



TEST REPORT

No.I21N02292-EMC

for

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

Mobile Phone

Model Name: A102OP

With

Hardware Version: 11

Software Version: ColorOS V11

FCC ID: R9C-A102OP

Issued Date: 2021-08-25

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
I21N02292-EMC	Rev.0	1st edition	2021-08-25

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	Mobile Phone
Model Name	A102OP
Applicant's name	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Manufacturer's Name	Guangdong OPPO Mobile Telecommunications Corp., Ltd.

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: 2021-08-10

Testing End Date: 2021-08-19

1.6. Signature

Liang Yong

(Prepared this test report)

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(Reviewed this test report)

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(Approved this test report)



2. Client Information

2.1. Applicant Information

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2.2. Manufacturer Information

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Fax /



3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Mobile Phone
Model Name	A102OP
FCC ID	R9C-A102OP
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
UT02aa	868994050055578	11	ColorOS V11	2021-07-23
	868994050055560			

*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

AE4 Headset

AE1

Model	BLP779
Manufacturer	TWS TECHNOLOGY (GUANGZHOU) LIMITED
Capacity	3890mAh
Nominal Voltage	3.85 V

AE2

Model	OP92KAJH
Manufacturer	Shenzhen Kunxing Technology Co.,Ltd.
Specification	Japan Standard Charger

AE3

Model	DL143
Manufacturer	Dongguan Fuqiang Electronics Co., Ltd

AE4

Model	MH156
Manufacturer	JiangXi Risound Electronics CO.,LTD

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

AE: ancillary equipment

AE2/3/4: Just for test.



3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT+AE1+AE2+AE3+AE4	
Set.2	EUT+AE1+AE3+AE4+PC	

3.5. General Description

The Equipment Under Test (EUT) is a model of Mobile Phone with internal antenna. It supports GSM 850/900/1800/1900MHz, WCDMA Bands 1/2/4/5/6/8/19, and LTE Bands 1/2/3/4/5/7/8/18/19/26/28/38/40/41/42/CA_42C. It has MP3, Camera, FM receiver, USB memory, Bluetooth, Wi-Fi and GNSS functions. It consists of normal options: Battery. 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.



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

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 °C, Max. = 35°C
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 °C, Max. = 35 °C
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 °C, Max. = 35°C
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. Testing Environment

Normal Temperature: 15~35°C
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.

7. Measurement uncertainty

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	4.84dB(k=2)
	1GHz-18GHz	4.68dB(k=2)
	18GHz-40GHz	3.76dB(k=2)
Conducted Emission	150kHz-30MHz	3.00dB(k=2)

8. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	MANUFACTURER	CAL. DUE DATE	CAL. PERIOD
1.	Test Receiver	ESR7	101676	R&S	2021.11.25	1 year
2.	Test Receiver	ESCI	100702	R&S	2022.01.13	1 year
3.	Spectrum Analyzer	FSV40	101192	R&S	2022.01.13	1 year
4.	BiLog Antenna	3142E	0224831	ETS-Lindgren	2024.05.27	3 years
5.	Horn Antenna	3117	00066577	ETS-Lindgren	2022.04.02	3 years
6.	LISN	ENV216	102067	R&S	2022.07.15	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	CMU200	114545	R&S	2022.01.13	1 year
10.	Universal Radio Communication Tester	CMW500	152499	R&S	2022.07.15	1 year
11.	Signal Generator	SMB100A	179725	R&S	2021.11.25	1 year
12.	Horn Antenna	QSH-SL-18-26-S-20	17013	Q-par	2023.01.06	3 years
13.	Horn Antenna	QSH-SL-8-26-40-K-20	17014	Q-par	2023.01.06	3 years

Note: CAL.: Calibration

9. Test Accessory Utilized

NO.	NAME	TYPE	SERIES NUMBER	MANUFACTURER	CALDUE DATE	CAL PERIOD
1.	PC	ThinkPad T480	PF-13LW0C	Lenovo	/	/
2.	Printer	P1008	VNF6C12491	HP	/	/
3.	Mouse	MOEUUOA	44NY517	Lenovo	/	/



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 (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: 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.

FM receiver: The EUT is connected to a charger for charging. The EUT is synchronized to a FM signal generator. The EUT is keeping on demodulating the FM signal and outputting the audio signal through the headset.

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.

GSM 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.

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:

GSM850MHz, WCDMA Band5, LTE Band 5, LTE Band 18, LTE Band 19, LTE Band 26.

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)

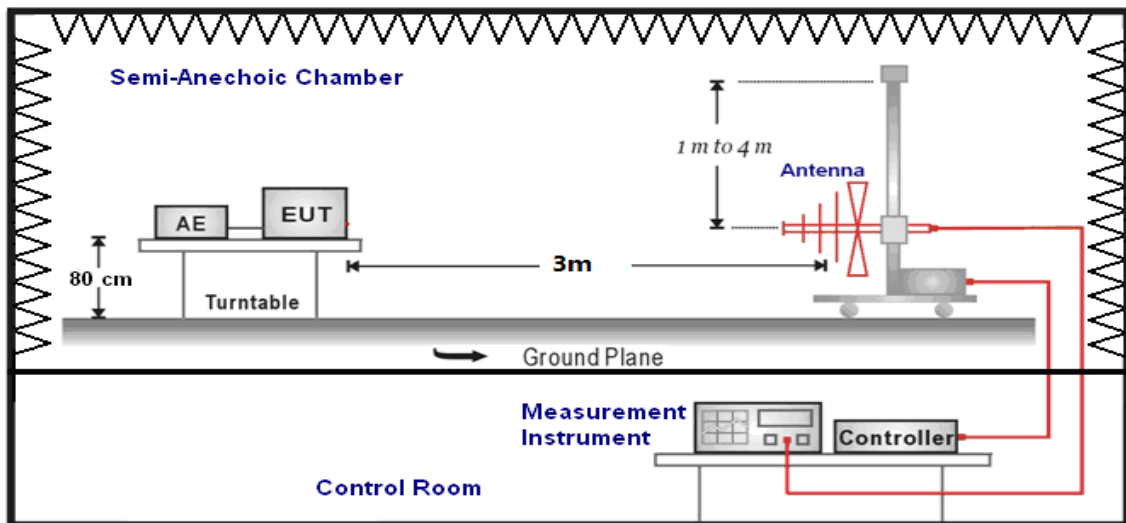
Frequency range (MHz)	Field strength limit ($\mu\text{V}/\text{m}$)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

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

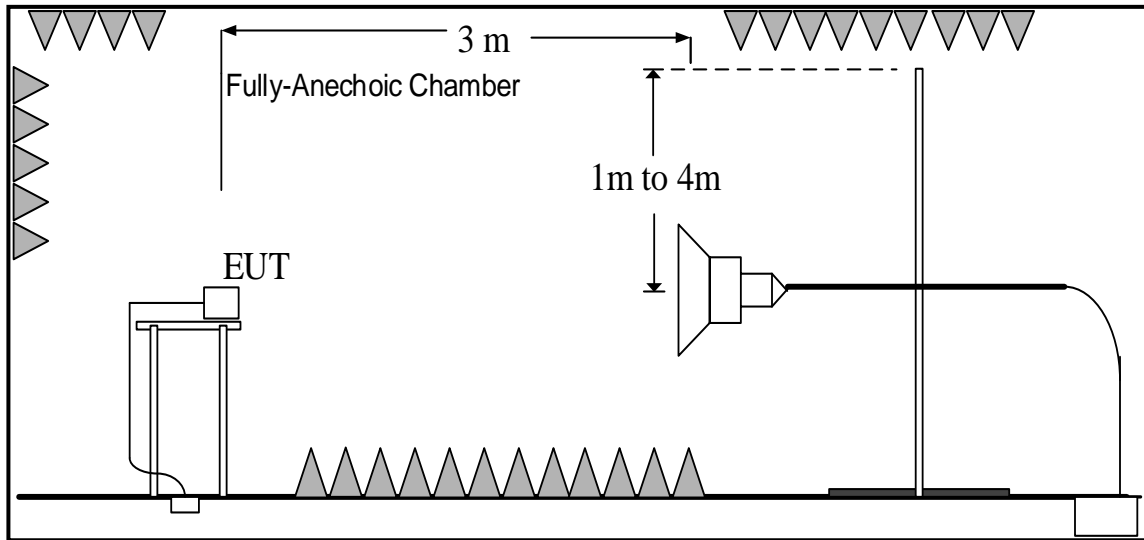
A.1.4 Test Condition

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**



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:

$$\text{Result} = P_{\text{Mea}} + A_{Rpl} = P_{\text{Mea}} + G_A + G_{PL}$$

Where

G_A : Antenna factor of receive antenna

G_{PL} : PathLoss

P_{Mea} : Measurement result on receiver.

Result: Quasi-Peak (dB μ V/m) / Average (dB μ V/m) / Peak (dB μ V/m)

Note: the result contains vertical part and Horizontal part

Camera

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
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 (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
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.	
26500 to 40000	54.00	74.00	See Figure A.1.4.	

Video Player

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
30-88	40.00	See Figure A.1.5.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
1000 to 18000	54.00	74.00	See Figure A.1.6.	P
18000 to 26500	54.00	74.00	See Figure A.1.7.	
26500 to 40000	54.00	74.00	See Figure A.1.8.	

FM receiver

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
30-88	40.00	See Figure A.1.9.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
1000 to 18000	54.00	74.00	See Figure A.1.10.	P
18000 to 26500	54.00	74.00	See Figure A.1.11.	
26500 to 40000	54.00	74.00	See Figure A.1.12.	

GSM receiver 850MHz

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
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 (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
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.	
26500 to 40000	54.00	74.00	See Figure A.1.16.	

WCDMA receiver Band 5

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
30-88	40.00	See Figure A.1.17.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
1000 to 18000	54.00	74.00	See Figure A.1.18.	P
18000 to 26500	54.00	74.00	See Figure A.1.19.	
26500 to 40000	54.00	74.00	See Figure A.1.20.	

LTE receiver Band 5

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
30-88	40.00	See Figure A.1.21.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
1000 to 18000	54.00	74.00	See Figure A.1.22.	P
18000 to 26500	54.00	74.00	See Figure A.1.23.	
26500 to 40000	54.00	74.00	See Figure A.1.24.	

LTE receiver Band 18

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
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 (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
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.	
26500 to 40000	54.00	74.00	See Figure A.1.28.	

LTE receiver Band 19

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
30-88	40.00	See Figure A.1.29.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
1000 to 18000	54.00	74.00	See Figure A.1.30.	P
18000 to 26500	54.00	74.00	See Figure A.1.31.	
26500 to 40000	54.00	74.00	See Figure A.1.32.	

LTE receiver Band 26

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.1	
30-88	40.00	See Figure A.1.33.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.1	
1000 to 18000	54.00	74.00	See Figure A.1.34.	P
18000 to 26500	54.00	74.00	See Figure A.1.35.	
26500 to 40000	54.00	74.00	See Figure A.1.36.	

Data Transfer: PC TO EUT

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.2	
30-88	40.00	See Figure A.1.37.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.2	
1000 to 18000	54.00	74.00	See Figure A.1.38.	P
18000 to 26500	54.00	74.00	See Figure A.1.39.	
26500 to 40000	54.00	74.00	See Figure A.1.40.	

Data Transfer: PC TO TF Card

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.2	
30-88	40.00	See Figure A.1.41.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.2	
1000 to 18000	54.00	74.00	See Figure A.1.42.	P
18000 to 26500	54.00	74.00	See Figure A.1.43.	
26500 to 40000	54.00	74.00	See Figure A.1.44.	

Data Transfer: EUT TO PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.2	
30-88	40.00	See Figure A.1.45.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.2	
1000 to 18000	54.00	74.00	See Figure A.1.46.	P
18000 to 26500	54.00	74.00	See Figure A.1.47.	
26500 to 40000	54.00	74.00	See Figure A.1.48.	

Data Transfer: TF Card TO PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT02aa/Set.2	
30-88	40.00	See Figure A.1.49.	P
88-216	43.52		
216-960	46.02		
960-1000	54.00		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			UT02aa/Set.2	
1000 to 18000	54.00	74.00	See Figure A.1.50.	P
18000 to 26500	54.00	74.00	See Figure A.1.51.	
26500 to 40000	54.00	74.00	See Figure A.1.52.	

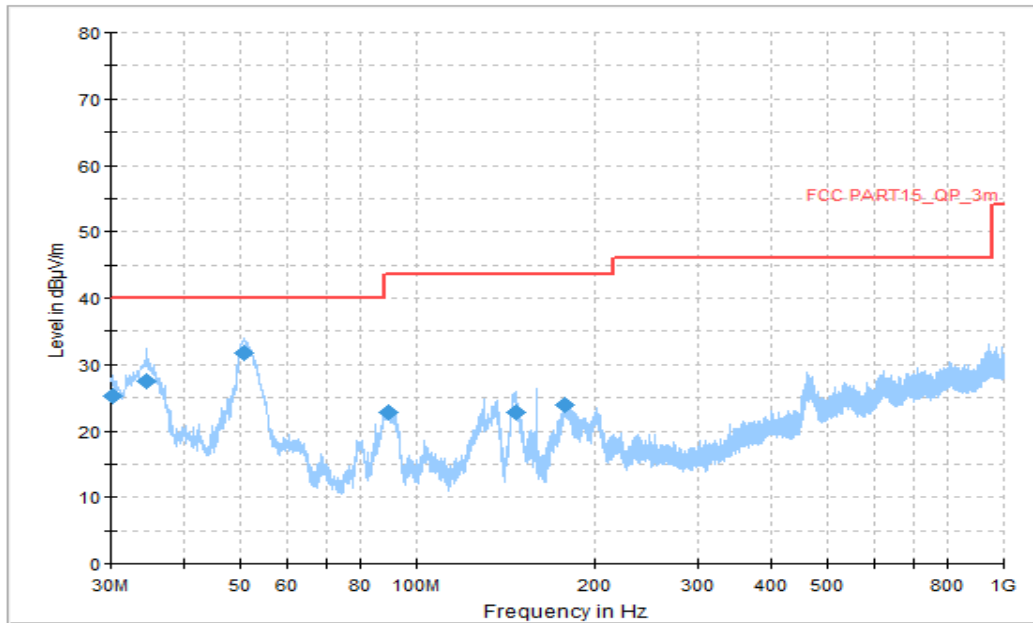


Figure A.1.1. Radiated Emission (Camera , 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.161667	25.16	40.00	14.84	V	-13	38.16
34.526667	27.51	40.00	12.49	V	-15	42.51
50.639444	31.78	40.00	8.22	V	-22	53.78
89.708889	22.79	43.52	20.73	V	-22	44.79
146.238333	22.89	43.52	20.63	H	-18	40.89
177.763333	23.99	43.52	19.53	H	-18	41.99

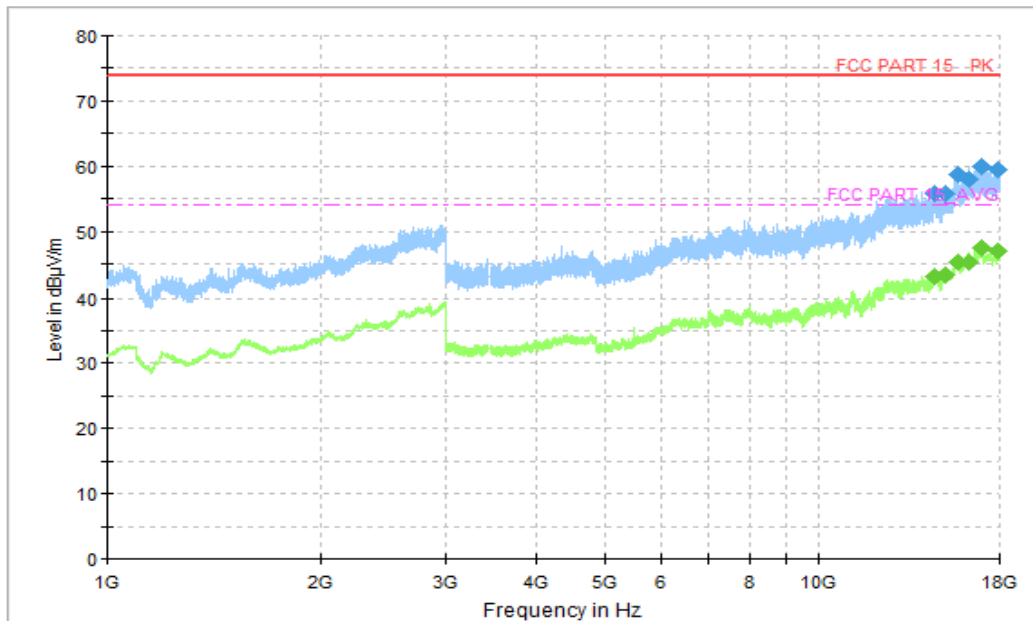


Figure A.1.2. Radiated Emission (Camera , 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14550.250000	55.88	74.00	18.12	H	18	37.88
15079.500000	55.77	74.00	18.23	V	18	37.77
15703.250000	58.67	74.00	15.33	V	20	38.67
16273.500000	58.05	74.00	15.95	V	21	37.05
17013.750000	60.06	74.00	13.94	H	23	37.06
17899.250000	59.49	74.00	14.51	H	24	35.49

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14550.250000	43.10	54.00	10.90	H	18	25.10
15079.500000	43.36	54.00	10.64	V	18	25.36
15703.250000	45.28	54.00	8.72	V	20	25.28
16273.500000	45.22	54.00	8.78	V	21	24.22
17013.750000	47.47	54.00	6.53	H	23	24.47
17899.250000	46.92	54.00	7.08	H	24	22.92

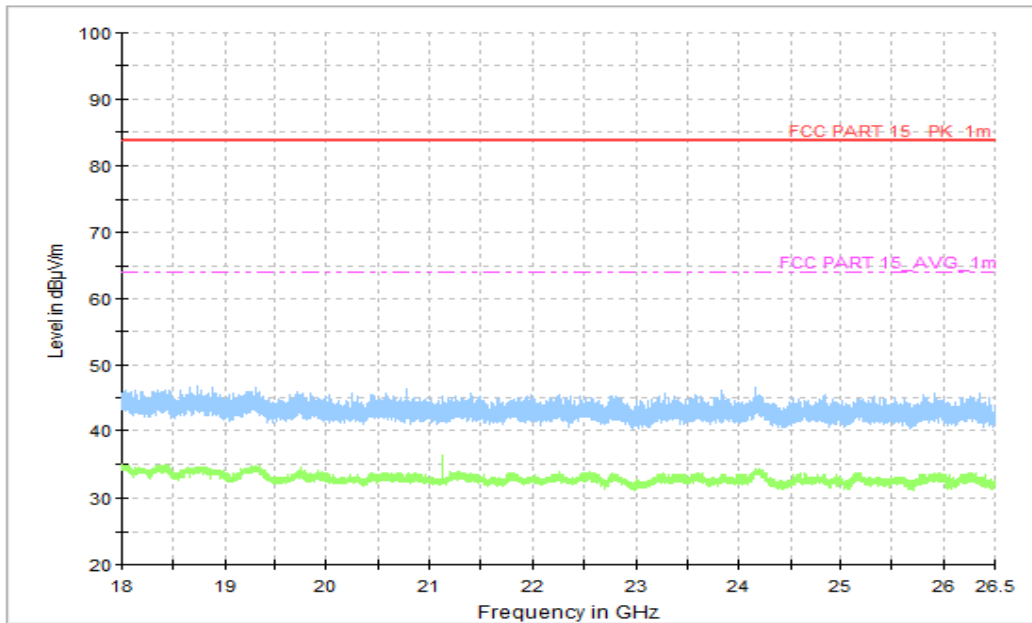


Figure A.1.3. Radiated Emission (Camera , 18GHz to 26.5GHz)

