

TEST REPORT

Product : Omnicharge Pro
Trade mark : N/A
Model/Type reference : Omni20
Serial number : N/A
FCC ID : 2AJ8J-23
Report number : EED32I002697
Date : Dec. 05, 2016
Regulations : See below

Test Standards	Results
<input checked="" type="checkbox"/> 47 CFR FCC Part 15 Subpart C: 2015	PASS

Prepared for:

Tianjin Synergy Groups Co.,Ltd
Building 3, No. 36 Huaming Road, Dongli District, Tianjin, China

Prepared by:
Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385



Compiled by:

Jan Tang

Reviewed by:

Kevin Lan

Approved by:

Sheek Luo

Date:

Dec. 05, 2016

Sheek Luo

Lab supervisor

Check No.: 2448730188

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	3
2. TEST SUMMARY.....	3
3. PRODUCT INFORMATION.....	3
4. MEASUREMENT UNCERTAINTY.....	3
5. TEST EQUIPMENT LIST.....	4
6. SUPPORT EQUIPMENT LIST.....	5
7. AC CONDUCTED EMISSION TEST.....	6
7.1. LIMITS.....	6
7.2. BLOCK DIAGRAM OF TEST SETUP.....	6
7.3. PROCEDURE OF CONDUCTED EMISSION TEST.....	6
7.4. GRAPHS AND DATA.....	7
8. RADIATED EMISSION MEASUREMENT.....	11
8.1. LIMITS.....	11
8.2. BLOCK DIAGRAM OF TEST SETUP.....	11
8.3. TEST PROCEDURE.....	12
8.4. TEST RESULT.....	13
APPENDIX 1 PHOTOGRAPHS OF TEST SETUP.....	19
APPENDIX 2 PHOTOGRAPHS OF EUT.....	21

N/A means not applicable.

1. GENERAL INFORMATION

Applicant: Tianjin Synergy Groups Co.,Ltd
 Building 3, No. 36 Huaming Road, Dongli District, Tianjin, China

Manufacturer: Tianjin Synergy Groups Co.,Ltd
 Building 3, No. 36 Huaming Road, Dongli District, Tianjin, China

Factory: Tianjin Synergy Groups Co.,Ltd
 Building 3, No. 36 Huaming Road, Dongli District, Tianjin, China

FCC ID: 2AJ8J-23

Product: Omnicharge Pro

Trade mark: N/A

Model/Type reference: Omni20

Serial Number: N/A

Report Number: EED32I002697

Sample Received Date: Oct. 14, 2016

Sample tested Date: Oct. 14, 2016 to Dec. 02, 2016

The above equipment was tested by Centre Testing International Group Co., Ltd. for compliance with the requirements set forth in the FCC Rules and the measurement procedure according to ANSI C63.10:2013.

2. TEST SUMMARY

No.	Test Item	Rule	Test Result
1	Conducted Emission	FCC 15.207	PASS
2	Radiated Emission	FCC 15.209	PASS

3. PRODUCT INFORMATION

Items	Description
Rating	AC 100-240V, 50/60Hz
Antenna Type	Coil antenna
Operated frequency	111~205KHz

4. MEASUREMENT UNCERTAINTY

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement items	Uncertainty
Conducted Emission Test	3.4 dB
Radiated Emissions	5.3 dB

5. TEST EQUIPMENT LIST

Radiated Emission					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-05-2016	06-05-2019
TRILOG Broadband Antenna	SCHWARZBECK	VULB9163	9163-484	05-23-2016	05-22-2017
Microwave Preamplifier	Agilent	8449B	3008A02425	02-04-2016	02-03-2017
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	07-30-2015	07-28-2017
Spectrum Analyzer	R&S	FSP40	100416	06-16-2016	06-15-2017
Receiver	R&S	ESCI	100435	06-16-2016	06-15-2017
Multi device Controller	maturo	NCD/070/10711112	---	01-12-2016	01-11-2017
LISN	schwarzbeck	NNBM8125	81251547	06-16-2016	06-15-2017
LISN	schwarzbeck	NNBM8125	81251548	06-16-2016	06-15-2017
Signal Generator	Agilent	E4438C	MY45095744	04-01-2016	03-31-2017
Signal Generator	Keysight	E8257D	MY53401106	04-01-2016	03-31-2017
Temperature/Humidity Indicator	TAYLOR	1451	1905	04-27-2016	04-26-2017
Cable line	Fulai(7M)	SF106	5219/6A	01-12-2016	01-11-2017
Cable line	Fulai(6M)	SF106	5220/6A	01-12-2016	01-11-2017
Cable line	Fulai(3M)	SF106	5216/6A	01-12-2016	01-11-2017
Cable line	Fulai(3M)	SF106	5217/6A	01-12-2016	01-11-2017
High-pass filter	Sinoscite	FL3CX03WG18NM1 2-0398-002	---	01-12-2016	01-11-2017
High-pass filter	MICRO-TRONIC S	SPA-F-63029-4	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX01CA09CL12 -0395-001	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX01CA08CL12 -0393-001	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX02CA04CL12 -0396-002	---	01-12-2016	01-11-2017
band rejection filter	Sinoscite	FL5CX02CA03CL12 -0394-001	---	01-12-2016	01-11-2017

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100009	06-16-2016	06-15-2017
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-27-2016	04-26-2017
LISN	R&S	ENV216	100098	06-16-2016	06-15-2017
LISN	schwarzbeck	NNLK8121	8121-529	06-16-2016	06-15-2017
Voltage Probe	R&S	ESH2-Z3	--	07-09-2014	07-07-2017
Current Probe	R&S	EZ17	100106	06-16-2016	06-15-2017

6. SUPPORT EQUIPMENT LIST

Device Type	Brand	Model	Series No.	Data Cable	Remark
Mobile phone	MEIZU	Y685Q	---	---	FCC DOC
---	---	---	---	---	---

7. AC CONDUCTED EMISSION TEST

7.1. LIMITS

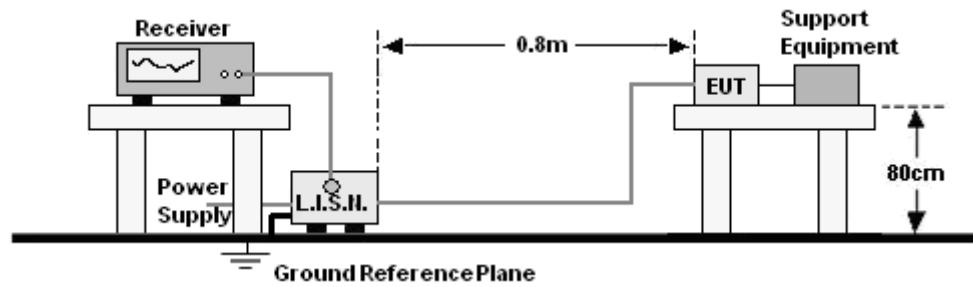
Limits for Class B digital devices

Frequency range (MHz)	Limits dB(μ V)	
	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 lower limit shall apply at the transition frequencies.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

7.2. BLOCK DIAGRAM OF TEST SETUP



7.3. PROCEDURE OF CONDUCTED EMISSION TEST

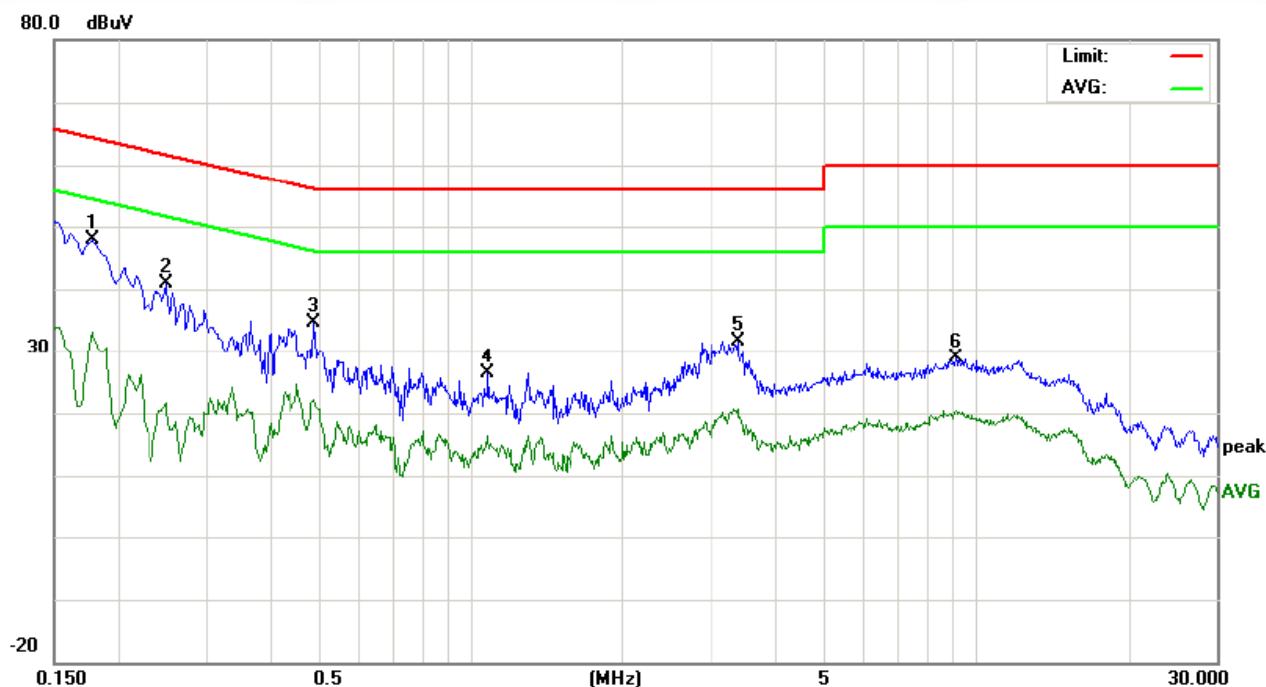
- The Product was placed on a nonconductive table above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N.).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

7.4. GRAPHS AND DATA

Product : Omnicharge Pro
Power : AC 120V/60Hz
Mode : Charging

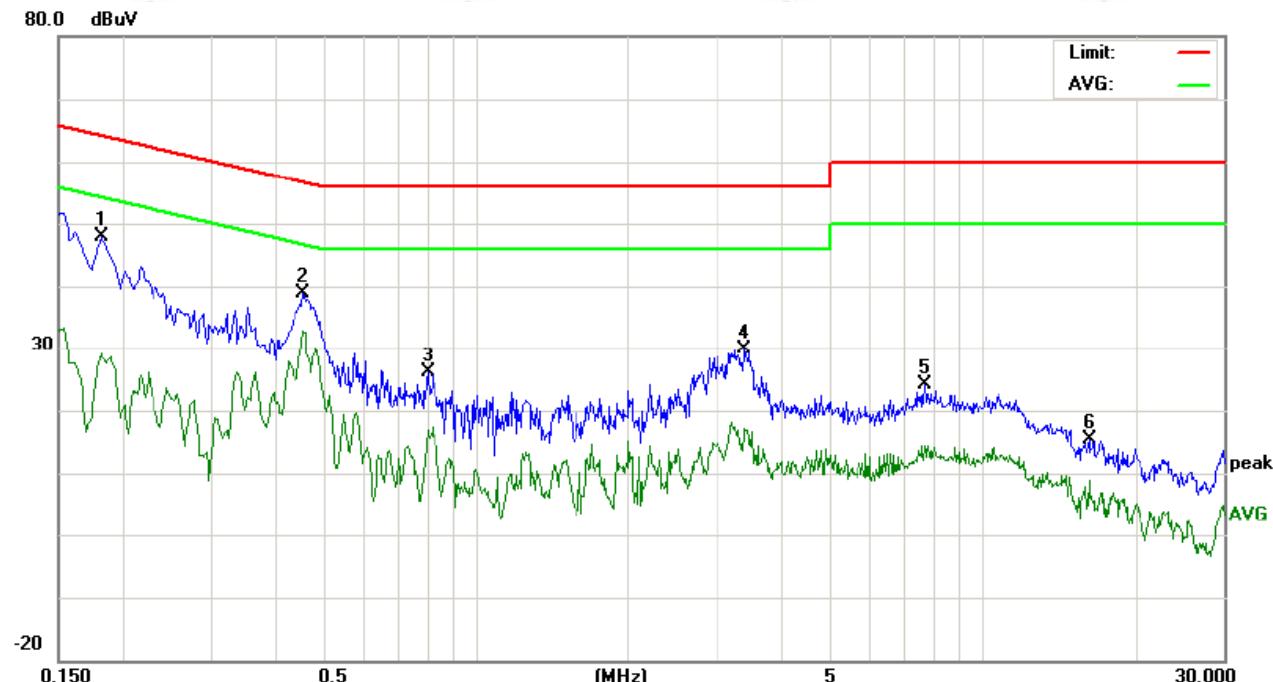
Model/Type reference : Omni20
Temperature : 22°C
Humidity : 53%

