

# FCC TEST REPORT

For

**Mobile Phone**

**Model Number: HY1-5237**

**FCC ID: 2AFWFHY1-5237**

**Report Number : WT158004128**

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
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## TEST REPORT DECLARATION

Applicant : Gionee Communication Equipment Co.,Ltd.  
Address : 21/F,Times Technology Building,No. 7028,Shennan Avenue,Futian District,Shenzhen,China  
Manufacturer : Gionee Communication Equipment Co.,Ltd.  
Address : 21/F,Times Technology Building,No. 7028,Shennan Avenue,Futian District,Shenzhen,China  
EUT Description : Mobile Phone  
Model No : HY1-5237  
Trade mark : HYUNDAI  
Serial Number : /  
FCC ID : 2AFWFHY1-5237

Test Standards:

**FCC Part 15 Subpart B 15.107, 15.109 (2014)**

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003).

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	 (Chen Silin 陈司林)	Date:	<u>Sep.14.2015</u>
Checked by:	 (Lin Yixiang 林奕翔)	Date:	<u>Sep.14.2015</u>
Approved by:	 (Lin Bin 林斌)	Date:	<u>Sep.14.2015</u>

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## 1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test Results
Conducted Disturbance	15.107	Pass
Radiation Emission	15.109	Pass

Remark: "N/A" means "Not applicable."

## 2. GENERAL INFORMATION

### 2.1. Report information

- 2.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.
- 2.1.2. The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.
- 2.1.3. Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

### 2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at Bldg. of Metrology & Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, Guangdong, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Committee for Laboratories (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is L0579.

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number are 446246 806614 994606(semi anechoic chamber).

The Laboratory is registered to perform emission tests with Industry Canada (IC), and the registration number is IC4174.

TUV Rhineland accredits the Laboratory for conformance to IEC and EN standards, the registration number is E2024086Z02.

Measurement Uncertainty

### 2.3. Measurement Uncertainty

Conducted Emission

9kHz~30MHz 3.5dB

Radiated Emission

30MHz~1000MHz 4.5dB

1GHz~18GHz 4.6dB

### 3. PRODUCT DESCRIPTION

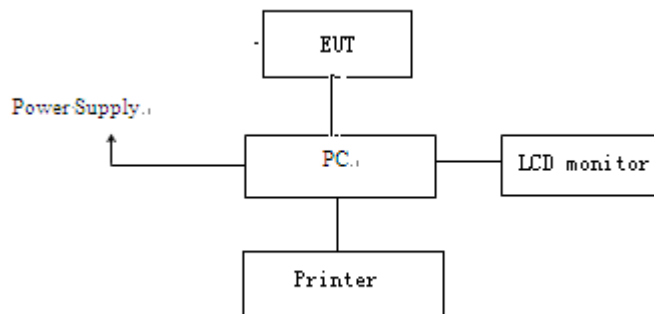
### 3.1.EUT Description

### Table 2 Specification of the Equipment under Test

Product Type:	Mobile Phone
Hardware Version:	Ultra Latitude_MB_P3
Software Version :	Ultra Latitude_0204_V5452
FCC-ID:	2AFWFHY1-5237
Frequency:	GSM850/PCS1900MHz/WCDMA850MHz/WCDMA1900MHz/ LTE Bnad 4/LTE Band 17 Wifi:2412MHz-2462MHz; Bluetooth: 2402MHz-2480MHz
Type(s) of Modulation :	GSM850/PCS1900MHz :GMSK,8PSK WCDMA850MHz//WCDMA1900MHz:QPSK LTE Bnad 4/LTE Band 17:QPSK,16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11g: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth: GFSK, pi/4DQPSK, 8DPSK
Antenna Type:	BT:PIFA Antenna 0.6dBi WiFi:PIFA Antenna 0.6dBi GPS:PIFA Antenna 0.6dBi 2G/3G/4G: Fixed Antenna      704MHz~716MHz: 0.4dBi 824MHz~849MHz: 0.4dBi 1710MHz~1755MHz: 0.65dBi 1850MHZ~1910MHz: 0.5dBi
Operating voltage:	Internal battery, 120V AC Adapter; 3.5V (Low)/3.7V (Nominal)/ 4.2V (Max)

Remark: /

### 3.2. Block Diagram of EUT Configuration



Test mode 1

### 3.3. Operating Condition of EUT

Test mode 1: data transmitter with PC by USB port

Prescan for other test mode: Playback and OTG mode was carried out. The test mode mentioned above is identified as worst case for this EUT and the test results for this mode is recored in this report.

