

TEST REPORT



Dt&C Co., Ltd.

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





1. Report No: DREKFCC2308-0122

2. Customer

Name: KYOCERA Corporation

Address: Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa, Japan

3. Use of Report: Grant of Certification

4. Product Name / Model Name: Mobile Phone / EB1173

(FCC ID: JOYEB1173)

5. Test Method Used: ANSI C63.4:2014

FCC Part 15 Subpart B (FM Broadcast Receiver)

6. Date of Test: Aug. 21. 2023

7. Location of Test:

Permanent Testing Lab

☐ On Site Testing

(Address: Refer to the attached)

8. Testing Environment: Temperature 23 °C, Humidity 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. This laboratory is not accredited for the test results marked. " * "

Affirmation Tested by

Technical Manager

Name :

JunSeo Park

Name : HyungJun Kim



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

Aug. 31. 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

This test report is prohibited to copy or reissue in whole or in part without the approval of Dt&C Co., Ltd. TRF-EM-243(00)230309













Pages: 1 / 24







CONTENTS

1. General Remarks	3
2. Test Laboratory	3
3. General Information of EUT	
4. EUT Operations and Test Configurations	5
4.1 Principle of Configuration Selection	
4.2 EUT Operation Mode	
4.3 Test Configuration Mode	
4.4 Supported Equipment	
4.5 EUT In/Output Port	
4.6 Test Voltage and Frequency	
5. Test Summary	7
6. Test Environment	8
7. Test Results : Emission	Ç
7.1 Conducted Disturbance	
7.1 Goridaded Disturbance	
8. Revision History	24



















1. General Remarks

This report contains the result of tests performed by :

Dt&C Co., Ltd.

42, Yurim-ro, 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea http://www.dtnc.net

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

2. Test Laboratory

Address of Laboratory

Branch site	42, Yurim-ro 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Satellite facilities-1	46, Yurim-ro 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Satellite facilities-2	38, Yurim-ro 154 beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
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	Certificate Nation Agency Code		Code	Remark
	Korea	KOLAS	393	ISO/IEC 17025
Accreditation	South Africa	SABS	0006	ISO/IEC 17025
	Ghana	NCA	NCA agreement 23rd,Oct,2018	-
	USA	FCC	KR0034	Designation
	Canada	Canada IC KR0034		Designation
Site Filing	Japan	VCCI	C-11427, R-13385, R-14076, R-14180, R-14496, T-11442, G-10338, G-10754, G-10815, G-20051	Registered
	Korea	Korea KC		Designation
Certification	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".











Pages: 3 / 24







3. General Information of EUT

Applicant	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa,Japan
Manufacturer	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa,Japan
Factory	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa,Japan
Product Name	Mobile Phone
Model Name	EB1173
Add Model Name	None
Add Model Difference	None
Software Version	EB1173_nightly_20230713
Hardware Version	DMT1
Maximum Internal Frequency	2.2 GHz
Rated Power	DC 3.87 V
FCC ID	JOYEB1173
RF Module Name	None
Remarks	GPS/GLONASS/Galileo/BDS

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	FM	FM receiving mode(VHF)	

4.3 Test Configuration Mode

No.	Mode	Description
1	FM	EUT is connected to the AUX to the Earphone. EUT is connected to the Broadcast Test Center and is receiving radio frequency. and continuously output audio signal.













Pages: 5 / 24







4.4 Supported Equipment

Used*	Product Type	Manufacturer	Model	Serial number	Remarks
AE	Earphone	N/A	K288984	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	1.2	Non-Shielded	Plastic	-

*Abbreviations:

AC = AC Power Port

DC = DC Power Port

N/E = Non-Electrical

I/O = Signal Input or Output PortTP = Telecommunication Ports

4.6 Test Voltage and Frequency

Case	Voltage (V)	Frequency (Hz)	Phases	Remarks
1	DC 3.87	-	=	Battery











Pages: 6 / 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	С		
Antenna Power Conduction	ANSI C63.4:2014	N/A (Note 2)		
C=Comply N/C=Not Comp	ly N/T=Not Tested N/A=Not Applicable			
Note 1) This test was not required because EUT was used power from battery. Note 2) This test was not required because EUT has not port about this test.				

