
TEST REPORT

Report No.: SRTC2019-9003(F)-0057
Product Name: Smartphone
Model Name: HLTE230E
Applicant: Hisense International Co., Ltd.
Manufacturer: Hisense Communications Co., Ltd.
Specification: FCC Part15B (Certification)
(2020 edition)
FCC ID: 2ADOBHLTE230E

The State Radio_monitoring_center Testing Center (SRTC)
15th Building, No.30 Shixing Street, Shijingshan District,
Beijing, China

Tel: 86-10-57996183 Fax: 86-10-57996388

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1. General information

1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

1.2 Information about the testing laboratory

Company: The State Radio_monitoring_center Testing Center (SRTC)
Address: 15th Building, No.30 Shixing Street, Shijingshan District
Testing location: No.80, Zhaojiachang, BeizangCun, Daxing District, Beijing, China.
City: Beijing
Country or Region: China
Contacted person: Liu Jia
Tel: +86 10 57996183
Fax: +86 10 57996388
Email: liujiaf@srtc.org.cn

1.3 Applicant's details

Company: Hisense International Co., Ltd.
Address: Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China
City: Qingdao
Country or Region: China
Contacted person: Geng Ruifeng
Tel: +86-532-80877742
Email: gengruifeng@hisense.com

1.4 Manufacturer's details

Company: Hisense Communications Co., Ltd.
Address: No.218 Qianwangang Road, Economic & Technological Development Zone, Qingdao, China
City: Qingdao
Country or Region: China
Contacted person: Deng Tingting
Tel: +86-532-55753708
Email: dengtingting@hisense.com

1.5 Application details

Date of reception of test sample: 7th Jan. 2020

Date of test: 7th Jan. 2020 to 21th Jan. 2020

1.6 Reference specification

FCC Part 15B, 2020 (Certification)

1.7 Information of EUT

1.7.1 General information

Name of EUT	Smartphone
Model Name	HLTE230E
FCC ID	2ADOBHLTE230E
Frequency Range	GSM: GSM850 / PCS1900 WCDMA: FDD II / FDD IV / FDD V LTE: FDD 2/ FDD 4/ FDD 5/ FDD 7/FDD 12 Bluetooth: 2.4~2.4835GHz WiFi: 2.4~2.4835GHz
Equipment Class	Class B
Power Supply	Battery or Charger
Rated Power Supply Voltage	3.8V
Extreme Temperature	Lowest: 0°C Highest: +55°C
Extreme Voltage	Minimum: 3.5V Maximum: 4.35V
HW Version	V0.1
SW Version	Hisense_HLTE230E_11_S02_03

1.7.2EUT details

Product Name	Model Name	IMEI
Smartphone	HLTE230E	1#:867400020316620 2#:867400020316612

Note: As the applicant of this model, [Hisense International Co., Ltd.] declares that the product has two the suppliers of LCD+TP/Camera/Memory/fingerprint. Test the main and second supply equipment respectively, and record the results in the test report.

Main Supply: 1#: 867400020316620

Part Name	Model	Supplier(Brand)	Description
Memory	UNMEN06GC2C31AS	UNIC2	eMMC5.1 Module,64GB,FBGA-153Ball
Memory	MT53E768M32D2NP-053 RS	Micron	LPDDR4X,24Gb(768 Meg x 32 (2 channels x 16 I/O)),WFBGA-200Ball
Camera	H8B13-KS230FF	Kingcome	HI1336,COB,S1326A
Camera	H7B8-KS230BF	Kingcome	HI-846,COB,S0883A
Camera	H9B13-KS230BA	Kingcome	HI1336,COB,3933C-400
Camera	BC12903V0	CXT	GC2385,CSP,HX-M0207H-H306
Camera	BC12904V0	CXT	GC02M1B,CSP,HX-M0207B-H201
LCD+TP	HTF065H029	HOLITECH	ICNL9911S,MLAF065WE51
fingerprint	TW-SW331B-KS230-V1	TOWO	SW331B
Battery	PLV436190	Shenzhen Aerospace Electronic Co.,Ltd	

Secondary Supply: 2#: 867400020316612

Part Name	Model Name	supplier	Remark
Memory	NCEMASLD-64G	FORESEE	eMMC5.1 Module,64GB,FBGA-153Ball
Memory	RS768M32LB4D2BDS-53BT	RAYSON	LPDDR4X,24Gb(768Mb x 16I/O x 2 channels),WFBGA-200Ball
Camera	TW-13OV53-KS230F-V1	TOWO	OV13853,COB,S1326
Camera	TW-08GC34-KS230B-V1	TOWO	GC8034,COB,1368XX
Camera	TW-13OV53-KS230B-V1	TOWO	OV13853,COB,50064B17
Camera	ST-CFKS230-WJBF-V1	Union Image	GC2375H,CSP,HX-M0207H-H306

		co.,ltd	
Camera	ST-CFKS230-JSBF-V1	Union Image co.,ltd	GC2375H,CSP,DL2002B10-BP
LCD+TP	EQT651WKF003G	easyquick	FT8006, MLAF065WE51X
fingerprint	FS22483BJN	HOLITECH	ICNF7332-A2
Battery	436191P	Shenzhen Tianjin New Energy Technology Co., Ltd.	

1.7.3 Auxiliary equipment details

AE (Auxiliary Equipment) 1#: Laptop

Manufacturer	Lenovo
Model Number	NEW7000
S/N	MP1961S2
Input Voltage	100V-240V AC

AE (Auxiliary Equipment) 2#: USB Cable

Manufacturer	kelinDongguan Keling Electronic Technology Co., Ltd
Model Number	KS230B

AE (Auxiliary Equipment) 3#: Battery1

Type	Li-Lon
Manufacturer	ShenzhenAerospaceElectronicCo.,Ltd
Model Number	PLV436190
Capacity	4000mAh
Nominal Voltage	4.4V

AE (Auxiliary Equipment) 4#: Battery2

Type	Li-Lon
Manufacturer	Shenzhen Tianjin New Energy Technology Co., Ltd.
Model Number	436191P
Capacity	4000mAh
Nominal Voltage	4.4V

AE (Auxiliary Equipment) 5#: Charger

Manufacturer	SHENZHENTIANYIN ELECTRONICS
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	CO., LTD.
Model Number	TPA-46050200UU
S/N	/
Input Voltage	100V-240V AC 300mA
Output Voltage	5.0VDC 1500mA

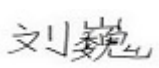
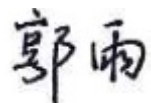
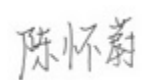
AE (Auxiliary Equipment) 6#: Headset

Manufacturer	kelinDongguan Keling Electronic Technology Co., Ltd
Model Number	KS230B

2. Test information

2.1 Summary of the test results

No.	Test case	FCC reference	Verdict
1	Conducted emissions	15.107	Pass
2	Radiated emissions	15.109	Pass

Approved By: Mr. Liu Wei Director of the test department 	Checked By: Mr. Guo Yu Vice director of the test department 
Tested By: Mr Chen Huaiwei 	Issued date: 2020.01.21

2.2 Test result

2.2.1 Conducted Emissions-FCC Part15.107

Ambient condition:

Temperature	Relative humidity	Pressure
23.4°C	35.6%	100.2kPa

Test Setup with laptop:

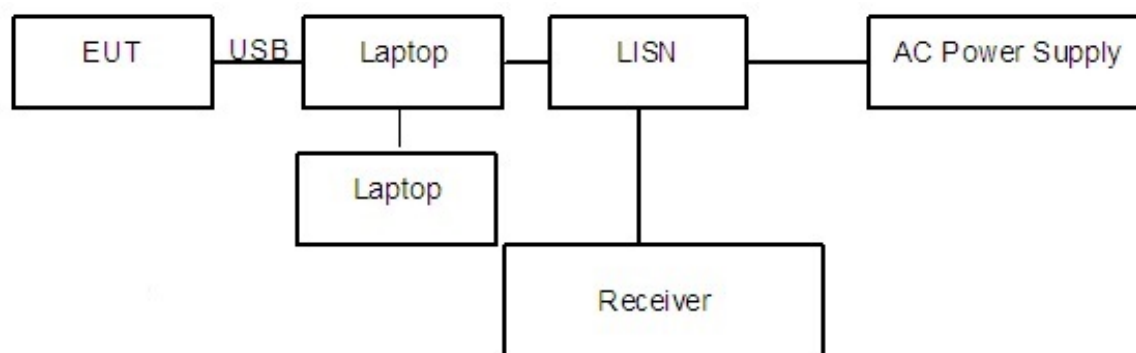


Figure 1

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The accessories of the EUT are connected with the EUT such as headset etc. The EUT was connected with a laptop via the USB cable and transferred the data by copying large files from laptop to the EUT. The laptop's LAN port is connected with another laptop via cable. And the data transferring between two laptops is maintained.

