



TEST REPORT

No.I20N00718-EMC

for

Yulong Computer Telecommunication Scientific (Shenzhen) Co.,

Ltd

smartphone

Model Name: CP3706AS

With

Hardware Version: P1

Software Version: 3706AS.SPRINT.191220.2D

FCC ID: R38YLCP3706AS

Issued Date:2020-04-16

Designation Number: CN1210

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of SAICT.

Test Laboratory:

SAICT, Shenzhen Academy of Information and Communications Technology

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518026.

Tel:+86(0)755-33322000, Fax:+86(0)755-33322001

Email: yewu@caict.ac.cn. www.saict.ac.cn





REPORT HISTORY

Report Number	Revision	Description	Issue Date
I20N00718-EMC	Rev.0	1st edition	2020-04-16

Note: the latest revision of the test report supersedes all previous version.





CONTENTS

1. SUMMARY OF TEST REPORT4
1.1. TEST ITEMS
1.2. TEST STANDARDS4
1.3. TEST RESULT4
1.4. TESTING LOCATION4
1.5. PROJECT DATA4
1.6. SIGNATURE4
2. CLIENTINFORMATION
2.1. APPLICANT INFORMATION
2.2. MANUFACTURER INFORMATION5
3. EQUIPMENT UNDERTEST (EUT) AND ANCILLARY EQUIPMENT (AE)6
3.1. ABOUT EUT
3.2. INTERNAL IDENTIFICATION OF EUT6
3.3. INTERNAL IDENTIFICATION OF AE6
3.4. EUT SET-UPS
3.5. GENERAL DESCRIPTION7
4. REFERENCE DOCUMENTS8
4. REFERENCE DOCUMENTS
4. REFERENCE DOCUMENTS 8 4.1. REFERENCE DOCUMENTS FOR TESTING 8 5. LABORATORY ENVIRONMENT 9 6. SUMMARY OF TEST RESULTS 10 6.1. TESTING ENVIRONMENT 10 6.2. SUMMARY OF MEASUREMENT RESULTS 10
4. REFERENCE DOCUMENTS 8 4.1. REFERENCE DOCUMENTS FOR TESTING 8 5. LABORATORY ENVIRONMENT 9 6. SUMMARY OF TEST RESULTS 10 6.1. TESTING ENVIRONMENT 10 6.2. SUMMARY OF MEASUREMENT RESULTS 10 6.3. STATEMENT 10
4. REFERENCE DOCUMENTS 8 4.1. REFERENCE DOCUMENTS FOR TESTING 8 5. LABORATORY ENVIRONMENT 9 6. SUMMARY OF TEST RESULTS 10 6.1. TESTING ENVIRONMENT 10 6.2. SUMMARY OF MEASUREMENT RESULTS 10 6.3. STATEMENT 10 7. MEASUREMENT UNCERTAINTY 11
4. REFERENCE DOCUMENTS
4. REFERENCE DOCUMENTS 8 4.1. REFERENCE DOCUMENTS FOR TESTING 8 5. LABORATORY ENVIRONMENT 9 6. SUMMARY OF TEST RESULTS 10 6.1. TESTING ENVIRONMENT 10 6.2. SUMMARY OF MEASUREMENT RESULTS 10 6.3. STATEMENT 10 7. MEASUREMENT UNCERTAINTY 11 8. TEST FACILITIES UTILIZED 11 ANNEX A: MEASUREMENT RESULTS 12
4. REFERENCE DOCUMENTS 8 4.1. REFERENCE DOCUMENTS FOR TESTING 8 5. LABORATORY ENVIRONMENT 9 6. SUMMARY OF TEST RESULTS 10 6.1. TESTING ENVIRONMENT 10 6.2. SUMMARY OF MEASUREMENT RESULTS 10 6.3. STATEMENT 10 7. MEASUREMENT UNCERTAINTY 11 8. TEST FACILITIES UTILIZED 11 ANNEX A: MEASUREMENT RESULTS 12 A.1 RADIATED EMISSION (§15.109(A)) 12





