TESTING LABORATORY
CERTIFICATE#4323.01

MAXIMUM PERMISSIBLE EXPOSURE

TEST REPORT

For

Alinco Incorporated, Electronics Division

Yodoyabashi Dai Building 13F, 4-4-9 Koraibashi, Chuo-Ku, Osaka 541-0043, Japan

FCC ID: PH3DR-MD500T

Report Type:	**Product Type:**
Original Report	VHF/UHF DUAL BAND TRANSCEIVER

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Report Number:	RSHD201211004-00C
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Alinco Incorporated, Electronics Division
Tested Model	DR-MD500T
Product Type	VHF/UHF DUAL BAND TRANSCEIVER
Modulation Mode	FM/4FSK
Maximum Output Power(Conducted)	136-174MHz: High: 55W; Low: 5W 400-480MHz: High: 40W; Low: 5W
Operation Frequency	136-174MHz 400-480MHz
Power Supply	DC 13.8V
*Antenna Gain	1.0 dBi

Note: The Maximum Antenna Gain was provided by manufacturer.*

All measurement and test data in this report was gathered from production sample serial number: RSHD201211004-1.(Assigned by the BACL. The EUT supplied by the applicant was received on 2020-12-11)

FCC §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to §2.1091 and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time |E|, |H| or S (minutes)**
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

f = frequency in MHz; * = Plane-wave equivalent power density;

Calculated Formulary:

Predication of MPE limit at a given distance
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

For worst case:

Frequency Range (MHz)	Antenna Gain (dBi)	coaxial Cable loss (dB)	Antenna Gain-coaxial Cable loss		Tune-up Conducted Power		Duty cycle	Evaluation Distance (cm)	Power Density (mW/cm^2)	Power Density Limit (mW/cm^2)
			(dBi)	(numeric)	(dBm)	(mW)				
136-174	1.0	0.72	0.28	1.07	47.50	56234.13	50%	50	0.9545	1.0
400-480	1.0	0.72	0.28	1.07	47.00	50118.72	50%	50	0.8507	1.3

Note:

1.The tune-up output power was declared by the Manufacturer.
2. The typical max antenna gain is 1.0dBi was provided by the Manufacturer

Antenna Type	Antenna Gain
Omni antenna	1.0

3.typical use qualifies for a maximum duty cycle is 50%
4.A typical installation consists of system with a coaxial cable has a loss 0.72 dB.

Result: The device meet FCC MPE at 50cm distance

Declarations

1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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