



FCC Test Report

**Test report
On Behalf of
Shenzhen Haimeilan Technology Co., LTD.
For
Smart Phone**

Model No.: S25 Ultra, S24 Ultra, S23 Ultra, C25 Ultra, C24 Ultra, C23 Ultra, X23 Ultra, X24 Ultra, X25 Ultra, Z23 Ultra, Z24 Ultra, Z25 Ultra, C10 Plus, C30 Plus, G50 Plus, G60 Plus, C73, C7 Ultra, Polaris7 Pro, C3 Luxury, G37 Ultra, M13 Pro, Polaris7, Rise77 Luxury, Opus33 Luxury, Acro77 Luxury, Sirius40 Ultra, H50 Ultra, G3 Luxury, Rise30 Ultra, G7 Ultra, E-on33 Ultra, Vista16 Ultra, I24 Ultra, I25 Ultra, X24, S01, C25, S10, S11, S08, S25 MAX, I15 Ultra, S24 Pro Max

FCC ID: 2BDI3-S

Prepared For : Shenzhen Haimeilan Technology Co., LTD.

9V777, East 9th Floor, Building 2, SEG Science Park, Huaqiang North Street, Futian District, Shenzhen, 518000 China

Prepared By : Shenzhen HUAK Testing Technology Co., Ltd.

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Date of Test: Dec. 18, 2024 ~ Feb. 17, 2025

Date of Report: Feb. 17, 2025

Report Number: HK2412187831-4E

**Test Result Certification****Applicant's name** Shenzhen Haimeilan Technology Co., LTD.

Address 9V777, East 9th Floor, Building 2, SEG Science Park, Huaqiang North Street, Futian District, Shenzhen, 518000 China

Manufacturer's Name Shenzhen Yinma Intelligent Technology Co., Ltd

Address 2nd Floor, Building 2, Donglongxing Science and Technology Park, Dalang Street, Longhua District, Shenzhen, 518000 China

Product description

Trade Mark: N/A

Product name Smart Phone

Series Models S25 Ultra, S24 Ultra, S23 Ultra, C25 Ultra, C24 Ultra, C23 Ultra, X23 Ultra, X24 Ultra, X25 Ultra, Z23 Ultra, Z24 Ultra, Z25 Ultra, C10 Plus, C30 Plus, G50 Plus, G60 Plus, C73, C7 Ultra, Polaris7 Pro, C3 Luxury, G37 Ultra, M13 Pro, Polaris7, Rise77 Luxury, Opus33 Luxury, Acro77 Luxury, Sirius40 Ultra, H50 Ultra, G3 Luxury, Rise30 Ultra, G7 Ultra, E-on33 Ultra, Vista16 Ultra, I24 Ultra, I25 Ultra, X24, S01, C25, S10, S11, S08, S25 MAX, I15 Ultra, S24 Pro Max

Standards **47 CFR FCC Part 15 Subpart C 15.247**

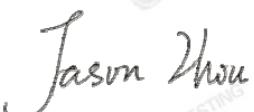
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Date of TestDate (s) of performance of tests **Dec. 18, 2024 ~ Feb. 17, 2025**Date of Issue **Feb. 17, 2025**Test Result **Pass**Testing Engineer : 

(Len Liao)

Technical Manager : 

(Sliver Wan)

Authorized Signatory : 

(Jason Zhou)

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**** Modified History ****

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Feb. 17, 2025	Jason Zhou

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1. Summary

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices.

1.2. Test Description

FCC PART 15.247		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.215	20dB Bandwidth & 99% Bandwidth	PASS
FCC Part 15.247(d)	Spurious RF Conducted Emission	PASS
FCC Part 15.247(b)	Maximum Peak Output Power	PASS
FCC Part 15.247(a)(1)	Pseudorandom Frequency Hopping Sequence	PASS
FCC Part 15.247(a)(1)(iii)	Number of hopping frequency & Time of Occupancy	PASS
FCC Part 15.247(a)(1)	Frequency Separation	PASS
FCC Part 15.205/15.209	Radiated Emissions	PASS
FCC Part 15.247(d)	Band Edge Compliance of RF Emission	PASS



1.3. Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.

Address: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization :

A2LA Accreditation Code is 4781.01.

FCC Designation Number is CN1229.

Canada IC CAB identifier is CN0045.

CNAS Registration Number is L9589.

1.4. Statement of the Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

Test	Measurement Uncertainty	Notes
Transmitter power conducted	$\pm 0.37\text{dB}$	(1)
Transmitter power Radiated	$\pm 3.35\text{dB}$	(1)
Conducted spurious emission 9KHz-40 GHz	$\pm 2.20\text{dB}$	(1)
Occupied Bandwidth	$\pm 3.68\%$	(1)
Radiated Emission 30~1000MHz	$\pm 3.90\text{dB}$	(1)
Radiated Emission Above 1GHz	$\pm 4.28\text{dB}$	(1)
Conducted Disturbance 0.15~30MHz	$\pm 2.71\text{dB}$	(1)



2. General Information

2.1. Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	Smart Phone
Model Name	S25 Ultra
Series Models:	S24 Ultra, S23 Ultra, C25 Ultra, C24 Ultra, C23 Ultra, X23 Ultra, X24 Ultra, X25 Ultra, Z23 Ultra, Z24 Ultra, Z25 Ultra, C10 Plus, C30 Plus, G50 Plus, G60 Plus, C73, C7 Ultra, Polaris7 Pro, C3 Luxury, G37 Ultra, M13 Pro, Polaris7, Rise77 Luxury, Opus33 Luxury, Acro77 Luxury, Sirius40 Ultra, H50 Ultra, G3 Luxury, Rise30 Ultra, G7 Ultra, E-on33 Ultra, Vista16 Ultra, I24 Ultra, I25 Ultra, X24, S01, C25, S10, S11, S08, S25 MAX, I15 Ultra, S24 Pro Max
Model Difference:	All model's the function, software and electric circuit are the same, only with a product appearance, color and model named different. Test sample mode: S25 Ultra.
Trade Mark:	N/A
Power supply:	DC 5V From Type-C or DC 3.85V From Battery
Version:	Supported EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	FPC Antenna
Antenna gain:	0.72dBi
Hardware Version:	V1.0
Software Version:	V1.0
Note:	<p>1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.</p> <p>2. Antenna gain Refer to the antenna specifications.</p> <p>3. The cable loss data is obtained from the supplier.</p> <p>4. The test results in the report only apply to the tested sample.</p>



2.3. Description of Test Modes and Test Frequency

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing.

There are 79 channels provided to the EUT and Channel 00/39/78 was selected for testing.

Operation Frequency :

Channel	Frequency (MHz)
00	2402
01	2403
:	:
38	2440
39	2441
40	2442
:	:
77	2479
78	2480

Note: The line display in grey were the channel selected for testing.

Preliminary tests were performed in each mode and packet length of BT, and found worst case as bellow, finally test were conducted at those mode and recorded in this report.

Test Items	Worst case
Conducted Emissions	Working mode while charging
Radiated Emissions and Band Edge	DH5 Low channel
Maximum Conducted Output Power	DH5/2DH5/3DH5
20dB Bandwidth & 99% Bandwidth	DH5/2DH5/3DH5
Frequency Separation	DH5/2DH5/3DH5 Middle channel
Number of hopping frequency	DH5/2DH5/3DH5
Time of Occupancy (Dwell Time)	DH1/DH3/DH5 Middle channel 2DH1/2DH3/2DH5 Middle channel 3DH1/3DH3/3DH5 Middle channel
Out-of-band Emissions	DH5/2DH5/3DH5



2.4. Equipments Used During the Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	L.I.S.N.	R&S	ENV216	HKE-002	2024/02/20	1 Year
2	L.I.S.N.	R&S	ENV216	HKE-059	2024/02/20	1 Year
3	EMI Test Receiver	R&S	ESR	HKE-005	2024/02/20	1 Year
4	Spectrum analyzer	Agilent	N9020A	HKE-025	2024/02/20	1 Year
5	Spectrum analyzer	R&S	FSV3044	HKE-126	2024/02/20	1 Year
6	Preamplifier	EMCI	EMC051845S	HKE-006	2024/02/20	1 Year
7	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	2024/02/20	1 Year
8	Preamplifier	A.H. Systems	SAS-574	HKE-182	2024/02/20	1 Year
9	6d Attenuator	Pasternack	6db	HKE-184	2024/02/20	1 Year
10	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	2024/02/20	1 Year
11	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	2024/02/21	2 Year
12	Loop Antenna	COM-POWER	AL-130R	HKE-014	2024/02/21	2 Year
13	Horn Antenna	Schwarzbeck	9120D	HKE-013	2024/02/21	2 Year
14	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/	/
15	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	/	/
16	RF Automatic control unit	Tonscend	JS0806-2	HKE-060	2024/02/20	1 Year
17	High pass filter unit	Tonscend	JS0806-F	HKE-055	2024/02/20	1 Year
18	Wireless Communication Test Set	R&S	CMU200	HKE-026	2024/02/20	1 Year
19	Wireless Communication Test Set	R&S	CMW500	HKE-027	2024/02/20	1 Year
20	High-low temperature chamber	Guangke	HT-80L	HKE-118	2024/06/10	1 Year
21	Temperature and humidity meter	Boyang	HTC-1	HKE-075	2024/06/10	1 Year
22	RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	/	/
23	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	2024/02/20	1 Year
24	RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	/	/

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2.5. Related Submittal(S) / Grant (S)

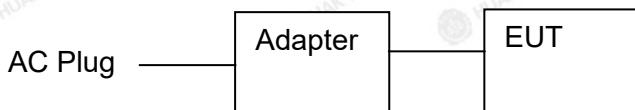
This submittal(s) (test report) is intended to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

2.7. Description of Test Setup

Operation of EUT during conducted testing and below 1GHz radiation testing:



Operation of EUT during above 1GHz radiation testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.