The Radiated emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission (X plane).

### 3.4. Support Equipment List

Name	Model No	S/N	Manufacturer	FCC
Computer	9439	L3BDF2K	Lenovo	DOC
Keyboard (USB)	SK-8825 (L)	02553778	Lenovo	DOC
Mouse (USB)	MO28UOL	4418011108	Lenovo	DOC
Monitor	9227-AE1	V1TDB38	Lenovo	DOC
Printer	BJC-265SP	EVX81604	CANON	DOC
Adaptor for Printer	AD-300	---	CANON	DOC
Earphone	DDC-0001	---	Gionee Communication Equipment Co.,Ltd	---

### 3.5. Test Conditions

Date of test: Aug 20,2015-Sep 02, 2015

Date of EUT Receive: Aug 20,2015

Temperature: 22~25 °C

Relative Humidity: 42~49%

### 3.6. Modifications

No modification was made.

## 4. TEST EQUIPMENT USED

### 4.1. Test Equipment Used to Measure Conducted Disturbance

Table 3 Conducted Disturbance Test Equipment

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
SB3319	EMI Test Receiver	R&S	ESCS30	Dec.20,2014	1 Year
SB4357	AMN	R&S	ENV216	Oct.14,2014	1 Year
SB3321	AMN	R&S	ESH2-Z5	Jan.19,2015	1 Year
---	Conducted Emissions Cable set	HUBER+SUHNER	FAC X3/AP1	Dec.20,2014	1 Year

### 4.2. Test Equipment Used to Measure Radiated Disturbance

Table 4 Radiated Disturbance Test Equipment

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
SB3436	EMI Test Receiver	Rohde & Schwarz	ESI26	Dec.29,2014	1 Year
SB5472/02	Bilog Antenna	SCHWARZBECK	VULB9163	Jan.18,2015	1 Year
SB9422/16	Horn Antenna	Rohde & Schwarz	HF907	May.19.2015	1Year
----	Radiated Emissions Cable set	HUBER+SUHNER	---	Jan.19, 2015	1 Year
---	Radiated Emissions Cable set	HUBER+SUHNER	---	Jan.19, 2015	1 Year
SB8501/17	Preamplifier	Rohde & Schwarz	SCU-18	Mar.27, 2015	1 Year
SB8501/16	Preamplifier	Rohde & Schwarz	SCU-26	Mar.27, 2015	1 Year



## 5. CONDUCTED DISTURBANCE TEST

### 5.1. Test Standard and Limit

#### 5.1.1. Test Standard

FCC Part 15: Section 15.107

#### 5.1.2. Test Limit

Table 5 Conducted Disturbance Test Limit (Class B)

Frequency	Power Port limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15MHz ~ 0.5MHz	66~56*	56~46*
0.5MHz ~ 5 MHz	56	46
5 MHz ~ 30MHz	60	50

\* Decreasing linearly with logarithm of the frequency

### 5.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions form both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

