



TEST REPORT

No.I20N03221-EMC

for

HMD Global Oy

Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN

Model Name: TA-1346

With

Hardware Version: 99652_1_11

Software Version: 000T_0_080

FCC ID: 2AJOTTA-1346

Issued Date: 2021-01-17

Designation Number: CN1210

Note:

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

Test Laboratory:

SAICT, Shenzhen Academy of Information and Communications Technology

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518000.

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

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



REPORT HISTORY

Report Number	Revision	Description	Issue Date
I20N03221-EMC	Rev.0	1st edition	2021-01-17

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	Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN
Model Name	TA-1346
Applicant's name	HMD Global Oy
Manufacturer's Name	HMD Global Oy

1.2. Test Standards

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

1.3. Test Result

Pass

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

1.4. Testing Location

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

1.5. Project data

Testing Start Date: 2020-12-15

Testing End Date: 2021-01-12

1.6. Signature

Ma Shoujian
(Prepared this test report)

Zhang Yunzhuan
(Reviewed this test report)

Cao Junfei
(Approved this test report)



2. ClientInformation

2.1. Applicant Information

Company Name: HMD Global Oy
Address: Bertel Jungin aukio 902600 Espoo, Finland
Contact: Rosario Casillo
Email: Rosario.Casillo@hmdglobal.com

2.2. Manufacturer Information

Company Name: HMD Global Oy
Address: Bertel Jungin aukio 902600 Espoo, Finland
Contact: Rosario Casillo
Email: Rosario.Casillo@hmdglobal.com



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

3.1. About EUT

Description	Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN
Model Name	TA-1346
FCC ID	2AJOTTA-1346
Antenna Type	Internal Antenna
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
UT13aa	358742570007408	99652_1_11	000T_0_080	2020-12-15
UT12aa	358742570001730	99652_1_11	000T_0_080	2020-12-15

*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	WT340
Manufacturer	Guangdong Fenghua New Energy Co.,Ltd
Capacity	4900mAh
Nominal Voltage	3.85V

AE2-1

Model	PA-US5V2A-036
Manufacturer	Yutong Electronics(Huizhou) Co., Ltd

AE2-2

Model	CH-21U
Manufacturer	Shenzhen Tianyin Electronics Co., Ltd

AE3-1

Model	CB-36A
Manufacturer	ShenZhen BRL Technology Co., Ltd

AE3-2

Model	CB-36A
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No.I20N03221-EMC

Manufacturer Huizhou Washin Electronics co.,LTD
AE4-1

Model HS-34

Manufacturer New Leader Industry Co.,Ltd

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

AE: ancillary equipment



3.4. EUT set-ups

EUT set-up No.

Set.1
Set.2
Set.3
Set.4

Combination of EUT and AE

EUT+AE1+AE2-1+AE3-1+AE4
EUT+AE1+AE2-2+AE3-2+AE4
EUT+AE1+AE3-1+AE4+PC
EUT+AE1+AE3-2+AE4+PC



3.5. General Description

The Equipment Under Test (EUT) is a model of Multi-band GSM/WCDMA/LTE phone with Bluetooth, WLAN with internal antenna.

It supports GSM 850/900/1800/1900MHz,WCDMA Bands 1/2/4/5/8, and LTE Bands 1/2/3/4/5/7/8/12/17/28/66.

It has Camera, Video Player, FM Receiver, USB Data Transfer,Bluetooth,Wi-Fi and GNSS functions.

It consists of normal options: Battery, Charger and USB Cable and Headset

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	10-1-2019 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 rules	Section in this report	Verdict
1	Radiated Emission	15.109(a)	A.1	P
2	Conducted Emission	15.107(a)	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)
Conducted Emission	150kHz-30MHz	3.00dB(k=2)

8. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CALDUE DATE	CAL PERIOD
1.	Test Receiver	ESR7	101676	R&S	2021.12.25	1 year
2.	Test Receiver	ESCI	100701	R&S	2021.08.09	1 year
3.	Spectrum Analyzer	FSV40	101192	R&S	2022.01.13	1 year
4.	BiLog Antenna	3142E	0224831	ETS-Lindgren	2021.05.17	3 years
5.	LISN	ENV216	102067	R&S	2021.07.16	1 year
6.	Horn Antenna	3117	00066577	ETS-Lindgren	2022.04.02	3 years
7.	Universal Radio Communication Tester	CMU200	114545	R&S	2022.01.13	1 year
8.	Universal Radio Communication Tester	CMW500	152499	R&S	2021.07.16	1 year
9.	Signal Generator	SMB100A	179725	R&S	2021.11.25	1 year
10.	Chamber	FACT3-2.0	1285	ETS-Lindgren	2021.07.19	2 years
11.	Software	EMC32	V10.01.00	R&S	/	/

9. Test Accessory Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CALDUE DATE	CAL PERIOD
1.	PC	ThinkPad T480	PF-13LW0C	Lenovo	/	/
2.	Printer	V1.0008	VNF6C12491	HP	/	/
3.	Mouse	MOEUUOA	44NY517	Lenovo	/	/

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

Reference

FCC: CFR Part 15.109(a)

A.1.1 Method of measurement

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

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

A.1.2 EUT Operating Mode:

FM receiver: The EUT is connected to a charger for charging and open FM function. 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.

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 MS or TF Card, reading and erasing the data after copy action was finished.

GNSS:The EUT is connected to a charger for charging. A vector signal generator is used to provide the simulated GNSS signal, and the frequency is set to 1575.42 MHz. Before the test starts, the integrated GNSS application in EUT is started up and locked to the simulated GNSS signal.

Meanwhile, the EUT is synchronized to System Simulator (SS), and able to respond to paging messages and incoming call. An established call has been released.

GSM receiver: The EUT is connected to a charger for charging.The EUT is synchronized to 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 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 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 Band 5, LTE Band 5, LTE Band 12,LTE Band 17.

The EUT was tested while operating in licensed band Rx mode. All licensed band receivers that

tune in the range of 30MHz-960MHz, 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 CFR Part 15.109(a)

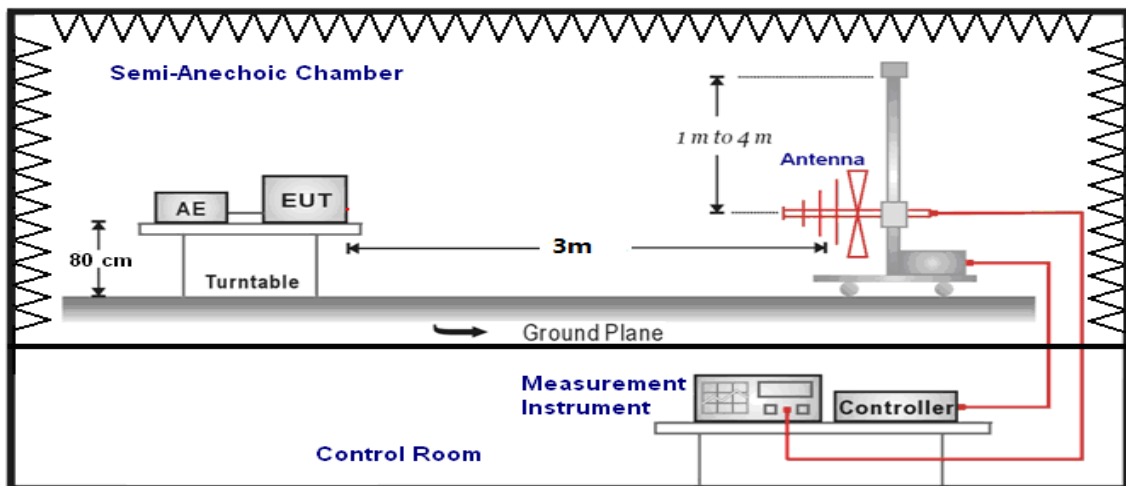
Frequency range (MHz)	Field strength limit ($\mu\text{V}/\text{m}$)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

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

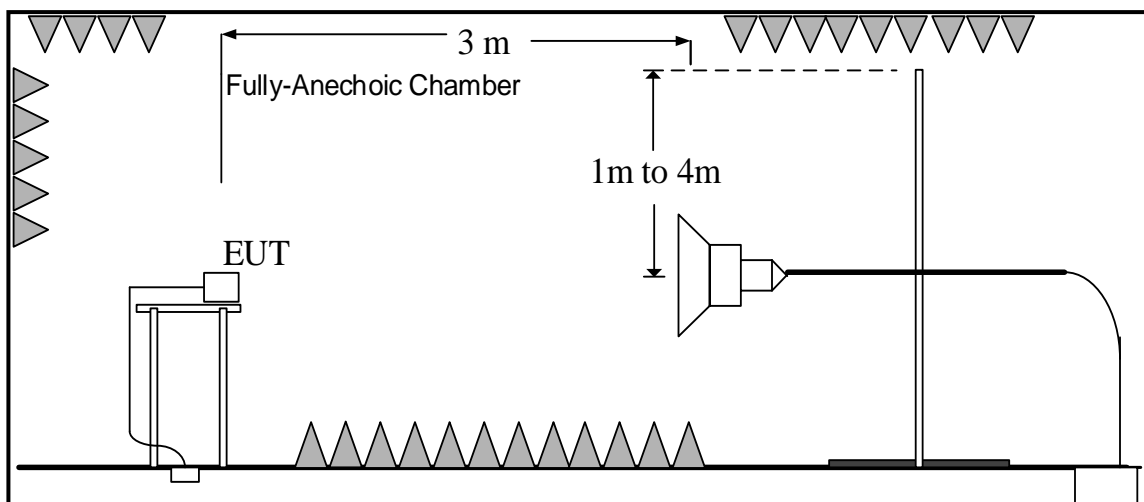
A.1.4 Test Condition

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-18GHz



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} : Path Loss

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

GSM Receiver 850MHz

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) UT13aa/Set.1	Conclusion
30-88	40.00	See Fugure A.1.1.	P
88-216	43.50		
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
			UT13aa/Set.1	
1000 to 3000	54	74	See Fugure A.1.2.	P
3000to 18000	54	74	See Fugure A.1.3.	P

WCDMA Receiver Band 5

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) UT13aa/Set.1	Conclusion
30-88	40.00	See Fugure A.1.4.	P
88-216	43.50		
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
			UT13aa/Set.1	
1000 to 3000	54	74	See Fugure A.1.5.	P
3000to 18000	54	74	See Fugure A.1.6.	P

LTE Receiver Band 5

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) UT13aa/Set.1	Conclusion
30-88	40.00	See Fugure A.1.7.	P
88-216	43.50		
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) UT13aa/Set.1	Conclusion
			1000 to 3000	
3000to 18000	54	74	See Fugure A.1.9.	P

LTE Receiver Band 12

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) UT13aa/Set.1	Conclusion
30-88	40.00	See Fugure A.1.10.	P
88-216	43.50		
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) UT13aa/Set.1	Conclusion
			1000 to 3000	
3000to 18000	54	74	See Fugure A.1.12.	P

LTE Receiver Band 17

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) UT13aa/Set.1	Conclusion
30-88	40.00	See Fugure A.1.13.	P
88-216	43.50		
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
			UT13aa/Set.1	
1000 to 3000	54	74	See Fugure A.1.14.	P
3000to 18000	54	74	See Fugure A.1.15.	P

LTE Receiver Band 12

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) UT13aa/Set.2	Conclusion
30-88	40.00	See Fugure A.1.16.	P
88-216	43.50		
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
			UT13aa/Set.2	
1000 to 3000	54	74	See Fugure A.1.17.	P
3000to 18000	54	74	See Fugure A.1.18.	P

FM receiver

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.1	
30-88	40.00	See Fugure A.1.19.	P
88-216	43.50		
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
			UT13aa/Set.1	
1000 to 3000	54	74	See Fugure A.1.20.	P
3000to 18000	54	74	See Fugure A.1.21.	P

Video Player

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.1	
30-88	40.00	See Fugure A.1.22.	P
88-216	43.50		
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
			UT13aa/Set.1	
1000 to 3000	54	74	See Fugure A.1.23.	P
3000to 18000	54	74	See Fugure A.1.24.	P

Camera

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.1	
30-88	40.00	See Fugure A.1.25.	P
88-216	43.50		
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
			UT13aa/Set.1	
1000 to 3000	54	74	See Fugure A.1.26.	P
3000to 18000	54	74	See Fugure A.1.27.	P

GPS

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.1	
30-88	40.00	See Fugure A.1.28.	P
88-216	43.50		
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
			Set.5	
1000 to 3000	54	74	See Fugure A.1.29.	P
3000to 18000	54	74	See Fugure A.1.30.	P



GLONASS

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.1	
30-88	40.00	See Fugure A.1.31.	P
88-216	43.50		
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
			Set.5	
1000 to 3000	54	74	See Fugure A.1.32.	P
3000to 18000	54	74	See Fugure A.1.33.	P

GLONASS

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.2	
30-88	40.00	See Fugure A.1.34.	P
88-216	43.50		
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
			UT13aa/Set.2	
1000 to 3000	54	74	See Fugure A.1.35.	P
3000to 18000	54	74	See Fugure A.1.36.	P

Data Transfer : EUT to PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.3	
30-88	40.00	See Fugure A.1.37.	P
88-216	43.50		
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
			UT13aa/Set.3	
1000 to 3000	54	74	See Fugure A.1.38.	P
3000to 18000	54	74	See Fugure A.1.39.	P

Data Transfer : PC to EUT

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.3	
30-88	40.00	See Fugure A.1.40.	P
88-216	43.50		
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
			UT13aa/Set.3	
1000 to 3000	54	74	See Fugure A.1.41.	P
3000to 18000	54	74	See Fugure A.1.42.	P

Data Transfer : PC to TF Card

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.3	
30-88	40.00	See Fugure A.1.43.	P
88-216	43.50		
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
			UT13aa/Set.3	
1000 to 3000	54	74	See Fugure A.1.44.	P
3000to 18000	54	74	See Fugure A.1.45.	P

Data Transfer : TF Card to PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.3	
30-88	40.00	See Fugure A.1.46.	P
88-216	43.50		
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
			UT13aa/Set.3	
1000 to 3000	54	74	See Fugure A.1.47.	P
3000to 18000	54	74	See Fugure A.1.48.	P



Data Transfer : TF Card to PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		UT13aa/Set.4	
30-88	40.00	See Fugure A.1.49.	P
88-216	43.50		
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
			UT13aa/Set.6	
1000 to 3000	54	74	See Fugure A.1.50.	P
3000to 18000	54	74	See Fugure A.1.51.	P

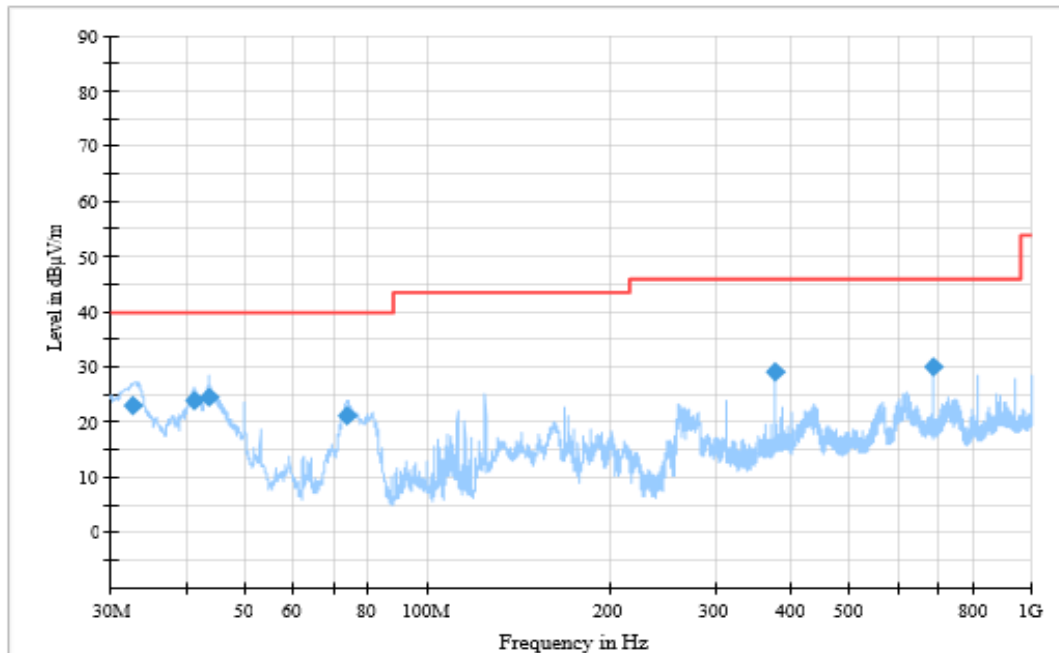


Figure A.1.1. Radiated Emission (GSM Receiver 850MHz, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.610000	23.11	40.00	16.89	V	-25.8	48.91
41.256667	23.98	40.00	16.02	V	-29.8	53.78
43.747778	24.60	40.00	15.40	V	-31.8	56.4
73.748333	21.33	40.00	18.67	V	-33.7	55.03
375.016667	29.06	46.00	16.94	V	-26.7	55.76
687.518333	30.19	46.00	15.81	V	-19.7	49.89

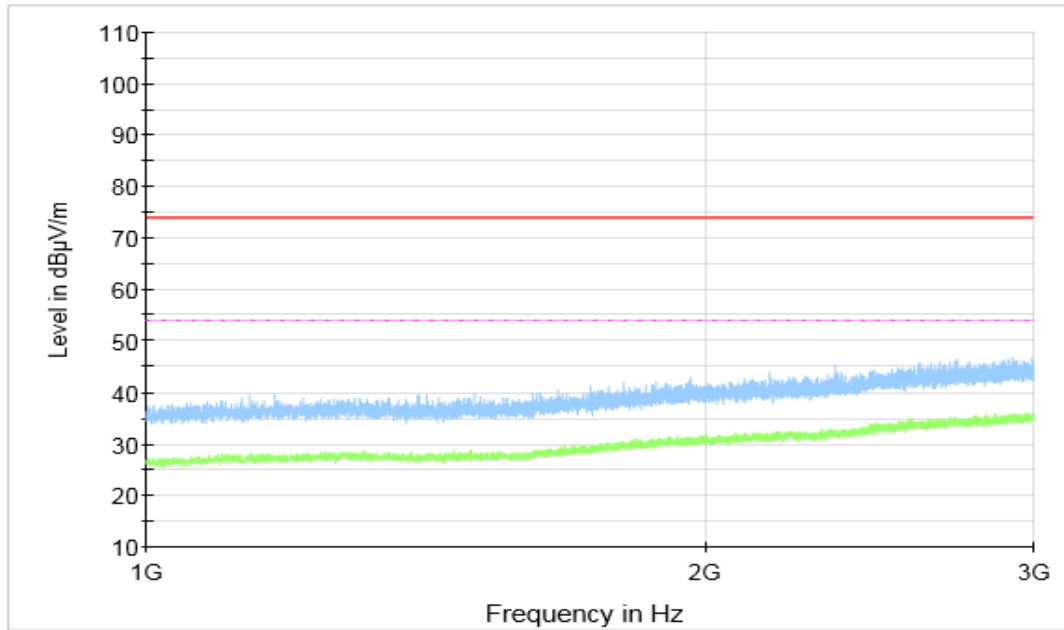


Figure A.1.2. Radiated Emission (GSM Receiver 850MHz, 1GHz to 3GHz)

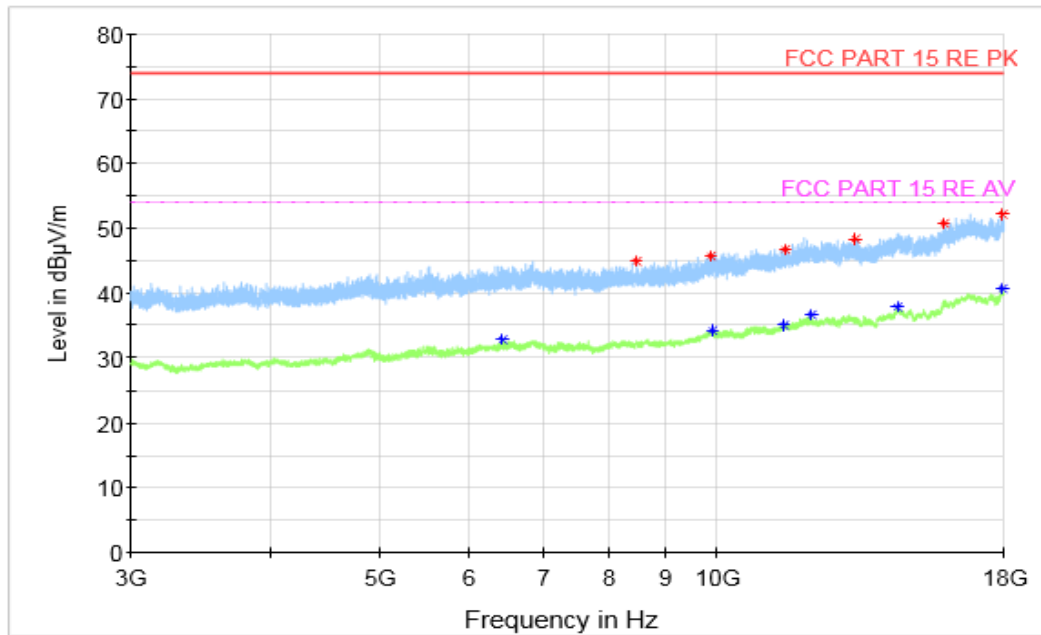


Figure A.1.3. Radiated Emission (GSM Receiver 850MHz, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
8459.500000	44.92	74.00	29.08	H	3.5	41.42
9881.000000	45.65	74.00	28.35	V	5.4	40.25
11490.500000	46.82	74.00	27.18	V	7.0	39.82
13282.500000	48.45	74.00	25.55	V	9.7	38.75
15900.000000	50.70	74.00	23.30	V	14.2	36.5
17940.500000	52.17	74.00	21.83	V	17.2	34.97

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6428.500000	32.77	54.00	21.23	H	2.6	30.17
9883.500000	34.30	54.00	19.70	H	5.4	28.9
11475.000000	35.08	54.00	18.92	H	6.7	28.38
12131.000000	36.62	54.00	17.38	H	8.3	28.32
14460.000000	37.80	54.00	16.20	V	11.8	26
17946.500000	40.78	54.00	13.22	H	17.3	23.48

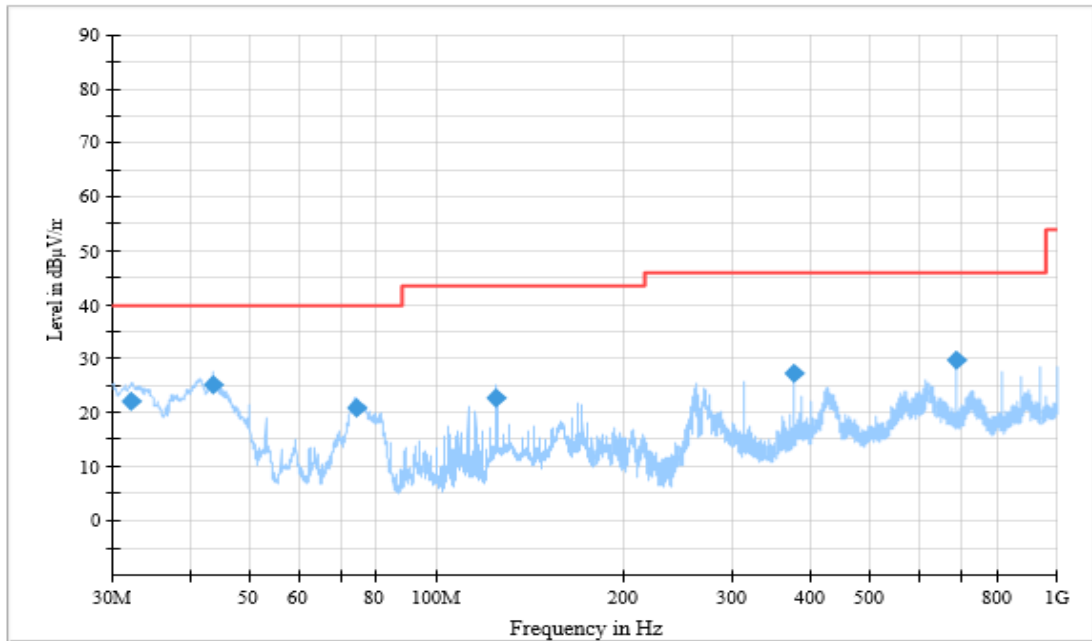


Figure A.1.4. Radiated Emission (WCDMA Receiver Band 5, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.191111	22.11	40.00	17.89	V	-25.7	47.81
43.761667	25.12	40.00	14.88	V	-31.8	56.92
74.033333	20.86	40.00	19.14	V	-33.7	54.56
125.012222	22.76	43.50	20.74	V	-31.6	54.36
375.016667	27.41	46.00	18.59	V	-26.7	54.11
687.532222	29.66	46.00	16.34	V	-19.7	49.36