L:



No.	Freq.	Reading_Level (dBuV)		Correct Factor		Measurement (dBuV)		Limit (dBuV)		Margin (dB)		P/F	Comment
		MHz	Peak	QP	Avg	dB	peak	QP	Avg	QP	Avg	P/F	
1	0.1780	37.98		23.34	9.80	47.78		33.14	64.57	54.57	-16.79	-21.43	P
2	0.2500	31.14		11.89	9.80	40.94		21.69	61.75	51.75	-20.81	-30.06	P
3	0.4900	24.62		12.13	9.90	34.52		22.03	56.17	46.17	-21.65	-24.14	P
4	1.0859	16.63		5.86	9.73	26.36		15.59	56.00	46.00	-29.64	-30.41	P
5	3.3980	21.67		10.51	10.00	31.67		20.51	56.00	46.00	-24.33	-25.49	P
6	9.1380	18.78		10.41	10.00	28.78		20.41	60.00	50.00	-31.22	-29.59	P

N:

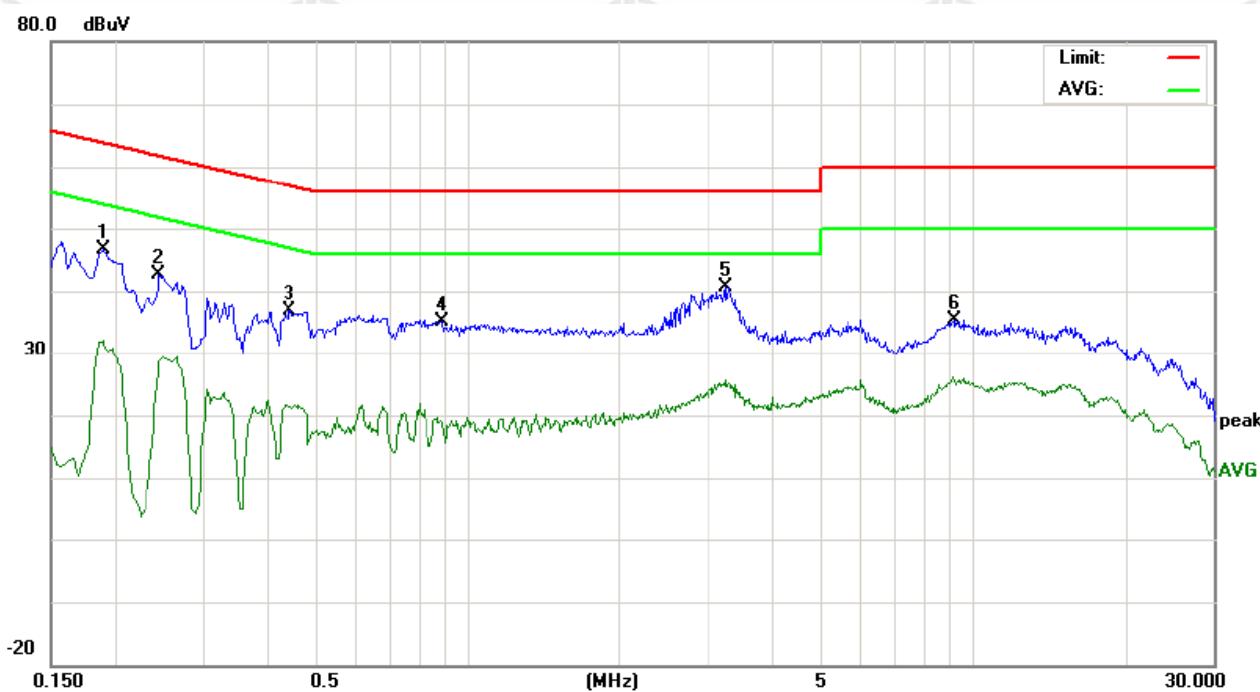


No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		
		MHz	Peak	QP	Avg	peak	QP	Avg	QP	Avg	QP	Avg	P/F
1	0.1819	38.06		19.29	9.80	47.86		29.09	64.39	54.39	-16.53	-25.30	P
2	0.4580	28.87		23.00	9.90	38.77		32.90	56.73	46.73	-17.96	-13.83	P
3	0.8020	16.14		7.00	9.90	26.04		16.90	56.00	46.00	-29.96	-29.10	P
4	3.4140	19.83		7.15	10.00	29.83		17.15	56.00	46.00	-26.17	-28.85	P
5	7.7260	14.21		4.28	10.00	24.21		14.28	60.00	50.00	-35.79	-35.72	P
6	16.2460	5.30		-1.24	10.03	15.33		8.79	60.00	50.00	-44.67	-41.21	P

Product : Omnicharge Pro
Power : AC 240V/50Hz
Mode : Charging

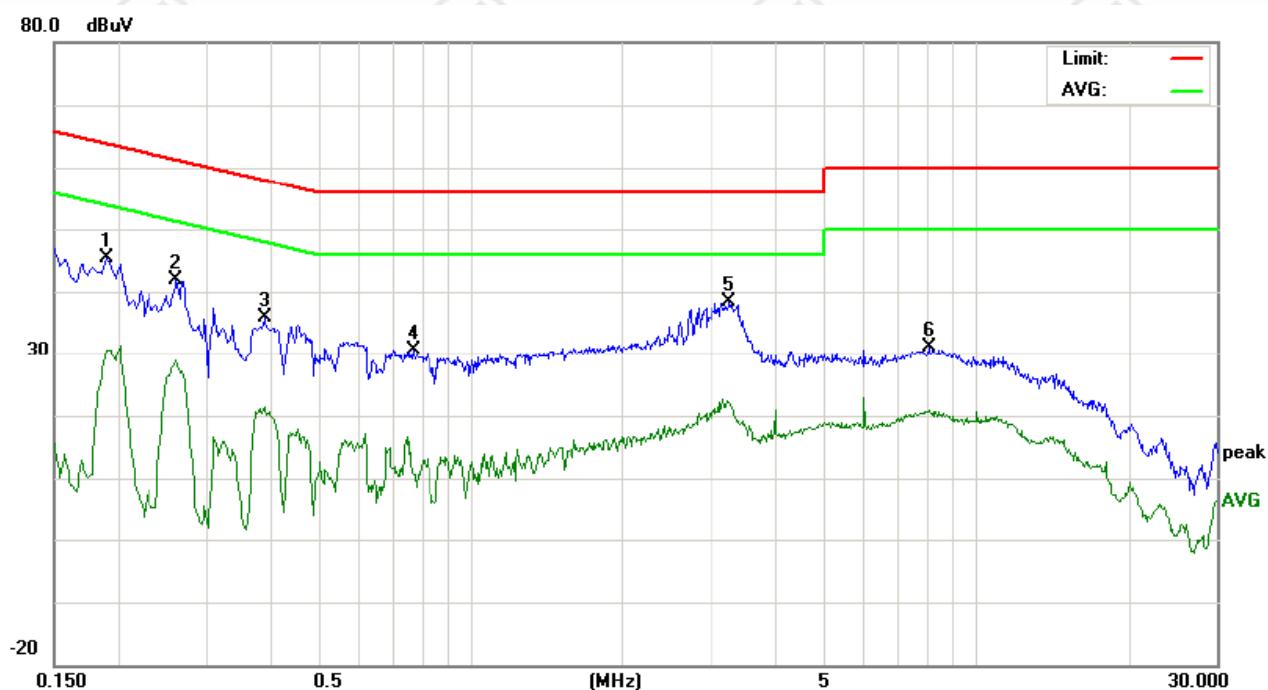
Model/Type reference : Omni20
Temperature : 22°C
Humidity : 53%

L:



No.	Freq.	Reading_Level (dBuV)			Correct Factor			Measurement (dBuV)			Limit (dBuV)			Margin (dB)		
		MHz	Peak	QP	Avg	dB	peak	QP	Avg	QP	Avg	QP	Avg	P/F	Comment	
1	0.1900	36.94		22.24	9.80	46.74		32.04	64.03	54.03	-17.29	-21.99	P			
2	0.2460	32.71		18.88	9.80	42.51		28.68	61.89	51.89	-19.38	-23.21	P			
3	0.4460	27.06		11.40	9.90	36.96		21.30	56.95	46.95	-19.99	-25.65	P			
4	0.8860	25.35		9.39	9.73	35.08		19.12	56.00	46.00	-20.92	-26.88	P			
5	3.2540	30.64		15.57	10.00	40.64		25.57	56.00	46.00	-15.36	-20.43	P			
6	9.1660	25.48		15.27	10.00	35.48		25.27	60.00	50.00	-24.52	-24.73	P			

N:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		
		MHz	Peak	QP	Avg	Peak	QP	Avg	QP	Avg	QP	Avg	P/F
1	0.1900	35.54		20.92	9.80	45.34		30.72	64.03	54.03	-18.69	-23.31	P
2	0.2620	32.06		19.10	9.80	41.86		28.90	61.36	51.36	-19.50	-22.46	P
3	0.3899	26.06		11.60	9.89	35.95		21.49	58.06	48.06	-22.11	-26.57	P
4	0.7700	20.64		0.78	9.90	30.54		10.68	56.00	46.00	-25.46	-35.32	P
5	3.2659	28.43		12.11	10.00	38.43		22.11	56.00	46.00	-17.57	-23.89	P
6	8.0980	21.05		10.76	10.00	31.05		20.76	60.00	50.00	-28.95	-29.24	P

