

FCC Radio Test Report FCC ID: IR5DH8

Report No. Equipment Model Name Brand Name Applicant Address	BTL-FCCP-1-2205T007 HANDHELD COMPUTER DH8 MilDef Crete Inc. MilDef Crete Inc. 7F, No.250, Sec.3, PeiShen Rd., Shen Keng District, New Taipei City, Taiwan	
Radio Function	Bluetooth EDR	
FCC Rule Part(s) Measurement Procedure(s)	FCC CFR Title 47, Part 15, Subpart C ANSI C63.10-2013	
Date of Receipt Date of Test Issued Date	2022/5/16 2022/5/16 ~ 2022/6/10 2022/8/2	

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

Prepared by Eric Lee, Engineer **ac-MRA** Festing Laboratory Approved by 0659 Jerry Chuang, Supervisor BTL Inc. No.18, Ln. 171, Sec. 2, Jiuzong Rd., Neihu Dist., Taipei City 114, Taiwan Tel: +886-2-2657-3299 Fax: +886-2-2657-3331 Web: www.newbtl.com





Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025 requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.



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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-1-2205T007	R00	Original Report.	2022/8/2	Valid

SUMMARY OF TEST RESULTS 1

Standard(s) Section	Description	Test Result	Judgement	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	Pass	
15.205 15.209 15.247(d)	Radiated Emissions	APPENDIX B APPENDIX C	Pass	
15.247 (a)(1)(iii)	Number of Hopping Frequency	NOTE (3)	Pass	
15.247 (a)(1)(iii)	Average Time of Occupancy	NOTE (3)	Pass	
15.247 (a)(1)	Hopping Channel Separation	NOTE (3)	Pass	
15.247 (a)(1)	Bandwidth	NOTE (3)	Pass	
15.247 (b)(1)	Output Power	APPENDIX D	Pass	
15.247(d)	Antenna conducted Spurious Emission	NOTE (3)	Pass	
15.203	Antenna Requirement		Pass	

Test procedures according to the technical standards.

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report.(2) The report format version is TP.1.1.1.

(3) This is to request a Class II permissive change for FCC ID: IR5DH8 (This FCC ID is change ID based on Intel Mobile Communications, the original application information follow as model: AX210NGW, FCC ID: PD9AX210NG, approved on 05/25/2022)

The major change filed under this application is disable RLAN 5 GHz (U-NII 2a, U-NII 2c, U-NII 3) and U-NII 6 GHz.

Since the RF module has been certificated, after evaluation, above test items were criticized and reconfirmed in this report, for other test data can be refer report No.: 200611-03.TR05.

(4) After spot check, this revision does not change original radio parameters.



1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan The test sites and facilities are covered under FCC RN: 674415 and DN: TW0659.

\boxtimes	C05	CB08	CB11	\boxtimes	CB15	CB16
\boxtimes	SR05					

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expanded uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k} = 2$, providing a level of confidence of approximately **95** %. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
C05	CISPR	150 kHz ~ 30MHz	3.44

B. Radiated emissions test :

Test Site	Measurement Frequency Range	U,(dB)
	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
CB15	1 GHz ~ 6 GHz	5.21
CD15	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

C. Conducted test :

Test Item	U,(dB)
Output Power	0.3659

NOTE:

Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	19 °C, 51 %	AC 120V	Ronald Kao
Radiated emissions below 1 GHz	Refer to data	AC 120V	Eddie Lee
Radiated emissions above 1 GHz	Refer to data	AC 120V	Eddie Lee
Output Power	22.3 °C, 52 %	AC 120V	Angela Wang

1.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

Test Software	DRTU V22.21090.0.0					
Modulation Mode	2402 MHz	2402 MHz 2441 MHz 2480 MHz Data Ra				
GFSK	16	16	16	1 Mbps		
π/4-DQPSK	16	16	16	2 Mbps		
8DPSK	16	16	10	3 Mbps		

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	HANDHELD COMPUTER			
Model Name	DH8			
Brand Name	MilDef Crete Inc.			
Model Difference	N/A			
Power Source #1 DC voltage supplied from External Power Supply.				
Power Source	#2 Supplied from battery.			
	#1			
	I/P: 100-240V~50-60Hz 1.5A MAX.			
Power Rating	O/P: 5.0V 3.0A 15.0W or 9.0V 3.0A 27.0W or 12.0V 3.0A 36.0W or			
	15.0V3.0A 45.0W or 20.0V3.0A 60.0W			
	#2 7.2V2500mAh/18Wh			
Products Covered	1 * Adapter: ADAPTER TECH / CDP060A1-P200			
Fibuucis Covered	1 * Battery: BDH82A			
WIFI+BT Module	Intel / AX210NGW			
Operation Band	2400 MHz ~ 2483.5 MHz			
Operation Frequency	2402 MHz ~ 2480 MHz			
	1 Mbps: 10.14 dBm (0.0103 W)			
Maximum Output Power	2 Mbps: 9.74 dBm (0.0094 W)			
	3 Mbps: 9.74 dBm (0.0094 W)			
Test Model	DH8			
Sample Status	Engineering Sample			
EUT Modification(s)	N/A			