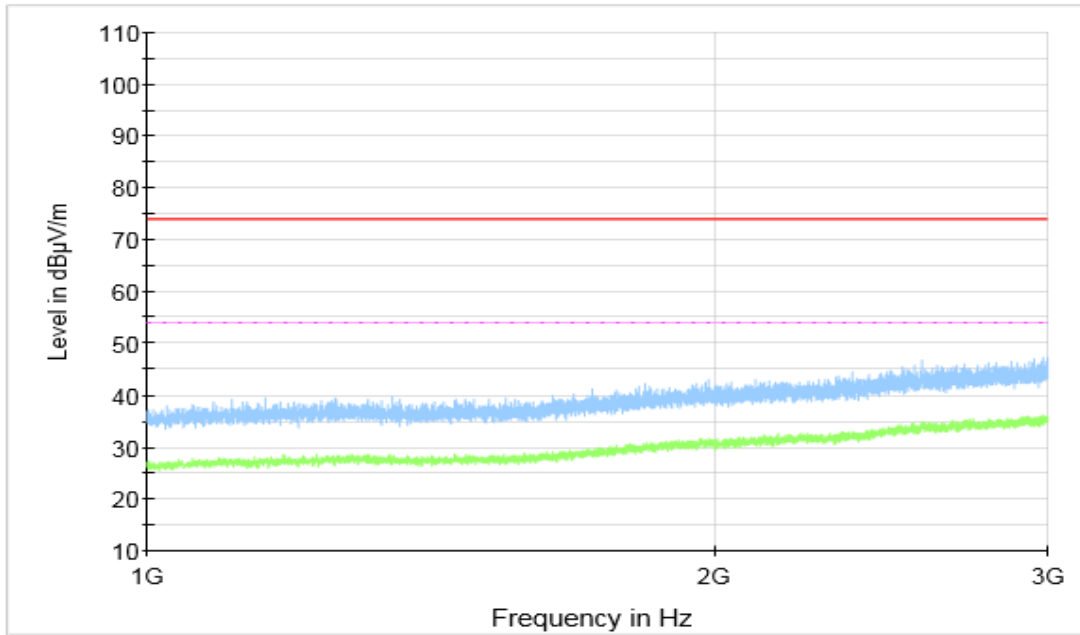


Figure A.1.5. Radiated Emission (WCDMA Receiver Band 5z, 1GHz to 3GHz)

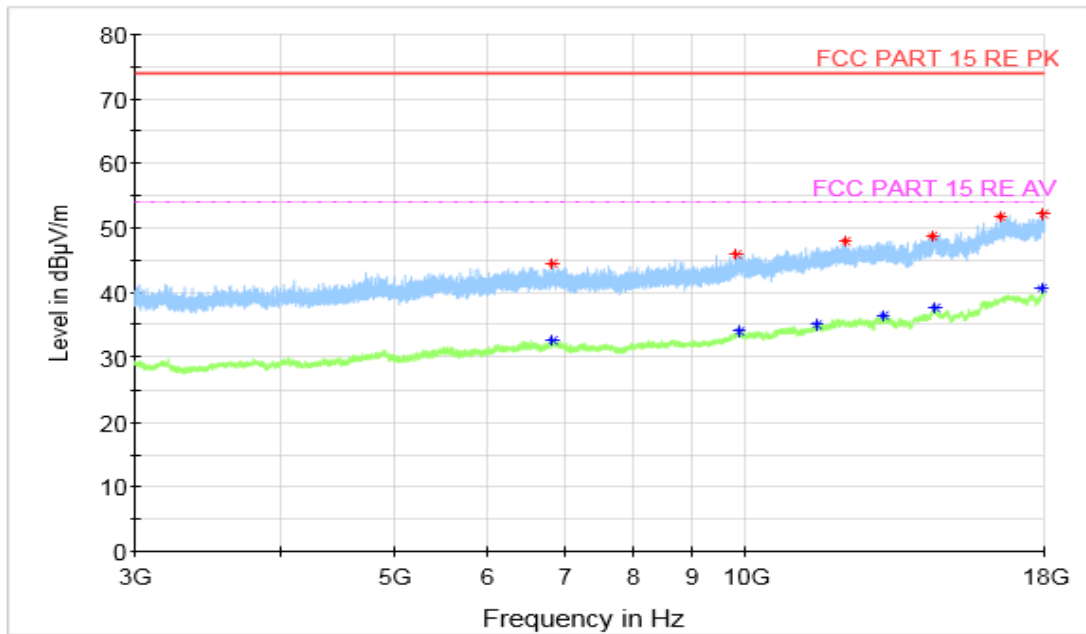


Figure A.1.6. Radiated Emission (WCDMA Receiver Band 5, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6838.500000	44.44	74.00	29.56	H	2.4	42.04
9819.500000	45.86	74.00	28.14	V	5.0	40.86
12164.000000	47.98	74.00	26.02	H	8.4	39.58
14436.500000	48.83	74.00	25.17	V	11.5	37.33
16520.000000	51.82	74.00	22.18	H	15.3	36.52
17950.500000	52.23	74.00	21.77	H	17.2	35.03

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6829.000000	32.69	54.00	21.31	V	2.7	29.99
9878.500000	34.11	54.00	19.89	H	5.3	28.81
11482.000000	34.97	54.00	19.03	H	6.8	28.17
13097.500000	36.43	54.00	17.57	V	9.8	26.63
14494.500000	37.58	54.00	16.42	V	11.7	25.88
17909.000000	40.75	54.00	13.25	V	17.4	23.35

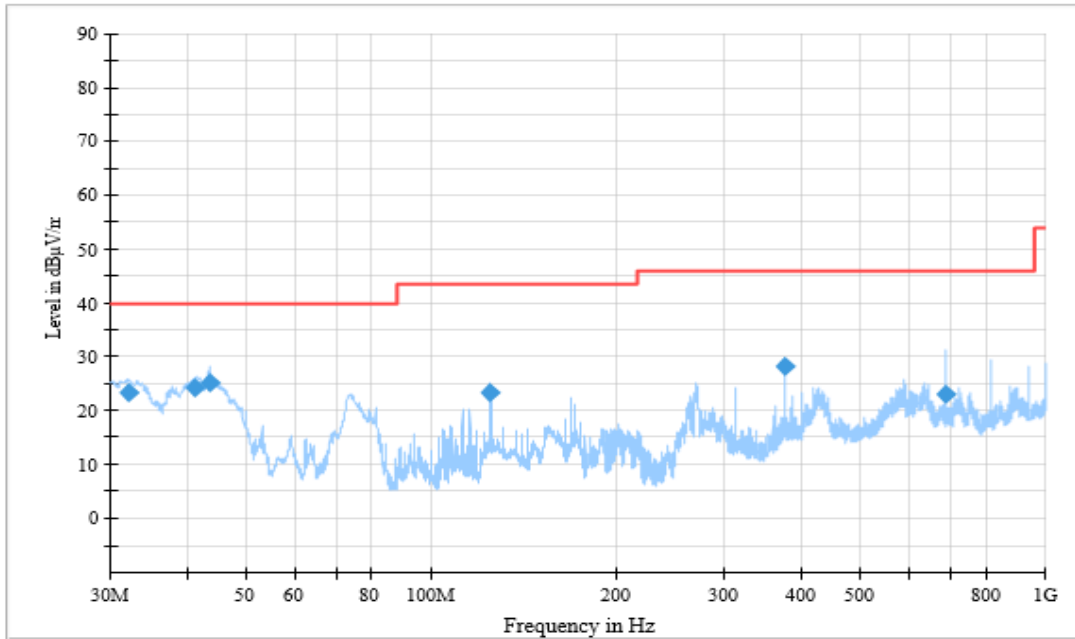


Figure A.1.7. Radiated Emission (LTE Receiver Band 5, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.281667	23.30	40.00	16.70	V	-25.8	49.10
41.366111	24.22	40.00	15.78	V	-29.9	54.12
43.721667	25.17	40.00	14.83	V	-31.8	56.97
125.012222	23.41	43.50	20.09	V	-31.6	55.01
375.016667	28.10	46.00	17.90	V	-26.7	54.8
687.518333	23.14	46.00	22.86	V	-19.7	42.84

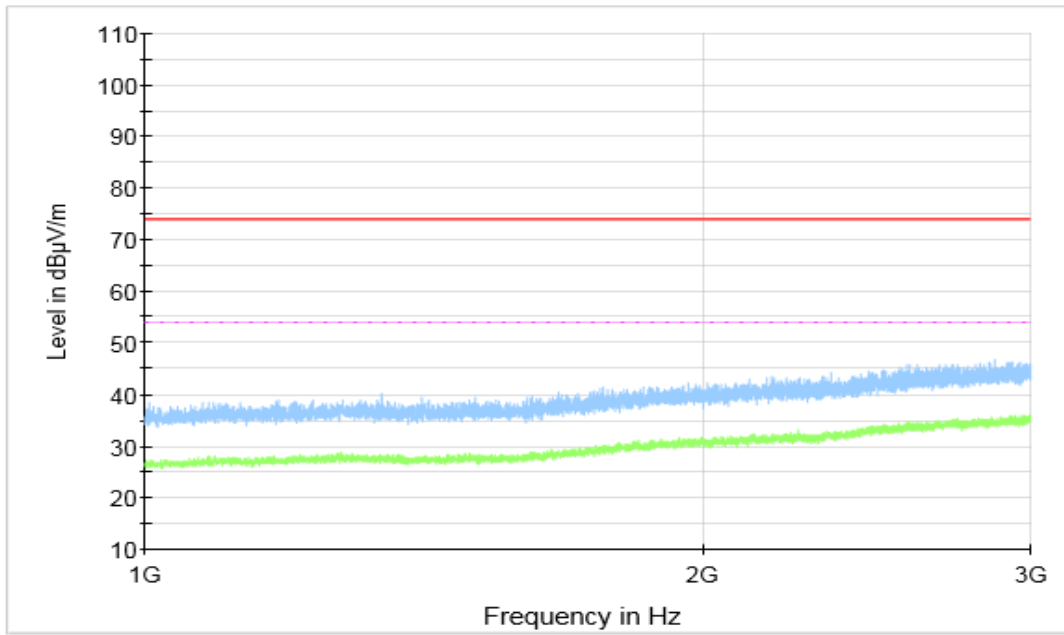


Figure A.1.8. Radiated Emission (LTE Receiver Band 5, 1GHz to 3GHz)

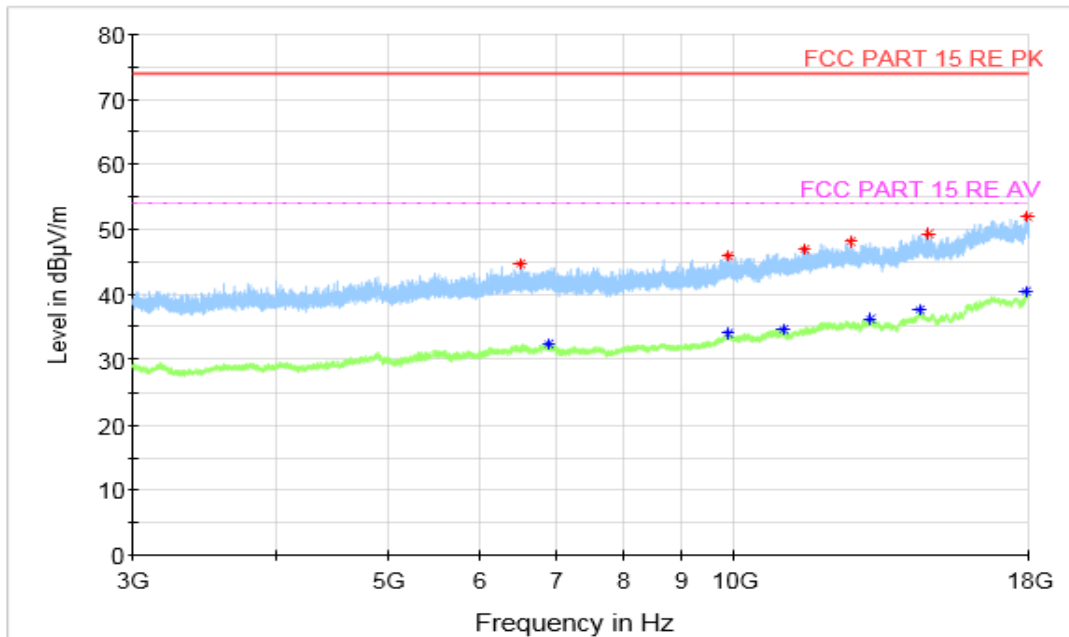


Figure A.1.9. Radiated Emission (LTE Receiver Band 5 , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6513.500000	44.82	74.00	29.18	H	2.4	42.42
9873.000000	45.85	74.00	28.15	H	5.2	40.65
11494.000000	46.98	74.00	27.02	H	6.9	40.08
12614.000000	48.25	74.00	25.75	H	8.7	39.55
14739.500000	49.30	74.00	24.70	V	11.2	38.1
17946.000000	51.91	74.00	22.09	H	17.3	34.61

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6886.500000	32.50	54.00	21.50	H	2.8	29.70
9852.000000	34.07	54.00	19.93	H	5.4	28.67
11007.000000	34.75	54.00	19.25	V	6.6	28.15
13126.000000	36.19	54.00	17.81	V	9.8	26.39
14487.500000	37.72	54.00	16.28	H	11.7	26.02
17913.500000	40.49	54.00	13.51	V	17.2	23.29

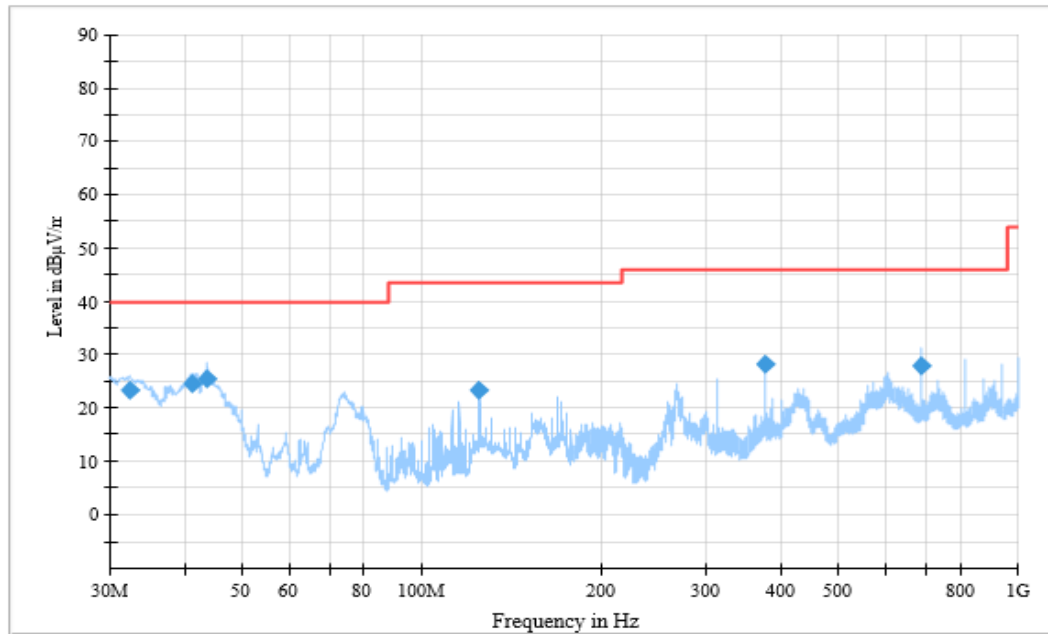


Figure A.1.10. Radiated Emission (LTE Receiver Band 12, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.432778	23.35	40.00	16.65	V	-25.8	49.15
41.147222	24.58	40.00	15.42	V	-29.8	54.38
43.775556	25.47	40.00	14.53	V	-31.8	57.27
124.986111	23.28	43.50	20.22	V	-31.6	54.88
375.016667	28.12	46.00	17.88	V	-26.7	54.82
687.518333	27.97	46.00	18.03	V	-19.7	47.67

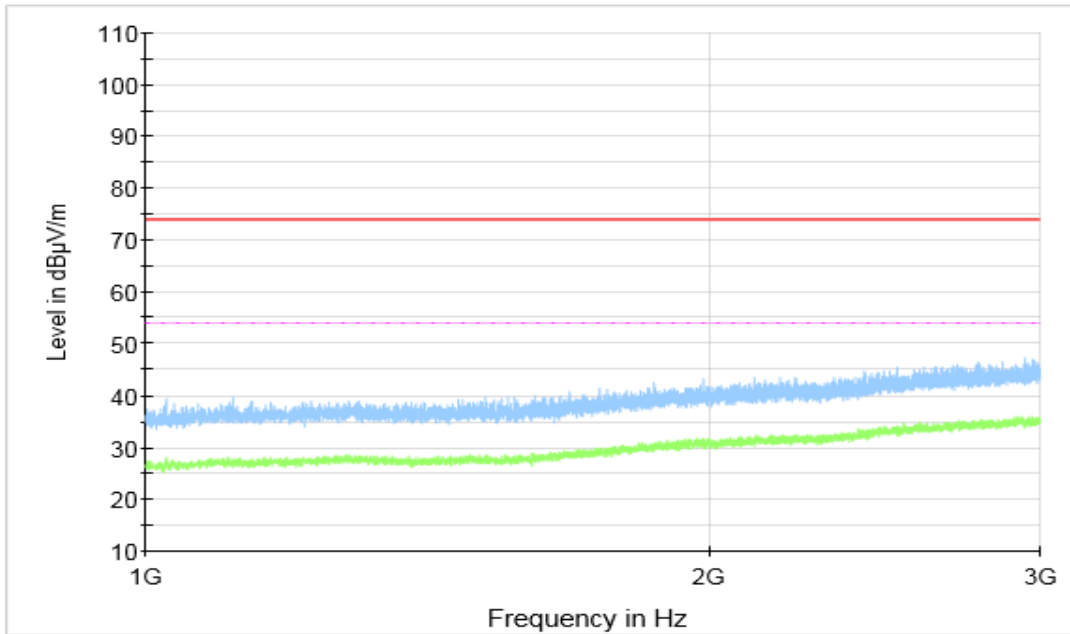


Figure A.1.11. Radiated Emission (LTE Receiver Band 12,, 1GHz to 3GHz)

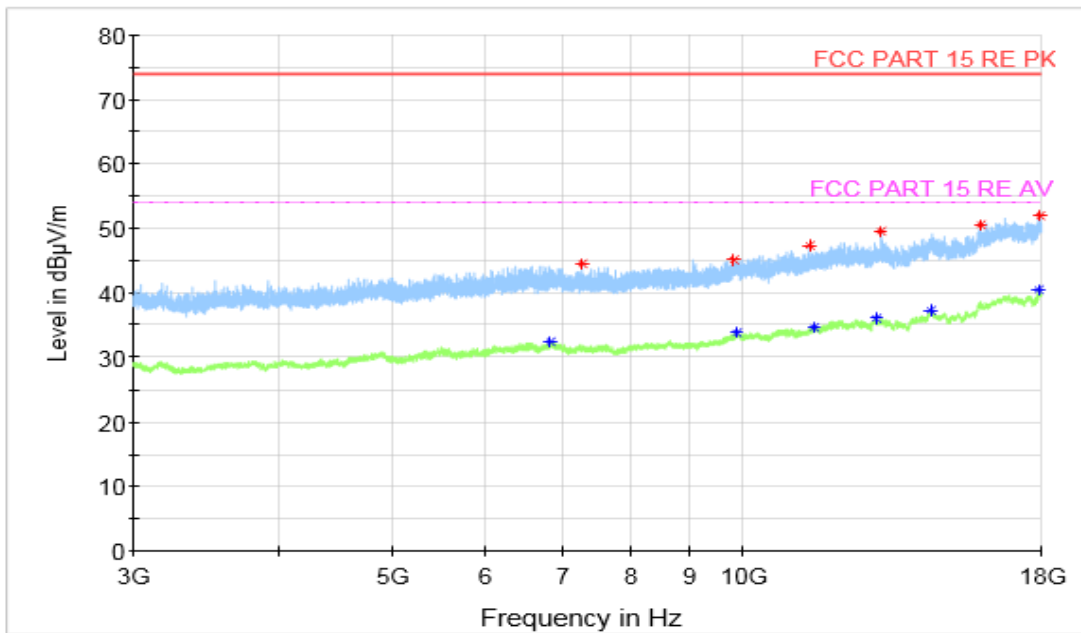


Figure A.1.12. Radiated Emission (LTE Receiver Band 12 , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
7275.500000	44.57	74.00	29.43	V	2.4	42.17
9800.500000	45.24	74.00	28.76	H	4.8	40.44
11392.500000	47.38	74.00	26.62	H	6.7	40.68
13127.000000	49.54	74.00	24.46	V	9.8	39.74
15991.000000	50.62	74.00	23.38	H	14.4	36.22
17971.000000	52.03	74.00	21.97	V	16.9	35.13

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6824.000000	32.36	54.00	21.64	V	2.7	29.66
9878.500000	33.82	54.00	20.18	H	5.3	28.52
11494.500000	34.74	54.00	19.26	H	6.9	27.84
12978.000000	36.02	54.00	17.98	H	9.1	26.92
14461.500000	37.35	54.00	16.65	H	11.8	25.55
17910.500000	40.47	54.00	13.53	V	17.4	23.07

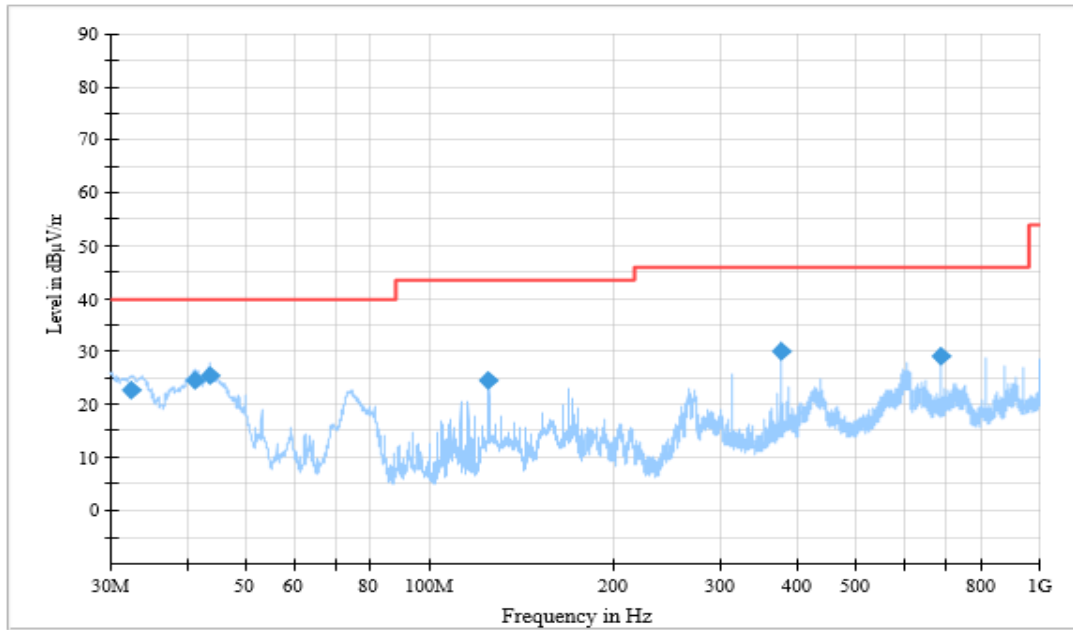


Figure A.1.13. Radiated Emission (LTE Receiver Band 17, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.500556	22.75	40.00	17.25	V	-25.8	48.55
41.310556	24.59	40.00	15.41	V	-29.9	54.49
43.747778	25.44	40.00	14.56	V	-31.8	57.24
125.012222	24.54	43.50	18.96	V	-31.6	56.14
375.002778	29.98	46.00	16.02	V	-26.7	56.68
687.518333	29.05	46.00	16.95	V	-19.7	48.75

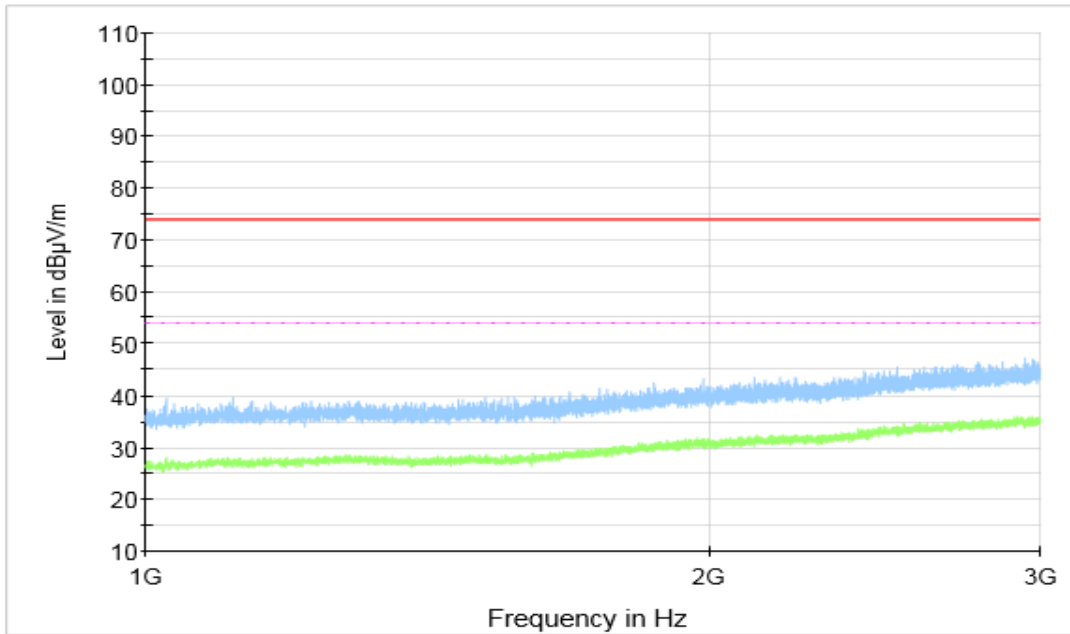


Figure A.1.14. Radiated Emission (LTE Receiver Band 17, 1GHz to 3GHz)

