

FCC SDOC TEST REPORT

Applicant:	Huizhou Zhongbang Electronics Co.,Ltd.
Address of Applicant:	NO 2 PINGNAN MIDDLE RD PINGNAN IND AREA NO 4 ZHONGKAI DEVELOPMENT ZONE HUIZHOU GUANGDONG 516006 CHINA.
Manufacturer1:	Huizhou Zhongbang Electronics Co.,Ltd.
Address of Manufacturer1:	NO 2 PINGNAN MIDDLE RD PINGNAN IND AREA NO 4 ZHONGKAI DEVELOPMENT ZONE HUIZHOU GUANGDONG 516006 CHINA.
Manufacturer2:	CONG TY TNHH ZBPOWER VIETNAM
Address of Manufacturer2:	No.3 Road No.9, Tan Duc Industrial Park, X. Duc Hoa Ha, 800010 H.Duc Hoa, Long An Province, Vietnam
Product name:	Power Supply
Model:	ZB-Hxxxxyy_z+, MC120_aVbA z, MC140_aVbA z (xxx, yyy, a, +, b and z are variable are variable, refer to page 2 general product information)
Rating(s):	AC 100-240V, 50/60Hz, 1.6A Max.
Trademark:	
FCC register number:	CN5035
Standards:	FCC Part15 subpart B: 2021
Date of Receipt:	2022-10-27
Date of Test:	2022-10-27~2022-10-31
Date of Issue:	2022-10-31
Test Result	Pass*

* In the configuration tested, the test item complied with the standards specified above.

Authorized for issue by:

Test by:

Reviewed by:

Oct.31.2022 Chivas Tsang

Project Engineer

Oct.31.2022

Victor Meng

Project Manager

Date

Name/Position

Signature

Date

Name/Position

Signature

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Testing Laboratory information:

Testing Laboratory Name : ITL Co., Ltd
Address : No.8, JinQianLing street 5, Huangjiang Town, Dongguan,
Guangdong, 523757 P.R.C
Testing location : Same as above
Tel..... : 0086-769-39001678
Fax : 0086-20-62824387
E-mail : itl@i-testlab.com

Possible test case verdicts:

- test case does not apply to the test object... : N/A
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement . : F (Fail)

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report would be invalid test report without all the signatures of testing technician and approver.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

General product information:

Models List:

Model name	Output			Transformer (T1)
	Voltage (Vd.c.)	Current (A)	Max. Power (W)	
ZB-Hxxxxyy_z+, MC120-aVbA,	24.0	1.5-2.1	50.4	ZB-E290020-A
MC140-aVbA	29.0	1.5-2.0	58.0	

Note:

“xxx” = 240 or 290 indicates output voltage: e.g.: 240=24.0Vd.c., 290=29.0Vd.c.;
“yyy” = 015-021 indicates output current 1.5-2.1A in step of 0.1A, e.g.: 015=1.5A, 021=2.1A;
“a” = 24 or 29 indicates output voltage: e.g.: 24=24.0Vd.c., 29=29.0Vd.c.;
“b” = 1.5-2.1 indicates output current 1.5-2.1A in step of 0.1A, e.g.: 1.5=1.5A, 2=2.0A;
“z” can be A, B or T indicates different enclosure shape.
“+” can be A-Z, a-z, 0-9 or blank for marketing purpose.

All models are identical to each other except for type designation, output rating, enclosure size, enclosure secured way and some components in secondary circuit.

The model ZB-Hxxxxyy_T+ same as MC120-aVbA, except type designation.

The model ZB-Hxxxxyy_B+ same as MC140-aVbA, except type designation.

All models are constructed with output cord except ZB-Hxxxxyy_B+, MC140-aVbA are optional.

There are three enclosure model ZB-Hxxxxyy_A+.

a. The top enclosure is sealed with bottom enclosure by two snap fit and two screws.

b. The top enclosure is sealed with bottom enclosure by ultrasonic welding.

c. The top enclosure is sealed with bottom enclosure by ultrasonic welding and provide with two fixed mounted

All tests were performed on the models ZB-H240021_A, ZB-H290020_A(old), ZB-H290020_A(new) as representatives.

Test Summary:

The following standards have been applied to ensure the product conforms with the protection requirements of the council directive FCC part 15B.

Electromagnetic Emissions				
Test Item	Test Standard	Test Method	Class/Severity	Result
Conducted Emission(0.15-30MHz)	FCC part 15.107	ANSI C63.4a:2017	Class B	PASS
Radiated Emission(30-1000MHz)	FCC part 15.109	ANSI C63.4a:2017	Class B	PASS

Test Location:

All the tests were performed in ITL Co., Ltd, No.8, JinQianLing street 5, Huangjiang Town, Dongguan, Guangdong, 523757 P.R.C

Tel: 0086-769-39001678, Fax: 0086-20-62824387

No test is subcontracted

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Section 1 General Information and Equipment Used

1.1 Client Information

Applicant: Huizhou Zhongbang Electronics Co.,Ltd.
Address of Applicant: Floor 2-4, Bldg. A, No.16 Hechang West 3rd RD Zhongkai Development Zone Huizhou, Guangdong 516006 China.

1.2 EUT General and Technical Descriptions

EUT Name: Power Supply
ZB-H240021_A
EUT Model: ZB-H290020_A(old)
ZB-H290020_A(new)
EUT Trademark: 
Input Voltage: AC 100-240V
Frequency: 50/60Hz
Input Power/Current: 1.6A Max.
Output rated: DC 24V 2.1A (ZB-H240021_A)
DC 29V 2.0A (ZB-H290020_A(old))
DC 29V 2.0A (ZB-H290020_A(new))
Power Cable Description: /
Other Cables Description: /
I/O Ports: /
Function(s) Description: /
Accessories information: /

1.3 Support Equipment(s) and Test Configuration

1.3.1 Details of Support Equipment(s)

Description	Manufacturer	Model No.	Connection	Working state
/	/	/	/	/

1.3.2 Working State of EUT

Power Supply of EUT: 120V~ 60Hz
EUT Status: Full load working and Half load working

1.3.3 Block Diagram of Test Configuration

/

1.4 Equipment Used during Test

Conducted Emission						
No.	Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
DGITL-303a	EMI Test receiver	R&S	ESCI	100910	2022.04.21	2023.04.21
DGITL-304	L.I.S.N.#1	R&S	ESH3-Z5	100272	2022.04.21	2023.04.21
DGITL-302	Shielded Room	ETS•Lindgren	8*4*3	CT09010	2020.08.03	2023.08.03
DGITL-316	Pulse Limiter	R & S	ESH3-Z2	100327	2022.04.21	2023.04.21

Radiated Emission						
No.	Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
DGITL- 301	Semi-Anechoic chamber	ETS•Lindgren	9*6*6	CT000874-1181	2020.08.03	2023.08.03
DGITL- 307	EMI test receiver	R&S	ESVS10	833616/003	2022.04.21	2023.04.21
DGITL- 306	Spectrum Analyzer	Agilent Technologies	N9010A	MY54200334	2022.04.21	2023.04.21
DGITL- 308	Bilog Antenna	ETS•Lindgren	3142E	156975	2022.05.15	2024.05.15
DGITL- 352	Pre Amplifier	MInI-CIrcuits	ZFC-1000 HX	SN292801110	2022.04.21	2023.04.21

Software list			
Testing software	Manufacturer	Model	Version number
e3	AUDIX	e3.Ink	Version:6.2009-11-3c(itl)

Section 2 Emission Test Results

2.1 Conducted Emission at Mains Terminals, 150 kHz to 30MHz

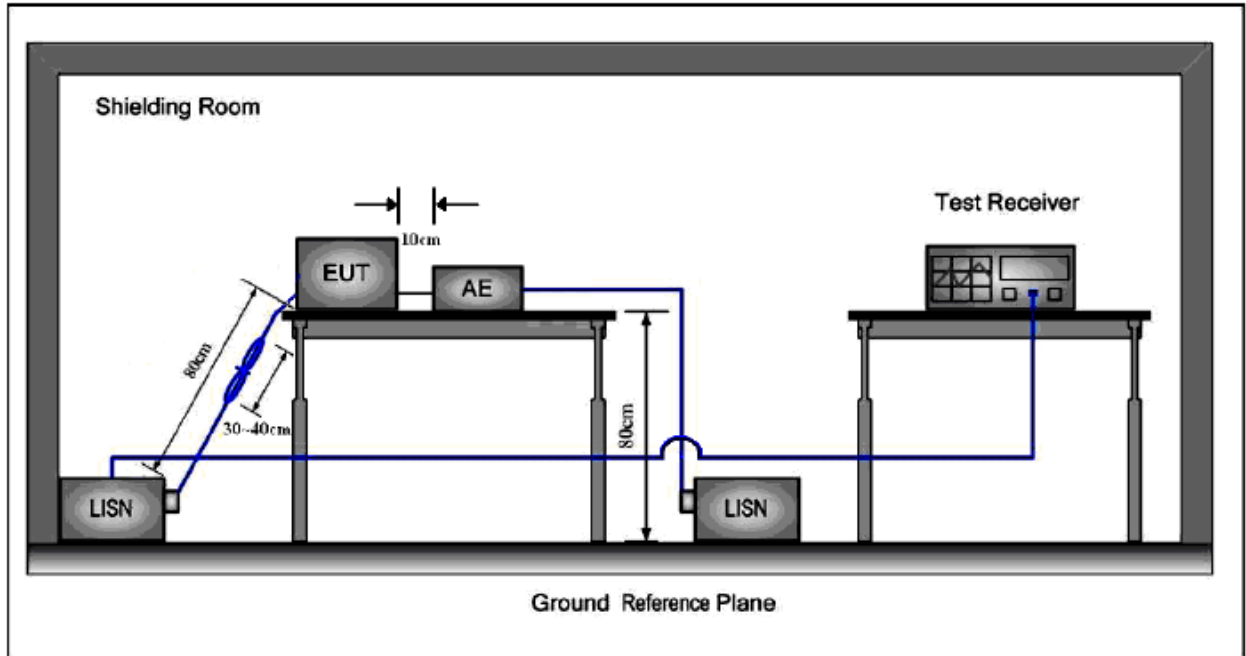
Test Requirement:	FCC part 15.107
Test Method:	ANSI C63.4a:2017
Test Voltage:	120V AC, 60Hz
Test Date:	2022-10-27~2022-10-31
Frequency Range:	150 kHz to 30MHz
Detector:	Peak for pre-scan Quasi-Peak and Average at frequency with maximum peak (9 kHz resolution bandwidth)
Uncertainty:	2Uc (V) = 2.3dB
Class / Limit:	Class B

Frequency range MHz	Class B Limits dB (μV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
NOTE 1 :The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		
NOTE 2: The lower limit is applicable at the transition frequency.		

