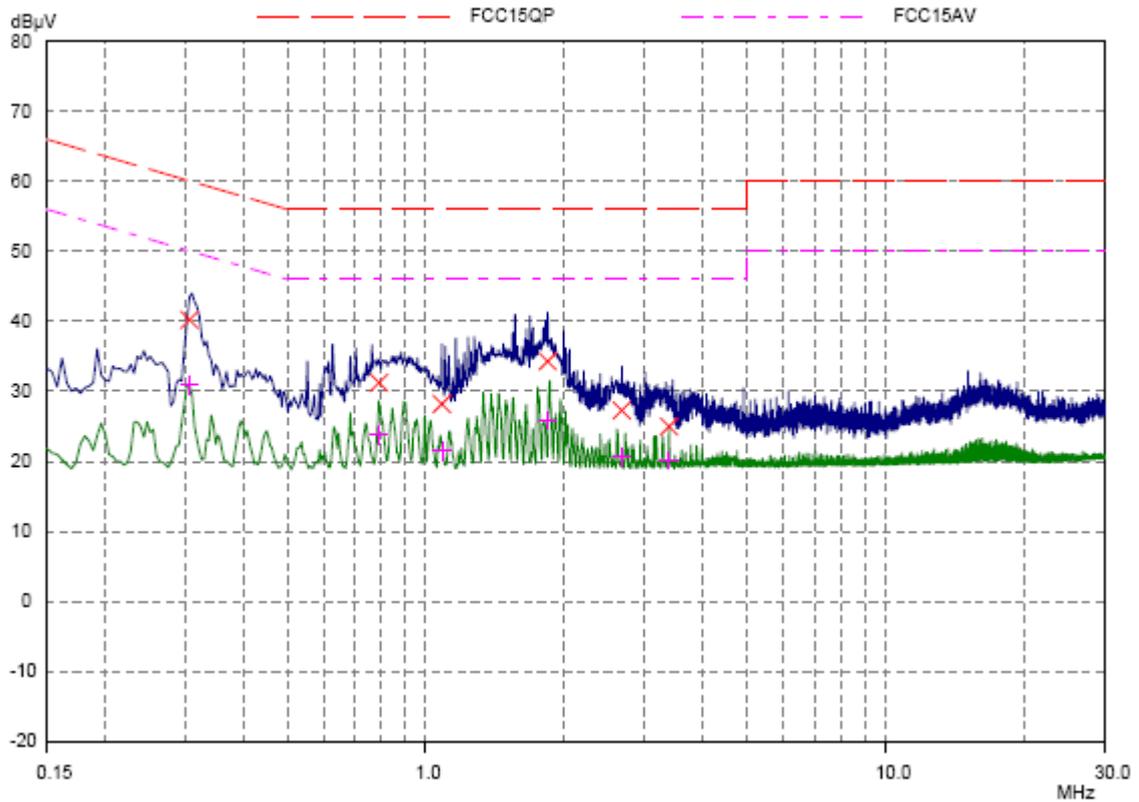
# TA Technology (Shanghai) Co., Ltd. Test Report

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## Test Results:

802.11b CH1



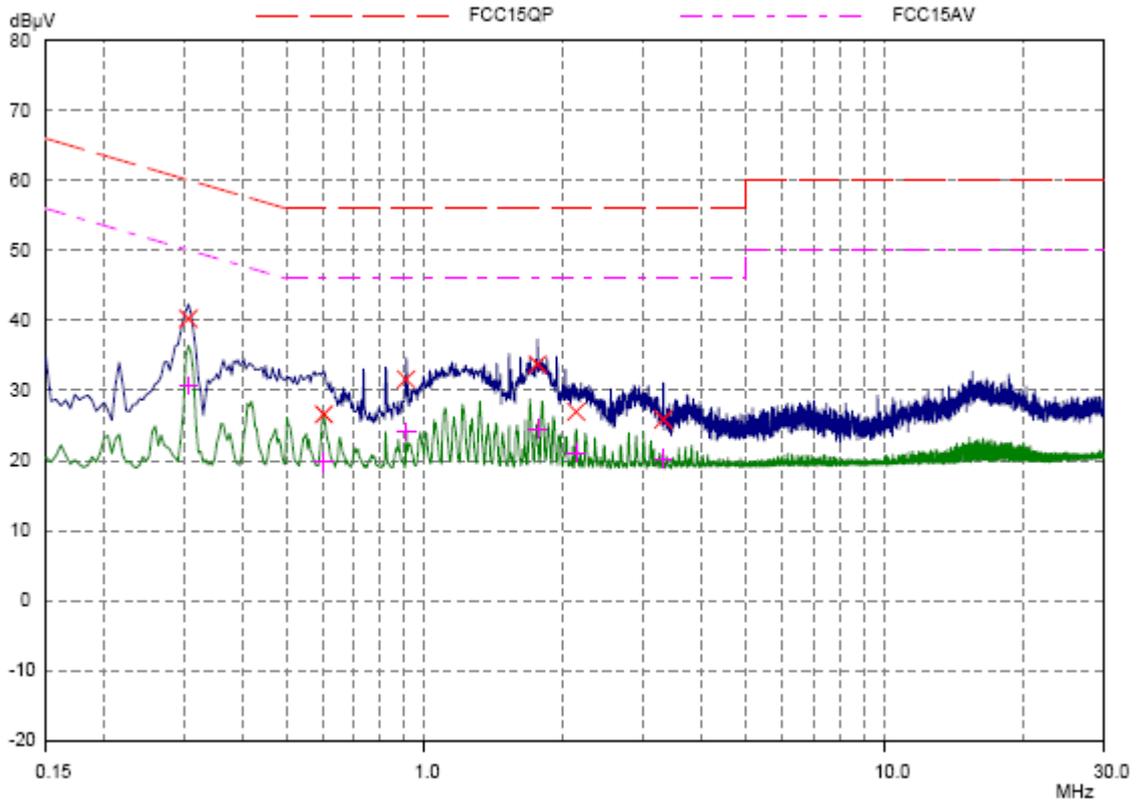
### L Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.30625	40.24	60.07	19.83	L1
0.79062	31.24	56.00	24.76	L1
1.08359	28.20	56.00	27.80	L1
1.8414	34.32	56.00	21.68	L1
2.66953	27.28	56.00	28.72	L1
3.38046	25.00	56.00	31.00	L1

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.30625	30.87	50.07	19.20	L1
0.79062	23.74	46.00	22.26	L1
1.08359	21.51	46.00	24.49	L1
1.8414	25.91	46.00	20.09	L1
2.66953	20.61	46.00	25.39	L1
3.38046	20.16	46.00	25.84	L1

# TA Technology (Shanghai) Co., Ltd. Test Report



### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.30625	40.26	60.07	19.81	N
0.60312	26.62	56.00	29.38	N
0.91171	31.60	56.00	24.40	N
1.75937	33.76	56.00	22.24	N
2.13437	26.98	56.00	29.02	N
3.30234	25.85	56.00	30.15	N

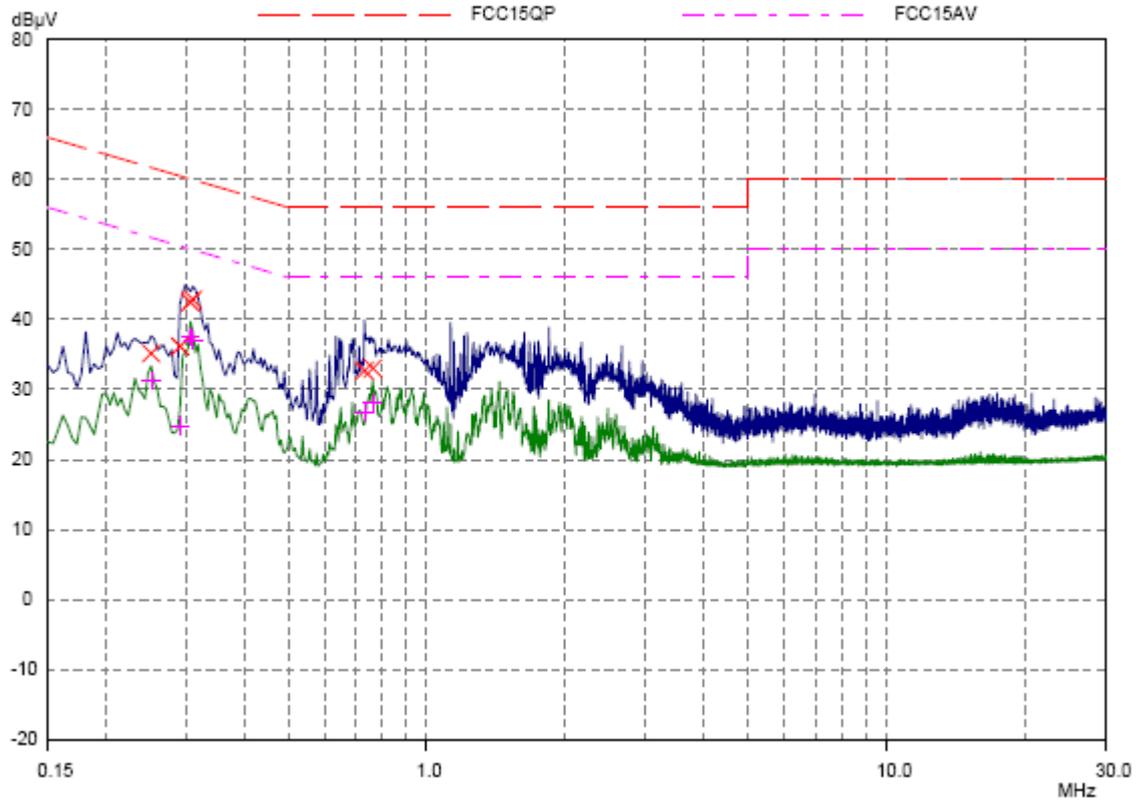
Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.30625	30.71	50.07	19.36	N
0.60312	19.74	46.00	26.26	N
0.91171	24.18	46.00	21.82	N
1.75937	24.52	46.00	21.48	N
2.13437	21.16	46.00	24.84	N
3.30234	20.29	46.00	25.71	N

