



FCC ID: QIS-IPP7920  
Report No.: T180810E02-F

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Rev. 01

## FCC 47 CFR PART 15 SUBPART B & ICES-003 Issue 6 TEST REPORT

For

IP Phone  
MODEL:  
HUAWEI IP Phone 7920

Issued for

Huawei Technologies Co., Ltd.  
Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

Issued By:

**Compliance Certification Services Inc.**

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**Issued Date: September 21, 2018**

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### Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		September 21, 2018		Initial Issue	ALL	Allison Chen
01		October 31, 2018		1. Added test result summary in section 1.1. 2. Revised peripherals devices in section 4.1. 3. Revised test instruments in section 6.2. 4. Added remark “*” meaning. 5. Added “--- End of Test Report ---”.	P.4, 7, 12, 15-16 34	Allison Chen



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# 1 TEST RESULT CERTIFICATION

**Product:** IP Phone

**Brand:** HUAWEI

**Model:** HUAWEI IP Phone 7920

**Applicant:** Huawei Technologies Co., Ltd.  
Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

**Manufacturer:** Huawei Technologies Co., Ltd.  
Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

**Tested:** August 8 ~ 9, 2018

**Test Voltage:** 120Vac, 60Hz

## 1.1. TEST RESULT SUMMARY

TEST SPECIFICATIONS AND SUMMARY RESULTS			
Test No.	EMISSIONS	Result	Comments
1	<b>Conducted Emissions (Power Port)</b> FCC 47 CFR Part 15 Subpart B, ICES-003 Issue 6-2016 ANSI C63.4-2014	P	Class B, Report # T180810E01-F,
2	<b>Radiated Emissions</b> FCC 47 CFR Part 15 Subpart B, ICES-003 Issue 6-2016 ANSI C63.4-2014	P	Class B, Report # T180810E01-F,
P=Passed F=Failed N/A=Not Applicable			

**Note:** 1. The statements of test result on the above are decided by the request of test standard only; the measurement uncertainties are not factored into this compliance determination.  
2. The information of measurement uncertainty is available upon the customer's request.

Deviation from Applicable Standard
None

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

**Approved by:**

**Tested by:**



Hex Chiang  
Supervisor



Wiz Chang  
Engineer



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## 2 EUT DESCRIPTION

<b>Product</b>	IP Phone
<b>Brand Name</b>	HUAWEI
<b>Model</b>	HUAWEI IP Phone 7920
<b>Applicant</b>	Huawei Technologies Co., Ltd.
<b>Housing material</b>	Plastic
<b>Identify Number</b>	T180810E02
<b>Received Date</b>	August 10, 2018
<b>EUT Power Rating</b>	Power from Adapter and PoE (DC 12V)
<b>Power Adapter (optional)</b>	Input: +12 Vdc, 1 A
<b>AC Power Cord Type</b>	N/A
<b>DC Power Cable Type</b>	N/A

### I/O PORT

I/O PORT TYPES	Q'TY	TESTED WITH
1 LAN Port	2	2
2 RJ9 Port	2	2
3 DC Jack Port	1	1

### 3 TEST METHODOLOGY

#### 3.1. DECISION OF FINAL TEST MODE

1. The following test modes were scanned during the preliminary test:

Pre-Test Mode
<b>Mode 1:</b> EUT PoE Handle, hands-free SPK / MIC, RJ9 headphones (not standard)
<b>Mode 2:</b> EUT Adapter Handle, hands-free SPK / MIC, RJ9 headphones (not standard)
<b>Mode 3:</b> EUT PoE Hands-free SPK / MIC
<b>Mode 4:</b> EUT PoE Handle
<b>Mode 5:</b> EUT Adapter Hands-free SPK / MIC
<b>Mode 6:</b> EUT Adapter Handle

2. After the preliminary scan, the following test modes were found to produce the highest emission level.

Final Test Mode		
Emission	Conducted Emission	<b>Mode 2</b>
	Radiated Emission	<b>Mode 1, Mode 2</b>

Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.

#### 3.2. EUT SYSTEM OPERATION

1. Setup the EUT and simulators as shown on 4.2.
2. Turn on the power of all equipment.
3. Setup the condition for test mode, and begin the test.
4. The EUT transfers data to another Notebook PC via LAN Port.

**Note:** Test program is self-repeating throughout the test.

## 4 SETUP OF EQUIPMENT UNDER TEST

### 4.1. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

#### Peripherals Devices:

##### AC Mode:

No.	Equipment	Trade Name	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC (Remote)	DELL	INSPIRON 640m	CN-0MG532-70166-75 G-03AP	N/A	Non-Shielded, 1.8m
2	Adapter	HUAWEI	HW120100C4W	N/A	N/A	Non-Shielded, 1.4m

No.	Cable Name	Unit	Shielded	Length	With Core
(A)	LAN Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	20 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(B)	RJ9 Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	0.7 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(C)	RJ9 Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	0.7 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(D)	LAN Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	1.5 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(E)	DC Jack Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	1.4 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non

##### PoE Mode:

No.	Equipment	Trade Name	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC (Remote)	DELL	INSPIRON 640m	CN-0MG532-70166-75 G-03AP	N/A	Non-Shielded, 1.8m

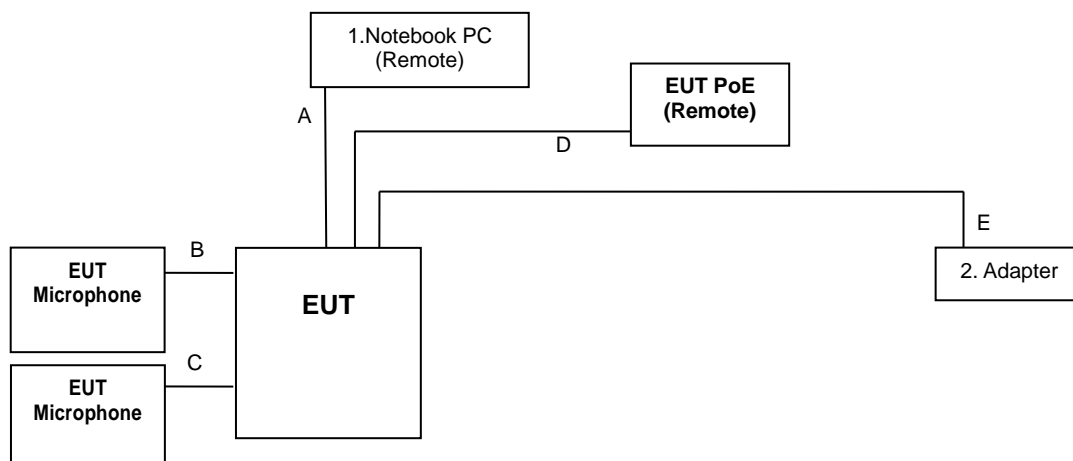
No.	Cable Name	Unit	Shielded	Length	With Core
(A)	LAN Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	20 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(B)	RJ9 Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	0.7 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(C)	RJ9 Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	0.7 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non
(D)	LAN Cable	1	<input type="checkbox"/> Shielded, <input checked="" type="checkbox"/> Non	1.5 m	<input type="checkbox"/> With Corex_____, <input checked="" type="checkbox"/> Non

#### Note:

- 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

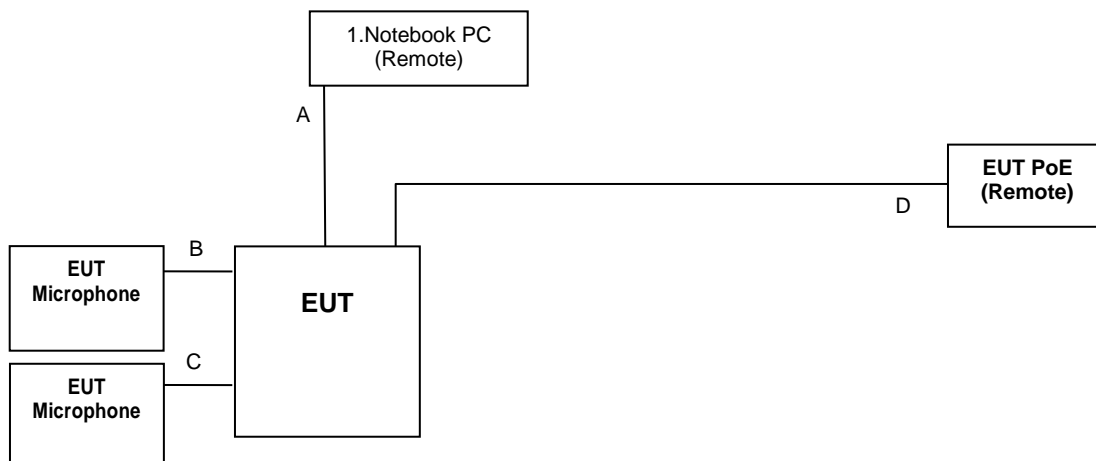
## 4.2. CONFIGURATION OF SYSTEM UNDER TEST

### AC Mode:





### PoE Mode:



## 5 FACILITIES AND ACCREDITATIONS

### 5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at:

- ☐ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
- ☒ No.139, Wugong Rd., Wugu Dist., New Taipei City 24886, Taiwan (R.O.C.)
- ☐ No.163-1, Jhongsheng Rd., Sindian City, Taipei County 23151, Taiwan.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-1-5.

