Industrial Internet Innovation Center (Shanghai) Co.,Ltd.

EMC TEST REPORT

PRODUCT	**POS System**
BRAND	**SUNMI**
MODEL	**L1584,L1585,L1586,L1591, L1592, L1593,L3571,L3572,L3573**
APPLICANT	**Shanghai Sunmi Technology Co.,Ltd.**
FCC ID	**2AH25D2S2ND**
IC	**22621-D2S2ND**
ISSUE DATE	**January 04, 2023**
STANDARD(S)	**FCC Part 15, Subpart B, ANSI C63.4-2014, ICES-003 Issue 7.**

Prepared by: *Li Liukai*	Reviewed by: *Qin Yabin*	Approved by: *Zhang Min*

CONTENTS

1 Summary of Test Report

1.1 Test Standard (s)

No.	Test Standard(s)	Title	Version
1	FCC Part 15, Subpart B	Radio frequency devices	2021/10/1
2	ANSI C63.4	Method of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014
3	ICES-003	Information Technology Equipment (Including Digital Apparatus)-Limits and Methods of Measurement	Issue 7

NOTE:

1. According to customer requirements, test and report using the latest version of the standard.

1.2 Summary of Test Results

No.	Item(s)	Standard(s)	Verdicts for Single Item	Detaied Results
1	Radiated Emission	15.109(a)	Pass	See section 6.1
2	AC Conducted Emission	15.107(a)	Pass	See section 6.2

NOTE:

The L1584,L1585,L1586,L1591, L1592, L1593,L3571,L3572,L3573, manufactured by Shanghai Sunmi Technology Co.,Ltd. Is a new product for testing.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. Only performed test cases which identified with Pass/Fail/Inc result in section 1.3.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. Has verified that the compliance of the tested device specified in section 4 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 1 of this test report.

The differences between different models are shown in the following table:

Model	LCD	Printer	Adapter
L1591	15.6’	58 Printer	60W: CYSE65-240250
L1592	15.6’+10.1’	58 Printer	
L1593	15.6’+15.6’	58 Printer	
L1584	15.6’	80 Printer	
L1585	15.6’+10.1’	80 Printer	
L1586	15.6’+15.6’	80 Printer	
L3571	15.6’	N/A	36W: CYZS36-240150
L3572	15.6’+10.1’	N/A	
L3573	15.6’+15.6’	N/A	

2 General Information of The Laboratory

2.1 Testing Laboratory

Lab Name	Industrial Internet Innovation Center (Shanghai) Co.,Ltd.
Address	Building 4, No. 766, Jingang Road, Pudong, Shanghai, China
Telephone	021-68866880
FCC Registration No.	958356
FCC Designation No.	CN1177
IC Designation No.	10766A
CAB identifier	CN0067

2.2 Laboratory Environmental Requirements

Temperature	15℃~35℃
Relative Humidity	25%RH~75%RH
Atmospheric Pressure	86kPa~106kPa
Supply Voltage	120V/60Hz

2.3 Project Information

Project Manager	Gao Hongning
Test Date	May 31, 2022 to November 29, 2022

3 General Information of The Customer

3.1 Applicant

Company	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Telephone	+86 18501703215

3.2 Manufacturer

Company	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Telephone	+86 18501703215

3.3 Factory

Company	N/A
Address	N/A

4 General Information of The Product

4.1 Product Description for Equipment under Test (EUT)

Product	POS System								
Model	L1584,L1585,L1586,L1591, L1592, L1593,L3571,L3572,L3573								
Date of Receipt	May 30, 2022								
EUT ID*	N03	N02	N06	N07	N14	N12	N05	N10	N18
Model	L1586	L3573	L3572	L1584	L1593	L1592	L1585	L1591	L3571
SN/IMEI	TC51D 25M40 023	DD23D 25N40 033	DD19D 25U40 089	TC50D 25X40 002	TC49D 25H40 002	TC55D 25G40 003	TC50D 25T40 052	TC55D 25G40 018	DD19D 25U40 087
Supported Radio Technology and Bands	BT4.2 WLAN 802.11b,g,n WLAN 802.11a,n,ac								
Hardware Version	RK3568_MB_V2.0								
Software Version	3.0.0								
NOTE1: EUT ID is the internal identification code of the laboratory. NOTE2: Photographs of EUT are shown in ANNEX A of this test report.									

4.2 Description for Auxiliary Equipment (AE)

AE ID*	Description	Model	SN/Remark
CA01	Adapter	CYSE65-240250	N/A
CB01	Adapter	CYZS36-240150	N/A
UA01	AC Cable	N/A	N/A
UB01	AC Cable	N/A	N/A
AE1	Notebook PC	DELL Latitude E6510	N/A
AE2	Micro SD card	Kingston SDC4/4GB 77	N/A
AE3	Keyboard	KB212-B	CN-0Y88XT-65890-12I-005Q-A00
AE4	Mouse	MS111-P	CN-011D3V-71581-19J-1A64
AE5	U-disk	N/A	N/A
AE6	U-disk	N/A	N/A
AE7	LAN Cable	N/A	N/A

AE8	Earphone	N/A	N/A
AE9	Cash Box	N/A	N/A
AE10	USB Cable	N/A	N/A
AE11	IOIO Cable	N/A	N/A
NOTE: *AE ID is the internal identification code of the laboratory.			

5 Test Configuration Information

5.1 Laboratory Environmental Conditions

13.2.9 **Permanent Facilities**

Semi-anechoic chamber SAC3-1 (9 m*8m*6.2m) & SAC3-2 (9.8m*6.7m*6.7m)	
Shielding effectiveness	0.014MHz ~1MHz, >60Db; 1MHz~1000MHz, >90Db.
Electrical insulation	> 2MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ± 4 Db, 3m distance, from 30 to 1000 MHz
Site voltage standing-wave ratio (SVSWR)	Between 0 and 6 Db, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 Db, from 80 to 6000 MHz

Shielded room	
Shielding effectiveness	0.014MHz~1MHz, >60Db; 1MHz~1000MHz, >90Db.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω

5.2 Decision of final test mode

The EUT was tested in conjunction with the accessories in Section 4.2. We tested all of the following test modes and selected the worst mode from the test results and recorded them in the report.

The test configuration modes are as the following:

N03 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
AC Conducted emission	Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 1 and for 1GHz -18GHz is Mode 1. 3. The worst case for conducted emission is mode 1.	

N02 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 2: Fullsystem working mode+ CB01+ UB01+ AE
AC Conducted emission	Mode 2: Fullsystem working mode+ CB01+ UB01+ AE
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 2 and for 1GHz -18GHz is Mode 2. 3. The worst case for conducted emission is mode 2.	

N06 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 2: Fullsystem working mode+ CB01+ UB01+ AE

AC Conducted emission	Mode 2: Fullsystem working mode+ CB01+ UB01+ AE
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 2 and for 1GHz -18GHz is Mode 2. 3. The worst case for conducted emission is mode 2.	

N07 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
AC Conducted emission	Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 3 and for 1GHz -18GHz is Mode 1. 3. The worst case for conducted emission is mode 1.	

N14 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
AC Conducted emission	Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 1 and for 1GHz -18GHz is Mode 1. 3. The worst case for conducted emission is mode 1.	

N12 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
AC Conducted emission	Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 3 and for 1GHz -18GHz is Mode 1. 3. The worst case for conducted emission is mode 1.	

N05 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
AC Conducted emission	Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 3 and for 1GHz -18GHz is Mode 1. 3. The worst case for conducted emission is mode 1.	

N10 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01

AC Conducted emission	Mode 1: Fullsystem working mode+ CA01+ UA01+ AE Mode 3: Print mode+ CA01+ UA01
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 1 and for 1GHz -18GHz is Mode 1. 3. The worst case for conducted emission is mode 1.	

N18 Sample:

Test Item	Test setup and operating modes
Radiated emission	30MHz-18GHz frequency range: Mode 2: Fullsystem working mode+ CB01+ UB01+ AE
AC Conducted emission	Mode 2: Fullsystem working mode+ CB01+ UB01+ AE
Note: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. The worst case of radiated emission for 30MHz-1GHz is Mode 2 and for 1GHz -18GHz is Mode 2. 3. The worst case for conducted emission is mode 2.	

5.3 EUT System Operation

1. Connect the EUT with AE.
2. Setup the EUT according to the standard.
3. Start testing and monitoring the function.
4. Fullsystem working mode: The full system include LAN cable, cash box, keyboard, mouse, earphone, data link, U disk and note PC.

5.4 EUT Connection Diagram of Test System

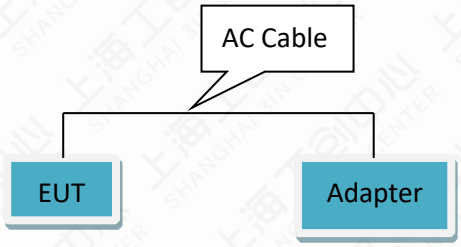

Figure 5.4-1 Mode 3

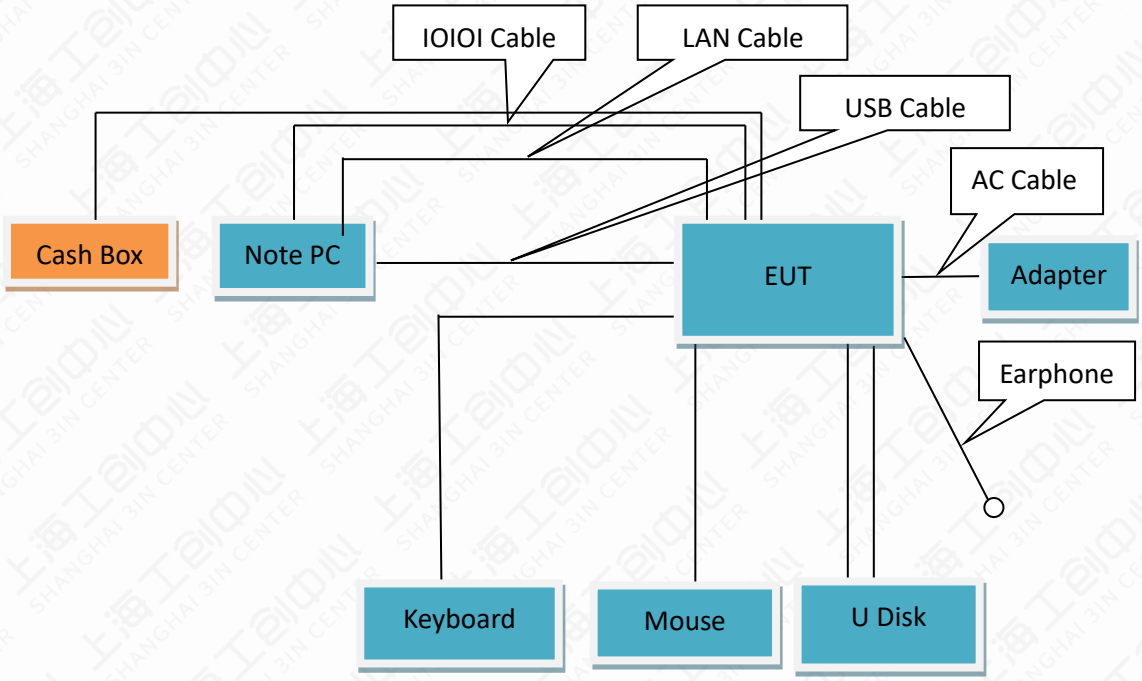

Figure 5.4-2 Mode 1,2

5.5 Test Equipments Utilized

No.	Name	Model	S/N	Manufacturer	Cal. Date	Cal. Interval
1	Test Receiver	ESCI	101235	R&S	2022-02-23	1 year
2	Test Receiver	ESU40	100307	R&S	2022-02-23	1 year
3	Trilog Antenna	VULB9163	VULB9163-515	Schwarzbeck	2022-03-11	1 year
4	Double Ridged Guide Antenna	ETS-3117	00135890	ETS	2022-03-09	2 years
5	2-Line V-Network	ENV216	101380	R&S	2022-02-21	1 year
6	EMI Test Software	EMC32 V9.15	N/A	R&S	N/A	N/A

5.6 Measurement Uncertainty

Item (s)	Uncertainty
Radiated Emission 30MHz-1000MHz	4.94 Db
Radiated Emission 1000MHz-18000MHz	5.02 Db
Conducted Emission	3.56 Db
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of *k*=2.	

6 Test Results

6.1 Radiated Emission

6.1.1 Method of Measurement

a. For 30MHz -1000MHz, the EUT was placed on the top of a rotating 0.8m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

b. For 1000MHz -18000MHz, the EUT was placed on the top of a 0.8m table above the ground at a 3m fully anechoic chamber. The maximal emission value was acquired by adjusting the antenna height, The table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement

6.1.2 EUT Connection Diagram of Test System

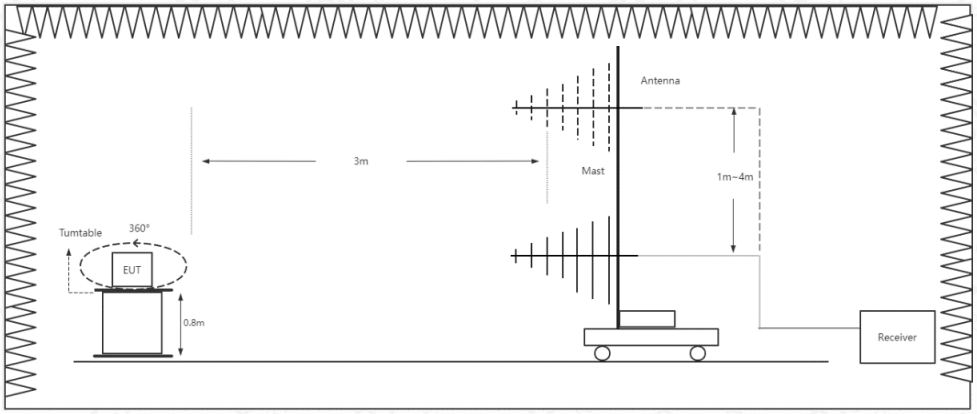

Figure 6.1.2-1 RE 30MHz-1GHz Connection Diagram

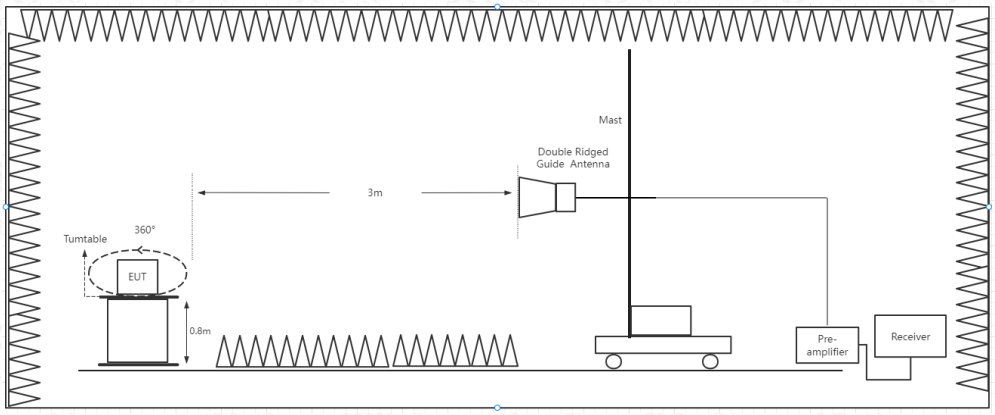

Figure 6.1.2-2 RE Above 1GHz Connection Diagram

6.1.3 Test Condition

Frequency Range (MHz)	RBW/VBW	Sweep Time (s)
30-1000	120kHz/300kHz	AUTO
1000-18000	1MHz/3MHz	AUTO

6.1.4 Limit/Criterion

Frequency Range (MHz)	Quasi-Peak (DbμV/m)	Peak (DbμV/m)	Average (DbμV/m)
30-88	40	N/A	N/A
88-216	43.5	N/A	N/A
216-960	46	N/A	N/A
Above 960	54	N/A	N/A
Above 1000	N/A	74	54

6.1.5 Test environmental conditions

Temperature	24.0℃
Relative Humidity	60.0%RH
Atmospheric Pressure	101.7 kPa

6.1.6 Test Results

N03 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	30-1000	See Annex A.1-1	Pass
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	1000-18000	See Annex A.1-2 &A.1-3	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N02 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	30-1000	See Annex A.1-4	Pass

Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	1000-18000	See Annex A.1-5 &A.1-6	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N06 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	30-1000	See Annex A.1-7	Pass
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	1000-18000	See Annex A.1-8 &A.1-9	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N07 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 3: Print mode+ CA01+ UA01	30-1000	See Annex A.1-10	Pass
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	1000-18000	See Annex A.1-11 &A.1-12	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N14 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	30-1000	See Annex A.1-13	Pass
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	1000-18000	See Annex A.1-14 &A.1-15	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N12 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 3: Print mode+ CA01+ UA01	30-1000	See Annex A.1-16	Pass

Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	1000-18000	See Annex A.1-17 &A.1-18	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N05 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 3: Print mode+ CA01+ UA01	30-1000	See Annex A.1-19	Pass
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	1000-18000	See Annex A.1-20 &A.1-21	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N10 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	30-1000	See Annex A.1-22	Pass
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	1000-18000	See Annex A.1-23 &A.1-24	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N18 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	30-1000	See Annex A.1-25	Pass
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	1000-18000	See Annex A.1-26 &A.1-27	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

6.2 Conducted Emission

6.2.1 Method of Measurement

The EUT was placed on a 0.8m height table with EUT being connected to the power mains through a line impedance stabilization network (LISN). Both lines of the power mains connected to the EUT were checked for maximum conducted interference. The frequency range from 150 kHz to 30 MHz was searched.

