TEST REPORT

No.I22N01112-EMC

for

Shenzhen Tinno Mobile Technology Corp.

Smart Phone

Model Name：U328AA

With

Hardware Version: V1.0

Software Version: U328AAV01.08.10

FCC ID: XD6U328AA

Issued Date: 2022-07-22

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.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22N01112-EMC	Rev.0	1st edition	2022-07-22

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

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1. SUMMARY OF TEST REPORT

1.1. Test Items

Description	Smart Phone
Model Name	U328AA
Applicant's name	Shenzhen Tinno Mobile Technology Corp.
Manufacturer's Name	Shenzhen Tinno Mobile Technology Corp.

1.2. Test Standards

FCC Part 15, Subpart B (10-1-2020 Edition); ANSI C63.4-2014.

1.3. Test Result

Total test 2 items, pass 2 items. Please refer to "6.2 Test 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: 2022-07-01 Testing End Date: 2022-07-20

1.6. Signature

Liang Yong
(Prepared this test report)

Zhang Yunzhuan
(Reviewed this test report)

Cao Junfei
(Approved this test report)

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2. CLIENT INFORMATION

2.1. Applicant Information

Company Name:	Shenzhen Tinno Mobile Technology Corp.
Address:	27-001, South Side of Tianlong Mobile Headquarters Building, Tongfa South Road, Xili Community, Xili Street, Nanshan District, Shen zhen ,PRC
Contact	xiaoping.li
Email	xiaoping.li@tinno.com
Tel.	0755-86095550
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2.2. Manufacturer Information

Company Name:	Shenzhen Tinno Mobile Technology Corp.
Address:	27-001, South Side of Tianlong Mobile Headquarters Building, Tongfa South Road, Xili Community, Xili Street, Nanshan District, Shen zhen ,PRC
Contact	xiaoping.li
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Tel.	0755-86095550
Fax	0755-86095551

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3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)

3.1. About EUT

Description	Smart Phone
Model Name	U328AA
FCC ID	XD6U328AA
Condition of EUT as received	No obvious damage in appearance

Note: 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
UT16aa	866913060013221	V1.0	U328AAV01.08.10	2022-06-20

*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	Charger
AE3	USB Cable

AE1-1

Model	LT25H426271P
Manufacturer	Guangdong Fenghua New Energy Co.,Ltd.
Capacity	2500mAh
Nominal Voltage	3.85V

AE1-2

Model	LT25H426271W
Manufacturer	Ningbo Veken Battery Co., Ltd.
Capacity	2500mAh
Nominal Voltage	3.85V

AE2-1

Model	TN-050120U9
Manufacturer	Chongqing Lianmao Electronics Co., Ltd.

AE2-2

Model	TN-050120U8
Manufacturer	Guangdong Beicom Electronics Co., Ltd.

AE3-1

Model	336275
Manufacturer	SUNTOPS ELECTRONICS CO.,LTD

AE3-2

Model	T365-011B-1

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Manufacturer	Shenzhen Yihuaxing Electronics Co. Ltd.

*AE ID and AE Label: is used to identify the test sample in the lab internally.
*AE Label: To distinguish the type and number of AE
AE: ancillary equipment

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3.4. EUT Set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT+AE1-2+AE2-1+AE3-1	
Set.2	EUT+AE1-2+AE2-2+AE3-2	
Set.3	EUT+AE1-2+AE3-1+PC	
Set.4	EUT+AE1-2+AE3-2+PC	

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3.5. General Description

The Equipment Under Test (EUT) is a model of Smart Phone.
It supports WCDMA Bands 2/4/5/, LTE Bands 2/4/5/12/14/30.
It has Camera, USB memory, Bluetooth and Wi-Fi functions.
It consists of normal options: Battery, Charger and USB Cable.
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.

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4. REFERENCE DOCUMENTS

4.1. Reference Documents for Testing

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

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	(10-1-2020 Edition)
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

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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 limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
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

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6. SUMMARY OF TEST RESULTS

6.1. Testing Environment

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

6.2. Summary of Measurement Results

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

Items	**Test Name**	**Clause in FCC/IC rules**	**Section in this report**	**Verdict**
1	Radiated Emission	15.109(a)/ Section 6.2	A.1	P
2	Conducted Emission	15.107(a)/ Section 6.1	A.2	P

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.

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7. MEASUREMENT UNCERTAINTY

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	4.86dB(*k*=2)
	1GHz-18GHz	4.82dB(*k*=2)
Conducted Emission	150kHz-30MHz	2.62dB(*k*=2)

8. MEASURING APPARATUS UTILIZED

No.	Name	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1.	Test Receiver	ESR7	101676	R&S	2022.11.24	1 year
2.	Test Receiver	ESCI	100702	R&S	2023.01.12	1 year
3.	Spectrum Analyzer	FSV40	101192	R&S	2023.01.12	1 year
4.	BiLog Antenna	3142E	0224831	ETS-Lindgren	2024.05.27	3 years
5.	Horn Antenna	3117	00066585	ETS-Lindgren	2025.03.15	3 years
6.	LISN	ENV216	102067	R&S	2023.07.14	1 year
7.	Chamber	FACT3-2.0	1285	ETS-Lindgren	2023.05.29	2 years
8.	Software	EMC32	V10.50.40	R&S	/	/
9.	Universal Radio Communication Tester	CMW500	152499	R&S	2023.07.14	1 year

9. TEST ACCESSORY UTILIZED

No.	Name	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1.	PC	ThinkPad T480	PF-13LW0C	Lenovo	/	/
2.	Printer	P1008	VNF6C12491	HP	/	/
3.	Mouse	MOEUUOA	44NY517	Lenovo	/	/

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ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

Reference

FCC: Part 15.109(a)

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator at a distance of 3 meters or 1 meter 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. Below 18GHz the measurement antenna was placed at a distance of 3 meters from the EUT. Above 18GHz the measurement antenna was placed at a distance of 1 meters from the EUT. (According to Part 15.31(f)(1), 1m limit is calculated by extrapolation factor of 20 dB/decade) 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: 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: The EUT is connected to a charger for charging and keeping on playing mp3.

Data Transfer: 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 EUT or TF Card, reading and erasing the data after copy action was finished.

WCDMA receiver: The EUT is connected to a charger for charging. The EUT is synchronized to System Simulator (SS), and able to respond to paging messages and incoming call. An established call has been released.

LTE receiver: The EUT is connected to a charger for charging. The EUT is synchronized to System Simulator (SS), and able to respond to paging messages and incoming call. An established call has been released.

This device contains the receivers which tune and operate between 30MHz-960MHz in the following bands:

WCDMA Band5, LTE Band 5/12/14.

The EUT was tested while operating in licensed band receiver mode. All licensed band receivers that tune in the range of 30MHz-960MHz, as listed in Section 3.1, are investigated. Only the worst case emissions are reported.

All equipment is placed on the test table top and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions.

A.1.3 Measurement Limit

Limit from Part 15.109(a)

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

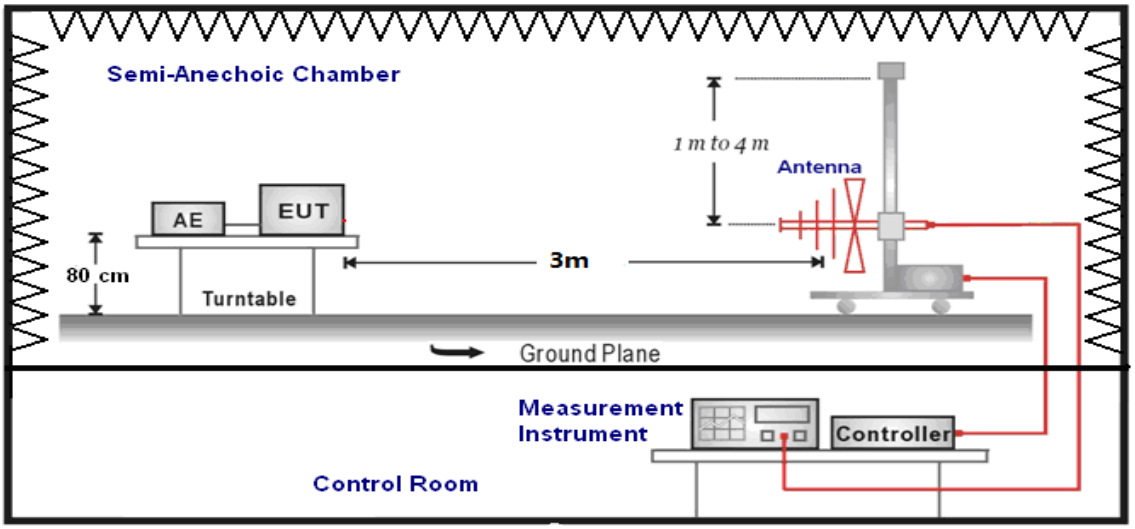
*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

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



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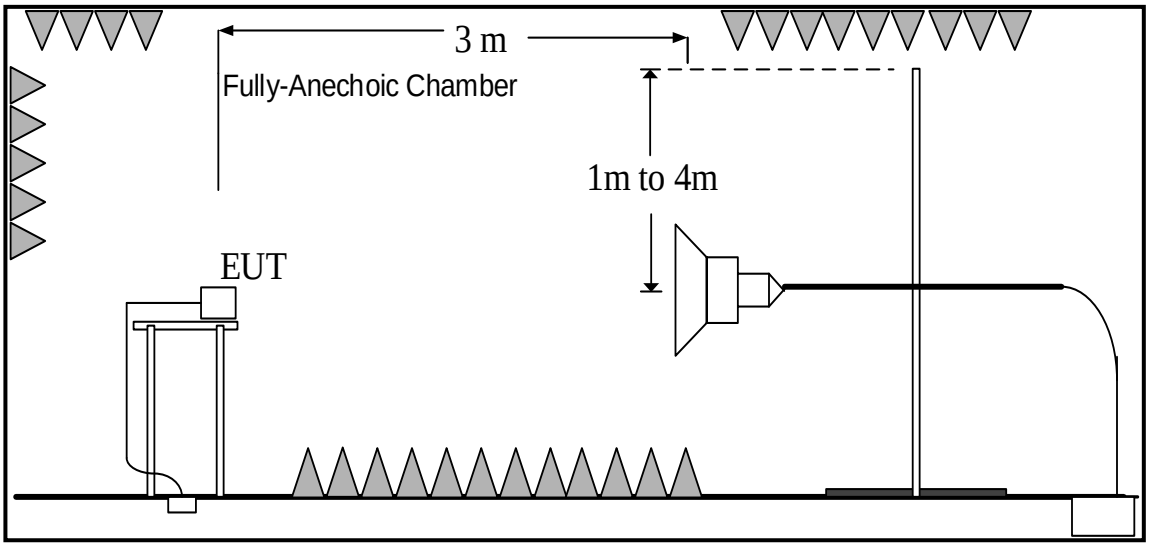
1GHz-40GHz



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

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
30-88	40.00	See Figure A.1.1.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.2.	P
18000 to 26500	54.00	74.00	See Figure A.1.3.	P

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Video Player:

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
30-88	40.00	See Figure A.1.4.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.5.	P
18000 to 26500	54.00	74.00	See Figure A.1.6.	P

WCDMA receiver Band 5

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
30-88	40.00	See Figure A.1.7.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.8.	P
18000 to 26500	54.00	74.00	See Figure A.1.9.	P

LTE receiver Band 5

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
30-88	40.00	See Figure A.1.10.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.11.	P
18000 to 26500	54.00	74.00	See Figure A.1.12.	P

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LTE receiver Band 12

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
30-88	40.00	See Figure A.1.13.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.14.	P
18000 to 26500	54.00	74.00	See Figure A.1.15.	P

LTE receiver Band 14

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
30-88	40.00	See Figure A.1.16.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.1	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.17.	P
18000 to 26500	54.00	74.00	See Figure A.1.18.	P

Camera

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.2	Conclusion
30-88	40.00	See Figure A.1.19.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.2	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.20.	P
18000 to 26500	54.00	74.00	See Figure A.1.21.	P

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Data Transfer: PC TO EUT

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
30-88	40.00	See Figure A.1.22.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.23.	P
18000 to 26500	54.00	74.00	See Figure A.1.24.	P

Data Transfer: EUT TO PC

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
30-88	40.00	See Figure A.1.25.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.26.	P
18000 to 26500	54.00	74.00	See Figure A.1.27.	P

Data Transfer: PC TO TF Card

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
30-88	40.00	See Figure A.1.28.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.29.	P
18000 to 26500	54.00	74.00	See Figure A.1.30.	P

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Data Transfer: TF Card TO PC

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
30-88	40.00	See Figure A.1.31.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.3	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.32.	P
18000 to 26500	54.00	74.00	See Figure A.1.33.	P

Data Transfer: TF Card TO PC

Frequency range (MHz)	Quasi-Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.4	Conclusion
30-88	40.00	See Figure A.1.34.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)	Result (dBμV/m) UT16aa/Set.4	Conclusion
1000 to 18000	54.00	74.00	See Figure A.1.35.	P
18000 to 26500	54.00	74.00	See Figure A.1.36.	P

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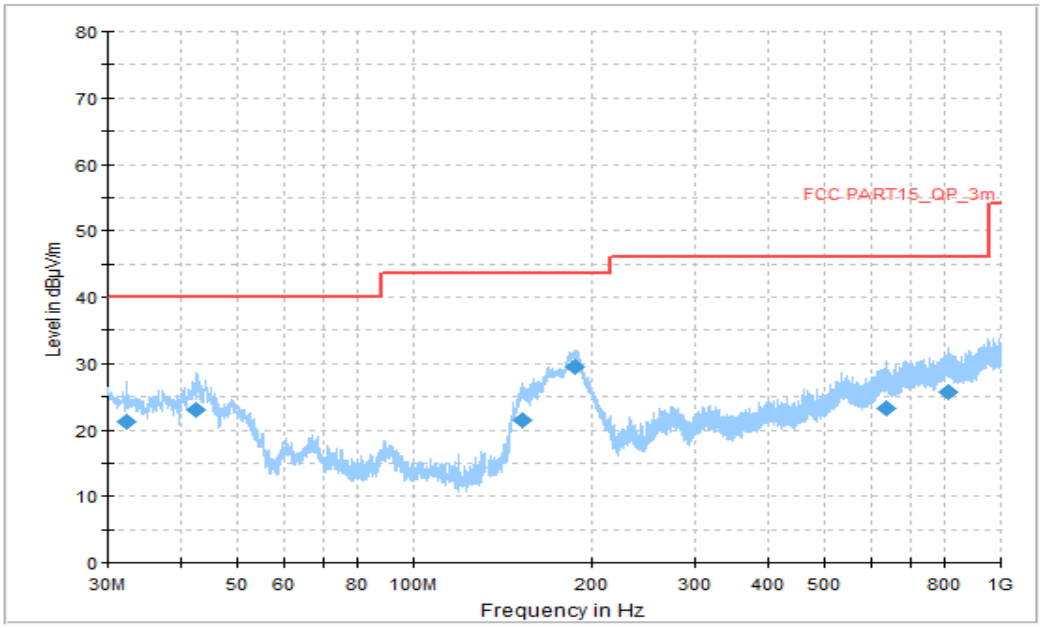

Figure A.1.1. Radiated Emission (Camera, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
32.371111	21.30	40.00	18.70	V	-14	35.30
42.556111	22.92	40.00	17.08	V	-20	42.92
151.735000	21.42	43.52	22.10	V	-18	39.42
186.708889	29.54	43.52	13.98	V	-18	47.54
637.273889	23.25	46.02	22.77	H	-3	26.25
814.730000	25.62	46.02	20.40	H	-1	26.62

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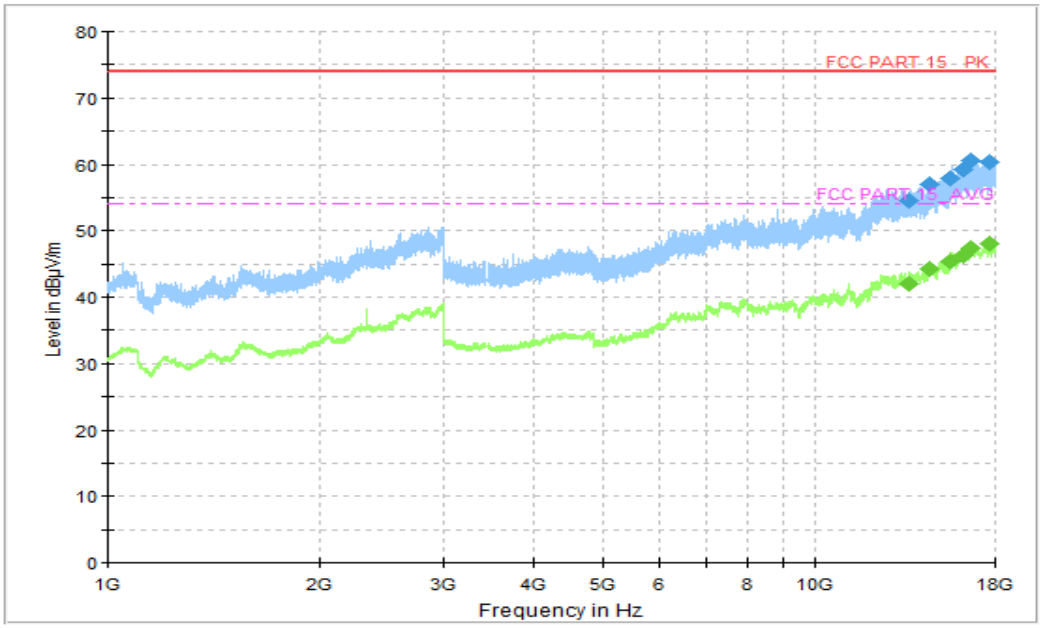

