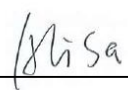

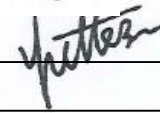


RF Exposure Evaluation Report

Report Reference No.	: MTEB23110005-H	
FCC ID	: 2ABD3-MA390	
Compiled by (position+printed name+signature)...	: File administrators Alisa Luo	
Supervised by (position+printed name+signature)...	: Test Engineer Sunny Deng	
Approved by (position+printed name+signature)...	: Manager Yvette Zhou	
Date of issue.....	: Nov. 01,2023	
Representative Laboratory Name. : Shenzhen Most Technology Service Co., Ltd.		
Address.....	: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.	
Applicant's name..... : Ocean Digital Technology Ltd.		
Address.....	: Flat 12B, Yeung Yiu Chung (No.8) Ind. Bldg.,20 Wang Hoi Road, Kowloon Bay,Hong Kong	
Test specification/ Standard..... : 47 CFR Part 1.1307;47 CFR Part 1.1310		
KDB447498D01 General RF Exposure Guidance v06		
TRF Originator.....	: Shenzhen Most Technology Service Co., Ltd.	
Shenzhen Most Technology Service Co., Ltd. All rights reserved.		
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Test item description	: Internet radio	
Trade Mark.....	: N/A	
Model/Type reference.....	: MA-390	
Listed Models	: WR-390, WR-390D,MA-390D, MA-390NP, MA-390N	
Modulation Type.....	: b: DSSS ,CCK ; g/n: BPSK,QPSK,QAM GFSK/ GFSK, π/4DQPSK, 8DPSK	
Operation Frequency.....	: From 2412MHz~2462MHz 2402MHz to 2480MHz	
Hardware Version.....	: MP	
Software Version.....	: /	
Rating.....	: DC 3.7V by Battery DC 5V by Adapter	
Result.....	: PASS	

TEST REPORT

Equipment under Test : Internet radio

Model /Type : MA-390

Listed Models : WR-390, WR-390D, MA-390D, MA-390NP, MA-390N

Remark : Only the model name and appearance are different

Applicant : Ocean Digital Technology Ltd.

Address : Flat 12B, Yeung Yiu Chung (No.8) Ind. Bldg.,20 Wang Hoi Road,
Kowloon Bay,Hong Kong

Manufacturer : Ocean Digital Technology Ltd.

Address : Flat 12B, Yeung Yiu Chung (No.8) Ind. Bldg.,20 Wang Hoi Road,
Kowloon Bay,Hong Kong

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2023.11.01	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$ Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 EUT RF Exposure

WIFI and BT do not support simultaneous transmission.

Antenna Gain: 3.3dBi

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402)	-1.453	-1.453 ± 1	-0.453
Middle(2440MHz)	-0.426	-0.426 ± 1	0.574
Highest(2480MHz)	-0.782	-0.782 ± 1	0.218

BLE

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Middle(2440MHz)	0.574	1.14	3.3	0.00049	1.0	Pass

Note: 1) Refer to report MTEB23110005-R for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (1.14 * 2.14) / (4 * 3.1416 * 20^2) = 0.00049$

WIFI 2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	13.38	13.38 ± 1	14.38
Middle(2437MHz)	13.21	13.21 ± 1	14.21
Highest(2462MHz)	13.27	13.27 ± 1	14.27

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	11.83	11.83 ± 1	12.83
Middle(2437MHz)	11.82	11.82 ± 1	12.82
Highest(2462MHz)	11.29	11.29 ± 1	12.29

802.11n(H20)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	10.91	10.91 ± 1	11.91
Middle(2437MHz)	11.00	11.00 ± 1	12
Highest(2462MHz)	10.45	10.45 ± 1	11.45

802.11n(H40)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2422MHz)	10.71	10.71 ± 1	11.71
Middle(2437MHz)	10.71	10.71 ± 1	11.71
Highest(2452MHz)	10.56	10.56 ± 1	11.56

WIFI 2.4G

Worst case: 802.11b						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Lowest(2412MHz)	14.38	27.42	3.3	0.0117	1.0	Pass

Note: 1) Refer to report MTEB23110005-R2 for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (27.42 * 2.14) / (4 * 3.1416 * 20^2) = 0.0117$

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-1.390	-1.390 ± 1	-0.39
Middle(2441MHz)	-0.271	-0.271 ± 1	0.729
Highest(2480MHz)	-0.520	-0.520 ± 1	0.48

π /4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	0.471	0.471 ± 1	1.471
Middle(2441MHz)	1.599	1.599 ± 1	2.599
Highest(2480MHz)	1.264	1.264 ± 1	2.264

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	0.462	0.462 ± 1	1.462
Middle(2441MHz)	1.582	1.582 ± 1	2.582
Highest(2480MHz)	1.361	1.361 ± 1	2.361

Worst case: π /4DQPSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Middle(2441MHz)	2.599	1.82	3.3	0.00077	1.0	Pass

Note: 1) Refer to report MTEB23110005-R1 for EUT test Max Conducted average Output Power value.

Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(1.82*2.14)/(4*3.1416*20²)=0.00077

Note: 3)EUT's Bluetooth module is more than 20cm away from the human body.

.....THE END OF REPORT.....