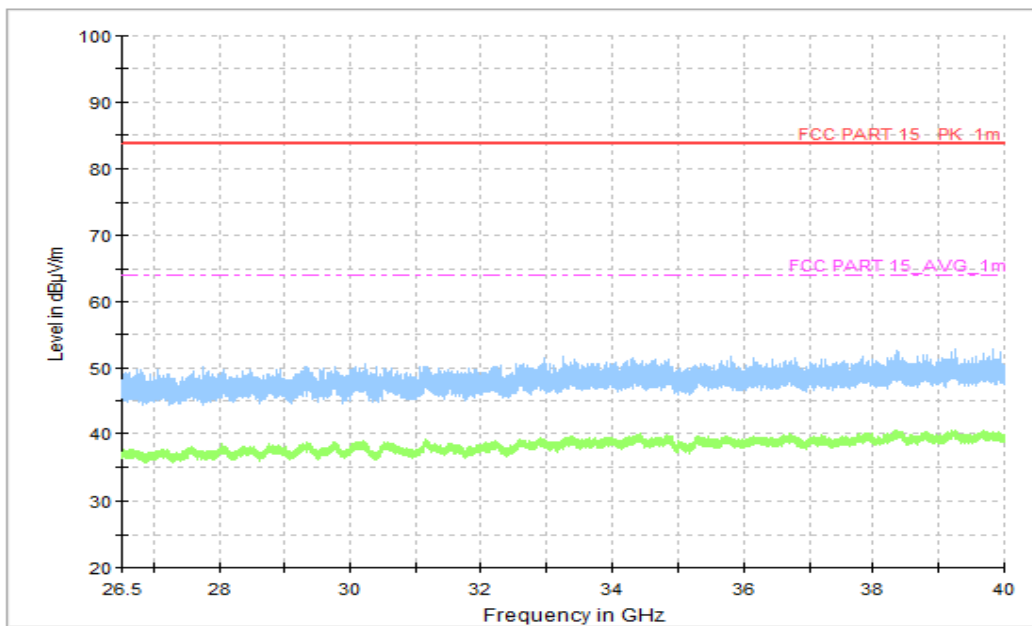


Figure A.1.4. Radiated Emission (Camera , 26.5GHz to 40GHz)

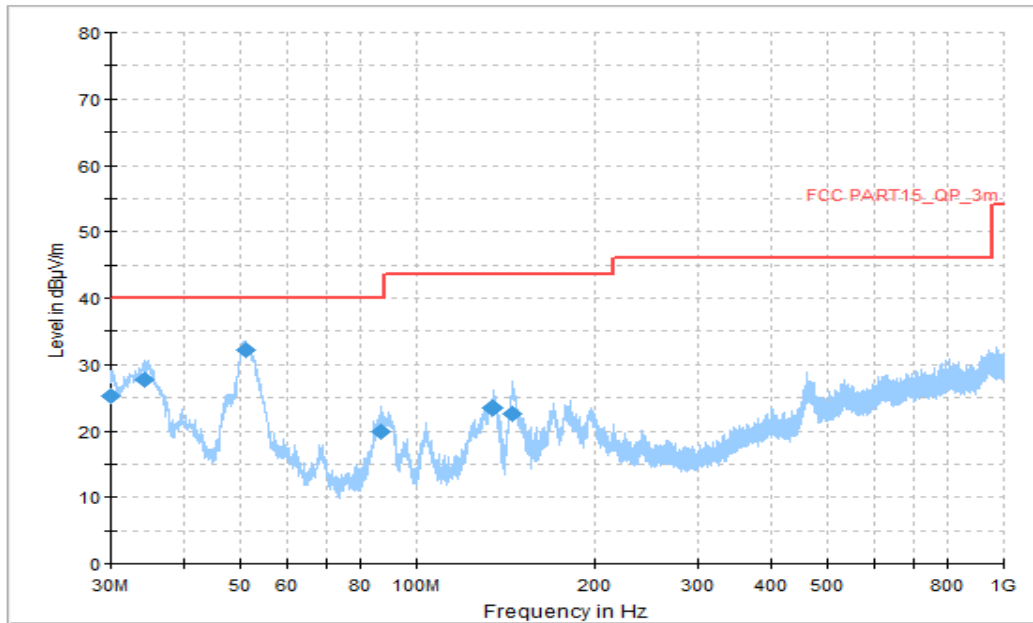


Figure A.1.5. Radiated Emission (Video Player , 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.000000	25.28	40.00	14.72	V	-13	38.28
34.203333	27.63	40.00	12.37	V	-15	42.63
51.070556	32.11	40.00	7.89	V	-22	54.11
86.906667	19.99	40.00	20.01	V	-22	41.99
134.382778	23.51	43.52	20.01	V	-20	43.51
144.837222	22.54	43.52	20.98	V	-19	41.54

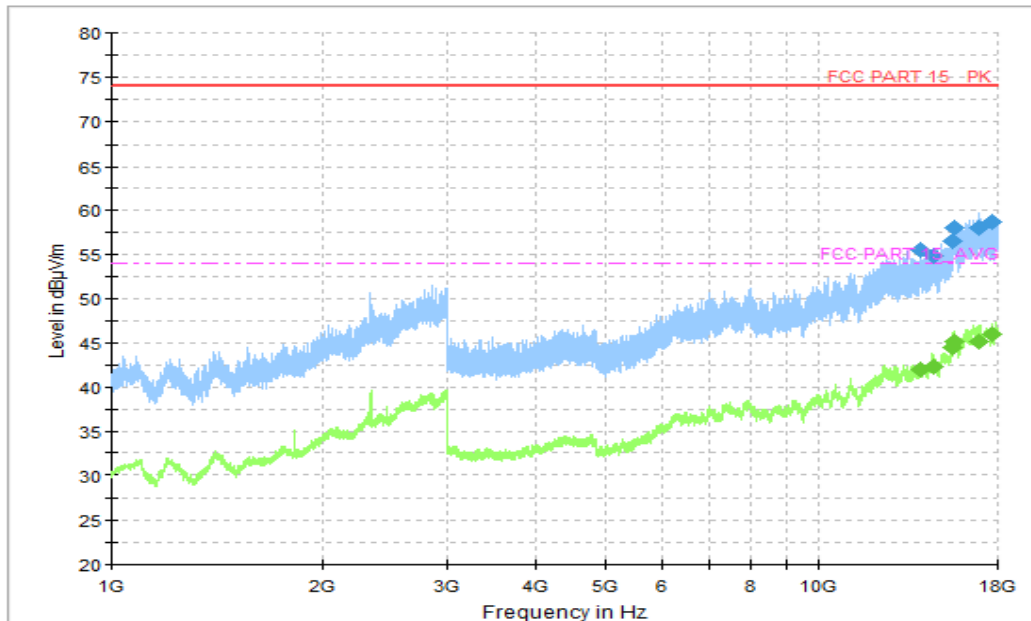


Figure A.1.6. Radiated Emission (Video Player , 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14004.000000	55.60	74.00	18.40	H	17	38.60
14582.000000	54.81	74.00	19.19	V	18	36.81
15565.250000	56.51	74.00	17.49	H	20	36.51
15614.750000	58.01	74.00	15.99	H	20	38.01
16879.750000	58.08	74.00	15.92	V	22	36.08
17656.000000	58.66	74.00	15.34	H	23	35.66

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14004.000000	41.95	54.00	12.05	H	17	24.95
14582.000000	42.29	54.00	11.71	V	18	24.29
15565.250000	44.42	54.00	9.58	H	20	24.42
15614.750000	45.07	54.00	8.93	H	20	25.07
16879.750000	45.18	54.00	8.82	V	22	23.18
17656.000000	45.92	54.00	8.08	H	23	22.92

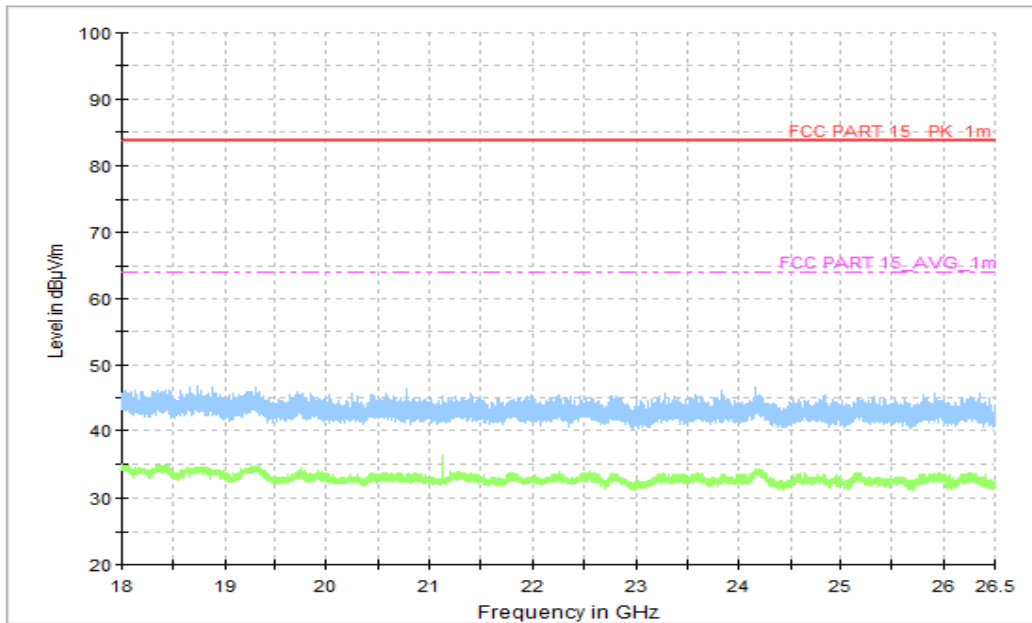


Figure A.1.7. Radiated Emission (Video Player , 18GHz to 26.5GHz)

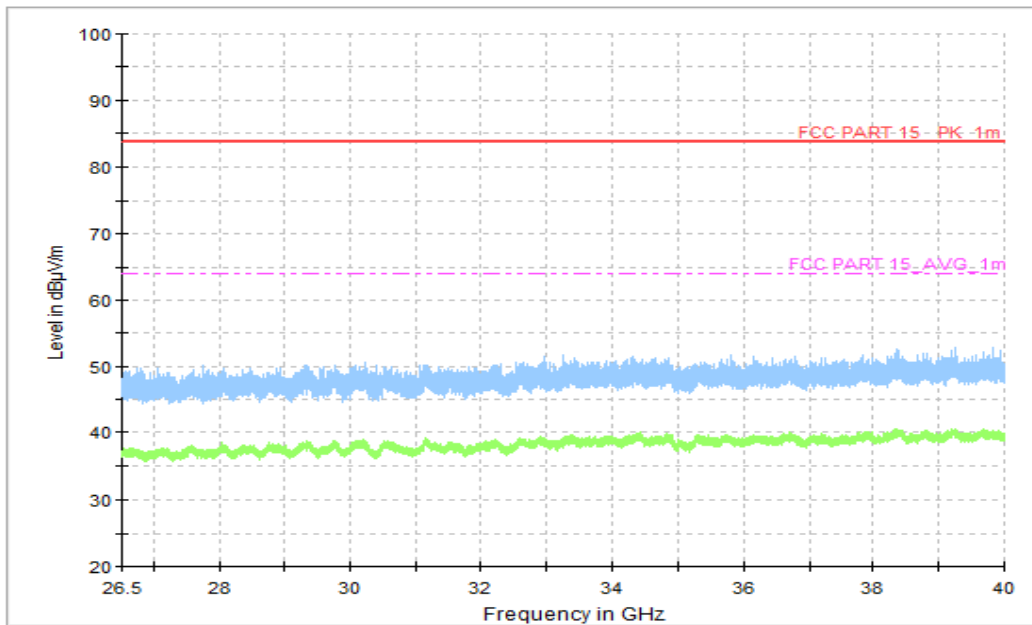


Figure A.1.8. Radiated Emission (Video Player , 26.5GHz to 40GHz)

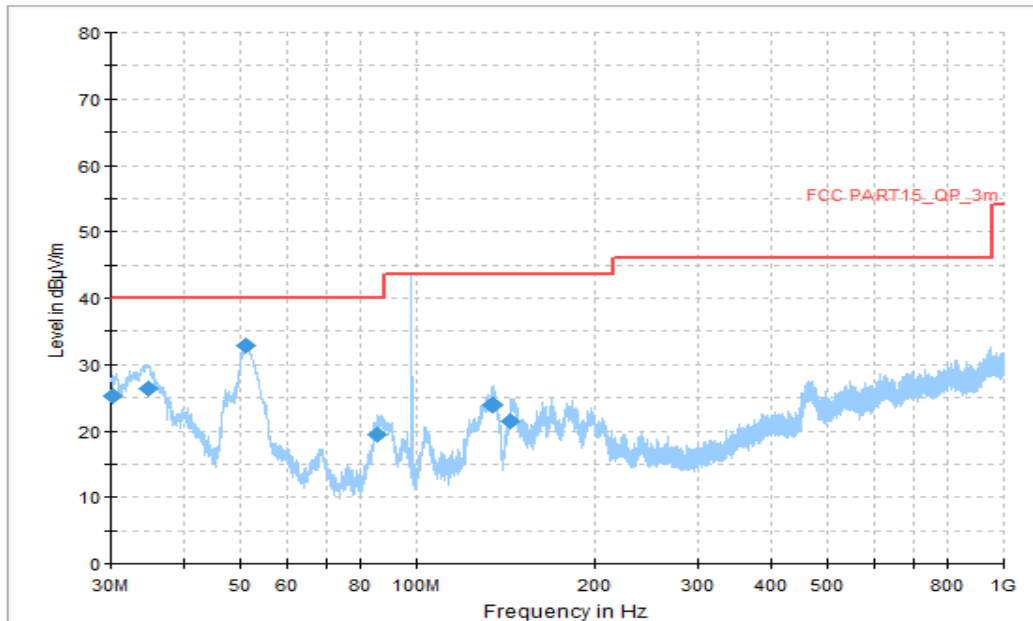


Figure A.1.9. Radiated Emission (FM receiver, 30MHz to 1GHz)

Note: the spike over the limit is coming from the traffic carrier.

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.269444	25.33	40.00	14.67	V	-13	38.33
34.796111	26.29	40.00	13.71	V	-16	42.29
51.016667	32.92	40.00	7.08	V	-22	54.92
85.613333	19.51	40.00	20.49	V	-22	41.51
134.382778	23.81	43.52	19.71	V	-20	43.81
143.597778	21.39	43.52	22.13	V	-20	41.39

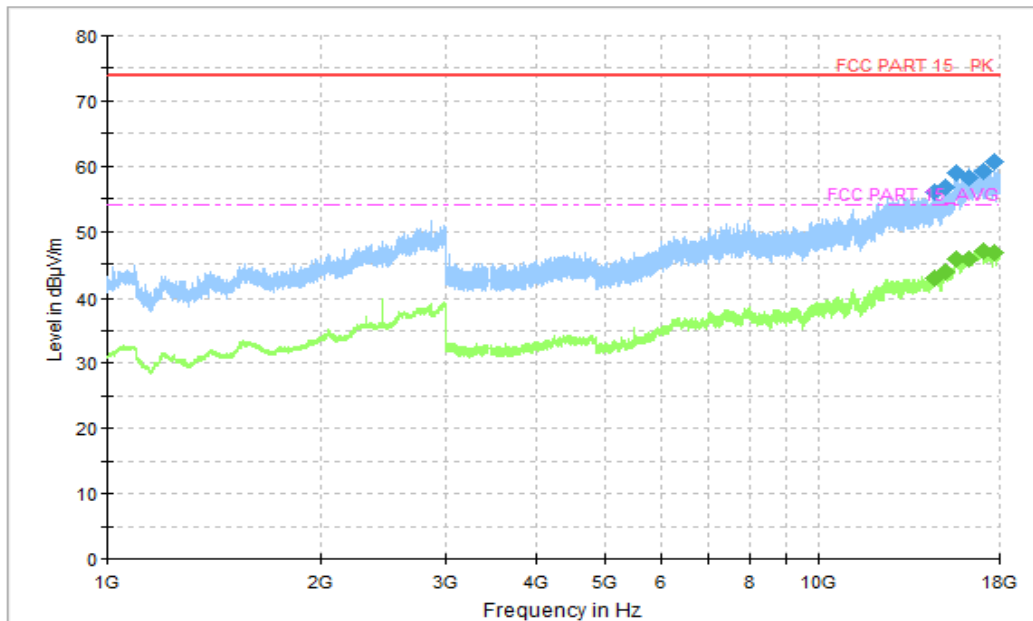


Figure A.1.10. Radiated Emission (FM receiver , 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14572.000000	55.91	74.00	18.09	V	18	37.91
15094.500000	56.81	74.00	17.19	V	18	38.81
15678.000000	58.84	74.00	15.16	H	20	38.84
16260.000000	58.11	74.00	15.89	V	21	37.11
17053.750000	59.14	74.00	14.86	H	22	37.14
17709.250000	60.73	74.00	13.27	H	23	37.73

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14572.000000	42.72	54.00	11.28	V	18	24.72
15094.500000	43.67	54.00	10.33	V	18	25.67
15678.000000	45.82	54.00	8.18	H	20	25.82
16260.000000	45.63	54.00	8.37	V	21	24.63
17053.750000	46.96	54.00	7.04	H	22	24.96
17709.250000	46.75	54.00	7.25	H	23	23.75

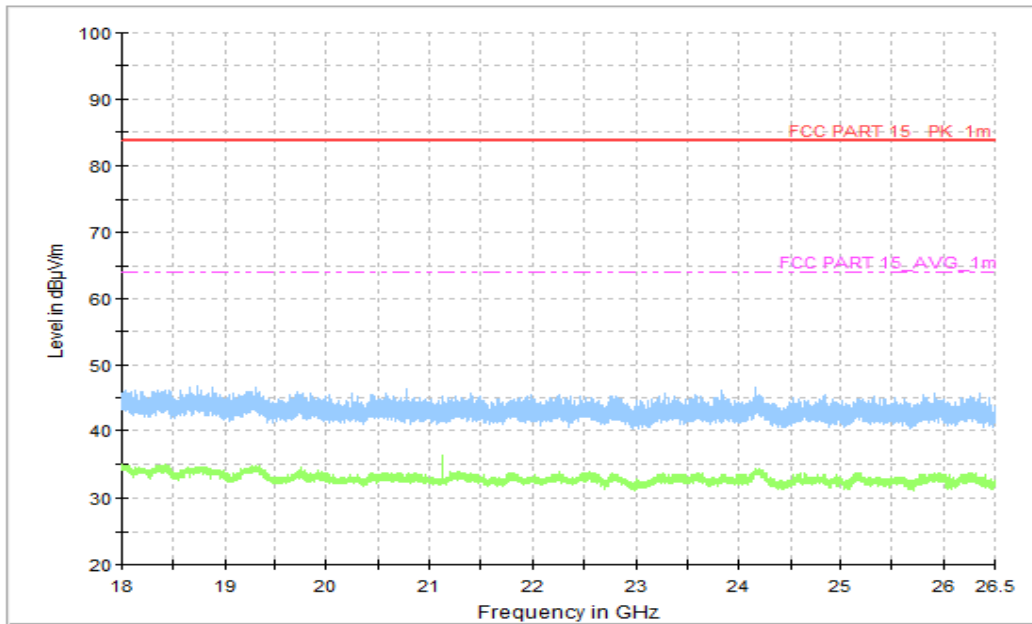


Figure A.1.11. Radiated Emission (FM receiver , 18GHz to 26.5GHz)

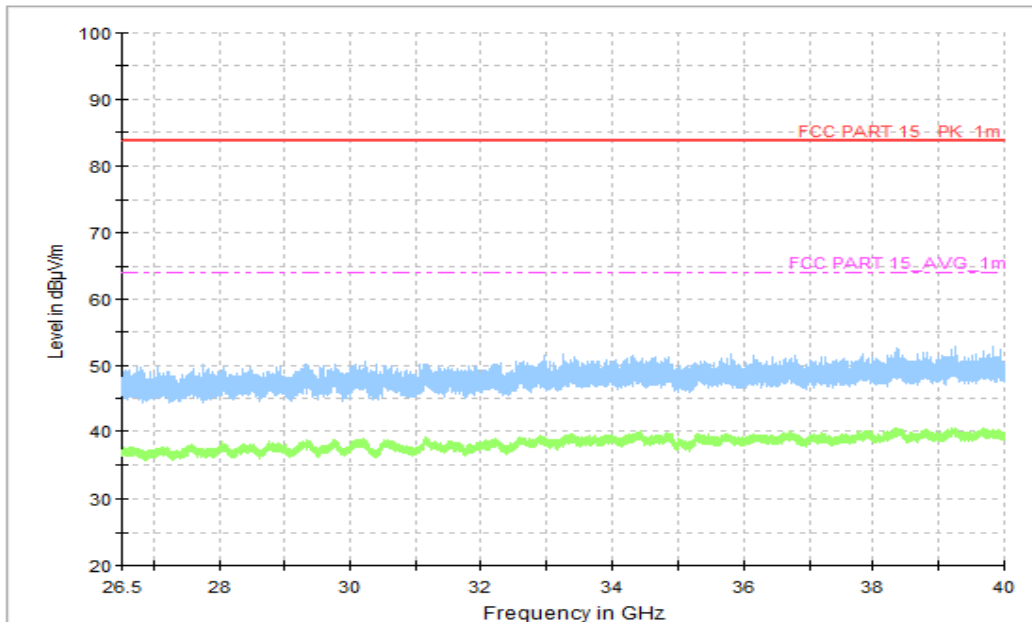


Figure A.1.12. Radiated Emission (FM receiver , 26.5GHz to 40GHz)