NOTE:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

(2) Channel List:

BIL

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

(3) Table for Filed Antenna:

Antenna	Manufacture	Part Number	Туре	Connector	Frequency Range (MHz)	Gain (dBi)
WLAN&BT Antenna	N/A	G983190000	PIFA	N/A	2400 2450	-1.46 2.33
Antenna					2500	0.19



2.2 TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Transmitter Radiated Emissions (below 1GHz)	1 Mbps	39	-
Transmitter Radiated Emissions	1/3 Mbps	00/78	Bandedge
(above 1GHz)	1/3 Mbps	00/39/78	Harmonic
Output Power	1/2/3 Mbps	00/39/78	-

NOTE:

(1) The Radiated emissions test was verified based on the worst conducted power and Bandwidth test results reported in the original report.

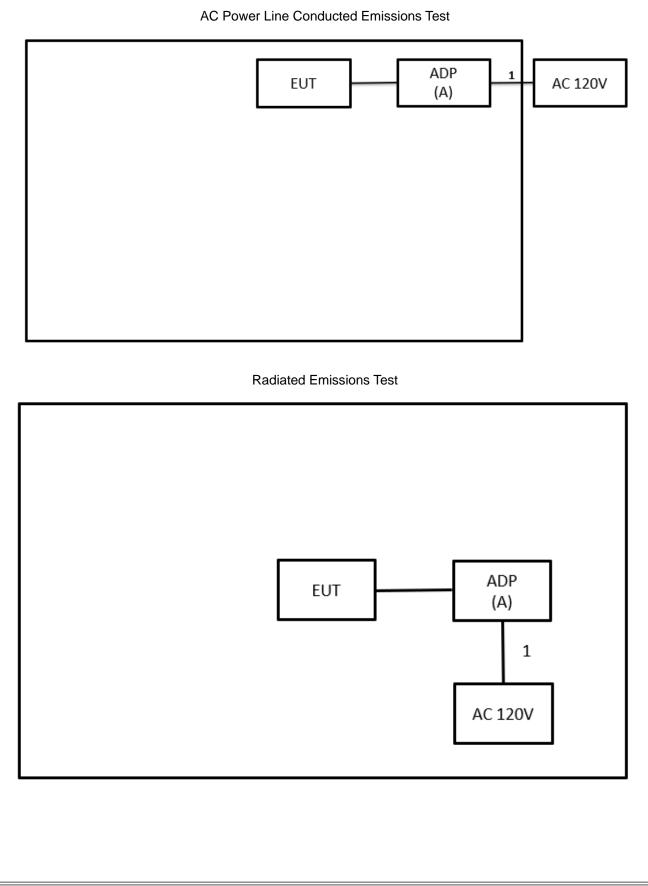
(2) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.

(3) All X, Y and Z axes are evaluated, but only the worst case (X axis) is recorded.



2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.





2.4 SUPPORT UNITS

lte	em	Equipment	Brand	Model No.	Series No.	Remarks
	A	Adapter	ADAPTER TECH	CDP060A1-P200	N/A	Supplied by test requester.
lte	em	Shielded	Ferrite Core	Length	Cable Type	Remarks
	1	N/A	N/A	1.8m	Power Cord	Supplied by test requester.



AC POWER LINE CONDUCTED EMISSIONS TEST 3

3.1 LIMIT

Frequency	Limit (dBµV)
(MHz)	Quasi-peak	Average
0.15 - 0.5	66 - 56 *	56 - 46 *
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of "*" marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following: Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
41.67	1	60	=	-18.33

The following table is the setting of the receiver.

Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

3.2 TEST PROCEDURE

a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment were powered from an additional LISN(s).

The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.

- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle to keep the cable above 40 cm.
- Excess I/O cables that are not connected to a peripheral shall be bundled in the center. C. The end of the cable will be terminated, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
- e. For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

NOTE:

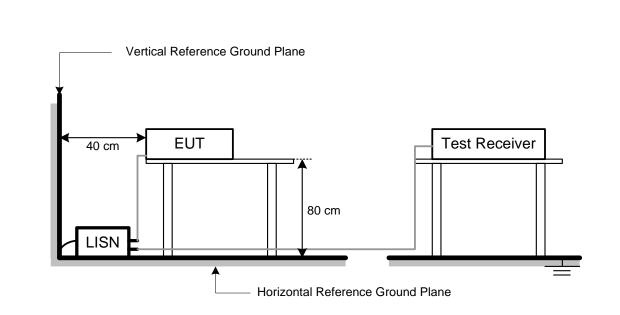
- (1) In the results, each reading is marked as Peak, QP or AVG per the detector used. BW=9 kHz (6 dB Bandwidth)
- (2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

3.3 DEVIATION FROM TEST STANDARD

No deviation.