2.1.1 E.U.T. Operation

Operating Environment:			
Temperature:	23.0 °C	Humidity:	45 % RH
		Atmospheric Pressure:	101 kPa
EUT Operation:	Pre-test the EUT in On Mode with full load and half load to find the worse case, Compliance test the EUT in On Mode with full load as the worse case was found.		

2.1.2 Test Setup and Procedure



1. The mains terminal disturbance voltage test was conducted in a shielded room.
2. The EUT was connected to nominal power supply through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H}+5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

2.1.3 Measurement Data

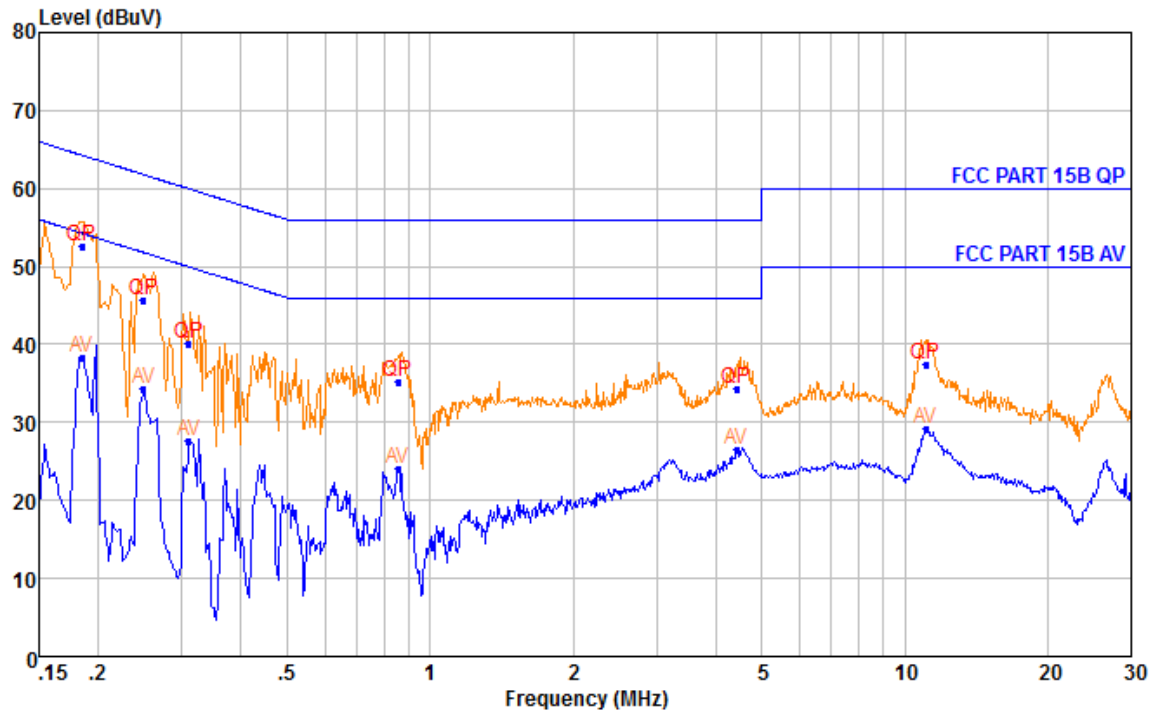
Pre-scan was performed with peak detected on both live and neutral cable. Quasi-peak & average measurements were performed at the frequencies which maximum peak emission level was detected. Please see the attached Quasi-peak and Average test results.

Model: ZB-H240021_A

Live Line:

Peak Scan:

Level (dBuV)



Quasi-peak and Average measurement

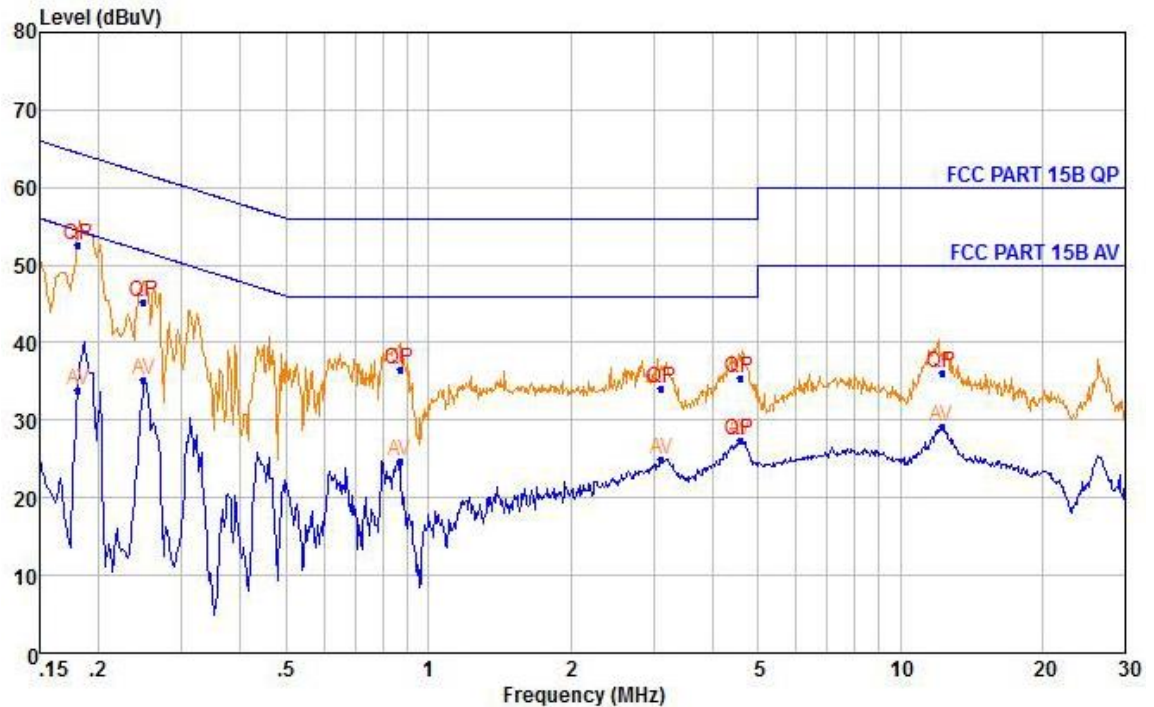
NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.184	38.24	Average	10.01	0.02	54.28	-16.04
2	0.184	52.59	QP	10.01	0.02	64.28	-11.69
3	0.249	34.28	Average	10.00	0.02	51.78	-17.50
4	0.249	45.74	QP	10.00	0.02	61.78	-16.04
5	0.310	27.64	Average	9.99	0.02	49.97	-22.33
6	0.310	40.09	QP	9.99	0.02	59.97	-19.88
7	0.857	24.14	Average	10.00	0.04	46.00	-21.86
8	0.857	35.19	QP	10.00	0.04	56.00	-20.81
9	4.430	26.41	Average	10.11	0.07	46.00	-19.59
10	4.430	34.41	QP	10.11	0.07	56.00	-21.59
11	11.080	29.24	Average	10.38	0.10	50.00	-20.76
12	11.080	37.38	QP	10.38	0.10	60.00	-22.62

Level=Read Level + Lism Factor + Cable Loss

Neutral Line:

Peak Scan:

Level (dB μ V)



Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.181	33.89	Average	9.99	0.02	54.46	-20.57
2	0.181	52.61	QP	9.99	0.02	64.46	-11.85
3	0.249	35.31	Average	9.99	0.02	51.78	-16.47
4	0.249	45.32	QP	9.99	0.02	61.78	-16.46
5	0.871	24.80	Average	9.99	0.04	46.00	-21.20
6	0.871	36.45	QP	9.99	0.04	56.00	-19.55
7	3.123	25.05	Average	10.07	0.06	46.00	-20.95
8	3.123	34.01	QP	10.07	0.06	56.00	-21.99
9	4.574	27.47	Average	10.09	0.07	46.00	-18.53
10	4.574	35.33	QP	10.09	0.07	56.00	-20.67
11	4.574	27.33	QP	10.09	0.07	56.00	-28.67
12	12.253	29.12	Average	10.32	0.11	50.00	-20.88
13	12.253	36.09	QP	10.32	0.11	60.00	-23.91

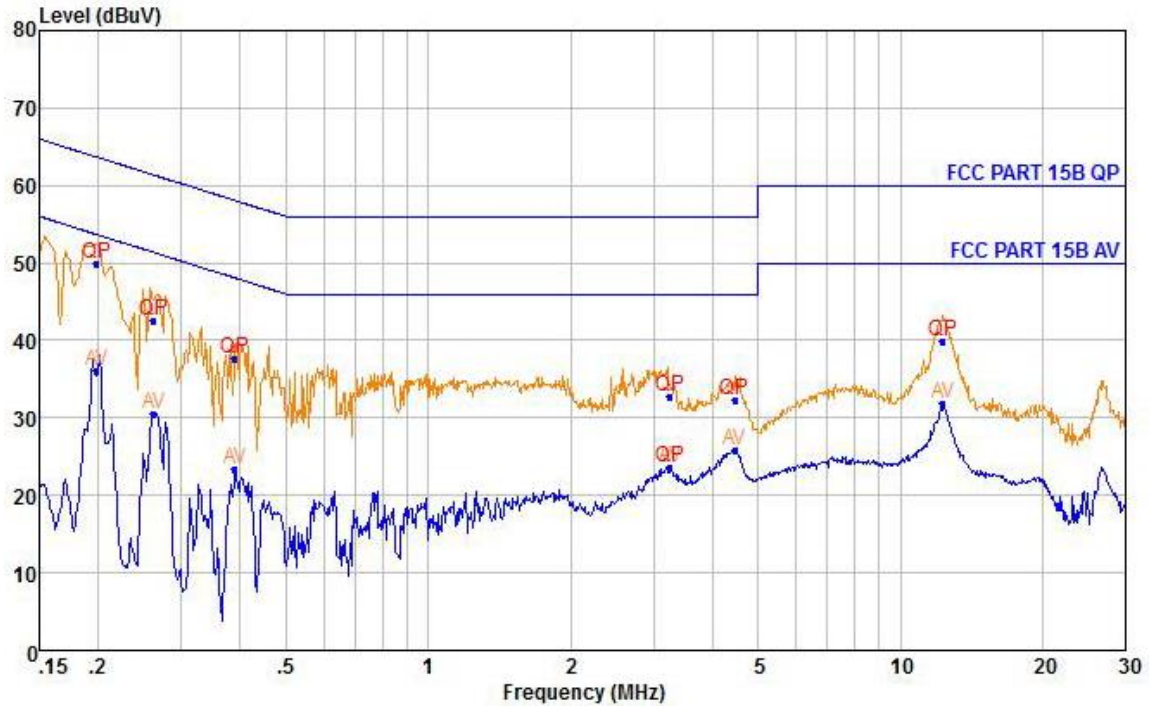
Level=Read Level + Liscn Factor + Cable Loss