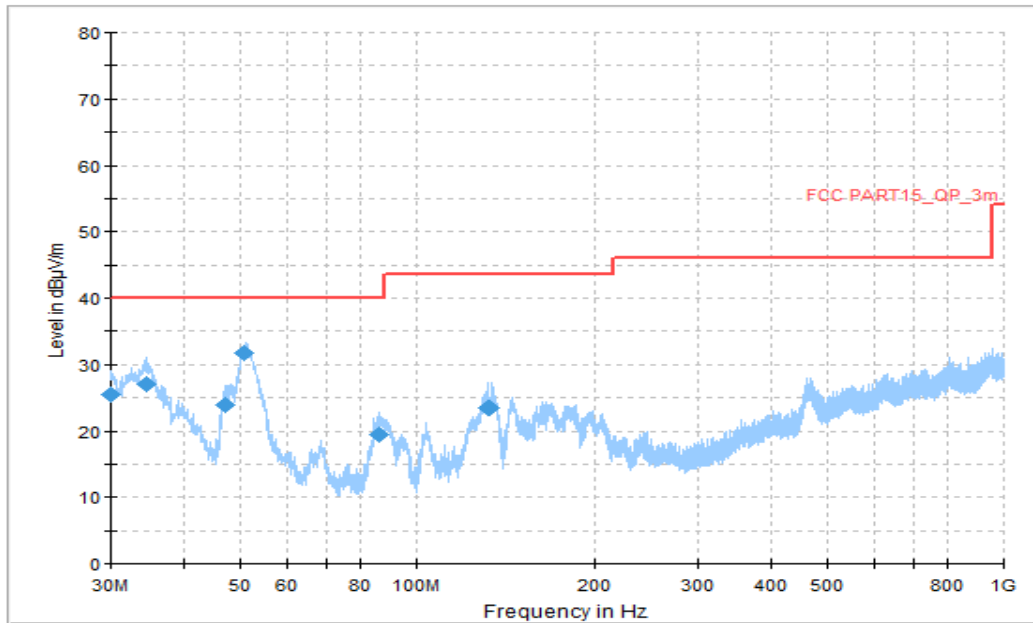


Figure A.1.13. Radiated Emission (GSM receiver 850MHz, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.107778	25.40	40.00	14.60	V	-13	38.40
34.418889	26.95	40.00	13.05	V	-15	41.95
46.975000	23.82	40.00	16.18	V	-21	44.82
50.801111	31.77	40.00	8.23	V	-22	53.77
86.475556	19.42	40.00	20.58	V	-22	41.42
132.604444	23.48	43.52	20.04	V	-20	43.48

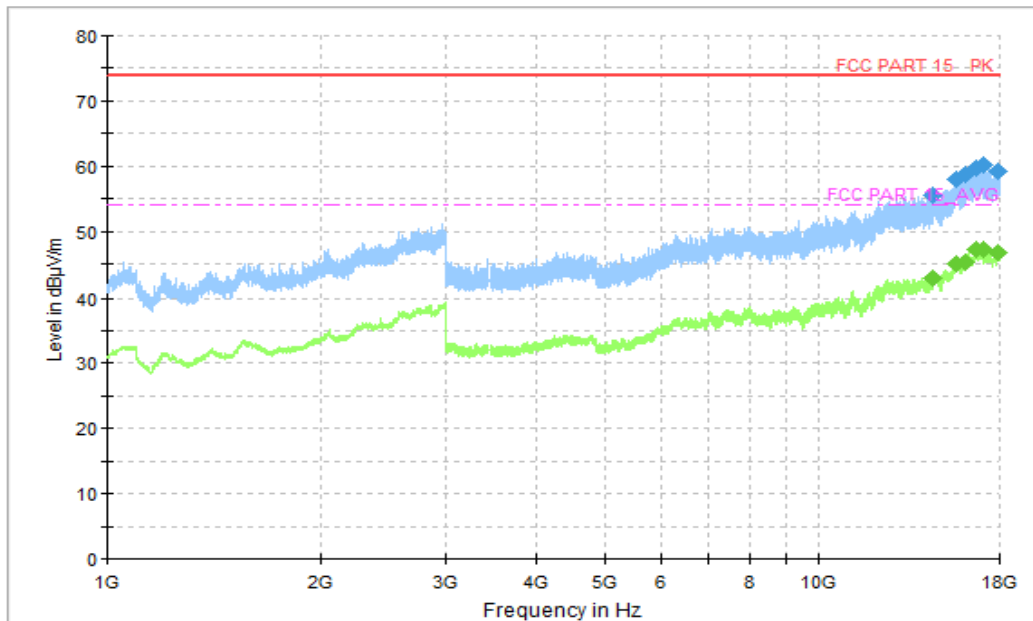


Figure A.1.14. Radiated Emission (GSM receiver 850MHz , 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14511.750000	55.46	74.00	18.54	H	18	37.46
15647.750000	57.92	74.00	16.08	H	20	37.92
16125.500000	58.69	74.00	15.31	V	21	37.69
16653.250000	59.68	74.00	14.32	V	22	37.68
17023.500000	60.27	74.00	13.73	H	23	37.27
17868.000000	59.19	74.00	14.81	V	24	35.19

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14511.750000	42.84	54.00	11.16	H	18	24.84
15647.750000	45.13	54.00	8.87	H	20	25.13
16125.500000	45.32	54.00	8.68	V	21	24.32
16653.250000	47.10	54.00	6.90	V	22	25.10
17023.500000	47.14	54.00	6.86	H	23	24.14
17868.000000	46.77	54.00	7.23	V	24	22.77

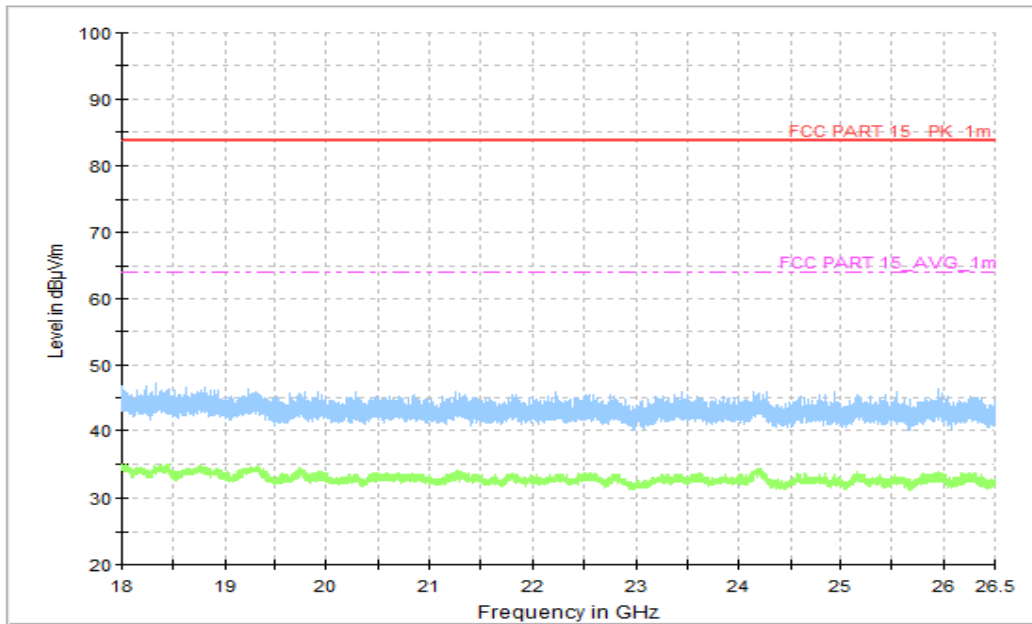


Figure A.1.15. Radiated Emission (GSM receiver 850MHz, 18GHz to 26.5GHz)

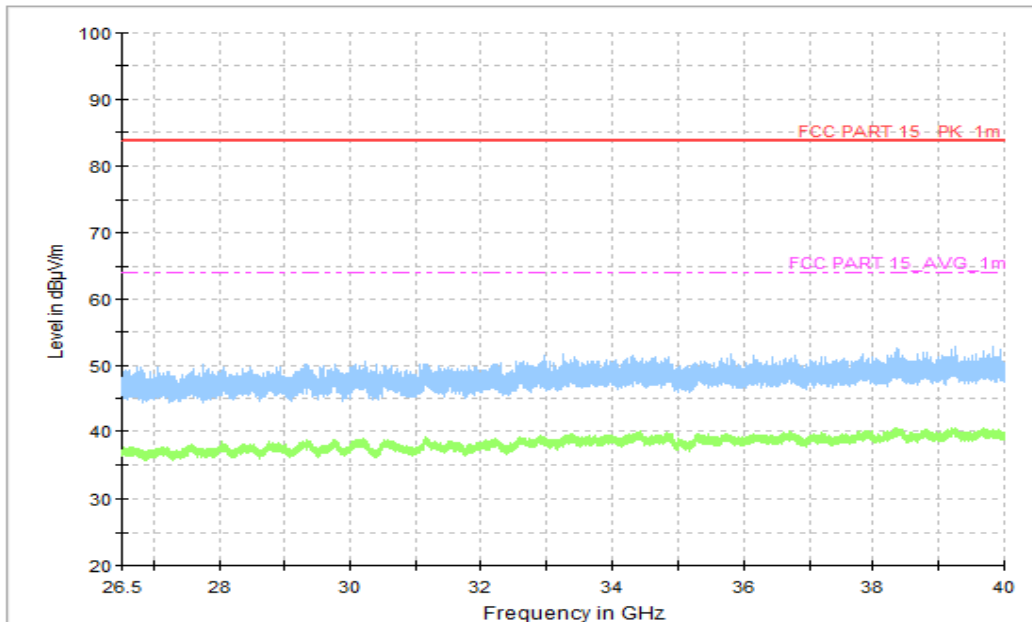


Figure A.1.16. Radiated Emission (GSM receiver 850MHz , 26.5GHz to 40GHz)

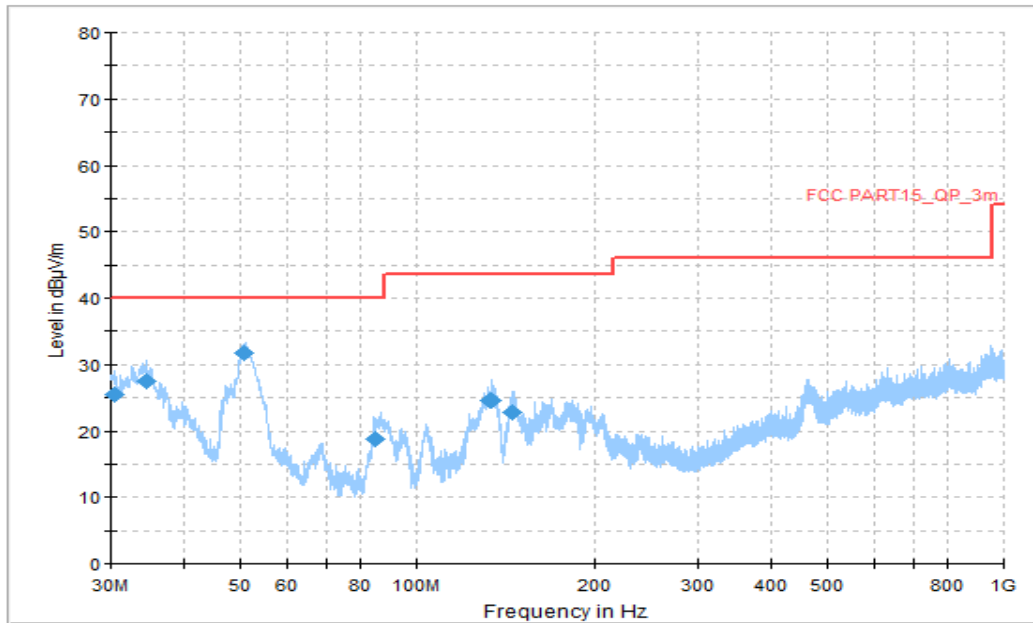


Figure A.1.17. Radiated Emission (WCDMA receiver Band 5, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.377222	25.39	40.00	14.62	V	-13	38.39
34.472778	27.45	40.00	12.55	V	-15	42.45
50.585556	31.75	40.00	8.25	V	-22	53.75
85.020556	18.85	40.00	21.15	V	-22	40.85
132.981667	24.55	43.52	18.97	V	-20	44.55
144.945000	22.71	43.52	20.81	V	-19	41.71

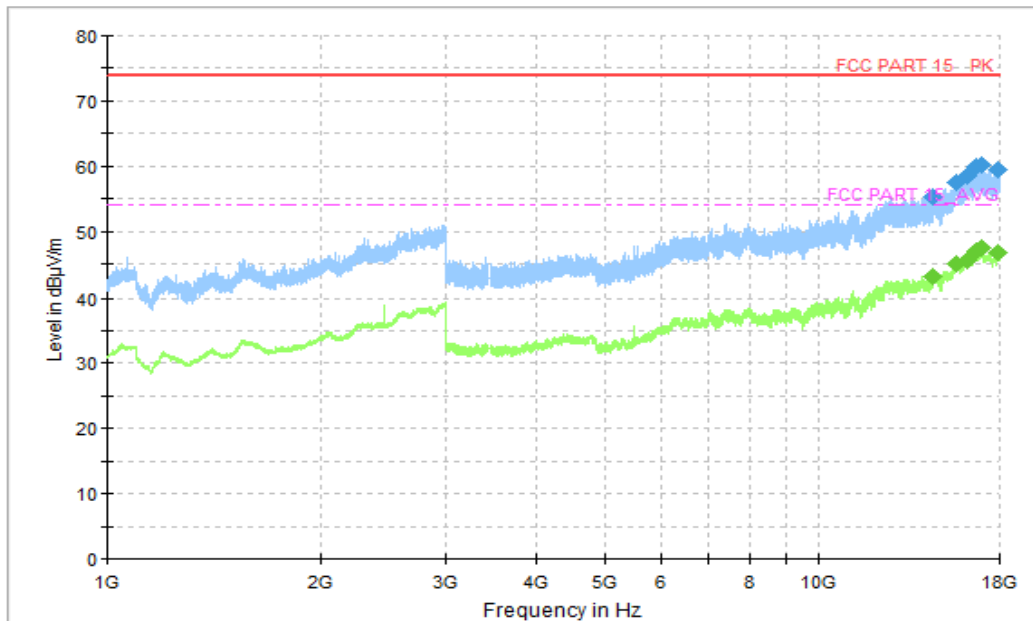


Figure A.1.18. Radiated Emission (WCDMA receiver Band 5, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14514.750000	55.41	74.00	18.59	H	18	37.41
15650.750000	57.48	74.00	16.52	H	20	37.48
16187.000000	58.37	74.00	15.63	V	21	37.37
16637.250000	59.95	74.00	14.05	H	22	37.95
17018.500000	60.09	74.00	13.91	H	23	37.09
17900.500000	59.57	74.00	14.43	H	24	35.57

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14514.750000	43.11	54.00	10.89	H	18	25.11
15650.750000	45.08	54.00	8.92	H	20	25.08
16187.000000	45.56	54.00	8.44	V	21	24.56
16637.250000	47.00	54.00	7.00	H	22	25.00
17018.500000	47.40	54.00	6.60	H	23	24.40
17900.500000	46.79	54.00	7.21	H	24	22.79

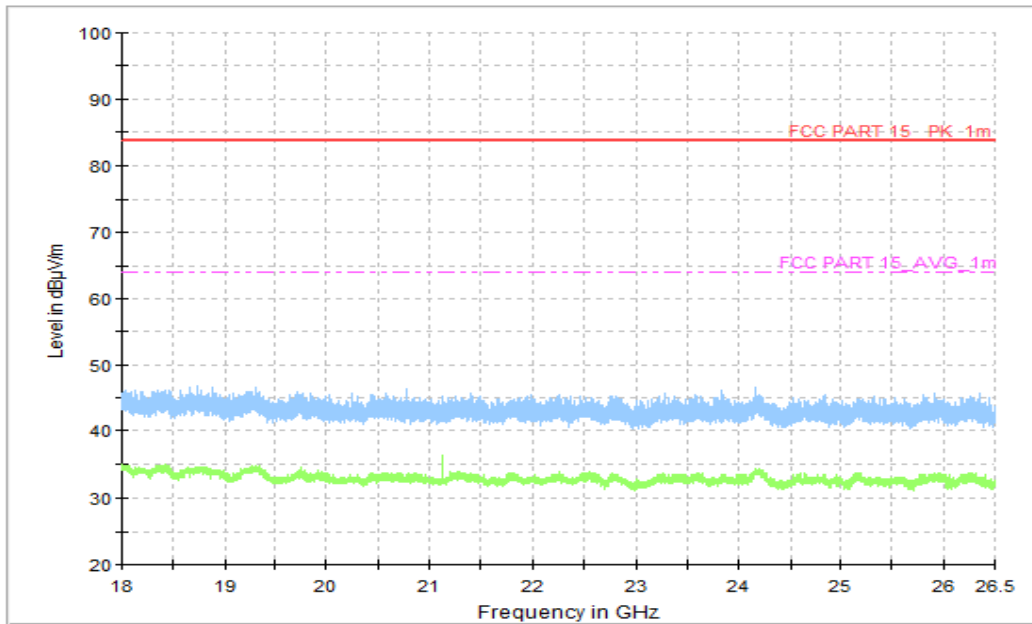


Figure A.1.19. Radiated Emission (WCDMA receiver Band 5, 18GHz to 26.5GHz)

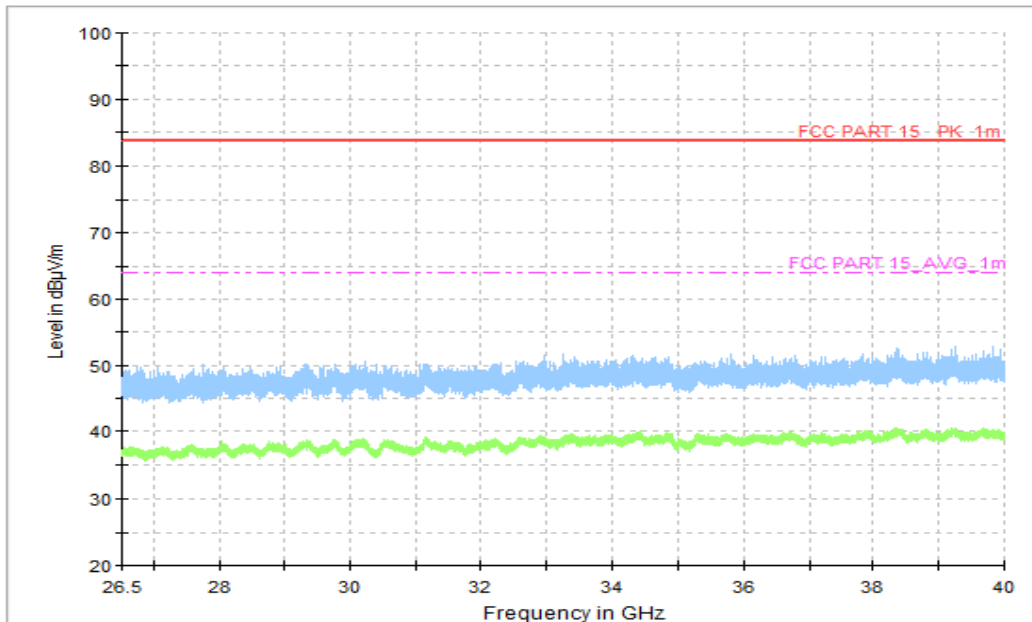


Figure A.1.20. Radiated Emission (WCDMA receiver Band 5, 26.5GHz to 40GHz)

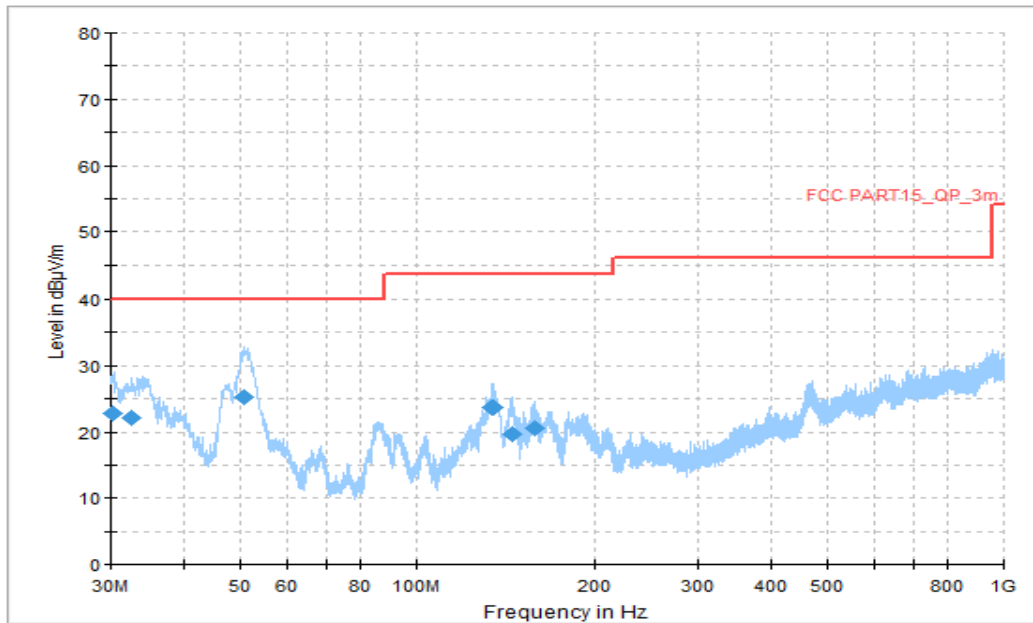


Figure A.1.21. Radiated Emission (LTE receiver Band 5, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.323333	22.82	40.00	17.18	V	-13	35.82
32.640556	22.05	40.00	17.95	V	-14	36.05
50.531667	25.30	40.00	14.70	V	-22	47.30
134.005556	23.62	43.52	19.90	V	-20	43.62
144.298333	19.62	43.52	23.90	V	-20	39.62
157.662778	20.46	43.52	23.06	V	-17	37.46

