

# 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. : DREFCC2002-0065(1)
2. Client / Applicant
  - Name : LG Electronics MobileComm 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-V600EA / ZNFV600EA
5. Test Standard : ANSI C 63.4 : 2014  
FCC Part 15 Subpart B  
(Class B personal computers and peripherals)
6. Date of Test : Feb. 03. 2020
7. Testing Environment : Temperature (22 ~ 26) °C , Humidity (44 ~ 50) % R.H.
8. Test Result : Refer to the attached Test Result

Affirmation	Tested by	Reviewed by
	Name : JunSeo Park  (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.

**Feb. 24. 2020**

**DT&C Co., Ltd.**

'This test report is not related to KS Q ISO/IEC 17025 and KOLAS accreditation.'

If this report is required to confirmation of authenticity, please contact to [report@dtnc.net](mailto: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.dtn.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 <sup>rd</sup> , 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 MobileComm 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-V600EA
Add Model Name	LMV600EA, V600EA
FCC ID	ZNFV600EA
Rated Power	DC 3.87 V
Remarks	None

**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	DATA COMMUNICAITON	The EUT is reading, writing, internal storage
2	DATA COMMUNICAITON (Dual Screen)	The EUT is reading, writing, internal storage

### 4.3 Test Configuration Mode

No.	Mode	Description
1	DATA COMMUNICAITON	EUT was connected NOTEBOOK by USB cable C type and continuously operated
2	DATA COMMUNICAITON (Dual Screen)	EUT was connected Dual screen and NOTEBOOK by USB cable C type and continuously operated

#### 4.4 Supported Equipment

Used*	Product Type	Manufacturer	Model	Remarks
AE	NOTEBOOK	LG	LG15Z96	607NZUD007502
AE	NOTEBOOK ADAPTOR	Genmao Electronics	LCAP48-WK	N/A
AE	SSD	SAMSUNG	MU-PT250B	S2WKNAAH32059X
AE	KEYBOARD	Logitech	Y-U0011	N/A
AE	MOUSE	Logitech	M-U0026	N/A
AE	LCD MONITOR	DELL	P2217H	N/A
AE	Ear MIC	Lenovo	PB2	N/A
*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
AUX	I/O	1.5	Non shield	Plastic	EUT
USB	I/O	1.5	Shield	Plastic	EUT
USB(EUT)	I/O	1.3	Non shield	Plastic	NOTEBOOK
USB(MOUSE)	I/O	1.8	Non shield	Plastic	
USB(KEYBOARD)	I/O	1.8	Non shield	Plastic	
USB(SSD)	I/O	1.0	Non shield	Plastic	
HDMI(MONITOR)	I/O	1.8	shield	Plastic	
AUX(EAR MIC)	I/O	1.8	Non shield	Plastic	
DC IN(ADAPTOR)	DC	1.8	Non shield	Plastic	NOTEBOOK ADAPTOR
DC OUT POEPOWER	DC AC	1.8 -	Non shield Non shield	Plastic 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 $\mu$ V]	Detector	Limit [dB $\mu$ V]	Margin [dB]
0.19650	N	52.94	Quasi - Peak	63.76	10.82

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dB $\mu$ V/m]	Detector	Limit [dB $\mu$ V/m]	Margin [dB]
39958.620	H	48.60	Cispr - Average	54.00	5.40

## 6. Test Environment

Test Items	Test date (YYYY-MM-DD)	Temp. (°C)	Humidity (% R.H.)	Pressure (kPa)
Conducted Disturbance	2020-02-03	23	50	-
Radiated Disturbance	2020-02-03	24	45	-
	2020-02-03	22	46	
	2020-02-03	26	44	

## 7. Test Results : Emission

### 7.1 Conducted Disturbance

ANSI C63.4	Mains terminal disturbance voltage		Result
<p><b>Method:</b> 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>			<b>Comply</b>
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	
	EUT Operation mode	1, 2	
<b>Limits – Class A</b>			
Frequency (MHz)	Limit dB $\mu$ V		
	Quasi-Peak	Average	
0.15 to 0.50	79	66	
0.50 to 30	73	60	
<b>Limits – Class B</b>			
Frequency (MHz)	Limit dB $\mu$ 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 uncertainty	
Expanded uncertainty $U$ (95 %, Confidence level, $k = 2$ )	2.44 dB
The measurement uncertainties were calculated in accordance with requirements of ANSI C 63.4-2014.	

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	2019.10.24	2020.10.24
TWO-LINE V-NETWORK	ENV216	ROHDE&SCHWARZ	101979	2019.12.06	2020.12.06
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	2019.12.16	2020.12.16

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

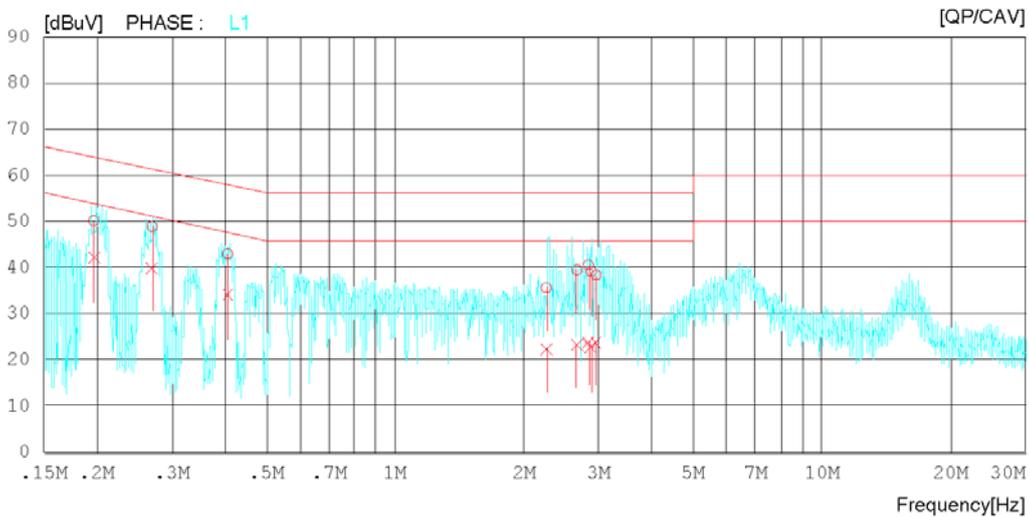
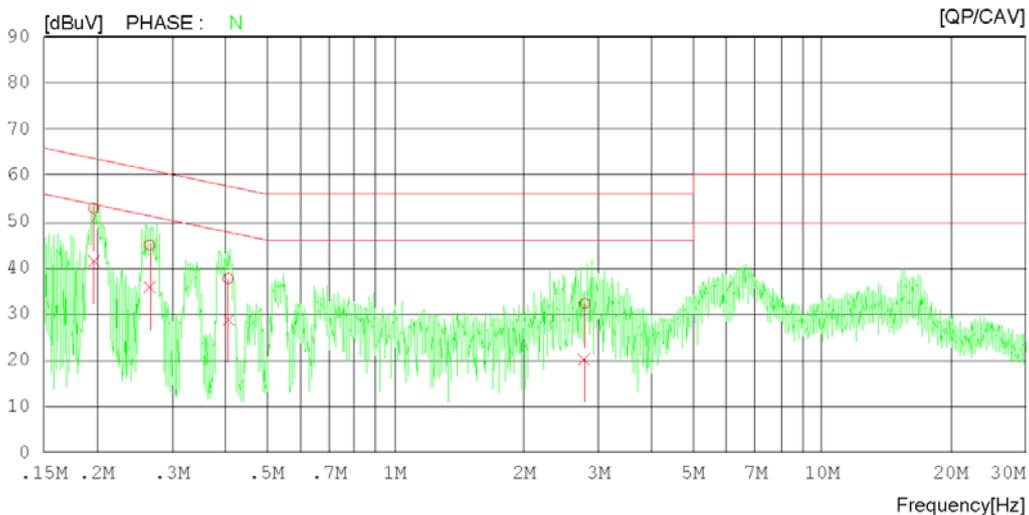
## Results of Conducted Emission

DT&C  
Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi/Atm 23 °C 50 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

LIMIT : CISPR32\_B QP  
 CISPR32\_B AV



## Results of Conducted Emission

DT&C  
Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi/Atm 23 'C 50 % R.H.  
 Test Condition DATA COMMUNICATION

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	0.19650	32.92	21.64	20.02	52.94	41.66	63.76	53.76	10.82	12.10	N
2	0.26550	25.14	16.01	19.84	44.98	35.85	61.26	51.26	16.28	15.41	N
3	0.40593	17.49	8.60	20.18	37.67	28.78	57.73	47.73	20.06	18.95	N
4	2.78014	12.15	0.27	20.10	32.25	20.37	56.00	46.00	23.75	25.63	N
5	0.19650	30.10	22.01	20.02	50.12	42.03	63.76	53.76	13.64	11.73	L1
6	0.26963	29.06	20.16	19.85	48.91	40.01	61.13	51.13	12.22	11.12	L1
7	0.40504	22.78	13.92	20.18	42.96	34.10	57.75	47.75	14.79	13.65	L1
8	2.26108	15.56	2.21	20.11	35.67	22.32	56.00	46.00	20.33	23.68	L1
9	2.67141	19.41	3.29	20.12	39.53	23.41	56.00	46.00	16.47	22.59	L1
10	2.83954	20.49	3.85	20.09	40.58	23.94	56.00	46.00	15.42	22.06	L1
11	2.88126	19.03	2.55	20.09	39.12	22.64	56.00	46.00	16.88	23.36	L1
12	2.95730	18.25	3.77	20.09	38.34	23.86	56.00	46.00	17.66	22.14	L1