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

Measurement Uncertainty				
Test Items U (k = 2)				
Conducted Disturbance (9 kHz~ 30 MHz)	Mains : 3.6 dB Signal : 6.0 dB			
Conducted Disturbance (150 kHz ~ 30 MHz)	Mains : 3.4 dB Signal : 6.0 dB			
Radiated Disturbance (3m)	Below 1 GHz : 5.86 dB Above 1 GHz : 6.98 dB			
Radiated Disturbance (10m)	Below 1 GHz : 4.92 dB Above 1 GHz : 6.98 dB			
Antenna Power Conduction	N/A			

- Conducted Disturbance

Frequency [MHz]	Pol.	Result [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]
-	-	-	-	-	-

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	
5018.028	Н	35.56	Average	54.00	18.44	

-Antenna Power Conduction

Frequency	Result	Detector	Limit	Margin
[MHz]	[dBµV/m]		[dBµV/m]	[dB]
-	-	-	-	-













Pages: 7 / 24







6. Test Environment

Test Items	Test date	Temp.	Humidity	Pressure	
	(YYYY-MM-DD)	(℃)	(% R.H.)	(kPa)	
Radiated Disturbance	2023-08-21	23	45	-	



















7. Test Results: Emission

7.1 Conducted Disturbance

ANSI C63.4		Mains terminal disturba	nce voltaç	је	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.							
Fully configured sample scanned ov Frequency range on each side of line Measurement					nt Point		
er the following free	quency range	150 kHz to 30 MHz		Mains			
EUT mo	de	Test configuration mode		N/A			
(Refer to clas	uses 4)	EUT Operation mod	N/A				
_		Limits - Class A					
Frequency (MHz)		Limit	dΒμV				
r requericy (Wiriz)		Quasi-Peak		Average			
0.15 to 0.50		79		66			
0.50 to 30		73		60			
		Limits - Class B					
Fraguency (MU-)		Limit dBμV					
Frequency (MHz)		Quasi-Peak	asi-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

out out out out
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)

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















ANSI C63.4

Report No.: DREKFCC2308-0122 (FCC ID : JOYEB1173)

Radiated disturbance 30 MHz -18 GHz**





Result

7.2 Radiated Disturbance

Method: Preliminary (peak) measurer or 3 meter below 1GHz and 3 the receive antenna located a measurements were then per height from 1 to 4 m. All freque where applicable. For final measurements were then per height from 1 to 4 m. All freque where applicable. For final measurements (RBW = 120 kHz Bandwidth) detector with (RBW = 1 MHz Bandwidth) were used.	B meter above 1GHz. at various heights in heformed by rotating the uencies were investige easurement below 1 was used. For final neadwidth) and CISF	The EUT was norizontal and the EUT 360° a ated in both high GHz frequence measurement a PR Average do	rotated vertical nd adju orizonta y range above 1 etector	d 360° about its azimut polarities. Final sting the receive anter all and vertical antenna , Quasi-Peak detector GHz frequency range	th with nna polarity, with e, Peak	Comply
EUT mode (Refer to clauses 4)		uration mode ation mode		1	•	
(Horer to clauded 1)	Radiated Disturbance below 1 000 MHz					
	Naulateu Disturb			limit dBµV/m		
Frequency range	Clas	ss A	peak	Clas	ss B	
(MHz)	3 m distance	10 m dista	ance	3 m dis		
30 to 88	49.1	39.1		4	0	
88 to 216	53.5	43.5		43.5		
216 to 960	56.4	46.4		4		
960 to 1 000	59.5	49.5		5-	4	
According to 15.109(g), as an alterna comply with the standards contained (CISPR), Pub. 22 shown. Frequency range		e International	Specia			
(MHz)	Class A (10	m distance)	or pount	Class B (10	m distan	ce)
30 to 230	•	10		3		
230 to 1 000				3		
		-	neasur	ement distance of 3		
Frequency range	Peak limi	it dBµV/m		Average lin	nit dBµV	/m
(GHz)	Class A	Class I	В	Class A		ass B
1 to 40	80	74		60		54
The test frequency	range of Radiated I	Disturbance i	measur	ements are listed be	elow.	
Highest frequency generate	d or used in the de	vice	Upp	er frequency of mea	suremen	t range
or on which the device operates or tunes (MHz)			(MHz)			
Below 108			1 000			
108 – 5				2 000		
500 – 1	000			5 000		40.011
Above 1	000	į.	oth harn	nonic of the highest fr whichever is l		or 40 GHz,











Pages: 10 / 24







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	ESW44	ROHDE&SCHWARZ	101645	2022.11.22	2023.11.22				
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				
LOW NOISE PRE AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2023.02.07	2024.02.07				
BROADCAST TEST CENTER	втс	ROHDE&SCHWARZ	100253	2023.02.07	2024.02.07				
HORN ANTENNA	3117	ETS-LINDGREN	00152093	2023.03.17	2024.03.17				
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				
(NOTE : THE MEASUREM	IENT ANTENNAS WERE	CALIBRATED IN ACCO	RDANCE TO THE F	REQUIREMENTS C	OF C63.5-2017.)				