2.8. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Remark
1	Smart Phone	N/A	S25 Ultra	N/A	EUT
2	USB Cable	N/A	N/A	Length:0.82m	Accessory
3	Adapter	N/A	APD5-2	Input: AC 100-240V, 50/60Hz, 0.5A Output: DC 5V, 2A	Accessory

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20db Bandwidth, Frequency Separation, Number of Hopping Frequency, Time of Occupancy (Dwell Time), Out-of-Band Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



3. Test Conditions and Results

3.1. Conducted Emissions Test

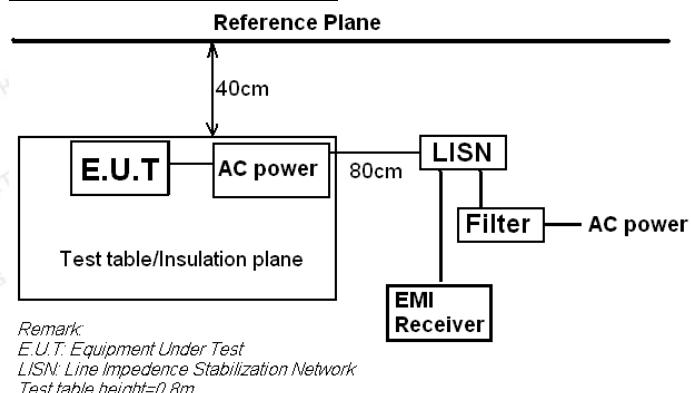
LIMIT

According to FCC CFR Title 47 Part 15 Subpart C Section 15.207 and RSS Gen 8.8, AC Power Line Conducted Emissions Limits for License-Exempt Radio Apparatus as below:

Frequency range (MHz)	Limit (dBuV)	
	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.

TEST CONFIGURATION



TEST PROCEDURE

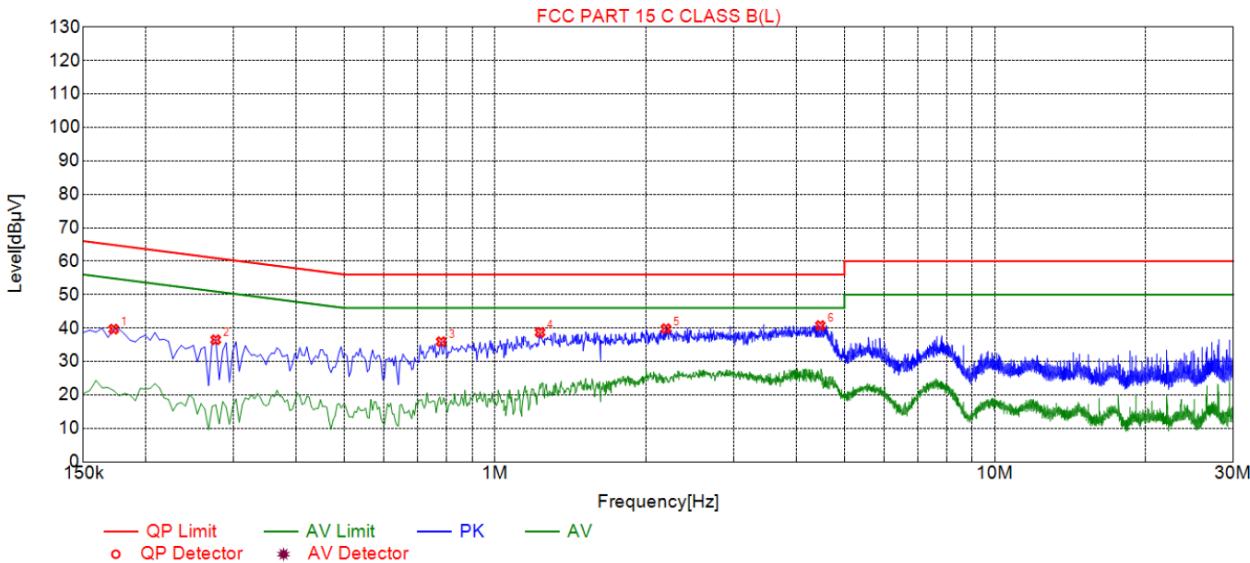
1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10:2013.
2. Support equipment, if needed, was placed as per ANSI C63.10:2013.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2013.
4. The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

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**TEST RESULTS**

Remark: All modes are tested; only the worst result of was reported as below:

Test Model No.: S25 Ultra
Test Specification: Line

**Suspected List**

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1725	39.69	19.84	64.84	25.15	19.85	PK	L
2	0.2760	36.51	19.84	60.94	24.43	16.67	PK	L
3	0.7800	35.94	19.86	56.00	20.06	16.08	PK	L
4	1.2300	38.71	19.90	56.00	17.29	18.81	PK	L
5	2.1975	39.82	19.99	56.00	16.18	19.83	PK	L
6	4.4745	40.75	20.09	56.00	15.25	20.66	PK	L

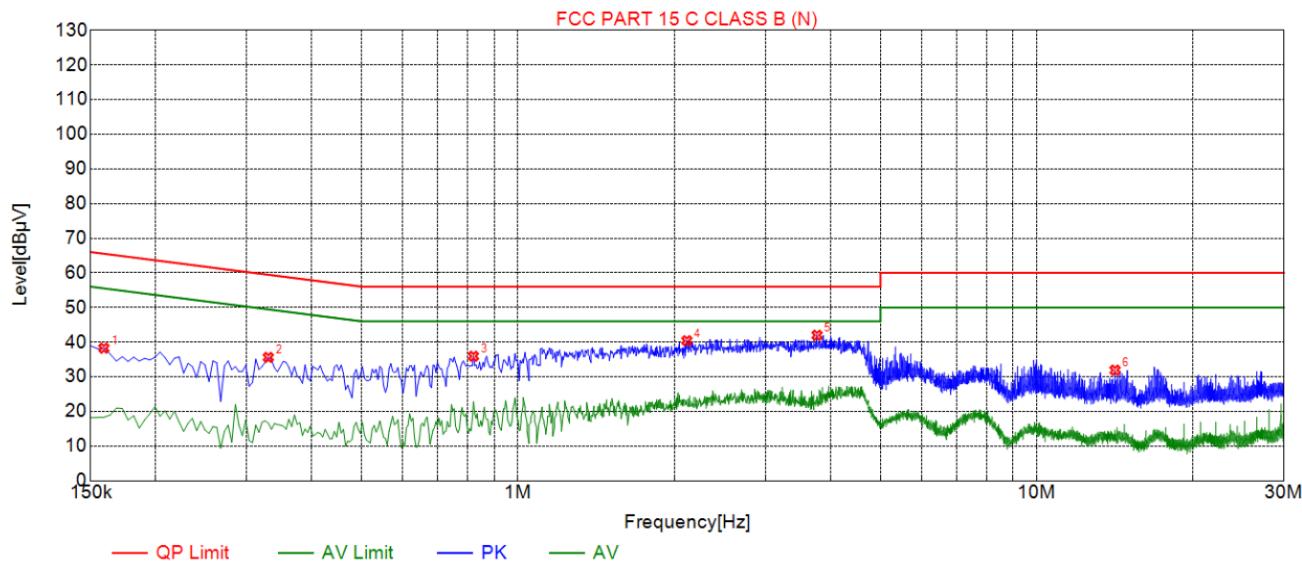
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1590	38.27	19.70	65.52	27.25	18.57	PK	N
2	0.3300	35.61	19.74	59.45	23.84	15.87	PK	N
3	0.8205	35.94	19.74	56.00	20.06	16.20	PK	N
4	2.1165	40.41	19.85	56.00	15.59	20.56	PK	N
5	3.7725	42.00	19.97	56.00	14.00	22.03	PK	N
6	14.1675	31.92	19.79	60.00	28.08	12.13	PK	N

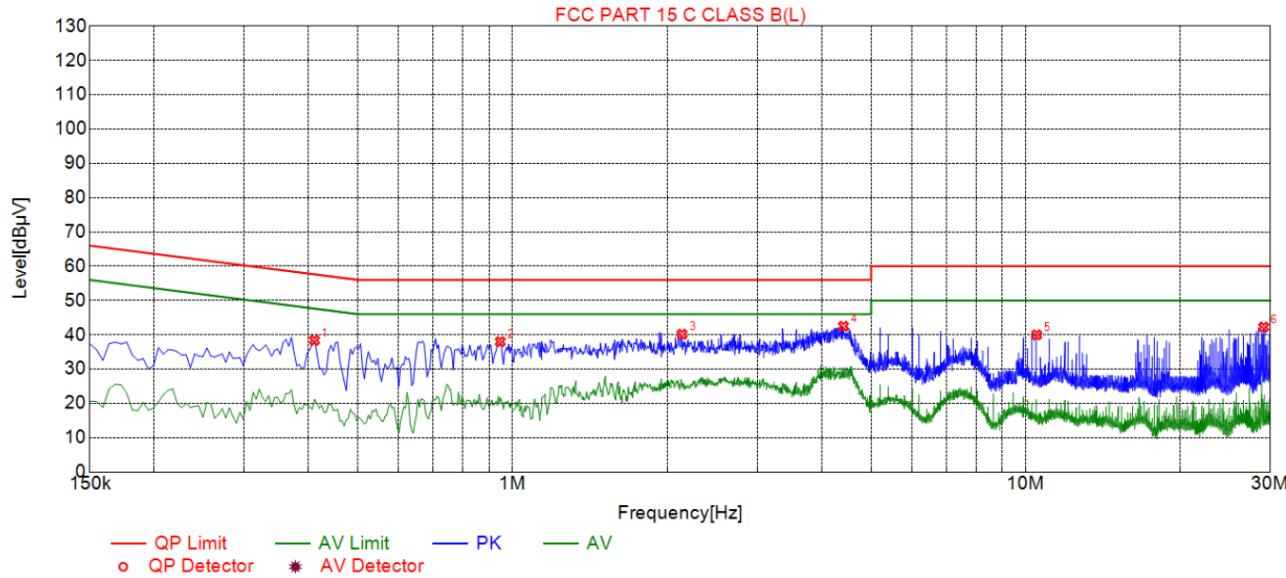
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level = Test receiver reading + correction factor



