

TEST REPORT



DT&C Co., Ltd.

42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No. : DREFCC1909-0251(1)
2. Client / Applicant
 - Name : LG Electronics USA, Inc.
 - Address : 1000 Sylvan Avenue, Englewood Cliffs NJ 07632 United States
3. Use of Report : Grant of Certification
4. Product Name / Model Name / FCC ID : Mobile Phone / LM-G850EMW / ZNFG850EMW
5. Test Standard : ANSI C63.4:2014
FCC Part 15 Subpart B
(Class B personal computers and peripherals)
6. Date of Test : Aug. 29. 2019 ~ Oct. 01. 2019
7. Testing Environment : Temperature (21 ~ 23) °C , Humidity (51 ~ 53) % R.H.
8. Test Result : Refer to the attached Test Result

Affirmation	Tested by	Reviewed by
	Name : ChanGeun Lee (Signature)	Name : HyungJun Kim (Signature)

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DT&C Co., Ltd.

Oct. 01. 2019

DT&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

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1. General Remarks

This report contains the result of tests performed by :

DT&C Co., Ltd.

42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042

<http://www.dtnet.net>

Tel: +82-31-321-2664 Fax: +82-31-321-1664

2. Test Laboratory

DT&C Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

Certificate	Nation	Agency	Code	Remark
Accreditation	Korea	KOLAS	393	ISO/IEC 17025
	South Africa	SABS	0006	ISO/IEC 17025
	Ghana	NCA	NCA agreement 23rd,Oct,2018	-
Site Filing	USA	FCC	KR0034 101842 678747, 596748, 804488, 165783	Accredited 2.948 Listed
	Canada	IC	5740A-3 5740A-4	Registered
	Japan	VCCI	C-1427 R-3385, R-4076, R-4180, R-4496, T-1442, G-10338, G-754, G-10815, G-20051	Registered
Certification	Korea	KC	KR0034	Designation
	Germany	TUV	CARAT 089112 0006 Rev.00	ISO/IEC 17025
	Russia	RMRS	17.10189.296	ISO/IEC 17025

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competent of calibration and testing laboratory”.

3. General Information of EUT

Applicant	LG Electronics USA, Inc. 1000 Sylvan Avenue, Englewood Cliffs NJ 07632 United States																									
Manufacturer	LG Electronics Inc. Twin Tower 128 Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea 07336																									
Factory	LG Electronics Inc. Twin Tower 128 Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea 07336																									
Product Name	Mobile Phone																									
Model Name	LM-G850EMW																									
Add Model Name	LMG850EMW, G850EMW, LM-G850EM, LMG850EM, G850EM, LM-G850EMWX, LMG850EMWX, G850EMWX, LM-G850EMX, LMG850EMX, G850EMX																									
Add Model Difference	Note 1)																									
Maximum Internal Frequency	48 MHz																									
Software Version	TBD																									
Hardware Version	Rev.1.0																									
FCC ID	ZNFG850EMW																									
RF Module Name	None																									
Rated Power	DC 4 V																									
Remarks	1. Earphone <table border="1"> <thead> <tr> <th>Model</th><th>P/N</th><th>Manufacturer</th></tr> </thead> <tbody> <tr> <td>GHSS304</td><td>EAB63728252</td><td>BUJEON</td></tr> </tbody> </table> 2. USB Cable <table border="1"> <thead> <tr> <th>Model</th><th>P/N</th><th>Manufacturer</th></tr> </thead> <tbody> <tr> <td>LG0174</td><td>EAD64746101</td><td>ningbo</td></tr> </tbody> </table> 3. Dual Screen cover <table border="1"> <thead> <tr> <th>Model</th><th>P/N</th><th>Manufacturer</th></tr> </thead> <tbody> <tr> <td>Dual Screen</td><td>LMV515N</td><td>LG Electronics</td></tr> </tbody> </table> 4. USB Cable <table border="1"> <thead> <tr> <th>Model</th><th>P/N</th><th>Manufacturer</th></tr> </thead> <tbody> <tr> <td>Gender Accessory</td><td>L1LAD006-CS-H</td><td>Luxshare Precision Limited</td></tr> </tbody> </table>		Model	P/N	Manufacturer	GHSS304	EAB63728252	BUJEON	Model	P/N	Manufacturer	LG0174	EAD64746101	ningbo	Model	P/N	Manufacturer	Dual Screen	LMV515N	LG Electronics	Model	P/N	Manufacturer	Gender Accessory	L1LAD006-CS-H	Luxshare Precision Limited
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Related Submittal(s) / Grant(s)
Original submittal only

Note 1) Add Model Difference

Model	CA	LTE	3G	GSM	WiFi	Phablet	SIM	NFC	DBS	WPC	FM	5G
LM-G850EMW (*Test model)	O	1,2,3,4, 5,7,8,12, 17,20,28,32, 38,39,40,41	1,2,4,5,8	Quad	a/b/g/n/ac MIMO	O	D	O	O	O	X	X
LMG850EMW												
G850EMW												
LM-G850EMWX	O	1,2,3,4, 5,7,8,12, 17,20,28,32, 38,39,40,41	1,2,4,5,8	Quad	a/b/g/n/ac MIMO	O	D	O	O	O	X	X
LMG850EMWX												
G850EMWX												
LM-G850EM	O	1,2,3,4, 5,7,8,12, 17,20,28,32, 38,39,40,41	1,2,4,5,8	Quad	a/b/g/n/ac MIMO	O	S	O	O	O	X	X
LMG850EM												
G850EM												
LM-G850EMX	O	1,2,3,4, 5,7,8,12, 17,20,28,32, 38,39,40,41	1,2,4,5,8	Quad	a/b/g/n/ac MIMO	O	S	O	O	O	X	X
LMG850EMX												
G850EMX												

4. EUT Operations and Test Configurations

4.1 Principle of Configuration Selection

Emission :

The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use. For each testing mode different configurations were used, Refer to the individual tests.

4.2 EUT Operation Mode

No.	Mode	Description
1	PC Link	The EUT is reading, writing, and erasing internal storage. Transmitting screen to Dual Screen Cover
2	Wireless Charging	The EUT test monitors the continuous state of charging by receiving wireless power from the wireless charger.

4.3 Test Configuration Mode

No.	Mode	Description
1	PC Link	EUT is connected with Dual Screen Cover EUT is Continuous operation by connecting to PC with Dual Screen Cover Charging Gender and USB cable
2	Wireless Charging	EUT is connected with Dual Screen Cover The EUT is placed on the wireless charger pad Connected Earphones

4.4 Supported Equipment

Used*	Product Type	Manufacturer	Model	Remarks
AE	LCD Monitor	DELL	UP2414Qt	CN-OJJRX2-74261-67B-4P4U-A00
AE	PC	DELL	GX620 DCNE	N/A
AE	Mouse	LG	MS26	78B00309
AE	SSD 3.0	SAMSUNG	MU-PT250B	S2WKNAAH32059X
AE	Printer	Bixelon	SRP-770	N/A
AE	Keyboard	LG	KBW211	7AD02348
AE	Headset	SAMSUNG	SHS-150V/M	N/A
AE	Dual Screen Cover	LG	Dual Screen	N/A
AE	WIRELESS CHARGER	LG Innotek	PWMA-W815A	N/A
AE	WIRELESS CHARGER Adapter	LG Innotek	S024AMV1200200	N/A
*Abbreviations: AE - Auxiliary/Associated Equipment, or SIM - Simulator				

4.5 EUT In/Output Port

(MODE 1)

Name	Type*	Cable Max. >3m	Cable Shielded	Cable Back shell	Remarks
USB	I/O	1.7	Shield	Plastic	Keyboard
USB	I/O	1.7	Shield	Plastic	Mouse
Power In	AC	1.8	Non Shield	Plastic	LCD Monitor
D-Sub Out	I/O	1.8	Shield	Plastic	LCD Monitor
Power In	AC	1.8	Non Shield	Plastic	PC
D-SUB In Parallel In Serial In Stereo/Mic USB USB USB USB	I/O	1.8 2.0 1.9 2.5 1.7 1.7 1.5 1.1	Shield Shield Shield Non Shield Shield Shield Shield Shield	Plastic	PC
USB	I/O	1.5	Shield	Plastic	SSD 3.0
Parallel Out SerialL Out	I/O	2.0 1.9	Shield	Plastic	Printer
Stereo/Mic	I/O	2.0	Non Shield	Plastic	Headset
Stereo	I/O	1.8	Non Shield	Plastic	EUT
Dual Screen Signal Pin	I/O	-	-	-	EUT
Dual Screen Signal Pin	I/O	-	-	-	Daul Screen Charging Gender
Daul Screen Charging Gender(USB)	I/O	1.1	Non shield	Plastic	PC
*Abbreviations: AC = AC Power Port DC = DC Power Port N/E = Non-Electrical I/O = Signal Input or Output Port TP = Telecommunication Ports					

(MODE 2)

Name	Type*	Cable Max. >3m	Cable Shielded	Cable Back shell	Remarks
Stereo	I/O	1.8	Non Shield	Plastic	EUT
Dual Screen Signal Pin	I/O	-	-	-	EUT
Power in	DC	1.5	Non shield	Plastic	Wireless Charger
Power in	AC	-	-	-	Wireless Charger Adapter
*Abbreviations: AC = AC Power Port DC = DC Power Port N/E = Non-Electrical I/O = Signal Input or Output Port TP = Telecommunication Ports					

4.6 Test Voltage and Frequency

Case	Voltage (V)	Frequency (DC/AC-Hz)	Phases	Remarks
1	AC 120	60	Single	None

5. Test Summary

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4 : 2014	C
Radiated Disturbance	ANSI C63.4 : 2014	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

-Conducted Disturbance

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
0.86991	N	42.68	CAV	46.00	3.32

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]
165.918	H	39.78	QP	43.50	3.72

6. Test Environment

Test Items	Test date (YYYY-MM-DD)	Temp. (°C)	Humidity (% R.H.)	Pressure (kPa)
Conducted Disturbance	2019-08-29	22	53	-
	2019-10-01	23	51	
Radiated Disturbance	2019-08-29	23	51	
	2019-08-29	21	51	
	2019-09-30	22	51	