1. Summary of Test Report

1.1. Test Items

Description
Model Name
Applicant's name
Manufacturer's Name

smartphone CP3706AS Yulong Computer Tele

Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd

1.2. Test Standards

FCC Part 15, Subpart B 10-1-2019 Edition; ANSI C63.4 2014

1.3. Test Result

Total test 2 items, pass 2 items. Please refer to "6.2 Summary of Measurement Results"

1.4. Testing Location

Address:

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, China

1.5. Project data

Testing Start Date: 2020-03-27

Testing End Date: 2020-04-07

1.6. Signature

弱年

Liang Ýong (Prepared this test report)

P-4.70

Cao Junfei (Approved this test report)

たく

Zhang Yunzhuan (Reviewed this test report)





2. ClientInformation

2.1. Applicant Information

Company Name:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Addrooo:	Building B, Boton Science Park, Chaguang Road, Xili Town, Nanshan
Auuress.	District, Shenzhen
Contact:	Emily zhang
E-mail	zhangxuzhu@yulong.com
Tel:	15089742056

2.2. Manufacturer Information

Company Name:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Addroce:	Building B, Boton Science Park, Chaguang Road, Xili Town, Nanshan
Address.	District, Shenzhen
Contact:	Emily zhang
E-mail	zhangxuzhu@yulong.com
Tel:	15089742056





3. Equipment UnderTest (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	smartphone
Model Name	CP3706AS
FCC ID	R38YLCP3706AS
Antenna Type	Internal Antenna
Bands	GSM850/1900,WCDMA Band 2/4/5,CDMA BC0/BC1/BC10,
	LTE Band 2/4/5/7/12/13/25/26/41/66/71,CA_41C
Functions	FM,2.4G Wi-Fi,5G Wi-Fi, Bluetooth
Condition of EUT as received	No obvious damage in appearance

Note: Photographs of EUT are shown in ANNEX A of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Shenzhen Academy of Information and Communications Technology.

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Receive Date
UT01aa	990015570014472	P1	3706AS.SPRINT.191220.2D	2020-03-26
UT02aa	990015570014381	P1	3706AS.SPRINT.191220.2D	2020-03-26

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description
AE1	Battery
AE2	QC3.0 Charger
AE3	Type C cable
AE1	
Model	1.1.0LS0025001
Manufacturer	Lishen
Capacity	3980mAh
Nominal Volta	ge 3.85v
AE2	
Model	619043
Manufacturer	Kosun
AE3	
Model	SYL-A147A
Manufacturer	Saibao
*AE ID and AE L	_abel: is used to identify the test sample in the lab internally.

*AE Label: To distinguish the type and number of AE





3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	UT01aa+AE1+AE2+AE3	/
Set.2	UT02aa+AE1+AE3+PC	Data Transfer Mode

3.5. General Description

The Equipment Under Test (EUT) is a model of smartphone with internal antenna. Manual and specifications of the EUT were provided to fulfill the test. Samples (EUT+AE) undergoing test were selected by the Client. Relevant information is provided by the Client.

Note1: This report serve as a record of smartphone CP3706AS, manufactured by Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd, According to the declaration of differences by manufactured, one model of battery, one model of charger and one model of USB cable are added, see the table below:

AE	Manufacturer	MODEL	INPUT
Battery	Lishen	1.1.0LS0025001	Battery
QC3.0 Charger	Kosun	619043	QC3.0 Charger
USB Cable	Saibao	SYL-A147A	USB Cable

Note2: According to the declaration of differences by manufactured the following tests need to be performed at the worst case with the new type of battery, charger and USB cable:

No	Test Item	Test Mode
1	Conducted Emission	Camera Mode, Video Player Mode
2	Radiated Emission	Camera Mode, Video Player Mode,
2	Radiated Emission	Data Transfer Mode

Other results are cited from the initial report.

The report number for initial model is I19N002705-EMC.





