

TEST REPORT





Dt&C Co., Ltd.

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

1. Report No. : DREFCC2306-0081
2. Client / Applicant
 - Name : SEMES Co., Ltd.
 - Address : 77 4sandan 5-gil Jiksan-eup Seobuk-gu Cheonan-si Cheonan-si South Korea
3. Use of Report : Grant of Certification
4. Product Name / Model Name : S-DAQ / SRC-BAMVC3
(FCC ID : 2AN5B-SRC-BAMVC3)
5. Test Standard : ANSI C63.4:2014
FCC Part 15 Subpart B
(Other Class B digital devices & peripherals)
6. Date of Test : Mar. 07. 2023 ~ Mar. 17. 2023
7. Location of Test : Permanent Testing Lab On Site Testing
(Address : Refer to the attached)
8. Testing Environment : Temperature (16 ~ 19) °C , Humidity (37 ~ 45) % R.H.
9. Test Result : Refer to the attached Test Result

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
KS Q ISO / IEC 17025 and KOLAS accreditation.
This laboratory is not accredited for the test results marked. " * "

Affirmation	Tested by	Reviewed by
	Name : JunSeo Park 	Name : DaeHwa Eun 

The above test report is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

Jun. 09. 2023

Dt&C Co., Ltd.

Accredited by KOLAS, Republic of KOREA

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

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1. General Remarks

This report contains the result of tests performed by :

Dt&C Co., Ltd.

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

<http://www.dtnet.net>

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

2. Test Laboratory

Address of Laboratory

<input type="checkbox"/>	Branch site	42, Yurim-ro 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
<input type="checkbox"/>	Satellite facilities-1	46, Yurim-ro 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
<input checked="" type="checkbox"/>	Satellite facilities-2	38, Yurim-ro 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
<input type="checkbox"/>	Satellite facilities-3	28, Baengnyeong-ro 20 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea

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	Designation
	Canada	IC	KR0034	Designation
	Japan	VCCI	C-11427, R-13385, R-14076, R-14180, R-14496, T-11442, G-10338, G-10754, G-10815, G-20051	Registered
Certification	Korea	KC	KR0034	Designation
	Germany	TUV	CARAT 089112 0010 Rev.00	ISO/IEC 17025
	Russia	RMRS	22.03.01.01196.296	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	SEMES Co., Ltd. 77 4sandan 5-gil Jiksan-eup Seobuk-gu Cheonan-si Cheonan-si South Korea
Manufacturer	MVTECH Co., Ltd. 272, Digital-ro, Guro-gu, Seoul-si (Guro-dong, Hanshin IT Tower 1004)
Factory	MVTECH Co., Ltd. 272, Digital-ro, Guro-gu, Seoul-si (Guro-dong, Hanshin IT Tower 1004)
Product Name	S-DAQ
Model Name	SRC-BAMVC3
Add Model Name	None
Add Model difference	None
Software Version	N/A
Hardware Version	N/A
Maximum Internal Frequency	1 000 MHz
RF Module Name	2AATL-8223A-SR
Rated Power	DC 24 V
FCC ID	2AN5B-SRC-BAMVC3
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	Normal Operating	EUT is in the state of PING TEST connected to laptop via LAN. ADC(40 Channel) connector port of the EUT receives the voltage input from the coin battery and converts it into an analog signal, and checks and tests the converted signal value in the Teraterm program RS-232(9 Channel) of the EUT is looped to circulate data, and the packet error rate is checked and tested using the Teraterm program.
* Eth1 port and USB port of the EUT are excluded from the test as they are management ports.		

4.3 Test Configuration Mode

No.	Mode	Description
1	Normal Operating	EUT receives power from DC POWER SUPPLY. EUT is connected to the laptop via LAN. EUT is connected to ADC(40 Channel) connector to coin Battery EUT is connected to RS-232(9 Channel) connector is Looped

4.4 Supported Equipment

Used*	Product Type	Manufacturer	Model	Remarks
AE	laptop	HP	N/A	N/A
AE	laptop adaptor	N/A	N/A	N/A
AE	DC POWER SUPPLY	Smtechno	SDP 30-5D	305DPA 018
AE	Coin Battery	N/A	N/A	N/A

*Abbreviations:
 AE - Auxiliary/Associated Equipment, or
 SIM - Simulator

4.5 EUT In/Output Port

Name	Type*	Cable Max. >3m	Cable Shielded	Cable Back shell	Remarks
ADC (40 Channel)	I/O	1.0	Shielded	Plastic	Connected Coin Battery
RS-232(9 Channel)	I/O	1.0	Shielded	Plastic	Looped
USB	I/O	1.2	Shielded	Plastic	N/A
LAN	I/O	1.2	Shielded	Plastic	N/A
DC IN	DC	1.3	Non-Shielded	Plastic	N/A

*Abbreviations:
 AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
 I/O = Signal Input or Output Port GND = Ground
 TP = Telecommunication Ports

4.6 Test Voltage and Frequency

Case	Voltage (V)	Frequency (Hz)	Phases	Remarks
1	DC 24	-	-	-

5. Test Summary

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4:2014	N/A (Note 1)
Radiated Disturbance	ANSI C63.4:2014	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		
Note 1) This test was not required because EUT was used power from battery.		

The data in this test report are traceable to the national or international standards.