6.2.2 EUT Connection Diagram of Test System

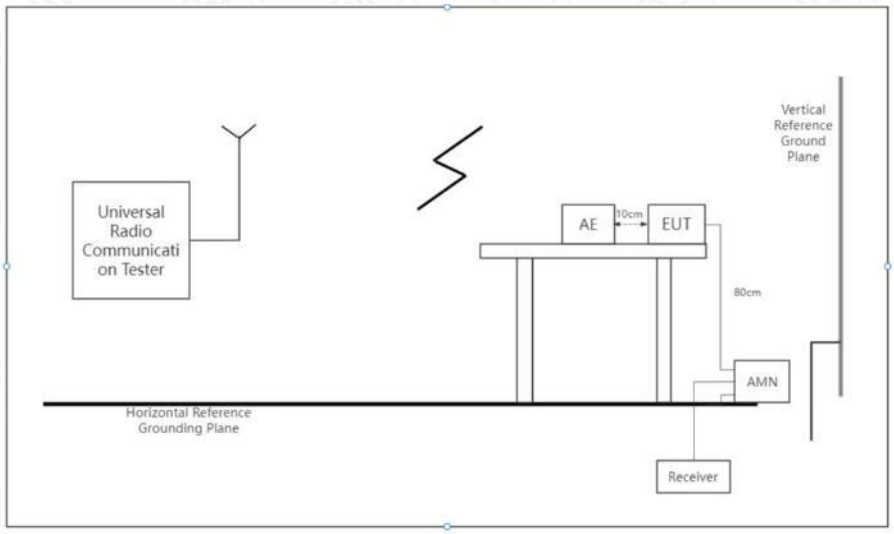

Figure 6.2.2-1 CE Connection Diagram

6.2.3 Test Condition

Test Condition in Charging Mode

Voltage (V)	Frequency (Hz)	RBW	Sweep Time (s)
120	60	9 kHz	AUTO

6.2.4 Limit

Frequency Range (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		

6.2.5 Testing environmental conditions

Temperature	23.7℃
Relative Humidity	60.2%RH
Atmospheric Pressure	101.7 kPa

6.2.6 Test Results

N03 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	0.15-30	See Annex A.2-1	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N02 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	0.15-30	See Annex A.2-2	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N06 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	0.15-30	See Annex A.2-3	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N07 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	0.15-30	See Annex A.2-4	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N14 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts

Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	0.15-30	See Annex A.2-5	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N12 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	0.15-30	See Annex A.2-6	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N05 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	0.15-30	See Annex A.2-7	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N10 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 1: Fullsystem working mode+ CA01+ UA01+ AE	0.15-30	See Annex A.2-8	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

N18 Sample:

Mode	Frequency (MHz)	Test Results	Verdicts
Mode 2: Fullsystem working mode+ CB01+ UB01+ AE	0.15-30	See Annex A.2-9	Pass
NOTE Abbreviations used in this clause: Pass—P; Fail—F; Not applicable—N/A			

Annex A: Measurement Data

A.1 Radiated Emission

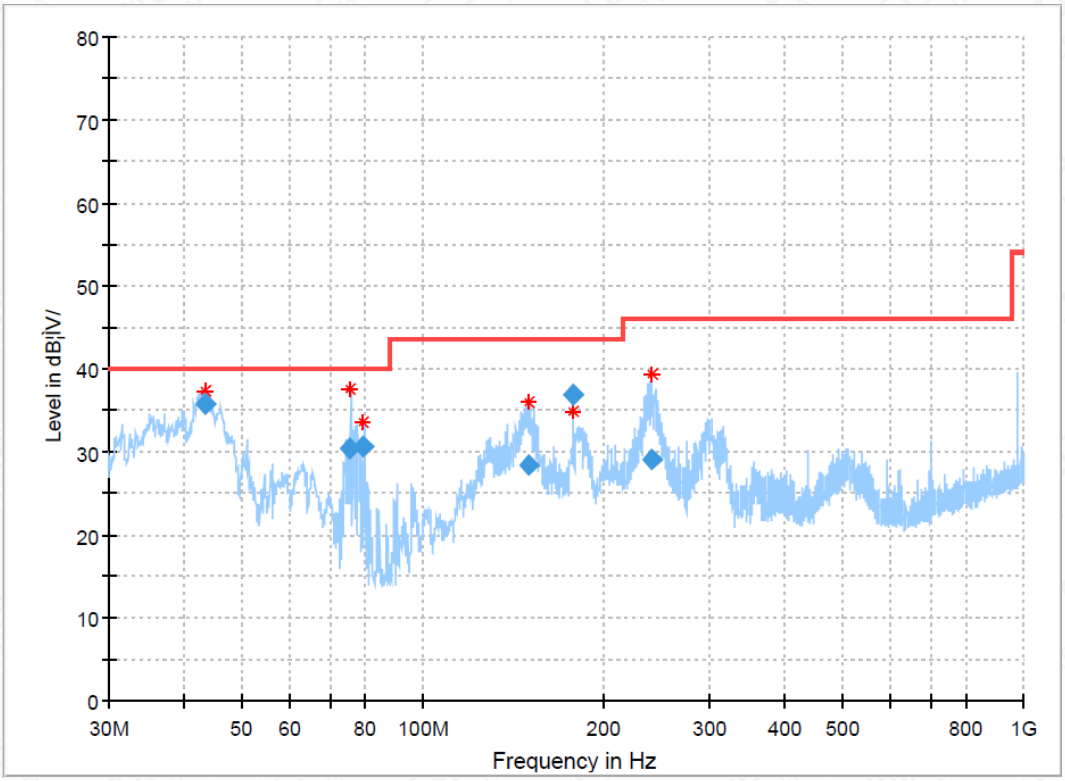

Figure A.1-1 Mode 1 (30M-1GHz)_N03 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
43.492360	35.83	40.00	4.17	100.0	V	126.0	-12.2
75.743080	30.31	40.00	9.69	200.0	H	57.0	-17.0
79.528120	30.70	40.00	9.30	200.0	H	220.0	-18.0
150.001080	28.47	43.50	15.03	100.0	V	311.0	-16.4
177.839760	36.81	43.50	6.69	200.0	H	276.0	-14.8
239.940680	28.97	46.00	17.03	200.0	H	22.0	-11.2

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

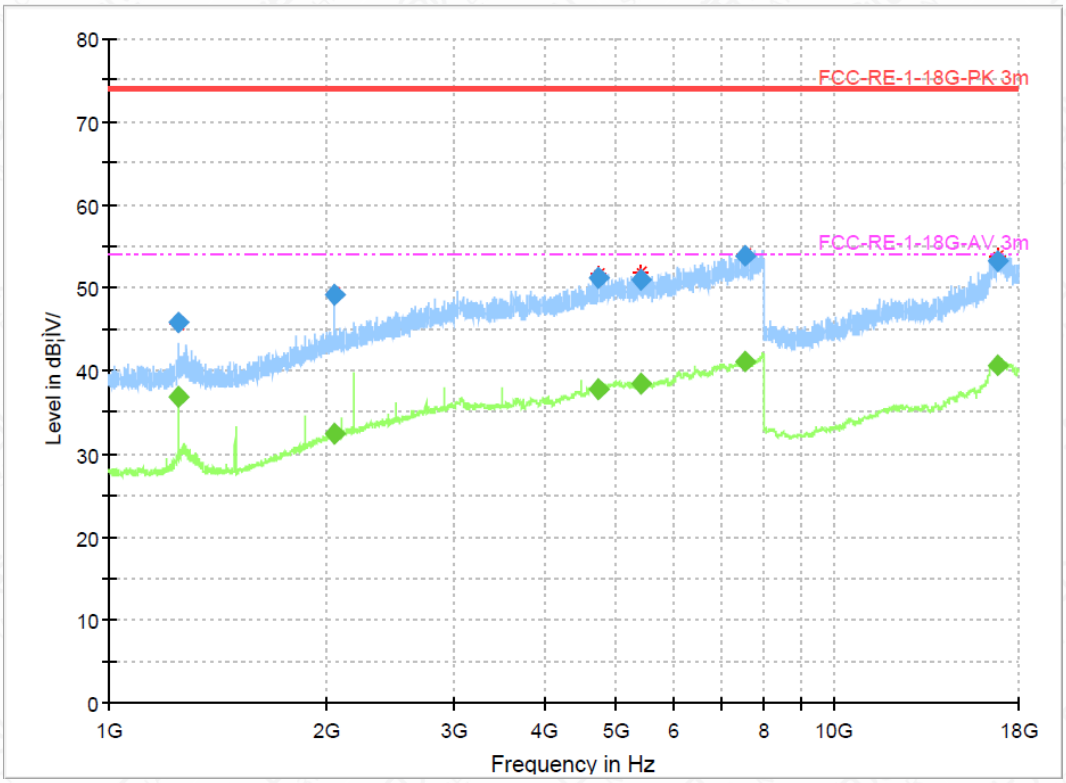

Figure A.1-2 Mode 1 (1GHz-18GHz)-H_N03 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1244.9512	45.83	---	74.00	28.17	500.0	1000.0	100.0	H	305.0	2.0
1244.9512	---	36.87	54.00	17.13	500.0	1000.0	100.0	H	305.0	2.0
2047.1837	49.10	---	74.00	24.90	500.0	1000.0	103.0	H	305.0	7.0
2047.1837	---	32.33	54.00	21.67	500.0	1000.0	103.0	H	305.0	7.0
4741.6212	---	37.75	54.00	16.25	500.0	1000.0	198.0	H	99.0	15.1
4741.6212	51.21	---	74.00	22.79	500.0	1000.0	198.0	H	99.0	15.1
5407.8287	---	38.40	54.00	15.60	500.0	1000.0	115.0	H	3.0	16.7
5407.8287	50.86	---	74.00	23.14	500.0	1000.0	115.0	H	3.0	16.7
7552.4175	---	41.05	54.00	12.95	500.0	1000.0	100.0	H	65.0	20.8
7552.4175	53.89	---	74.00	20.11	500.0	1000.0	100.0	H	65.0	20.8
16838.773	---	40.76	54.00	13.25	500.0	1000.0	215.0	H	359.0	22.4
16838.773	53.25	---	74.00	20.75	500.0	1000.0	215.0	H	359.0	22.4

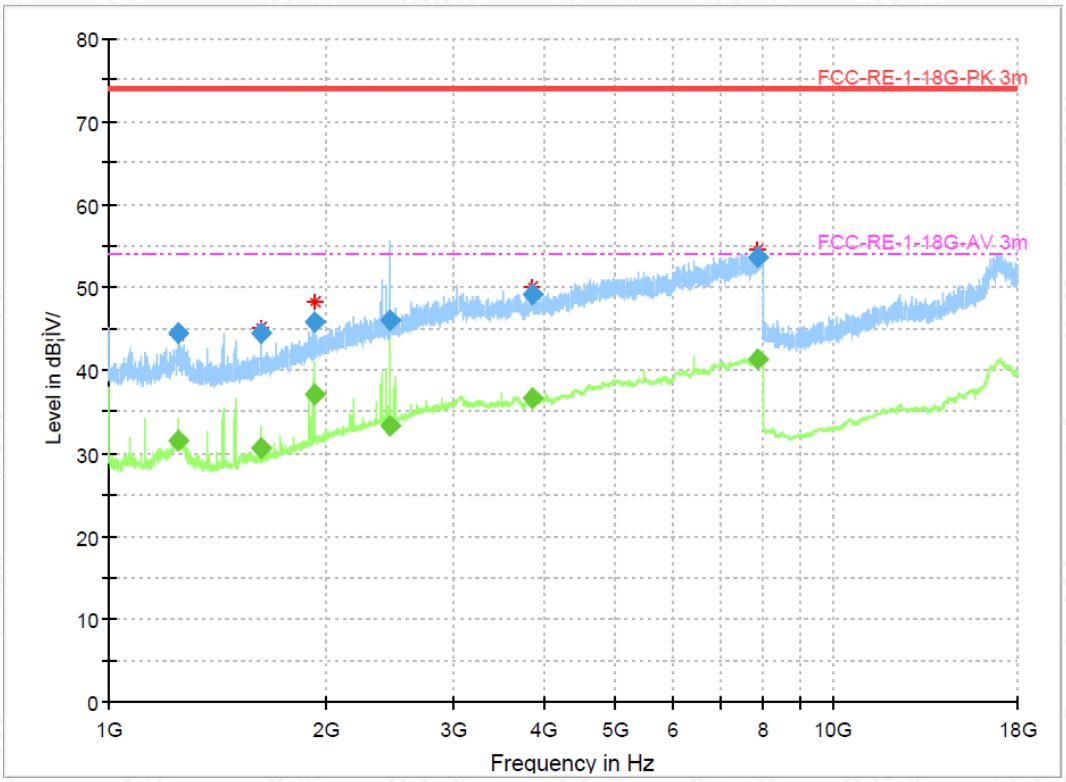

Figure A.1-3 Mode 1 (1GHz-18GHz)-V_N03 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1249.7125	44.49	---	74.00	29.51	500.0	1000.0	100.0	V	299.0	2.0
1249.7125	---	31.50	54.00	22.50	500.0	1000.0	100.0	V	299.0	2.0
1618.1887	---	30.51	54.00	23.49	500.0	1000.0	115.0	V	73.0	3.4
1618.1887	44.54	---	74.00	29.46	500.0	1000.0	115.0	V	73.0	3.4
1920.0587	---	37.06	54.00	16.94	500.0	1000.0	102.0	V	355.0	6.2
1920.0587	45.92	---	74.00	28.08	500.0	1000.0	102.0	V	355.0	6.2
2439.2950	---	33.24	54.00	20.76	500.0	1000.0	185.0	V	338.0	8.8
2439.2950	46.10	---	74.00	27.90	500.0	1000.0	185.0	V	338.0	8.8
3838.7237	---	36.70	54.00	17.30	500.0	1000.0	115.0	V	192.0	13.0
3838.7237	49.09	---	74.00	24.91	500.0	1000.0	115.0	V	192.0	13.0
7865.1312	53.70	---	74.00	20.30	500.0	1000.0	215.0	V	31.0	20.9
7865.1312	---	41.27	54.00	12.73	500.0	1000.0	215.0	V	31.0	20.9

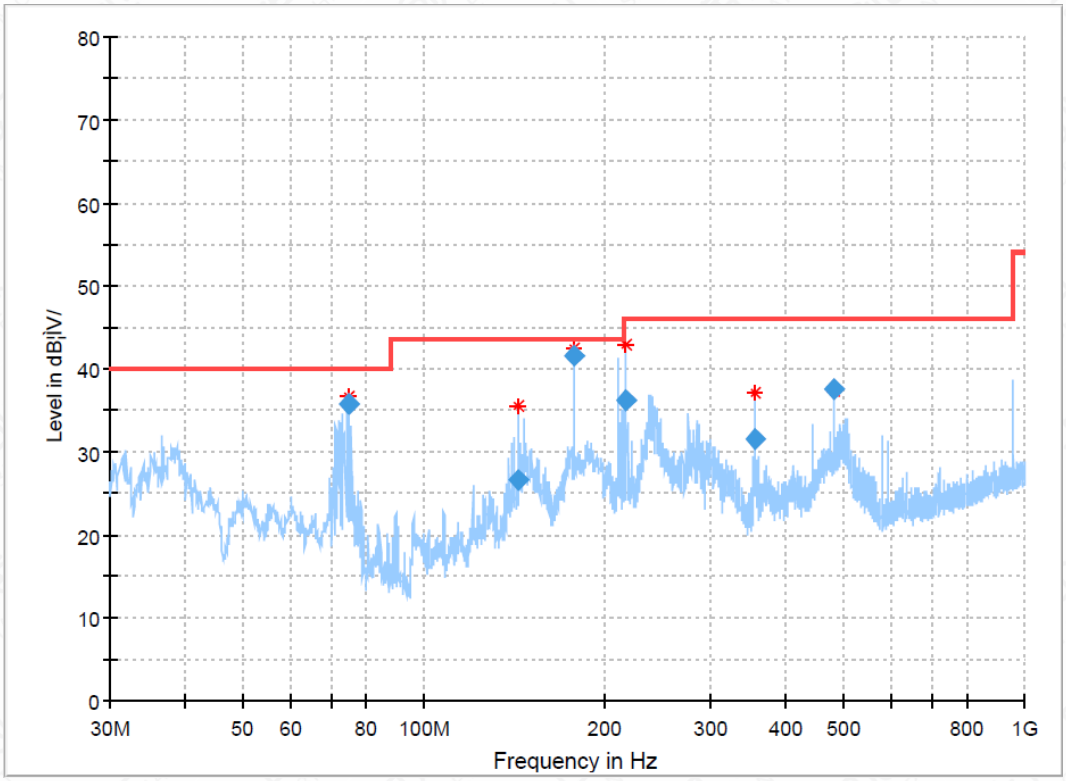

Figure A.1-4 Mode 2 (30M-1GHz)_N02 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
74.985440	35.81	40.00	4.19	200.0	H	228.0	-16.9
143.235520	26.63	43.50	16.87	200.0	H	298.0	-16.4
177.834840	41.62	43.50	1.88	100.0	H	236.0	-14.8
216.727240	36.16	46.00	9.84	200.0	H	216.0	-12.3
355.715680	31.40	46.00	14.60	100.0	H	176.0	-8.4
479.982520	37.60	46.00	8.40	100.0	H	200.0	-5.7

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

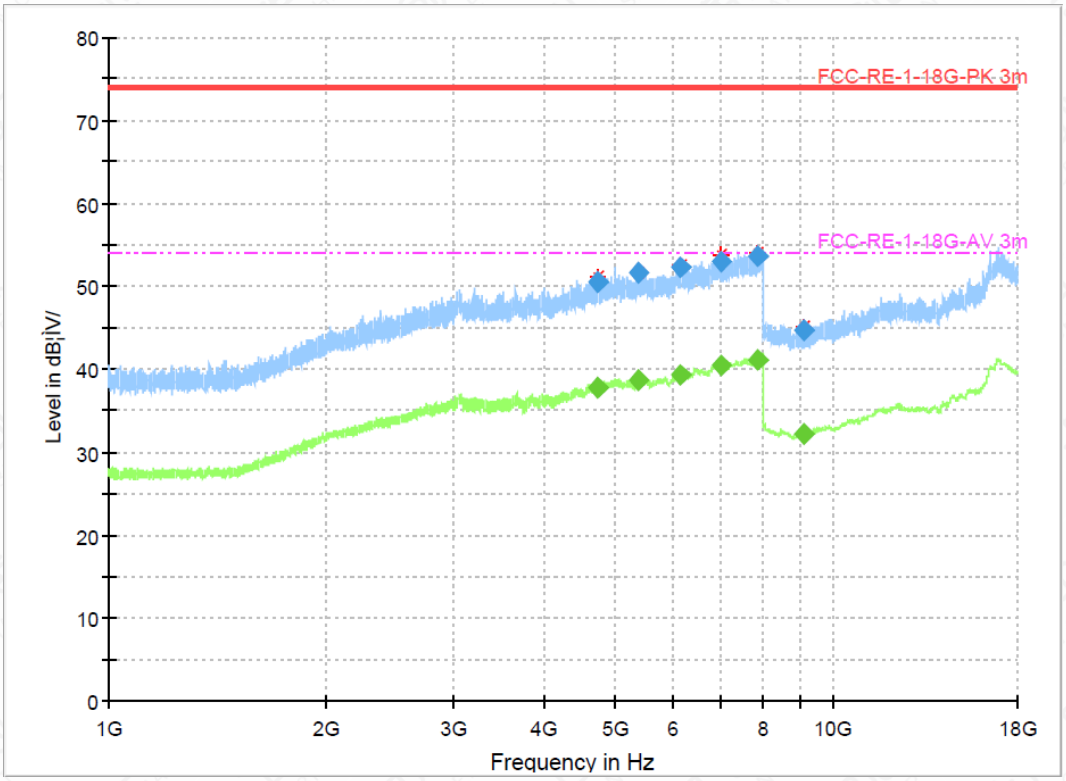

Figure A.1-5 Mode 2 (1GHz-18GHz)-H_N02 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
4735.0900	50.59	---	74.00	23.41	500.0	1000.0	215.0	H	298.0	15.1
4735.0900	---	37.85	54.00	16.15	500.0	1000.0	215.0	H	298.0	15.1
5385.7450	51.65	---	74.00	22.35	500.0	1000.0	215.0	H	164.0	16.6
5385.7450	---	38.70	54.00	15.30	500.0	1000.0	215.0	H	164.0	16.6
6146.6312	---	39.22	54.00	14.78	500.0	1000.0	215.0	H	0.0	18.2
6146.6312	52.35	---	74.00	21.65	500.0	1000.0	215.0	H	0.0	18.2
7023.3387	---	40.39	54.00	13.61	500.0	1000.0	215.0	H	34.0	19.7
7023.3387	52.88	---	74.00	21.12	500.0	1000.0	215.0	H	34.0	19.7
7886.9262	53.73	---	74.00	20.27	500.0	1000.0	115.0	H	122.0	21.0
7886.9262	---	41.12	54.00	12.88	500.0	1000.0	115.0	H	122.0	21.0
9135.6837	44.72	---	74.00	29.28	500.0	1000.0	115.0	H	2.0	8.8
9135.6837	---	32.15	54.00	21.85	500.0	1000.0	115.0	H	2.0	8.8