3.4 TEST SETUP



3.5 TEST RESULT

Please refer to the APPENDIX A.



4 RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205, then the 15.209 limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Radiated I (dBu	Measurement Distance	
(11172)	Peak	Average	(meters)
Above 1000	74	54	3

NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

(4) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

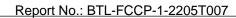
Calculation example:

Reading Level		Correct Factor		Measurement Value
19.11	+	2.11	=	21.22

Measurement Value		Limit Value		Margin Level
21.22	-	54	Ш	-32.78

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	1MHz / 3MHz for Peak,
(Emission in restricted band)	1MHz / 1/T for Average

Spectrum Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector





4.2 TEST PROCEDURE

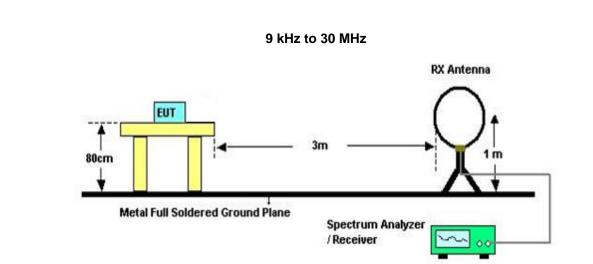
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

4.3 DEVIATION FROM TEST STANDARD

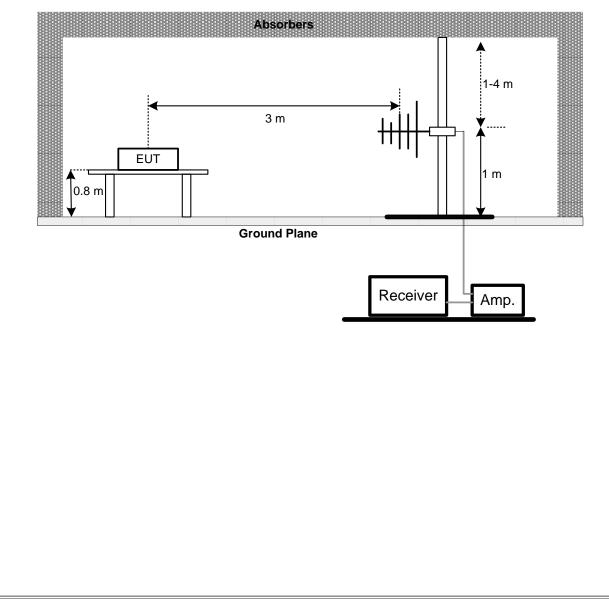
No deviation.

BTL

4.4 TEST SETUP

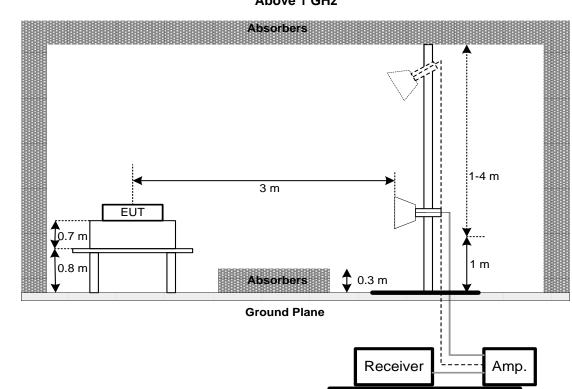


30 MHz to 1 GHz









4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT - BELOW 30 MHZ

There were no emissions found below 30 MHz within 20 dB of the limit.

4.7 TEST RESULT – 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

4.8 TEST RESULT – ABOVE 1 GHZ

Please refer to the APPENDIX C.

NOTE:

(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.



5 OUTPUT POWER TEST

5.1 LIMIT

	FCC Part15 (15.247) , Subpart C										
Section	Test Item	Limit	Frequency Range (MHz)	Result							
15.247(b)(1)	Maximum peak conducted output power	0.125 Watts (20.97 dBm)	2400-2483.5	PASS							

5.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. The maximum peak conducted output power was performed in accordance with method 9 b) of FCC KDB 558074 D01 DTS Meas Guidance.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the **APPENDIX D**.



