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. : DREFCC1906-0180
2. Client / Applicant
   - Name : LG Electronics USA, Inc.
   - Address : 1000 Sylvan Avenue Englewood Cliffs, New Jersey, United States 07632
3. Use of Report : Grant of Certification
4. Product Name / Model Name / FCC ID : Mobile Phone / LM-X320EMW / ZNFX320EMW
5. Test Standard : ANSI C 63.4 : 2014
   FCC Part 15 Subpart B
   (Class B personal computers and peripherals)
6. Date of Test : May. 25. 2019 ~ May. 31. 2019
7. Testing Environment : Temperature 22 °C , Humidity 45 % R.H.
8. Test Result : Refer to the attached Test Result

Affirmation	Tested by	Reviewed by
	Name : JooHo Kim (Signature)	Name : DaeHwa Eun (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.

Jun. 04. 2019

DT&C Co., Ltd.

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

CONTENTS

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.dtnc.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, New Jersey, United States 07632
Manufacturer	LG Electronics USA, Inc. 1000 Sylvan Avenue Englewood Cliffs, New Jersey, United States 07632
Factory	LG Electronics USA, Inc. 1000 Sylvan Avenue Englewood Cliffs, New Jersey, United States 07632
Product Name	Mobile Phone
Model Name	LM-X320EMW
Add Model Name	None
FCC ID	ZNFX320EMW
Rated Power	DC 3.85 V
Remarks	None

Accessory

Equipment	No.	Manufacturer	Model Name	Product Number	Tech. Information
Ear-Mic	1	CRESYN	EMB-LGE41STGWE	EAB64468444	20mW 30OHM 112DB 20HZTO20KHZ 1.15M WHITE 4 POLE
USB data Cable	1	NINGBO	DC03WB-G	EAD62377927	1.0M,1.2A

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	Bixolon	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 m	Shield	Plastic	KEYBOARD
USB	I/O	1.7 m	Shield	Plastic	MOUSE
POWER IN	AC	1.8 m	Non shield	Plastic	LCD MONITOR
DSUB OUT	I/O	1.8 m	Shield	Plastic	LCD MONITOR
POWER IN	AC	1.8 m	Non shield	Plastic	PC
DSUB IN PARALLEL IN SERIAL IN USB USB USB USB	I/O	1.8 m 2.0 m 1.9 m 1.7 m 1.7 m 1.0 m 1.0 m	Shield	Plastic	PC
STEREO IN/OUT	I/O	2.0 m	Non shield	Plastic	PC
USB	I/O	1.0 m	Shield	Plastic	SSD 3.0
PARALLEL OUT SERIAL OUT	I/O	2.0 m 1.9 m	Shield	Plastic	PRINTER
STEREO IN/OUT	I/O	2.0 m	Non shield	Plastic	HEADSET
AUX	I/O	1.8 m	Non shield	Plastic	EUT
USB	I/O	1.0 m	Non shield	Plastic	EUT

*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 [dBµV]	Detector	Limit [dBµV]	Margin [dB]
16.50300	N	46.94	Cispr - Average	50.00	3.06

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]
76.039	V	36.67	Quasi - Peak	40.00	3.33

6. Test Environment

Test Items	Test date (YYYY-MM-DD)	Temp. (℃)	Humidity (% R.H.)	Pressure (kPa)
Conducted Disturbance	2019-05-31	22	45	-
Radiated Disturbance	2019-05-25 2019-05-29	22 22	45 45	-

7. Test Results : Emission

7.1 Conducted Disturbance

ANSI C63.4	Mains terminal disturbance voltage	Result
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.		**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 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	ESCI	ROHDE & SCHWARZ	100364	2019.02.27	2020.02.27
LISN	ENV216	ROHDE & SCHWARZ	101979	2018.12.06	2019.12.06
TRANSIENT LIMITER	TL-B0930A	EMCIS	11002	2018.09.05	2019.09.05

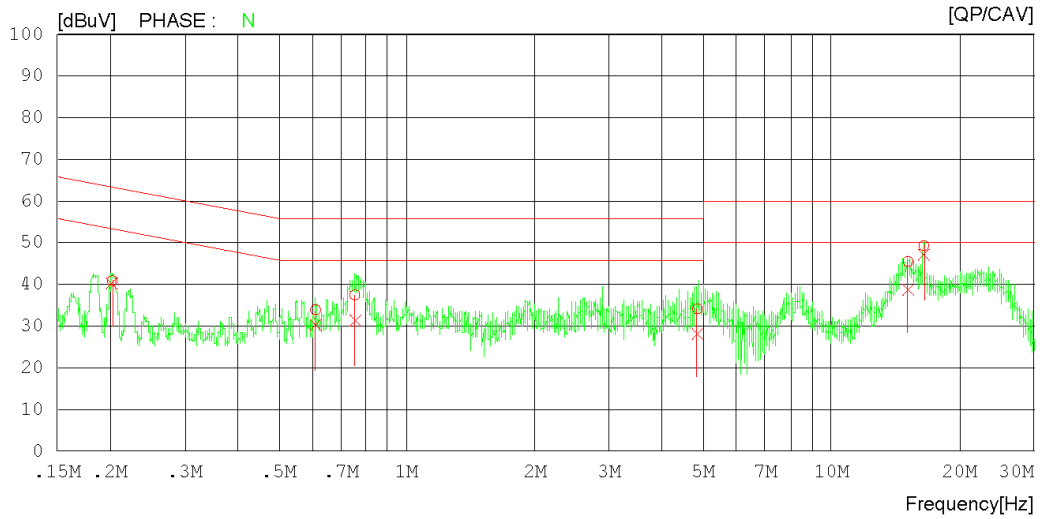
Mains terminal disturbance voltage _Measurement data			
Test configuration mode	**1**	**EUT Operation mode**	**1**
Test voltage (V)	**120**	**Test Frequency (Hz)**	**60**