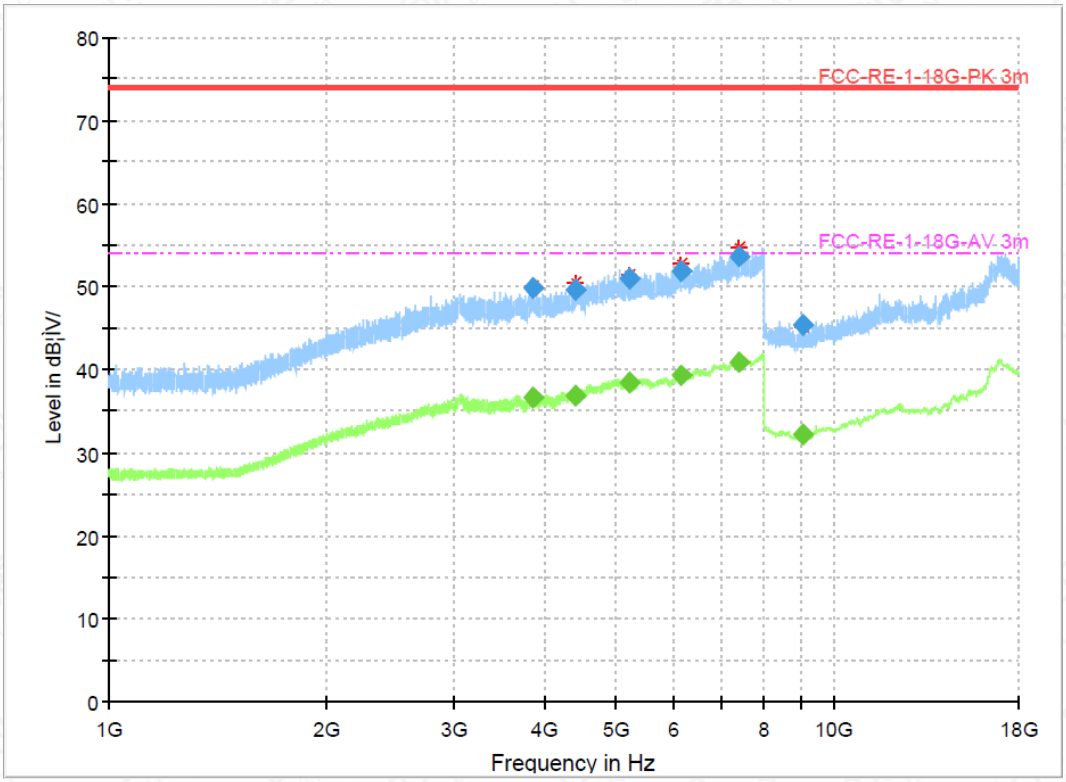

Figure A.1-6 Mode 2 (1GHz-18GHz)-V_N02 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
3840.2800	49.78	---	74.00	24.22	500.0	1000.0	115.0	V	192.0	13.0
3840.2800	---	36.73	54.00	17.27	500.0	1000.0	115.0	V	192.0	13.0
4389.7800	49.53	---	74.00	24.47	500.0	1000.0	200.0	V	46.0	14.2
4389.7800	---	36.98	54.00	17.02	500.0	1000.0	200.0	V	46.0	14.2
5222.6337	50.98	---	74.00	23.02	500.0	1000.0	103.0	V	3.0	16.2
5222.6337	---	38.36	54.00	15.64	500.0	1000.0	103.0	V	3.0	16.2
6176.2450	51.75	---	74.00	22.25	500.0	1000.0	206.0	V	240.0	18.2
6176.2450	---	39.33	54.00	14.67	500.0	1000.0	206.0	V	240.0	18.2
7409.0825	---	40.80	54.00	13.20	500.0	1000.0	185.0	V	176.0	20.3
7409.0825	53.61	---	74.00	20.39	500.0	1000.0	185.0	V	176.0	20.3
9074.6300	---	32.11	54.00	21.89	500.0	1000.0	111.0	V	112.0	8.8
9074.6300	45.41	---	74.00	28.59	500.0	1000.0	111.0	V	112.0	8.8

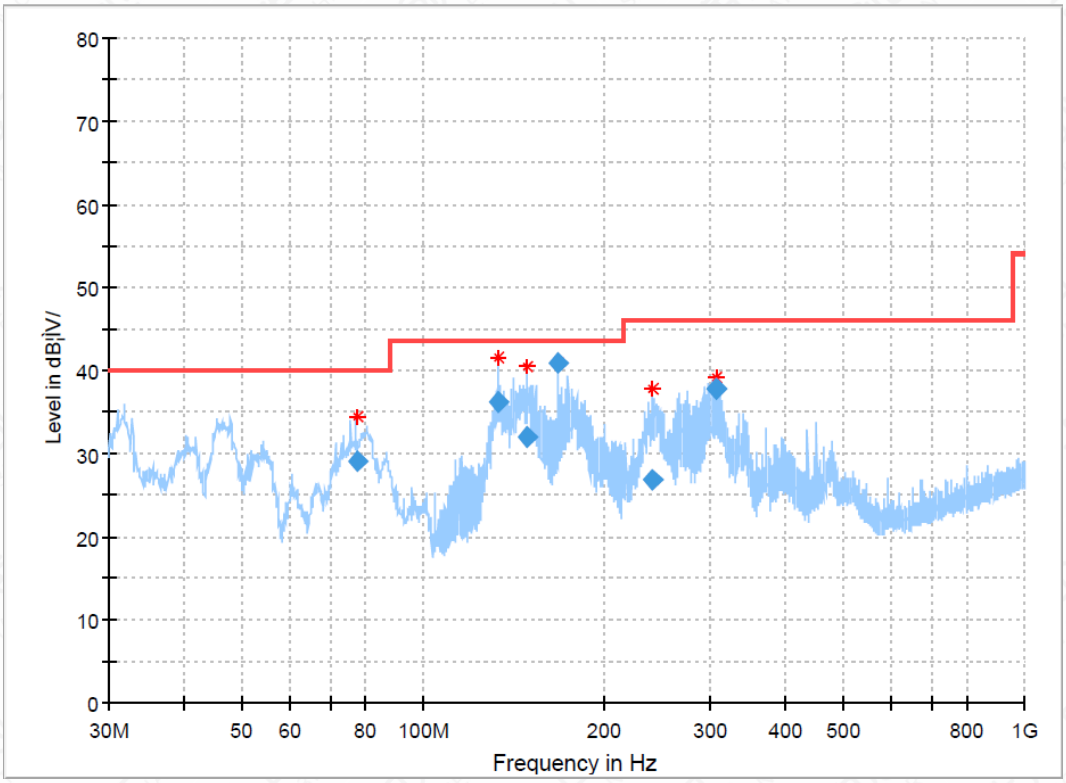

Figure A.1-7 Mode 2 (30M-1GHz)_N06 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
77.740360	28.98	40.00	11.02	200.0	H	200.0	-17.5
133.504040	36.17	43.50	7.33	100.0	V	218.0	-16.2
149.213000	31.89	43.50	11.61	200.0	H	281.0	-16.4
167.983600	40.81	43.50	2.69	200.0	H	108.0	-15.5
239.937080	26.91	46.00	19.09	100.0	H	0.0	-11.2
307.933880	37.83	46.00	8.17	100.0	H	72.0	-9.8

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

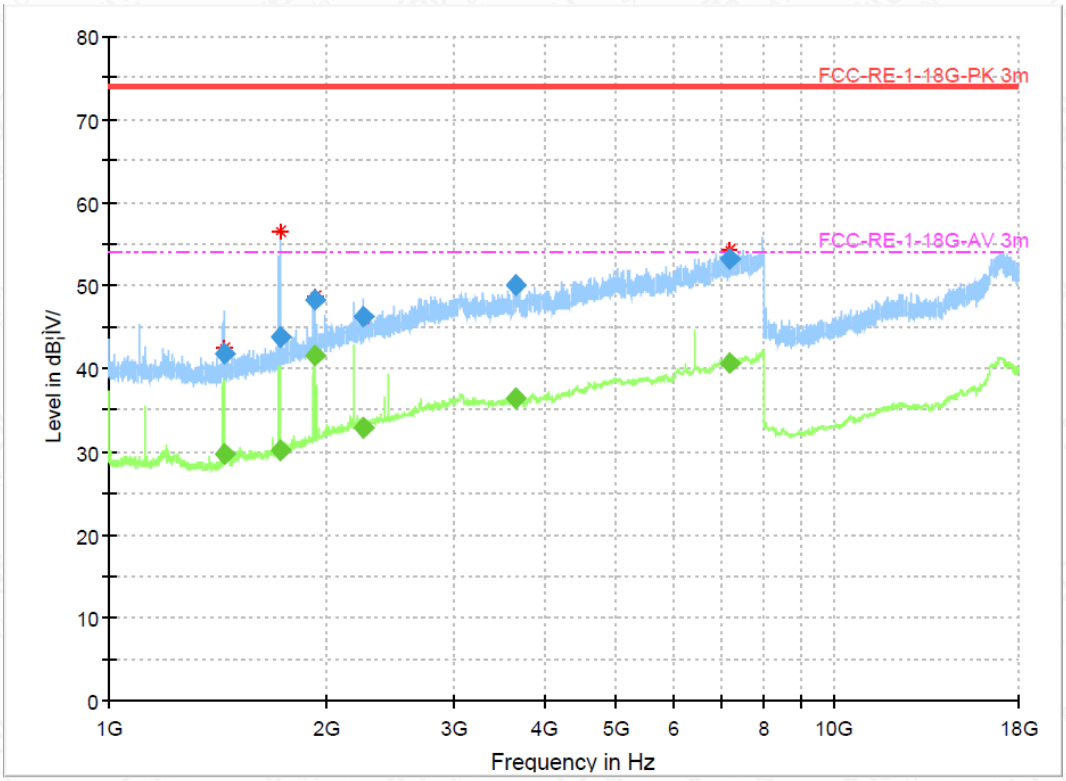

Figure A.1-8 Mode 2 (1GHz-18GHz)-H_N06 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1440.0600	41.70	---	74.00	32.30	500.0	1000.0	103.0	H	246.0	2.3
1440.0600	---	29.65	54.00	24.35	500.0	1000.0	103.0	H	246.0	2.3
1727.6137	43.84	---	74.00	30.16	500.0	1000.0	115.0	H	0.0	4.4
1727.6137	---	30.12	54.00	23.88	500.0	1000.0	115.0	H	0.0	4.4
1920.2262	---	41.59	54.00	12.41	500.0	1000.0	115.0	H	275.0	6.2
1920.2262	48.17	---	74.00	25.83	500.0	1000.0	115.0	H	275.0	6.2
2240.4637	46.17	---	74.00	27.83	500.0	1000.0	103.0	H	218.0	7.9
2240.4637	---	32.79	54.00	21.21	500.0	1000.0	103.0	H	218.0	7.9
3648.8237	50.16	---	74.00	23.84	500.0	1000.0	115.0	H	129.0	12.9
3648.8237	---	36.50	54.00	17.50	500.0	1000.0	115.0	H	129.0	12.9
7186.6900	---	40.70	54.00	13.30	500.0	1000.0	200.0	H	291.0	19.7
7186.6900	53.10	---	74.00	20.90	500.0	1000.0	200.0	H	291.0	19.7

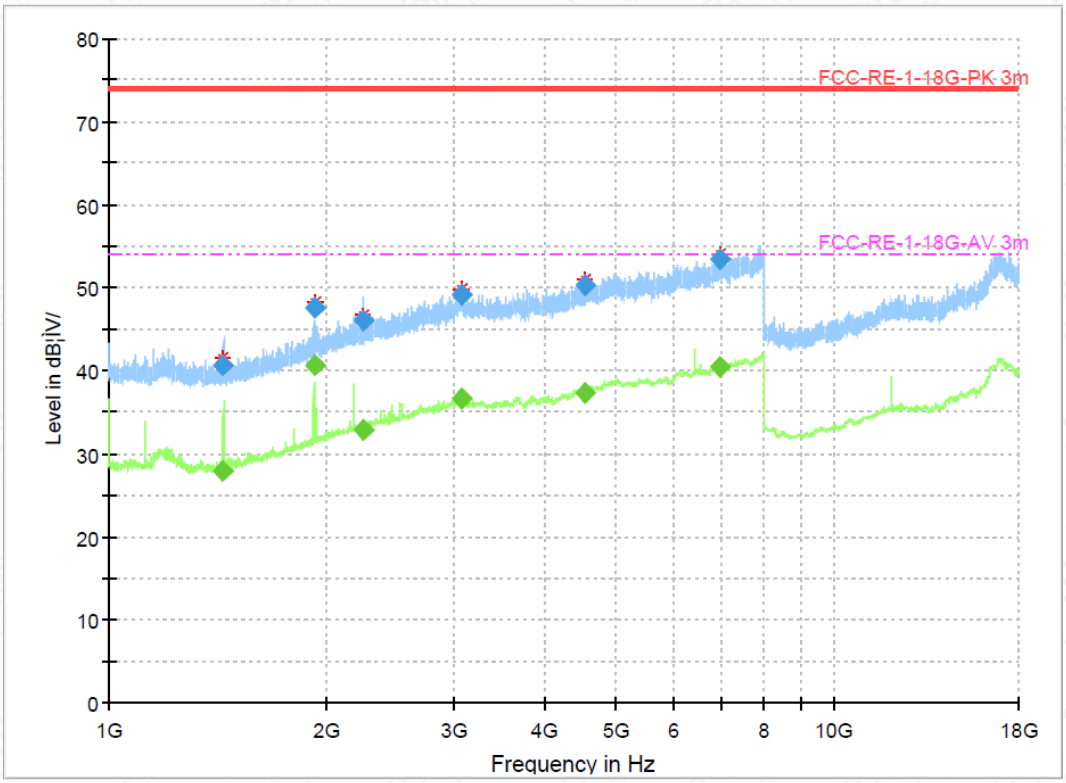

Figure A.1-9 Mode 2 (1GHz-18GHz)-V_N06 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1438.0375	40.77	---	74.00	33.23	500.0	1000.0	115.0	V	42.0	2.2
1438.0375	---	27.95	54.00	26.05	500.0	1000.0	115.0	V	42.0	2.2
1920.0987	---	40.74	54.00	13.26	500.0	1000.0	215.0	V	161.0	6.2
1920.0987	47.68	---	74.00	26.32	500.0	1000.0	215.0	V	161.0	6.2
2247.4900	---	32.87	54.00	21.13	500.0	1000.0	115.0	V	240.0	7.9
2247.4900	46.01	---	74.00	27.99	500.0	1000.0	115.0	V	240.0	7.9
3073.6262	---	36.71	54.00	17.29	500.0	1000.0	215.0	V	304.0	12.7
3073.6262	49.27	---	74.00	24.73	500.0	1000.0	215.0	V	304.0	12.7
4524.8075	---	37.22	54.00	16.78	500.0	1000.0	215.0	V	41.0	14.5
4524.8075	50.26	---	74.00	23.74	500.0	1000.0	215.0	V	41.0	14.5
6952.9887	---	40.53	54.00	13.47	500.0	1000.0	111.0	V	330.0	19.6
6952.9887	53.42	---	74.00	20.58	500.0	1000.0	111.0	V	330.0	19.6

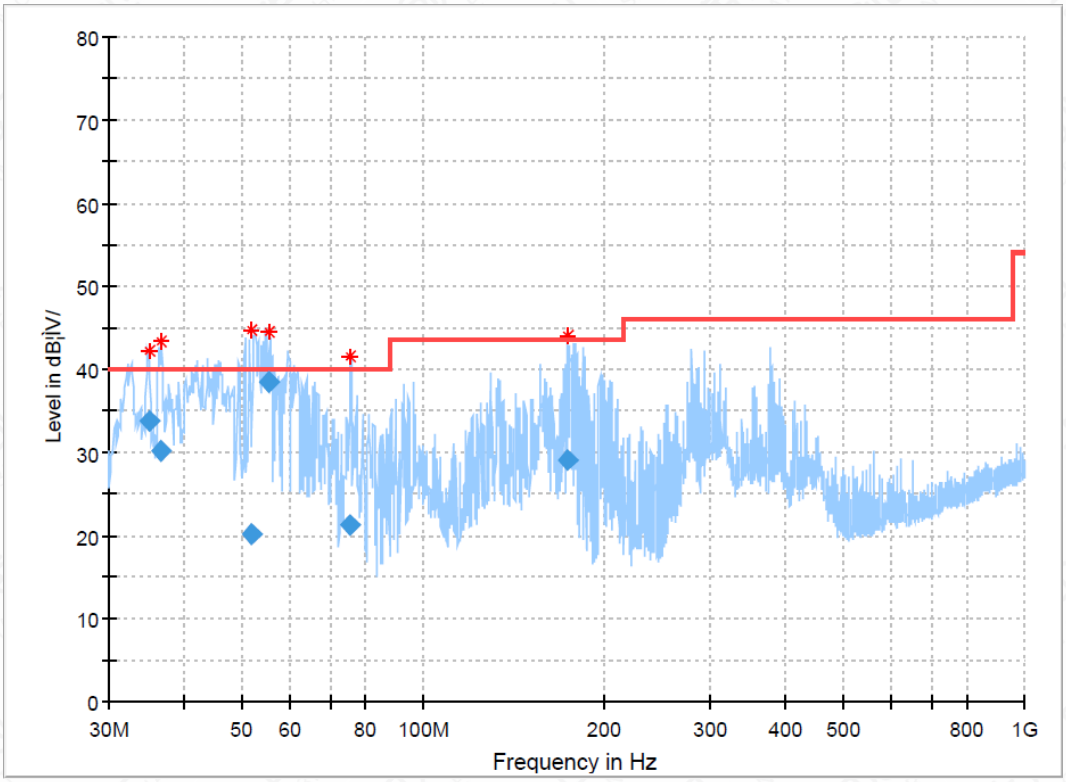

Figure A.1-10 Mode 3 (30M-1GHz)_N07 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
34.929920	33.73	40.00	6.27	100.0	V	347.0	-14.6
36.747720	30.13	40.00	9.87	100.0	V	359.0	-14.1
51.989320	20.13	40.00	19.87	100.0	V	66.0	-11.8
55.297800	38.36	40.00	1.64	100.0	V	169.0	-12.2
75.215520	21.25	40.00	18.75	100.0	V	101.0	-16.9
174.338920	29.13	43.50	14.37	100.0	V	101.0	-15.1