### 5.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>Taiwan</b>	TAF (TAF 1309)
<b>USA</b>	A2LA (0824.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

<b>Canada</b>	Industry Canada (10M Semi Anechoic Chamber: IC 2324G-1 / IC 2324G-2 / 2324J-1 / 2324J-2 to perform)
<b>Japan</b>	VCCI Radiated emissions: 30 MHz -1000 MHz: R-4343 / Above 1GHz: G-945 Conducted Emission B: C-3700 / T-1839
<b>USA</b>	FCC (10M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.ccsrf.com>

### 5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Conducted emissions #B	0.15MHz ~ 30MHz	$\pm 2.96$ dB
Radiated emissions (10M Chamber)	30MHz ~ 200MHz	$\pm 4.45$ dB
	200MHz ~ 1000MHz	$\pm 4.80$ dB
	1GHz ~ 6GHz	$\pm 5.25$ dB
	6GHz ~ 18GHz	$\pm 5.25$ dB
	18GHz ~ 26GHz	$\pm 3.93$ dB
	26GHz ~ 40GHz	$\pm 3.97$ dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

Consistent with industry standard (e.g. CISPR 22: 2008, clause 11, Measurement Uncertainty) determining compliance with the limits shall be based on the results of the compliance measurement. Consequently the measured emissions being less than the maximum allowed emission result in this being a compliant test or passing test.

The listed uncertainties of above table are the worst case values for the entire range of measurement. Please note that the uncertainty values are only provided for informational purpose and aren't used in determining the PASS/FAIL results.

## 6 CONDUCTED EMISSION MEASUREMENT

### 6.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

**NOTE:**

- (1) The lower limit shall apply at the transition frequencies.
- (2) The limit decreases in line with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
- (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

### 6.2. TEST INSTRUMENTS

Conducted Emission Room #B					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Capacitive Voltage Probe	FCC	F-CVP-1	100185	02/12/2018	02/11/2019
Coaxial Cable	EMCI	CFD300-NL	CE2	05/02/2018	05/01/2019
EMI Test Receiver	R&S	ESCI	101073	07/17/2018	07/16/2019
LISN	R&S	ENV216	101054	05/02/2018	05/01/2019
LISN	Schwarzbeck	NSLK8128	5012	04/23/2018	04/22/2019
Software	CCS-3A1-CE				

### 6.3. TEST PROCEDURES (please refer to measurement standard or CCS SOP PA-031)

#### Procedure of Preliminary Test

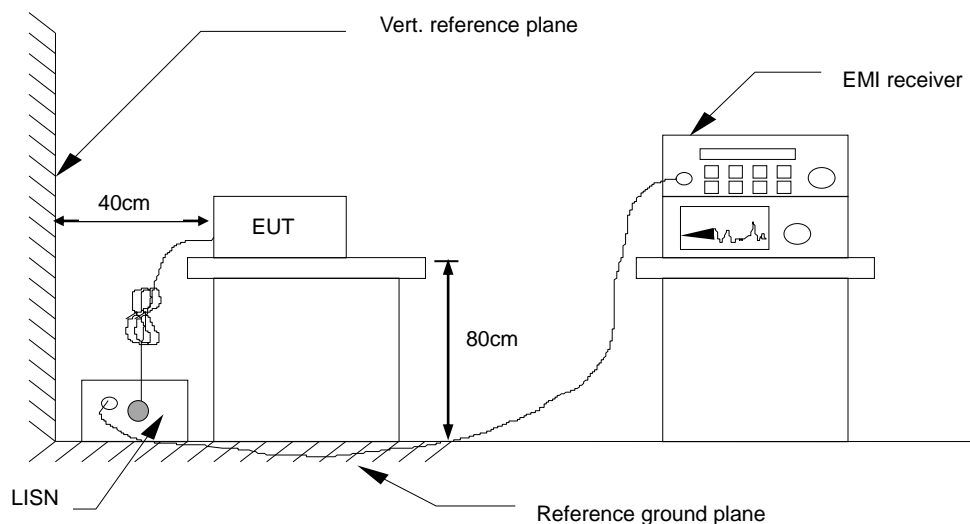
- The EUT and support equipment, if needed, were set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 12 mm non-conductive covering to insulate the EUT from the ground plane.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test equipment EUT installed by AC 120VAC/60Hz main power, through a Line Impedance Stabilization Network (LISN), which was supplied power source and was grounded to the ground plane.
- All support equipment power by from a second LISN.
- The test program of the EUT was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.1 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.1 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

#### Procedure of Final Test

- EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- The test data of the worst-case condition(s) was recorded.

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## 6.4. TEST SETUP



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

## 6.5. DATA SAMPLE:

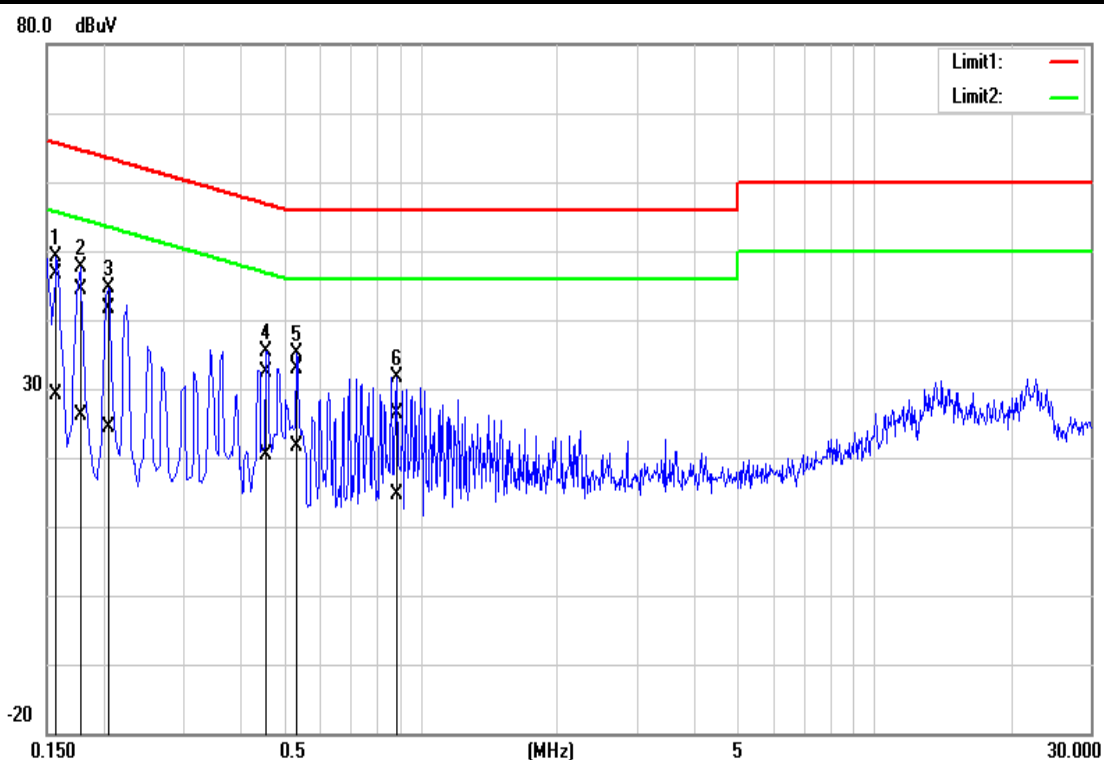
Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
x.xx	43.95	33.00	10.00	53.95	43.00	56.00	46.00	-2.05	-3.00	Pass