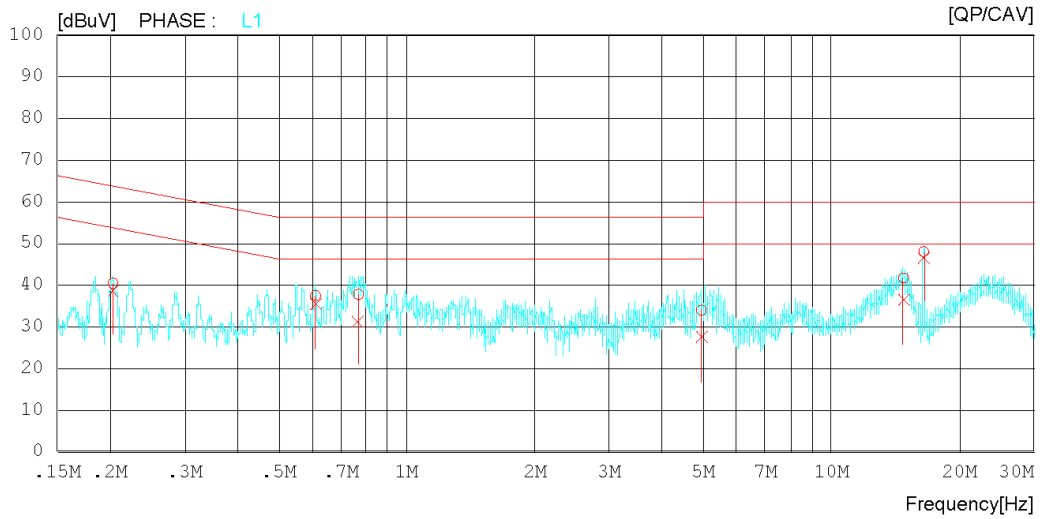
Results of Conducted Emission

DT&C Date 2019-05-31

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi/Atm 22 'C 45 % R.H.
Test Condition PC LINK

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

DT&C Date 2019-05-31

Order No.	DTNC1905-03435
Power Supply	120 V 60 Hz
Temp/Humi/Atm	22 'C 45 % R.H.
Test Condition	PC LINK

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING CAV	C.FACTOR	RESULT QP	RESULT CAV	LIMIT QP	LIMIT CAV	MARGIN QP	MARGIN CAV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.20255	20.89	20.52	20.02	40.91	40.54	63.51	53.51	22.60	12.97	N
2	0.60964	13.91	10.10	20.06	33.97	30.16	56.00	46.00	22.03	15.84	N
3	0.75450	17.50	11.17	20.02	37.52	31.19	56.00	46.00	18.48	14.81	N
4	4.83800	14.17	8.38	19.99	34.16	28.37	56.00	46.00	21.84	17.63	N
5	15.15840	24.45	17.68	21.07	45.52	38.75	60.00	50.00	14.48	11.25	N
6	16.50300	28.26	25.91	21.03	49.29	46.94	60.00	50.00	10.71	3.06	N
7	0.20318	20.30	18.62	20.02	40.32	38.64	63.48	53.48	23.16	14.84	L1
8	0.60946	17.27	15.03	20.06	37.33	35.09	56.00	46.00	18.67	10.91	L1
9	0.76915	17.63	11.33	20.02	37.65	31.35	56.00	46.00	18.35	14.65	L1
10	4.94960	13.86	7.40	20.00	33.86	27.40	56.00	46.00	22.14	18.60	L1
11	14.81160	20.47	15.21	21.07	41.54	36.28	60.00	50.00	18.46	13.72	L1
12	16.50400	26.88	25.49	21.03	47.91	46.52	60.00	50.00	12.09	3.48	L1

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)

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	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	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**

