THRU Lab & Engineering.

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

Test Report

Product Name: GMRS/FRS Combination

MODEL NO:GXT661

FCC ID:MMAGXT600

Applicant:

Midland Radio Corporation.

1120 Clay St. North Kansan City,

MO 64116

Date Receipt:02/23/2006

Date Tested: 03/06/2006

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APPLICANT: Midland Radio Corporation.
FCC ID :MMAGXT600

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: MMAGXT600 GMRS/FRS COMBINATION TRANSCEIVER in quantity, for use under FCC RULES PART 95A&B.
MidLand Radio Corporation.
1120 Clay St.
North Kansas City, MO 64116

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) – 1.146 Watts
GMRS (LOW) - 0.206 Watts
FRS - 0.333 Watts

APPLICANT : Midland Radio Corporation.
FCC ID : MMAGXT600
REPORT :THRU-603001

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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)(1.118A)=6.708 Watts
FOR GMRS LOW POWER SETTING INPUT POWER: (6V)(0.326A)=1.956 Watts
FOR FRS POWER SETTING INPUT POWER: (6V)(0.326A)=1.956 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.

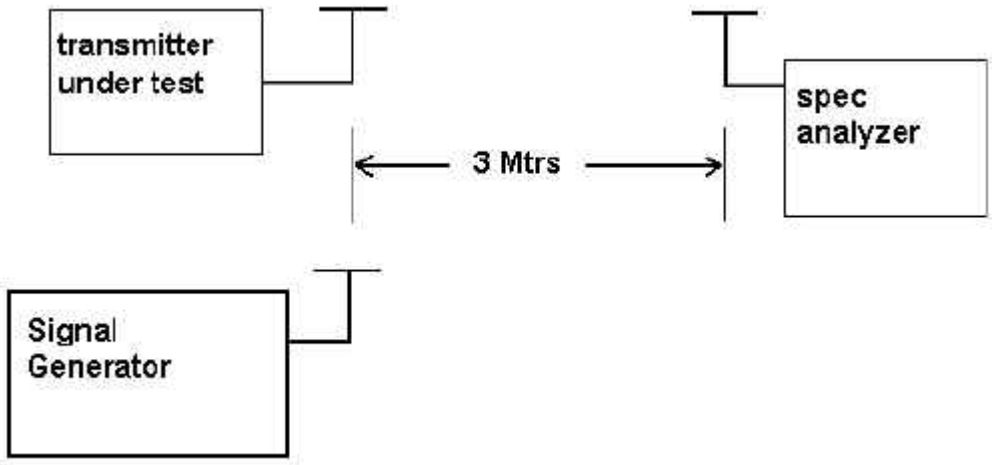
2.1033(c)(11) A photograph or a drawing of the equipment identification label is included as exhibit No. 1.

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(1.146) = 43.59184dB

(LOW) : 43 + 10log(0.206) = 36.13867dB

GMRS-High				GMRS-Low			
Frequency	**dBc**	**Margin**	**dBm**	**Frequency**	**dBc**	**Margin**	**dBm**
462.5500	0	0		462.5500	0	0	
925.1000	55.57	11.98	-24.98	925.1000	56.21	20.08	-33.08
1387.6500	61.18	17.59	-30.59	1387.6500	62.92	26.79	-39.79
1850.2000	61.02	17.43	-30.43	1850.2000	59.96	23.83	-36.83
2312.7500	65.90	22.31	-35.31	2312.7500	58.74	22.61	-35.61
2775.3000	61.24	17.65	-30.65	2775.3000	56.68	20.55	-33.55
3237.8500	61.22	17.63	-30.63	3237.8500	55.56	19.43	-32.43
3700.4000	63.38	19.79	-32.79	3700.4000	60.32	24.19	-37.19
4162.9500	70.98	27.39	-40.39	4162.9500	62.62	26.49	-39.49
4625.5000	66.18	22.59	-35.59	4625.5000	59.02	22.89	-35.89