Frequency (MHz) = Emission frequency in MHz  
 Reading (dBuV) = Uncorrected Analyzer/Receiver reading + Insertion loss of LISN, if it > 0.5 dB  
 Correction Factor (dB) = LISN Factor + Cable Loss  
 Result (dBuV) = Raw reading converted to dBuV and CF added  
 Limit (dBuV) = Limit stated in standard  
 Margin (dB) = Result (dBuV) – Limit (dBuV)

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## 6.6. TEST RESULTS

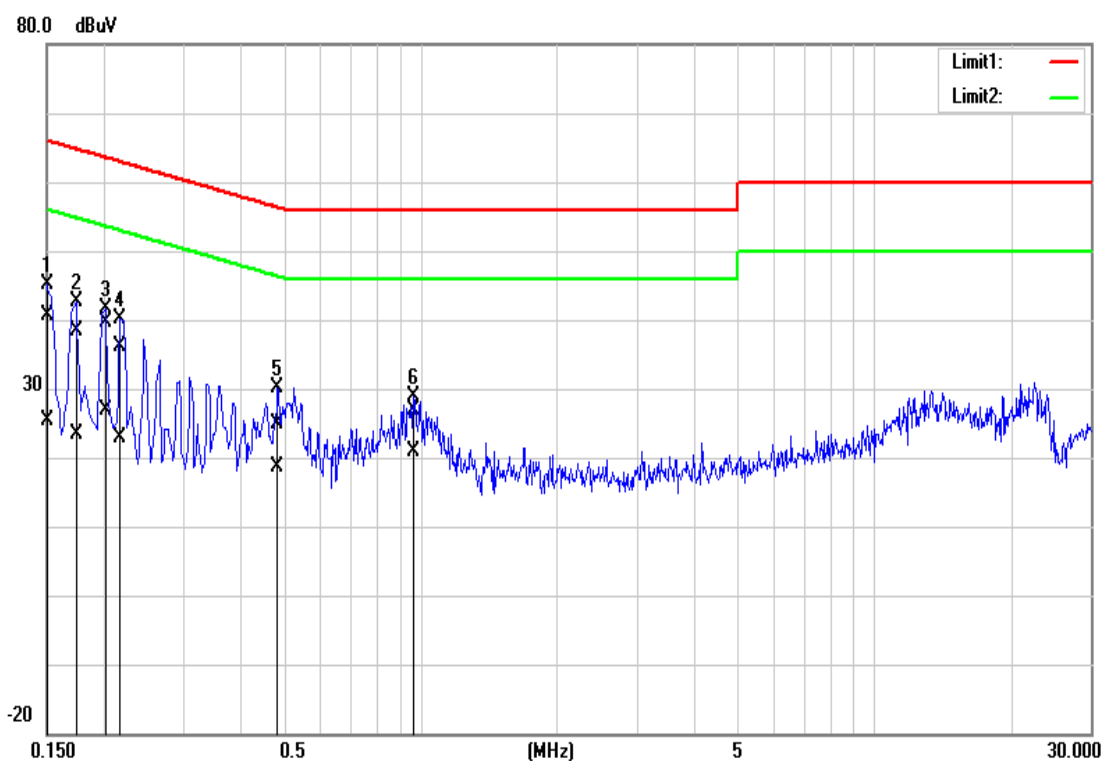
Model No.	HUAWEI IP PHONE 7920	Line:	L1
Environmental Conditions	24°C, 50% RH	Test Date	2018/08/09
Tested by	Wiz Chang	Test Mode	Mode 2
6dB Bandwidth	9 kHz		



NO.	Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
1*	0.1580	36.78	19.46	9.76	46.54	29.22	65.56	55.57	-19.02	-26.35	Pass
2	0.1780	34.54	16.33	9.76	44.30	26.09	64.57	54.58	-20.27	-28.49	Pass
3	0.2060	31.97	14.59	9.76	41.73	24.35	63.36	53.37	-21.63	-29.02	Pass
4	0.4580	22.62	10.58	9.76	32.38	20.34	56.73	46.73	-24.35	-26.39	Pass
5	0.5340	23.05	11.82	9.76	32.81	21.58	56.00	46.00	-23.19	-24.42	Pass
6	0.8860	16.64	4.88	9.78	26.42	14.66	56.00	46.00	-29.58	-31.34	Pass

**REMARKS:** 1. L1 = Line One (Live Line)  
2. "\*" is the worse point in this data.

<b>Model No.</b>	HUAWEI IP PHONE 7920	<b>Line:</b>	L2
<b>Environmental Conditions</b>	24°C, 50% RH	<b>Test Date</b>	2018/08/09
<b>Tested by</b>	Wiz Chang	<b>Test Mode</b>	Mode 2
<b>6dB Bandwidth</b>	9 kHz		



NO.	Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
1	0.1500	30.78	15.60	9.73	40.51	25.33	65.99	56.00	-25.48	-30.67	Pass
2	0.1740	28.63	13.55	9.73	38.36	23.28	64.76	54.77	-26.40	-31.49	Pass
3*	0.2020	29.87	17.08	9.73	39.60	26.81	63.52	53.53	-23.92	-26.72	Pass
4	0.2180	26.51	13.18	9.73	36.24	22.91	62.89	52.89	-26.65	-29.98	Pass
5	0.4860	15.19	8.89	9.74	24.93	18.63	56.24	46.24	-31.31	-27.61	Pass
6	0.9660	17.14	11.22	9.75	26.89	20.97	56.00	46.00	-29.11	-25.03	Pass

**REMARKS:** 1. L2 = Line Two (Neutral Line)  
2. "\*" is the worse point in this data.



## 7 RADIATED EMISSION MEASUREMENT

### 7.1. LIMITS OF RADIATED EMISSION MEASUREMENT

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.75	30
1.75-108	1000
108-500	2000
500-1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40GHz, whichever is lower

#### Below 1GHz (for digital device)

FREQUENCY (MHz)	dBuV/m (At 10m)	
	Class A	Class B
30 ~ 230	40	30
230 ~ 1000	47	37

#### Limit tables for digital device:

##### Class A Radiated Emission limit at 10m (for others)

Frequency (MHz)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	90	39
88 - 216	150	43.5
216 – 960	210	46.4
Above 960	300	49.5

##### Class B Radiated Emission limit at 3m (for others)

Frequency (MHz)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	100	40
88 - 216	150	43.5
216 – 960	200	46
Above 960	500	54

### Above 1GHz (for all device)

Frequency (MHz)	Class A (dBuV/m) (At 10m)		Class B (dBuV/m) (At 3m)	
	Average	Peak	Average	Peak
Above 1000	49.5	69.5	54	74

**NOTE:** (1) The lower limit shall apply at the transition frequencies.  
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).  
(3) The measurement above 1GHz is at close-in distances 3m, and determine the limit **L<sub>2</sub>** corresponding to the close-in distance **d<sub>2</sub>** by applying the following relation: **L<sub>2</sub> = L<sub>1</sub> (d<sub>1</sub>/d<sub>2</sub>)**, where **L<sub>1</sub>** is the specified limit in microvolts per metre (**uV/m**) at the distance **d<sub>1</sub>** (**10m**), **L<sub>2</sub>** is the new limit for distance **d<sub>2</sub>** (**3m**).  
So the new Class A limit above 1GHz at 3m is as following table:

Frequency (MHz)	Class A (dBuV/m) (At 3m)	
	Average	Peak
Above 1000	60	80

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## 7.2. TEST INSTRUMENTS

Wugu 10M Chamber					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Bilog Antenna	TESEQ	CBL 6112D	31674	03/14/2018	03/13/2019
Bilog Antenna	TESEQ	CBL 6112D	31675	03/29/2018	03/28/2019
Coaxial Cable	Huber+Suhner	SUCOFLEX 104PEA	330029	05/02/2018	05/01/2019
Coaxial Cable	Huber+Suhner	SUCOFLEX 104PEA	330028	05/02/2018	05/01/2019
Coaxial Cable	Huber+Suhner	SUCOFLEX 104PEA	329383	05/02/2018	05/01/2019
Coaxial Cable	Huber+Suhner	104PEA	33948/4PEA	05/02/2018	05/01/2019
Coaxial Cable	Huber+Suhner	104PEA	33949/4PEA	05/02/2018	05/01/2019
EMI Test Receiver	R&S	ESCI	100961	07/04/2018	07/03/2019
EMI Test Receiver	R&S	ESCI	100962	07/10/2018	07/09/2019
Horn Antenna	EMCO	3117	00055167	12/27/2017	12/26/2018
Horn Antenna	ETS LINDGREN	3116	00026370	01/04/2018	01/03/2019
Pre-Amplifier	HP	8447D	2944A07754	05/02/2018	05/01/2019
Pre-Amplifier	HP	8447D	2944A08150	05/02/2018	05/01/2019
Pre-Amplifier	EMCI	EMC051845	980040	05/02/2018	05/01/2019
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	06/21/2018	06/20/2019
Spectrum Analyzer	Agilent	E4446A	MY48250297	08/30/2018	08/29/2019
AC POWER SOURCE	APE	AFC-130	991259	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Antenna Tower	Sunol Sciences	TLT2	031010-5	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	031010-1	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	EZ-EMC (CCS-3A1RE)				

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R. = No Calibration Required.

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**7.3. TEST PROCEDURES** (please refer to measurement standard or CCS SOP PA-031)

The basic test procedure was in accordance with ANSI C63.4-2014 and ICES-003-2016.

**Frequency range 30MHz ~ 1GHz**

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position.
2. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied from one meter to four meter above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was turned to heights for 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.

**Frequency range above 1GHz**

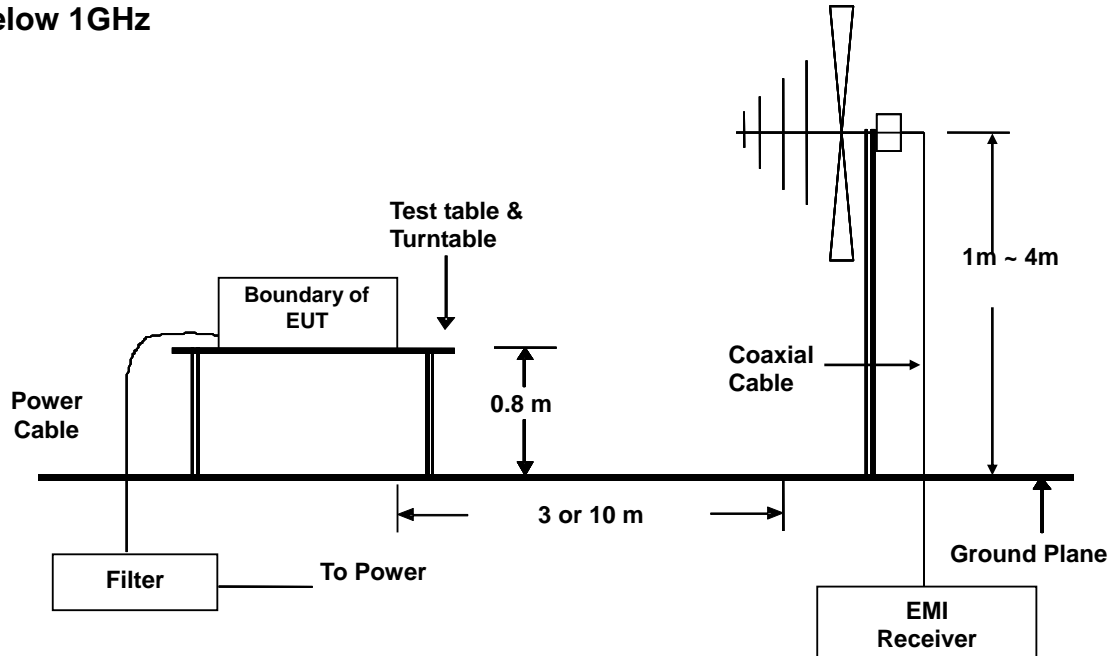
1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position.
2. The EUT was set 3 meters away from the directional antenna, which was pointed towards the source of the emission within the EUT. This could be done by either pointing the antenna at an angle towards the source of the emission, or by rotating the EUT, in both height and polarization, to maximize the measured emission.
3. The height of antenna can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3 dB beam width both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was turned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.

NOTE:

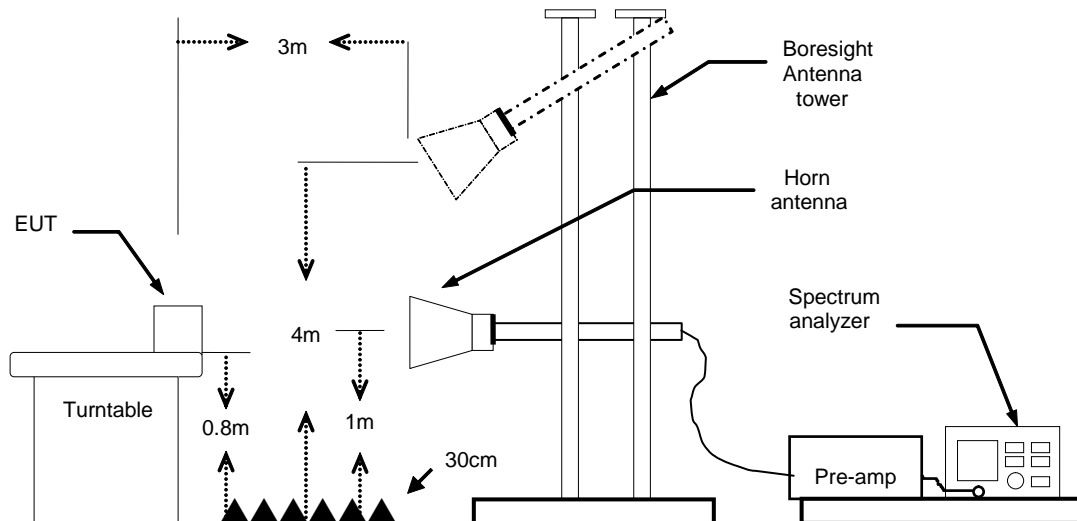
1. The resolution bandwidth is 1MHz and video bandwidth of test spectrum analyzer is 1 MHz for peak detection at above 1GHz. The resolution bandwidth is 1MHz and video bandwidth of test spectrum analyzer is 100Hz for average detection at frequency above 1 GHz.
2. For measurement of frequency above 1GHz, the EUT was set 3 meters away from the directional antenna.

## 7.4. TEST SETUP

### Below 1GHz



### Above 1GHz



- For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

## 7.5. DATA SAMPLE:

### Below 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
xx.xx	16.49	9.86	26.35	30.00	-3.65	116.00	101.00	QP

### Above 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
xx.xx	60.80	-14.59	46.21	74.00	-27.79	200	351	peak
xx.xx	52.05	-13.17	38.88	54.00	-15.12	200	135	AVG