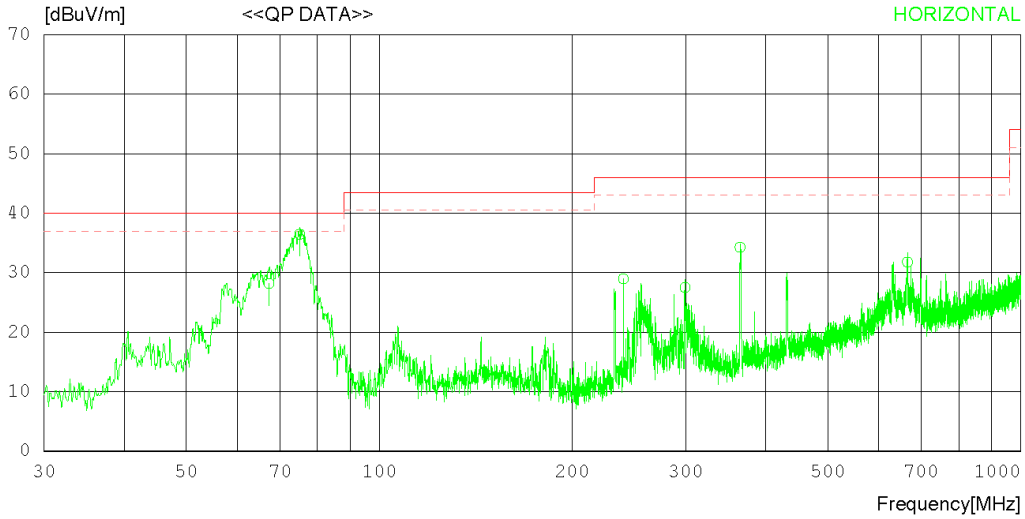
RADIATED EMISSION

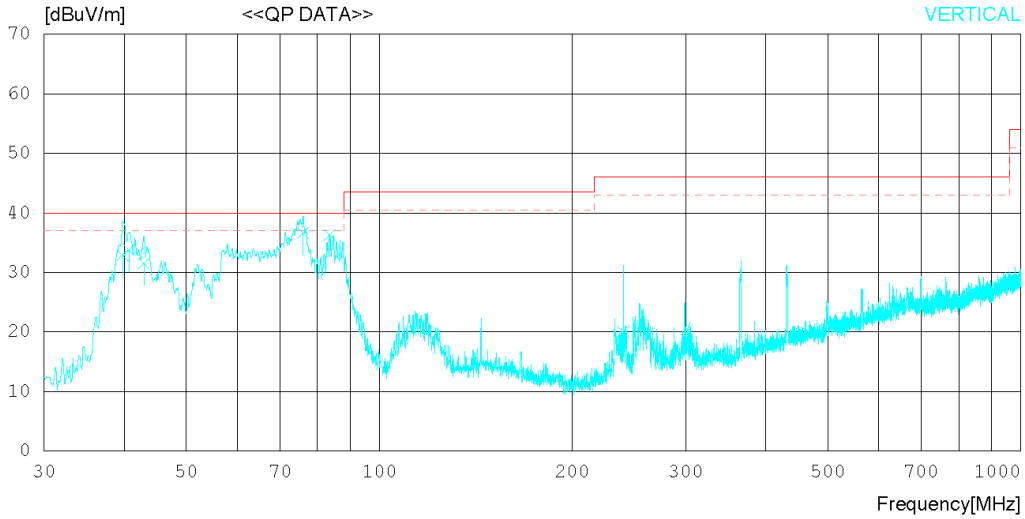
Date 2019-05-25

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % R.H.
Test Condition PC LINK

Memo

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





RADIATED EMISSION

Date 2019-05-25

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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	67.270	35.60	17.02	1.33	25.77	28.18	40.00	11.82	216	159
2	75.109	45.00	15.78	1.43	25.75	36.46	40.00	3.54	134	268
3	240.023	34.50	18.10	2.07	25.71	28.96	46.00	17.04	100	124
4	299.594	31.60	19.50	2.25	25.84	27.51	46.00	18.49	107	356
5	364.828	37.20	20.49	2.45	25.88	34.26	46.00	11.74	120	130
6	665.499	26.80	27.35	3.24	25.62	31.77	46.00	14.23	298	119
----- Vertical ------										
7	39.761	40.70	16.80	1.20	25.81	32.89	40.00	7.11	113	47
8	40.686	41.30	17.14	1.20	25.81	33.83	40.00	6.17	145	172
9	42.972	38.50	17.60	1.22	25.81	31.51	40.00	8.49	100	160
10	76.039	45.40	15.59	1.43	25.75	36.67	40.00	3.33	214	358
11	83.701	46.80	13.76	1.48	25.73	36.31	40.00	3.69	328	169
12	239.851	25.60	18.09	2.07	25.71	20.05	46.00	25.95	200	273

