

RF EXPOSURE EVALUATION REPORT

FCC ID : MMATRP150
Equipment : Midland Wireless Audio System - Repeater
Brand Name : Midland TeamComm®
Model Name : TRP150
Marketing Name : Midland TeamComm® Repeater
Applicant : Midland Radio
5900 Parretta Drive Kansas City, MO 64120
Manufacturer : Midland Radio
5900 Parretta Drive Kansas City, MO 64120
Standard : 47 CFR Part 1.1307

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 1.1307 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full



Approved by: Cona Huang / Deputy Manager



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Table of Contents

1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	4
2. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS	4
3. RF EXPOSURE LIMIT INTRODUCTION	5
4. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION	6
4.1. Standalone Power Density Calculation	6



1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Midland Wireless Audio System - Repeater
Brand Name	Midland TeamComm®
Model Name	TRP150
Marketing Name	Midland TeamComm® Repeater
FCC ID	MMATRP150
Wireless Technology and Frequency Range	2.4GHz Band: 2400 MHz ~ 2483.5 MHz
Mode	FHSS
HW Version	2
SW Version-radio 1	202.03.00
SW Version-radio 2	302.03.00

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Reviewed by: Jason Wang

Report Producer: Carlie Tsai

2. Maximum RF average output power among production units

Band / Mode	Average Power (dBm)		
	Radio 1 (2412MHz~2464MHz)		Radio 2 (2402MHz~2480MHz)
	2Mbps	1Mbps	2Mbps
2.4GHz Proprietary	18dBm (+0dB/-2dB)		11dBm (+1dB/-3dB)



3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



4. Radio Frequency Radiation Exposure Evaluation

4.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
2.4GHz Proprietary-radio 1	5.0	18.0	23.0	0.20	199.53	0.040	1.000
2.4GHz Proprietary-radio 2	5.0	12.0	17.0	0.05	50.12	0.010	1.000

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.