# TA Technology (Shanghai) Co., Ltd. Test Report

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802.11b CH6



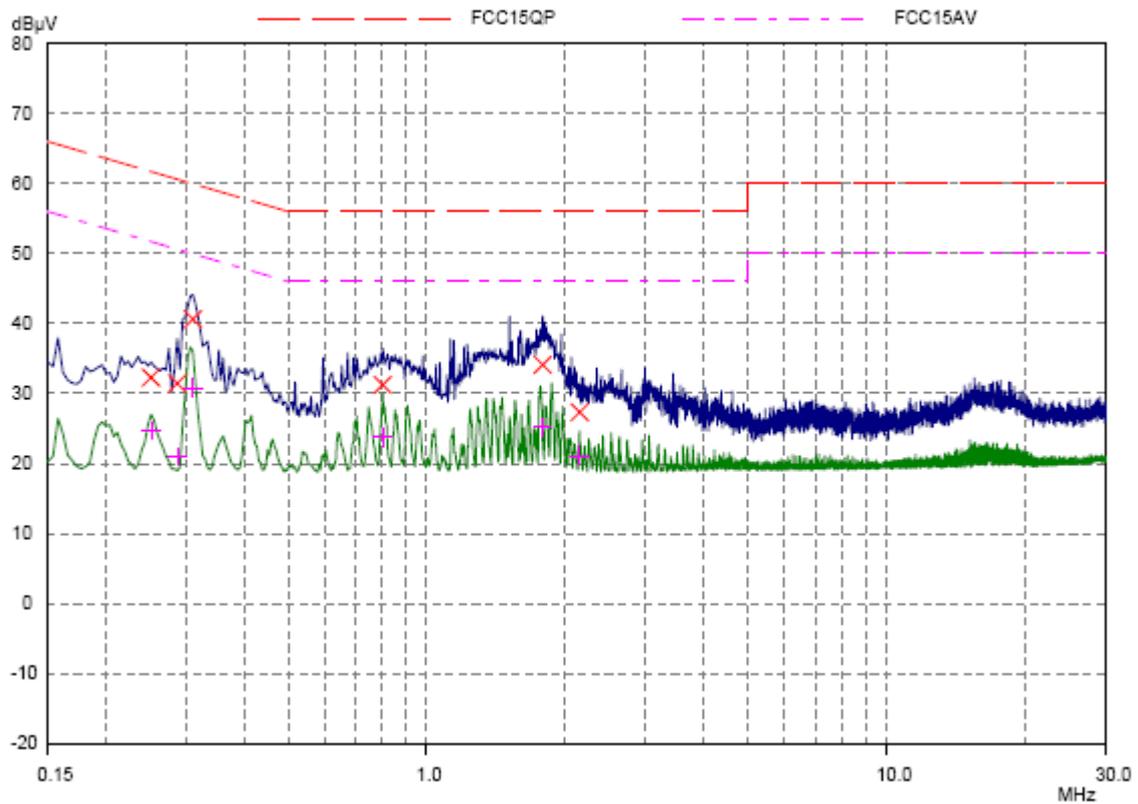
L Line

Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.25156	35.16	61.71	26.55	L1
0.29062	36.16	60.51	24.35	L1
0.30625	42.48	60.07	17.59	L1
0.31015	42.88	59.97	17.09	L1
0.73203	32.70	56.00	23.30	L1
0.76328	33.00	56.00	23.00	L1

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.25156	31.26	51.71	20.45	L1
0.29062	24.85	50.51	25.66	L1
0.30625	37.51	50.07	12.56	L1
0.31015	37.13	49.97	12.84	L1
0.73203	26.85	46.00	19.15	L1
0.76328	28.15	46.00	17.85	L1

# TA Technology (Shanghai) Co., Ltd. Test Report



### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -
0.25156	32.28	61.71	29.43	N
0.28671	31.46	60.62	29.16	N
0.31015	40.64	59.97	19.33	N
0.80234	31.24	56.00	24.76	N
1.78671	34.12	56.00	21.88	N
2.15	27.36	56.00	28.64	N

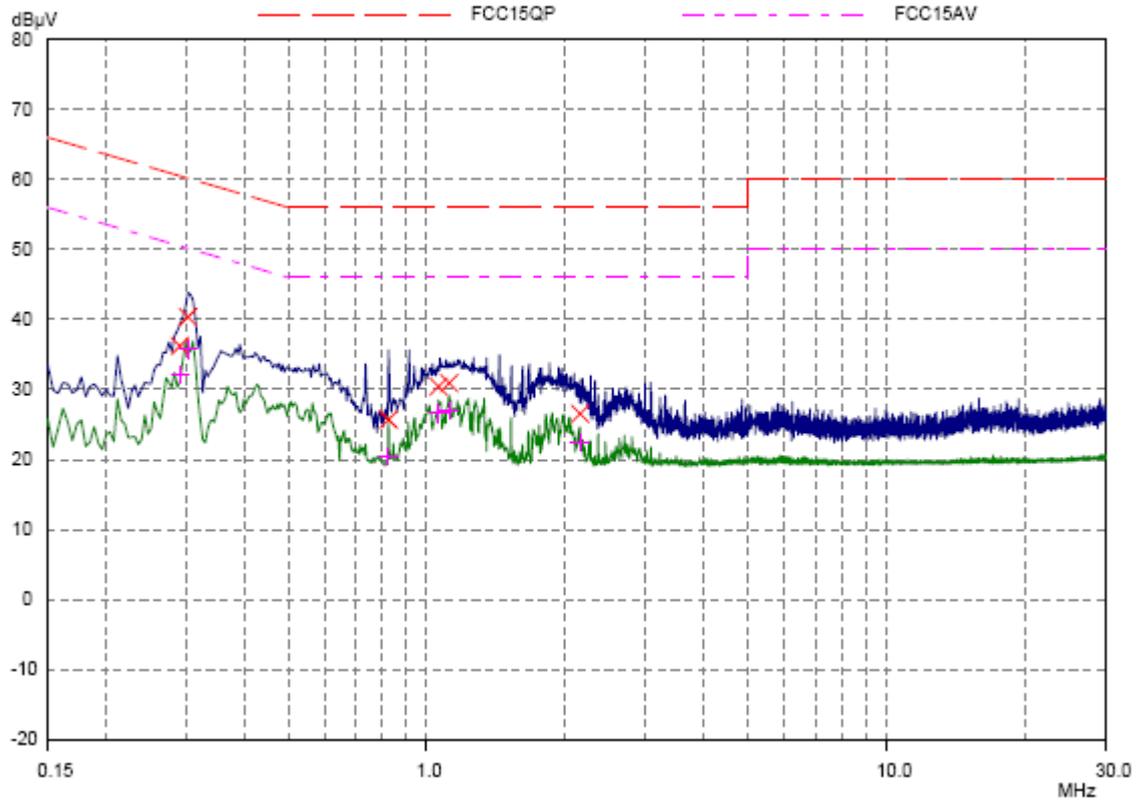
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -
0.25156	24.69	51.71	27.02	N
0.28671	21.02	50.62	29.60	N
0.31015	30.79	49.97	19.18	N
0.80234	23.78	46.00	22.22	N
1.78671	25.16	46.00	20.84	N
2.15	21.10	46.00	24.90	N

