

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. : DREFCC1904-0136
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 / OJ1928 / ZNFOJ1928
5. Test Standard : ANSI C 63.4 : 2014
FCC Part 15 Subpart B
(Class B personal computers and peripherals)
6. Date of Test : Apr. 12. 2019 ~ Apr. 19. 2019
7. Testing Environment : Temperature (20 ~ 22) °C , Humidity (42 ~ 44) % R.H.
8. Test Result : Refer to the attached Test Result

Affirmation	Tested by	Reviewed by
	Name : JooHo Kim  (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.

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Apr. 26. 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.dtc.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 23 rd , 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 USA, Inc. 1000 Sylvan Avenue, Englewood Cliffs NJ 07632 United States
Factory	LG Electronics USA, Inc. 1000 Sylvan Avenue, Englewood Cliffs NJ 07632 United States
Product Name	Mobile Phone
Model Name	OJ1928
Add Model Name	None
FCC ID	ZNFOJ1928
Rated Power	DC 3.85 V
Remarks	None

Accessory	Ear-Mic	No.	Manufacturer	P/N
		1	CRESYN	EAB64168765
Accessory	USB data Cable	No.	Manufacturer	P/N
		1	NINGBO	EAD63849231

Related Submittal(s) / Grant(s)
Original submittal only

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	'READ' & 'WRITE' & 'DELETE'	The EUT is reading, writing, and erasing internal storage

4.3 Test Configuration Mode

No.	Mode	Description
1	PC LINK	EUT was connected PC by USB cable and continuously operated

4.4 Supported Equipment

Used*	Product Type	Manufacturer	Model	Remarks
AE	KEYBOARD	Microsoft	1406	20076223340
AE	MOUSE	LG	SM-9023	58Q02801
AE	LCD MONITOR	DELL	UP2414Qt	CN-OJJRX2-74261-67B-4P4U-A00
AE	PC	DELL	DCNE	NONE
AE	SSD 3.0	SAMSUNG	MU-PT250B	S2WKNAAH32059X
AE	PRINTER	Bixelon	SRP-770	NONE
AE	HEADSET	SAMSUNG	SHS-150V/M	NONE

*Abbreviations:

AE - Auxiliary/Associated Equipment, or
SIM - Simulator

4.5 EUT In/Output Port

Name	Type*	Cable Max. >3 m	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
DSUB OUT	I/O	1.8	Shield	Plastic	
POWER IN	AC	1.8	Non-Shield	Plastic	PC
DSUB IN	I/O	1.8	Shield	Plastic	
PARALLEL IN	I/O	2.0	Shield	Plastic	
SERIAL IN	I/O	1.9	Shield	Plastic	
USB	I/O	1.7	Shield	Plastic	
USB	I/O	1.7	Shield	Plastic	
USB	I/O	1.0	Shield	Plastic	
USB	I/O	1.0	Shield	Plastic	
STEREO IN/OUT	I/O	2.0	Non-Shield	Plastic	
USB	I/O	1.0	Shield	Plastic	SSD 3.0
PARALLEL OUT	I/O	2.0	Shield	Plastic	PRINTER
SERIAL OUT	I/O	1.9	Shield	Plastic	
STEREO IN/OUT	I/O	2.0	Non-Shield	Plastic	Headset
AUX	I/O	1.6	Non-Shield	Plastic	EUT
USB	I/O	1.0	Non-Shield	Plastic	
*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 (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]
0.20072	L1	47.57	Cispr - Average	53.58	6.01

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]
31.536	V	36.75	Quasi - Peak	40.00	3.25

6. Test Environment

Test Items	Test date (YYYY-MM-DD)	Temp. (°C)	Humidity (% R.H.)	Pressure (kPa)
Conducted Disturbance	2019-04-19	22	44	-
Radiated Disturbance	2019-04-12	20	42	-
	2019-04-15	22	44	-

7. Test Results : Emission

7.1 Conducted Disturbance

ANSI C63.4	Mains terminal disturbance voltage		Result
<p>Method: 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.</p>			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	
	EUT Operation mode	1	
Limits – Class A			
Frequency (MHz)	Limit dB μ V		
	Quasi-Peak	Average	
0.15 to 0.50	79	66	
0.50 to 30	73	60	
Limits – Class B			
Frequency (MHz)	Limit 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	

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	ESR7	ROHDE & SCHWARZ	101109	2018.10.29	2019.10.29
LISN	ENV216	ROHDE & SCHWARZ	101979	2018.12.06	2019.12.06
LISN	LISN1600	TTI	197204	2018.06.07	2019.06.07
TRANSIENT LIMITER	TL-B0930A	EMCIS	11002	2018.09.05	2019.09.05
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)	120	Test Frequency (Hz)	60