4. <u>Reference Documents</u>

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15,	Padia fraguanay daviasa	10-1-2019
Subpart B	Radio frequency devices	Edition
	Methods of Measurement of Radio-Noise Emissions from	
ANSI C63.4	Low-Voltage Electrical and Electronic Equipment in the	2014
	Range of 9 kHz to 40 GHz	





5. LABORATORY ENVIRONMENT

Semi-anechoic chamber did not exceed following limits along the EMC testing:

9.10m×6.10m×5.60m (L×W×H)

Temperature	Min. = 15 ℃, Max. = 35℃
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz,>60dB;
	1MHz-18000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω
Normalised site attenuation (NSA)	<±4 dB, 3 m distance, from 30 to 1000 MHz
Shield room did not exceed following lin	nits along the EMC testing:
Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. =20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz,>60dB;
	1MHz-10000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω

Fully-anechoic chamber did not exceed following limits along the EMC testing:

9.10m×6.10m×5.60m (L×W×H)

Temperature	Min. = 15 ℃, Max. = 35℃
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz,>60dB;
	1MHz-18000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 18GHz, 3 m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz





6. SUMMARY OF TEST RESULTS

6.1. <u>Testing Environment</u>

Normal Temperature:	15~35 ℃
Relative Humidity:	20~75%
Atmospheric pressure	86~106kPa

6.2. Summary of Measurement Results

Abbreviations used in this clause:	
Р	Pass
NA	Not applicable
F	Fail

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Radiated Emission	15.109(a)	A.1	Р
2	Conducted Emission	15.107(a)	B.2	Р

6.3. Statement

6.3.1 Statements of conformity

This report takes measured values as criterion of test conclusion. The test conclusion meets the limit requirements.





7. Measurement uncertainty

Test item	Frequency ranges	Measurement uncertaint
Radiated Emission	30MHz-1GHz	4.90dB(k=2)
	1GHz-18GHz	4.60dB(k=2)
Conducted Emission	150kHz-30MHz	3.00dB(k=2)

8. Test Facilities Utilized

NO.	NAME	TYPE	SERIES	PRODUCER	CALDUE	CAL
			NUMBER		DATE	PERIOD
1.	Test Receiver	ESR7	101676	R&S	2020.11.27	1 year
2.	Test Receiver	ESCI	100702	R&S	2021.01.14	1 year
3.	Spectrum Analyzer	FSV40	101192	R&S	2021.01.14	1 year
4.	BiLog Antenna	3142E	00224831	ETS-Lindgren	2021.05.17	3 years
5.	LISN	ENV216	102067	R&S	2020.07.17	1 year
6.	Horn Antenna	3117	00066577	ETS-Lindgren	2022.04.02	3 years
7.	Chamber	FACT3-2.0	1285	ETS-Lindgren	2021.07.19	2 years
8.	Software	EMC32	V10.01.00	R&S	/	/
9.	Horn Antonna	QSH-SL-18-26	17013	Opar	2022 01 06	3 voare
	Hom Antenna	-S-20	17013	Q-pai	2023.01.00	5 years
10.	Horn Antonna	QSH-SL-8-26-	17014	Olpar	2022 01 06	2 voare
	Hom Antenna	40-K-20	17014	Q-pai	2023.01.00	5 years
11.	PC	ThinkPad		Lenovo	/	/
		T480		LEHOVO	/	/
12.	Printer	P1008	VNF6C12491	HP	/	/
13.	Mouse	MOEUUOA	44NY517	Lenovo	/	/





ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

Reference

FCC: CFR Part 15.109(a)

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator (Data transfer mode of EUT and charging mode of EUT) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 -2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.1.2 EUT Operating Mode:

Camera Mode: At the beginning of measurement, the battery is completely discharged. The battery and charger are installed so that the EUT works well and keeping on taking photos. **Video Player Mode:** T The EUT is connected to a charger for charging and keeping on playing mp3.

Data Transfer Mode: The model of the PC is Lenovo ThinkPad T480, and the serial number of the PC is PF-13LW0C. The EUT is connected to a PC for transmitting data. The software is used to let the PC keep on copying data to MS or TF Card, reading and erasing the data after copy action was finished.