6 LIST OF MEASURING EQUIPMENTS

		AC Pow	er Line Conducted	d Emissions		
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	TWO-LINE V-NETWORK	R&S	ENV216	101051	2022/3/29	2023/3/28
2	Test Cable	EMCI	EMCCFD300-BM -BMR-6000	170714	2022/5/2	2023/5/1
3	EMI Test Receiver	R&S	ESR 7	101433	2021/11/24	2022/11/23
4	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

			Radiated Emissio	ons		
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC02325	980217	2022/4/6	2023/4/5
2	Preamplifier	EMCI	EMC012645B	980222	2022/4/6	2023/4/5
3	Preamplifier	EMCI	EMC001340	980555	2022/4/6	2023/4/5
4	Test Cable	EMCI	EMC104-SM-100 0	180809	2022/4/6	2023/4/5
5	Test Cable	EMCI	EMC104-SM-SM- 2500	160413	2022/4/6	2023/4/5
6	Test Cable	EMCI	EMC-SM-SM-700 0	180408	2022/4/6	2023/4/5
7	Signal Analyzer	Agilent	N9010A	MY56480554	2021/8/25	2022/8/24
8	Loop Ant	Electro-Metrics	EMCI-LPA600	274	2021/6/1	2022/5/31
9	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-1333	2021/11/18	2022/11/17
10	Horn Ant	Schwarzbeck	BBHA 9170	340	2021/7/9	2022/7/8
11	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-352	2021/8/11	2022/8/10
12	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0625	2021/8/11	2022/8/10
13	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

			Output Power	•		
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Power Meter	Anritsu	ML2487A	6K00004714	2021/8/15	2022/8/14
2	Power Sensor	Anritsu	MA2491A	034138	2021/8/15	2022/8/14

Remark: "N/A" denotes no model name, no serial no. or no calibration specified. All calibration period of equipment list is one year.



7 EUT TEST PHOTO

Please refer to document Appendix No.: TP-2205T007-FCCP-1 (APPENDIX-TEST PHOTOS).

8 EUT PHOTOS

Please refer to document Appendix No.: EP-2205T007-1 (APPENDIX-EUT PHOTOS).



APPENDIX A AC POWER LINE CONDUCTED EMISSIONS



st Moc	le	Normal						Tested Date	2022/5/27
st Fred	quency	-						Phase	Line
80.0	dBuV								
70									
60 L									
50									
40 2 40	3 X	5 X							
30 -		7 X				9 11			
		× 8 ×				x x			
20	4 ×					10 12 X X			
10									
0									
-10									
-20.0	<u> </u>		.5		<u>au</u> _)		5		20.000
0.1	50	Reading	Correct	Measure-	(MHz)		5		30.000
lo. Mk	Freq.	Level	Factor	ment	Limit	Over			
	MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment	
1 *	0.1522	47.10 33.50	9.67	56.77 43.17	65.88 55.88	-9.11			
3	0.1522	29.60	9.67 9.67	43.17	62.74	-12.71	AVG QP		
4	0.2220	5.80	9.67	15.47	52.74	-37.27	AVG		
5	0.2985	30.90	9.66	40.56	60.28	-19.72	QP		
6	0.2987	17.00	9.66	26.66	50.28	-23.62	AVG		
7	0.3997	24.80	9.67	34.47	57.86	-23.39	QP		
8	0.3997	12.90	9.67	22.57	47.86	-25.29	AVG		
9 10	2.5778 2.5778	16.50 4.20	9.83 9.83	26.33 14.03	56.00 46.00	-29.67 -31.97	QP AVG		
11	3.1514	16.70	9.86	26.56	56.00	-29.44	QP		
					/				



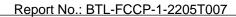
st Mo	de	N	ormal						Tested Date	2022/5/27
st Fre	quency	/ -							Phase	Neutral
80.0 70 60 50 40	dBuV	5 X	7 X							
30 20 10 0	4 ×	Б Х	8 ×	9 × 10 ×			11 × 12 ×			
-10 -20.0										
0.	150			0.5		(MHz)		5		30.000
lo. Mł		eq.	Readi Leve	Facto	or ment	Limit	Over			
4 +	MH		dBu\		dBuV	dBu∨	dB	Detector	Comment	
1 *	0.15		47.1			65.88	-9.11			
2 3	0.15		34.0 33.5			55.88 64.20	-12.21	AVG QP		
4	0.18		10.9			54.20	-33.64	AVG		
5	0.10		31.0			61.71	-21.06	 		
6	0.20		18.3			51.71	-23.76	AVG		
7	0.35		25.1			58.96	-24.20	QP		
8	0.35		13.5			48.96	-25.80	AVG		
9	0.55		18.7			56.00	-27.61	QP		
0	0.55		9.10			46.00	-27.21	AVG		
1	2.61	15	17.0	0 9.83	26.83	56.00	-29.17	QP		
2	2.61	15	4.50	9.83	14.33	46.00	-31.67	AVG		