Series Model No.: X24 Ultra
Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.4110	38.40	19.83	57.63	19.23	18.57	PK	L
2	0.9465	38.00	19.87	56.00	18.00	18.13	PK	L
3	2.1390	40.15	19.98	56.00	15.85	20.17	PK	L
4	4.4160	42.49	20.09	56.00	13.51	22.40	PK	L
5	10.5090	39.99	19.93	60.00	20.01	20.06	PK	L
6	29.1075	42.25	20.24	60.00	17.75	22.01	PK	L

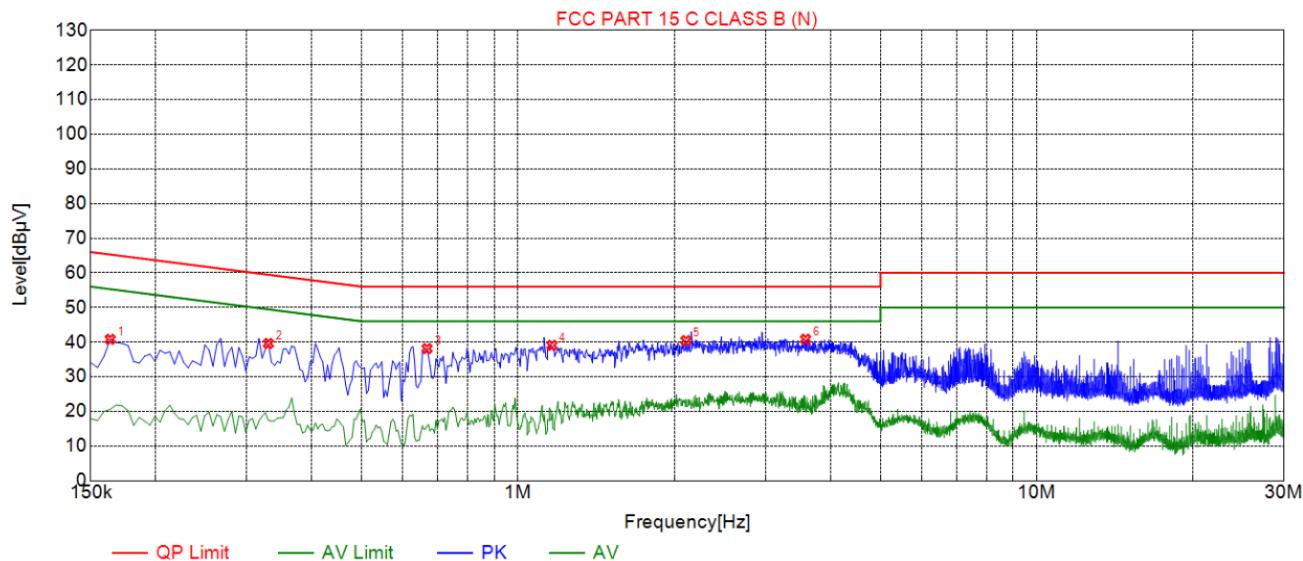
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.1635	40.80	19.68	65.28	24.48	21.12	PK	N
2	0.3300	39.62	19.74	59.45	19.83	19.88	PK	N
3	0.6675	38.14	19.74	56.00	17.86	18.40	PK	N
4	1.1625	39.07	19.77	56.00	16.93	19.30	PK	N
5	2.1075	40.44	19.85	56.00	15.56	20.59	PK	N
6	3.5835	40.84	19.97	56.00	15.16	20.87	PK	N

Remark: Margin = Limit – Level

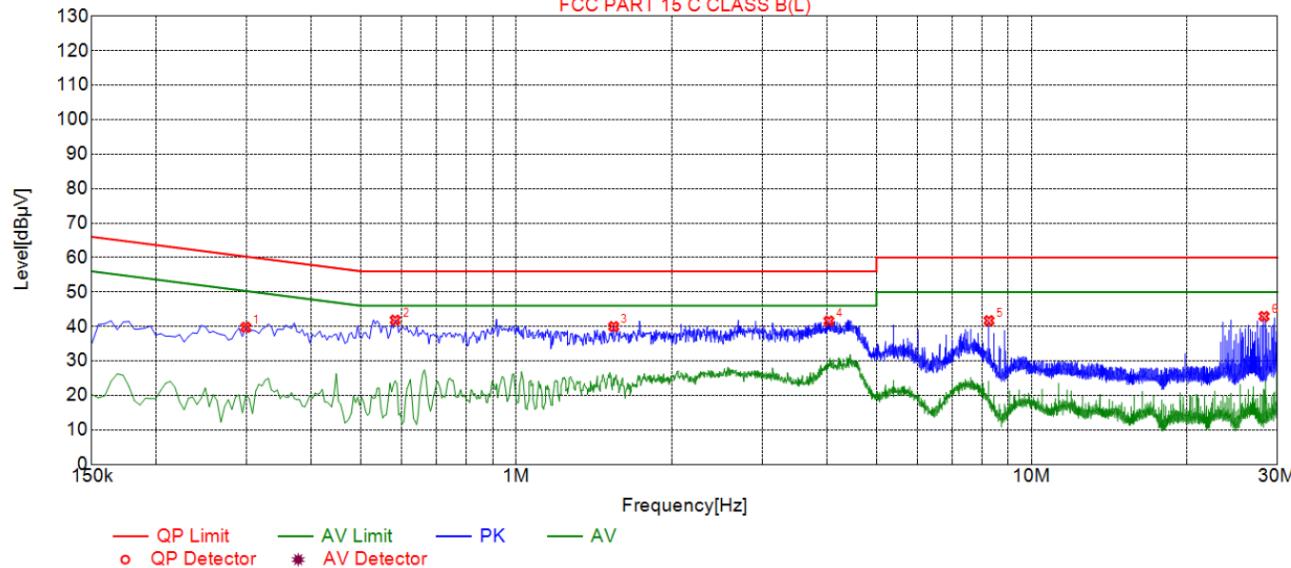
Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Series Model No.: C24 Ultra
Test Specification: Line

FCC PART 15 C CLASS B(L)



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.2985	39.78	19.84	60.28	20.50	19.94	PK	L
2	0.5820	41.85	19.86	56.00	14.15	21.99	PK	L
3	1.5450	39.97	19.93	56.00	16.03	20.04	PK	L
4	4.0425	41.60	20.09	56.00	14.40	21.51	PK	L
5	8.2680	41.70	20.02	60.00	18.30	21.68	PK	L
6	28.2615	42.94	20.23	60.00	17.06	22.71	PK	L

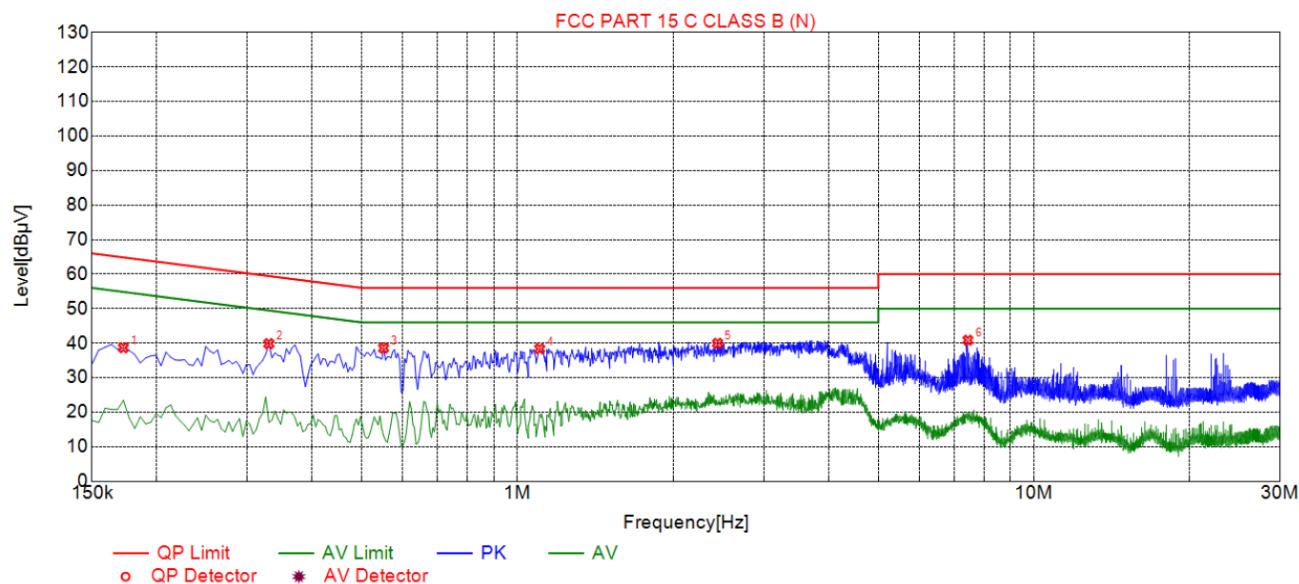
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Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.1725	38.68	19.73	64.84	26.16	18.95	PK	N
2	0.3300	39.87	19.74	59.45	19.58	20.13	PK	N
3	0.5505	38.58	19.75	56.00	17.42	18.83	PK	N
4	1.1040	38.38	19.76	56.00	17.62	18.62	PK	N
5	2.4405	39.97	19.89	56.00	16.03	20.08	PK	N
6	7.4535	40.86	19.95	60.00	19.14	20.91	PK	N