-Conducted Disturbance

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
-	-	-	-	-	-

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]
600.005	V	41.71	Quasi - Peak	46.00	4.29

6. Test Environment

Test Items	Test date (YYYY-MM-DD)	Temp. (°C)	Humidity (% R.H.)	Pressure (kPa)
Radiated Disturbance	2023-03-07	19	40	-
	2023-03-16	16	45	
	2023-03-17	17	37	

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.			Not Applicable
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	N/A	
	EUT Operation mode	N/A	
	Power interface mode	N/A	
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
-	-	-	-	-	-

Calculation

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

Mains terminal disturbance voltage _ Measurement data			
Test configuration mode	N/A	EUT Operation mode	N/A
Test voltage (V)	N/A	Test Frequency (Hz)	N/A

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	
	Power interface mode		1	
Radiated Disturbance below 1 000 MHz				
Frequency range (MHz)	Quasi-peak limit dB μ V/m			
	Class A		Class B	
	3 m distance	10 m distance	3 m distance	
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(CISPR), Pub. 22 shown as below.				
Frequency range (MHz)	Quasi-peak limit dB μ V/m			
	Class A (10 m distance)		Class B (10 m distance)	
	30 to 230		30	
230 to 1 000		37		
Radiated Disturbance for above 1 000 MHz at a measurement distance of 3 m				
Frequency range (GHz)	Peak limit dB μ V/m		Average limit dB μ V/m	
	Class A	Class B	Class A	Class B
	1 to 40	80	74	60
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	2022.11.29	2023.11.29
TRILOG BROADBAND TEST-ANTENNA	VULB9160	SCHWARZBECK	9160-3363	2022.09.29	2024.09.29
6 DB ATTENUATOR	2708A	HP	23831	2022.09.29	2024.09.29
BROAD-BAND HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1014	2022.08.02	2023.08.02
PRE AMPLIFIER	8449B	H.P	3008A00887	2022.08.24	2023.08.24
HORN ANTENNA	EM-6969	ELECTRO-METRICS	156	2022.12.20	2023.12.20
PREAMPLIFIER	MLA-0618-B03-34	TSJ	1785642	2022.12.20	2023.12.20
HORN ANTENNA	3116C	ETS-LINDGREN	00240008	2022.07.22	2023.07.22
PRE AMPLIFIER	LNAS-50-18004000-33-5P	L3HARRIS	2210093	2022.07.22	2023.07.22
REGULATED DC POWER SUPPLY	SDP 30-5D	SMTECHNO	305DPA 018	2023.02.20	2024.02.20
LOW NOISE PRE AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2023.02.07	2024.02.07

(NOTE : THE MEASUREMENT ANTENNAS WERE CALIBRATED IN ACCORDANCE TO THE REQUIREMENTS OF C63.5-2017.)

Calculation

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

Radiated disturbance at (30 ~ 1 000) MHz _Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-
FCC Part 15 Subpart B			

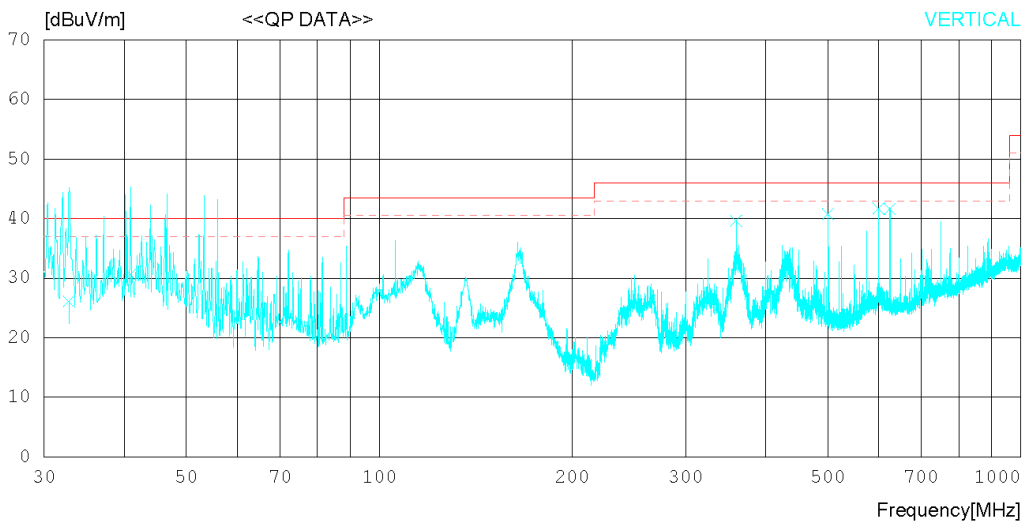
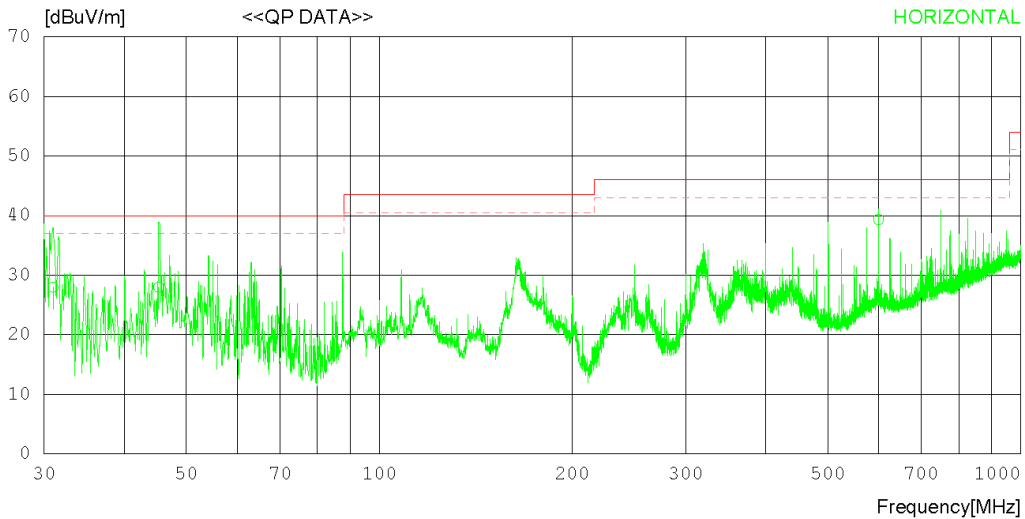
Date 2023-03-07