st Mo	de	Idle						Tested Date	2022/5/27
st Fre	quency	-						Phase	Line
80.0 70 60	dBuV								
50	3 2 X								
40	×	5 X							
30	4 ×	6 ×	9						
		С Х	×			11 X			
20			10 ×			12 X			
10									
0									
-10									
-20.0	150		0.5		(MHz)		5		30.000
U.	150	Reading		Measure-			J		30.000
No. MI	k. Freq.		Factor	ment	Limit	Over			
	MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment	
1 *	0.1522		9.67	56.97	65.88	-8.91	QP		
2	0.1522		9.67	43.57	55.88	-12.31	AVG		
3	0.1995		9.67	47.47	63.63	-16.16	QP		
4	0.1995		9.67	33.37	53.63	-20.26	AVG		
5	0.3030		9.65	41.35	60.16	-18.81	QP		
6	0.3030		9.65	29.75	50.16	-20.41	AVG		
7	0.4087		9.67	34.37	57.67	-23.30	QP		
8	0.4087		9.67	22.27	47.67	-25.40	AVG		
9	0.6673		9.70	26.50	56.00	-29.50	QP		
10	0.6673	3.60	9.70	13.30	46.00	-32.70	AVG		
11	2.5013	15.10	9.83	24.93	56.00	-31.07	QP		
12	2.5013	4.20	9.83	14.03	46.00	-31.97	AVG		



st Mo	de	Idle						Tested Date	2022/5/27
st Fre	quency	-						Phase	Neutral
80.0 70 60 50	dBuV								
40 30	< 6 × 4 ×	7 × 8 ×	9 X			11 X			
20 10 0			10 ×			12 X			
u -10									
-20.0									
0.	150	· · ·	0.5		(MHz)		5		30.000
lo. Mk	. Freq	Reading . Level	Correct Factor	Measure- ment	- Limit	Over			
	MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment	
1 *	0.1522		9.67	56.87	65.88	-9.01	QP		
2	0.1522		9.67	43.67	55.88	-12.21	AVG		
3	0.1793		9.66	45.96	64.52	-18.56			
4	0.1793		9.66	23.66	54.52	-30.86	AVG		
5	0.2063		9.66	46.86	63.35 53.35	-16.49	QP AVG		
6	0.2063		9.66 9.65	40.15	53.35 60.35	-22.59	QP		
8	0.2962		9.65	24.95	50.35	-20.20	AVG		
o 9	0.2902		9.00	24.95	56.00	-25.40	QP		
10	0.6765		9.70	12.00	46.00	-34.00	AVG		
11	2.7938		9.84	27.84	56.00	-28.16	QP		
1.1	2.1000	/ 10.00	0.04	27.04	55.00	20.10	1.041		





APPENDIX B RADIATED EMISSIONS - 30 MHZ TO 1 GHZ



-	Test Mo	ode		BT(1	Mbp	s)			Test Da	ate		2022	2/5/26	
	st Frequ				1MH	,			Polariza				rtical	
	Temp			23	3°C				Hum			6	7%	
80.0 dE	uV/m													_
70														
60														
50														
														1
40														
30						4 X		5 X			6 X			
	1 X	2 X	а Х	ł		^								
20														
10														-
0.0	107.01					~~			10.00	700	~ ~ ~		1000.00	
30.000 No.	127.00 Mk.	0 224.00 Freq.		ding	418.	rrect	515.	easure-	12.00 Limit	709. •	Over	5.00	1000.00	MHZ
INU.	IVIK.	Fieq.		vel		actor		ment		L	Over			
		MHz		SuV		dB		BuV/m	dBuV/	′m	dB	Detector	Comme	ent
1		114.454	7 35	.84	-1	1.75	2	24.09	43.50)	-19.41	peak		
2		174.012 ⁻	7 34	.64		9.83	2	24.81	43.50)	-18.69	peak		
3		319.318		.17		7.79		25.38	46.00		-20.62	peak		
4		444.804		.76		.25		28.51	46.00		-17.49	peak		
5		554.414		.80		2.46		29.34	46.00		-16.66	peak		
6	*	758.437	7 29	.56	1	.60	3	31.16	46.00)	-14.84	peak		



	Test Mc				1Mbps)			Test Da				2/5/26		
Tes	st Frequ				1MHz			Polariza				orizontal		
	Temp)		2	2°C			Hum			67	67%		
80.0 dB	uV/m												٦	
70														
60														
50														
40									5 X		6 X			
30	1	2 X		3 X	\$				×					
20	^													
10														
0.0														
30.000	127.00			321.00	418.00			612.00	709		6.00	1000.00	MH	
No.	Mk.	Freq.		Reading Level	Corre Facto		Measure- ment	Limit	t	Over				
		MHz		dBuV	dB		dBuV/m	dBuV/	m	dB	Detector	Comme	ent	
1		113.35	53	37.56	-11.8	6	25.70	43.50)	-17.80	peak			
2		176.98	73	38.73	-10.1	4	28.59	43.50)	-14.91	peak			
3		312.78	73	38.82	-7.94		30.88	46.00)	-15.12	peak			
4		447.77	90	37.27	-4.14		33.13	46.00)	-12.87	peak			
5		696.19	60	34.92	0.07		34.99	46.00)	-11.01	peak			
6	*	834.09	76	33.69	2.59		36.28	46.00)	-9.72	peak			