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

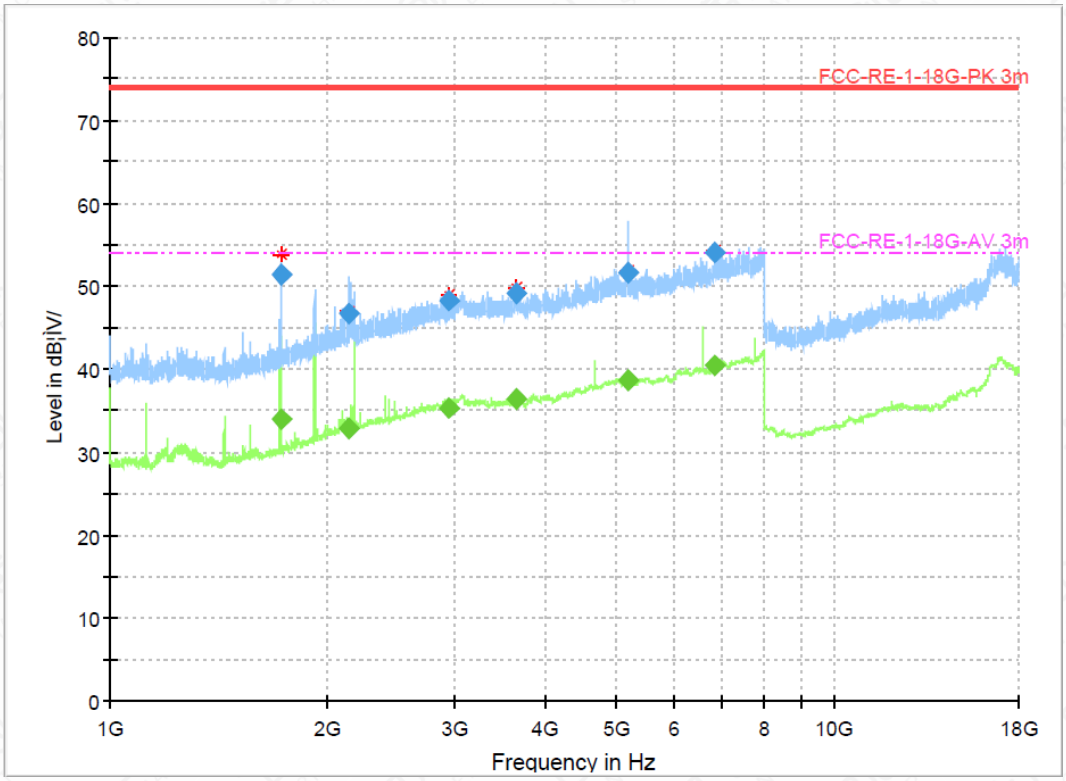

Figure A.1-11 Mode 1 (1GHz-18GHz)-H_N07 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1725.3350	51.39	---	74.00	22.61	500.0	1000.0	115.0	H	163.0	4.4
1725.3350	---	33.93	54.00	20.07	500.0	1000.0	115.0	H	163.0	4.4
2142.3237	---	32.88	54.00	21.12	500.0	1000.0	115.0	H	278.0	7.4
2142.3237	46.80	---	74.00	27.20	500.0	1000.0	115.0	H	278.0	7.4
2936.9462	---	35.37	54.00	18.63	500.0	1000.0	185.0	H	234.0	11.3
2936.9462	48.37	---	74.00	25.63	500.0	1000.0	185.0	H	234.0	11.3
3638.8150	49.25	---	74.00	24.75	500.0	1000.0	215.0	H	36.0	13.0
3638.8150	---	36.38	54.00	17.62	500.0	1000.0	215.0	H	36.0	13.0
5196.7437	51.65	---	74.00	22.35	500.0	1000.0	115.0	H	68.0	16.1
5196.7437	---	38.63	54.00	15.37	500.0	1000.0	115.0	H	68.0	16.1
6843.8187	54.13	---	74.00	19.87	500.0	1000.0	115.0	H	359.0	19.2
6843.8187	---	40.55	54.00	13.45	500.0	1000.0	115.0	H	359.0	19.2

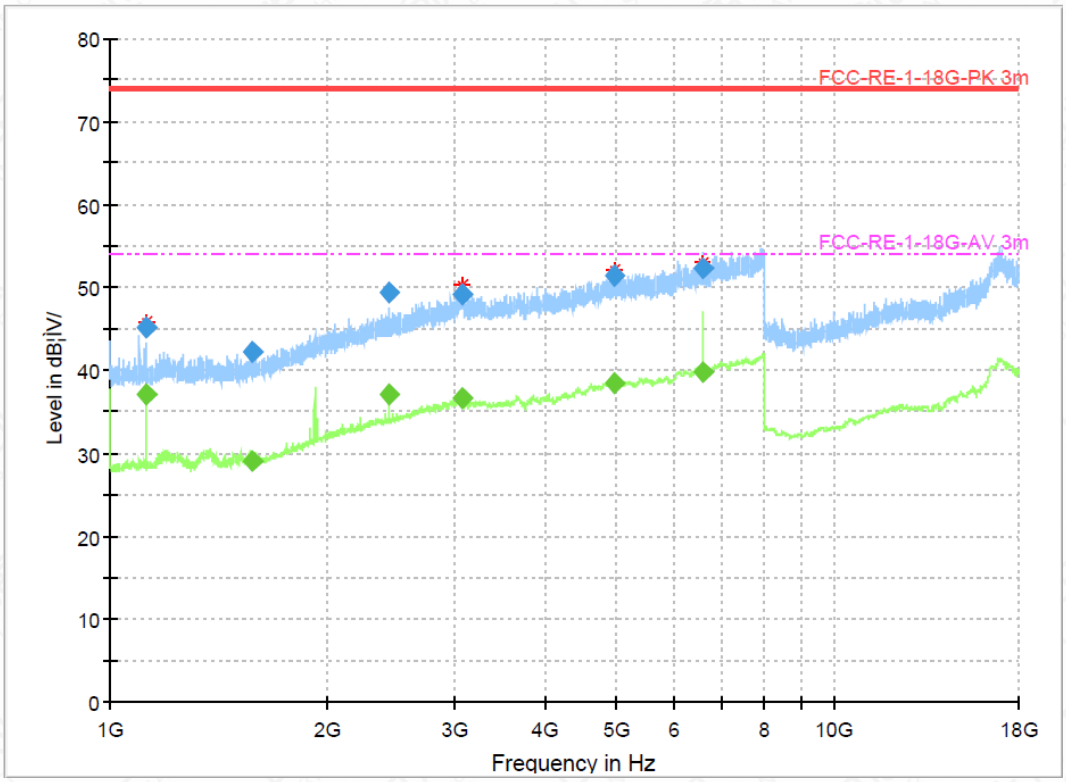

Figure A.1-12 Mode 1 (1GHz-18GHz)-V_N07 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1125.1162	---	37.07	54.00	16.93	500.0	1000.0	100.0	V	84.0	1.8
1125.1162	45.11	---	74.00	28.89	500.0	1000.0	100.0	V	84.0	1.8
1570.2975	42.23	---	74.00	31.77	500.0	1000.0	115.0	V	311.0	3.0
1570.2975	---	29.11	54.00	24.89	500.0	1000.0	115.0	V	311.0	3.0
2423.7625	---	37.10	54.00	16.90	500.0	1000.0	100.0	V	254.0	8.7
2423.7625	49.48	---	74.00	24.52	500.0	1000.0	100.0	V	254.0	8.7
3064.1212	49.16	---	74.00	24.84	500.0	1000.0	210.0	V	28.0	12.7
3064.1212	---	36.56	54.00	17.44	500.0	1000.0	210.0	V	28.0	12.7
4983.5500	---	38.49	54.00	15.51	500.0	1000.0	215.0	V	0.0	16.0
4983.5500	51.32	---	74.00	22.68	500.0	1000.0	215.0	V	0.0	16.0
6590.3250	---	39.87	54.00	14.13	500.0	1000.0	115.0	V	130.0	18.6
6590.3250	52.35	---	74.00	21.66	500.0	1000.0	115.0	V	130.0	18.6

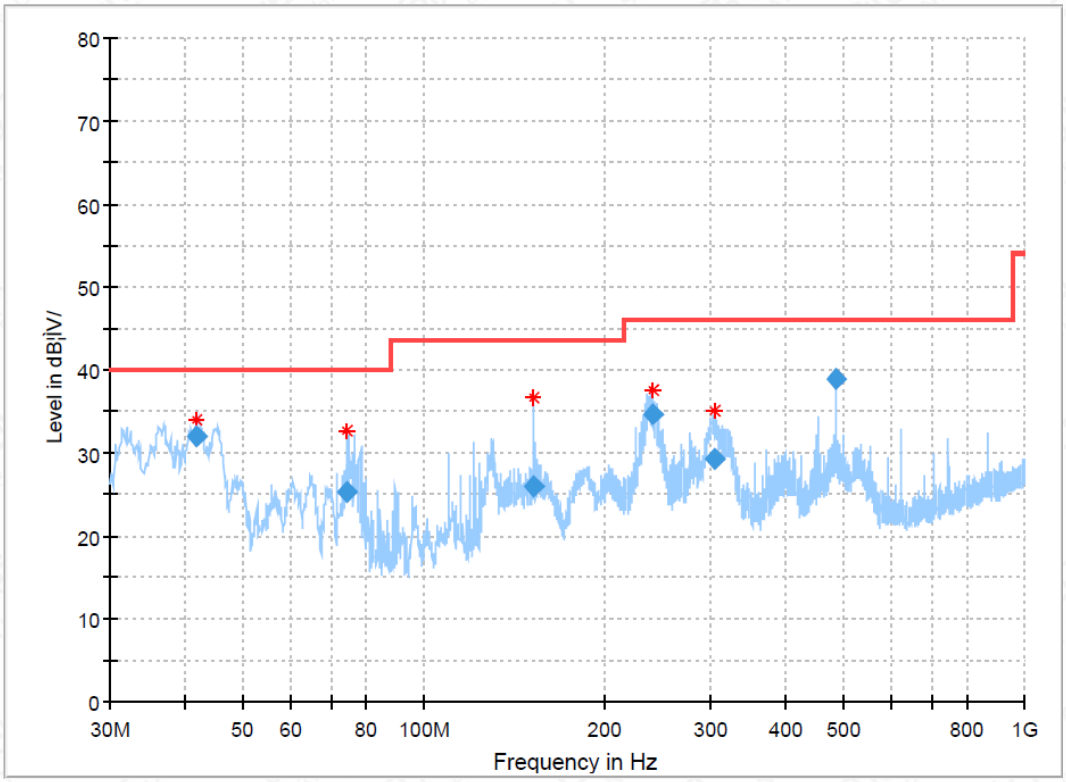

Figure A.1-13 Mode 1 (30M-1GHz)_N14 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
41.923560	31.92	40.00	8.08	100.0	V	204.0	-12.5
74.183400	25.27	40.00	14.73	200.0	H	213.0	-16.7
152.275320	25.93	43.50	17.57	200.0	H	202.0	-16.3
240.003880	34.71	46.00	11.29	100.0	H	118.0	-11.2
304.522680	29.20	46.00	16.80	100.0	H	0.0	-10.0
484.739000	38.78	46.00	7.22	100.0	V	181.0	-5.6

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

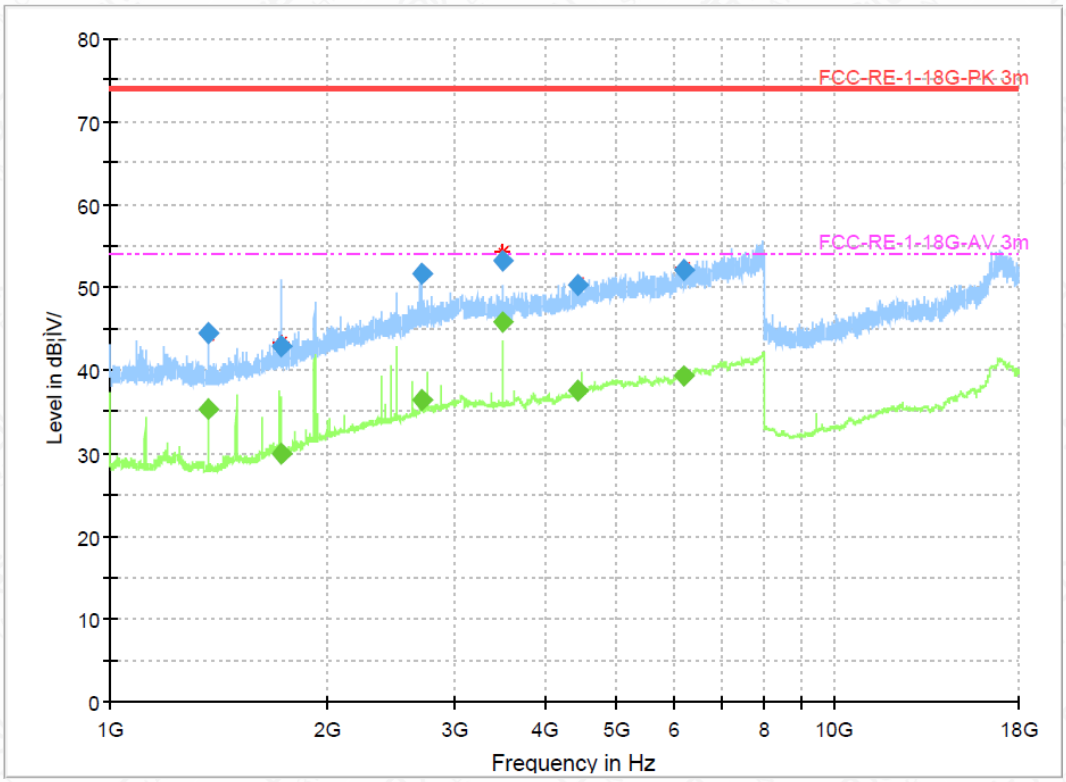

Figure A.1-14 Mode 1 (1GHz-18GHz)-H_N14 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1369.6275	44.38	---	74.00	29.62	500.0	1000.0	215.0	H	359.0	2.1
1369.6275	---	35.41	54.00	18.59	500.0	1000.0	215.0	H	359.0	2.1
1728.9575	42.96	---	74.00	31.04	500.0	1000.0	215.0	H	342.0	4.4
1728.9575	---	29.89	54.00	24.11	500.0	1000.0	215.0	H	342.0	4.4
2699.4775	---	36.52	54.00	17.48	500.0	1000.0	115.0	H	246.0	10.3
2699.4775	51.60	---	74.00	22.40	500.0	1000.0	115.0	H	246.0	10.3
3485.5775	---	45.88	54.00	8.12	500.0	1000.0	199.0	H	297.0	12.3
3485.5775	53.24	---	74.00	20.76	500.0	1000.0	199.0	H	297.0	12.3
4433.7100	---	37.48	54.00	16.52	500.0	1000.0	100.0	H	58.0	14.2
4433.7100	50.19	---	74.00	23.81	500.0	1000.0	100.0	H	58.0	14.2
6190.2075	---	39.42	54.00	14.58	500.0	1000.0	115.0	H	187.0	18.2
6190.2075	51.98	---	74.00	22.02	500.0	1000.0	115.0	H	187.0	18.2

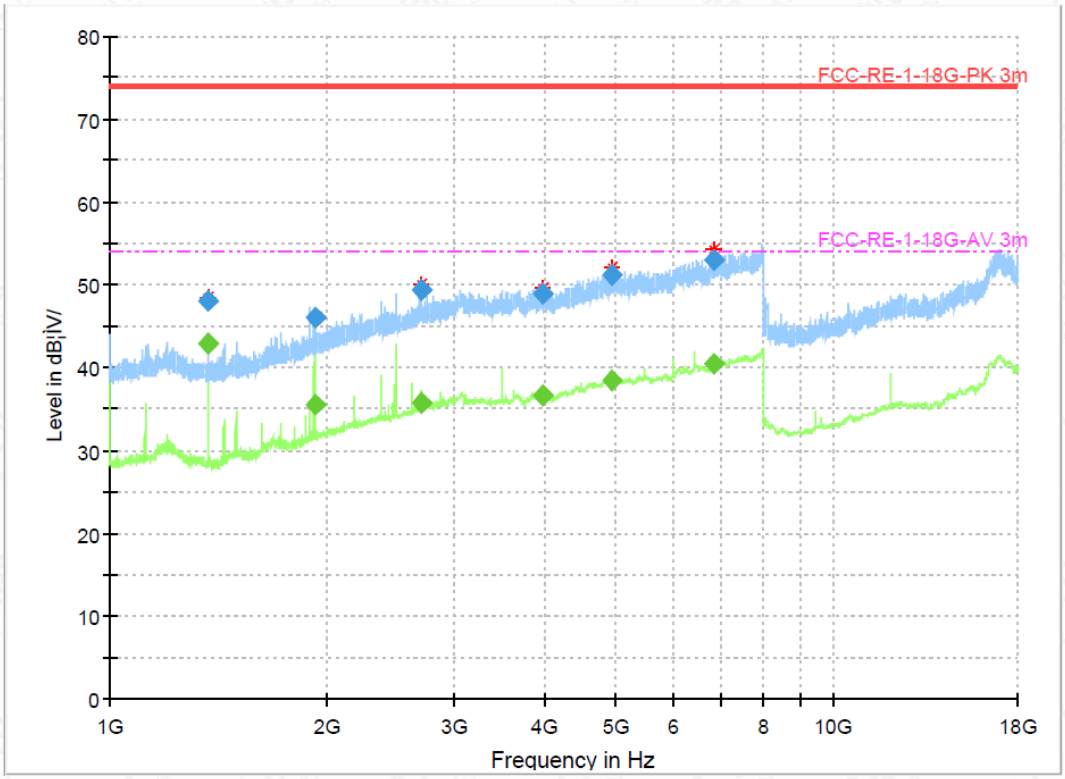

Figure A.1-15 Mode 1 (1GHz-18GHz)-V_N14 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1369.3612	48.12	---	74.00	25.88	500.0	1000.0	115.0	V	206.0	2.1
1369.3612	---	42.82	54.00	11.18	500.0	1000.0	115.0	V	206.0	2.1
1920.2437	46.06	---	74.00	27.94	500.0	1000.0	100.0	V	148.0	6.2
1920.2437	---	35.44	54.00	18.56	500.0	1000.0	100.0	V	148.0	6.2
2697.1375	49.46	---	74.00	24.54	500.0	1000.0	207.0	V	325.0	10.3
2697.1375	---	35.77	54.00	18.23	500.0	1000.0	207.0	V	325.0	10.3
3962.1337	48.95	---	74.00	25.05	500.0	1000.0	103.0	V	2.0	13.3
3962.1337	---	36.63	54.00	17.37	500.0	1000.0	103.0	V	2.0	13.3
4948.7862	---	38.43	54.00	15.57	500.0	1000.0	185.0	V	194.0	15.8
4948.7862	51.18	---	74.00	22.82	500.0	1000.0	185.0	V	194.0	15.8
6830.0850	---	40.40	54.00	13.60	500.0	1000.0	115.0	V	109.0	19.2
6830.0850	52.98	---	74.00	21.02	500.0	1000.0	115.0	V	109.0	19.2