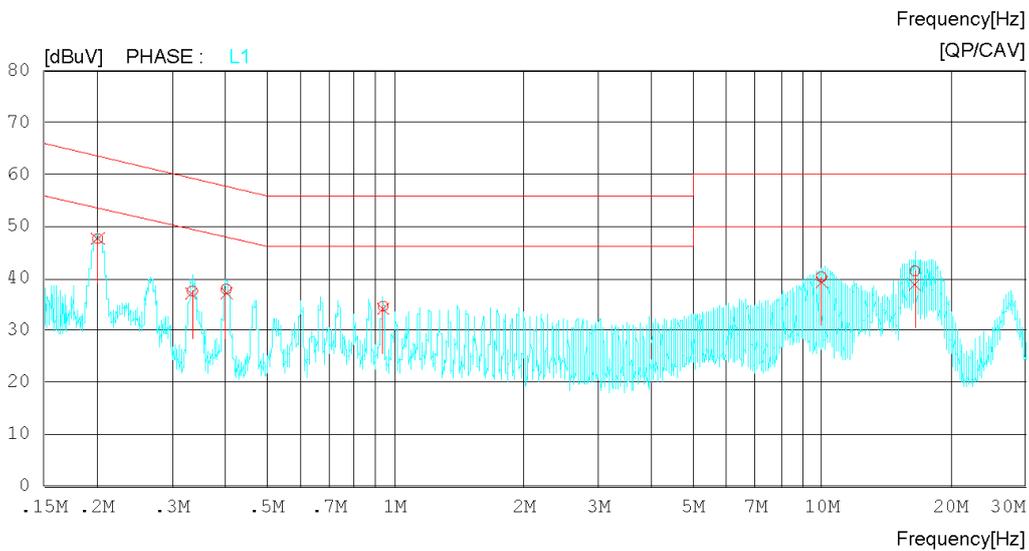
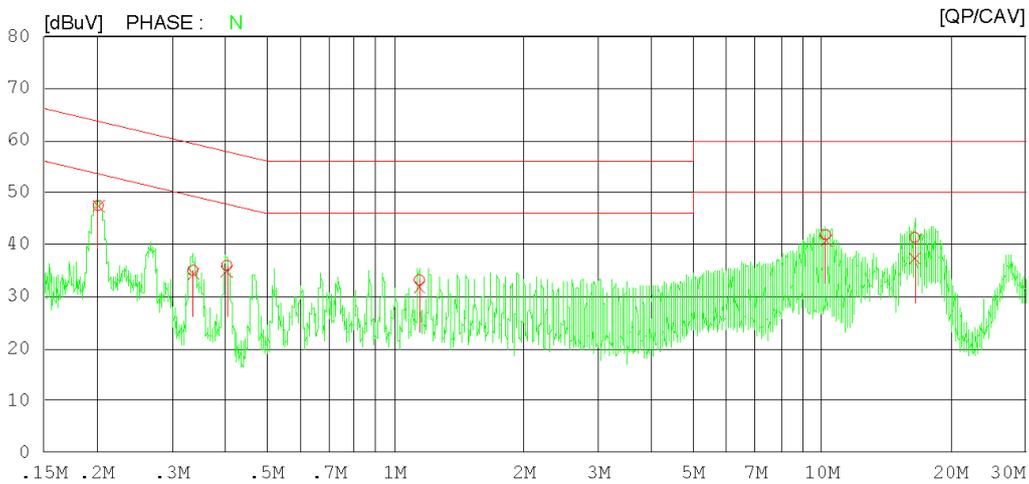
Results of Conducted Emission

DT&C
Date 2019-04-19

Order No. DTNC1903-02349
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 44 % R.H.
Test Condition PC LINK

Memo

LIMIT : CISPR32_B QP
CISPR32_B AV



Results of Conducted Emission

DT&C
Date 2019-04-19

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 22 'C 44 % R.H.
 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	0.20135	27.53	27.49	20.02	47.55	47.51	63.55	53.55	16.00	6.04	N
2	0.33546	15.14	14.67	19.90	35.04	34.57	59.31	49.31	24.27	14.74	N
3	0.40272	15.93	14.64	20.03	35.96	34.67	57.80	47.80	21.84	13.13	N
4	1.14068	13.29	11.81	19.92	33.21	31.73	56.00	46.00	22.79	14.27	N
5	10.20197	21.21	20.06	20.66	41.87	40.72	60.00	50.00	18.13	9.28	N
6	16.50537	20.34	16.14	21.03	41.37	37.17	60.00	50.00	18.63	12.83	N
7	0.20072	27.58	27.54	20.03	47.61	47.57	63.58	53.58	15.97	6.01	L1
8	0.33455	17.66	17.13	19.90	37.56	37.03	59.34	49.34	21.78	12.31	L1
9	0.40175	17.84	16.98	20.03	37.87	37.01	57.82	47.82	19.95	10.81	L1
10	0.93698	14.66	14.08	19.98	34.64	34.06	56.00	46.00	21.36	11.94	L1
11	9.97459	19.62	18.68	20.65	40.27	39.33	60.00	50.00	19.73	10.67	L1
12	16.53460	20.35	17.89	21.03	41.38	38.92	60.00	50.00	18.62	11.08	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 – 40 GHz			Result
Method: Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10 or 3 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	
	EUT Operation mode		1	
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 contained in Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22 shown.				
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	ESU	ROHDE & SCHWARZ	100469	2018.06.28	2019.06.28
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	2018.08.31	2019.08.31
HORN ANTENNA	3117	ETS-LINDGREN	00152093	2018.03.26	2020.03.26
HORN ANTENNA WITH PREAMPLIFIER	EM-6969	ELECTRO-METRICS	156	2019.02.13	2021.02.13
	MLA-0618-B03-34	TSJ	1785642	2019.01.02	2020.01.02
HORN ANTENNA WITH PREAMPLIFIER	3116C	ETS-LINDGREN	00213177	2017.12.05	2019.12.05
	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)	120	Test Frequency (Hz)	60

