

FCC TEST REPORT

Reference No. : G-45-2013-02040

Applicant : BnCOM Co., Ltd.

Equipment Under Test (EUT) :

Product Name : ChargeDR Pro

Model Name : BCD-100

Applied Standards : FCC Part 15 Subpart B

ANSI C63.4 : 2009

CISPR 22 : 2008

Date of Receipt : July 04, 2013

Date of Test : July 26, 2013

Date of Issue : July 31, 2013

Test Results : Complied

Tested by :



Jinho Seo

Reviewed by :



Forest Lee

Remarks :

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1. General Information

1.1 Client Information

Applicant : BnCOM Co., Ltd.
Address of Applicant : Sumireu Bldg, 4fl., 974-5, Dangeong-dong, Gunpo-si, Gyeonggi-do, Rep. of Korea
Manufacturer : BnCOM Co., Ltd.
Address of Manufacturer : Sumireu Bldg, 4fl., 974-5, Dangeong-dong, Gunpo-si, Gyeonggi-do, Rep. of Korea

1.2 Test Laboratory

Name and Address : SGS Korea Co., Ltd. (Gunpo Laboratory)
18-34, Sanbon-dong, Gunpo, Gyeonggi-do, Korea
435-040
FCC Registration No. : 367021
IC Company No. : 4620F
Phone : + 82 31 428 5700
Fax : + 82 31 427 2370
e-mail : forest.lee@sgs.com

1.3 General Information of E.U.T.

Product Name	ChargeDR Pro
Model Name	BCD-100
Serial No.	-
EMI Classification	Class B
FCC ID	XX5BCD-100
Hardware Version	1.0
Software Version	-
Rated Voltage	Input : 120 V _{a.c.} , 60 Hz (From the notebook computer)
Test Voltage	120 V _{a.c.} , 60 Hz
Highest Internal Frequency	Max. 29.11 kHz

1.4 Operating Modes and Conditions

Operating mode	Operating condition
Mode 1 Charging Mode	Charging
Mode 2 USB Communication Mode	USB Data Communication

1.5 Auxiliary Equipments

Description	Model	Serial No.	Manufacturer
Local Area Network	-	-	-
USB Mouse	M-U48a	155161-008	Loditech
Notebook Computer	T410	R8-Y90A5 11/01	LENOVO
Mobile Phone	PG86200	HT16TV004287	HTC Corporation