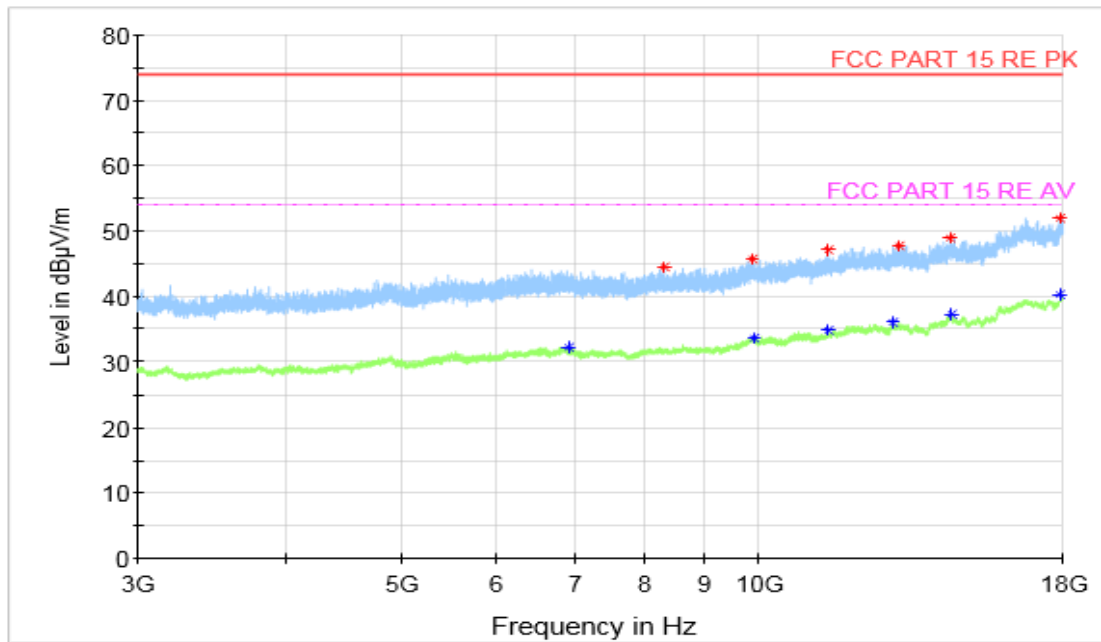


Figure A.1.15. Radiated Emission (LTE Receiver Band 17 , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
8318.500000	44.58	74.00	29.42	H	3.5	41.08
9879.500000	45.66	74.00	28.34	V	5.3	40.36
11430.500000	47.13	74.00	26.87	V	6.8	40.33
13122.500000	47.72	74.00	26.28	H	9.7	38.02
14460.500000	49.00	74.00	25.00	H	11.8	37.2
17911.500000	51.99	74.00	22.01	H	17.3	34.69

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6916.500000	32.30	54.00	21.70	V	2.8	29.50
9883.000000	33.58	54.00	20.42	H	5.4	28.18
11433.500000	34.80	54.00	19.20	H	6.8	28
12972.000000	36.14	54.00	17.86	H	9.3	26.84
14492.500000	37.30	54.00	16.70	H	11.7	25.6
17910.500000	40.36	54.00	13.64	H	17.4	22.96

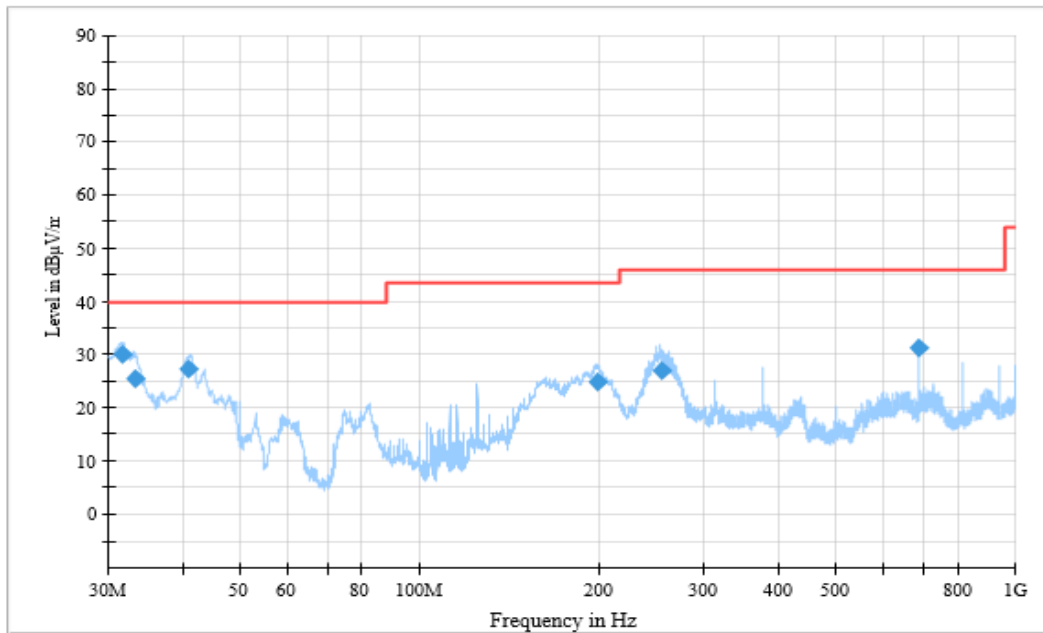


Figure A.1.16. Radiated Emission (LTE Receiver Band 12, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
31.772222	30.09	40.00	9.91	V	-25.6	55.69
33.333333	25.52	40.00	14.48	V	-26.0	51.52
41.028889	27.36	40.00	12.64	V	-29.7	57.06
198.756667	24.85	43.50	18.65	V	-33.1	57.95
253.966667	26.94	46.00	19.06	H	-30.8	57.74
687.518333	31.14	46.00	14.86	V	-19.7	50.84

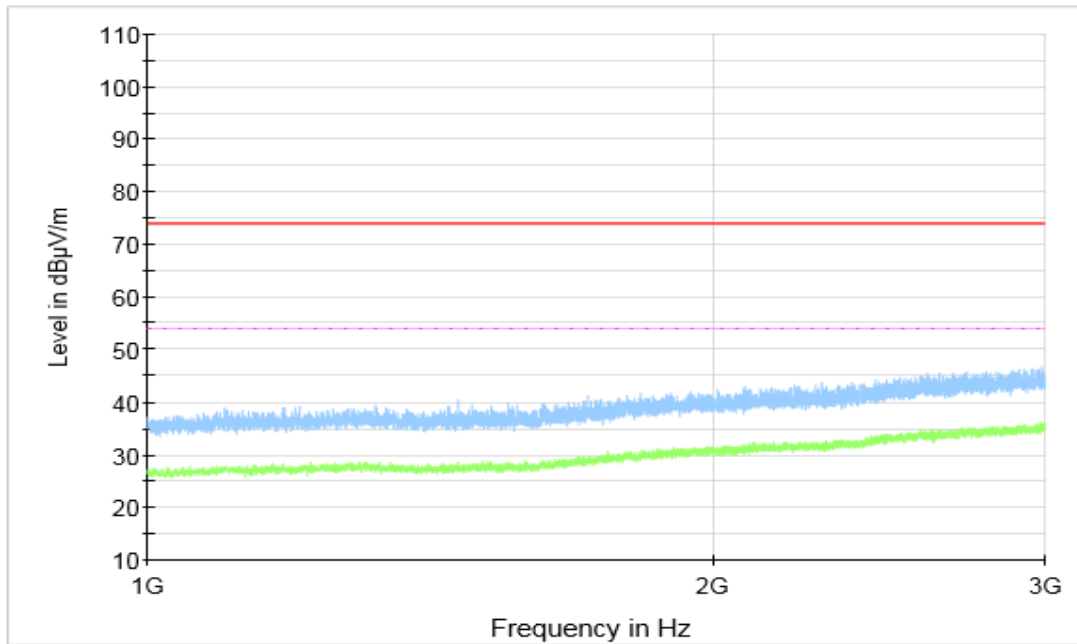


Figure A.1.17. Radiated Emission (LTE Receiver Band 12, 1GHz to 3GHz)

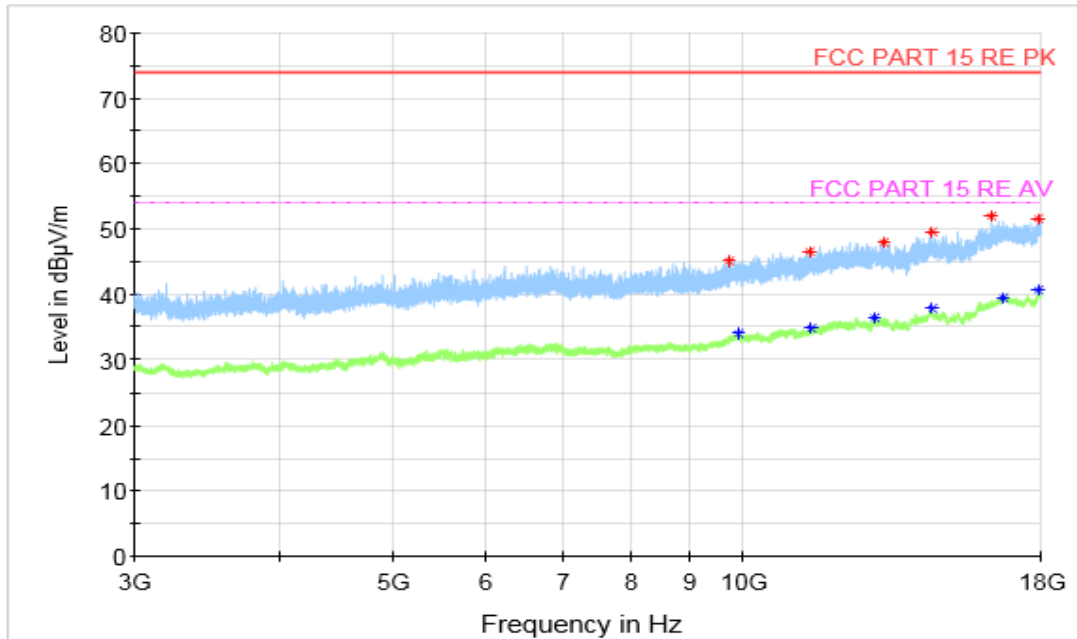


Figure A.1.18. Radiated Emission (LTE Receiver Band 12 , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9709.500000	45.08	74.00	28.92	V	4.7	40.38
11397.000000	46.50	74.00	27.50	H	6.8	39.70
13172.000000	48.05	74.00	25.95	H	9.5	38.55
14522.500000	49.63	74.00	24.37	H	11.7	37.93
16316.500000	51.89	74.00	22.11	H	14.8	37.09
17912.500000	51.55	74.00	22.45	V	17.3	34.25

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9894.000000	34.02	54.00	19.98	V	5.3	28.72
11425.500000	34.86	54.00	19.14	V	6.7	28.16
12969.000000	36.53	54.00	17.47	H	9.4	27.13
14496.000000	37.82	54.00	16.18	H	11.7	26.12
16698.000000	39.55	54.00	14.45	V	15.4	24.15
17911.000000	40.65	54.00	13.35	V	17.3	23.35

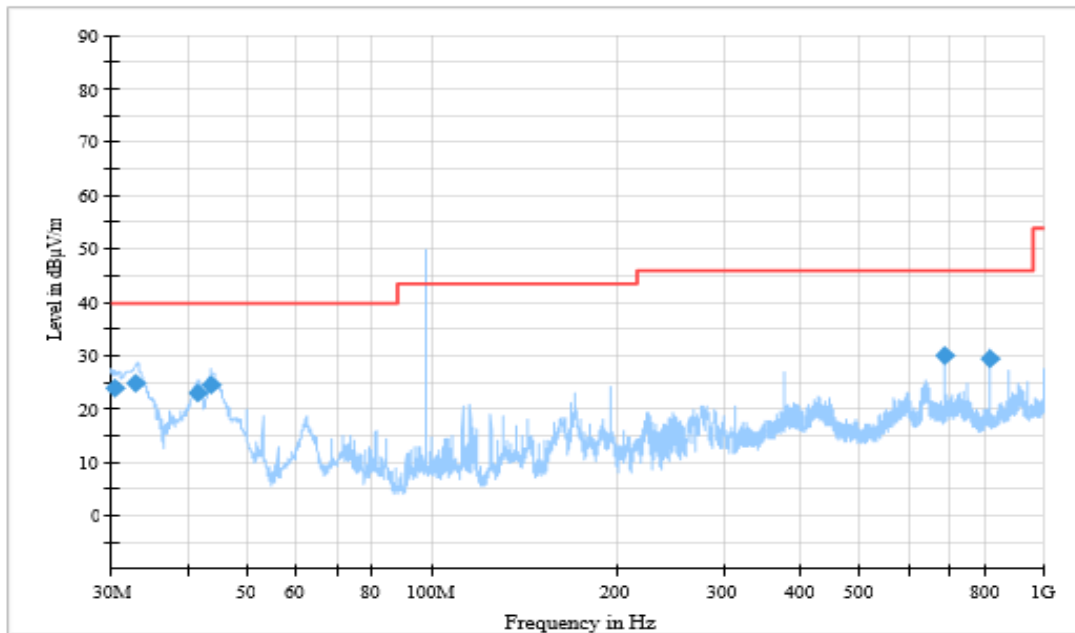


Figure A.1.19. Radiated Emission (FM receiver, 30MHz to 1GHz)

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

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.454444	23.82	40.00	16.18	V	-24.6	48.42
32.973333	24.78	40.00	15.22	V	-25.8	50.58
41.684444	23.06	40.00	16.94	V	-30.1	53.16
43.751111	24.62	40.00	15.38	V	-31.8	56.42
687.518333	30.19	46.00	15.81	V	-19.7	49.89
812.540556	29.44	46.00	16.56	V	-18.5	47.94

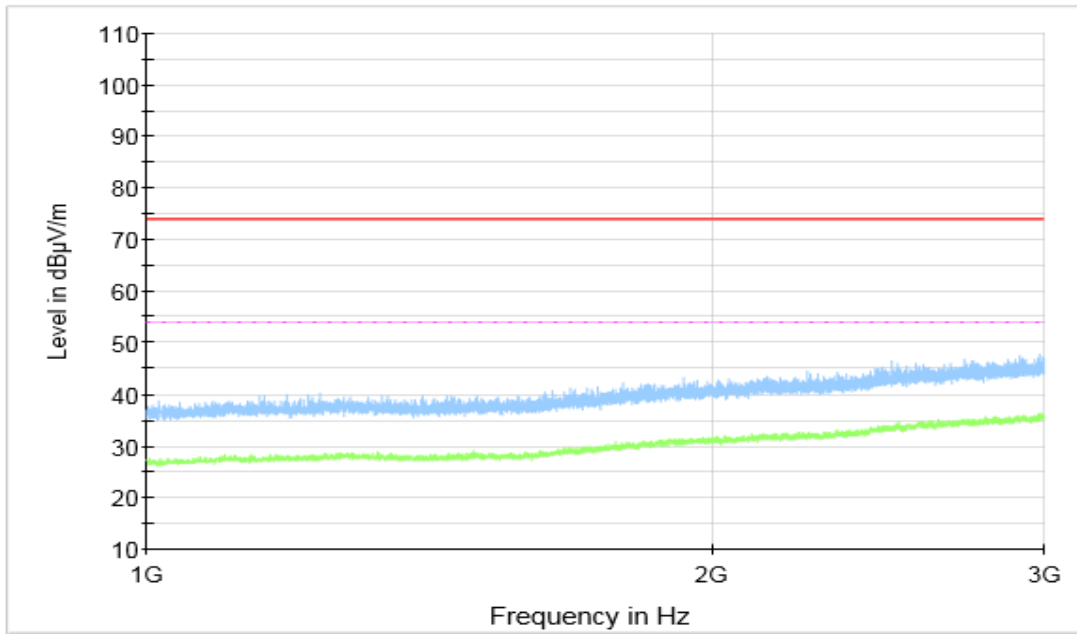


Figure A.1.20. Radiated Emission (FM receiver, 1GHz to 3GHz)

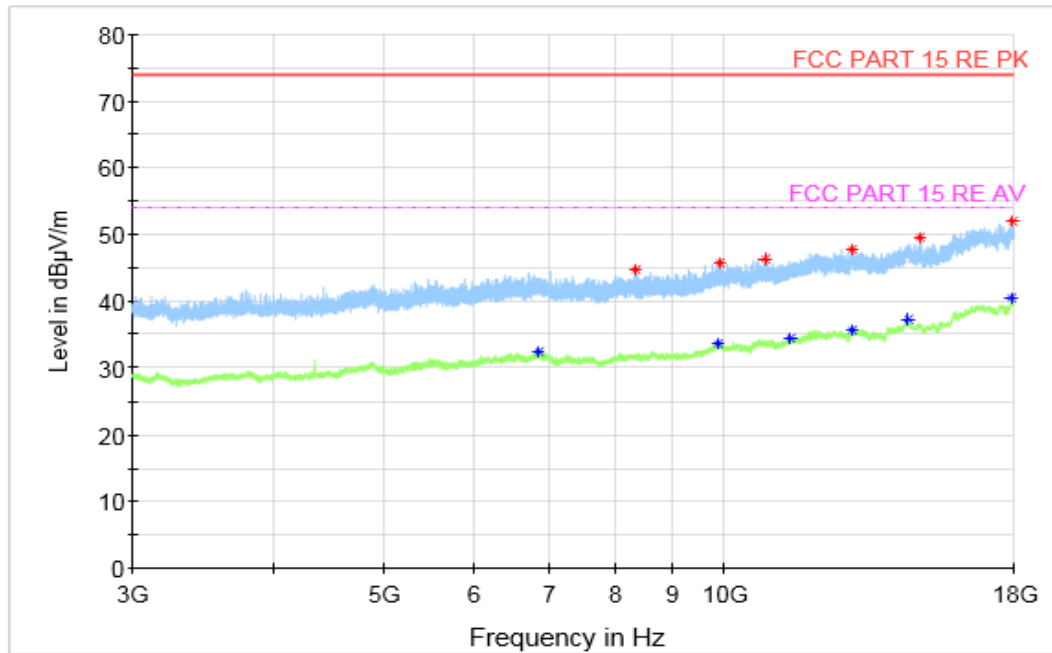


Figure A.1.21. Radiated Emission (FM receiver , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
8356.500000	44.77	74.00	29.23	H	3.3	41.47
9902.000000	45.71	74.00	28.29	H	5.3	40.41
10857.000000	46.39	74.00	27.61	H	6.3	40.09
12939.500000	47.78	74.00	26.22	H	9.4	38.38
14880.500000	49.49	74.00	24.51	H	11.7	37.79
17942.500000	51.96	74.00	22.04	H	17.2	34.76

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6854.000000	32.48	54.00	21.52	H	2.8	29.68
9852.000000	33.72	54.00	20.28	V	5.4	28.32
11428.000000	34.44	54.00	19.56	V	6.7	27.74
12966.500000	35.77	54.00	18.23	V	9.4	26.37
14507.500000	37.25	54.00	16.75	H	11.7	25.55
17906.000000	40.46	54.00	13.54	V	17.2	23.26

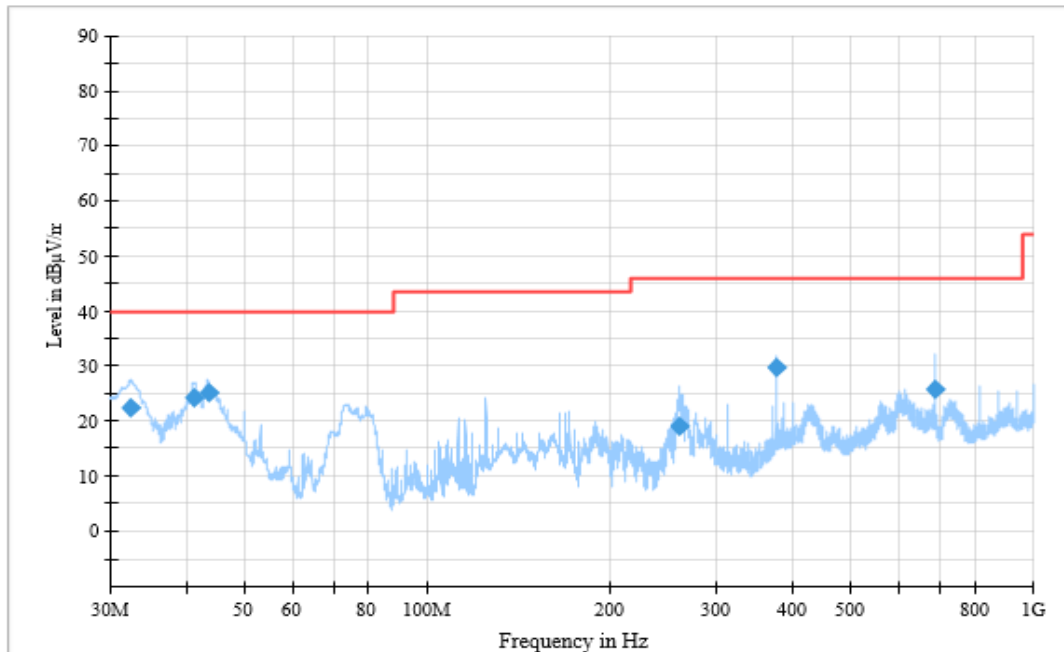


Figure A.1.22. Radiated Emission (Video Player , 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.509444	22.56	40.00	17.44	V	-25.8	48.36
41.336667	24.21	40.00	15.79	V	-29.9	54.11
43.787778	25.15	40.00	14.85	V	-31.8	56.95
260.150000	19.01	46.00	26.99	H	-30.8	49.81
375.016667	29.89	46.00	16.11	V	-26.7	56.59
687.518333	25.73	46.00	20.27	V	-19.7	45.43

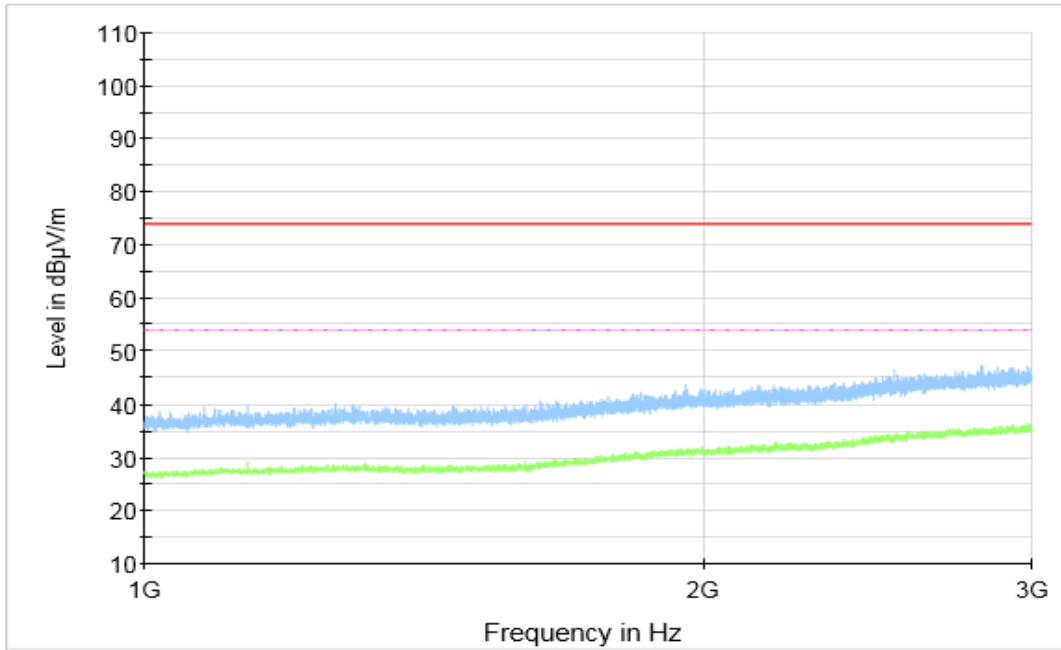


Figure A.1.23. Radiated Emission (Video Player, 1GHz to 3GHz)