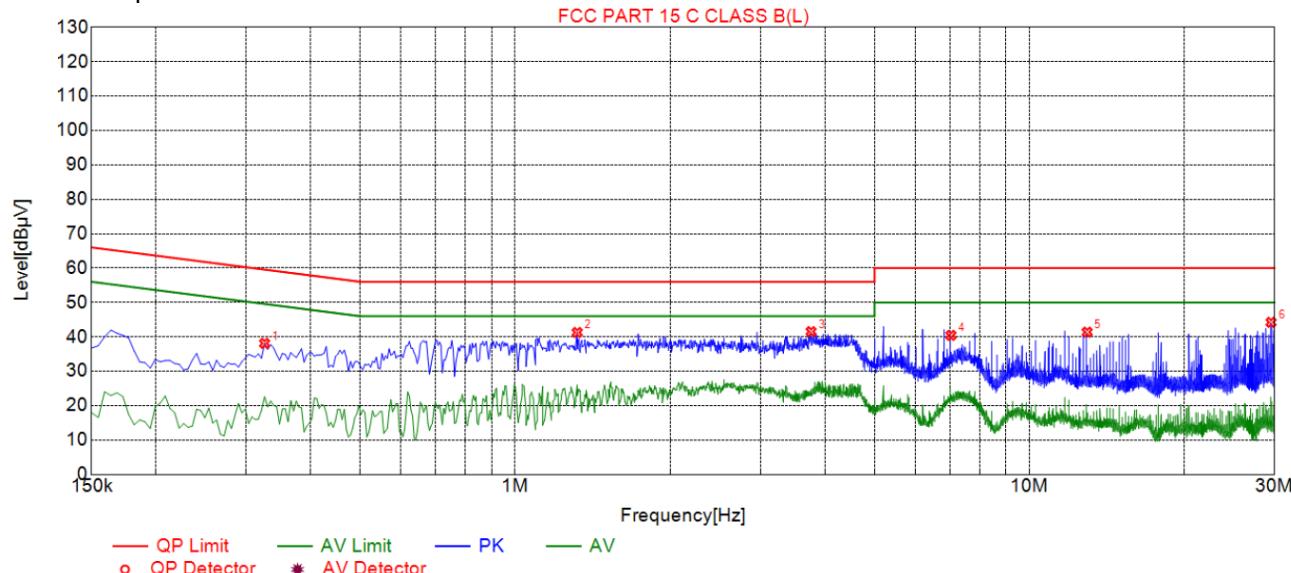
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Series Model No.: C25
Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.3255	38.12	19.85	59.57	21.45	18.27	PK	L
2	1.3200	41.28	19.91	56.00	14.72	21.37	PK	L
3	3.7635	41.53	20.09	56.00	14.47	21.44	PK	L
4	7.0395	40.43	20.07	60.00	19.57	20.36	PK	L
5	12.9570	41.37	19.84	60.00	18.63	21.53	PK	L
6	29.5260	44.24	20.25	60.00	15.76	23.99	PK	L

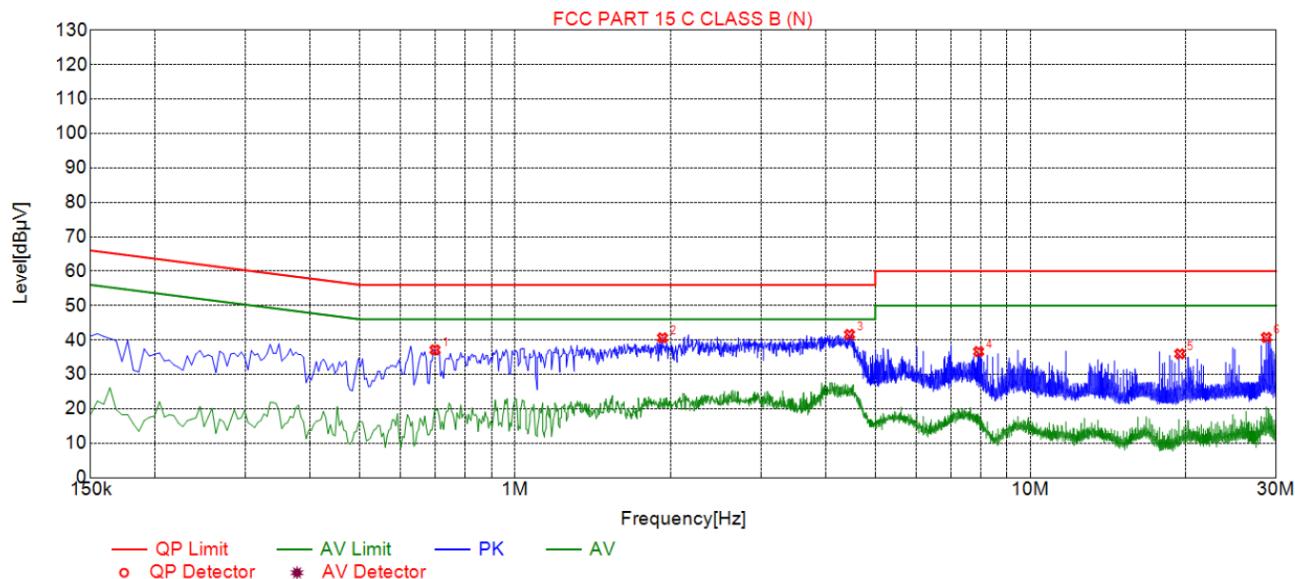
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.6990	37.12	19.74	56.00	18.88	17.38	PK	N
2	1.9320	40.62	19.83	56.00	15.38	20.79	PK	N
3	4.4565	41.59	19.98	56.00	14.41	21.61	PK	N
4	7.9350	36.64	19.93	60.00	23.36	16.71	PK	N
5	19.5045	35.97	19.96	60.00	24.03	16.01	PK	N
6	28.7115	40.74	20.34	60.00	19.26	20.40	PK	N

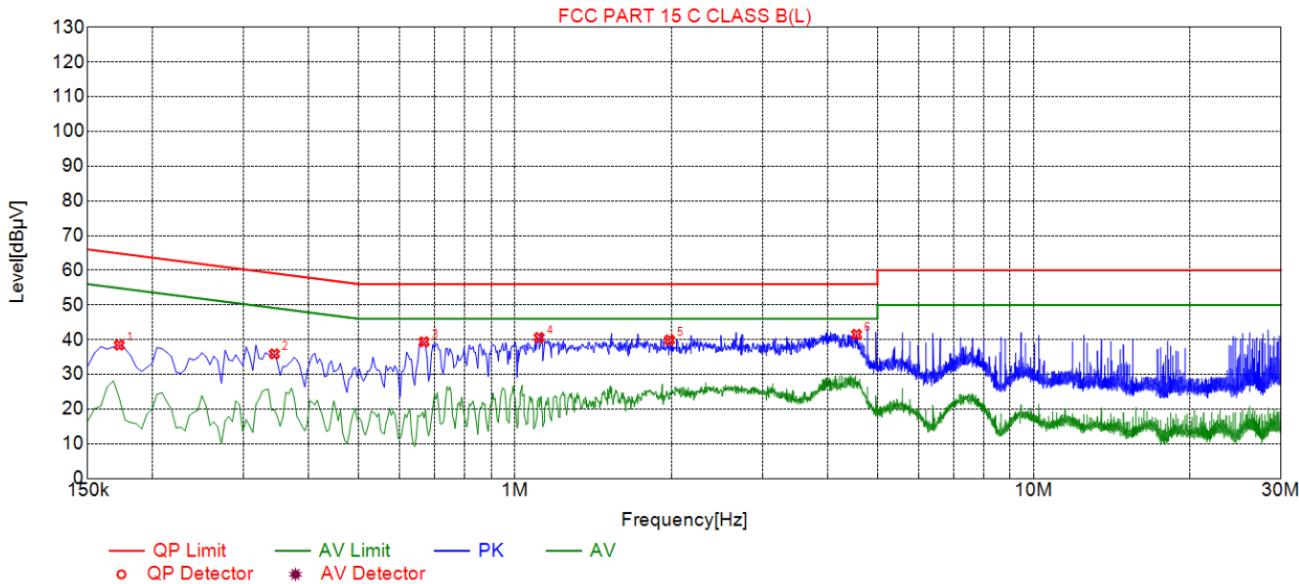
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Series Model No.: I15 Ultra
Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.1725	38.45	19.84	64.84	26.39	18.61	PK	L
2	0.3435	35.88	19.83	59.12	23.24	16.05	PK	L
3	0.6675	39.37	19.86	56.00	16.63	19.51	PK	L
4	1.1130	40.61	19.89	56.00	15.39	20.72	PK	L
5	1.9860	39.90	19.96	56.00	16.10	19.94	PK	L
6	4.5555	41.52	20.10	56.00	14.48	21.42	PK	L