A.1.3 Measurement Limit

Limit from CFR Part 15.109(a)

Frequency range	Field strength limit (µV/m)			
(MHz)	Quasi-peak	Peak		
30-88	100			
88-216	150			
216-960	200			
960-1000	500			
>1000		500	5000	

*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

A.1.4 Test Condition

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	120kHz (IF bandwidth)	5
Above 1000	1MHz/3MHz	15





A.1.5 Test set-up: 30MHz-1GHz



1GHz-30GHz



A.1.6 Measurement Results

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

 $Result=P_{Mea}+A_{Rpl}=P_{Mea}+G_{A}+G_{PL}$

Where

G_A: Antenna factor of receive antenna

 G_{PL} :PathLoss

P_{Mea}: Measurement result on receiver.

Result:Quasi-Peak(dBµV/m) /Average(dBµV/m)/Peak(dBµV/m)

Note: the result contains vertical part and Horizontal part





Camera Mode

Frequency range	Quasi-Peak	Result (dBµV/m)	Conclusion
(MHz)	Limit (dBµV/m)	Set.1	Conclusion
30-88	40		
88-216	44	See Figure A 1	Р
216-960	46	See Figure A. I	F
960-1000	54		

Frequency range	Average	Peak	Result (dBµV/m)	Conclusion
(MHz)	Limit (dBµV/m)	Limit (dBµV/m)	Set.1	Conclusion
1000 to 3000	-		See Figure A.2	Р
3000 to 18000		74	See Figure A.3	Р
18000 to 26500	54	74	See Figure A.4	Р
26500 to 30000			See Figure A.5	Р

Video Player Mode

Frequency range	Quasi-Peak	Result (dBμV/m)	Conclusion	
(MHz)	Limit (dBµV/m)	Set.1	Conclusion	
30-88	40			
88-216	44	Soo Figuro A 6	П	
216-960	46	See Figure A.o	F	
960-1000	54			

Frequency range	Average	Peak	Result (dBµV/m)	Conclusion
(MHz)	Limit (dBµV/m)	Limit (dBµV/m)	Set.1	Conclusion
1000 to 3000			See Figure A.7	Р
3000 to 18000	54	74	See Figure A.8	Р
18000 to 26500	54		See Figure A.9	Р
26500 to 30000			See Figure A.10	Р

Data Transfer Mode (PC to TF Card)

Frequency range	Quasi-Peak	Result (dBµV/m)	Conclusion
(MHz)	Limit (dBµV/m)	Set.2	Conclusion
30-88	40		
88-216	44	Soo Figuro A 11	Р
216-960	46	See Figure A.TT	F
960-1000	54		

Frequency range	Average	Peak	Result (dBµV/m)	Conclusion
(MHz)	Limit (dBµV/m)	Limit (dBµV/m)	Set.2	Conclusion
1000 to 3000			See Figure A.12	Р
3000 to 18000	E 4	74	See Figure A.13	Р
18000 to 26500	54		See Figure A.14	Р
26500 to 30000			See Figure A.15	Р







Figure A.1	Radiated Emission (Set.1,Camera Mode, 30MHz to 1GHz)
Final_Result	

Frequency	QuasiPeak	Limit	Margin	Pol	ARpl	P _{Mea}
(MHz)	(dBµV/m)	(dBµV/m)	(dB)		(dB/m)	(dBµV)
31.139444	27.91	40	12.09	V	-25.4	53.31
43.452222	35.39	40	4.61	V	-31.7	67.09
62.530556	29.4	40	10.6	V	-35.9	65.3
80.889444	31.05	40	8.95	V	-33.5	64.55
133.012222	29.84	43.5	13.66	V	-32.4	62.24
156.561667	29.81	43.5	13.69	V	-33.6	63.41







Figure A.2 Radiated Emission (Set.1, Camera Mode , 1GHz to 3GHz)







Figure A.3	Radiated Emission (Set.1, Camera Mode , 3GHz to 18GHz)
Final_Results_PK	