7. Test Results : Emission

7.1 Conducted Disturbance

ANSI C63.4	Mains terminal disturbance voltage		Result
<u>Method:</u> The AMN placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0,8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. The measuring port of the LISN for EUT was connected to spectrum analyzer. Using conducted emission test software, the emissions were scanned with peak detector mode. After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and CISPR Average detector. For (0.15 ~ 30) MHz frequency range, Quasi-Peak detector with 10 kHz RBW and 30 kHz VBW was used. By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission.			Comply
Fully configured sample scanned over the following frequency range	Frequency range on each side of line	Measurement Point	
	150 kHz to 30 MHz	Mains	
EUT mode (Refer to clauses 4)	Test configuration mode	1, 2	
	EUT Operation mode	1, 2	
Limits – Class A			
Frequency (MHz)	Limit dBµV		
	Quasi-Peak	Average	
0.15 to 0.50	79	66	
0.50 to 30	73	60	
Limits – Class B			
Frequency (MHz)	Limit dBµV		
	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	

Measurement Instrument					
Description	Model	Manufacturer	Identifier	Cal. Date	Cal. Due
MEASUREMENT SOFTWARE	EMI-C VER. 2.00.0171	TSJ	N/A	N/A	N/A
EMI TEST RECEIVER	ESU	ROHDE&SCHWARZ	100538	2019.01.23	2020.01.23
TWO-LINE V-NETWORK	ENV216	ROHDE&SCHWARZ	101979	2018.12.06	2019.12.06
LISN	LISN1600	TTI	197204	2019.06.04	2020.06.04
TRANSIENT LIMITER	TL-B0930A	EMCIS	11002	2019.08.30	2020.08.30
50 OHM TERMINATOR	CT-01	TME	N/A	2018.12.19	2019.12.19

Mains terminal disturbance voltage _Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	AC 120	Test Frequency (Hz)	60

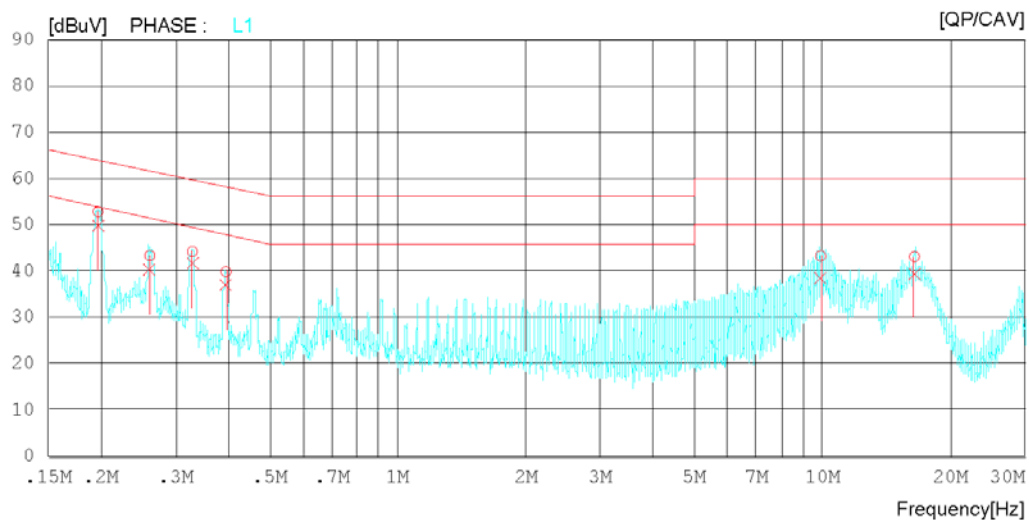
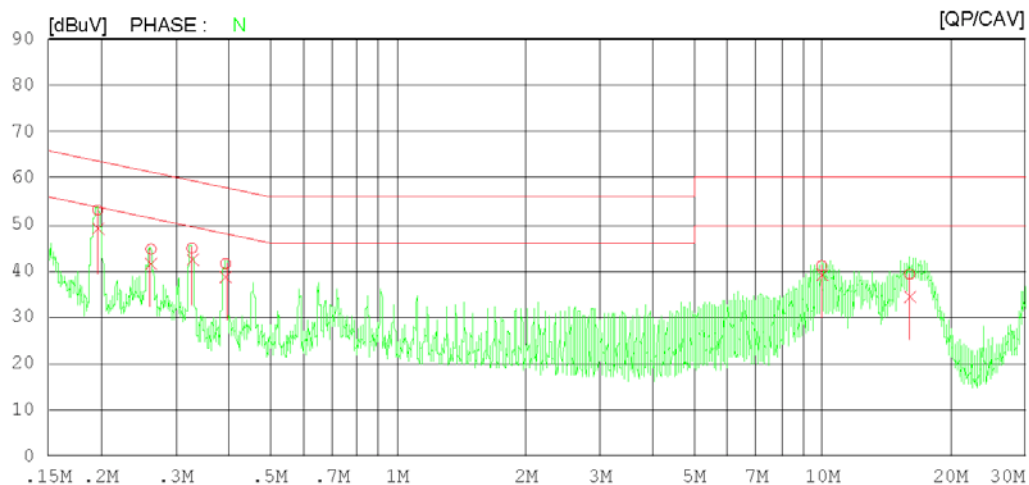
Results of Conducted Emission

DT&C
Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi/Atm 22 'C 53 % R.H. 99.3 kPa
Test Condition PC Link

Memo

LIMIT : CISPR32_B QP
CISPR32_B AV



Results of Conducted Emission

DT&C
Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi/Atm 22 'C 53 % R.H. 99.3 kPa
Test Condition PC Link

Memo

LIMIT : CISPR32_B QP
CISPR32_B AV

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	CAV [dBuV]		QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]	
1	0.19655	33.10	28.93	20.03	53.13	48.96	63.76	53.76	10.63	4.80	N
2	0.26211	24.91	21.81	19.79	44.70	41.60	61.36	51.36	16.66	9.76	N
3	0.32760	24.99	22.41	19.89	44.88	42.30	59.51	49.51	14.63	7.21	N
4	0.39333	21.55	18.72	20.02	41.57	38.74	57.99	47.99	16.42	9.25	N
5	9.97246	20.45	18.62	20.65	41.10	39.27	60.00	50.00	18.90	10.73	N
6	16.06680	18.21	13.60	21.04	39.25	34.64	60.00	50.00	20.75	15.36	N
7	0.19676	32.77	29.62	20.03	52.80	49.65	63.75	53.75	10.95	4.10	L1
8	0.26050	23.56	20.45	19.79	43.35	40.24	61.42	51.42	18.07	11.18	L1
9	0.32809	24.34	21.75	19.89	44.23	41.64	59.50	49.50	15.27	7.86	L1
10	0.39387	19.85	16.87	20.02	39.87	36.89	57.98	47.98	18.11	11.09	L1
11	9.92104	22.63	17.88	20.64	43.27	38.52	60.00	50.00	16.73	11.48	L1
12	16.50160	22.05	18.38	21.03	43.08	39.41	60.00	50.00	16.92	10.59	L1

Mains terminal disturbance voltage _Measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	AC 120	Test Frequency (Hz)	60

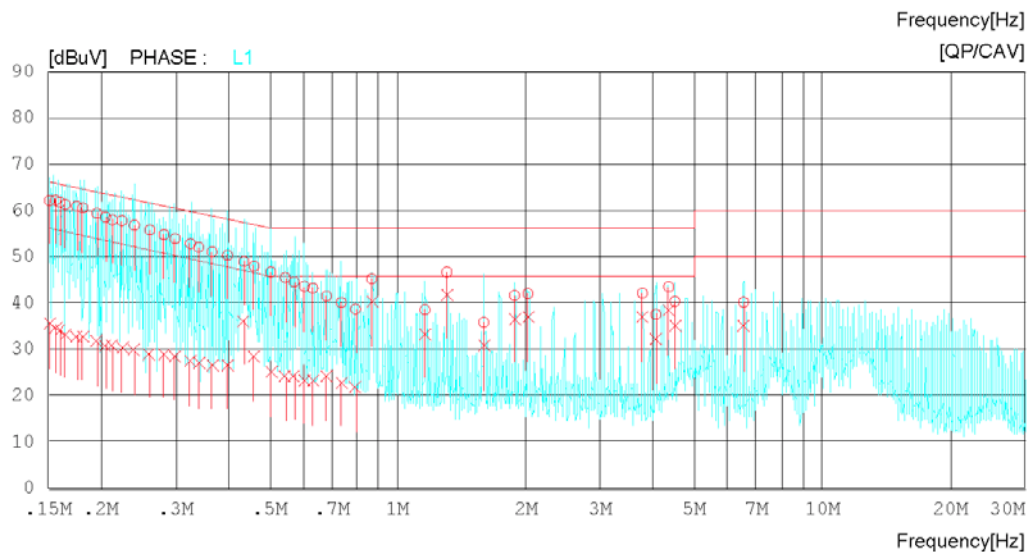
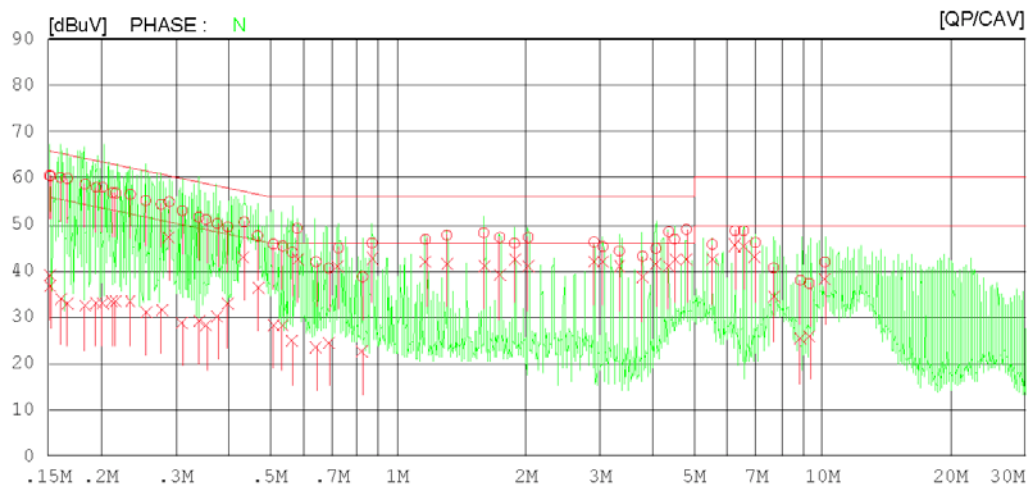
Results of Conducted Emission

DT&C

Date 2019-10-01

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi/Atm 23 'C 51 %.R.H. 100.5 kPa
Test Condition Wireless Charging

LIMIT : CISPR32_B QP
CISPR32_B AV



Results of Conducted Emission

DT&C

Date 2019-10-01

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi/Atm 23 'C 51 % R.H. 100.5 kPa
Test Condition Wireless Charging