Figure A.1.2. Radiated Emission (Camera, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13610.000000	54.55	74.00	19.45	V	18	36.55
14540.750000	56.92	74.00	17.08	H	19	37.92
15577.500000	57.94	74.00	16.06	H	20	37.94
16261.000000	59.25	74.00	14.75	H	22	37.25
16593.000000	60.62	74.00	13.38	V	23	37.62
17693.750000	60.26	74.00	13.74	V	24	36.26

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13610.000000	41.95	54.00	12.05	V	18	23.95
14540.750000	44.21	54.00	9.79	H	19	25.21
15577.500000	45.29	54.00	8.71	H	20	25.29
16261.000000	46.32	54.00	7.68	H	22	24.32
16593.000000	47.41	54.00	6.59	H	23	24.41
17693.750000	47.95	54.00	6.05	H	24	23.95

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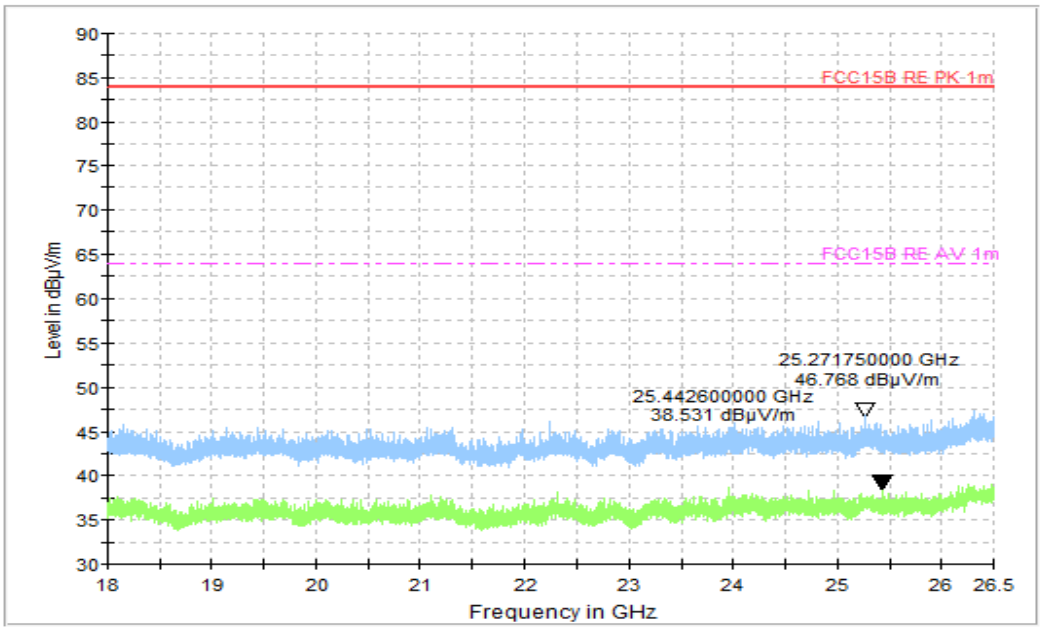

Figure A.1.3. Radiated Emission (Camera, 18GHz to 26.5GHz)

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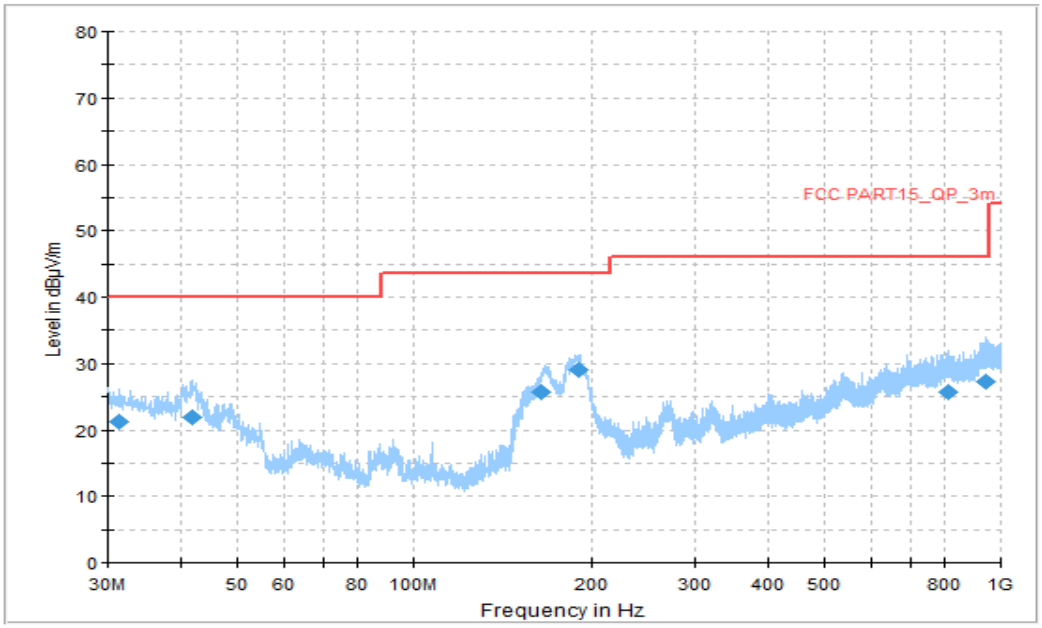

Figure A.1.4. Radiated Emission (Video Player, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
31.455000	21.27	40.00	18.73	V	-13	34.27
41.693889	21.97	40.00	18.03	V	-19	40.97
164.021667	25.79	43.52	17.73	V	-18	43.79
190.157778	29.12	43.52	14.40	V	-18	47.12
813.652222	25.67	46.02	20.35	H	-1	26.67
943.308889	27.26	46.02	18.76	H	1	26.26

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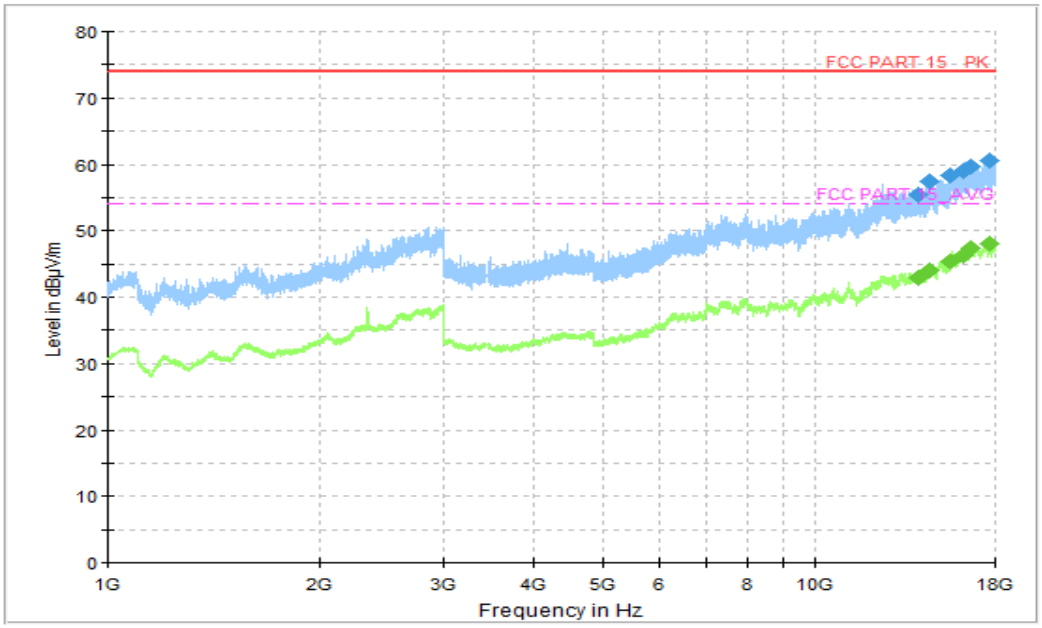

Figure A.1.5. Radiated Emission (Video Player, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14027.500000	55.42	74.00	18.58	V	18	37.42
14559.250000	57.52	74.00	16.48	H	19	38.52
15576.000000	58.36	74.00	15.64	H	20	38.36
16264.250000	58.94	74.00	15.06	H	22	36.94
16618.250000	59.61	74.00	14.39	V	23	36.61
17701.250000	60.65	74.00	13.35	V	24	36.65

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14027.500000	42.88	54.00	11.12	V	18	24.88
14559.250000	43.98	54.00	10.02	H	19	24.98
15576.000000	45.38	54.00	8.62	H	20	25.38
16264.250000	46.28	54.00	7.72	H	22	24.28
16618.250000	47.33	54.00	6.67	H	23	24.33
17701.250000	48.05	54.00	5.95	H	24	24.05

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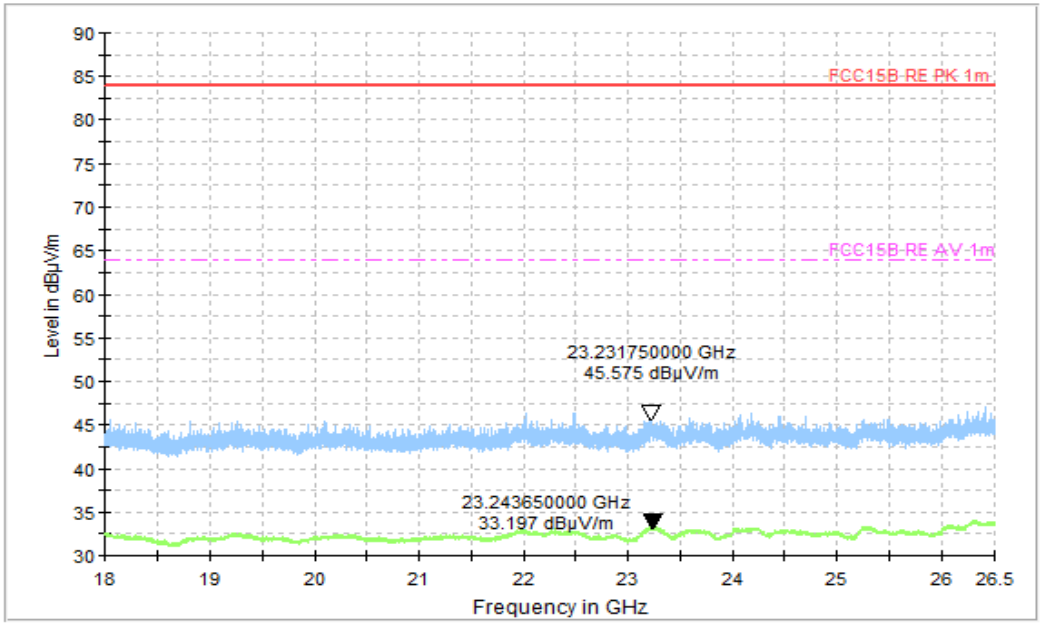

Figure A.1.6. Radiated Emission (Video Player, 18GHz to 26.5GHz)

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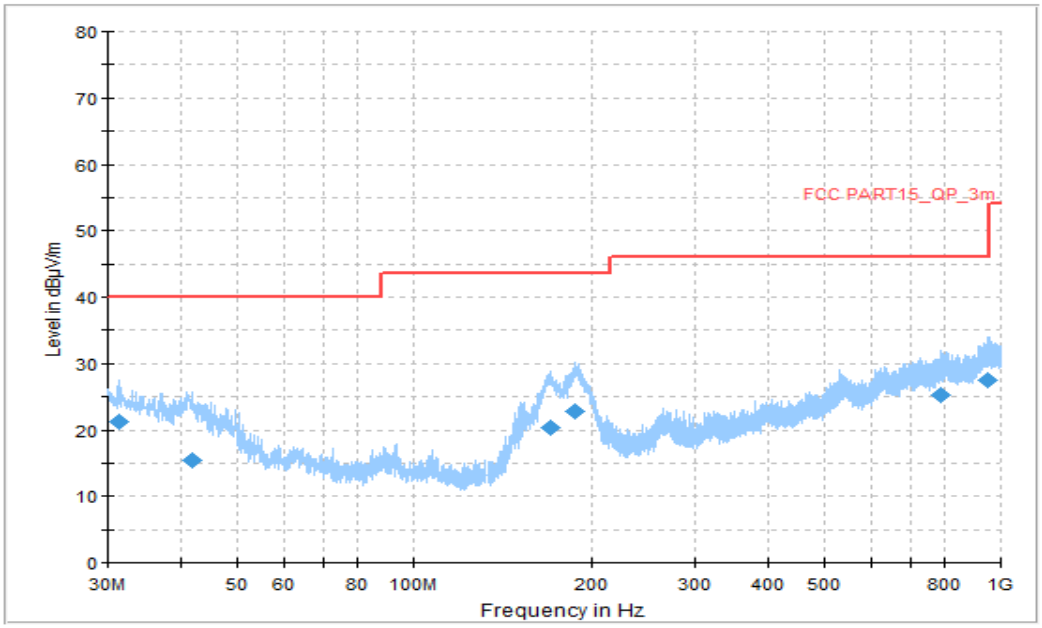

Figure A.1.7. Radiated Emission (WCDMA receiver Band 5, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
31.293333	21.33	40.00	18.67	V	-13	34.33
41.693889	15.53	40.00	24.47	V	-19	34.53
170.272778	20.38	43.52	23.14	V	-18	38.38
187.140000	22.82	43.52	20.70	V	-18	40.82
789.671667	25.16	46.02	20.86	V	-1	26.16
950.583889	27.45	46.02	18.57	H	1	26.45

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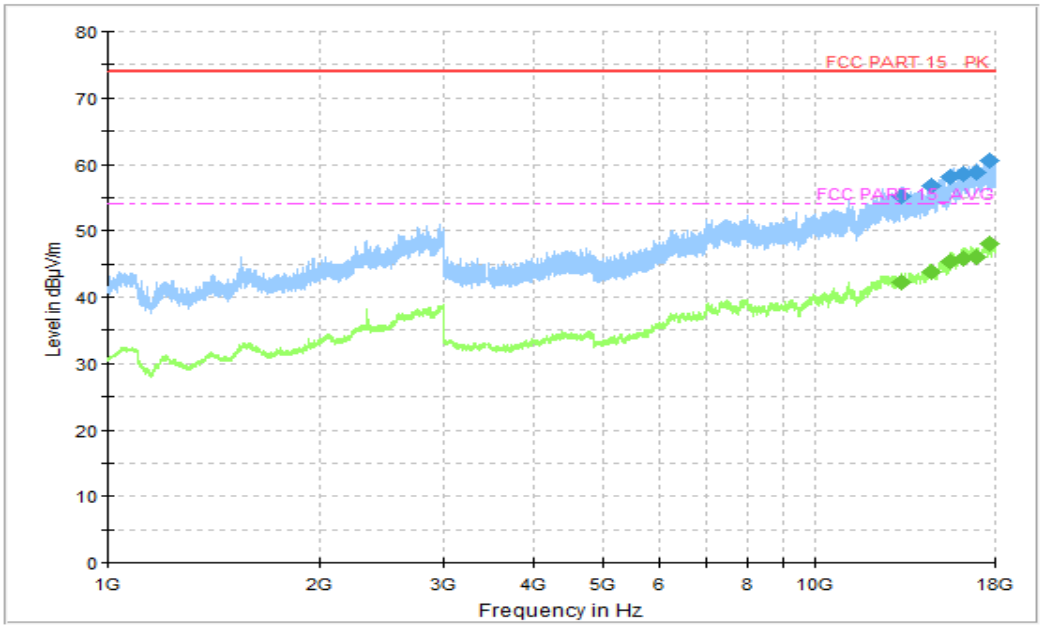

Figure A.1.8. Radiated Emission (WCDMA receiver Band 5, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13258.250000	55.10	74.00	18.90	V	18	37.10
14583.500000	56.75	74.00	17.25	H	19	37.75
15576.250000	58.16	74.00	15.84	V	20	38.16
16195.500000	58.64	74.00	15.36	H	22	36.64
16919.500000	58.78	74.00	15.22	V	23	35.78
17698.750000	60.61	74.00	13.39	H	24	36.61

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13258.250000	42.34	54.00	11.66	V	18	24.34
14583.500000	43.82	54.00	10.18	H	19	24.82
15576.250000	45.42	54.00	8.58	V	20	25.42
16195.500000	45.82	54.00	8.18	H	22	23.82
16919.500000	46.04	54.00	7.96	V	23	23.04
17698.750000	47.98	54.00	6.02	H	24	23.98

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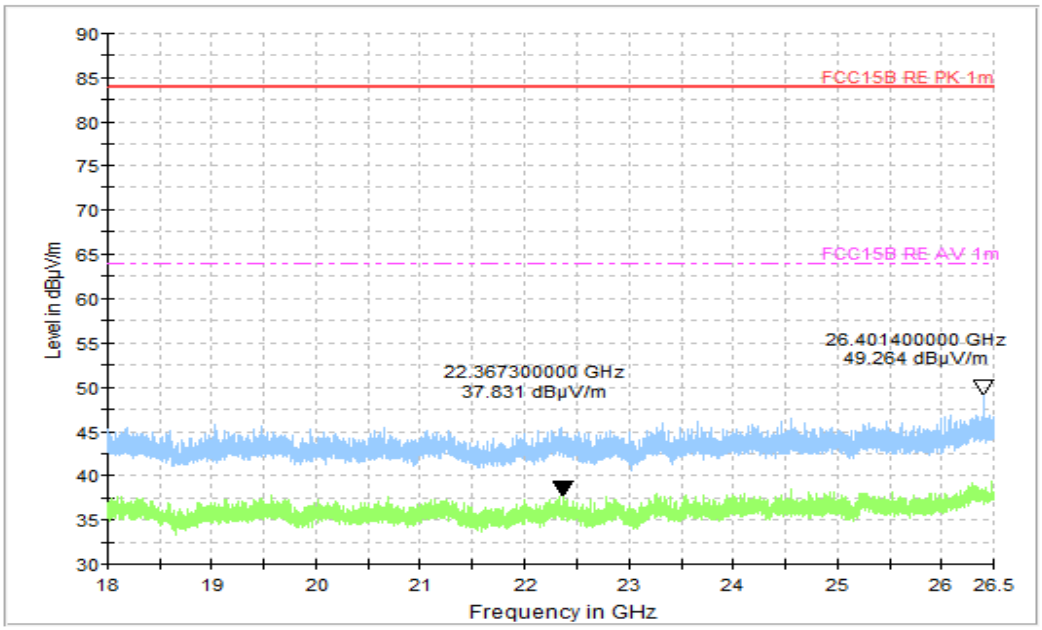