# TA Technology (Shanghai) Co., Ltd. Test Report

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802.11b CH11



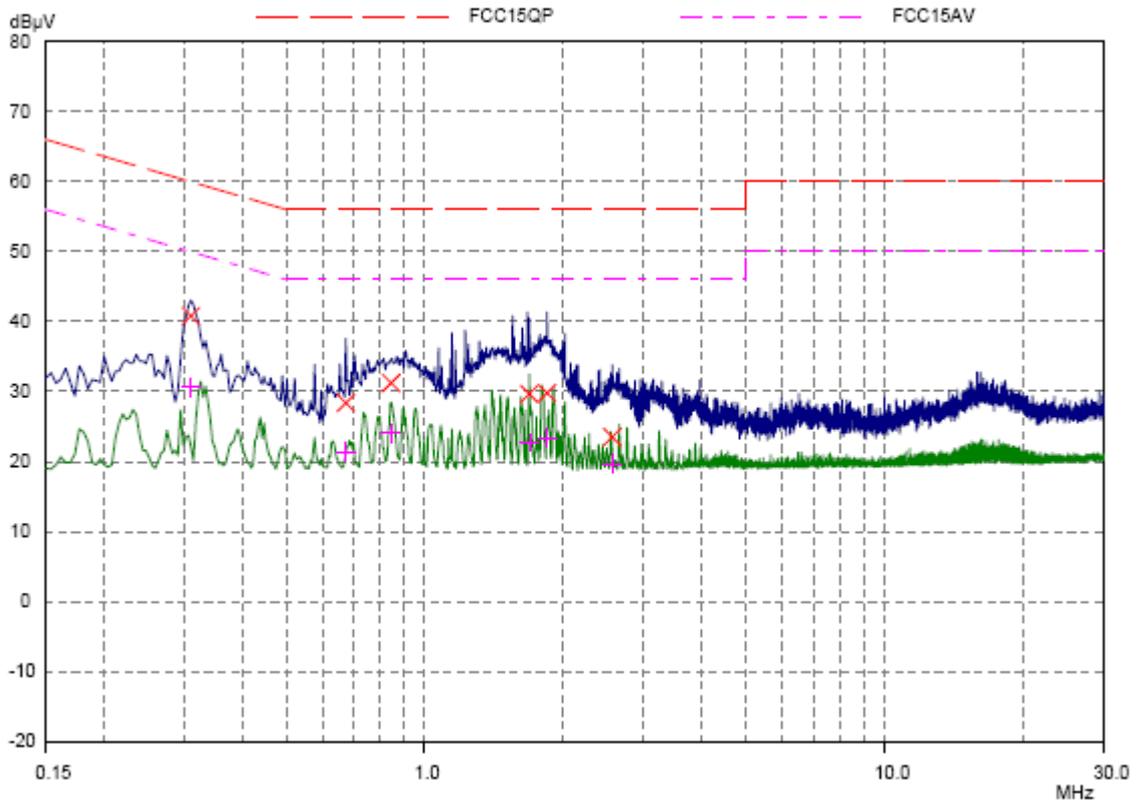
L Line

**Final Measurement Results**

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.29062	36.22	60.51	24.29	L1
0.30234	40.36	60.18	19.82	L1
0.82578	25.72	56.00	30.28	L1
1.06015	30.42	56.00	25.58	L1
1.11875	30.92	56.00	25.08	L1
2.1539	26.56	56.00	29.44	L1

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.29062	32.14	50.51	18.37	L1
0.30234	35.73	50.18	14.45	L1
0.82578	20.44	46.00	25.56	L1
1.06015	26.59	46.00	19.41	L1
1.11875	27.04	46.00	18.96	L1
2.1539	22.48	46.00	23.52	L1

# TA Technology (Shanghai) Co., Ltd. Test Report



### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.31015	40.80	59.97	19.17	N
0.67343	28.38	56.00	27.62	N
0.84531	31.22	56.00	24.78	N
1.68906	29.66	56.00	26.34	N
1.84531	29.82	56.00	26.18	N
2.55625	23.53	56.00	32.47	N

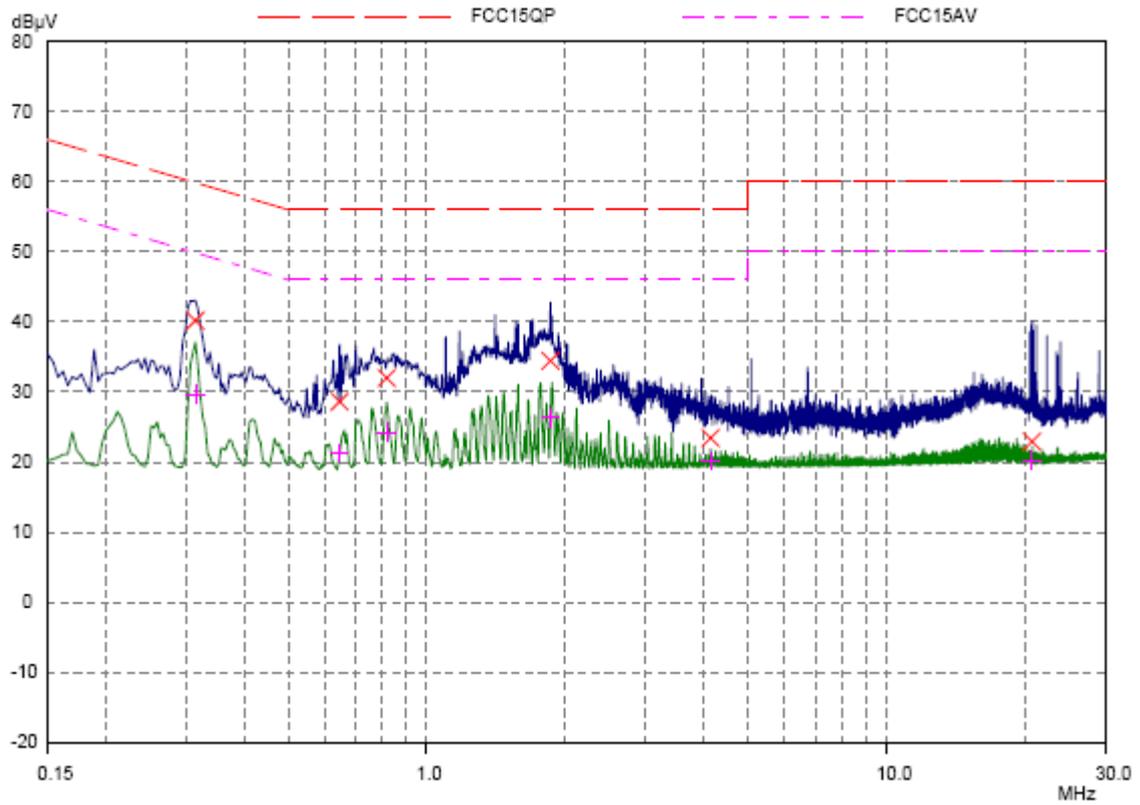
Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.31015	30.62	49.97	19.35	N
0.67343	21.39	46.00	24.61	N
0.84531	24.09	46.00	21.91	N
1.68906	22.77	46.00	23.23	N
1.84531	23.41	46.00	22.59	N
2.55625	19.69	46.00	26.31	N

# TA Technology (Shanghai) Co., Ltd. Test Report

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802.11g CH1



## L Line

### Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -
0.31406	40.20	59.86	19.66	L1
0.64609	28.62	56.00	27.38	L1
0.81796	32.00	56.00	24.00	L1
1.85703	34.46	56.00	21.54	L1
4.14217	23.45	56.00	32.55	L1
20.7164	22.95	60.00	37.05	L1