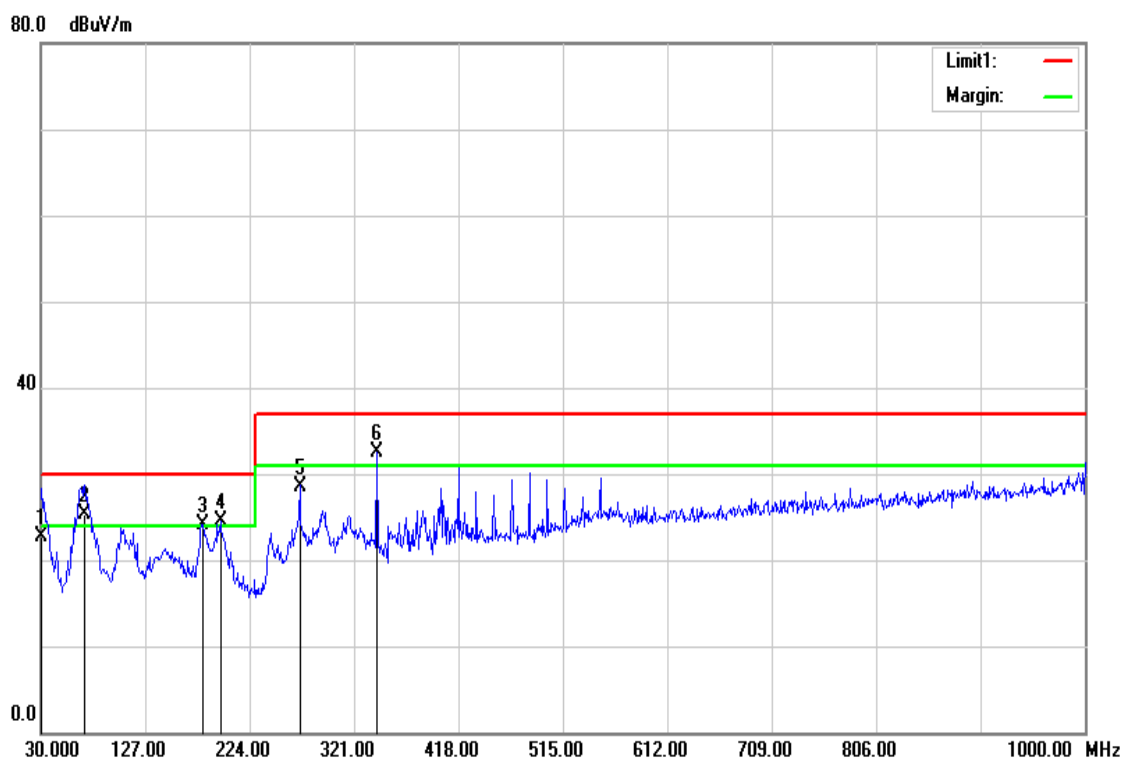
Frequency (MHz) = Emission frequency in MHz  
 Reading (dBuV) = Uncorrected Analyzer / Receiver reading  
 Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain  
 Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)  
 Limit (dBuV/m) = Limit stated in standard  
 Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)  
 Q.P. = Quasi-Peak

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## 7.6. TEST RESULTS

### Below 1000MHz

Model No.	HUAWEI IP PHONE 7920	Test Mode	Mode 1
Environmental Conditions	26°C, 60% RH	Test Date	2018/08/08
Antenna Pole	Vertical	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Wiz Chang
6dB Bandwidth	120 kHz		

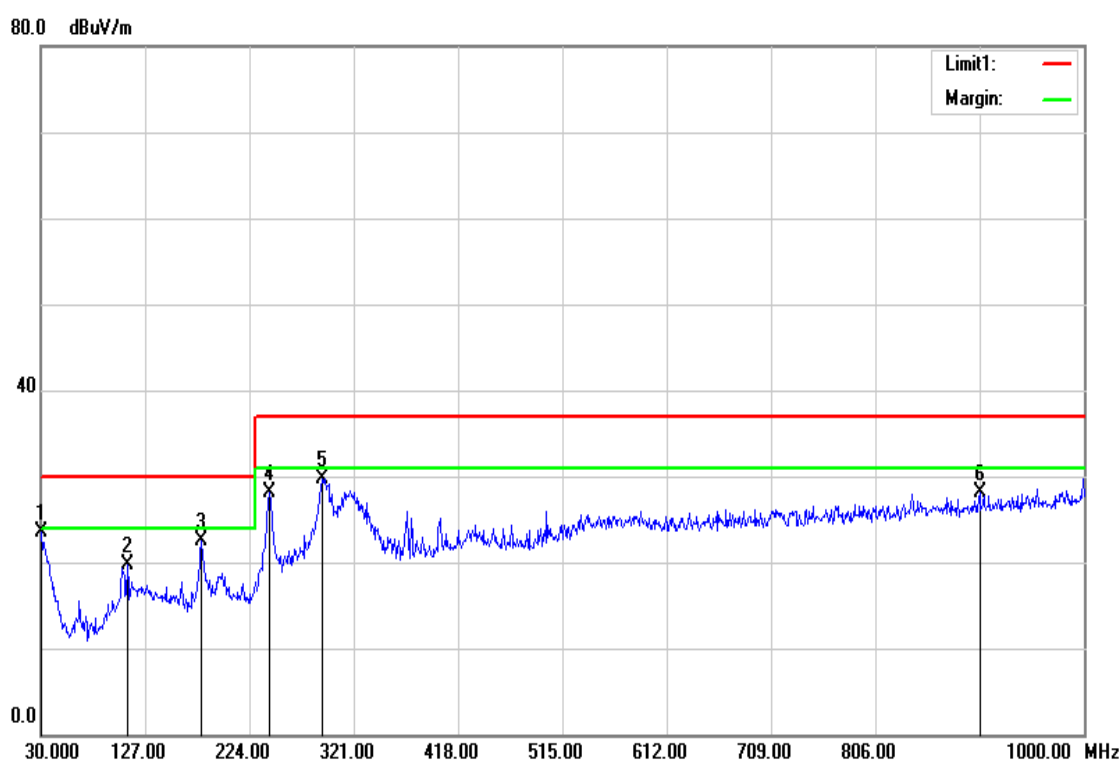


No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	30.9700	25.43	-2.80	22.63	30.00	-7.37	100	221	QP
2	70.7400	39.52	-14.22	25.30	30.00	-4.70	199	0	QP
3	180.3500	33.79	-9.74	24.05	30.00	-5.95	100	63	QP
4	196.8400	33.99	-9.43	24.56	30.00	-5.44	100	240	QP
5	270.5600	33.26	-4.66	28.60	37.00	-8.40	100	106	QP
6	342.3400	36.02	-3.43	32.59	37.00	-4.41	100	284	QP

**REMARKS:**

1. The other emission levels were very low against the limit.
2. 30MHz to 1000MHz test is Applicable CISPR 22 standard.

Model No.	HUAWEI IP PHONE 7920	Test Mode	Mode 1
Environmental Conditions	26°C, 60% RH	Test Date	2018/08/08
Antenna Pole	Horizontal	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Wiz Chang
6dB Bandwidth	120 kHz		



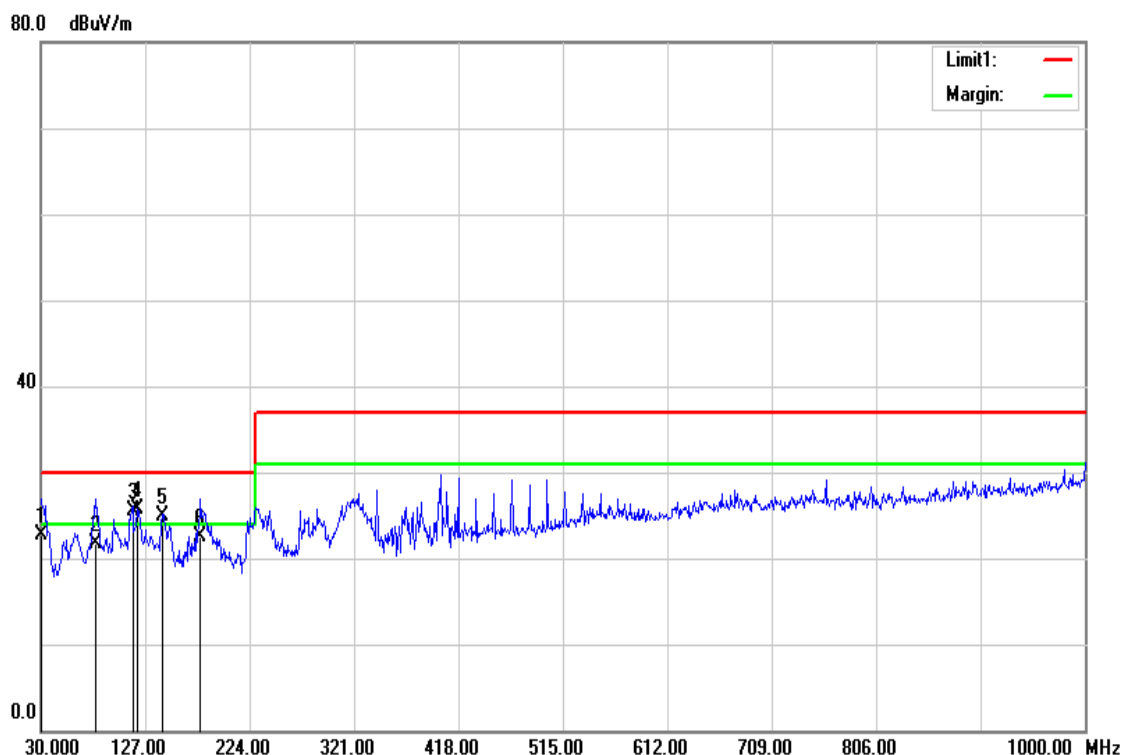
No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	30.9700	27.22	-3.69	23.53	30.00	-6.47	278	360	QP
2	110.5100	29.08	-9.42	19.66	30.00	-10.34	400	71	QP
3	179.3800	33.42	-10.94	22.48	30.00	-7.52	300	282	QP
4	242.4300	35.93	-7.84	28.09	37.00	-8.91	400	89	QP
5	291.9000	35.74	-6.06	29.68	37.00	-7.32	300	103	QP
6	903.0000	25.15	2.93	28.08	37.00	-8.92	154	0	QP