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 19 °C 40 % R.H.
 Test Condition

Memo

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

- Antenna Factor
 1. ANT_EMC-309_VULB9160_3363_with ATT_2022-09-29
 Cable Loss
 1. C1_ANT TO BOTTOM_UNDER_2023_02_17
 2. C2_AMP TO BOTTOM_UNDER_2023_02_17
 3. C3_AMP TO RECEIVER_UNDER_2022.12.12
 Pre Amp Gain
 1. EMC-110_AMP_MLA-100K01-B01-26_1252741_2023.02.07



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 19 °C 40 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. ANT_EMC-309_VULB9160_3363_with ATT_2022-09-29

Cable Loss

1. C1_ANT TO BOTTOM_UNDER_2023_02_17
2. C2_AMP TO BOTTOM_UNDER_2023_02_17
3. C3_AMP TO RECEIVER_UNDER_2022.12.12

Pre Amp Gain

1. EMC-110_AMP_MLA-100K01-B01-26_1252741_2023.02.07

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	30.970	36.50	17.00	0.85	26.40	27.95	40.00	12.05	305	350
2	45.278	35.40	18.03	1.00	26.48	27.95	40.00	12.05	134	334
3	600.003	34.70	25.70	5.21	26.30	39.31	46.00	6.69	354	120
----- VERTICAL -----										
4	32.789	34.60	17.06	0.86	26.41	26.11	40.00	13.89	233	358
5	40.913	38.40	17.68	0.94	26.45	30.57	40.00	9.43	350	127
6	624.985	36.50	26.00	5.40	26.30	41.60	46.00	4.40	134	254
7	499.991	39.40	23.50	4.40	26.50	40.80	46.00	5.20	206	124
8	600.005	37.10	25.70	5.21	26.30	41.71	46.00	4.29	234	171
9	359.961	42.30	20.40	3.43	26.50	39.63	46.00	6.37	342	166

Radiated disturbance at (1 ~ 6) GHz _Peak Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-

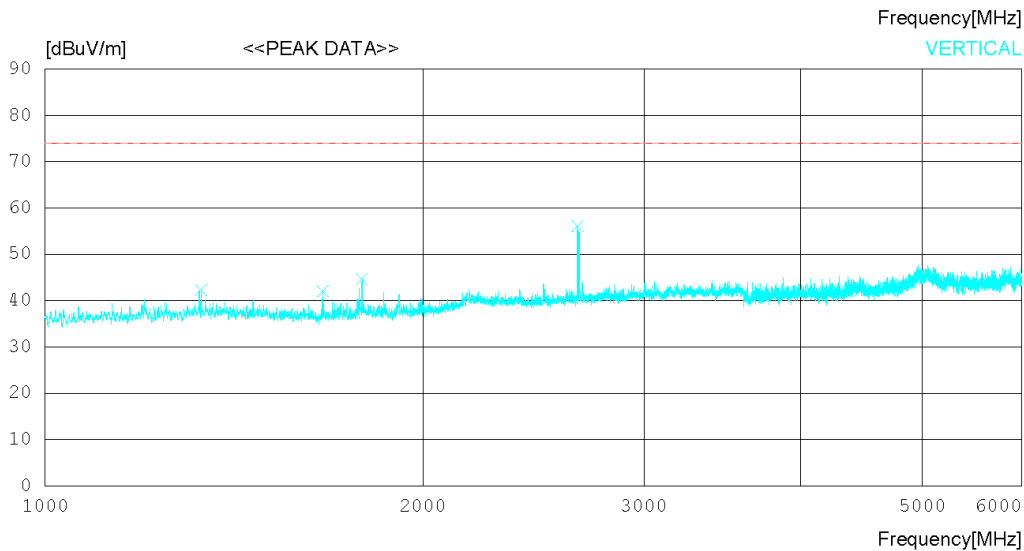
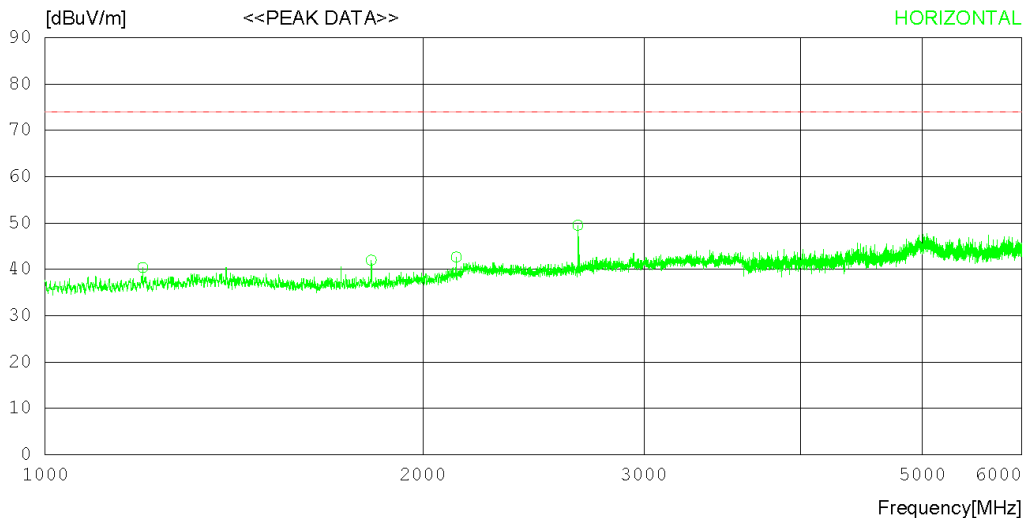
Date 2023-03-16

