



MOTOROLA SOLUTIONS



**MS ISO/IEC 17025
TESTING
SAMM No.0826**

DECLARATION OF COMPLIANCE: MPE ASSESSMENT Report Part 2 of 3

**Motorola Solutions
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Date of Report: 2/5/2018
Report Revision: B

Responsible Engineer: Saw Sun Hock (EME Engineer)
Report author: Saw Sun Hock (EME Engineer)
Date(s) Tested: 2/15/2017-3/27/2017
Manufacturer: Futurecom Systems Group
Date submitted for test: 01/13/2017
DUT Description: DVR UHF (380-512 MHz), Digital Vehicular Repeater
Companion Mobile: APX8500 mobile All Bands (VHF, UHF, 7/800)
Test TX mode(s): CW (for FM), 802.11 b/g/n (for WLAN)
Max. Power output: **DVR:** 10W (100% duty cycle)
Companion Mobile: 50% duty cycle, PTT with below maximum output power
60W (136-174 MHz), 54W (380-484 MHz), 48W (485-512 MHz), 30W (512-520 MHz),
36W (764-805 MHz), 42W (806-870 MHz); 10mW (Bluetooth); 2.5mW (Bluetooth LE);
63.1 mW (WLAN 802.11b), 20 mW (WLAN 802.11g/n)
TX Frequency Bands: **DVR:** 380-512 MHz
Companion Mobile:
136-174 MHz; 380-520 MHz; 764-805 MHz; 806-870 MHz; WLAN 2400-2483.5 MHz;
Bluetooth 2402-2480 MHz
Signaling type: FM, TDMA, 802.11b/g/n (WLAN)
Model(s) Tested: **DVR:** MOBEXCOM DVRS UHF (DQPM DVR4000P, DQPM DVR5000P, DQPM DVR6000P)
Companion Mobile: M37TSS9PW1AN
Model(s) Certified: MOBEXCOM DVRS UHF (DQPM DVR4000P, DQPM DVR5000P, DQPM DVR6000P)
Serial Number(s): 16102684; 16030465; 16102751 (DVR) , KLDORDDUC (Companion Mobile)
Classification: Occupational/Controlled Environment
FCC ID: **DVR:** LO6-DVRSUHF
406.1-512 MHz
Companion Mobile: AZ492FT7089
150.8-173.4 MHz, 406.1-512 MHz, 769-775 MHz, 799-824 MHz, 851-869 MHz,
2402-2480 MHz, 2412-2462 MHz
This report contains results that are immaterial for FCC equipment approval, which are clearly
identified.
IC: **DVR:**2098B-DVRSUHF
Companion Mobile:109U-92FT7089
This report contains results that are immaterial for ISED Canada equipment approval, which
are clearly identified.

The MPE results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits. FCC rules require compliance for Passengers and Bystanders to the FCC General Population/Uncontrolled limits.

Based on the information and the testing results provided herein, the undersigned certifies that when used as stated in the operating instructions supplied, said product complies with the national and international reference standards and guidelines listed in section 3.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola Solutions Inc. EME Laboratory.

I attest to the accuracy of the data and assume full responsibility for the completeness of these measurements.
This reporting format is consistent with the suggested guidelines of the TIA TSB-159 April 2006
The results and statements contained in this report pertain only to the device(s) evaluated herein.