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**

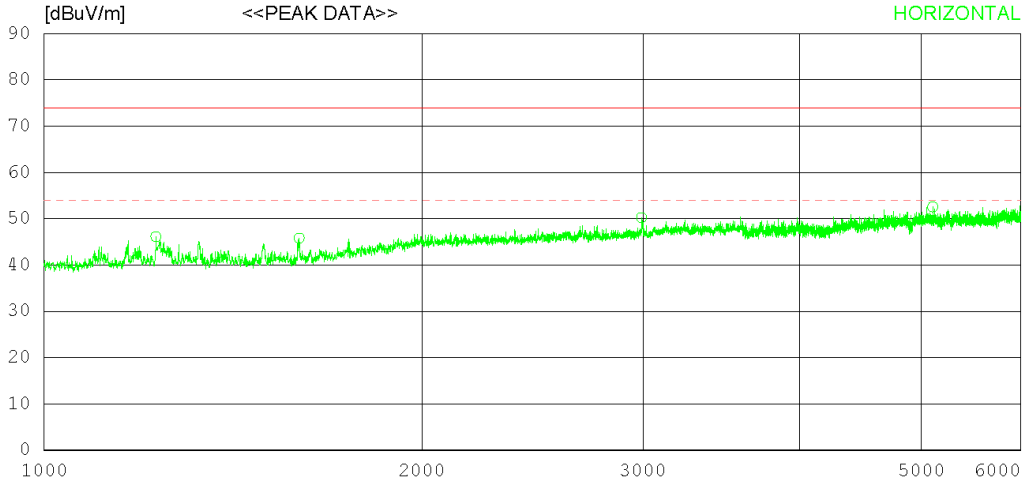
RADIATED EMISSION

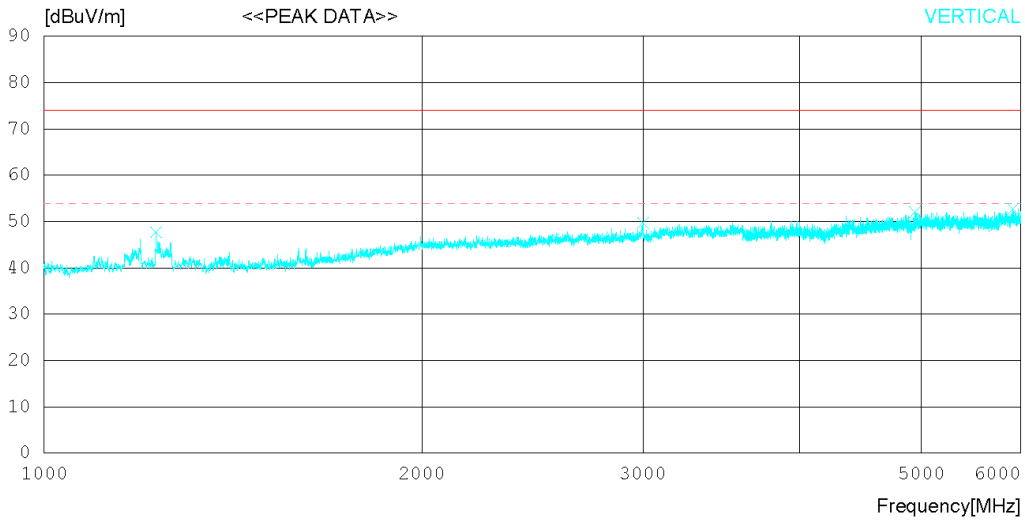
Date 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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	1227.500	48.20	28.75	4.78	35.62	46.11	74.0	27.89	300	254
2	1596.875	47.40	28.38	5.27	35.24	45.81	74.0	28.19	125	214
3	2991.875	45.10	32.48	7.49	34.84	50.23	74.0	23.77	100	237
4	5103.750	42.40	34.11	10.70	34.65	52.56	74.0	21.44	327	359
----- Vertical ------										
5	1227.500	49.80	28.75	4.78	35.62	47.71	74.0	26.29	119	0
6	3001.250	44.50	32.51	7.51	34.84	49.68	74.0	24.32	190	358
7	4941.875	41.80	34.18	10.68	34.62	52.04	74.0	21.96	386	343
8	5912.500	41.20	35.03	11.29	34.75	52.77	74.0	21.23	199	21