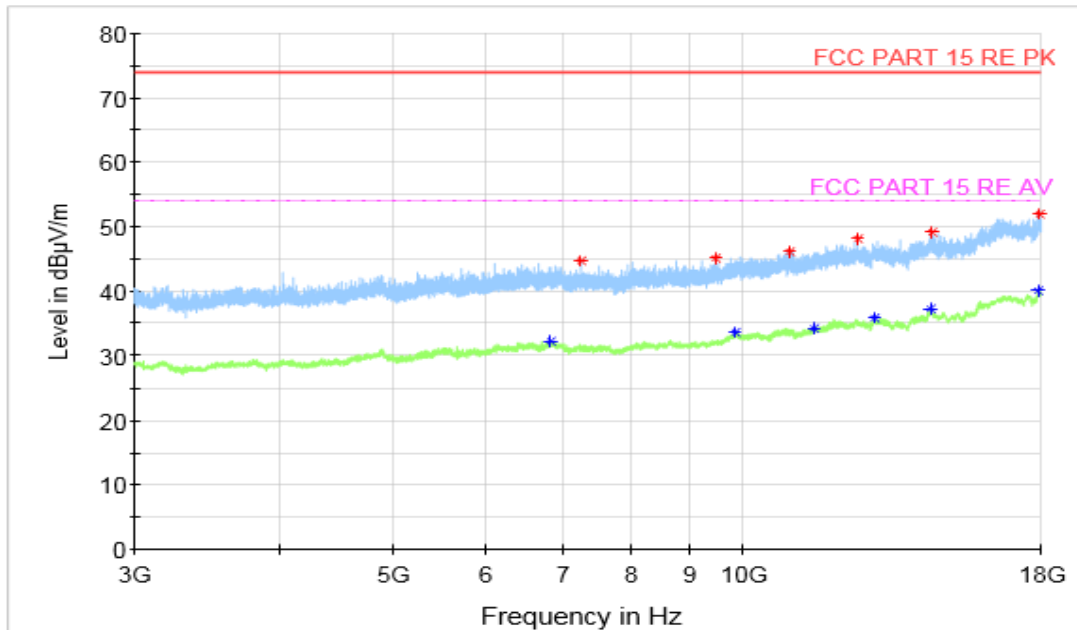


Figure A.1.24. Radiated Emission (Video Player , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
7249.500000	44.76	74.00	29.24	H	2.5	42.26
9467.500000	45.08	74.00	28.92	V	4.0	41.08
10971.000000	46.23	74.00	27.77	H	6.5	39.73
12525.500000	48.16	74.00	25.84	H	8.7	39.46
14505.500000	49.23	74.00	24.77	V	11.7	37.53
17947.500000	51.96	74.00	22.04	H	17.3	34.66

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6822.500000	32.25	54.00	21.75	H	2.7	29.55
9849.000000	33.66	54.00	20.34	V	5.3	28.36
11491.500000	34.34	54.00	19.66	V	7.0	27.34
12945.000000	35.96	54.00	18.04	V	9.4	26.56
14453.500000	37.25	54.00	16.75	H	11.6	25.65
17910.000000	40.07	54.00	13.93	H	17.4	22.67

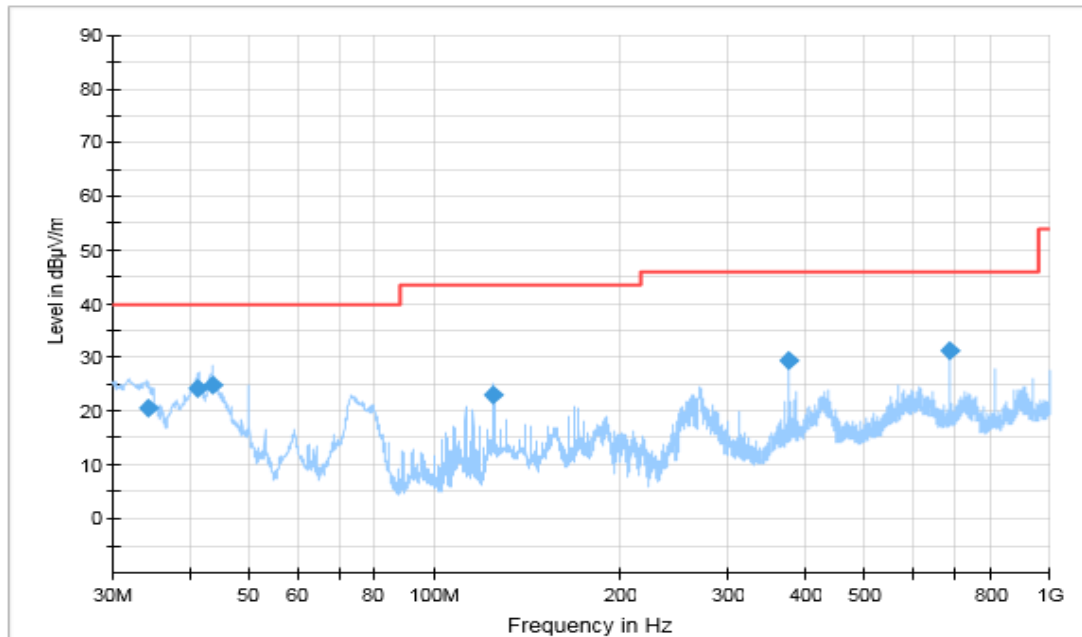


Figure A.1.25. Radiated Emission (Camera , 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
34.261667	20.50	40.00	19.50	V	-26.6	47.10
41.310556	24.10	40.00	15.90	V	-29.9	54
43.747778	24.88	40.00	15.12	V	-31.8	56.68
125.012222	22.88	43.50	20.62	V	-31.6	54.48
374.990556	29.51	46.00	16.49	V	-26.7	56.21
687.518333	31.40	46.00	14.60	V	-19.7	51.10

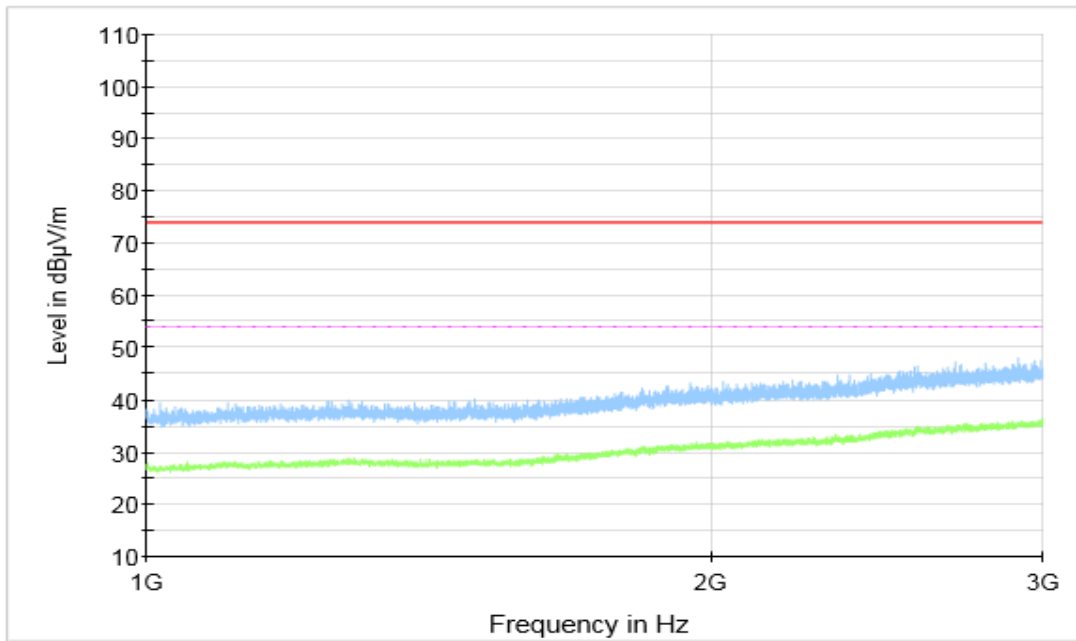


Figure A.1.26. Radiated Emission (Camera ,3GHz to 18GHz)

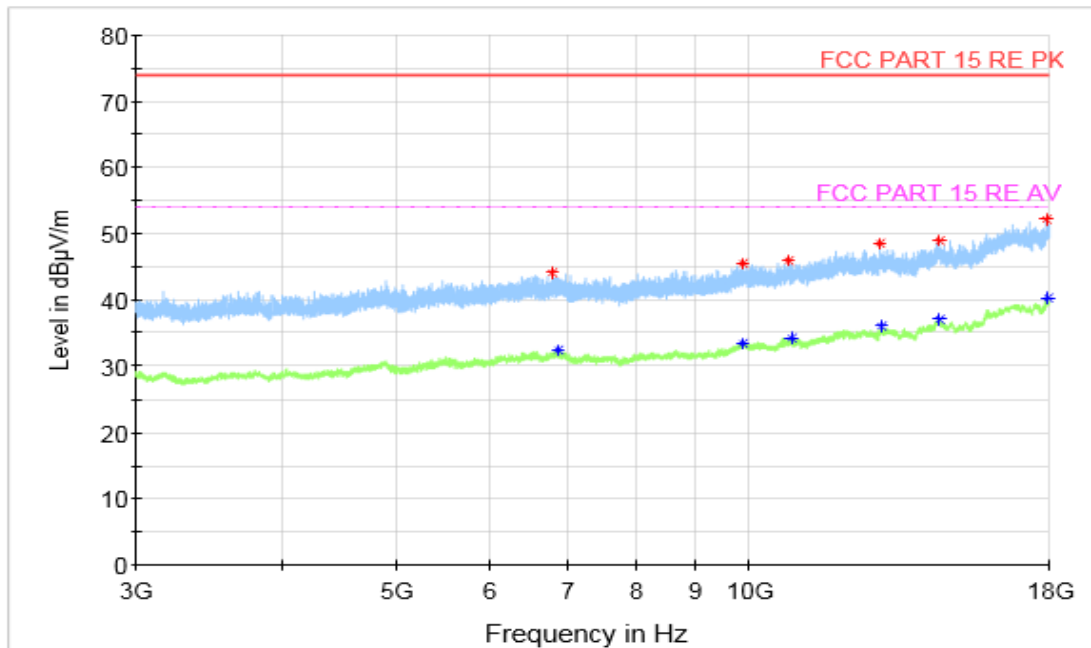


Figure A.1.27. Radiated Emission (Camera ,3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6791.500000	44.06	74.00	29.94	V	2.7	41.36
9879.000000	45.58	74.00	28.42	H	5.3	40.28
10788.500000	45.85	74.00	28.15	H	6.5	39.35
12925.500000	48.51	74.00	25.49	V	9.1	39.41
14493.000000	48.96	74.00	25.04	H	11.7	37.26
17916.500000	52.25	74.00	21.75	V	17.1	35.15

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6860.000000	32.37	54.00	21.63	H	2.8	29.57
9880.500000	33.54	54.00	20.46	V	5.4	28.14
10854.500000	34.33	54.00	19.67	H	6.5	27.83
12941.500000	36.04	54.00	17.96	V	9.5	26.54
14501.500000	37.08	54.00	16.92	V	11.7	25.38
17942.500000	40.26	54.00	13.74	H	17.2	23.06

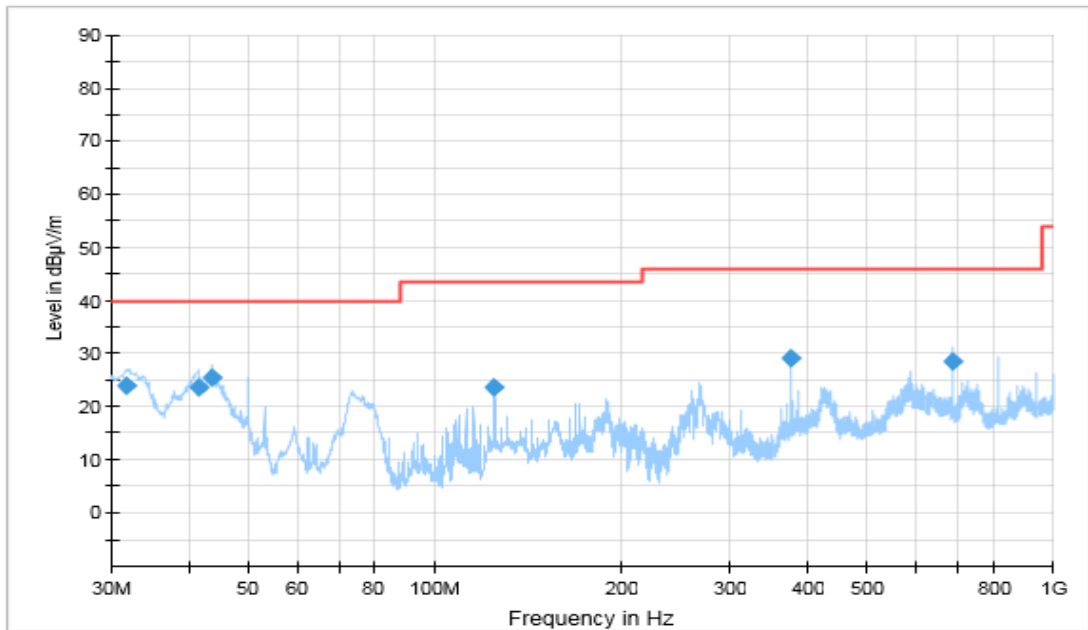


Figure A.1.28. Radiated Emission (GPS, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
31.841667	23.99	40.00	16.01	V	-25.6	49.59
41.524444	23.65	40.00	16.35	V	-30.0	53.65
43.747778	25.36	40.00	14.64	V	-31.8	57.16
125.012222	23.60	43.50	19.90	V	-31.6	55.20
375.030556	29.16	46.00	16.84	V	-26.7	55.86
687.518333	28.49	46.00	17.51	V	-19.7	48.19

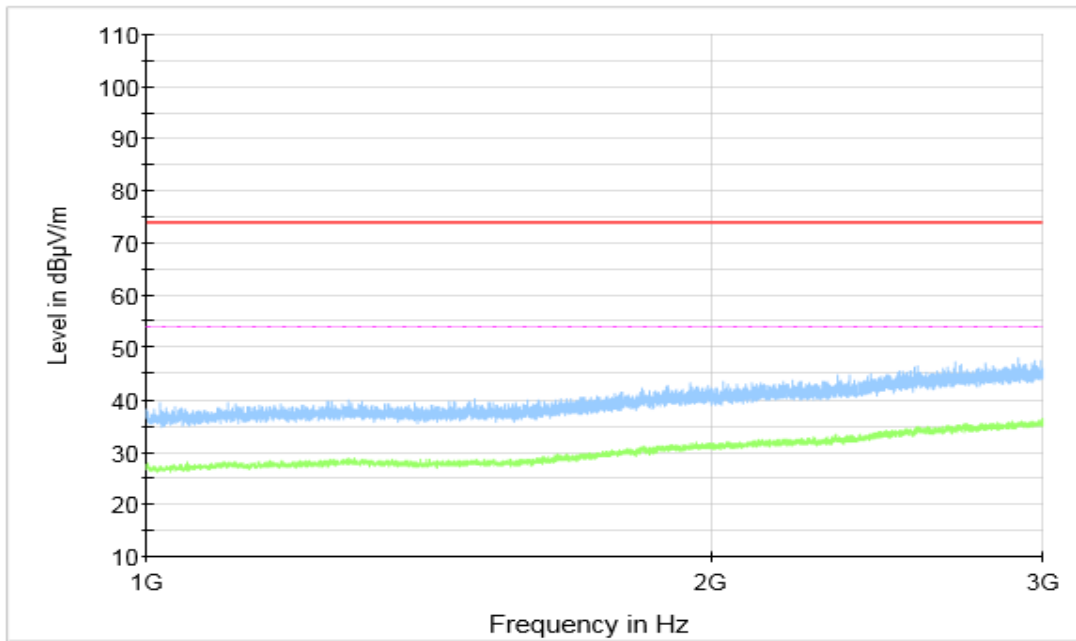


Figure A.1.29. Radiated Emission (GPS,3GHz to 18GHz)

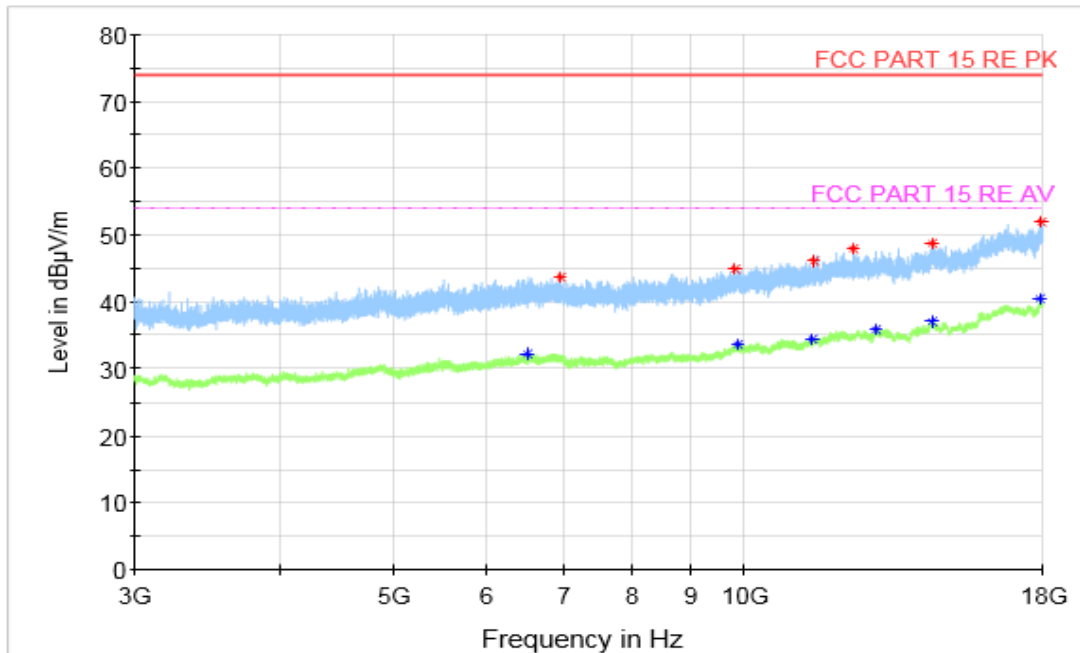


Figure A.1.30. Radiated Emission (GPS, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6953.500000	43.76	74.00	30.24	H	2.7	41.06
9801.000000	44.99	74.00	29.01	H	4.8	40.19
11456.500000	46.21	74.00	27.79	H	6.9	39.31
12399.000000	47.87	74.00	26.13	V	8.5	39.37
14487.500000	48.80	74.00	25.20	V	11.7	37.1
17957.500000	51.91	74.00	22.09	V	17.0	34.91

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6516.000000	32.28	54.00	21.72	V	2.6	29.68
9857.500000	33.70	54.00	20.30	H	5.3	28.4
11435.000000	34.42	54.00	19.58	H	6.8	27.62
12943.000000	35.95	54.00	18.05	H	9.4	26.55
14489.000000	37.13	54.00	16.87	V	11.7	25.43
17909.000000	40.49	54.00	13.51	V	17.4	23.09

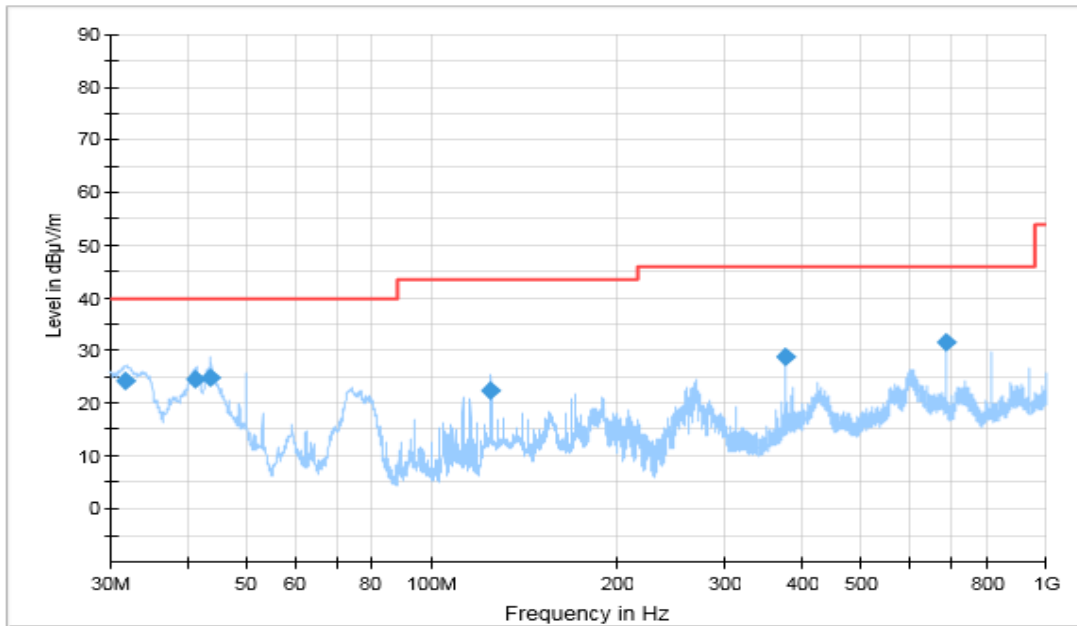


Figure A.1.31. Radiated Emission (GLONASS, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
31.840000	24.13	40.00	15.87	V	-25.6	49.73
41.284444	24.52	40.00	15.48	V	-29.9	54.42
43.747778	25.00	40.00	15.00	V	-31.8	56.80
125.012222	22.53	43.50	20.97	V	-31.6	54.13
375.016667	28.83	46.00	17.17	V	-26.7	55.53
687.518333	31.47	46.00	14.53	V	-19.7	51.17

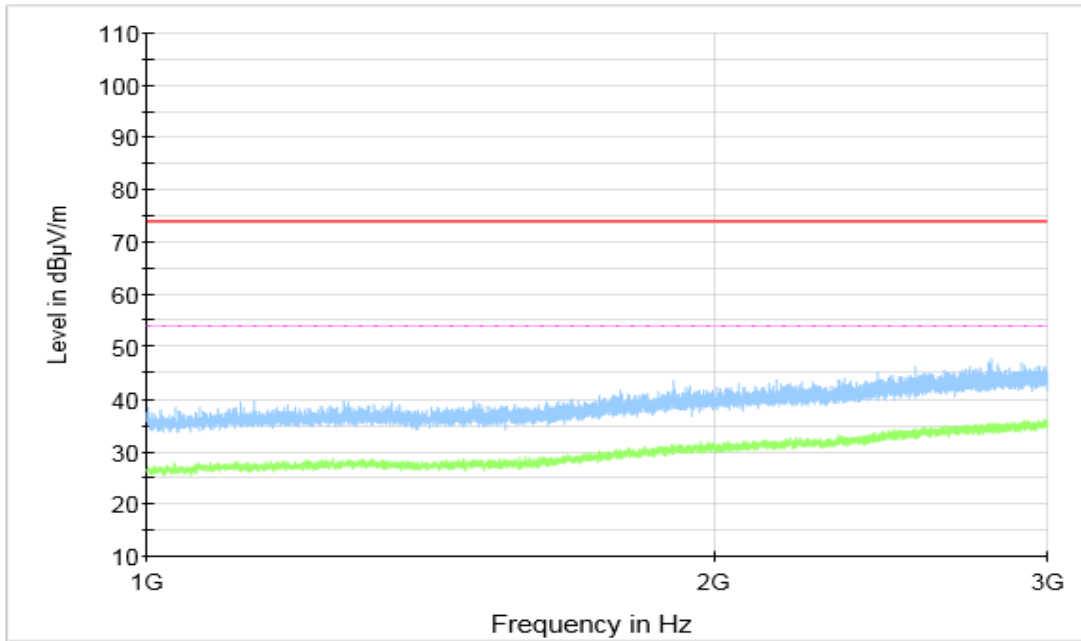


Figure A.1.32. Radiated Emission (GLONASS,3GHz to 18GHz)

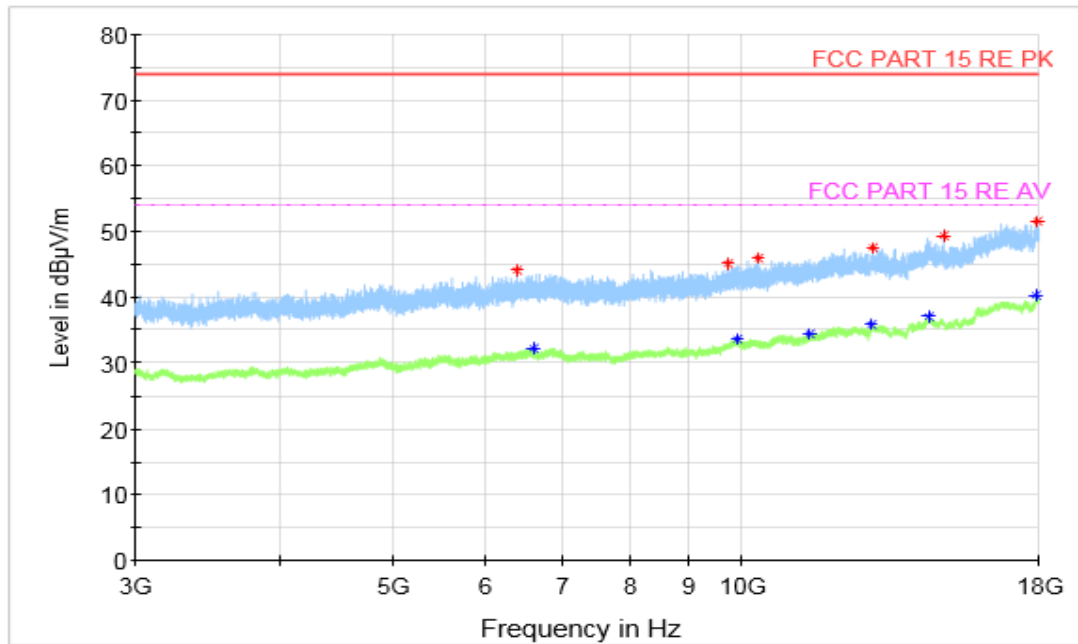


Figure A.1.33. Radiated Emission (GLONASS, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6400.500000	44.11	74.00	29.89	H	2.5	41.61
9712.000000	45.19	74.00	28.81	H	4.7	40.49
10305.000000	45.88	74.00	28.12	V	5.6	40.28
12968.000000	47.66	74.00	26.34	V	9.4	38.26
14909.000000	49.41	74.00	24.59	V	11.7	37.71
17963.500000	51.66	74.00	22.34	V	16.8	34.86