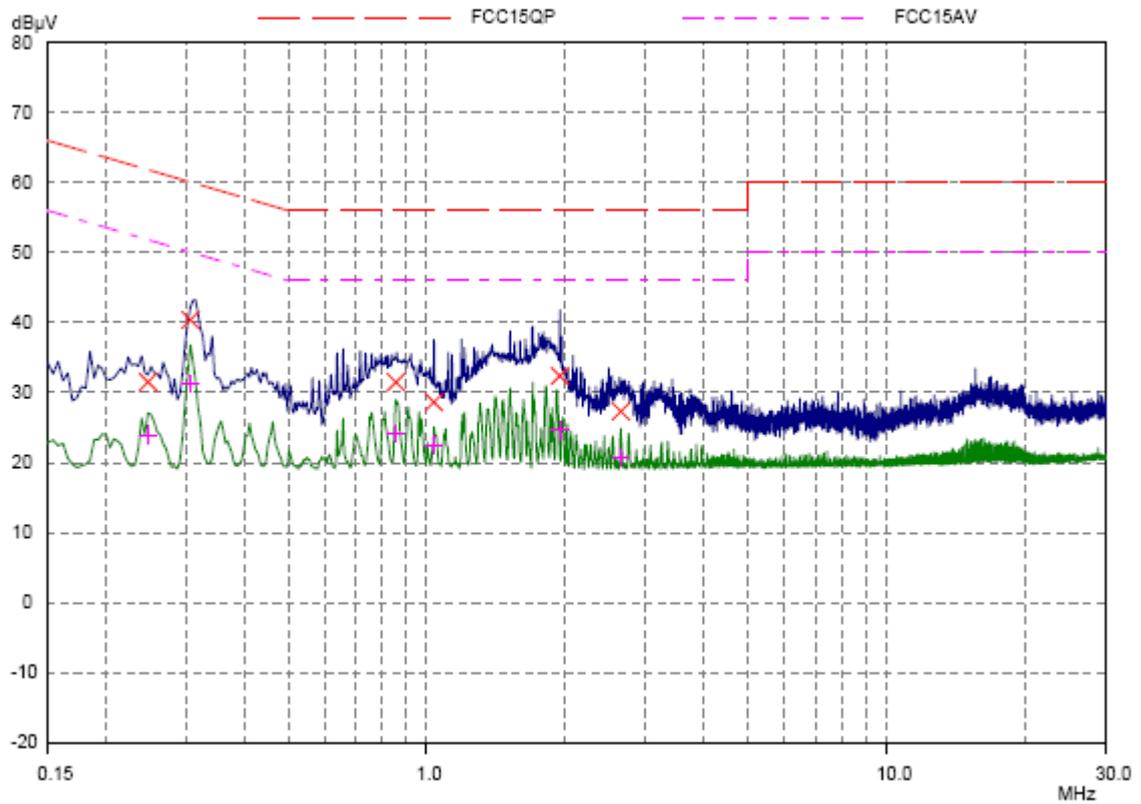
  

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -
0.31406	29.66	49.86	20.20	L1
0.64609	21.27	46.00	24.73	L1
0.81796	24.27	46.00	21.73	L1
1.85703	26.32	46.00	19.68	L1
4.14217	20.11	46.00	25.89	L1
20.7164	20.27	50.00	29.73	L1

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### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.24765	31.50	61.84	30.34	N
0.30625	40.38	60.07	19.69	N
0.85703	31.48	56.00	24.52	N
1.03671	28.62	56.00	27.38	N
1.94687	32.38	56.00	23.62	N
2.64218	27.36	56.00	28.64	N

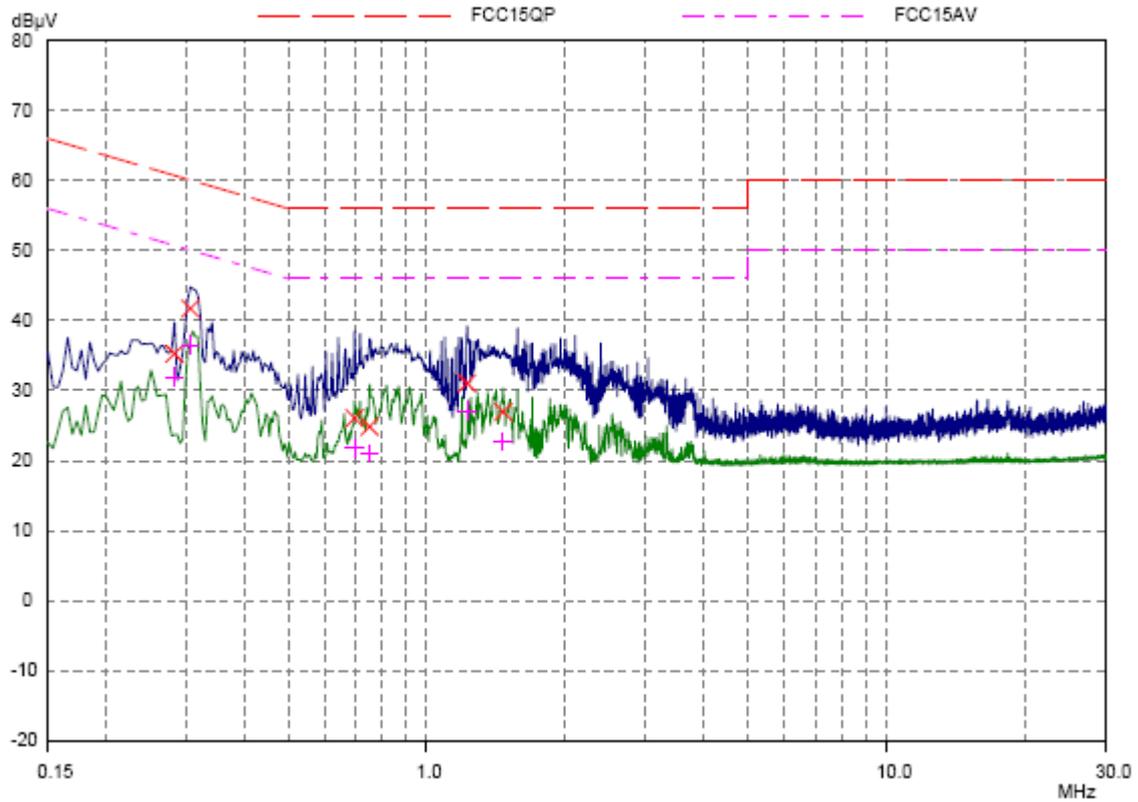
Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.24765	24.01	51.84	27.83	N
0.30625	31.26	50.07	18.81	N
0.85703	24.18	46.00	21.82	N
1.03671	22.56	46.00	23.44	N
1.94687	24.60	46.00	21.40	N
2.64218	20.67	46.00	25.33	N

# TA Technology (Shanghai) Co., Ltd. Test Report

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## 802.11g CH6



### L Line

#### Final Measurement Results

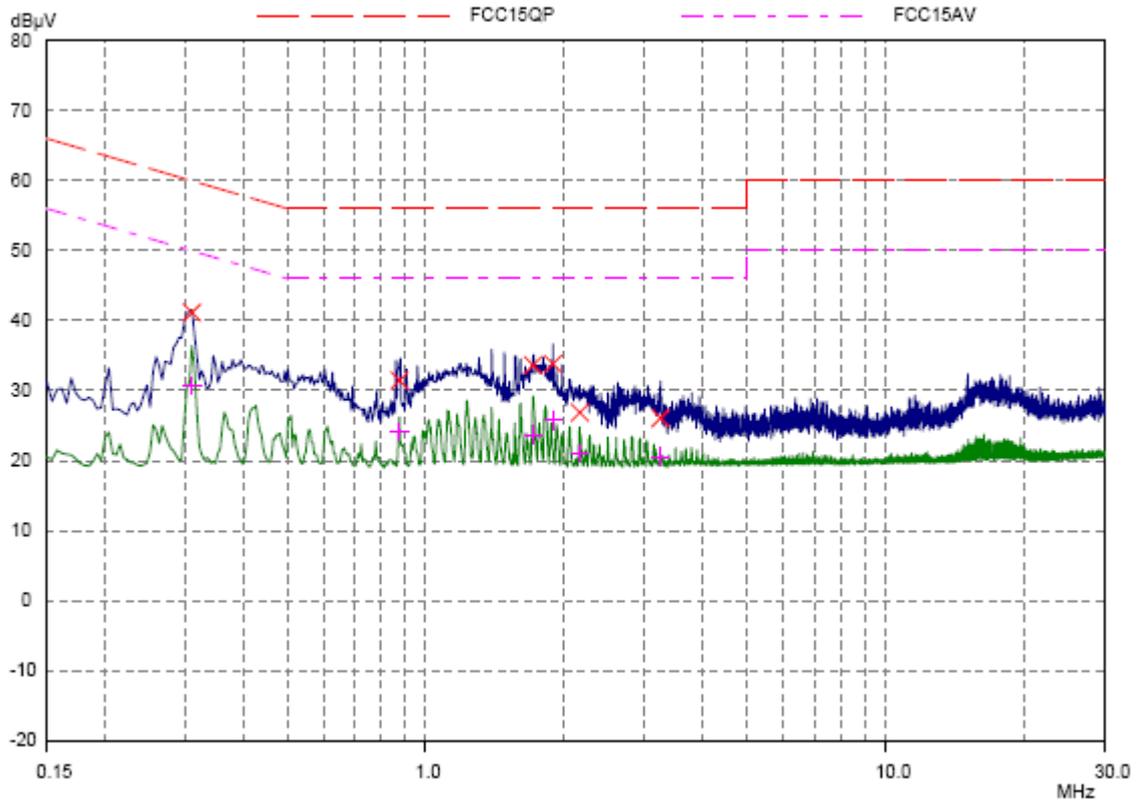
Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -
0.28281	35.24	60.73	25.49	L1
0.30625	41.72	60.07	18.35	L1
0.69687	26.10	56.00	29.90	L1
0.75156	24.84	56.00	31.16	L1
1.22421	31.04	56.00	24.96	L1
1.4664	26.98	56.00	29.02	L1