Frequency(MHz)	Peak	Limit	Morgin (dP)	Delority	ARpl	P _{Mea}
	(dBµV/m)	(dBµV/m)	iviargin(ub)	Polarity	(dB/m)	(dBµV)
10467.5	46.26	74	27.74	Н	5	41.26
12097	48.01	74	25.99	V	7.4	40.61
12944	46.82	74	27.18	V	8.6	38.22
14435	48.2	74	25.8	Н	11	37.2
17043.5	51.82	74	22.18	V	15	36.82
17879	50.58	74	23.42	V	16.2	34.38
Final_Results_AVG	ì					
	Average	Limit		Delerity	ARpl	P_{Mea}
Frequency(MHZ)	(dBµV/m)	(dBµV/m)	Margin(dB)	Polarity	(dB/m)	(dBµV)
10214.5	33.69	54	20.31	V	5.1	28.59
11584	34.49	54	19.51	Н	6.6	27.89

54

54

54

54

18.96

16.67

15.96

14.22

V

V

Н

н

8

11.5

14.3

16.2

35.04

37.33

38.04

39.78

12503.5

14508.5

16169

17891.5

27.04

25.83

23.74

23.58







Figure A.4 Radiated Emission (Set.1, Camera Mode , 18GHz to 26.5GHz)



Figure A.5 Radiated Emission (Set.1, Camera Mode , 26.5GHz to 30GHz)

CAICT

No.I20N00718-EMC







Figure A.6	Radiated Emission (Set.1, Video Player Mode, 30MHz to 1GHz)
Final_Result	

Frequency	QuasiPeak	Limit	Margin	Pol	ARpl	P _{Mea}
(MHz)	(dBµV/m)	(dBµV/m)	(dB)		(dB/m)	(dBµV)
31.167222	31.54	40	8.46	V	-25.4	56.94
43.516667	35.02	40	4.98	V	-31.8	66.82
62.528889	26.09	40	13.91	V	-35.9	61.99
78.584444	27.13	40	12.87	V	-33.5	60.63
164.203333	32.28	43.5	11.22	V	-32.9	65.18
508.782778	30.01	46	15.99	V	-23.2	53.21







Figure A.7 Radiated Emission (Set.1, Video Player Mode, 1GHz to 3GHz)







Figure A.8	Radiated Emission (Set.1, Video Player Mode, 3GHz to 18GHz)
Final_Results_PK	

Frequency(MHz)	Peak	Limit	Margin(dP)	Polority	ARpl	P _{Mea}							
Frequency(MHZ)	(dBµV/m)	(dBµV/m)	Margin(ub)	Folanty	(dB/m)	(dBµV)							
10477	45.79	74	28.21	V	5	40.79							
11707	46.75	74	27.25	V	6.9	39.85							
13075.5	46.62	74	27.38	Н	8.4	38.22							
14543	48.13	74	25.87	Н	11.4	36.73							
16641	51.1	74	22.9	V	14.9	36.2							
17936.5	51.28	74	22.72	Н	16.1	35.18							
Final_Results_AVG	ì					Final_Results_AVG							
Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)							
Frequency(MHz)	Average (dBµV/m) 33.29	Limit (dBµV/m) 54	Margin(dB) 20.71	Polarity H	ARpl (dB/m) 5.1	P _{Mea} (dBµV) 28.19							
Frequency(MHz) 10179 11520.5	Average (dBµV/m) 33.29 34.11	Limit (dBµV/m) 54 54	Margin(dB) 20.71 19.89	Polarity H H	ARpl (dB/m) 5.1 6.2	P _{Mea} (dBµV) 28.19 27.91							
Frequency(MHz) 10179 11520.5 12500.5	Average (dBµV/m) 33.29 34.11 34.89	Limit (dBµV/m) 54 54 54	Margin(dB) 20.71 19.89 19.11	Polarity H H H	ARpl (dB/m) 5.1 6.2 8	P _{Mea} (dBμV) 28.19 27.91 26.89							
Frequency(MHz) 10179 11520.5 12500.5 14501.5	Average (dBµV/m) 33.29 34.11 34.89 36.93	Limit (dBµV/m) 54 54 54 54	Margin(dB) 20.71 19.89 19.11 17.07	Polarity H H H H	ARpl (dB/m) 5.1 6.2 8 11.5	P _{Mea} (dBµV) 28.19 27.91 26.89 25.43							
Frequency(MHz) 10179 11520.5 12500.5 14501.5 16138	Average (dBµV/m) 33.29 34.11 34.89 36.93 37.65	Limit (dBµV/m) 54 54 54 54 54	Margin(dB) 20.71 19.89 19.11 17.07 16.35	Polarity H H H H	ARpl (dB/m) 5.1 6.2 8 11.5 14.2	P _{Mea} (dBµV) 28.19 27.91 26.89 25.43 23.45							







