THRU Lab & Engineering.

477-6, Hager-Ri, Yoju-Up, Yoju-Gun
Kyunggi-Do,469-803, Korea
T820318835092F820318835169 email thrukang@kornet.net

THRU

Test Report

Product Name: GMRS/FRS Combination

MODEL NO:LXT340

FCC ID:MMALXT314

Applicant:

Midland Radio Corporation.
5900 Parretta Drive,Kansas City,
MO64120

Date Receipt:11/30/2007

Date Tested: 12/05/2007

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APPLICANT: Midland Radio Corporation.
FCC ID :MMALXT314

TEST REPORT

EXHIBITS CONTAINING:

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GENERAL INFORMATION REQUIRED
FOR CERTIFICATION

2.1033 (c) (1) (2) MidLand Radio Corporation. will manufacture

the FCCID: MMALXT314 GMRS/FRS COMBINATION TRANSCEIVER in quantity, for use under FCC RULES PART 95A&B.
MidLand Radio Corporation.
5900 Parretta Drive, Kansas City, MO64120

2.1033 (c) TECHNICAL DESCRIPTION

2.1033 (c) (3) Instruction book. A draft copy of the instruction manual is included as EXHIBIT 7.

2.1033 (c) (4) Type of Emission : 10K5F3E
95.631

Bn = 2M + 2DK
M = 3000
D = 2.25k
Bn =2(3000) + 2(2250) = 10.5k
GMRS Frequency Range :20.0kHz

2.1033 (c) (5) GMRS Frequency Range:
95.621

1. 462.5500 13. 462.7000
2. 462.5625 14. 462.7125
3. 462.5750 15. 462.7250
4. 462.5875 16. 467.5500
5. 462.6000 17. 467.5750
6. 462.6125 18. 467.6000
7. 462.6250 19. 467.6250
8. 462.6375 20. 467.6500
9. 462.6500 21. 467.6750
10. 462.6625 22.467.7000
11. 462.6750 23. 467.7250
12. 462.6875

FRS Authorized Bandwidth:12.5kHz

2.1033(c)(5) FRS Frequency Range:
95.627

1. 462.5625 8. 467.5625
2. 462.5875 9. 467.5875
3. 462.6125 10. 467.6125
4. 462.6375 11. 467.6375
5. 462.6625 12. 467.6625
6. 462.6875 13. 467.6875
7. 462.7125 14. 467.7125 MHz

2.10311c)(6)(7) RF power is measured by the substitution method as

2.1046(a) outlined in TIA/EIA - 603. With a nominal battery voltage of 6 V, and the transmitter properly adjusted the RF output measures:

power supply : Rocket batteries (1.5VDC) x 4

GMRS (HIGH) – 0.635 Watts
GMRS (LOW) - 0.253 Watts
FRS - 0.290 Watts

APPLICANT : Midland Radio Corporation.
FCC ID : MMALXT314
REPORT :THRU-712001

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2.1033(c)(6)(7) FRS Power Output shall not exceed 0.50 Watts effective

95.639 radiated power. There can be no provisions for

95.649 Increasing the power or varying the power.

2.1033(c)(8) DC Voltages and Current into Final Amplifier:
FINAL AMPLIFIER ONLY

FOR GMRS HIGH POWER SETTING INPUT POWER: (6V)(0.490A)=2.94 Watts
FOR GMRS LOW POWER SETTING INPUT POWER: (6V)(0.240A)=1.44 Watts
FOR FRS POWER SETTING INPUT POWER: (6V)(0.230A)=1.38 Watts

2.1033(c)(9) Tune-up procedure. The tune-up procedure is included as EXHIBIT # 9.

2.1033(c)(10) Complete Circuit Diagrams: The circuit diagram is included as EXHIBIT 6 of this report. The block diagrams are included as EXHIBIT 5 of this report.

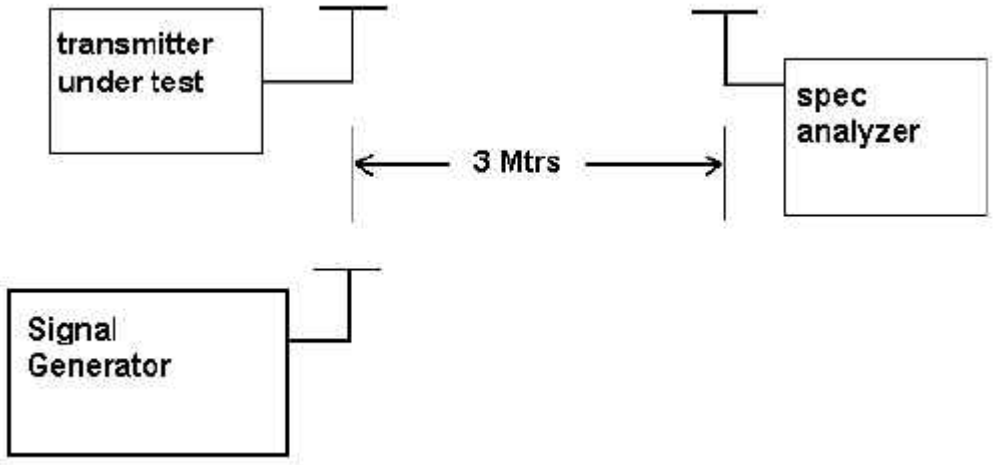
2.1033(c)(11) A photograph or a drawing of the equipment identification label is included as exhibit No. 1.

2.1033(c)(12) Photographs(8"X10") of the equipment of sufficient clarity to reveal equipment construction and layout, including meters, labels for controls, including any view under shields. See exhibits 3-4.