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

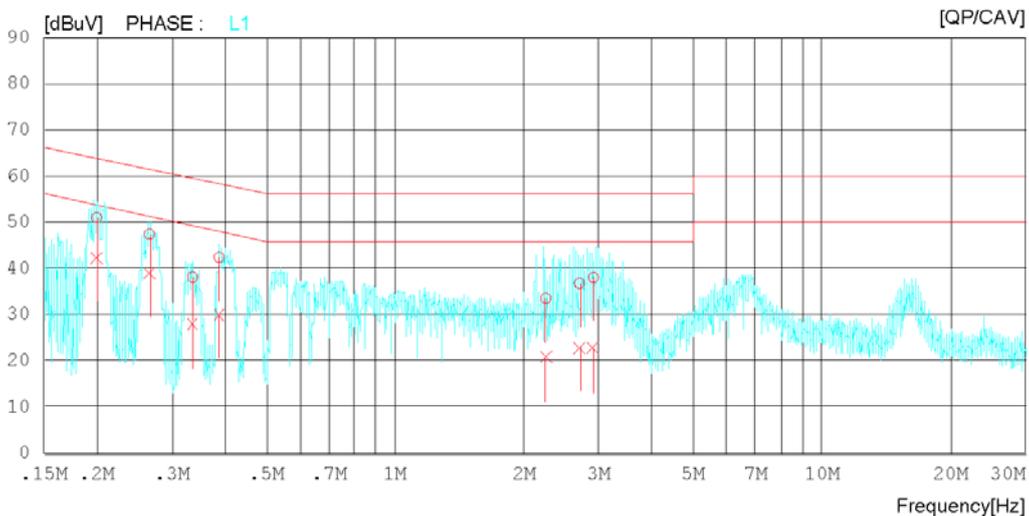
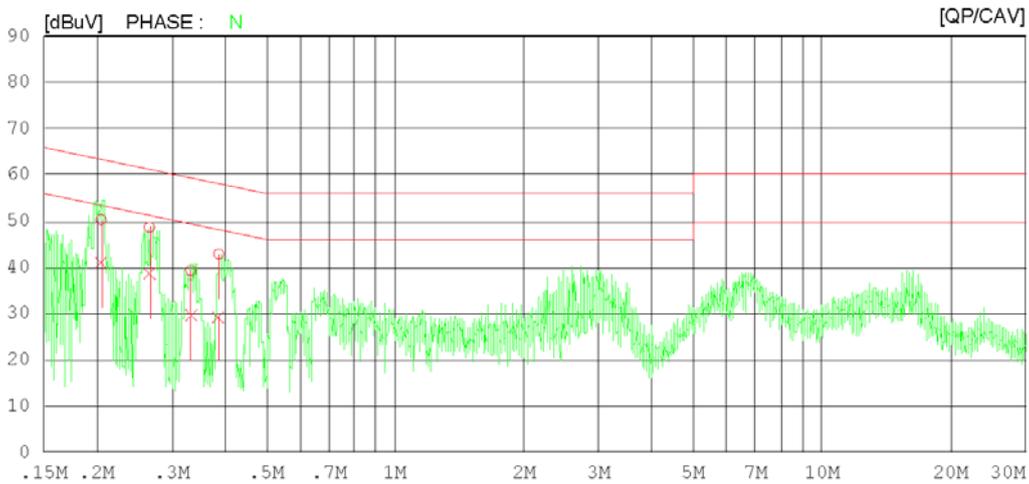
## Results of Conducted Emission

DT&C  
Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi/Atm 23 'C 50 % R.H.  
Test Condition DATA COMMUNICATION

Memo DS

LIMIT : CISPR32\_B QP  
CISPR32\_B AV



## Results of Conducted Emission

DT&C  
Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi/Atm 23 'C 50 % R.H.  
 Test Condition DATA COMMUNICATION

Memo DS

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	0.20450	30.30	20.88	19.98	50.28	40.86	63.43	53.43	13.15	12.57	N
2	0.26550	28.83	18.60	19.84	48.67	38.44	61.26	51.26	12.59	12.82	N
3	0.33200	19.33	9.54	20.00	39.33	29.54	59.40	49.40	20.07	19.86	N
4	0.38588	22.79	9.08	20.13	42.92	29.21	58.15	48.15	15.23	18.94	N
5	0.19950	31.00	22.20	20.00	51.00	42.20	63.63	53.63	12.63	11.43	L1
6	0.26550	27.54	19.20	19.84	47.38	39.04	61.26	51.26	13.88	12.22	L1
7	0.33490	18.14	7.88	20.01	38.15	27.89	59.33	49.33	21.18	21.44	L1
8	0.38625	22.28	9.88	20.13	42.41	30.01	58.14	48.14	15.73	18.13	L1
9	2.25458	13.45	0.74	20.11	33.56	20.85	56.00	46.00	22.44	25.15	L1
10	2.70436	16.65	2.81	20.11	36.76	22.92	56.00	46.00	19.24	23.08	L1
11	2.91558	17.96	2.48	20.09	38.05	22.57	56.00	46.00	17.95	23.43	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
<b>Method:</b> 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.				<b>Comply</b>
<b>EUT mode</b> (Refer to clauses 4)	<b>Test configuration mode</b>		1, 2	
	<b>EUT Operation mode</b>		1, 2	
<b>Radiated Disturbance below 1 000 MHz</b>				
<b>Frequency range</b> (MHz)	<b>Quasi-peak limit dBµV/m</b>			
	<b>Class A</b>		<b>Class B</b>	
	<b>3 m distance</b>	<b>10 m distance</b>	<b>3 m distance</b>	
30 to 88	49.1	39.1	40	
88 to 216	53.5	43.5	43.5	
216 to 960	56.4	46.4	46	
960 to 1 000	59.5	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.				
<b>Frequency range</b> (MHz)	<b>Quasi-peak limit dBµV/m</b>			
	<b>Class A (10 m distance)</b>		<b>Class B (10 m distance)</b>	
30 to 230	40		30	
230 to 1 000	47		37	
<b>Radiated Disturbance for above 1 000 MHz at a measurement distance of 3 m</b>				
<b>Frequency range</b> (GHz)	<b>Peak limit dBµV/m</b>		<b>Average limit dBµV/m</b>	
	<b>Class A</b>	<b>Class B</b>	<b>Class A</b>	<b>Class B</b>
1 to 40	80	74	60	54
<b>The test frequency range of Radiated Disturbance measurements are listed below.</b>				
<b>Highest frequency generated or used in the device or on which the device operates or tunes (MHz)</b>			<b>Upper frequency of measurement range (MHz)</b>	
Below 108			1 000	
108 – 500			2 000	
500 – 1 000			5 000	
Above 1 000			5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower	
<b>Measurement uncertainty</b>				
Expended uncertainty <i>U</i> (95 %, Confidence level, <i>k</i> = 2)			2.89 dB, (30 ~ 1 000) MHz 4.22 dB, (1 GHz Above)	
The measurement uncertainties were calculated in accordance with requirements of ANSI C 63.4-2014.				

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	2019.06.12	2020.06.12
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
HORN ANTENNA	3117	ETS-LINDGREN	00152093	2018.03.26	2020.03.26
PRE AMPLIFIER	8449B	H.P	3008A00887	2019.08.26	2020.08.26
HORN ANTENNA WITH PREAMPLIFIER	EM-6969	ELECTRO-METRICS	156	2019.02.13	2021.02.13
	MLA-0618-B03-34	TSJ	1785642	2019.12.31	2020.12.31
HORN ANTENNA WITH PREAMPLIFIER	SAS-574	A.H.SYSTEMS INC.	155	2019.07.03	2021.07.03
	MLA-1840-J02-45	TSJ	16966-10728	2019.06.27	2020.06.27

(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

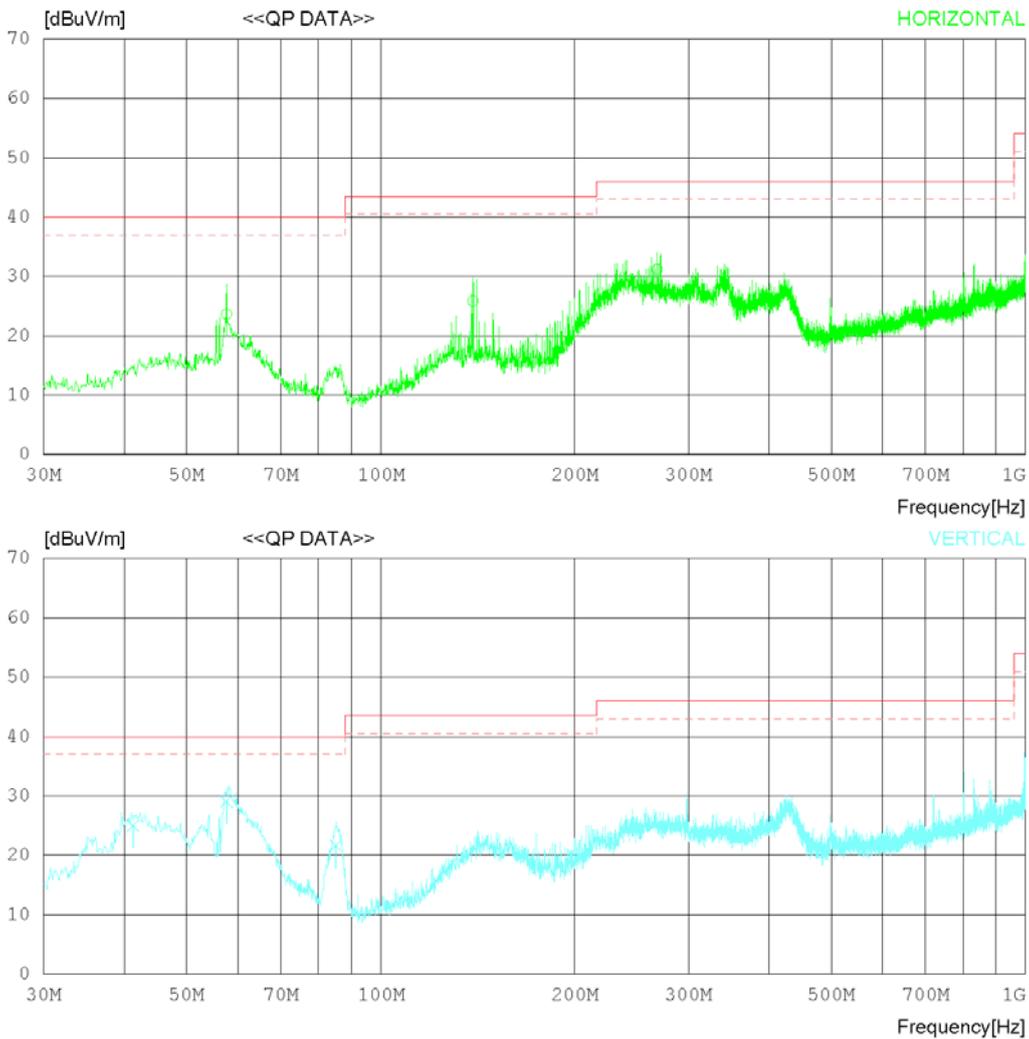
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 24 °C 45 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 24 °C 45 % R.H.  
Test Condition DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	41.276	32.25	17.36	1.21	25.81	0	25.01	40	14.99	Vert	230	72
2	57.645	35.63	17.89	1.29	25.78	0	29.03	40	10.97	Vert	273	113
3	57.645	30.25	17.89	1.29	25.78	0	23.65	40	16.35	Hori	302	78
4	85.168	32.33	13.58	1.5	25.73	0	21.68	40	18.32	Vert	113	208
5	139.002	31.25	18.63	1.68	25.68	0	25.88	43.5	17.62	Hori	213	134
6	268.371	36.21	18.6	2.15	25.78	0	31.18	46	14.82	Hori	144	308