**REMARKS:**

1. The other emission levels were very low against the limit.
2. 30MHz to 1000MHz test is Applicable CISPR 22 standard.



<b>Model No.</b>	HUAWEI IP PHONE 7920	<b>Test Mode</b>	Mode 2
<b>Environmental Conditions</b>	26°C, 60% RH	<b>Test Date</b>	2018/08/08
<b>Antenna Pole</b>	Vertical	<b>Antenna Distance</b>	10m
<b>Detector Function</b>	Quasi-peak.	<b>Tested by</b>	Wiz Chang
<b>6dB Bandwidth</b>	120 kHz		

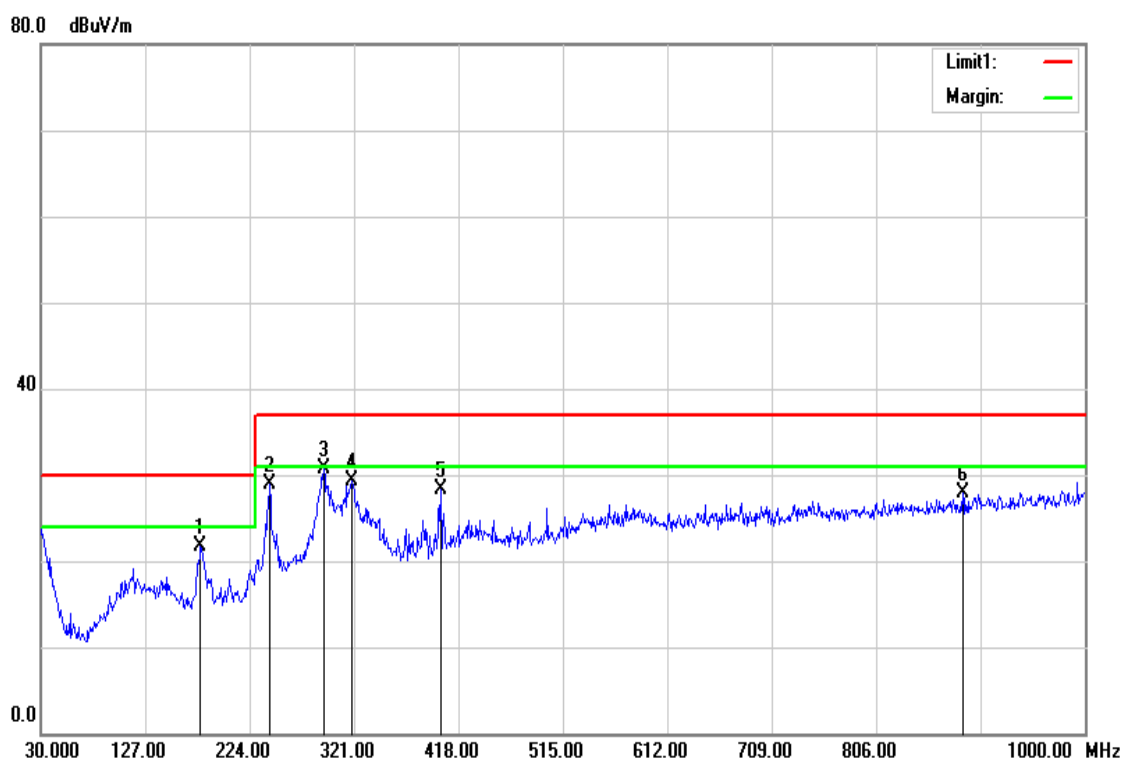


No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	30.0000	24.93	-2.30	22.63	30.00	-7.37	100	1	QP
2	80.4400	34.78	-13.08	21.70	30.00	-8.30	399	41	QP
3	115.3600	33.69	-8.14	25.55	30.00	-4.45	100	236	QP
4	119.2400	33.52	-7.82	25.70	30.00	-4.30	100	272	QP
5	142.5200	33.37	-8.37	25.00	30.00	-5.00	200	231	QP
6	178.4100	32.28	-9.68	22.60	30.00	-7.40	100	359	QP

**REMARKS:**

1. The other emission levels were very low against the limit.
2. 30MHz to 1000MHz test is Applicable CISPR 22 standard.

Model No.	HUAWEI IP PHONE 7920	Test Mode	Mode 2
Environmental Conditions	26°C, 60% RH	Test Date	2018/08/08
Antenna Pole	Horizontal	Antenna Distance	10m
Detector Function	Quasi-peak.	Tested by	Wiz Chang
6dB Bandwidth	120 kHz		



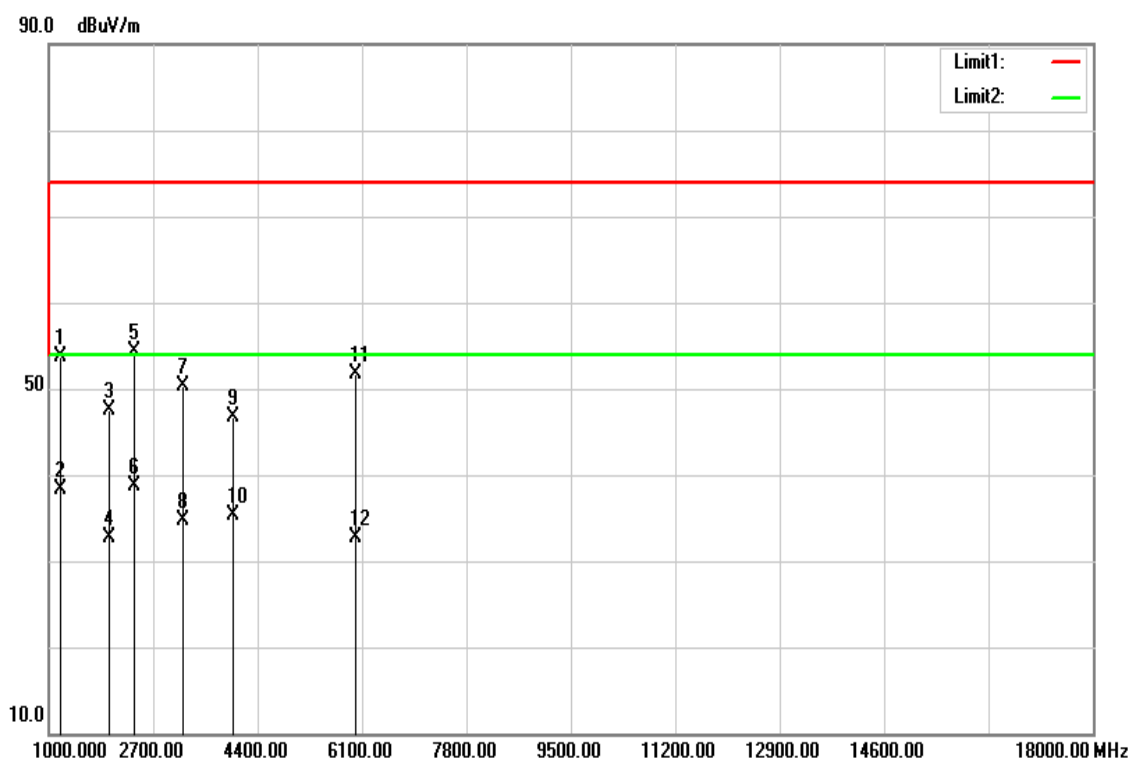
No.	Frequency (MHz)	Reading (dBuV)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	178.4100	32.66	-10.91	21.75	30.00	-8.25	399	236	QP
2	242.4300	36.71	-7.84	28.87	37.00	-8.13	399	82	QP
3	292.8700	36.73	-6.05	30.68	37.00	-6.32	300	275	QP
4	319.0600	34.76	-5.52	29.24	37.00	-7.76	300	239	QP
5	401.5100	31.92	-3.54	28.38	37.00	-8.62	200	290	QP
6	886.5100	25.08	2.73	27.81	37.00	-9.19	399	1	QP