Model: ZB-H290020_A (old)

Live Line:

Peak Scan:

Level (dBμV)



Quasi-peak and Average measurement

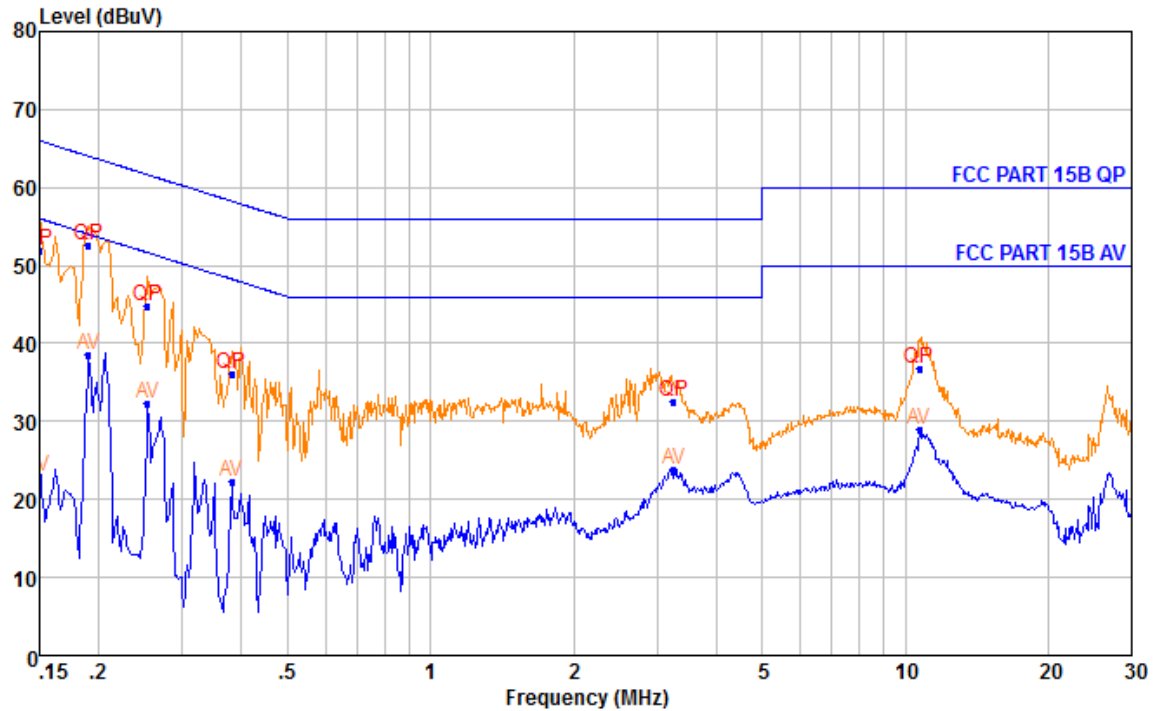
NO.	Freq MHz	Level dBμV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBμV	Margin dB
1	0.199	36.10	Average	10.01	0.02	53.67	-17.57
2	0.199	49.87	QP	10.01	0.02	63.67	-13.80
3	0.262	30.63	Average	9.99	0.02	51.38	-20.75
4	0.262	42.63	QP	9.99	0.02	61.38	-18.75
5	0.389	23.33	Average	10.00	0.03	48.08	-24.75
6	0.389	37.64	QP	10.00	0.03	58.08	-20.44
7	3.258	23.69	Average	10.09	0.06	46.00	-22.31
8	3.258	23.71	QP	10.09	0.06	56.00	-32.29
9	3.258	32.71	QP	10.09	0.06	56.00	-23.29
10	4.454	25.84	Average	10.12	0.07	46.00	-20.16
11	4.454	32.27	QP	10.12	0.07	56.00	-23.73
12	12.318	31.79	Average	10.44	0.11	50.00	-18.21
13	12.318	39.90	QP	10.44	0.11	60.00	-20.10

Level=Read Level + Lism Factor + Cable Loss

Neutral Line:

Peak Scan:

Level (dB μ V)



Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.150	22.95	Average	10.00	0.01	56.00	-33.05
2	0.150	51.99	QP	10.00	0.01	66.00	-14.01
3	0.190	38.59	Average	9.99	0.02	54.02	-15.43
4	0.190	52.63	QP	9.99	0.02	64.02	-11.39
5	0.253	32.34	Average	9.99	0.02	51.64	-19.30
6	0.253	44.69	QP	9.99	0.02	61.64	-16.95
7	0.381	22.34	Average	9.99	0.02	48.25	-25.91
8	0.381	36.07	QP	9.99	0.02	58.25	-22.18
9	3.258	23.84	Average	10.07	0.06	46.00	-22.16
10	3.258	32.45	QP	10.07	0.06	56.00	-23.55
11	10.733	29.05	Average	10.24	0.10	50.00	-20.95
12	10.733	36.73	QP	10.24	0.10	60.00	-23.27

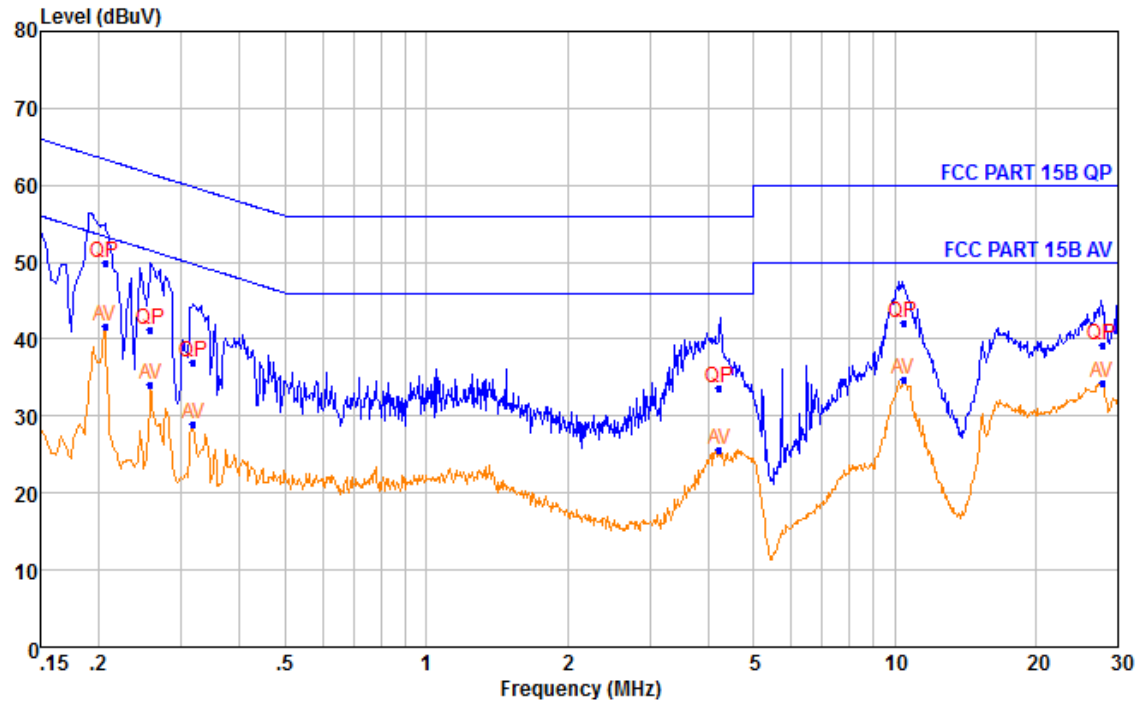
Level=Read Level + Liscn Factor + Cable Loss

Model: ZB-H290020_A (new)

Live Line:

Peak Scan:

Level (dBμV)