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

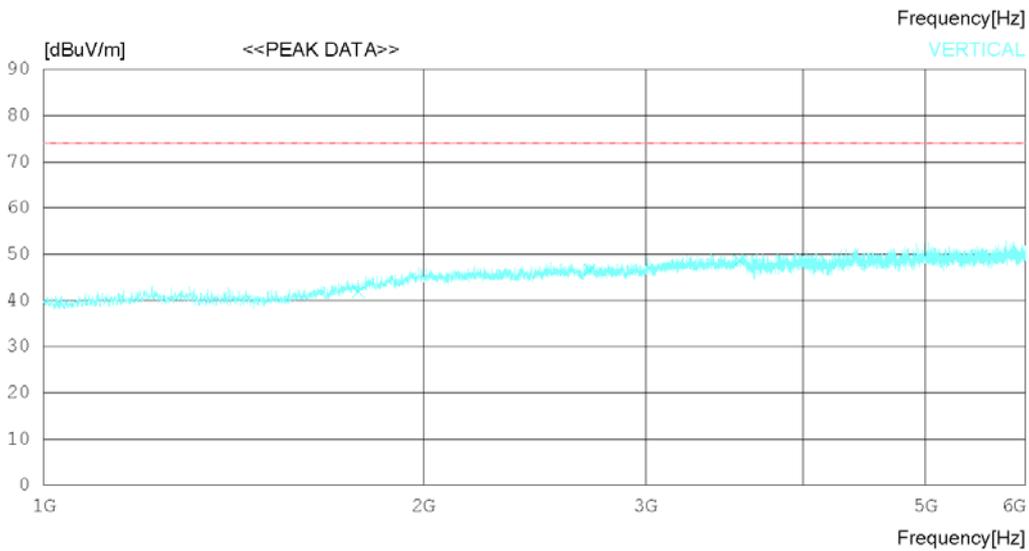
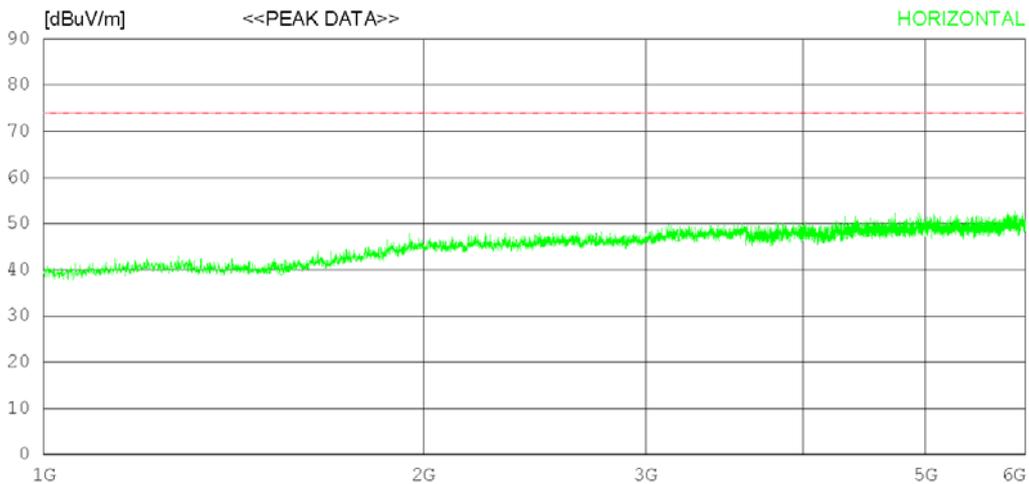
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 24 °C 45 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 24 °C 45 % R.H.  
Test Condition DATA COMMUNICATION

### Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	1543.125	41.6	28.07	5.39	34.98	0	40.08	74	33.92	Hori	325	0
2	3180.625	41	33.12	7.94	34.68	0	47.38	74	26.62	Hori	124	0
3	4018.125	38.9	33.26	9.23	33.56	0	47.83	74	26.17	Hori	305	200
4	1776.875	40.7	30.03	5.8	34.65	0	41.88	74	32.12	Vert	125	358
5	2709.375	41.5	32.58	7.21	34.76	0	46.53	74	27.47	Vert	255	358
6	3561.875	41.3	33.04	8.46	34.15	0	48.65	74	25.35	Vert	112	351

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

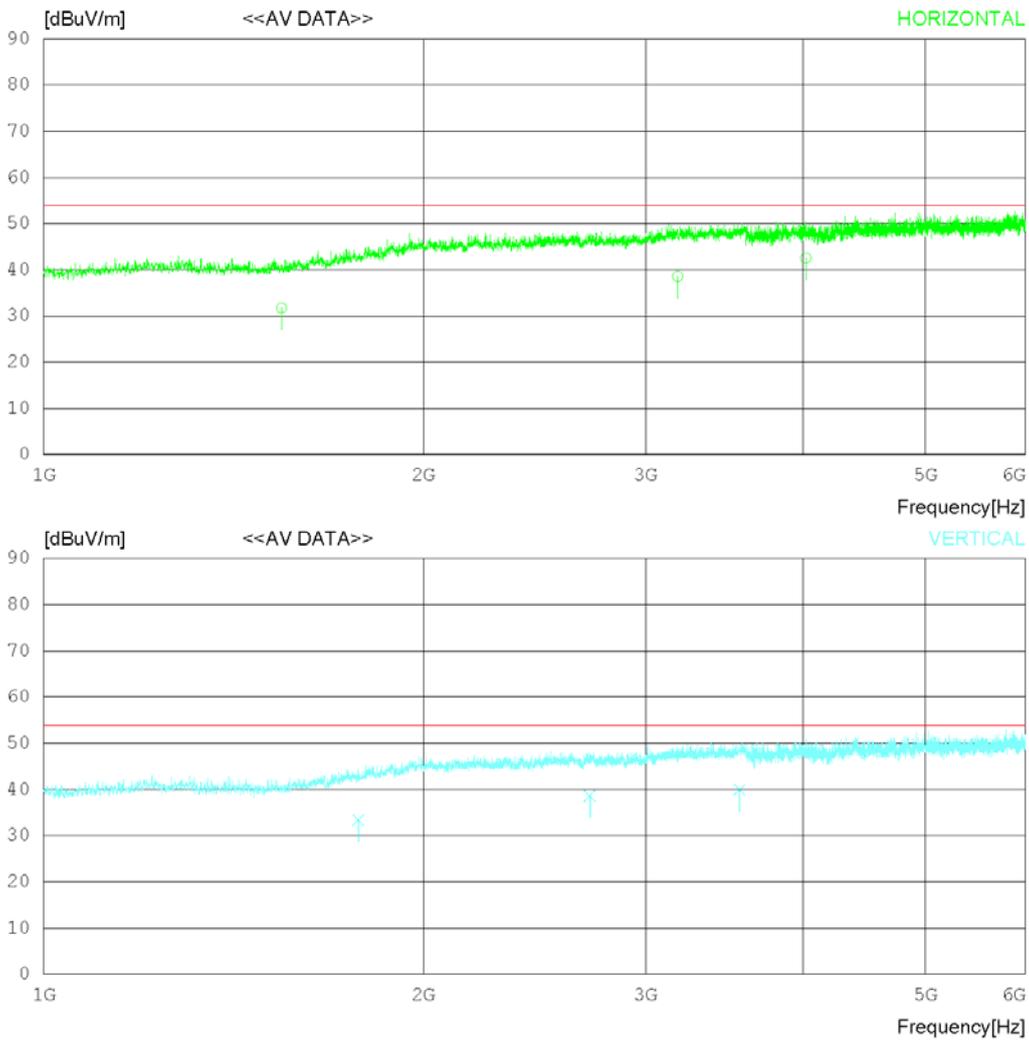
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 24 °C 45 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 24 °C 45 % R.H.  
Test Condition DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	1543.111	33.26	28.07	5.39	34.98	0	31.74	54	22.26	Hori	120	78
2	1776.421	32.2	30.02	5.8	34.66	0	33.36	54	20.64	Vert	205	127
3	2709.311	33.63	32.58	7.21	34.76	0	38.66	54	15.34	Vert	113	305
4	3180.612	32.17	33.12	7.94	34.68	0	38.55	54	15.45	Hori	220	132
5	3561.652	32.63	33.04	8.46	34.15	0	39.98	54	14.02	Vert	342	112
6	4018.13	33.62	33.26	9.23	33.56	0	42.55	54	11.45	Hori	307	223

