



TEST REPORT

No.I20N02192-EMC

for

TCL Communication Ltd.

LTE/UMTS/GSM mobile phone

Model Name: 5030M/5130M

With

Hardware Version: FS180-MB-V1.0A

Software Version: 5030M_OFAR_1SIM_V1.0_20200804_UNLOCK

FCC ID: 2ACCJB118

Issued Date: 2020-08-19

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
I20N02192-EMC	Rev.0	1st edition	2020-08-19

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	LTE/UMTS/GSM mobile phone
Model Name	5030M/5130M
Applicant's name	TCL Communication Ltd.
Manufacturer's Name	TCL Communication Ltd.

1.2. Test Standards

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

1.3. Test Result

Total test 1 items, pass 1 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: 2020-08-13

Testing End Date: 2020-08-18

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. ClientInformation

2.1. Applicant Information

Company Name: TCL Communication Ltd.
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Contact: Gong Zhizhou
E-mail: zhizhou.gong@tcl.com
Tel: 0086-755-36611722
Fax: 0086-755-36612000-81722

2.2. Manufacturer Information

Company Name: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
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Fax: 0086-755-36612000-81722

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

3.1. About EUT

Description	LTE/UMTS/GSM mobile phone
Model Name	5030M/5130M
FCC ID	2ACCJB118
Antenna Type	Internal Antenna
Condition of EUT as received	No obvious damage in appearance

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

GSM850MHz, WCDMA Band 5.

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

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Receive Date
UT04aa	359203820201090	FS180-MB-V1 .0A	5030M_OFAR_1SIM_V1. 0_20200804_UNLOCK	2020-08-15
UT06aa	359203820201116	FS180-MB-V1 .0A	5030M_OFAR_1SIM_V1. 0_20200804_UNLOCK	2020-08-15

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

3.3. Internal Identification of AE

AE ID*	Description
AE1	LI-Polymer Battery
AE2	Charger
AE3	Data Cable
AE4	Stereo Earphone

AE1-1

Model	TLp038DA
SN	CAC3860032CA
Manufacturer	TIANMAO
Capacity	4000mAh
Nominal Voltage	3.85V

AE1-2

Model	TLp038D7
SN	CAC3860025C7
Manufacturer	VENKE



Capacity	4000mAh
Nominal Voltage	3.85V
AE2-1	
Model	UC13US/CBA0059AGAC5
Manufacturer	PUAN
AE2-2	
Model	UC13US/CBA0059AGAC5
Manufacturer	PUAN
AE3-1	
Model	CDA0000024C8
Manufacturer	PUAN
AE3-2	
Model	WH15/CCB0046A10C1
Manufacturer	JUWEI
AE4-1	
Model	WH15/CCB0046A10C1
Manufacturer	JUWEI
AE4-2	
Model	WH15/CCB0046A10C4
Manufacturer	MEIHAO

*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.	Combination of EUT and AE	Remarks
Set.1	UT06aa+AE1-1+AE2-1+AE3-1+AE4-1	/
Set.2	UT04aa+AE1-2+AE2-2+AE3-2+AE4-2	/
Set.3	UT06aa+AE1-1+AE3-1+AE4-1+PC	Data Transfer Mode
Set.4	UT04aa+AE1-2+AE3-2+AE4-2+PC	Data Transfer Mode

3.5. General Description

The Equipment Under Test (EUT) is a model of LTE/UMTS/GSM mobile phone with internal antenna.

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

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

It consists of normal options: Battery, Charger, Data Cable and Stereo Earphone.

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.

LTE/UMTS/GSM Smartphone 5030M manufactured by TCL Communication Ltd. is a variant model based on 5030J for conformance test. According to client's description, the table below shows the difference between model 5030M and 5030J:

Changes	5030M	5030J
Memory	128G ROM+4G RAM	32G ROM+3G RAM

According to the declaration of differences by manufacturer, the following tests need to be performed at the worst mode from the report of the initial model:

No.	Test item	set	Test Mode
1	Radiated Emission	Set.1/Set.2	Charging Mode(Idle;GSM850)
		Set.1/Set.2	Charging Mode(Idle;WCDMA B5)
		Set.1/Set.2	Charging Mode with Camera Mode
		Set.1/Set.2	Charging Mode with Video Player Mode
		Set.1/Set.2	Charging Mode with FM Mode
		Set.3/Set.4	Data Transfer Mode

Other results are cited from the initial report.

The report number for initial model is I20N00391-EMC.

LTE/UMTS/GSM Smartphone 5130M manufactured by TCL Communication Ltd. is a variant model based on 5030M for conformance test. According to client's description, the table below shows the difference between model 5130M and 5030M:

Changes	5130M	5030M
Brand Name	TCL	Alcatel

This report is based on the model 5030M for test. According to the declaration of differences by manufacturer, the test results of the model 5130M is cited from the model 5030M, there is no need to add any additional tests.



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. = 30 °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)	B.2	NA

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	4.90dB(k=2)
	1GHz-18GHz	4.60dB(k=2)
	18GHz-40GHz	4.10dB(k=2)

8. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CALDUE DATE	CAL PERIOD
1.	Test Receiver	ESR7	101676	R&S	2020.11.27	1 year
2.	Spectrum Analyzer	FSV40	101192	R&S	2021.01.14	1 year
3.	BiLog Antenna	3142E	00224831	ETS-Lindgren	2021.05.17	3 years
4.	Horn Antenna	3117	00066577	ETS-Lindgren	2022.04.02	3 years
5.	Chamber	FACT3-2.0	1285	ETS-Lindgren	2021.07.19	2 years
6.	Software	EMC32	V10.01.00	R&S	/	/
7.	PC	ThinkPad T480	PF-13LW0C	Lenovo	/	/
8.	Printer	P1008	VNF6C12491	HP	/	/
9.	Mouse	MOEUJUA	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 Mode: The EUT is connected to a charger for charging and open FM function.

Camera Mode: At the beginning of measurement, the battery is completely discharged. The battery and charger are installed so that the EUT works well and keeping on taking photos.

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

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

The EUT was tested while operating in licensed band Rx 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

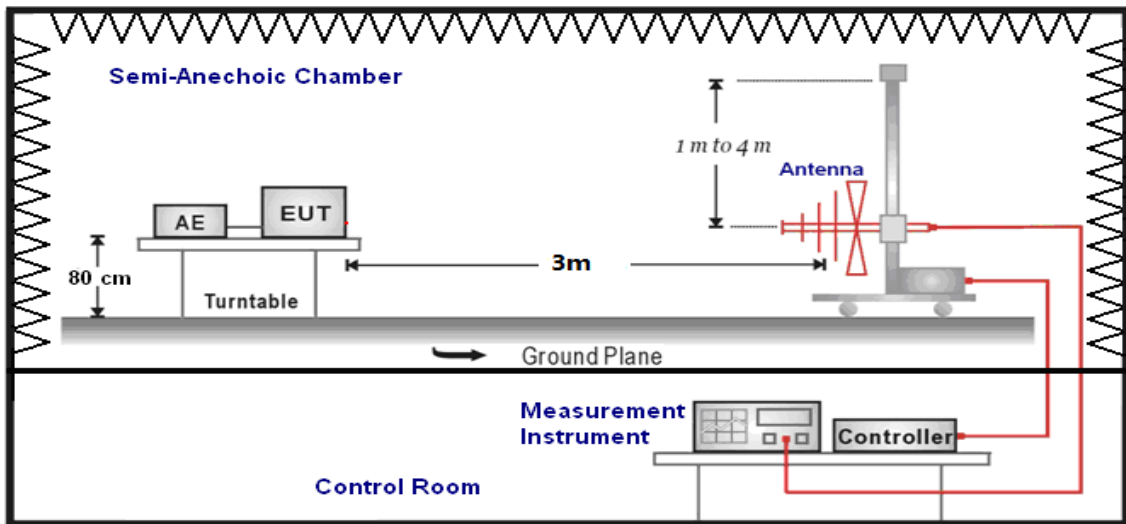
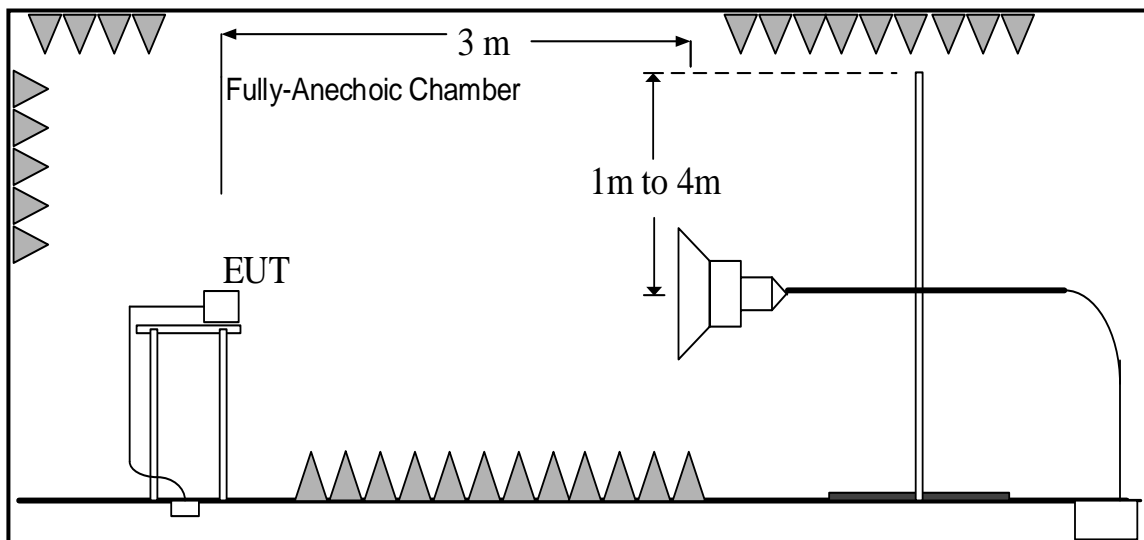
Limit from CFR Part 15.109(a)

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} : 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

Charging and GSM850MHz idle

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) Set.1	Conclusion
30-88	40	See Figure A.1	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.1	
1000 to 3000	54	74	See Figure A.2	P
3000 to 18000			See Figure A.3	P

Charging and WCDMA Band 5 idle

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) Set.1	Conclusion
30-88	40	See Figure A.4	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.1	
1000 to 3000	54	74	See Figure A.5	P
3000 to 18000			See Figure A.6	P

Charging and GSM850MHz idle

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m) Set.2	Conclusion
30-88	40	See Figure A.7	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.2	
1000 to 3000	54	74	See Figure A.8	P
3000 to 18000			See Figure A.9	P

Camera Mode

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.1	
30-88	40	See Figure A.10	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.1	
1000 to 3000	54	74	See Figure A.11	P
3000 to 18000			See Figure A.12	P

FM Mode

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.1	
30-88	40	See Figure A.13	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.1	
1000 to 3000	54	74	See Figure A.14	P
3000 to 18000			See Figure A.15	P

FM Mode

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.2	
30-88	40	See Figure A.16	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.2	
1000 to 3000	54	74	See Figure A.17	P
3000 to 18000			See Figure A.18	P

Data Transfer Mode: EUT to PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.3	
30-88	40	See Figure A.19	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.3	
1000 to 3000	54	74	See Figure A.20	P
3000 to 18000			See Figure A.21	P

Data Transfer Mode: PC to EUT

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.3	
30-88	40	See Figure A.22	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.3	
1000 to 3000	54	74	See Figure A.23	P
3000 to 18000			See Figure A.24	P

Data Transfer Mode: PC to TF Card

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.3	
30-88	40	See Figure A.25	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.3	
1000 to 3000	54	74	See Figure A.26	P
3000 to 18000			See Figure A.27	P

Data Transfer Mode: TF Card to PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.3	
30-88	40	See Figure A.28	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.3	
1000 to 3000	54	74	See Figure A.29	P
3000 to 18000			See Figure A.30	P

Data Transfer Mode: EUT Card to PC

Frequency range (MHz)	Quasi-Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
		Set.4	
30-88	40	See Figure A.31	P
88-216	44		
216-960	46		
960-1000	54		

Frequency range (MHz)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Result (dB μ V/m)	Conclusion
			Set.4	
1000 to 3000	54	74	See Figure A.32	P
3000 to 18000			See Figure A.33	P