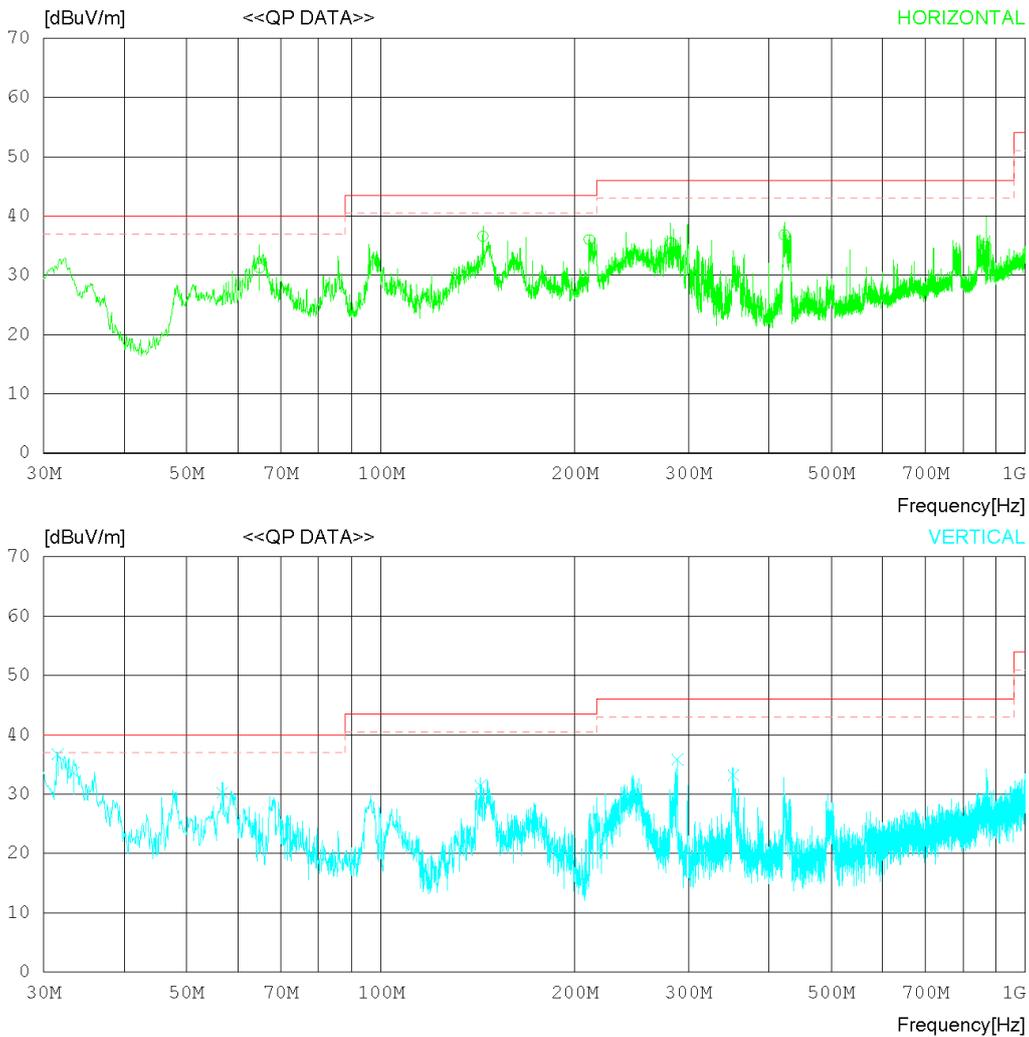
RADIATED EMISSION

Date 2019-04-12

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 20 'C 42 % R.H.
 Test Condition PC LINK

Memo

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



RADIATED EMISSION

Date 2019-04-12

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 20 °C 42 % R.H.
 Test Condition PC LINK

Memo

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

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	64.835	37.30	17.45	2.26	25.77	31.24	40.00	8.76	200	91
2	144.012	40.60	18.78	2.88	25.67	36.59	43.50	6.91	100	52
3	210.476	41.80	16.52	3.34	25.63	36.03	43.50	7.47	100	176
4	281.884	38.20	19.26	3.80	25.80	35.46	46.00	10.54	100	246
5	422.479	35.90	22.22	4.45	25.75	36.82	46.00	9.18	200	299
6	869.433	25.10	29.20	6.27	25.78	34.79	46.00	11.21	200	80
----- Vertical -----										
7	31.536	45.30	15.40	1.87	25.82	36.75	40.00	3.25	132	204
8	33.387	42.00	15.58	1.89	25.82	33.65	40.00	6.35	111	310
9	56.820	36.20	17.70	2.16	25.79	30.27	40.00	9.73	100	356
10	142.735	35.50	18.75	2.86	25.67	31.44	43.50	12.06	101	180
11	288.309	38.40	19.45	3.85	25.82	35.88	46.00	10.12	153	278
12	352.481	34.90	20.15	4.10	25.90	33.25	46.00	12.75	120	112

Radiated disturbance at (1 ~ 6) GHz _ Peak measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	120	Test Frequency (Hz)	60