**REMARKS:**

1. The other emission levels were very low against the limit.
2. 30MHz to 1000MHz test is Applicable CISPR 22 standard.

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Above 1000MHz

Model No.	HUAWEI IP PHONE 7920	Test Mode	Mode 1
Environmental Conditions	26°C, 60% RH	Test Date	2018/08/08
Antenna Pole	Vertical	Antenna Distance	3m
Highest frequency generated or used	800MHz	Upper frequency	4GHz
Detector Function	Peak & Average	Tested by	Wiz Chang
6dB Bandwidth	1 MHz		



No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	1195.500	72.61	-18.95	53.66	74.00	-20.34	100	250	peak
2	1195.500	57.29	-18.95	38.34	54.00	-15.66	100	250	AVG
3	1994.500	62.06	-14.46	47.60	74.00	-26.40	300	0	peak
4	1994.500	47.10	-14.46	32.64	54.00	-21.36	300	0	AVG
5	2394.000	68.48	-14.17	54.31	74.00	-19.69	200	53	peak
6	2394.000	52.80	-14.17	38.63	54.00	-15.37	200	53	AVG
7	3201.500	62.55	-12.34	50.21	74.00	-23.79	100	197	peak
8	3201.500	46.97	-12.34	34.63	54.00	-19.37	100	197	AVG



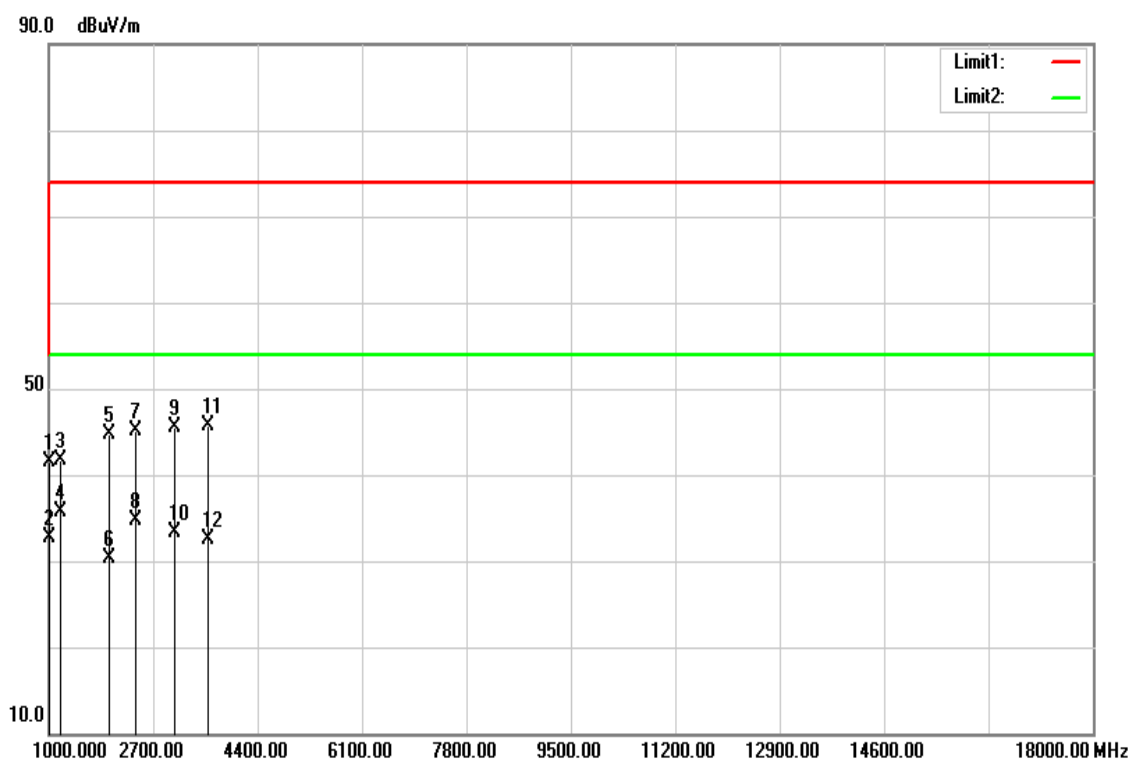
Report No.: T180810E02-F

9	4000.500	57.71	-11.05	46.66	74.00	-27.34	100	359	peak
10	4000.500	46.30	-11.05	35.25	54.00	-18.75	100	359	AVG
11	5998.000	57.33	-5.59	51.74	74.00	-22.26	100	220	peak
12	5998.000	38.22	-5.59	32.63	54.00	-21.37	100	220	AVG

**REMARKS:**

1. The other emission levels were very low against the limit.
2.  $\text{Margin (dB)} = \text{Result (dBuV/m)} - \text{Limit (dBuV/m)}$

<b>Model No.</b>	HUAWEI IP PHONE 7920	<b>Test Mode</b>	Mode 1
<b>Environmental Conditions</b>	26°C, 60% RH	<b>Test Date</b>	2018/08/08
<b>Antenna Pole</b>	Horizontal	<b>Antenna Distance</b>	3m
<b>Highest frequency generated or used</b>	800MHz	<b>Upper frequency</b>	4GHz
<b>Detector Function</b>	Peak & Average	<b>Tested by</b>	Wiz Chang
<b>6dB Bandwidth</b>	1 MHz		



No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	1001.000	61.02	-19.52	41.50	74.00	-32.50	100	140	peak
2	1001.000	52.15	-19.52	32.63	54.00	-21.37	100	140	AVG
3	1195.500	61.09	-19.29	41.80	74.00	-32.20	200	178	peak
4	1195.500	54.92	-19.29	35.63	54.00	-18.37	200	178	AVG
5	1994.500	59.41	-14.66	44.75	74.00	-29.25	100	208	peak
6	1994.500	44.91	-14.66	30.25	54.00	-23.75	100	208	AVG
7	2411.000	59.28	-14.19	45.09	74.00	-28.91	300	95	peak
8	2411.000	48.82	-14.19	34.63	54.00	-19.37	300	95	AVG