LIMIT : CISPR32_B QP
CISPR32_B AV

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	CAV [dBuV]		QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]	
1	0.15119	40.64	19.00	19.91	60.55	38.91	65.93	55.93	5.38	17.02	N
2	0.15229	40.58	16.97	19.91	60.49	36.88	65.87	55.87	5.38	18.99	N
3	0.16048	40.17	13.78	19.95	60.12	33.73	65.44	55.44	5.32	21.71	N
4	0.16666	40.00	13.11	19.98	59.98	33.09	65.13	55.13	5.15	22.04	N
5	0.18355	38.70	12.39	20.00	58.70	32.39	64.32	54.32	5.62	21.93	N
6	0.19468	38.00	13.05	20.00	58.00	33.05	63.83	53.83	5.83	20.78	N
7	0.20163	38.02	13.02	19.99	58.01	33.01	63.54	53.54	5.53	20.53	N
8	0.21266	36.94	13.35	19.94	56.88	33.29	63.10	53.10	6.22	19.81	N
9	0.21672	36.86	13.47	19.91	56.77	33.38	62.94	52.94	6.17	19.56	N
10	0.23438	36.67	13.50	19.83	56.50	33.33	62.29	52.29	5.79	18.96	N
11	0.25477	35.44	11.48	19.76	55.20	31.24	61.60	51.60	6.40	20.36	N
12	0.27709	34.57	11.91	19.77	54.34	31.68	60.90	50.90	6.56	19.22	N
13	0.28917	35.12	27.41	19.79	54.91	47.20	60.55	50.55	5.64	3.35	N
14	0.31054	33.14	8.92	19.82	52.96	28.74	59.96	49.96	7.00	21.22	N
15	0.34014	31.76	9.43	19.88	51.64	29.31	59.20	49.20	7.56	19.89	N
16	0.35321	31.20	8.18	19.91	51.11	28.09	58.89	48.89	7.78	20.80	N
17	0.37522	30.25	10.35	19.95	50.20	30.30	58.38	48.38	8.18	18.08	N
18	0.39747	29.49	12.83	19.99	49.48	32.82	57.91	47.91	8.43	15.09	N
19	0.43476	30.52	23.14	20.00	50.52	43.14	57.16	47.16	6.64	4.02	N
20	0.46751	27.56	16.50	20.00	47.56	36.50	56.56	46.56	9.00	10.06	N
21	0.50966	25.73	8.40	20.00	45.73	28.40	56.00	46.00	10.27	17.60	N
22	0.53516	25.34	8.11	20.02	45.36	28.13	56.00	46.00	10.64	17.87	N
23	0.56400	23.95	4.86	20.03	43.98	24.89	56.00	46.00	12.02	21.11	N
24	0.57991	29.20	22.45	20.04	49.24	42.49	56.00	46.00	6.76	3.51	N
25	0.64194	21.89	3.68	20.03	41.92	23.71	56.00	46.00	14.08	22.29	N
26	0.68827	20.57	4.58	20.00	40.57	24.58	56.00	46.00	15.43	21.42	N
27	0.72456	24.99	21.12	20.00	44.99	41.12	56.00	46.00	11.01	4.88	N
28	0.82587	18.70	2.72	19.97	38.67	22.69	56.00	46.00	17.33	23.31	N
29	0.86991	26.07	22.75	19.93	46.00	42.68	56.00	46.00	10.00	3.32	N
30	1.16255	26.91	21.98	19.90	46.81	41.88	56.00	46.00	9.19	4.12	N
31	1.30468	27.78	21.80	19.90	47.68	41.70	56.00	46.00	8.32	4.30	N
32	1.59532	28.31	21.23	19.90	48.21	41.13	56.00	46.00	7.79	4.87	N
33	1.73876	27.30	19.17	19.90	47.20	39.07	56.00	46.00	8.80	6.93	N
34	1.88400	26.06	22.59	19.90	45.96	42.49	56.00	46.00	10.04	3.51	N
35	2.02992	27.31	21.13	19.89	47.20	41.02	56.00	46.00	8.80	4.98	N
36	2.89928	26.38	22.25	19.80	46.18	42.05	56.00	46.00	9.82	3.95	N
37	3.04312	25.44	22.33	19.80	45.24	42.13	56.00	46.00	10.76	3.87	N
38	3.32855	24.45	21.17	19.83	44.28	41.00	56.00	46.00	11.72	5.00	N
39	3.76904	23.25	18.77	19.88	43.13	38.65	56.00	46.00	12.87	7.35	N
40	4.05840	24.93	21.62	19.91	44.84	41.53	56.00	46.00	11.16	4.47	N
41	4.34889	28.47	21.19	19.93	48.40	41.12	56.00	46.00	7.60	4.88	N
42	4.49332	26.90	22.51	19.95	46.85	42.46	56.00	46.00	9.15	3.54	N
43	4.78449	28.97	22.66	19.98	48.95	42.64	56.00	46.00	7.05	3.36	N
44	5.50768	25.63	22.36	20.05	45.68	42.41	60.00	50.00	14.32	7.59	N
45	6.23236	28.55	25.41	20.12	48.67	45.53	60.00	50.00	11.33	4.47	N
46	6.52236	28.52	25.29	20.15	48.67	45.44	60.00	50.00	11.33	4.56	N
47	6.95796	25.92	22.56	20.20	46.12	42.76	60.00	50.00	13.88	7.24	N
48	7.68256	20.36	14.04	20.29	40.65	34.33	60.00	50.00	19.35	15.67	N

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
49	8.88981	17.55	4.72	20.45	38.00	25.17	60.00	50.00	22.00	24.83	N
50	9.32713	16.78	5.45	20.51	37.29	25.96	60.00	50.00	22.71	24.04	N
51	10.14568	21.28	17.37	20.61	41.89	37.98	60.00	50.00	18.11	12.02	N
52	0.15136	42.13	15.46	20.00	62.13	35.46	65.93	55.93	3.80	20.47	L1
53	0.15628	42.16	14.54	20.00	62.16	34.54	65.66	55.66	3.50	21.12	L1
54	0.16002	41.79	14.02	20.00	61.79	34.02	65.46	55.46	3.67	21.44	L1
55	0.16479	41.22	13.31	20.00	61.22	33.31	65.22	55.22	4.00	21.91	L1
56	0.17522	40.86	12.95	20.00	60.86	32.95	64.71	54.71	3.85	21.76	L1
57	0.18100	40.53	12.82	20.00	60.53	32.82	64.44	54.44	3.91	21.62	L1
58	0.19546	39.33	11.61	20.00	59.33	31.61	63.80	53.80	4.47	22.19	L1
59	0.20473	38.56	11.06	19.98	58.54	31.04	63.42	53.42	4.88	22.38	L1
60	0.21267	38.00	10.69	19.94	57.94	30.63	63.10	53.10	5.16	22.47	L1
61	0.22410	37.86	10.40	19.88	57.74	30.28	62.67	52.67	4.93	22.39	L1
62	0.23958	37.00	10.05	19.80	56.80	29.85	62.11	52.11	5.31	22.26	L1
63	0.26056	36.00	9.24	19.76	55.76	29.00	61.41	51.41	5.65	22.41	L1
64	0.28139	34.98	9.18	19.78	54.76	28.96	60.77	50.77	6.01	21.81	L1
65	0.29911	34.07	8.81	19.80	53.87	28.61	60.27	50.27	6.40	21.66	L1
66	0.32464	32.96	7.68	19.85	52.81	27.53	59.59	49.59	6.78	22.06	L1
67	0.33953	32.19	7.05	19.88	52.07	26.93	59.21	49.21	7.14	22.28	L1
68	0.36505	31.12	6.87	19.93	51.05	26.80	58.61	48.61	7.56	21.81	L1
69	0.39704	30.28	6.72	19.99	50.27	26.71	57.92	47.92	7.65	21.21	L1
70	0.43424	28.95	16.06	20.00	48.95	36.06	57.17	47.17	8.22	11.11	L1
71	0.45912	27.94	8.39	20.00	47.94	28.39	56.71	46.71	8.77	18.32	L1
72	0.50190	26.68	5.00	20.00	46.68	25.00	56.00	46.00	9.32	21.00	L1
73	0.54326	25.46	4.02	20.02	45.48	24.04	56.00	46.00	10.52	21.96	L1
74	0.56991	24.54	4.23	20.03	44.57	24.26	56.00	46.00	11.43	21.74	L1
75	0.60288	23.53	3.45	20.05	43.58	23.50	56.00	46.00	12.42	22.50	L1
76	0.63117	23.15	3.01	20.04	43.19	23.05	56.00	46.00	12.81	22.95	L1
77	0.67961	21.49	4.17	20.01	41.50	24.18	56.00	46.00	14.50	21.82	L1
78	0.73603	20.12	2.83	20.00	40.12	22.83	56.00	46.00	15.88	23.17	L1
79	0.79500	18.67	1.75	20.00	38.67	21.75	56.00	46.00	17.33	24.25	L1
80	0.86928	25.22	20.30	20.00	45.22	40.30	56.00	46.00	10.78	5.70	L1
81	1.15864	18.64	13.42	19.90	38.54	33.32	56.00	46.00	17.46	12.68	L1
82	1.30592	26.75	21.85	19.90	46.65	41.75	56.00	46.00	9.35	4.25	L1
83	1.59308	15.93	10.75	19.90	35.83	30.65	56.00	46.00	20.17	15.35	L1
84	1.88368	21.72	16.62	19.90	41.62	36.52	56.00	46.00	14.38	9.48	L1
85	2.02768	22.15	17.10	19.90	42.05	37.00	56.00	46.00	13.95	9.00	L1
86	3.76808	22.23	17.01	19.88	42.11	36.89	56.00	46.00	13.89	9.11	L1
87	4.05776	17.59	12.17	19.91	37.50	32.08	56.00	46.00	18.50	13.92	L1
88	4.34728	23.58	18.37	19.93	43.51	38.30	56.00	46.00	12.49	7.70	L1
89	4.49481	20.40	15.16	19.95	40.35	35.11	56.00	46.00	15.65	10.89	L1
90	6.52428	20.05	14.75	20.15	40.20	34.90	60.00	50.00	19.80	15.10	L1

Calculation

N : Neutral phase, L1 : Live phase
C.FACTOR(dB) : Pulse Limiter(dB) + Cable loss(dB) + Insertion loss of LISN(dB)
Result(dBuV) : Reading Value(dBuV) + C.FACTOR(dB)
Margin(dB) : Limit(dBuV) - Result(dBuV)