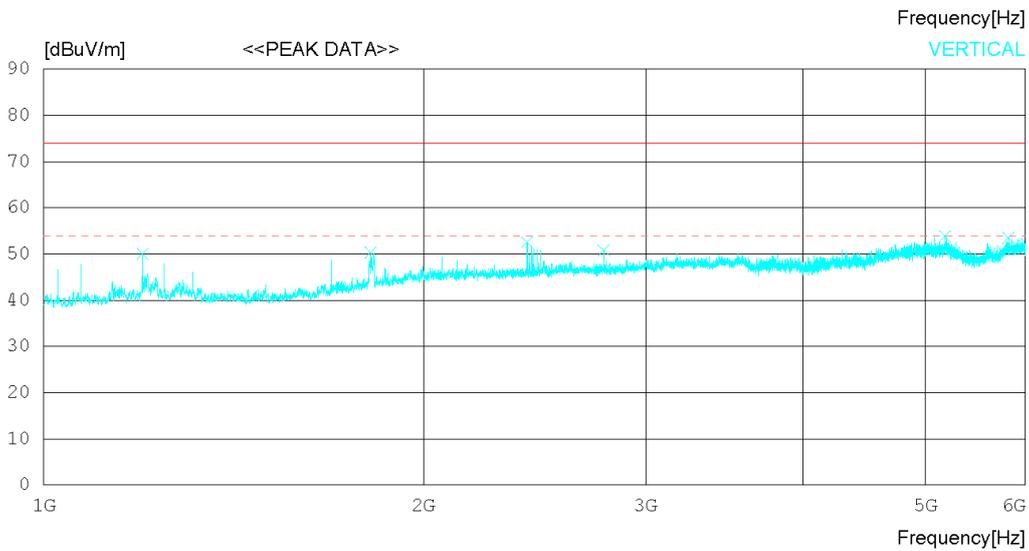
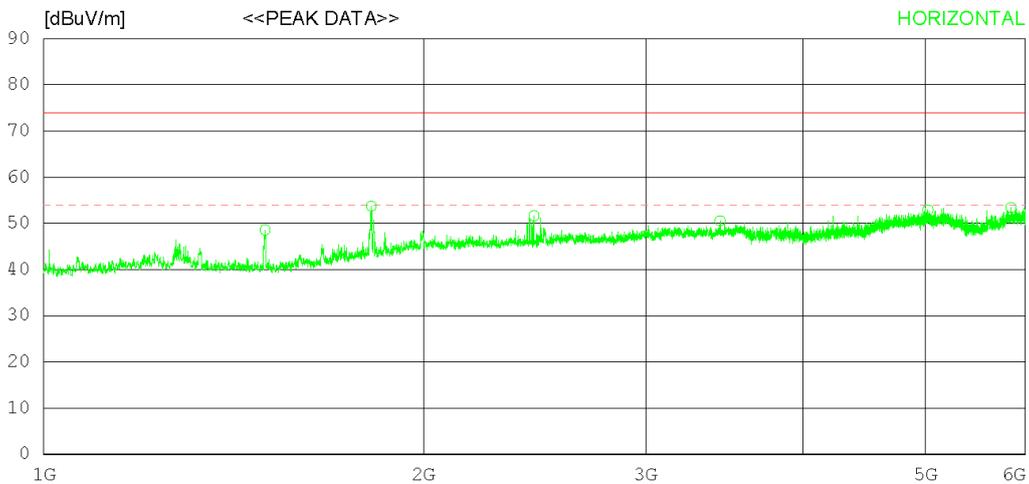
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 Test Condition PC LINK

Memo

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



RADIATED EMISSION

Date 2019-04-12

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 20 °C 42 % 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	1497.500	50.90	27.90	5.13	35.34	48.59	74.0	25.41	340	358
2	1818.125	52.60	30.47	5.68	35.01	53.74	74.0	20.26	220	0
3	2446.875	47.70	32.08	6.69	34.83	51.64	74.0	22.36	200	335
4	3436.250	44.30	32.80	8.11	34.62	50.59	74.0	23.41	400	139
5	5021.875	42.70	34.14	10.72	34.64	52.92	74.0	21.08	236	26
6	5843.750	42.00	34.88	11.27	34.74	53.41	74.0	20.59	307	151
----- Vertical -----										
7	1197.500	52.20	28.77	4.75	35.65	50.07	74.0	23.93	299	0
8	1816.250	49.20	30.47	5.68	35.01	50.34	74.0	23.66	400	358
9	2416.875	48.80	31.90	6.66	34.83	52.53	74.0	21.47	283	246
10	2780.625	46.20	32.38	7.07	34.84	50.81	74.0	23.19	100	225
11	5182.500	43.60	34.20	10.69	34.66	53.83	74.0	20.17	270	0
12	5817.500	42.20	34.77	11.26	34.74	53.49	74.0	20.51	381	9

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

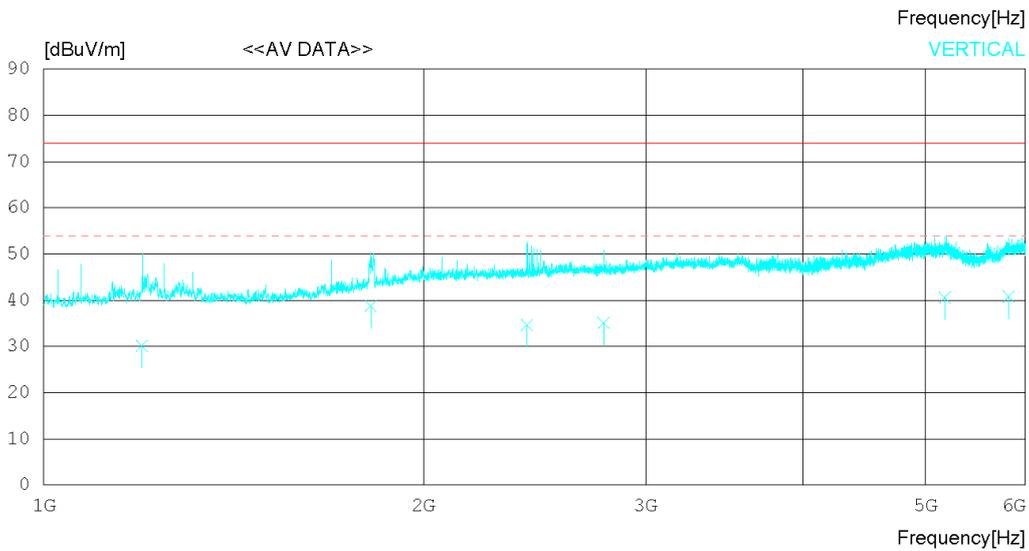
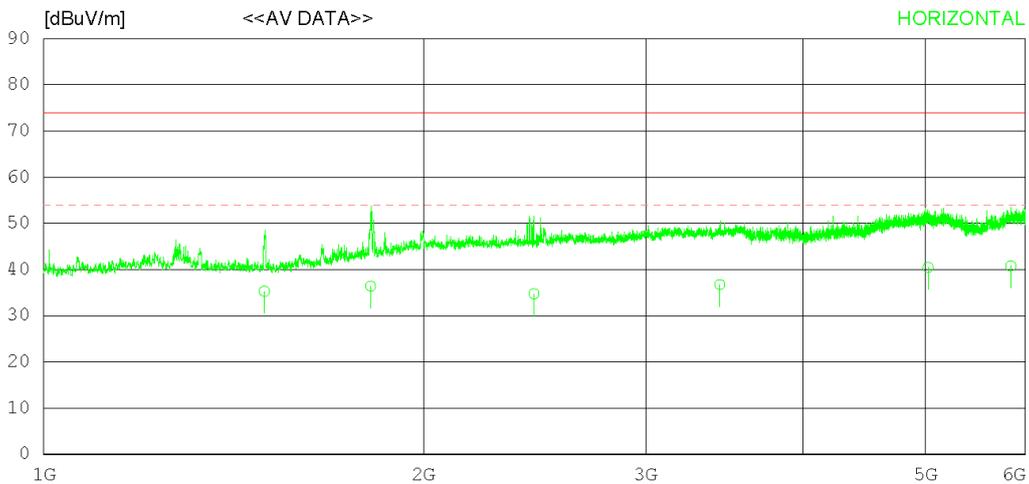
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Date 2019-04-12