### 5.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

### 5.4. Test Data

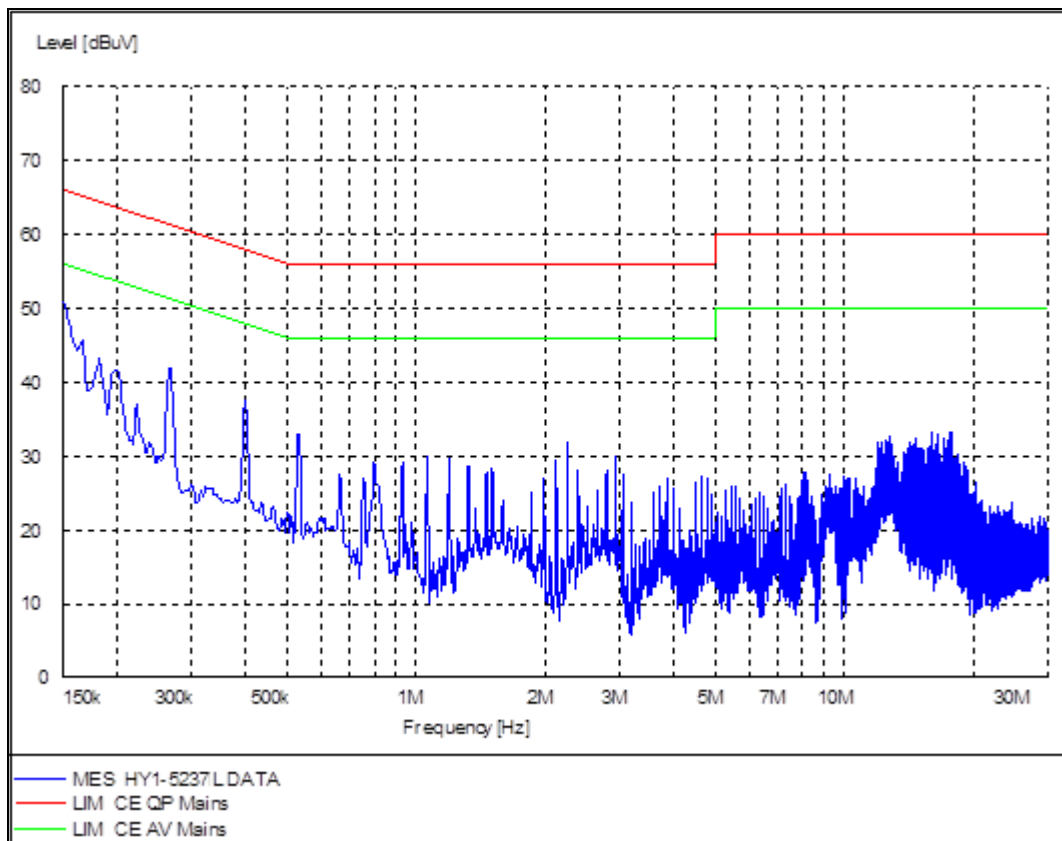
The emissions don't show in following result tables are more than 20dB below the limits, the test curves are shown in the next page.

**Table 6 Conducted Disturbance Test Data at mains Port**

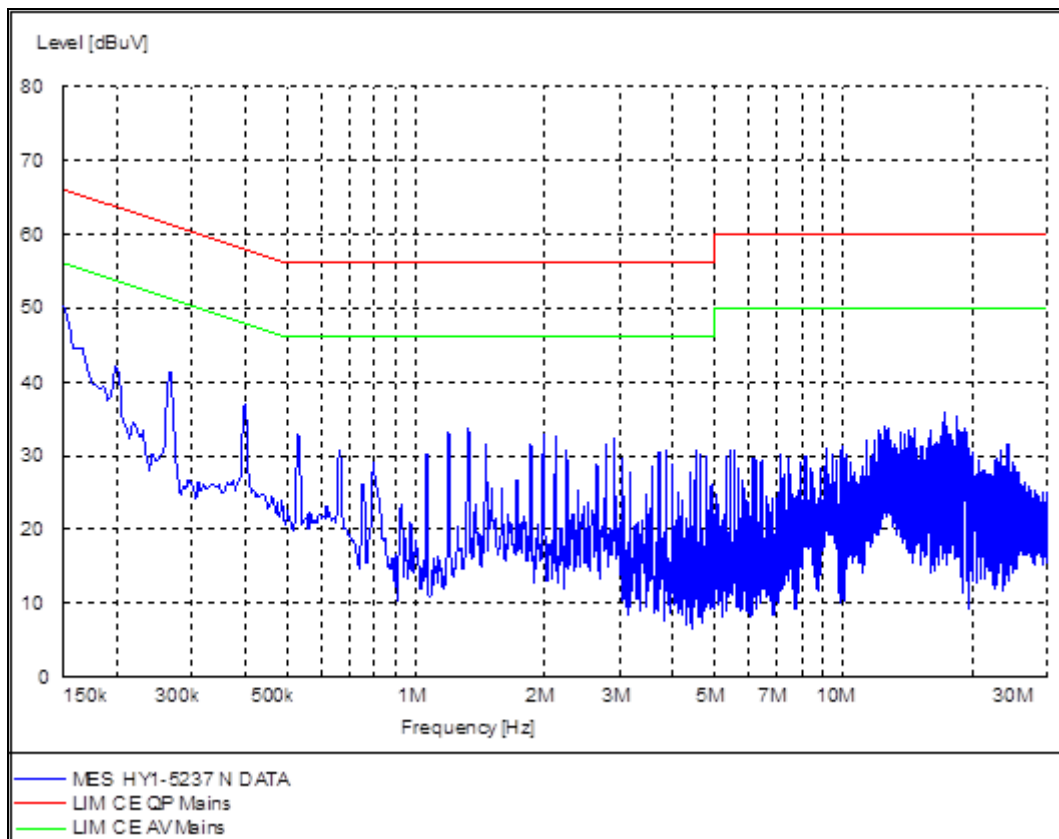
Model No.: HY1-5237								
Test mode: data transmitter with PC by USB port								
	Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
			Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V)	Limits (dB $\mu$ V)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V)	Limits (dB $\mu$ V)
Line	0.15	9.7	29.2	38.9	66	16.1	25.8	56
	0.166	9.7	24.9	34.6	65.2	18.5	28.2	55.2
	0.266	9.7	30.5	40.2	61.2	30.2	39.9	51.2
	0.398	9.7	26.4	36.1	57.9	26.1	35.8	47.9
	0.53	9.8	21.7	31.5	56	21.4	31.2	46
	2.258	9.9	20.4	30.3	56	18.2	28.1	46
Neutral	0.15	9.7	29.1	38.8	66	15.4	25.1	56
	0.198	9.7	29.4	39.1	63.7	25.1	34.8	53.7
	0.266	9.7	29.9	39.6	61.2	29.4	39.1	51.2
	0.398	9.7	25.1	34.8	57.9	24.4	34.1	47.9
	0.662	9.8	19.1	28.9	56	18.1	27.9	46
	1.326	9.8	22.3	32.1	56	22.5	32.3	46