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**

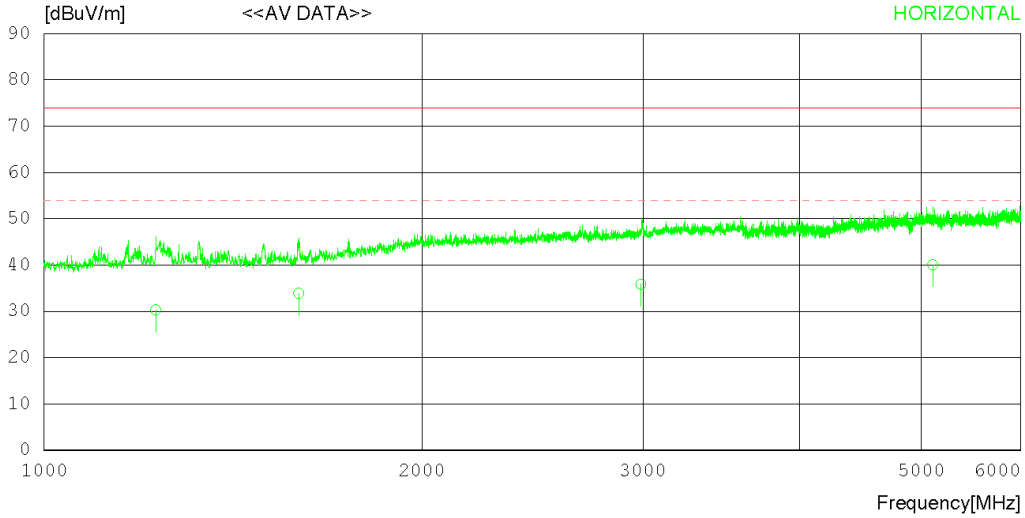
RADIATED EMISSION

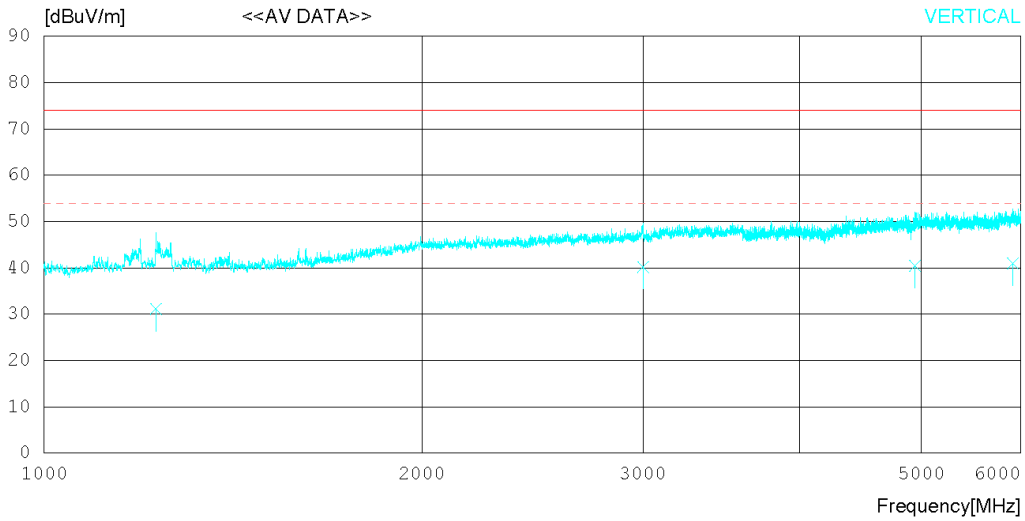
Date 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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	1227.161	32.40	28.75	4.78	35.62	30.31	54.00	23.69	316	189
2	1595.134	35.50	28.37	5.26	35.24	33.89	54.00	20.11	137	246
3	2988.960	30.70	32.48	7.49	34.84	35.83	54.00	18.17	115	238
4	5103.351	29.90	34.11	10.70	34.65	40.06	54.00	13.94	300	331
----- Vertical ------										
5	1227.828	33.20	28.74	4.78	35.62	31.10	54.00	22.90	124	96
6	3000.161	35.00	32.50	7.51	34.84	40.17	54.00	13.83	199	315
7	4942.086	30.20	34.18	10.68	34.62	40.44	54.00	13.56	400	347
8	5912.986	29.40	35.03	11.29	34.75	40.97	54.00	13.03	220	151

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**

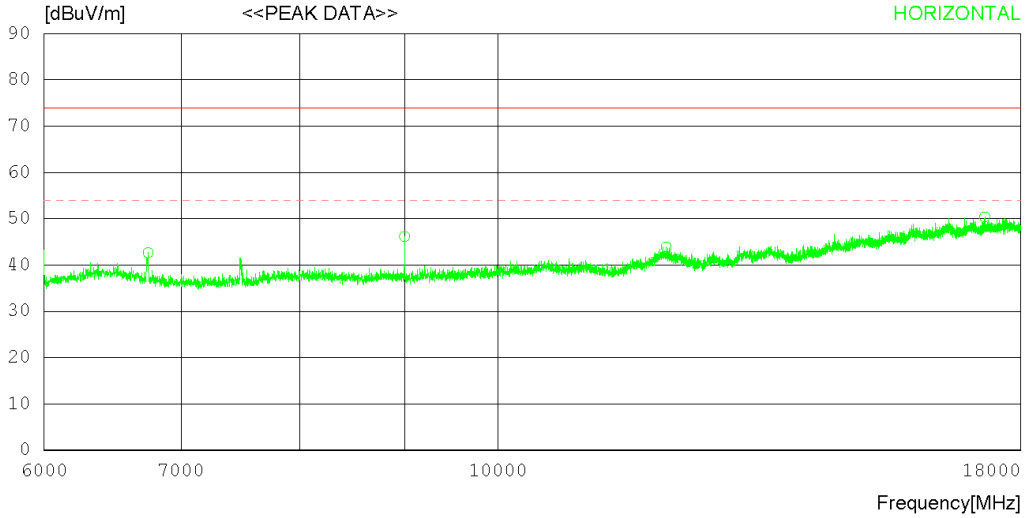
RADIATED EMISSION

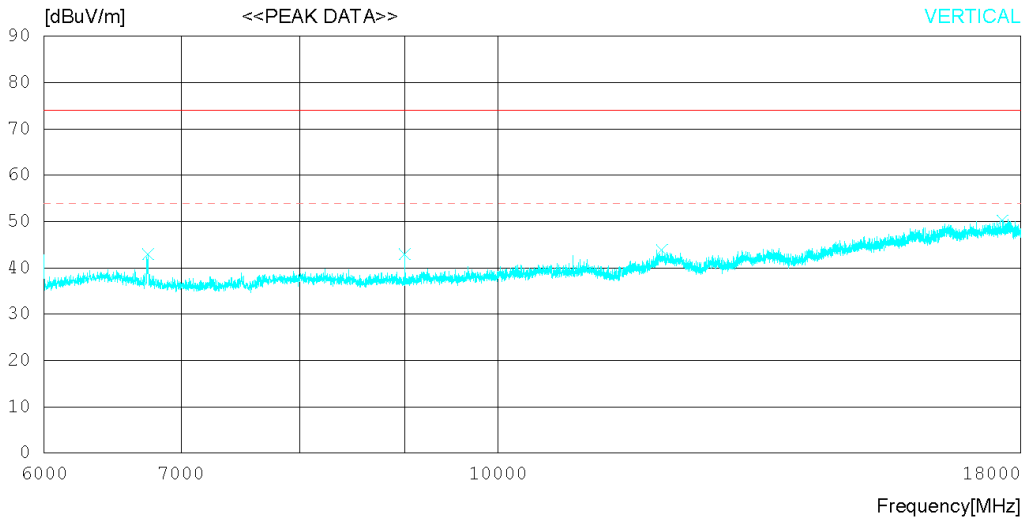
Date 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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	6745.500	38.40	31.52	11.23	38.50	42.65	74.0	31.35	234	0
2	9000.000	39.60	32.10	13.40	38.93	46.17	74.0	27.83	198	0
3	12079.500	32.60	33.47	15.63	37.80	43.90	74.0	30.1	200	0
4	17281.500	30.70	37.77	19.42	37.50	50.39	74.0	23.61	129	358
----- Vertical ------										
5	6742.500	38.70	31.52	11.23	38.49	42.96	74.0	31.04	100	0
6	9000.000	36.40	32.10	13.40	38.93	42.97	74.0	31.03	199	358
7	12019.500	32.50	33.46	15.66	37.69	43.93	74.0	30.07	304	8
8	17634.000	30.30	38.04	19.75	37.86	50.23	74.0	23.77	312	0