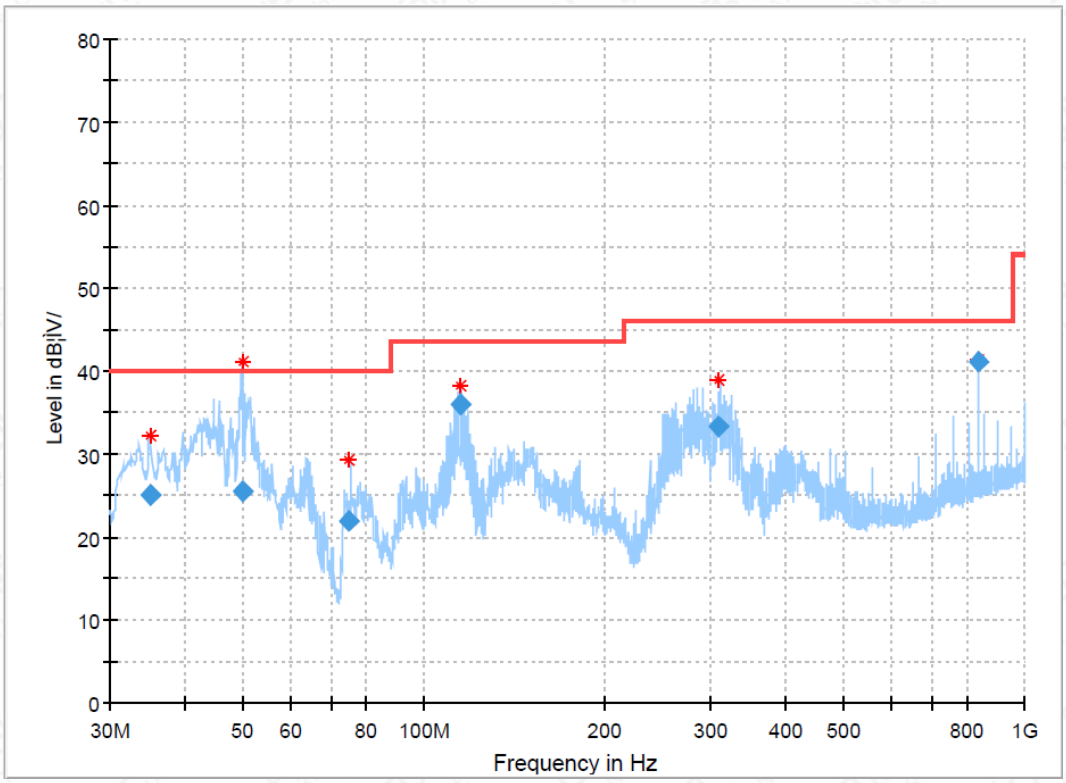

Figure A.1-16 Mode 3 (30M-1GHz)_N12 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
35.013560	25.12	40.00	14.88	100.0	V	133.0	-14.5
50.033520	25.46	40.00	14.54	100.0	V	121.0	-11.3
74.991000	21.89	40.00	18.11	100.0	V	307.0	-16.9
115.404400	35.89	43.50	7.61	200.0	H	270.0	-14.4
310.128000	33.25	46.00	12.75	100.0	H	260.0	-9.7
839.959600	41.02	46.00	4.98	200.0	H	144.0	0.6

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

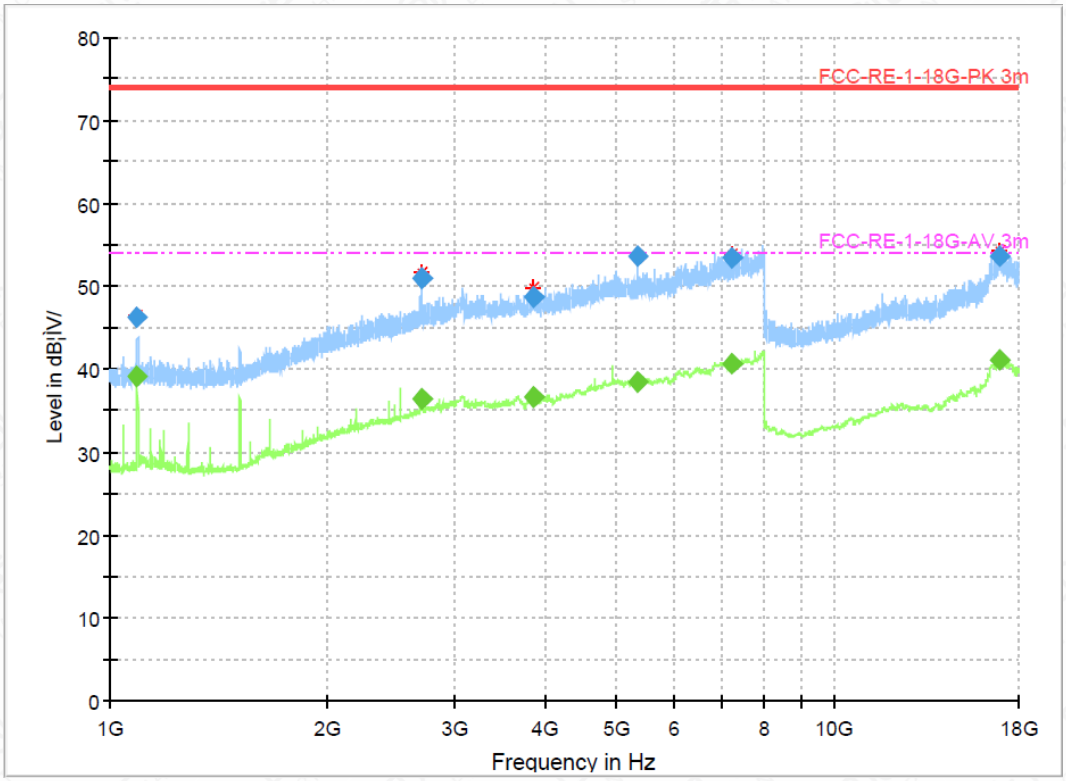

Figure A.1-17 Mode 1 (1GHz-18GHz)-H_N12 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1091.3675	46.19	---	74.00	27.81	500.0	1000.0	100.0	H	304.0	1.9
1091.3675	---	39.10	54.00	14.90	500.0	1000.0	100.0	H	304.0	1.9
2694.8387	---	36.53	54.00	17.47	500.0	1000.0	185.0	H	220.0	10.2
2694.8387	50.97	---	74.00	23.03	500.0	1000.0	185.0	H	220.0	10.2
3835.5812	---	36.58	54.00	17.42	500.0	1000.0	185.0	H	104.0	13.0
3835.5812	48.74	---	74.00	25.26	500.0	1000.0	185.0	H	104.0	13.0
5361.9950	53.67	---	74.00	20.33	500.0	1000.0	115.0	H	262.0	16.5
5361.9950	---	38.38	54.00	15.62	500.0	1000.0	115.0	H	262.0	16.5
7235.0450	53.33	---	74.00	20.67	500.0	1000.0	103.0	H	197.0	19.8
7235.0450	---	40.66	54.00	13.34	500.0	1000.0	103.0	H	197.0	19.8
16899.183	53.59	---	74.00	20.41	500.0	1000.0	103.0	H	2.0	22.5
16899.183	---	41.14	54.00	12.86	500.0	1000.0	103.0	H	2.0	22.5

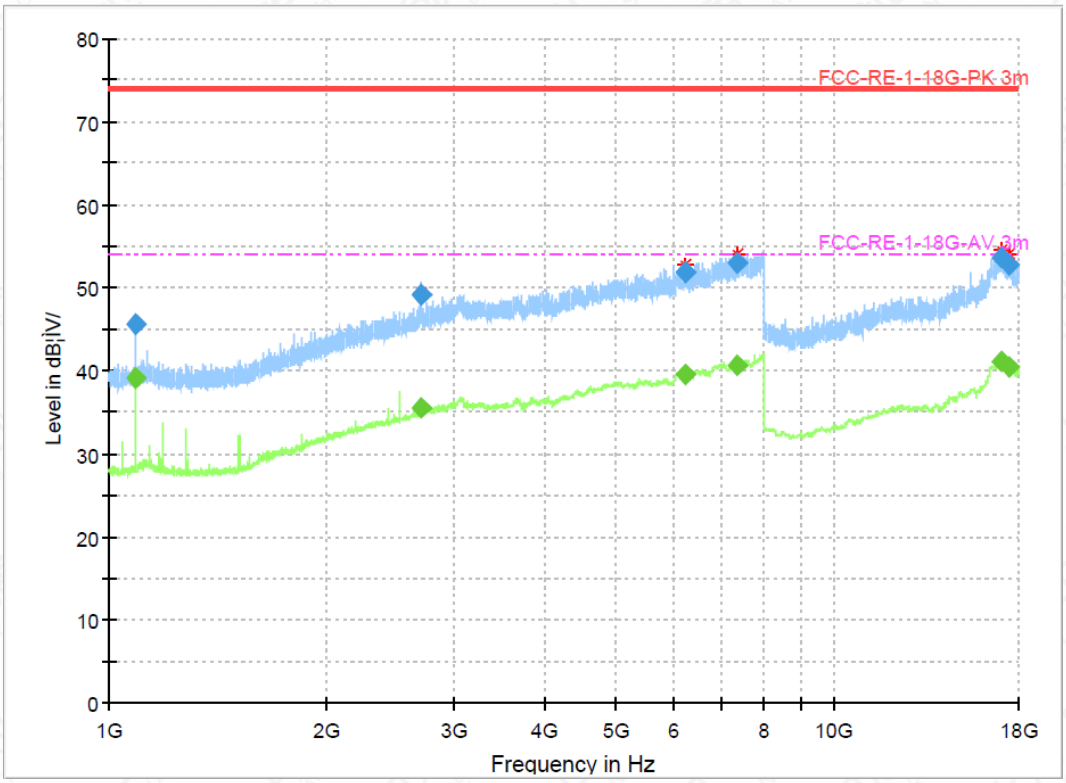

Figure A.1-18 Mode 1 (1GHz-18GHz)-V_N12 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1090.6875	45.61	---	74.00	28.39	500.0	1000.0	100.0	V	298.0	1.9
1090.6875	---	39.16	54.00	14.84	500.0	1000.0	100.0	V	298.0	1.9
2689.1412	49.07	---	74.00	24.93	500.0	1000.0	100.0	V	298.0	10.2
2689.1412	---	35.44	54.00	18.56	500.0	1000.0	100.0	V	298.0	10.2
6226.5200	---	39.53	54.00	14.47	500.0	1000.0	115.0	V	359.0	18.1
6226.5200	51.79	---	74.00	22.21	500.0	1000.0	115.0	V	359.0	18.1
7361.5350	---	40.78	54.00	13.22	500.0	1000.0	100.0	V	2.0	20.2
7361.5350	52.90	---	74.00	21.10	500.0	1000.0	100.0	V	2.0	20.2
17058.057	---	41.18	54.00	12.82	500.0	1000.0	100.0	V	5.0	22.5
17058.057	53.72	---	74.00	20.28	500.0	1000.0	100.0	V	5.0	22.5
17504.196	---	40.34	54.00	13.66	500.0	1000.0	215.0	V	357.0	22.1
17504.196	52.82	---	74.00	21.18	500.0	1000.0	215.0	V	357.0	22.1

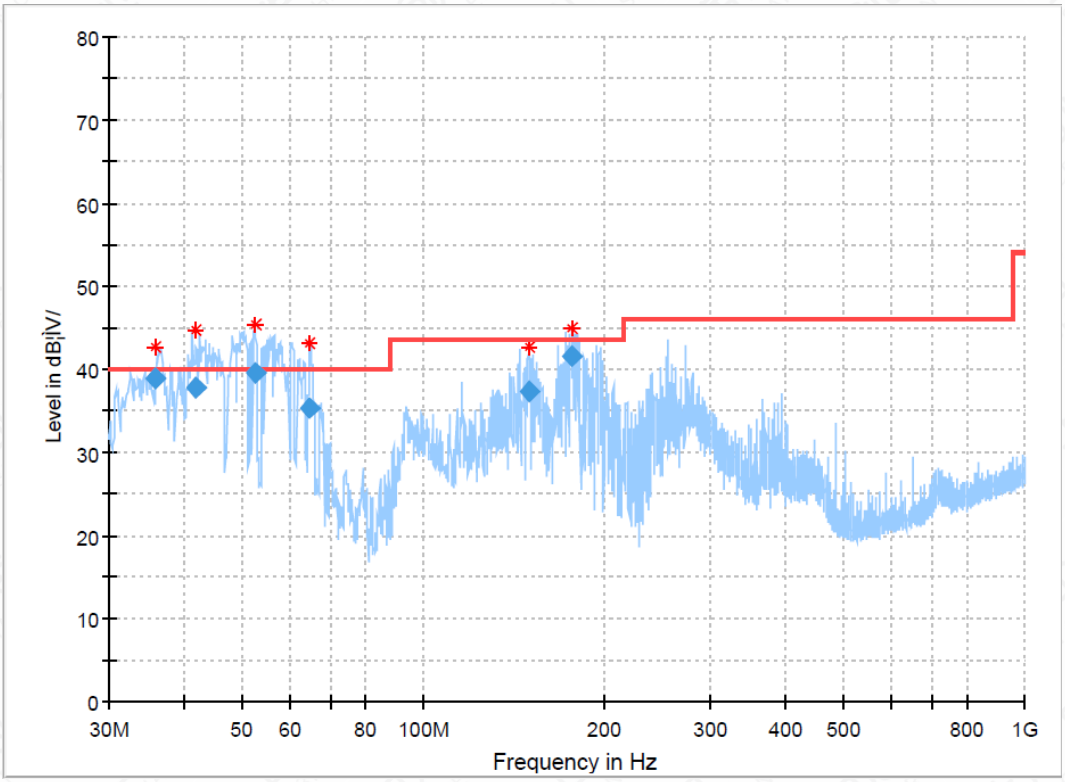

Figure A.1-19 Mode 3 (30M-1GHz)_N05 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
35.723600	38.83	40.00	1.17	100.0	V	41.0	-14.4
41.947680	37.82	40.00	2.18	100.0	V	111.0	-12.5
52.503440	39.46	40.00	0.54	100.0	V	41.0	-11.9
64.573400	35.34	40.00	4.66	100.0	V	146.0	-14.1
150.266080	37.21	43.50	6.29	100.0	V	181.0	-16.4
176.621080	41.58	43.50	1.92	100.0	V	41.0	-14.9

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

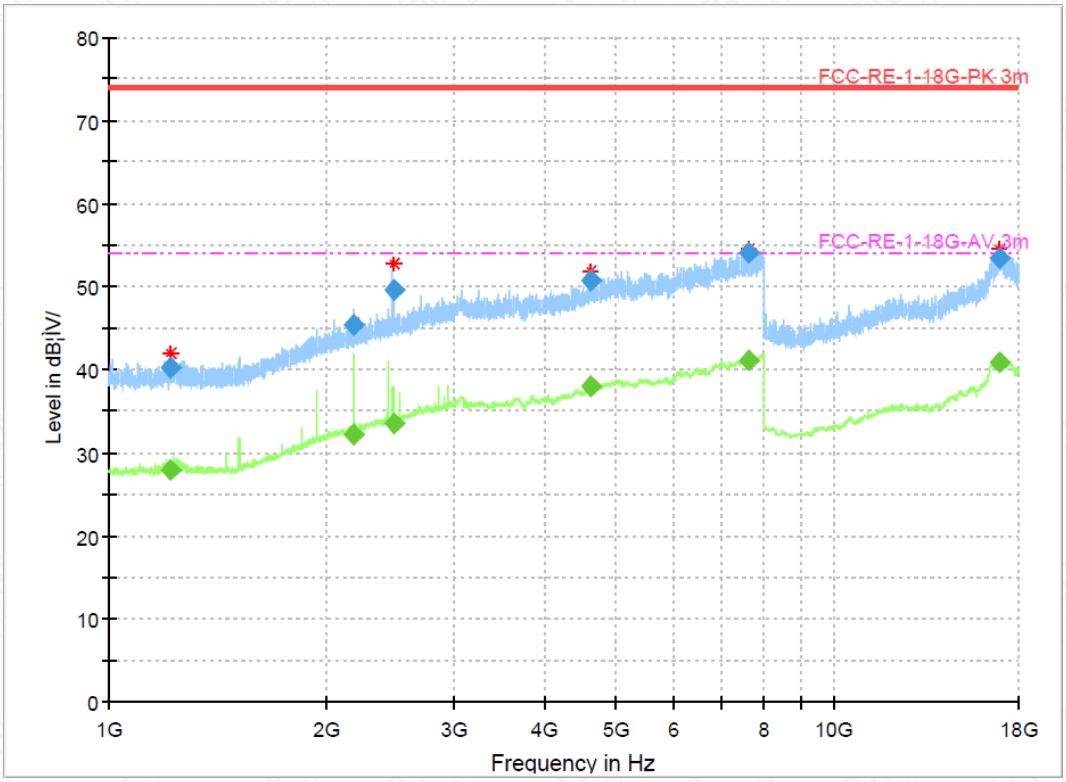

Figure A.1-20 Mode 1 (1GHz-18GHz)-H_N05 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1212.8612	40.19	---	74.00	33.81	500.0	1000.0	115.0	H	282.0	1.9
1212.8612	---	27.90	54.00	26.10	500.0	1000.0	115.0	H	282.0	1.9
2176.7150	---	32.23	54.00	21.77	500.0	1000.0	115.0	H	225.0	7.6
2176.7150	45.40	---	74.00	28.60	500.0	1000.0	115.0	H	225.0	7.6
2468.7925	---	33.59	54.00	20.41	500.0	1000.0	187.0	H	288.0	9.0
2468.7925	49.56	---	74.00	24.44	500.0	1000.0	187.0	H	288.0	9.0
4615.5637	---	37.88	54.00	16.12	500.0	1000.0	210.0	H	38.0	14.9
4615.5637	50.76	---	74.00	23.24	500.0	1000.0	210.0	H	38.0	14.9
7616.7562	---	41.03	54.00	12.97	500.0	1000.0	185.0	H	233.0	20.7
7616.7562	54.00	---	74.00	20.00	500.0	1000.0	185.0	H	233.0	20.7
16903.700	53.46	---	74.00	20.54	500.0	1000.0	103.0	H	239.0	22.5
16903.700	---	40.93	54.00	13.07	500.0	1000.0	103.0	H	239.0	22.5