The AC main power supply of the laptop is connected to LISN and LISN is connected to the reference ground. The test set-up and the test methods are performed according to ANSI C63.4:2014.

Then start the test software EMC32. Sweep the whole frequency band through the range from 150 KHz to 30 MHz with RBW 9kHz, VBW 30kHz. The measurement should be done for both L line and N line. During pre-test, the receiver uses both peak detector and average detector. And the final test, the receiver uses both average detector and Quasi-peak detector.

The data of cable loss has been calibrated in full testing frequency range before the testing.

Test Setup with charger:

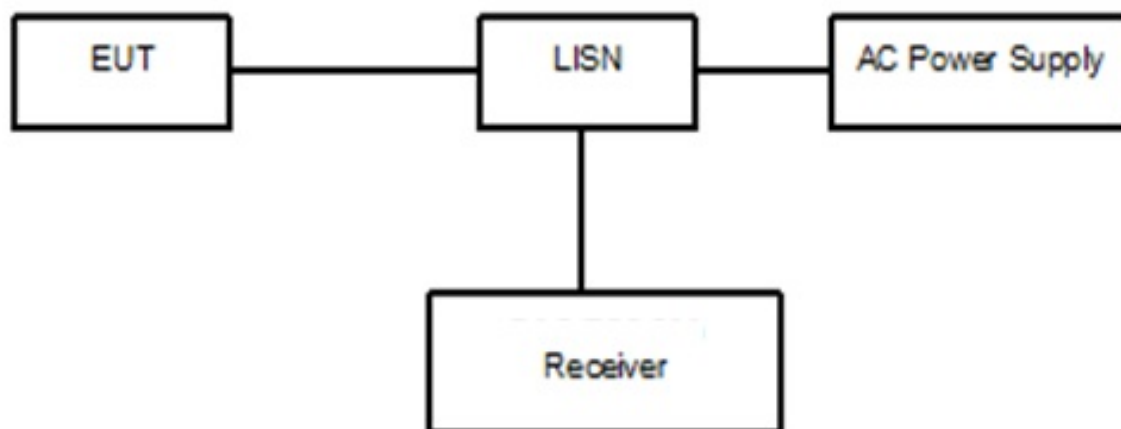


Figure 2

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected with LISN via the charger. The LISN is connected to the reference ground. The accessories of the EUT are connected with the EUT such as headset etc. Open the following functions of EUT: Camera, flash lamp, FM, GPS and video.

The test set-up and the test methods are performed according to ANSI C63.4:2014. Then start the test software EMC32. Sweep the whole frequency band through the range from 150 KHz to 30 MHz with RBW 9kHz, VBW 30kHz. The measurement should be done for both L line and N line. During pre-test, the receiver uses both peak detector and average detector. And the final test, the receiver uses both average detector and Quasi-peak detector.

The data of cable loss has been calibrated in full testing frequency range before the testing.

A "reference path loss" Corr.(dB) is established and the $L_{\text{cable}} + \text{ATT} + \text{VDF}$ is the attenuation of "reference path loss", and including the cable loss, the attenuation of the attenuator, the voltage division factor of AMN.

The measurement results are obtained as described below:

$$P_{\text{result}} = P_{\text{mea}} + \text{Corr. (dB)}$$

Sample calculation: $(33.09 \text{ dB}\mu\text{V}) = (3.39 \text{ dB}\mu\text{V}) + (29.7 \text{ dB})$, the corresponding frequency is 0.171321MHz.

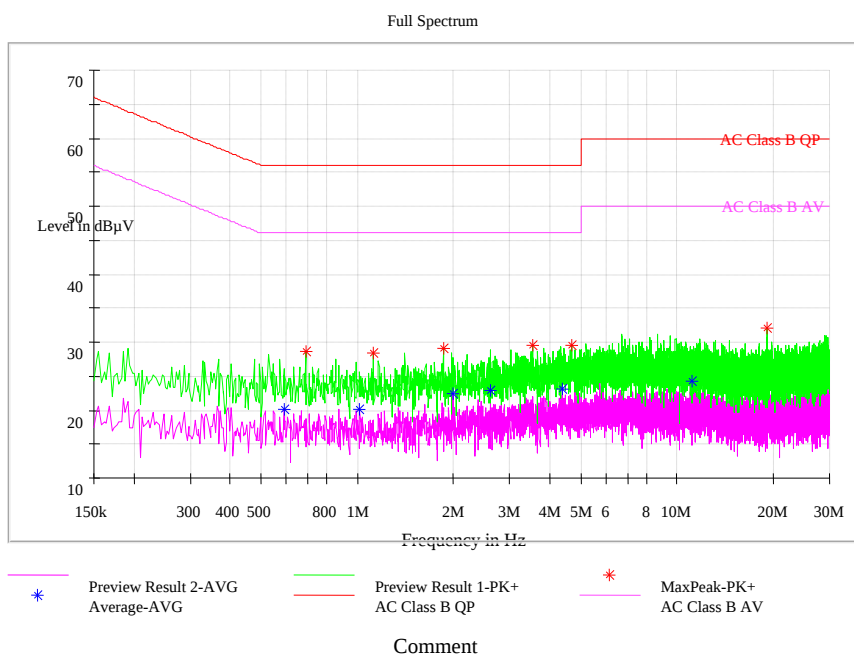
Limit:

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

Note: * Decreases with the logarithm of the frequency

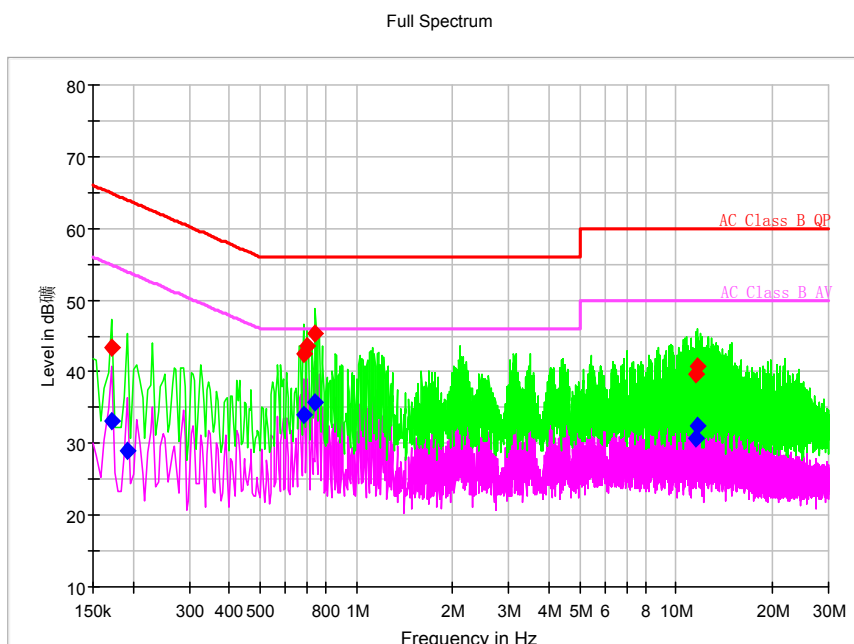
Test result:

Noise Level of the Measuring Instrument



Pic1.Conducted emission L and N Line

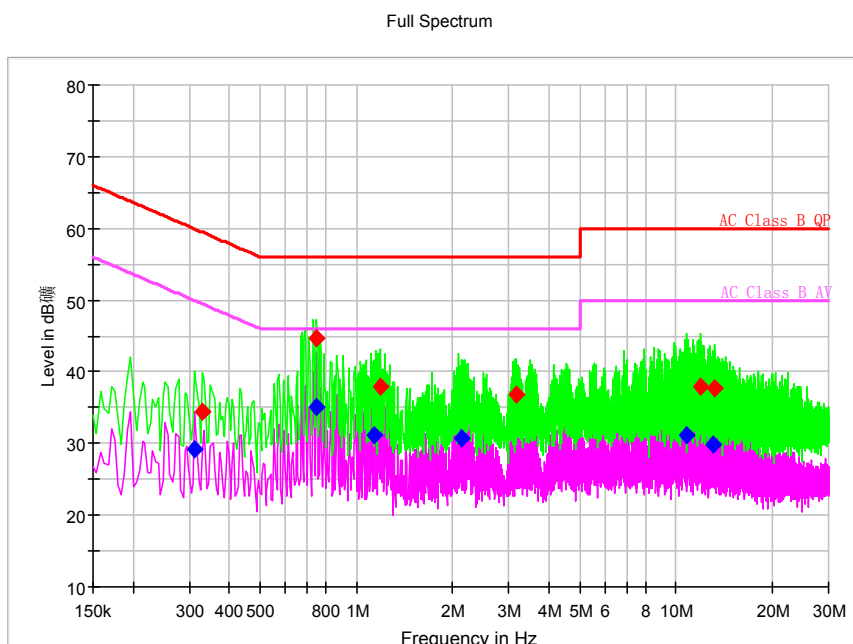
1#EUT + 2#USB Cable+3#Battery1+5#Charger+6#Headset:



Pic2. Conducted emission L&N Line

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)	Pme a Quas	Pme a Aver
0.171321	---	33.09	54.90	21.80	L1	29.7	---	3.39
0.171321	43.47	---	64.90	21.43	L1	29.7	13.7	---
0.192643	---	28.90	53.92	25.02	L1	29.7	---	-0.8
0.683036	42.58	---	56.00	13.42	N	29.7	12.8	---
0.683036	---	33.99	46.00	12.01	L1	29.7	---	4.29
0.700093	43.48	---	56.00	12.52	L1	29.7	13.7	---
0.742736	45.22	---	56.00	10.78	L1	29.7	15.5	---
0.742736	---	35.71	46.00	10.29	L1	29.7	---	6.01
11.493000	39.59	---	60.00	20.41	L1	29.9	9.69	---
11.493000	---	30.80	50.00	19.20	N	29.9	---	0.9
11.612400	---	32.39	50.00	17.61	L1	29.9	---	2.49
11.612400	40.81	---	60.00	19.19	N	29.9	10.9	---

2#EUT + 2#USB Cable+4#Battery2+5#Charger+6#Headset:

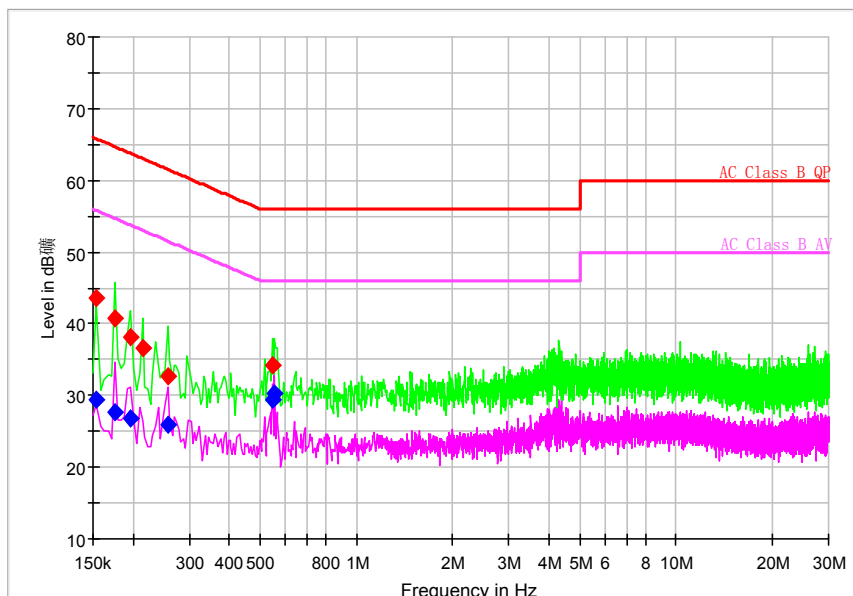


Pic3. Conducted emission L&N Line

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)	Pme a Quas	Pme a Aver
0.312043	---	29.24	49.92	20.67	L1	29.7	---	-0.46
0.329100	34.37	---	59.47	25.10	L1	29.7	4.67	---
0.747000	44.75	---	56.00	11.25	L1	29.7	15.0	---
0.751264	---	35.00	46.00	11.00	L1	29.7	---	5.3
1.130786	---	31.18	46.00	14.82	N	29.7	---	1.48
1.190486	37.96	---	56.00	18.04	N	29.7	8.26	---
2.124364	---	30.82	46.00	15.18	L1	29.8	---	1.02
3.156321	36.92	---	56.00	19.08	L1	29.8	7.12	---
10.827771	---	31.23	50.00	18.77	N	29.9	---	1.33
11.940750	37.84	---	60.00	22.16	L1	29.9	7.94	---
13.019614	---	29.92	50.00	20.08	N	29.9	---	0.02
13.215771	37.63	---	60.00	22.37	L1	29.9	7.73	---

1#EUT + 2#USB Cable+3#Battery1 +6Headset+Laptop:

Full Spectrum

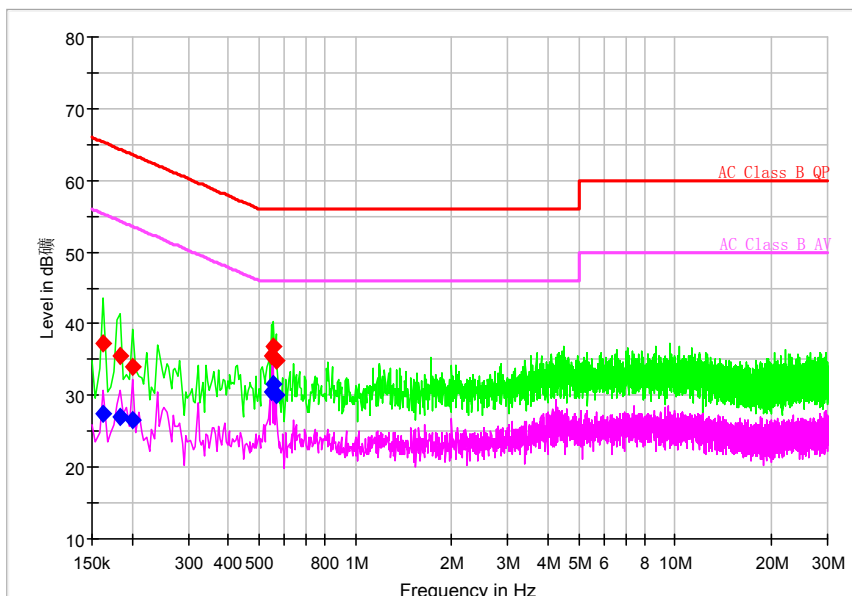


Pic4. Conducted emission L&N Line

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)	Pme a Quas	Pme a Aver
0.154264	---	29.30	55.77	26.46	L1	29.7	---	-0.4
0.154264	43.54	---	65.77	22.23	L1	29.7	13.8	---
0.175586	---	27.71	54.69	26.99	L1	29.7	---	-1.99
0.175586	40.84	---	64.69	23.86	L1	29.7	11.1	---
0.196907	---	26.82	53.74	26.92	L1	29.7	---	-2.88
0.196907	38.17	---	63.74	25.57	L1	29.7	8.47	---
0.213964	36.55	---	63.05	26.50	L1	29.7	6.85	---
0.256607	---	26.00	51.54	25.54	L1	29.7	---	-3.7
0.256607	32.62	---	61.54	28.92	L1	29.7	2.92	---
0.546579	---	29.36	46.00	16.64	N	29.7	---	-0.34
0.546579	34.19	---	56.00	21.82	N	29.7	4.49	---
0.555107	---	30.26	46.00	15.74	N	29.7	---	0.56