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 20 °C 42 % 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 2019-04-12

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 20 °C 42 % 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	1495.847	37.60	27.90	5.13	35.34	35.29	54.00	18.71	348	76
2	1816.010	35.30	30.46	5.68	35.01	36.43	54.00	17.57	216	288
3	2446.791	30.80	32.08	6.69	34.83	34.74	54.00	19.26	200	346
4	3434.751	30.50	32.80	8.11	34.62	36.79	54.00	17.21	400	125
5	5023.324	30.20	34.15	10.72	34.64	40.43	54.00	13.57	247	45
6	5841.143	29.40	34.86	11.27	34.74	40.79	54.00	13.21	303	152
----- Vertical -----										
7	1195.896	32.30	28.74	4.74	35.65	30.13	54.00	23.87	299	14
8	1816.643	37.60	30.47	5.68	35.01	38.74	54.00	15.26	400	169
9	2415.842	30.90	31.90	6.66	34.83	34.63	54.00	19.37	278	231
10	2780.619	30.50	32.38	7.07	34.84	35.11	54.00	18.89	100	227
11	5180.381	30.40	34.20	10.69	34.66	40.63	54.00	13.37	263	346
12	5818.898	29.50	34.78	11.26	34.74	40.80	54.00	13.20	380	3

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

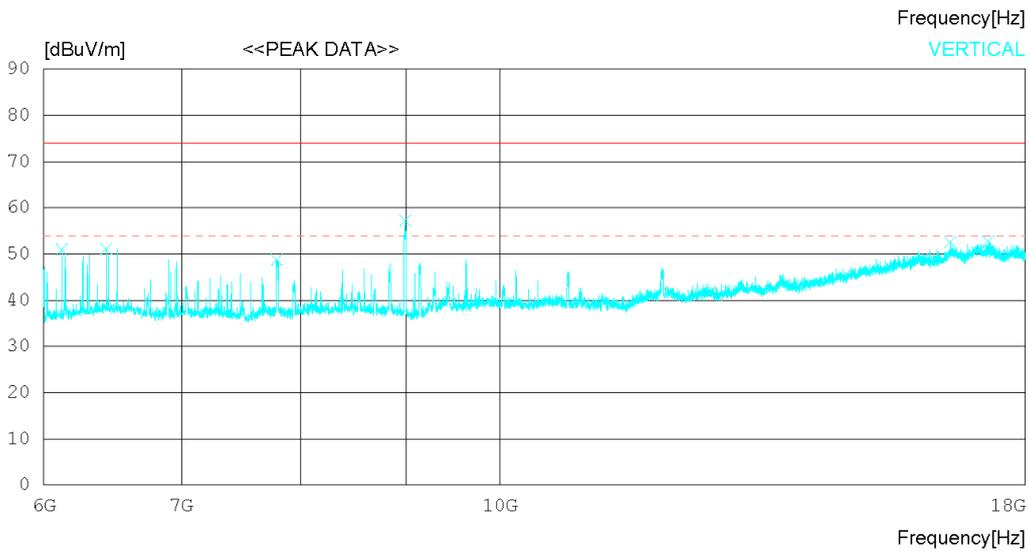
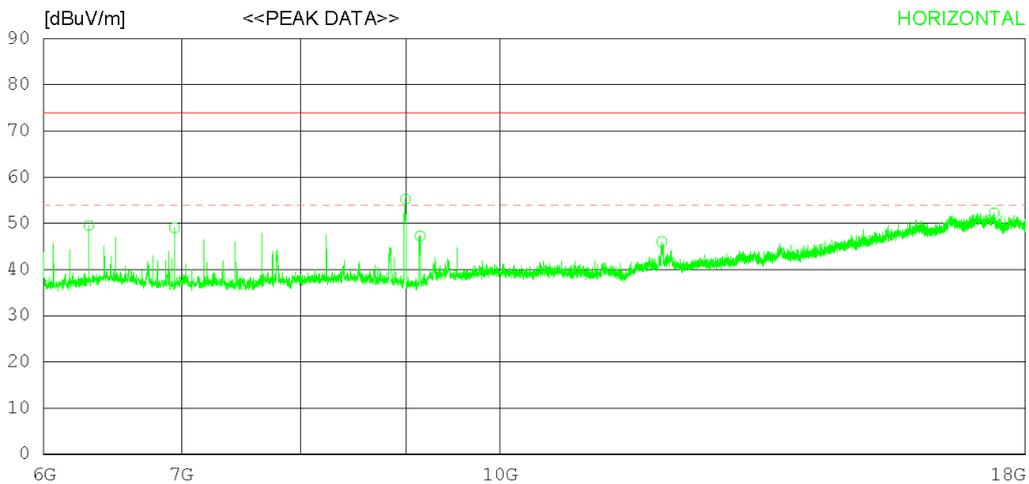
RADIATED EMISSION