Figure A.9 Radiated Emission (Set.1, Video Player Mode, 18GHz to 26.5GHz)



Figure A.10 Radiated Emission (Set.1, Video Player Mode, 26.5GHz to 30GHz)







Figure A.11 Radiated Emission (Set.2, Data Transfer Mode/PC to TF Card, 30MHz to 1GHz)

Frequency	QuasiPeak	Limit	Margin	Pol	ARpl	P _{Mea}
(MHz)	(dBµV/m)	(dBµV/m)	(dB)		(dB/m)	(dBµV)
51.187778	20.03	40	19.97	V	-37.5	57.53
85.798333	13.89	40	26.11	Н	-33.3	47.19
186.085556	31.64	43.5	11.86	Н	-34	65.64
240.025	34.58	46	11.42	Н	-31.5	66.08
370.411667	31.11	46	14.89	Н	-26.9	58.01
571.186111	26.68	46	19.32	Н	-22.1	48.78

Final_Result







Figure A.12 Radiated Emission (Set.2, Data Transfer Mode/PC to TF Card, 1GHz to 3GHz)







Figure A.13	Radiated Emission	(Set.2, Data	Transfer N	lode/PC to	TF Card,	3GHz to 1	I8GHz)
Final Result	ts PK						

	Peak	Limit	Morgin (dP)	Delority	ARpl	P _{Mea}		
Frequency(MHZ)	(dBµV/m)	(dBµV/m)	iviargin(ub)	Polanty	(dB/m)	(dBµV)		
10870	46.89	74	27.11	Н	5.2	41.69		
11691	47.56	74	26.44	V	7.1	40.46		
12766.5	47.65	74	26.35	V	7.8	39.85		
14498.5	49.14	74	24.86	V	11.4	37.74		
16605.5	51.6	74	22.4	Н	14.8	36.8		
17635	53.25	74	20.75	V	15.6	37.65		
Final_Results_AVG								
Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)		
Frequency(MHz) 10459.5	Average (dBµV/m) 34.18	Limit (dBµV/m) 54	Margin(dB) 19.82	Polarity H	ARpl (dB/m) 5	Р _{меа} (dBµV) 29.18		
Frequency(MHz) 10459.5 11906.5	Average (dBµV/m) 34.18 35.36	Limit (dBµV/m) 54 54	Margin(dB) 19.82 18.64	Polarity H H	ARpl (dB/m) 5 7	P _{Mea} (dBµV) 29.18 28.36		
Frequency(MHz) 10459.5 11906.5 13089.5	Average (dBµV/m) 34.18 35.36 35.65	Limit (dBµV/m) 54 54 54	Margin(dB) 19.82 18.64 18.35	Polarity H H H	ARpl (dB/m) 5 7 8.4	P _{Mea} (dBµV) 29.18 28.36 27.25		
Frequency(MHz) 10459.5 11906.5 13089.5 14466	Average (dBµV/m) 34.18 35.36 35.65 37.7	Limit (dBµV/m) 54 54 54 54	Margin(dB) 19.82 18.64 18.35 16.3	Polarity H H H V	ARpl (dB/m) 5 7 8.4 11.2	P _{Mea} (dBµV) 29.18 28.36 27.25 26.5		
Frequency(MHz) 10459.5 11906.5 13089.5 14466 16508.5	Average (dBµV/m) 34.18 35.36 35.65 37.7 39.24	Limit (dBµV/m) 54 54 54 54 54	Margin(dB) 19.82 18.64 18.35 16.3 14.76	Polarity H H V H	ARpl (dB/m) 5 7 8.4 11.2 14.7	P _{Mea} (dBµV) 29.18 28.36 27.25 26.5 24.54		







Figure A.14 Radiated Emission (Set.2, Data Transfer Mode/PC to TF Card, 18GHz to 26.5GHz)



Figure A.15 Radiated Emission (Set.2, Data Transfer Mode/PC to TF Card, 26.5GHz to 30GHz)





B.2 Conducted Emission (§15.107(a)) Reference

FCC: CFR Part 15.107(a)

B.2.1 Method of measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 -2014, section 7.3.