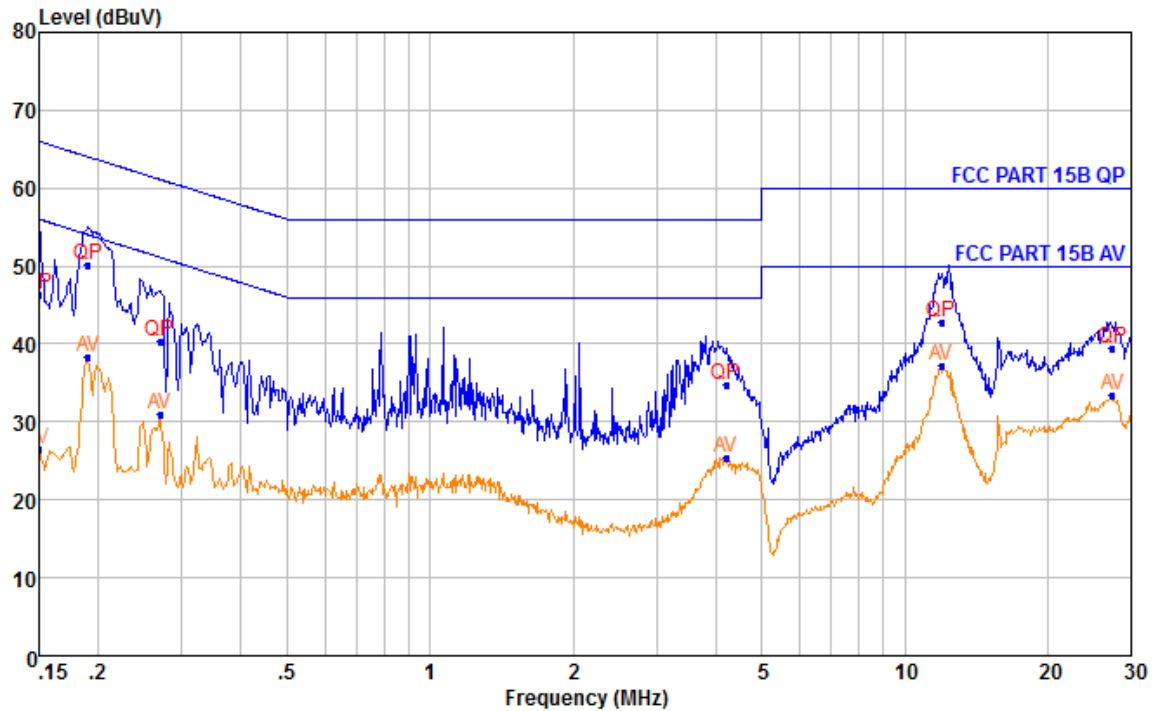
Quasi-peak and Average measurement

NO.	Freq MHz	Reading dBμV	LISN Factor dB	Cable Loss dB	Measured dBμV	Limit Line dBμV	Over Limit dB	Remark
1	0.206	31.35	10.25	0.02	41.62	53.36	-11.74	Average
2	0.206	39.54	10.25	0.02	49.81	63.36	-13.55	QP
3	0.258	23.91	10.25	0.02	34.18	51.51	-17.33	Average
4	0.258	31.05	10.25	0.02	41.32	61.51	-20.19	QP
5	0.318	18.59	10.25	0.03	28.87	49.75	-20.88	Average
6	0.318	26.62	10.25	0.03	36.90	59.75	-22.85	QP
7	4.224	15.33	10.20	0.09	25.62	46.00	-20.38	Average
8	4.224	23.35	10.20	0.09	33.64	56.00	-22.36	QP
9	10.452	24.39	10.19	0.14	34.72	50.00	-15.28	Average
10	10.452	31.89	10.19	0.14	42.22	60.00	-17.78	QP
11	27.708	23.86	10.32	0.22	34.40	50.00	-15.60	Average
12	27.708	28.67	10.32	0.22	39.21	60.00	-20.79	QP

Neutral Line:

Peak Scan:

Level (dB μ V)



Quasi-peak and Average measurement

NO.	Freq MHz	Reading dBuV	LISN Factor dB	Cable Loss dB	Measured dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.150	16.34	10.23	0.02	26.59	56.00	-29.41	Average
2	0.150	36.16	10.23	0.02	46.41	66.00	-19.59	QP
3	0.190	28.00	10.23	0.02	38.25	54.02	-15.77	Average
4	0.190	39.93	10.23	0.02	50.18	64.02	-13.84	QP
5	0.270	20.72	10.23	0.02	30.97	51.12	-20.15	Average
6	0.270	30.10	10.23	0.02	40.35	61.12	-20.77	QP
7	4.202	15.15	10.17	0.09	25.41	46.00	-20.59	Average
8	4.202	24.53	10.17	0.09	34.79	56.00	-21.21	QP
9	11.933	26.95	10.18	0.15	37.28	50.00	-12.72	Average
10	11.933	32.48	10.18	0.15	42.81	60.00	-17.19	QP
11	27.416	22.74	10.36	0.22	33.32	50.00	-16.68	Average
12	27.416	28.93	10.36	0.22	39.51	60.00	-20.49	QP

2.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement: FCC part 15.107
 Test Method: ANSI C63.4a:2017
 Test Voltage: 120V AC, 60Hz
 Test Date: 2022-10-27~2022-10-31
 Frequency Range: 30MHz to 1GHz
 Measurement Distance: 3m
 Detector: Peak for pre-scan
 Quasi-Peak if maximised peak within 6dB of limit
 (120 kHz resolution bandwidth)
 Uncertainty: $2U_c(V) = 3.35\text{dB}$
 Class / Limit: Class B

Frequency range MHz	Quasi-peak limits dB ($\mu\text{V/m}$)
30 to 88	40
88 to 216	43.5
216 to 960	46
960 to 1000	54
At transitional frequencies the lower limit applies	

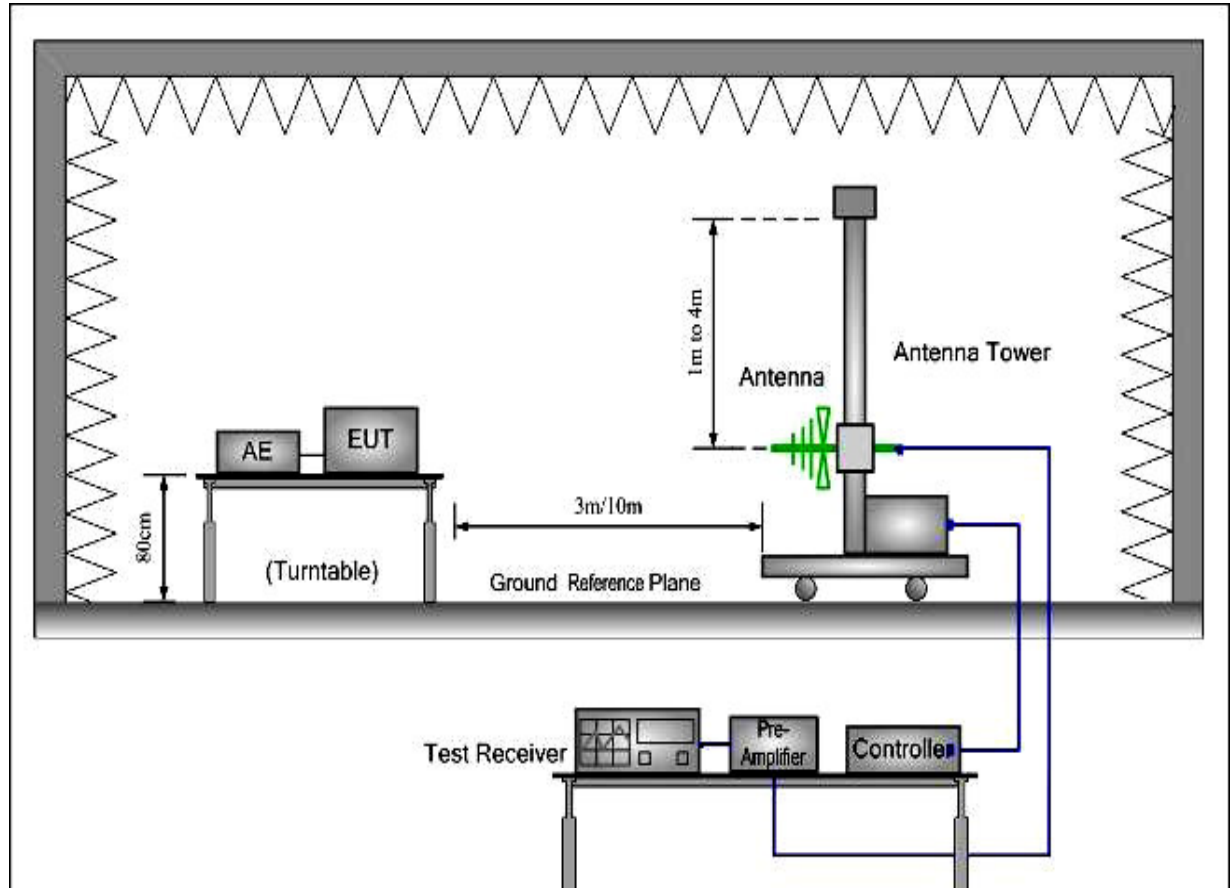
2.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.0 °C Humidity: 45 % RH Atmospheric Pressure: 101 kPa

EUT Operation: Pre-test the EUT in On Mode with full load and half load to find the worse case,
 Compliance test the EUT in On Mode with full load as the worse case was found.

2.2.2 Test Setup and Procedure



1. The radiated emissions test was conducted in a semi-anechoic chamber.
2. Biconical and log periodic antenna was used for the frequency range from 30MHz to 1GHz
3. The EUT was connected to nominal power supply through a mains power outlet which was bonded to the ground reference plane; The mains cables were draped to the ground reference plane. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
5. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360° , and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