7.2 Radiated Disturbance

ANSI C63.4		Radiated disturbance 30 MHz – 18 GHz		Result
<u>Method:</u> Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10 meter below 1GHz and 3 meter above 1GHz. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in horizontal and vertical polarities. Final measurements were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4 m. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable. For final measurement below 1 GHz frequency range, Quasi-Peak detector with (RBW = 120 kHz Bandwidth) was used. For final measurement above 1 GHz frequency range, Peak detector with (RBW = 1 MHz Bandwidth) and CISPR Average detector with (RBW = 1 MHz Bandwidth) were used.				Comply
EUT mode (Refer to clauses 4)	Test configuration mode		1, 2	
	EUT Operation mode		1, 2	
Radiated Disturbance below 1 000 MHz				
Frequency range (MHz)	Quasi-peak limit dBµV/m			
	Class A (10 m distance)		Class B (3 m distance)	
30 to 88	39.1		40	
88 to 216	43.5		43.5	
216 to 960	46.4		46	
960 to 1 000	49.5		54	
According to 15.109(g), as an alternative to the radiated emission limit shown above, digital devices may be shown to comply with the standards(CISPR), Pub. 22 shown as below.				
Frequency range (MHz)	Quasi-peak limit dBµV/m			
	Class A (10 m distance)		Class B (10 m distance)	
30 to 230	40		30	
230 to 1 000	47		37	
Radiated Disturbance for above 1 000 MHz at a measurement distance of 3 m				
Frequency range (GHz)	Peak limit dBµV/m		Average limit dBµV/m	
	Class A	Class B	Class A	Class B
1 to 40	80	74	60	54
The test frequency range of Radiated Disturbance measurements are listed below.				
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)		Upper frequency of measurement range (MHz)		
Below 108		1 000		
108 – 500		2 000		
500 – 1 000		5 000		
Above 1 000		5 th harmonic of the highest frequency or 40 GHz, whichever is lower		

Measurement Instrument					
Description	Model	Manufacturer	Identifier	Cal. Date	Cal. Due
MEASUREMENT SOFTWARE	EMI-R VER. 2.00.0177	TSJ	N/A	N/A	N/A
EMI TEST RECEIVER	ESU40	ROHDE&SCHWARZ	100525	2018.12.18	2019.12.18
TRILOG BROADBAND TEST-ANTENNA WITH 6DB ATT	VULB9160	SCHWARZBECK	9160-3339	2018.10.22	2020.10.22
	8491B	HP	18403	2018.10.22	2020.10.22
LOW NOISE PRE AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2019.02.18	2020.02.18
PREAMPLIFIER	8449B	H.P	3008A00887	2019.08.26	2020.08.26
HORN ANTENNA	3117	ETS-LINDGREN	00152093	2018.03.26	2020.03.26
HORN ANTENNA	EM-6969	ELECTRO-METRICS	156	2019.02.13	2021.02.13
PREAMPLIFIER	MLA-0618-B03-34	TSJ	1785642	2019.01.02	2020.01.02
HORN ANTENNA	3116C	ETS-LINDGREN	00213177	2017.12.05	2019.12.05
PREAMPLIFIER	JS44-18004000-35-8P	L3 NARDA-MITEQ	2046884	2018.11.09	2019.11.09
(NOTE : THE MEASUREMENT ANTENNAS WERE CALIBRATED IN ACCORDANCE TO THE REQUIREMENTS OF C63.5-2017.)					

Radiated disturbance at (30 ~ 1000) MHz _Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	AC 120	Test Frequency (Hz)	60

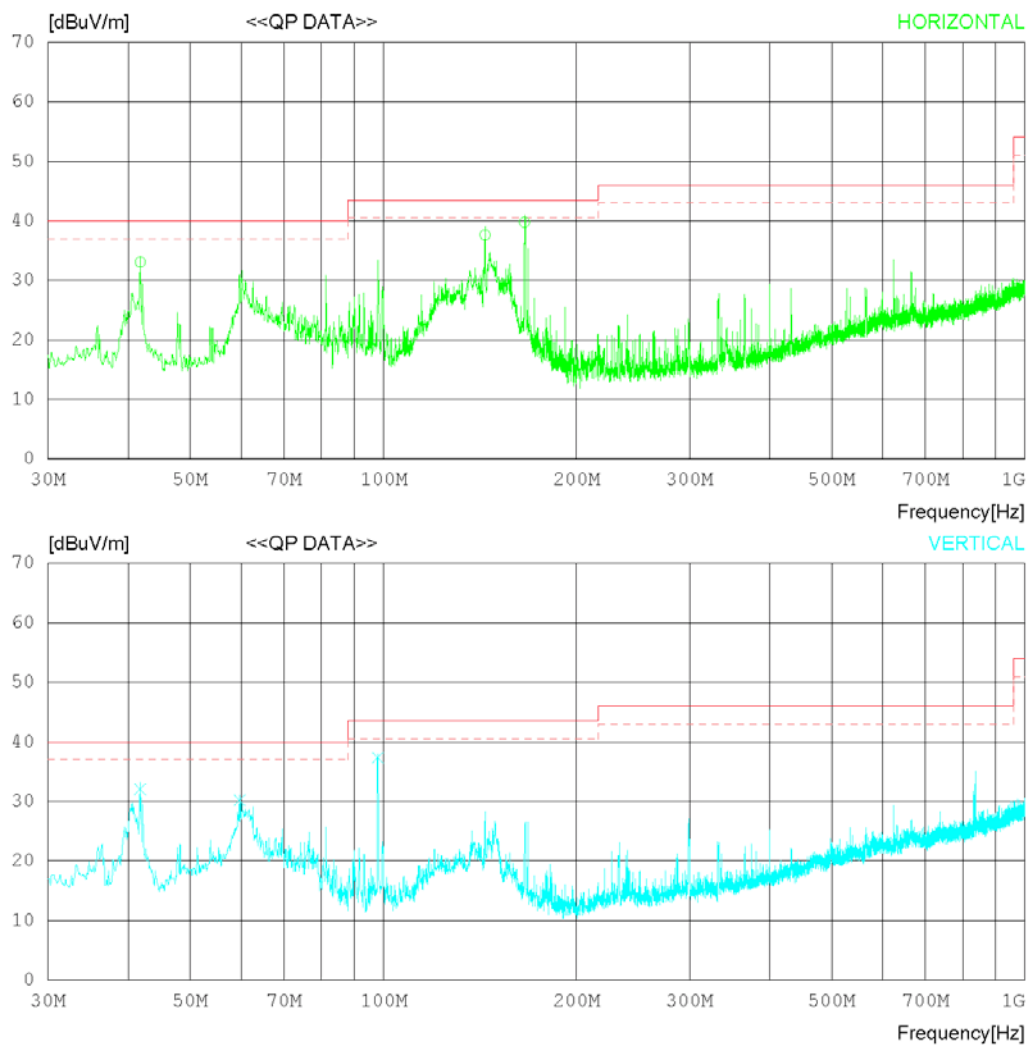
RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 23 'C 51 % R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB



RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 23 °C 51 %R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QF [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	41.761	40.20	17.45	1.22	25.81	33.06	40.00	6.94	395	29
2	143.973	42.80	18.78	1.71	25.67	37.62	43.50	5.88	305	91
3	165.918	45.20	18.43	1.80	25.65	39.78	43.50	3.72	213	356
----- Vertical -----										
4	41.761	39.20	17.45	1.22	25.81	32.06	40.00	7.94	113	339
5	59.706	36.80	17.90	1.29	25.78	30.21	40.00	9.79	109	54
6	98.020	46.60	14.90	1.57	25.70	37.37	43.50	6.13	103	4

Radiated disturbance at (1 ~ 6) GHz _Peak Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	AC 120	Test Frequency (Hz)	60

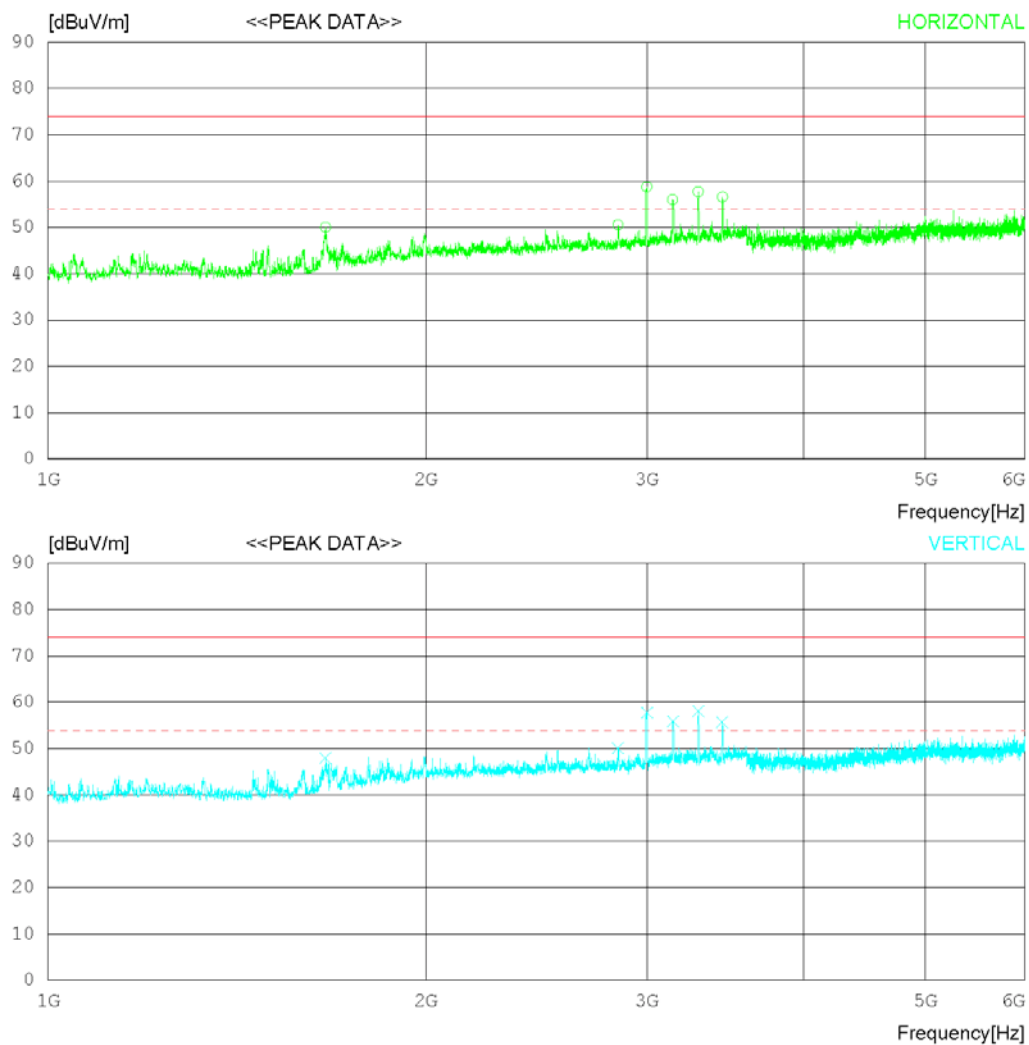
RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 'C 51 % R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)



RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 °C 51 %R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak)
FCC Part15 Subpart B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	1663.750	50.90	28.93	5.39	35.17	50.05	74.0	23.95	395	1
2	2844.375	45.90	32.30	7.19	34.84	50.55	74.0	23.45	356	1
3	2999.375	53.60	32.50	7.51	34.84	58.77	74.0	15.23	205	1
4	3144.375	50.10	32.99	7.66	34.77	55.98	74.0	18.02	206	263
5	3295.000	51.60	32.91	7.89	34.69	57.71	74.0	16.29	201	1
6	3445.000	50.30	32.80	8.11	34.62	56.59	74.0	17.41	202	92
----- Vertical -----										
7	1663.750	48.80	28.93	5.39	35.17	47.95	74.0	26.05	105	346
8	2843.750	45.50	32.30	7.19	34.84	50.15	74.0	23.85	186	346
9	2999.375	52.60	32.50	7.51	34.84	57.77	74.0	16.23	108	84
10	3146.875	50.00	32.99	7.66	34.77	55.88	74.0	18.12	107	346
11	3298.750	52.00	32.90	7.89	34.69	58.10	74.0	15.9	117	346
12	3442.500	49.40	32.80	8.11	34.62	55.69	74.0	18.31	106	346

Radiated disturbance at (1 ~ 6) GHz _Average Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	AC 120	Test Frequency (Hz)	60

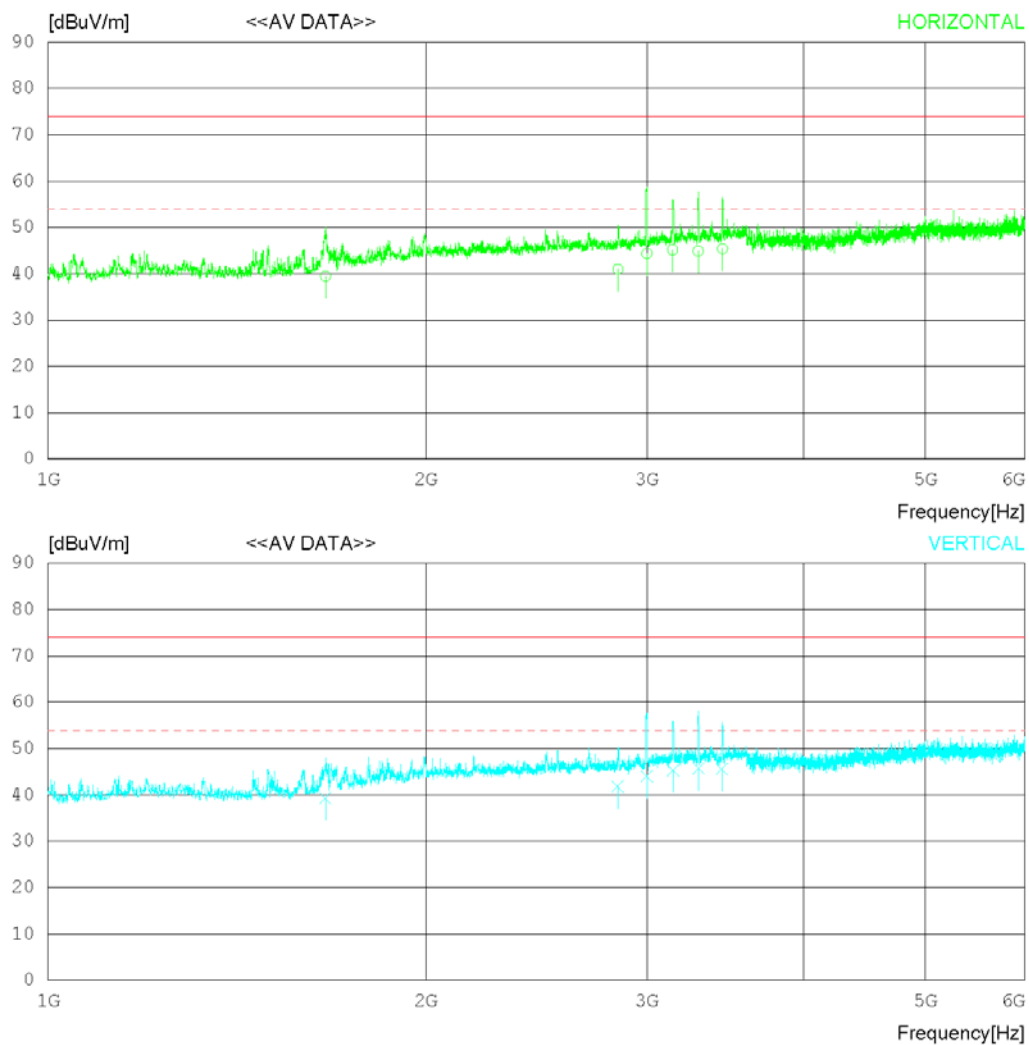
RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 'C 51 % R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)



RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 °C 51 %R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)

No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	1663.340	40.30	28.93	5.39	35.17	39.45	54.00	14.55	392	0
2	2844.415	36.40	32.30	7.19	34.84	41.05	54.00	12.95	354	0
3	2999.585	39.20	32.50	7.51	34.84	44.37	54.00	9.63	205	0
4	3144.661	39.30	32.99	7.66	34.77	45.18	54.00	8.82	206	278
5	3295.070	38.80	32.91	7.89	34.69	44.91	54.00	9.09	204	0
6	3445.180	39.10	32.80	8.11	34.62	45.39	54.00	8.61	201	105
----- Vertical -----										
7	1663.180	40.20	28.93	5.39	35.17	39.35	54.00	14.65	104	352
8	2843.410	37.20	32.30	7.19	34.84	41.85	54.00	12.15	188	362
9	2999.685	38.90	32.50	7.51	34.84	44.07	54.00	9.93	107	99
10	3146.945	39.40	32.99	7.66	34.77	45.28	54.00	8.72	106	356
11	3298.420	39.60	32.90	7.89	34.69	45.70	54.00	8.30	117	354
12	3442.490	39.30	32.80	8.11	34.62	45.59	54.00	8.41	105	355

Radiated disturbance at (6 ~ 18) GHz _Peak Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	AC 120	Test Frequency (Hz)	60

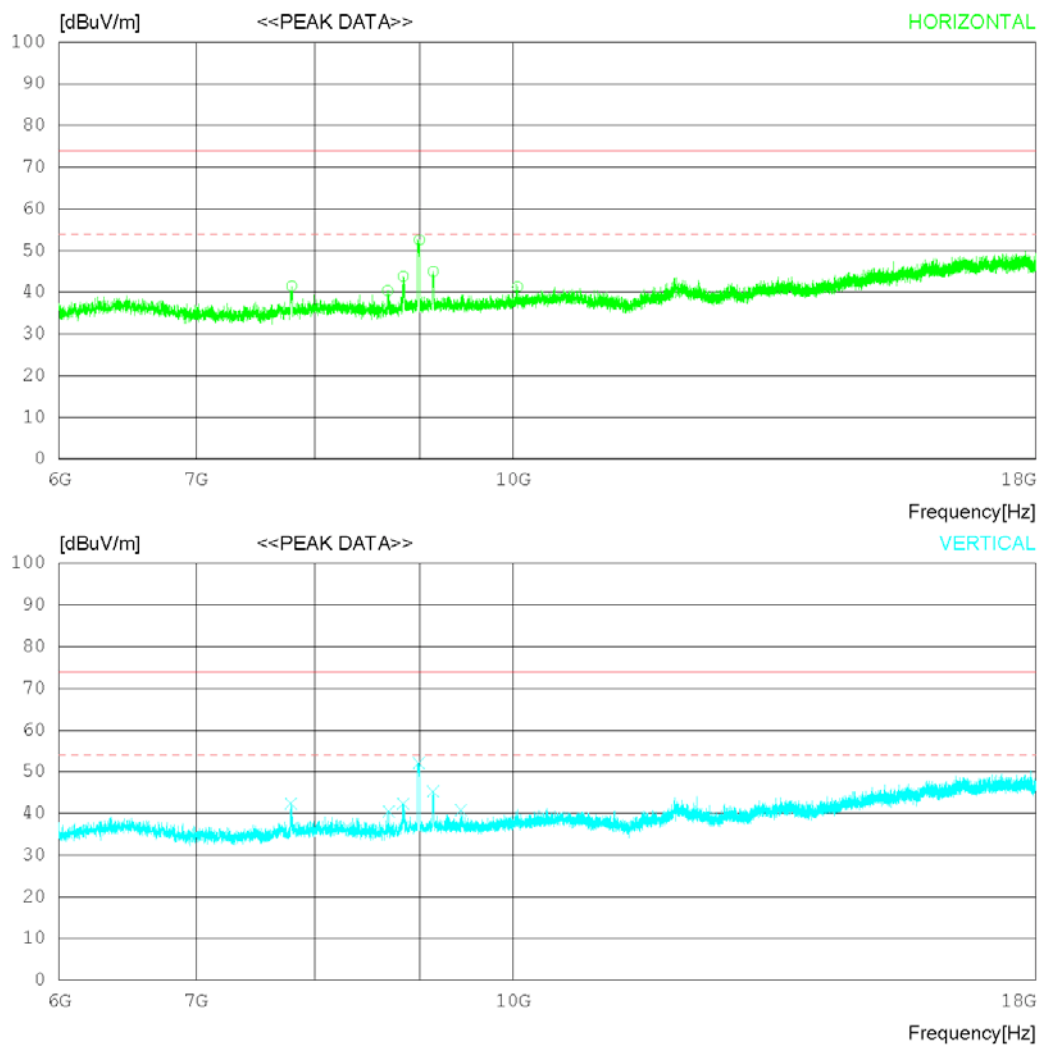
RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 °C 51 % R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)



* The measurement is performed above 18 GHz up to 40 GHz and not found emissions above 18 GHz.

RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 °C 51 %R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak)
FCC Part15 Subpart B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	7794.000	35.70	31.33	12.60	38.12	41.51	74.0	32.49	206	32
2	8682.750	33.50	31.85	13.11	38.09	40.37	74.0	33.63	186	85
3	8837.250	37.00	31.97	13.36	38.50	43.83	74.0	30.17	125	1
4	8997.750	46.00	32.10	13.40	38.92	52.58	74.0	21.42	104	99
5	9139.500	38.20	32.16	13.64	39.01	44.99	74.0	29.01	111	104
6	10047.000	32.30	32.54	14.40	37.93	41.31	74.0	32.69	105	1
----- Vertical -----										
7	7788.000	36.60	31.33	12.58	38.13	42.38	74.0	31.62	115	59
8	8695.500	33.60	31.86	13.13	38.12	40.47	74.0	33.53	106	1
9	8837.250	35.50	31.97	13.36	38.50	42.33	74.0	31.67	113	82
10	8991.750	45.50	32.09	13.39	38.91	52.07	74.0	21.93	107	101
11	9138.750	38.50	32.16	13.63	39.01	45.28	74.0	28.72	102	106
12	9429.000	33.40	32.29	14.23	39.19	40.73	74.0	33.27	101	1

Radiated disturbance at (6 ~18) GHz _Average Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	AC 120	Test Frequency (Hz)	60

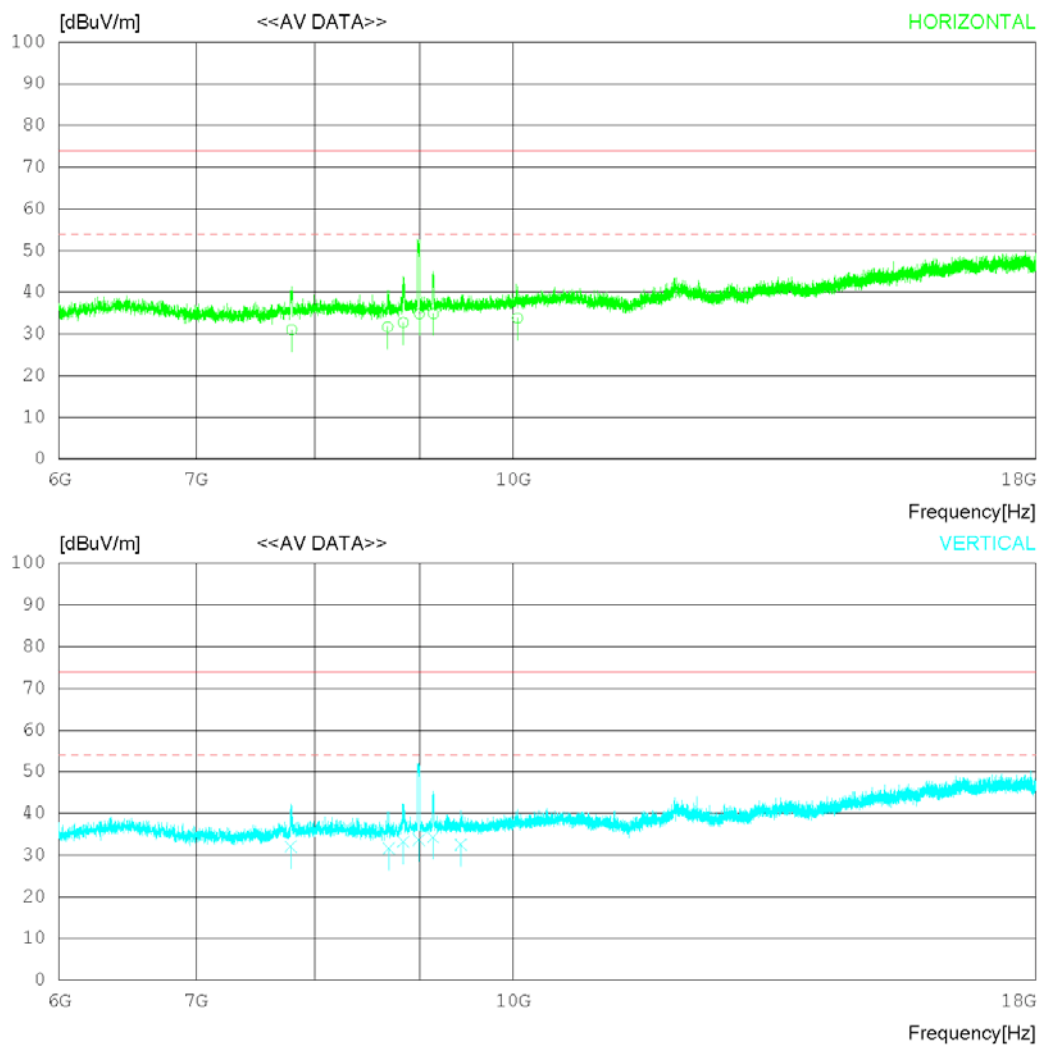
RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 'C 51 % R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)



* The measurement is performed above 18 GHz up to 40 GHz and not found emissions above 18 GHz.

RADIATED EMISSION

Date 2019-08-29

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 21 °C 51 %R.H.
Test Condition PC Link

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)

No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	CAV [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	7794.080	25.20	31.33	12.60	38.12	31.01	54.00	22.99	207	45
2	8682.641	24.80	31.85	13.11	38.09	31.67	54.00	22.33	184	98
3	8837.180	25.90	31.97	13.36	38.50	32.73	54.00	21.27	125	0
4	8997.420	28.30	32.10	13.40	38.92	34.88	54.00	19.12	104	108
5	9139.620	28.10	32.16	13.64	39.01	34.89	54.00	19.11	111	88
6	10047.090	24.80	32.54	14.40	37.93	33.81	54.00	20.19	105	0
----- Vertical -----										
7	7788.070	26.30	31.33	12.58	38.13	32.08	54.00	21.92	115	65
8	8695.420	24.80	31.86	13.13	38.12	31.67	54.00	22.33	105	0
9	8837.370	26.40	31.97	13.36	38.50	33.23	54.00	20.77	112	98
10	8991.610	27.10	32.09	13.39	38.91	33.67	54.00	20.33	108	125
11	9138.940	27.50	32.16	13.64	39.01	34.29	54.00	19.71	101	95
12	9429.020	25.20	32.29	14.23	39.19	32.53	54.00	21.47	102	0

Radiated disturbance at (30 ~ 1000) MHz _Measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	AC 120	Test Frequency (Hz)	60

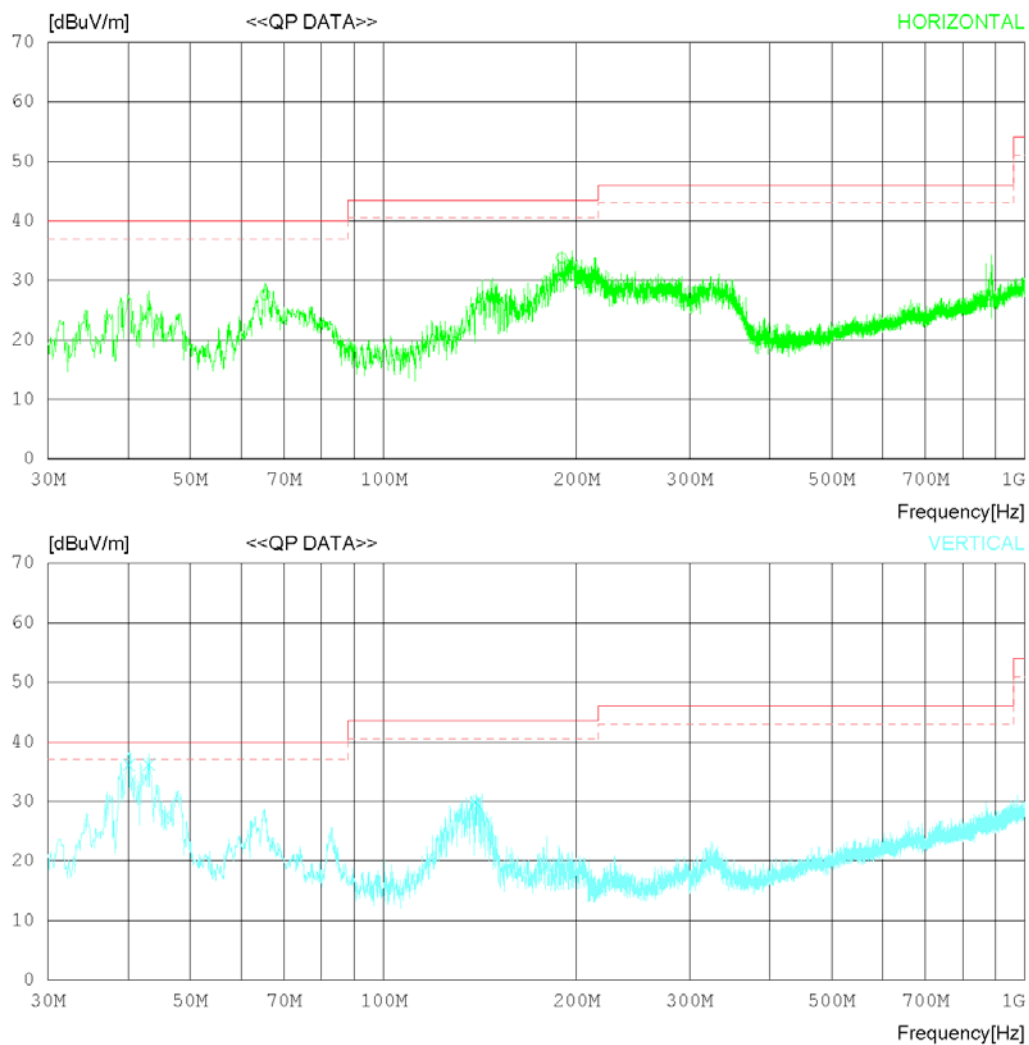
RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 'C 51 % R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB



RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 °C 51 %R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QF [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	65.405	34.70	17.32	1.33	25.77	27.58	40.00	12.42	227	77
2	189.561	40.90	16.62	1.86	25.61	33.77	43.50	9.73	209	332
3	886.943	20.50	29.24	3.50	25.82	27.42	46.00	18.58	194	0
----- Vertical -----										
4	40.106	43.90	16.85	1.20	25.81	36.14	40.00	3.86	103	194
5	43.095	43.20	17.60	1.23	25.81	36.22	40.00	3.78	105	180
6	139.365	35.10	18.66	1.68	25.68	29.76	43.50	13.74	114	162