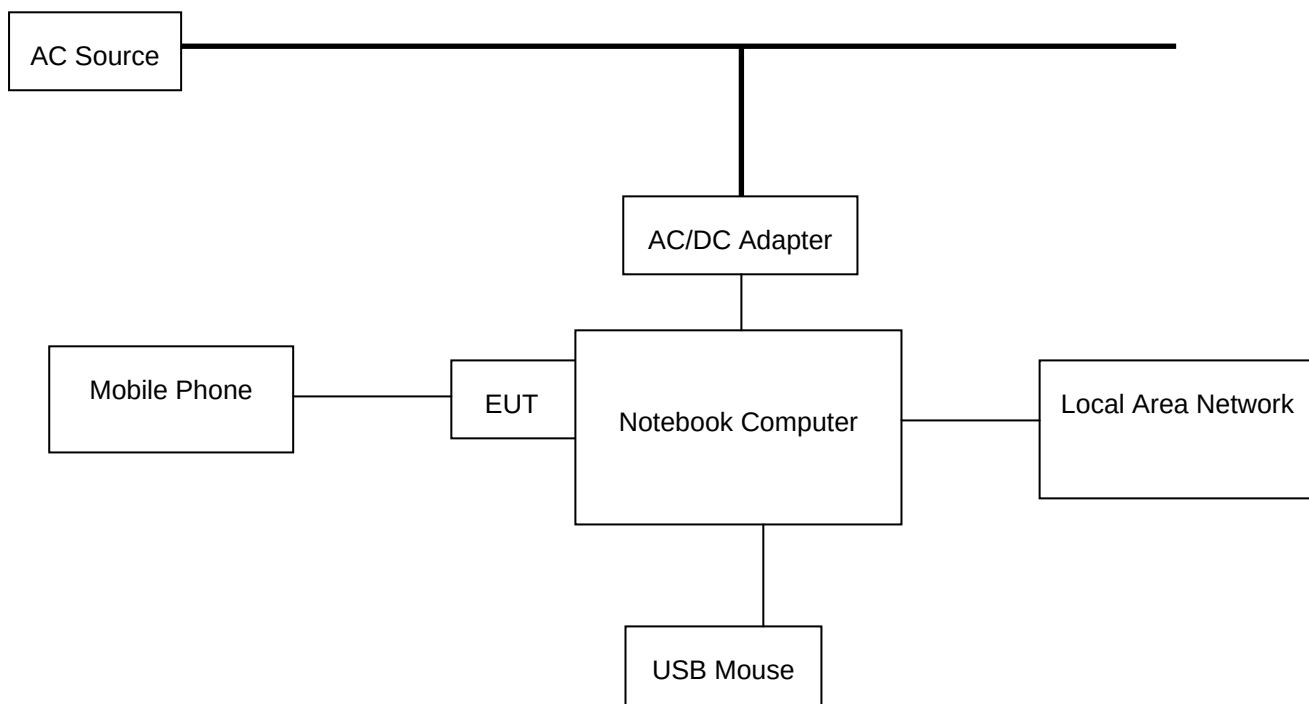
1.6 Cable List

Start		END		Cable Spec.	
Name	I/O Port	Name	I/O Port	Length	Shield
EUT	USB	Notebook Computer	USB	-	-
	USB	Mobile Phone	USB	1.0	Shield
Notebook Computer	DC IN	AC/DC Adapter	DC OUT	1.2	Unshield
	USB	USB Mouse	-	1.3	Shield
	LAN	Local Area Network	LAN	2.5	Unshield
AC/DC Adapter	AC IN	AC Source	-	1.0	Unshield

1.7 System Configurations

Description	Model	Serial No.	Manufacturer
Main Board	BCD-100_REV2.0	-	-

1.8 Test System Layout



1.9 Modifications

There was no modified item during the test.



1.10 Applicable Standards for Testing

Standards	Status	Deviation
FCC Part 15 Subpart B	Applicable	No Deviation

1.11 Summary of Test Results

Test Item	Basic Standards	Results
Conducted Emission	ANSI C63.4 : 2009	Complied
Radiated Emission	ANSI C63.4 : 2009	N/A

Note : Test methods of all test items are performed according to the basic standards in this table.

EMISSION

2.1 Test Results

Test Items	Basic Standards	Test Results
Conducted Emission	ANSI C63.4 : 2009	Complied
Radiated Emission	ANSI C63.4 : 2009	N/A

2.2 Test Method and Limits

2.2.1 Test Method

Test Items	Measuring Frequency Range	RBW	Measuring Distance
Conducted Emission	0.15 MHz ~ 30 MHz	9 kHz	N/A

2.2.2 Test Limits

-Conducted Emission Limits

Frequency Range	Limits(dB(μ V))		Class
	Quasi-peak	Average	
0.15 MHz ~ 0.5 MHz	79	66	Class A
0.5 MHz ~ 30 MHz	73	60	
0.15 MHz ~ 0.5 MHz	66 to 56	56 to 46	Class B
0.5 MHz ~ 5 MHz	56	46	
5 MHz ~ 30 MHz	60	50	

Note : The lower limit shall apply at the transition frequencies. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

2.3 Conducted Emission

The initial preliminary exploratory scans were performed over the measuring frequency range(0.15 MHz to 30 MHz) using a max hold mode incorporating a Peak detector and Average detector and using the software of ES-K1(Version V1.71 from R&S). The final test data was measured using a Quasi-Peak detector and Average detector.

2.3.1 Test Equipments

Description	Model No.	Manufacturer	S/N	Last Cal. Date
Two-Line V-Network	ENV216	R & S	100190	2013.01.04
Artificial Mains Networks	ESH2-Z5	R & S	100280	2013.04.04
Test Receiver	ESHS10	R & S	863365/018	2013.06.03

Note : The calibration period of every equipment is 1 year.

2.3.2 Test Site

Shield Room in Gunpo Laboratory

2.3.3 Environment Conditions

Temperature : 23.4 °C ~ 23.7 °C

Humidity : 46.1 %R.H. ~ 46.5 %R.H.

Atmospheric Pressure : 101.2 kPa

Test Date : July 26, 2013

- Charging Mode

Freq.	Line	Level (dBμV)		CL	LISN	Result (dBμV)		Limit (dBμV)		Margin (dB)	
(MHz)	(H/N)	Q/P	A/V	(dB)	(dB)	Q/P	A/V	Q/P	A/V	Q/P	A/V
0.16	H	38.00	31.80	0.03	9.57	47.60	41.40	65.46	55.46	17.86	14.06
0.17	N	39.90	33.50	0.03	9.65	49.58	43.18	65.21	55.21	15.63	12.03
0.25	N	39.60	32.80	0.03	9.65	49.28	42.48	61.76	51.76	12.48	9.28
0.33	N	34.00	28.00	0.03	9.65	43.68	37.68	59.45	49.45	15.77	11.77
0.50	N	39.20	25.90	0.04	9.65	48.89	35.59	56.00	46.00	7.11	10.41
0.51	H	32.60	20.00	0.04	9.57	42.21	29.61	56.00	46.00	13.79	16.39