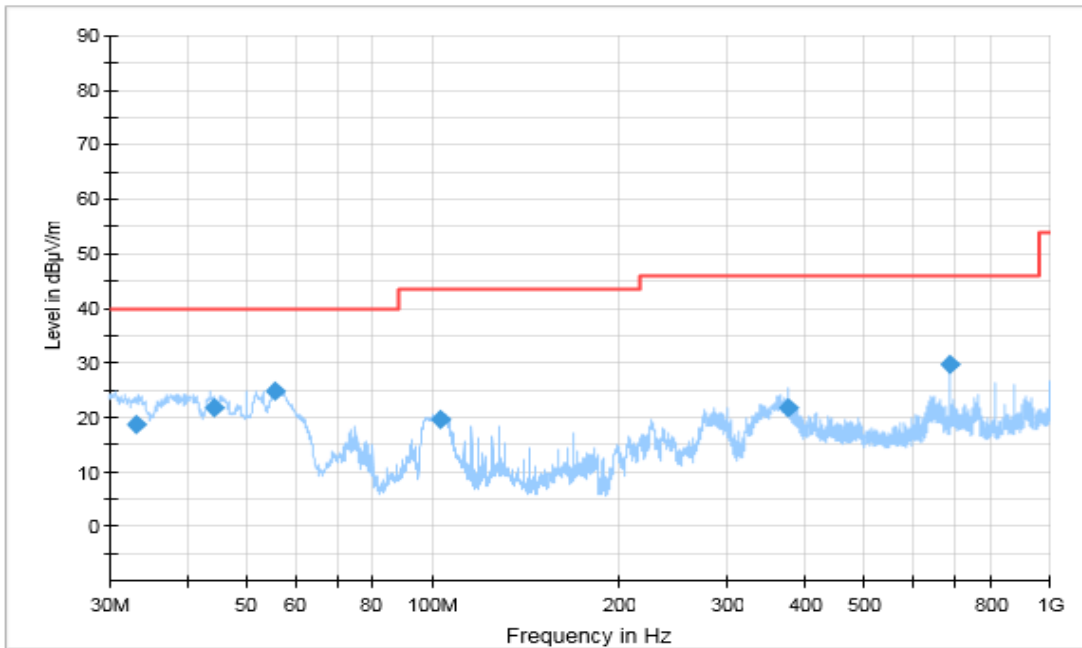


Figure A.1 Radiated Emission (Set.1, Charging and GSM850MHz idle, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
33.223889	18.72	40.00	21.28	V	-25.9	44.62
44.232778	21.94	40.00	18.06	V	-32.0	53.94
55.657222	24.89	40.00	15.11	V	-38.5	63.39
103.185556	19.63	43.50	23.87	V	-32.4	52.03
375.016667	21.75	46.00	24.25	H	-26.7	48.45
687.518333	29.76	46.00	16.24	V	-19.7	49.46

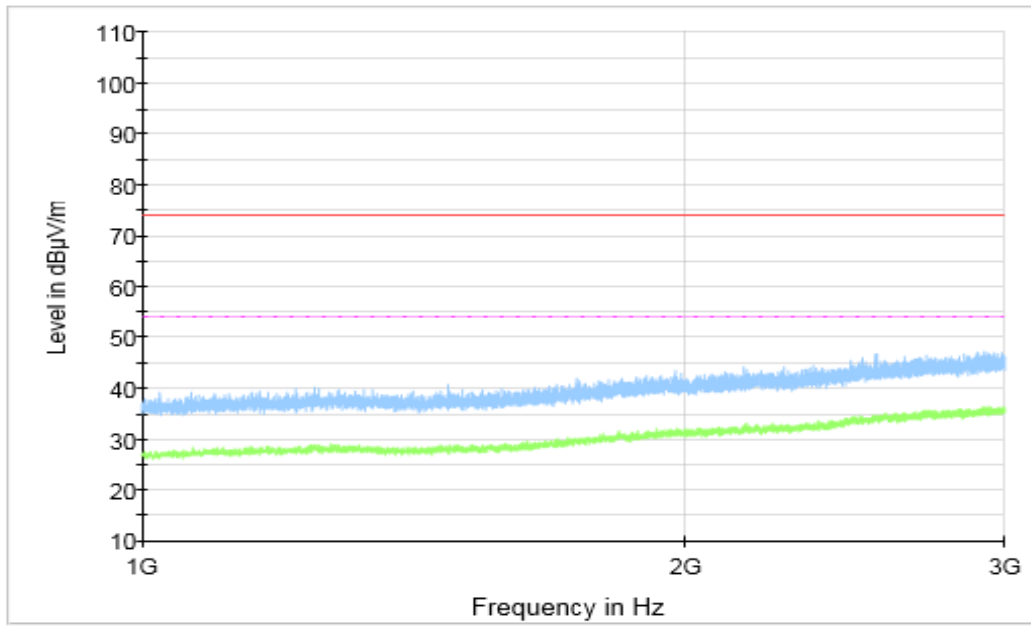


Figure A.2 Radiated Emission (Set.1, Charging and GSM850MHz idle, 1GHz to 3GHz)

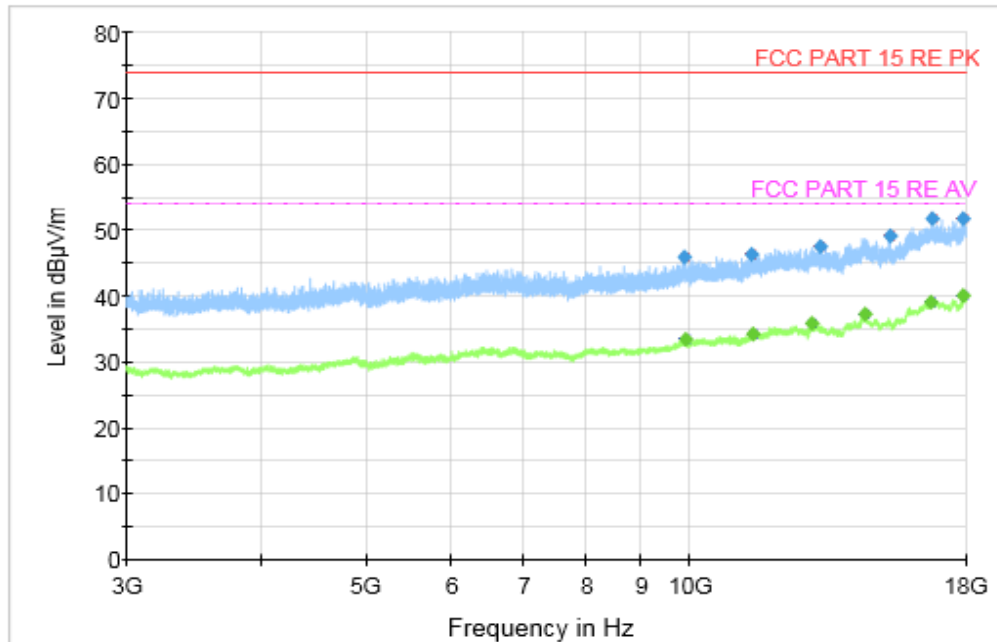


Figure A.3 Radiated Emission (Set.1, Charging and GSM850MHz idle, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9856.000000	45.88	74.00	28.12	V	5.3	40.58
11390.500000	46.43	74.00	27.57	V	6.6	39.83
13190.500000	47.49	74.00	26.51	H	9.8	37.69
15305.000000	49.12	74.00	24.88	H	12.1	37.02
16731.000000	51.84	74.00	22.16	V	15.4	36.44
17918.000000	51.74	74.00	22.26	H	17.0	34.74

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9886.500000	33.43	54.00	20.57	H	5.3	28.13
11427.000000	34.26	54.00	19.74	V	6.7	27.56
12943.000000	35.91	54.00	18.09	H	9.4	26.51
14501.000000	37.19	54.00	16.81	H	11.7	25.49
16694.000000	39.15	54.00	14.85	H	15.4	23.75
17908.000000	40.13	54.00	13.87	H	17.4	22.73

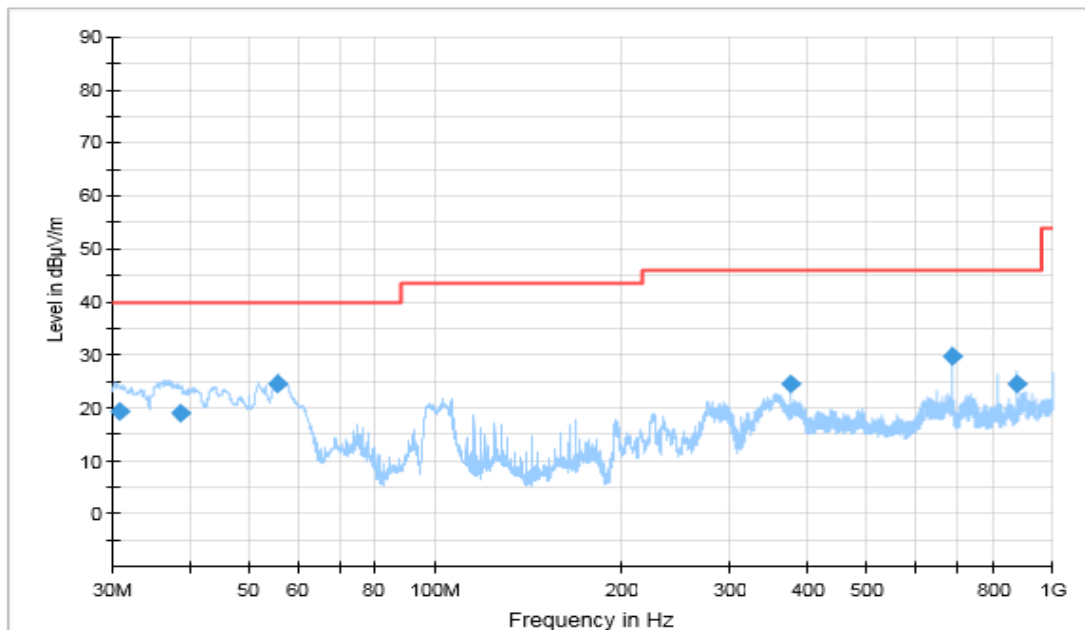


Figure A.4 Radiated Emission (Set.1, Charging and WCDMA Band 5 idle, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.871667	19.39	40.00	20.61	V	-25.0	44.39
38.720556	19.14	40.00	20.86	V	-29.0	48.14
55.538889	24.68	40.00	15.32	V	-38.5	63.18
375.016667	24.47	46.00	21.53	H	-26.7	51.17
687.518333	29.90	46.00	16.10	V	-19.7	49.6
875.011667	24.41	46.00	21.59	V	-17.9	42.31

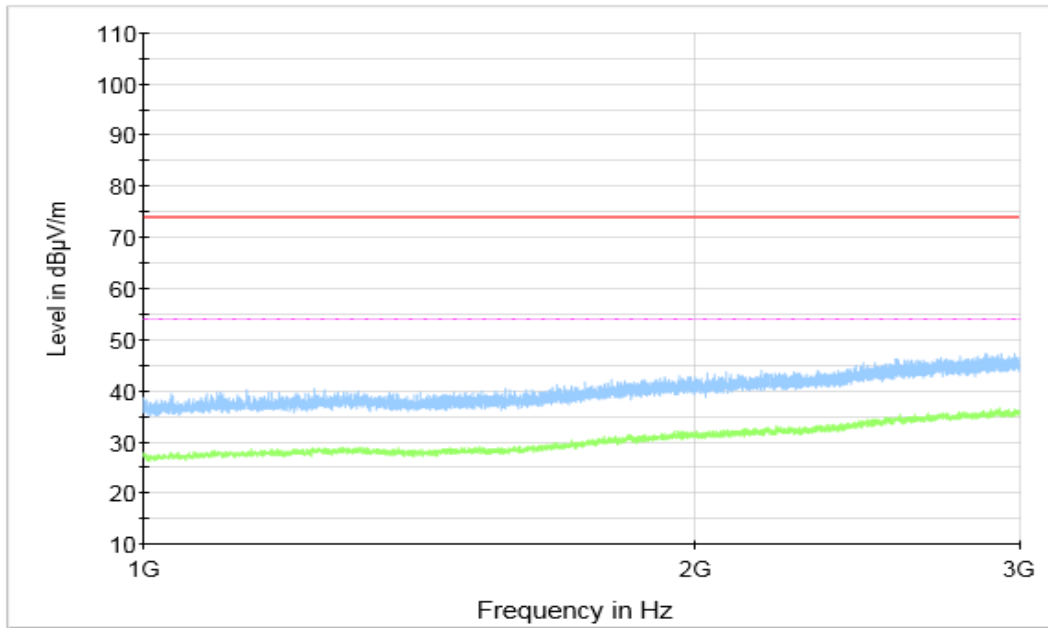


Figure A.5 Radiated Emission (Set.1, Charging and WCDMA Band 5 idle, 1GHz to 3GHz)