Tiong

Tiong Nguk Ing
Deputy Technical Manager
Approval Date:2/10/2018

Appendix D – MPE Test Results Summary for DVR UHF

Table D.1

MPE assessment for DVR UHF - trunk mounted antenna - Bystander

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Trunk	BS1	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.005	0.27	1.9	0.16	3.3
						9.90	417.5000	0.006	0.28	2.1	0.16	3.6
						9.60	429.9875	0.007	0.29	2.5	0.17	4.4
Trunk	BS2	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.016	0.27	5.8	0.16	9.8
						9.90	417.5000	0.015	0.28	5.4	0.16	9.2
						9.60	429.9875	0.015	0.29	5.2	0.17	9.0
Trunk	BS3	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.021	0.27	7.9	0.16	13.5
						9.90	417.5000	0.021	0.28	7.4	0.16	12.8
						9.60	429.9875	0.026	0.29	9.0	0.17	15.6
Trunk	BS4	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.041	0.27	15.2	0.16	25.9
						9.90	417.5000	0.039	0.28	14.0	0.16	24.2
						9.60	429.9875	0.035	0.29	12.4	0.17	21.4
Trunk	BS5	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.036	0.27	13.2	0.16	22.5
						9.90	417.5000	0.026	0.28	9.3	0.16	16.0
						9.60	429.9875	0.023	0.29	8.1	0.17	14.1
Trunk	BS1	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.005	0.30	1.6	0.17	2.8
						9.90	460.0000	0.004	0.31	1.2	0.17	2.2
						10.00	470.0000	0.003	0.31	0.9	0.18	1.5
Trunk	BS2	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.006	0.30	2.1	0.17	3.8
						9.90	460.0000	0.007	0.31	2.3	0.17	4.0
						10.00	470.0000	0.006	0.31	2.0	0.18	3.6
Trunk	BS3	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.014	0.30	4.6	0.17	8.1
						9.90	460.0000	0.013	0.31	4.3	0.17	7.6
						10.00	470.0000	0.014	0.31	4.3	0.18	7.7
Trunk	BS4	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.022	0.30	7.5	0.17	13.1
						9.90	460.0000	0.018	0.31	5.9	0.17	10.5
						10.00	470.0000	0.019	0.31	6.1	0.18	10.9

Note:
Results in bold font are configurations with highest percentage of limits.

Table D.1 (Continued)

MPE assessment for DVR UHF - trunk mounted antenna - Bystander

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Trunk	BS5	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.014	0.30	4.6	0.17	8.1
						9.90	460.0000	0.013	0.31	4.3	0.17	7.7
						10.00	470.0000	0.014	0.31	4.6	0.18	8.1
Trunk	BS1	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.003	0.31	0.9	0.18	1.6
						9.61	484.0000	0.003	0.32	0.9	NA	NA
						9.83	498.0000	0.003	0.33	0.8	NA	NA
						9.75	512.0000	0.004	0.34	1.0	NA	NA
Trunk	BS2	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.005	0.31	1.7	0.18	3.1
						9.61	484.0000	0.007	0.32	2.3	NA	NA
						9.83	498.0000	0.009	0.33	2.6	NA	NA
						9.75	512.0000	0.012	0.34	3.6	NA	NA
Trunk	BS3	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.013	0.31	4.2	0.18	7.5
						9.61	484.0000	0.014	0.32	4.4	NA	NA
						9.83	498.0000	0.012	0.33	3.8	NA	NA
						9.75	512.0000	0.012	0.34	3.6	NA	NA
Trunk	BS4	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.017	0.31	5.5	0.18	9.7
						9.61	484.0000	0.019	0.32	5.9	NA	NA
						9.83	498.0000	0.018	0.33	5.4	NA	NA
						9.75	512.0000	0.018	0.34	5.3	NA	NA
Trunk	BS5	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.016	0.31	5.0	0.18	9.0
						9.61	484.0000	0.018	0.32	5.6	NA	NA
						9.83	498.0000	0.016	0.33	4.8	NA	NA
						9.75	512.0000	0.015	0.34	4.3	NA	NA

Note:
Results in bold font are configurations with highest percentage of limits.

Table D.2

MPE assessment for DVR UHF– trunk mounted antenna - Passenger

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Trunk	PB	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.104	0.27	38.4	0.16	65.4
						9.90	417.5000	0.092	0.28	32.9	0.16	56.6
						9.60	429.9875	0.065	0.29	22.5	0.17	39.1
Trunk	PF	E	1	HAE6012A, 1/4 Wave (380-433MHz)	10.0	9.68	406.5000	0.044	0.27	16.1	0.16	27.5
						9.90	417.5000	0.028	0.28	10.2	0.16	17.5
						9.60	429.9875	0.035	0.29	12.2	0.17	21.2
Trunk	PB	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.153	0.30	51.1	0.17	90.0
						9.90	460.0000	0.163	0.31	53.0	0.17	94.1
						10.00	470.0000	0.121	0.31	38.5	0.18	68.7
Trunk	PF	E	2	HAE4003A, 1/4 Wave (450-470MHz)	10.0	9.96	450.0000	0.038	0.30	12.5	0.17	22.0
						9.90	460.0000	0.043	0.31	14.0	0.17	24.9
						10.00	470.0000	0.039	0.31	12.5	0.18	22.3
Trunk	PB	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.136	0.31	43.3	0.18	77.2
						9.61	484.0000	0.158	0.32	49.0	NA	NA
						9.83	498.0000	0.095	0.33	28.6	NA	NA
						9.75	512.0000	0.144	0.34	42.1	NA	NA
Trunk	PF	E	3	HAE4004A, 1/4 Wave (470-512MHz)	10.0	10.00	470.0000	0.031	0.31	9.7	0.18	17.4
						9.61	484.0000	0.028	0.32	8.7	NA	NA
						9.83	498.0000	0.033	0.33	10.0	NA	NA
						9.75	512.0000	0.037	0.34	10.8	NA	NA

Note:
Results in bold font are configurations with highest percentage of limits.