Figure A.1.9. Radiated Emission (WCDMA receiver Band 5, 18GHz to 26.5GHz)

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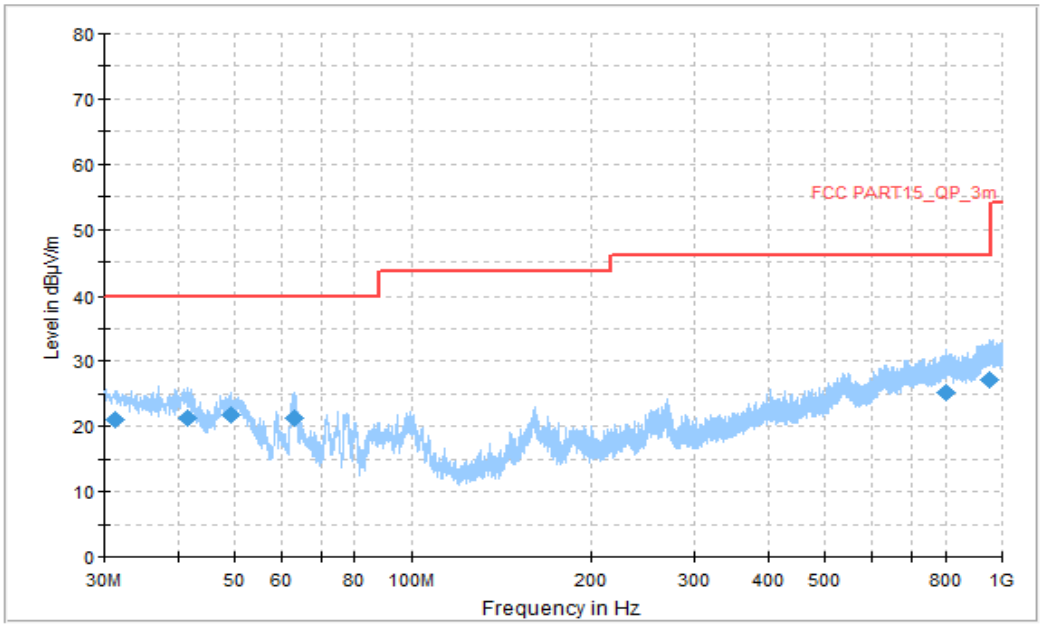

Figure A.1.10. Radiated Emission (LTE receiver Band 5, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
31.293333	21.07	40.00	18.93	V	-13	34.07
41.693889	21.21	40.00	18.79	V	-19	40.21
49.400000	21.87	40.00	18.13	V	-22	43.87
62.926111	21.20	40.00	18.80	V	-21	42.20
801.257778	25.15	46.02	20.87	V	-1	26.15
949.452222	27.19	46.02	18.83	V	1	26.19

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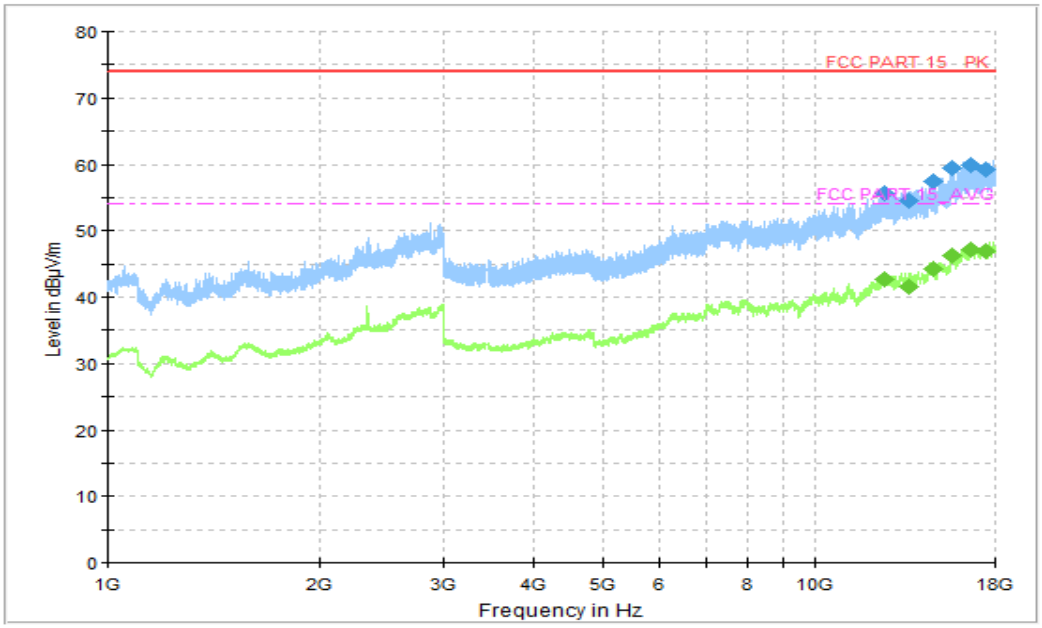

Figure A.1.11. Radiated Emission (LTE receiver Band 5, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
12575.750000	55.64	74.00	18.36	H	18	37.64
13580.250000	54.61	74.00	19.39	V	18	36.61
14690.250000	57.32	74.00	16.68	H	19	38.32
15677.250000	59.33	74.00	14.67	H	21	38.33
16656.500000	59.96	74.00	14.04	V	22	37.96
17456.250000	59.28	74.00	14.72	H	24	35.28

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
12575.750000	42.57	54.00	11.43	H	18	24.57
13580.250000	41.57	54.00	12.43	V	18	23.57
14690.250000	44.26	54.00	9.74	H	19	25.26
15677.250000	46.25	54.00	7.75	H	21	25.25
16656.500000	47.21	54.00	6.79	V	22	25.21
17456.250000	46.86	54.00	7.14	H	24	22.86

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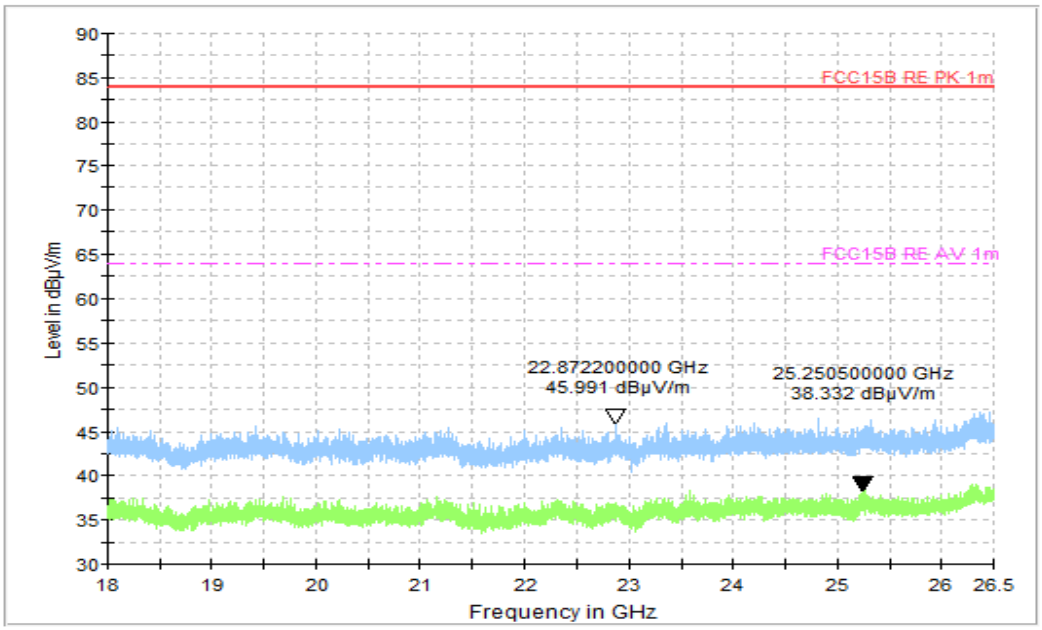

Figure A.1.12. Radiated Emission (LTE receiver Band 5, 18GHz to 26.5GHz)

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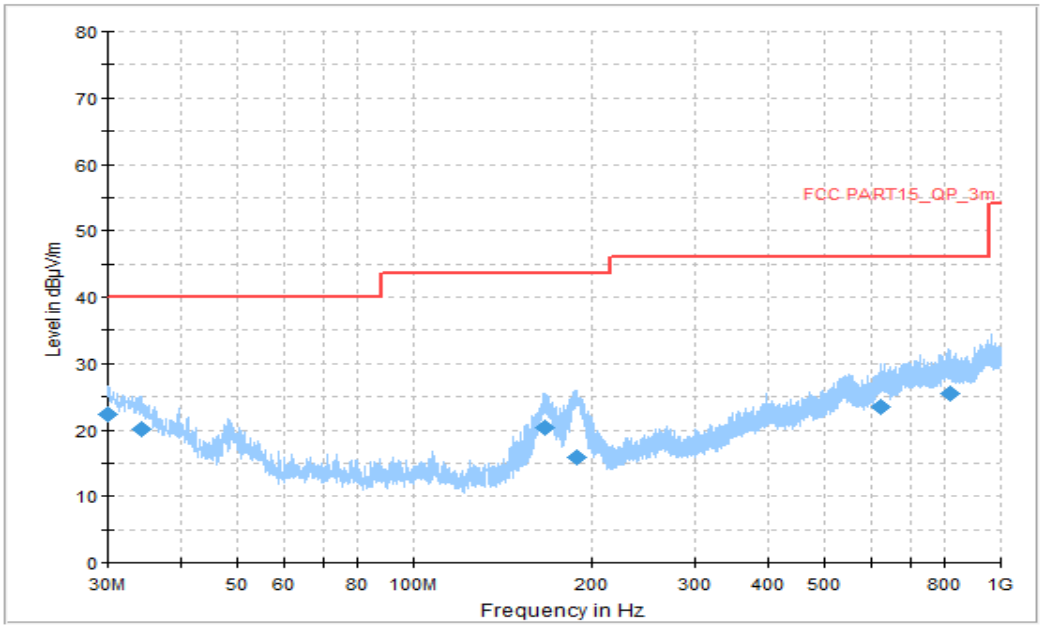

Figure A.1.13. Radiated Emission (LTE receiver Band 12, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
30.107778	22.25	40.00	17.75	V	-13	35.25
34.365000	20.14	40.00	19.86	V	-15	35.14
166.500556	20.31	43.52	23.21	V	-18	38.31
188.217778	15.91	43.52	27.61	V	-18	33.91
622.131111	23.45	46.02	22.57	V	-3	26.45
817.586111	25.46	46.02	20.56	V	-1	26.46

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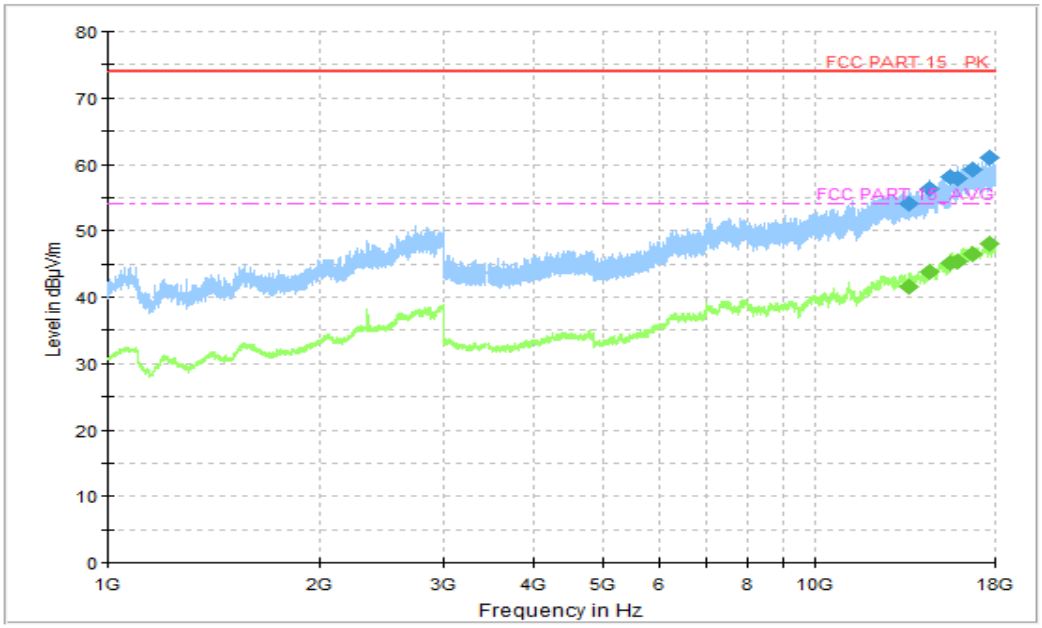

Figure A.1.14. Radiated Emission (LTE receiver Band 12, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13591.500000	54.09	74.00	19.91	V	18	36.09
14568.500000	56.21	74.00	17.79	H	19	37.21
15571.750000	57.99	74.00	16.01	H	20	37.99
15918.250000	57.84	74.00	16.16	H	20	37.84
16728.250000	59.18	74.00	14.82	H	22	37.18
17705.000000	61.05	74.00	12.95	V	24	37.05

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13591.500000	41.63	54.00	12.37	V	18	23.63
14568.500000	43.78	54.00	10.22	H	19	24.78
15571.750000	45.10	54.00	8.90	H	20	25.10
15918.250000	45.32	54.00	8.68	H	20	25.32
16728.250000	46.58	54.00	7.42	H	22	24.58
17705.000000	47.94	54.00	6.06	V	24	23.94

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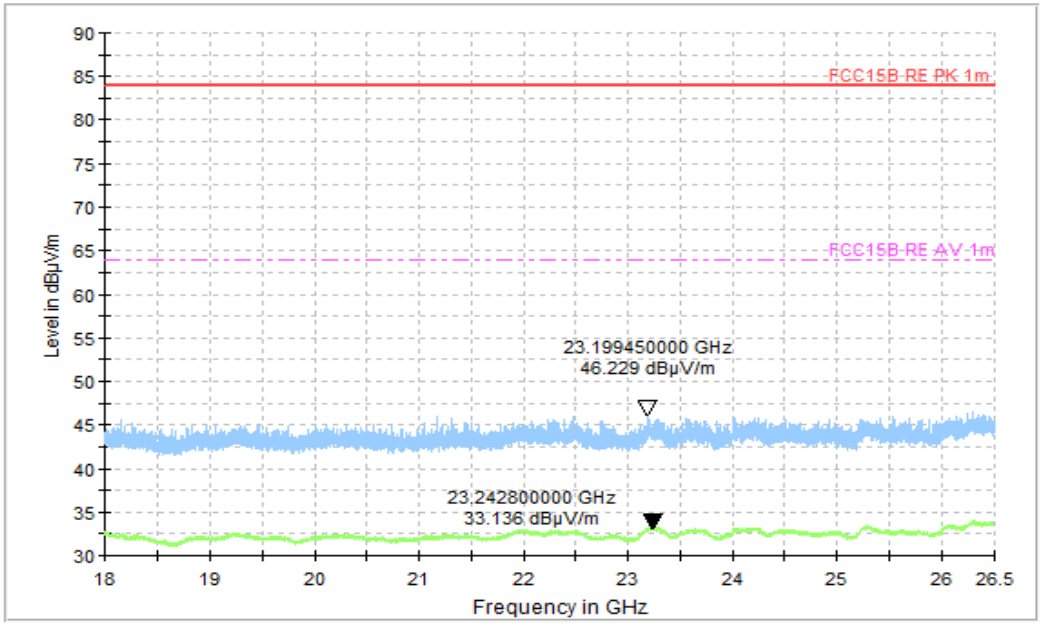

Figure A.1.15. Radiated Emission (LTE receiver Band 12, 18GHz to 26.5GHz)