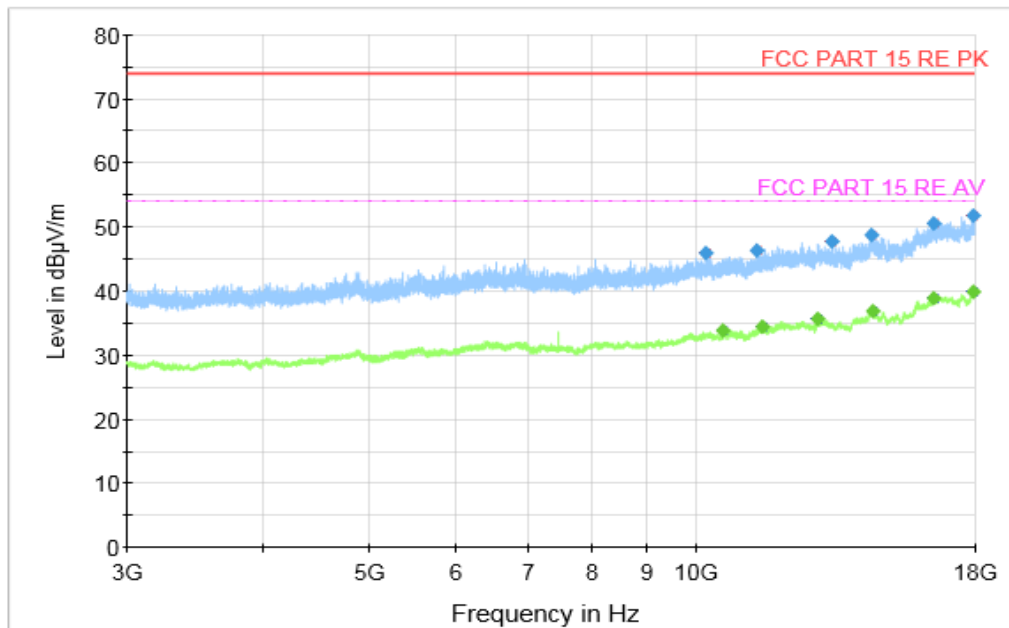


Figure A.6 Radiated Emission (Set.1, Charging and WCDMA Band 5 idle, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10185.000000	45.98	74.00	28.02	V	5.4	40.58
11342.500000	46.28	74.00	27.72	H	6.5	39.78
13305.500000	47.66	74.00	26.34	V	9.7	37.96
14490.500000	48.74	74.00	25.26	V	11.7	37.04
16511.500000	50.57	74.00	23.43	V	15.3	35.27
17948.500000	51.75	74.00	22.25	H	17.2	34.55

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10577.000000	33.77	54.00	20.23	V	5.6	28.17
11487.000000	34.38	54.00	19.62	H	6.9	27.48
12915.500000	35.63	54.00	18.37	H	9.4	26.23
14502.500000	36.94	54.00	17.06	H	11.7	25.24
16512.000000	38.85	54.00	15.15	H	15.3	23.55
17946.500000	39.91	54.00	14.09	H	17.3	22.61

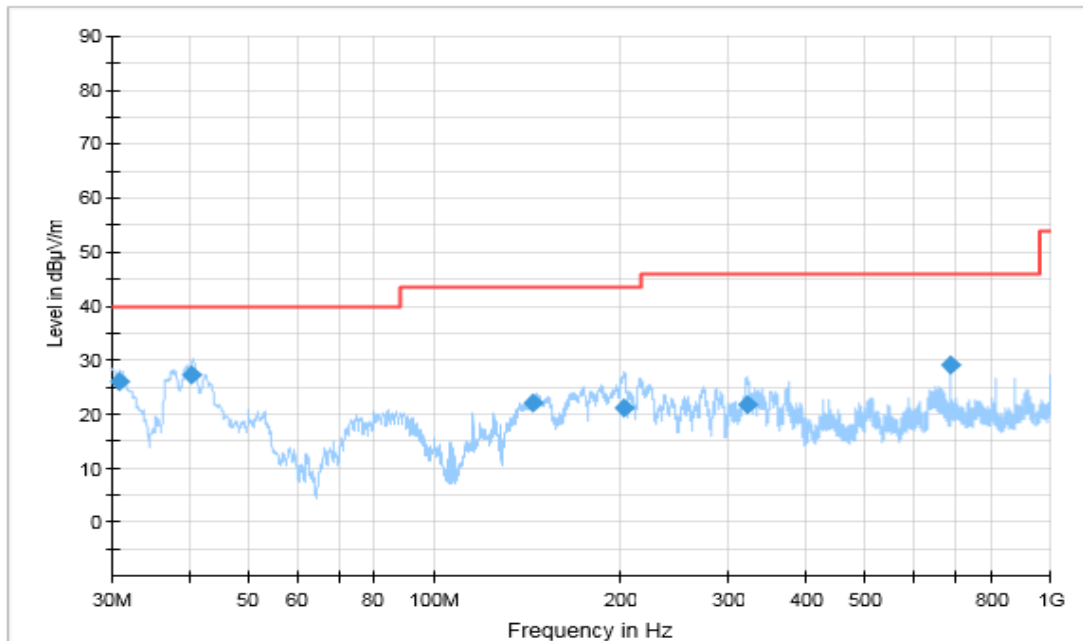


Figure A.7 Radiated Emission (Set.2, Charging and GSM850MHz idle, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.911667	26.21	40.00	13.79	V	-25.1	51.31
40.450000	27.43	40.00	12.57	V	-29.5	56.93
144.490556	22.09	43.50	21.41	H	-33.5	55.59
203.500556	21.09	43.50	22.41	H	-33.0	54.09
321.656111	21.67	46.00	24.33	H	-28.5	50.17
687.518333	29.08	46.00	16.92	V	-19.7	48.78

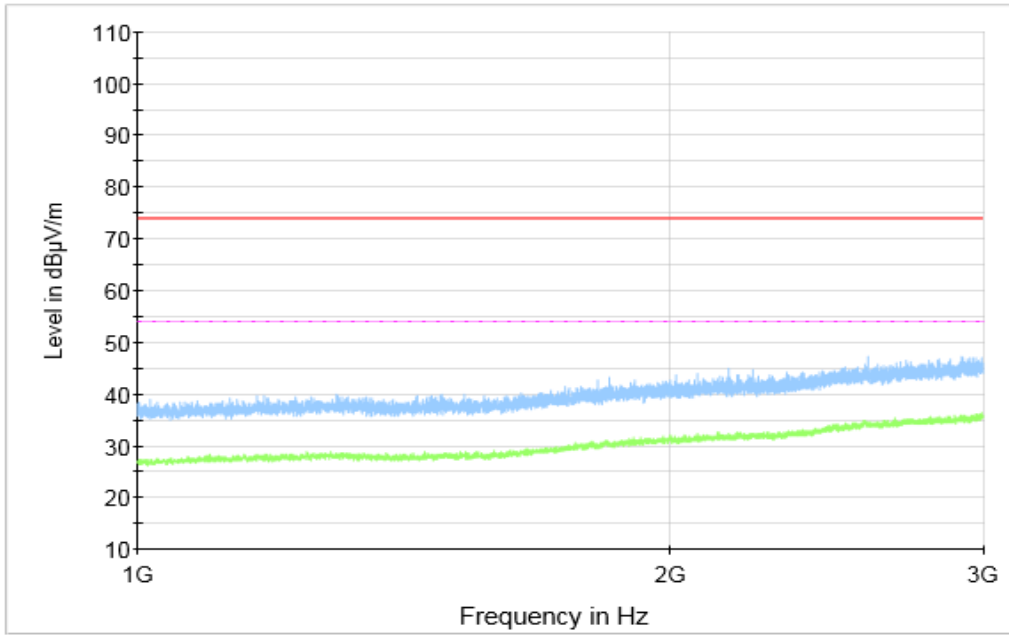


Figure A.8 Radiated Emission (Set.2, Charging and GSM850MHz idle, 1GHz to 3GHz)

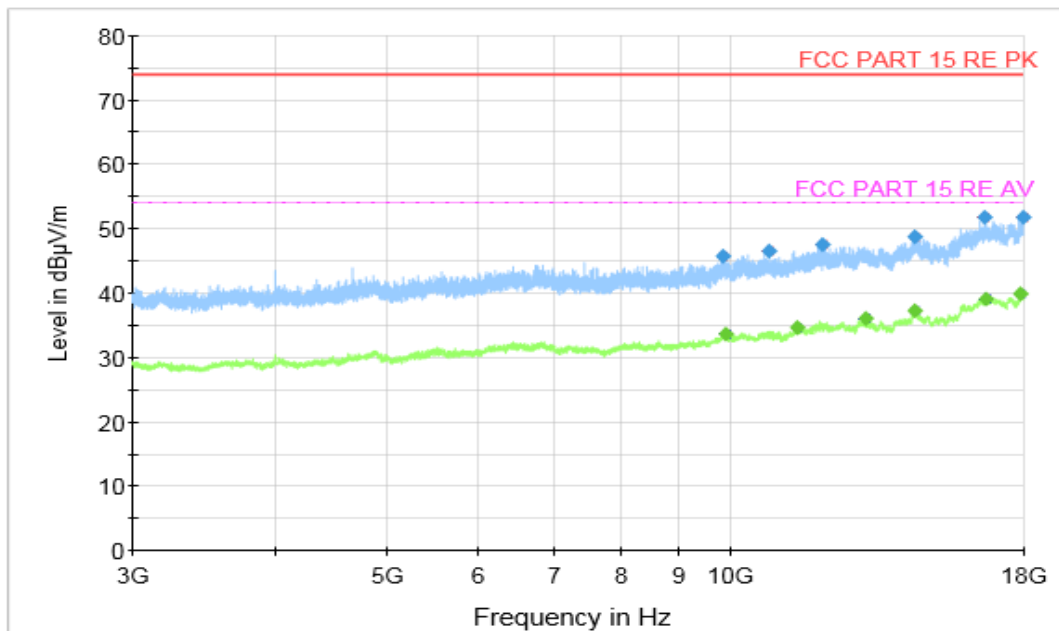


Figure A.9 Radiated Emission (Set.2, Charging and GSM850MHz idle, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9844.000000	45.84	74.00	28.16	H	5.1	40.74
10790.000000	46.50	74.00	27.50	H	6.5	40.00
12010.000000	47.58	74.00	26.42	H	8.2	39.38
14462.500000	48.68	74.00	25.32	H	11.8	36.88
16675.000000	51.88	74.00	22.12	V	15.3	36.58
17984.500000	51.73	74.00	22.27	H	16.9	34.83

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9885.500000	33.57	54.00	20.43	H	5.3	28.27
11435.000000	34.61	54.00	19.39	H	6.8	27.81
13125.000000	36.17	54.00	17.83	H	9.8	26.37
14467.000000	37.23	54.00	16.77	H	11.7	25.53
16679.500000	39.09	54.00	14.91	H	15.2	23.89
17909.500000	39.88	54.00	14.12	H	17.4	22.48

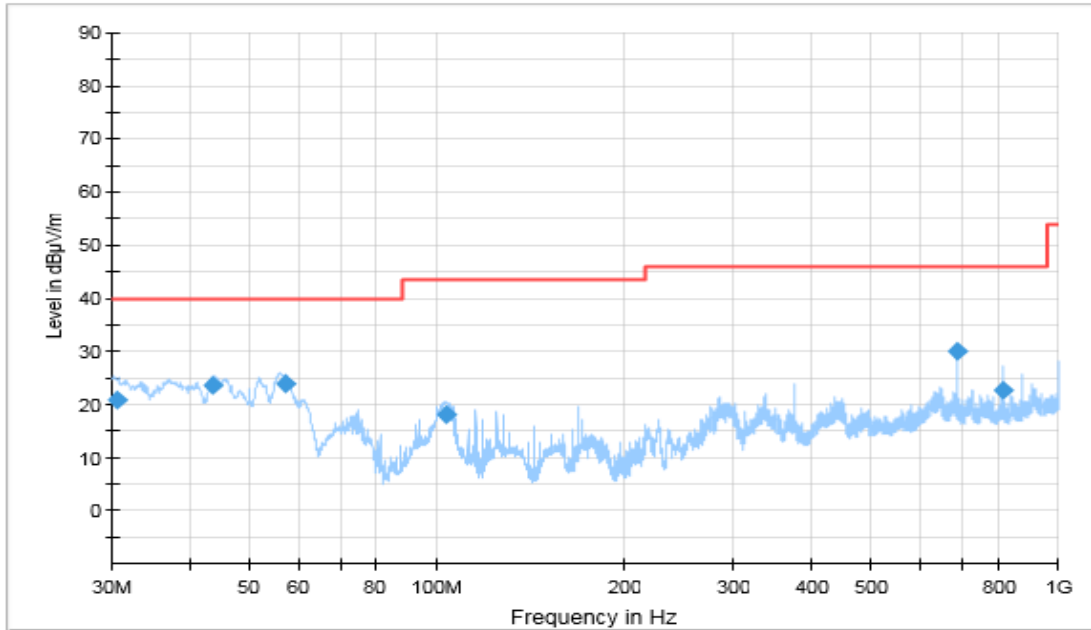


Figure A.10 Radiated Emission (Set.1, Camera Mode, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.682222	20.79	40.00	19.21	V	-24.8	45.59
43.749444	23.63	40.00	16.37	V	-31.8	55.43
57.247778	24.05	40.00	15.95	V	-37.7	61.75
103.981667	18.17	43.50	25.33	V	-32.3	50.47
687.518333	30.08	46.00	15.92	V	-19.7	49.78
812.540556	22.79	46.00	23.21	V	-18.5	41.29