APPENDIX C RADIATED EMISSIONS - ABOVE 1 GHZ



	Test Mo	da		Mana		Test Data		0000	2/5/24
т	Test Frequ			Mbps) 2MHz		Test Date Polarization	ר ר		zontal
•	Temp			2°C		Hum.			5%
130.0	dBuV/m								
120									
110					<u>.</u>				
100					N				
90									
80									
70									
60	18. A allow and maderate	1	helling and the second stands the second		and multiples	dagaraa ahaa ahaa daga	d balance and the filles	alman mathematic	5
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40		×							6
30									×
20									
10.0									
	.000 2322.0 Mk.		2362.00	2382.00		422.00 24 Limit		2.00	2502.00 MH
No.	IVIK.	Freq.	Reading Level	Correct Factor	Measure- ment	LITTIL	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2345.167	26.22	31.07	57.29	74.00	-16.71	peak	
2		2345.167	13.24	31.07	44.31	54.00	-9.69	AVG	
3	Х	2402.000	72.83	31.24	104.07	74.00	30.07	peak	NoLimit
4	*	2402.000	72.36	31.24	103.60	54.00	49.60	AVG	NoLimit
5		2498.580	26.31	31.56	57.87	74.00	-16.13	peak	
6		2498.580	3.02	31.56	34.58	54.00	-19.42	AVG	



	Test Mo Test Freq			Mbps) 0MHz		Test Date Polarizatior	2	-	2/5/24 zontal
	Temp			2°C		Hum.	1		5%
30.0	dBuV/m								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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0.0	30.000 2400.	00 2420.00	2440.00	2460.00	2480.00 2	500.00 252	20.00 254	0.00	 2580.00 MH
No.		Freq.	Reading	Correct	Measure-	Limit	Over	0.00	2300.00 MH
110.		ricq.	Level	Factor	ment	Linin	0.001		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2382.460	25.17	31.18	56.35	74.00	-17.65	peak	
2		2382.460	2.83	31.18	34.01	54.00	-19.99	AVG	
3	Х	2480.000	75.07	31.50	106.57	74.00	32.57	peak	NoLimit
4	*	2480.000	74.75	31.50	106.25	54.00	52.25	AVG	NoLimit
5		2483.647	26.85	31.50	58.35	74.00	-15.65	peak	
6		2483.647	14.23	31.50	45.73	54.00	-8.27	AVG	



т	Test Mo Test Frequ			Mbps) 2MHz		Test Date Polarizatior			2/5/24 zontal
I	Temp			2°C		Hum.	1		5%
130.0	dBuV/m	,	Z.	2.0		Tium.		00	J 70
120									
10									
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00					<u>Å</u>				
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40									6 X
30									^
20									
10.0									
	.000 2322.0		2362.00	2382.00				52.00	2502.00 MI
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2388.100	27.53	31.20	58.73	74.00	-15.27	peak	Johnen
2		2388.100	13.48	31.20	44.68	54.00	-9.32	AVG	
3	Х	2402.000	72.31	31.24	103.55	74.00	29.55	peak	NoLimit
4	*	2402.000	70.12	31.24	101.36	54.00	47.36	AVG	NoLimit
5		2498.933	26.09	31.56	57.65	74.00	-16.35	peak	
		-		-			-		



	Test Moo Fest Frequ			Mbps) 0MHz		Test Date Polarizatior	N	-	2/5/24 zontal
	Temp			2°C		Hum.	1		3%
130.0	dBuV/m		Ζ.	20		num.		00	070
120 -									
10									
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90 –									
BO -									
70 -					1				
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40 2									
30 7	<								
20 -									
10.0									
2380	.000 2400.00	0 2420.00	2440.00	2460.00	2480.00 2	500.00 252	20.00 254	0.00	2580.00 MH
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2384.447	26.09	31.19	57.28	74.00	-16.72	peak	
2		2384.447	3.17	31.19	34.36	54.00	-19.64	AVG	
3	Х	2480.000	74.00	31.50	105.50	74.00	31.50	peak	NoLimit
4	*	2480.000	71.64	31.50	103.14	54.00	49.14	AVG	NoLimit
5		2483.627	34.55	31.50	66.05	74.00	-7.95	peak	
6		2483.627	20.21	31.50	51.71	54.00	-2.29	AVG	