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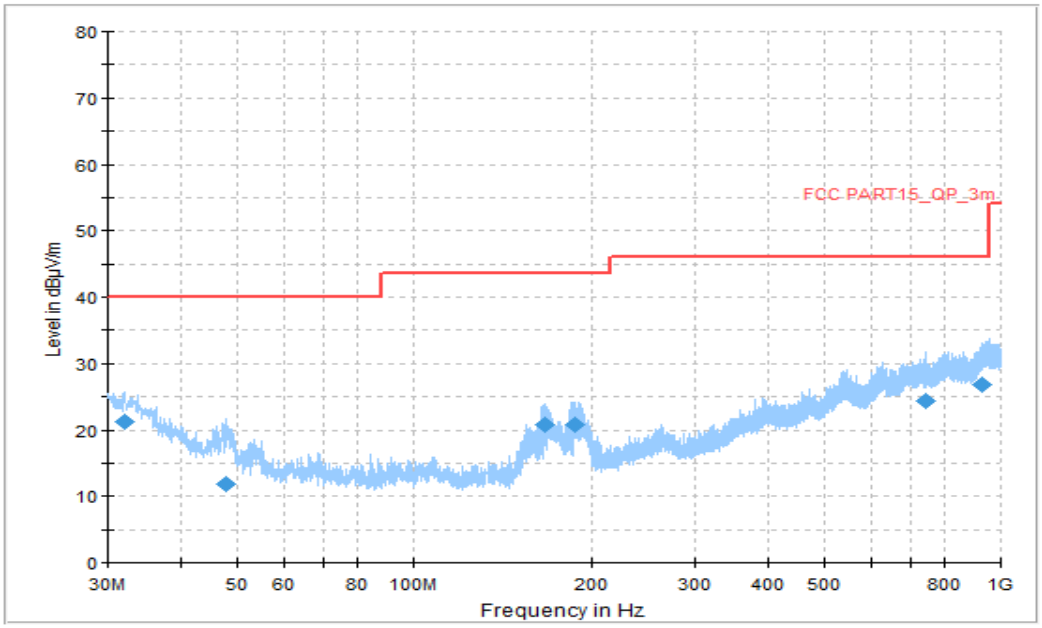

Figure A.1.16. Radiated Emission (LTE receiver Band 14, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
31.993889	21.19	40.00	18.81	V	-14	35.19
47.837222	11.77	40.00	28.23	V	-21	32.77
166.662222	20.77	43.52	22.75	V	-18	38.77
187.193889	20.77	43.52	22.75	V	-18	38.77
743.273333	24.29	46.02	21.73	V	-2	26.29
927.896667	26.86	46.02	19.16	H	1	25.86

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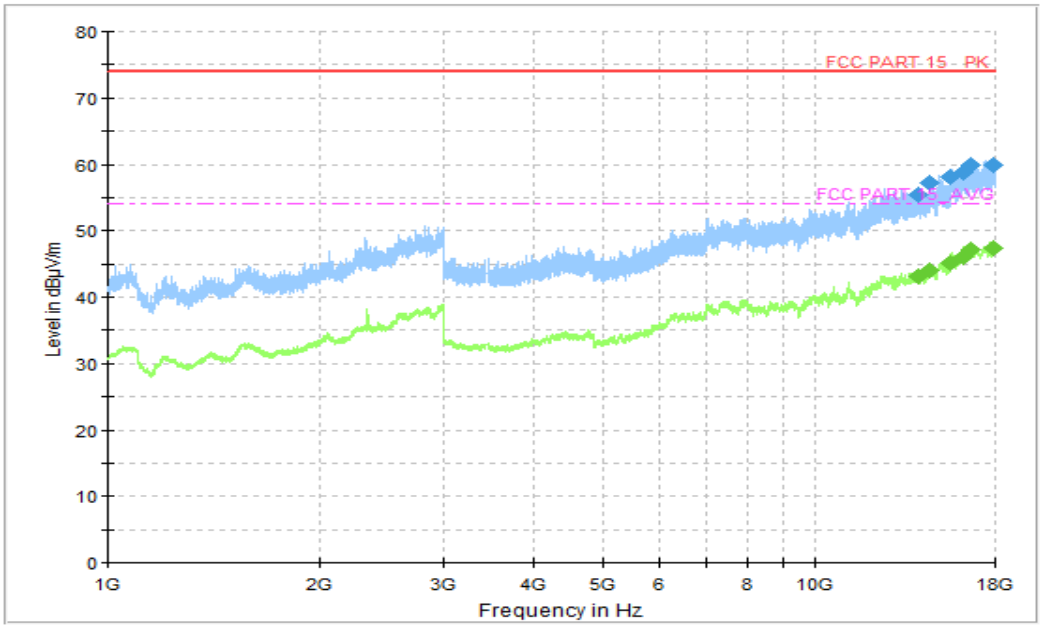

Figure A.1.17. Radiated Emission (LTE receiver Band 14, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14020.500000	55.44	74.00	18.56	H	18	37.44
14547.500000	57.18	74.00	16.82	H	19	38.18
15569.750000	58.11	74.00	15.89	H	20	38.11
16243.750000	58.67	74.00	15.33	H	22	36.67
16621.500000	59.87	74.00	14.13	V	23	36.87
17923.750000	59.99	74.00	14.01	H	25	34.99

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14020.500000	43.10	54.00	10.90	H	18	25.10
14547.500000	44.00	54.00	10.00	H	19	25
15569.750000	45.19	54.00	8.81	H	20	25.19
16243.750000	45.94	54.00	8.06	H	22	23.94
16621.500000	47.19	54.00	6.81	V	23	24.19
17923.750000	47.40	54.00	6.60	H	25	22.40

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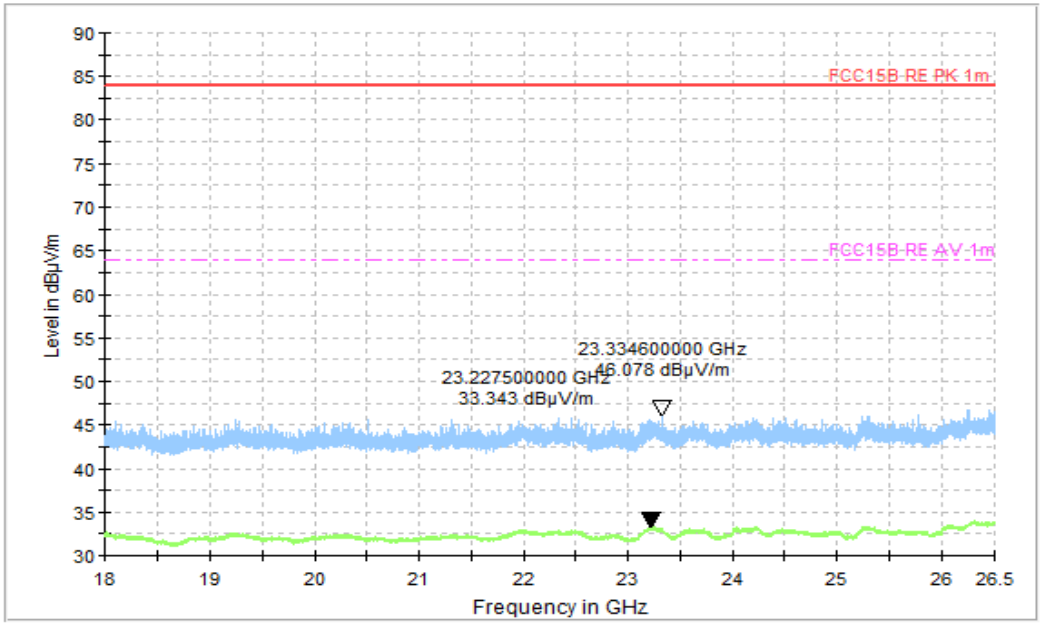

Figure A.1.18. Radiated Emission (LTE receiver Band 14, 18GHz to 26.5GHz)

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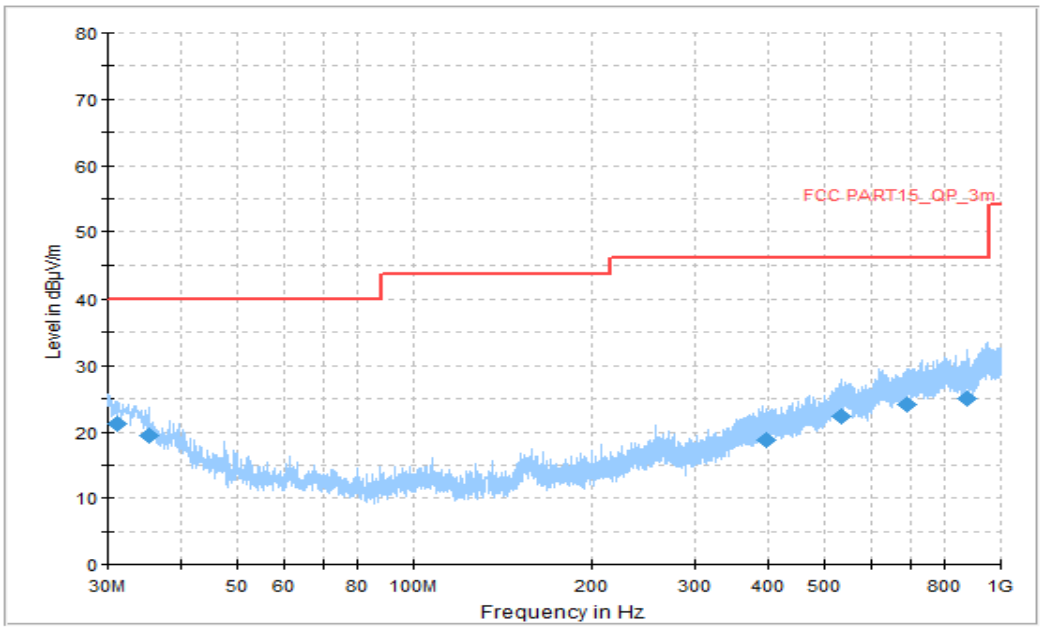

Figure A.1.19. Radiated Emission (Camera, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
31.077778	21.24	40.00	18.76	V	-13	34.24
35.173333	19.49	40.00	20.51	V	-16	35.49
398.492222	18.73	46.02	27.29	H	-9	27.73
534.292222	22.42	46.02	23.60	H	-4	26.42
691.001111	24.17	46.02	21.85	V	-2	26.17
872.768333	25.12	46.02	20.90	V	-1	26.12

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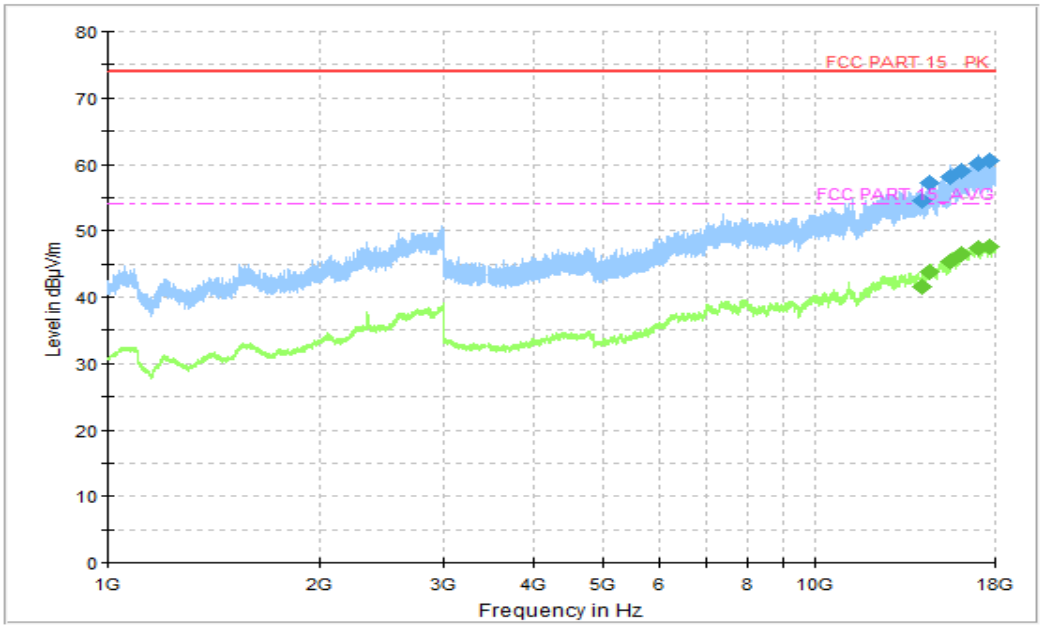

Figure A.1.20. Radiated Emission (Camera, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14144.250000	54.43	74.00	19.57	H	18	36.43
14567.750000	57.15	74.00	16.85	H	19	38.15
15577.500000	58.12	74.00	15.88	V	20	38.12
16150.500000	59.08	74.00	14.92	V	22	37.08
17031.250000	60.14	74.00	13.86	H	23	37.14
17720.500000	60.53	74.00	13.47	H	24	36.53

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14144.250000	41.56	54.00	12.44	H	18	23.56
14567.750000	43.81	54.00	10.19	H	19	24.81
15577.500000	45.27	54.00	8.73	V	20	25.27
16150.500000	46.41	54.00	7.59	V	22	24.41
17031.250000	47.32	54.00	6.68	H	23	24.32
17720.500000	47.53	54.00	6.47	H	24	23.53

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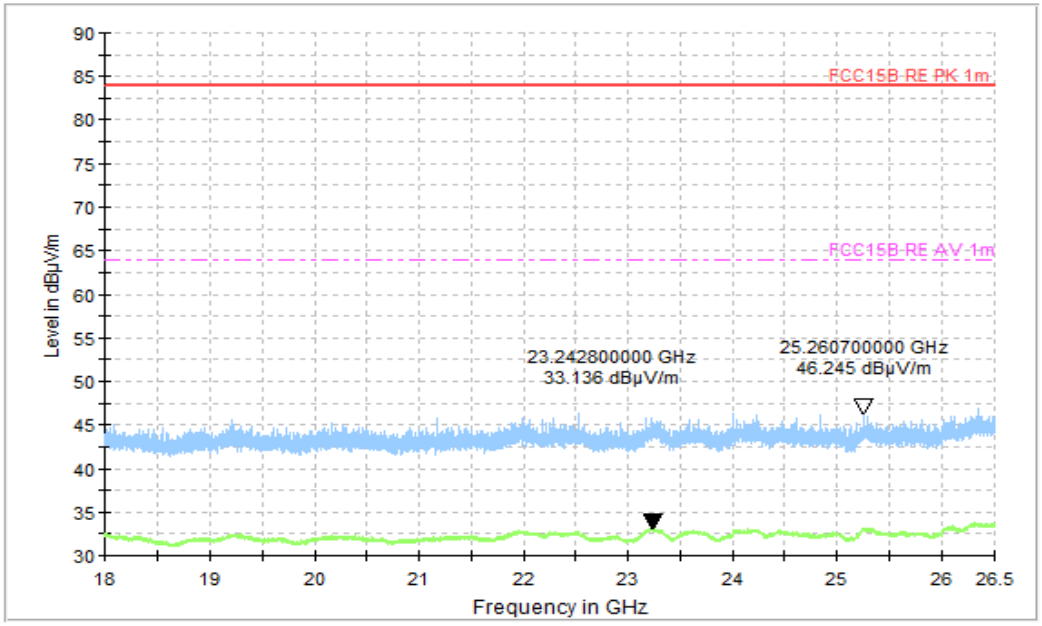

Figure A.1.21. Radiated Emission (Camera, 18GHz to 26.5GHz)

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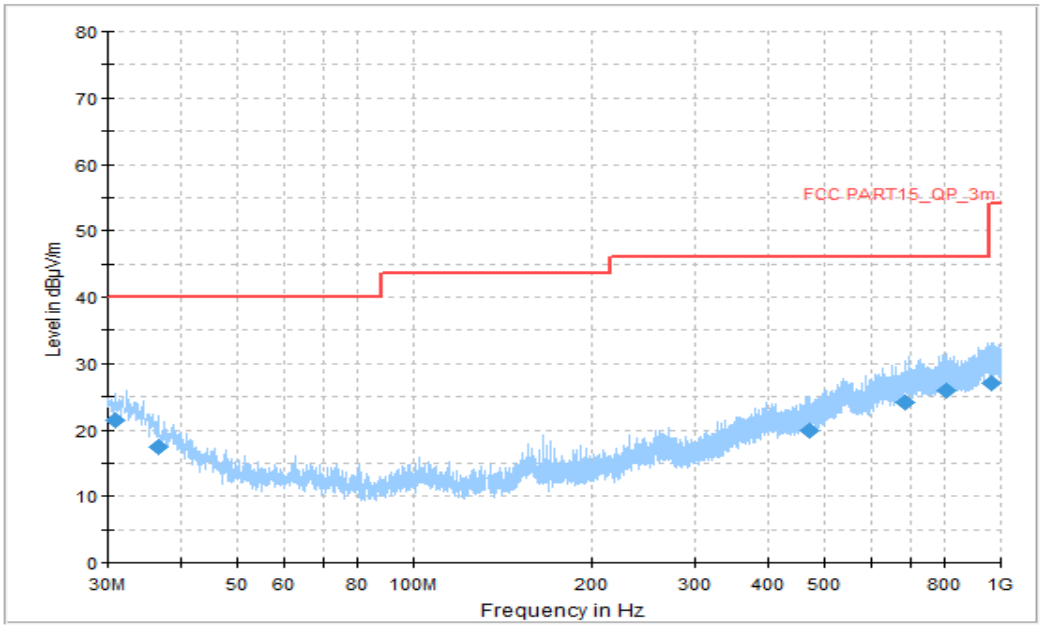

Figure A.1.22. Radiated Emission (Data Transfer: PC TO EUT, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
30.808333	21.43	40.00	18.57	V	-13	34.43
36.520556	17.53	40.00	22.47	V	-16	33.53
469.356111	19.94	46.02	26.08	V	-7	26.94
683.941667	24.08	46.02	21.94	V	-2	26.08
807.616667	25.85	46.02	20.17	H	-1	26.85
966.319444	26.93	53.98	27.05	H	1	25.93