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**

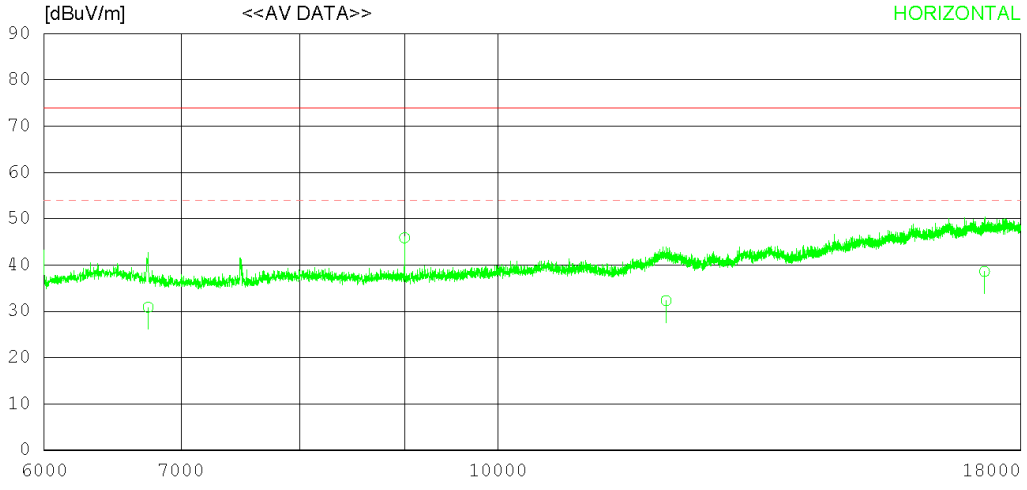
RADIATED EMISSION

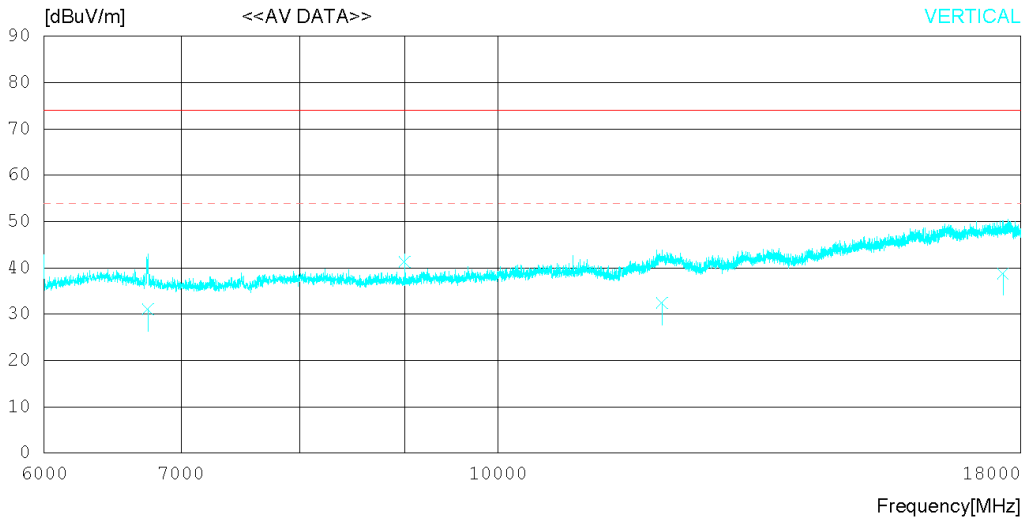
Date 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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	6745.750	26.60	31.52	11.23	38.50	30.85	54.00	23.15	215	96
2	8999.971	39.30	32.10	13.40	38.93	45.87	54.00	8.13	194	174
3	12077.660	21.00	33.47	15.63	37.80	32.30	54.00	21.70	223	162
4	17280.010	18.90	37.77	19.42	37.50	38.59	54.00	15.41	112	263
----- Vertical ------										
5	6742.935	26.80	31.52	11.23	38.49	31.06	54.00	22.94	137	54
6	8999.959	34.70	32.10	13.40	38.93	41.27	54.00	12.73	195	287
7	12019.040	21.00	33.46	15.66	37.69	32.43	54.00	21.57	299	85
8	17636.400	18.90	38.04	19.75	37.87	38.82	54.00	15.18	302	8