Date 2019-04-15

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 22 °C 44 % 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 2019-04-15

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 22 °C 44 % 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	6310.500	45.70	31.64	10.99	38.79	49.54	74.0	24.46	105	246
2	6946.500	44.60	31.46	11.63	38.66	49.03	74.0	24.97	124	358
3	8995.500	48.70	32.10	13.40	38.92	55.28	74.0	18.72	199	112
4	9144.000	40.50	32.16	13.65	39.02	47.29	74.0	26.71	100	358
5	11982.000	34.60	33.44	15.64	37.69	45.99	74.0	28.01	199	0
6	17383.500	32.30	37.85	19.71	37.58	52.28	74.0	21.72	135	255
----- Vertical -----										
7	6123.000	47.70	31.69	10.75	39.12	51.02	74.0	22.98	400	296
8	6435.000	47.00	31.60	11.19	38.60	51.19	74.0	22.81	238	358
9	7789.500	43.00	31.33	12.59	38.12	48.80	74.0	25.2	212	354
10	8995.500	50.70	32.10	13.40	38.92	57.28	74.0	16.72	300	11
11	16546.500	32.60	37.04	19.84	36.85	52.63	74.0	21.37	400	35
12	17269.500	33.10	37.76	19.38	37.49	52.75	74.0	21.25	310	126

Radiated disturbance at (6 ~ 18) GHz _ Average measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	120	Test Frequency (Hz)	60

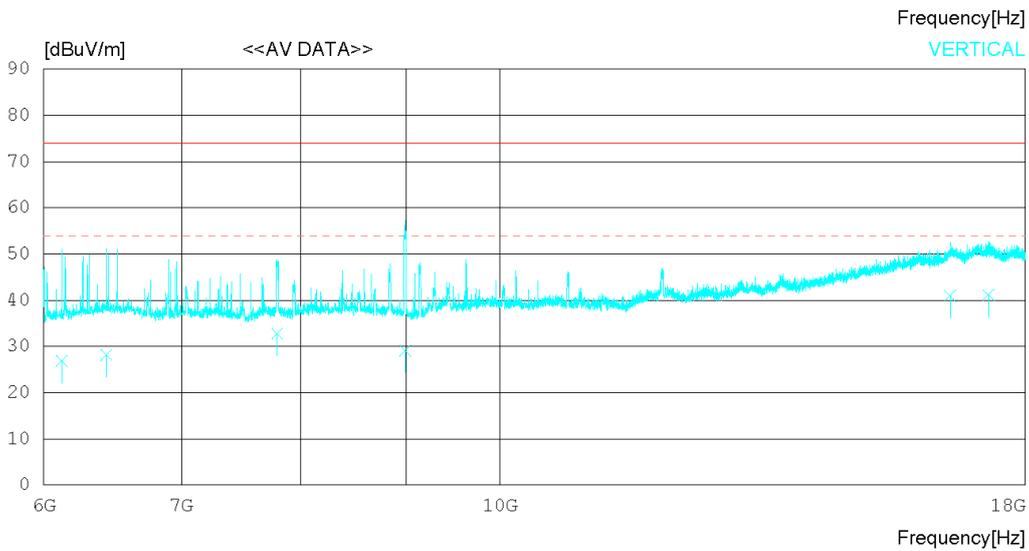
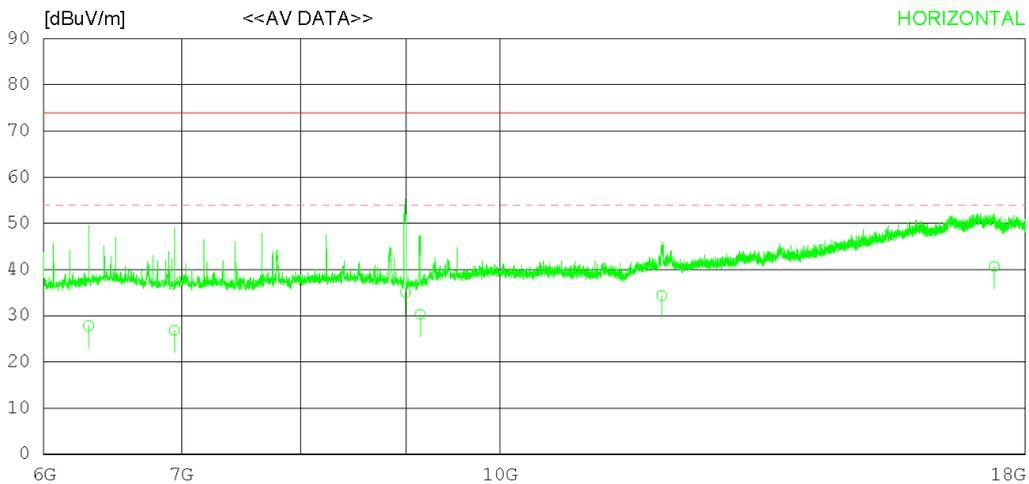
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 Temp/Humi 22 °C 44 % R.H.
 Test Condition PC LINK