2#EUT + 2#USB Cable+4#Battery2 +6#Headset+Laptop:

Full Spectrum



Pic5. Conducted emission L&N Line

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)	Pme a Quas	Pme a Aver
0.162793	---	27.35	55.32	27.97	L1	29.7	---	-2.35
0.162793	37.31	---	65.32	28.01	L1	29.7	7.61	---
0.184114	---	26.96	54.30	27.34	L1	29.7	---	-2.74
0.184114	35.53	---	64.30	28.76	L1	29.7	5.83	---
0.201171	---	26.59	53.56	26.97	N	29.7	---	-3.11
0.201171	33.93	---	63.56	29.64	L1	29.7	4.23	---
0.546579	35.51	---	56.00	20.49	N	29.7	5.81	---
0.546579	---	30.40	46.00	15.60	L1	29.7	---	0.7
0.555107	36.79	---	56.00	19.21	N	29.7	7.09	---
0.555107	---	31.66	46.00	14.34	L1	29.7	---	1.96
0.563636	---	30.08	46.00	15.92	L1	29.7	---	0.38
0.563636	34.88	---	56.00	21.12	L1	29.7	5.18	---

2.2.2 Radiated Emissions-FCC Part15.109

Ambient condition:

Temperature	Relative humidity	Pressure
23.4°C	35.6%	100.2kPa

Test Setup:

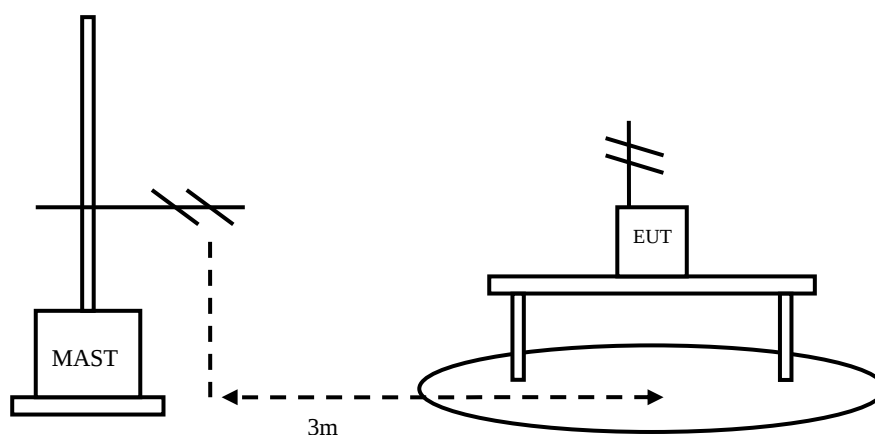


Figure 3

Test Procedure:

EUT+Laptop:

The EUT should be placed on a non-metallic table 80cm above the ground plane. The receive antennas shall be moved from 1 to 4 meters. The distance between EUT and receive antenna should be 3 meters.

The accessories of the EUT are connected with the EUT such as headset etc. The EUT was connected with a laptop via the USB cable and transferred the data by copying large files from laptop to the EUT. The test set-up and the test methods are performed according to ANSI C63.4:2014

Then start the test software EMC32. Sweep the whole frequency band through the range from 30MHz to 1GHz, using receive log period antenna VULB 9163.

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 turn table 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 EUT is laid in two modes as follow:

1. put the EUT in horizontal direction; 2. put the EUT in vertical direction.
The data of cable loss and antenna factor have been calibrated in full testing frequency range before the testing.

EUT+Charger:

The EUT should be placed on a non-metallic table 80cm above the ground plane. The receive antennas shall be moved from 1 to 4 meters. The distance between EUT and receive antenna should be 3 meters.

The EUT should work in idle mode. The accessories of the EUT are connected with the EUT such as headset etc. Open the following functions of EUT: Camera, flash lamp, FM, GPS and video. The test set-up and the test methods are performed according to ANSI C63.4:2014.

Then start the test software EMC32. Sweep the whole frequency band through the range from 30MHz to 1GHz, using receive log period antenna VULB 9163.

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 turn table 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 EUT is laid in two modes as follow:

1. put the EUT in horizontal direction; 2. put the EUT in vertical direction.

The data of cable loss and antenna factor have been calibrated in full testing frequency range before the testing. All test results are performed with max hold at the horizontal and vertical polarity.

RBW=120kHz, VBW=300kHz, when the test frequency: 30MHz<f<1GHz

RBW=1MHz, VBW=3MHz, when the test frequency: f>1GHz

A “reference path loss” is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{mea}} + A_{Rpl}$$

Limit:

Frequency of Emission(MHz)	Limits	
	Detector	Unit (dBμV/m)
30~88	Quasi-peak	40
88~216	Quasi-peak	43.5
216~960	Quasi-peak	46
960~1000	Quasi-peak	54
1000~5th harmonic of the highest frequency or 40GHz, whichever is lower	Average	54
	Peak	74

Test result:

Sample calculation: $(12.87 \text{ dB } \mu \text{ V/m}) = (32.07 \text{ dB } \mu \text{ V/m}) + (-19.2 \text{ dB})$, the corresponding frequency is 62.398000MHz.

1#EUT + 2#USB Cable+3#Battery1 +6Headset+Laptop:

Frequency(MHz)	Result(dB μ V/m)	Limit (dB μ V/m)	ARpl (dB)	Pmea (dB μ V/m)	Polarity
62.398000	12.87	40.00	-19.2	32.07	V
215.949000	21.15	43.50	-18.0	39.15	V
264.012500	29.02	46.00	-16.1	45.12	V
298.059500	28.64	46.00	-15.2	43.84	V
408.009000	31.28	46.00	-11.5	42.78	V
948.008000	19.57	46.00	-0.9	20.47	V

2#EUT + 2#USB Cable+4#Battery2 +6#Headset+Laptop:

Frequency(MHz)	Result(dB μ V/m)	Limit (dB μ V/m)	ARpl (dB)	Pmea (dB μ V/m)	Polarity
41.106500	12.59	40.00	-18.0	30.59	V
61.525000	12.41	40.00	-18.9	31.31	V
266.098000	18.73	46.00	-16.0	34.73	V
299.417500	27.96	46.00	-15.2	43.16	V
408.009000	31.60	46.00	-11.5	43.1	V
810.025500	17.15	46.00	-3.1	20.25	V