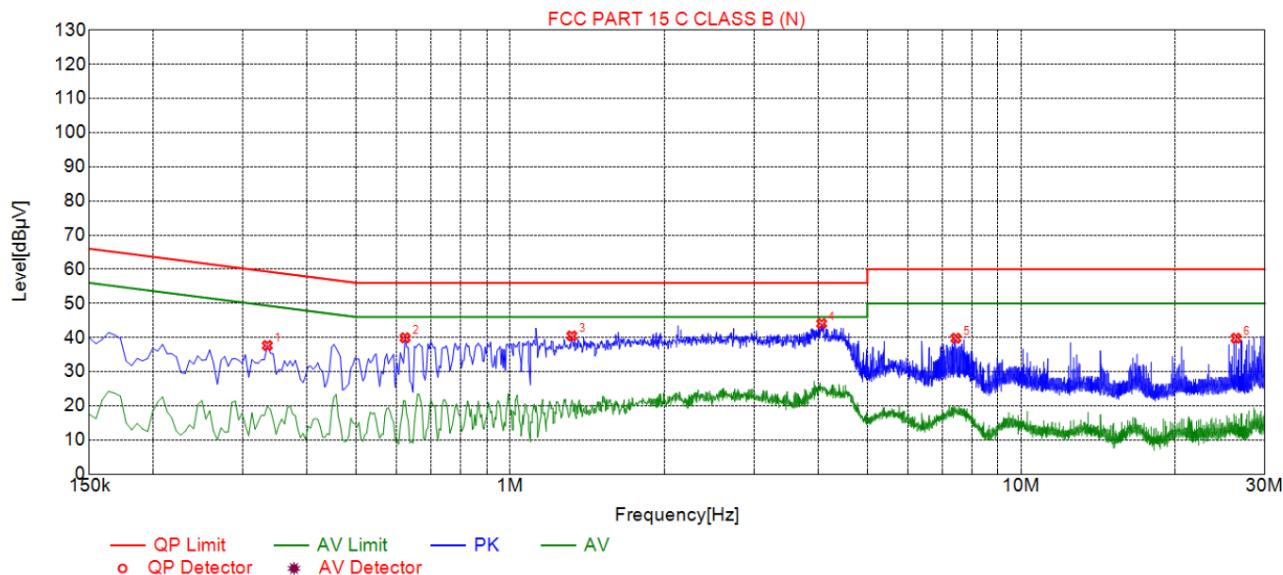
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.3345	37.67	19.73	59.34	21.67	17.94	PK	N
2	0.6225	39.93	19.74	56.00	16.07	20.19	PK	N
3	1.3200	40.48	19.78	56.00	15.52	20.70	PK	N
4	4.0695	44.10	19.97	56.00	11.90	24.13	PK	N
5	7.4535	39.79	19.95	60.00	20.21	19.84	PK	N
6	26.3490	39.79	20.29	60.00	20.21	19.50	PK	N

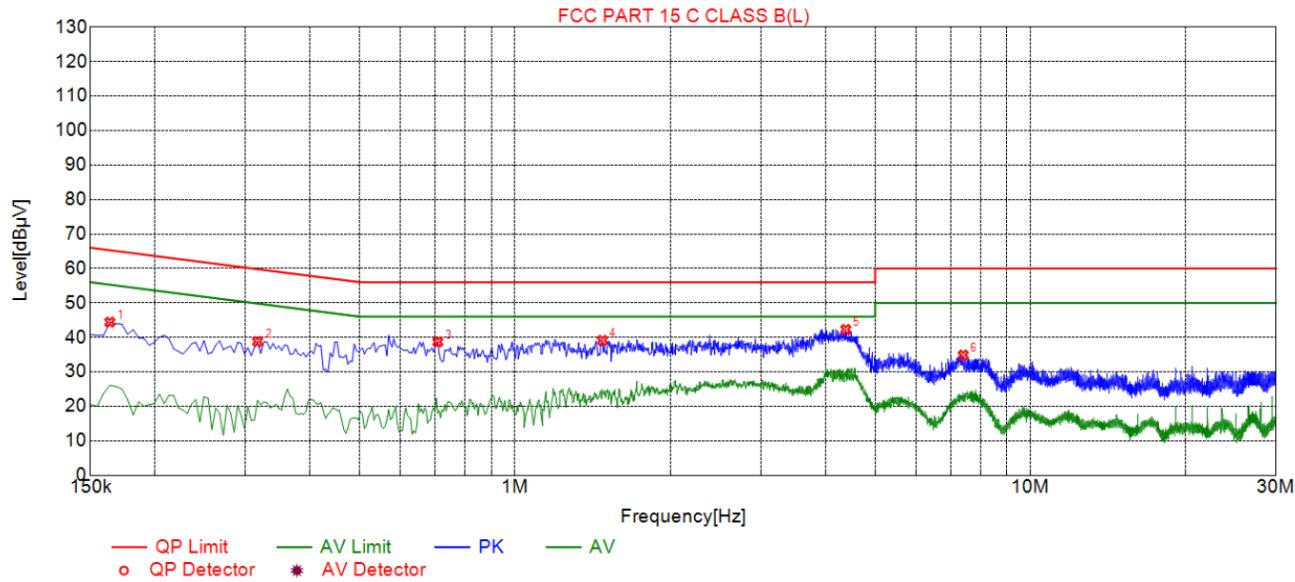
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level = Test receiver reading + correction factor



Series Model No.: C7 Ultra
Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1635	44.42	19.78	65.28	20.86	24.64	PK	L
2	0.3165	38.78	19.85	59.80	21.02	18.93	PK	L
3	0.7080	38.69	19.86	56.00	17.31	18.83	PK	L
4	1.4775	39.12	19.92	56.00	16.88	19.20	PK	L
5	4.3845	42.30	20.09	56.00	13.70	22.21	PK	L
6	7.4130	34.87	20.05	60.00	25.13	14.82	PK	L

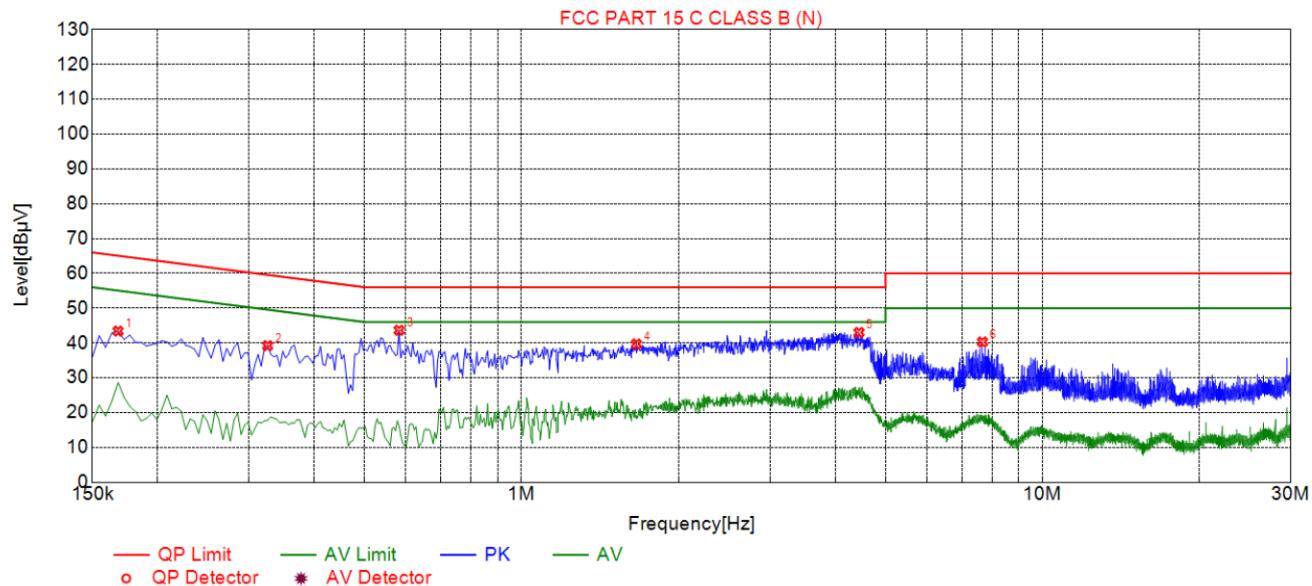
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.1680	43.41	19.71	65.06	21.65	23.70	PK	N
2	0.3255	39.22	19.74	59.57	20.35	19.48	PK	N
3	0.5820	43.65	19.74	56.00	12.35	23.91	PK	N
4	1.6620	39.70	19.81	56.00	16.30	19.89	PK	N
5	4.4475	43.02	19.98	56.00	12.98	23.04	PK	N
6	7.6740	40.28	19.95	60.00	19.72	20.33	PK	N

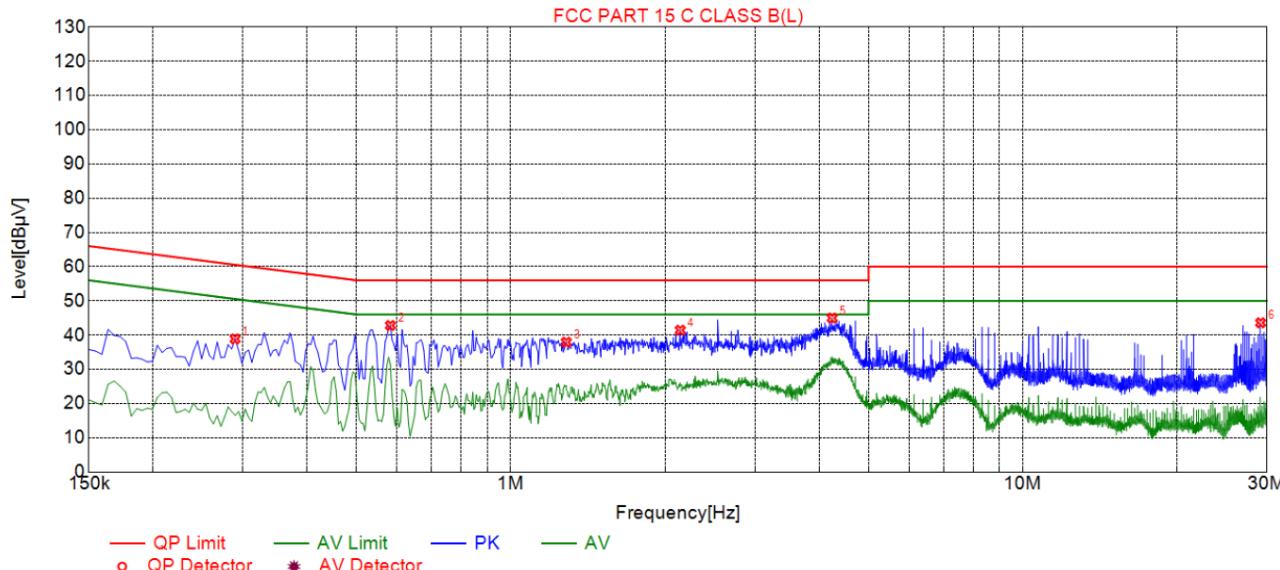
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Series Model No.: S24 Ultra
Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.2895	38.88	19.84	60.54	21.66	19.04	PK	L
2	0.5820	42.81	19.86	56.00	13.19	22.95	PK	L
3	1.2840	37.94	19.91	56.00	18.06	18.03	PK	L
4	2.1435	41.42	19.98	56.00	14.58	21.44	PK	L
5	4.2450	44.99	20.09	56.00	11.01	24.90	PK	L
6	29.1570	43.60	20.24	60.00	16.40	23.36	PK	L