REMARKS: 1. Emission level(dBuV)=Read Value(dBuV) + Correction Factor(dB)  
2. Correction Factor(dB) =LISN Factor (dB) + Cable Factor (dB)+Limiter Factor(dB)  
3. The other emission levels were are more than 20dB below the limits.

EUT: HY1-5237  
Manufacturer:  
Operating Condition: Data transmitter with PC by USB port  
Test Site:  
Operator:  
Test Specification: L  
Comment: AC 120V/60Hz



EUT: HY1-5237  
Manufacturer:  
Operating Condition: Data transmitter with PC by USB port  
Test Site:  
Operator:  
Test Specification: N  
Comment: AC 120V/60Hz



## 6. RADIATION DISTURBANCE TEST

### 6.1. Test Standard and Limit

#### 6.1.1. Test Standard

FCC Part 15: Section 15.109

#### 6.1.2. Test Limit

Table 7 Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Table 8 Radiation Disturbance Test Limit for FCC (Class B)(Above 1G)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	PEAK	AVERAGE
Above 1000	74	54

\* The lower limit shall apply at the transition frequency.

\* The test distance is 3m.

### 6.2. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set **3 meters** away from the receiving antenna, which is mounted on an antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. Set RBW=100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Detector function = peak; Set RBW = 1 MHz, VBW= 3MHz for  $f > 1$  GHz for peak measurement.

### 6.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

### 6.4. Test Data

The emissions don't show in following result tables are more than 20dB below the limits, the test curves are shown in the next page.