B.2.2 EUT Operating Mode:

Camera Mode: At the beginning of measurement, the battery is completely discharged. The battery and charger are installed so that the EUT works well and keeping on taking photos. **Video Player Mode:** T The EUT is connected to a charger for charging and keeping on playing mp3.

B.2.3 Measurement Limit

Frequency of emission (MHz)	Conducted limit (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						

B.2.4Test set-up:







B.2.5 Test Condition in charging mode

Voltage (V)	Frequency (Hz)
120	60
240	60

RBW	Sweep Time(s)
9kHz	1

B.2.6 Measurement Results

$$\label{eq:QuasiPeak} \begin{split} & \mathsf{QuasiPeak}(\mathsf{dB}\mu\mathsf{V}) \ / \mathsf{Average}(\mathsf{dB}\mu\mathsf{V}) = & \mathsf{PMea+Corr} \\ & \mathsf{Where} \end{split}$$

Corr: PathLoss + Voltage Division Factor

PMea: Measurement result on receiver.

Camera Mode

AC Input Port/ Voltage: 120V/60Hz

Frequency range	Quasi-peak	Average Limit	Result (dBµV)	Conclusion		
(MHz)	Limit (dBµV)	(dBµV)	Set.1	Conclusion		
0.15 to 0.5	66 to 56	56 to 46				
0.5 to 5 56		46	See Figure B.1	Р		
5 to 30	60	50				
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to						

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Video Player Mode

AC Input Port/ Voltage: 120V/60Hz

Frequency range	Quasi-peak	Average Limit	Result (dBµV)	Conducion				
(MHz)	Limit (dBµV)	(dBµV)	Set.1	Conclusion				
0.15 to 0.5	66 to 56	56 to 46						
0.5 to 5	56	46	See Figure B.2	Р				
5 to 30	60	50						
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to								
0.5 MHz.	0.5 MHz.							





Camera Mode

AC Input Port/ Voltage: 240V/60Hz

Frequency range	Quasi-peak	Average Limit	Result (dBµV)	Conducion				
(MHz)	Limit (dBµV)	(dBµV)	Set.1	Conclusion				
0.15 to 0.5	66 to 56	56 to 46						
0.5 to 5	56	46	See Figure B.3	Р				
5 to 30	60	50						
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to								
0.5 MHz.	0.5 MHz.							

Video Player Mode

AC Input Port/ Voltage: 240V/60Hz

Frequency range	Quasi-peak	Average Limit	Result (dBµV)	Conclusion			
(MHz)	Limit (dBµV)	(dBµV)	Set.1	Conclusion			
0.15 to 0.5	66 to 56	56 to 46					
0.5 to 5	56	46	See Figure B.4	Р			
5 to 30	60	50					
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to							
0.5 MHz.							





AC Input Port/ Voltage: 120V/60Hz



Figure B.1 Conducted Emission(Set.1, Camera Mo	de)
--	-----

Final_Result_QP	K					
Frequency	QuasiPeak	Limit	Margin	Line	Corr.	P _{Mea}
(MHz)	(dBµV)	(dBµV)	(dB)		(dB)	(dBµV)
0.154	43.27	65.78	22.51	Ν	9.6	33.67
0.636	23.17	56	32.83	L1	9.6	13.57
0.908	17.78	56	38.22	L1	9.7	8.08
1.948	20.13	56	35.87	Ν	9.7	10.43
4.44	19.95	56	36.05	L1	9.7	10.25
15.96	32.18	60	27.82	Ν	9.8	22.38