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6606.500000	32.33	54.00	21.67	V	2.5	29.83
9884.500000	33.65	54.00	20.35	V	5.3	28.35
11425.500000	34.40	54.00	19.60	H	6.7	27.70
12911.500000	35.84	54.00	18.16	V	9.4	26.44
14465.000000	37.13	54.00	16.87	H	11.7	25.43
17906.500000	40.25	54.00	13.75	V	17.3	22.95

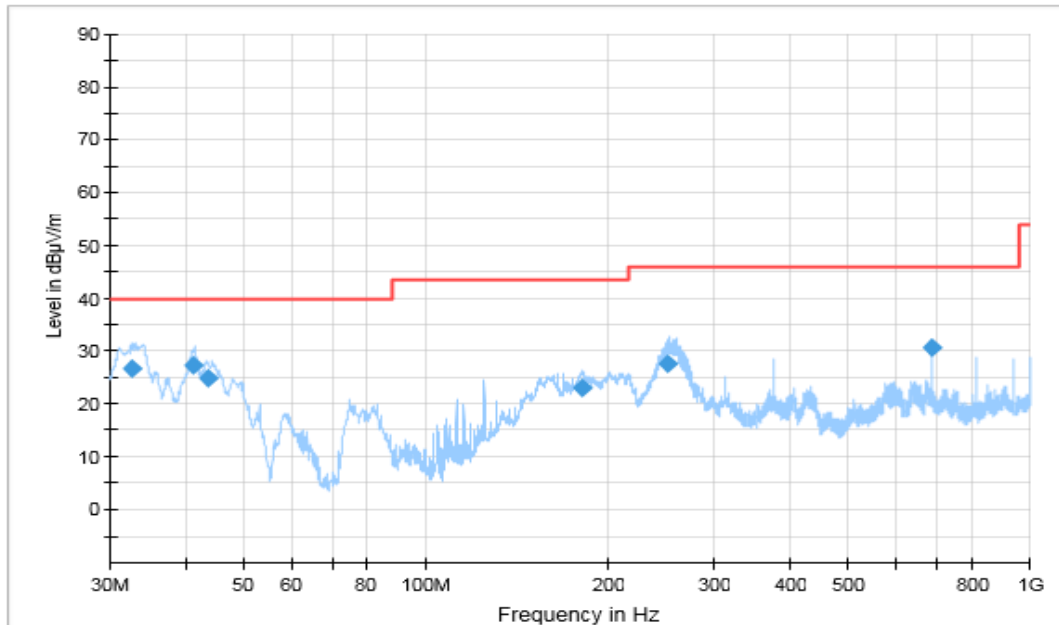


Figure A.1.34. Radiated Emission (GLONASS, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
32.663889	26.79	40.00	13.21	V	-25.8	52.59
41.258333	27.38	40.00	12.62	V	-29.8	57.18
43.718333	24.74	40.00	15.26	V	-31.8	56.54
181.908333	23.01	43.50	20.49	H	-33.6	56.61
252.082222	27.54	47.00	19.46	H	-30.9	58.44
687.532222	30.78	47.00	16.22	V	-19.7	50.48

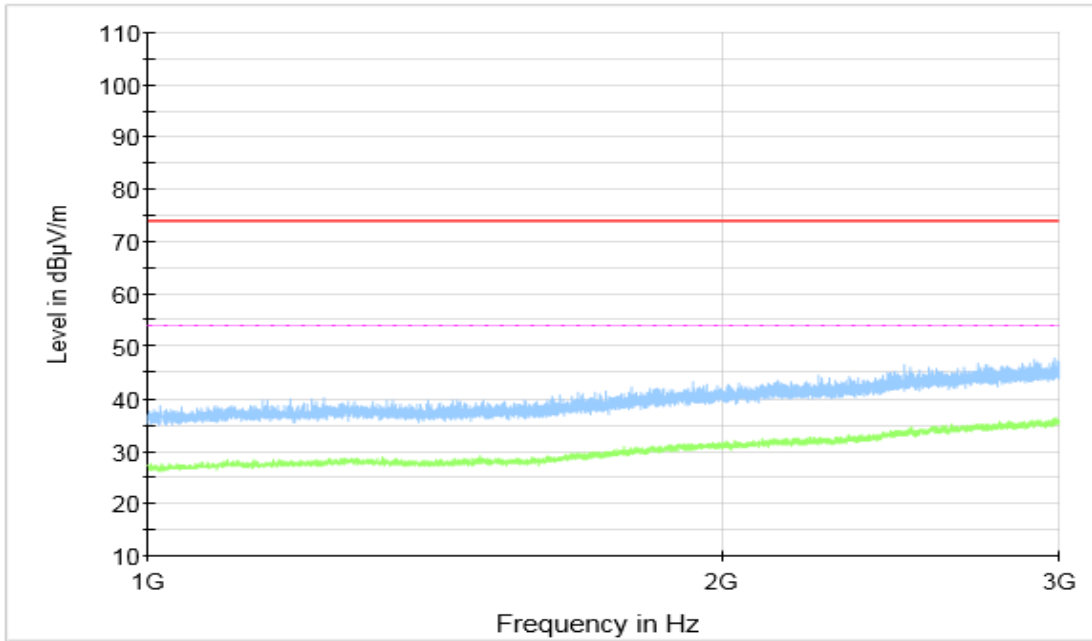


Figure A.1.35. Radiated Emission (GLONASS,3GHz to 18GHz)

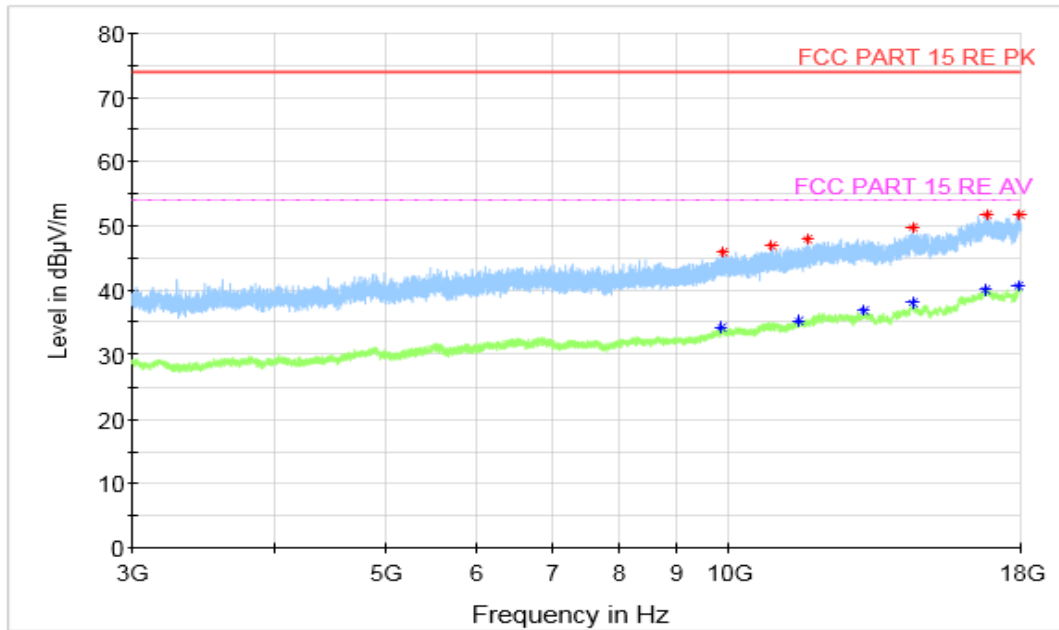


Figure A.1.36. Radiated Emission (GLONASS, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9858.500000	46.03	74.00	27.97	H	5.3	40.73
10878.000000	46.88	74.00	27.12	H	6.2	40.68
11692.500000	48.06	74.00	25.94	H	7.3	40.76
14482.000000	49.70	74.00	24.30	V	11.7	38.00
16821.000000	51.78	74.00	22.22	H	15.9	35.88
17945.000000	51.81	74.00	22.19	H	17.3	34.51

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9843.000000	34.24	54.00	19.76	V	5.1	29.14
11487.500000	35.33	54.00	18.67	V	6.9	28.43
13094.000000	36.81	54.00	17.19	V	9.6	27.21
14465.500000	38.00	54.00	16.00	V	11.7	26.30
16749.000000	40.08	54.00	13.92	V	15.6	24.48
17909.000000	40.80	54.00	13.20	H	17.4	23.40

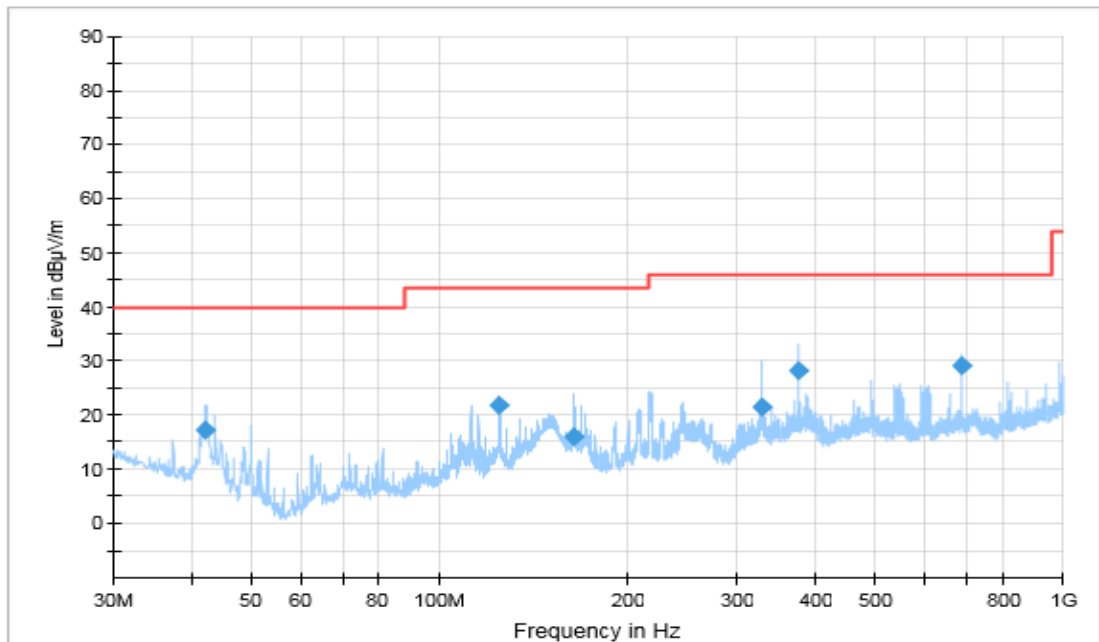


Figure A.1.37. Radiated Emission (Data Transfer : EUT to PC, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
42.120556	17.21	40.00	22.79	V	-30.5	47.71
125.012222	21.86	43.50	21.64	H	-31.6	53.46
164.069444	15.96	43.50	27.54	H	-32.8	48.76
328.460000	21.39	46.00	24.61	H	-28.3	49.69
375.016667	28.31	46.00	17.69	H	-26.7	55.01
687.518333	29.28	46.00	16.72	H	-19.7	48.98

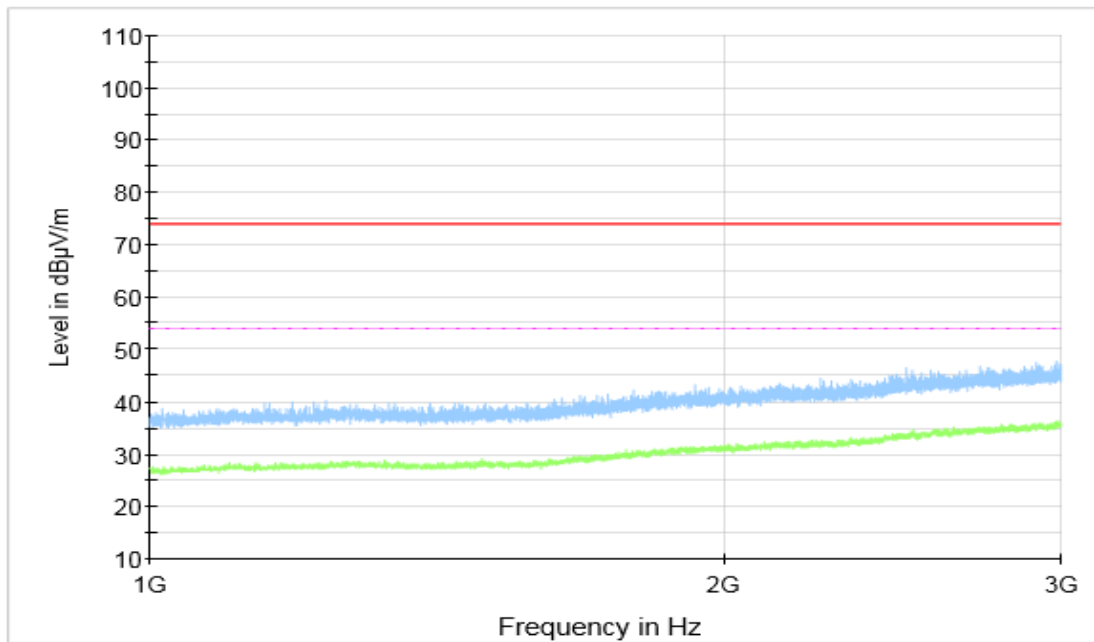


Figure A.1.38. Radiated Emission (Data Transfer : EUT to PC,3GHz to 18GHz)

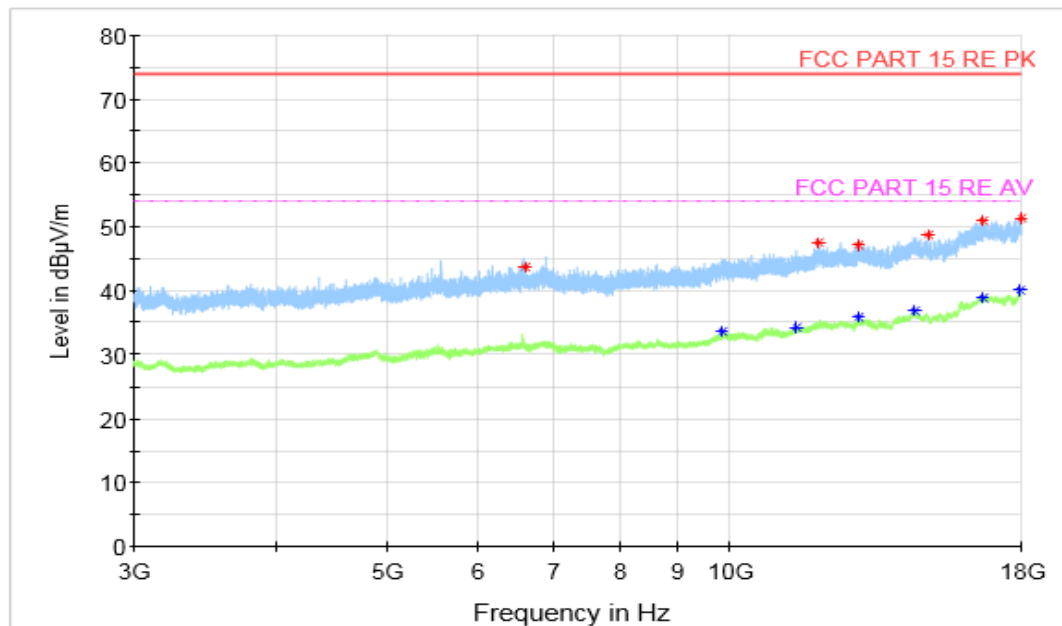


Figure A.1.39. Radiated Emission (Data Transfer : EUT to PC, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6612.500000	43.77	74.00	30.23	H	2.7	41.07
11933.000000	47.50	74.00	26.50	H	7.7	39.8
12935.500000	47.24	74.00	26.76	V	9.3	37.94
14894.500000	48.85	74.00	25.15	H	11.7	37.15
16662.000000	51.00	74.00	23.00	H	15.3	35.7
17990.500000	51.32	74.00	22.68	V	16.9	34.42

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9851.000000	33.62	54.00	20.38	V	5.4	28.22
11418.500000	34.23	54.00	19.77	H	6.6	27.63
12964.500000	35.81	54.00	18.19	H	9.3	26.51
14492.000000	36.97	54.00	17.03	H	11.7	25.27
16675.500000	38.97	54.00	15.03	V	15.3	23.67
17945.000000	40.20	54.00	13.80	V	17.3	22.90

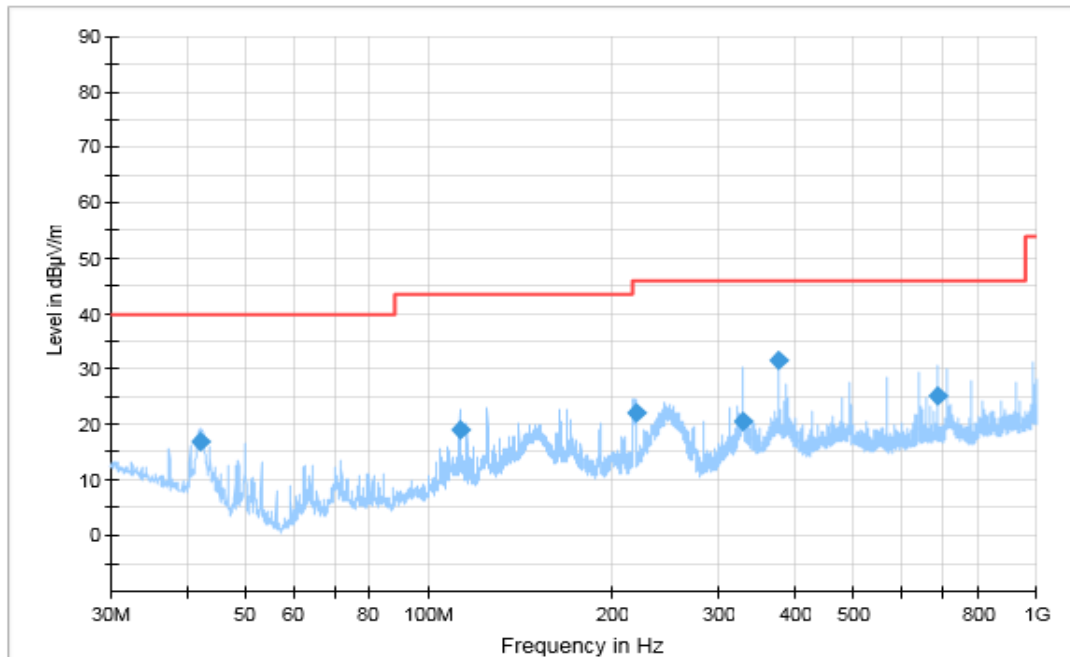


Figure A.1.40. Radiated Emission (Data Transfer : PC to EUT, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
42.157222	16.76	40.00	23.24	V	-30.5	47.26
112.510000	18.93	43.50	24.57	V	-31.8	50.73
219.143889	22.15	46.00	23.85	H	-32.4	54.55
328.162778	20.65	46.00	25.35	H	-28.3	48.95
375.016667	31.60	46.00	14.40	V	-26.7	58.3
687.518333	25.16	46.00	20.84	V	-19.7	58.3

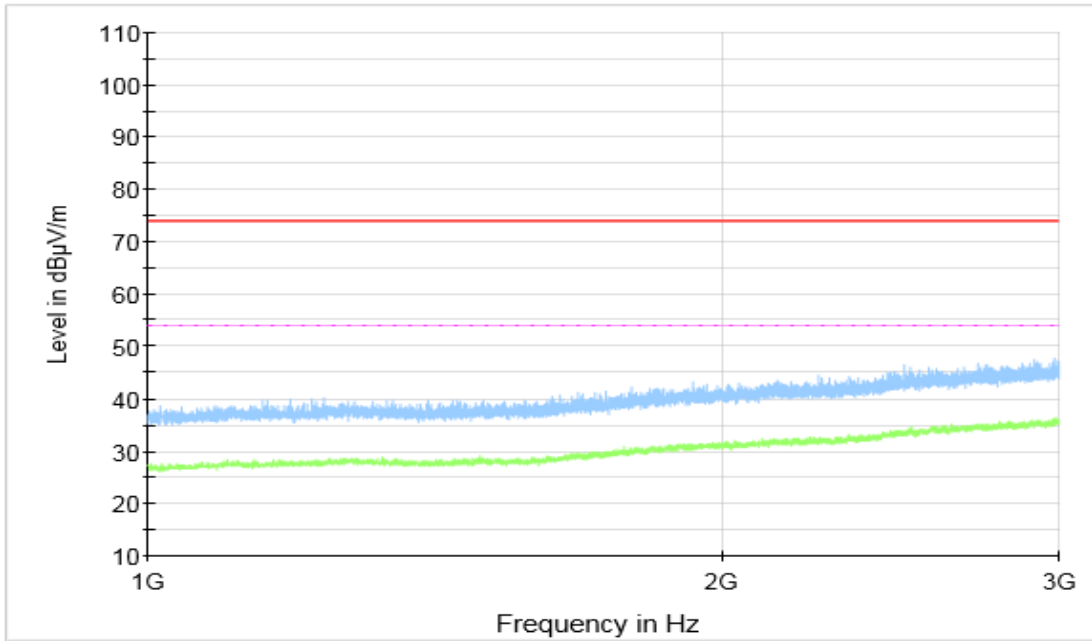


Figure A.1.41. Radiated Emission (Data Transfer : PC to EUT: EUT to PC,3GHz to 18GHz)

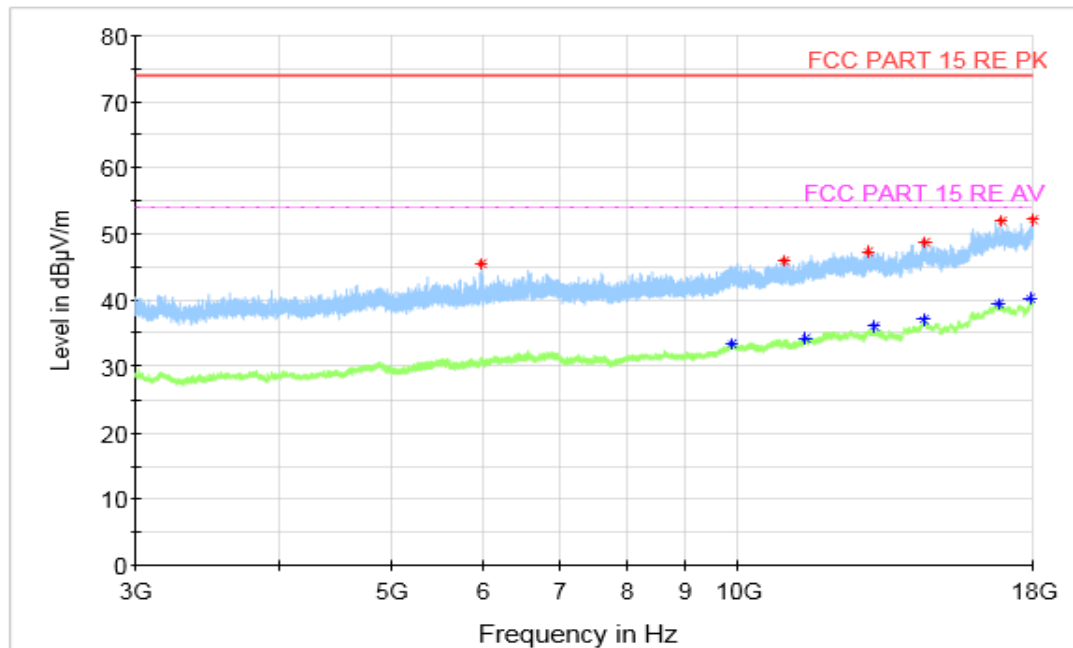


Figure A.1.42. Radiated Emission (Data Transfer : PC to EUT, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
5982.500000	45.50	74.00	28.50	V	1.5	44.00
10943.000000	45.98	74.00	28.02	H	6.5	39.48
12942.500000	47.45	74.00	26.55	V	9.5	37.95
14505.000000	48.78	74.00	25.22	V	11.7	37.08
16894.000000	51.89	74.00	22.11	H	16.0	35.89
17983.000000	52.21	74.00	21.79	V	16.9	35.31

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9876.500000	33.44	54.00	20.56	H	5.3	28.14
11423.000000	34.21	54.00	19.79	H	6.7	27.51
13097.000000	36.04	54.00	17.96	H	9.8	26.24
14463.500000	37.01	54.00	16.99	H	11.7	25.31
16796.000000	39.42	54.00	14.58	H	15.7	23.72
17913.000000	40.22	54.00	13.78	H	17.3	22.92