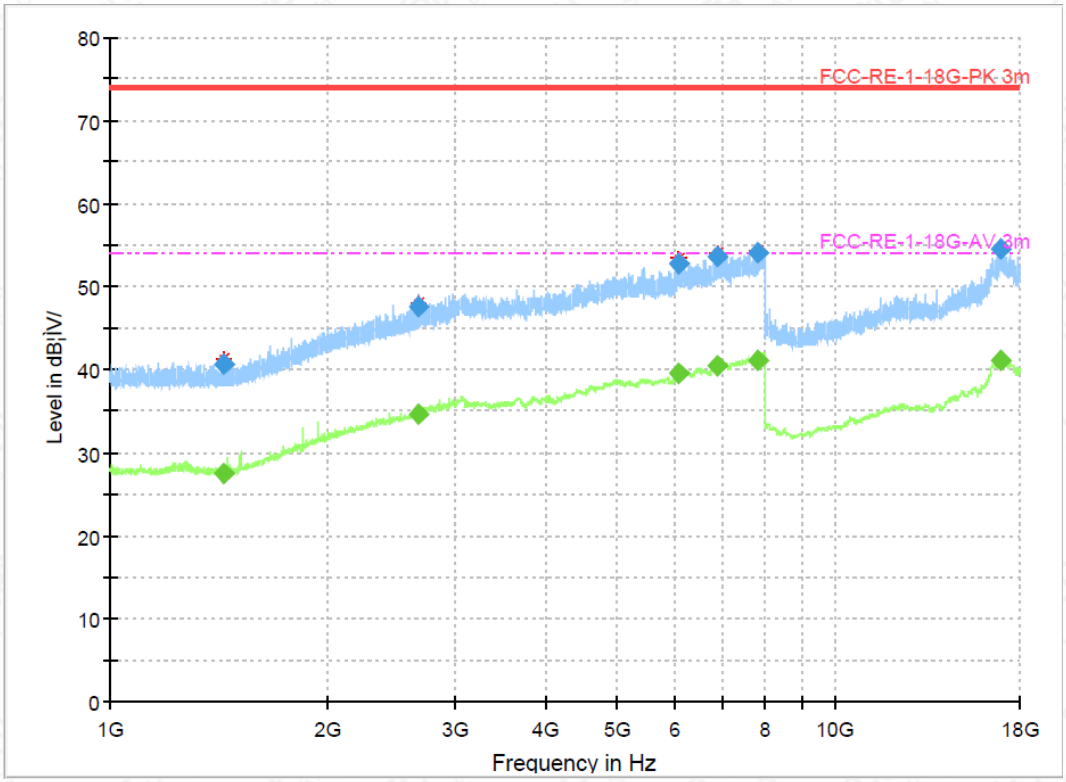

Figure A.1-21 Mode 1 (1GHz-18GHz)-V_N05 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1437.3425	---	27.59	54.00	26.41	500.0	1000.0	210.0	V	359.0	2.2
1437.3425	40.59	---	74.00	33.41	500.0	1000.0	210.0	V	359.0	2.2
2662.3787	---	34.60	54.00	19.40	500.0	1000.0	215.0	V	55.0	10.1
2662.3787	47.68	---	74.00	26.32	500.0	1000.0	215.0	V	55.0	10.1
6090.2762	---	39.61	54.00	14.39	500.0	1000.0	115.0	V	186.0	18.1
6090.2762	52.82	---	74.00	21.18	500.0	1000.0	115.0	V	186.0	18.1
6878.2700	---	40.39	54.00	13.61	500.0	1000.0	210.0	V	30.0	19.4
6878.2700	53.70	---	74.00	20.30	500.0	1000.0	210.0	V	30.0	19.4
7836.9525	54.06	---	74.00	19.94	500.0	1000.0	200.0	V	30.0	20.9
7836.9525	---	41.21	54.00	12.79	500.0	1000.0	200.0	V	30.0	20.9
16895.703	54.43	---	74.00	19.57	500.0	1000.0	115.0	V	238.0	22.4
16895.703	---	41.11	54.00	12.89	500.0	1000.0	115.0	V	238.0	22.4

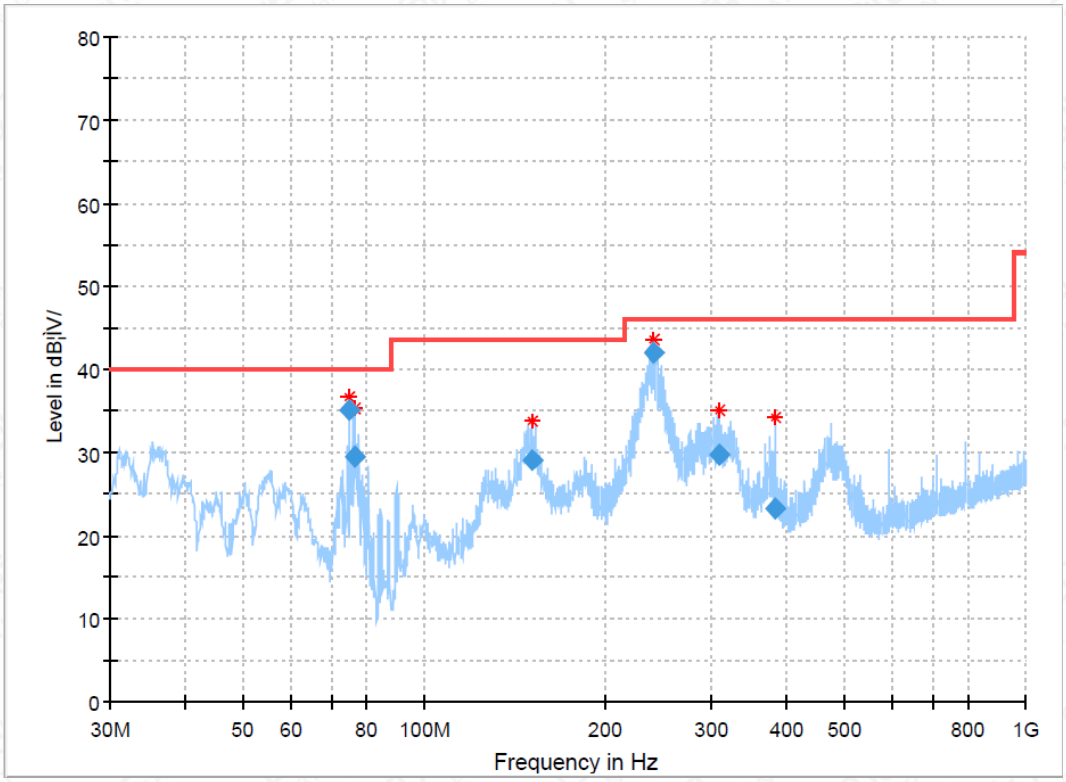

Figure A.1-22 Mode 1 (30M-1GHz)_N10 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
75.007480	35.09	40.00	4.91	200.0	H	206.0	-16.9
76.492040	29.60	40.00	10.40	200.0	V	204.0	-17.2
150.928560	28.95	43.50	14.55	200.0	H	0.0	-16.4
240.006680	42.01	46.00	3.99	100.0	H	32.0	-11.2
308.821880	29.70	46.00	16.30	100.0	H	286.0	-9.8
381.663360	23.34	46.00	22.66	100.0	H	3.0	-7.7

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

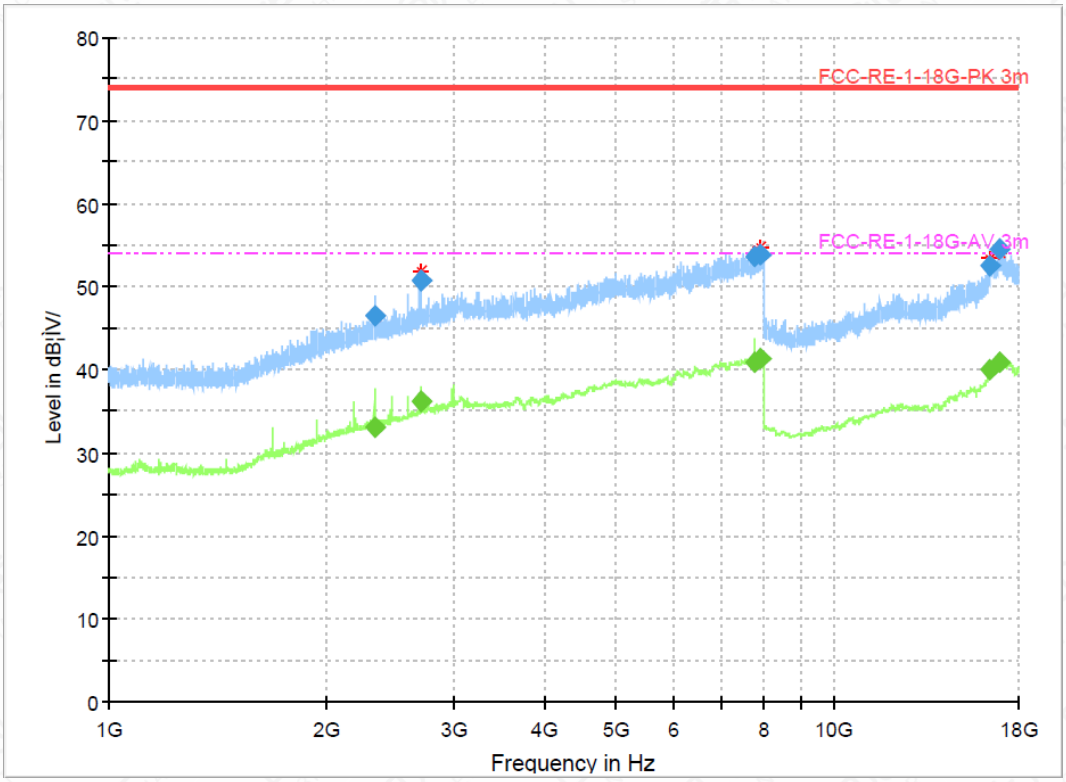

Figure A.1-23 Mode 1 (1GHz-18GHz)-H_N10 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
2325.8587	46.58	---	74.00	27.42	500.0	1000.0	115.0	H	275.0	8.5
2325.8587	---	33.14	54.00	20.86	500.0	1000.0	115.0	H	275.0	8.5
2688.8700	50.78	---	74.00	23.22	500.0	1000.0	185.0	H	207.0	10.2
2688.8700	---	36.20	54.00	17.80	500.0	1000.0	185.0	H	207.0	10.2
7801.9500	53.67	---	74.00	20.33	500.0	1000.0	115.0	H	195.0	20.8
7801.9500	---	40.95	54.00	13.05	500.0	1000.0	115.0	H	195.0	20.8
7908.5425	---	41.41	54.00	12.59	500.0	1000.0	185.0	H	1.0	21.1
7908.5425	53.94	---	74.00	20.06	500.0	1000.0	185.0	H	1.0	21.1
16461.013	52.60	---	74.00	21.40	500.0	1000.0	115.0	H	237.0	21.4
16461.013	---	39.95	54.00	14.05	500.0	1000.0	115.0	H	237.0	21.4
16931.676	---	40.97	54.00	13.03	500.0	1000.0	215.0	H	359.0	22.5
16931.676	54.51	---	74.00	19.49	500.0	1000.0	215.0	H	359.0	22.5

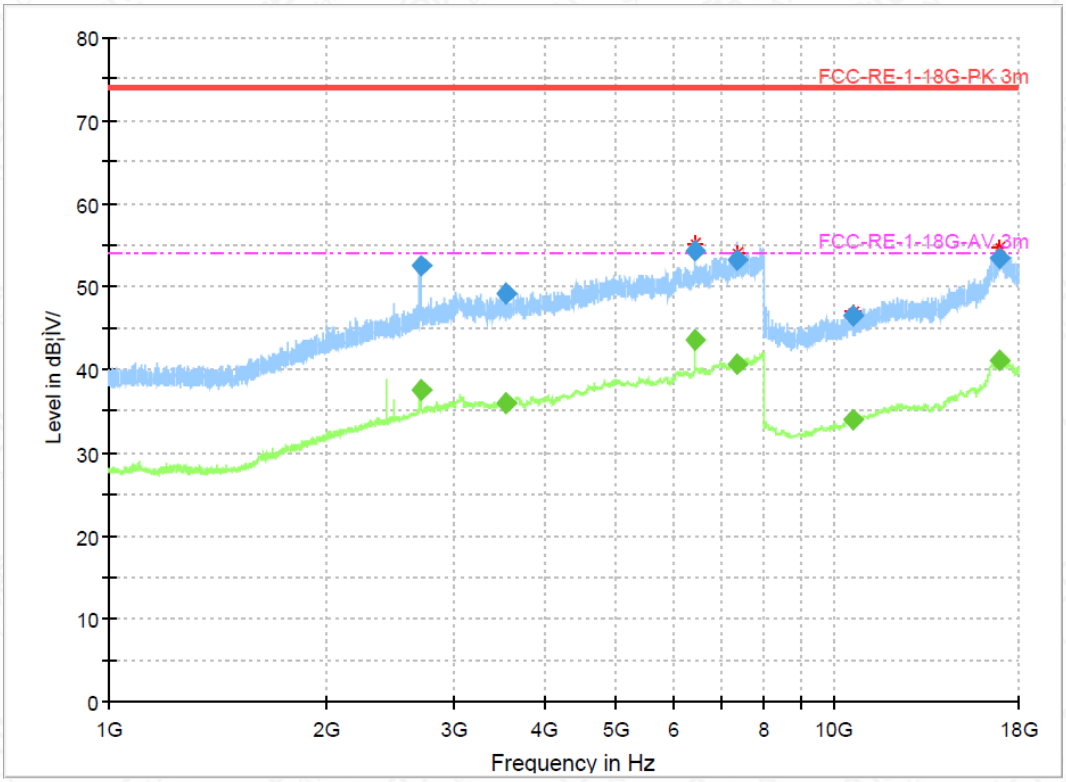

Figure A.1-24 Mode 1 (1GHz-18GHz)-V_N10 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
2697.8412	52.44	---	74.00	21.56	500.0	1000.0	100.0	V	275.0	10.3
2697.8412	---	37.56	54.00	16.44	500.0	1000.0	100.0	V	275.0	10.3
3539.0375	49.12	---	74.00	24.88	500.0	1000.0	115.0	V	359.0	12.4
3539.0375	---	35.99	54.00	18.01	500.0	1000.0	115.0	V	359.0	12.4
6431.8887	54.30	---	74.00	19.70	500.0	1000.0	102.0	V	200.0	18.5
6431.8887	---	43.59	54.00	10.41	500.0	1000.0	102.0	V	200.0	18.5
7346.5337	53.16	---	74.00	20.84	500.0	1000.0	115.0	V	264.0	20.1
7346.5337	---	40.76	54.00	13.24	500.0	1000.0	115.0	V	264.0	20.1
10612.853	46.42	---	74.00	27.58	500.0	1000.0	188.0	V	242.0	10.9
10612.853	---	33.86	54.00	20.14	500.0	1000.0	188.0	V	242.0	10.9
16904.137	53.34	---	74.00	20.66	500.0	1000.0	215.0	V	116.0	22.5
16904.137	---	41.11	54.00	12.89	500.0	1000.0	215.0	V	116.0	22.5

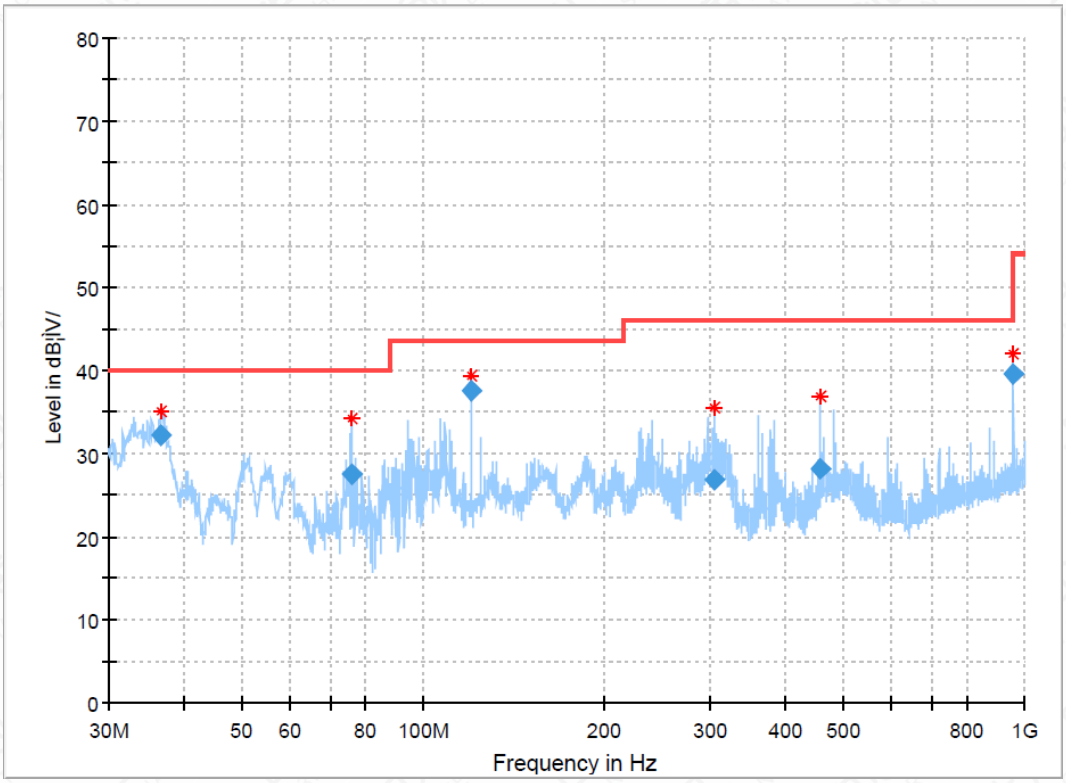

Figure A.1-25 Mode 2 (30M-1GHz)_N18 Sample

Frequency (MHz)	QuasiPeak (DbµV/m)	Limit (DbµV/	Margin (Db)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
36.645920	32.19	40.00	7.81	100.0	V	117.0	-14.1
75.784360	27.55	40.00	12.45	200.0	H	54.0	-17.1
119.993440	37.58	43.50	5.92	100.0	V	257.0	-15.0
303.771000	26.83	46.00	19.17	100.0	H	94.0	-10.0
458.364760	28.14	46.00	17.86	100.0	H	109.0	-6.3
959.947920	39.53	46.00	6.47	100.0	V	340.0	2.2

Note:

13. Horizontal and vertical polarity is all have been tested, the result of them is synthesized in the above data diagram.