	Test M st Freq					Mbps) 2MHz				Test Da olarizat				2/5/24 tical
10	Tem					2°C			<u> </u>	Hum.				6%
130.0 d	BuV/m													
120														
110														
100														
90														
80														
70														
60														
50		-												
40		1 X												
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20														
10.0														
1000.0	00 3550.	.00 6100	.00	8650.0)0	11200.00	137	50.00	163	00.00	18850.0	0 21	400.00	26500.00 MH
No.	Mk.	Freq		Read Lev		Correct Factor		easure ment) -	Limit	C	Over		
		MHz		dBu	V	dB	d	BuV/m	1	dBuV/r	n	dB	Detector	Comment
1		4804.0		43.5		-0.09		43.44		74.00		0.56	peak	
2	*	4804.0	00	34.9)2	-0.09		34.83		54.00	-1	9.17	AVG	



Te	Test Mo est Frequ				Mbps) 2MHz		Test Date Polarizatior	2		2/5/24 zontal
	Temp				2°C		Hum.			5%
130.0 d	lBuV/m									
120										
110										
100										
90										
80										
70										
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50		1 X								
40		2 X								
30		^								
20 10.0										
1000.0	00 3550.0	0 6100.0)0 8	650.00	11200.00	13750.00	16300.00 18	850.00 214	00.00	26500.00 MH;
No.	Mk.	Freq.		eading Level	Correct Factor	Measure- ment	- Limit	Over		
		MHz		dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.00	0 4	44.03	-0.09	43.94	74.00	-30.06	peak	
2	*	4804.00	0 3	32.94	-0.09	32.85	54.00	-21.15	AVG	



	Test Mo st Freq					Mbps) 1MHz			Test Da Polariza				2/5/24 rtical
10	Tem					2°C			Hum.				6%
130.0 de	luV/m												
120													
110													
100													
90													
80													
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50		1											
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10.0													
	0 3550.			8650		11200.00	50.00		300.00	18850		1400.00	26500.00 MH
No.	Mk.	Freq		Read Lev		Correo Facto	easur ment	e-	Limit		Over		
		MHz		dB		dB	BuV/n		dBuV/ı		dB	Detector	Comment
1		4882.0		45.		0.06	45.43		74.00		28.57		
2	*	4882.0	00	37.	23	0.06	37.29		54.00) .	16.71	AVG	



Те	Test Mo st Frequ		_		Mbps) 1MHz		Test Date Polarization	1		2/5/24 zontal
	Temp				2°C		Hum.			5%
30.0 d	Bu¥/m									
20										
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0		1 X								
0		2 X								
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0.0	00 3550.0	0 6100.0	10	8650.00	11200.00	13750.00 1	6300.00 188	850.00 214	00.00	26500.00 MH
No.	Mk.	Freq.		Reading Level	Correct Factor	Measure- ment	Limit	Over	00.00	20000.00 Mil
		MHz		dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.00	0	45.33	0.06	45.39	74.00	-28.61	peak	
2	*	4882.00	0	34.75	0.06	34.81	54.00	-19.19	AVG	



Те	Test Mo est Frequ				1Mbps) 30MHz		Test Date Polarization	n		2/5/24 tical
	Temp				22°C		Hum.			5%
130.0 d	Bu¥/m									
120										
110										
100										
90										
80										
70										
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50		1 X								
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10.0										
	00 3550.0	00 6100.	00	8650.00	11200.00	13750.00	16300.00 18	850.00 214	100.00	26500.00 MHz
No.	Mk.	Freq.		Reading Level	Correct Factor	Measure- ment	- Limit	Over		
		MHz		dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.0		44.89	0.20	45.09	74.00	-28.91	peak	
2	*	4960.0	00	35.13	0.20	35.33	54.00	-18.67	AVG	



	Test Mo st Frequ				IMbps) 60MHz		Test Date Polarization	n		2/5/24 zontal
	Temp			2	2°C		Hum.		66	6%
130.0 d	Bu¥/m									
120										
10										
100										
90										
80										
70										
50										
50		1 X								
10		2 X								
30										
20										
1000.0	00 3550.0	0 6100	.00	8650.00	11200.00	13750.00 1	16300.00 18	850.00 214	100.00	26500.00 MH
No.	Mk.	Freq.		Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz		dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.0	00	45.84	0.20	46.04	74.00	-27.96	peak	
2	*	4960.0		34.07	0.20	34.27	54.00	-19.73	AVG	



	Test M	ode uency				Mbps) 2MHz					Test Da olariza				2/5/24 rtical
10	Tem					2°C				<u> </u>	Hum				6%
130.0 dl	3uV/m														
120															
110															
100															
90															
80															
70															
60															
50		1 X													
40		2													
30		×													
20															
10.0															
1000.00)0 3550.	.00 6100	.00	8650.	00	11200.0)0	1375	0.00	163	300.00	188	50.00 2	21400.00	26500.00 MH
No.	Mk.	Freq	•	Read Lev		Corre Fact			asur nent	ə-	Limit	t	Over		
		MHz		dBu		dB		dE	BuV/n	n	dBuV/	m	dB	Detector	Comment
1		4804.0		44.4		-0.0			4.39		74.00		-29.61		
2	*	4804.0	00	33.5	53	-0.0	9	3	3.44		54.00)	-20.56	6 AVG	