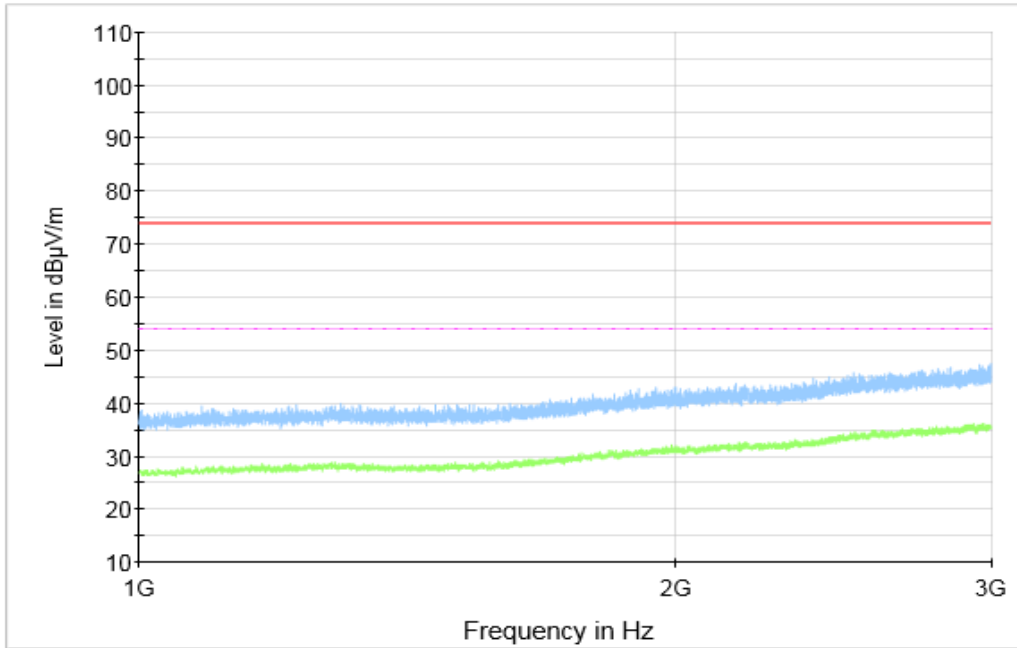


Figure A.11 Radiated Emission (Set.1, Camera Mode, 1GHz to 3GHz)

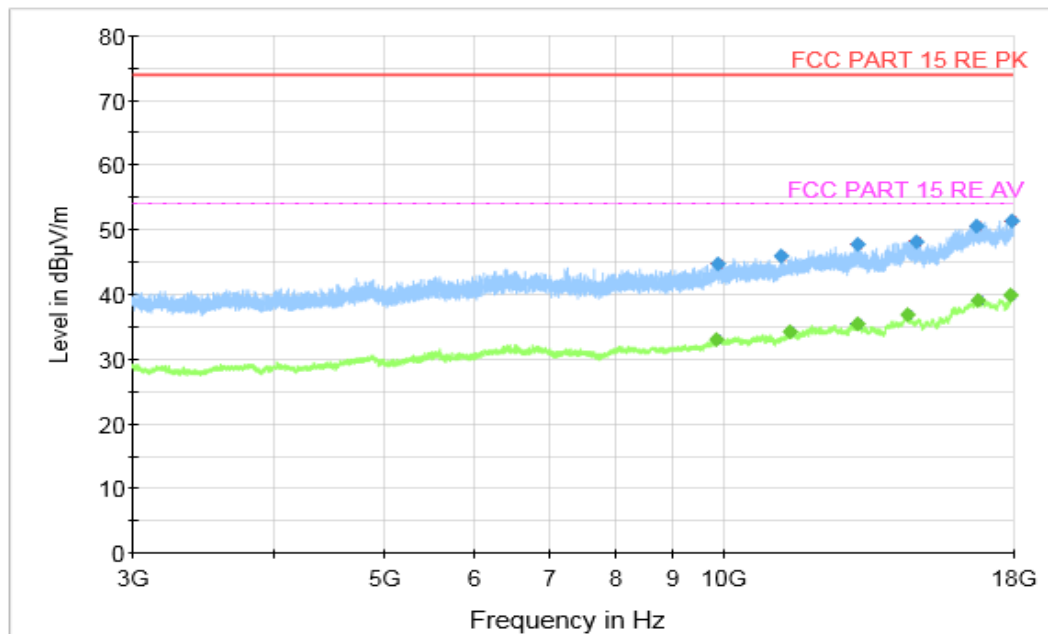


Figure A.12 Radiated Emission (Set.1, Camera Mode , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9859.500000	44.83	74.00	29.17	H	5.3	39.53
11215.500000	46.01	74.00	27.99	H	6.1	39.91
13105.500000	47.69	74.00	26.31	V	9.5	38.19
14789.000000	48.16	74.00	25.84	V	11.1	37.06
16702.500000	50.64	74.00	23.36	H	15.4	35.24
17953.500000	51.35	74.00	22.65	H	17.1	34.25

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9824.500000	33.13	54.00	20.87	V	5.1	28.03
11414.000000	34.17	54.00	19.83	V	6.5	27.67
13098.000000	35.52	54.00	18.48	V	9.8	25.72
14492.000000	36.94	54.00	17.06	H	11.7	25.24
16748.000000	39.10	54.00	14.90	H	15.6	23.5
17909.000000	39.86	54.00	14.14	H	17.4	22.46

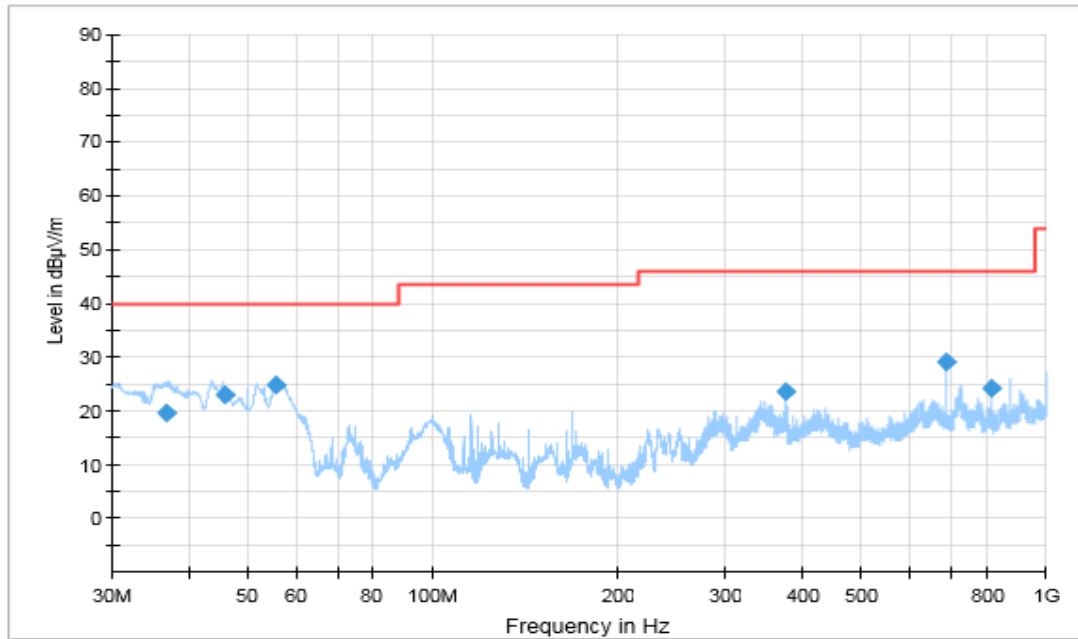


Figure A.13 Radiated Emission (Set.1,FM Mode, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
36.743889	19.63	40.00	20.37	V	-27.6	47.23
45.767778	23.05	40.00	16.95	V	-33.1	56.15
55.658889	24.94	40.00	15.06	V	-38.5	63.44
375.016667	23.61	46.00	22.39	V	-26.7	50.31
687.518333	29.10	46.00	16.90	V	-19.7	48.8
812.540556	24.36	46.00	21.64	V	-18.5	42.86

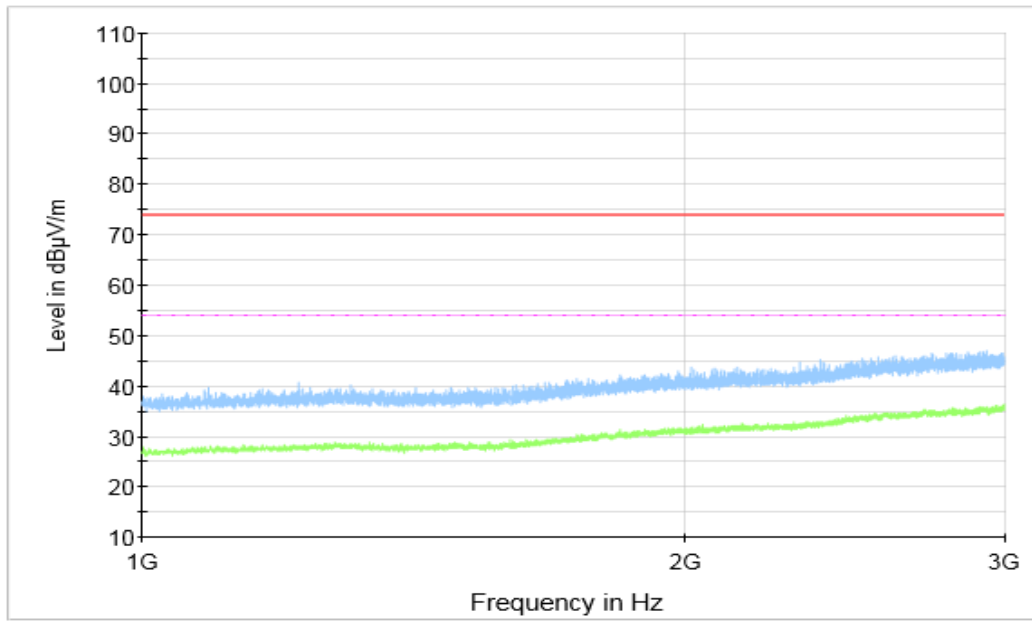


Figure A.14 Radiated Emission (Set.1,FM Mode, 1GHz to 3GHz)

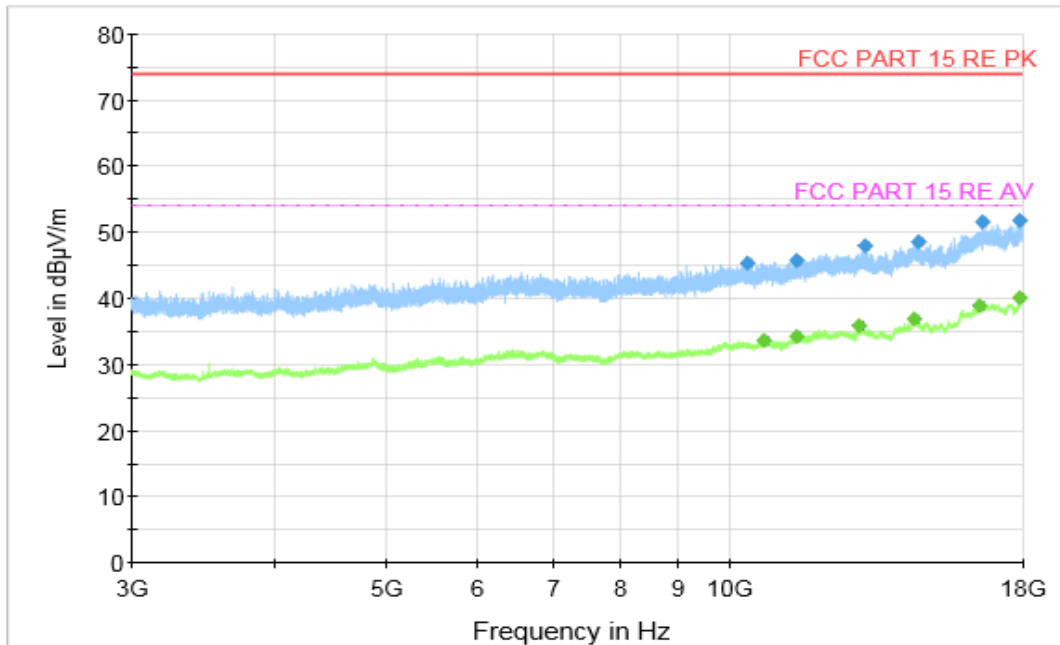


Figure A.15 Radiated Emission (Set.1, FM Mode , 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10362.500000	45.36	74.00	28.64	H	5.6	39.76
11425.500000	45.73	74.00	28.27	H	6.7	39.03
13098.500000	48.05	74.00	25.95	H	9.8	38.25
14599.500000	48.62	74.00	25.38	V	11.6	37.02
16598.000000	51.58	74.00	22.42	H	15.3	36.28
17894.500000	51.85	74.00	22.15	V	16.5	35.35