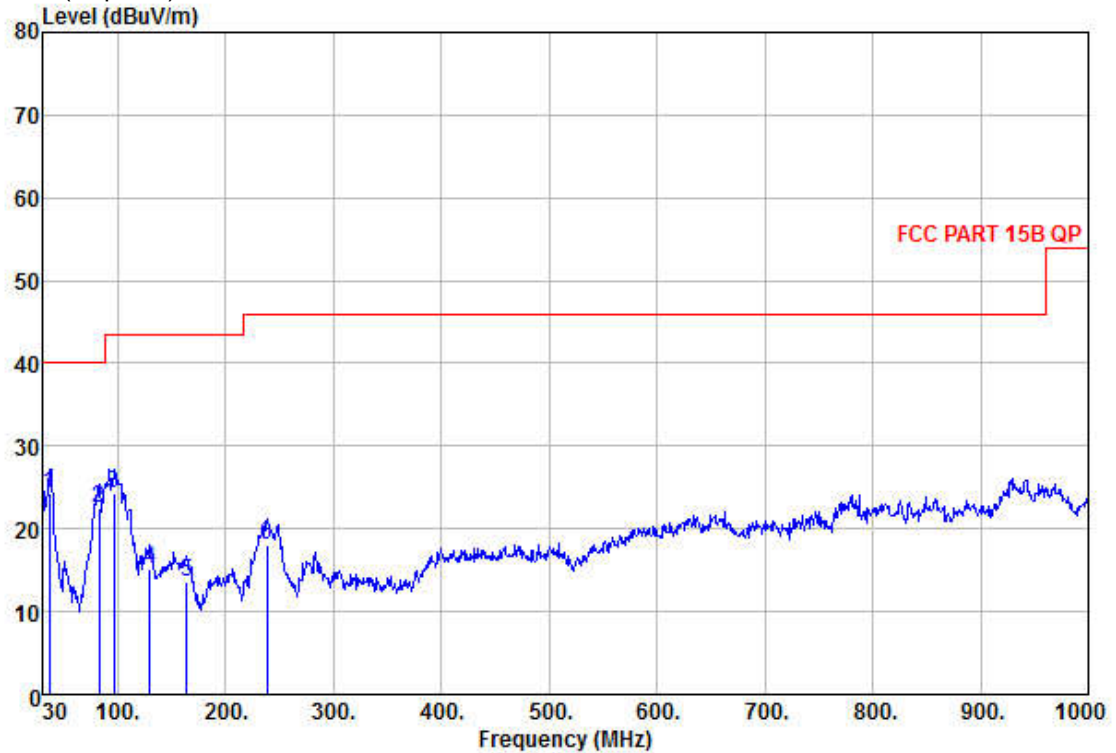
2.2.3 Measurement Data

Model: ZB-H240021_A

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

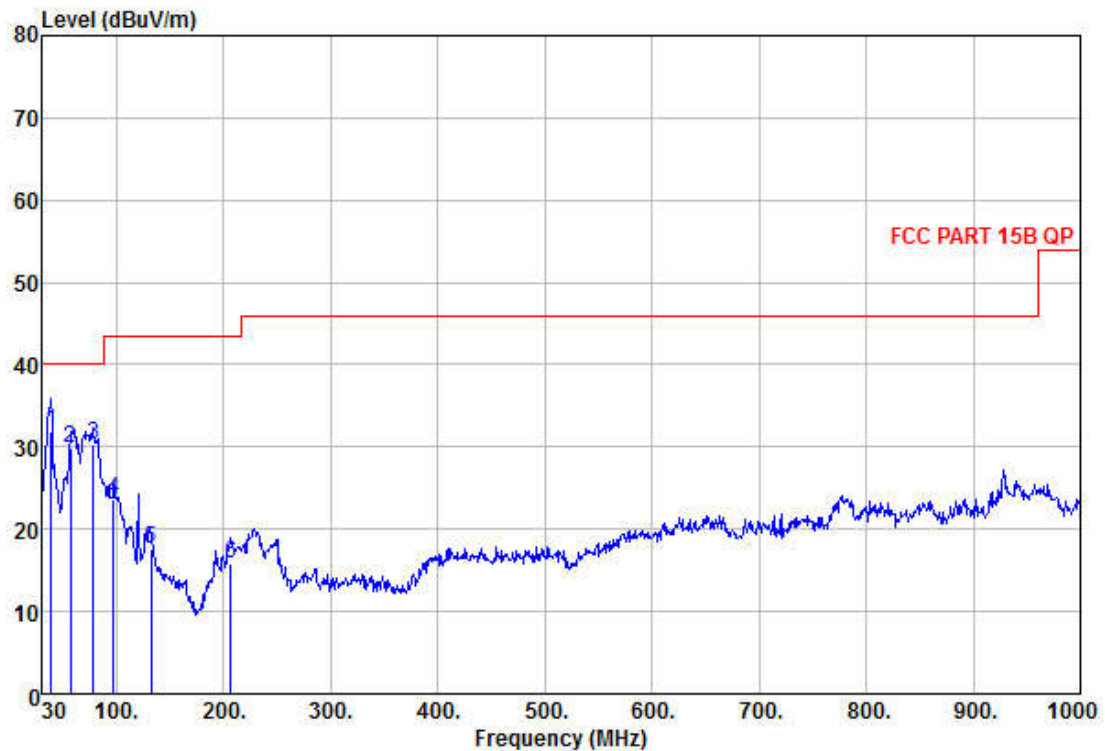
No.	Freq MHz	Level dBμV/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dBμV/m	Preamp Factor dB	Over limit dB	A/pos cm	T/pos deg
1	36.79	24.26	QP	17.95	0.13	40.00	32.60	-15.74	216	249
2	82.38	22.42	QP	8.75	0.17	40.00	32.47	-17.58	195	263
3	95.96	24.18	QP	8.98	0.19	43.50	32.42	-19.32	227	286
4	129.91	15.14	QP	9.89	0.23	43.50	32.34	-28.36	207	182
5	163.86	13.61	QP	10.29	0.27	43.50	32.27	-29.89	221	274
6	238.55	18.07	QP	14.25	0.35	46.00	32.08	-27.93	213	259

Note: 1. Standards need to read Quasi-peak values.
2. Emission Level= Antenna Factor + Cable Loss + Meter Reading - Preamp Factor

Vertical:

Peak scan

Level (dB μ V/m)



Quasi-peak measurement

No.	Freq MHz	Level dB μ V/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dB μ V/m	Preamp Factor dB	Over limit dB	A/pos cm	T/pos deg
1	38.73	31.89	QP	17.03	0.13	40.00	32.60	-8.11	138	195
2	57.16	29.91	QP	8.96	0.15	40.00	32.57	-10.09	117	183
3	78.50	30.22	QP	8.59	0.17	40.00	32.49	-9.78	152	217
4	96.93	23.64	QP	8.96	0.19	43.50	32.41	-19.86	107	95
5	131.85	17.49	QP	9.71	0.23	43.50	32.34	-26.01	143	198
6	206.54	15.85	QP	11.41	0.32	43.50	32.18	-27.65	162	207

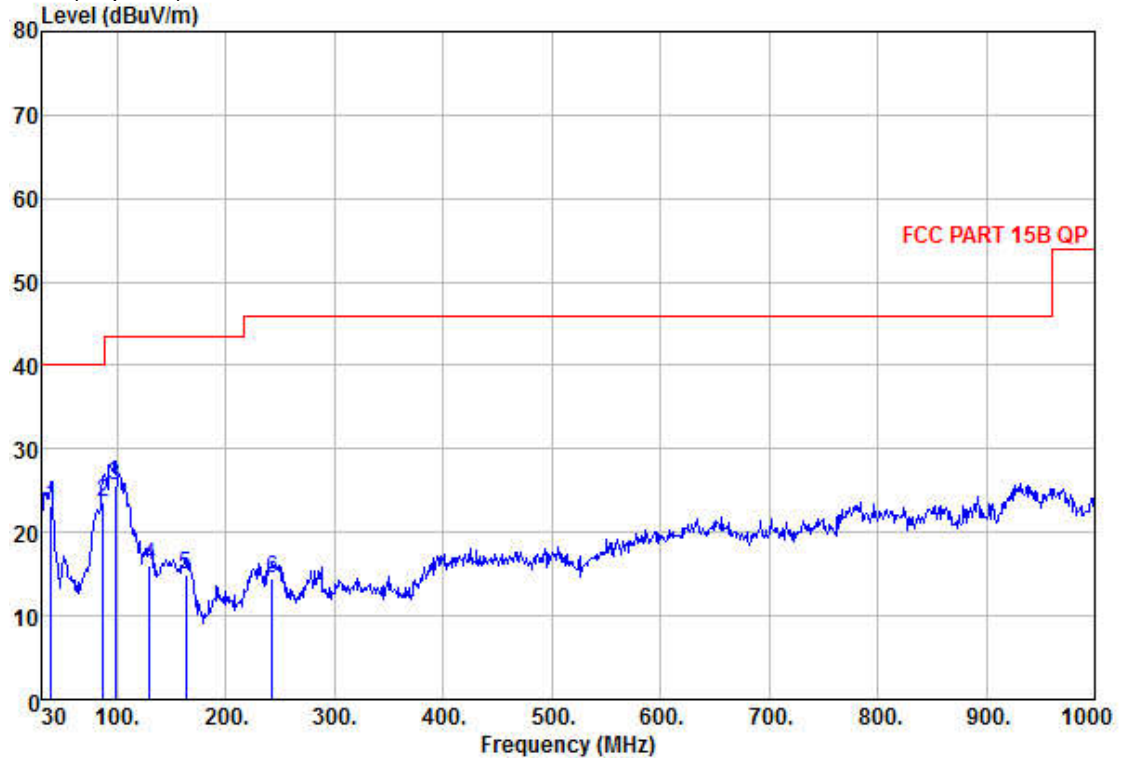
Note: 1. Standards need to read Quasi-peak values.
2. Emission Level= Antenna Factor + Cable Loss + Meter Reading - Preamp Factor

Model: ZB-H290020_A (old)

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq MHz	Level dBuV/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dBuV/m	Preamp Factor dB	Over limit dB	A/pos cm	T/pos deg
1	38.73	23.16	QP	17.03	0.13	40.00	32.60	-16.84	224	285
2	87.23	23.51	QP	8.79	0.18	40.00	32.45	-16.49	207	173
3	97.90	25.63	QP	8.94	0.20	43.50	32.41	-17.87	195	238
4	129.91	16.05	QP	9.89	0.23	43.50	32.34	-27.45	214	261
5	162.89	14.90	QP	10.37	0.27	43.50	32.27	-28.60	201	246
6	242.43	14.56	QP	14.55	0.35	46.00	32.07	-31.44	228	279