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 16 'C 45 % R.H.
 Test Condition

Memo

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

Antenna Factor
 1. ANT_9120D_1014_22.08.02
 Cable Loss
 1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15
 2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15
 3. #29_C3_Amp to Receiver_3m_1-18G_2022-09-15
 Pre Amp Gain
 1. AMP_8449B_3008A00887_2022.08.24



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 16 °C 45 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. ANT_9120D_1014_22.08.02

Cable Loss

1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15

2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15

3. #29_C3_Amp to Receiver_3m_1-18G_2022-09-15

Pre Amp Gain

1. AMP_8449B_3008A00887_2022.08.24

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	1196.250	47.00	25.59	3.74	35.92	40.41	74.0	33.59	122	358
2	1819.375	47.50	25.44	4.41	35.36	41.99	74.0	32.01	112	350
3	2126.250	45.70	27.43	4.74	35.19	42.68	74.0	31.32	134	58
4	2656.875	51.60	27.81	5.25	35.13	49.53	74.0	24.47	134	110
----- VERTICAL -----										
5	1331.250	47.90	26.20	3.96	35.80	42.26	74.0	31.74	350	0
6	1663.750	48.20	25.03	4.30	35.50	42.03	74.0	31.97	124	72
7	1788.125	50.30	25.38	4.38	35.39	44.67	74.0	29.33	315	223
8	2655.000	58.10	27.81	5.25	35.13	56.03	74.0	17.97	99	45

Radiated disturbance at (1 ~ 6) GHz _Average Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-

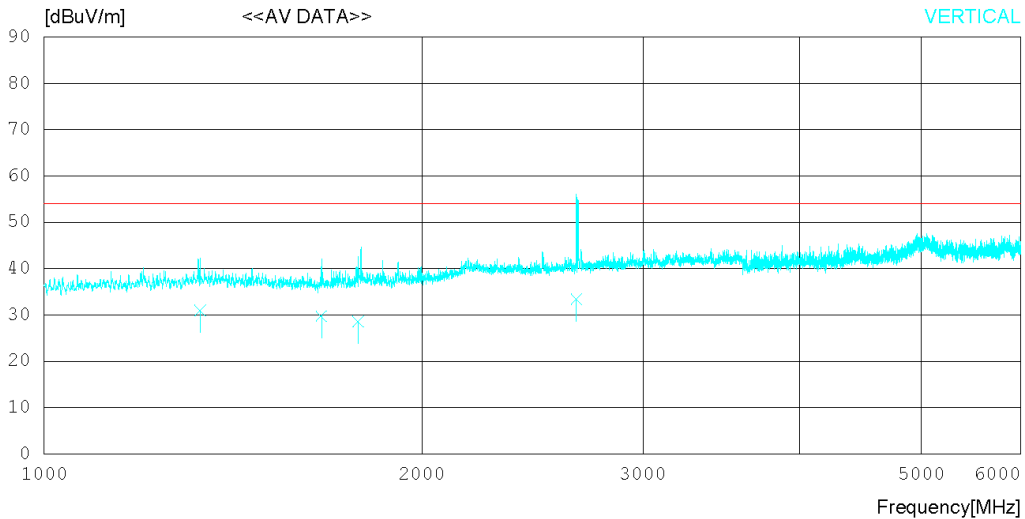
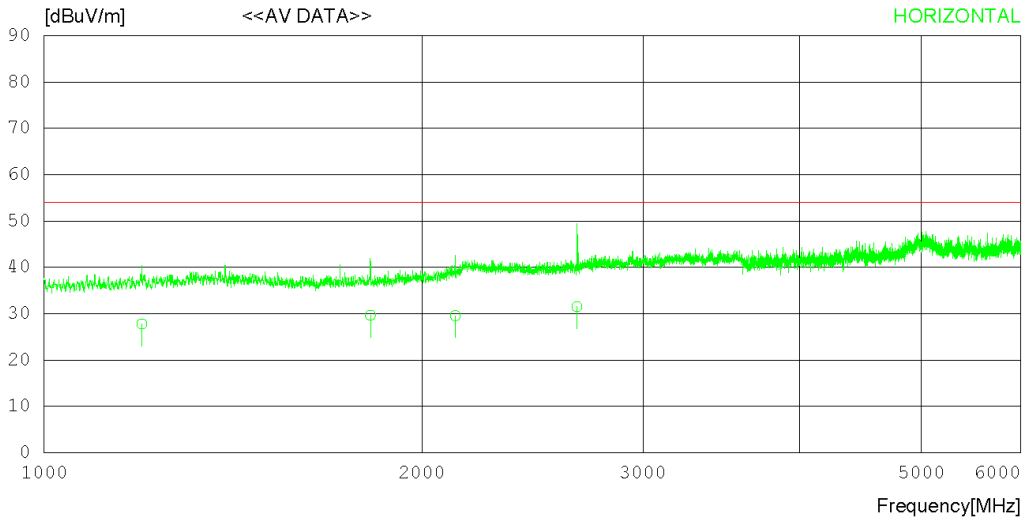
Date 2023-03-16