Calculation

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)	Battery	Test Frequency (Hz)	-			

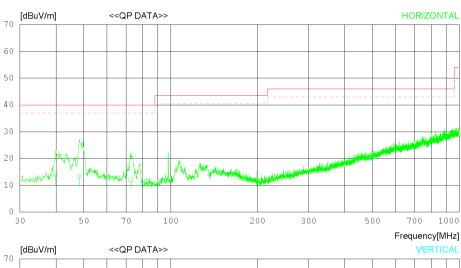
Date 2023-08-21

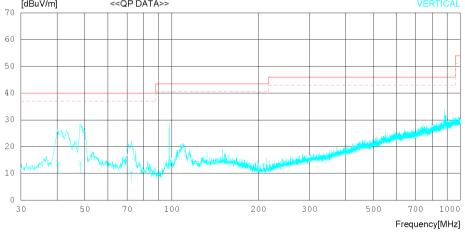
Order No. Power Supply Temp/Humi Test Condition DTNC2308-05475 Battery 23 'C 45 % R.H.

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_05_16
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





This test report is prohibited to copy or reissue in whole or in part without the approval of Dt&C Co., Ltd. TRF-EM-243(00)230309











Pages: 12 / 24







Date 2023-08-21

Order No. Power Supply Temp/Humi Test Condition DTNC2308-05475 Battery 23 'C 45 % R.H.

Memo

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

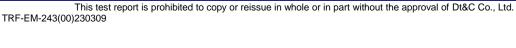
Antenna Factor

1. ANT_EMC-309_VULB9160_3363_with ATT_2022-09-29
Cable Loss

1. C1_ANT TO BOTTOM_UNDER_2023_05_16
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	READING OP	ANT FACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
	HORIZ	ZONTAL								
1 2 3	39.943 48.188 72.680		17.50 18.08 15.80	0.87 1.04 1.20	26.45 26.45 26.45	1 13.31	40.00 40.00 40.00	25.98 26.69 27.95	234 357 223	164 264 46
	VERT	ICAL								
4 5 6	40.428 48.309 72.437	21.70 21.20 20.10	17.59 18.07 15.87	0.88 1.04 1.20	26.45 26.43	1 13.90	40.00 40.00 40.00	26.28 26.10 29.27	312 202 134	78 110 345













Pages: 13 / 24







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

Date 2023-08-21

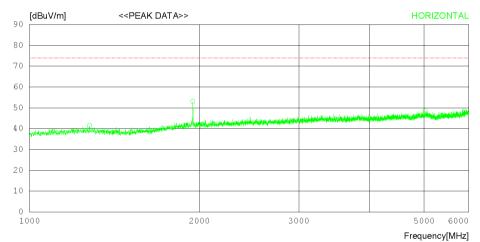
Order No. Power Supply Temp/Humi Test Condition

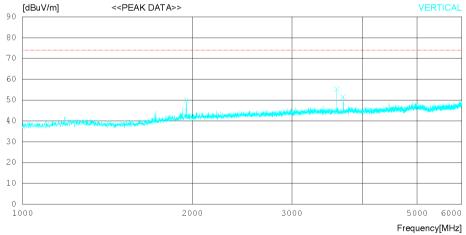
DTNC2308-05475 Battery 23 'C 45 % R.H.

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

Antenna Factor
1. EMC-299_3117_00152093_2023.03.17
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_8440P_3008400887_2022_08_24

1. AMP_8449B_3008A00887_2022.08.24





This test report is prohibited to copy or reissue in whole or in part without the approval of Dt&C Co., Ltd. TRF-EM-243(00)230309 Pages: 14 / 24

















Date 2023-08-21

Order No. Power Supply Temp/Humi Test Condition

DTNC2308-05475 Battery 23 'C 45 % R.H.