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

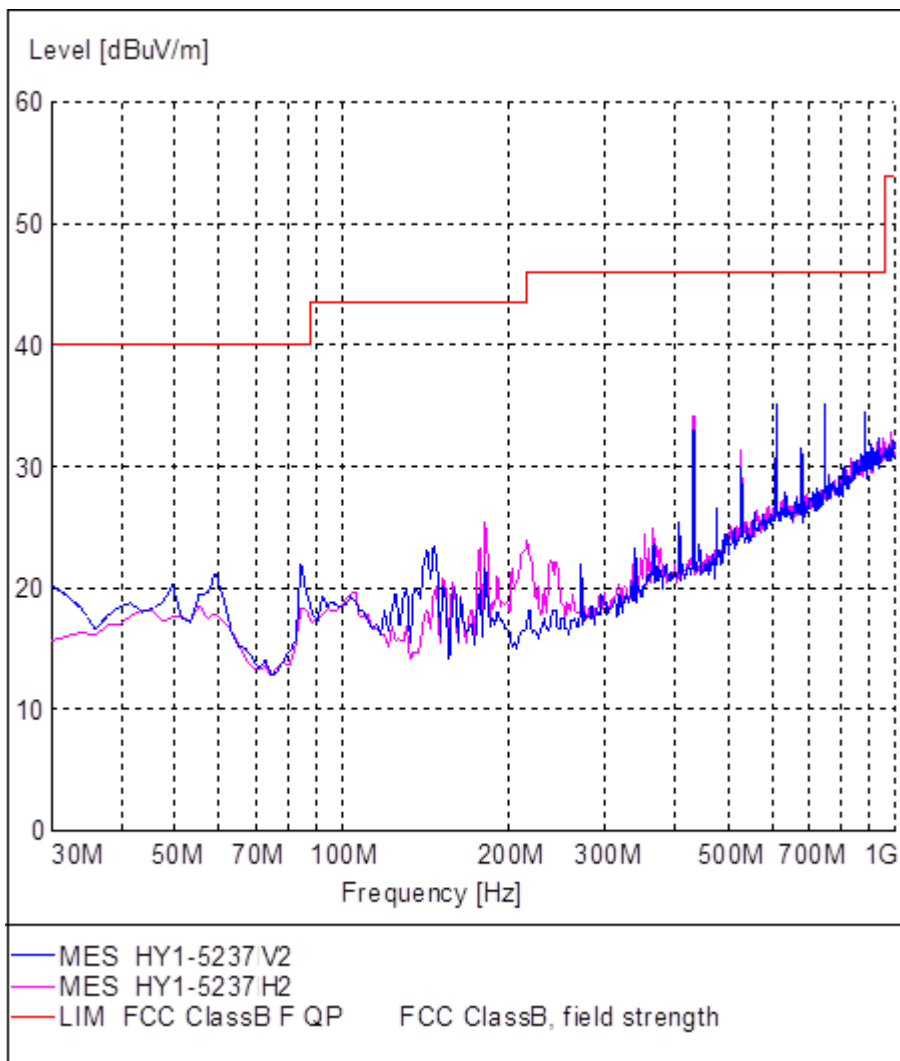
Table 9 Radiated Disturbance Test Data

Frequency MHz	Cable Loss +pre amp(dB)	Antenna Factor (dB)	Readings (dBμV/m)	Level (dBμV/m)	Polarity (H/V)	Turntable Angle(deg)	Antenna Height (m)	Limits (dBμV/m)	Margin (dB)
177.735	1.6	9.0	12.7	23.3	H	46	1.0	43.5	20.2
181.623	1.6	9.7	13.2	24.5	H	313	1.0	43.5	19.0
432.384	2.5	15.5	16.2	34.2	H	48	1.0	46.0	11.8
527.635	2.9	16.6	11.8	31.3	H	57	1.0	46.0	14.7
609.278	3.1	18.5	10.5	32.1	H	341	1.0	46.0	13.9
745.350	3.5	18.8	7.5	29.8	H	299	1.0	46.0	16.2
146.633	1.4	8.2	10.9	20.5	V	343	1.0	43.5	23.0
432.384	2.5	15.5	15.1	33.1	V	291	1.0	46	12.9
609.278	3.1	18.5	13.6	35.2	V	22	1.0	46	10.8
677.314	3.2	18.5	9.8	31.5	V	33	1.0	46	14.5
745.350	3.5	18.8	12.8	35.1	V	340	1.0	46	10.9
881.422	3.8	20.1	10.5	34.4	V	71	1.0	46	11.6
PK									
2402.800	-40.3	28.6	51.1	39.4	V	345	1.0	74	34.6
3084.160	-39.2	30.4	49.9	41.1	V	17	1.0	74	32.9
3645.111	-38.9	32.0	49.5	42.6	V	243	1.0	74	31.4
4527.054	-39.3	33.7	49.0	43.4	V	46	1.0	74	30.6
4797.595	-39.5	33.4	52.9	46.8	V	330	1.0	74	27.2
5478.957	-38.3	34.3	49.3	45.3	V	16	1.0	74	28.7
2561.811	-39.9	28.6	52.2	40.9	H	56	1.0	74	33.1
2958.423	-39.3	29.4	51.3	41.4	H	98	1.0	74	32.6
3456.112	-38.8	31.5	49.7	42.4	H	165	1.0	74	31.6
4015.780	-39.3	32.9	50.0	43.6	H	348	1.0	74	30.4
4711.440	-39.3	33.4	50.7	44.8	H	311	1.0	74	29.2
5516.911	-38.4	34.3	49.8	45.7	H	270	1.0	74	28.3
AV									
2402.800	-40.3	28.6	33.2	21.5	V	345	1.0	54	32.5
3084.160	-39.2	30.4	31.3	22.5	V	17	1.0	54	31.5
3645.111	-38.9	32.0	31.2	24.3	V	243	1.0	54	29.7
4527.054	-39.3	33.7	32.1	26.5	V	46	1.0	54	27.5
4797.595	-39.5	33.4	33.8	27.7	V	330	1.0	54	26.3
5478.957	-38.3	34.3	29.6	25.6	V	16	1.0	54	28.4
2561.811	-39.9	28.6	34.4	23.1	H	56	1.0	54	30.9
2958.423	-39.3	29.4	33.9	24.0	H	98	1.0	54	30.0
3456.112	-38.8	31.5	31.1	23.8	H	165	1.0	54	30.2
4015.780	-39.3	32.9	31.1	24.7	H	348	1.0	54	29.3
4711.440	-39.3	33.4	30.9	25.0	H	311	1.0	54	29.0
5516.911	-38.4	34.3	30.4	26.3	H	270	1.0	54	27.7