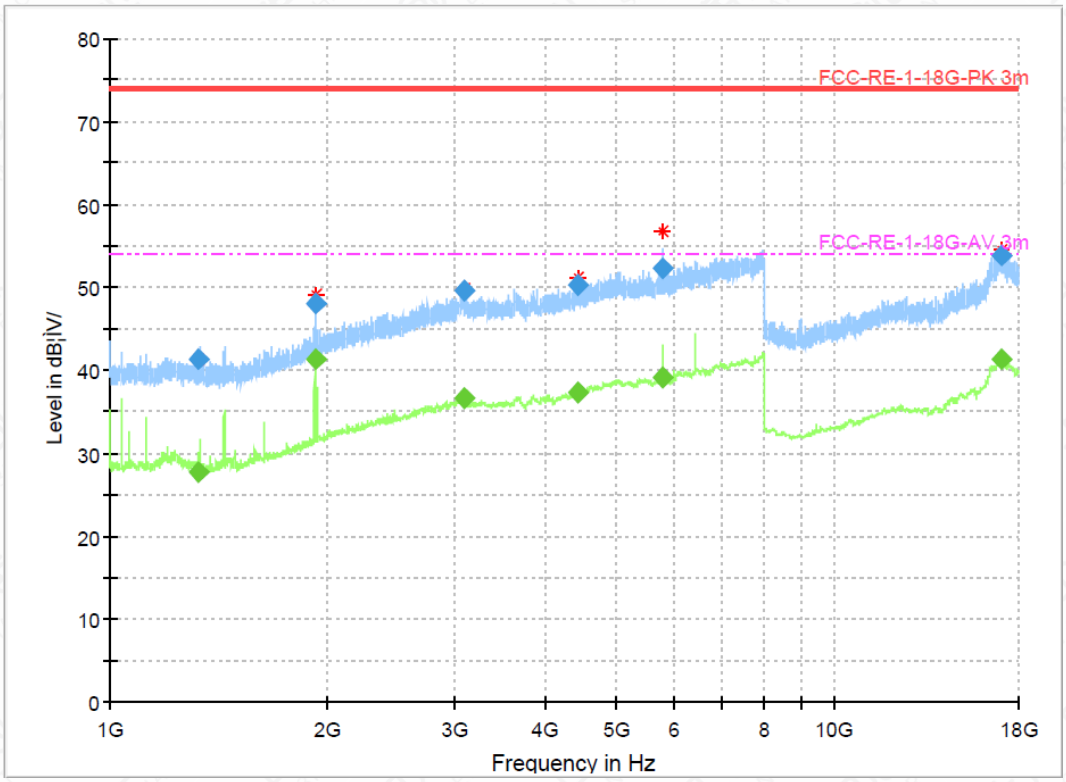

Figure A.1-26 Mode 2 (1GHz-18GHz)-H_N18 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1329.2462	41.32	---	74.00	32.68	500.0	1000.0	215.0	V	1.0	2.1
1329.2462	---	27.71	54.00	26.29	500.0	1000.0	215.0	V	1.0	2.1
1920.0012	48.15	---	74.00	25.85	500.0	1000.0	115.0	V	275.0	6.2
1920.0012	---	41.45	54.00	12.55	500.0	1000.0	115.0	V	275.0	6.2
3076.8900	---	36.58	54.00	17.42	500.0	1000.0	215.0	V	320.0	12.7
3076.8900	49.52	---	74.00	24.48	500.0	1000.0	215.0	V	320.0	12.7
4424.3600	---	37.43	54.00	16.57	500.0	1000.0	215.0	V	359.0	14.2
4424.3600	50.37	---	74.00	23.63	500.0	1000.0	215.0	V	359.0	14.2
5801.4550	52.40	---	74.00	21.60	500.0	1000.0	115.0	V	291.0	17.3
5801.4550	---	39.05	54.00	14.95	500.0	1000.0	115.0	V	291.0	17.3
17036.858	53.88	---	74.00	20.12	500.0	1000.0	111.0	V	355.0	22.5
17036.858	---	41.33	54.00	12.67	500.0	1000.0	111.0	V	355.0	22.5

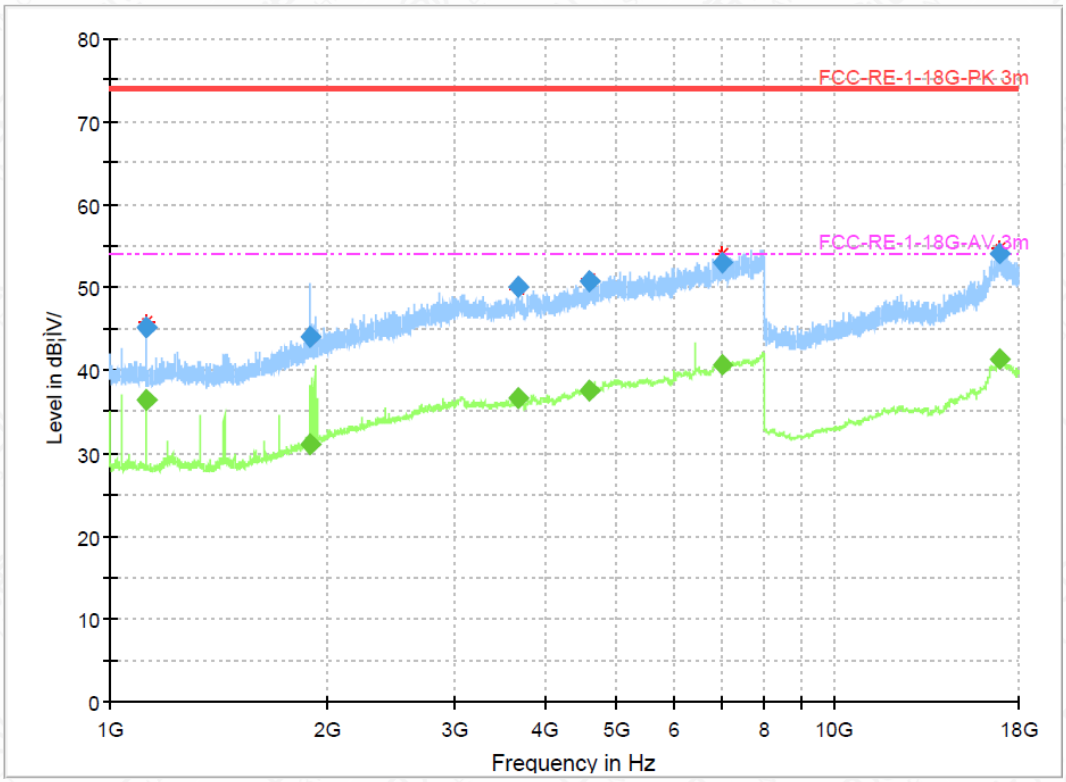

Figure A.1-27 Mode 2 (1GHz-18GHz)-V_N18 Sample

Frequency (MHz)	MaxPeak (DbµV/m)	Average (DbµV/m)	Limit (DbµV/m)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (Db)
1125.1387	---	36.39	54.00	17.61	500.0	1000.0	100.0	V	156.0	1.8
1125.1387	45.13	---	74.00	28.87	500.0	1000.0	100.0	V	156.0	1.8
1888.9012	---	31.02	54.00	22.98	500.0	1000.0	215.0	V	7.0	5.9
1888.9012	43.98	---	74.00	30.02	500.0	1000.0	215.0	V	7.0	5.9
3661.8050	50.07	---	74.00	23.93	500.0	1000.0	215.0	V	168.0	12.9
3661.8050	---	36.58	54.00	17.42	500.0	1000.0	215.0	V	168.0	12.9
4585.4587	---	37.62	54.00	16.38	500.0	1000.0	215.0	V	298.0	14.8
4585.4587	50.78	---	74.00	23.22	500.0	1000.0	215.0	V	298.0	14.8
6997.7137	53.03	---	74.00	20.97	500.0	1000.0	188.0	V	103.0	19.7
6997.7137	---	40.59	54.00	13.41	500.0	1000.0	188.0	V	103.0	19.7
16974.326	---	41.26	54.00	12.74	500.0	1000.0	215.0	V	358.0	22.6
16974.326	54.15	---	74.00	19.85	500.0	1000.0	215.0	V	358.0	22.6

A.2 Conducted Emission

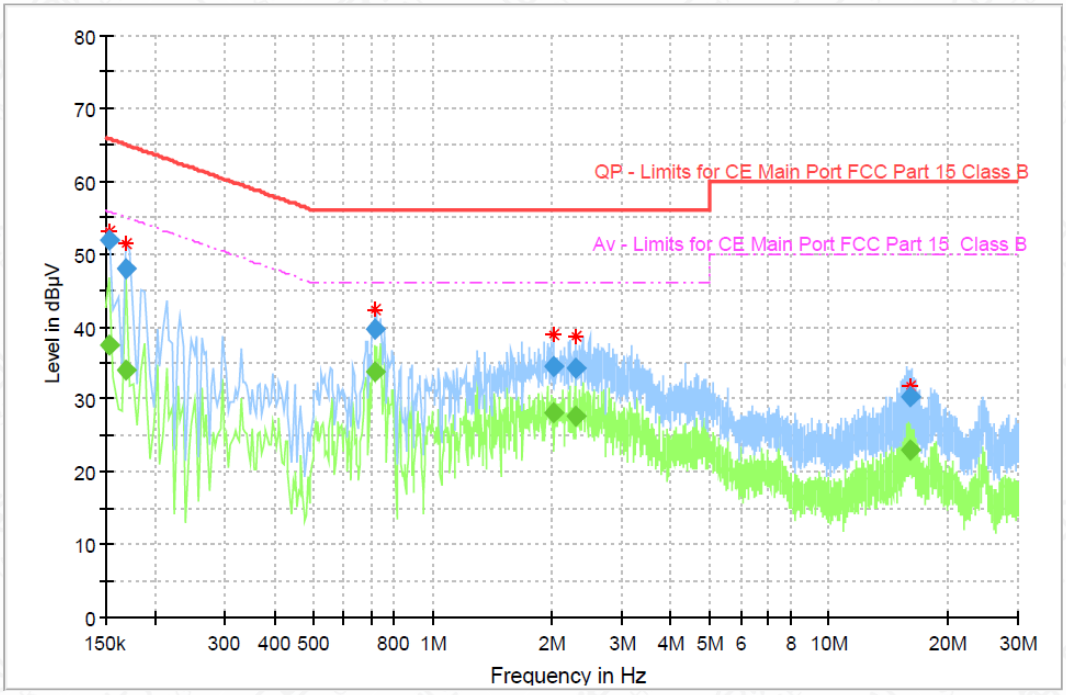

Figure A.2-1 Mode 1 (150kHz-30MHz)_N03 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.153731	---	37.45	55.80	18.35	15000	9.000	L1	ON	9.6
0.153731	51.92	---	65.80	13.87	15000	9.000	L1	ON	9.6
0.168656	---	33.91	55.03	21.12	15000	9.000	L1	ON	9.6
0.168656	47.95	---	65.03	17.07	15000	9.000	L1	ON	9.6
0.720881	---	33.75	46.00	12.25	15000	9.000	L1	ON	9.6
0.720881	39.59	---	56.00	16.41	15000	9.000	L1	ON	9.6
2.026819	---	28.14	46.00	17.86	15000	9.000	L1	ON	9.7
2.026819	34.52	---	56.00	21.48	15000	9.000	L1	ON	9.7
2.295469	---	27.71	46.00	18.29	15000	9.000	L1	ON	9.7
2.295469	34.27	---	56.00	21.73	15000	9.000	L1	ON	9.7
15.963038	---	23.07	50.00	26.93	15000	9.000	L1	ON	10.1
15.963038	30.25	---	60.00	29.75	15000	9.000	L1	ON	10.1

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

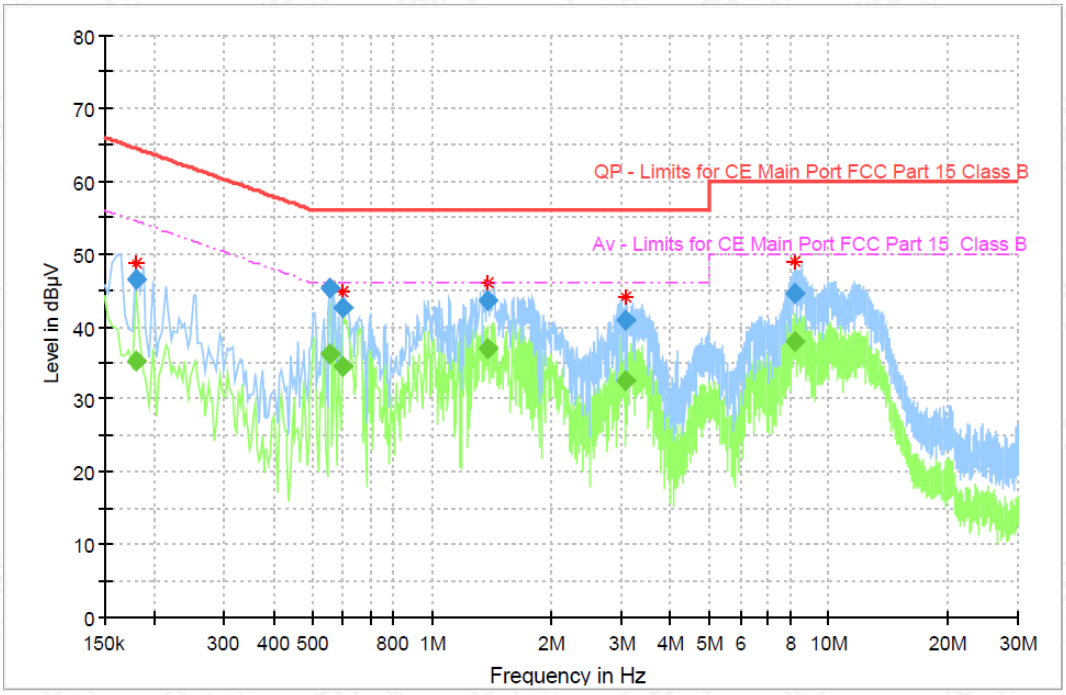

Figure A.2-2 Mode 2 (150kHz-30MHz)_N02 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.179850	---	35.32	54.49	19.17	15000	9.000	L1	ON	9.6
0.179850	46.58	---	64.49	17.91	15000	9.000	L1	ON	9.6
0.552975	45.33	---	56.00	10.67	15000	9.000	N	ON	9.6
0.552975	---	36.16	46.00	9.84	15000	9.000	N	ON	9.6
0.597750	42.56	---	56.00	13.44	15000	9.000	N	ON	9.6
0.597750	---	34.39	46.00	11.61	15000	9.000	N	ON	9.6
1.385044	43.52	---	56.00	12.48	15000	9.000	N	ON	9.7
1.385044	---	36.93	46.00	9.07	15000	9.000	N	ON	9.7
3.086494	40.84	---	56.00	15.16	15000	9.000	N	ON	9.7
3.086494	---	32.49	46.00	13.51	15000	9.000	N	ON	9.7
8.261738	---	37.84	50.00	12.16	15000	9.000	L1	ON	9.9
8.261738	44.50	---	60.00	15.50	15000	9.000	L1	ON	9.9

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

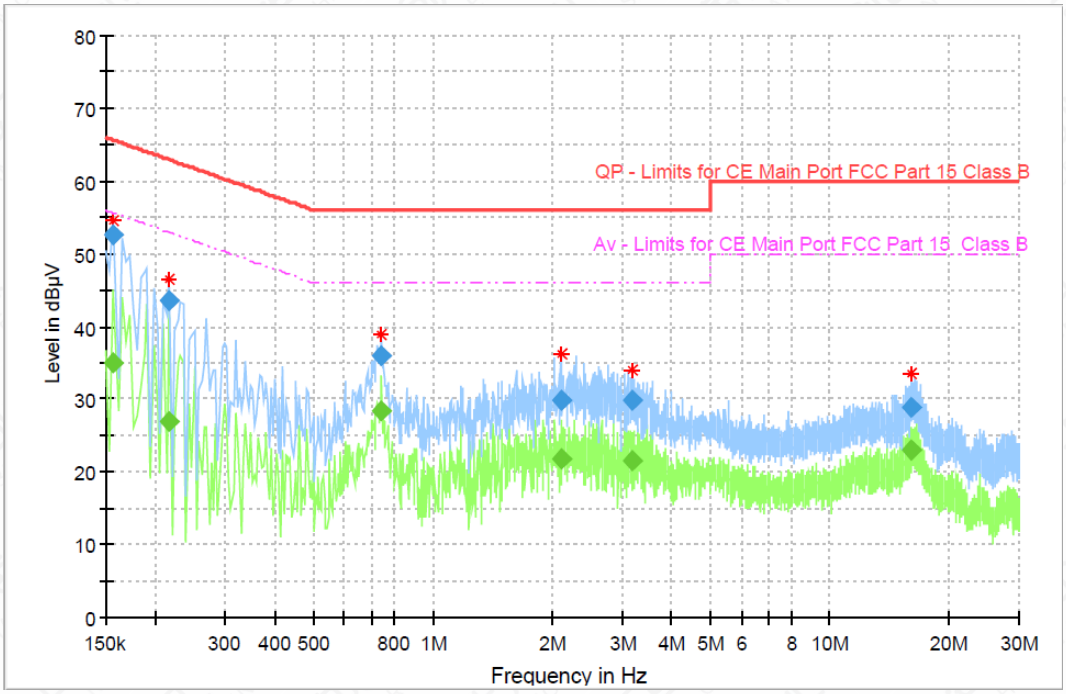

Figure A.2-3 Mode 2 (150kHz-30MHz)_N06 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.157463	---	34.87	55.60	20.73	15000	9.000	L1	ON	9.6
0.157463	52.64	---	65.60	12.96	15000	9.000	L1	ON	9.6
0.217163	---	26.92	52.93	26.01	15000	9.000	L1	ON	9.6
0.217163	43.48	---	62.93	19.45	15000	9.000	L1	ON	9.6
0.743269	---	28.46	46.00	17.54	15000	9.000	L1	ON	9.6
0.743269	35.85	---	56.00	20.15	15000	9.000	L1	ON	9.6
2.101444	---	21.87	46.00	24.13	15000	9.000	L1	ON	9.7
2.101444	29.92	---	56.00	26.08	15000	9.000	L1	ON	9.7
3.179775	---	21.48	46.00	24.52	15000	9.000	L1	ON	9.7
3.179775	29.83	---	56.00	26.17	15000	9.000	L1	ON	9.7
16.074975	---	22.90	50.00	27.10	15000	9.000	L1	ON	10.1
16.074975	28.82	---	60.00	31.18	15000	9.000	L1	ON	10.1

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

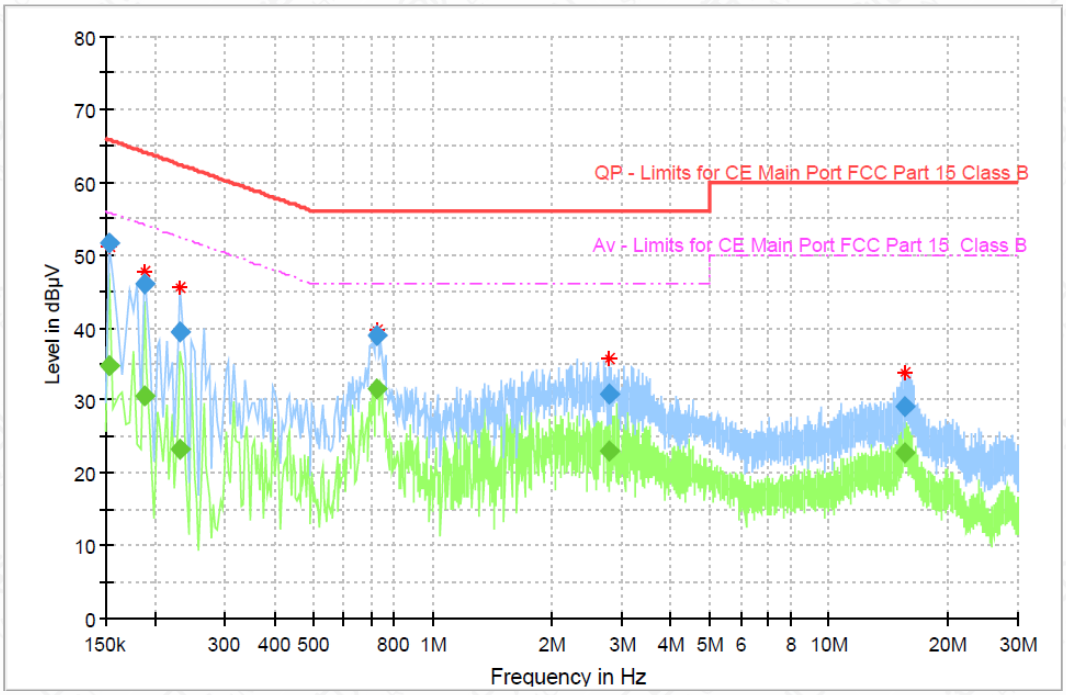

Figure A.2-4 Mode 1 (150kHz-30MHz)_N07 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.153731	---	34.68	55.80	21.12	15000	9.000	L1	ON	9.6
0.153731	51.56	---	65.80	14.24	15000	9.000	L1	ON	9.6
0.187313	---	30.53	54.16	23.62	15000	9.000	L1	ON	9.6
0.187313	46.04	---	64.16	18.11	15000	9.000	L1	ON	9.6
0.232088	---	23.31	52.38	29.07	15000	9.000	L1	ON	9.6
0.232088	39.51	---	62.38	22.87	15000	9.000	L1	ON	9.6
0.728344	---	31.51	46.00	14.49	15000	9.000	L1	ON	9.6
0.728344	38.96	---	56.00	17.04	15000	9.000	L1	ON	9.6
2.799188	---	23.05	46.00	22.95	15000	9.000	L1	ON	9.7
2.799188	30.82	---	56.00	25.18	15000	9.000	L1	ON	9.7
15.504094	---	22.84	50.00	27.16	15000	9.000	L1	ON	10.1
15.504094	29.07	---	60.00	30.93	15000	9.000	L1	ON	10.1