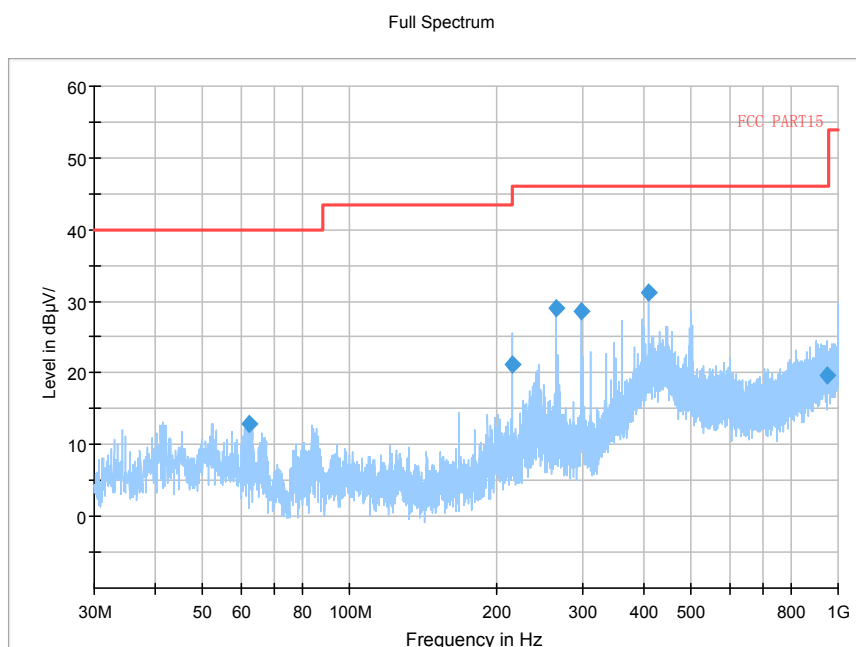
1#EUT + 2#USB Cable+3#Battery1+5#Charger+6#Headset:

Frequency(MHz)	Result(dB μ V/m)	Limit (dB μ V/m)	ARpl (dB)	Pmea (dB μ V/m)	Polarity
41.300500	28.02	40.00	-18.0	46.02	V
87.957500	22.81	40.00	-21.2	44.01	V
96.881500	26.03	43.50	-19.2	45.23	V
309.263000	14.96	46.00	-14.8	29.76	V
498.946500	18.18	46.00	-9.3	27.48	V
907.268000	20.43	46.00	-1.4	21.83	V

2#EUT + 2#USB Cable+4#Battery2+5#Charger+6#Headset:

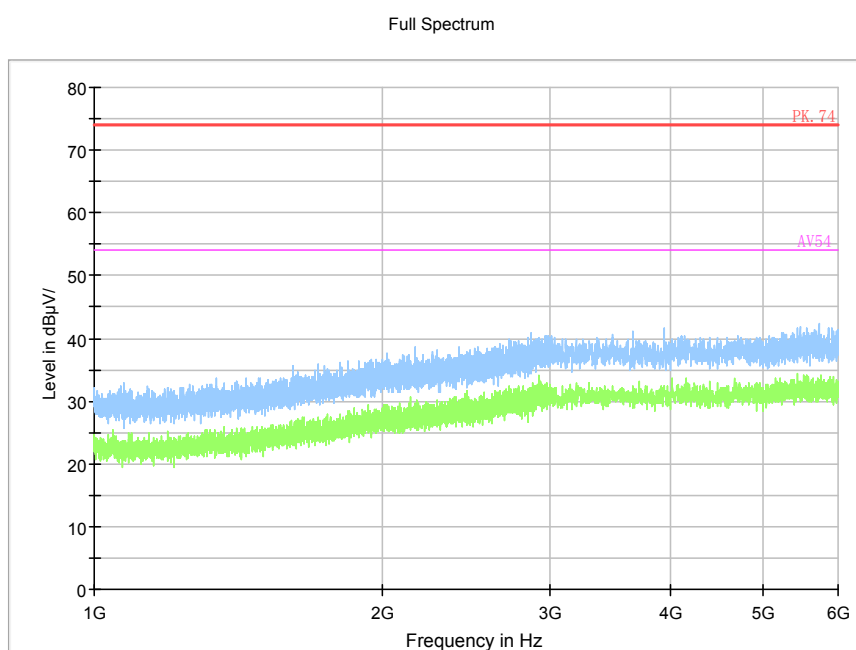
Frequency(MHz)	Result(dB μ V/m)	Limit (dB μ V/m)	ARpl (dB)	Pmea (dB μ V/m)	Polarity
33.589000	25.41	40.00	-20.1	45.51	V
95.960000	25.57	43.50	-19.4	44.97	V
98.239500	25.39	43.50	-18.9	44.29	V
310.087500	14.99	46.00	-14.8	29.79	V
317.168500	16.44	46.00	-14.5	30.94	V
954.119000	19.32	46.00	-0.8	20.12	V

1#EUT + 3#USB Cable2+4#Battery +7#Headset2+Laptop: refer to Pic6, Pic7, Pic8, Pic9



Pic6. Radiated emission(30MHz – 1GHz)

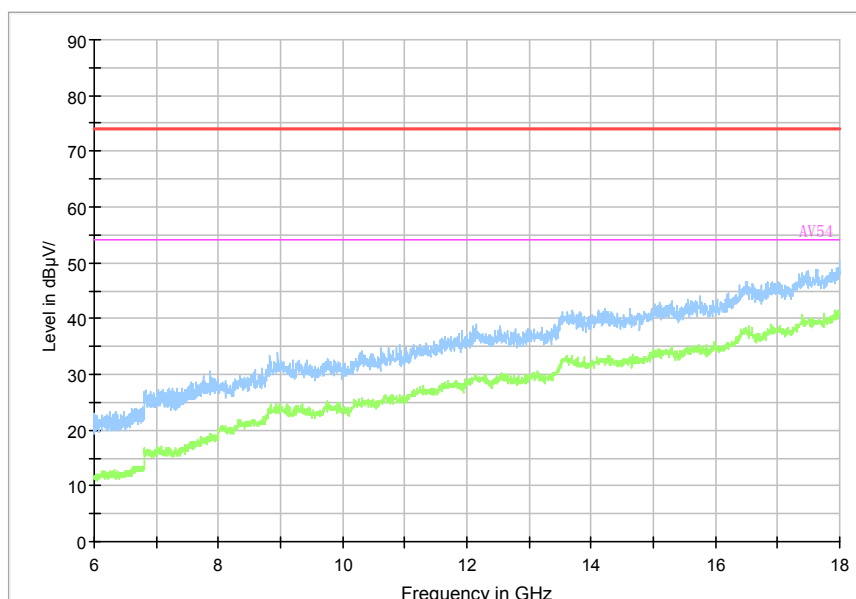
Note : The test data in the graph includes two polarizations: horizontal and vertical



Pic7. Radiated emission (1GHz –6GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.

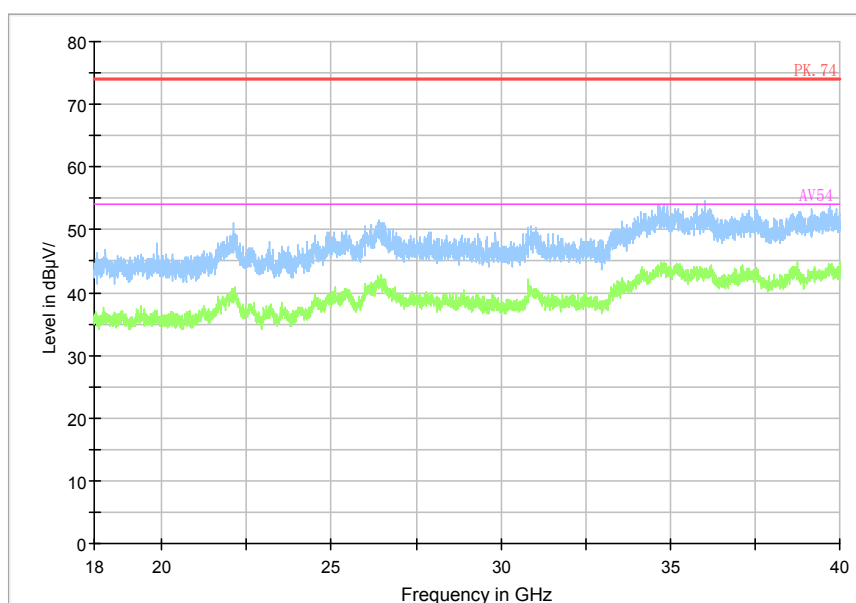
Full Spectrum



Pic8. Radiated emission (6GHz –18GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.