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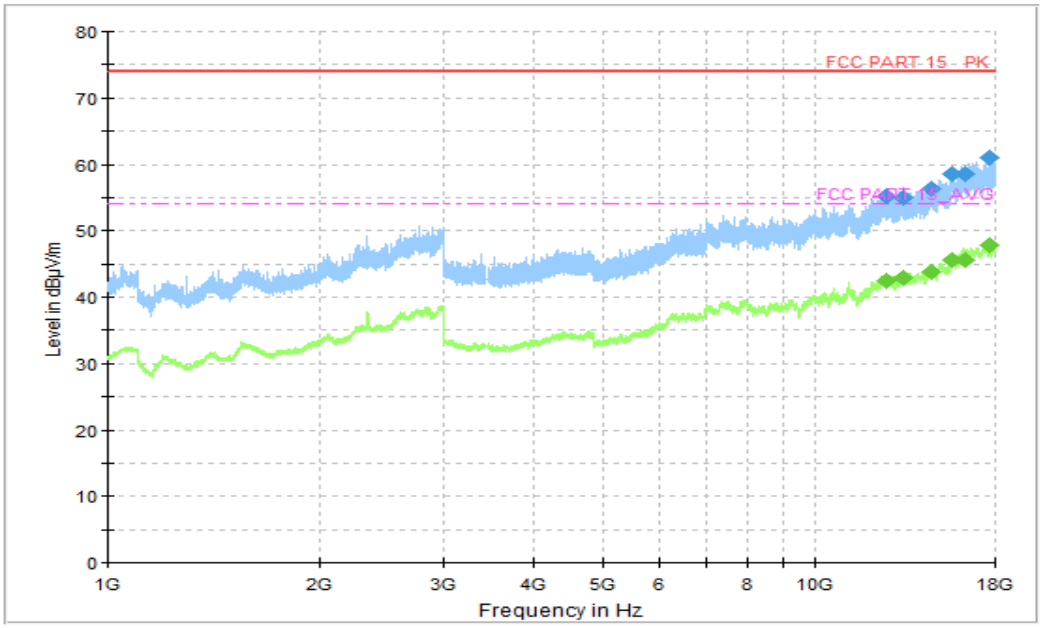

Figure A.1.23. Radiated Emission (Data Transfer: PC TO EUT, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
12639.250000	55.09	74.00	18.91	H	18	37.09
13368.500000	55.03	74.00	18.97	H	18	37.03
14575.500000	56.39	74.00	17.61	V	19	37.39
15594.000000	58.53	74.00	15.47	V	20	38.53
16287.000000	58.50	74.00	15.50	V	21	37.5
17695.500000	61.04	74.00	12.96	V	24	37.04

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
12639.250000	42.38	54.00	11.62	H	18	24.38
13368.500000	42.95	54.00	11.05	H	18	24.95
14575.500000	43.71	54.00	10.29	V	19	24.71
15594.000000	45.58	54.00	8.42	V	20	25.58
16287.000000	45.61	54.00	8.39	V	21	24.61
17695.500000	47.89	54.00	6.11	V	24	23.89

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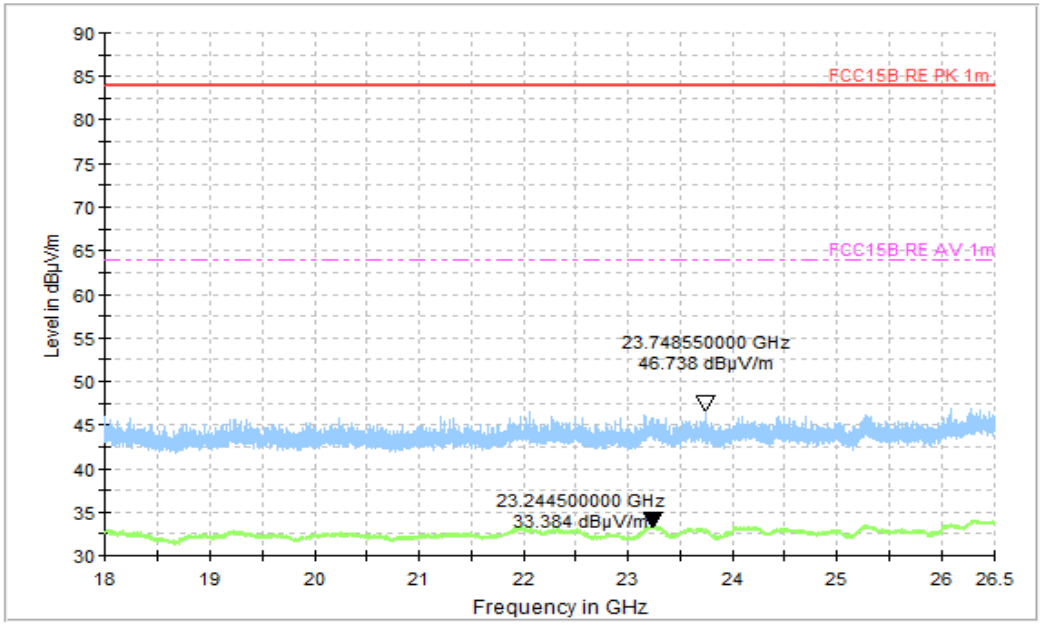

Figure A.1.24. Radiated Emission (Data Transfer: PC TO EUT, 18GHz to 26.5GHz)

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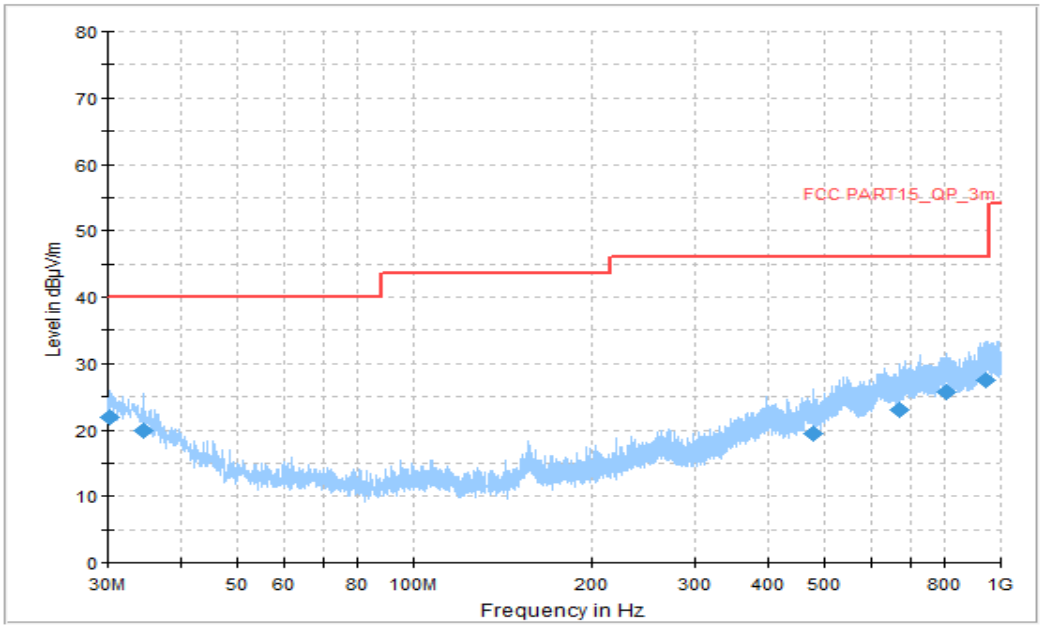

Figure A.1.25. Radiated Emission (Data Transfer: EUT TO PC, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
30.323333	21.95	40.00	18.05	V	-13	34.95
34.526667	19.87	40.00	20.13	H	-15	34.87
479.541111	19.39	46.02	26.63	H	-7	26.39
671.062222	22.93	46.02	23.09	H	-3	25.93
805.030000	25.68	46.02	20.34	V	-1	26.68
945.356667	27.51	46.02	18.51	H	1	26.51

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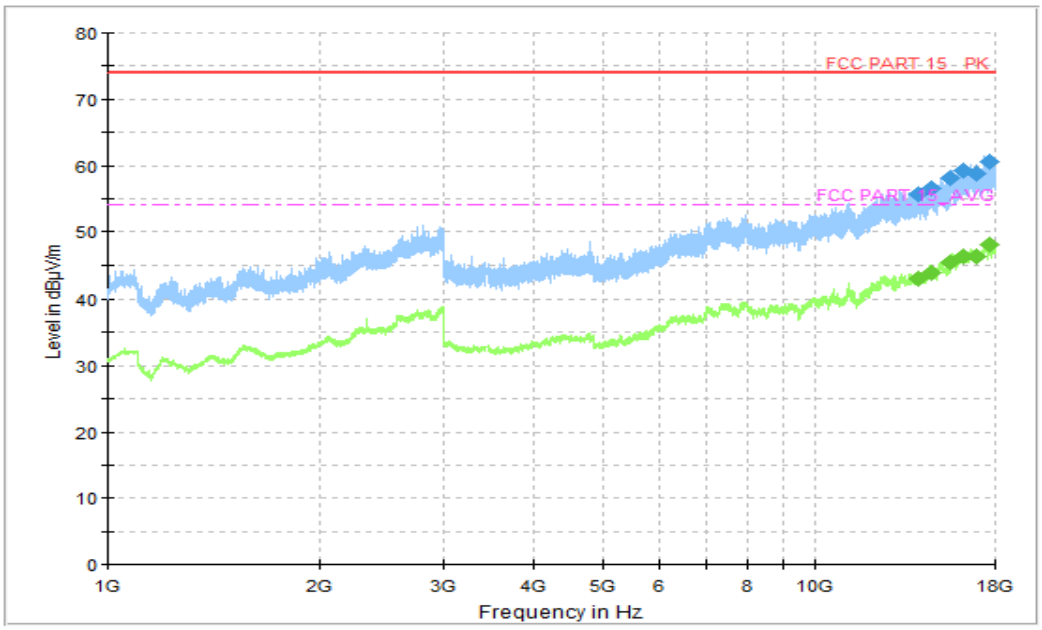

Figure A.1.26. Radiated Emission (Data Transfer: EUT TO PC, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14017.000000	55.64	74.00	18.36	H	18	37.64
14576.500000	56.54	74.00	17.46	V	19	37.54
15574.500000	58.08	74.00	15.92	H	20	38.08
16260.750000	59.24	74.00	14.76	V	22	37.24
16930.000000	58.67	74.00	15.33	H	23	35.67
17701.500000	60.52	74.00	13.48	H	24	36.52

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14017.000000	42.91	54.00	11.09	H	18	24.91
14576.500000	43.79	54.00	10.21	V	19	24.79
15574.500000	45.35	54.00	8.65	H	20	25.35
16260.750000	46.24	54.00	7.76	V	22	24.24
16930.000000	46.19	54.00	7.81	H	23	23.19
17701.500000	48.00	54.00	6.00	H	24	24.00

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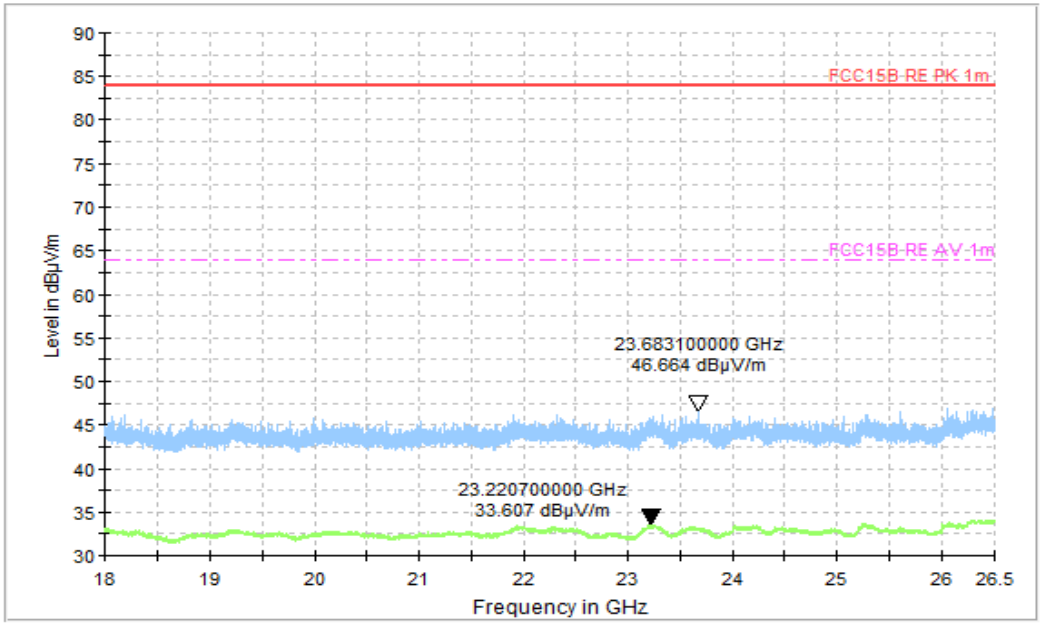

Figure A.1.27. Radiated Emission (Data Transfer: EUT TO PC, 18GHz to 26.5GHz)

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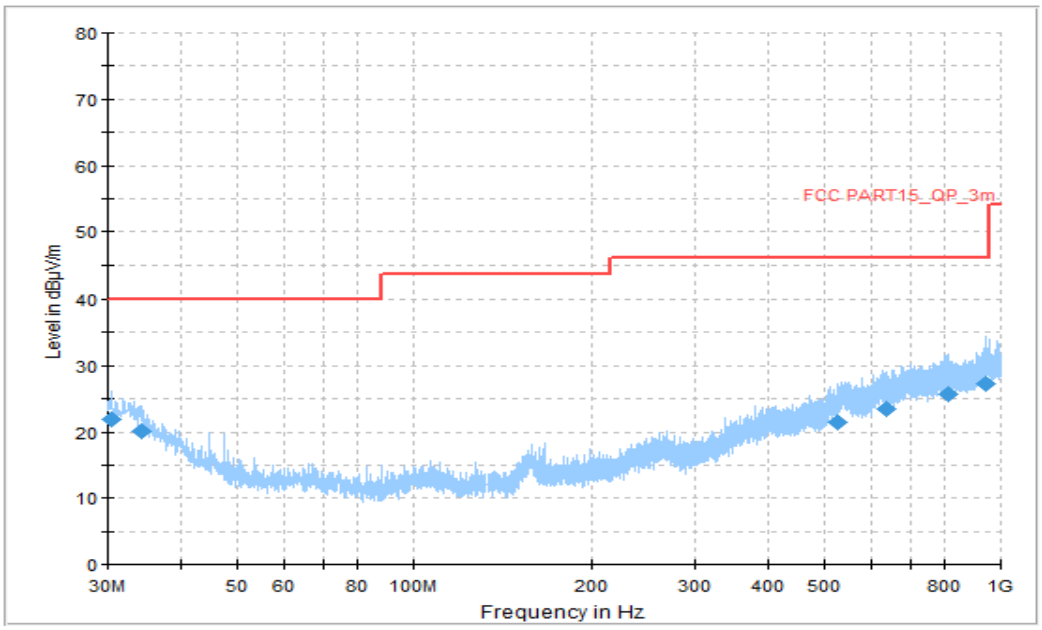

Figure A.1.28. Radiated Emission (Data Transfer: PC TO TF Card, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
30.377222	21.86	40.00	18.14	V	-13	34.86
34.311111	20.04	40.00	19.96	V	-15	35.04
527.771667	21.55	46.02	24.47	H	-5	26.55
635.657222	23.51	46.02	22.51	H	-3	26.51
813.652222	25.75	46.02	20.27	H	-1	26.75
944.117222	27.33	46.02	18.69	H	1	26.33

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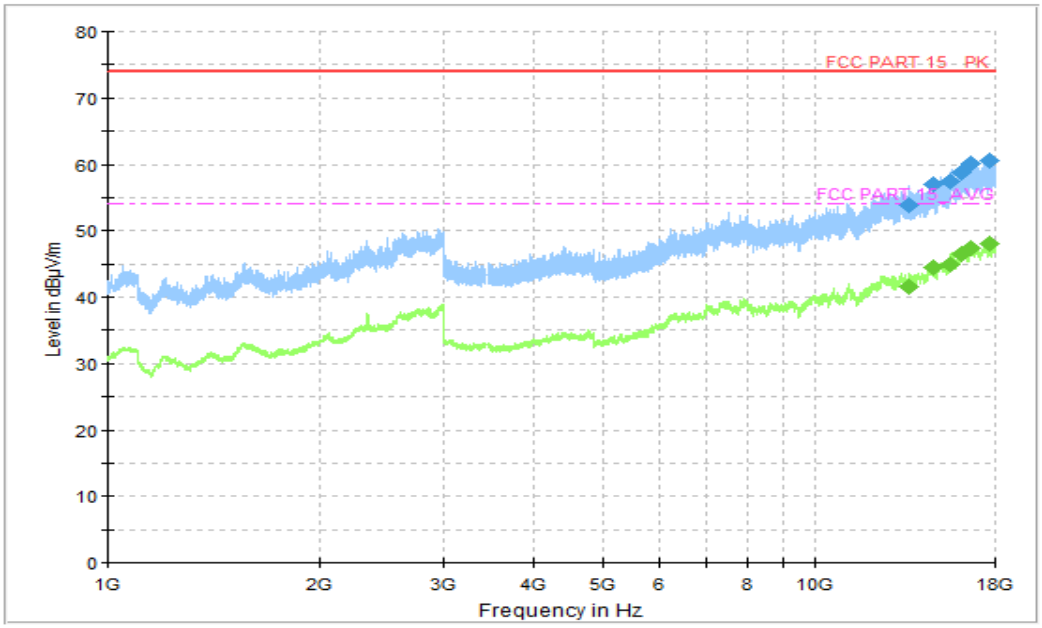