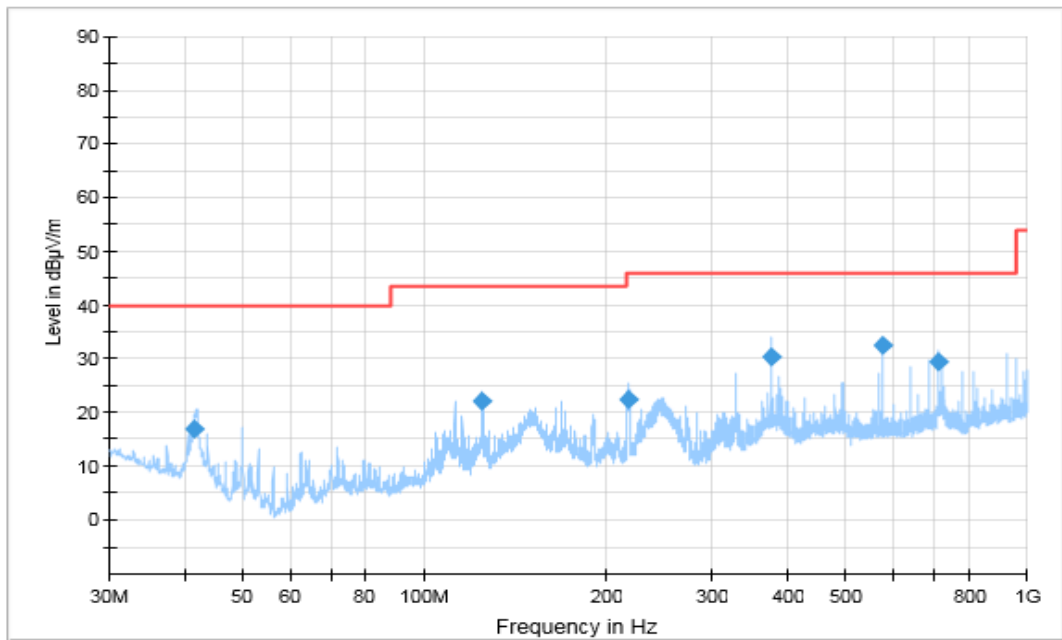


Figure A.1.43. Radiated Emission (Data Transfer : PC to TF Card, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
41.649444	16.79	40.00	23.21	V	-30.1	46.89
125.012222	22.12	43.50	21.38	V	-31.6	53.72
217.391667	22.55	46.00	23.45	H	-32.3	54.85
375.016667	30.28	46.00	15.72	V	-26.7	56.98
575.982222	32.56	46.00	13.44	V	-22.0	54.56
710.003889	29.58	46.00	16.42	H	-19.7	49.28

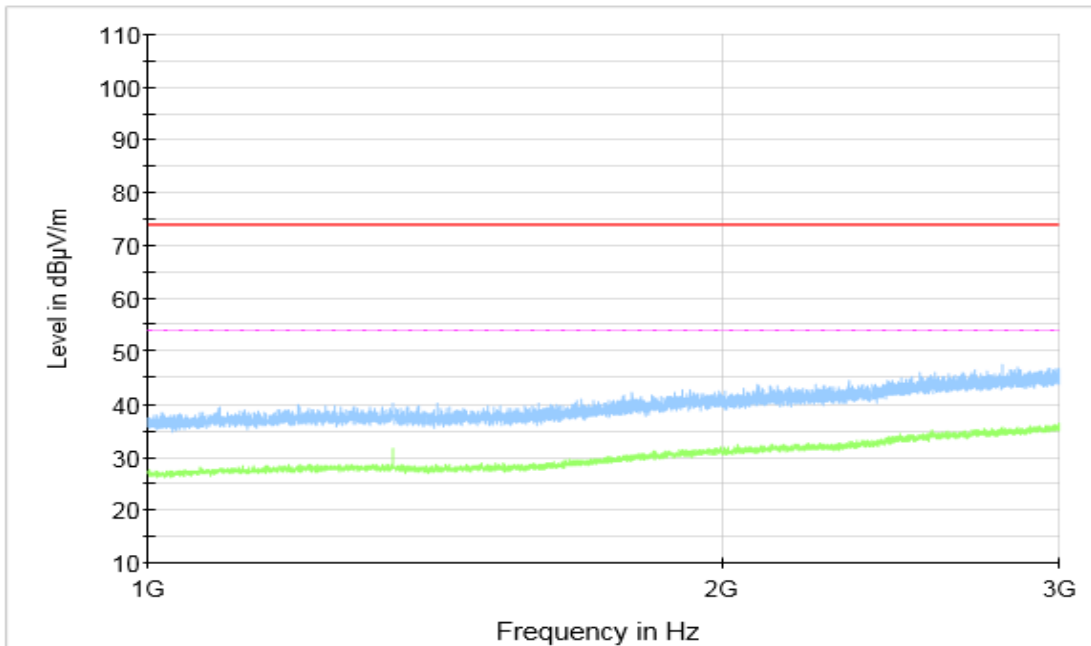


Figure A.1.44. Radiated Emission (Data Transfer : PC to TF Card,3GHz to 18GHz)

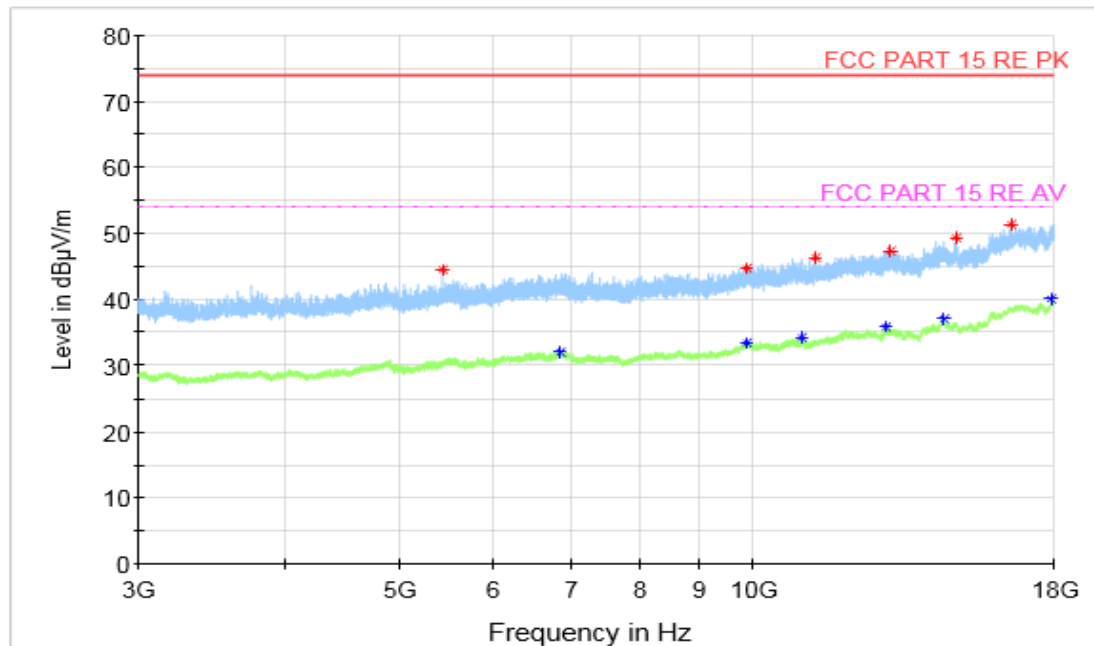


Figure A.1.45. Radiated Emission (Set.8, Data Transfer : PC to TF Card, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
5440.000000	44.60	74.00	29.40	H	1.2	43.40
9866.500000	44.81	74.00	29.19	H	5.2	39.61
11271.500000	46.39	74.00	27.61	H	6.1	40.29
13075.000000	47.42	74.00	26.58	V	9.5	37.92
14860.500000	49.34	74.00	24.66	H	11.6	37.74
16540.500000	51.36	74.00	22.64	V	15.2	36.16

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6852.500000	32.10	54.00	21.90	V	2.7	29.40
9878.000000	33.47	54.00	20.53	V	5.3	28.17
10975.500000	34.27	54.00	19.73	V	6.6	27.67
12971.500000	35.78	54.00	18.22	H	9.3	26.48
14504.000000	37.08	54.00	16.92	H	11.7	25.38
17909.500000	40.12	54.00	13.88	H	17.4	22.72

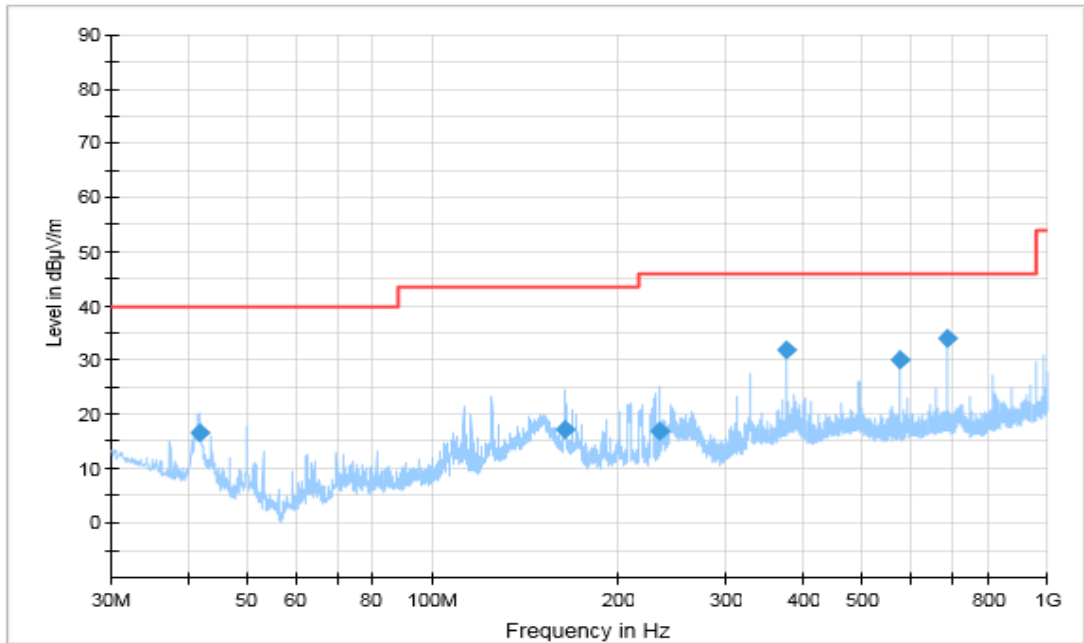


Figure A.1.46. Radiated Emission (Data Transfer : TF Card to PC, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
41.807778	16.59	40.00	23.41	V	-30.2	46.79
164.726667	17.09	43.50	26.41	V	-32.6	49.69
233.638333	17.05	46.00	28.95	V	-31.9	48.95
375.016667	32.00	46.00	14.00	V	-26.7	58.70
575.982222	30.19	46.00	15.81	V	-22.0	52.19
687.518333	33.90	46.00	12.10	V	-19.7	53.60

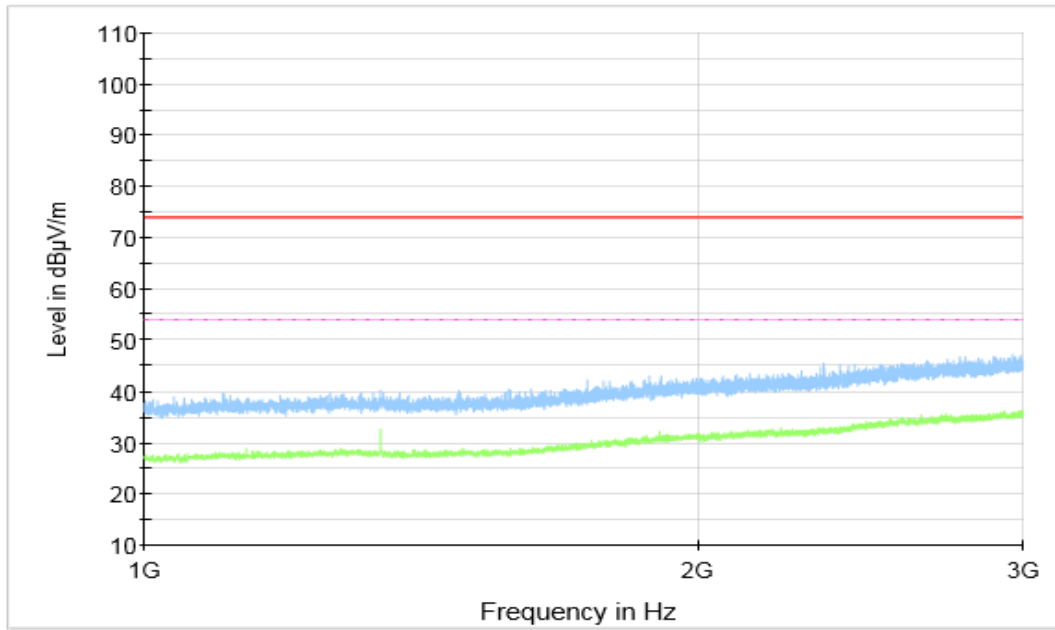


Figure A.1.47. Radiated Emission (Data Transfer : TF Card to PC,3GHz to 18GHz)

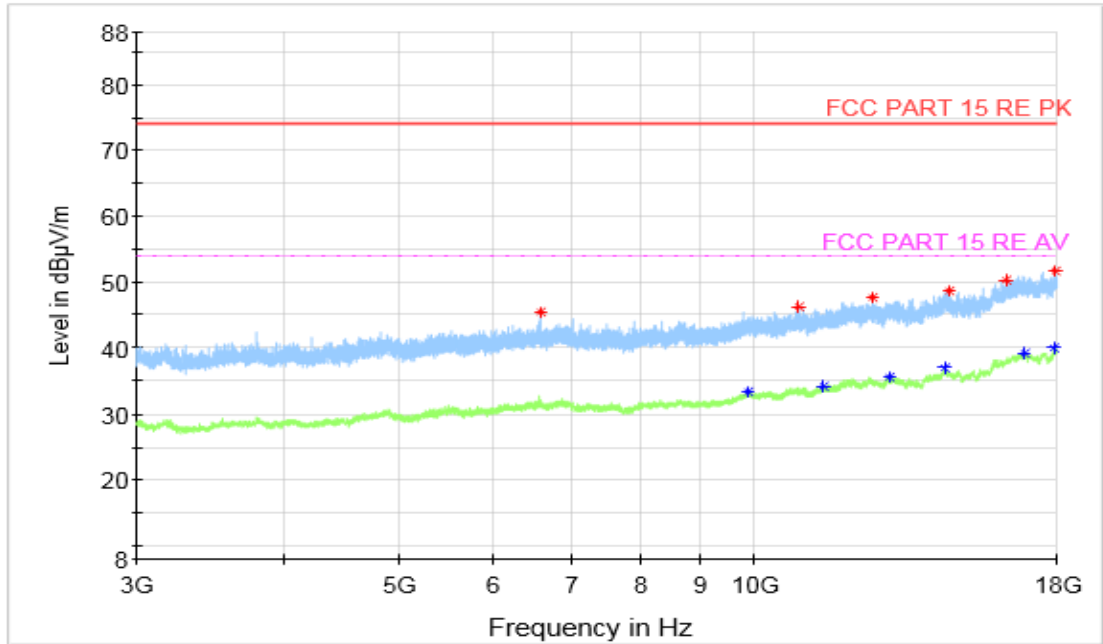


Figure A.1.48. Radiated Emission (Data Transfer : TF Card to PC, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6579.000000	45.57	74.00	28.43	V	2.7	42.87
10895.500000	46.27	74.00	27.73	V	6.0	40.27
12583.000000	47.60	74.00	26.40	H	8.6	39.00
14586.500000	48.61	74.00	25.39	H	11.7	36.91
16324.000000	50.26	74.00	23.74	H	14.8	35.46
17920.500000	51.75	74.00	22.25	H	16.9	34.85

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9877.000000	33.49	54.00	20.51	H	5.3	28.19
11418.500000	34.23	54.00	19.77	H	6.6	27.63
12974.500000	35.65	54.00	18.35	V	9.2	26.45
14463.500000	36.99	54.00	17.01	H	11.7	25.29
16881.500000	39.21	54.00	14.79	V	16.1	23.11
17905.000000	40.11	54.00	13.89	V	17.2	22.91

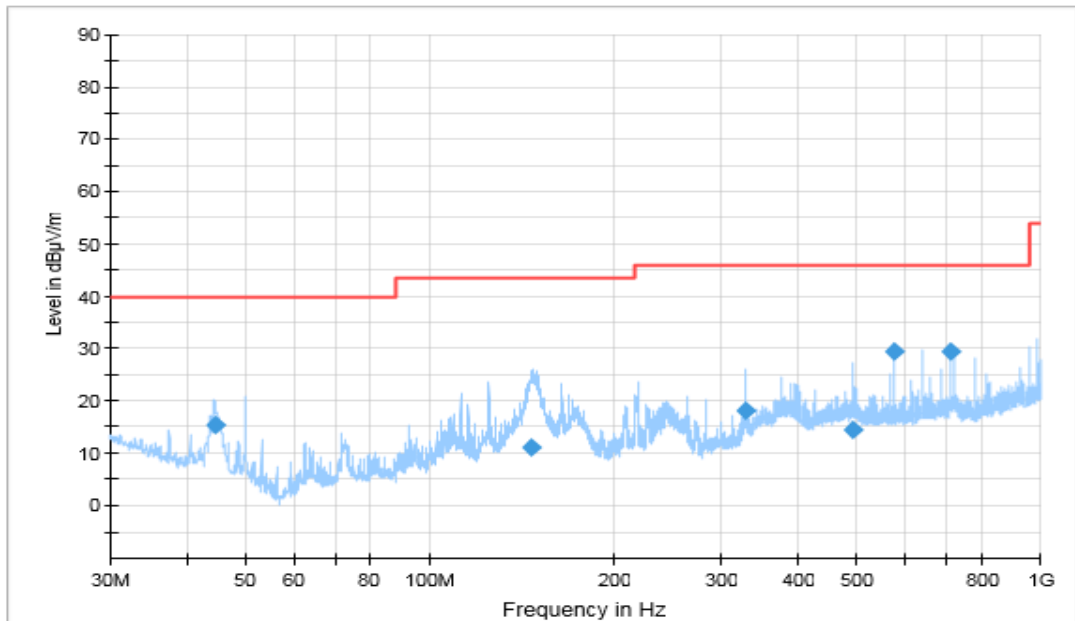


Figure A.1.49. Radiated Emission (Data Transfer : TF Card to PC, 30MHz to 1GHz)

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
44.702222	15.52	40.00	24.48	V	-32.3	47.82
147.014444	11.03	43.50	32.47	V	-33.6	44.63
329.494444	18.00	46.00	28.00	H	-28.3	46.30
492.305000	14.62	46.00	31.38	V	-23.5	38.12
575.982222	29.37	46.00	16.63	H	-22.0	51.37
710.003889	29.42	46.00	16.58	H	-19.7	49.12

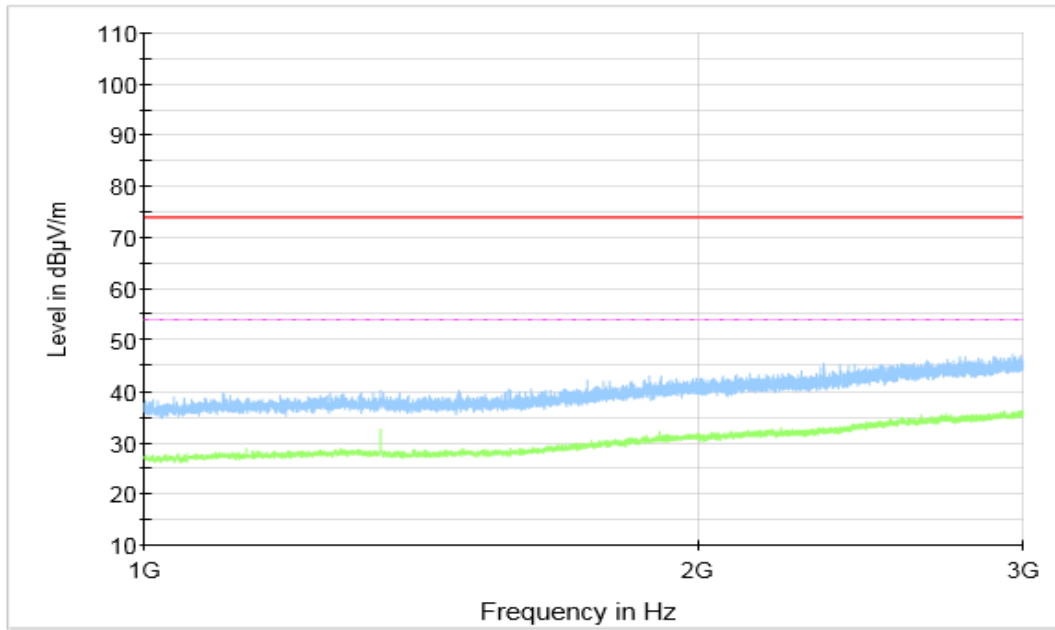


Figure A.1.50. Radiated Emission (Data Transfer : TF Card to PC,3GHz to 18GHz)

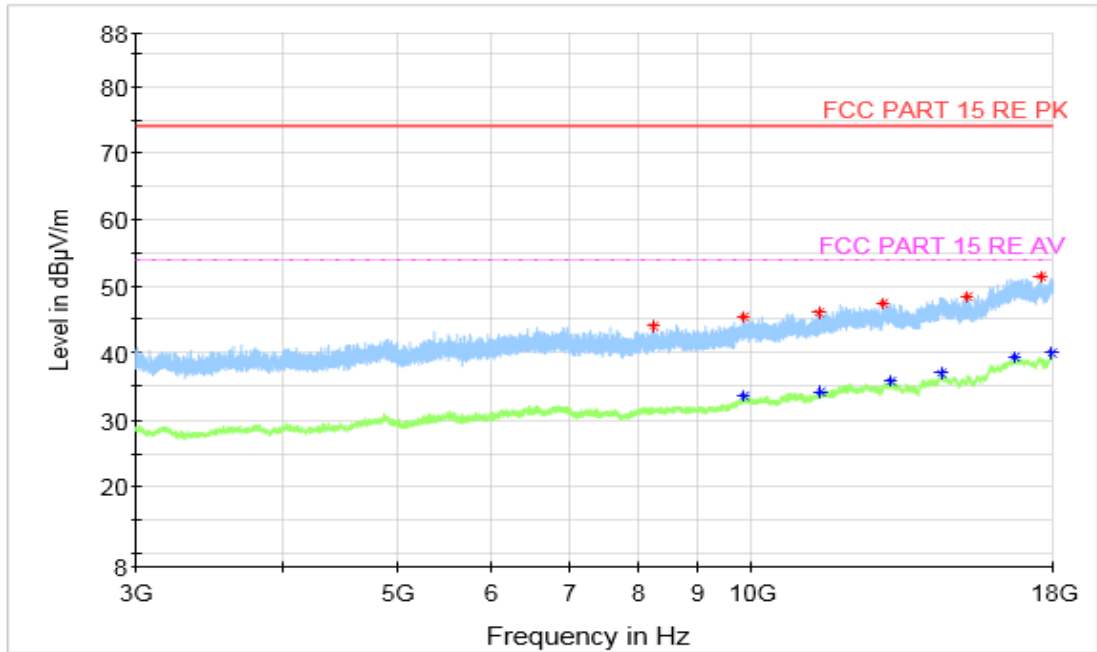


Figure A.1.51. Radiated Emission (Data Transfer : TF Card to PC, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
8241.000000	44.14	74.00	29.86	H	3.5	40.64
9825.500000	45.43	74.00	28.57	H	5.1	40.33
11398.500000	45.99	74.00	28.01	V	6.8	39.19
12900.500000	47.52	74.00	26.48	H	9.1	38.42
15232.500000	48.46	74.00	25.54	V	11.8	36.66
17582.000000	51.49	74.00	22.51	V	15.9	35.59

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9849.500000	33.54	54.00	20.46	H	5.3	28.24
11434.000000	34.25	54.00	19.75	V	6.8	27.45
13095.500000	35.72	54.00	18.28	V	9.7	26.02
14460.000000	36.92	54.00	17.08	V	11.8	25.12
16711.000000	39.36	54.00	14.64	H	15.4	23.96
17958.000000	40.12	54.00	13.88	V	16.9	23.22



A.2 Conducted Emission (§15.107(a))

Reference

FCC: CFR 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:

FM receiver: The EUT is connected to a charger for charging and open FM function. 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.

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 MS or TF Card, reading and erasing the data after copy action was finished.

Bluetooth:The EUT is connected to a charger for charging. The EUT is connected to a PC for transmitting data by Bluetooth function. The model of the PC is Lenovo ThinkPad T480, and the serial number of the PC is PF-13LW0C.

Wi-Fi:The EUT is connected to a charger for charging. The EUT is Working as Wi-Fi terminal and connected with System Simulator (SS). After the EUT has been allocated an IP address, establish a communication link between the EUT and System Simulator (SS).