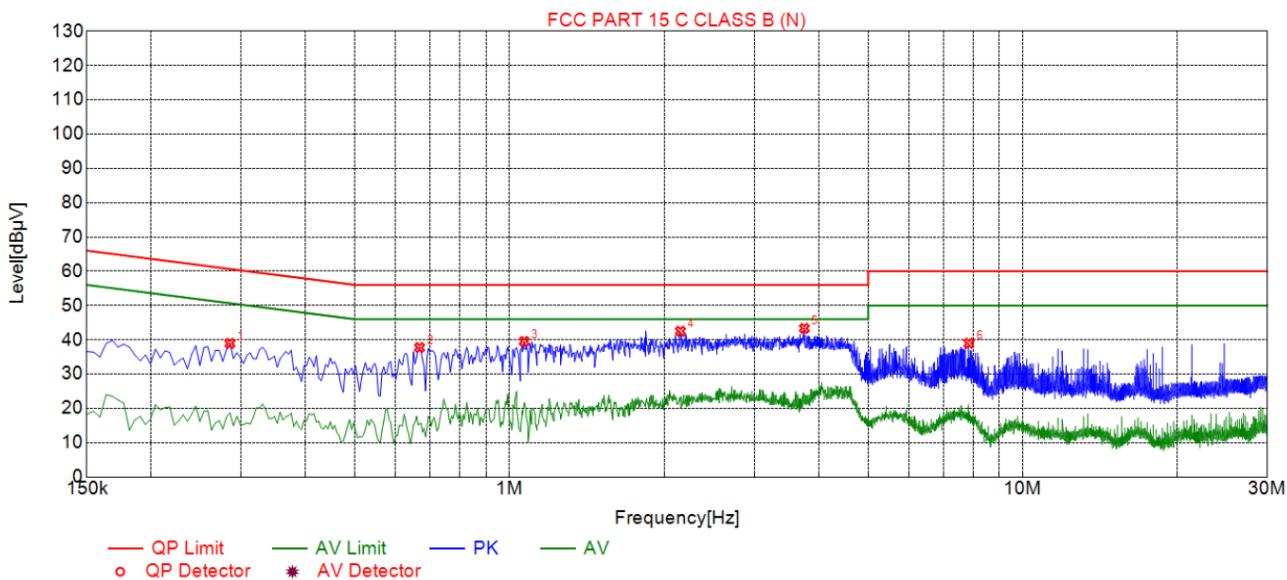
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.2850	38.94	19.73	60.67	21.73	19.21	PK	N
2	0.6675	37.76	19.74	56.00	18.24	18.02	PK	N
3	1.0680	39.52	19.75	56.00	16.48	19.77	PK	N
4	2.1525	42.52	19.86	56.00	13.48	22.66	PK	N
5	3.7545	43.33	19.97	56.00	12.67	23.36	PK	N
6	7.8585	39.01	19.94	60.00	20.99	19.07	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



3.2. Radiated Emissions and Band Edge

Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

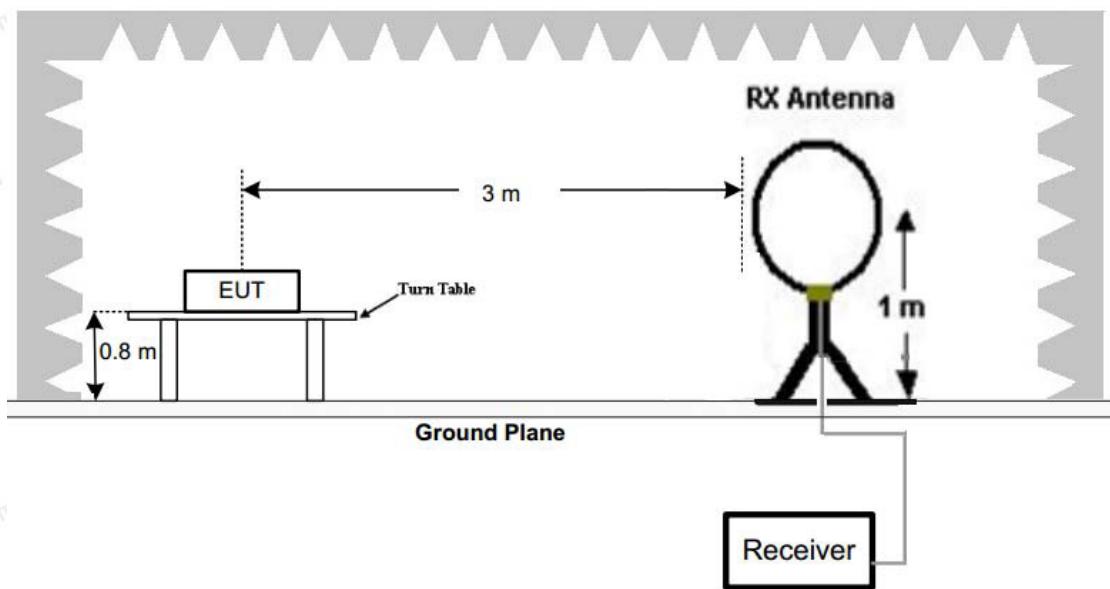
Except when the requirements applicable to a given device state otherwise, emissions from license-exempt transmitters shall comply with the field strength limits shown in table below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

Radiated emission limits

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

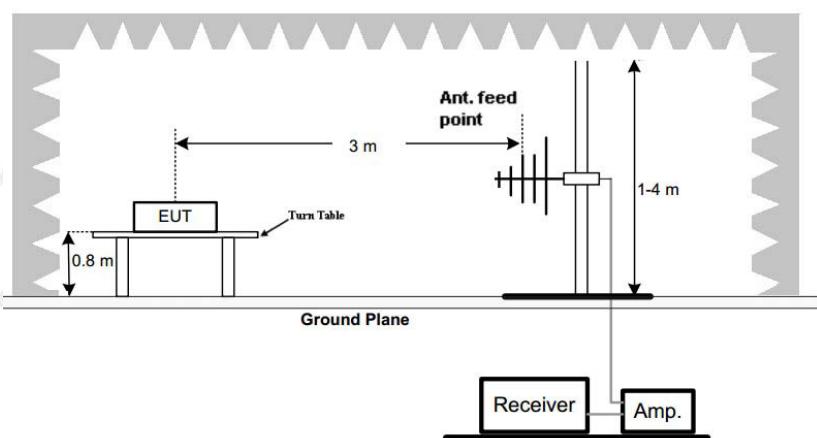
TEST CONFIGURATION

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz.

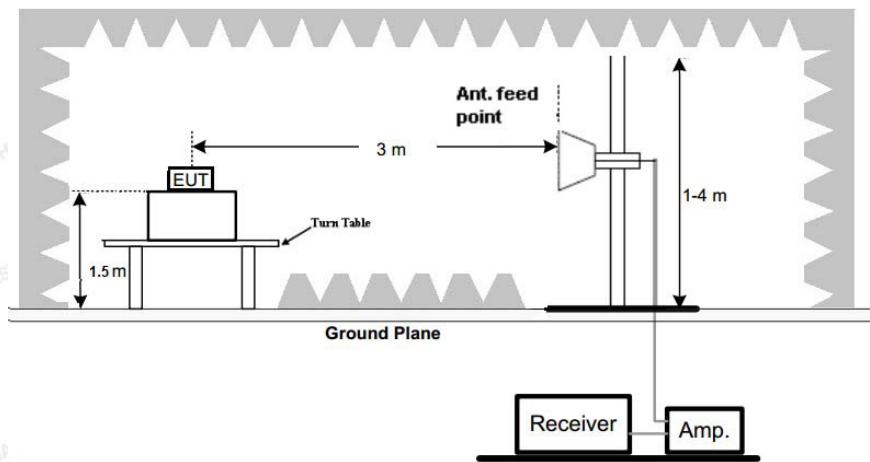




(B) Radiated Emission Test Set-Up, Frequency below 1000MHz.



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz.



Test Procedure

1. The EUT was placed on turn table which is 0.8m above ground plane for below 1GHz test, and on a low permittivity and low loss tangent turn table which is 1.5m above ground plane for above 1GHz test.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.