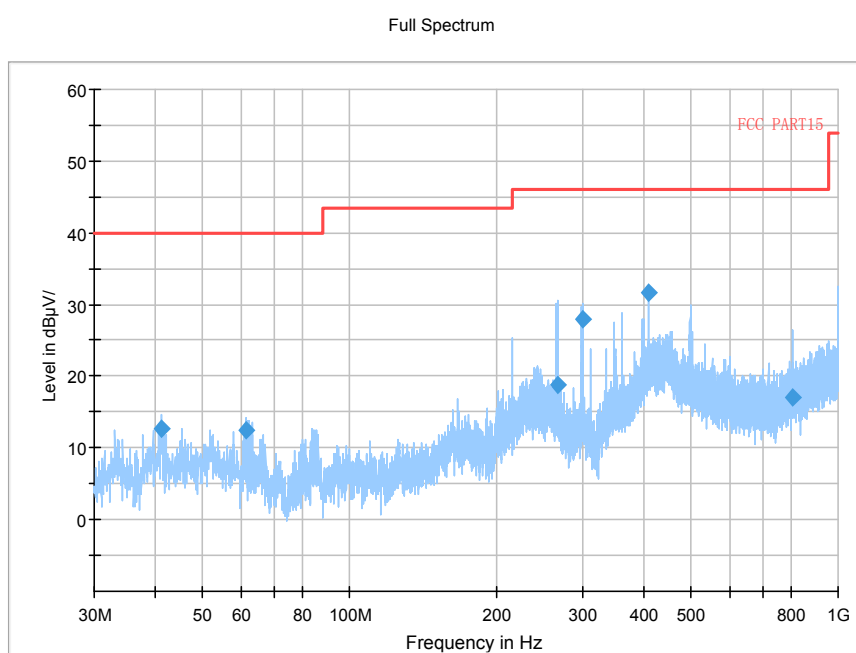
Full Spectrum



Pic9. Radiated emission (18GHz –40GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.

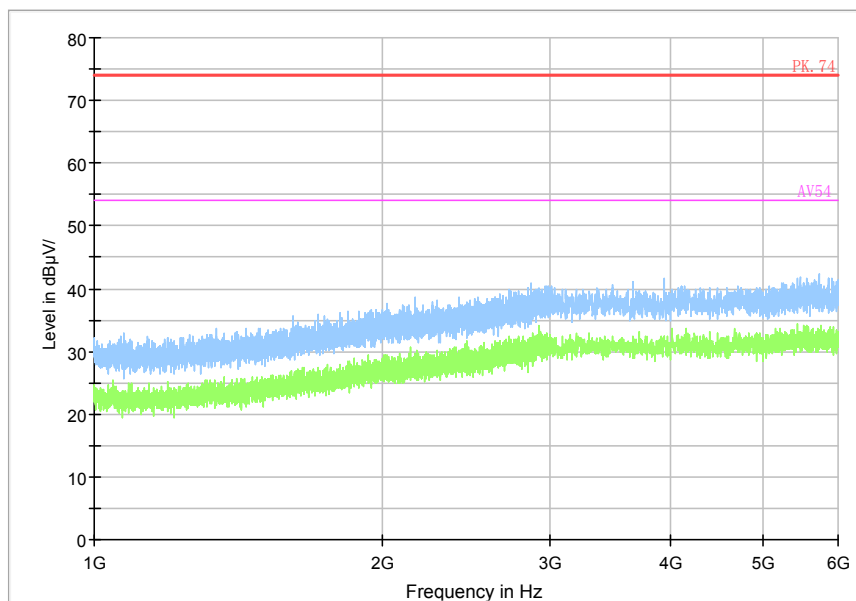
2#EUT + 2#USB Cable1+4#Battery +6#Headset1+Laptop: refer to Pic10, Pic11, Pic12, Pic13



Pic10. Radiated emission(30MHz – 1GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical

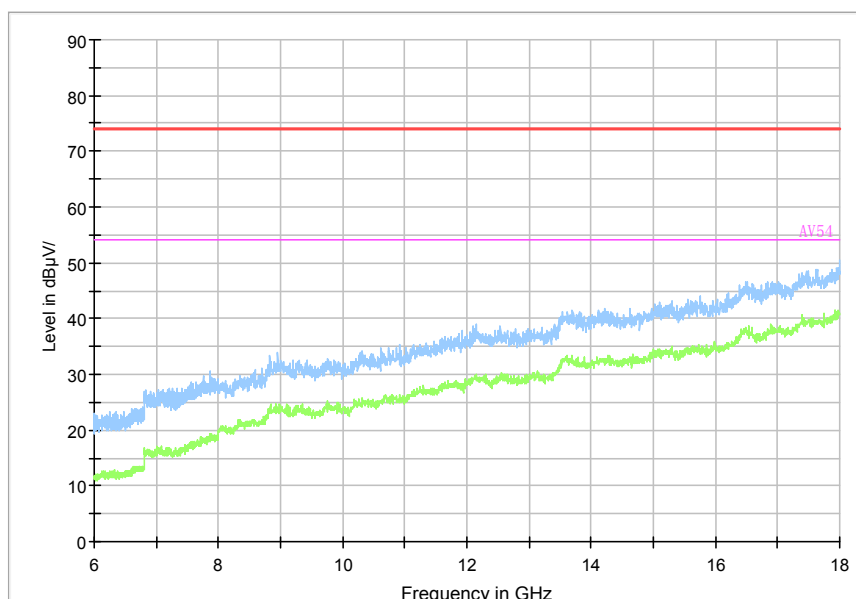
Full Spectrum



Pic11. Radiated emission (1GHz –6GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.

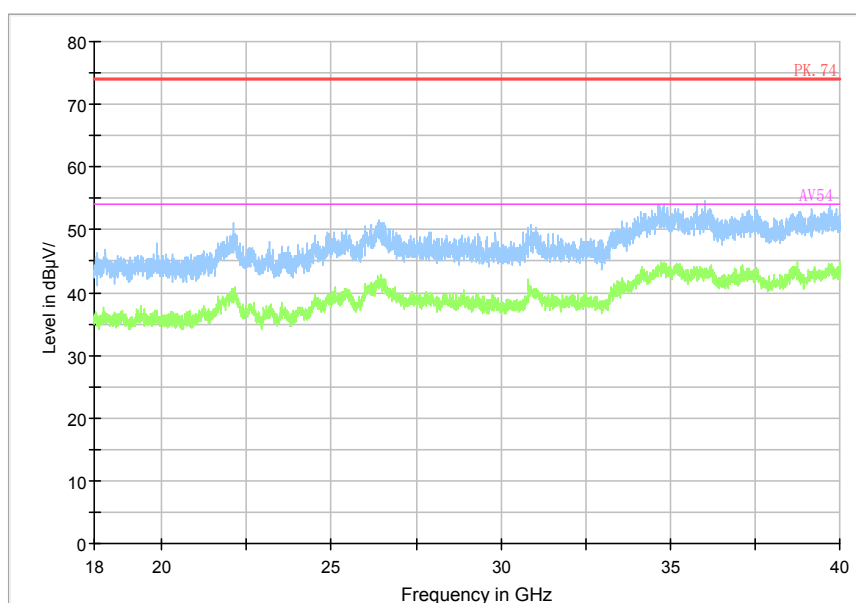
Full Spectrum



Pic12. Radiated emission (6GHz –18GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.