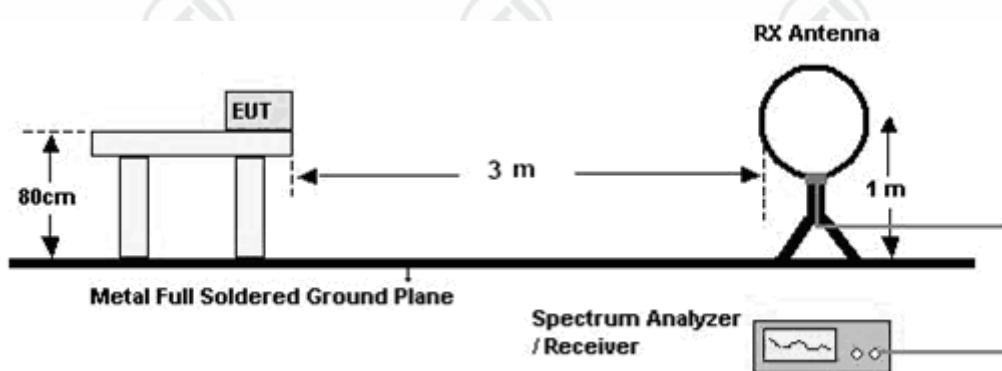
8. RADIATED EMISSION MEASUREMENT

8.1. LIMITS

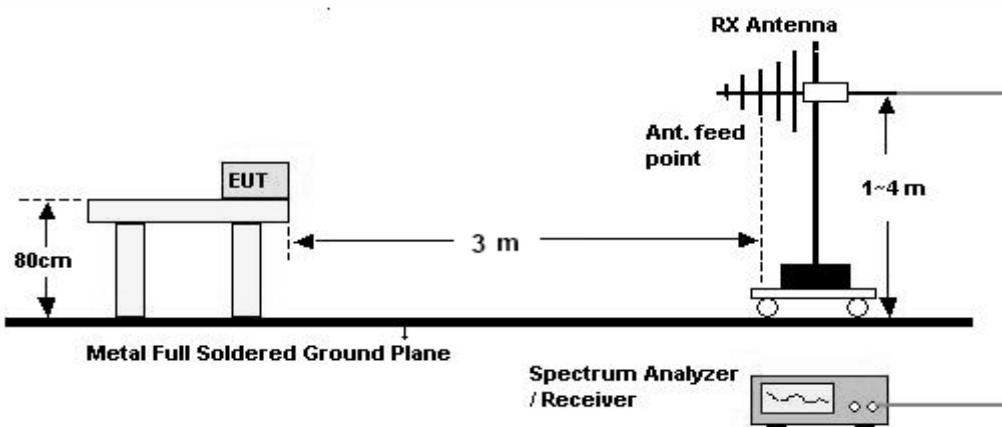
Frequency (MHz)	Field strength (μ V/m)	Distance (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

8.2. BLOCK DIAGRAM OF TEST SETUP

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz - 1000MHz



8.3. TEST PROCEDURE

Below 30MHz

- a. The Product is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.
- b. For each suspected emission, the Product was arranged to its worst case and then turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- c. The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

30MHz ~ 1GHz:

- a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.
- b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- c. For each frequency whose maximum record was higher or close to limit, measure its QP value (120 kHz RBW): vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

8.4. TEST RESULT

The TX operated frequency is 205kHz.

The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

A. 9KHz-1.705MHz:

Product : Omnicharge Pro

Model/Type reference : Omni20

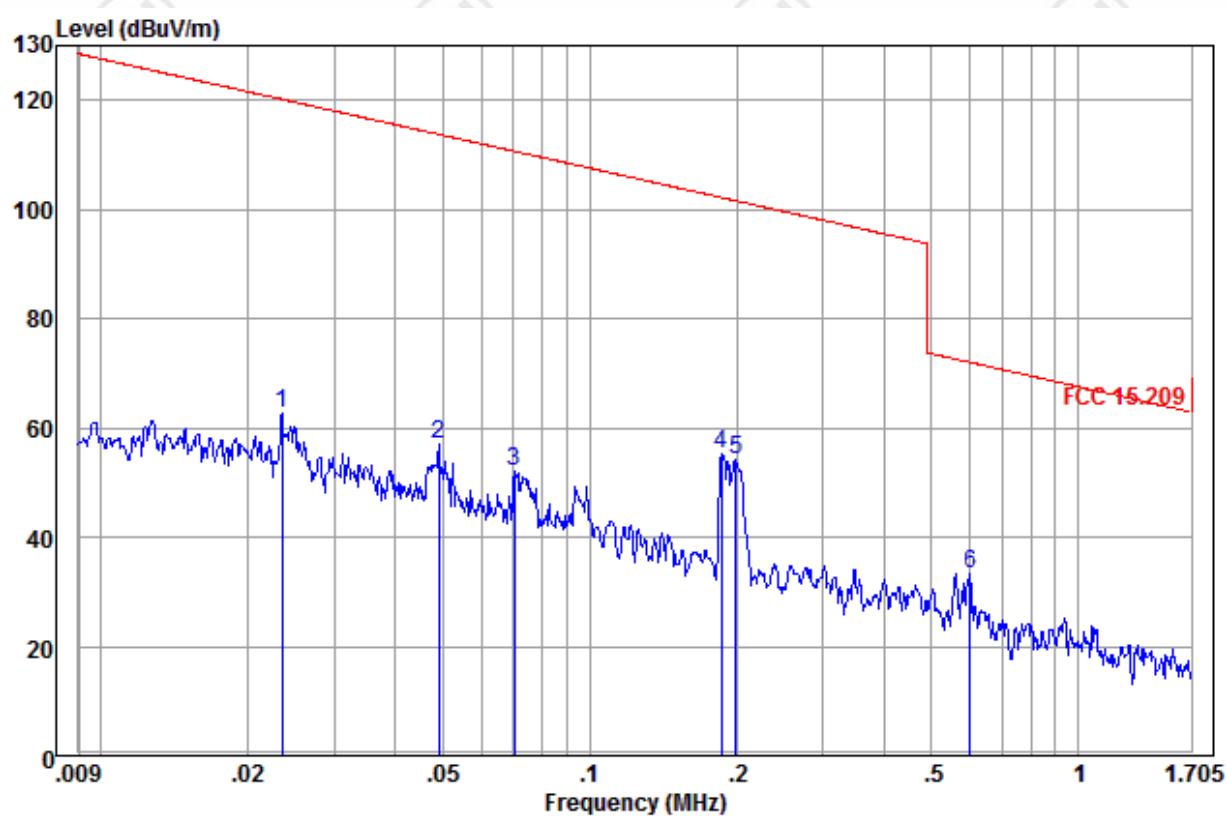
Power : AC 120V, 60Hz

Temperature : 22°C

Mode : Charging

Humidity : 52%

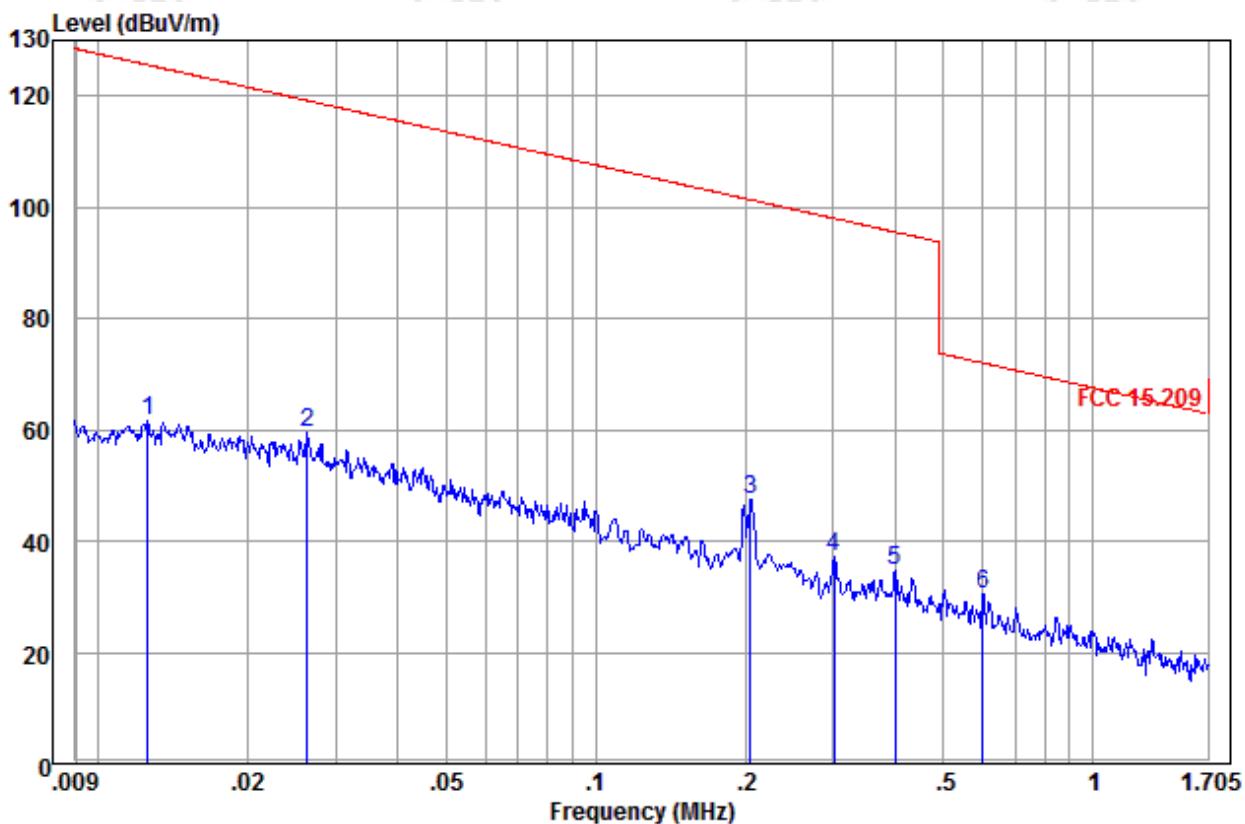
X:



	Ant Freq	Cable Factor	Read Loss	Limit Level	Over Line Level	Over Limit	Pol/Phase	Remark
--	----------	--------------	-----------	-------------	-----------------	------------	-----------	--------

	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	0.023	15.66	0.05	46.83	62.54	120.17	-57.63	Horizontal
2	0.049	11.78	0.07	45.00	56.85	113.75	-56.90	Horizontal
3	0.070	11.53	0.09	40.55	52.17	110.65	-58.48	Horizontal
4	0.186	11.36	0.11	43.91	55.38	102.19	-46.81	Horizontal
5	0.200	11.34	0.11	42.88	54.33	101.59	-47.26	Horizontal
6 pp	0.600	11.30	0.12	21.85	33.27	72.02	-38.75	Horizontal

Y:



	Ant Freq	Cable Factor	Read Loss	Level Level	Limit Line	Over Limit	Over Line Pol/Phase	Remark
--	----------	--------------	-----------	-------------	------------	------------	---------------------	--------

	MHz	dB/m	dB	dB _{uV}	dB _{uV/m}	dB _{uV/m}	dB	
1	0.013	18.10	0.03	43.49	61.62	125.59	-63.97	Vertical
2	0.026	15.05	0.06	44.46	59.57	119.17	-59.60	Vertical
3	0.205	11.34	0.11	35.90	47.35	101.37	-54.02	Vertical
4	0.302	11.30	0.11	25.84	37.25	98.00	-60.75	Vertical
5	0.401	11.30	0.12	23.44	34.86	95.54	-60.68	Vertical
6 pp	0.600	11.30	0.12	18.91	30.33	72.02	-41.69	Vertical