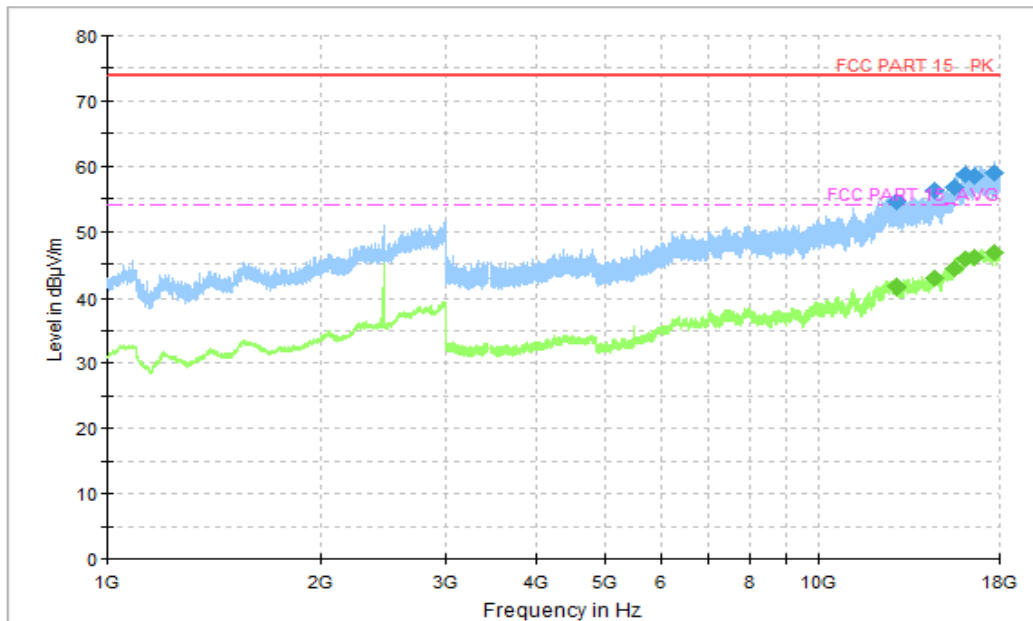


Figure A.1.22. Radiated Emission (LTE receiver Band 5, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
12896.000000	54.50	74.00	19.50	H	17	37.50
14554.250000	56.20	74.00	17.80	V	18	38.20
15542.750000	56.88	74.00	17.12	H	19	37.88
16108.750000	58.69	74.00	15.31	H	21	37.69
16544.750000	58.53	74.00	15.47	V	22	36.53
17705.750000	59.03	74.00	14.97	H	23	36.03

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
12896.000000	41.60	54.00	12.40	H	17	24.60
14554.250000	42.77	54.00	11.23	V	18	24.77
15542.750000	44.27	54.00	9.73	H	19	25.27
16108.750000	45.65	54.00	8.35	H	21	24.65
16544.750000	46.02	54.00	7.98	V	22	24.02
17705.750000	46.78	54.00	7.22	H	23	23.78

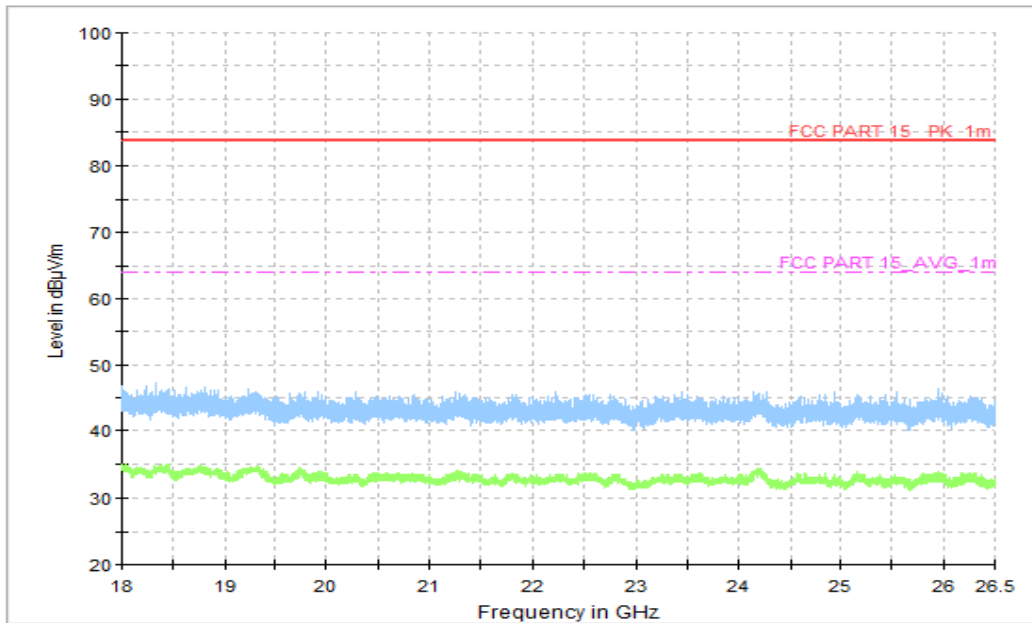


Figure A.1.23. Radiated Emission (LTE receiver Band 5, 18GHz to 26.5GHz)

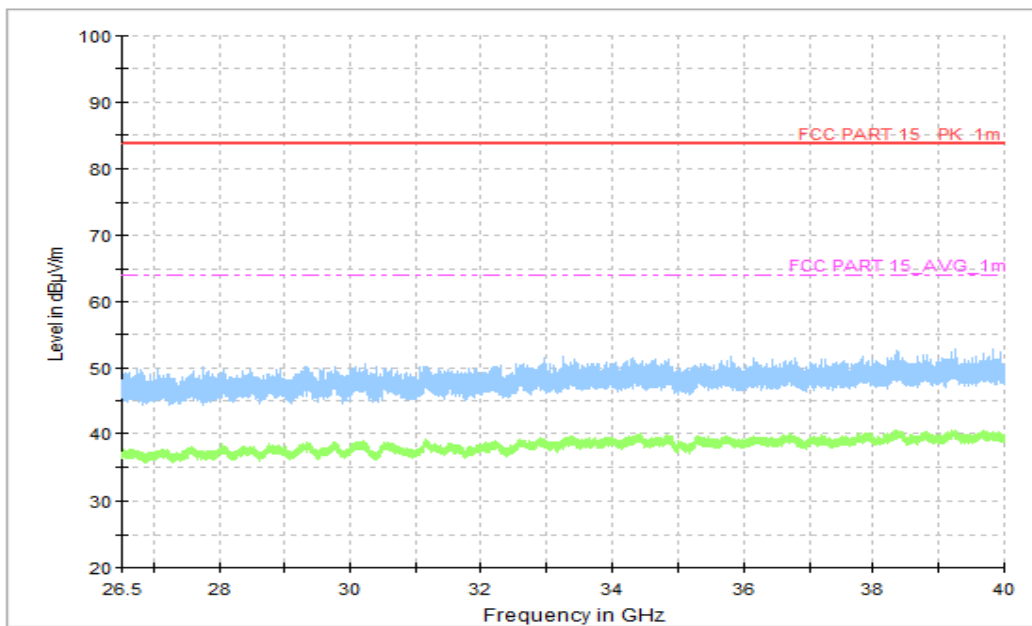


Figure A.1.24. Radiated Emission (LTE receiver Band 5, 26.5GHz to 40GHz)

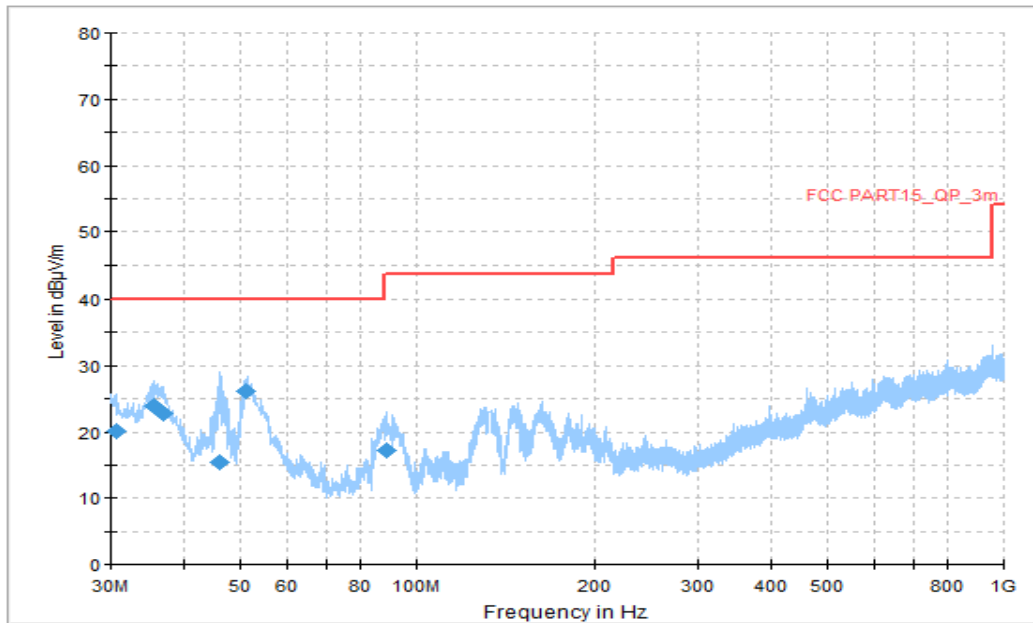


Figure A.1.25. Radiated Emission (LTE receiver Band 18, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.592778	20.12	40.00	19.88	V	-13	33.12
35.604444	23.92	40.00	16.08	V	-16	39.92
36.897778	22.81	40.00	17.19	V	-17	39.81
46.112778	15.53	40.00	24.47	V	-21	36.53
50.908889	26.18	40.00	13.82	V	-22	48.18
88.631111	17.28	43.52	26.24	V	-22	39.28

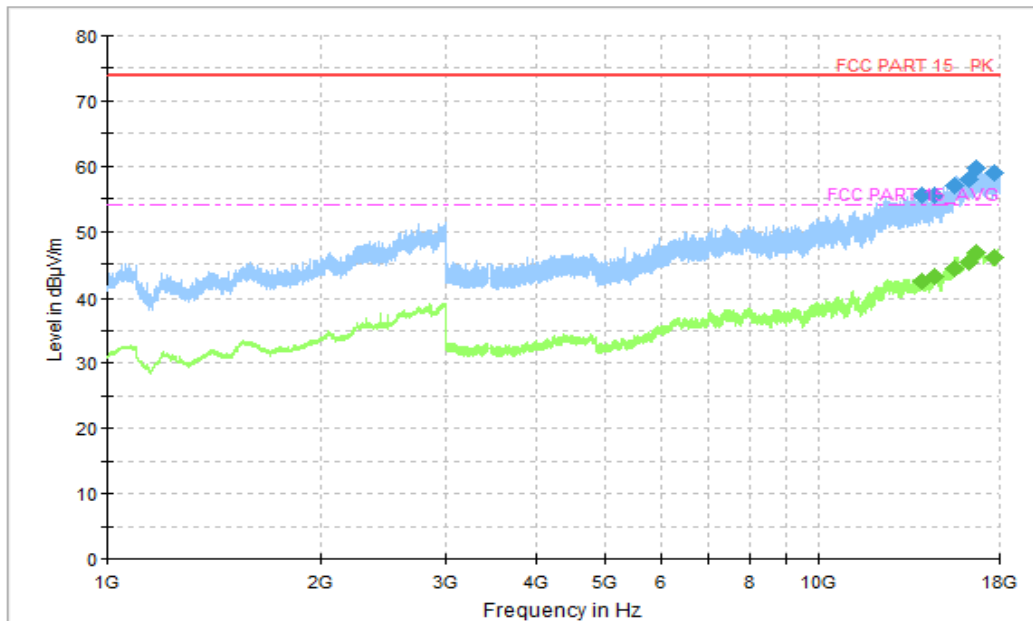


Figure A.1.26. Radiated Emission (LTE receiver Band 18, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13983.250000	55.48	74.00	18.52	H	17	38.48
14552.000000	55.51	74.00	18.49	V	18	37.51
15543.000000	56.99	74.00	17.01	V	19	37.99
16276.750000	58.10	74.00	15.90	H	21	37.10
16658.000000	59.60	74.00	14.40	H	22	37.60
17661.250000	58.87	74.00	15.13	H	23	35.87

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13983.250000	42.22	54.00	11.78	H	17	25.22
14552.000000	43.03	54.00	10.97	V	18	25.03
15543.000000	44.24	54.00	9.76	V	19	25.24
16276.750000	45.36	54.00	8.64	H	21	24.36
16658.000000	46.76	54.00	7.24	H	22	24.76
17661.250000	45.88	54.00	8.12	H	23	22.88

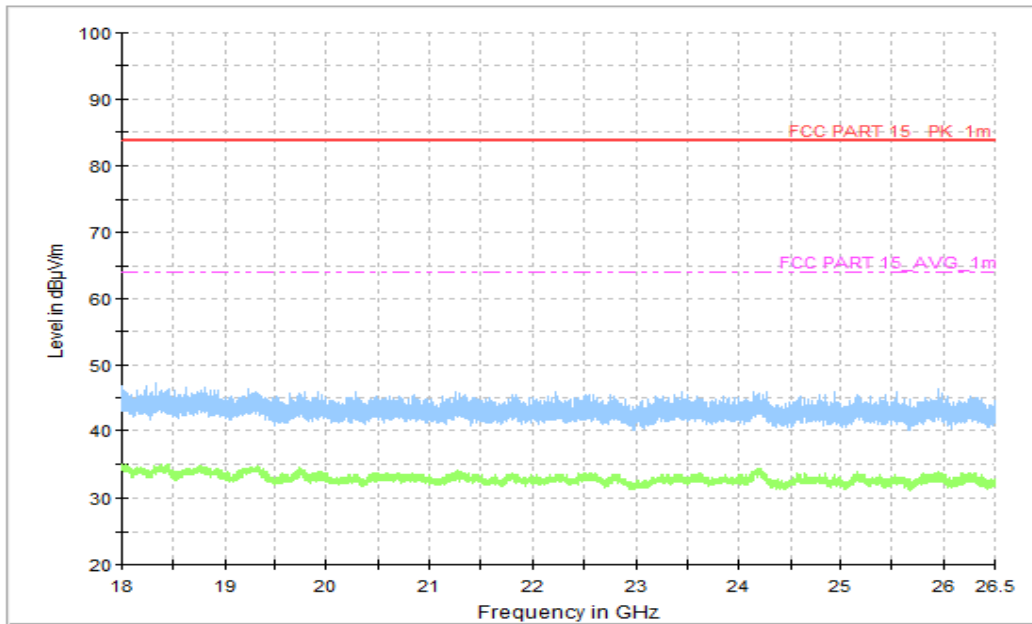


Figure A.1.27. Radiated Emission (LTE receiver Band 18, 18GHz to 26.5GHz)

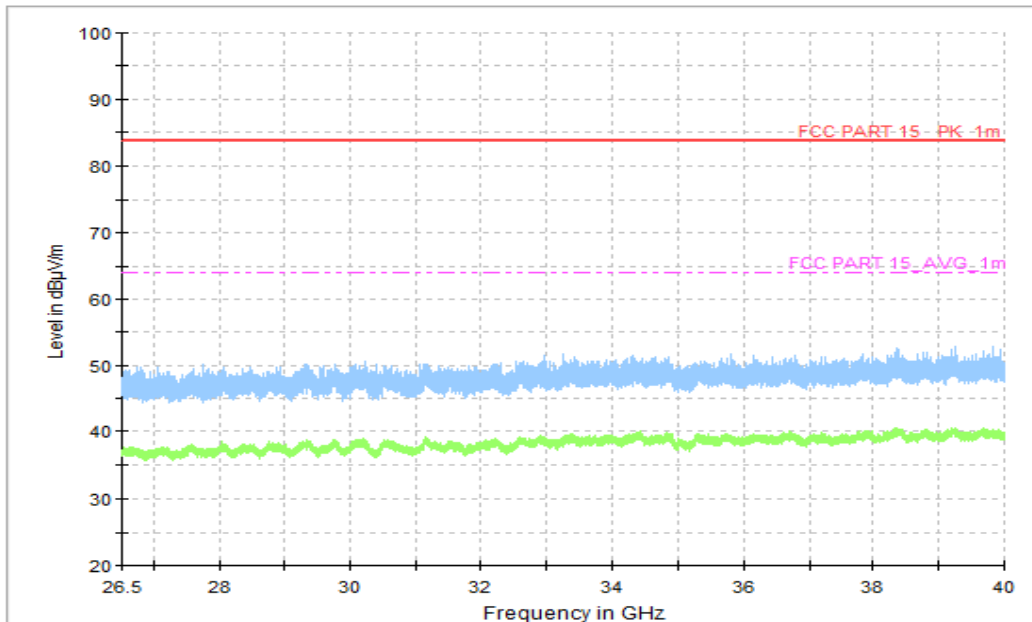


Figure A.1.28. Radiated Emission (LTE receiver Band 18, 26.5GHz to 40GHz)

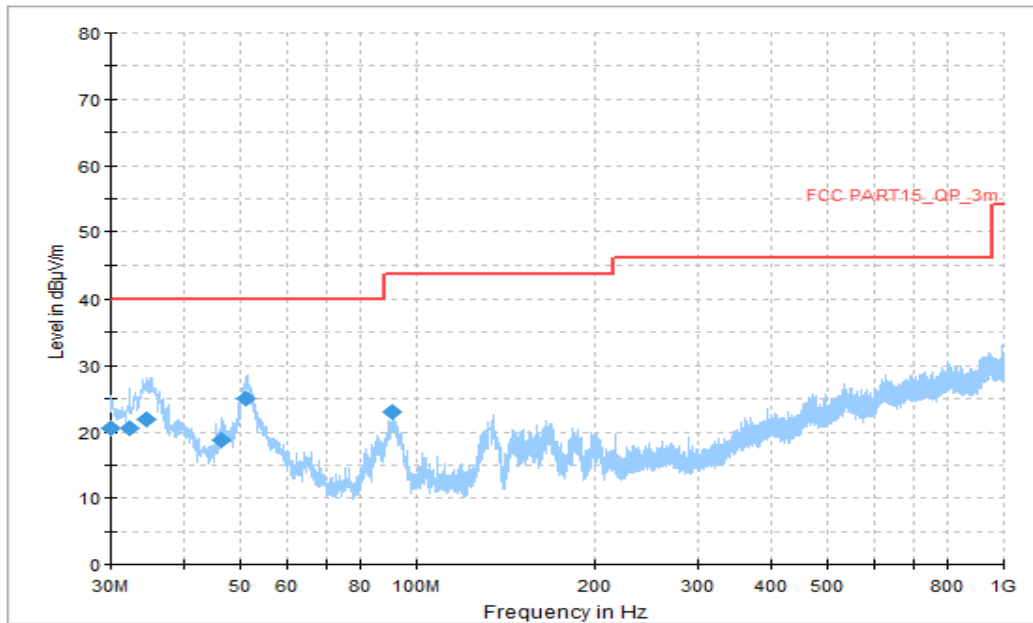


Figure A.1.29. Radiated Emission (LTE receiver Band 19, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.107778	20.56	40.00	19.44	H	-13	33.56
32.263333	20.49	40.00	19.51	V	-14	34.49
34.526667	21.94	40.00	18.06	V	-15	36.94
46.490000	18.76	40.00	21.24	V	-21	39.76
50.962778	24.95	40.00	15.05	V	-22	46.95
91.002222	23.05	43.52	20.47	V	-21	44.05