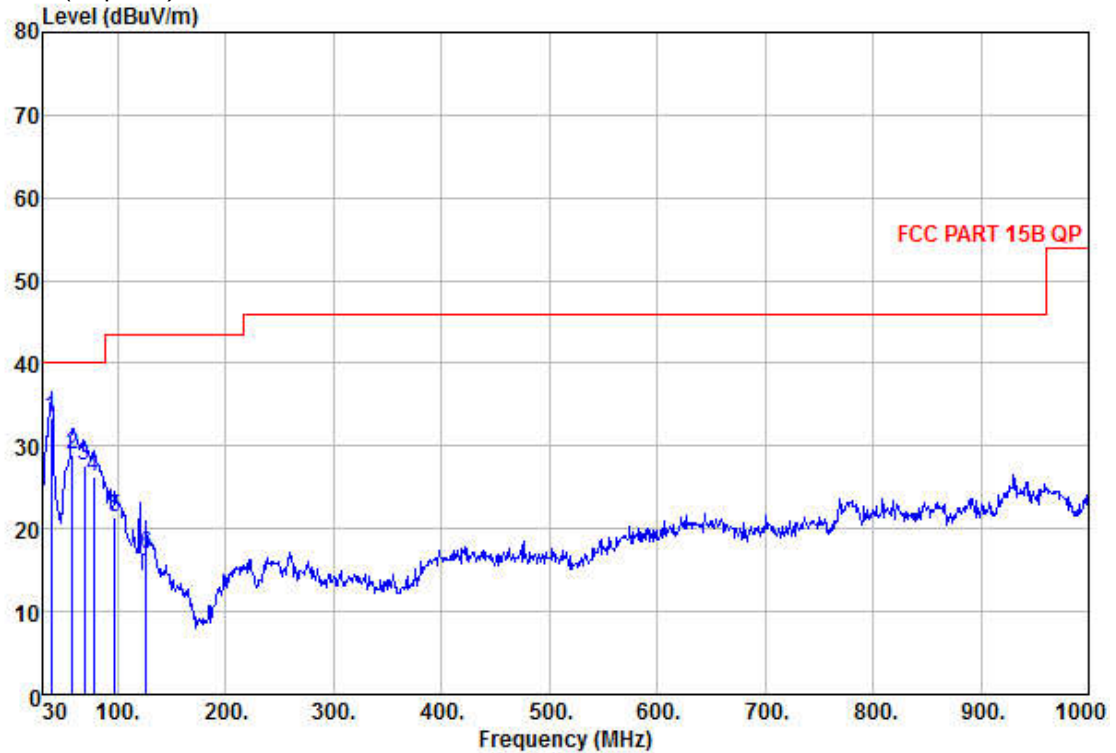
Note: 1. Standards need to read Quasi-peak values.

2. Emission Level= Antenna Factor + Cable Loss + Meter Reading - Preamp Factor

Vertical:

Peak scan

Level (dB μ V/m)



Quasi-peak measurement

No.	Freq MHz	Level dB μ V/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dB μ V/m	Preamp Factor dB	Over limit dB	A/pos cm	T/pos deg
1	37.76	33.51	QP	17.27	0.13	40.00	32.60	-6.49	116	93
2	58.13	29.06	QP	8.98	0.15	40.00	32.57	-10.94	138	195
3	68.80	27.57	QP	8.13	0.16	40.00	32.52	-12.43	157	206
4	77.53	26.32	QP	8.45	0.17	40.00	32.49	-13.68	173	219
5	96.93	21.43	QP	8.96	0.19	43.50	32.41	-22.07	108	182
6	126.03	16.86	QP	9.50	0.23	43.50	32.35	-26.64	142	191

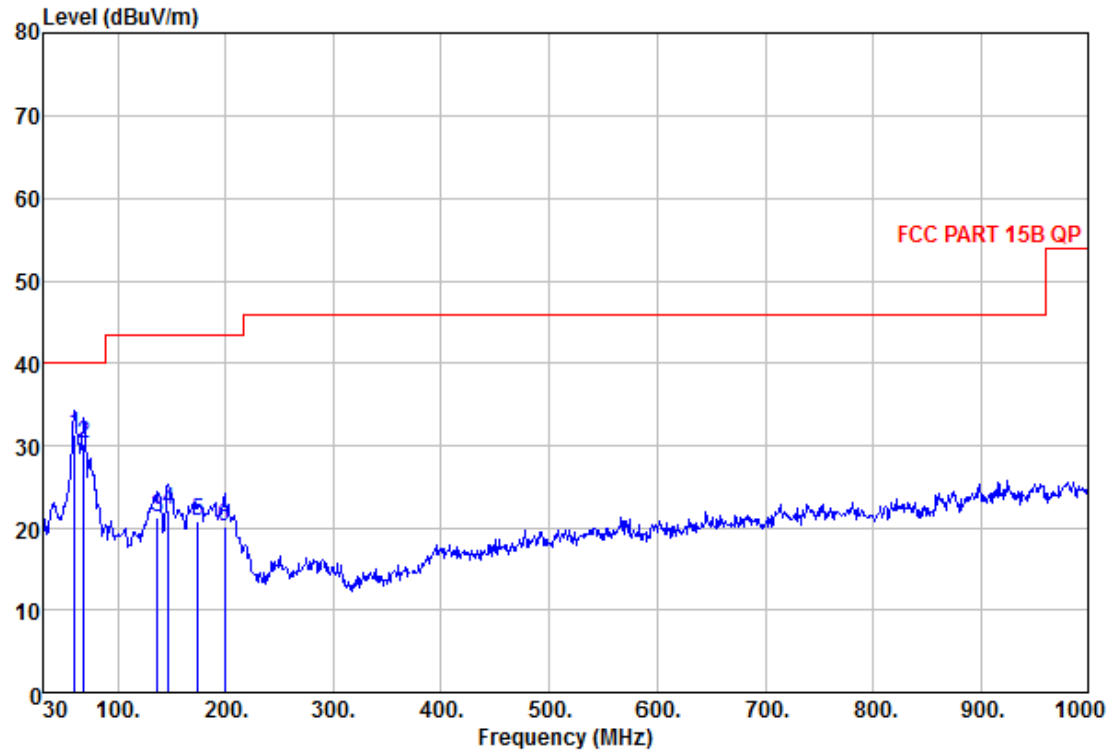
Note: 1. Standards need to read Quasi-peak values.
2. Emission Level= Antenna Factor + Cable Loss + Meter Reading - Preamp Factor

Model: ZB-H290020_A (new)

Horizontal:

Peak scan

Level (dB μ V/m)



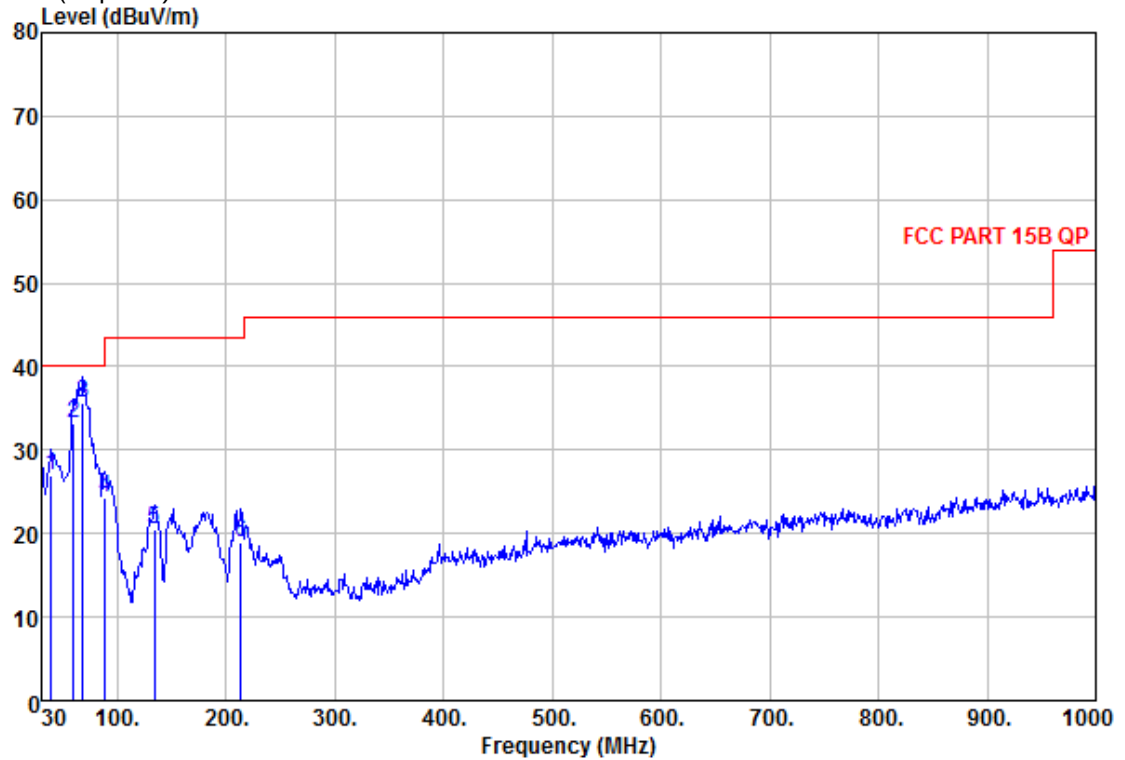
Quasi-peak measurement

No.	Freq MHz	Reading dBuV	Antenna Factor dB/m	Cable Loss dB	Measured dBuV/m	Limit Line dBuV/m	Preamp Factor dB	Over limit dB	Remark
1	59.10	55.55	7.89	0.15	31.31	40.00	32.28	-8.69	QP
2	67.83	54.17	8.29	0.16	30.36	40.00	32.26	-9.64	QP
3	136.70	43.77	9.50	0.24	21.42	43.50	32.09	-22.08	QP
4	146.40	44.15	9.98	0.25	22.32	43.50	32.06	-21.18	QP
5	174.53	42.28	10.28	0.28	20.86	43.50	31.98	-22.64	QP
6	198.78	41.28	10.65	0.31	20.34	43.50	31.90	-23.16	QP

Vertical:

Peak scan

Level (dBuV/m)