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 16 °C 45 % R.H.
 Test Condition

Memo

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

Antenna Factor
 1. ANT_9120D_1014_22.08.02
 Cable Loss
 1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15
 2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15
 3. #29_C3_Amp to Receiver_3m_1-18G_2022-09-15
 Pre Amp Gain
 1. AMP_8449B_3008A00887_2022.08.24



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 16 °C 45 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. ANT_9120D_1014_22.08.02

Cable Loss

1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15

2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15

3. #29_C3_Amp to Receiver_3m_1-18G_2022-09-15

Pre Amp Gain

1. AMP_8449B_3008A00887_2022.08.24

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	1196.352	34.40	25.59	3.74	35.92	27.81	54.00	26.19	322	77
2	1819.637	35.20	25.44	4.41	35.36	29.69	54.00	24.31	134	110
3	2126.332	32.60	27.43	4.74	35.19	29.58	54.00	24.42	308	34
4	2656.973	33.60	27.81	5.25	35.13	31.53	54.00	22.47	312	305
----- VERTICAL -----										
5	1331.355	36.60	26.20	3.96	35.80	30.96	54.00	23.04	341	131
6	1663.240	35.90	25.03	4.30	35.50	29.73	54.00	24.27	220	112
7	1778.432	34.20	25.36	4.37	35.40	28.53	54.00	25.47	312	350
8	2655.342	35.40	27.81	5.25	35.13	33.33	54.00	20.67	132	224

Radiated disturbance at (6 ~ 18) GHz _Peak Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-

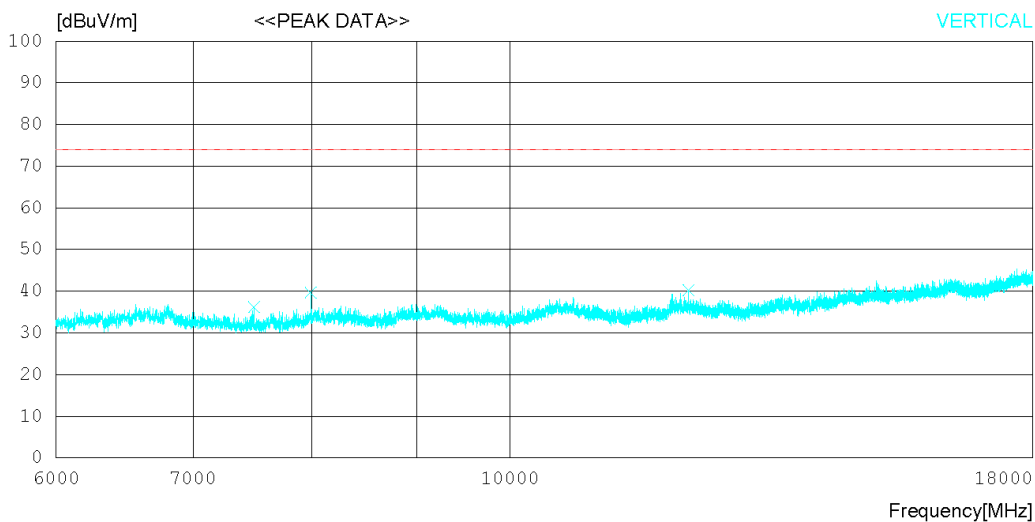
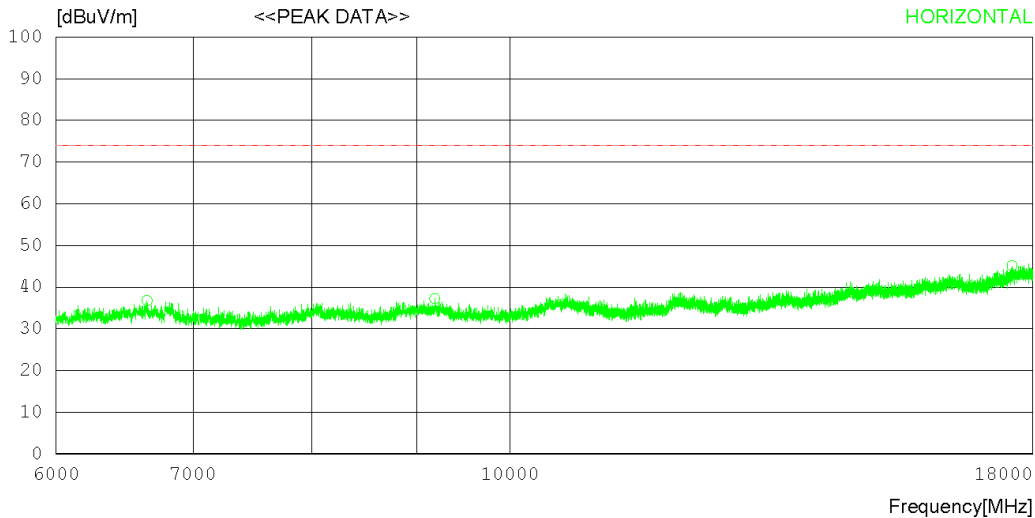
Date 2023-03-17