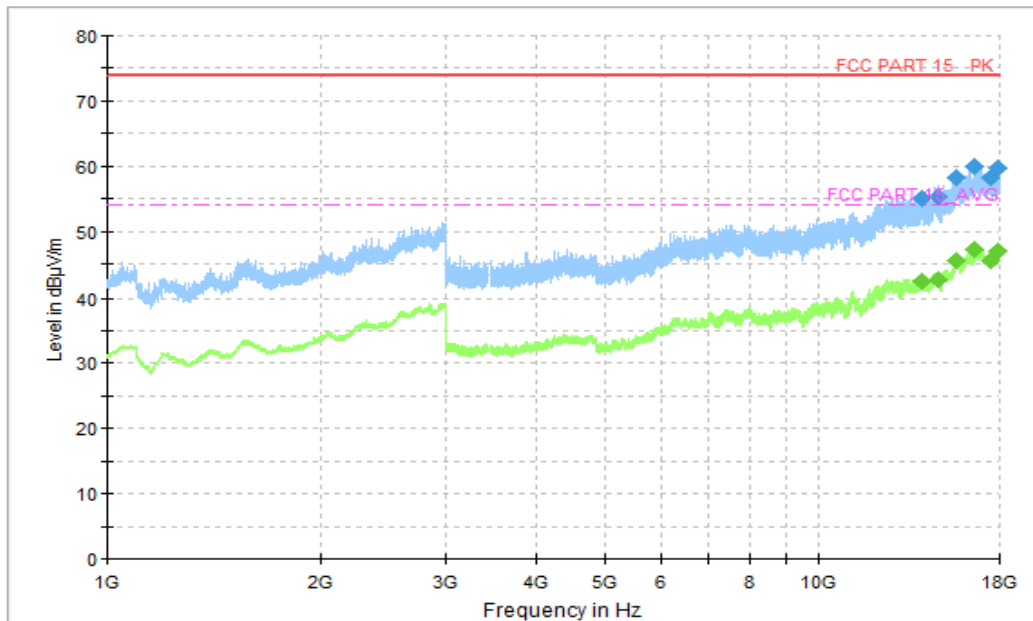


Figure A.1.30. Radiated Emission (LTE receiver Band 19, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13964.000000	54.95	74.00	19.05	H	17	37.95
14737.250000	55.25	74.00	18.75	H	18	37.25
15674.000000	58.33	74.00	15.67	H	20	38.33
16618.000000	59.83	74.00	14.17	H	22	37.83
17468.500000	58.30	74.00	15.70	H	22	36.30
17882.250000	59.73	74.00	14.27	V	24	35.73

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13964.000000	42.30	54.00	11.70	H	17	25.30
14737.250000	42.53	54.00	11.47	H	18	24.53
15674.000000	45.62	54.00	8.38	H	20	25.62
16618.000000	47.11	54.00	6.89	H	22	25.11
17468.500000	45.52	54.00	8.48	H	22	23.52
17882.250000	46.91	54.00	7.09	V	24	22.91

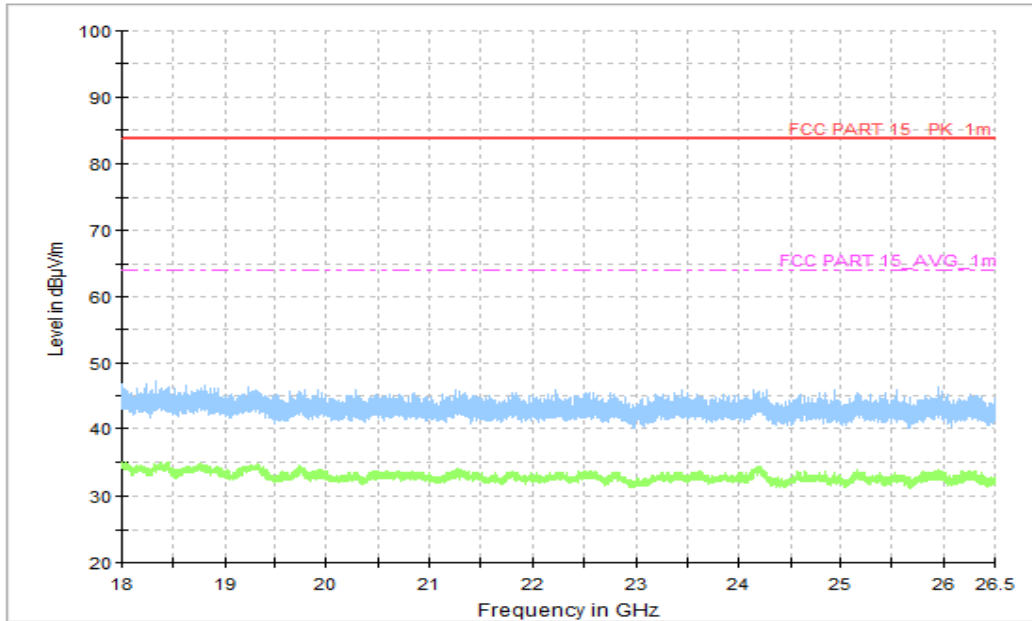


Figure A.1.31. Radiated Emission (LTE receiver Band 19, 18GHz to 26.5GHz)

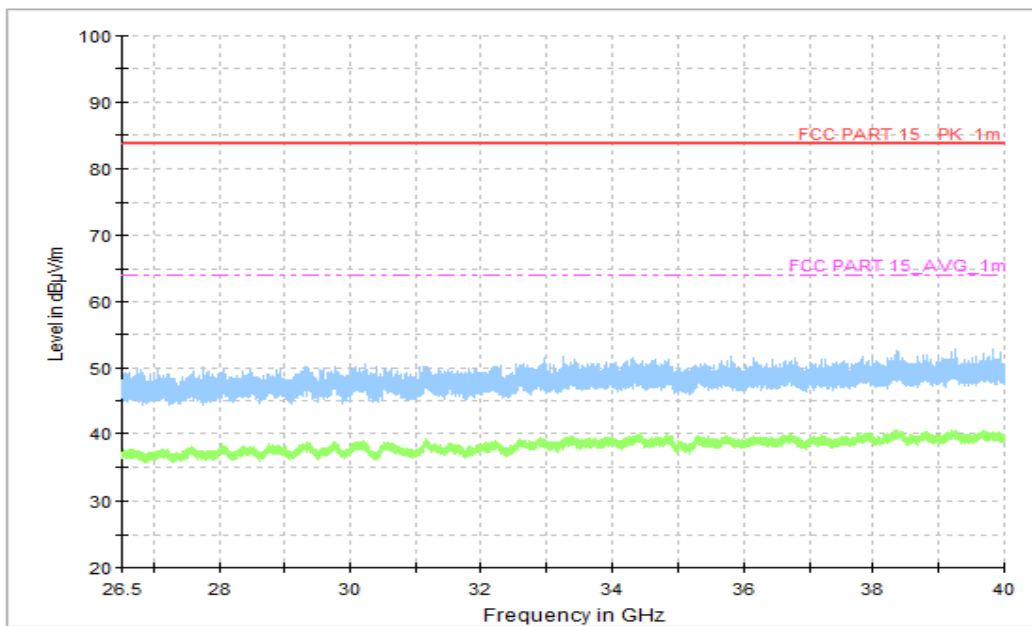


Figure A.1.32. Radiated Emission (LTE receiver Band 19, 26.5GHz to 40GHz)

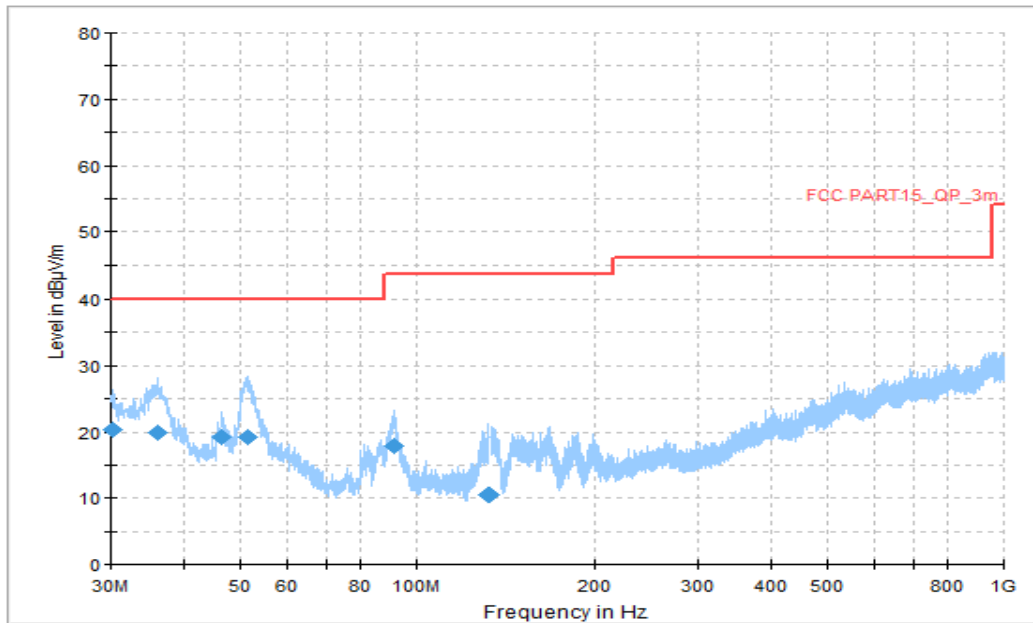


Figure A.1.33. Radiated Emission (LTE receiver Band 26, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.269444	20.44	40.00	19.56	V	-13	33.44
35.981667	19.88	40.00	20.12	V	-16	35.88
46.490000	19.13	40.00	20.87	V	-21	40.13
51.340000	19.12	40.00	20.88	V	-22	41.12
91.379444	17.89	43.52	25.63	V	-21	38.89
132.388889	10.48	43.52	33.04	V	-20	30.48

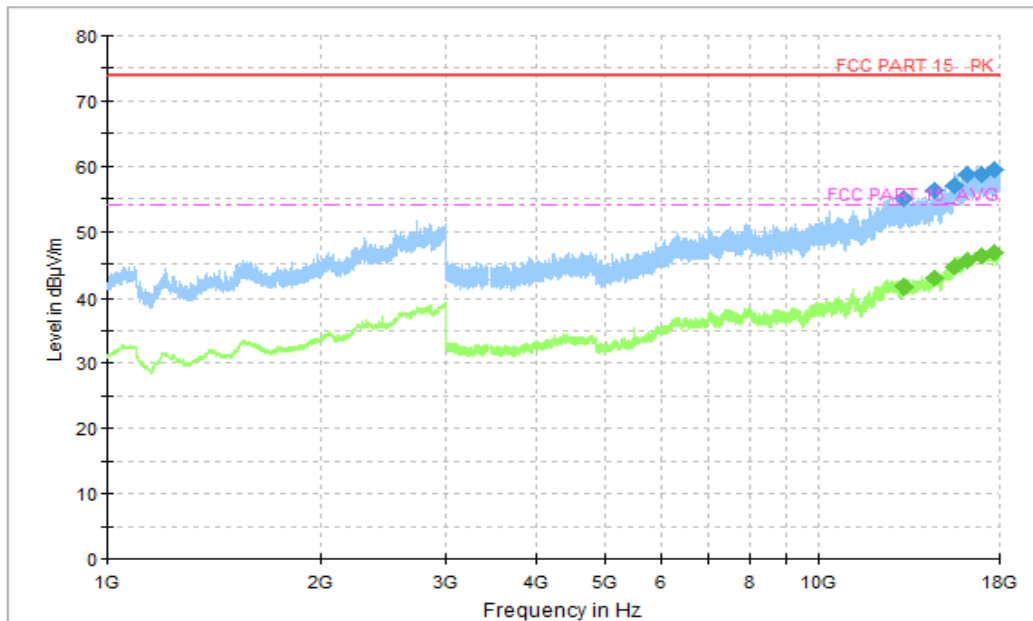


Figure A.1.34. Radiated Emission (LTE receiver Band 26, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13220.750000	55.03	74.00	18.97	V	17	38.03
14554.500000	56.28	74.00	17.72	V	18	38.28
15571.500000	56.95	74.00	17.05	V	20	36.95
16225.000000	58.62	74.00	15.38	V	21	37.62
16960.250000	58.78	74.00	15.22	V	23	35.78
17687.500000	59.50	74.00	14.50	H	23	36.50

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13220.750000	41.71	54.00	12.29	V	17	24.71
14554.500000	42.78	54.00	11.22	V	18	24.78
15571.500000	44.46	54.00	9.54	V	20	24.46
16225.000000	45.62	54.00	8.38	V	21	24.62
16960.250000	46.19	54.00	7.81	V	23	23.19
17687.500000	46.78	54.00	7.22	H	23	23.78

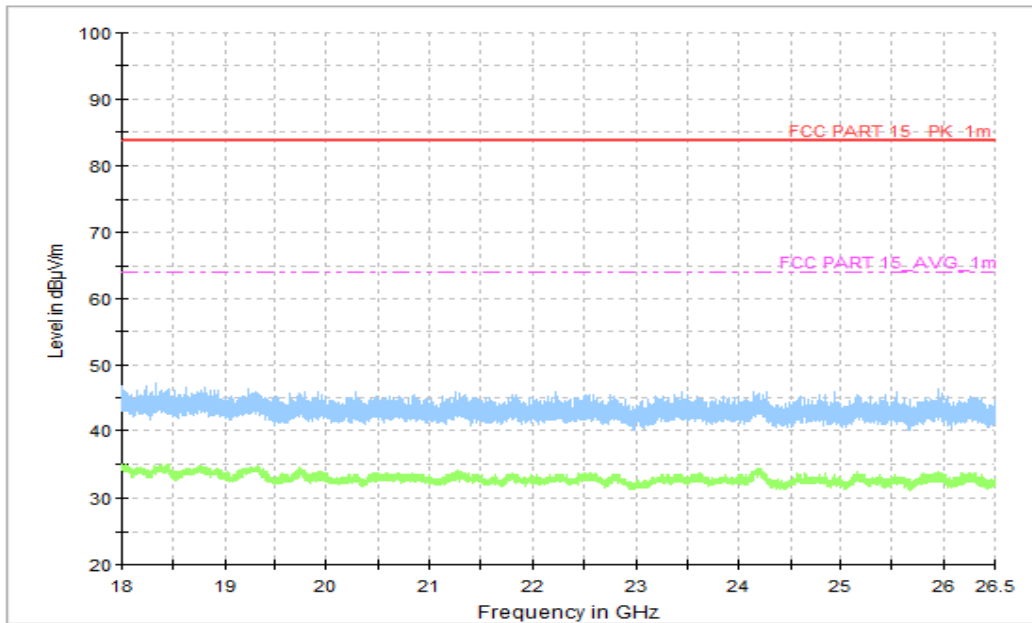


Figure A.1.35. Radiated Emission (LTE receiver Band 26, 18GHz to 26.5GHz)

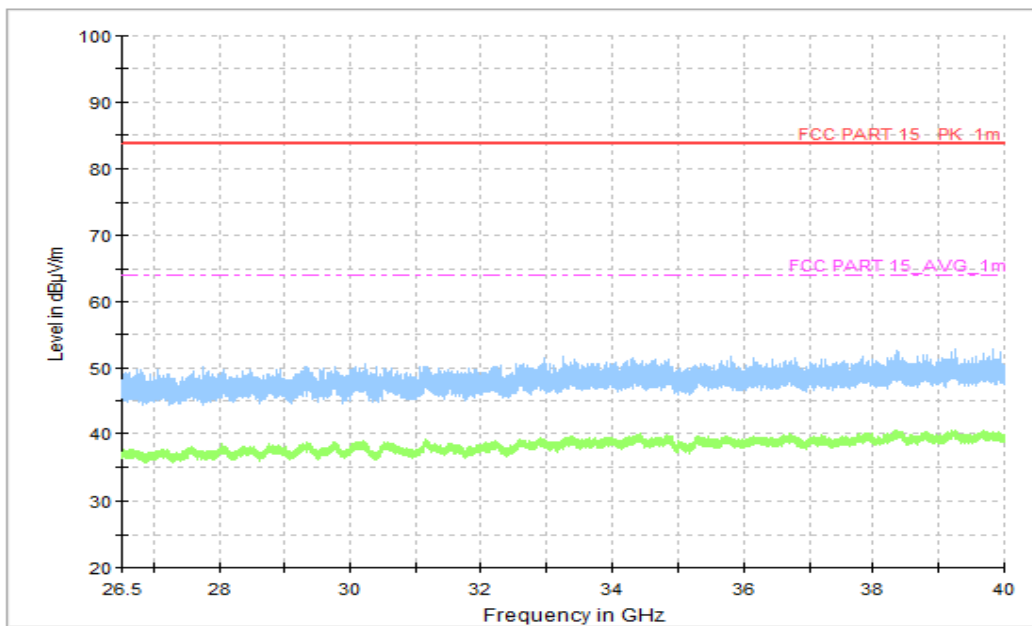


Figure A.1.36. Radiated Emission (LTE receiver Band 26, 26.5GHz to 40GHz)

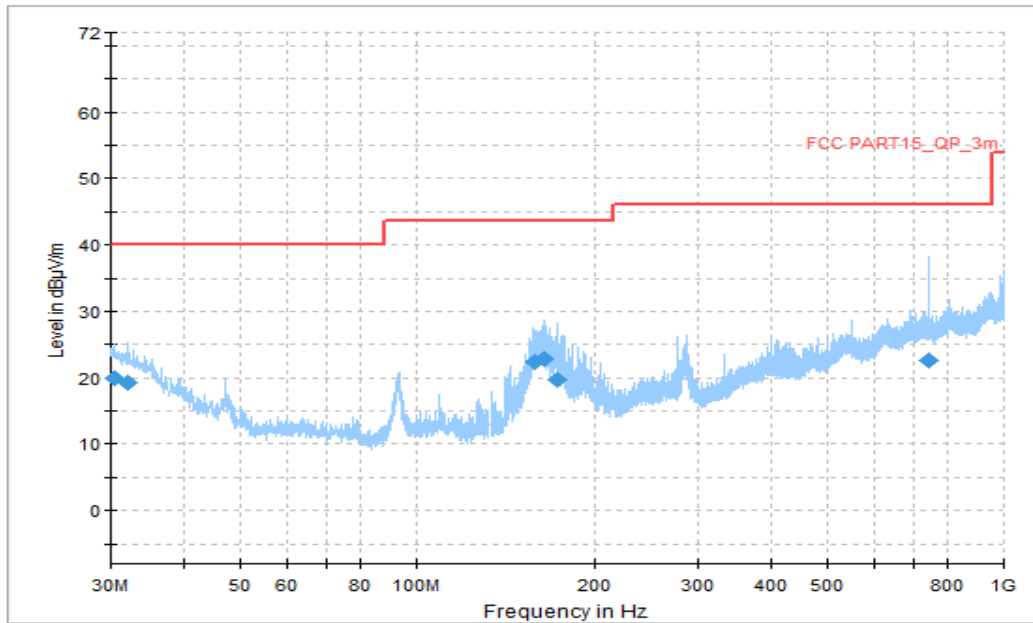


Figure A.1.37. Radiated Emission (Data Transfer: PC TO EUT, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.431111	19.95	40.00	20.05	H	-13	32.95
31.993889	19.27	40.00	20.73	H	-14	33.27
157.932222	22.46	43.52	21.06	H	-17	39.46
163.967778	22.85	43.52	20.67	H	-18	40.85
172.320556	19.77	43.52	23.75	H	-18	37.77
745.698333	22.58	46.02	23.44	H	-2	24.58