Memo

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

Antenna Factor
1. EMC-299_3117_00152093_2023.03.17
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.	FREO	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
140.	LIVEX	PEAK	FACTOR	порр	GAIN	KESOLI	TITITI	TIANGIN	ANTENNA	מחמאז
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m] [dB]	[cm]	[DEG]
	HORIZ	CONTAL								
2 1	277.500 946.875 018.750	52.40 3 40.80 3	31.39	3.87 4.53 8.72	35.85 35.25 34.80	41.42 53.07 48.56	74.0 74.0 74.0	32.58 20.93 25.44	112 202 116	0 160 0
	VERTI	CAL								
5 3	953.125 603.125	51.10	33.00	4.53 5.88 6.21	35.24 34.74	49.99 55.24	74.0 74.0	24.01 18.76	352 305 245	358 334 358







Pages: 15 / 24









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

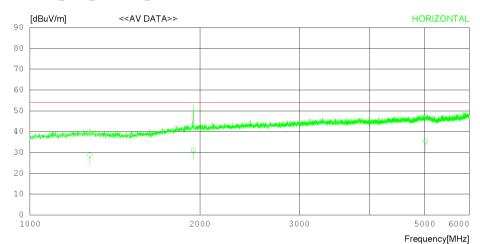
Date 2023-08-21

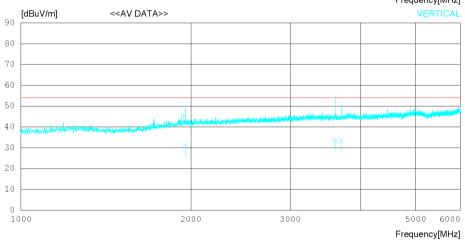
Order No. DTNC2308-05475
Power Supply Battery
Temp/Humi 23 'C 45 % R.H.
Test Condition

Memo

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

Antenna Factor
1. EMC-299_3117_00152093_2023.03.17
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





This test report is prohibited to copy or reissue in whole or in part without the approval of Dt&C Co., Ltd. TRF-EM-243(00)230309 Pages: 16 / 24



















Date 2023-08-21

Order No. Power Supply Temp/Humi Test Condition DTNC2308-05475 Battery 23 'C 45 % R.H.

Memo

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

Antenna Factor
1. EMC-299_3117_00152093_2023.03.17
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

	ED EO		2.17		G 2 T 1 T	D D GILL B	T T14T M		2.25000000000	man. = =
No.	. FREQ	READING CAV	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
	HORIZ	CONTAL								
1	1277.100	31.60	29.10	3.87	35.85	5 28.72	54.00	25.28	231	4.5
2	1946.280	30.50	31.39	4.53	35.25	5 31.17	54.00	22.83	324	223
3	5018.028	27.80	33.84	8.72	34.80	35.56	54.00	18.44	176	305
	VERTI	CAL -								
4	1953.487	30.60	31.40	4.53	35.24	4 31.29	54.00	22.71	342	124
5	3603.181	29.40	33.00	5.88	34.74	4 33.54	54.00	20.46	213	334
6	3698 325	29 10	33 00	6 21	34 68	3 33 63	54 00	20 37	211	77









Pages: 17 / 24







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

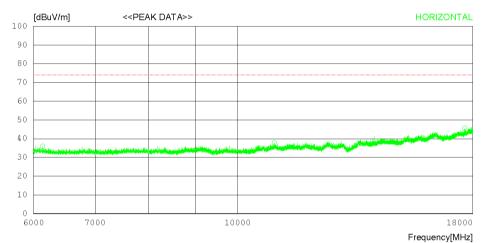
Date 2023-08-21

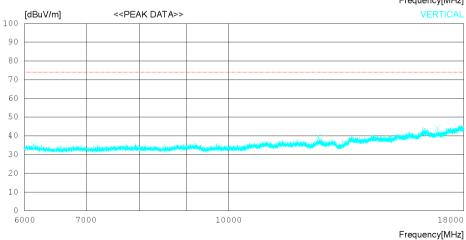
Order No. Power Supply Temp/Humi Test Condition

DTNC2308-05475 Battery 23 'C 45 % R.H.

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





This test report is prohibited to copy or reissue in whole or in part without the approval of Dt&C Co., Ltd.





TRF-EM-243(00)230309







Pages: 18 / 24







Date 2023-08-21

Order No. Power Supply Temp/Humi Test Condition

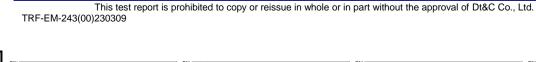
DTNC2308-05475 Battery 23 'C 45 % R.H.