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 'C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor
 1. EMC-233-A_EM-6969_156_2022.12.20
 Cable Loss
 1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15
 2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15
 Pre Amp Gain
 1. EMC-233-M_MLA-0618-B03-34_2022.12.20



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 °C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. EMC-233-A_EM-6969_156_2022.12.20

Cable Loss

1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15

2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15

Pre Amp Gain

1. EMC-233-M_MLA-0618-B03-34_2022.12.20

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	6646.500	37.20	31.00	7.91	39.34	36.77	74.0	37.23	311	358
2	9184.500	34.20	31.60	9.83	38.39	37.24	74.0	36.76	206	76
3	17580.750	30.80	37.10	15.02	37.81	45.11	74.0	28.89	350	322
----- VERTICAL -----										
4	7497.750	35.10	31.20	8.51	38.59	36.22	74.0	37.78	100	74
5	7988.250	38.30	31.28	8.47	38.35	39.70	74.0	34.3	350	186
6	12219.000	35.00	33.30	10.71	38.78	40.23	74.0	33.77	134	111

Radiated disturbance at (6 ~ 18) GHz _Average Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-

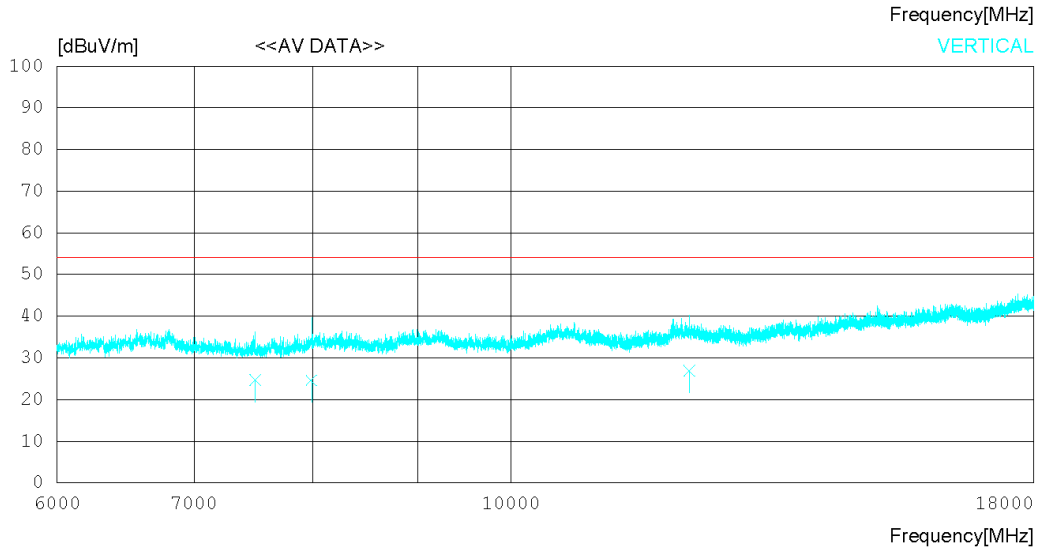
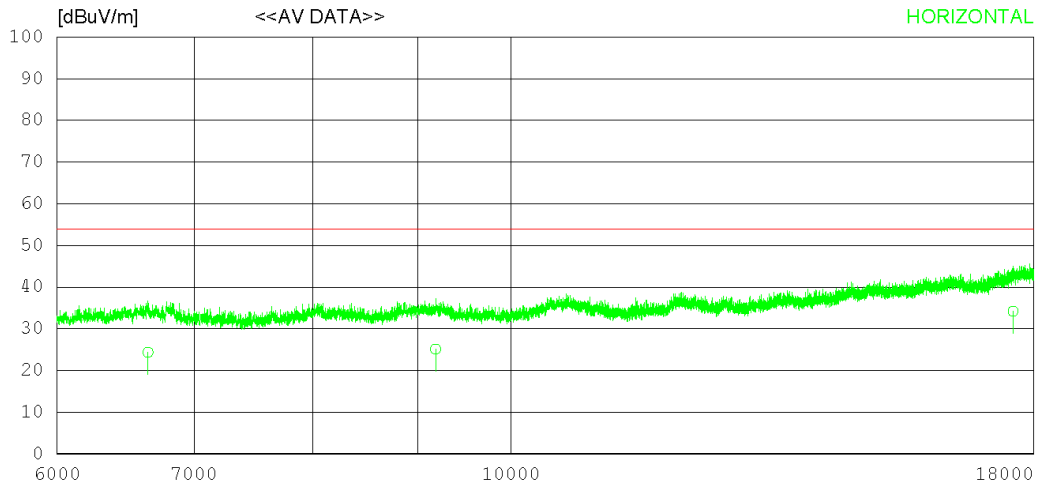
Date 2023-03-17

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 °C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor
 1. EMC-233-A_EM-6969_156_2022.12.20
 Cable Loss
 1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15
 2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15
 Pre Amp Gain
 1. EMC-233-M_MLA-0618-B03-34_2022.12.20



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 °C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. EMC-233-A_EM-6969_156_2022.12.20