- USB Communication Mode

Freq.	Line	Level (dBμV)		CL	LISN	Result (dBμV)		Limit (dBμV)		Margin (dB)	
(MHz)	(H/N)	Q/P	A/V	(dB)	(dB)	Q/P	A/V	Q/P	A/V	Q/P	A/V
0.18	N	43.20	36.30	0.03	9.65	52.88	45.98	64.49	54.49	11.61	8.51
0.19	H	38.80	31.60	0.03	9.57	48.40	41.20	64.26	54.26	15.86	13.06
0.25	N	39.60	32.50	0.03	9.65	49.28	42.18	61.92	51.92	12.64	9.74
0.28	N	34.60	27.50	0.03	9.57	44.20	37.10	60.97	50.97	16.77	13.87
0.50	N	33.10	21.40	0.04	9.57	42.71	31.01	56.08	46.08	13.37	15.07
0.51	H	38.80	25.50	0.04	9.65	48.49	35.19	56.00	46.00	7.51	10.81

Measurement Uncertainty : ± 2.69 dB (The confidential level is about 95%, K=2)

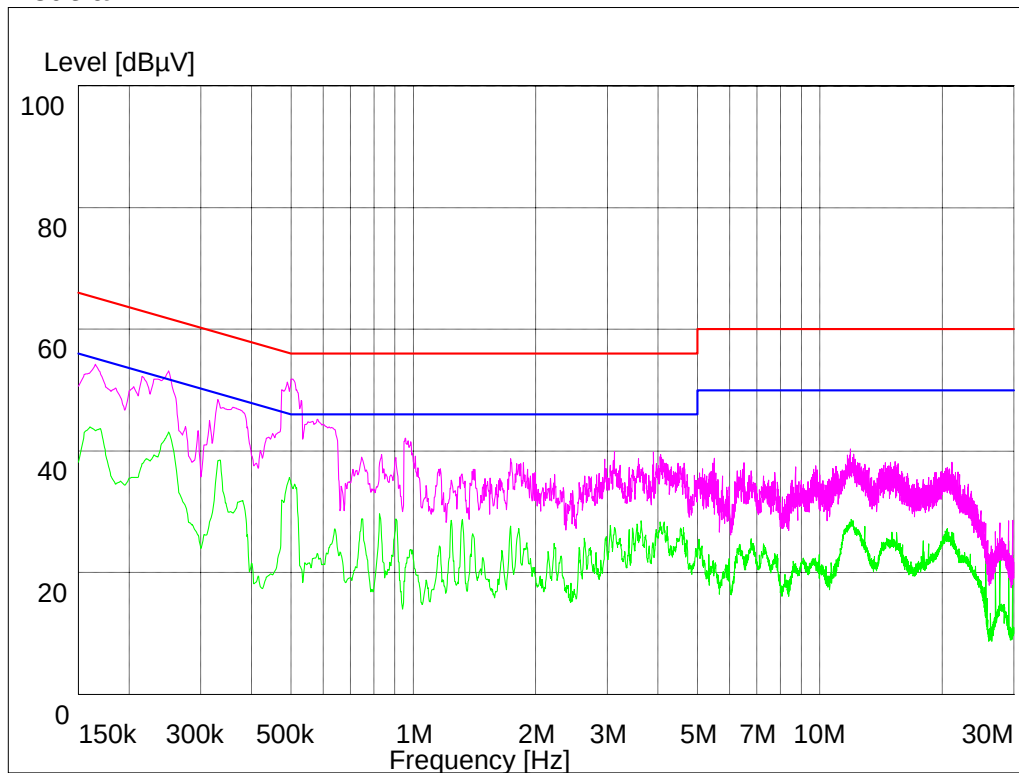
Note : • Line (H) : Hot • Line (N) : Neutral
• CL: Cable Loss • LISN : LISN Factor
• Result = Level + CL + LISN • Margin = Limit – Result

See Appendix A (Conducted Emission)