Final_Result_AVG

Frequency	Average	Limit	Margin	Line	Corr.	P _{Mea}
(MHz)	(dBµV)	(dBµV)	(dB)		(dB)	(dBµV)
0.178	25.05	54.58	29.53	Ν	9.6	15.45
0.728	12.81	46	33.19	L1	9.6	3.21
1.06	12.05	46	33.95	Ν	9.7	2.35
1.656	11.45	46	34.55	Ν	9.7	1.75
4.58	14.18	46	31.82	Ν	9.7	4.48
15.664	20.66	50	29.34	Ν	9.8	10.86





AC Input Port/ Voltage: 120V/60Hz



Figure B.2 Conducted Emission(Set.1, Video Player Mode) Final Result QPK

Frequency	QuasiPeak	Limit	Margin	Line	Corr.	P _{Mea}	
(MHz)	(dBµV)	(dBµV)	(dB)		(dB)	(dBµV)	
0.154	42.05	65.78	23.73	L1	9.6	32.45	
0.18	37.35	64.49	27.14	L1	9.6	27.75	
0.64	26.07	56	29.93	N	9.6	16.47	
3.408	14.85	56	41.15	L1	9.7	5.15	
6.712	18.12	60	41.88	L1	9.7	8.42	
16.224	31.72	60	28.28	N	9.8	21.92	
Final_Result_AV	G						

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	Ρ _{Mea} (dBμV)
0.176	24.07	54.67	30.6	L1	9.6	14.47
0.64	23.71	46	22.29	Ν	9.6	14.11
1.324	10.48	46	35.52	L1	9.7	0.78
4.888	14.51	46	31.49	Ν	9.7	4.81
9.892	13.65	50	36.35	L1	9.7	3.95
15.812	20.43	50	29.57	N	9.8	10.63





AC Input Port/ Voltage: 240V/60Hz



Figure B.3	Conducted Emission(Set.1, Camera Mode)
κ	

Final_Result_QPK							
Frequency	QuasiPeak	Limit	Margin	Line	Corr.	P _{Mea}	
(MHz)	(dBµV)	(dBµV)	(dB)		(dB)	(dBµV)	
0.15	50.11	66	15.89	Ν	9.6	40.51	
0.192	46.87	63.95	17.08	L1	9.6	37.27	
0.396	32.86	57.94	25.08	L1	9.7	23.16	
3.064	17.98	56	38.02	L1	9.7	8.28	
4.864	23.77	56	32.23	L1	9.7	14.07	
14.42	30.34	60	29.66	L1	9.8	20.54	
Final_Result_AVG							

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	Ρ _{Mea} (dBμV)
0.154	23.93	55.78	31.85	L1	9.6	14.33
0.22	19.19	52.82	33.63	Ν	9.6	9.59
0.684	22.4	46	23.6	Ν	9.6	12.8
2.58	14.84	46	31.16	Ν	9.7	5.14
4.772	16.29	46	29.71	Ν	9.7	6.59
13.84	21.29	50	28.71	L1	9.8	11.49





AC Input Port/ Voltage: 240V/60Hz



Figure B.4 Conducted Emission(Set.1, Video Player Mode) Final Result QPK

Frequency	QuasiPeak	Limit	Margin	Line	Corr.	P _{Mea}		
(MHz)	(dBµV)	(dBµV)	(dB)		(dB)	(dBµV)		
0.154	50.1	65.78	15.68	L1	9.6	40.5		
0.256	39.42	61.56	22.14	N	9.6	29.82		
1.928	18.9	56	37.1	N	9.7	9.2		
4.34	18.53	56	37.47	N	9.7	8.83		
5.772	18.63	60	41.37	N	9.7	8.93		
15.592	29.13	60	30.87	L1	9.8	19.33		
Final_Result_AV	G							

Frequency Limit Line Corr. $\mathsf{P}_{\mathsf{Mea}}$ Average Margin (MHz) (dBµV) (dBµV) (dB) (dB) (dBµV) 0.15 24.24 31.76 L1 9.6 14.64 56 0.22 18.94 52.82 33.88 L1 9.6 9.34 0.688 22.86 46 23.14 Ν 9.6 13.26 2.064 15.52 30.48 Ν 9.7 5.82 46 4.308 15.07 46 30.93 9.7 5.37 Ν 13.832 20.61 50 29.39 L1 9.8 10.81

END OF REPORT