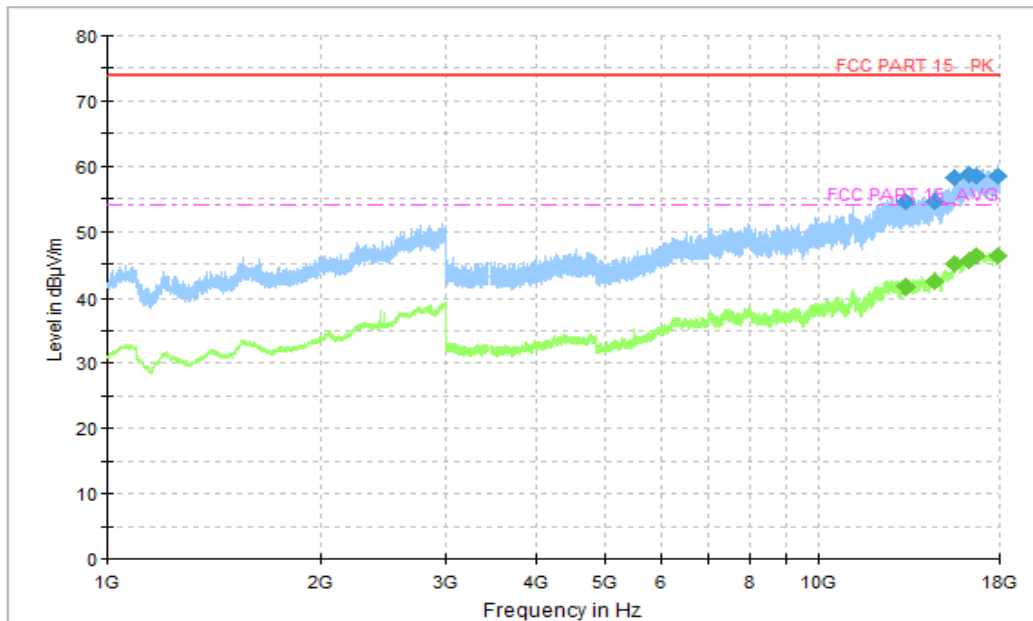


Figure A.1.38. Radiated Emission (Data Transfer: PC TO EUT, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13265.750000	54.52	74.00	19.48	V	17	37.52
14575.250000	54.58	74.00	19.42	V	18	36.58
15566.250000	58.11	74.00	15.89	H	20	38.11
16242.750000	58.82	74.00	15.18	H	21	37.82
16691.750000	58.52	74.00	15.48	H	21	37.52
17930.250000	58.42	74.00	15.58	V	24	34.42

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13265.750000	41.51	54.00	12.49	V	17	24.51
14575.250000	42.25	54.00	11.75	V	18	24.25
15566.250000	44.99	54.00	9.01	H	20	24.99
16242.750000	45.61	54.00	8.39	H	21	24.61
16691.750000	46.13	54.00	7.87	H	21	25.13
17930.250000	46.32	54.00	7.68	V	24	22.32

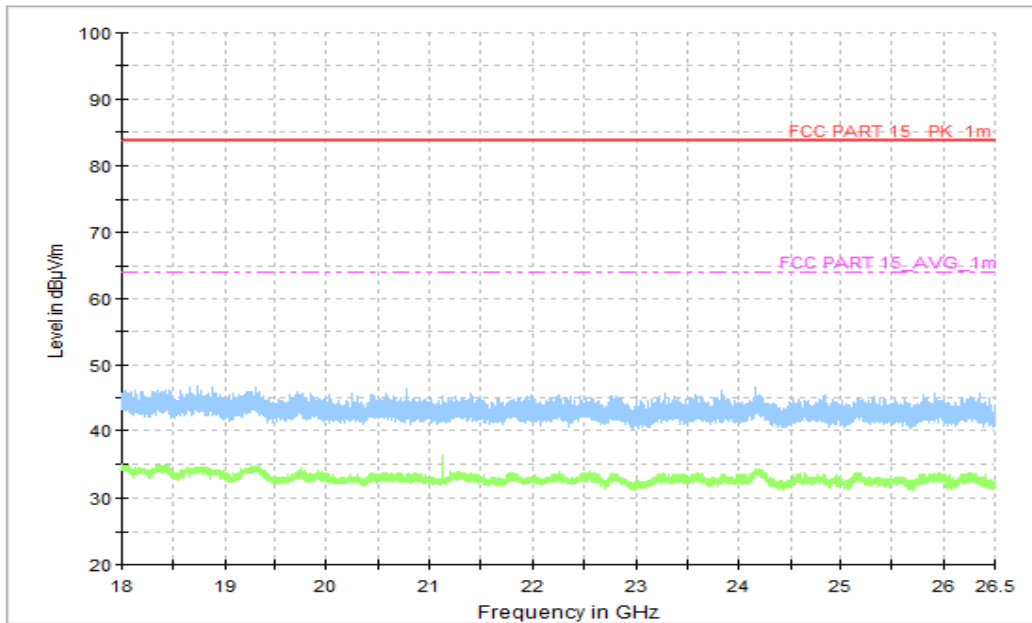


Figure A.1.39. Radiated Emission (Data Transfer: PC TO EUT, 18GHz to 26.5GHz)

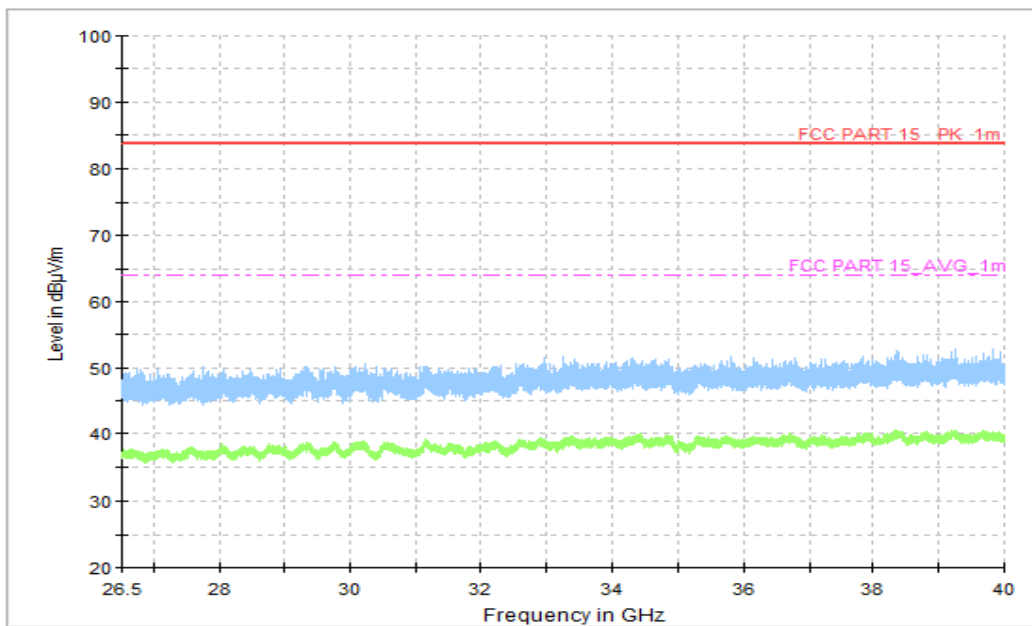


Figure A.1.40. Radiated Emission (Data Transfer: PC TO EUT, 26.5GHz to 40GHz)

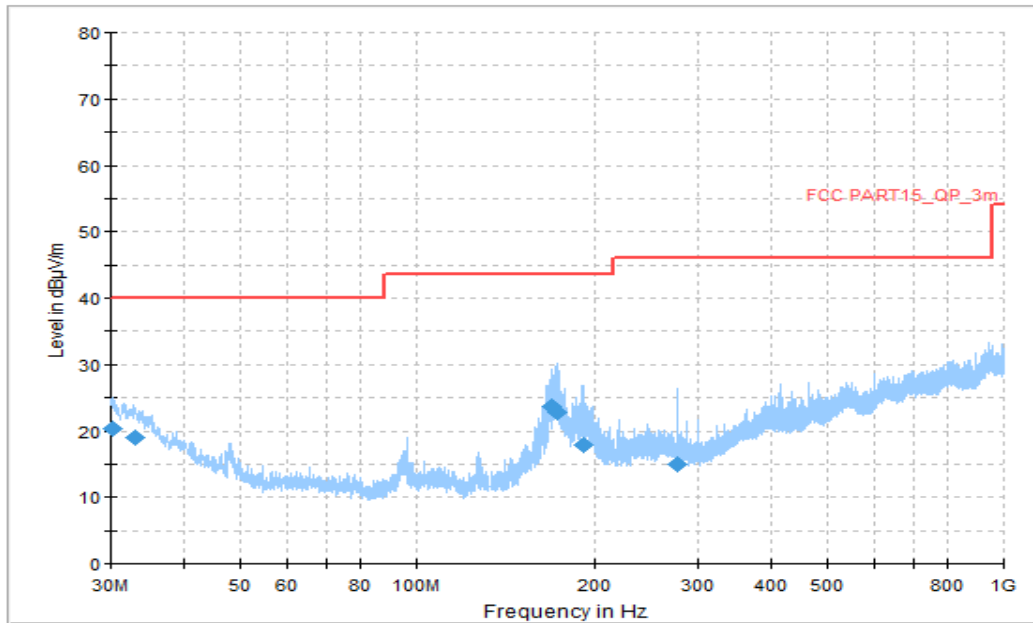


Figure A.1.41. Radiated Emission (Data Transfer: PC TO TF Card, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.215556	20.25	40.00	19.75	H	-13	33.25
33.017778	18.95	40.00	21.05	V	-14	32.95
168.925556	23.63	43.52	19.89	H	-18	41.63
173.075000	22.87	43.52	20.65	H	-18	40.87
191.666667	17.97	43.52	25.55	V	-18	35.97
275.841111	15.06	46.02	30.96	H	-14	29.06

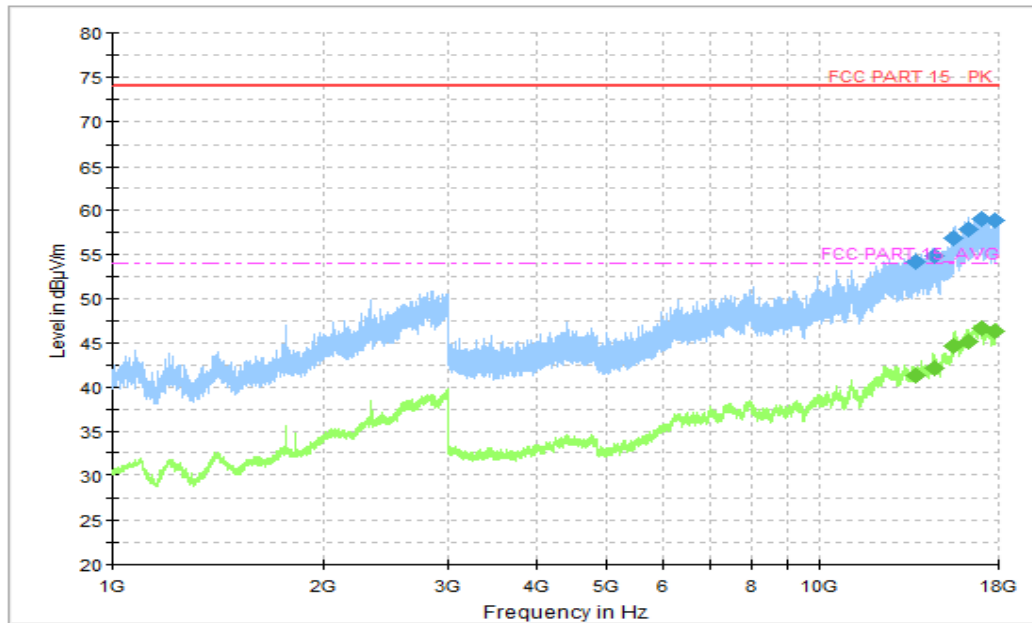


Figure A.1.42. Radiated Emission (Data Transfer: PC TO TF Card, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13721.250000	54.26	74.00	19.74	V	17	37.26
14591.500000	54.80	74.00	19.20	H	18	36.80
15576.750000	56.91	74.00	17.09	V	20	36.91
16283.750000	57.86	74.00	16.14	V	21	36.86
16991.000000	59.09	74.00	14.91	V	23	36.09
17727.500000	58.95	74.00	15.05	V	23	35.95

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
13721.250000	41.25	54.00	12.75	V	17	24.25
14591.500000	42.15	54.00	11.85	H	18	24.15
15576.750000	44.58	54.00	9.42	V	20	24.58
16283.750000	45.12	54.00	8.88	V	21	24.12
16991.000000	46.57	54.00	7.43	V	23	23.57
17727.500000	46.32	54.00	7.68	V	23	23.32

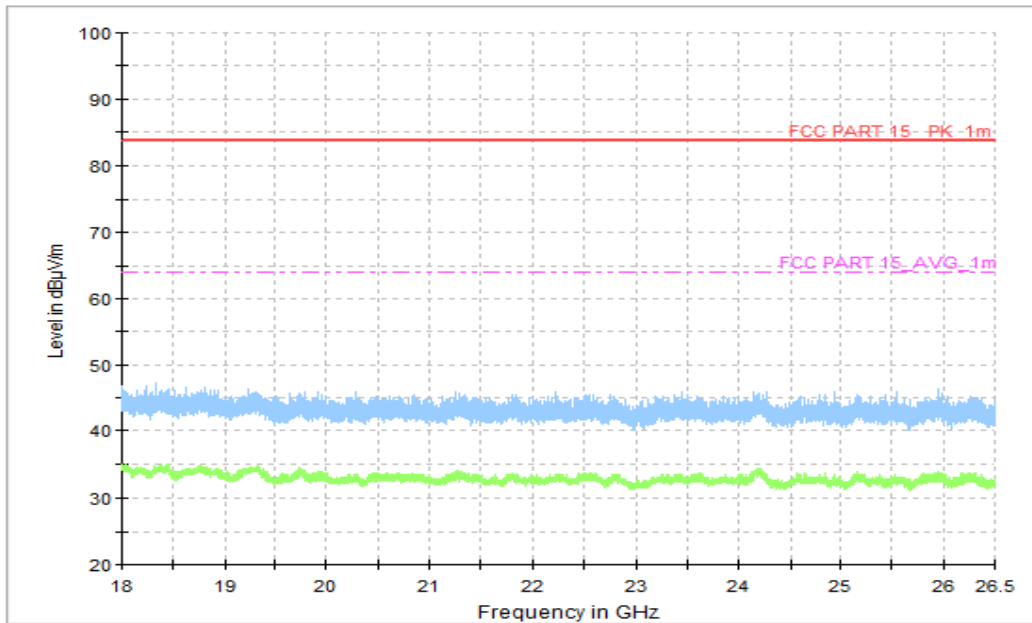


Figure A.1.43. Radiated Emission (Data Transfer: PC TO TF Card, 18GHz to 26.5GHz)

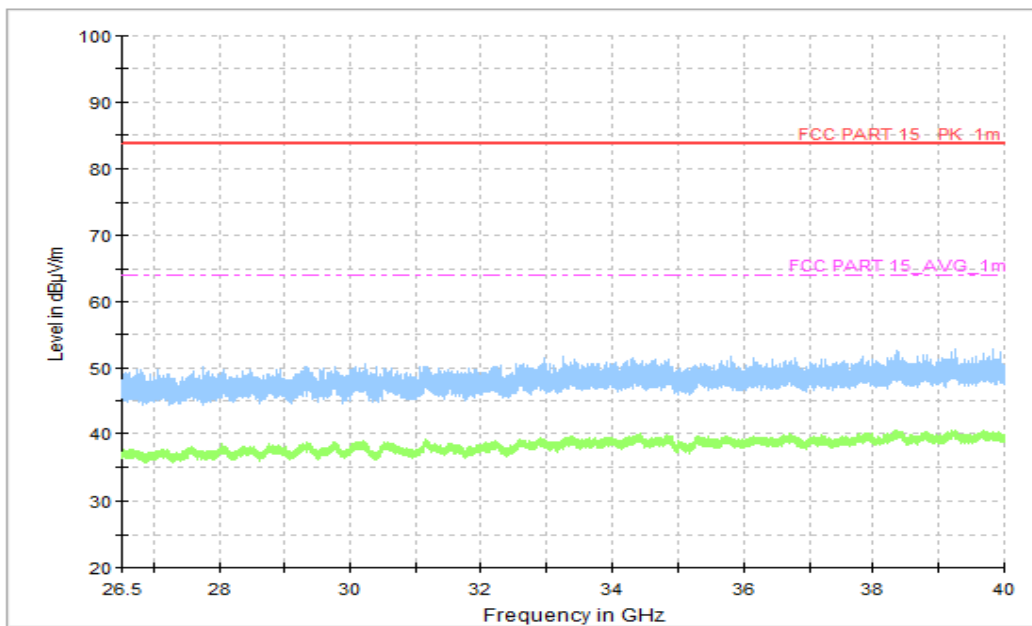


Figure A.1.44. Radiated Emission (Data Transfer: PC TO TF Card, 26.5GHz to 40GHz)

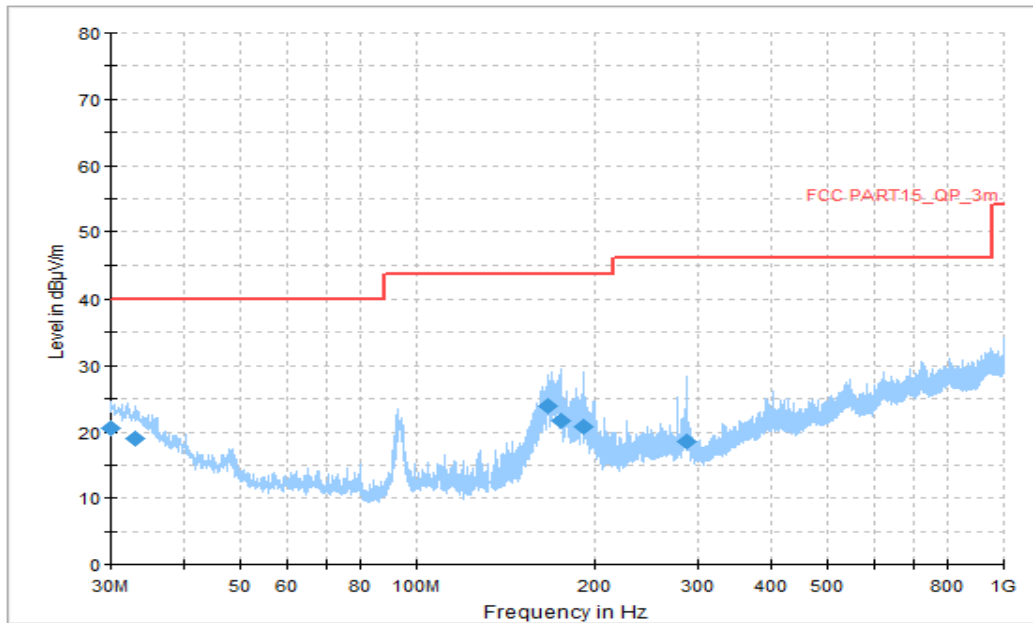


Figure A.1.45. Radiated Emission (Data Transfer: EUT TO PC, 30MHz to 1GHz)

Final_Results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.000000	20.65	40.00	19.35	V	-13	33.65
32.910000	19.01	40.00	20.99	H	-14	33.01
166.285000	23.89	43.52	19.63	H	-18	41.89
174.907222	21.77	43.52	21.75	H	-18	39.77
191.990000	20.68	43.52	22.84	H	-18	38.68
288.127778	18.64	46.02	27.38	H	-15	33.64

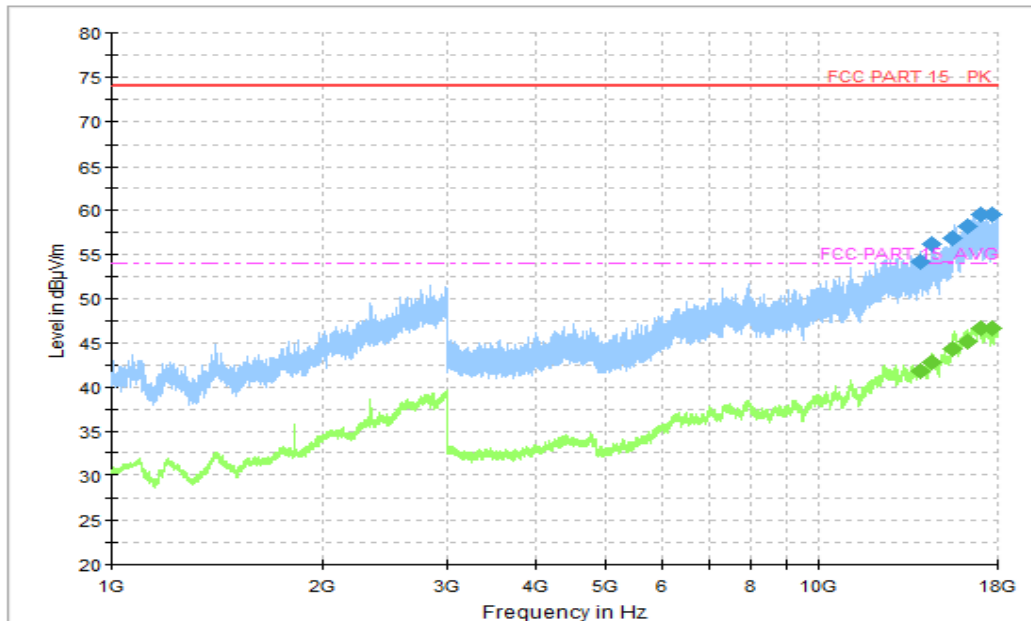


Figure A.1.46. Radiated Emission (Data Transfer: EUT TO PC, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14006.500000	54.20	74.00	19.80	V	17	37.20
14517.250000	56.12	74.00	17.88	H	18	38.12
15558.750000	56.81	74.00	17.19	H	19	37.81
16274.750000	58.21	74.00	15.79	V	21	37.21
17050.500000	59.58	74.00	14.42	H	22	37.58
17691.250000	59.55	74.00	14.45	H	23	36.55