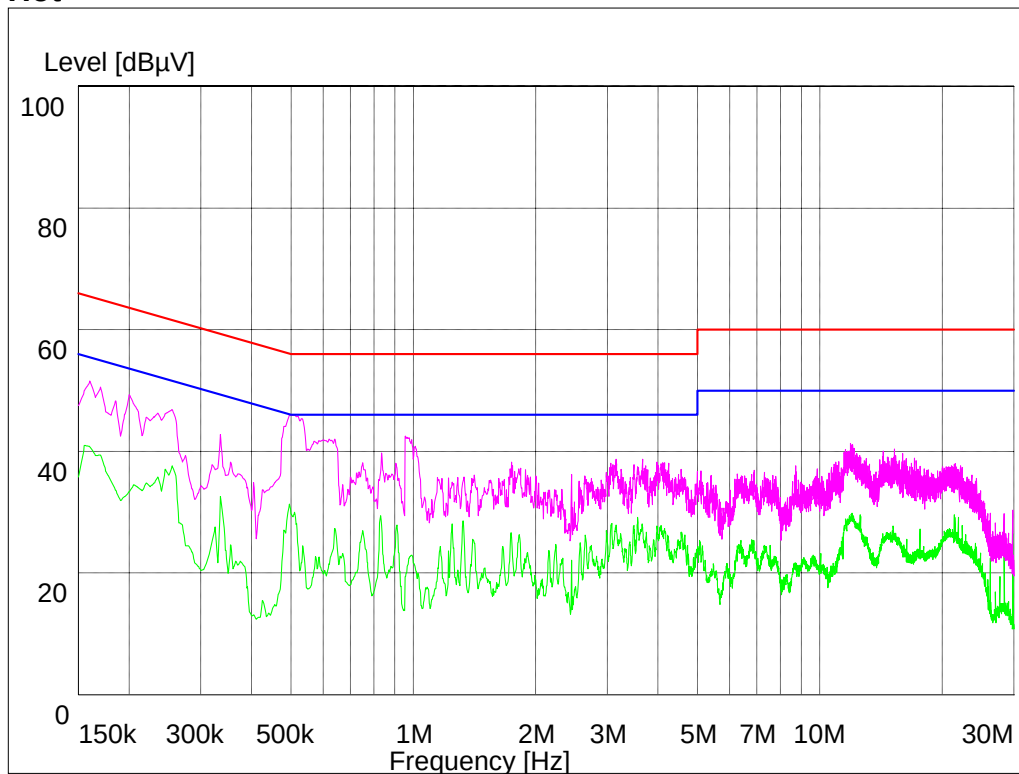
Appendix A : Conducted Emission at Mains Port

- Charging Mode

Neutral

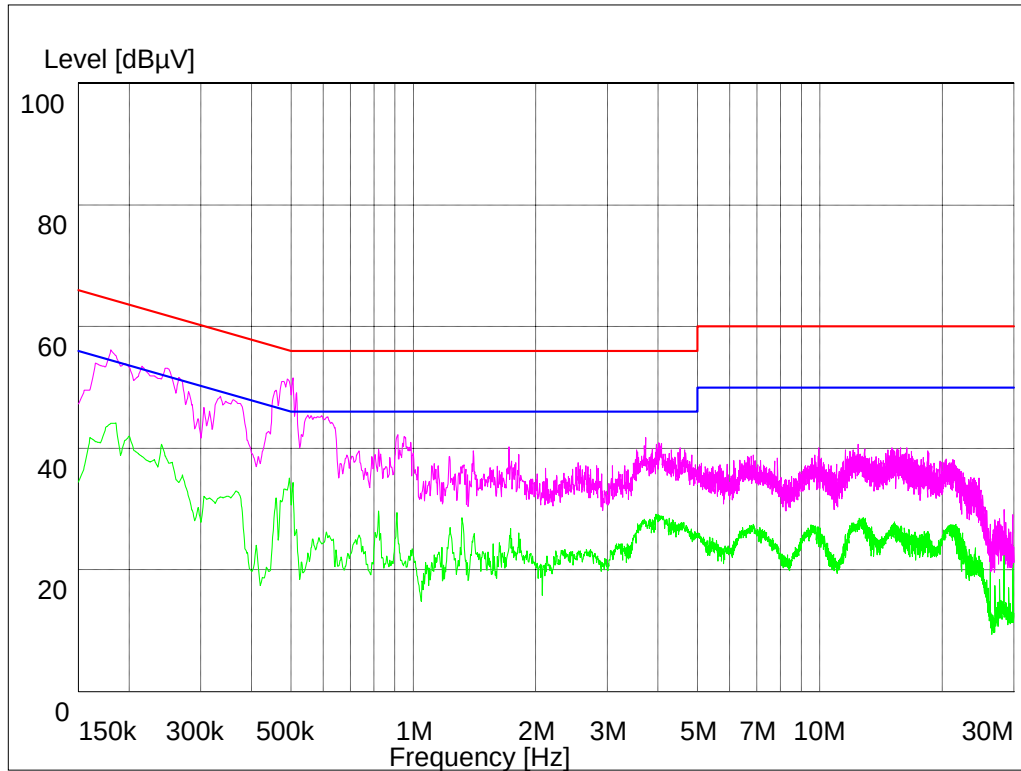


Hot



- USB Communication Mode

Neutral



Hot