Radiated disturbance at (1 ~ 6) GHz _Peak Measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	AC 120	Test Frequency (Hz)	60

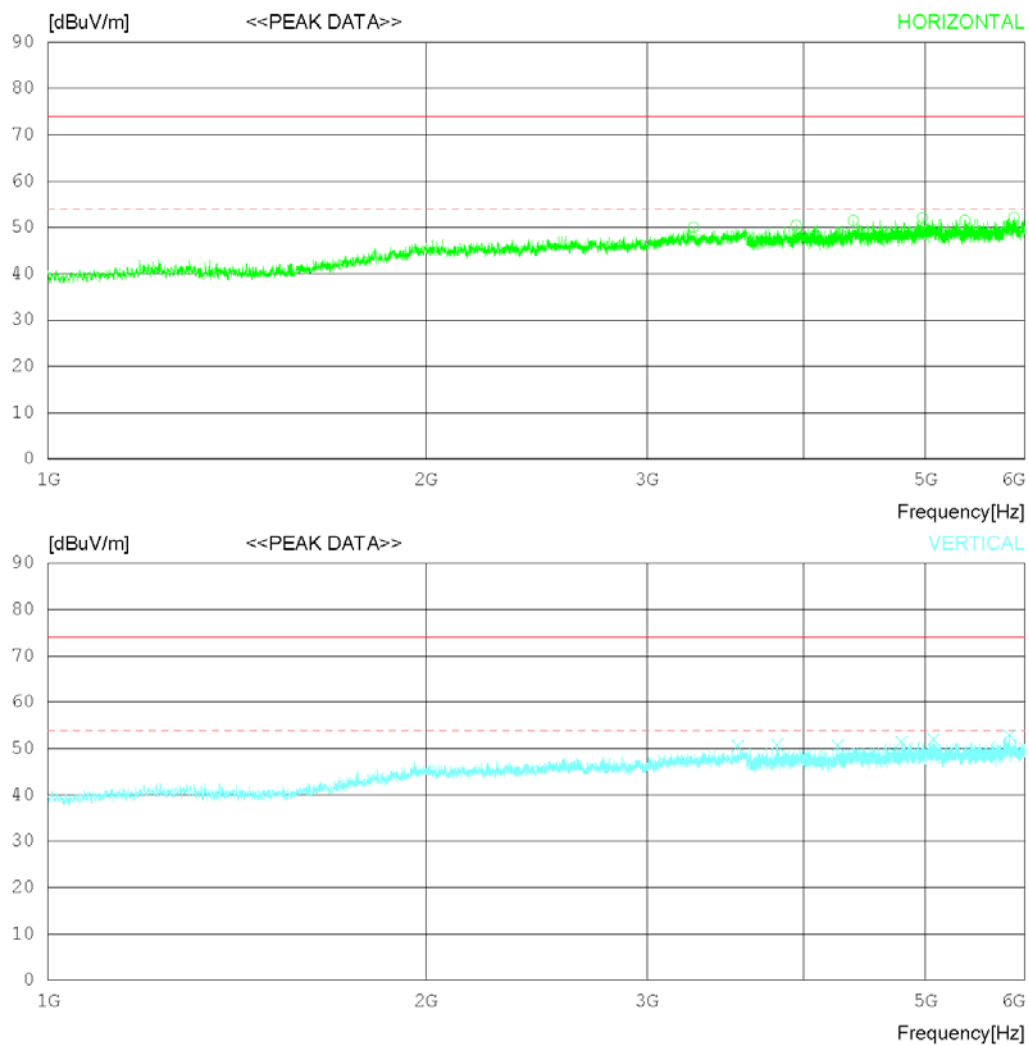
RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 'C 51 % R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)



RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 °C 51 %R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak)
FCC Part15 Subpart B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	3267.500	43.80	32.97	7.83	34.56	50.04	74.0	23.96	113	340
2	3944.375	41.90	33.32	8.91	33.62	50.51	74.0	23.49	204	358
3	4378.750	42.00	33.76	9.76	34.04	51.48	74.0	22.52	208	358
4	4971.875	42.10	34.16	10.70	34.82	52.14	74.0	21.86	102	358
5	5375.625	41.10	34.55	10.78	34.91	51.52	74.0	22.48	106	2
6	5880.625	40.90	34.96	11.27	34.98	52.15	74.0	21.85	109	358
----- Vertical -----										
7	3545.625	43.60	32.89	8.24	34.17	50.56	74.0	23.44	105	116
8	3810.000	42.40	33.30	8.93	33.80	50.83	74.0	23.17	113	228
9	4259.375	41.60	33.52	9.45	33.88	50.69	74.0	23.31	102	247
10	4785.000	41.50	34.00	10.53	34.58	51.45	74.0	22.55	109	1
11	5077.500	42.00	34.15	10.70	34.87	51.98	74.0	22.02	105	136
12	5835.000	41.70	34.84	11.27	34.98	52.83	74.0	21.17	102	1

Radiated disturbance at (1 ~ 6) GHz _Average Measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	AC 120	Test Frequency (Hz)	60

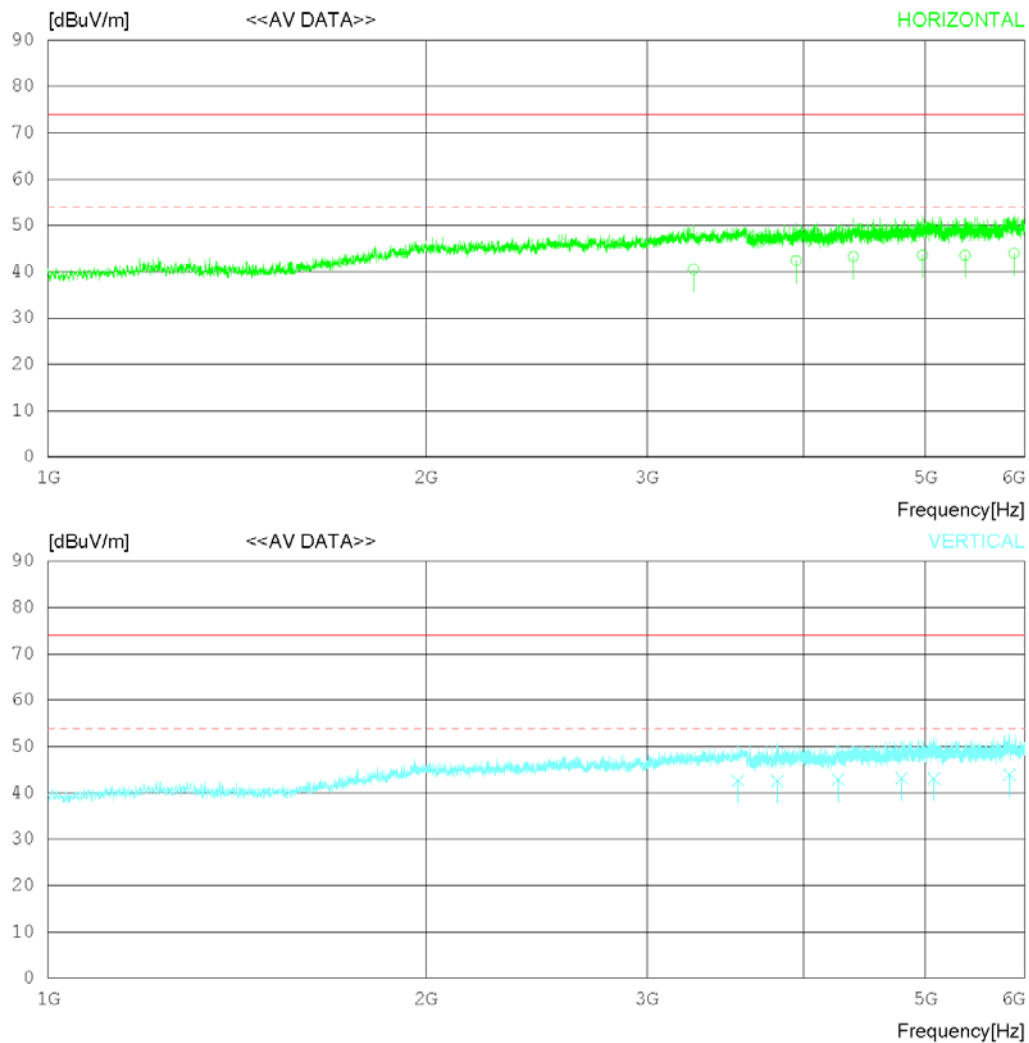
RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 'C 51 % R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)



RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 °C 51 %R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)

No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	CAV [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	3267.410	34.30	32.97	7.83	34.56	40.54	54.00	13.46	112	345
2	3944.585	33.80	33.32	8.90	33.62	42.40	54.00	11.60	201	356
3	4378.810	33.80	33.76	9.76	34.04	43.28	54.00	10.72	207	352
4	4971.625	33.50	34.16	10.70	34.82	43.54	54.00	10.46	101	357
5	5375.495	33.10	34.55	10.78	34.91	43.52	54.00	10.48	106	0
6	5880.725	32.70	34.96	11.27	34.98	43.95	54.00	10.05	108	355
----- Vertical -----										
7	3545.385	35.70	32.89	8.24	34.17	42.66	54.00	11.34	105	119
8	3810.070	34.10	33.30	8.93	33.80	42.53	54.00	11.47	114	235
9	4259.418	33.80	33.52	9.45	33.88	42.89	54.00	11.11	102	251
10	4785.120	33.20	34.00	10.53	34.58	43.15	54.00	10.85	109	0
11	5077.620	33.10	34.14	10.70	34.87	43.07	54.00	10.93	105	154
12	5835.171	32.80	34.84	11.27	34.98	43.93	54.00	10.07	102	0

Radiated disturbance at (6 ~ 18) GHz _Peak Measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	AC 120	Test Frequency (Hz)	60