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -
0.28281	31.93	50.73	18.80	L1
0.30625	36.48	50.07	13.59	L1
0.69687	21.80	46.00	24.20	L1
0.75156	20.96	46.00	25.04	L1
1.22421	27.10	46.00	18.90	L1
1.4664	22.77	46.00	23.23	L1

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### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -
0.31015	41.14	59.97	18.83	N
0.87656	31.46	56.00	24.54	N
1.7125	33.64	56.00	22.36	N
1.89218	33.82	56.00	22.18	N
2.16171	26.86	56.00	29.14	N
3.23984	26.05	56.00	29.95	N

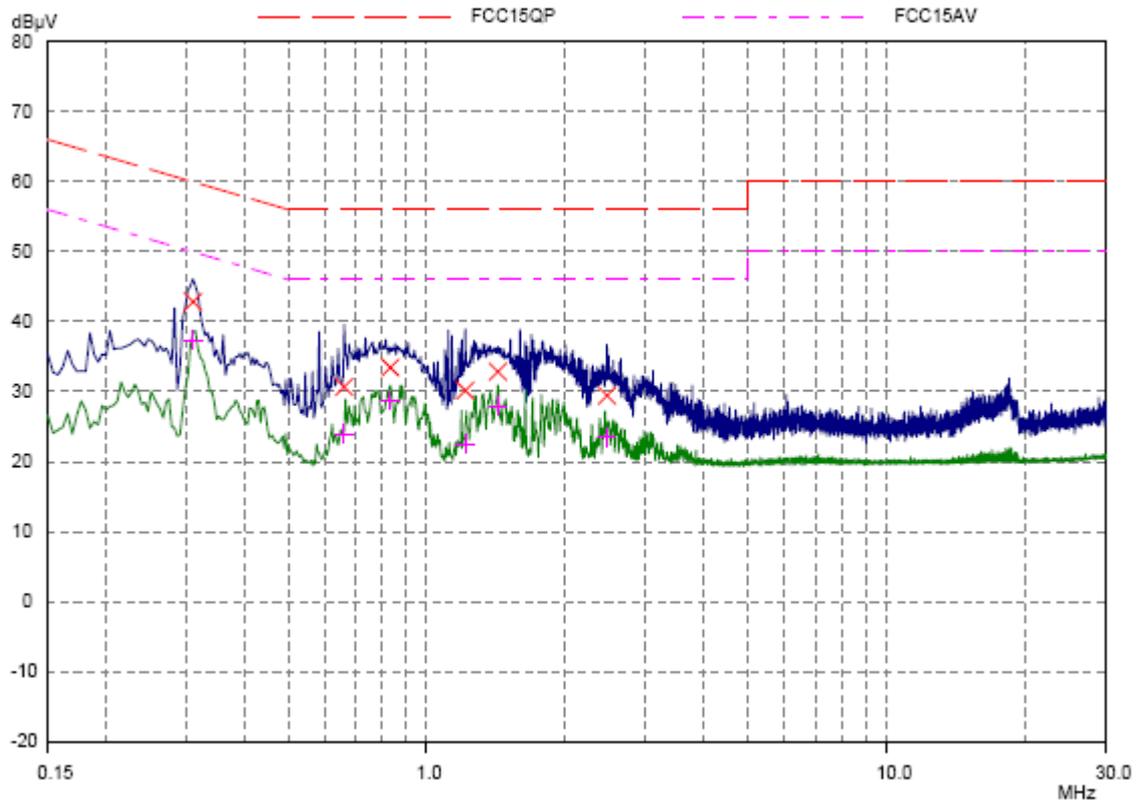
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -
0.31015	30.71	49.97	19.26	N
0.87656	24.18	46.00	21.82	N
1.7125	23.69	46.00	22.31	N
1.89218	25.76	46.00	20.24	N
2.16171	21.04	46.00	24.96	N
3.23984	20.56	46.00	25.44	N

# TA Technology (Shanghai) Co., Ltd. Test Report

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802.11g CH11



L Line

Final Measurement Results

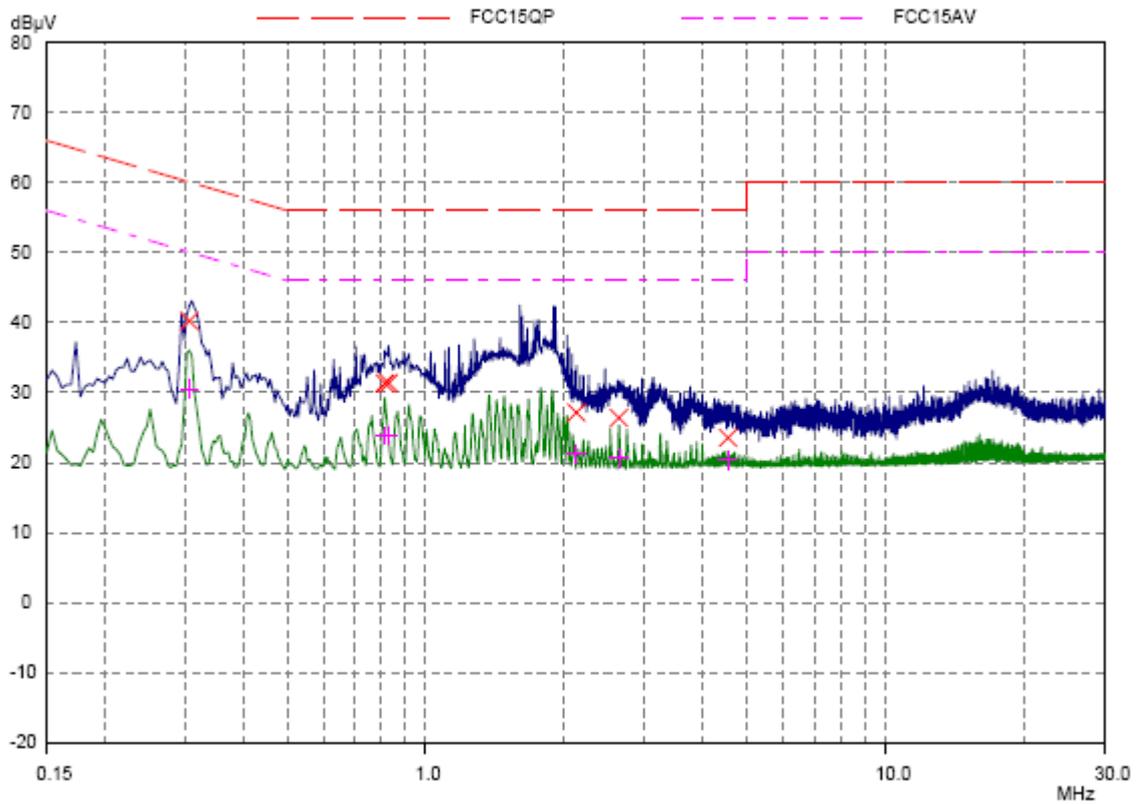
Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -
0.31015	42.82	59.97	17.15	L1
0.66171	30.68	56.00	25.32	L1
0.83359	33.44	56.00	22.56	L1
1.2125	30.16	56.00	25.84	L1
1.42734	32.86	56.00	23.14	L1
2.4664	29.45	56.00	26.55	L1

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -
0.31015	37.36	49.97	12.61	L1
0.66171	23.96	46.00	22.04	L1
0.83359	28.69	46.00	17.31	L1
1.2125	22.56	46.00	23.44	L1
1.42734	27.93	46.00	18.07	L1
2.4664	23.53	46.00	22.47	L1