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

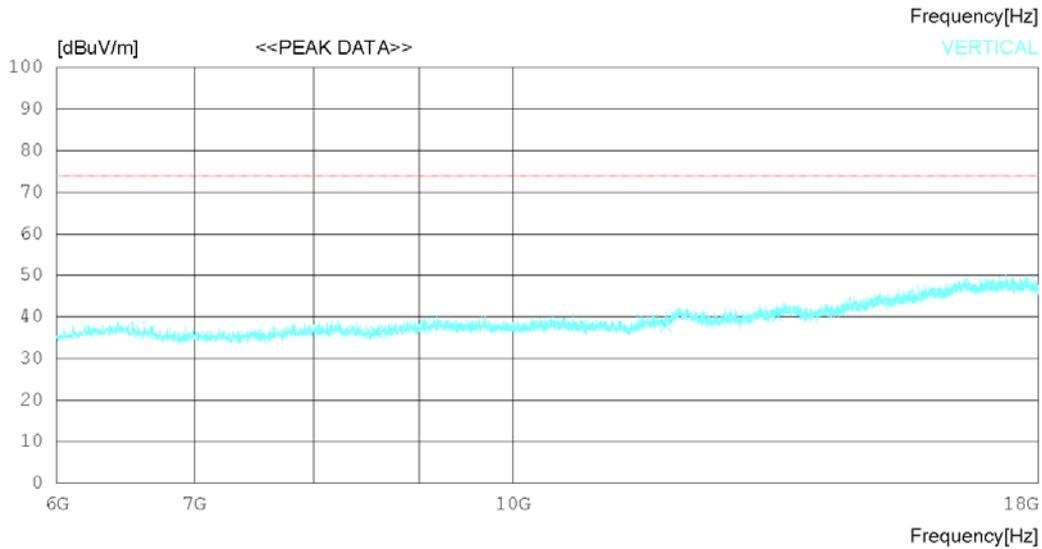
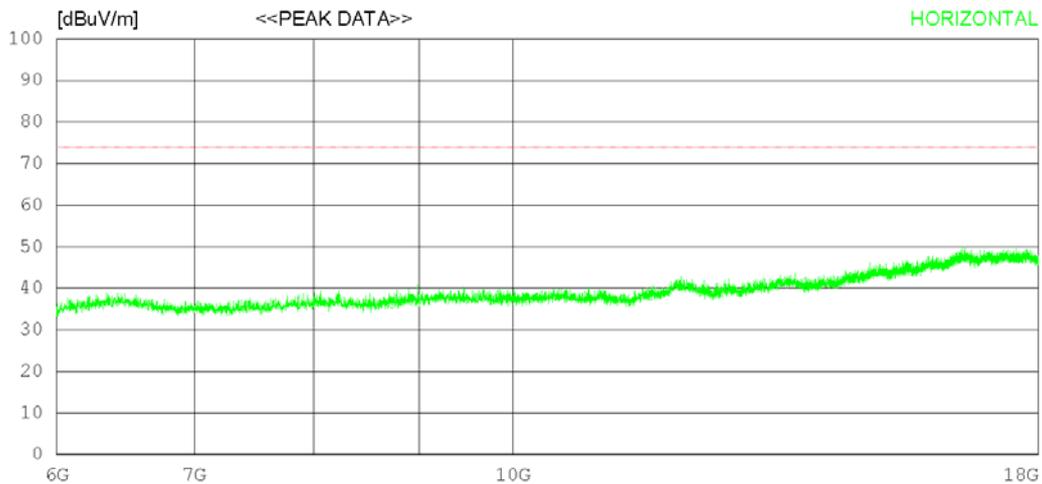
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 22 °C 46 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 22 °C 46 % R.H.  
Test Condition DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	8728.5	28.8	31.88	13.2	37.34	0	36.54	74	37.46	Hori	235	358
2	11653.5	28.1	33.1	15.38	38.19	0	38.39	74	35.61	Hori	211	358
3	13869	27.6	33.86	17.15	37.47	0	41.14	74	32.86	Hori	302	358
4	8577	29	31.76	12.92	37.25	0	36.43	74	37.57	Vert	112	29
5	11863.5	27.1	33.32	15.4	37.89	0	37.93	74	36.07	Vert	235	8
6	13447.5	27	33.71	16.89	37.45	0	40.15	74	33.85	Vert	134	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

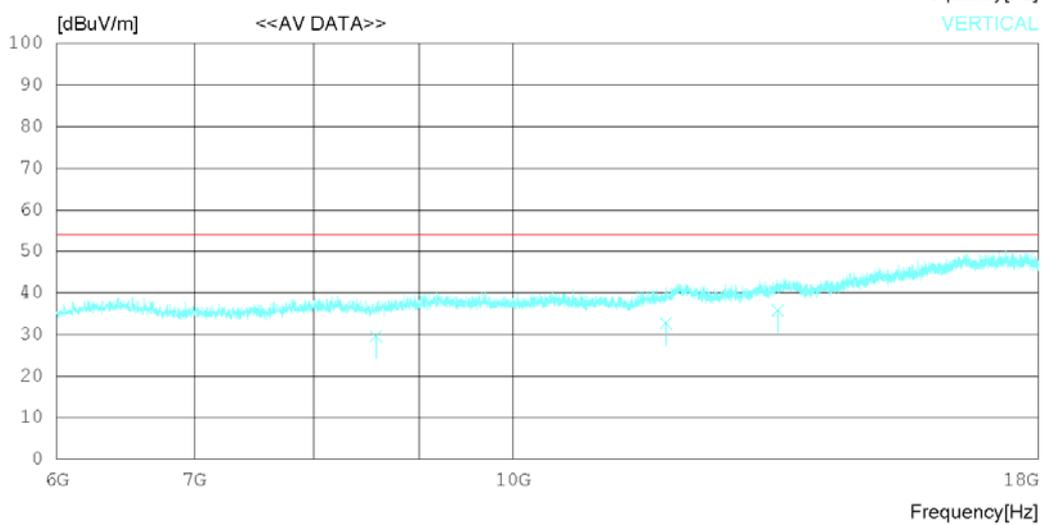
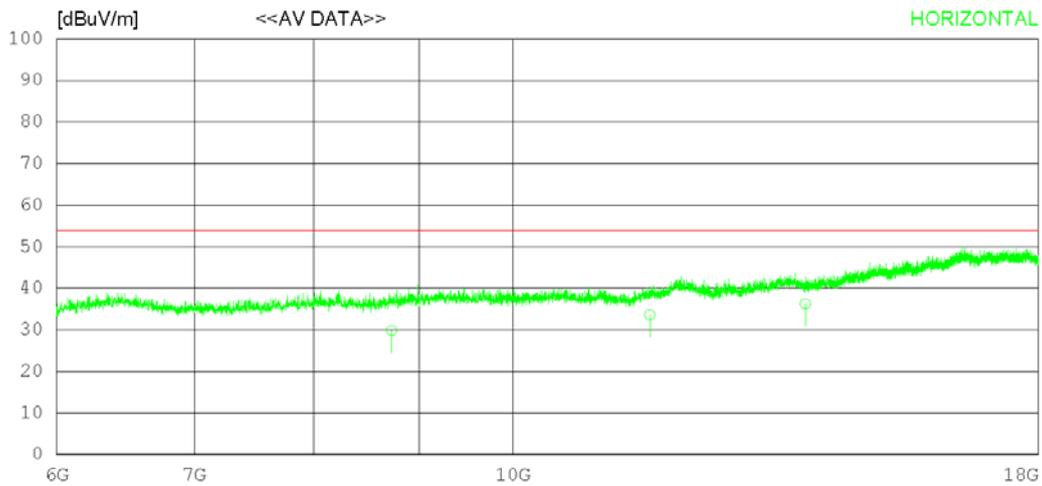
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 22 °C 46 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 22 °C 46 % R.H.  
Test Condition DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	8577.124	22.23	31.76	12.92	37.25	0	29.66	54	24.34	Vert	120	78
2	8728.124	22.12	31.88	13.2	37.34	0	29.86	54	24.14	Hori	210	78
3	11653.52	23.32	33.1	15.38	38.19	0	33.61	54	20.39	Hori	137	162
4	11863.51	21.83	33.32	15.4	37.89	0	32.66	54	21.34	Vert	224	112
5	13447.42	22.67	33.71	16.89	37.45	0	35.82	54	18.18	Vert	308	226
6	13869.3	22.72	33.86	17.15	37.47	0	36.26	54	17.74	Hori	224	226