1. Emission level(dBuV)=Read Value(dBuV/m) + Antenna Factor(dB)+ Cable Loss +pre amp(dB)

## ***Radiated Emission***

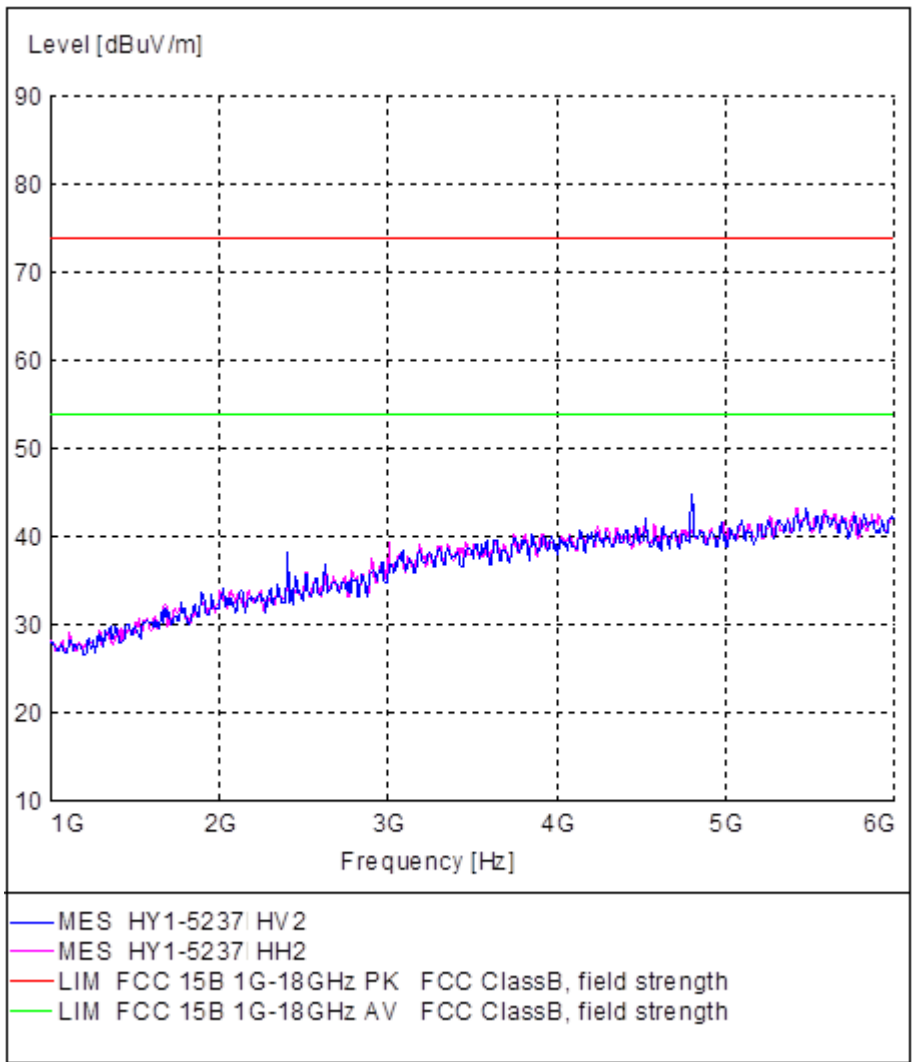
EUT Name: HY1-5237  
Operating Condition: Data transmitter with PC by USB Port  
Test site: SMQ NETC EMC Lab.3m Chamber  
Antenna Position: Vertical & Horizontal  
Comment: AC 120V60Hz