2.1033(c)(13) Digital modulation is not allowed.

2.1033(c)(14) The data required by 2.1046 through 2.1057 is submitted below.

2.1046(a) RF power output. The test procedure used was TIA/EIA-603.



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2.1053 UNWANTED RADIATION
95.635 (b) (7)

The tabulated Data shows the results of the radiated Field strength emissions test. The spectrum was Scanned from 30 MHz to at least the 10^{th} harmonic of The fundamental.

REQUIREMENTS: GMRS (HIGH): 43 + 10log(0.635) = 41.03dB

(LOW) : 43 + 10log(0.252) = 37.03dB

GMRS-High				GMRS-Low			
frequency	**dBc**	**Margin**	**dBm**	**frequency**	**dBc**	**Margin**	**dBm**
462.5500	0	0	0	462.5500	0	0	0
925.1000	54.61	13.58	-26.58	925.1000	50.81	13.78	-26.78
1387.6500	58.02	16.99	-29.99	1387.6500	51.42	14.39	-27.39
1850.2000	58.46	17.43	-30.43	1850.2000	48.46	11.43	-24.43
2312.7500	50.74	9.71	-22.71	2312.7500	48.94	11.91	-24.91
2775.3000	58.48	17.45	-30.45	2775.3000	44.58	7.55	-20.55
3237.8500	56.36	15.33	-28.33	3237.8500	38.25	1.22	-14.22
3700.4000	56.72	15.69	-28.69	3700.4000	43.62	6.59	-19.59
4162.9500	60.12	19.09	-32.09	4162.9500	46.62	9.59	-22.59
4625.5000	58.02	16.99	-29.99	4625.5000	52.62	15.59	-28.59

METHOD OF MEASUREMENT : The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per TIA/EIA STANDARD 603 using the substitution method. Measurements were made at the open field test site of ThruLab & ENGINEERING. located at 477-6, Hager-Ri, Yoju-Up, Yoju-Gun, Kyunggi-Do,469-803, Korea

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2.1053 UNWANTED RADIATION:
95.635 (b) (7)

The tabulated Data shows the results of the radiated Field strength emissions test. The spectrum was Scanned from 30 MHz to at least the 10^{th} harmonic of The fundamental.

REQUIREMENTS: FRS: 43 + 10log(0.290) = 37.63dB

FRS			
frequency	**dBc**	**Margin**	**dBm**
467.5625	0	0	0
935.1250	47.91	10.28	-23.28
1402.6875	52.75	15.12	-28.12
1870.2500	46.59	8.96	-21.96
2337.8125	45.07	7.44	-20.44
2805.3750	45.22	7.59	-20.59
3272.9375	39.18	1.55	-14.55
3740.5000	46.45	8.82	-21.82
4208.0625	47.18	9.55	-22.55
4675.6250	54.03	16.40	-29.40

METHOD OF MEASUREMENT : The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per TIA/EIA STANDARD 603 using the substitution method. Measurements were made at the open field test site of ThruLab & ENGINEERING. located at 477-6, Hager-Ri, Yoju-Up, Yoju-Gun, Kyunggi-Do,469-803, Korea

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TEST EQUIPMENT LIST

No	Description	Manufacturer	Model No.	Serial No.	Due Cal.	Used
1	Test Receiver	Rohde & Schwarz	ESHS 10	862970/018	2008.05.01	☐
2	Test Receiver	Rohde & Schwarz	ESVS 10	826008/014	2008.06.12	☐
3	Spectrum Analyzer	Hewlett Packard	8566B	2311A02394	2008.06.13	☒
4	Spectrum Display	Hewlett Packard	85662A	2542A12429	2008.06.13	☒
5	Quasi-peak Adapter	Hewlett Packard	85650A	2521A00887	2008.06.13	☐
6	RF Preselector	Hewlett Packard	85685A	2648A00504	2008.06.13	☐
7	Preamplifer	Hewlett Packard	8447F	2805A02570	2008.05.28	☐
8	Preamplifer	A.H. Systems	PAM-0118	164	2008.05.08	☐
9	Biconical Antenna	Eaton Corp.	94455-1	0977	2008.04.01	☐
10	Biconical Antenna	EMCO	3104C	9111-2468	2008.06.07	☐
11	Log Periodic	EMCO	3146	2051	2008.05.11	☒
12	Horn Antenna	A.H. Systems	SAS-571	414	2008.03.17	☒
13	Loop Antenna	Rohde & Schwarz	HFH2-	826532/006	2009.01.31	☐
14	Dipole Antenna	Rohde & Schwarz	VHAP	574	2007.12.12	☐
15	Dipole Antenna	Rohde & Schwarz	VHAP	575	2007.12.12	☐
16	Dipole Antenna	Rohde & Schwarz	UHAP	546	2007.12.12	☐
17	Dipole Antenna	Rohde & Schwarz	UHAP	547	2007.12.12	☐
18	Signal Generator	Hewlett Packard	8673D	2708A00448	2008.06.12	☐
19	Spectrum Analyzer	Advantest Corp.	R3261C	61720208	2008.06.12	☐
20	LISN	EMCO	3825/2	9111-1912	2008.12.12	☐
21	LISN	Kyoritsu	KNW-242	8-923-2	2009.05.23	☐
22	Modulation Analyzer	Hewlett Packard	8901B	3438A05094	2008.05.25	☐
23	Waveform	Hewlett Packard	33120A	US34001190	2008.05.21	☐
24	Audio analyzer	Hewlett Packard	8903B	3011A12915	2008.05.21	☐
25	Digital Oscilloscope	Tektronix	TDS 340A	B012287	2008.06.13	☐