B. 1.705MHz-30MHz:

Product : Omnicharge Pro

Model/Type reference : Omni20

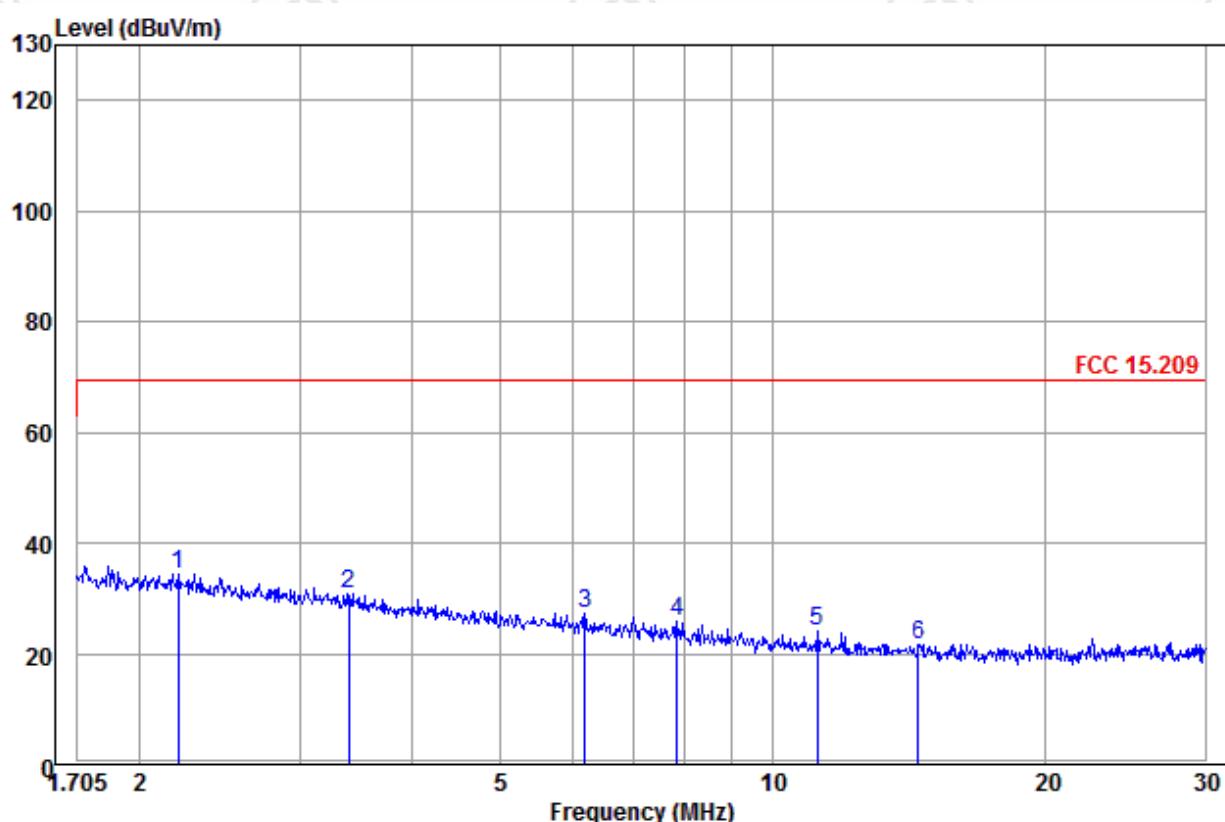
Power : AC 120V, 60Hz

Temperature : 22°C

Mode : Charging

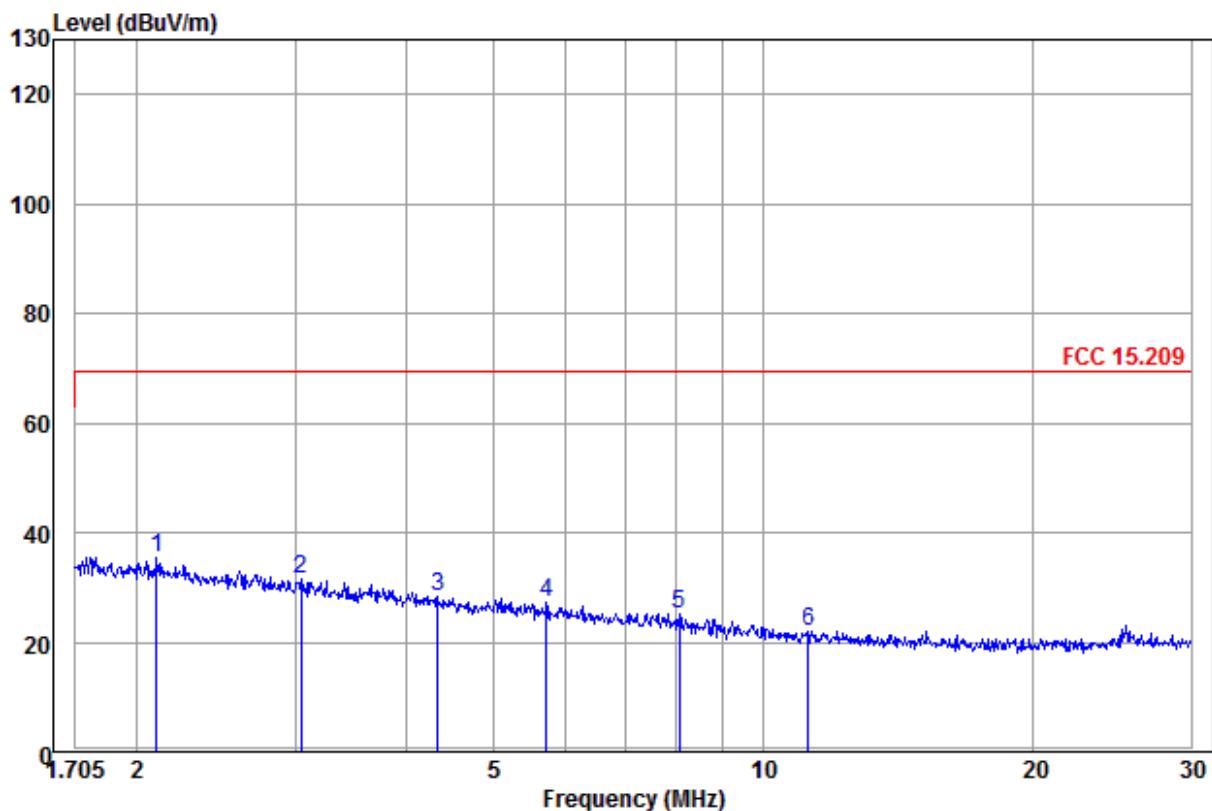
Humidity : 52%

X:



Freq	Ant Factor	Cable Loss	Read Level	Limit Level	Limit		Over Line Limit	Over Pol/Phase	Remark
					MHz	dB/m	dB	dBuV	dBuV/m
1 pp	2.201	11.42	0.19	22.76	34.37	69.50	-35.13	Horizontal	
2	3.393	11.41	0.18	19.33	30.92	69.50	-38.58	Horizontal	
3	6.197	11.11	0.29	15.76	27.16	69.50	-42.34	Horizontal	
4	7.839	11.01	0.46	14.37	25.84	69.50	-43.66	Horizontal	
5	11.187	10.84	0.66	12.52	24.02	69.50	-45.48	Horizontal	
6	14.481	10.72	0.69	10.31	21.72	69.50	-47.78	Horizontal	

Y:



Freq	Ant Factor	Cable Loss	Read Level	Limit Level	Over Line Limit	Over Pol/Phase	Remark
------	------------	------------	------------	-------------	-----------------	----------------	--------

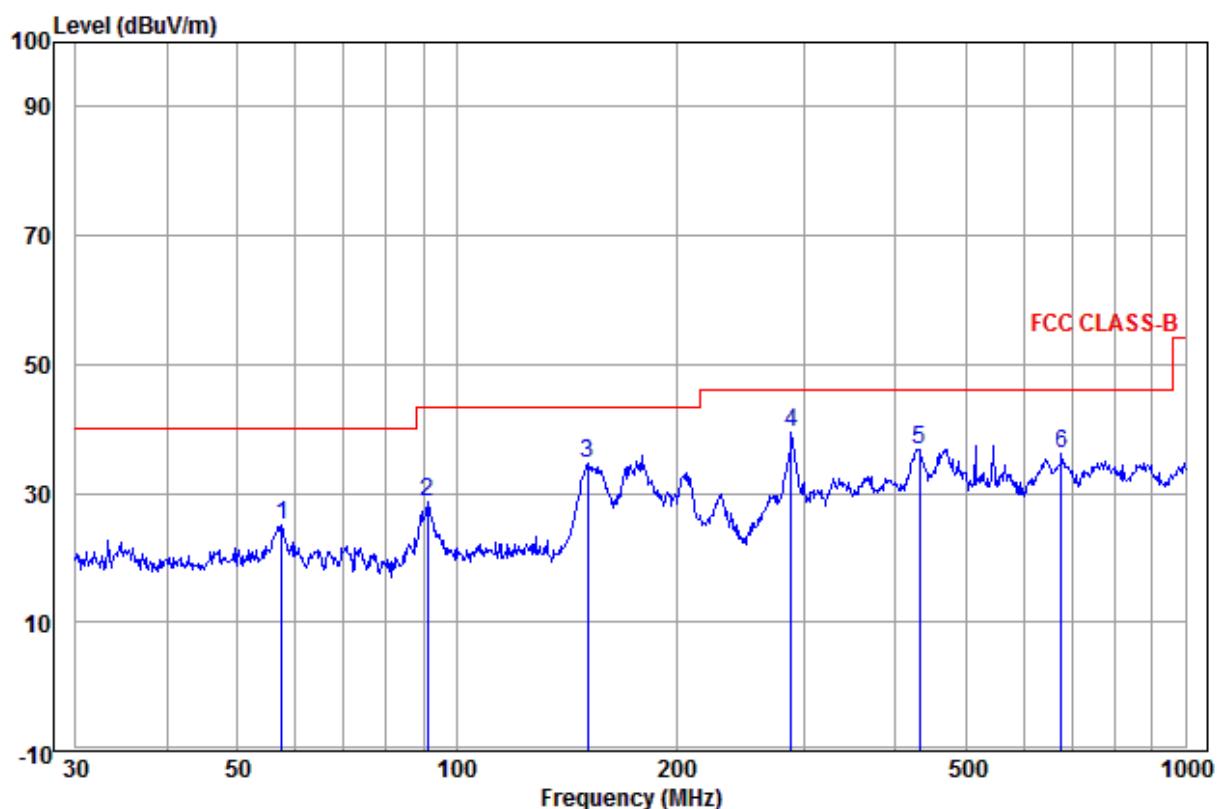
	MHz	dB/m	dB	dB _{UV}	dB _{UV} /m	dB _{UV} /m	dB	
1 pp	2.102	11.41	0.20	23.93	35.54	69.50	-33.96	Vertical
2	3.043	11.49	0.16	19.81	31.46	69.50	-38.04	Vertical
3	4.330	11.26	0.18	16.87	28.31	69.50	-41.19	Vertical
4	5.718	11.14	0.24	15.98	27.36	69.50	-42.14	Vertical
5	8.044	10.99	0.48	13.78	25.25	69.50	-44.25	Vertical
6	11.219	10.84	0.66	10.57	22.07	69.50	-47.43	Vertical

C. 30MHz -1GHz:

Product : Omnicharge Pro
Power : AC 120V, 60Hz
Mode : Charging

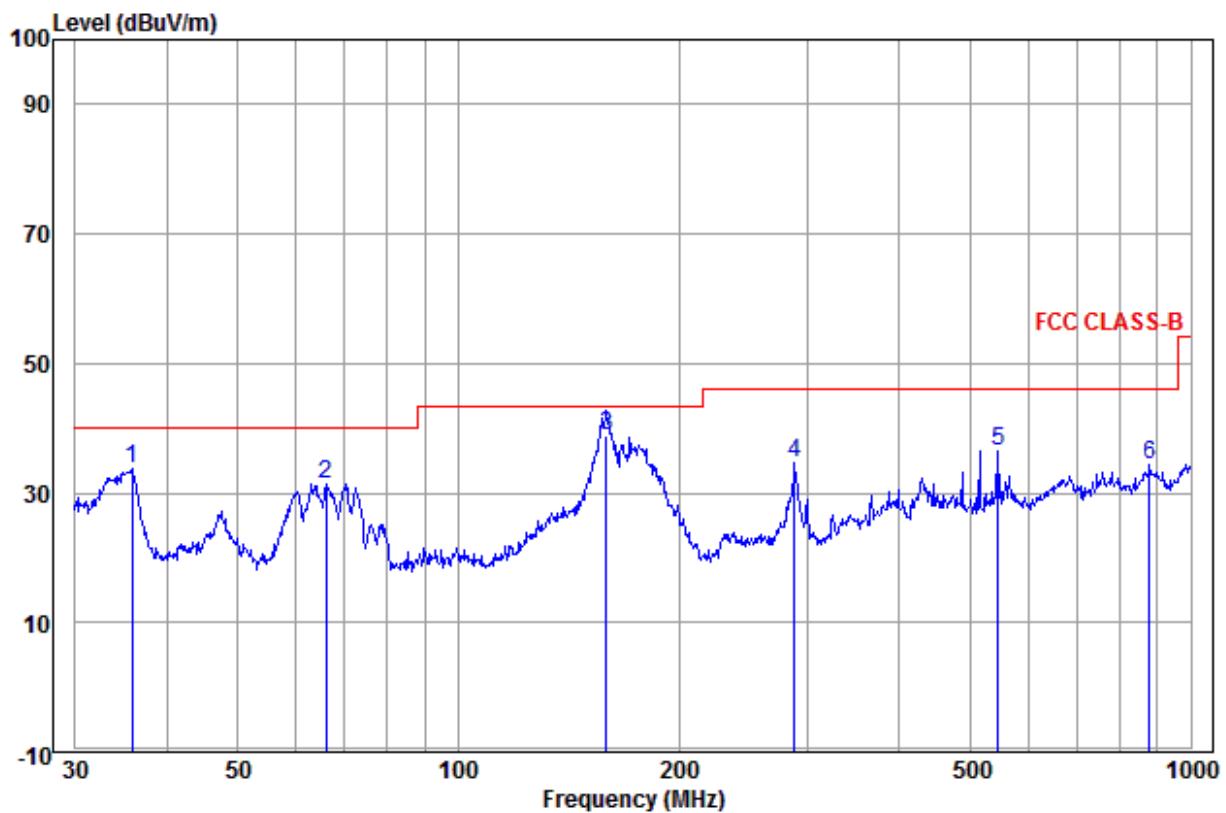
Model/Type reference : Omni20
Temperature : 22°C
Humidity : 52%