Figure A.1.29. Radiated Emission (Data Transfer: PC TO TF Card, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13618.250000	53.80	74.00	20.20	H	18	35.80
14697.500000	56.90	74.00	17.10	V	19	37.9
15567.750000	57.41	74.00	16.59	V	20	37.41
16137.500000	58.75	74.00	15.25	V	22	36.75
16665.750000	60.05	74.00	13.95	V	22	38.05
17701.750000	60.49	74.00	13.51	V	24	36.49

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
13618.250000	41.66	54.00	12.34	H	18	23.66
14697.500000	44.36	54.00	9.64	V	19	25.36
15567.750000	44.97	54.00	9.03	V	20	24.97
16137.500000	46.37	54.00	7.63	V	22	24.37
16665.750000	47.30	54.00	6.70	V	22	25.3
17701.750000	47.96	54.00	6.04	V	24	23.96

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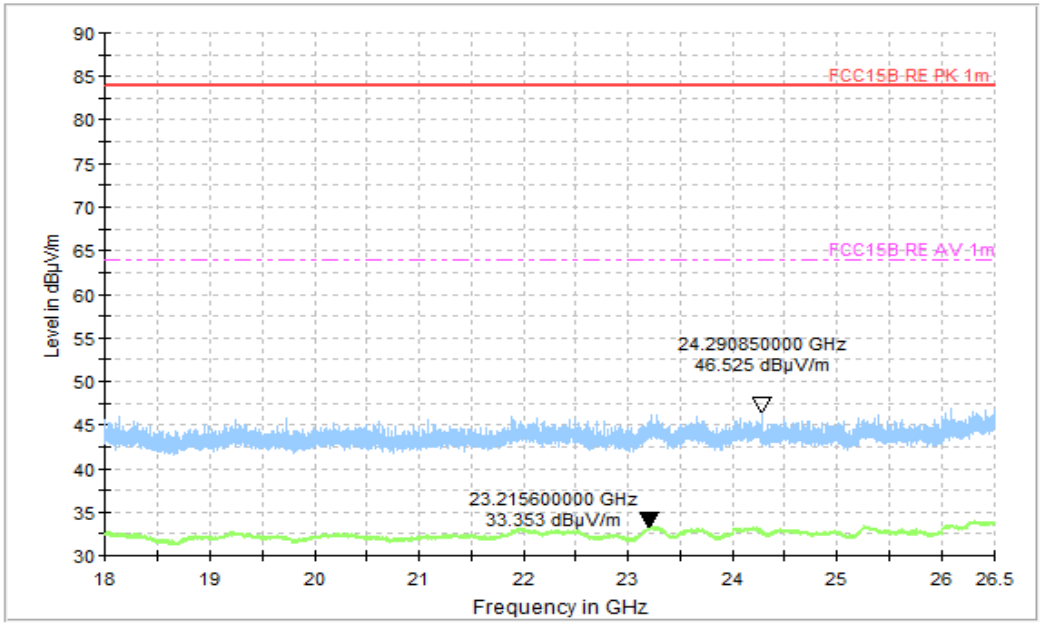

Figure A.1.30. Radiated Emission (Data Transfer: PC TO TF Card, 18GHz to 26.5GHz)

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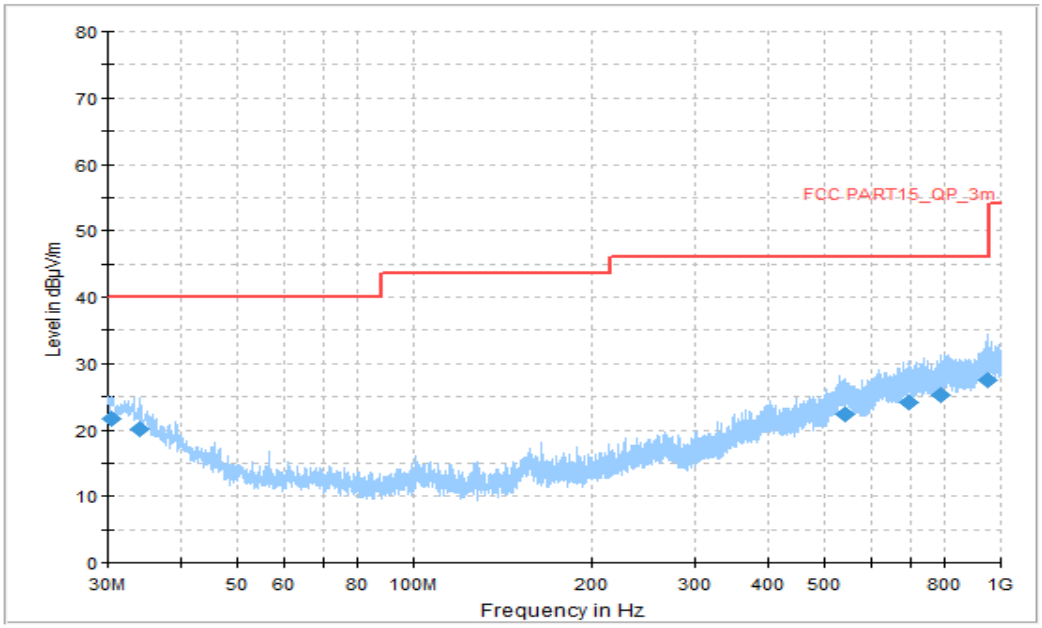

Figure A.1.31. Radiated Emission (Data Transfer: TF Card TO PC, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
30.431111	21.77	40.00	18.23	V	-13	34.77
34.095556	20.16	40.00	19.84	H	-15	35.16
541.836667	22.37	46.02	23.65	H	-4	26.37
697.413889	24.06	46.02	21.96	V	-2	26.06
792.150556	25.30	46.02	20.72	V	-1	26.3
947.620000	27.50	46.02	18.52	H	1	26.50

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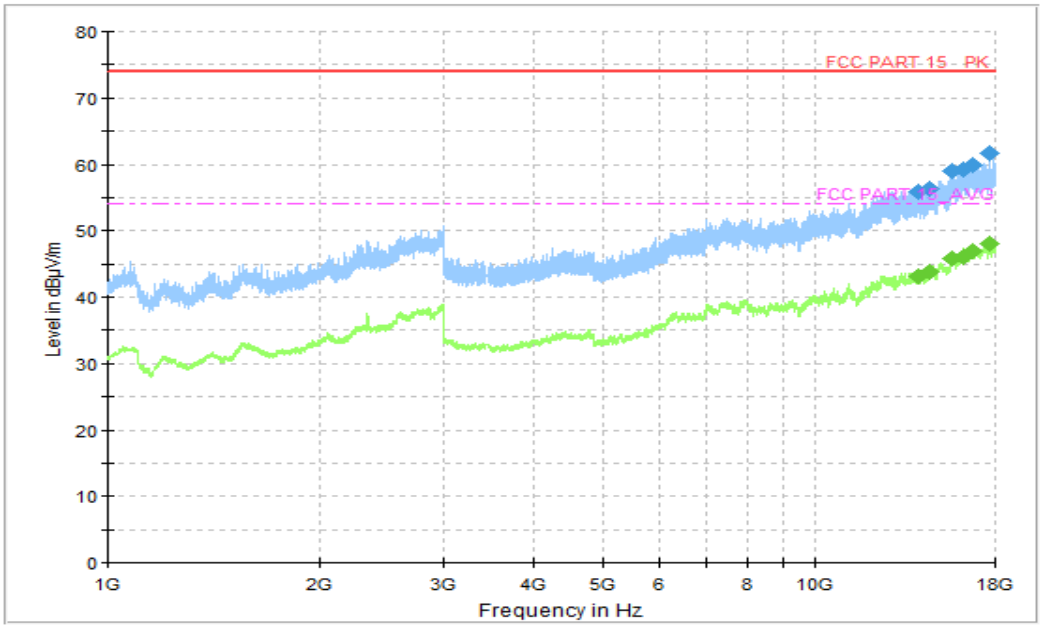

Figure A.1.32. Radiated Emission (Data Transfer: TF Card TO PC, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14017.750000	55.76	74.00	18.24	H	18	37.76
14498.750000	56.33	74.00	17.67	H	19	37.33
15633.250000	59.03	74.00	14.97	V	21	38.03
16191.250000	59.14	74.00	14.86	V	22	37.14
16674.750000	59.99	74.00	14.01	H	22	37.99
17698.750000	61.67	74.00	12.33	H	24	37.67

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
14017.750000	43.07	54.00	10.93	H	18	25.07
14498.750000	43.71	54.00	10.29	H	19	24.71
15633.250000	45.78	54.00	8.22	V	21	24.78
16191.250000	46.01	54.00	7.99	V	22	24.01
16674.750000	46.98	54.00	7.02	H	22	24.98
17698.750000	47.95	54.00	6.05	H	24	23.95

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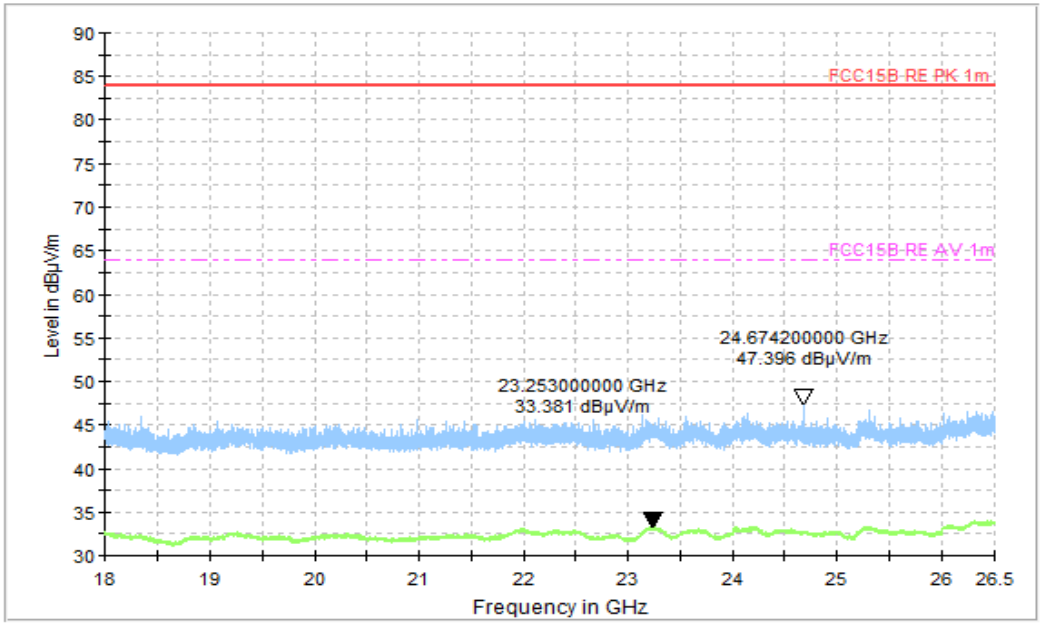

Figure A.1.33. Radiated Emission (Data Transfer: TF Card TO PC, 18GHz to 26.5GHz)

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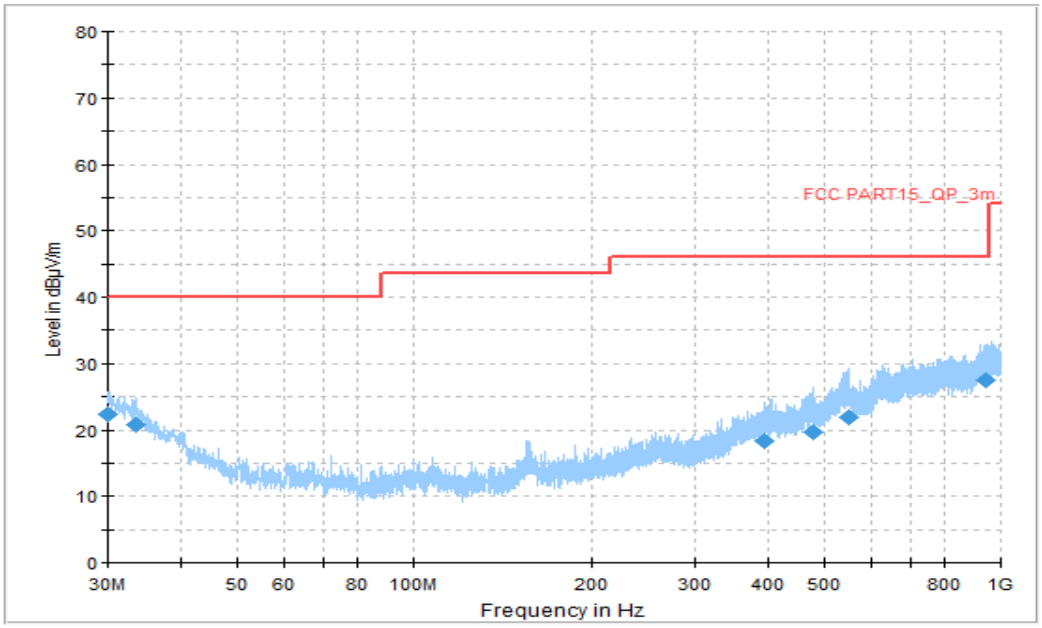

Figure A.1.34. Radiated Emission (Data Transfer: TF Card TO PC, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P_{Mea} (dBµV)
30.053889	22.27	40.00	17.73	H	-13	35.27
33.448889	20.71	40.00	19.29	V	-15	35.71
394.073333	18.41	46.02	27.61	V	-9	27.41
476.792778	19.73	46.02	26.29	V	-7	26.73
550.943889	21.95	46.02	24.07	H	-5	26.95
945.410556	27.49	46.02	18.53	H	1	26.49

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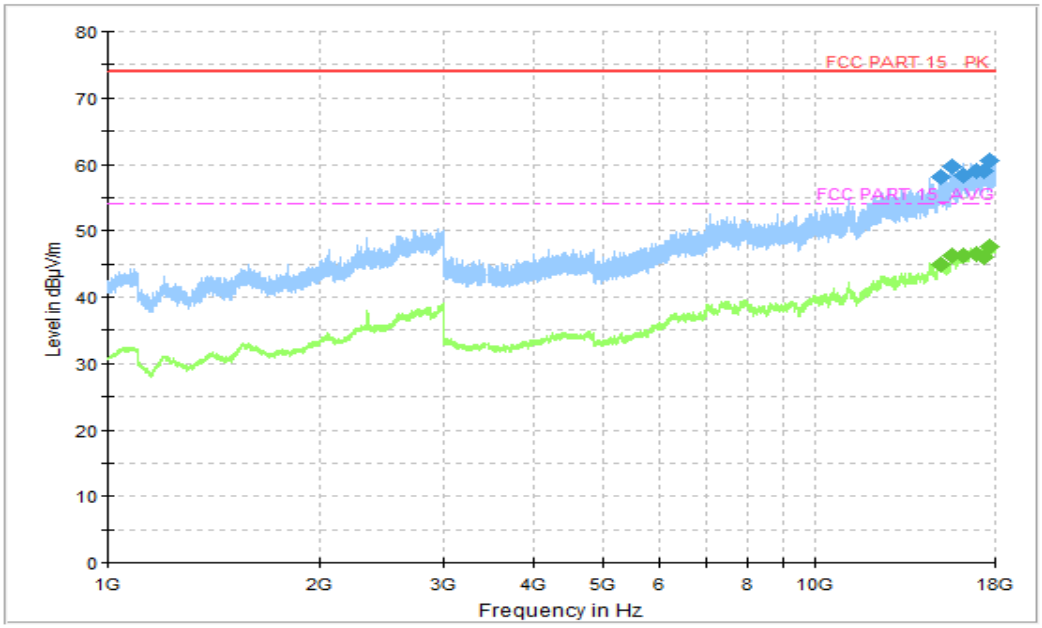

Figure A.1.35. Radiated Emission (Data Transfer: TF Card TO PC, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
15103.250000	58.06	74.00	15.94	V	20	38.06
15673.500000	59.60	74.00	14.40	H	21	38.6
16263.500000	58.42	74.00	15.58	H	22	36.42
16948.750000	58.98	74.00	15.02	H	23	35.98
17353.500000	59.05	74.00	14.95	H	23	36.05
17678.000000	60.52	74.00	13.48	V	24	36.52

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P_{Mea} (dBµV)
15103.250000	44.82	54.00	9.18	V	20	24.82
15673.500000	46.27	54.00	7.73	H	21	25.27
16263.500000	46.21	54.00	7.79	H	22	24.21
16948.750000	46.51	54.00	7.49	H	23	23.51
17353.500000	46.11	54.00	7.89	H	23	23.11
17678.000000	47.65	54.00	6.35	V	24	23.65

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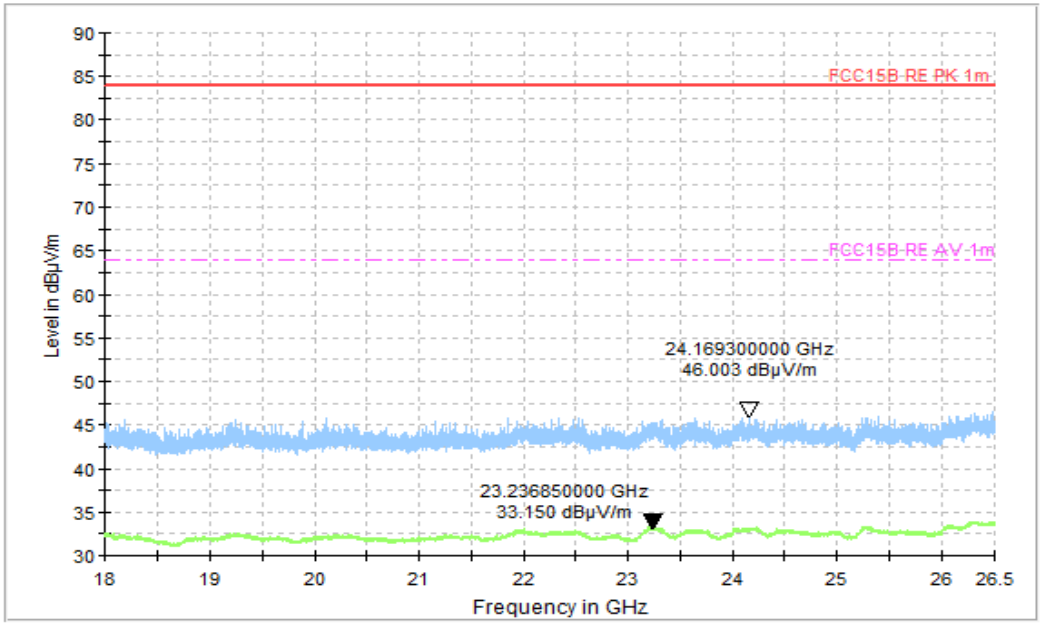

Figure A.1.36. Radiated Emission (Data Transfer: TF Card TO PC, 18GHz to 26.5GHz)

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A.2 Conducted Emission (§15.107(a))

Reference

FCC: Part 15.107(a)

A.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.