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10702.500000	33.75	54.00	20.25	H	6.2	27.55
11431.500000	34.20	54.00	19.80	V	6.8	27.4
12942.000000	35.86	54.00	18.14	H	9.5	26.36
14489.500000	36.88	54.00	17.12	V	11.7	25.18
16522.500000	38.94	54.00	15.06	V	15.3	23.64
17909.000000	40.08	54.00	13.92	H	17.4	22.68

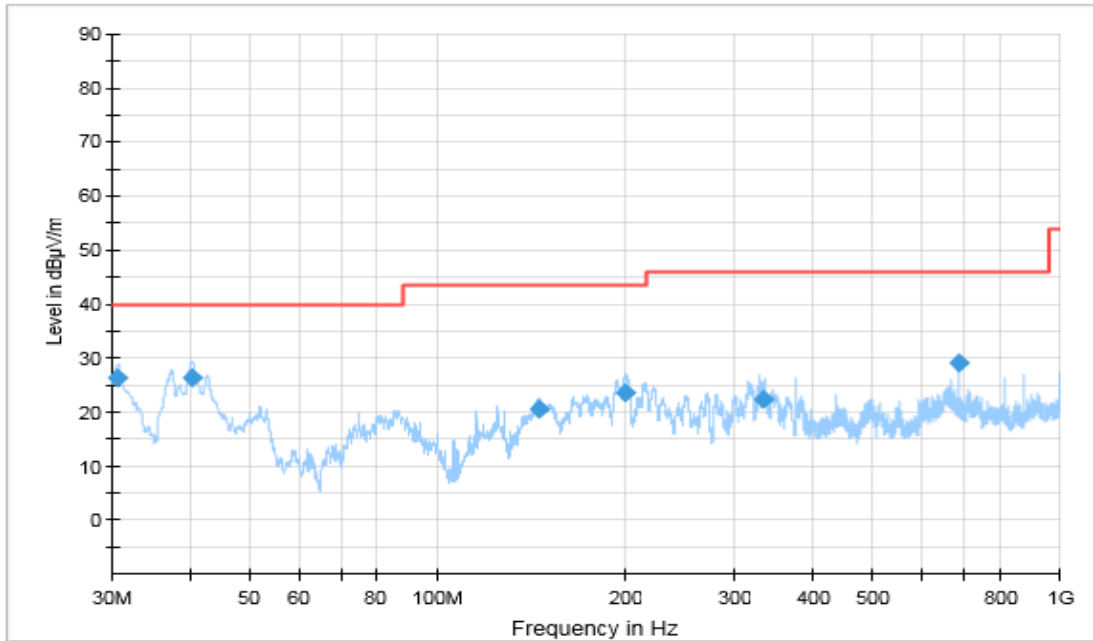


Figure A.16 Radiated Emission (Set.2,FM Mode, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
30.723889	26.49	40.00	13.51	V	-24.9	51.39
40.446667	26.32	40.00	13.68	V	-29.5	55.82
145.884444	20.72	43.50	22.78	H	-33.5	54.22
200.267222	23.68	43.50	19.82	H	-33.0	56.68
334.441667	22.49	46.00	23.51	H	-28.1	50.59
687.518333	29.08	46.00	16.92	V	-19.7	48.78

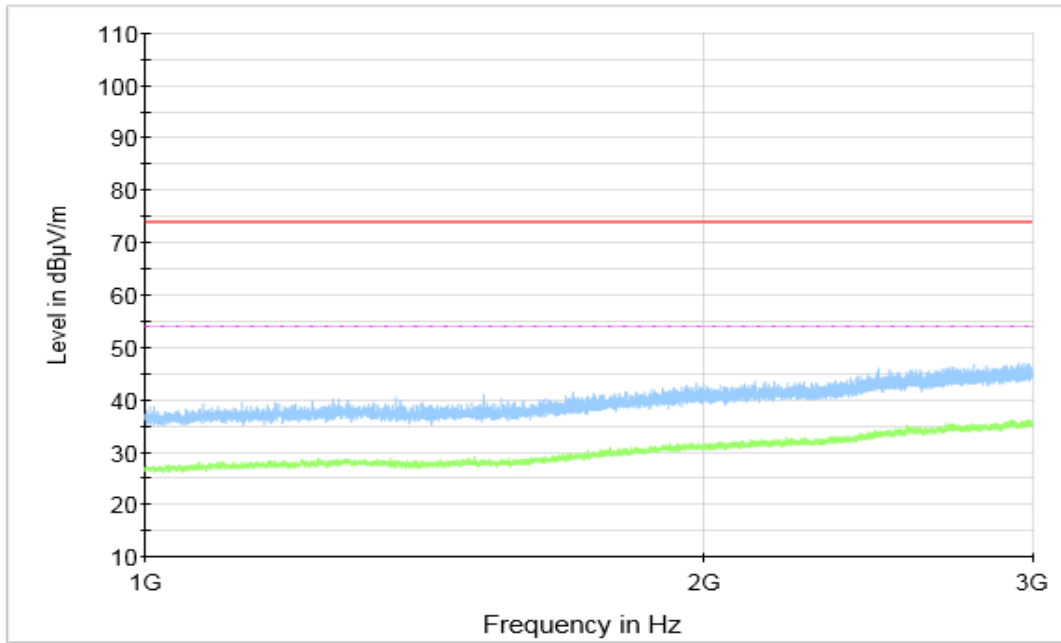


Figure A.17 Radiated Emission (Set.2,FM Mode, 1GHz to 3GHz)

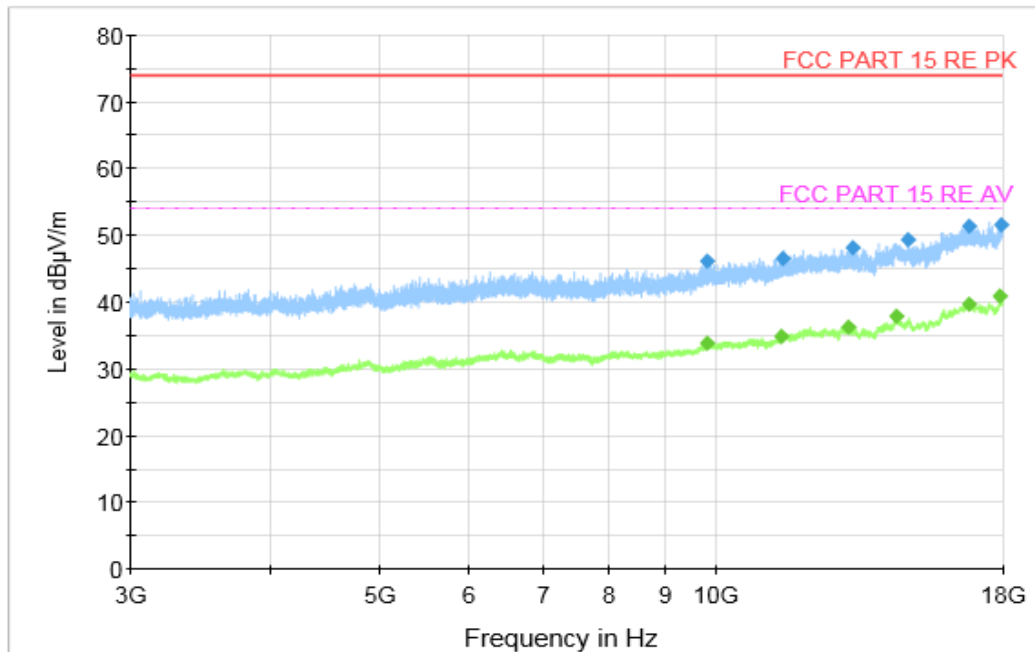


Figure A.18 Radiated Emission (Set.1, Video Player Mode, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9805.500000	46.09	74.00	27.91	V	4.8	41.29
11466.000000	46.61	74.00	27.39	H	6.7	39.91
13241.000000	48.16	74.00	25.84	H	9.7	38.46
14799.500000	49.32	74.00	24.68	H	11.2	38.12
16782.500000	51.34	74.00	22.66	V	15.9	35.44
17964.500000	51.58	74.00	22.42	H	16.8	34.78

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9796.000000	33.94	54.00	20.06	H	4.9	29.04
11433.500000	34.92	54.00	19.08	H	6.8	28.12
13099.500000	36.30	54.00	17.70	H	9.8	26.50
14461.500000	37.79	54.00	16.21	H	11.8	25.99
16793.000000	39.66	54.00	14.34	H	15.7	23.96
17910.000000	40.88	54.00	13.12	H	17.4	23.48

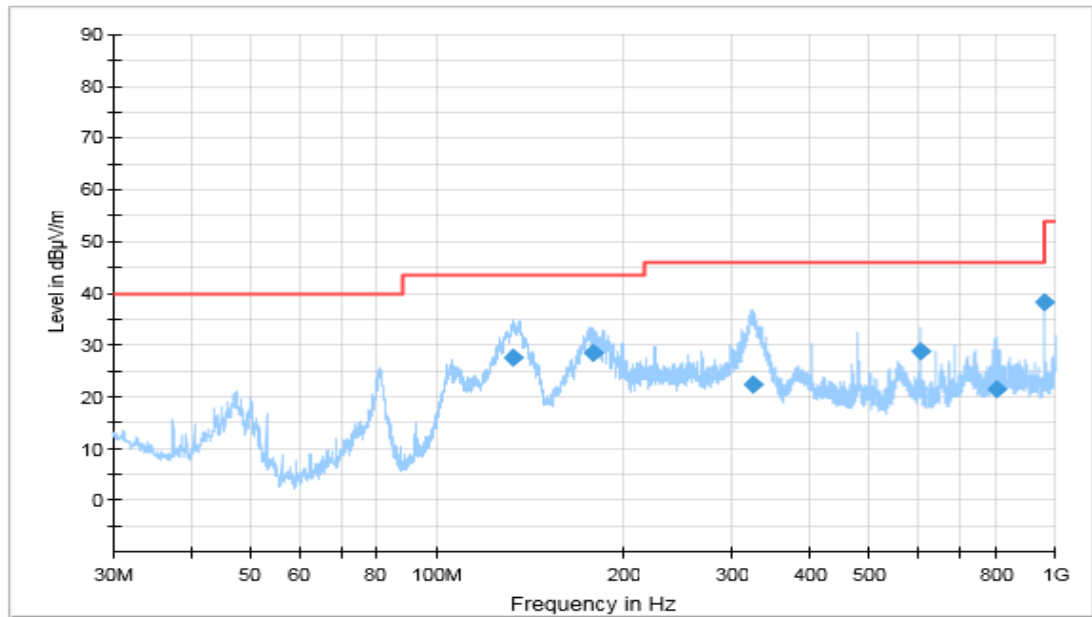


Figure A.19 Radiated Emission (Set.3, Data Transfer Mode: EUT to PC, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
132.721667	27.77	43.50	15.73	H	-32.3	60.07
178.876667	28.39	43.50	15.11	H	-32.9	61.29
323.092222	22.34	46.00	23.66	H	-28.4	50.74
606.631111	28.96	46.00	17.04	V	-21.2	50.16
800.038333	21.40	46.00	24.60	H	-18.8	40.2
959.994444	38.20	46.00	7.80	H	-16.3	54.50