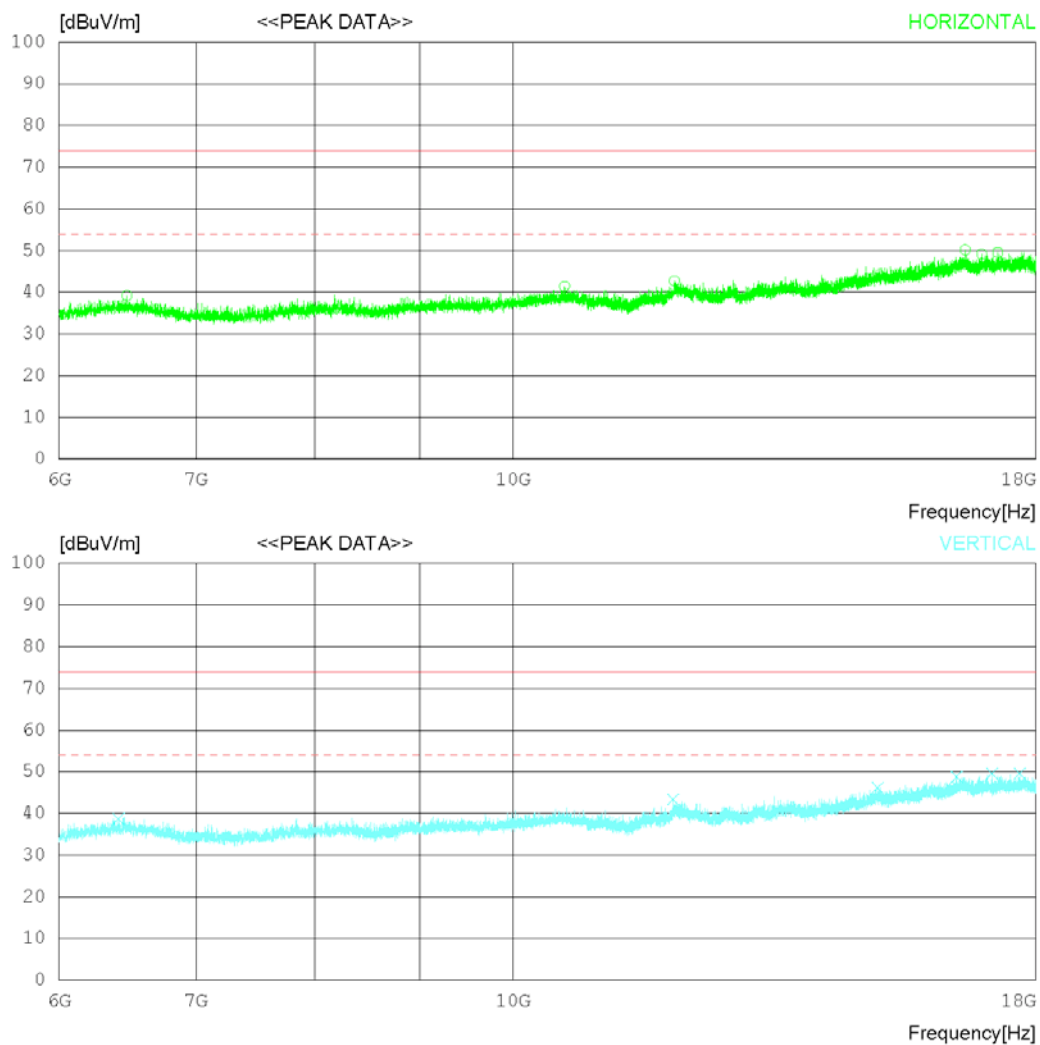
RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 'C 51 % R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)



* The measurement is performed above 18 GHz up to 40 GHz and not found emissions above 18 GHz.

RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22°C 51 %R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart B Class B (3m) - GHz(Peak)
FCC Part15 Subpart B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	6476.250	35.00	31.59	11.19	38.56	39.22	74.0	34.78	106	356
2	10594.500	32.30	32.47	14.77	38.12	41.42	74.0	32.58	112	358
3	11986.500	31.30	33.45	15.66	37.68	42.73	74.0	31.27	104	358
4	16622.250	30.00	37.12	19.95	36.92	50.15	74.0	23.85	110	246
5	16937.250	29.10	37.48	19.76	37.20	49.14	74.0	24.86	108	1
6	17245.500	30.00	37.74	19.32	37.47	49.59	74.0	24.41	102	1
----- Vertical -----										
7	6416.250	34.50	31.61	11.19	38.62	38.68	74.0	35.32	105	358
8	11970.750	32.00	33.43	15.62	37.71	43.34	74.0	30.66	102	226
9	15069.000	29.70	35.52	18.11	37.17	46.16	74.0	27.84	103	335
10	16467.750	29.20	36.95	19.45	36.81	48.79	74.0	25.21	105	344
11	17133.750	29.80	37.65	19.53	37.37	49.61	74.0	24.39	109	75
12	17679.750	29.70	38.07	19.74	37.93	49.58	74.0	24.42	112	1

Radiated disturbance at (6 ~18) GHz _Average Measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	AC 120	Test Frequency (Hz)	60

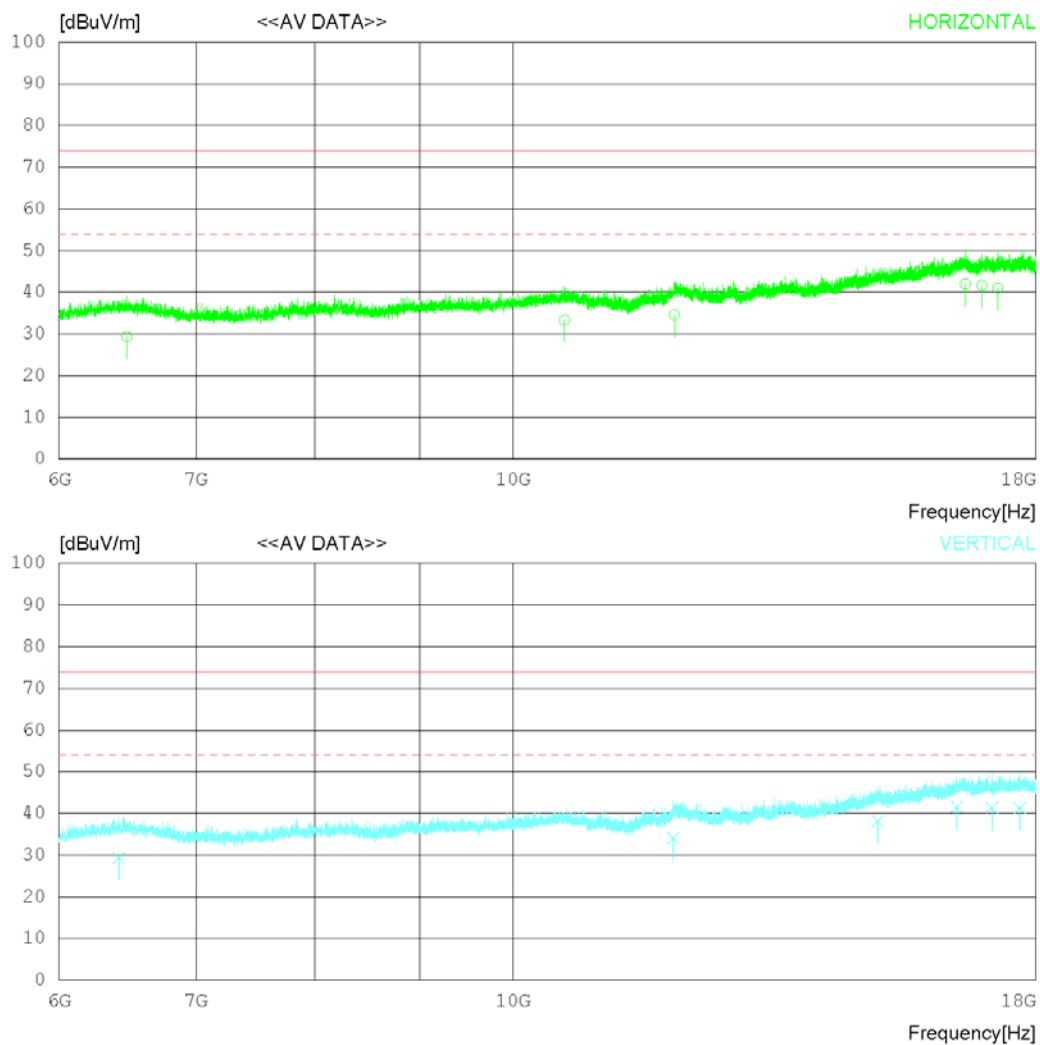
RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 'C 51 % R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)



* The measurement is performed above 18 GHz up to 40 GHz and not found emissions above 18 GHz.

RADIATED EMISSION

Date 2019-09-30

Order No. DTNC1908-06675
Power Supply 120 VAC 60 Hz
Temp/Humi 22 °C 51 %R.H.
Test Condition Wireless Charging Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Average)
FCC Part15 Subpart.B Class B (3m) - GHz(Peak)

No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	6476.110	25.10	31.59	11.19	38.56	29.32	54.00	24.68	105	350
2	10594.370	24.20	32.47	14.77	38.12	33.32	54.00	20.68	111	356
3	11986.480	23.20	33.45	15.66	37.68	34.63	54.00	19.37	104	352
4	16622.260	21.80	37.12	19.95	36.92	41.95	54.00	12.05	109	249
5	16937.120	21.60	37.48	19.76	37.20	41.64	54.00	12.36	108	0
6	17245.740	21.40	37.74	19.32	37.47	40.99	54.00	13.01	101	0
----- Vertical -----										
7	6416.140	25.10	31.61	11.19	38.62	29.28	54.00	24.72	105	352
8	11970.620	22.70	33.43	15.62	37.71	34.04	54.00	19.96	101	231
9	15069.010	21.70	35.52	18.11	37.17	38.16	54.00	15.84	103	339
10	16467.810	21.90	36.95	19.45	36.81	41.49	54.00	12.51	104	351
11	17133.770	21.50	37.65	19.53	37.37	41.31	54.00	12.69	109	82
12	17679.610	21.40	38.07	19.74	37.93	41.28	54.00	12.72	111	0

Calculation

Result(dBuV/m) : 30 ~ 1G : Reading Value(dBuV) + Cable loss(dB) - Pre amplifier gain(dB) + Ant. Factor(dB)
1 ~ 6 G : Ant. Factor = Ant. Factor - Pre amplifier gain
Margin(dB) : Limit(dBuV/m) - Result(dBuV/m)

8. Revision History

Date	Description	Revised By	Reviewed By
Sep. 17. 2019	Initial report	ChanGeun Lee	HyungJun Kim
Oct. 01. 2019	-Add Added model name (LMG850EMW, G850EMW, LMG850EMWX, G850EMWX, LMG850EM, G850EM, LMG850EMX, G850EMX) -Add Wireless Charging Test	ChanGeun Lee	HyungJun Kim

-End of test report-