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(0.333) = 38.22444dB

FRS			
Frequency	**dBc**	**Margin**	**dBm**
467.5625	0	0	
935.1250	56.81	18.58	-31.58
1402.6875	65.65	27.42	-40.42
1870.2500	65.79	27.56	-40.56
2337.8125	60.87	22.64	-35.64
2805.3750	64.52	26.29	-39.29
3272.9375	61.78	23.55	-36.55
3740.5000	61.65	23.42	-36.42
4208.0625	62.18	23.95	-36.95
4675.6250	59.43	21.20	-34.20

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.
1	Test Receiver	Rohde & Schwarz	ESVS10	830489/001	2006.04.23
2	Test Receiver	Rohde & Schwarz	ESHS 10	825832/014	2006.08.25
3	Test Receiver	Rohde & Schwarz	ESVS 10	826008/014	2006.05.24
4	Spectrum Analyzer	Hewlett Packard	8566B	2311A02394	2006.04.23
5	Spectrum Display	Hewlett Packard	85662A	2542A12429	2006.04.23
6	Quasi-peak Adapter	Hewlett Packard	85650A	2521A00887	2006.04.23
7	RF Preselector	Hewlett Packard	85685A	2648A00504	2006.04.23
8	Preamplifer	Hewlett Packard	8449B	3008A00375	2006.04.23
9	Preamplifer	Hewlett Packard	8447F	3113A05367	2006.04.23
10	Preamplifer	Hewlett Packard	8447F	2805A02570	2005.12.12
	Preamplifer	A.H. Systems	PAM-0118	164	2007.04.01
11	Biconical Antenna	Eaton Corp.	94455-1	0977	2007.04.01
12	Biconical Antenna	EMCO	3104C	9111-2468	2006.06.07
13	Log Periodic Antenna	EMCO	3146	2051	2007.04.01
14	Log Periodic Antenna	EMCO	3146	8901-2320	2006.03.28
15	Horn Antenna	A.H. Systems	SAS-571	414	2006.03.17
	Horn Antenna	A.H. Systems	SAS-571	781	2006.01.07
16	Loop Antenna	Rohde & Schwarz	HFH2-Z2.335.4711.52	826532/006	2006.01.31
17	Dipole Antenna	Rohde & Schwarz	VHAP	574	2006.12.12
18	Dipole Antenna	Rohde & Schwarz	VHAP	575	2006.12.12
19	Dipole Antenna	Rohde & Schwarz	UHAP	546	2006.12.12

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20	Dipole Antenna	Rohde & Schwarz	UHAP	547	2006.12.12
21	Signal Generator	Rohde & Schwarz	SMS	872165/100	2006.04.23
22	Signal Generator	Rohde & Schwarz	SMX	825459/030	2006.05.20
23	Spectrum Monitor	Rohde & Schwarz	EZM	862304/007	None
24	Panorama Monitor	Rohde & Schwarz	EPN	883707/207	None
25	Spectrum Analyzer	Advantest Corp.	R3261C	61720208	2006.04.23
26	Spcetrum Analyzer	Hewlett Packard	8591A	3205A02641	2005.12.12
27	LISN	EMCO	3825/2	9111-1912	2005.12.12
28	LISN	Solar	8012-50-R-24	8379121	2007.04.25
29	LISN	Kyoritsu	KNW-242	8-923-2	2007.04.25
30	Plotter	Hewlett Packard	7475A	2210A02802	None
31	Modulation Analyzer	Hewlett Packard	8901B	3438A05094	2006.04.23
32	Frequency Counter	Tektronic	CMC251	TW52489	2006.04.23
33	Temperature & Humidity Chamber	TABAI EZPEC CORP.	MC711P	112000492	2006.0827
34	Antenna Mast	EMCO	1070-3	9109-1617	None
35	Turn Table	EMCO	1080-1,2	9203-1762	None
36	Positioning Controller	EMCO	1090	9111-1054	
37	Antenna Power Supply	Rohde & Schwarz	HZ-9	920127	None
38	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	881052	None
39	Coaxial Take-up Reel	EMCO	100817	9109-1684	None