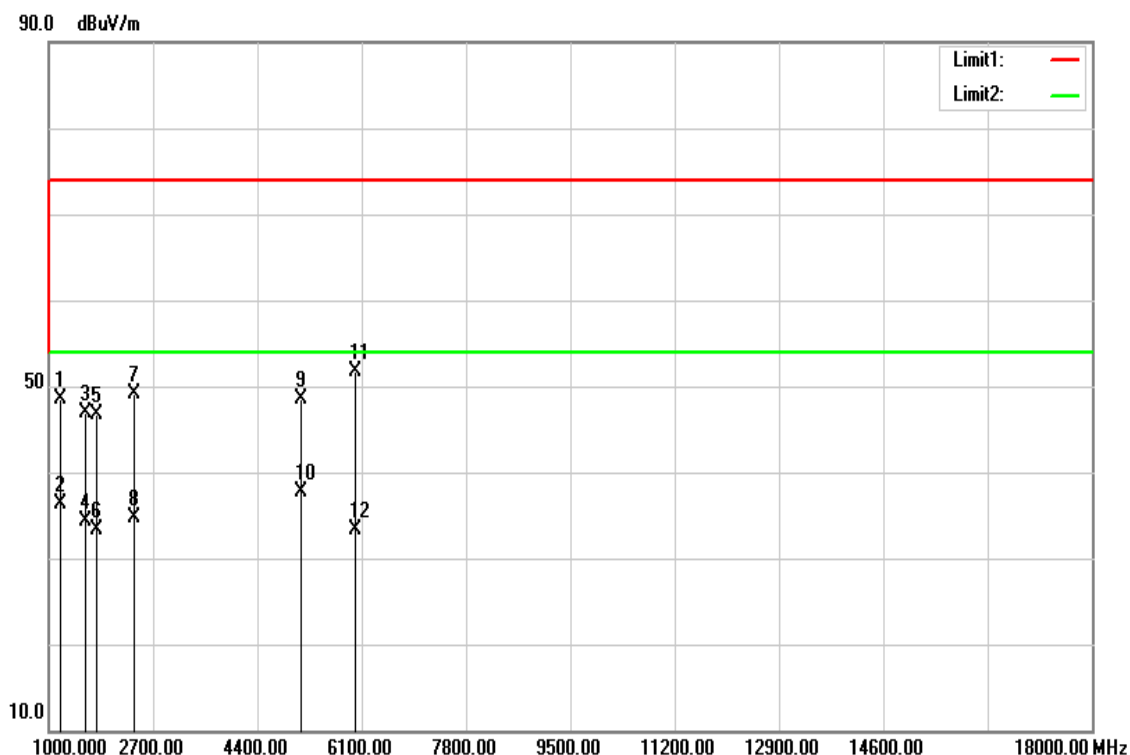
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9	3040.000	58.27	-12.72	45.55	74.00	-28.45	100	360	peak
10	3040.000	45.93	-12.72	33.21	54.00	-20.79	100	360	AVG
11	3592.500	58.14	-12.39	45.75	74.00	-28.25	100	163	peak
12	3592.500	44.91	-12.39	32.52	54.00	-21.48	100	163	AVG

**REMARKS:**

1. The other emission levels were very low against the limit.
2. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)

Model No.	HUAWEI IP PHONE 7920	Test Mode	Mode 2
Environmental Conditions	26°C, 60% RH	Test Date	2018/08/08
Antenna Pole	Vertical	Antenna Distance	3m
Highest frequency generated or used	800MHz	Upper frequency	4GHz
Detector Function	Peak & Average	Tested by	Wiz Chang
6dB Bandwidth	1 MHz		



No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	1195.500	67.49	-18.95	48.54	74.00	-25.46	100	334	peak
2	1195.500	55.20	-18.95	36.25	54.00	-17.75	100	334	AVG
3	1595.000	64.62	-17.76	46.86	74.00	-27.14	100	122	peak
4	1595.000	52.08	-17.76	34.32	54.00	-19.68	100	122	AVG
5	1790.500	62.78	-16.15	46.63	74.00	-27.37	100	235	peak
6	1790.500	49.40	-16.15	33.25	54.00	-20.75	100	235	AVG
7	2402.500	63.25	-14.16	49.09	74.00	-24.91	100	53	peak
8	2402.500	48.79	-14.16	34.63	54.00	-19.37	100	53	AVG



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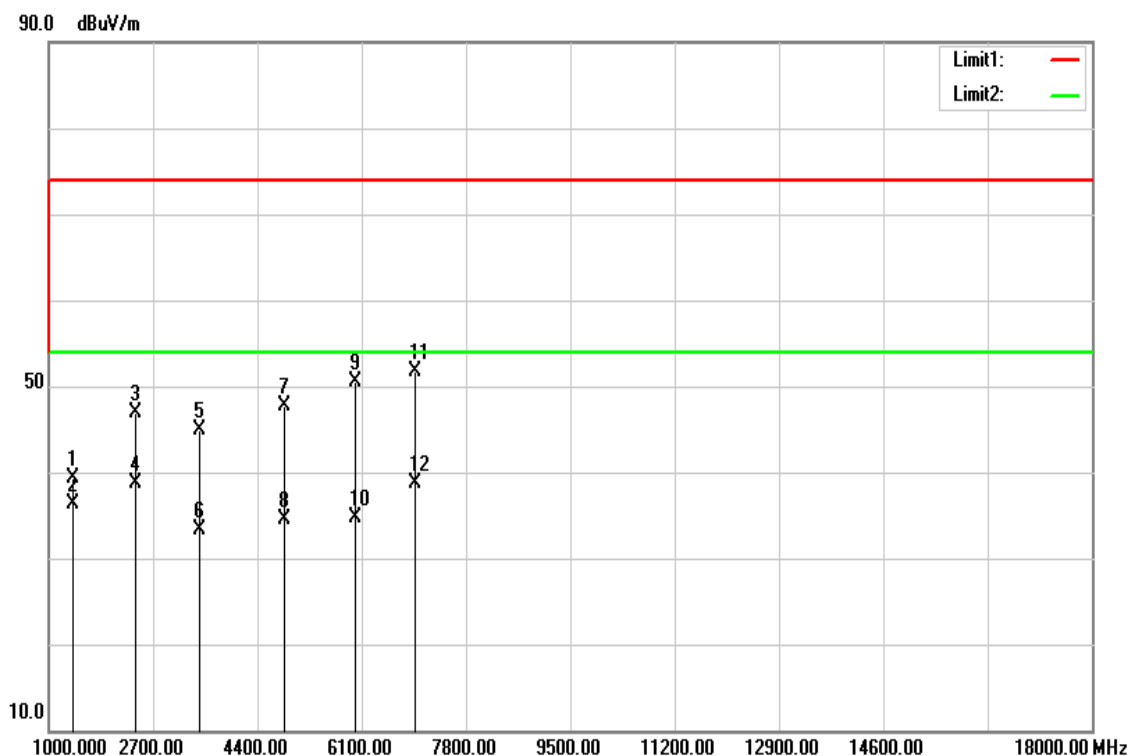
9	5122.500	56.50	-8.03	48.47	74.00	-25.53	100	107	peak
10	5122.500	45.66	-8.03	37.63	54.00	-16.37	100	107	AVG
11	5998.000	57.39	-5.59	51.80	74.00	-22.20	300	235	peak
12	5998.000	38.84	-5.59	33.25	54.00	-20.75	300	235	AVG

**REMARKS:**

1. The other emission levels were very low against the limit.
2.  $\text{Margin (dB)} = \text{Result (dBuV/m)} - \text{Limit (dBuV/m)}$



Model No.	HUAWEI IP PHONE 7920	Test Mode	Mode 2
Environmental Conditions	26°C, 60% RH	Test Date	2018/08/08
Antenna Pole	Horizontal	Antenna Distance	3m
Highest frequency generated or used	800MHz	Upper frequency	4GHz
Detector Function	Peak & Average	Tested by	Wiz Chang
6dB Bandwidth	1 MHz		



No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	1399.500	58.39	-19.07	39.32	74.00	-34.68	100	20	peak
2	1399.500	55.28	-19.07	36.21	54.00	-17.79	100	20	AVG
3	2411.000	61.13	-14.19	46.94	74.00	-27.06	100	105	peak
4	2411.000	52.82	-14.19	38.63	54.00	-15.37	100	105	AVG
5	3456.500	57.58	-12.61	44.97	74.00	-29.03	100	0	peak
6	3456.500	45.86	-12.61	33.25	54.00	-20.75	100	0	AVG
7	4842.000	56.71	-9.05	47.66	74.00	-26.34	100	189	peak
8	4842.000	43.57	-9.05	34.52	54.00	-19.48	100	189	AVG



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9	5998.000	56.50	-5.90	50.60	74.00	-23.40	100	3	peak
10	5998.000	40.53	-5.90	34.63	54.00	-19.37	100	3	AVG
11	6967.000	55.95	-4.24	51.71	74.00	-22.29	300	98	peak
12	6967.000	42.87	-4.24	38.63	54.00	-15.37	300	98	AVG

**REMARKS:**

1. The other emission levels were very low against the limit.
2. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)

**--- End of Test Report ---**