H:



	Freq	Ant Factor	Cable Loss	Read Level	Limit Level	Limit Line	Over Limit	Over Limit Pol/Phase		Remark
								Pol/Phase		
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB			
1	57.594	14.09	1.42	9.46	24.97	40.00	-15.03	Horizontal		
2	91.175	11.45	1.59	15.77	28.81	43.50	-14.69	Horizontal		
3	151.067	9.75	1.60	23.33	34.68	43.50	-8.82	Horizontal		
4 pp	287.990	13.25	2.37	23.73	39.35	46.00	-6.65	Horizontal		
5	431.032	16.81	2.92	17.16	36.89	46.00	-9.11	Horizontal		
6	675.208	20.16	3.73	12.20	36.09	46.00	-9.91	Horizontal		

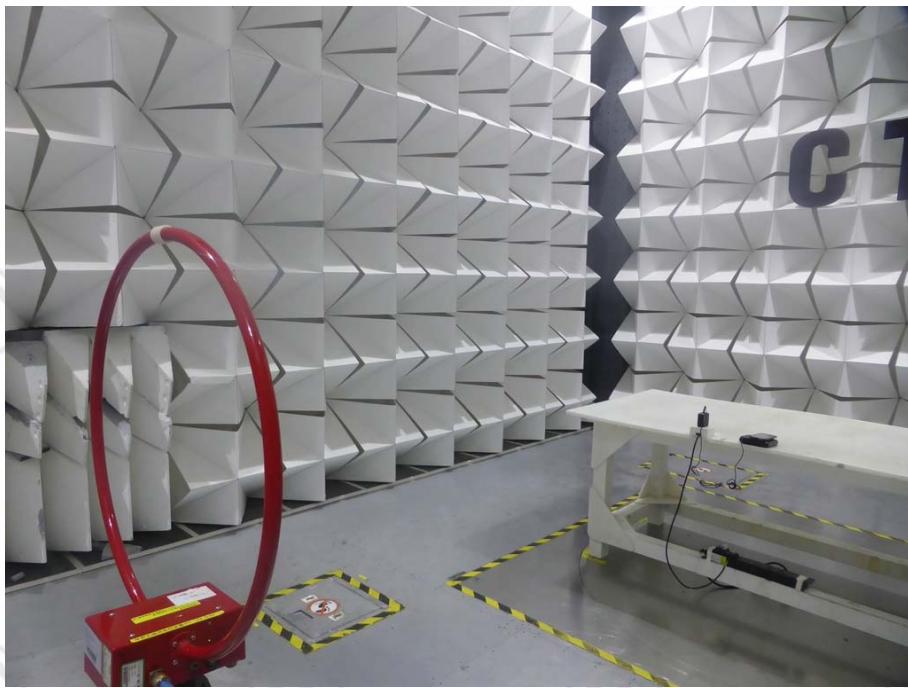
V:



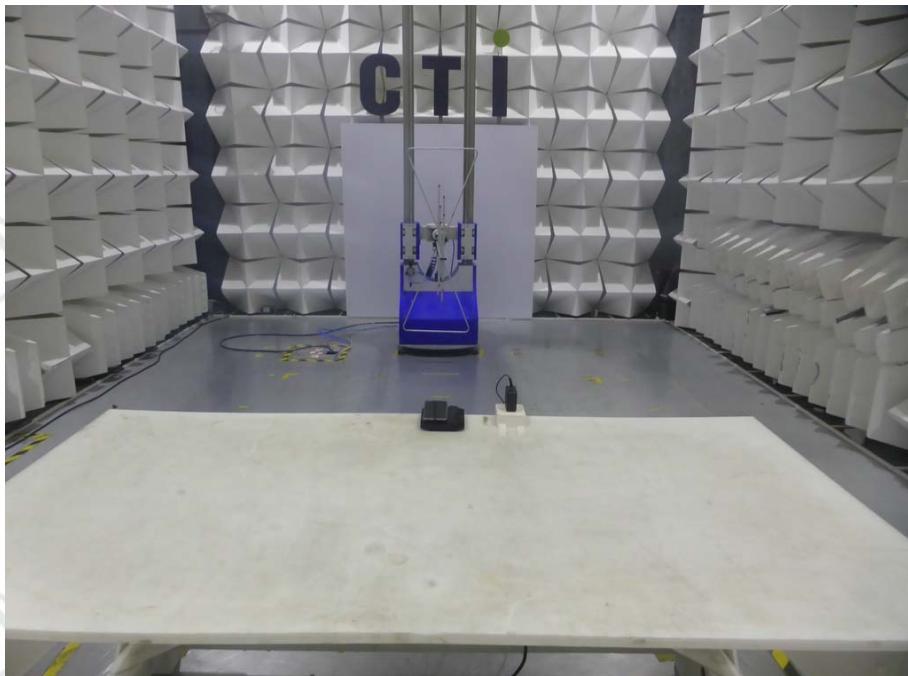
Freq	Ant Factor	Cable Loss	Read Level	Limit Level	Line Limit	Over Limit	Over Limit Pol/Phase		Remark
							dB	dB	
1	35.875	13.56	0.78	19.31	33.65	40.00	-6.35	Vertical	
2	66.034	11.69	1.44	18.18	31.31	40.00	-8.69	Vertical	
3 pp	159.225	10.09	1.71	26.91	38.71	43.50	-4.79	Vertical	
4	287.990	13.25	2.37	18.91	34.53	46.00	-11.47	Vertical	
5	545.183	18.58	3.20	14.80	36.58	46.00	-9.42	Vertical	
6	878.322	22.19	4.27	7.79	34.25	46.00	-11.75	Vertical	

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

Test model No.: Omni20



TEST SETUP OF RADIATED EMISSION (Below 30MHz)



TEST SETUP OF RADIATED EMISSION (30MHz-1GHz)