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**

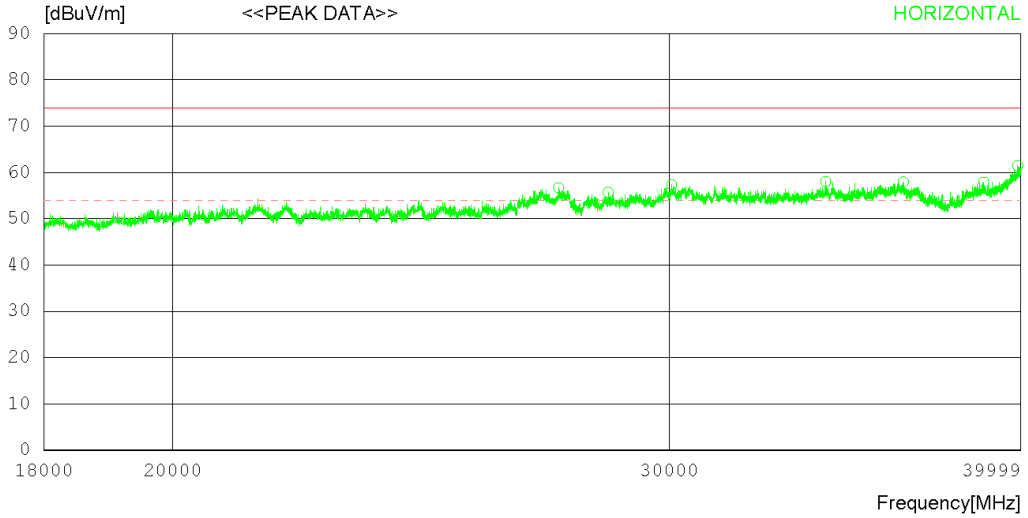
RADIATED EMISSION

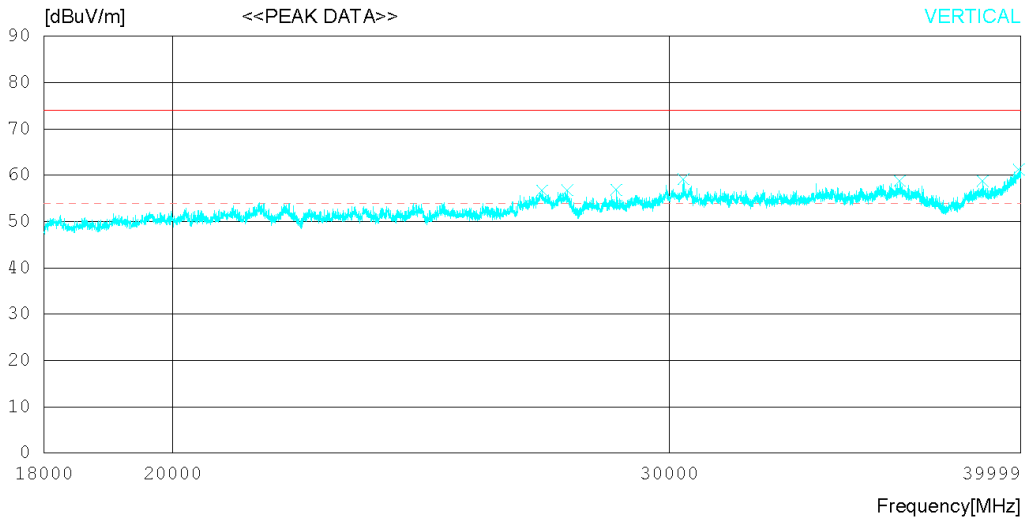
Date 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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 2019-05-29

Order No.	DTNC1905-03435
Power Supply	120 V 60 Hz
Temp/Humi	22 'C 45 % 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	27410.500	42.80	46.83	21.14	54.05	56.72	74.0	17.28	300	142
2	28546.250	40.50	47.12	21.97	53.85	55.74	74.0	18.26	218	358
3	30069.750	41.10	48.10	21.72	53.60	57.32	74.0	16.68	315	0
4	34104.000	41.20	48.18	23.06	54.41	58.03	74.0	15.97	300	0
5	36334.250	41.20	48.11	22.99	54.38	57.92	74.0	16.08	178	351
6	38801.000	40.30	47.80	23.09	53.28	57.91	74.0	16.09	400	358
7	39895.500	41.40	48.64	23.99	52.57	61.46	74.0	12.54	100	309
----- Vertical ------										
8	27044.750	43.30	46.86	20.71	54.12	56.75	74.0	17.25	199	0
9	27608.500	42.80	46.82	21.22	54.02	56.82	74.0	17.18	299	358
10	28736.000	41.50	47.24	21.93	53.82	56.85	74.0	17.15	311	265
11	30353.000	43.00	47.92	21.85	53.60	59.17	74.0	14.83	299	210
12	36235.250	42.00	48.22	22.98	54.42	58.78	74.0	15.22	100	214
13	38765.250	41.20	47.76	23.11	53.30	58.77	74.0	15.23	178	0
14	39934.000	41.10	48.66	24.05	52.54	61.27	74.0	12.73	400	358