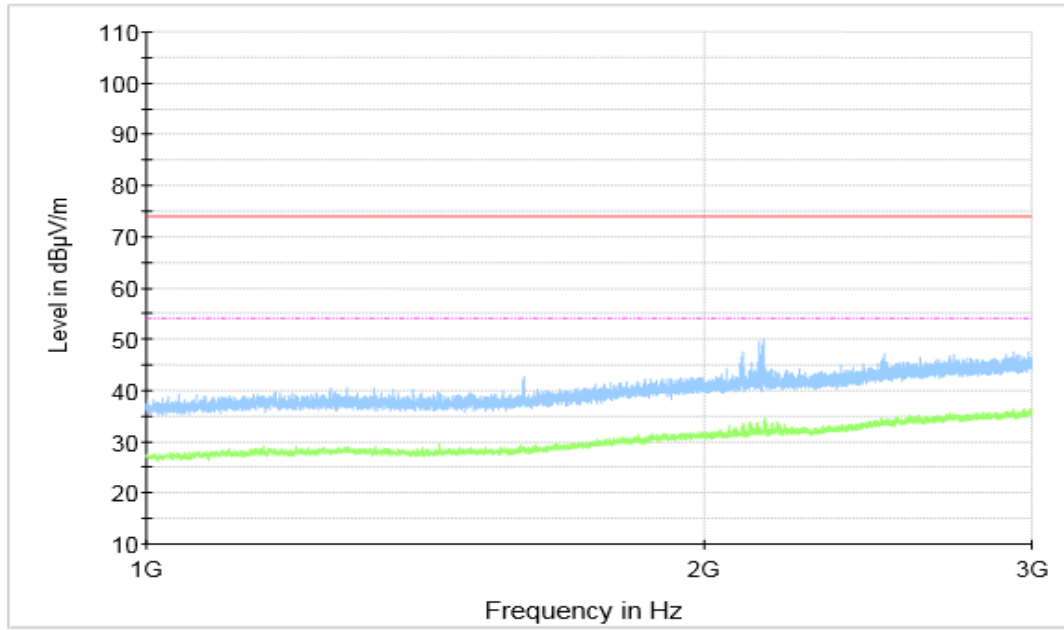


Figure A.20 Radiated Emission (Set.3, Data Transfer Mode: EUT to PC, 1GHz to 3GHz)

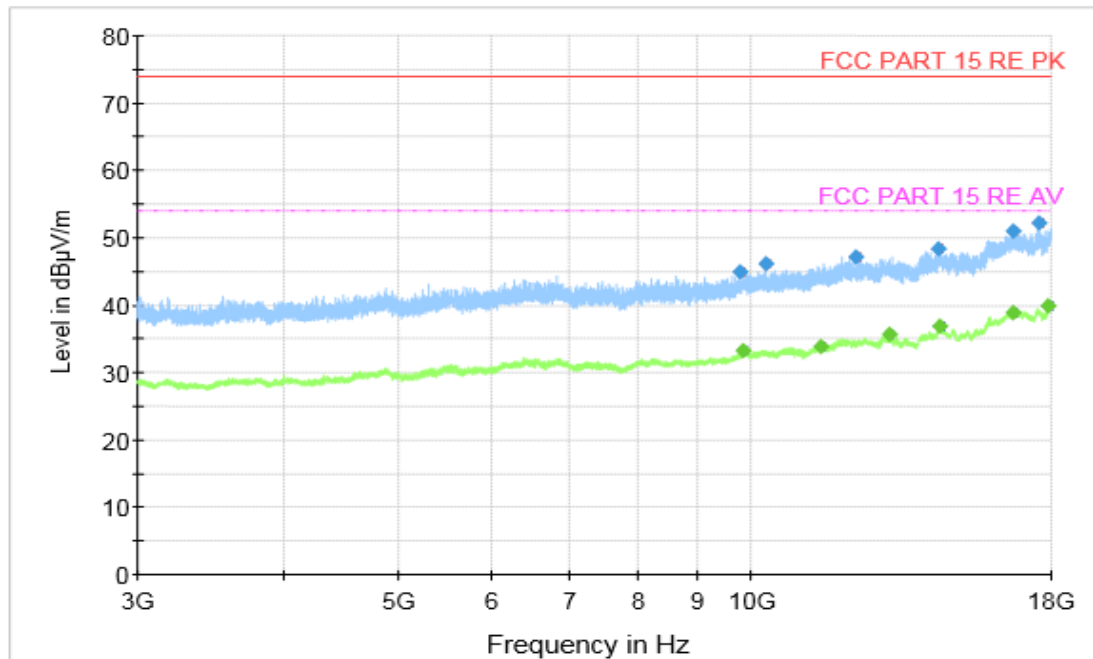


Figure A.21 Radiated Emission (Set.3, Data Transfer Mode: EUT to PC, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9782.500000	44.99	74.00	29.01	H	4.8	40.19
10283.000000	46.09	74.00	27.91	V	5.6	40.49
12278.000000	47.19	74.00	26.81	H	8.4	38.79
14428.500000	48.29	74.00	25.71	H	11.5	36.79
16720.500000	50.98	74.00	23.02	V	15.4	35.58
17570.000000	52.11	74.00	21.89	V	15.9	36.21

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9850.000000	33.23	54.00	20.77	H	5.3	27.93
11451.000000	33.93	54.00	20.07	V	6.8	27.13
13124.500000	35.71	54.00	18.29	H	9.8	25.91
14460.500000	36.81	54.00	17.19	H	11.8	25.01
16678.500000	38.83	54.00	15.17	H	15.2	23.63
17910.500000	39.99	54.00	14.01	V	17.4	22.59

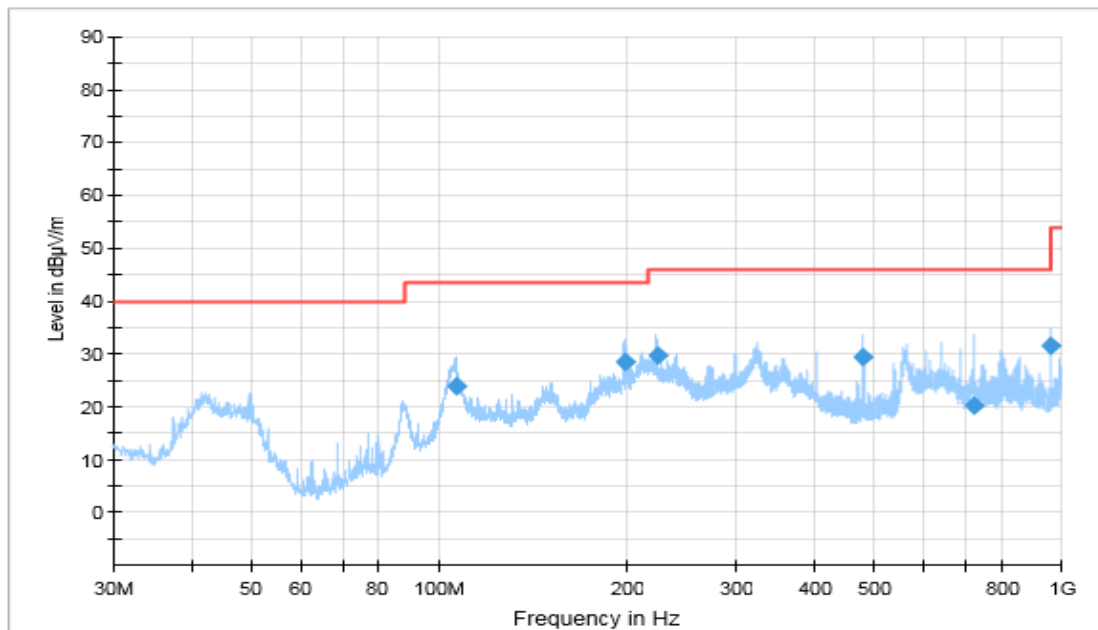


Figure A.22 Radiated Emission (Set.3, Data Transfer Mode: PC to EUT, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	PMea (dBµV)
106.863889	24.06	43.50	19.44	H	-32.4	56.46
198.379444	28.48	43.50	15.02	H	-33.1	61.58
224.597222	29.75	46.00	16.25	H	-32.4	62.15
479.992222	29.34	46.00	16.66	H	-23.8	53.14
719.733333	20.24	46.00	25.76	V	-19.1	39.34
959.994444	31.70	46.00	14.30	V	-16.3	39.34

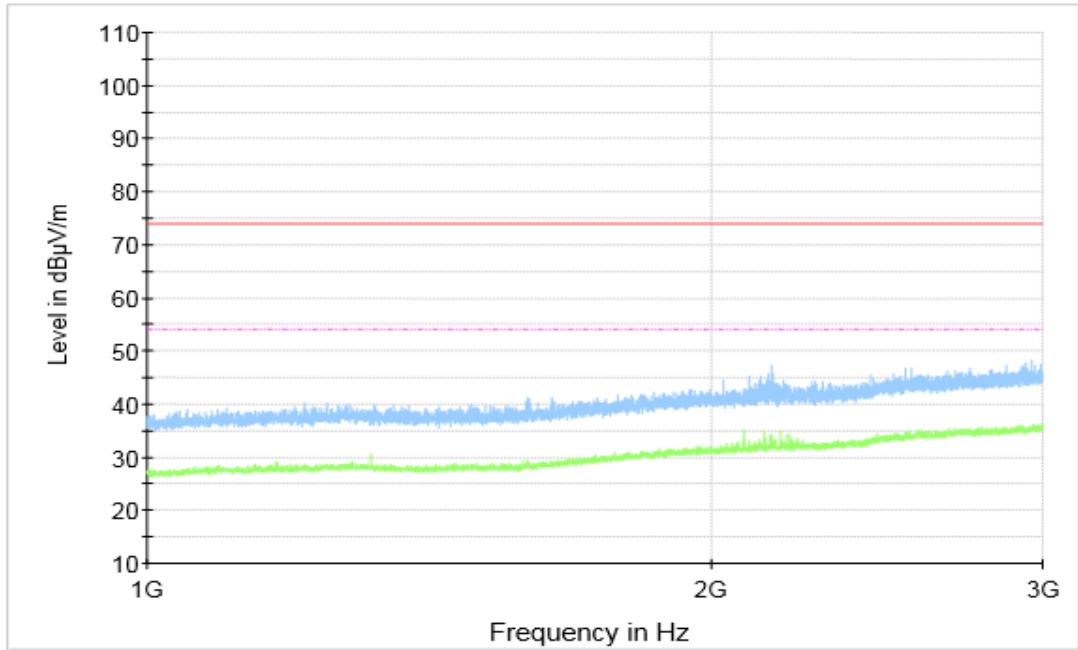


Figure A.23 Radiated Emission (Set.3, Data Transfer Mode: PC to EUT, 1GHz to 3GHz)

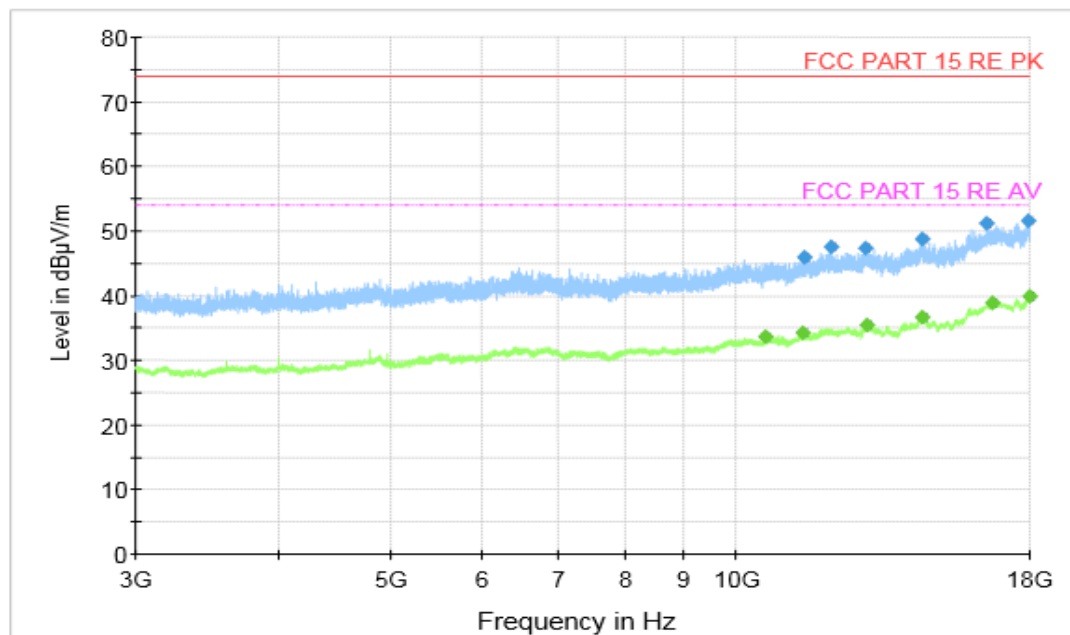


Figure A.24 Radiated Emission (Set.3, Data Transfer Mode: PC to EUT, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
11463.500000	45.93	74.00	28.07	V	6.7	39.23
12089.500000	47.62	74.00	26.38	H	8.0	39.62
12969.500000	47.36	74.00	26.64	H	9.4	37.96
14532.000000	48.71	74.00	25.29	V	11.7	37.01
16517.000000	51.21	74.00	22.79	H	15.3	35.91
17948.000000	51.52	74.00	22.48	V	17.2	34.32