GNSS:The EUT is connected to a charger for charging. A vector signal generator is used to provide the simulated GNSS signal, and the frequency is set to 1575.42 MHz. Before the test starts, the integrated GNSS application in EUT is started up and locked to the simulated GNSS signal.

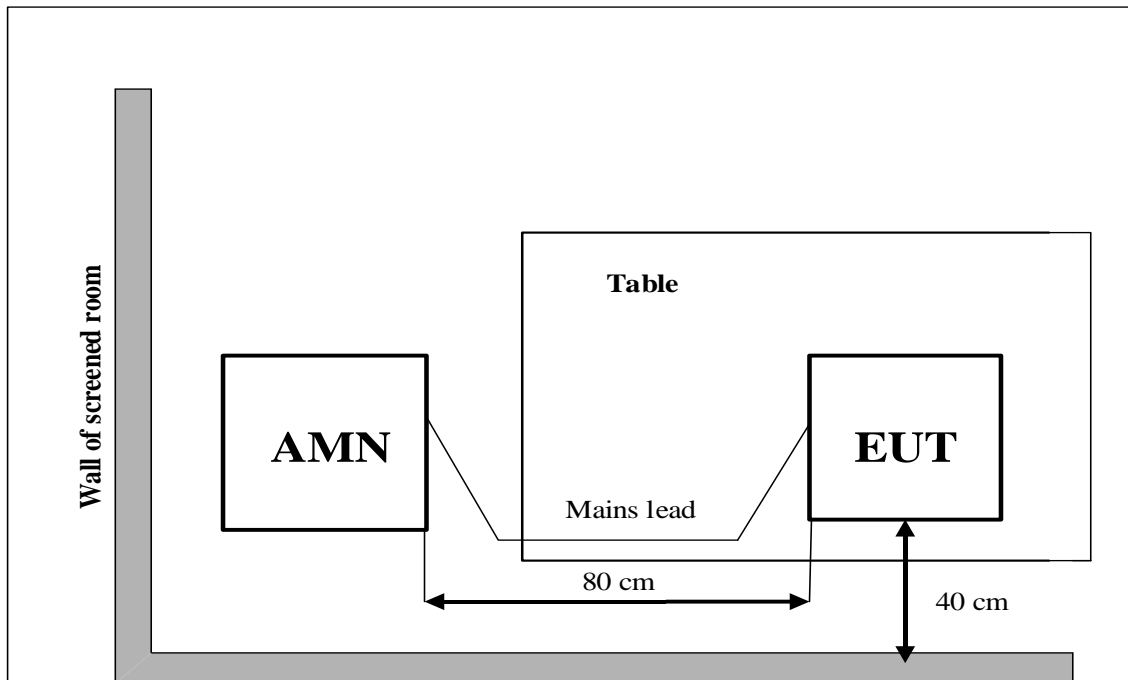
Meanwhile, the EUT is synchronized to System Simulator (SS), and able to respond to paging messages and incoming call. An established call has been released.

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

$$\text{QuasiPeak(dB}\mu\text{V) /Average(dB}\mu\text{V) =PMea+Corr}$$

Where

Corr: PathLoss + Voltage Division Factor

PMea: Measurement result on receiver.

Camera

AC Input Port/ Voltage: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT12aa/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
			UT12aa/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.

GLONASS

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
			UT12aa/Set.2	
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.

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
			UT12aa/Set.1	
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.

GPS

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
			UT12aa/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.



GLONASS

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
			UT12aa/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.

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
			UT12aa/Set.3	
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: 120V/60Hz

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average Limit (dB μ V)	Result (dB μ V)	Conclusion
			UT12aa/Set.4	
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.

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
			UT12aa/Set.1	
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.

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
			UT12aa/Set.1	
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.

GLONASS

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
			UT12aa/Set.2	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.11	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
			UT12aa/Set.1	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.12	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.

GPS

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
			UT12aa/Set.1	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.13	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.

GLONASS

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
			UT12aa/Set.1	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.14	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
			UT12aa/Set.3	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.15	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
			UT12aa/Set.4	
0.15 to 0.5	66 to 56	56 to 46	See Figure A.2.16	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

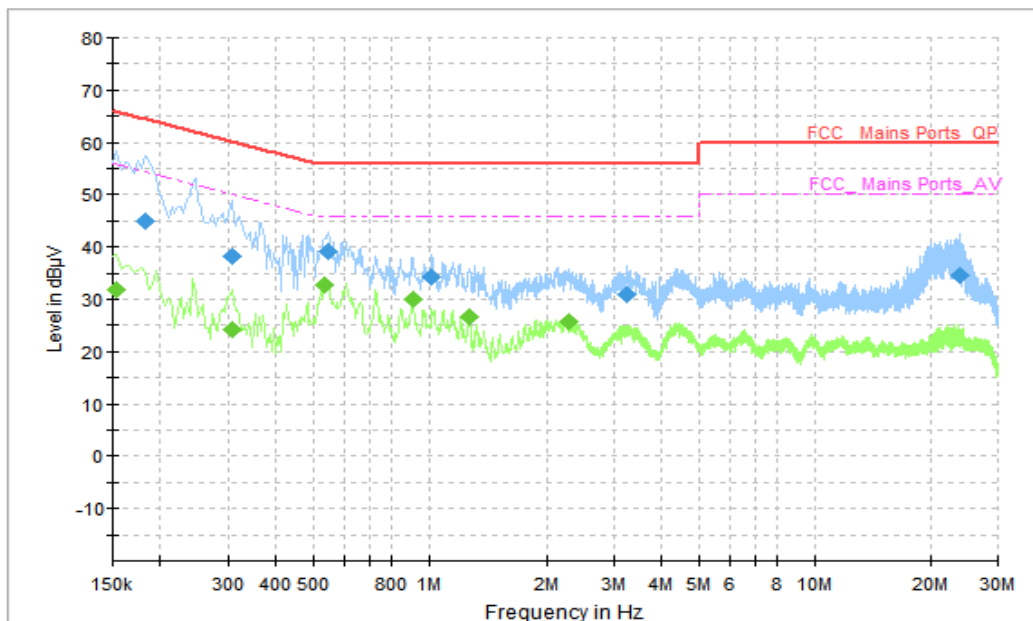


Figure A.2.1 Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.182000	44.92	64.39	19.47	N	10	34.92
0.306000	38.08	60.08	22.00	N	10	28.08
0.546000	39.18	56.00	16.82	L1	10	29.18
1.018000	34.15	56.00	21.85	L1	10	24.15
3.238000	30.85	56.00	25.15	L1	10	20.85
23.782000	34.47	60.00	25.53	N	10	24.47

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.154000	31.70	55.78	24.08	N	10	21.70
0.306000	24.07	50.08	26.01	N	10	14.07
0.534000	32.84	46.00	13.16	L1	10	22.84
0.906000	29.90	46.00	16.10	L1	10	19.90
1.270000	26.62	46.00	19.38	L1	10	16.62
2.298000	25.82	46.00	20.18	L1	10	15.82

AC Input Port/ Voltage: 120V/60Hz

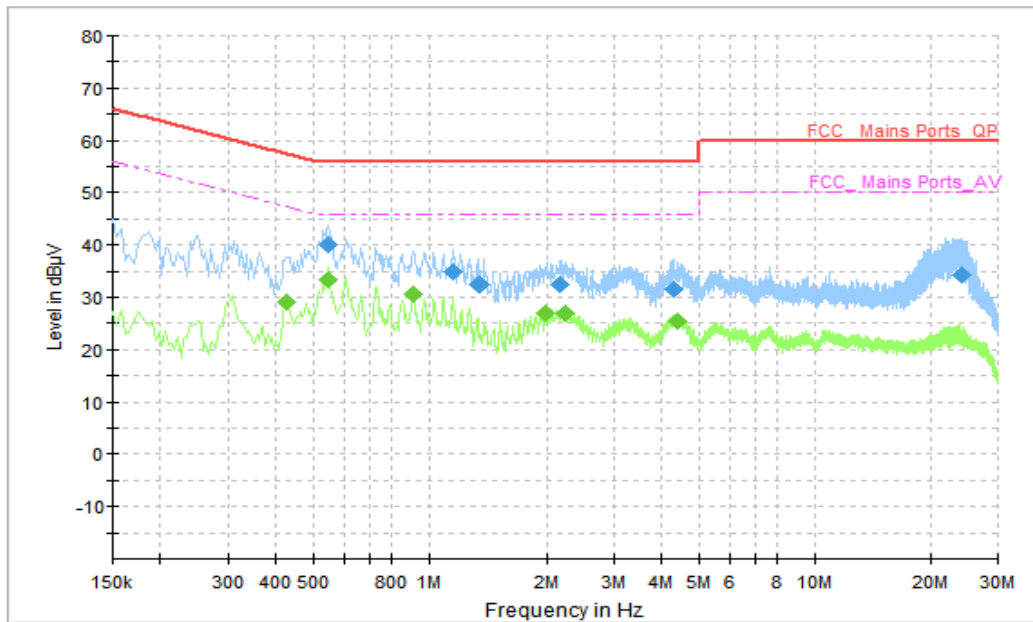


Figure A.2.2 Conducted Emission(Video Player)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.546000	40.17	56.00	15.83	L1	10	30.17
1.158000	34.91	56.00	21.09	L1	10	24.91
1.338000	32.49	56.00	23.51	L1	10	22.49
2.178000	32.37	56.00	23.63	L1	10	22.37
4.274000	31.58	56.00	24.42	L1	10	21.58
24.242000	34.23	60.00	25.77	N	10	24.23

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.426000	29.04	47.33	18.29	L1	10	19.04
0.546000	33.44	46.00	12.56	L1	10	23.44
0.914000	30.66	46.00	15.34	L1	10	20.66
1.998000	26.97	46.00	19.03	L1	10	16.97
2.250000	26.99	46.00	19.01	L1	10	16.99
4.394000	25.37	46.00	20.63	L1	10	15.37

AC Input Port/ Voltage: 120V/60Hz

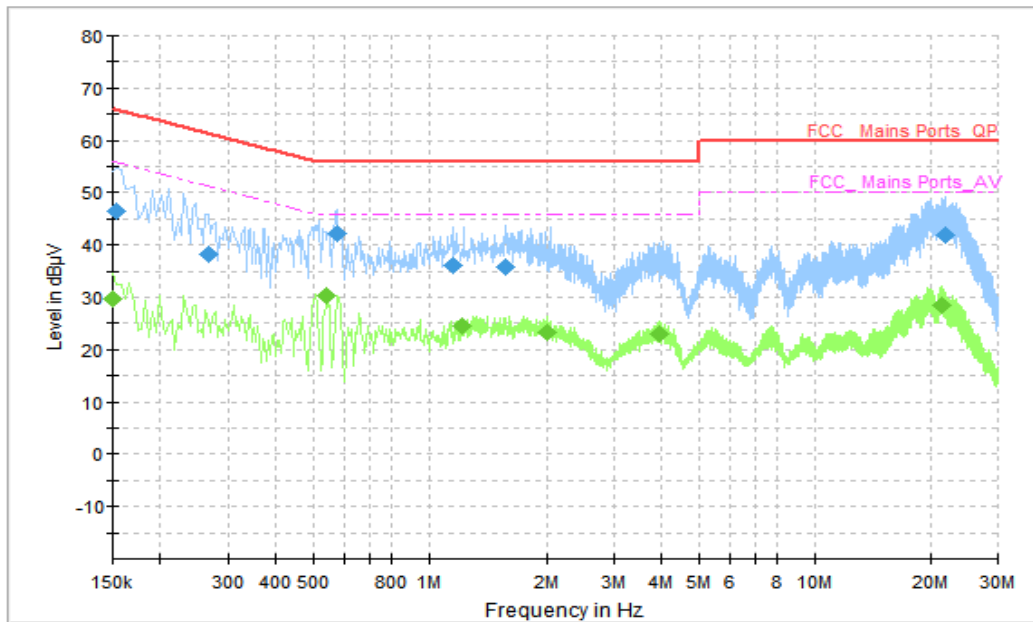


Figure A.2.3 Conducted Emission(GLONASS)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.154000	46.43	65.78	19.35	N	10	36.43
0.266000	38.30	61.24	22.94	N	10	28.30
0.574000	42.13	56.00	13.87	N	10	32.13
1.150000	36.02	56.00	19.98	N	10	26.02
1.566000	35.66	56.00	20.34	N	10	25.66
21.826000	41.85	60.00	18.15	N	10	31.85

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	29.71	56.00	26.29	N	10	19.71
0.542000	30.44	46.00	15.56	L1	10	20.44
1.218000	24.41	46.00	21.59	L1	10	14.41
2.018000	23.33	46.00	22.67	N	10	13.33
3.918000	22.95	46.00	23.05	N	10	12.95
21.478000	28.40	50.00	21.60	N	10	18.40

AC Input Port/ Voltage: 120V/60Hz

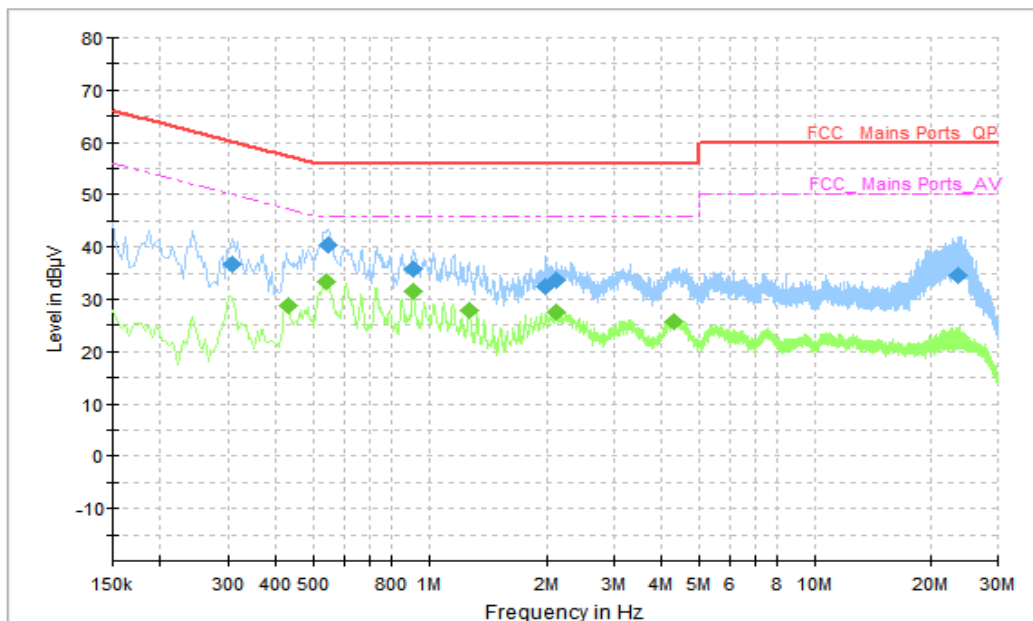


Figure A.2.4 Conducted Emission(FM receiver)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.306000	36.69	60.08	23.39	N	10	26.69
0.546000	40.27	56.00	15.73	L1	10	30.27
0.906000	35.80	56.00	20.20	L1	10	25.80
1.994000	32.36	56.00	23.64	L1	10	22.36
2.126000	33.56	56.00	22.44	L1	10	23.56
23.530000	34.68	60.00	25.32	N	10	24.68

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.430000	28.72	47.25	18.53	L1	10	18.72
0.542000	33.41	46.00	12.59	L1	10	23.41
0.910000	31.56	46.00	14.44	L1	10	21.56
1.274000	27.87	46.00	18.13	L1	10	17.87
2.126000	27.66	46.00	18.34	L1	10	17.66
4.314000	25.66	46.00	20.34	L1	10	15.66

AC Input Port/ Voltage: 120V/60Hz

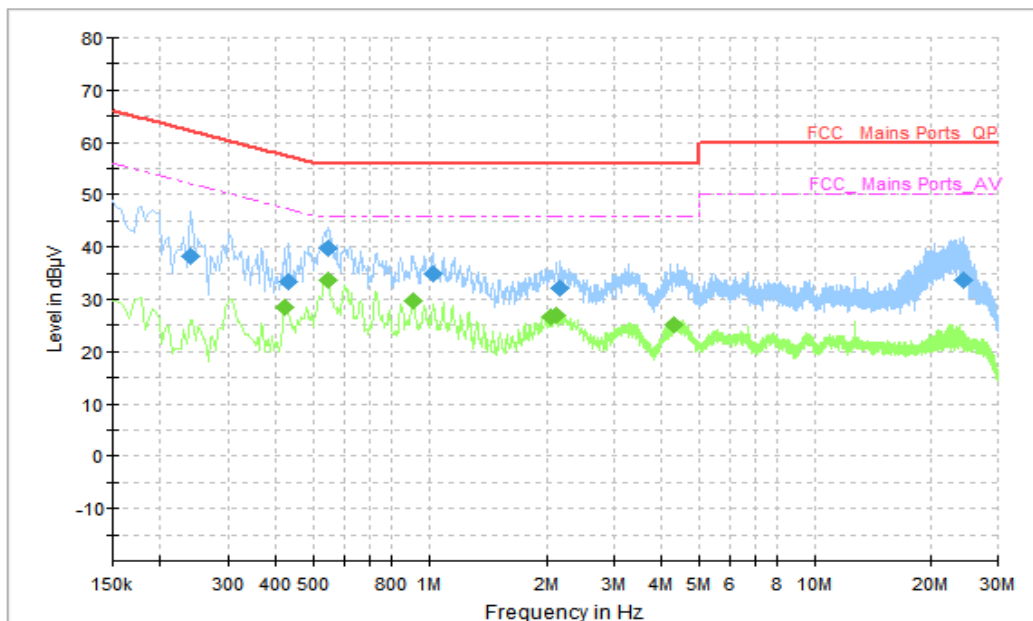


Figure A.2.5 Conducted Emission(GPS)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.238000	38.17	62.17	24.00	N	10	28.17
0.430000	33.44	57.25	23.81	N	10	23.44
0.546000	39.90	56.00	16.10	L1	10	29.90
1.022000	34.89	56.00	21.11	L1	10	24.89
2.178000	32.27	56.00	23.73	L1	10	22.27
24.286000	33.67	60.00	26.33	N	10	23.67

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.422000	28.34	47.41	19.07	L1	10	18.34
0.546000	33.79	46.00	12.21	L1	10	23.79
0.914000	29.62	46.00	16.38	L1	10	19.62
2.062000	26.79	46.00	19.21	L1	10	16.79
2.122000	27.06	46.00	18.94	L1	10	17.06
4.310000	25.06	46.00	20.94	L1	10	15.06

AC Input Port/ Voltage: 120V/60Hz

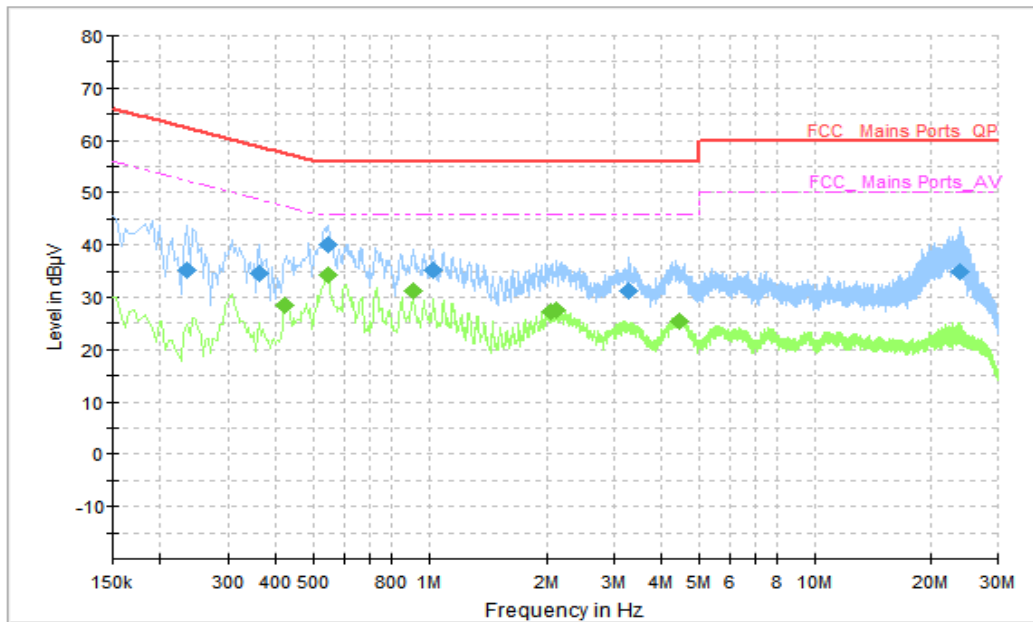


Figure A.2.6 Conducted Emission(GLONASS)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.234000	35.15	62.31	27.16	N	10	25.15
0.362000	34.63	58.68	24.05	L1	10	24.63
0.546000	40.01	56.00	15.99	L1	10	30.01
1.026000	35.22	56.00	20.78	L1	10	25.22
3.290000	31.17	56.00	24.83	L1	10	21.17
23.934000	35.00	60.00	25.00	N	10	25.00

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.422000	28.39	47.41	19.02	L1	10	18.39
0.546000	34.25	46.00	11.75	L1	10	24.25
0.910000	31.08	46.00	14.92	L1	10	21.08
2.062000	27.19	46.00	18.81	L1	10	17.19
2.122000	27.51	46.00	18.49	L1	10	17.51
4.446000	25.30	46.00	20.70	L1	10	15.30

AC Input Port/ Voltage: 120V/60Hz

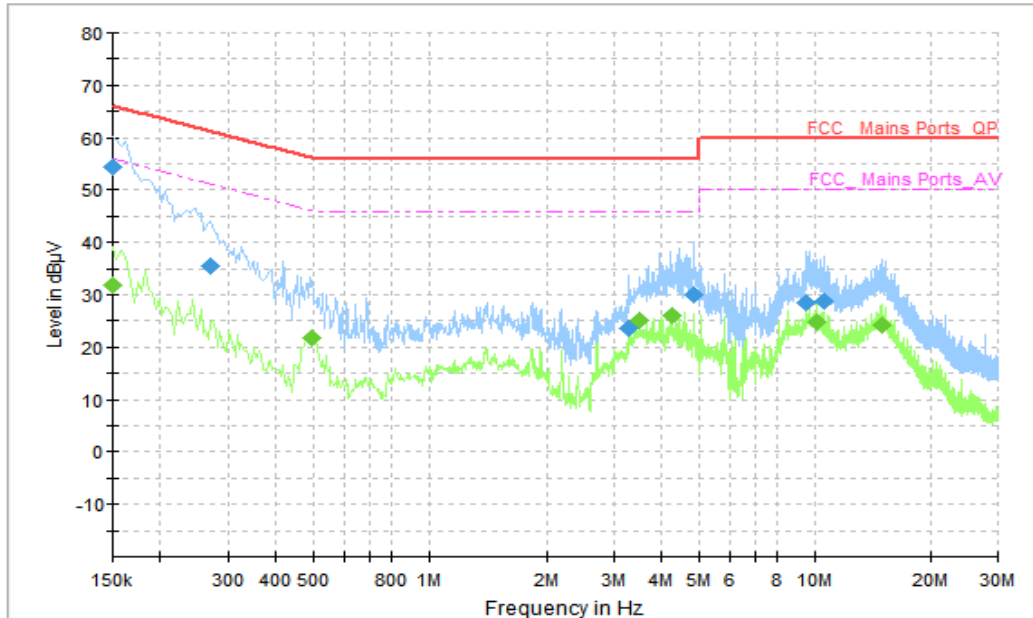


Figure A.2.7 Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	54.48	66.00	11.52	L1	10	44.48
0.270000	35.35	61.12	25.77	L1	10	25.35
3.262000	23.51	56.00	32.49	L1	10	13.51
4.850000	30.02	56.00	25.98	L1	10	20.02
9.478000	28.42	60.00	31.58	N	10	18.42
10.530000	28.92	60.00	31.08	L1	10	18.92

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	31.72	56.00	24.28	L1	10	21.72
0.494000	21.69	46.10	24.41	N	10	11.69
3.486000	25.06	46.00	20.94	L1	10	15.06
4.258000	26.13	46.00	19.87	L1	10	16.13
10.114000	24.71	50.00	25.29	L1	10	14.71
14.898000	24.29	50.00	25.71	N	10	14.29