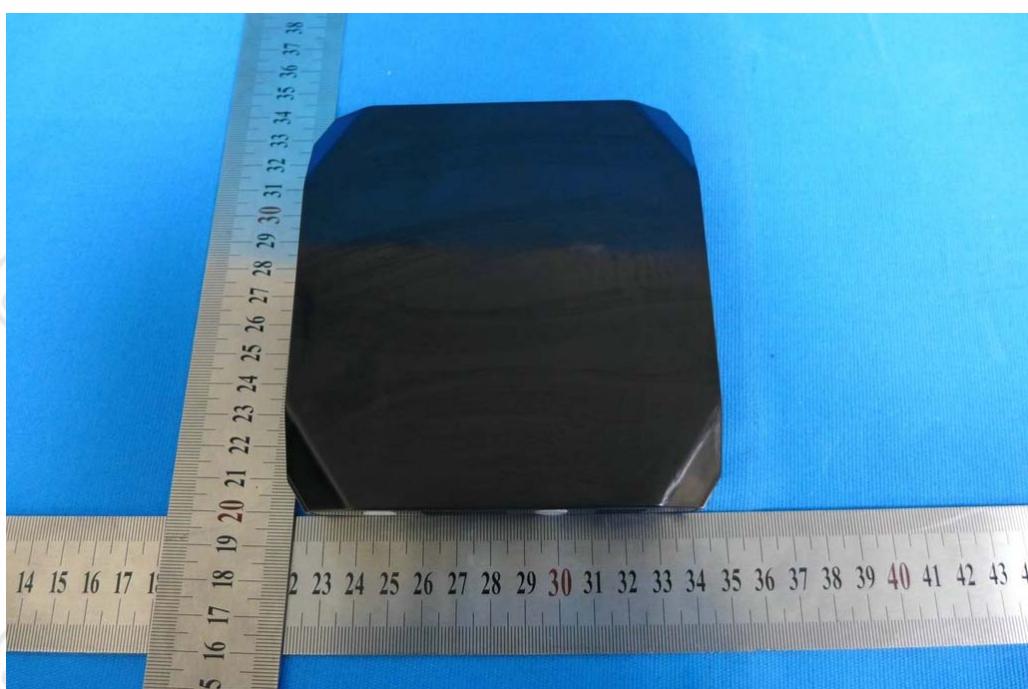
TEST SETUP OF CONDUCTED EMISSION

APPENDIX 2 PHOTOGRAPHS OF EUT

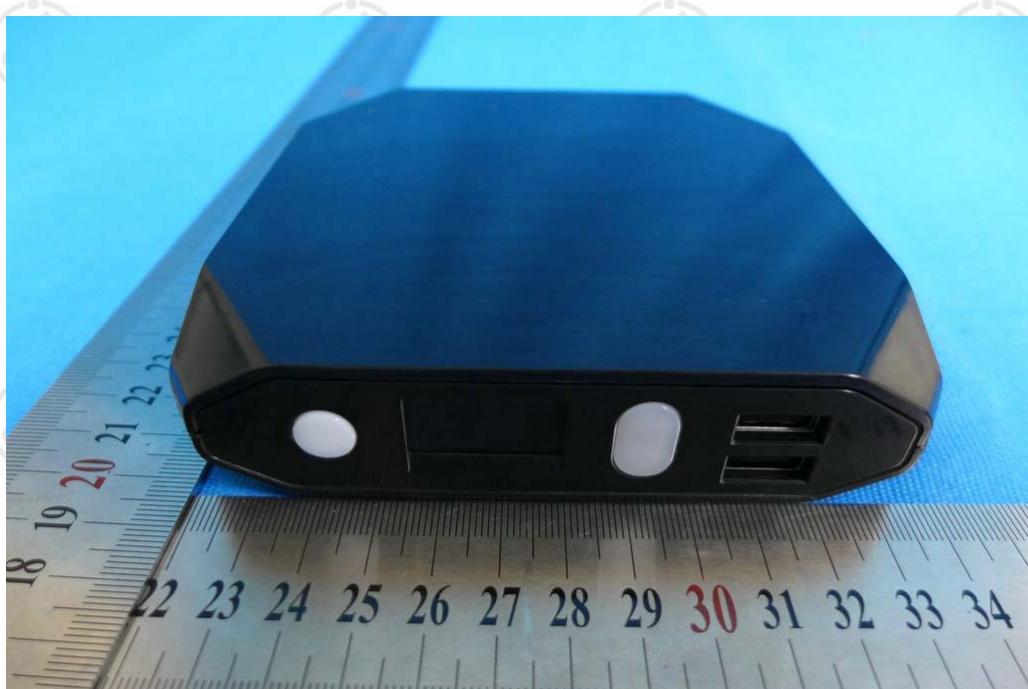
Test model No.: Omni20



View of Product-1



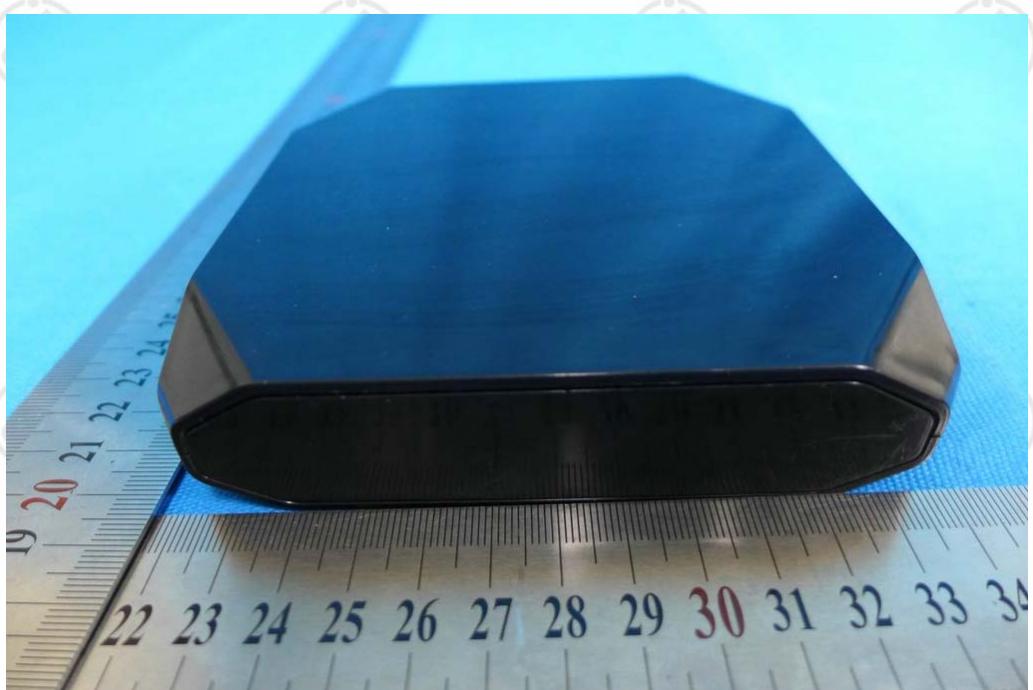
View of Product-2



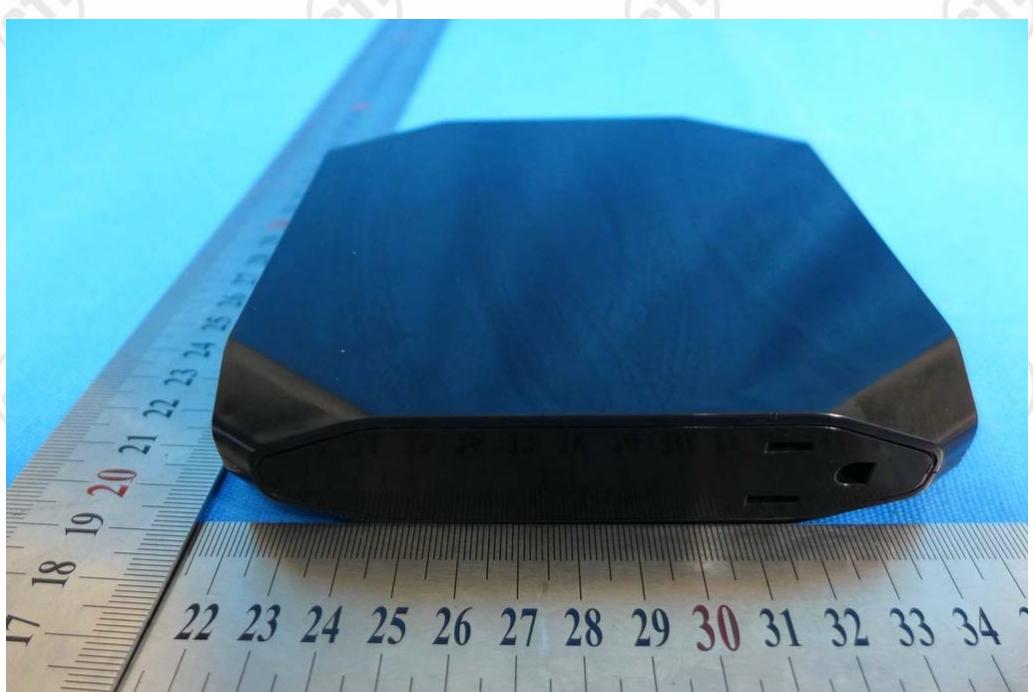
View of Product-3



View of Product-4



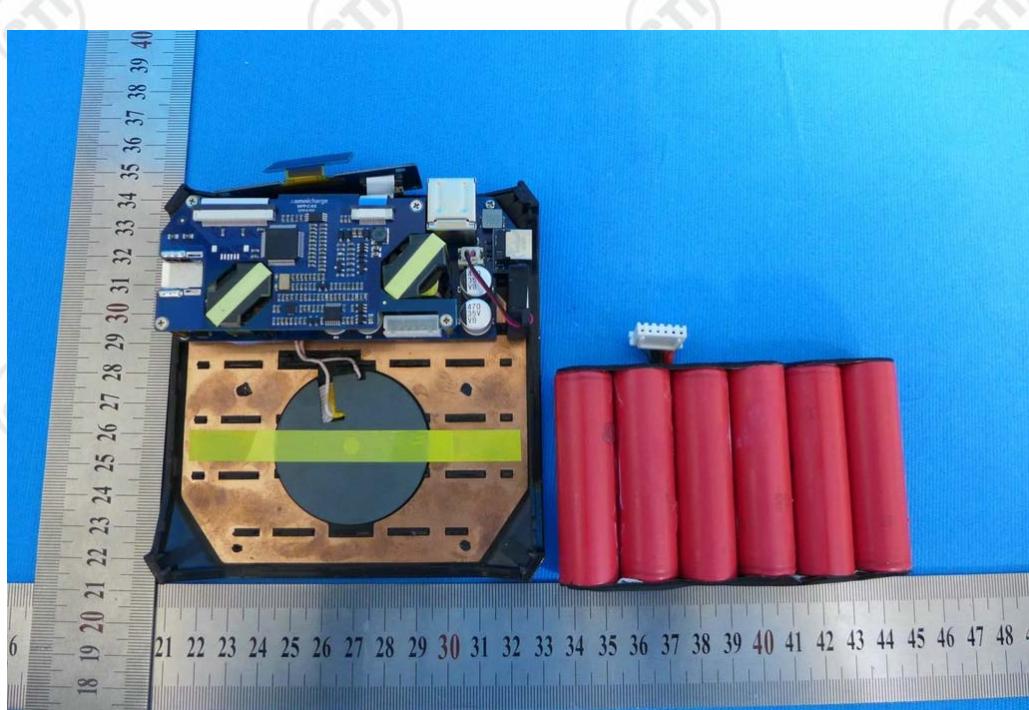
View of Product-5



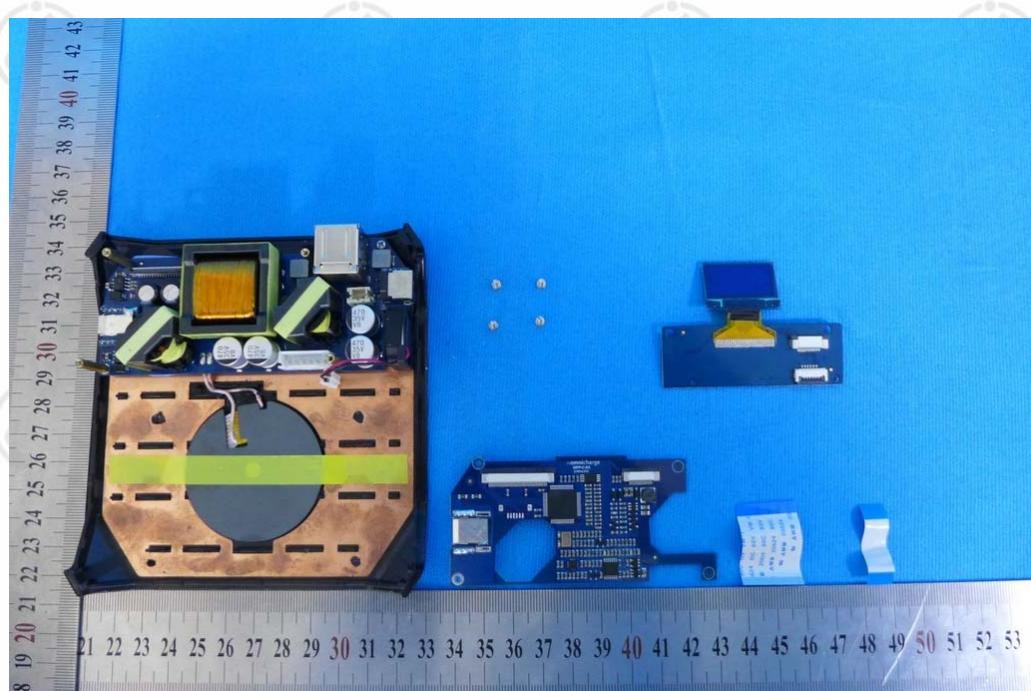