***Radiated Emission***

EUT Name: HY1-5237  
Operating Condition: Data transmitter with PC by USB Port  
Test site: SMQ NETC EMC Lab.3m Chamber  
Antenna Position: Vertical & Horizontal  
Comment: AC 120V60Hz



# Radiated Emission

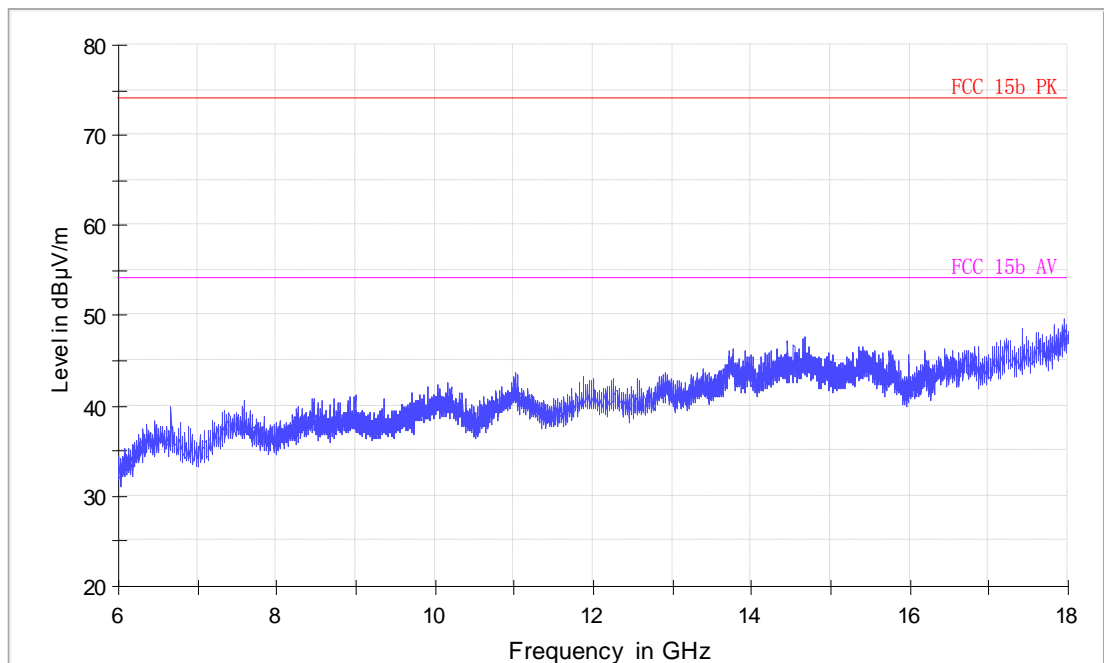
## EUT Information

EUT Model name: HY1-5237  
Operator Mode: Data transmitter with PC by USB port  
Comment:

## Common Information

Test Description: SMQ NETC EMC Lab.3m Chamber  
Customer  
Antenna Position: Horizontal  
Operator Name:  
Comment1: AC 120V/60Hz  
Comment2:

Copy (2) of FCC Electric Field Strength 1-18GHz operate on 2.4GHz



# Radiated Emission

## EUT Information

EUT Model name: HY1-5237  
Operator Mode: Data transmitter with PC by USB port  
Comment:

## Common Information

Test Description: SMQ NETC EMC Lab.3m Chamber  
Customer:  
Antenna Position: Vertical  
Operator Name:  
Comment1: AC 120V/60Hz  
Comment2:

Copy (2) of FCC Electric Field Strength 1-18GHz operate on 2.4GHz