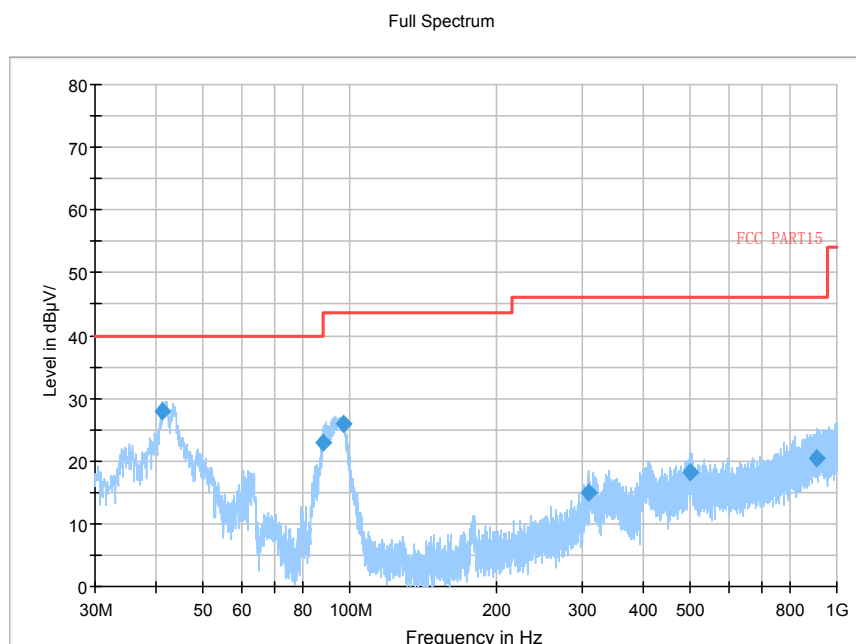
Full Spectrum



Pic13. Radiated emission (18GHz –40GHz)

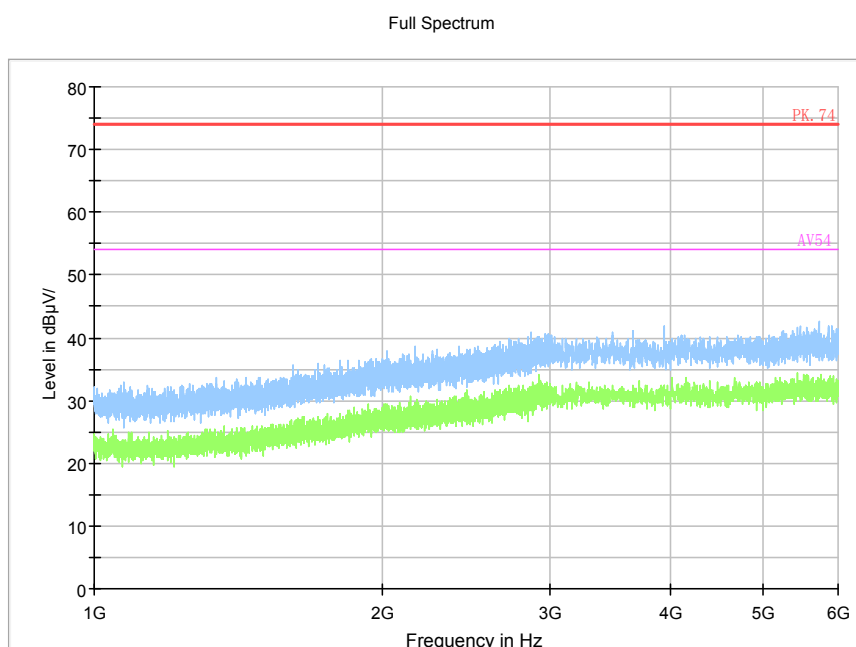
Note : The test data in the graph includes two polarizations: horizontal and vertical.

1#EUT + 3#USB Cable2+4#Battery +5#Charger+7#Headset2: refer to Pic14, Pic15, Pic16, Pic17



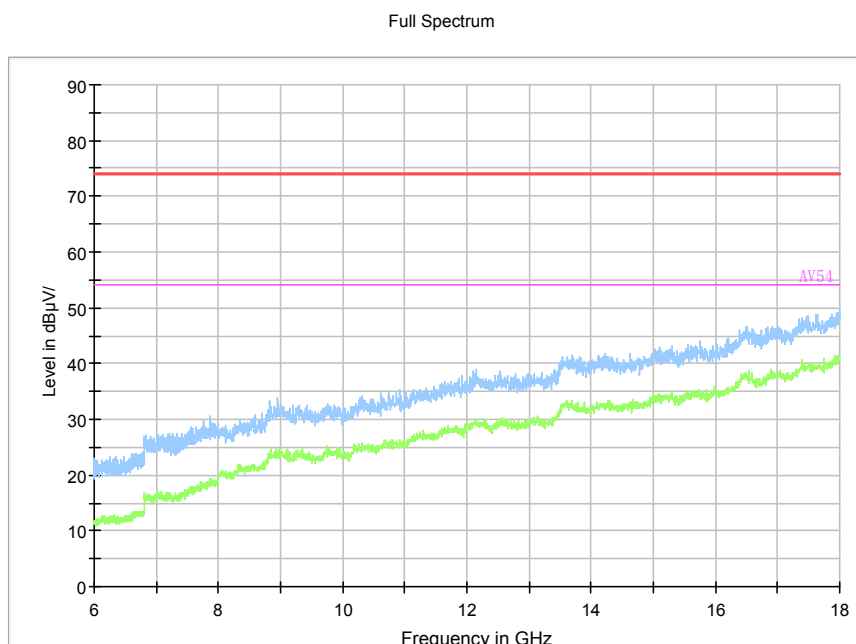
Pic14. Radiated emission(30MHz – 1GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical



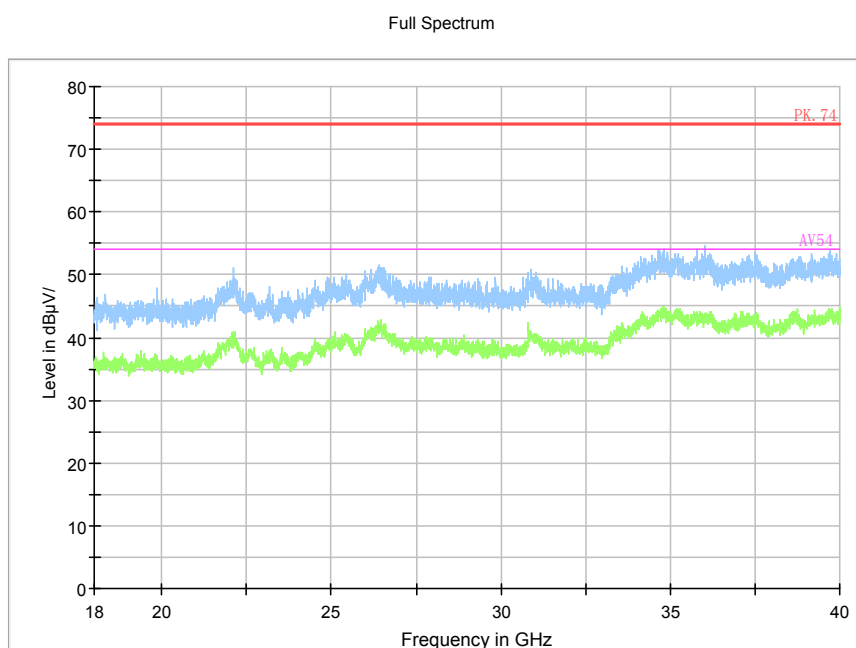
Pic15. Radiated emission (1GHz –6GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.



Pic16. Radiated emission (6GHz –18GHz)

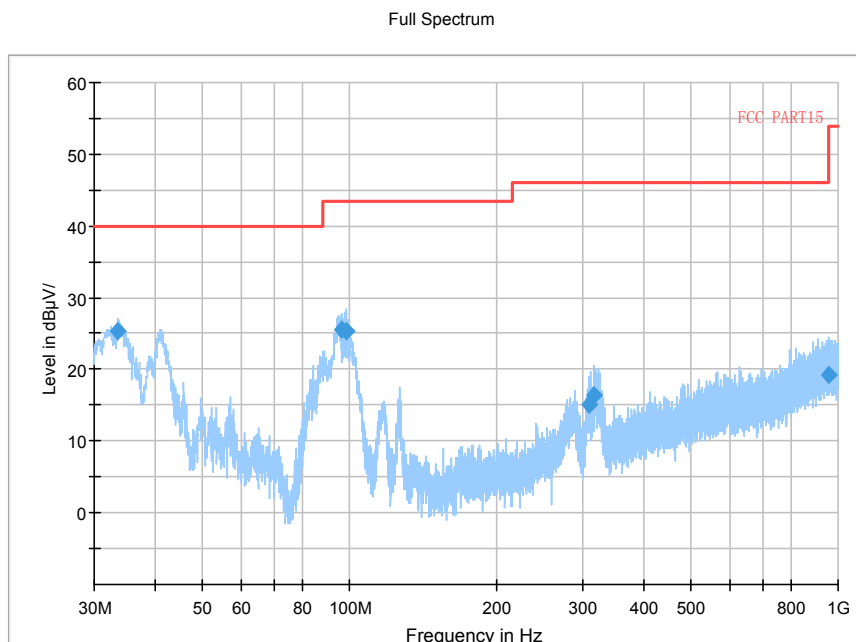
Note : The test data in the graph includes two polarizations: horizontal and vertical.