View of Product-6



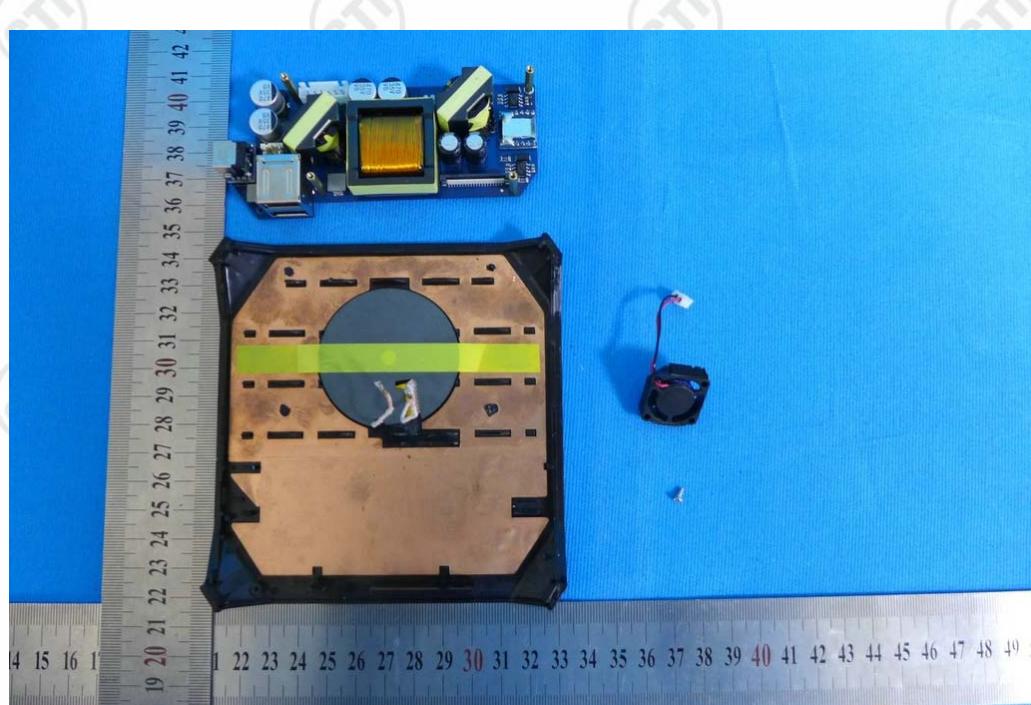
View of Product-7



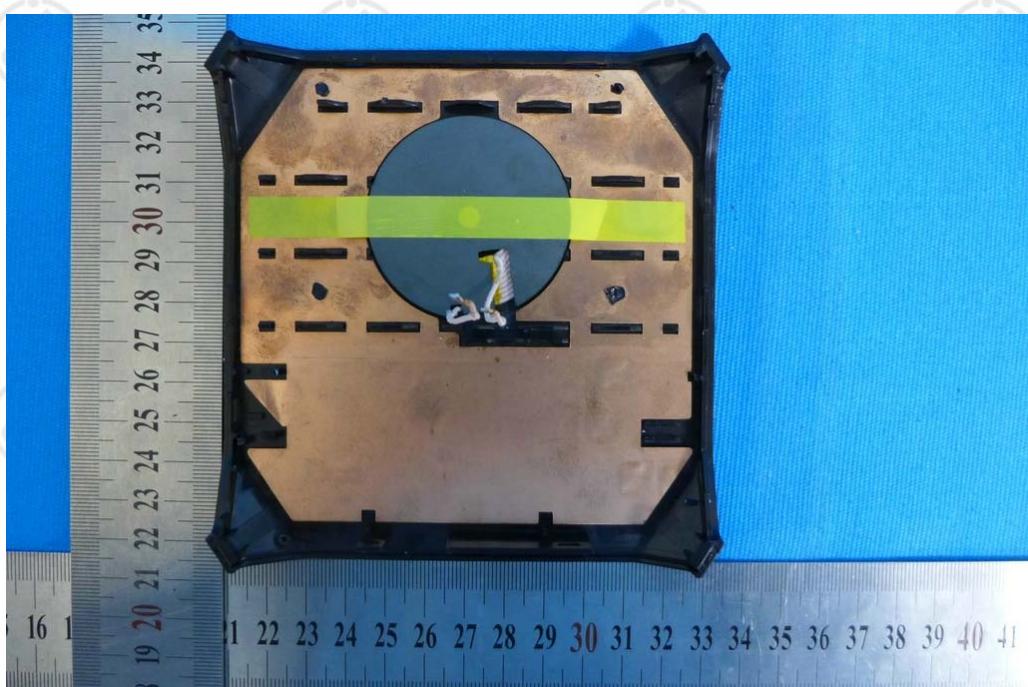
View of Product-8



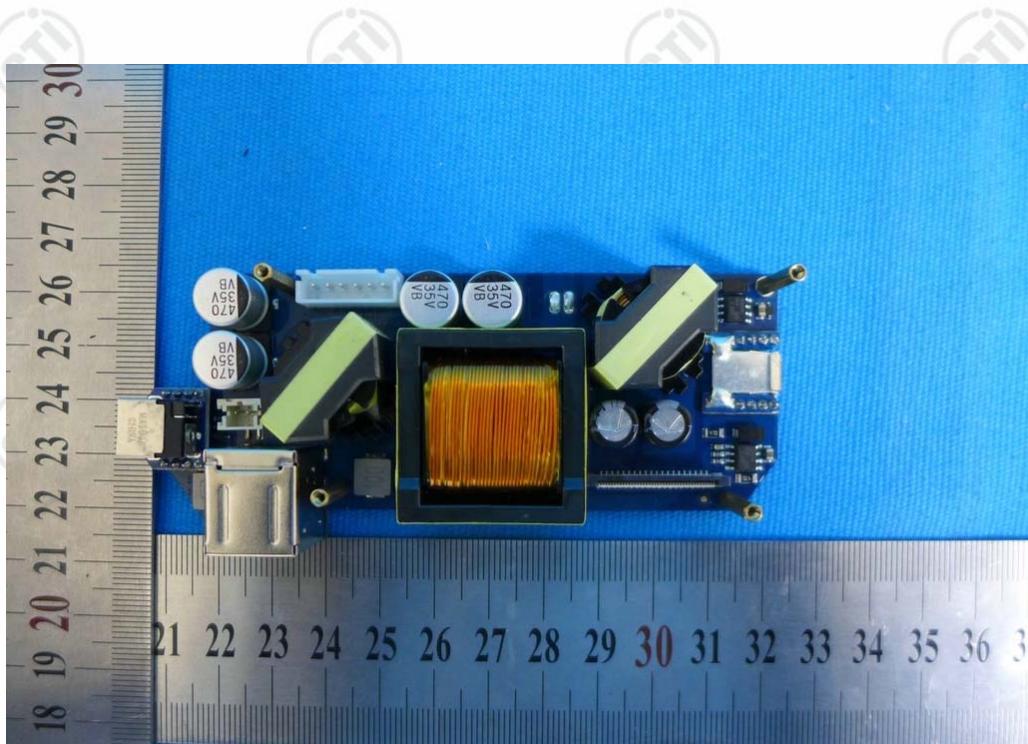
View of Product-9



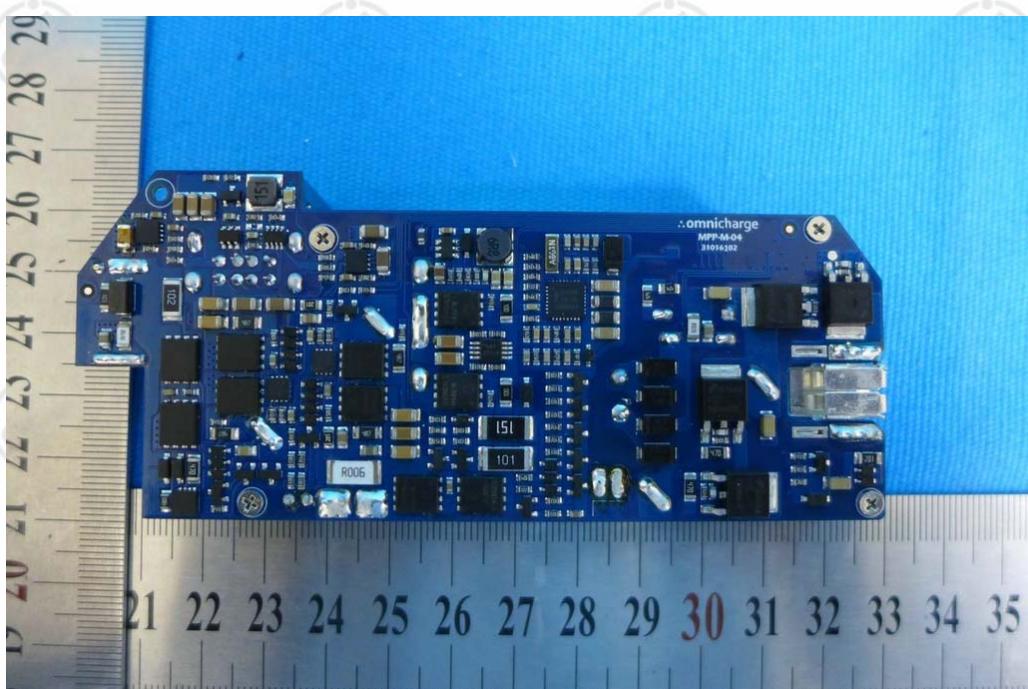
View of Product-10



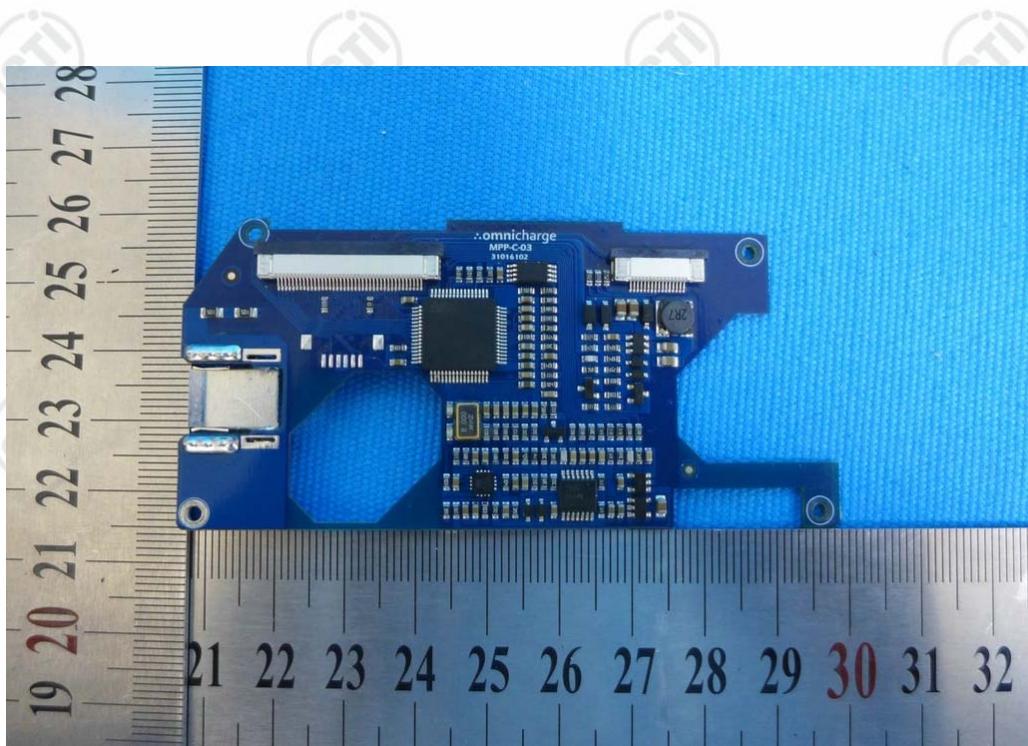
View of Product-11



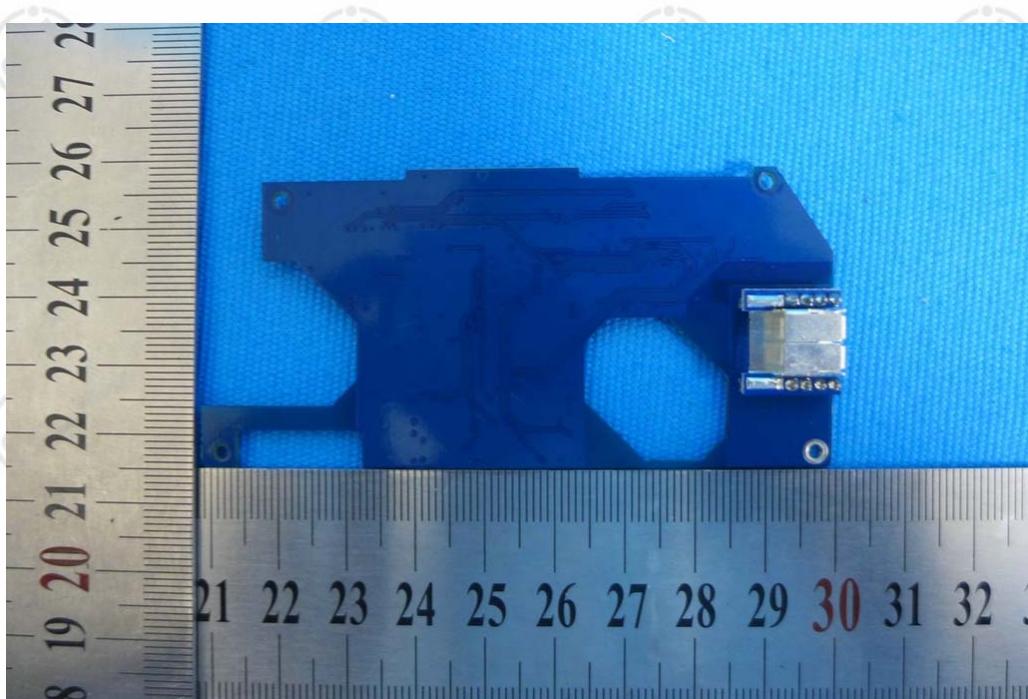
View of Product-12



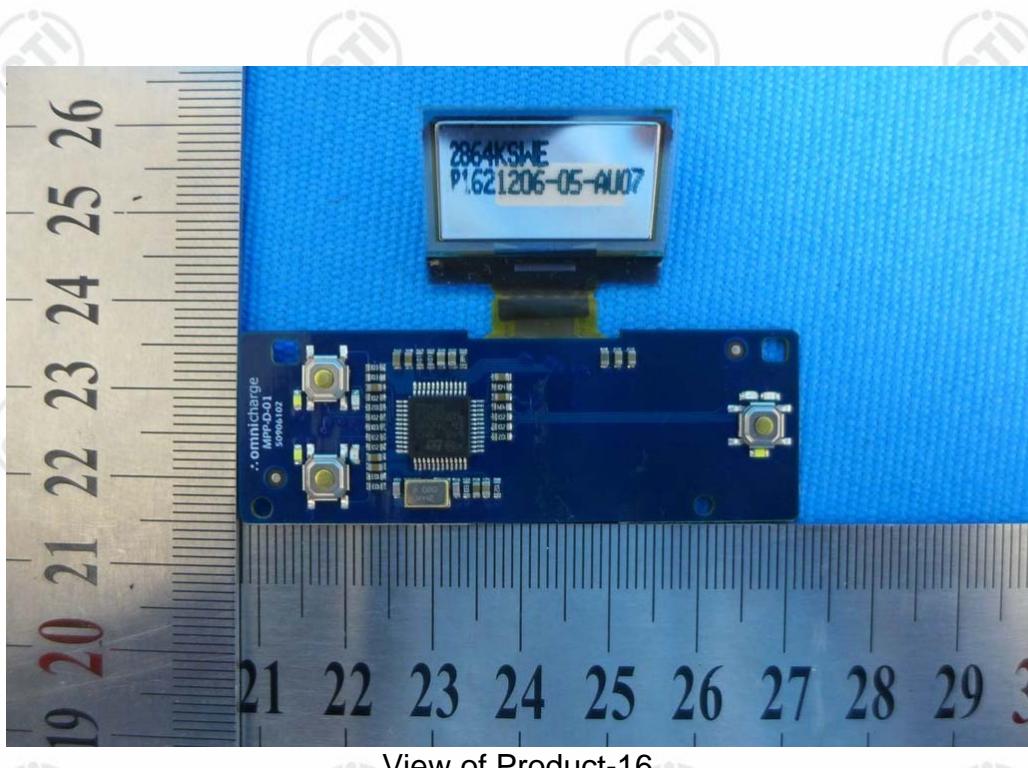
View of Product-13