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14006.500000	41.83	54.00	12.17	V	17	24.83
14517.250000	42.76	54.00	11.24	H	18	24.76
15558.750000	44.23	54.00	9.77	H	19	25.23
16274.750000	45.16	54.00	8.84	V	21	24.16
17050.500000	46.62	54.00	7.38	H	22	24.62
17691.250000	46.59	54.00	7.41	H	23	23.59

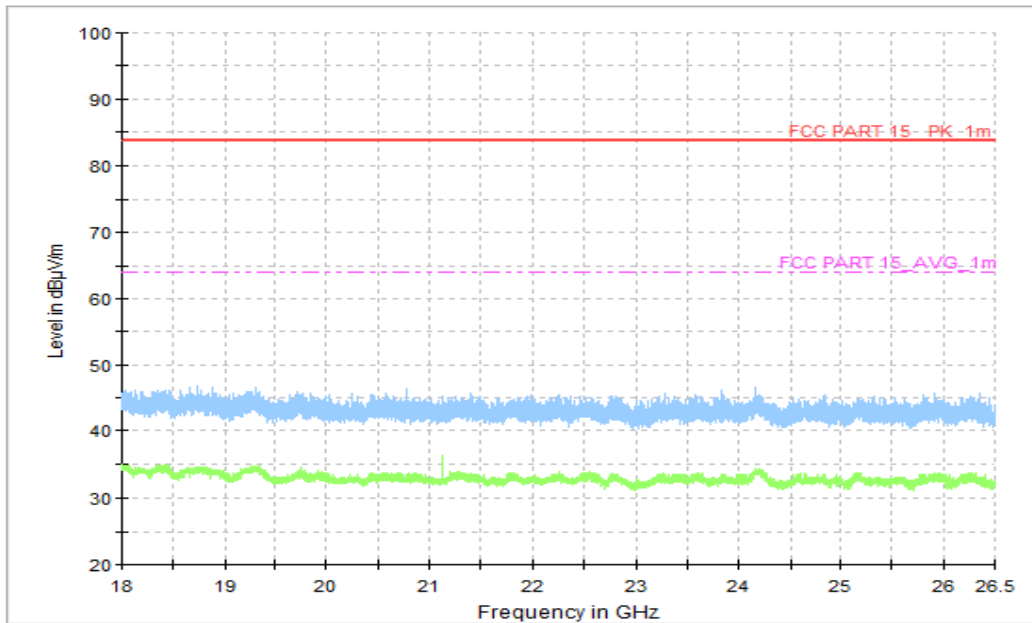


Figure A.1.47. Radiated Emission (Data Transfer: EUT TO PC, 18GHz to 26.5GHz)

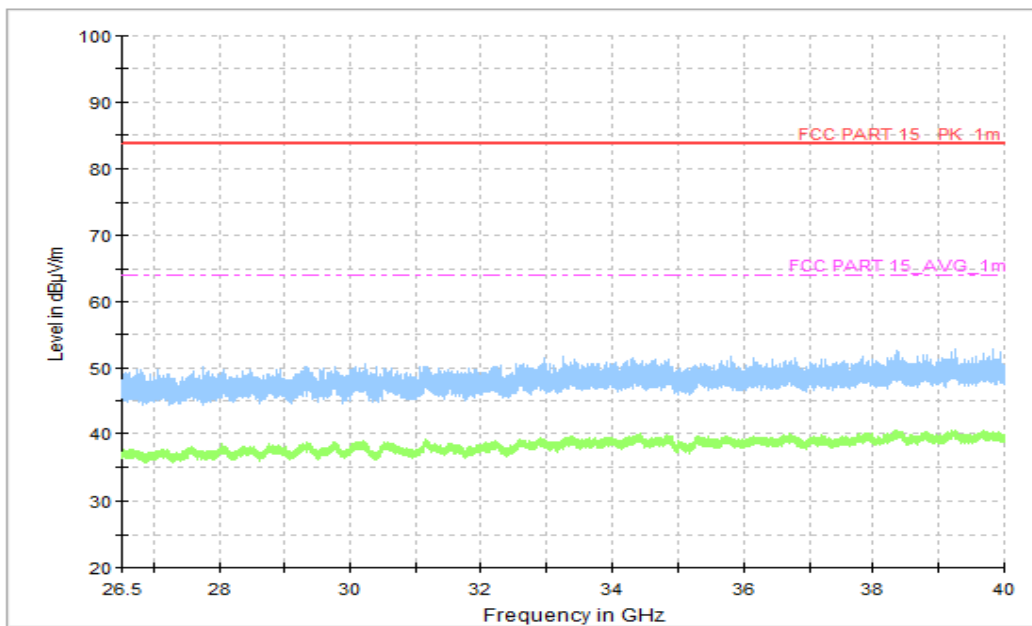


Figure A.1.48. Radiated Emission (Data Transfer: EUT TO PC, 26.5GHz to 40GHz)

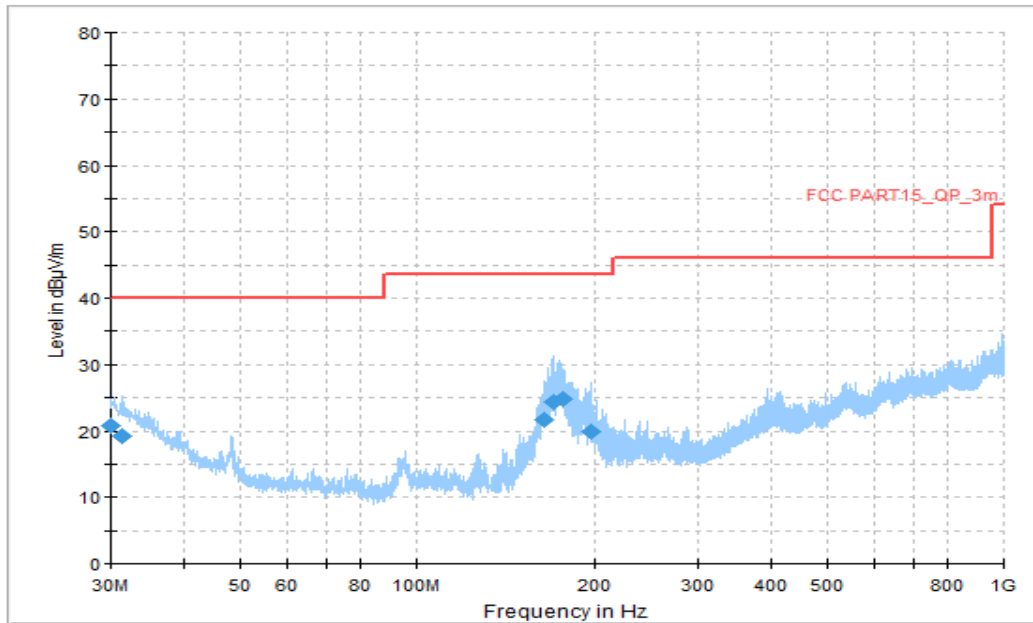


Figure A.1.49. Radiated Emission (Data Transfer: TF Card TO PC, 30MHz to 1GHz)
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.000000	20.68	40.00	19.32	V	-13	33.68
31.455000	19.28	40.00	20.72	H	-13	32.28
164.345000	21.61	43.52	21.91	H	-18	39.61
169.787778	24.38	43.52	19.14	H	-18	42.38
176.523889	24.80	43.52	18.72	H	-18	42.80
196.840000	19.95	43.52	23.57	H	-18	37.95

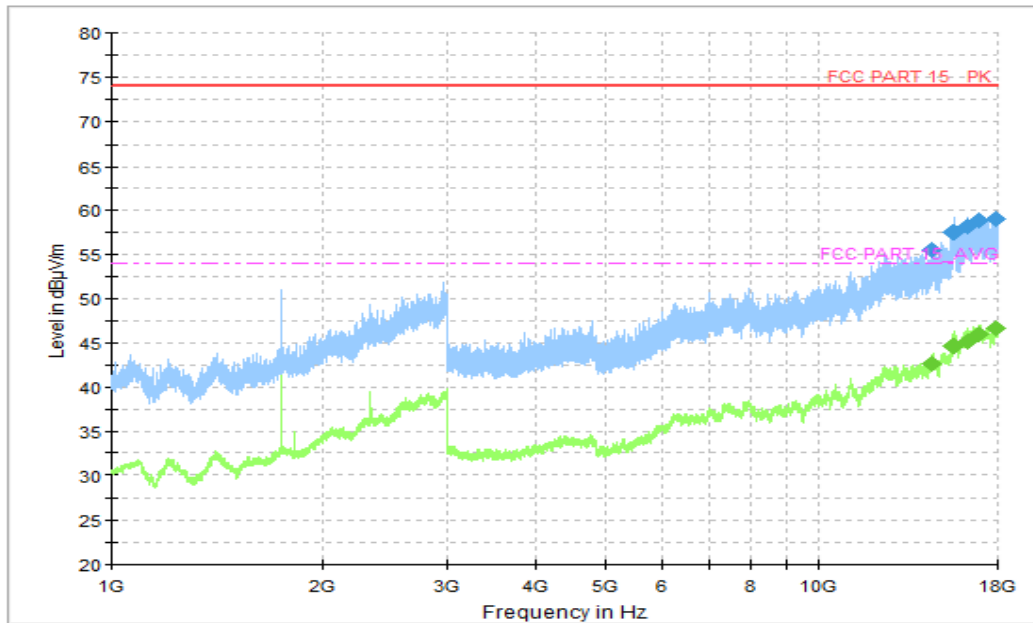


Figure A.1.50. Radiated Emission (Data Transfer: TF Card TO PC, 1GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14570.500000	55.59	74.00	18.41	H	18	37.59
15574.250000	57.47	74.00	16.53	V	20	37.47
15612.500000	57.54	74.00	16.46	V	20	37.54
16283.250000	58.25	74.00	15.75	V	21	37.25
16944.250000	58.88	74.00	15.12	H	22	36.88
17891.250000	59.08	74.00	14.92	V	24	35.08

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
14570.500000	42.69	54.00	11.31	H	18	24.69
15574.250000	44.64	54.00	9.36	V	20	24.64
15612.500000	44.70	54.00	9.30	V	20	24.70
16283.250000	45.14	54.00	8.86	V	21	24.14
16944.250000	45.99	54.00	8.01	H	22	23.99
17891.250000	46.58	54.00	7.42	V	24	22.58

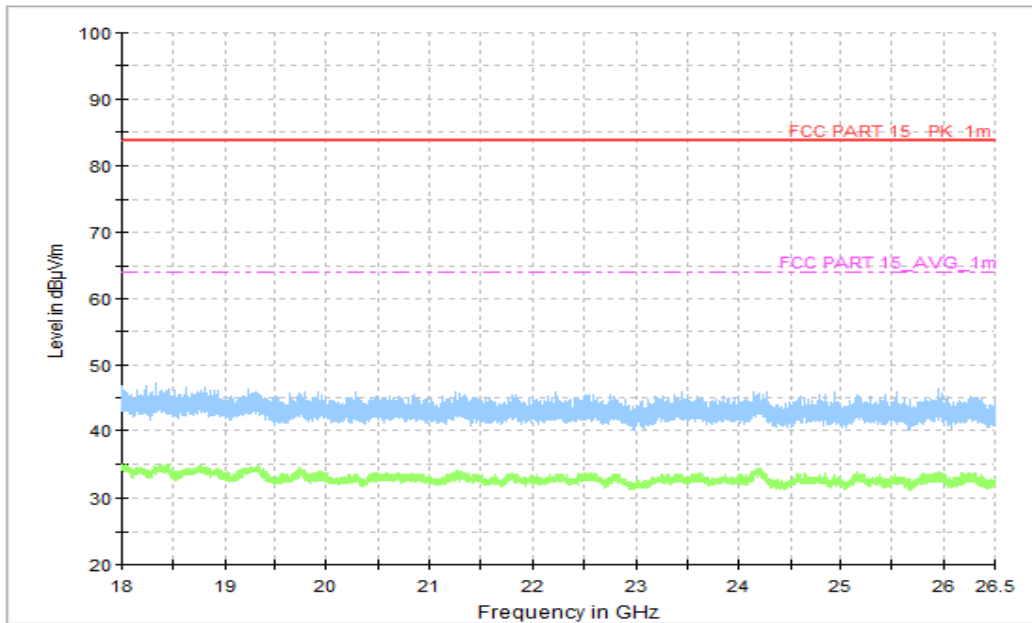


Figure A.1.51. Radiated Emission (Data Transfer: TF Card TO PC, 18GHz to 26.5GHz)

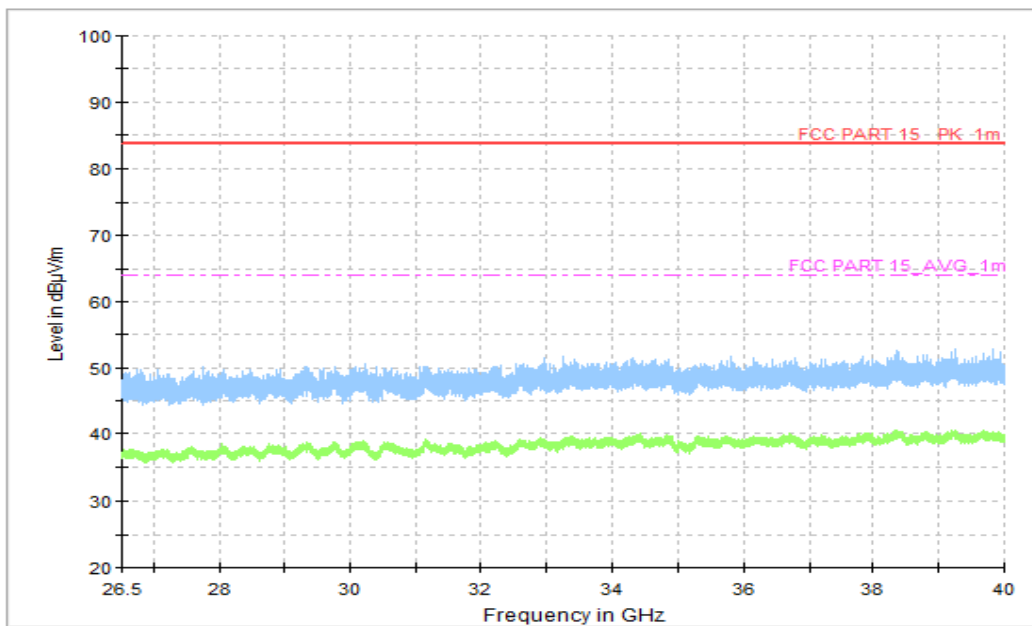


Figure A.1.52. Radiated Emission (Data Transfer: TF Card TO PC, 26.5GHz to 40GHz)



A.2 Conducted Emission (§15.107(a))

Reference

FCC: Part 15.107(a)

IC: ICES-003 section 6.1.

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.

FM receiver: The EUT is connected to a charger for charging. The EUT is synchronized to a FM signal generator. The EUT is keeping on demodulating the FM signal and outputting the audio signal through the headset.

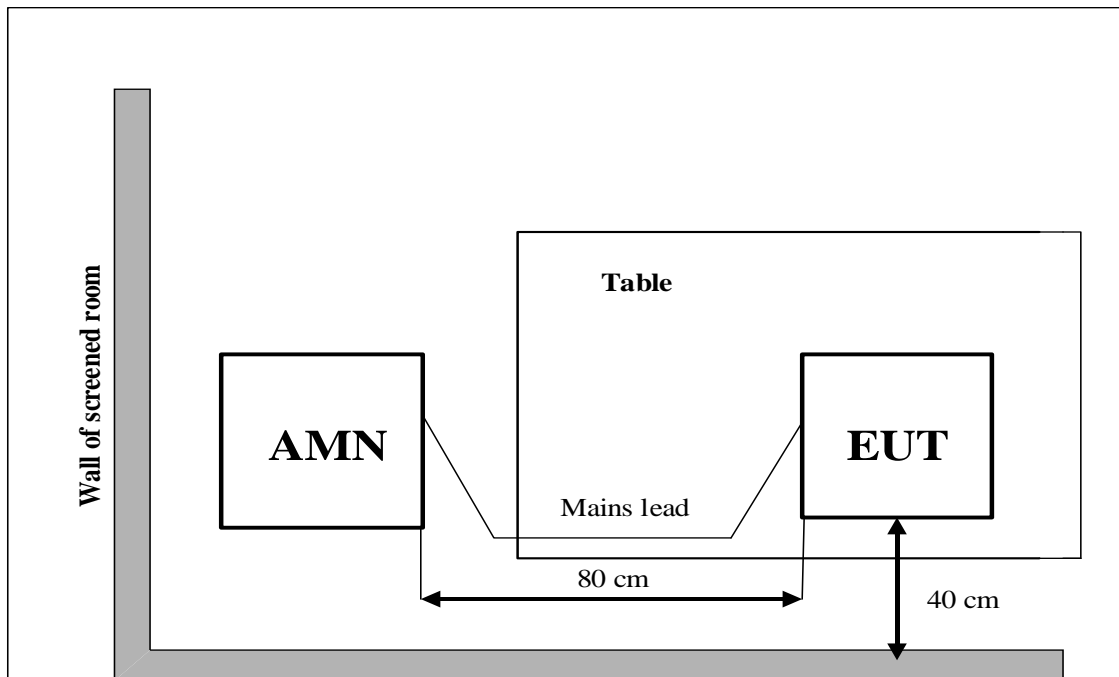
Data Transfer: The model of the PC is Lenovo ThinkPad T480, and the serial number of the PC is PF-13LW0C. The EUT is connected to a PC for transmitting data. The software is used to let the PC keep on copying data to EUT or TF Card, reading and erasing the data after copy action was finished.

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

A.2.4 Test 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)	Conclusion
			UT02aa/Set.1	
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.

Video Player

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.1	
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.

FM receiver

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.1	
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 (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.2	
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.

Camera

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.1	
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.

Video Player

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.1	
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.

FM receiver

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.1	
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		

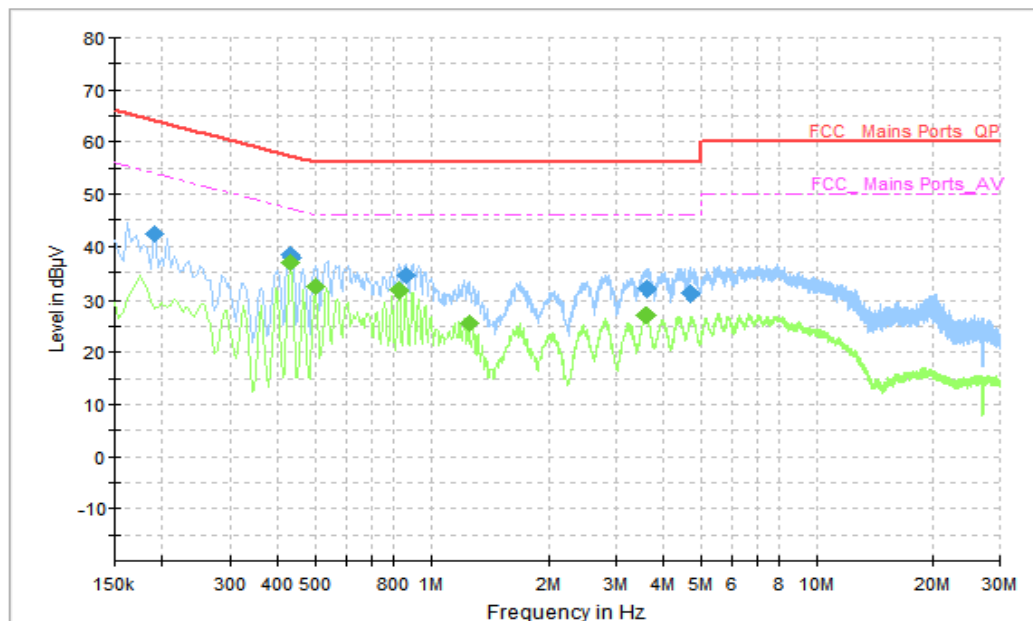
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Data Transfer

AC Input Port/ Voltage: 240V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT02aa/Set.2	
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.