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### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.30625	40.24	60.07	19.83	N
0.81406	31.32	56.00	24.68	N
0.82968	31.38	56.00	24.62	N
2.12656	27.16	56.00	28.84	N
2.63046	26.40	56.00	29.60	N
4.54062	23.56	56.00	32.44	N

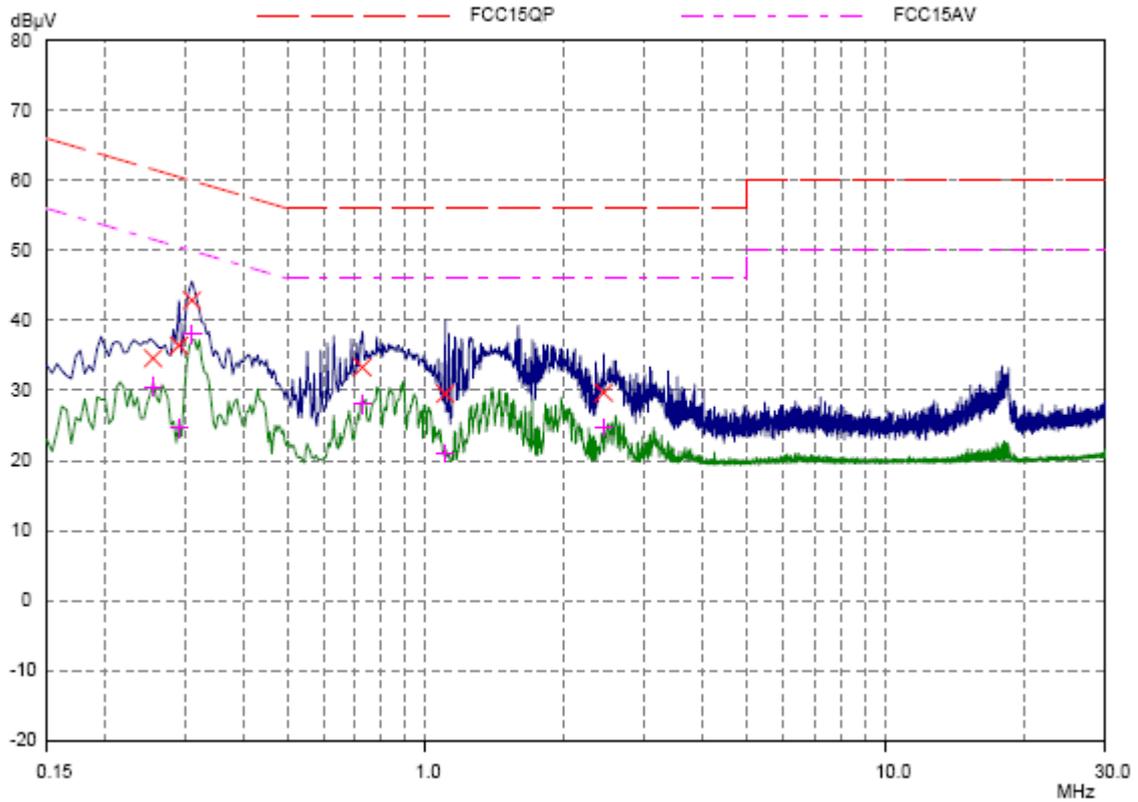
Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.30625	30.54	50.07	19.53	N
0.81406	23.92	46.00	22.08	N
0.82968	23.87	46.00	22.13	N
2.12656	21.23	46.00	24.77	N
2.63046	20.61	46.00	25.39	N
4.54062	20.35	46.00	25.65	N

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L Line

**Final Measurement Results**

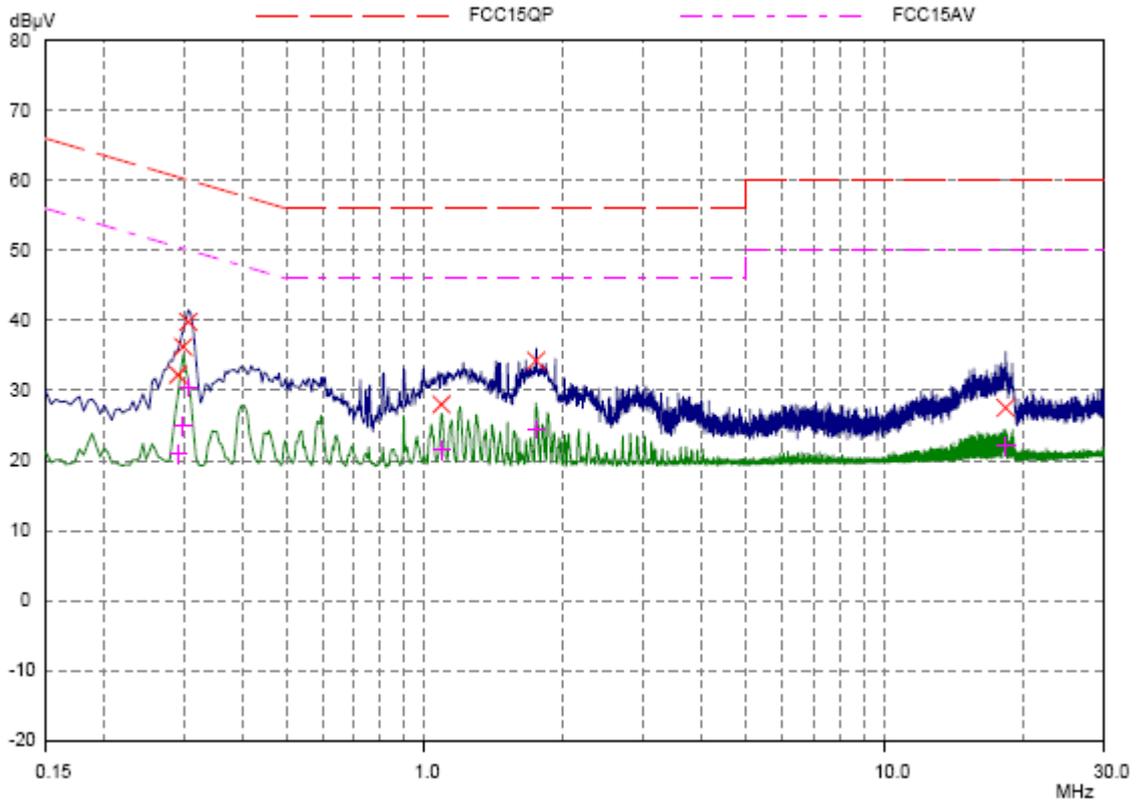
Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.25546	34.60	61.58	26.98	L1
0.29062	36.44	60.51	24.07	L1
0.31015	42.88	59.97	17.09	L1
0.72812	33.30	56.00	22.70	L1
1.10312	29.54	56.00	26.46	L1
2.43906	29.69	56.00	26.31	L1

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.25546	30.54	51.58	21.04	L1
0.29062	24.60	50.51	25.91	L1
0.31015	38.02	49.97	11.95	L1
0.72812	28.04	46.00	17.96	L1
1.10312	21.02	46.00	24.98	L1
2.43906	24.76	46.00	21.24	L1

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### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.29062	32.24	60.51	28.27	N
0.29843	36.22	60.29	24.07	N
0.30625	39.82	60.07	20.25	N
1.0875	28.02	56.00	27.98	N
1.74765	34.26	56.00	21.74	N
18.33359	27.53	60.00	32.47	N