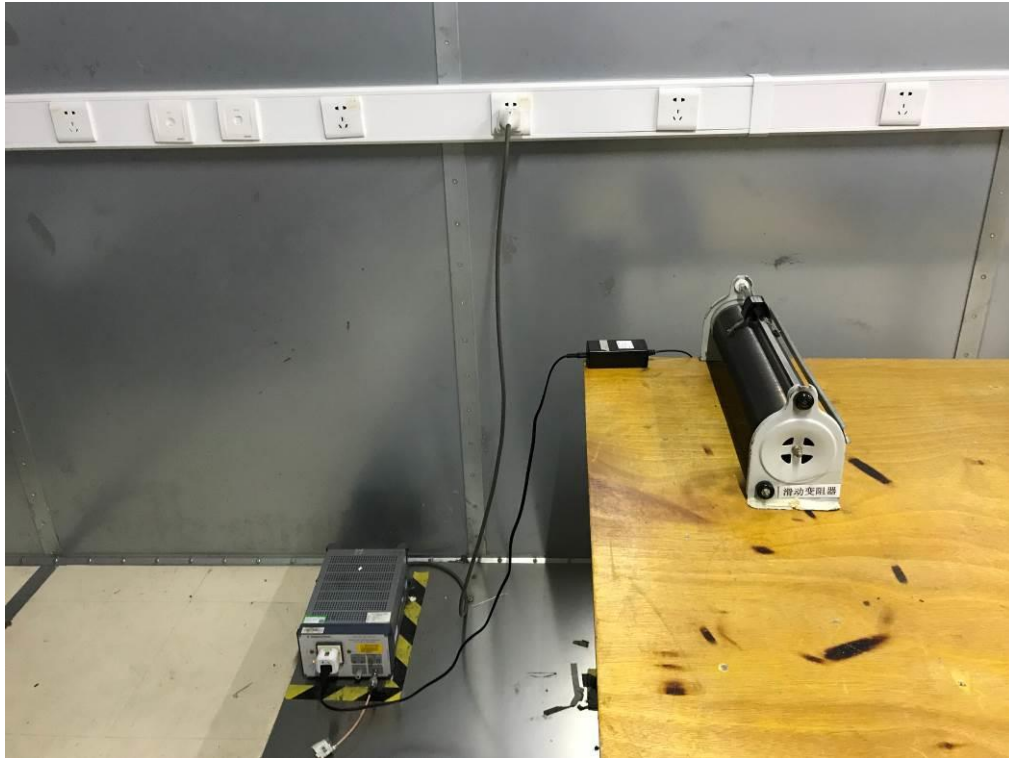


Quasi-peak measurement

No.	Freq MHz	Reading dBuV	Antenna Factor dB/m	Cable Loss dB	Measured dBuV/m	Limit Line dBuV/m	Preamp Factor dB	Over limit dB	Remark
1	38.73	46.70	12.57	0.13	27.04	40.00	32.36	-12.96	QP
2	59.10	57.45	7.89	0.15	33.21	40.00	32.28	-6.79	QP
3	67.83	59.52	8.29	0.16	35.71	40.00	32.26	-4.29	QP
4	88.20	48.43	7.96	0.18	24.35	43.50	32.22	-19.15	QP
5	133.79	42.86	9.41	0.23	20.40	43.50	32.10	-23.10	QP
6	213.33	39.24	11.18	0.32	18.88	43.50	31.86	-24.62	QP

Section 3 Photographs

3.1 Conducted Emissions Mains Terminals Test Setup



3.2 Radiated Emissions, 30MHz to 1GHz Test Setup

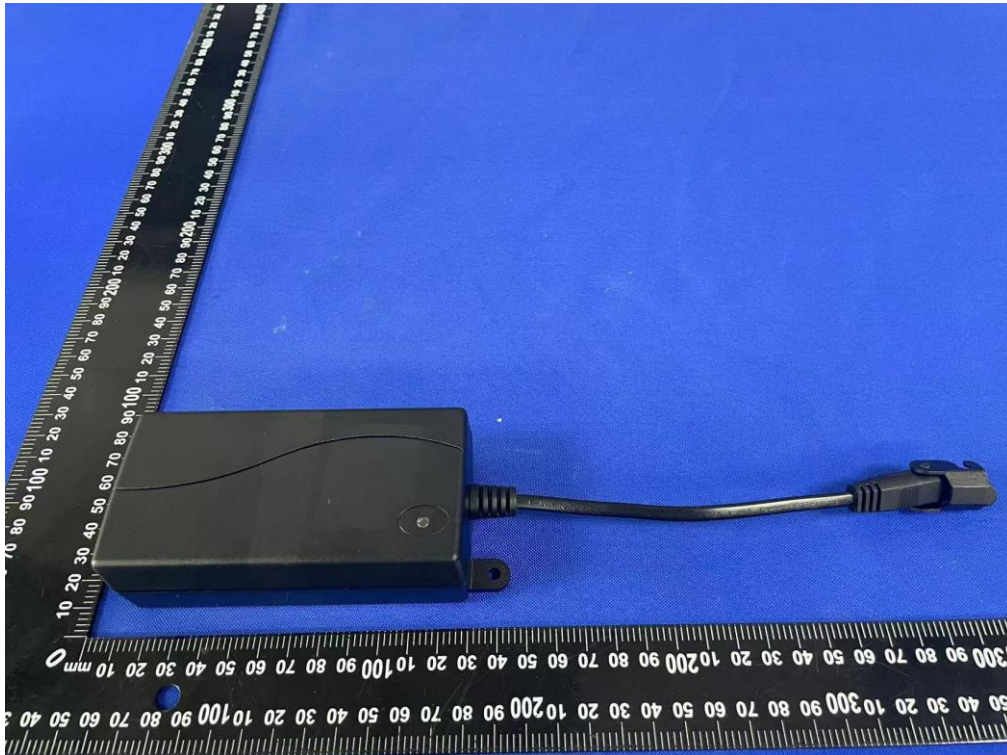


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3.3 EUT Constructional Details



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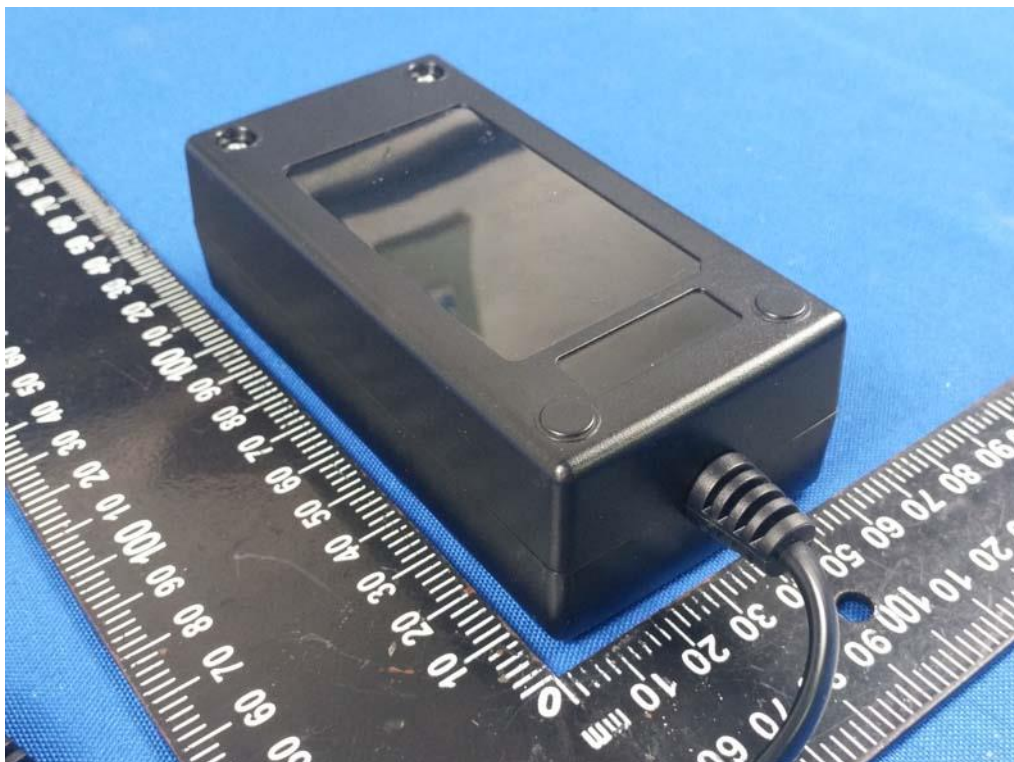


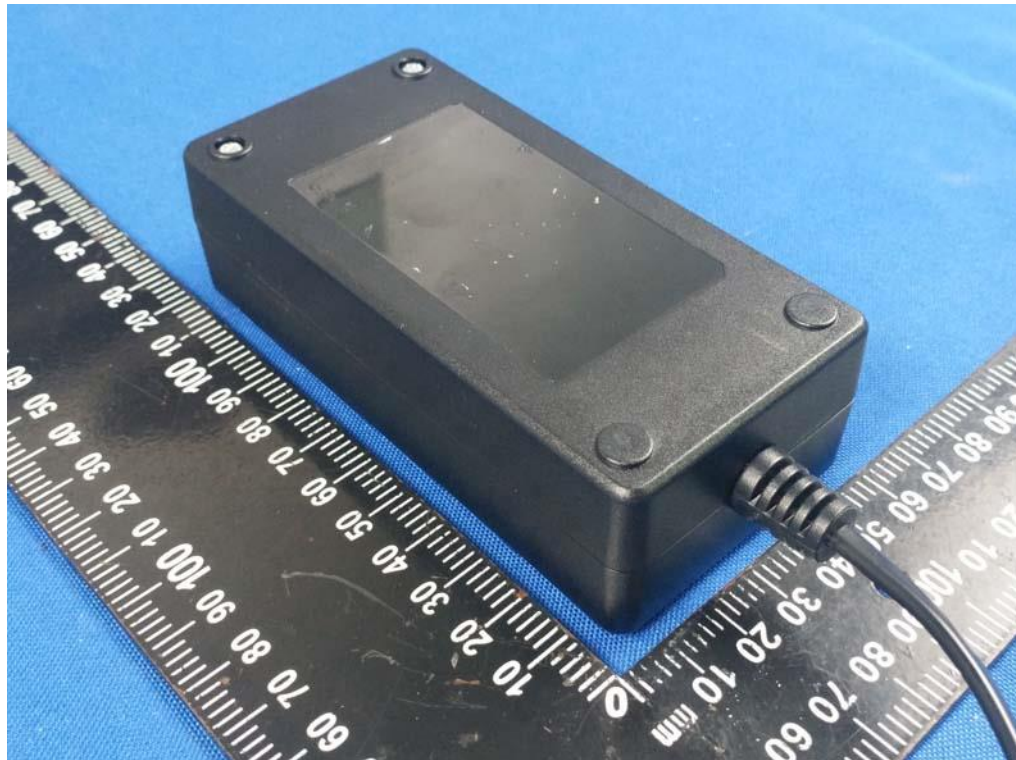
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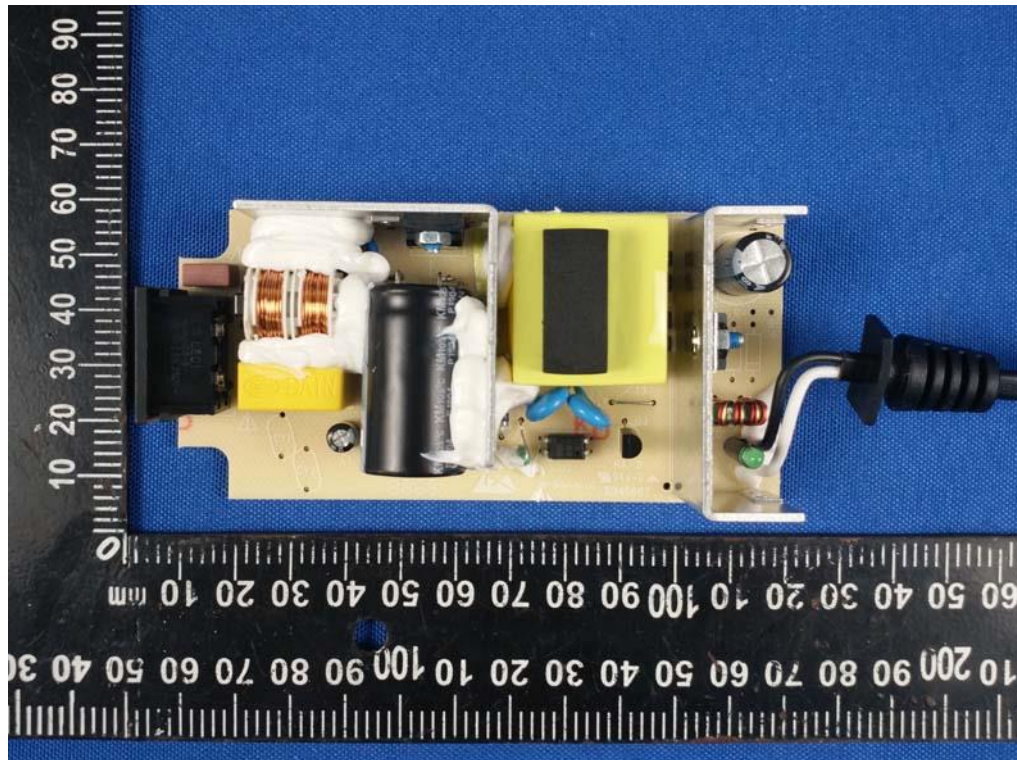