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)
0.190000	42.30	64.04	21.74	L1	10	32.30
0.430000	38.46	57.25	18.79	L1	10	28.46
0.434000	37.69	57.18	19.48	L1	10	27.69
0.858000	34.55	56.00	21.45	L1	10	24.55
3.602000	32.13	56.00	23.87	L1	10	22.13
4.690000	31.22	56.00	24.78	L1	10	21.22

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.430000	36.86	47.25	10.40	L1	10	26.86
0.498000	32.22	46.03	13.81	L1	10	22.22
0.826000	31.70	46.00	14.30	L1	10	21.70
1.258000	25.59	46.00	20.41	L1	10	15.59
3.562000	26.98	46.00	19.02	L1	10	16.98
3.630000	27.05	46.00	18.95	L1	10	17.05

AC Input Port/ Voltage: 120V/60Hz

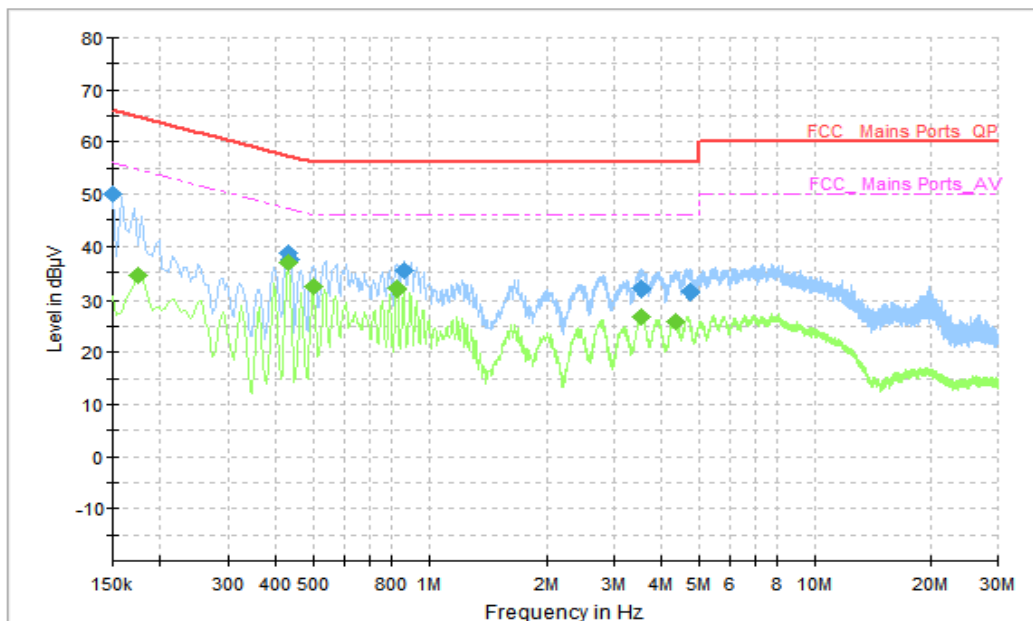


Figure A.2.2. Conducted Emission(Video Player)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	50.17	66.00	15.83	L1	10	40.17
0.430000	38.64	57.25	18.61	L1	10	28.64
0.434000	37.35	57.18	19.82	L1	10	27.35
0.862000	35.26	56.00	20.74	L1	10	25.26
3.518000	32.02	56.00	23.98	L1	10	22.02
4.746000	31.31	56.00	24.69	L1	10	21.31

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.174000	34.40	54.77	20.36	L1	10	24.40
0.430000	36.83	47.25	10.42	L1	10	26.83
0.498000	32.33	46.03	13.70	L1	10	22.33
0.826000	31.85	46.00	14.15	L1	10	21.85
3.526000	26.78	46.00	19.22	L1	10	16.78
4.322000	25.79	46.00	20.21	L1	10	15.79

AC Input Port/ Voltage: 120V/60Hz

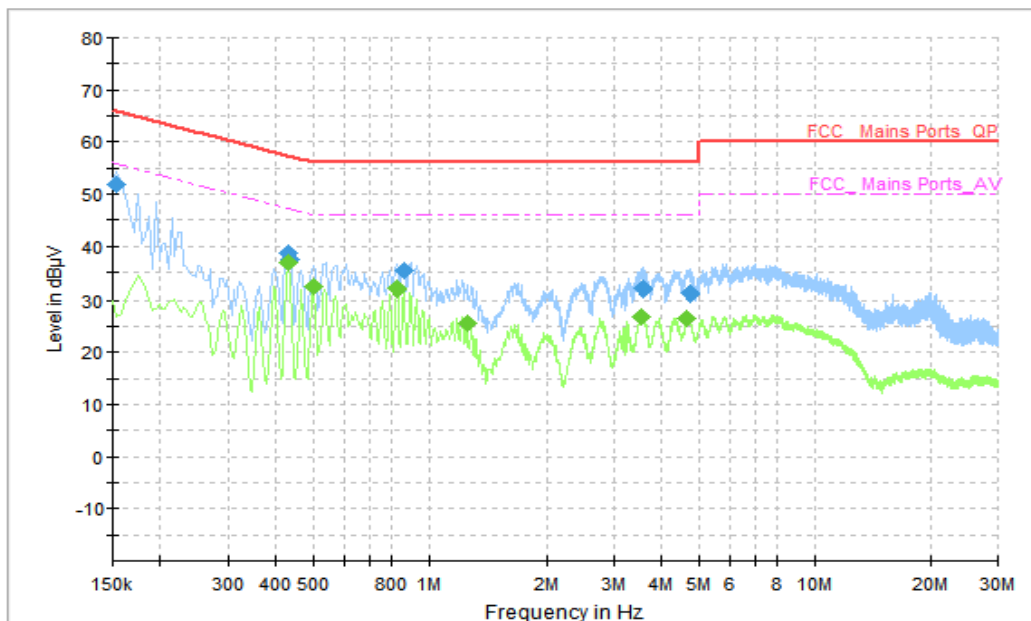


Figure A.2.3. Conducted Emission(FM receiver)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.154000	51.81	65.78	13.97	N	10	41.81
0.430000	38.60	57.25	18.66	L1	10	28.60
0.434000	37.50	57.18	19.68	L1	10	27.50
0.862000	35.21	56.00	20.79	L1	10	25.21
3.554000	32.12	56.00	23.88	L1	10	22.12
4.754000	31.08	56.00	24.92	L1	10	21.08

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.430000	36.82	47.25	10.43	L1	10	26.82
0.498000	32.36	46.03	13.67	L1	10	22.36
0.826000	31.84	46.00	14.16	L1	10	21.84
1.254000	25.63	46.00	20.37	L1	10	15.63
3.546000	26.66	46.00	19.34	L1	10	16.66
4.658000	26.62	46.00	19.38	L1	10	16.62

AC Input Port/ Voltage: 120V/60Hz

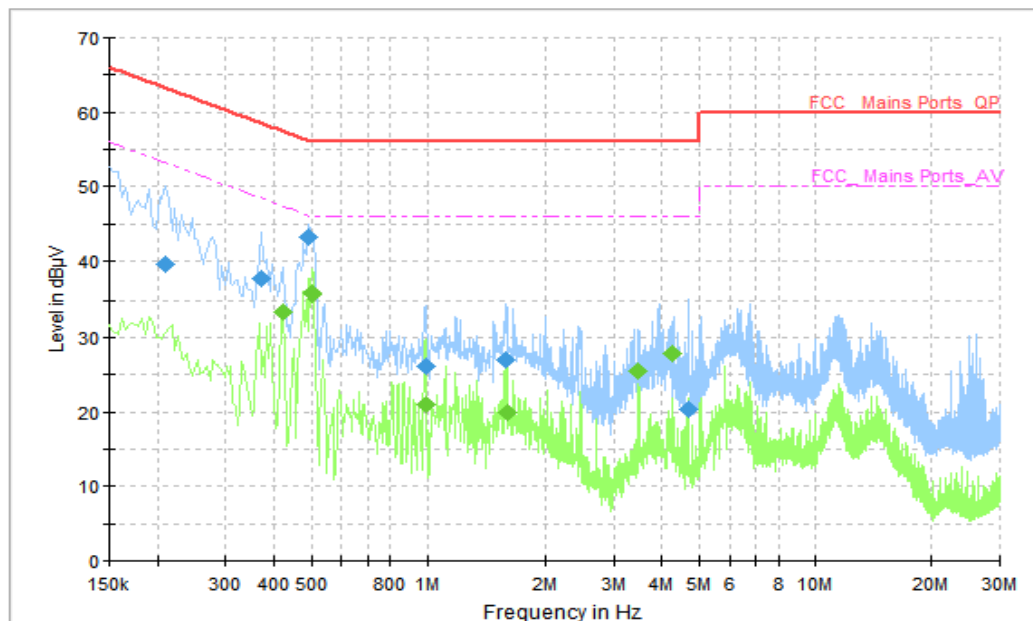


Figure A.2.4. Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.210000	39.57	63.21	23.64	L1	10	29.57
0.370000	37.59	58.50	20.91	N	10	27.59
0.494000	43.28	56.10	12.82	N	10	33.28
0.994000	26.16	56.00	29.84	N	10	16.16
1.578000	27.06	56.00	28.94	N	10	17.06
4.694000	20.33	56.00	35.67	N	10	10.33

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.422000	33.50	47.41	13.91	N	10	23.50
0.502000	35.74	46.00	10.26	N	10	25.74
0.986000	21.04	46.00	24.96	N	10	11.04
1.586000	19.85	46.00	26.15	N	10	9.85
3.482000	25.42	46.00	20.58	N	10	15.42
4.258000	27.92	46.00	18.08	N	10	17.92

AC Input Port/ Voltage: 240V/60Hz

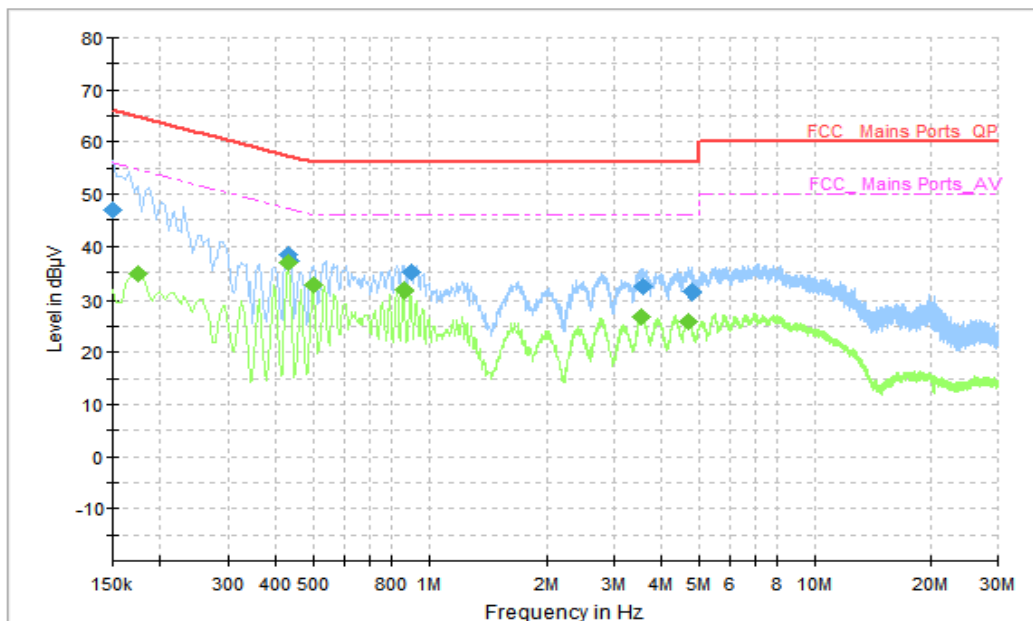


Figure A.2.5. Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	47.02	66.00	18.98	L1	10	37.02
0.430000	38.42	57.25	18.84	L1	10	28.42
0.434000	37.26	57.18	19.91	L1	10	27.26
0.898000	34.92	56.00	21.08	L1	10	24.92
3.566000	32.43	56.00	23.57	L1	10	22.43
4.798000	31.52	56.00	24.48	L1	10	21.52

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.174000	34.60	54.77	20.16	L1	10	24.60
0.430000	36.75	47.25	10.50	L1	10	26.75
0.498000	32.46	46.03	13.58	L1	10	22.46
0.858000	31.58	46.00	14.42	L1	10	21.58
3.534000	26.69	46.00	19.31	L1	10	16.69
4.670000	25.77	46.00	20.23	L1	10	15.77

AC Input Port/ Voltage: 240V/60Hz

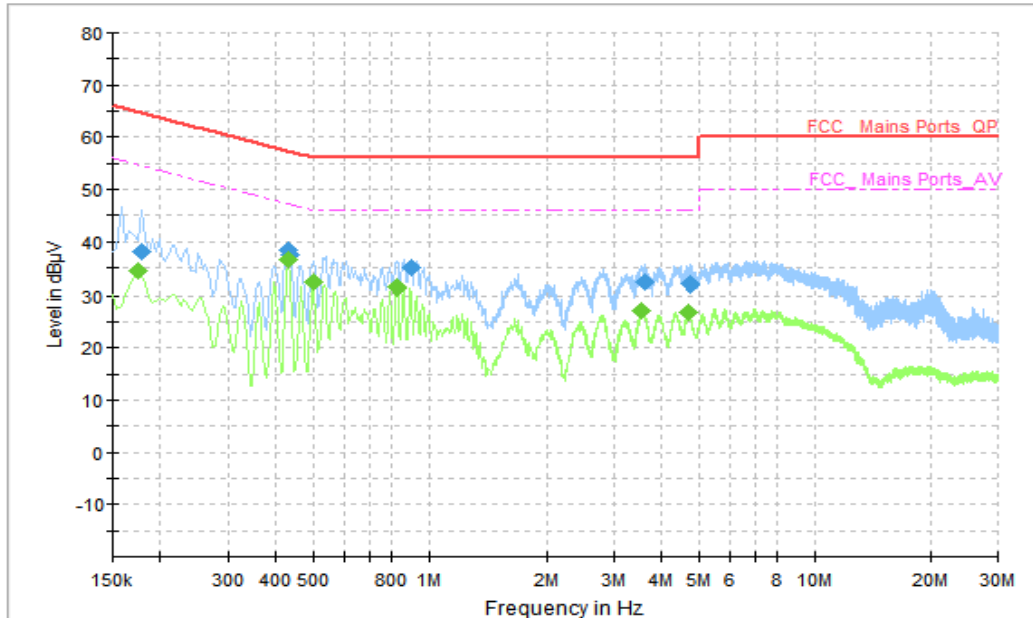


Figure A.2.6. Conducted Emission(Video Player)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.178000	37.98	64.58	26.60	L1	10	27.98
0.430000	38.48	57.25	18.78	L1	10	28.48
0.434000	37.37	57.18	19.81	L1	10	27.37
0.898000	35.03	56.00	20.97	L1	10	25.03
3.598000	32.24	56.00	23.76	L1	10	22.24
4.722000	31.94	56.00	24.06	L1	10	21.94

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.174000	34.44	54.77	20.33	L1	10	24.44
0.430000	36.70	47.25	10.55	L1	10	26.70
0.498000	32.40	46.03	13.63	L1	10	22.40
0.826000	31.52	46.00	14.48	L1	10	21.52
3.534000	26.97	46.00	19.03	L1	10	16.97
4.694000	26.85	46.00	19.15	L1	10	16.85

AC Input Port/ Voltage: 240V/60Hz

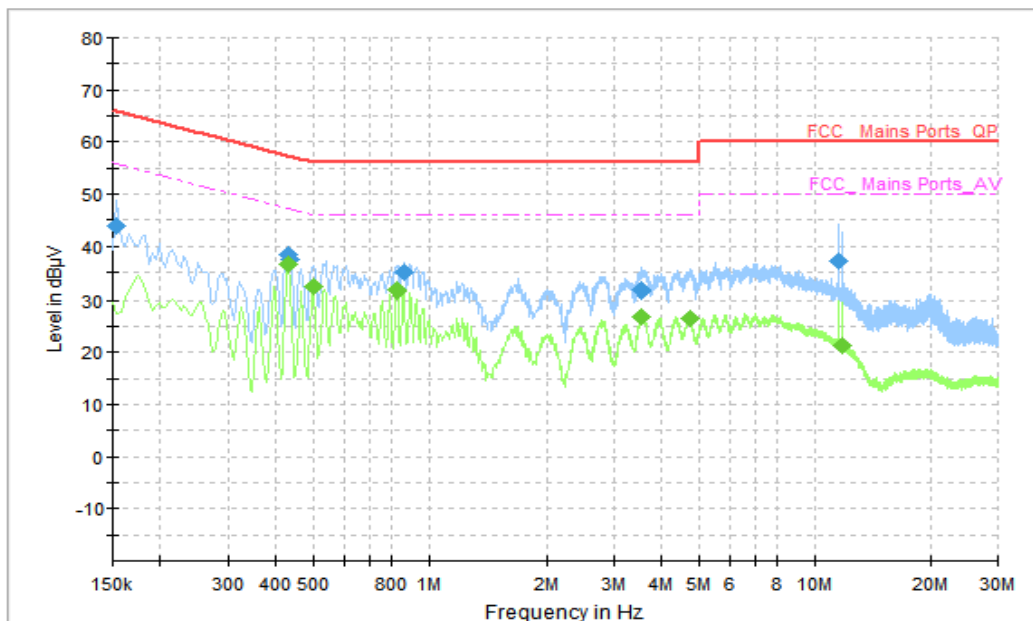


Figure A.2.7. Conducted Emission(FM receiver)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.154000	44.00	65.78	21.78	L1	10	34.00
0.430000	38.51	57.25	18.74	L1	10	28.51
0.434000	37.34	57.18	19.83	L1	10	27.34
0.862000	35.01	56.00	20.99	L1	10	25.01
3.546000	31.83	56.00	24.17	L1	10	21.83
11.594000	37.11	60.00	22.89	L1	10	27.11

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.430000	36.72	47.25	10.53	L1	10	26.72
0.498000	32.35	46.03	13.68	L1	10	22.35
0.826000	31.59	46.00	14.41	L1	10	21.59
3.546000	26.71	46.00	19.29	L1	10	16.71
4.718000	26.62	46.00	19.38	L1	10	16.62
11.766000	21.19	50.00	28.81	L1	10	11.19

AC Input Port/ Voltage: 240V/60Hz

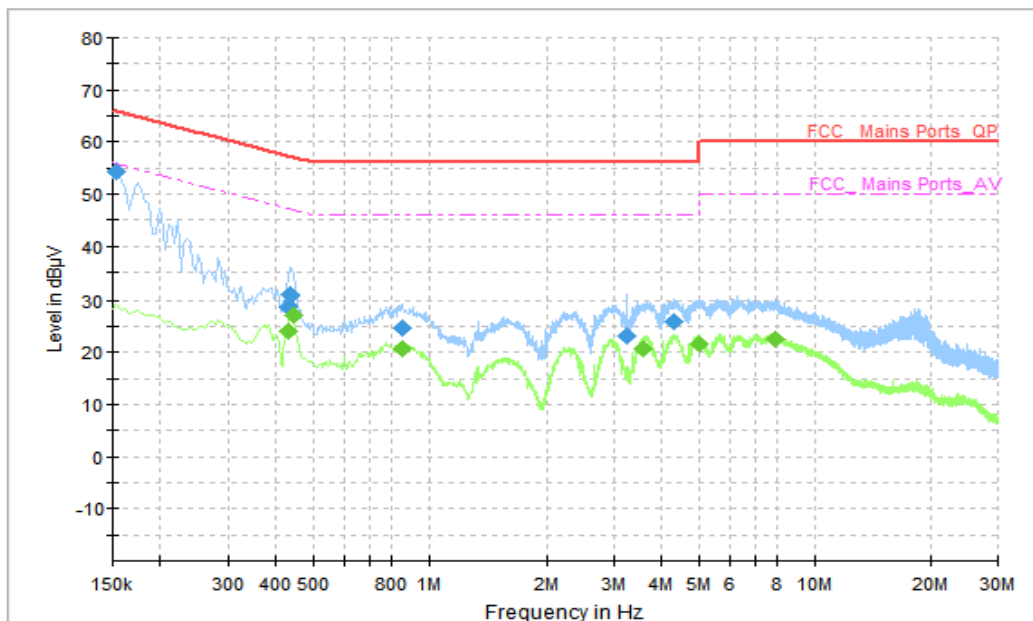


Figure A.2.8. Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.154000	54.31	65.78	11.47	N	10	44.31
0.430000	28.67	57.25	28.58	L1	10	18.67
0.434000	30.83	57.18	26.34	L1	10	20.83
0.850000	24.59	56.00	31.41	L1	10	14.59
3.250000	23.14	56.00	32.86	L1	10	13.14
4.286000	25.73	56.00	30.27	L1	10	15.73

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.430000	24.00	47.25	23.25	N	10	14.00
0.442000	27.16	47.02	19.87	L1	10	17.16
0.850000	20.59	46.00	25.41	L1	10	10.59
3.578000	20.75	46.00	25.25	L1	10	10.75
4.978000	21.44	46.00	24.56	L1	10	11.44
7.910000	22.63	50.00	27.37	L1	10	12.63

END OF REPORT