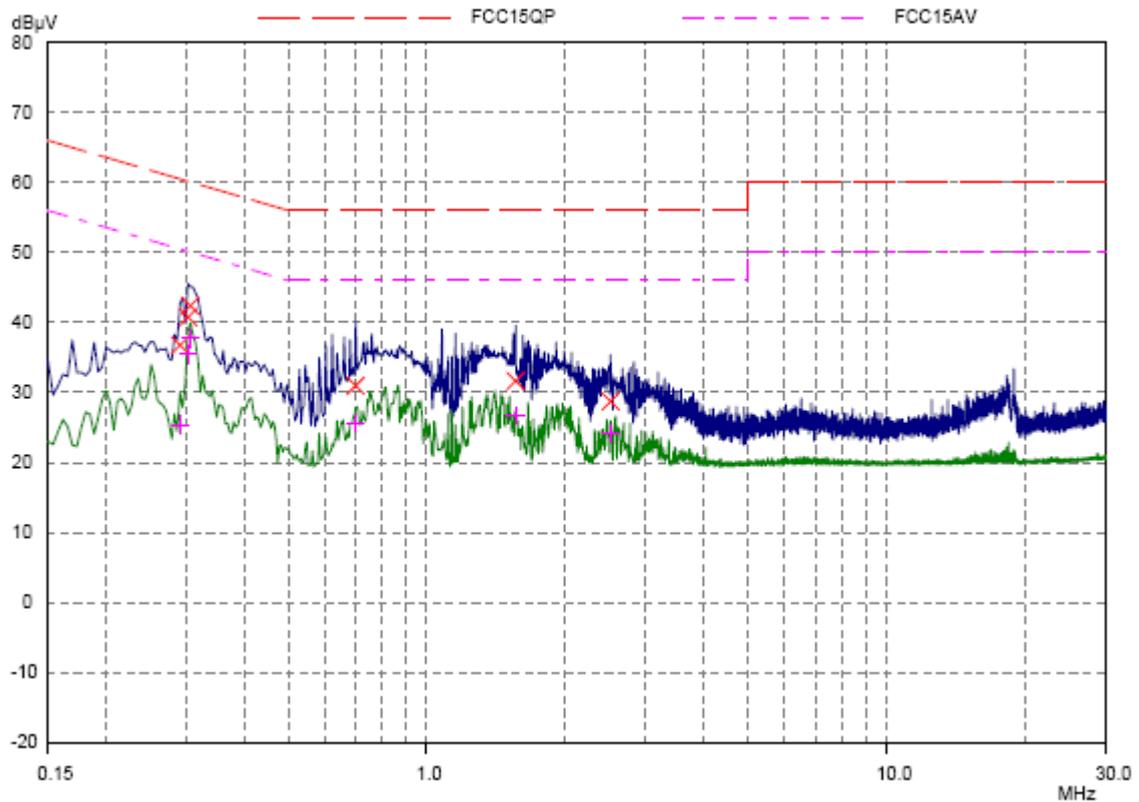
Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.29062	20.89	50.51	29.62	N
0.29843	24.93	50.29	25.36	N
0.30625	30.46	50.07	19.61	N
1.0875	21.45	46.00	24.55	N
1.74765	24.44	46.00	21.56	N
18.33359	22.02	50.00	27.98	N

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L Line

### Final Measurement Results

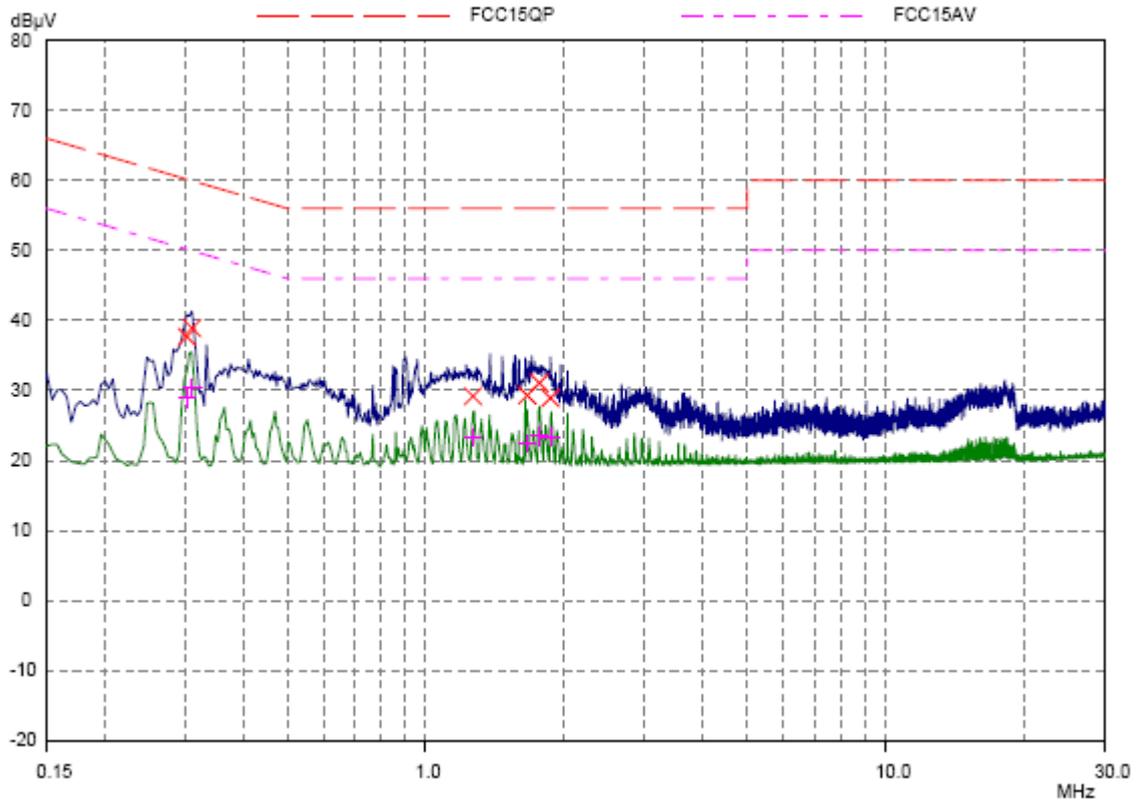
Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.29062	36.76	60.51	23.75	L1
0.30234	40.76	60.18	19.42	L1
0.30625	42.38	60.07	17.69	L1
0.70078	30.98	56.00	25.02	L1
1.56015	31.64	56.00	24.36	L1
2.50937	28.74	56.00	27.26	L1

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.29062	25.39	50.51	25.12	L1
0.30234	35.50	50.18	14.68	L1
0.30625	37.73	50.07	12.34	L1
0.70078	25.54	46.00	20.46	L1
1.56015	26.72	46.00	19.28	L1
2.50937	24.17	46.00	21.83	L1

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### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.30234	37.68	60.18	22.50	L1
0.31015	38.90	59.97	21.07	L1
1.26718	29.18	56.00	26.82	L1
1.66171	29.30	56.00	26.70	L1
1.76718	31.08	56.00	24.92	L1
1.86875	28.94	56.00	27.06	L1

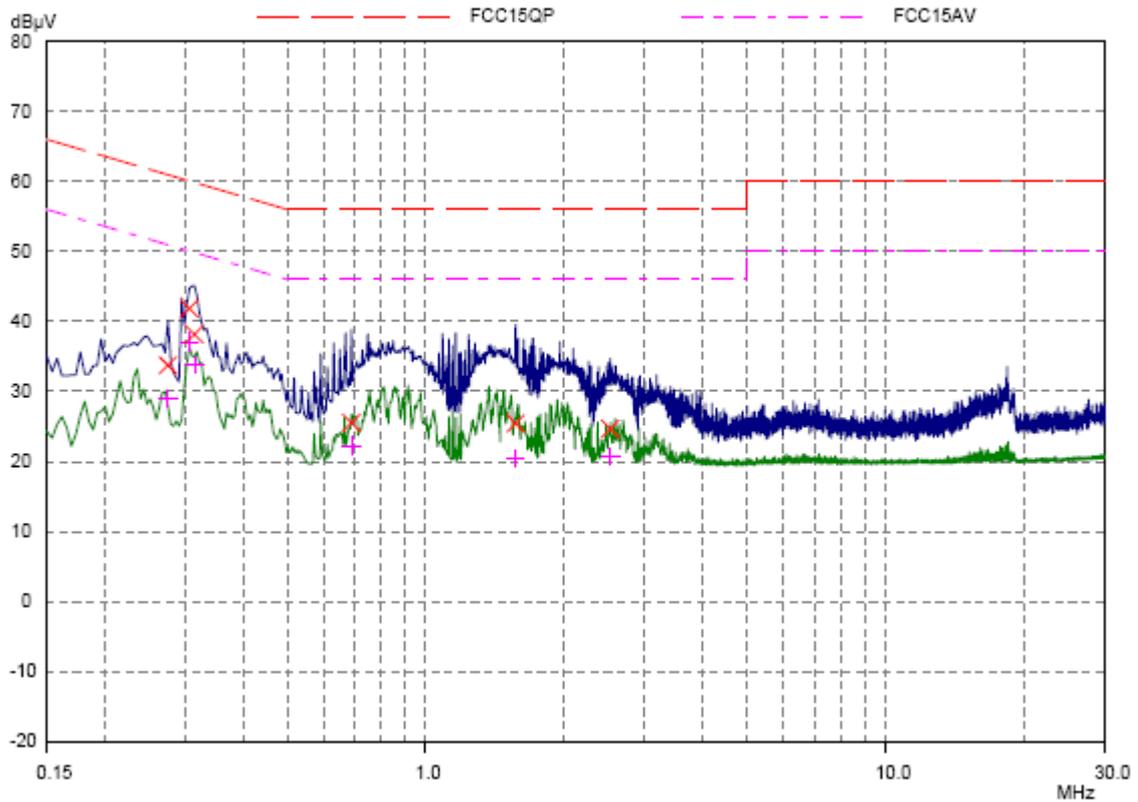
Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.30234	28.94	50.18	21.24	L1
0.31015	30.37	49.97	19.60	L1
1.26718	23.27	46.00	22.73	L1
1.66171	22.40	46.00	23.60	L1
1.76718	23.50	46.00	22.50	L1
1.86875	23.36	46.00	22.64	L1