TEST RESULTS

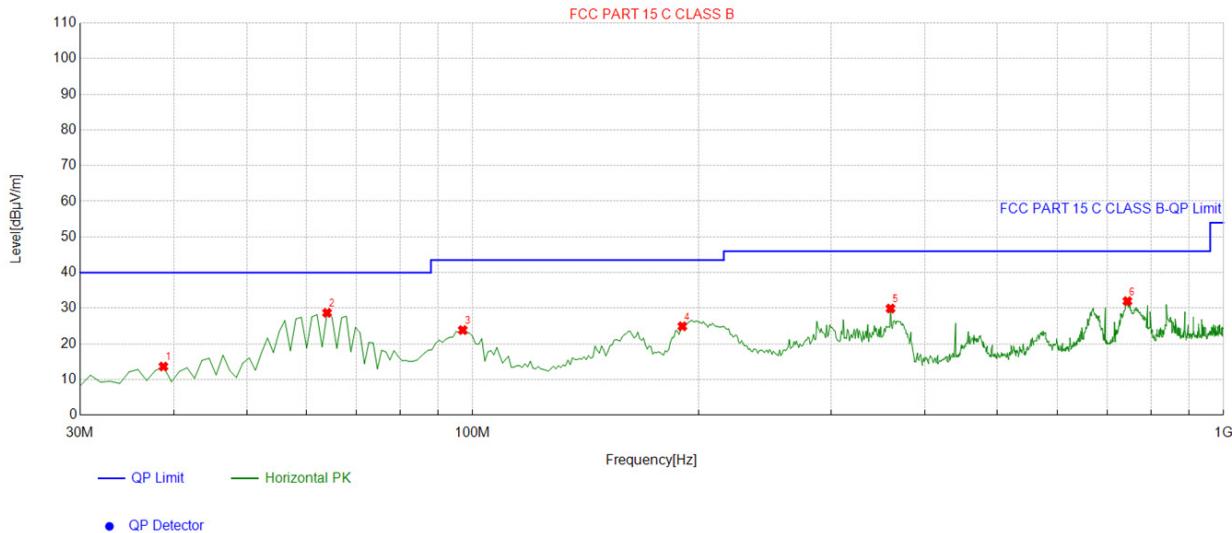
Remark:

1. Radiated Emission measured at GFSK, $\pi/4$ DQPSK and 8DPSK mode from 9 KHz to 10th harmonic of fundamental and recorded worst case at GFSK DH5 mode.
2. There is no emission found except system noise floor in 9 KHz to 30MHz and not recorded in this report.
3. For below 1GHz testing recorded worst at GFSK DH5 low channel.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

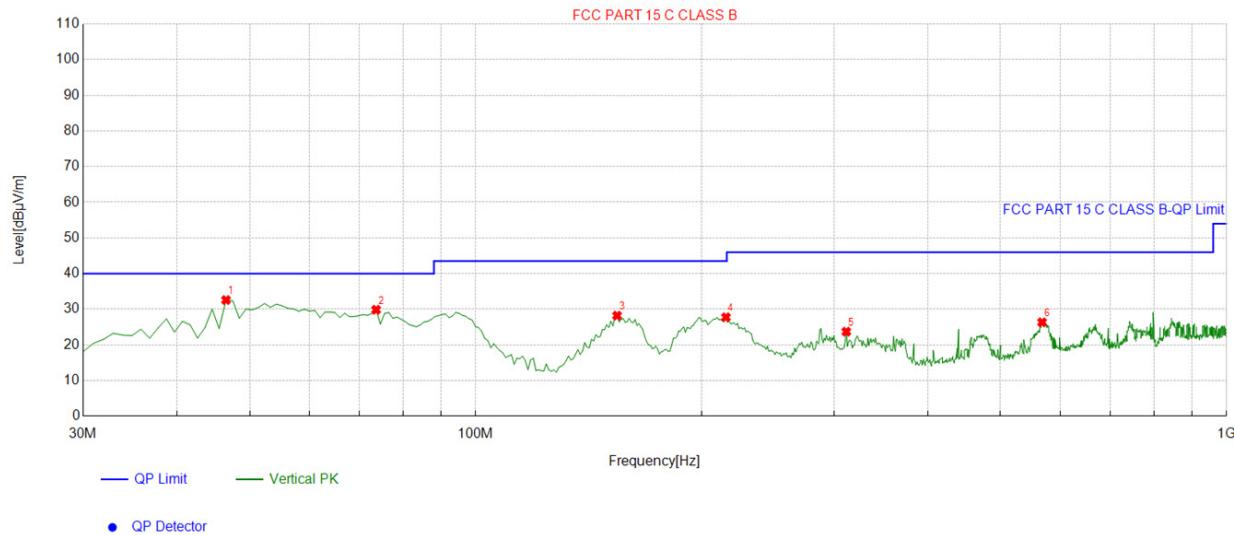


Below 1GHz Test Results:

Test Model No.: S25 Ultra
Horizontal

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	38.738739	-14.30	27.95	13.65	40.00	26.35	100	69	Horizontal
2	63.983984	-14.38	43.09	28.71	40.00	11.29	100	14	Horizontal
3	96.996997	-14.95	38.82	23.87	43.50	19.63	100	20	Horizontal
4	190.21021	-15.90	40.83	24.93	43.50	18.57	100	98	Horizontal
5	360.13013	-9.86	39.77	29.91	46.00	16.09	100	274	Horizontal
6	744.63463	-3.42	35.40	31.98	46.00	14.02	100	254	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

**Vertical**

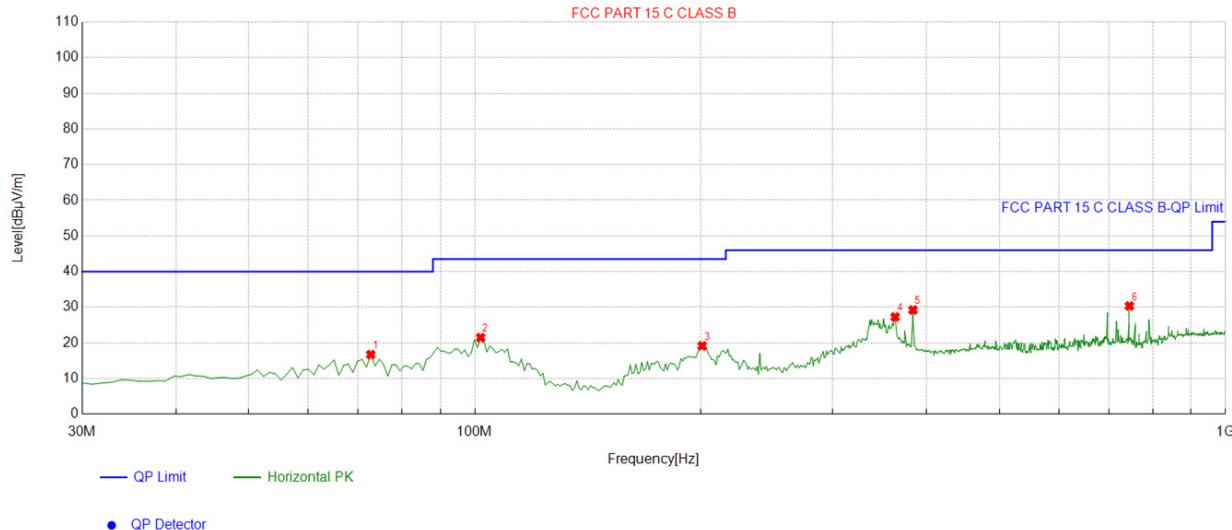
Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	46.506507	-13.89	46.47	32.58	40.00	7.42	100	258	Vertical
2	73.693694	-17.95	47.80	29.85	40.00	10.15	100	168	Vertical
3	154.28428	-17.76	45.96	28.20	43.50	15.30	100	16	Vertical
4	215.45545	-14.72	42.47	27.75	43.50	15.75	100	18	Vertical
5	311.58158	-11.70	35.41	23.71	46.00	22.29	100	93	Vertical
6	567.91791	-6.00	32.33	26.33	46.00	19.67	100	165	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Series Model No.: X24 Ultra

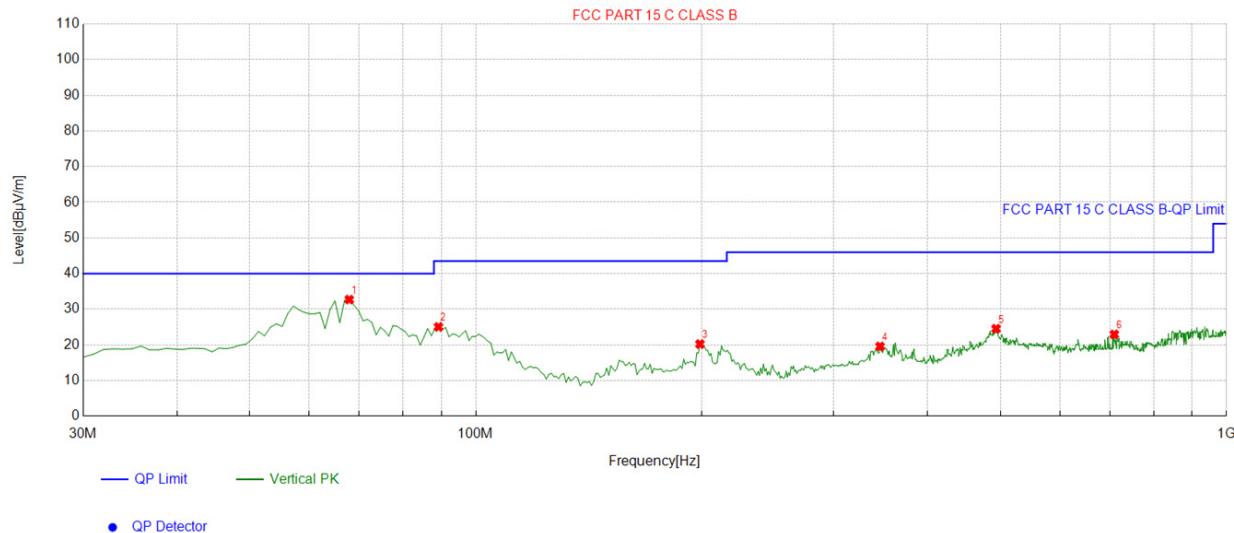
Horizontal



Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	72.722723	-17.59	34.30	16.71	40.00	23.29	100	162	Horizontal
2	101.85185	-14.86	36.34	21.48	43.50	22.02	100	11	Horizontal
3	200.89089	-15.16	34.34	19.18	43.50	24.32	100	118	Horizontal
4	363.04304	-9.68	36.95	27.27	46.00	18.73	100	86	Horizontal
5	383.43343	-9.11	38.33	29.22	46.00	16.78	100	232	Horizontal
6	744.63463	-3.42	33.77	30.35	46.00	15.65	100	226	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