Memo

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



RADIATED EMISSION

Date 2019-04-15

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 22 °C 44 % 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	6309.236	24.00	31.64	10.99	38.79	27.84	54.00	26.16	107	124
2	6944.658	22.40	31.46	11.62	38.66	26.82	54.00	27.18	112	260
3	8995.073	28.50	32.10	13.40	38.92	35.08	54.00	18.92	199	107
4	9144.240	23.50	32.16	13.65	39.02	30.29	54.00	23.71	100	185
5	11980.180	23.00	33.44	15.64	37.69	34.39	54.00	19.61	199	20
6	17383.640	20.70	37.85	19.71	37.58	40.68	54.00	13.32	134	255
----- Vertical -----										
7	6122.558	23.50	31.69	10.75	39.12	26.82	54.00	27.18	400	304
8	6435.248	24.00	31.60	11.19	38.60	28.19	54.00	25.81	234	187
9	7791.192	27.00	31.33	12.59	38.12	32.80	54.00	21.20	219	321
10	8994.468	22.50	32.10	13.40	38.92	29.08	54.00	24.92	300	45
11	16545.280	20.90	37.04	19.83	36.85	40.92	54.00	13.08	400	84
12	17270.720	21.50	37.76	19.39	37.49	41.16	54.00	12.84	318	135

Radiated disturbance at (18 ~ 40) GHz _Peak measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	120	Test Frequency (Hz)	60

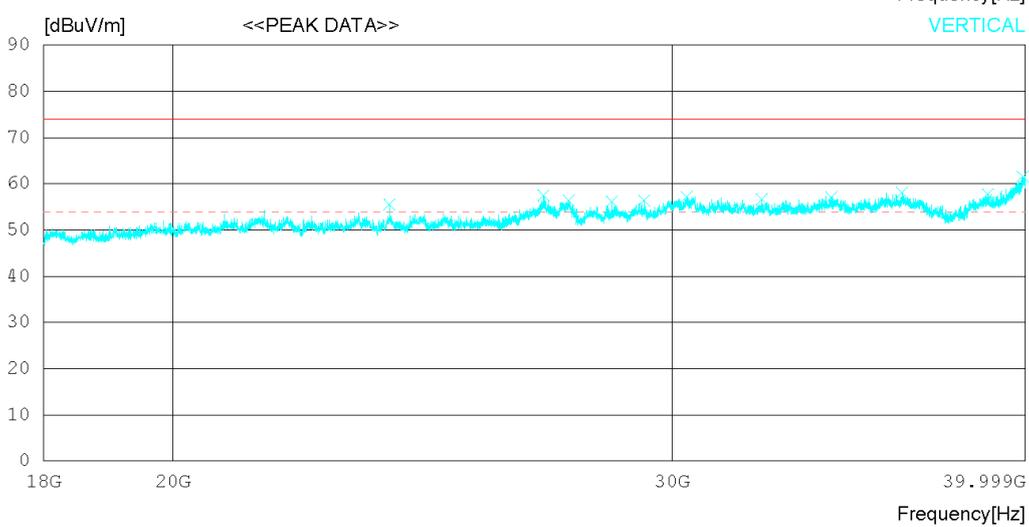
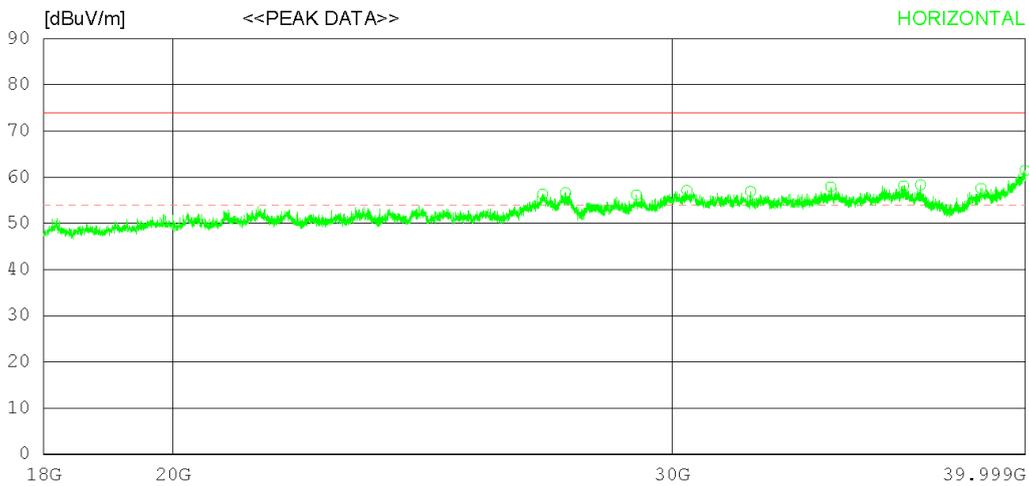
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 Test Condition PC LINK