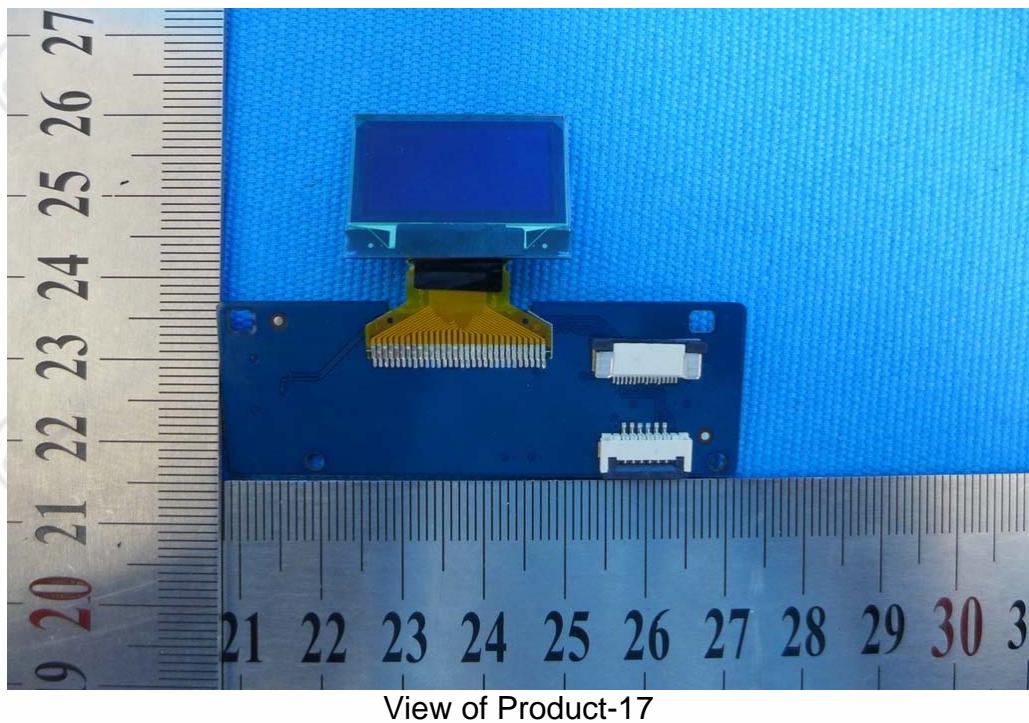
View of Product-14



View of Product-15



View of Product-16





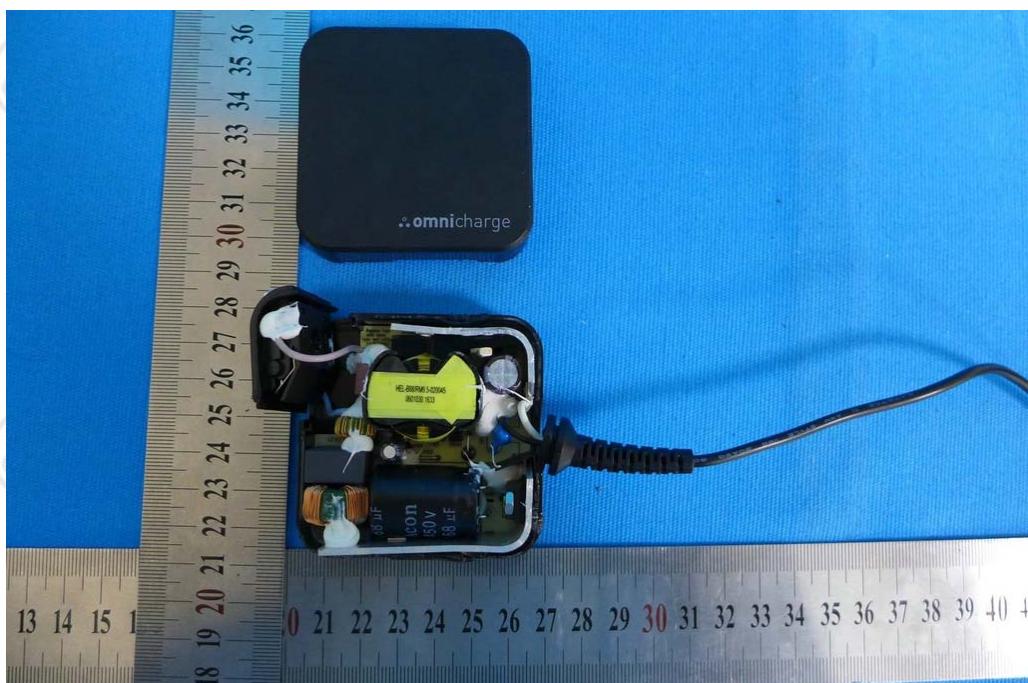
View of Product-19



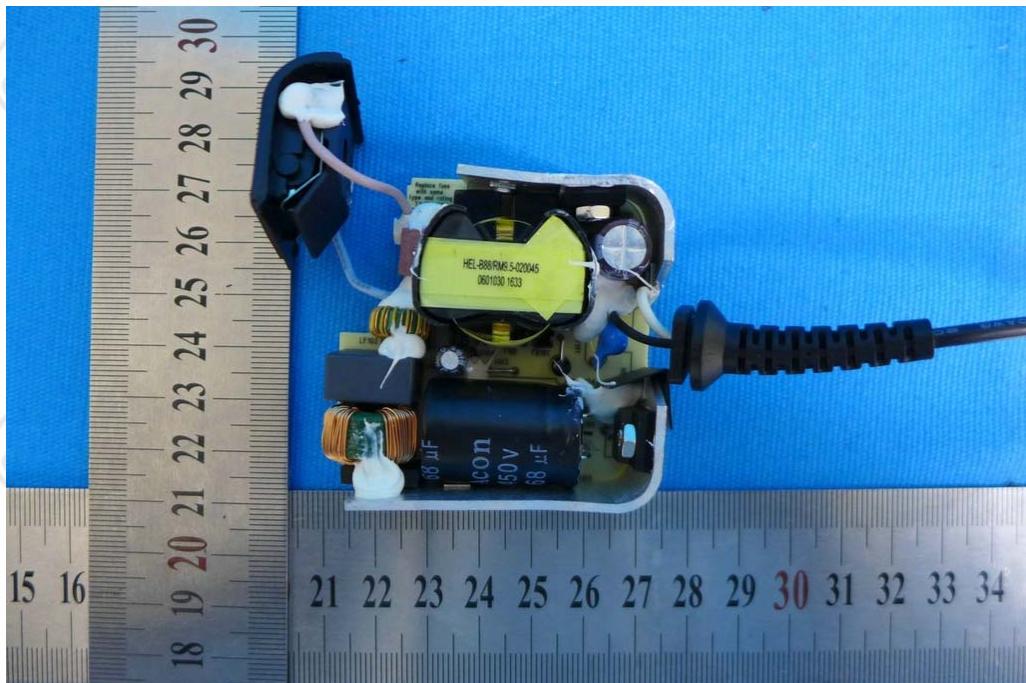
View of Product-20



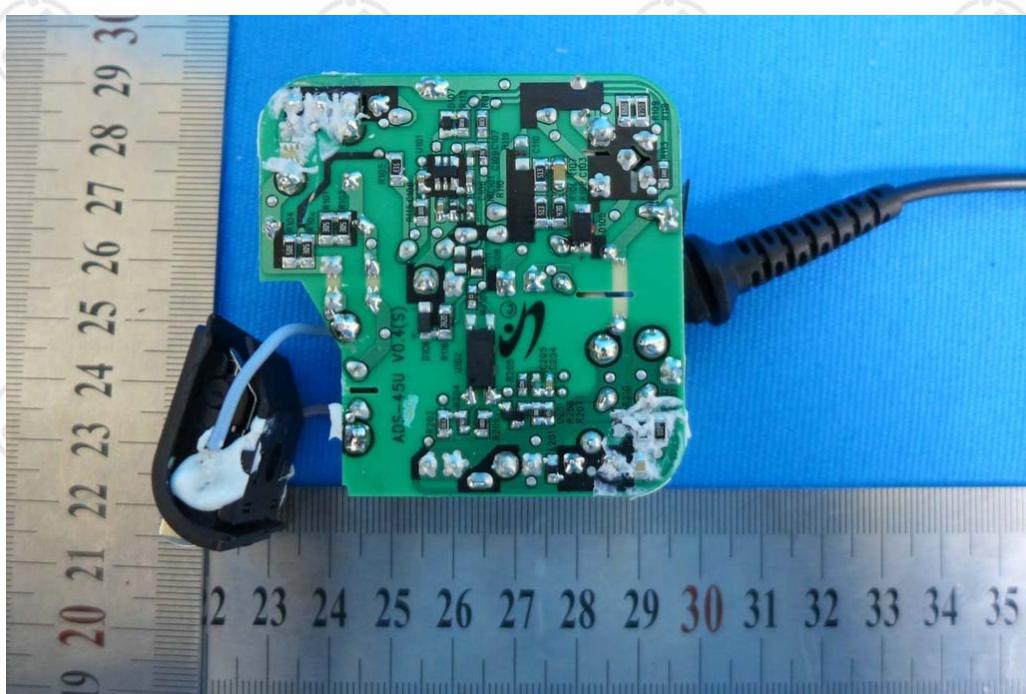
View of Product-21



View of Product-22



View of Product-23



View of Product-24

*** End of Report ***

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.