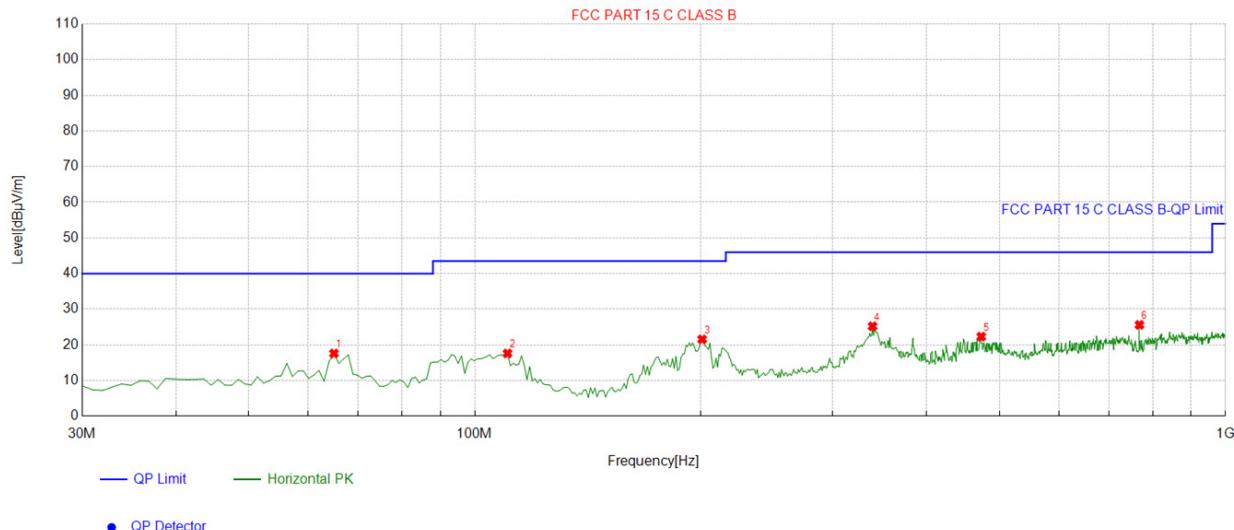
**Vertical****Suspected List**

NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	67.867868	-16.02	48.72	32.70	40.00	7.30	100	316	Vertical
2	89.229229	-16.75	41.79	25.04	43.50	18.46	100	243	Vertical
3	198.94894	-14.75	34.98	20.23	43.50	23.27	100	42	Vertical
4	345.56556	-10.12	29.68	19.56	46.00	26.44	100	36	Vertical
5	493.15315	-7.86	32.39	24.53	46.00	21.47	100	268	Vertical
6	708.70870	-4.06	27.01	22.95	46.00	23.05	100	186	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

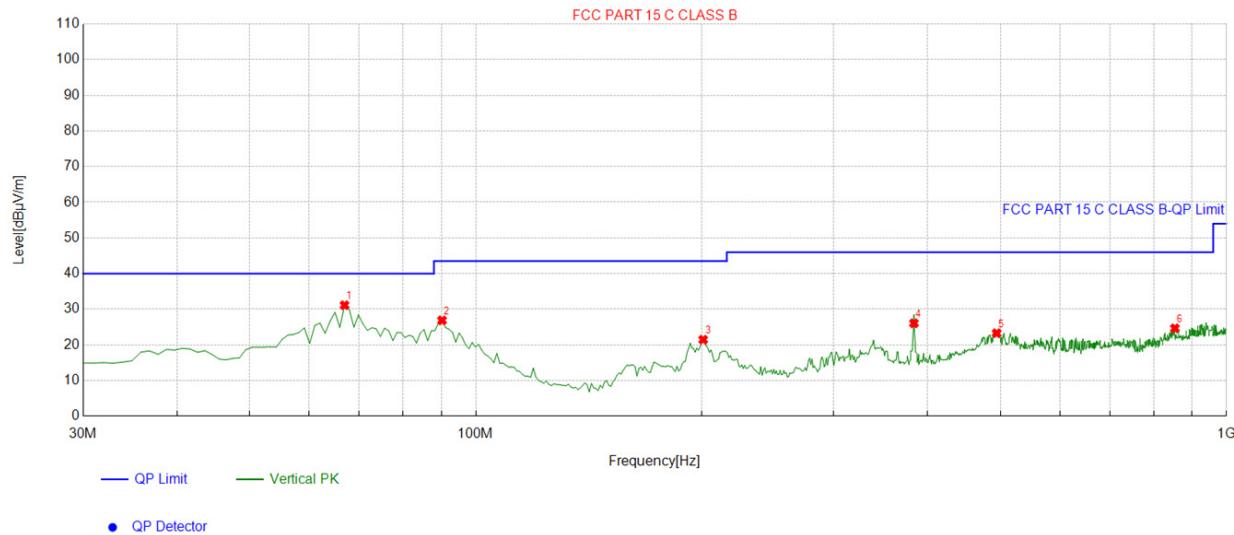


Series Model No.: C24 Ultra

Horizontal

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	64.954955	-15.33	32.93	17.60	40.00	22.40	100	80	Horizontal
2	110.59059	-14.50	32.11	17.61	43.50	25.89	100	16	Horizontal
3	200.89089	-15.16	36.71	21.55	43.50	21.95	100	55	Horizontal
4	338.76876	-10.40	35.62	25.22	46.00	20.78	100	80	Horizontal
5	472.76276	-8.35	30.67	22.32	46.00	23.68	100	142	Horizontal
6	767.93793	-4.54	30.15	25.61	46.00	20.39	100	127	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

**Vertical**

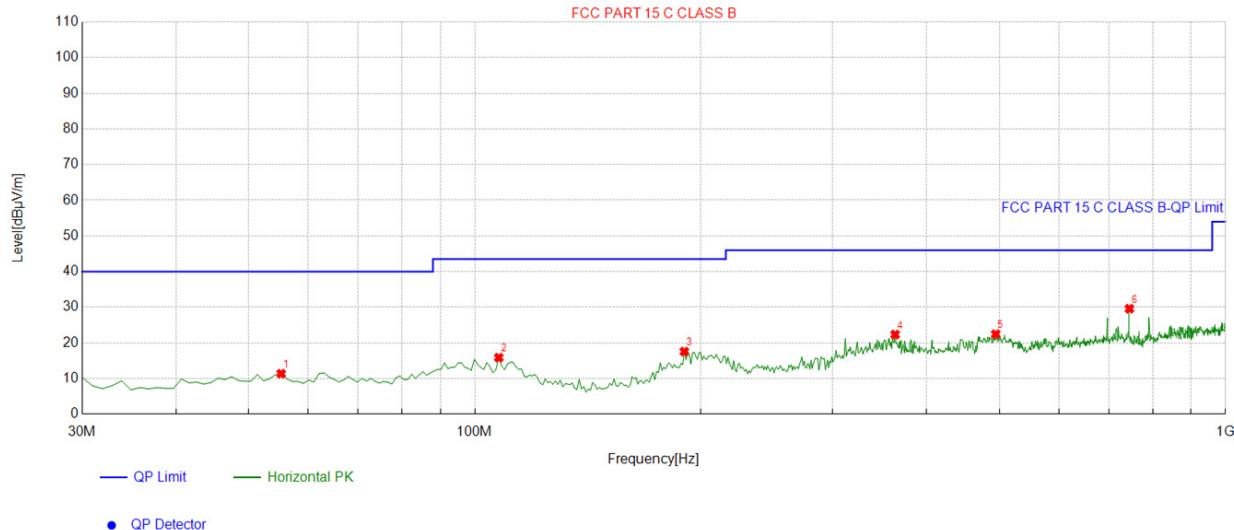
Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	66.896897	-16.17	47.30	31.13	40.00	6.77	100	340	Vertical
2	90.2002	-16.68	43.55	26.87	43.50	16.53	100	252	Vertical
3	200.89089	-15.16	36.62	21.46	43.50	21.94	100	7	Vertical
4	383.43343	-9.11	35.17	26.06	46.00	19.90	100	15	Vertical
5	494.12412	-7.84	31.12	23.28	46.00	23.70	100	245	Vertical
6	853.38338	-1.67	26.32	24.65	46.00	22.75	100	100	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Series Model No.: C25

Horizontal



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	55.245245	-14.00	25.36	11.36	40.00	28.64	100	178	Horizontal
2	107.67767	-14.18	30.04	15.86	43.50	27.64	100	3	Horizontal
3	190.21021	-15.90	33.47	17.57	43.50	25.93	100	89	Horizontal
4	363.04304	-9.68	32.02	22.34	46.00	23.66	100	86	Horizontal
5	494.12412	-7.84	30.28	22.44	46.00	23.56	100	137	Horizontal
6	744.63463	-3.42	33.00	29.58	46.00	16.42	100	69	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level