Memo

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



RADIATED EMISSION

Date 2019-04-15

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 22 °C 44 % 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	27014.50042.90	46.86	20.67	54.12	56.31	74.0	17.69	141	289	
2	27517.75042.60	46.82	21.24	54.03	56.63	74.0	17.37	400	144	
3	29151.25040.60	47.51	21.82	53.75	56.18	74.0	17.82	100	358	
4	30369.50040.90	47.91	21.86	53.60	57.07	74.0	16.93	325	158	
5	31989.25040.30	47.77	22.44	53.60	56.91	74.0	17.09	198	0	
6	34139.75041.10	48.20	23.01	54.41	57.90	74.0	16.1	200	330	
7	36224.25041.30	48.23	22.98	54.42	58.09	74.0	15.91	223	0	
8	36727.50042.30	47.68	22.58	54.25	58.31	74.0	15.69	200	223	
9	38578.25040.20	47.56	23.23	53.42	57.57	74.0	16.43	394	1	
10	39983.50041.10	48.70	24.14	52.51	61.43	74.0	12.57	100	45	

Radiated disturbance at (18 ~ 40) GHz _Average measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	120	Test Frequency (Hz)	60

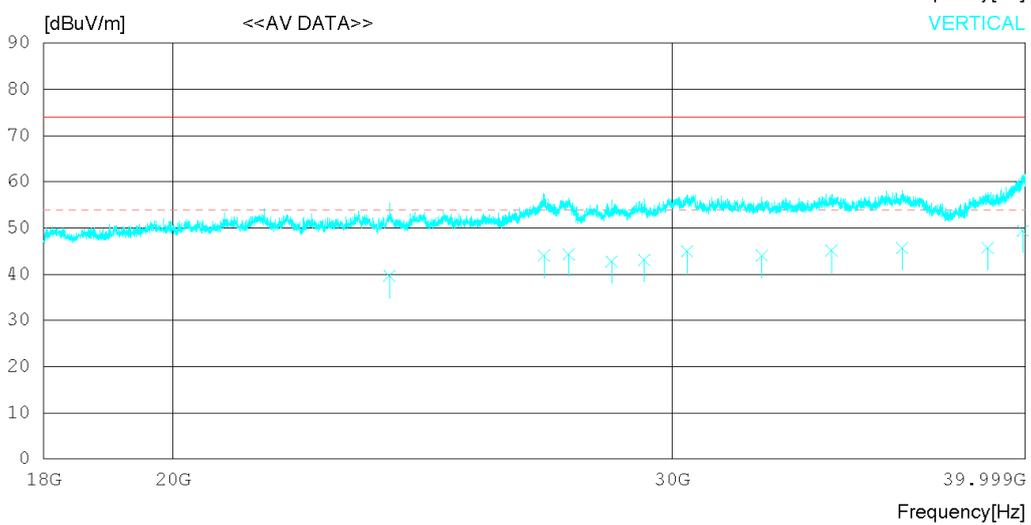
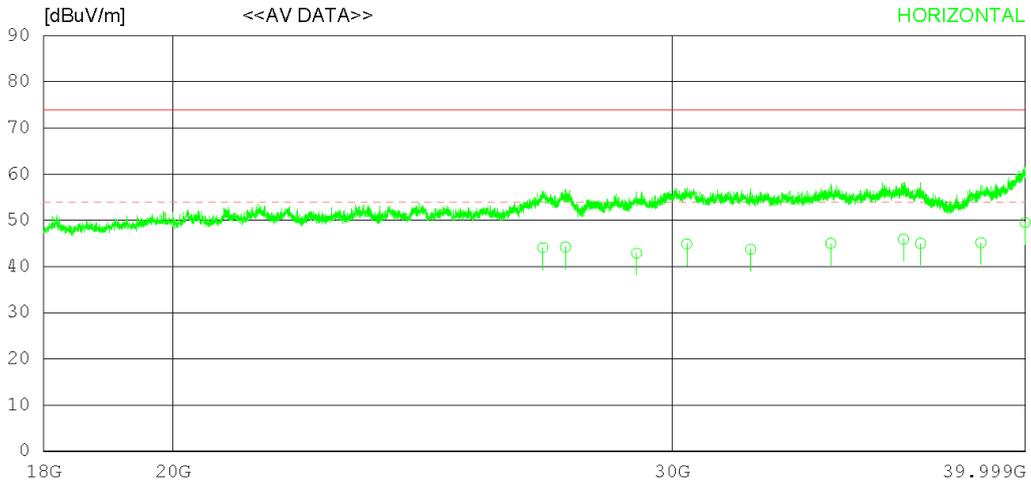
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 Test Condition PC LINK

Memo

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



RADIATED EMISSION

Date 2019-04-15

Order No. DTNC1903-02349
 Power Supply 120 V 60 Hz
 Temp/Humi 22 °C 44 % 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	27015.76030.70	46.86	20.67	54.12	44.11	54.00	9.89	138	317	
2	27516.93030.20	46.82	21.24	54.03	44.23	54.00	9.77	400	150	
3	29152.98027.30	47.51	21.82	53.75	42.88	54.00	11.12	100	311	
4	30368.41028.70	47.91	21.86	53.60	44.87	54.00	9.13	331	124	
5	31991.31027.10	47.77	22.44	53.60	43.71	54.00	10.29	199	189	
6	34139.54028.20	48.20	23.01	54.41	45.00	54.00	9.00	200	95	
7	36222.94029.10	48.23	22.98	54.42	45.89	54.00	8.11	227	30	
8	36727.15029.00	47.68	22.58	54.25	45.01	54.00	8.99	200	263	
9	38578.53027.80	47.56	23.23	53.42	45.17	54.00	8.83	389	355	
10	39983.12029.20	48.70	24.14	52.51	49.53	54.00	4.47	100	72	

Calculation

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

8. Revision History

Date	Description	Revised By	Reviewed By
Apr. 26. 2019	Initial report	JooHo Kim	HyungJun Kim

-End of test report-