Т	Test M est Fred				3Mbps))2MHz		Test Date Polarizatio			2/5/24 zontal
	Tem			2	22°C		Hum.		66	6%
130.0	dBuV/m									
120										
110										
100 -										
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0.0										
1000.	000 3550	.00 6100).00	8650.00	11200.00	13750.00	16300.00 18	3850.00 214	100.00	26500.00 MH
No.	Mk.	Freq	•	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	2	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.0		43.57	-0.09	43.48	74.00	-30.52	peak	
2	*	4804.0		32.77	-0.09	32.68	54.00	-21.32	AVG	



Те	Test Mest Freq			l		Mbps 1MHz					Test D Polariza					2/5/24 tical	
	Tem					2°C				-	Hum					5%	
130.0 d	lBuV/m																_
120																	
110																	_
100																	
90																	
80																	
70																	
60																	
50		1 X															
40																	
30		2 X															
20																	
10.0																	
1000.0	100 3550.	00 6100	.00	8650.	00	11200	.00	1375	i0.00	16	300.00	188	50.00	2140	0.00	26500.0	00 MHz
No.	Mk.	Freq	•	Read Lev		Cor Fac			easur ment		Limi	t	Ove	r			
		MHz		dBu		d			3uV/r		dBuV	/m	dB		Detector	Comm	ent
1		4882.0		44.4		0.0			14.48		74.0		-29.5		peak		
2	*	4882.0	00	34.6	63	0.0	06	3	34.69		54.0	0	-19.3	31	AVG		



	est Mo t Frequ				(3Mbps) 41MHz		Test Date Polarizatio			2/5/24 zontal
100	Temp				22°C		Hum.			6%
30.0 dB	ıV/m				-					
20										
10										
00										
0										
0										
;0										
i0		1 X								
0		2 X								
80										
20										
1000.000	3550.0	0 6100	0.00	8650.00	11200.00	13750.00	16300.00 18	3850.00 214	400.00	26500.00 MH
No.	Mk.	Freq		Reading Level	g Correct Factor	Measure ment	- Limit	Over		
		MHz	<u></u>	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.0		44.49	0.06	44.55	74.00	-29.45	peak	
2	*	4882.0	00	34.03	0.06	34.09	54.00	-19.91	AVG	



Test Mode Test Frequency Temp				BMbps) 0MHz		Test Date Polarization			2022/5/24 Vertical	
				2°C		Hum.	66%			
130.0 d	lBuV/m									
120										
110										
100										
90										
80										
70										
60										
50		1 X								
40 30		2 X								
20										
10.0										
	00 3550.			8650.00	11200.00	13750.00			00.00	26500.00 MHz
No.	Mk.	Freq.		Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz		dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.00		44.63	0.20	44.83	74.00	-29.17	peak	
2	*	4960.00	00	34.42	0.20	34.62	54.00	-19.38	AVG	



Test Mode Test Frequency Temp					1bps) MHz		Test Date Polarization				2022/5/24 Horizontal			
		22°C						Hum.				66%		
130.0 dB	iV/m					-				-				
120														
10														
00														
io														
0														
50														
10		1 X												
io		2												
:0		x												
20														
0.0														
1000.000				8650.00		11200.00	1375				18850.		400.00	26500.00 MH
No.	Mk.	Freq		Readin Level		Correct Factor		easure∙ nent	-	Limit		Over		
		MHz		dBuV		dB	dE	3uV/m		dBuV/r	n	dB	Detector	Comment
1		4960.0	00	44.95		0.20	4	5.15		74.00	-	28.85	peak	
2	*	4960.0	00	33.42		0.20	3	3.62		54.00	_	20.38	AVG	



APPENDIX D	OUTPUT POWER	





Test Mode :	BT(1 Mbps)	BT(1 Mbps)			2022/5/30	
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result	
2402	10.14	0.0103	20.97	0.1250	Pass	
2441	10.09	0.0102	20.97	0.1250	Pass	
2480	9.92	0.0098	20.97	0.1250	Pass	

Test Mode : BT(2 Mbps)

Tested Date 2022/5/30

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	9.63	0.0092	20.97	0.1250	Pass
2441	9.74	0.0094	20.97	0.1250	Pass
2480	9.67	0.0093	20.97	0.1250	Pass

Test Mode : BT(3 Mbps)

Tested Date 2022/5/30

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	9.67	0.0093	20.97	0.1250	Pass
2441	9.74	0.0094	20.97	0.1250	Pass
2480	9.16	0.0082	20.97	0.1250	Pass

End of Test Report