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

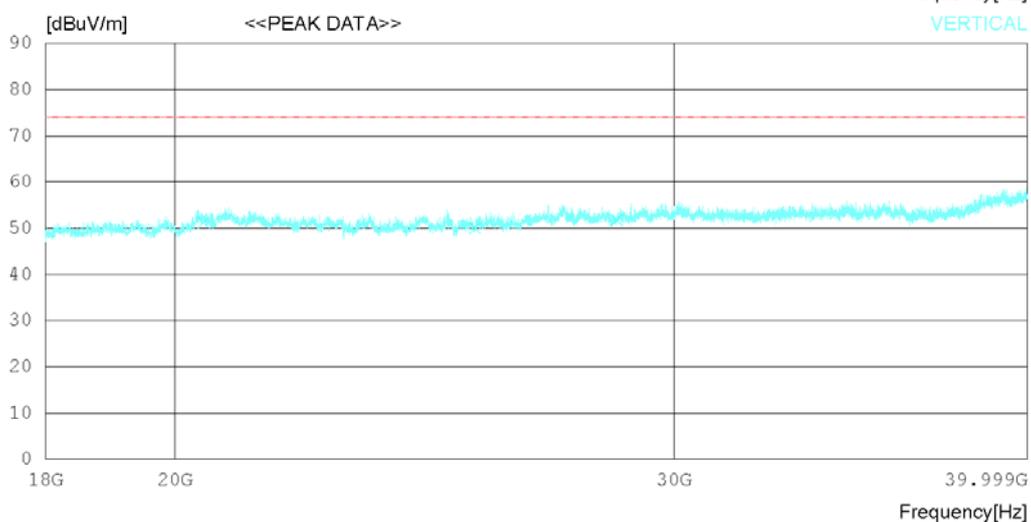
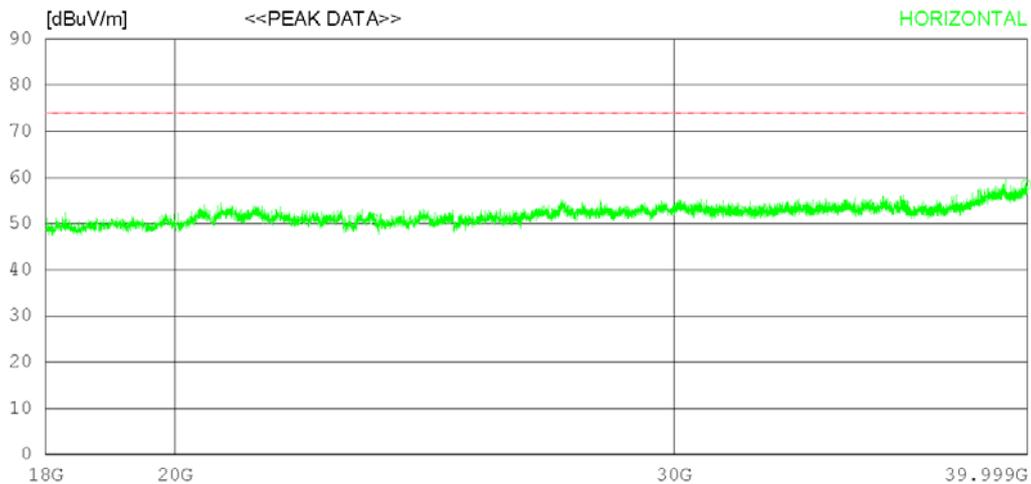
## RADIATED EMISSION

Date 2020-02-03

Order No.	DTNC1912-10378
Power Supply	120 V 60 Hz
Temp/Humi	26 °C 44 % R.H.
Test Condition	DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 26 °C 44 % R.H.  
Test Condition DATA COMMUNICATION

### Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	23513.75	39.4	45.3	20.27	54.05	0	50.92	74	23.08	Hori	342	107
2	31648.25	35.9	46.8	22.33	52.28	0	52.75	74	21.25	Hori	224	358
3	39958.75	37	49.22	24.37	52.2	0	58.39	74	15.61	Hori	305	358
4	20469.5	39.5	45.4	19.49	53.21	0	51.18	74	22.82	Vert	112	125
5	25524	36.9	45.8	20.96	53.64	0	50.02	74	23.98	Vert	205	6
6	28639.75	36.2	46.6	21.63	52.64	0	51.79	74	22.21	Vert	113	28

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

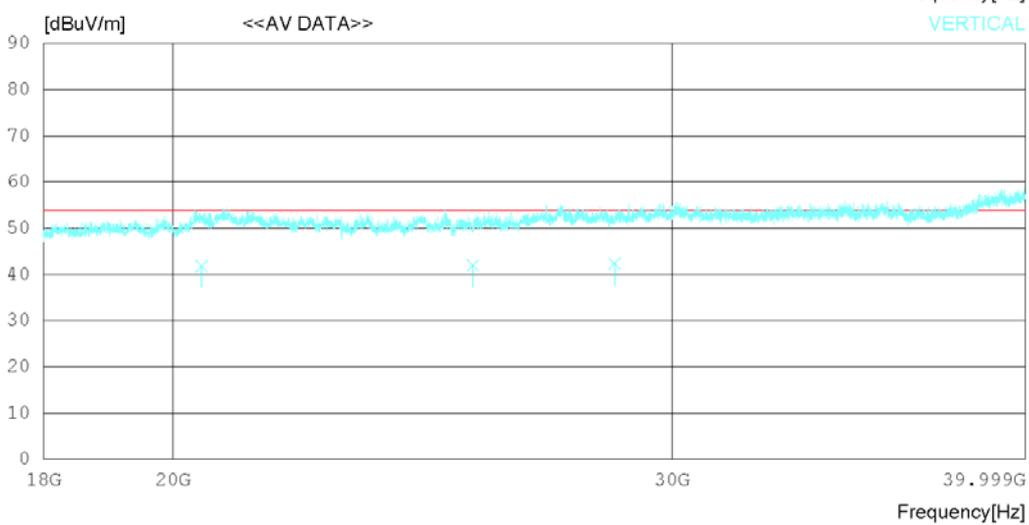
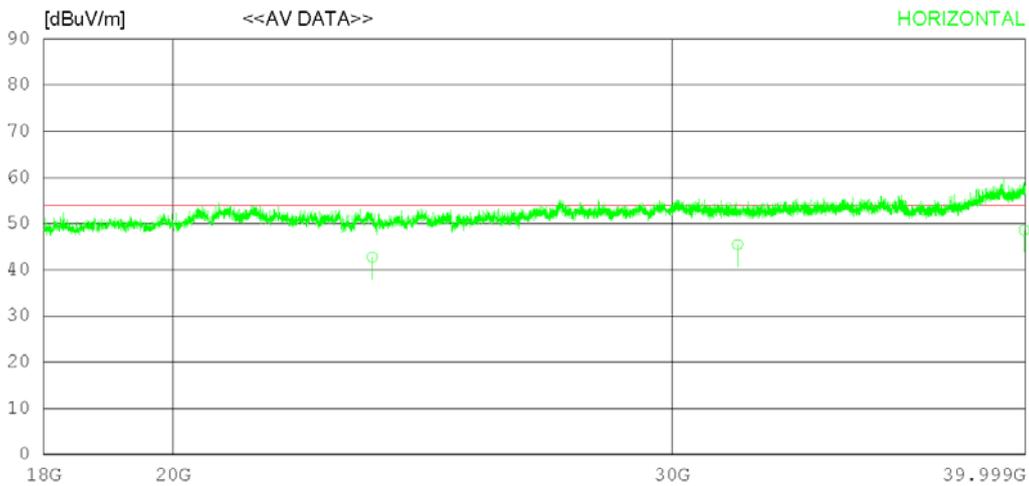
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 26 °C 44 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 26 °C 44 % R.H.  
Test Condition DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	20469.51	30.2	45.4	19.49	53.21	0	41.88	54	12.12	Vert	230	78
2	23513.11	31.23	45.3	20.27	54.05	0	42.75	54	11.25	Hori	224	120
3	25524.72	28.92	45.8	20.96	53.64	0	42.04	54	11.96	Vert	224	134
4	28639.11	26.78	46.6	21.63	52.64	0	42.37	54	11.63	Vert	342	208
5	31648.21	28.62	46.8	22.33	52.28	0	45.47	54	8.53	Hori	223	227
6	39958.62	27.21	49.22	24.37	52.2	0	48.6	54	5.4	Hori	302	134

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

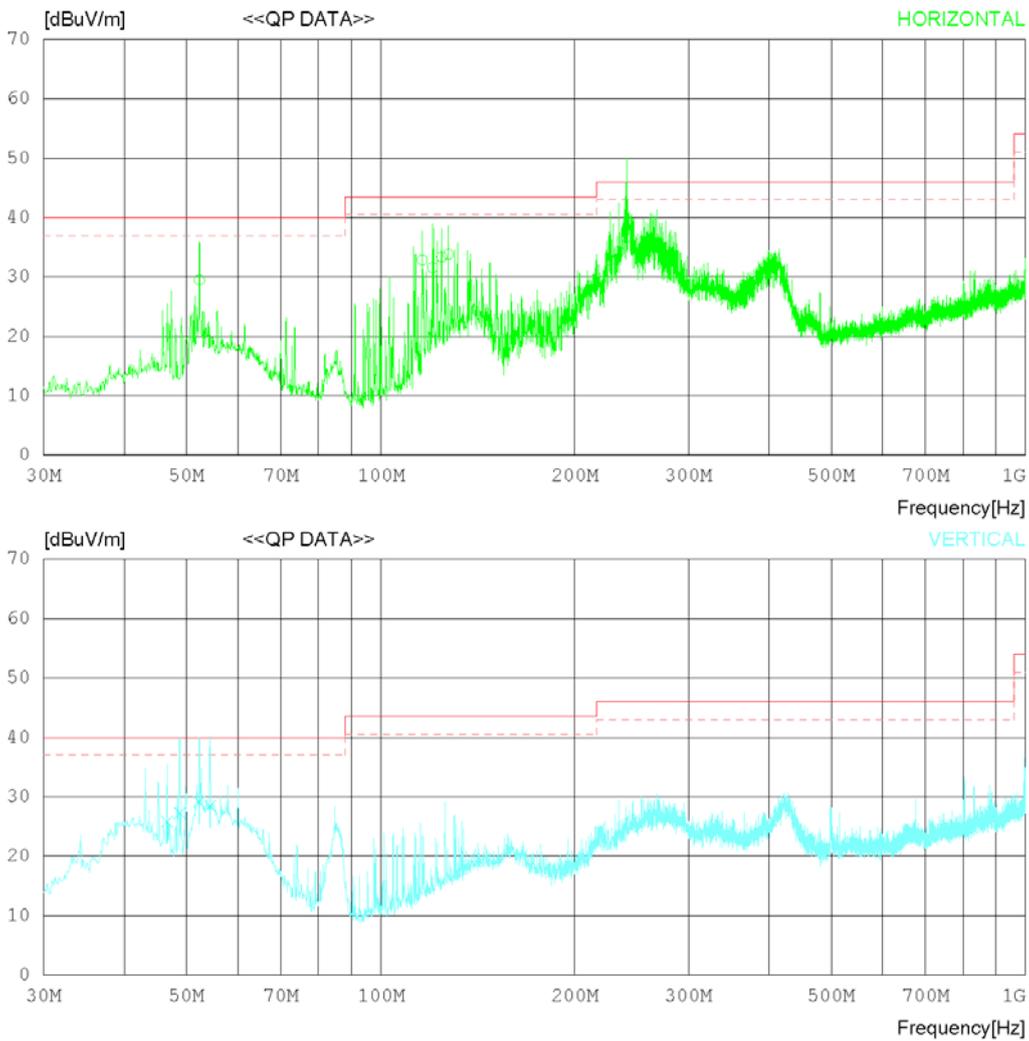
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 24 °C 45 % R.H.  
 Test Condition DATA COMMUNICATION