Pic17. Radiated emission (18GHz –40GHz)

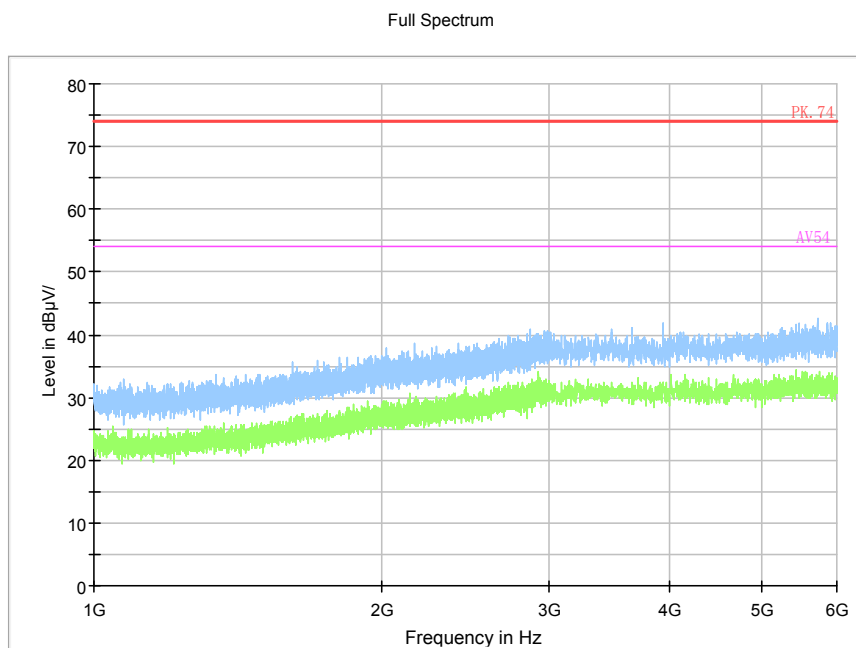
Note : The test data in the graph includes two polarizations: horizontal and vertical.

2#EUT + 2#USB Cable1+4#Battery +5#Charger+6#Headset1: refer to Pic18, Pic19, Pic20, Pic21



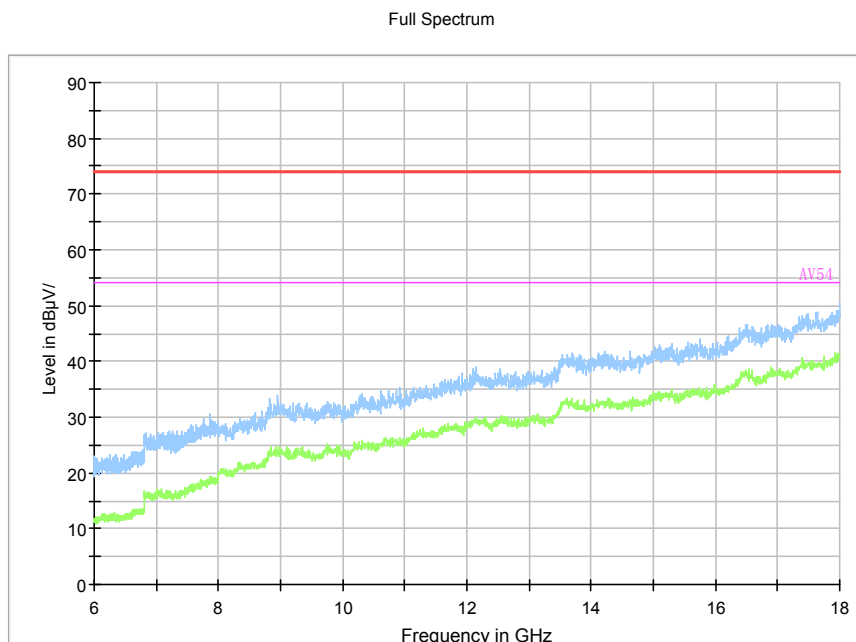
Pic18. Radiated emission(30MHz – 1GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical



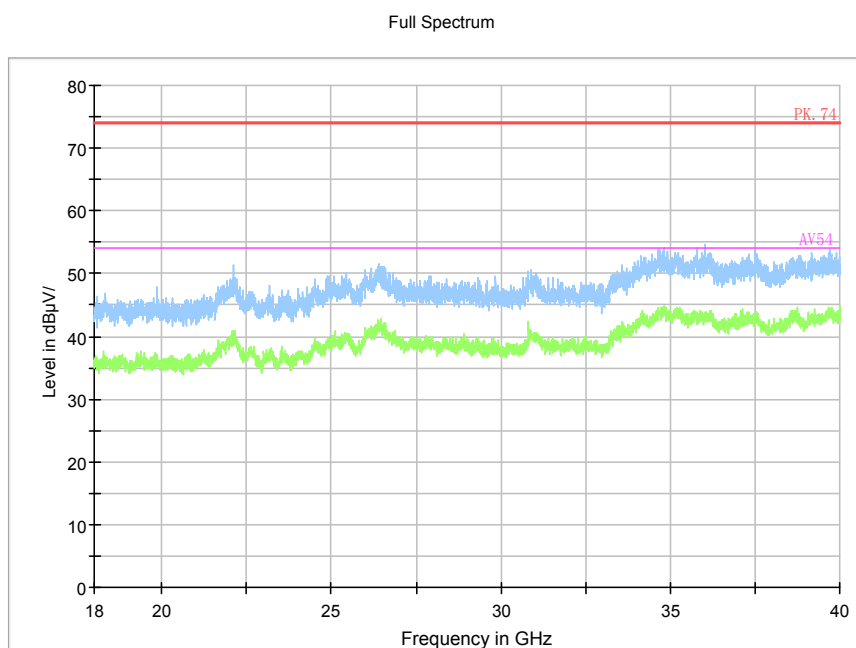
Pic19. Radiated emission (1GHz –6GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical



Pic20. Radiated emission (6GHz –18GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical



Pic21. Radiated emission (18GHz –40GHz)

Note : The test data in the graph includes two polarizations: horizontal and vertical.

2.3. List of test equipments

No.	Name/Model	Manufacturer	S/N	Calibration Due Date	Calibration Date
1	23.18m×16.88m×9.60mS emi-AnechoicChamber	FRANKONIA	-----	5th Sep. 2021	6th Sep. 2016
2	ESW EMI test receiver	R&S	101574	20th Aug. 2020	20th Aug. 2019
3	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	5th Sep. 2021	6th Sep. 2016
4	ESR3 EMI test receiver	R&S	102361	20th Aug. 2020	20th Aug. 2019
5	VULB 9163 Ultra log test antenna	schwarzbeck	867	20th Aug. 2020	20th Aug. 2019
6	ENV216 AMN	R&S	3560.6550. 12	20th Aug. 2020	20th Aug. 2019
7	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100512	20th Aug. 2020	20th Aug. 2019
8	PS2000 Turn Table	FRANKONIA	-----	-----	-----
9	MA260 Antenna Master	FRANKONIA	-----	-----	-----
10	EMC32EMI test software	R&S	-----	-----	-----