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10607.500000	33.66	54.00	20.34	H	5.7	27.96
11417.500000	34.17	54.00	19.83	H	6.6	27.57
13008.500000	35.44	54.00	18.56	V	9.2	26.24
14500.000000	36.72	54.00	17.28	V	11.7	25.02
16704.500000	38.83	54.00	15.17	V	15.4	23.43
17998.000000	39.80	54.00	14.20	H	16.9	22.90

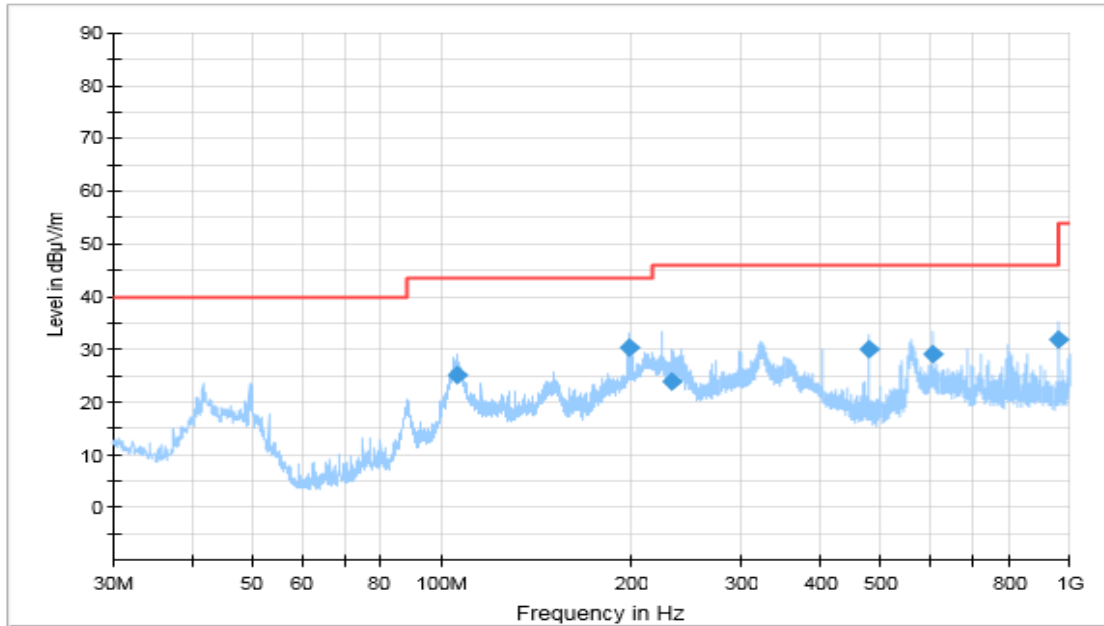


Figure A.25 Radiated Emission (Set.3, Data Transfer Mode: PC to TF Card, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
105.560000	25.26	43.50	18.24	H	-32.2	57.46
199.326667	30.48	43.50	13.02	H	-33.0	63.48
233.075000	24.07	46.00	21.93	H	-31.9	55.97
480.032222	30.17	46.00	15.83	V	-23.8	53.97
604.260000	29.12	46.00	16.88	V	-21.2	50.32
959.994444	31.95	46.00	14.05	V	-16.3	48.25

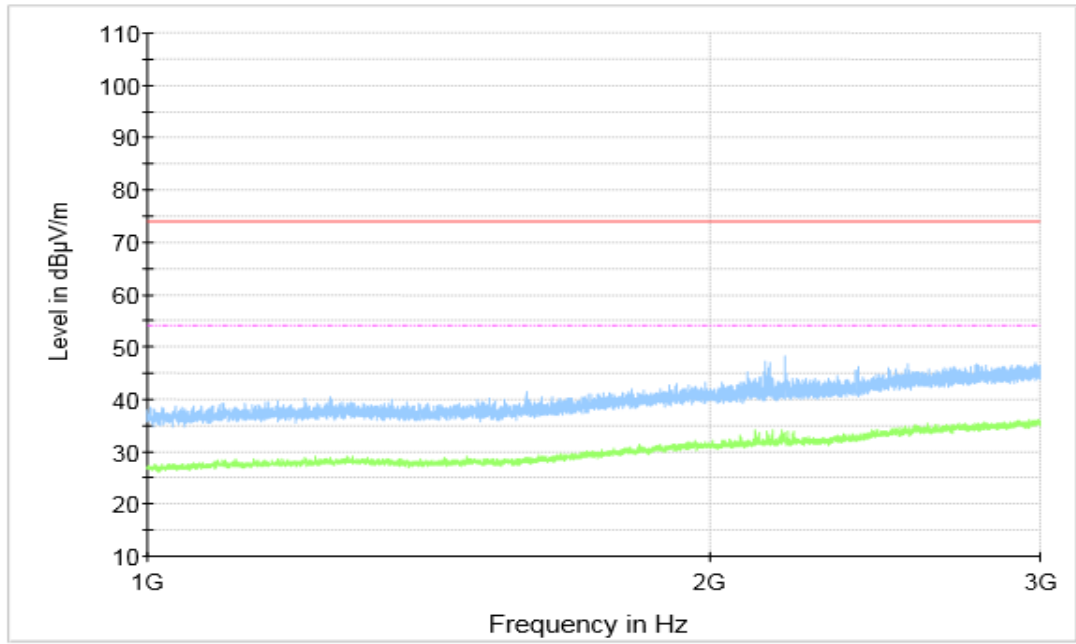


Figure A.26 Radiated Emission (Set.3, Data Transfer Mode: PC to TF Card, 1GHz to 3GHz)

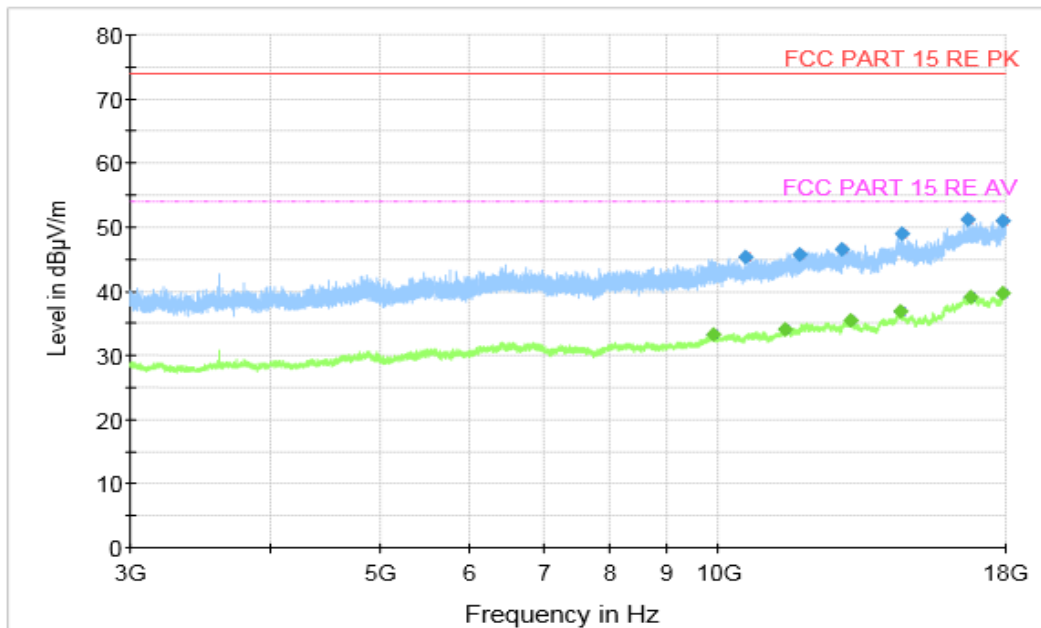


Figure A.27 Radiated Emission (Set.3, Data Transfer Mode: PC to TF Card, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	PMea (dBµV)
10574.000000	45.39	74.00	28.61	V	5.5	39.89
11812.000000	45.77	74.00	28.23	H	7.7	38.07
12886.000000	46.56	74.00	27.44	V	9.1	37.46
14551.000000	49.06	74.00	24.94	H	11.7	37.36
16656.500000	51.15	74.00	22.85	V	15.2	35.95
17910.500000	50.89	74.00	23.11	H	17.4	33.49

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
9883.500000	33.23	54.00	20.77	H	5.4	27.83
11460.000000	33.96	54.00	20.04	H	6.8	27.16
13100.500000	35.43	54.00	18.57	H	9.7	25.73
14499.500000	36.87	54.00	17.13	H	11.7	25.17
16738.000000	39.03	54.00	14.97	H	15.5	23.53
17909.000000	39.79	54.00	14.21	H	17.4	22.39

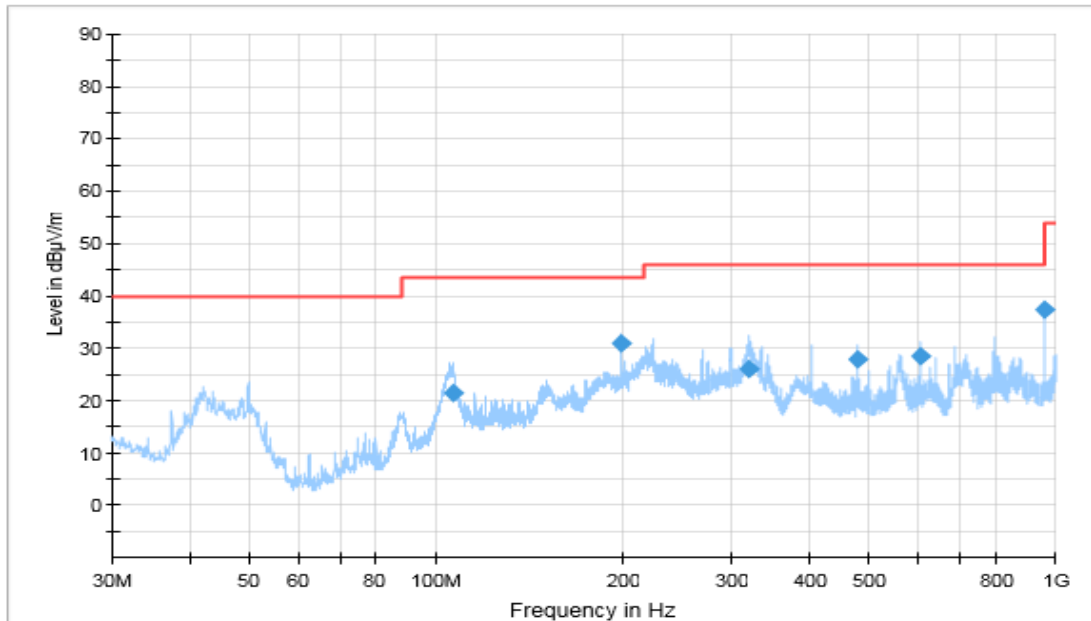


Figure A.28 Radiated Emission (Set.3, Data Transfer Mode: TF Card to PC, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
106.943889	21.52	43.50	21.98	H	-32.4	53.92
198.907778	30.91	43.50	12.59	H	-33.1	64.01
319.676111	26.03	46.00	19.97	H	-28.6	54.63
479.992222	27.98	46.00	18.02	V	-23.8	51.78
604.220000	28.45	46.00	17.55	V	-21.2	49.65
959.994444	37.37	46.00	8.63	H	-16.3	53.67

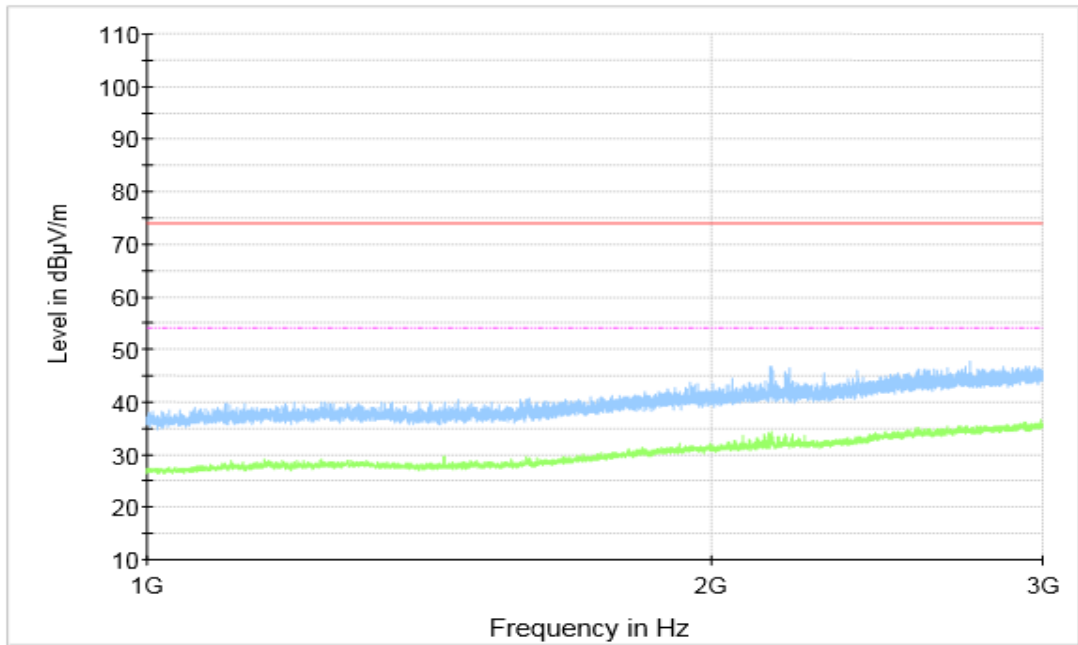


Figure A.29 Radiated Emission (Set.3, Data Transfer Mode: TF Card to PC, 1GHz to 3GHz)