Memo DS

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



## RADIATED EMISSION

Date 2020-02-03

Order No.	DTNC1912-10378
Power Supply	120 V 60 Hz
Temp/Humi	24 °C 45 % R.H.
Test Condition	DATA COMMUNICATION

Memo                      DS

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	46.611	32.5	17.9	1.25	25.8	0	25.85	40	14.15	Vert	120	241
2	48.794	33.62	18.14	1.28	25.8	0	27.24	40	12.76	Vert	202	348
3	52.31	35.23	18.43	1.29	25.8	0	29.15	40	10.85	Vert	342	1
4	52.31	35.54	18.43	1.29	25.8	0	29.46	40	10.54	Hori	120	25
5	54.371	34.22	18.75	1.29	25.79	0	28.47	40	11.53	Vert	178	57
6	115.965	40.2	16.7	1.64	25.69	0	32.85	43.5	10.65	Hori	305	51
7	120.208	38.67	16.92	1.66	25.69	0	31.56	43.5	11.94	Hori	227	66
8	124.331	39.99	17.38	1.66	25.69	0	33.34	43.5	10.16	Hori	134	72
9	127.241	40.12	17.7	1.66	25.68	0	33.8	43.5	9.7	Hori	134	225
10	226.784	39.25	17.24	2.03	25.68	0	32.84	46	13.16	Hori	332	322
11	234.059	40.25	17.68	2.05	25.7	0	34.28	46	11.72	Hori	273	20
12	240.121	42.22	18.1	2.07	25.71	0	36.68	46	9.32	Hori	231	234
13	240.97	43.62	18.09	2.07	25.71	0	38.07	46	7.93	Hori	278	273

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

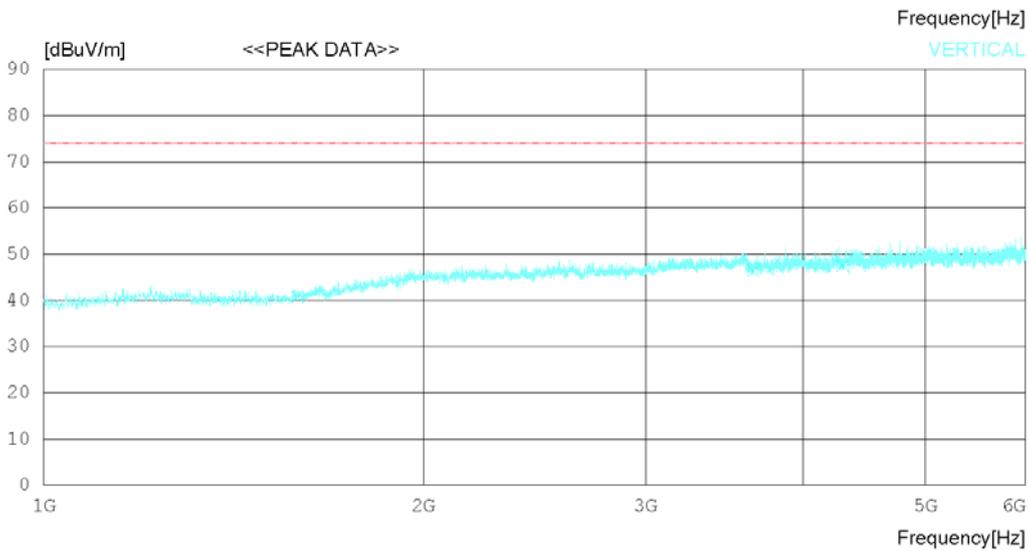
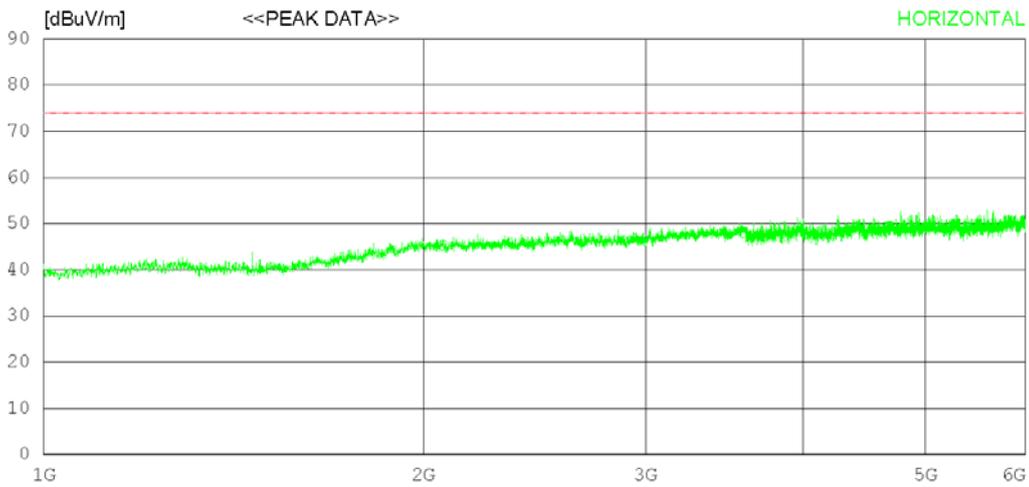
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 24 'C 45 % R.H.  
 Test Condition DATA COMMUNICATION

Memo DS

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 24 °C 45 % R.H.  
Test Condition DATA COMMUNICATION

Memo DS

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	2073.75	41.5	31.7	6.44	34.38	0	45.26	74	28.74	Hori	322	0
2	3581.875	40.4	33.28	8.49	34.12	0	48.05	74	25.95	Hori	124	109
3	4676.25	39.3	34	10.54	34.43	0	49.41	74	24.59	Hori	335	358
4	1590	41.9	28.34	5.46	34.92	0	40.78	74	33.22	Vert	272	1
5	3652.5	38.7	33	8.69	34.02	0	46.37	74	27.63	Vert	325	210
6	4297.5	38	33.6	9.83	33.93	0	47.5	74	26.5	Vert	112	95

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

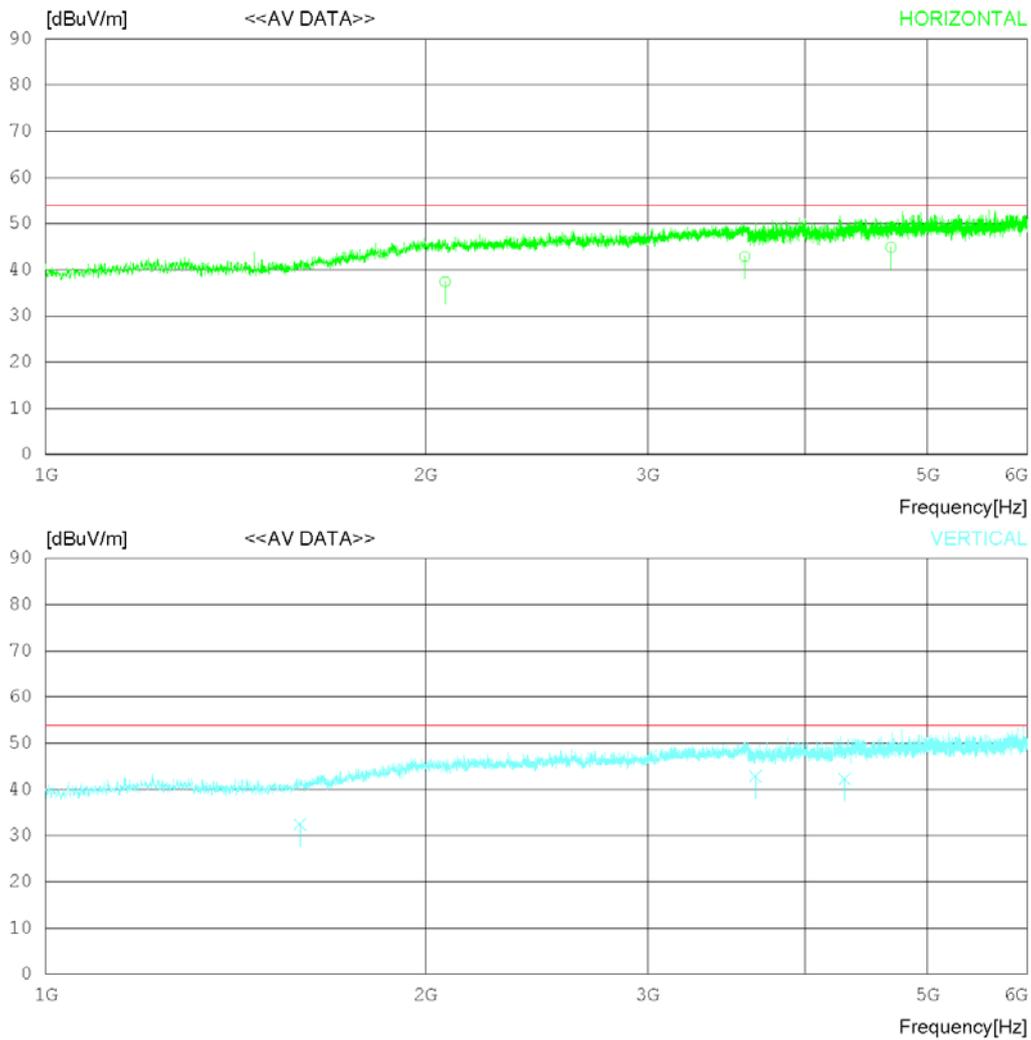
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 24 °C 45 % R.H.  
 Test Condition DATA COMMUNICATION