Cable Loss

1. #27_C1_Ant to Bottom_3m_1-18G_2022-09-15

2. #28_C2_Bottom to Amp(Filter,Receiver)_3m_1-18G_2022-09-15

Pre Amp Gain

1. EMC-233-M_MLA-0618-B03-34_2022.12.20

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	6646.127	24.80	31.00	7.91	39.34	24.37	54.00	29.63	113	78
2	9184.216	22.10	31.60	9.83	38.39	25.14	54.00	28.86	234	76
3	17580.250	19.90	37.10	15.02	37.81	34.21	54.00	19.79	245	340
----- VERTICAL -----										
4	7497.064	23.60	31.20	8.51	38.59	24.72	54.00	29.28	342	45
5	7988.055	23.20	31.28	8.47	38.35	24.60	54.00	29.40	220	60
6	12219.160	21.70	33.30	10.71	38.78	26.93	54.00	27.07	134	187

Radiated disturbance at (18 ~ 40) GHz _Peak Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-

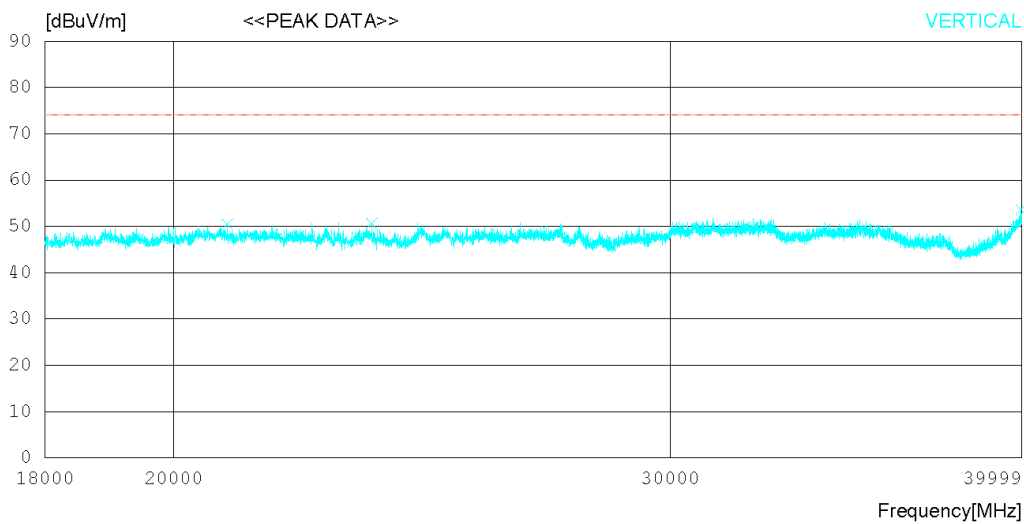
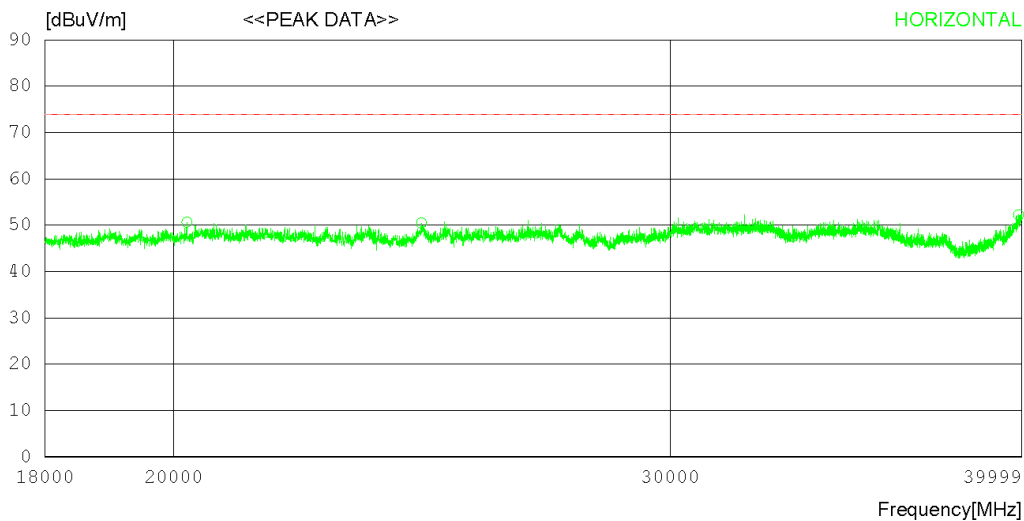
Date 2023-03-17

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 'C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor
 1. ANT_3116C_00240008_2022.07.22
 Cable Loss
 1. #32_C1_Ant to Amp_3m_18-40G_2022-05-23
 2. #33_C2_Amp to Receiver_3m_18-40G_2022-05-23
 Pre Amp Gain
 1. AMP_LNAS-5018004000-33-5P_2022.07.22



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 °C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. ANT_3116C_00240008_2022.07.22

Cable Loss

1. #32_C1_Ant to Amp_3m_18-40G_2022-05-23

2. #33_C2_Amp to Receiver_3m_18-40G_2022-05-23

Pre Amp Gain

1. AMP_LNAS-5018004000-33-5P_2022.07.22

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	20211.000	43.90	44.51	18.60	56.35	50.66	74.0	23.34	342	65
2	24484.500	41.00	45.38	20.24	56.13	50.49	74.0	23.51	374	344
3	39890.000	36.30	46.90	25.57	56.52	52.25	74.0	21.75	220	358
----- VERTICAL -----										
4	20887.500	42.40	44.99	18.94	55.90	50.43	74.0	23.57	112	165
5	23511.000	41.50	45.11	19.60	55.60	50.61	74.0	23.39	202	76
6	39972.500	37.00	47.12	25.83	56.37	53.58	74.0	20.42	134	0