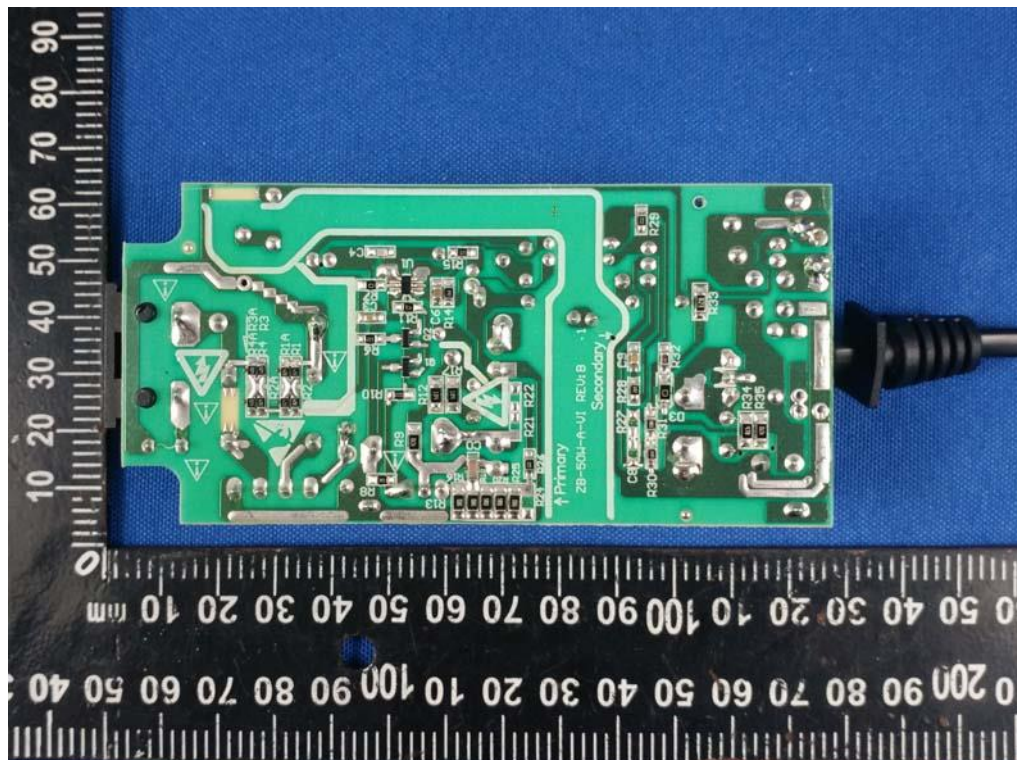
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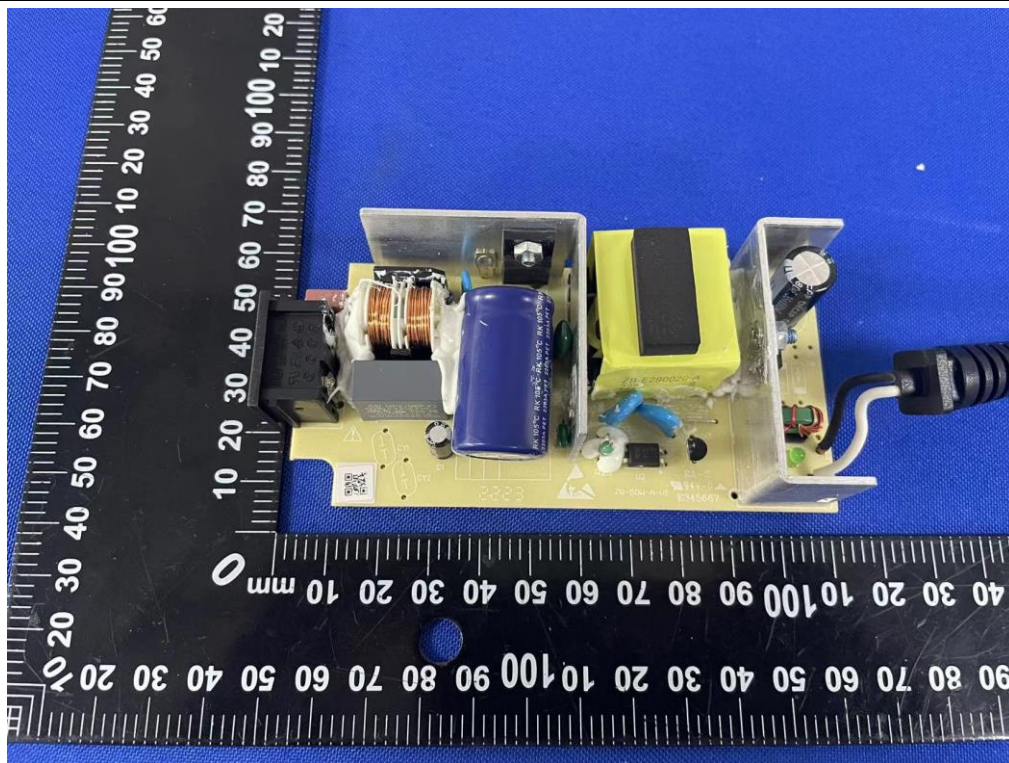




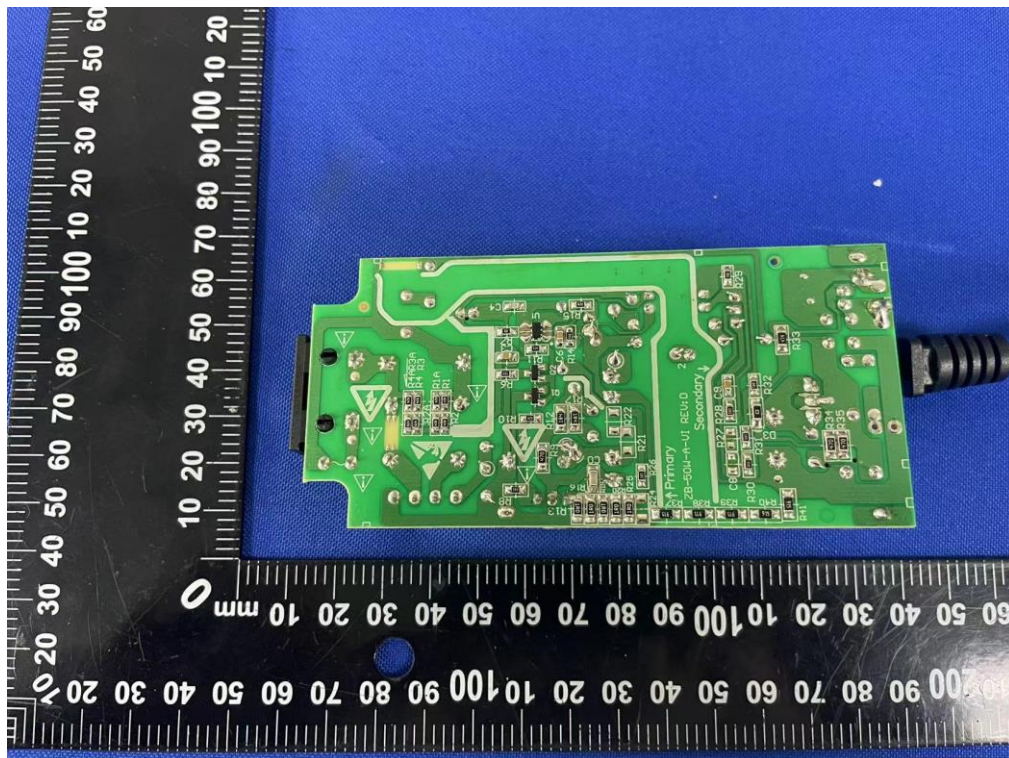
ZB-Hxxxxyy_z+, MC120_aVbA z, MC140_aVbA z (old)



ZB-Hxxxxyy_z+, MC120_aVbA z, MC140_aVbA z (old)



ZB-H290020_z+,MC120-29V2A,MC140-29V2A (new)



ZB-H290020_z+,MC120-29V2A,MC140-29V2A (new)

END OF THE TEST REPORT

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