Memo DS

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 24 °C 45 % R.H.  
Test Condition DATA COMMUNICATION

Memo DS

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	1590.042	33.52	28.34	5.46	34.92	0	32.4	54	21.6	Vert	120	78
2	2073.112	33.67	31.7	6.44	34.38	0	37.43	54	16.57	Hori	302	178
3	3581.826	35.21	33.28	8.49	34.12	0	42.86	54	11.14	Hori	224	133
4	3652.522	35.12	33	8.69	34.02	0	42.79	54	11.21	Vert	223	113
5	4297.51	32.78	33.6	9.83	33.93	0	42.28	54	11.72	Vert	305	32
6	4676.42	34.78	34	10.54	34.43	0	44.89	54	9.11	Hori	372	223

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

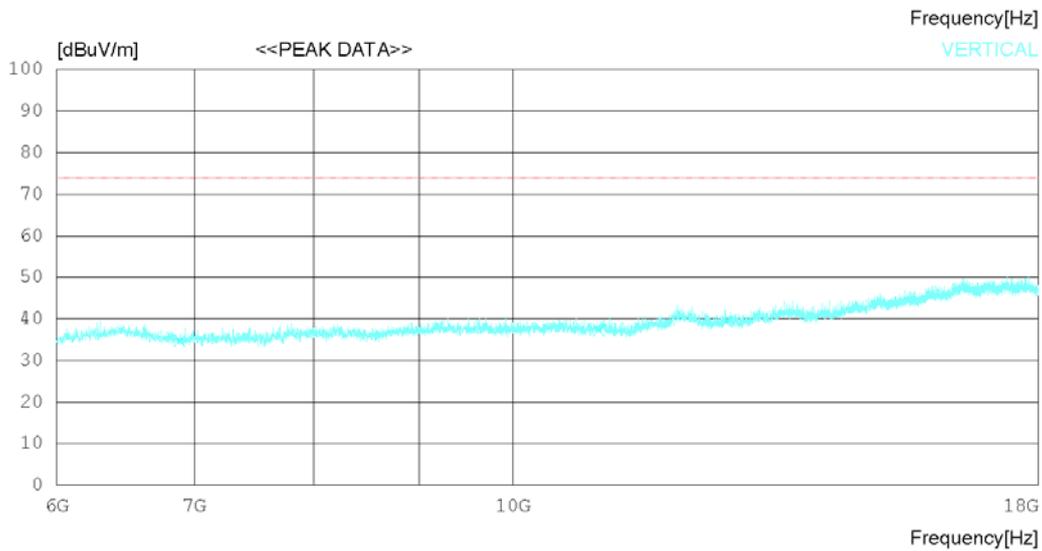
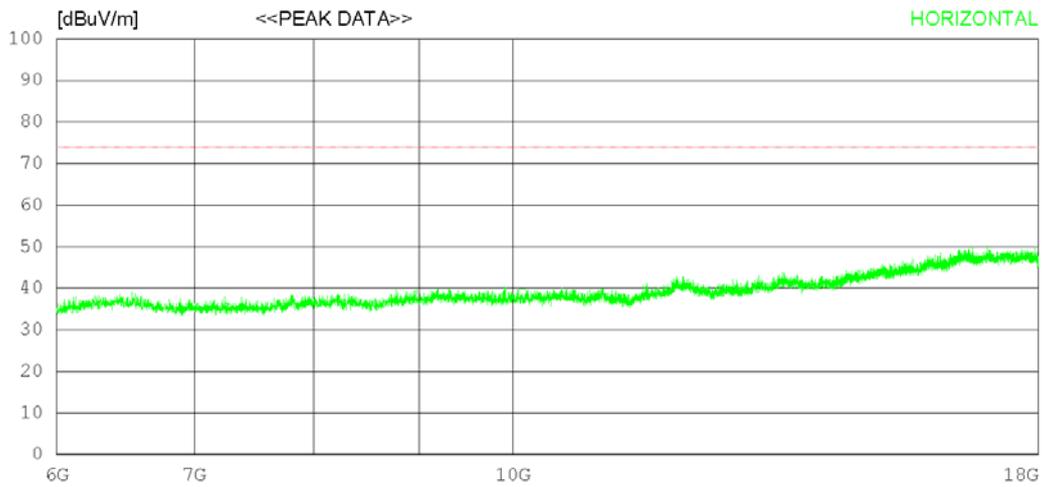
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 22 'C 46 % R.H.  
 Test Condition DATA COMMUNICATION

Memo DS

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 22 °C 46 % R.H.  
Test Condition DATA COMMUNICATION

Memo DS

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	7260	30.4	31.41	11.58	38.17	0	35.22	74	38.78	Hori	122	202
2	10101	29.4	32.54	14.42	37.62	0	38.74	74	35.26	Hori	130	358
3	12609	28.1	33.51	15.98	38.29	0	39.3	74	34.7	Hori	124	181
4	6885	30.4	31.48	11.46	38.57	0	34.77	74	39.23	Vert	351	179
5	11007	28.1	32.42	14.93	38.3	0	37.15	74	36.85	Vert	112	196
6	12705	27.8	33.52	16.28	38.2	0	39.4	74	34.6	Vert	205	0

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

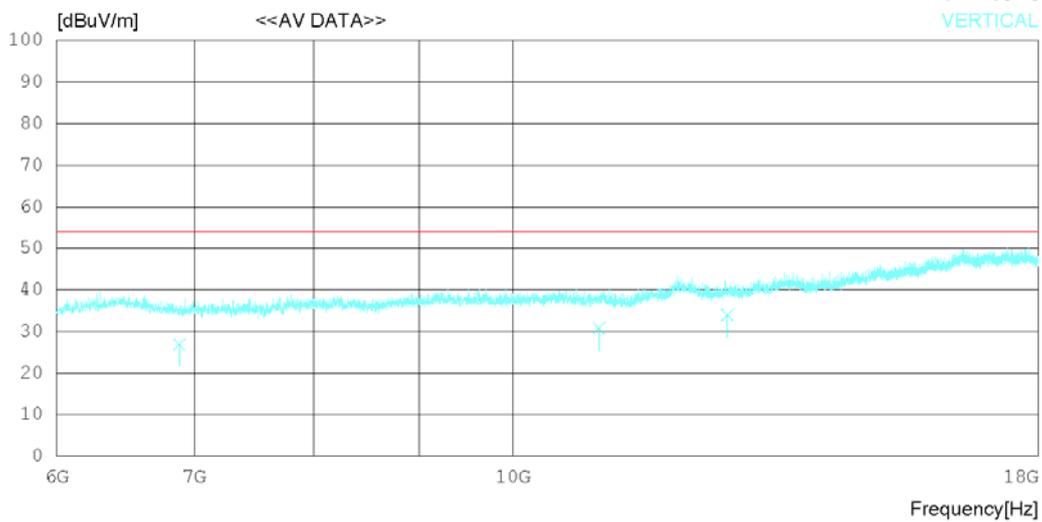
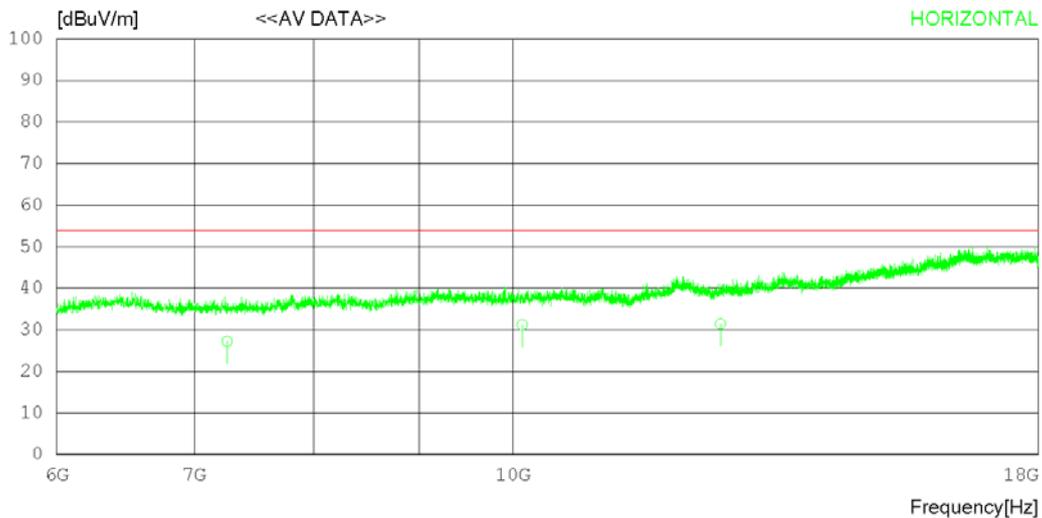
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 22 'C 46 % R.H.  
 Test Condition DATA COMMUNICATION

Memo DS

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 22 °C 46 % R.H.  
Test Condition DATA COMMUNICATION

Memo DS

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	6885.024	22.48	31.48	11.46	38.57	0	26.85	54	27.15	Vert	120	137
2	7260.21	22.42	31.41	11.58	38.17	0	27.24	54	26.76	Hori	320	127
3	10101.11	21.87	32.54	14.42	37.62	0	31.21	54	22.79	Hori	224	134
4	11007.42	21.72	32.42	14.94	38.3	0	30.78	54	23.22	Vert	272	243
5	12609.02	20.22	33.51	15.98	38.29	0	31.42	54	22.58	Hori	172	220
6	12705.04	22.35	33.52	16.28	38.19	0	33.96	54	20.04	Vert	221	87