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

N	0.	FREQ	READING PEAK	ANT FACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
		[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
-		HORIZ	CONTAL								
1 2 3	1	0955.25 7642.25	36.70 : 0 33.60 : 0 31.30 :	32.30	7.65 10.58 15.26	39.78 38.62 37.91	35.97 37.86 45.75	74.0 74.0 74.0	38.03 36.14 28.25	201 113 346	17 186 276
-		VERT	CAL								
4	6	138.000	36.10	31.40	7.65	39.78	35.37	74.0	38.63	213	0
5	-		0 34.00		10.64	38.71	39.43	74.0	34.57	342	0
6	1	.6860.00	0 31.90;	36.60	12.85	37.17	44.18	74.0	29.82	176	0







Pages: 19 / 24







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

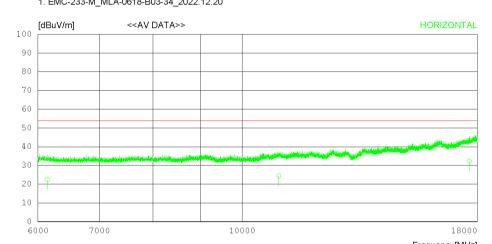
Date 2023-08-21

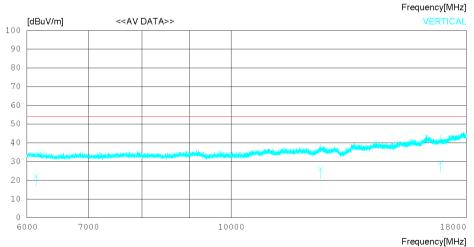
Order No. DTNC2308-05475
Power Supply Battery
Temp/Humi 23 'C 45 % R.H.
Test Condition

Memo

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

Antenna Factor
1. 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





This test report is prohibited to copy or reissue in whole or in part without the approval of Dt&C Co., Ltd. TRF-EM-243(00)230309











Pages: 20 / 24







Date 2023-08-21

Order No. Power Supply Temp/Humi Test Condition DTNC2308-05475 Battery 23 'C 45 % R.H.

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	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	CAV [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
	HORIZ	CONTAL								
2	5139.560 10955.30 17642.16	0 20.10	32.30	7.65 10.58 15.26	39.78 38.62 37.93	2 24.36	54.00 54.00 54.00	31.63 29.64 21.75	162 145 226	202 263 149
	VERT	CAL -								
5 3	5138.350 12498.01 16868.13	0 20.70		7.65 10.64 12.86	38.7	1 26.13	54.00 54.00 54.00	31.63 27.87 24.41	312 220 176	131 131 133

















7.3 Antenna Power Conduction

ANSI C63.4		Antenna power conduction		Result		
Method: Power on the receive antenna terminals was to be determined by measurement of the voltage present at these terminals. Antenna conducted power measurements was performed with the EUT antenna terminals connected directly to measuring instrument using a impedance-Matching network to connect the measurement Instrument to the antenna terminals of the EUT. The losses in decibels in impedance-matching network and cables was added to the measured values in dBμV. The measurements were repeated with the receiver tuned to a frequency until all of frequencies had been successively measured. Power in the receive antenna terminals in the ratio of V²/R, where V is the loss-corrected voltage measured at the antenna terminals, and R is the impedance of the measuring instrument						
		Frequency range on each side of line	Lim	nit		
Fully configured com-		30 MHz to 1 000 MHz	2 nW (50	dΒμV)		
Fully configured sam the following freq		54 MHz to 300 MHz -26 dBmV (300 MHz to 450 MHz -20 dBmV (450 MHz to 804 MHz -15 dBmV (40 dBµV)		
Measurement Point Tuner port						
EUT mo	ode	Test configuration mode	N//	4		
(Refer to cla	uses 4)	EUT Operation mode	N/A	4		

Measurement Instrument								
Description Model Manufacturer Identifier Cal. Date Cal. Due								
-	-	-	-	-	-			













Pages: 22 / 24







Antenna Power Conduction _Measurement data graph							
Test configuration mode N/A EUT Operation mode N/A							
Test voltage (V)	N/A	Test Frequency (Hz)	N/A				

N/A

Cor	Conducted differential voltage disturbance _Measurement data list								
Test configura	tion mode	N/A	N/A EUT Operation mode			N/A			
Source (MHz) Frequency (MHz)		z) Limit	(dBµV)	Result (dBµV)	Margin (dB)				
Fundamental (≤ 1 000)	-			-	-				
Harmonics (30 ~ 300)	-	-			-				
Harmonics (300 ~ 1 000)	-	5	50	-		-			
Other (30 ~ 1 000)	-			-		-			

















8. Revision History

Date	Report No.	Description	Revised By	Reviewed By
Aug. 31. 2023	DREKFCC2308-0122	Initial report	JunSeo Park	HyungJun Kim

-End of test report-