A.2.2 EUT Operating Mode:

Camera: 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: The EUT is connected to a charger for charging and keeping on playing mp3.

Fingerprint recognition: EUT enables the fingerprint recognition function.

Data Transfer: 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 EUT or TF Card, reading and erasing the data after copy action was finished.

A.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		

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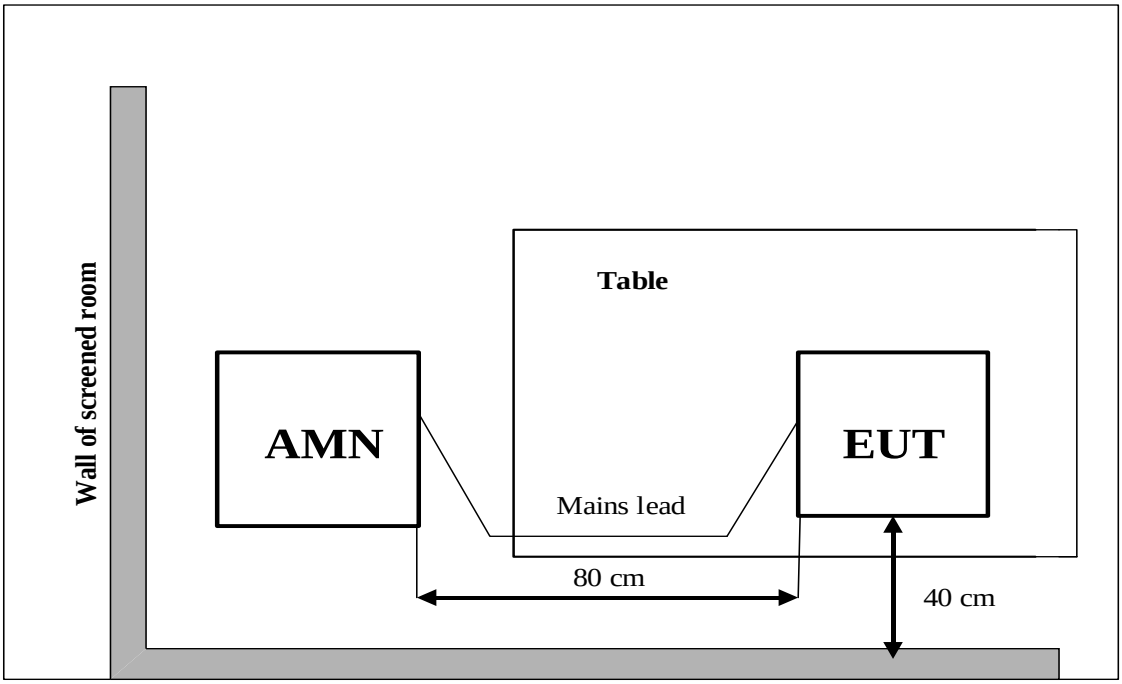
A.2.4Test set-up:



A.2.5 Test Condition in charging mode

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

RBW	Sweep Time(s)
9kHz	1

A.2.6 Measurement Results

QuasiPeak(dBμV) /Average(dBμV) =PMea+Corr

Where

Corr: PathLoss + Voltage Division Factor

PMea: Measurement result on receiver.

Camera

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.1	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.1.	P
0.5 to 5	56	46		
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.				

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Video Player

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.1	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.2.	P
0.5 to 5	56	46		
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.				

Camera

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.2	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.3.	P
0.5 to 5	56	46		
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.				

Data Transfer

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT03aa/Set.3	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.4.	P
0.5 to 5	56	46		
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.				

Data Transfer

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.4	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.5.	P
0.5 to 5	56	46		
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.				

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Camera

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.1	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.6.	P
0.5 to 5	56	46		
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.				

Video Player

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.1	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.7.	P
0.5 to 5	56	46		
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.				

Camera

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.2	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.8.	P
0.5 to 5	56	46		
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.				

Data Transfer

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) UT16aa/Set.3	Conclusion
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.9.	P
0.5 to 5	56	46		
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.				

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Data Transfer

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV)	Conclusion
			UT16aa/Set.4	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.10.	P
0.5 to 5	56	46		
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.				

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AC Input Port/ Voltage: 120V/60Hz

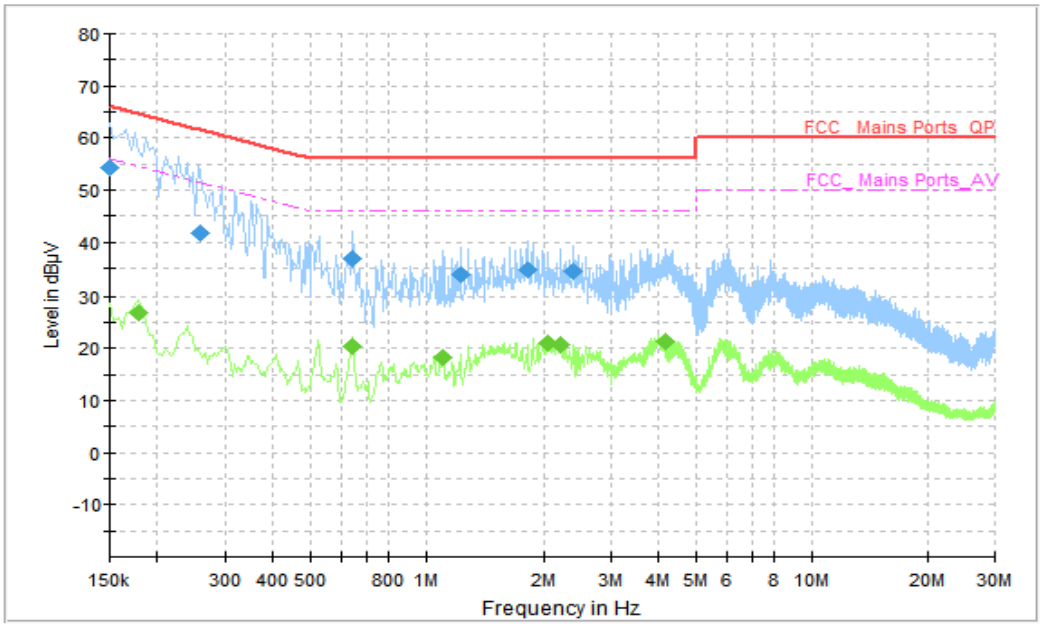

Figure A.2.1. Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	**54.37**	**66.00**	**11.63**	**N**	10	44.37
0.258000	**41.74**	**61.50**	**19.76**	**N**	10	31.74
0.646000	**36.81**	**56.00**	**19.19**	**L1**	10	26.81
1.230000	**33.71**	**56.00**	**22.29**	**N**	10	23.71
1.814000	**34.81**	**56.00**	**21.19**	**N**	10	24.81
2.398000	**34.33**	**56.00**	**21.67**	**L1**	10	24.33

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.178000	**26.77**	**54.58**	**27.80**	**N**	10	16.77
0.646000	**20.28**	**46.00**	**25.72**	**N**	10	10.28
1.110000	**18.31**	**46.00**	**27.69**	**L1**	10	8.31
2.058000	**21.06**	**46.00**	**24.94**	**N**	10	11.06
2.222000	**20.63**	**46.00**	**25.37**	**N**	10	10.63
4.166000	**21.24**	**46.00**	**24.76**	**L1**	10	11.24

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AC Input Port/ Voltage: 120V/60Hz

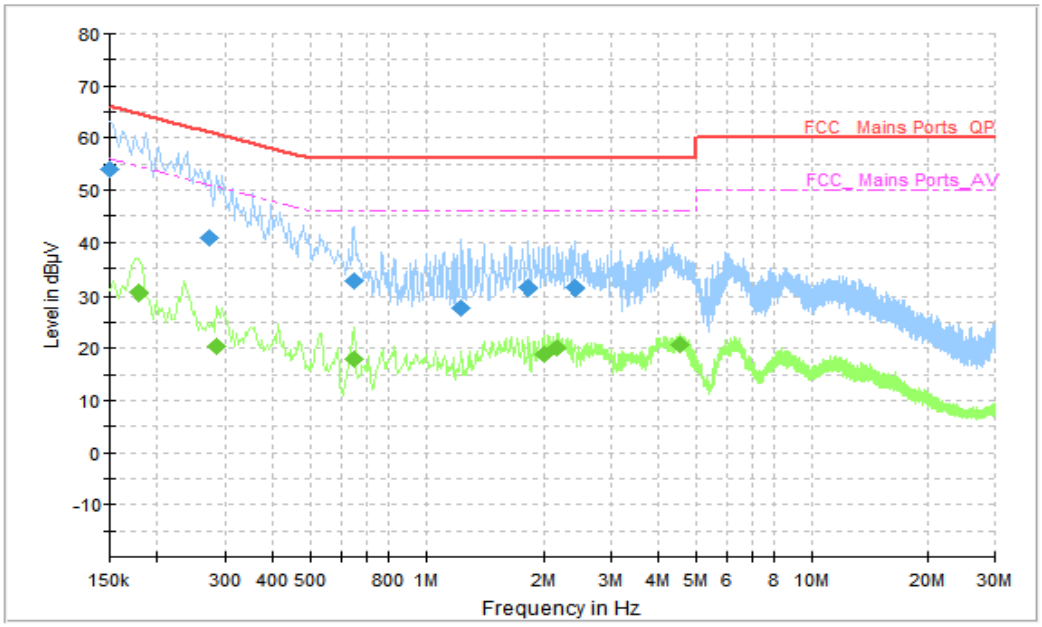

Figure A.2.2. Conducted Emission(Video Player)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	53.91	66.00	12.09	N	10	43.91
0.274000	40.72	61.00	20.28	L1	10	30.72
0.650000	32.69	56.00	23.31	N	10	22.69
1.238000	27.65	56.00	28.35	N	10	17.65
1.826000	31.35	56.00	24.65	N	10	21.35
2.414000	31.33	56.00	24.67	N	10	21.33

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.178000	30.37	54.58	24.21	N	10	20.37
0.286000	20.28	50.64	30.36	N	10	10.28
0.650000	17.85	46.00	28.15	N	10	7.85
2.014000	18.97	46.00	27.03	N	10	8.97
2.178000	19.99	46.00	26.01	N	10	9.99
4.530000	20.68	46.00	25.32	L1	10	10.68

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AC Input Port/ Voltage: 120V/60Hz

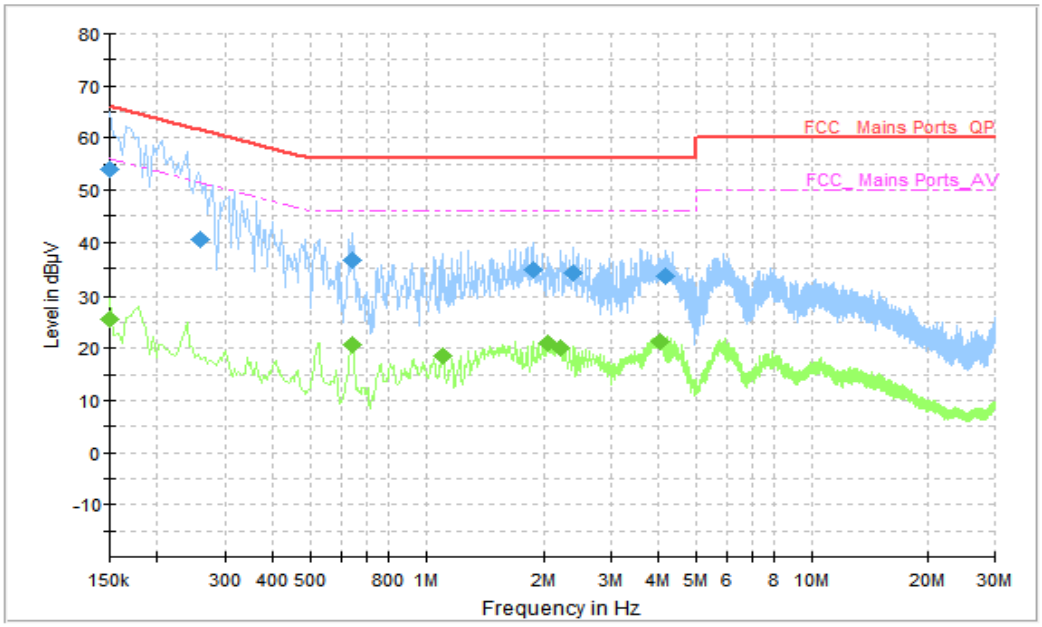

Figure A.2.3. Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	53.96	66.00	12.04	N	10	43.96
0.258000	40.49	61.50	21.01	L1	10	30.49
0.646000	36.67	56.00	19.33	L1	10	26.67
1.874000	34.67	56.00	21.33	L1	10	24.67
2.398000	34.22	56.00	21.78	L1	10	24.22
4.154000	33.50	56.00	22.50	N	9	24.50

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	25.66	56.00	30.34	N	10	15.66
0.642000	20.82	46.00	25.18	L1	10	10.82
1.110000	18.43	46.00	27.57	L1	10	8.43
2.054000	20.95	46.00	25.05	L1	10	10.95
2.226000	20.08	46.00	25.92	L1	10	10.08
4.042000	21.40	46.00	24.60	N	10	11.40

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AC Input Port/ Voltage: 120V/60Hz

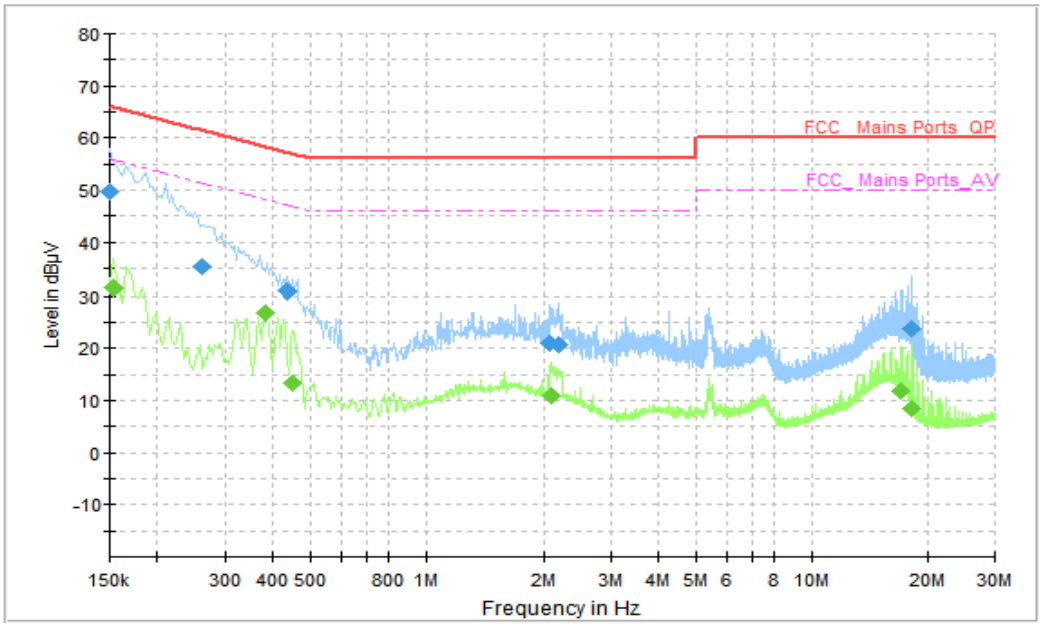

Figure A.2.4. Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	49.80	66.00	16.20	N	10	39.80
0.262000	35.30	61.37	26.07	L1	10	25.3
0.434000	30.82	57.18	26.35	N	10	20.82
2.074000	20.86	56.00	35.14	N	10	10.86
2.182000	20.78	56.00	35.22	N	10	10.78
18.250000	23.65	60.00	36.35	L1	10	13.65

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.154000	31.49	55.78	24.30	L1	10	21.49
0.382000	26.64	48.24	21.60	L1	10	16.64
0.450000	13.29	46.88	33.58	N	10	3.29
2.106000	10.86	46.00	35.14	N	10	0.86
17.078000	11.86	50.00	38.14	L1	10	1.86
18.250000	8.41	50.00	41.59	L1	10	-1.59

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AC Input Port/ Voltage: 120V/60Hz