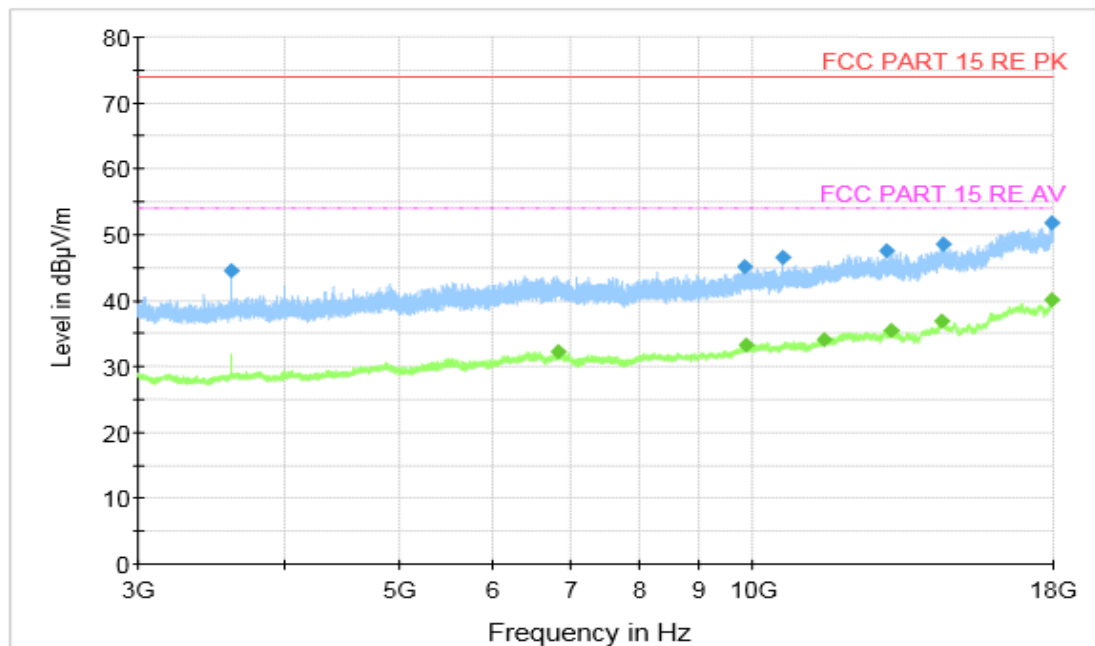


Figure A.30 Radiated Emission (Set.3, Data Transfer Mode: TF Card to PC, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
3599.500000	44.44	74.00	29.56	H	-2.3	46.74
9843.500000	45.21	74.00	28.79	H	5.1	40.11
10607.500000	46.63	74.00	27.37	H	5.7	40.93
12987.000000	47.46	74.00	26.54	H	9.1	38.36
14496.500000	48.59	74.00	25.41	V	11.7	36.89
17943.000000	51.84	74.00	22.16	H	17.3	34.54

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
6827.000000	32.25	54.00	21.75	V	2.7	29.55
9853.000000	33.20	54.00	20.80	H	5.3	27.90
11495.500000	34.14	54.00	19.86	H	6.9	27.24
13097.500000	35.50	54.00	18.50	V	9.8	25.70
14460.000000	36.84	54.00	17.16	H	11.8	25.04
17950.000000	40.06	54.00	13.94	H	17.2	22.86

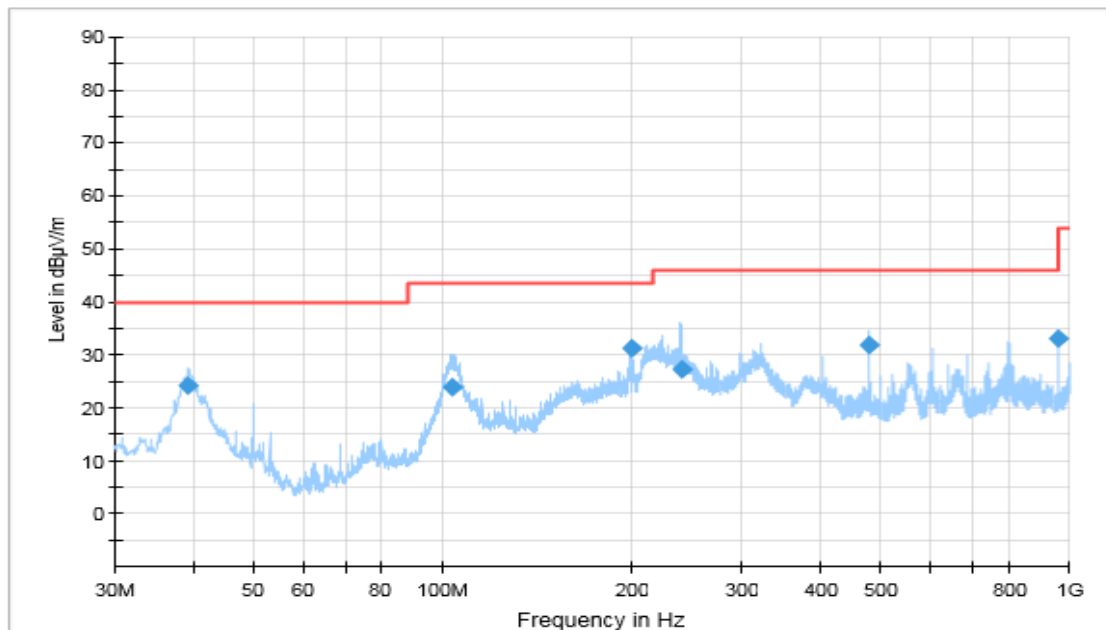


Figure A.31 Radiated Emission (Set.4, Data Transfer Mode: EUT to PC, 30MHz to 1GHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	ARpl (dB/m)	P _{Mea} (dBµV)
39.386111	24.40	40.00	15.60	V	-29.3	53.70
103.495000	23.88	43.50	19.62	H	-32.4	56.28
200.010000	31.38	43.50	12.12	H	-33.0	64.38
239.955556	27.32	46.00	18.68	H	-31.4	58.72
479.952222	31.76	46.00	14.24	H	-23.8	55.56
959.994444	33.21	46.00	12.79	H	-16.3	49.51

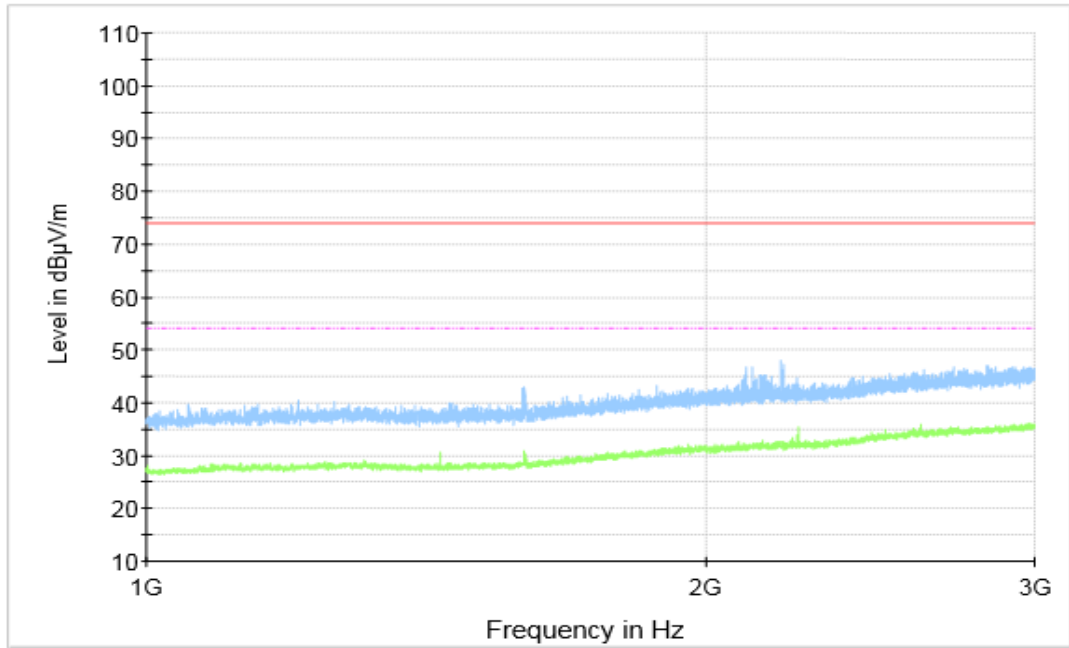


Figure A.32 Radiated Emission (Set.4, Data Transfer Mode: EUT to PC, 1GHz to 3GHz)

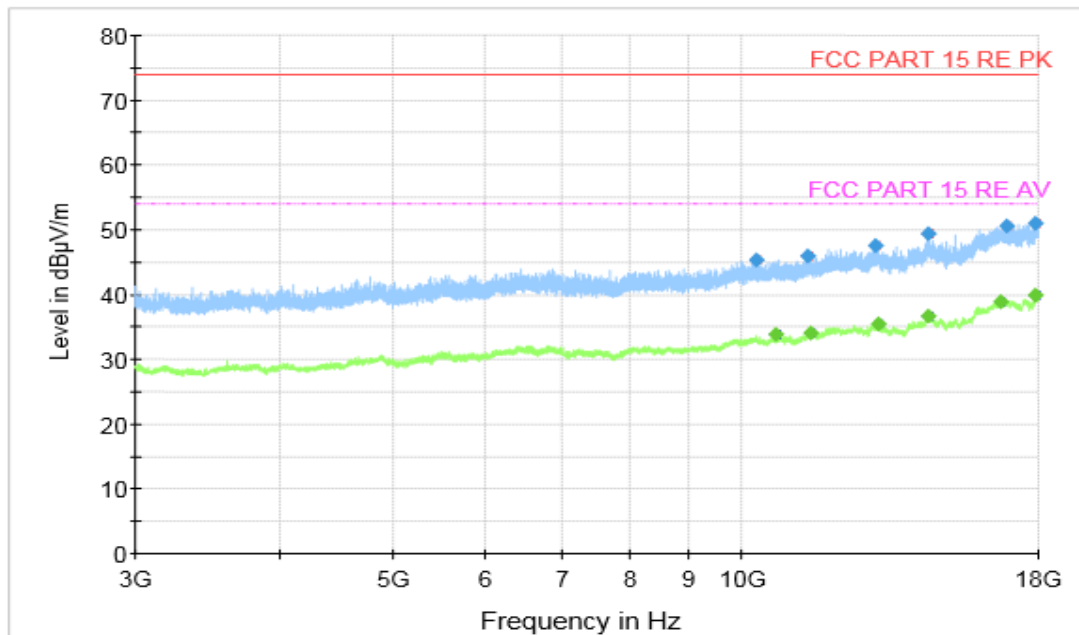


Figure A.33 Radiated Emission (Set.4, Data Transfer Mode: EUT to PC, 3GHz to 18GHz)

Final_Results_PK

Frequency(MHz)	Peak (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10288.500000	45.31	74.00	28.69	V	5.5	39.81
11378.000000	45.89	74.00	28.11	H	6.6	39.29
13021.000000	47.60	74.00	26.40	H	9.1	38.50
14483.000000	49.28	74.00	24.72	V	11.7	37.58
16886.500000	50.64	74.00	23.36	V	16.1	34.54
17909.500000	51.00	74.00	23.00	H	17.4	33.60

Final_Results_AVG

Frequency(MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB/m)	P _{Mea} (dBµV)
10697.500000	33.87	54.00	20.13	H	6.1	27.77
11449.500000	34.05	54.00	19.95	V	6.7	27.35
13123.000000	35.52	54.00	18.48	V	9.8	25.72
14486.000000	36.74	54.00	17.26	V	11.7	25.04
16701.000000	38.91	54.00	15.09	V	15.4	23.51
17910.500000	39.87	54.00	14.13	H	17.4	22.47

END OF REPORT