Radiated disturbance at (18 ~ 40) GHz _Peak measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	120	Test Frequency (Hz)	60

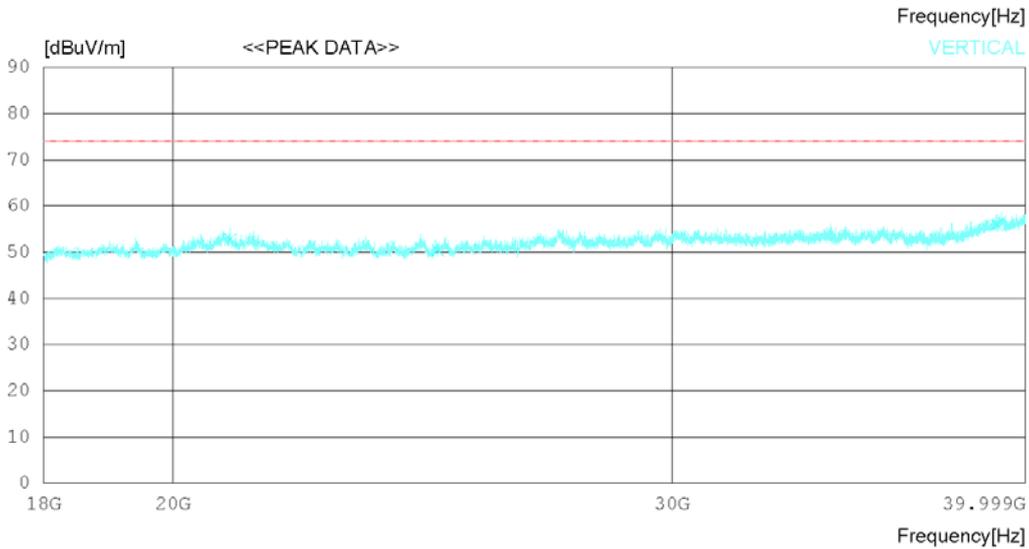
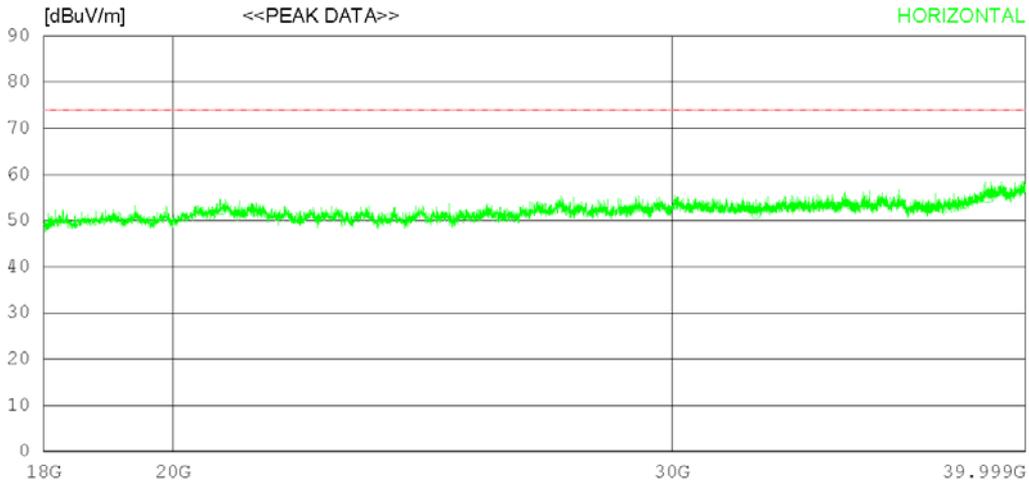
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 26 °C 44 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
Power Supply 120 V 60 Hz  
Temp/Humi 26 °C 44 % R.H.  
Test Condition DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	20802.25	40	45.6	20.14	53.36	0	52.38	74	21.62	Hori	120	0
2	32124	34.7	46.9	22.4	52.37	0	51.63	74	22.37	Hori	134	358
3	38790	34.4	47.29	25.53	52.26	0	54.96	74	19.04	Hori	223	292
4	20956.25	40.2	45.6	20.43	53.43	0	52.8	74	21.2	Vert	273	78
5	24800.75	38.1	45.5	20.7	53.86	0	50.44	74	23.56	Vert	105	105
6	39084.25	34.9	47.68	25.65	52.25	0	55.98	74	18.02	Vert	309	309

Radiated disturbance at (18 ~ 40) GHz _Average measurement data			
Test configuration mode	2	EUT Operation mode	2
Test voltage (V)	120	Test Frequency (Hz)	60

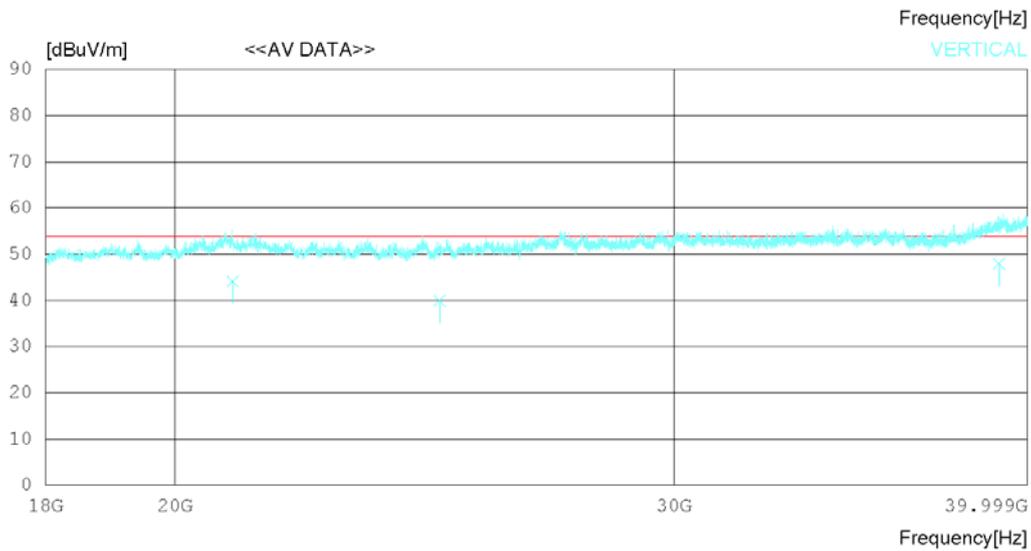
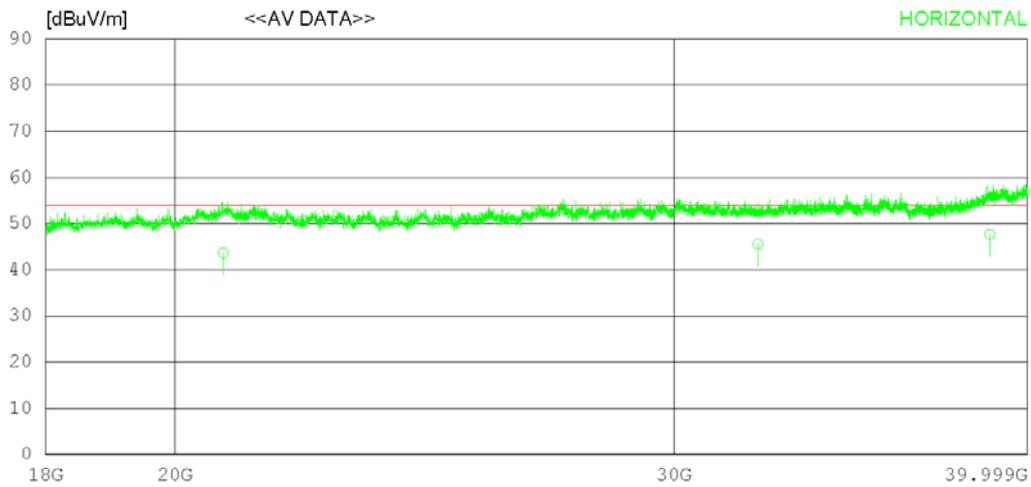
## RADIATED EMISSION

Date 2020-02-03

Order No. DTNC1912-10378  
 Power Supply 120 V 60 Hz  
 Temp/Humi 26 °C 44 % R.H.  
 Test Condition DATA COMMUNICATION

Memo

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



## RADIATED EMISSION

Date 2020-02-03

Order No.	DTNC1912-10378
Power Supply	120 V 60 Hz
Temp/Humi	26 °C 44 % R.H.
Test Condition	DATA COMMUNICATION

Memo

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

No	Freq	Reading	Ant.Fac	Loss	Gain	Site.Fac	Result	Limit	Margin	Pola	Height	Angle
1	20802.21	31.25	45.6	20.14	53.36	0	43.63	54	10.37	Hori	321	78
2	20956.12	31.52	45.6	20.43	53.43	0	44.12	54	9.88	Vert	120	155
3	24800.45	27.62	45.5	20.7	53.86	0	39.96	54	14.04	Vert	147	236
4	32124.24	28.62	46.9	22.4	52.37	0	45.55	54	8.45	Hori	277	113
5	38790.08	27.11	47.29	25.53	52.26	0	47.67	54	6.33	Hori	162	28
6	39084.12	26.89	47.68	25.65	52.25	0	47.97	54	6.03	Vert	347	78

### Calculation

Result(dBuV/m) : Reading Value(dBuV) + Cable loss(dB) - Pre amplifier gain(dB) + Ant. Factor(dB)
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Margin : Limit(dBuV/m) - Result(dBuV/m)
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## 8. Revision History

Date	Description	Revised By	Reviewed By
Feb. 14. 2020	Initial report	JunSeo Park	KyoungHwan Bae
Feb. 24. 2020	Changed RE Data Type (Data Image > Data table)	JunSeo Park	DaeHwa Eun

-End of test report-