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

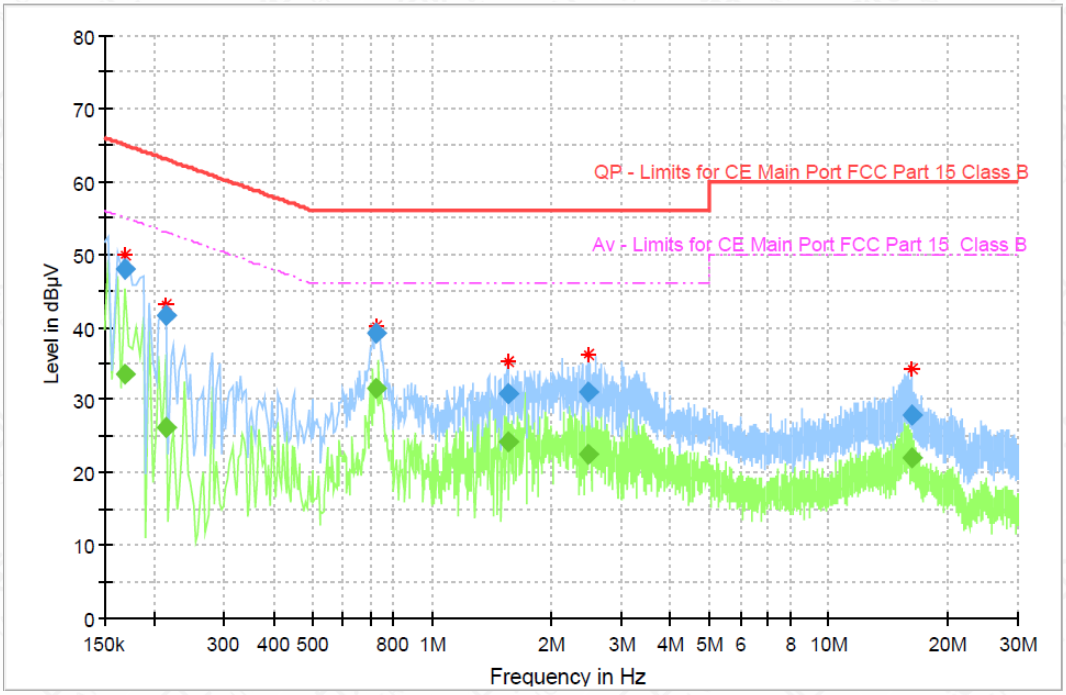

Figure A.2-5 Mode 1 (150kHz-30MHz)_N14 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.168656	---	33.49	55.03	21.54	15000	9.000	L1	ON	9.6
0.168656	48.06	---	65.03	16.97	15000	9.000	L1	ON	9.6
0.213431	---	26.11	53.07	26.96	15000	9.000	L1	ON	9.6
0.213431	41.67	---	63.07	21.40	15000	9.000	L1	ON	9.6
0.724613	---	31.50	46.00	14.50	15000	9.000	L1	ON	9.6
0.724613	39.12	---	56.00	16.88	15000	9.000	L1	ON	9.6
1.552950	---	24.34	46.00	21.66	15000	9.000	L1	ON	9.7
1.552950	30.73	---	56.00	25.27	15000	9.000	L1	ON	9.7
2.485763	---	22.39	46.00	23.61	15000	9.000	L1	ON	9.7
2.485763	30.97	---	56.00	25.03	15000	9.000	L1	ON	9.7
16.205569	---	22.02	50.00	27.98	15000	9.000	L1	ON	10.1
16.205569	27.95	---	60.00	32.05	15000	9.000	L1	ON	10.1

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

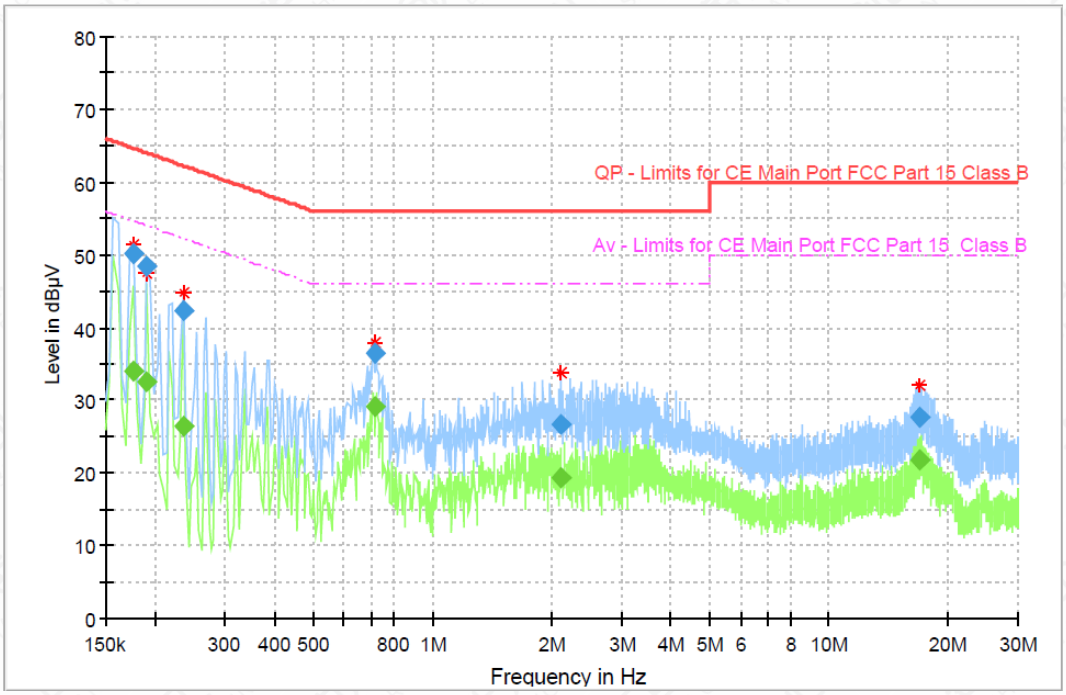

Figure A.2-6 Mode 1 (150kHz-30MHz)_N12 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.176119	---	33.97	54.67	20.69	15000	9.000	L1	ON	9.6
0.176119	50.07	---	64.67	14.60	15000	9.000	L1	ON	9.6
0.191044	---	32.65	53.99	21.34	15000	9.000	L1	ON	9.6
0.191044	48.36	---	63.99	15.64	15000	9.000	L1	ON	9.6
0.235819	---	26.42	52.24	25.83	15000	9.000	L1	ON	9.6
0.235819	42.24	---	62.24	20.00	15000	9.000	L1	ON	9.6
0.713419	---	29.21	46.00	16.79	15000	9.000	L1	ON	9.6
0.713419	36.53	---	56.00	19.47	15000	9.000	L1	ON	9.6
2.105175	---	19.24	46.00	26.76	15000	9.000	L1	ON	9.7
2.105175	26.66	---	56.00	29.34	15000	9.000	L1	ON	9.7
16.892119	---	21.84	50.00	28.16	15000	9.000	L1	ON	10.1
16.892119	27.58	---	60.00	32.42	15000	9.000	L1	ON	10.1

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

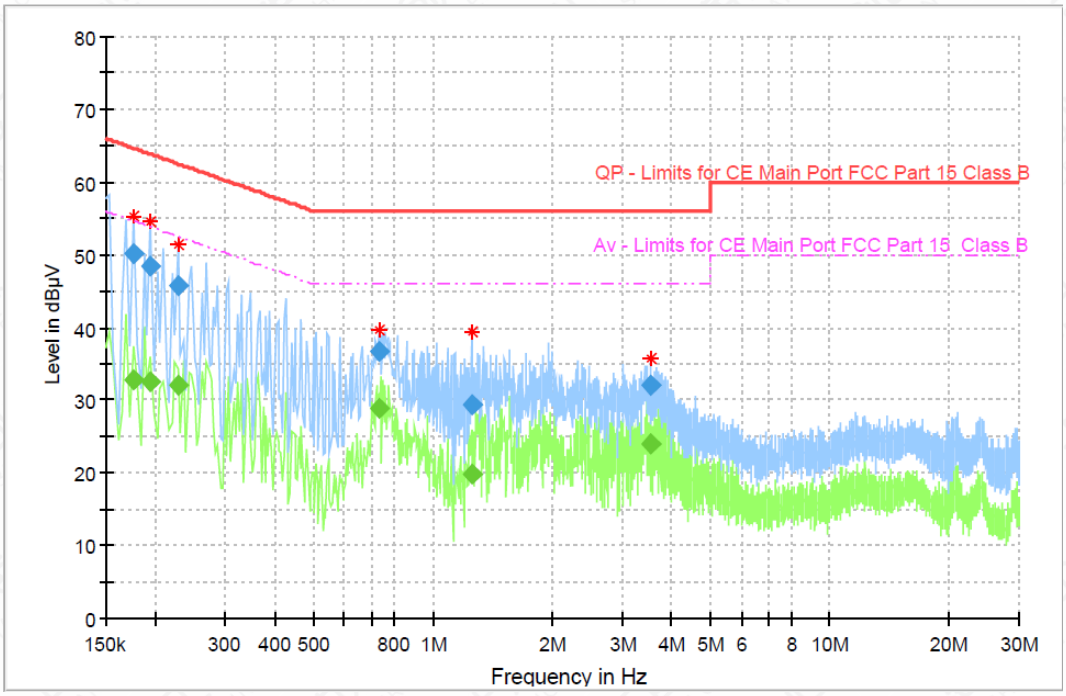

Figure A.2-7 Mode 1 (150kHz-30MHz)_N05 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.176119	---	32.70	54.67	21.96	15000	9.000	L1	ON	9.6
0.176119	50.12	---	64.67	14.55	15000	9.000	L1	ON	9.6
0.194775	---	32.59	53.83	21.24	15000	9.000	L1	ON	9.6
0.194775	48.50	---	63.83	15.33	15000	9.000	L1	ON	9.6
0.228356	---	31.94	52.51	20.57	15000	9.000	L1	ON	9.6
0.228356	45.86	---	62.51	16.64	15000	9.000	L1	ON	9.6
0.732075	---	28.89	46.00	17.11	15000	9.000	L1	ON	9.6
0.732075	36.78	---	56.00	19.22	15000	9.000	L1	ON	9.6
1.250719	---	19.78	46.00	26.22	15000	9.000	L1	ON	9.6
1.250719	29.32	---	56.00	26.68	15000	9.000	L1	ON	9.6
3.526781	---	24.08	46.00	21.92	15000	9.000	L1	ON	9.7
3.526781	31.98	---	56.00	24.02	15000	9.000	L1	ON	9.7

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

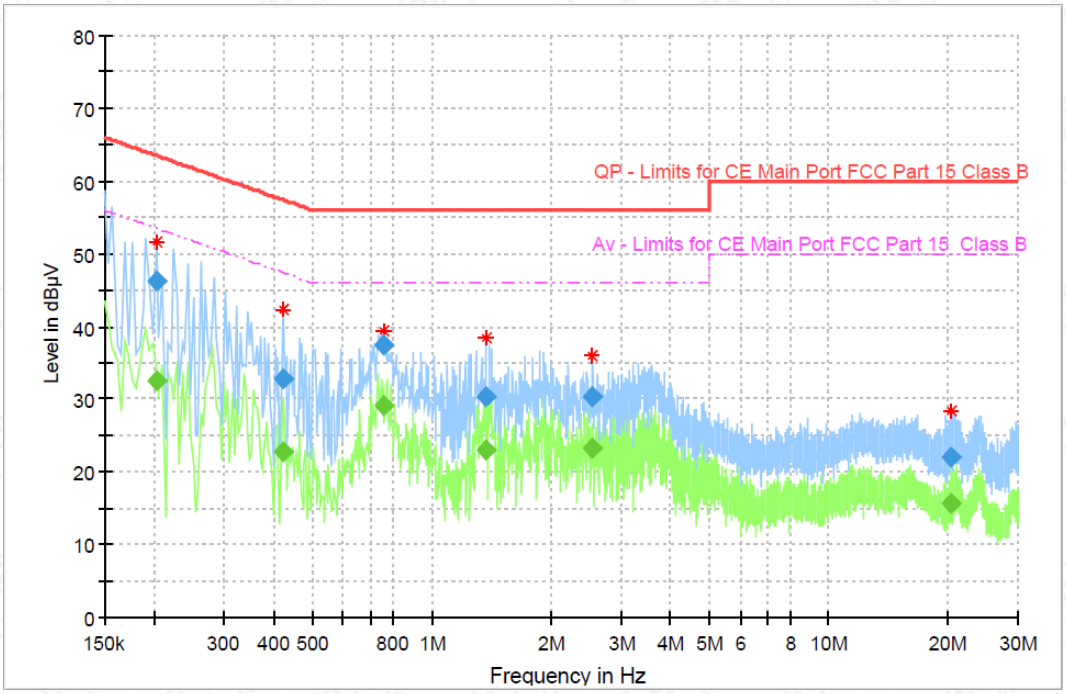

Figure A.2-8 Mode 1 (150kHz-30MHz)_N10 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.202238	---	32.50	53.52	21.02	15000	9.000	L1	ON	9.6
0.202238	46.24	---	63.52	17.28	15000	9.000	L1	ON	9.6
0.422381	---	22.76	47.40	24.64	15000	9.000	L1	ON	9.6
0.422381	32.79	---	57.40	24.61	15000	9.000	L1	ON	9.6
0.754463	---	29.19	46.00	16.81	15000	9.000	L1	ON	9.6
0.754463	37.46	---	56.00	18.54	15000	9.000	L1	ON	9.6
1.370119	---	22.98	46.00	23.02	15000	9.000	L1	ON	9.7
1.370119	30.27	---	56.00	25.73	15000	9.000	L1	ON	9.7
2.545463	---	23.29	46.00	22.71	15000	9.000	L1	ON	9.7
2.545463	30.45	---	56.00	25.55	15000	9.000	L1	ON	9.7
20.433075	---	15.66	50.00	34.34	15000	9.000	L1	ON	10.2
20.433075	22.08	---	60.00	37.92	15000	9.000	L1	ON	10.2

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

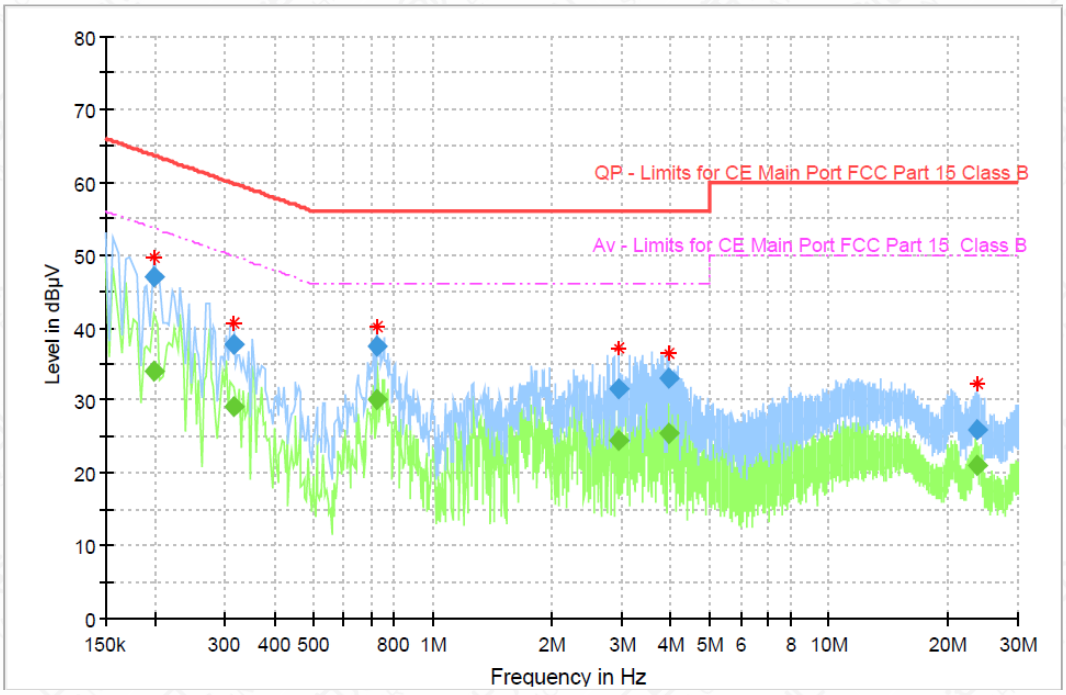

Figure A.2-9 Mode 2 (150kHz-30MHz)_N18 Sample

Frequency (MHz)	QuasiPeak (DbµV)	Average (DbµV)	Limit (DbµV)	Margin (Db)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (Db)
0.198506	---	34.12	53.67	19.56	15000	9.000	N	ON	10.5
0.198506	46.89	---	63.67	16.79	15000	9.000	N	ON	10.5
0.314175	---	29.04	49.86	20.82	15000	9.000	N	ON	10.5
0.314175	37.74	---	59.86	22.12	15000	9.000	N	ON	10.5
0.728344	---	30.19	46.00	15.81	15000	9.000	N	ON	10.5
0.728344	37.49	---	56.00	18.51	15000	9.000	N	ON	10.5
2.948438	---	24.51	46.00	21.49	15000	9.000	N	ON	10.8
2.948438	31.62	---	56.00	24.38	15000	9.000	N	ON	10.8
3.948413	---	25.39	46.00	20.61	15000	9.000	N	ON	10.9
3.948413	33.10	---	56.00	22.90	15000	9.000	N	ON	10.9
23.638219	---	21.11	50.00	28.89	15000	9.000	N	ON	13.9
23.638219	25.96	---	60.00	34.04	15000	9.000	N	ON	13.9

Note: L1 and N line is all have been tested, the result of them is synthesized in the above data diagram.

Annex B: Revised History

Version	Revised Content
V00	Initial
V01	Updated the IC information in Section 2.1

Annex C: Accreditation Certificate

Accredited Laboratory

A2LA has accredited

INDUSTRIAL INTERNET INNOVATION CENTER (SHANGHAI) CO., LTD.

Shanghai, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 12th day of April 2021.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3682.01
Valid to February 28, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.