AC Input Port/ Voltage: 120V/60Hz

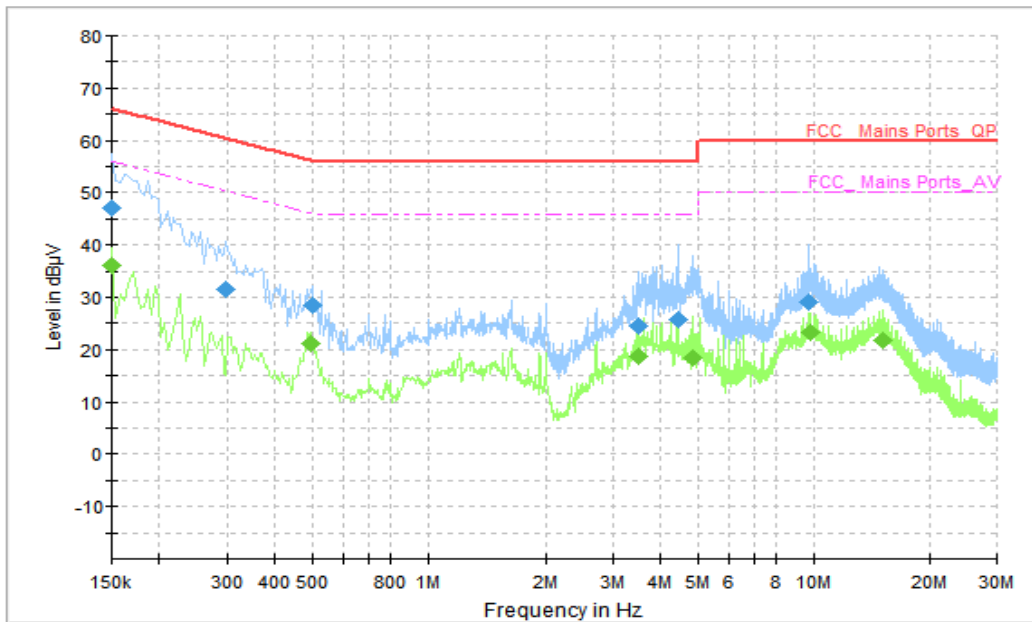


Figure A.2.8 Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	47.12	66.00	18.88	L1	10	37.12
0.298000	31.42	60.30	28.88	N	10	21.42
0.498000	28.55	56.03	27.48	N	10	18.55
3.502000	24.50	56.00	31.50	L1	10	14.50
4.422000	25.82	56.00	30.18	N	10	15.82
9.678000	28.95	60.00	31.05	L1	10	18.95

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.150000	36.15	56.00	19.85	L1	10	26.15
0.494000	21.14	46.10	24.96	N	10	11.14
3.494000	18.64	46.00	27.36	L1	10	8.64
4.826000	18.28	46.00	27.72	N	10	8.28
9.806000	23.38	50.00	26.62	L1	10	13.38
15.170000	21.70	50.00	28.30	N	10	11.70

AC Input Port/ Voltage: 240V/60Hz

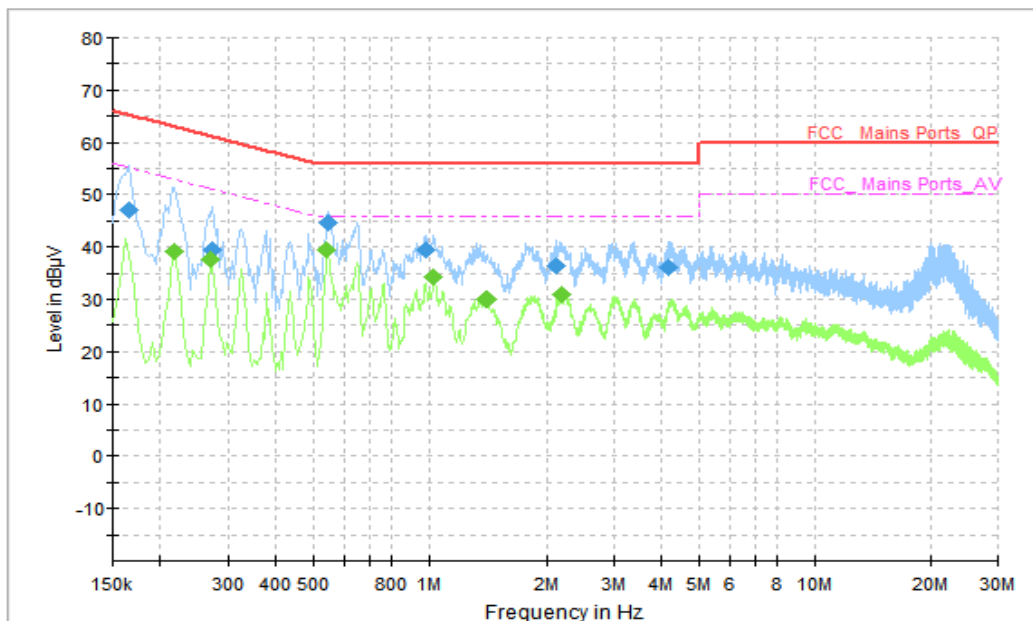


Figure A.2.9 Conducted Emission(Camera)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.166000	46.97	65.16	18.18	N	10	36.97
0.274000	39.32	61.00	21.67	N	10	29.32
0.546000	44.77	56.00	11.23	L1	10	34.77
0.978000	39.38	56.00	16.62	L1	10	29.38
2.130000	36.48	56.00	19.52	L1	10	26.48
4.150000	35.99	56.00	20.01	L1	10	25.99

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.218000	39.20	52.90	13.70	L1	10	29.20
0.270000	37.67	51.12	13.45	L1	10	27.67
0.542000	39.35	46.00	6.65	L1	10	29.35
1.030000	34.14	46.00	11.86	L1	10	24.14
1.406000	30.00	46.00	16.00	L1	10	20
2.194000	30.94	46.00	15.06	L1	10	20.94

AC Input Port/ Voltage: 240V/60Hz

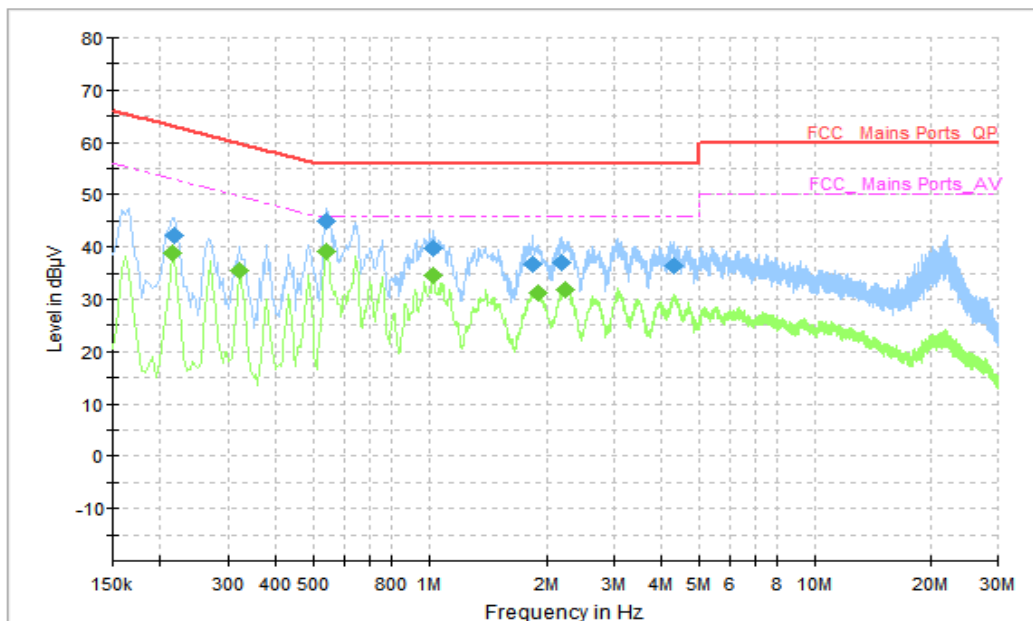


Figure A.2.10 Conducted Emission(Video Player)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.218000	42.22	62.90	20.67	N	10	32.22
0.542000	44.79	56.00	11.21	L1	10	34.79
1.030000	39.64	56.00	16.36	L1	10	29.64
1.842000	36.85	56.00	19.15	L1	10	26.85
2.190000	37.11	56.00	18.89	L1	10	27.11
4.282000	36.41	56.00	19.59	L1	10	26.41

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.214000	38.91	53.05	14.13	L1	10	28.91
0.322000	35.52	49.66	14.13	L1	10	25.52
0.542000	39.24	46.00	6.76	L1	10	29.24
1.026000	34.55	46.00	11.46	L1	10	24.55
1.906000	31.27	46.00	14.73	L1	10	21.27
2.238000	31.79	46.00	14.21	L1	10	21.79

AC Input Port/ Voltage: 240V/60Hz

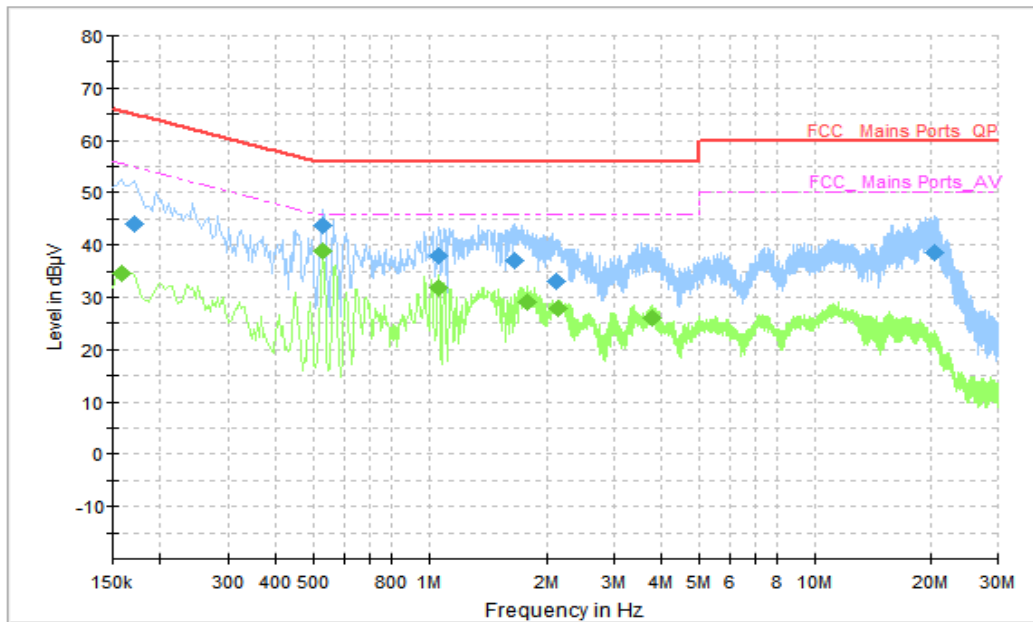


Figure A.2.11 Conducted Emission(GLONASS)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.170000	41.16	64.96	23.80	N	10	31.16
0.530000	43.85	56.00	12.15	L1	10	33.85
1.062000	37.92	56.00	18.08	N	10	27.92
1.654000	36.89	56.00	19.11	N	10	26.89
2.122000	32.90	56.00	23.10	L1	10	22.9
20.478000	38.53	60.00	21.47	L1	10	28.53

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.158000	27.62	55.57	27.95	N	10	17.62
0.530000	38.84	46.00	7.16	N	10	28.84
1.054000	31.76	46.00	14.24	N	10	21.76
1.778000	29.23	46.00	16.77	N	10	19.23
2.146000	27.74	46.00	18.26	N	10	17.74
3.758000	26.09	46.00	19.91	N	10	16.09

AC Input Port/ Voltage: 240V/60Hz

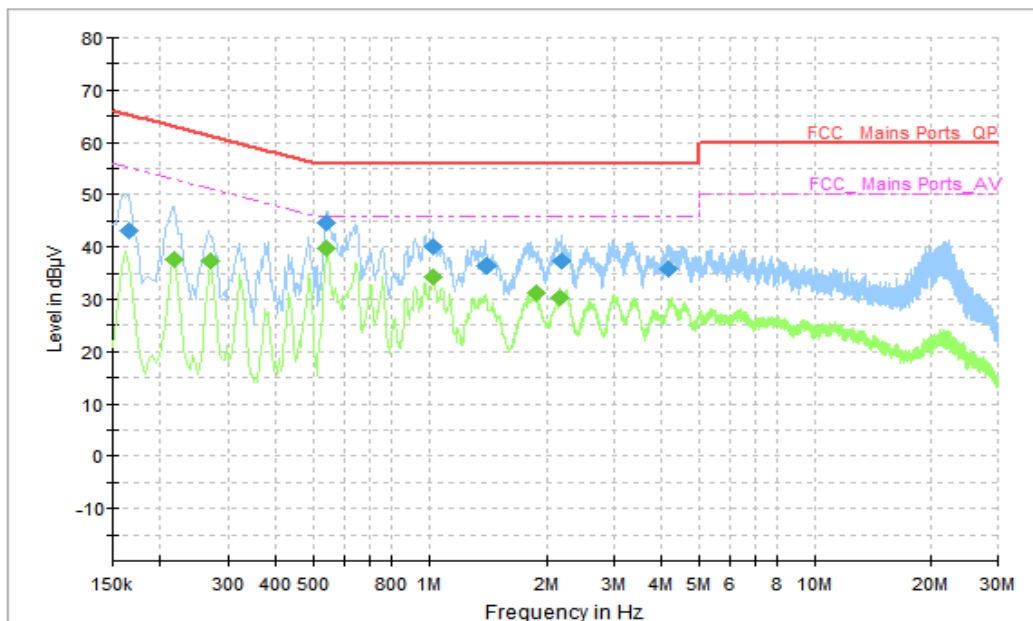


Figure A.2.12 Conducted Emission(FM receiver)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.166000	43.12	65.16	22.04	N	10	33.12
0.542000	44.57	56.00	11.43	L1	10	34.57
1.026000	39.97	56.00	16.03	L1	10	29.97
1.398000	36.49	56.00	19.51	L1	10	26.49
2.190000	37.22	56.00	18.78	L1	10	27.22
4.178000	35.68	56.00	20.32	L1	10	25.68

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.218000	37.63	52.90	15.27	L1	10	27.63
0.270000	37.30	51.12	13.82	L1	10	27.30
0.542000	39.75	46.00	6.25	L1	10	29.75
1.026000	34.26	46.00	11.74	L1	10	24.26
1.874000	31.09	46.00	14.91	L1	10	21.09
2.178000	30.35	46.00	15.65	L1	10	20.35

AC Input Port/ Voltage: 240V/60Hz

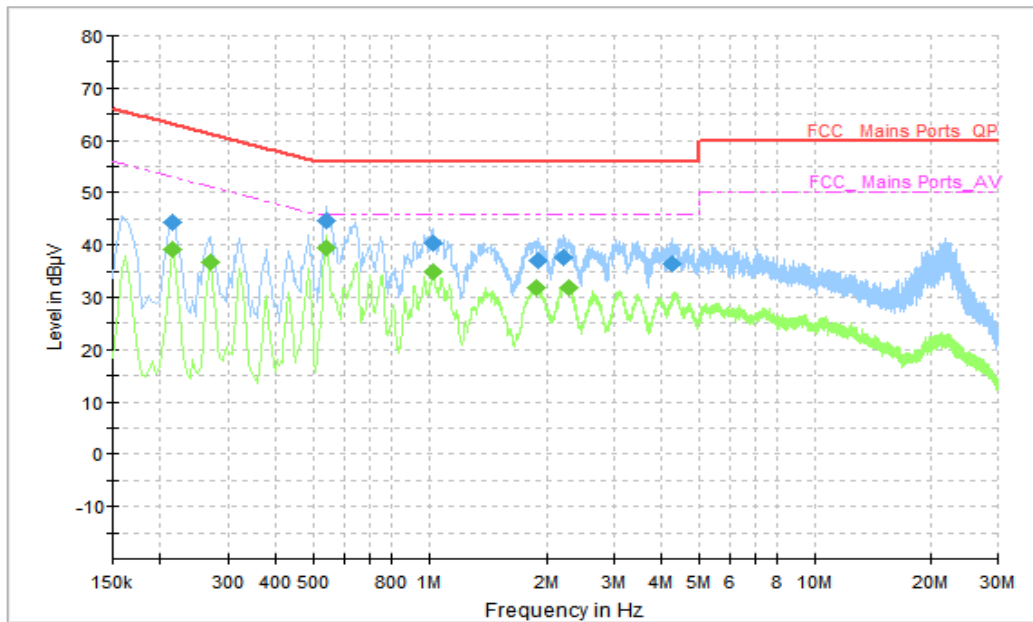


Figure A.2.13 Conducted Emission(GPS)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.214000	44.45	63.05	18.60	N	10	34.45
0.542000	44.62	56.00	11.38	N	10	34.62
1.022000	40.43	56.00	15.57	N	10	30.43
1.894000	37.15	56.00	18.85	N	10	27.15
2.222000	37.52	56.00	18.48	N	10	27.52
4.270000	36.52	56.00	19.48	N	10	26.52

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.214000	39.27	53.05	13.78	L1	10	29.27
0.270000	36.74	51.12	14.38	L1	10	26.74
0.538000	39.48	46.00	6.52	L1	10	29.48
1.026000	34.92	46.00	11.08	L1	10	24.92
1.890000	31.80	46.00	14.20	L1	10	21.8
2.286000	31.79	46.00	14.21	L1	10	21.79

AC Input Port/ Voltage: 240V/60Hz

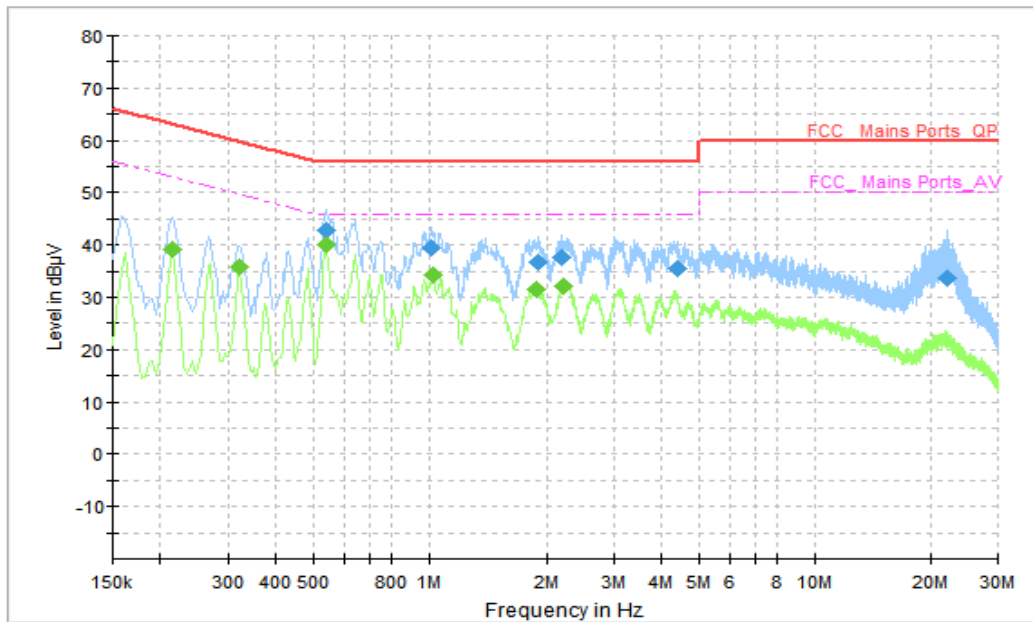


Figure A.2.14 Conducted Emission(GLONASS)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.538000	42.77	56.00	13.23	L1	10	32.77
1.010000	39.54	56.00	16.46	L1	10	29.54
1.910000	36.70	56.00	19.30	L1	10	26.70
2.202000	37.53	56.00	18.47	L1	10	27.53
4.394000	35.62	56.00	20.38	L1	10	25.62
22.174000	33.73	60.00	26.27	N	10	23.73

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.214000	39.23	53.05	13.82	L1	10	29.23
0.322000	35.71	49.66	13.94	L1	10	25.71
0.538000	39.99	46.00	6.01	L1	10	29.99
1.022000	34.36	46.00	11.64	L1	10	24.36
1.878000	31.63	46.00	14.37	L1	10	21.63
2.222000	32.02	46.00	13.98	L1	10	22.02

AC Input Port/ Voltage: 240V/60Hz

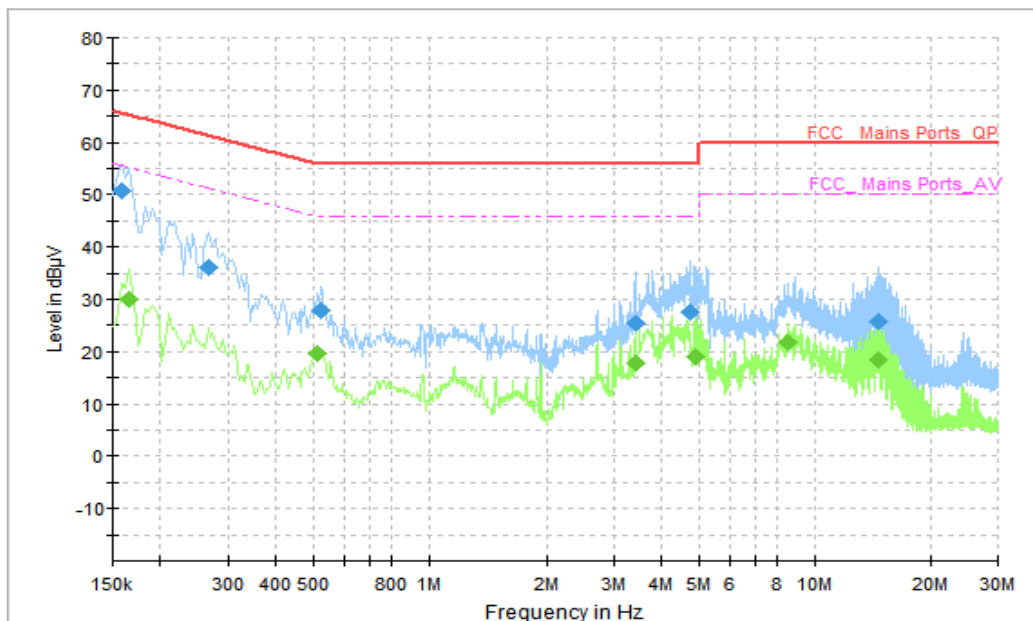


Figure A.2.15 Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.158000	50.78	65.57	14.79	N	10	40.78
0.266000	35.99	61.24	25.25	L1	10	25.99
0.522000	27.93	56.00	28.07	N	10	17.93
3.410000	25.36	56.00	30.64	L1	10	15.36
4.726000	27.63	56.00	28.37	L1	10	17.63
14.662000	25.86	60.00	34.14	N	10	15.86

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.166000	29.95	55.16	25.20	N	10	19.95
0.514000	19.77	46.00	26.23	N	10	9.77
3.410000	17.87	46.00	28.13	L1	10	7.87
4.914000	18.88	46.00	27.12	L1	10	8.88
8.478000	21.74	50.00	28.26	L1	10	11.74
14.666000	18.33	50.00	31.67	N	10	8.33

AC Input Port/ Voltage: 240V/60Hz

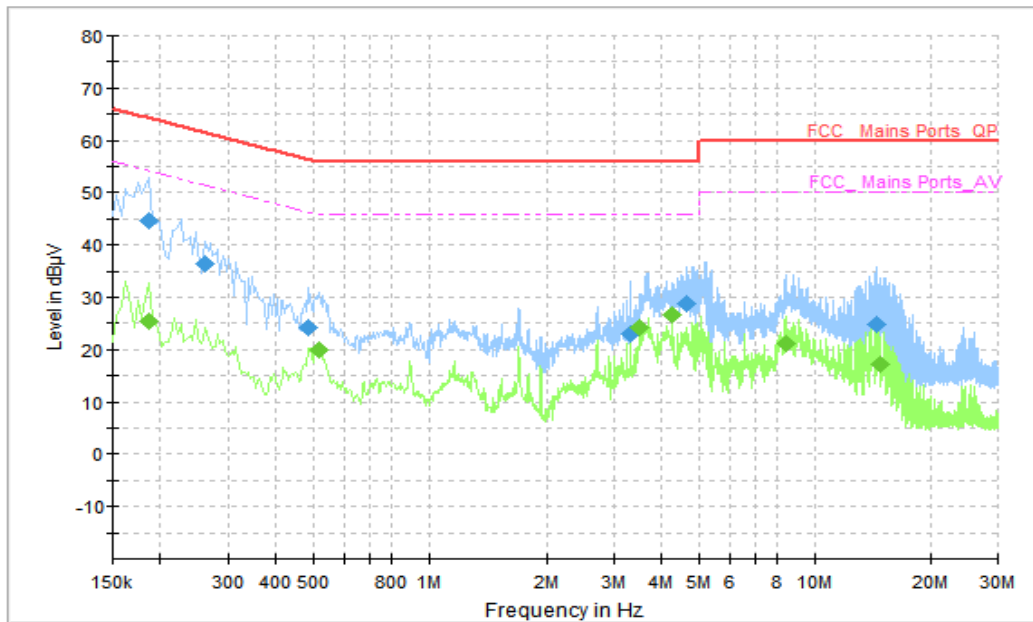


Figure A.2.16 Conducted Emission(Data Transfer)

Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.186000	44.74	64.21	19.48	L1	10	34.74
0.262000	36.40	61.37	24.96	N	10	26.40
0.482000	24.12	56.31	32.19	N	10	14.12
3.318000	22.85	56.00	33.15	L1	10	12.85
4.646000	28.79	56.00	27.21	L1	10	18.79
14.426000	24.86	60.00	35.14	L1	10	14.86

Final_Result_AVG

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P _{Mea} (dBµV)
0.186000	25.51	54.21	28.70	L1	10	15.51
0.518000	20.03	46.00	25.97	N	10	10.03
3.482000	24.10	46.00	21.90	L1	10	14.10
4.258000	26.54	46.00	19.46	N	10	16.54
8.394000	21.03	50.00	28.97	L1	10	11.03
14.762000	17.05	50.00	32.95	N	10	7.05

END OF REPORT