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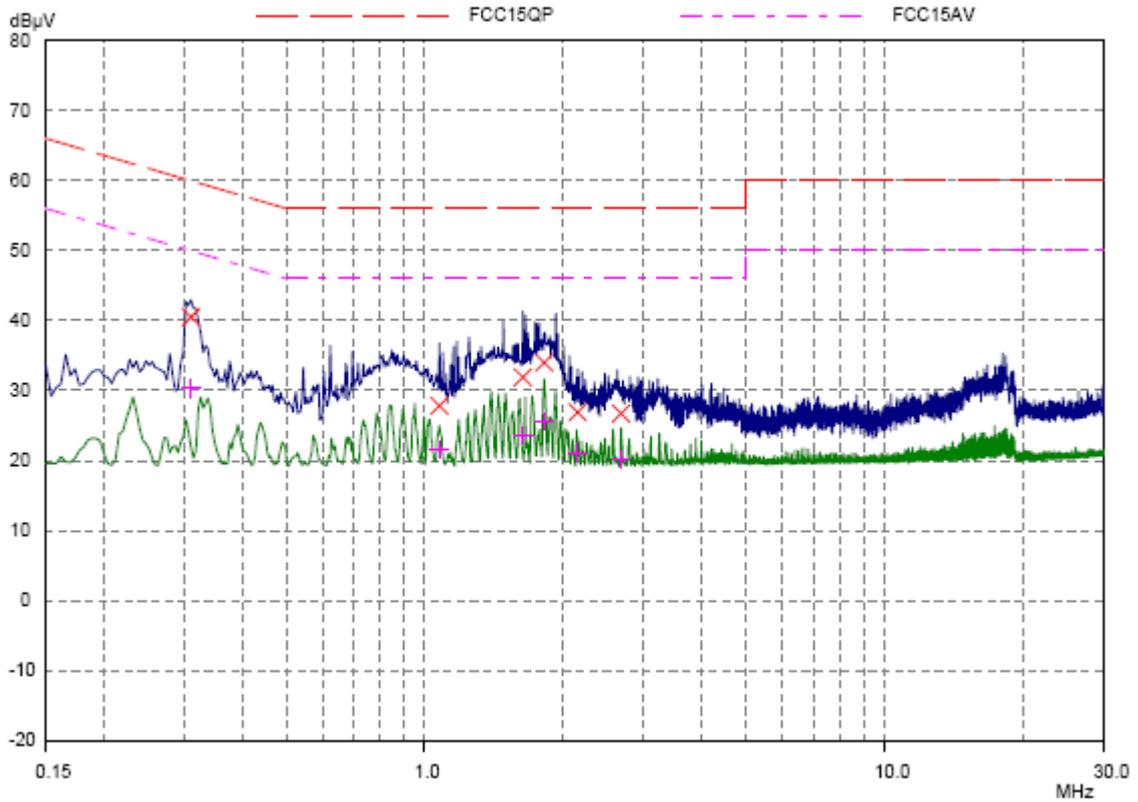
L Line

Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.275	33.76	60.97	27.21	L1
0.30625	41.90	60.07	18.17	L1
0.31406	38.16	59.86	21.70	L1
0.68906	25.54	56.00	30.46	L1
1.56796	25.46	56.00	30.54	L1
2.51718	24.70	56.00	31.30	L1

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.275	28.99	50.97	21.98	L1
0.30625	37.05	50.07	13.02	L1
0.31406	33.89	49.86	15.97	L1
0.68906	22.24	46.00	23.76	L1
1.56796	20.44	46.00	25.56	L1
2.51718	20.78	46.00	25.22	L1

# TA Technology (Shanghai) Co., Ltd. Test Report



### N Line

#### Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -
0.31015	40.50	59.97	19.47	N
1.07578	27.82	56.00	28.18	N
1.63437	31.90	56.00	24.10	N
1.81796	33.98	56.00	22.02	N
2.15	26.90	56.00	29.10	N
2.67343	26.70	56.00	29.30	N

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -
0.31015	30.29	49.97	19.68	N
1.07578	21.57	46.00	24.43	N
1.63437	23.55	46.00	22.45	N
1.81796	25.62	46.00	20.38	N
2.15	21.16	46.00	24.84	N
2.67343	20.20	46.00	25.80	N

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### 3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	EMI Test Receiver	ESCI	R&S	100948	2011-06-30	One year
02	TRILOG Broadband Antenna	VULB 9163	Schwarzbeck	391	2011-05-14	Two years
03	Double Ridged Waveguide Horn Antenna	HF907	R&S	100126	2011-07-01	Two years
04	PSG Analog Signal Generator	E8257D	Agilent	MY49281101	2011-06-29	One year
05	ESG Vector Signal Generator	E4438C	Agilent	MY49070900	2011-07-01	One year
06	Spectrum Analyzer	E4445A	Agilent	MY46181146	2011-06-07	One year
07	Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
08	MOB COMMS DC SUPPLY	66319D	Agilent	MY43004105	2011-06-30	One year
09	Power Sensor	E9304A	Agilent	MY50220022	2011-06-01	One year
10	Power Meter	E4418B	Agilent	MY50000623	2011-06-07	One year
11	Vibration table	ESS-050-120	dongling	D1007126	2010-08-23	Three years
12	Universal Radio Communication Tester	E5515C	Agilent	MY48367192	2011-06-04	One year

\*\*\*\*\*END OF REPORT BODY\*\*\*\*\*

## ANNEX A: EUT Appearance and Test Setup

### A.1 EUT Appearance



a: EUT

Picture 1 Constituents of EUT

## A.2 Test Setup

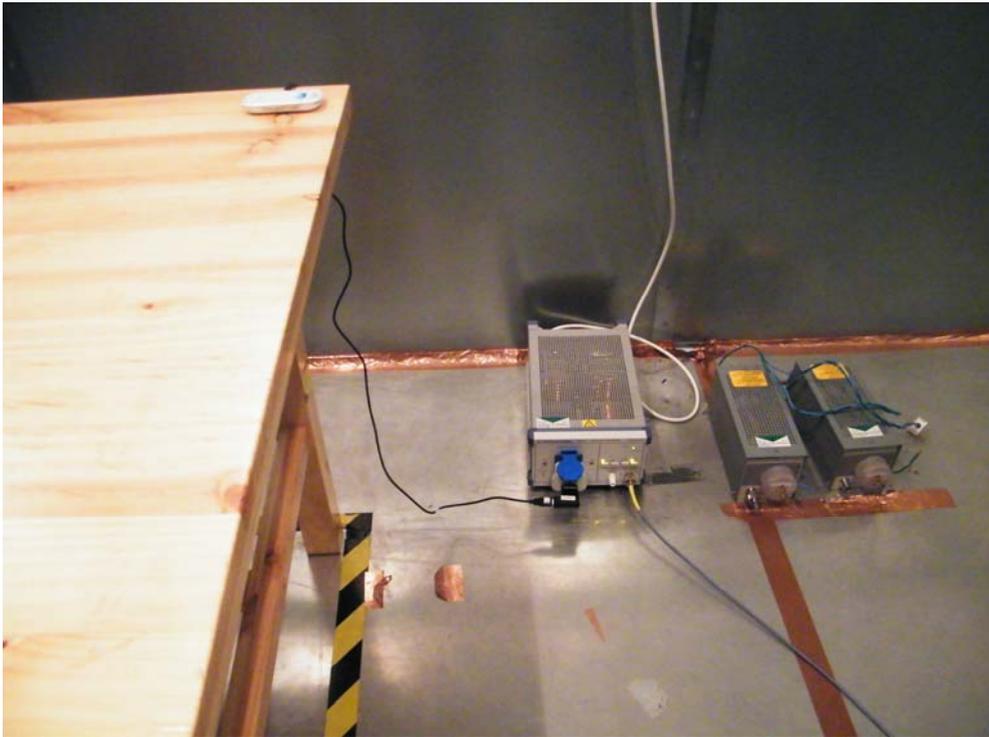


a: Below 1GHz



b: Above 1GHz

Picture 2 Radiated Emission Test Setup



**Picture 3 Conducted Emission Test Setup**