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**

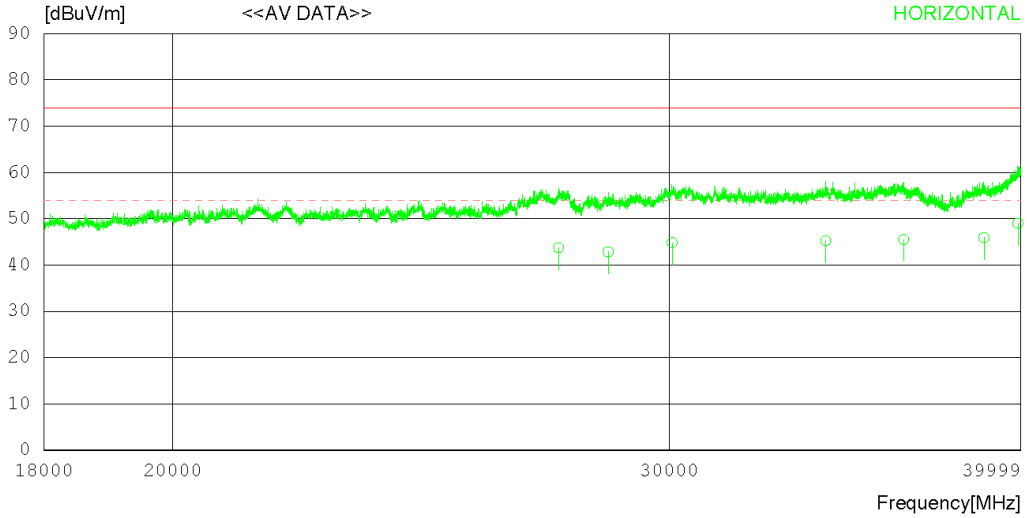
RADIATED EMISSION

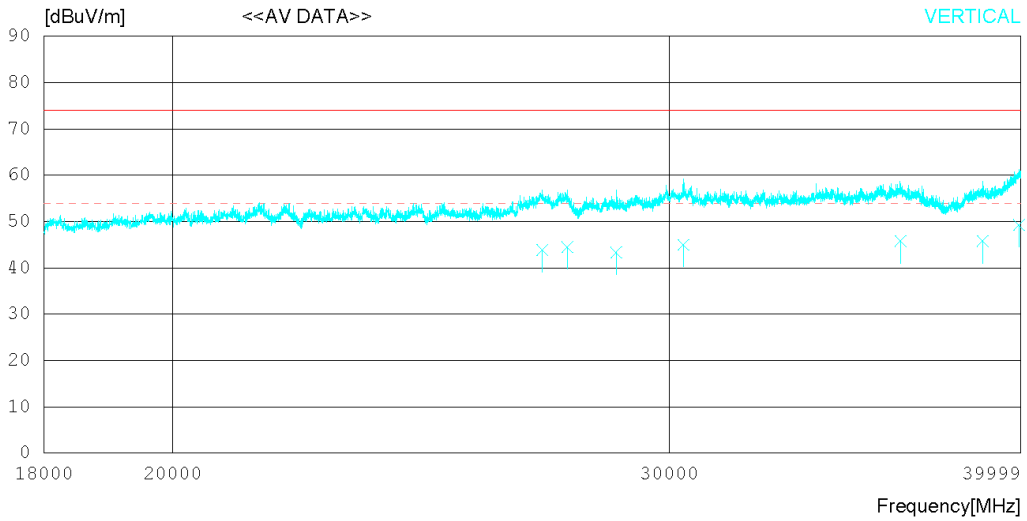
Date 2019-05-29

Order No. DTNC1905-03435
Power Supply 120 V 60 Hz
Temp/Humi 22 'C 45 % 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 2019-05-29

Order No.	DTNC1905-03435
Power Supply	120 V 60 Hz
Temp/Humi	22 'C 45 % 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	27411.54029.80	46.83	21.14	54.05	43.72	54.00	10.28	287	140	
2	28545.92027.60	47.12	21.97	53.85	42.84	54.00	11.16	200	105	
3	30073.45028.60	48.09	21.72	53.60	44.81	54.00	9.19	328	73	
4	34103.93028.40	48.18	23.06	54.41	45.23	54.00	8.77	310	358	
5	36337.31028.80	48.11	22.99	54.38	45.52	54.00	8.48	199	110	
6	38806.62028.30	47.81	23.08	53.28	45.91	54.00	8.09	395	344	
7	39898.39029.00	48.64	23.99	52.57	49.06	54.00	4.94	100	264	
----- Vertical ------										
8	27046.68030.40	46.86	20.71	54.12	43.85	54.00	10.15	191	56	
9	27606.80030.50	46.82	21.22	54.02	44.52	54.00	9.48	299	350	
10	28735.36028.00	47.24	21.93	53.82	43.35	54.00	10.65	308	90	
11	30352.21028.80	47.92	21.85	53.60	44.97	54.00	9.03	270	274	
12	36252.34029.00	48.20	22.99	54.41	45.78	54.00	8.22	102	1	
13	38765.95028.20	47.76	23.11	53.30	45.77	54.00	8.23	199	300	
14	39935.54029.10	48.67	24.05	52.54	49.28	54.00	4.72	388	199	

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
Jun. 04. 2019	Initial report	JooHo Kim	DaeHwa Eun

-End of test report-