Radiated disturbance at (18 ~ 40) GHz _Average Measurement data			
Test configuration mode	1	EUT Operation mode	1
Test voltage (V)	DC 24	Test Frequency (Hz)	-

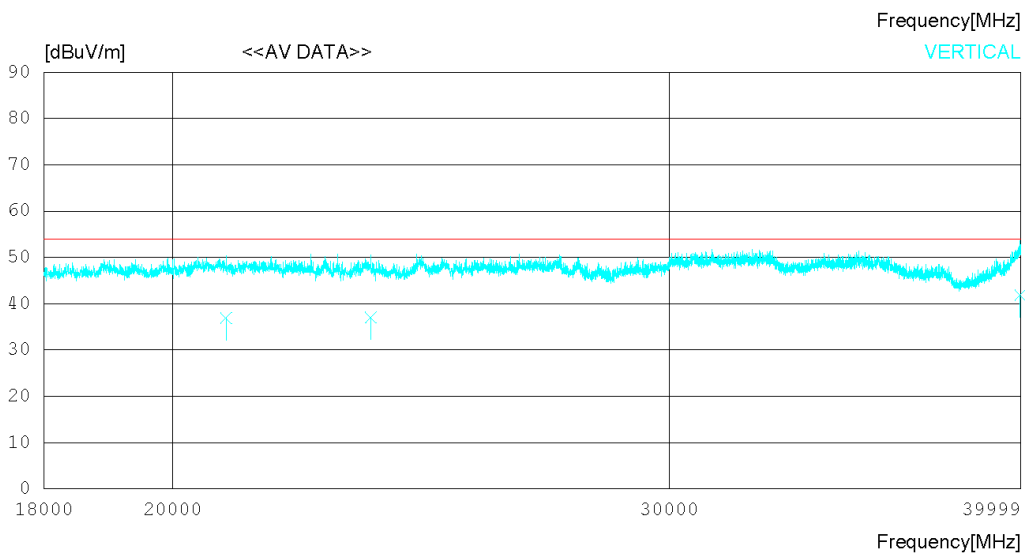
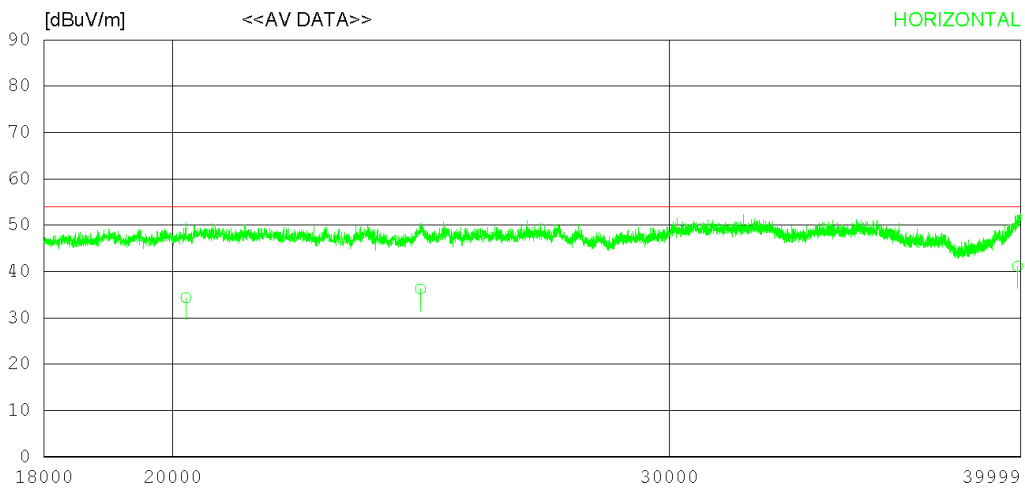
Date 2023-03-17

Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 °C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor
 1. ANT_3116C_00240008_2022.07.22
 Cable Loss
 1. #32_C1_Ant to Amp_3m_18-40G_2022-05-23
 2. #33_C2_Amp to Receiver_3m_18-40G_2022-05-23
 Pre Amp Gain
 1. AMP_LNAS-5018004000-33-5P_2022.07.22



Order No. DTNC2207-05780
 Power Supply DC 24 V
 Temp/Humi 17 °C 37 % R.H.
 Test Condition

Memo

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

Antenna Factor

1. ANT_3116C_00240008_2022.07.22

Cable Loss

1. #32_C1_Ant to Amp_3m_18-40G_2022-05-23

2. #33_C2_Amp to Receiver_3m_18-40G_2022-05-23

Pre Amp Gain

1. AMP_LNAS-5018004000-33-5P_2022.07.22

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	20211.780	27.60	44.51	18.60	56.35	34.36	54.00	19.64	321	46
2	24484.630	26.80	45.38	20.24	56.13	36.29	54.00	17.71	231	167
3	39890.460	25.20	46.90	25.57	56.52	41.15	54.00	12.85	245	45
----- VERTICAL -----										
4	20887.080	28.90	44.99	18.94	55.90	36.93	54.00	17.07	350	113
5	23511.340	27.90	45.11	19.60	55.60	37.01	54.00	16.99	122	186
6	39972.430	25.20	47.12	25.83	56.37	41.78	54.00	12.22	133	305

9. Revision History

Date	Description	Revised By	Reviewed By
Jun. 09. 2023	Initial report	JunSeo Park	DaeHwa Eun

-End of test report-