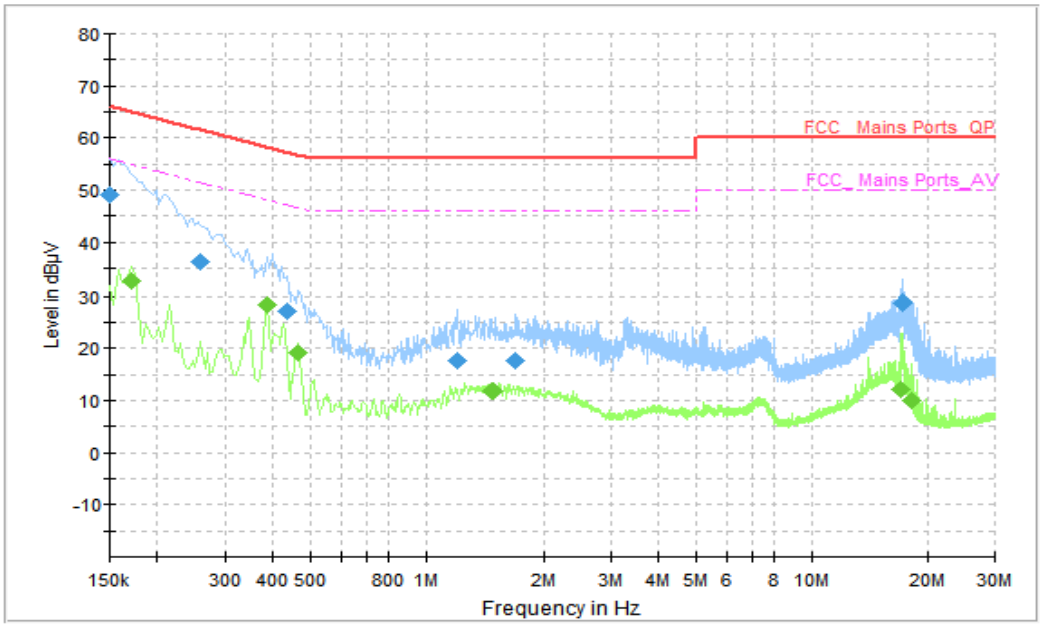

Figure A.2.5. Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	49.25	66.00	16.75	L1	10	39.25
0.258000	36.27	61.50	25.23	N	10	26.27
0.434000	27.12	57.18	30.05	N	10	17.12
1.206000	17.67	56.00	38.33	L1	10	7.67
1.686000	17.70	56.00	38.30	N	10	7.7
17.330000	28.52	60.00	31.48	L1	10	18.52

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.170000	32.74	54.96	22.22	N	10	22.74
0.386000	28.17	48.15	19.98	N	10	18.17
0.466000	19.02	46.59	27.57	L1	10	9.02
1.490000	11.93	46.00	34.07	L1	10	1.93
16.998000	12.00	50.00	38.00	L1	10	2
18.126000	9.89	50.00	40.11	L1	10	-0.11

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AC Input Port/ Voltage: 240V/60Hz

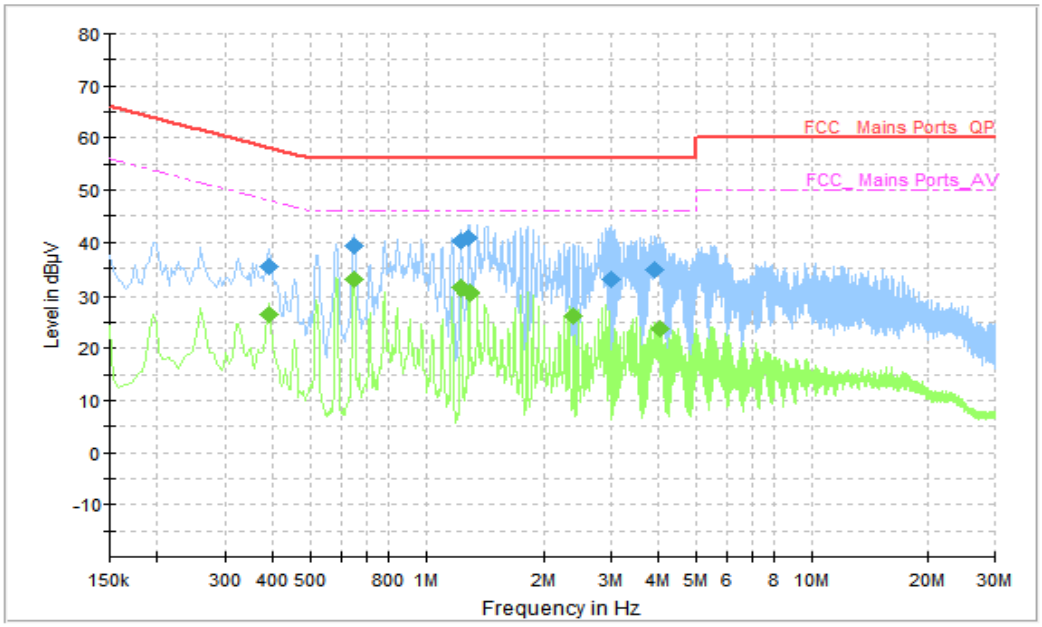

Figure A.2.6. Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.390000	35.23	58.06	22.84	L1	10	25.23
0.650000	39.39	56.00	16.61	N	10	29.39
1.230000	40.17	56.00	15.83	N	10	30.17
1.294000	40.72	56.00	15.28	N	10	30.72
2.990000	32.85	56.00	23.15	N	10	22.85
3.882000	34.85	56.00	21.15	L1	10	24.85

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.390000	26.50	48.06	21.56	N	10	16.50
0.650000	32.99	46.00	13.01	N	10	22.99
1.230000	31.40	46.00	14.60	L1	10	21.40
1.298000	30.54	46.00	15.46	N	10	20.54
2.398000	26.32	46.00	19.68	L1	10	16.32
4.010000	23.88	46.00	22.12	L1	10	13.88

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AC Input Port/ Voltage: 240V/60Hz

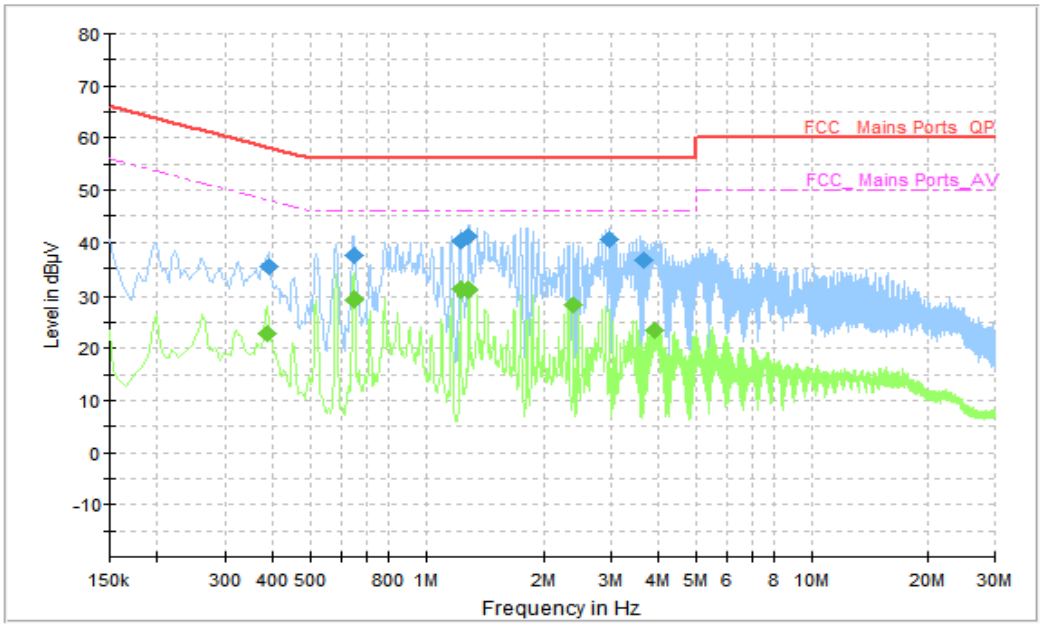

Figure A.2.7. Conducted Emission(Video Player)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.390000	35.28	58.06	22.78	L1	10	25.28
0.650000	37.62	56.00	18.38	N	10	27.62
1.230000	40.30	56.00	15.70	L1	10	30.30
1.294000	41.09	56.00	14.91	L1	10	31.09
2.982000	40.63	56.00	15.37	L1	10	30.63
3.634000	36.69	56.00	19.31	L1	10	26.69

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.386000	22.85	48.15	25.30	N	10	12.85
0.650000	29.26	46.00	16.74	N	10	19.26
1.230000	30.94	46.00	15.06	L1	10	20.94
1.294000	30.99	46.00	15.01	L1	10	20.99
2.394000	28.30	46.00	17.70	N	10	18.3
3.882000	23.42	46.00	22.58	N	10	13.42

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AC Input Port/ Voltage: 240V/60Hz

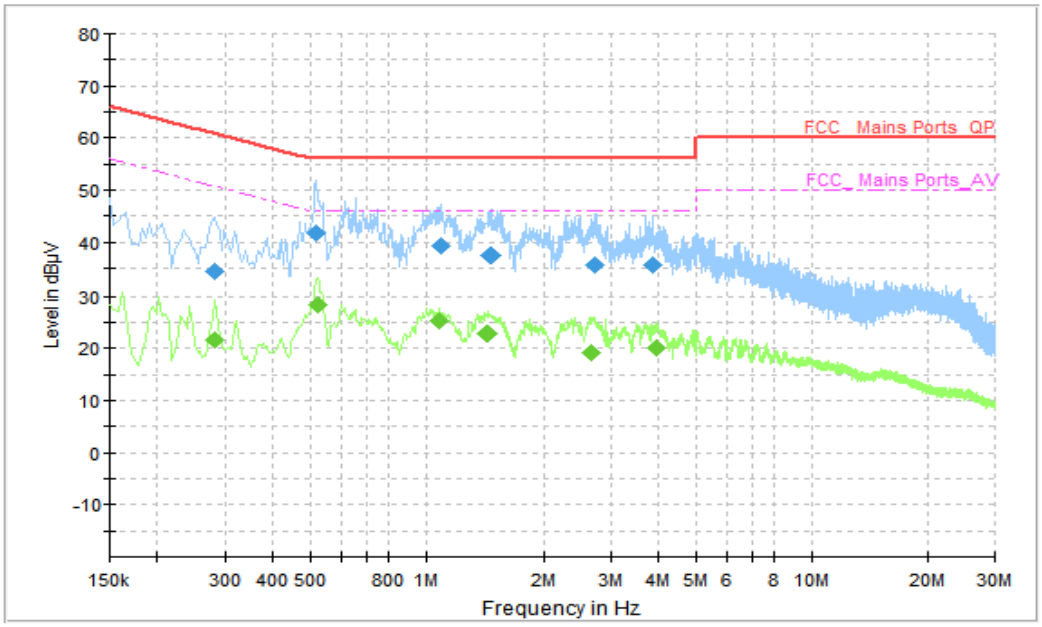

Figure A.2.8. Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.282000	34.42	60.76	26.33	N	10	24.42
0.518000	41.75	56.00	14.25	N	10	31.75
1.098000	39.27	56.00	16.73	N	10	29.27
1.470000	37.39	56.00	18.61	N	10	27.39
2.730000	35.62	56.00	20.38	N	10	25.62
3.842000	35.78	56.00	20.22	N	10	25.78

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.282000	21.65	50.76	29.11	N	10	11.65
0.522000	28.22	46.00	17.78	N	10	18.22
1.082000	25.27	46.00	20.73	N	10	15.27
1.442000	22.74	46.00	23.26	N	10	12.74
2.674000	19.02	46.00	26.98	N	10	9.02
3.954000	20.13	46.00	25.87	N	10	10.13

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AC Input Port/ Voltage: 240V/60Hz

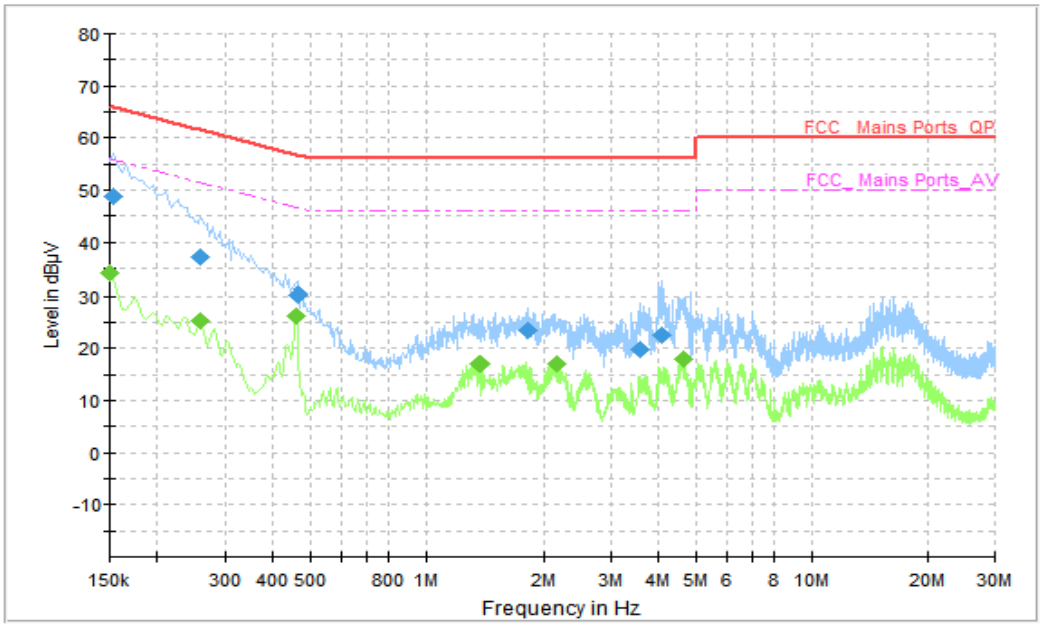

Figure A.2.9. Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.154000	48.76	65.78	17.03	N	10	38.76
0.258000	37.29	61.50	24.20	L1	10	27.29
0.462000	30.28	56.66	26.38	L1	10	20.28
1.814000	23.51	56.00	32.49	L1	10	13.51
3.558000	19.61	56.00	36.39	N	10	9.61
4.074000	22.57	56.00	33.43	N	10	12.57

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.150000	34.10	56.00	21.90	L1	10	24.10
0.258000	25.23	51.50	26.27	N	10	15.23
0.458000	26.32	46.73	20.40	N	10	16.32
1.378000	17.09	46.00	28.91	N	10	7.09
2.170000	17.05	46.00	28.95	N	9	8.05
4.638000	17.99	46.00	28.01	L1	10	7.99

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AC Input Port/ Voltage: 240V/60Hz

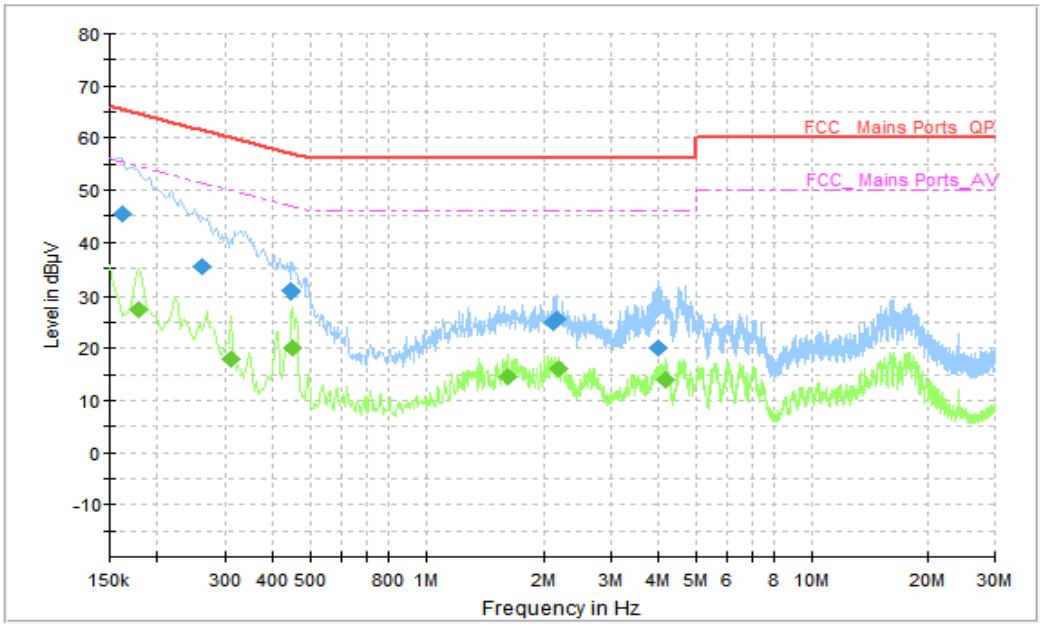

Figure A.2.10. Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.162000	45.55	65.36	19.81	N	10	35.55
0.262000	35.33	61.37	26.04	N	10	25.33
0.442000	30.76	57.02	26.26	N	10	20.76
2.118000	25.06	56.00	30.94	N	10	15.06
2.158000	25.58	56.00	30.42	N	10	15.58
3.994000	20.10	56.00	35.90	N	10	10.10

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P_{Mea} (dBµV)
0.178000	27.34	54.58	27.24	N	10	17.34
0.310000	18.00	49.97	31.97	N	10	8
0.450000	20.09	46.88	26.79	N	10	10.09
1.610000	14.42	46.00	31.58	N	10	4.42
2.194000	16.09	46.00	29.91	N	9	7.09
4.158000	13.91	46.00	32.09	N	10	3.91

*****END OF REPORT*****

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