Table D.3
DVR UHF MPE Results for FCC

Pmax (W)	10	Pinitial (W)	9.68	9.90	9.60	9.96	9.90	10.00	9.61	9.83	9.75
			FCCLimit (mW/cm ²)	0.27	0.28	0.29	0.30	0.31	0.31	0.32	0.33

Table	Test Post.	Angle	Trunk / Roof	E/H Field	Antenna No.	f3	f4	f5	f6	f7	f8	f9	f10	f11
						406.5000	417.5000	429.9875	450.0000	460.0000	470.0000	484.0000	498.0000	512.0000
D.1	BS1		Trunk	E	1	0.005	0.006	0.007						
D.1	BS2		Trunk	E	1	0.016	0.015	0.015						
D.1	BS3		Trunk	E	1	0.021	0.021	0.026						
D.1	BS4		Trunk	E	1	0.041	0.039	0.035						
D.1	BS5		Trunk	E	1	0.036	0.026	0.023						
D.1	BS1		Trunk	E	2				0.005	0.004	0.003			
D.1	BS2		Trunk	E	2				0.006	0.007	0.006			
D.1	BS3		Trunk	E	2				0.014	0.013	0.014			
D.1	BS4		Trunk	E	2				0.022	0.018	0.019			
D.1	BS5		Trunk	E	2				0.014	0.013	0.014			
D.1	BS1		Trunk	E	3						0.003	0.003	0.003	0.004
D.1	BS2		Trunk	E	3						0.005	0.007	0.009	0.012
D.1	BS3		Trunk	E	3						0.013	0.014	0.012	0.012
D.1	BS4		Trunk	E	3						0.017	0.019	0.018	0.018
D.1	BS5		Trunk	E	3						0.016	0.018	0.016	0.015
D.2	PB		Trunk	E	1	0.104	0.092	0.065						
D.2	PF		Trunk	E	1	0.044	0.055	0.035						
D.2	PB		Trunk	E	2				0.153	0.163	0.121			
D.2	PF		Trunk	E	2				0.038	0.043	0.039			
D.2	PB		Trunk	E	3						0.136	0.158	0.095	0.144
D.2	PF		Trunk	E	3						0.031	0.028	0.033	0.037

Appendix E – MPE Test Results Summary for Companion Mobile LMR VHF

Table E.1

MPE assessment for Companion Mobile LMR VHF- roof mounted antenna – Bystander

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results in bold font are configurations with highest percentage of limits.

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	BS1	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.059	0.20	29.7	0.13	46.0
						58.6	150.8000	0.072	0.20	35.8	0.13	55.5
						58.6	158.0125	0.055	0.20	27.7	0.13	43.0
						59.0	165.0125	0.046	0.20	23.2	0.13	35.9
						59.3	173.0125	0.037	0.20	18.7	0.13	28.9
Roof	BS1	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.081	0.20	40.7	0.13	63.1
						58.6	150.8000	0.081	0.20	40.4	0.13	62.6
						58.6	158.0125	0.063	0.20	31.4	0.13	48.6
						59.0	165.0125	0.056	0.20	27.8	0.13	43.1
						59.3	173.0125	0.045	0.20	22.6	0.13	35.1
Roof	BS2	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.070	0.20	35.2	0.13	54.6
						58.6	150.8000	0.067	0.20	33.4	0.13	51.8
						58.6	158.0125	0.060	0.20	30.0	0.13	46.4
						59.0	165.0125	0.052	0.20	25.9	0.13	40.1
						59.3	173.0125	0.036	0.20	18.0	0.13	27.8
Roof	BS2	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.061	0.20	30.6	0.13	47.5
						58.6	150.8000	0.061	0.20	30.4	0.13	47.1
						58.6	158.0125	0.075	0.20	37.3	0.13	57.8
						59.0	165.0125	0.068	0.20	33.9	0.13	52.6
						59.3	173.0125	0.070	0.20	35.1	0.13	54.3
Roof	BS3	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.064	0.20	31.8	0.13	49.3
						58.6	150.8000	0.045	0.20	22.4	0.13	34.7
						58.6	158.0125	0.051	0.20	25.4	0.13	39.3
						59.0	165.0125	0.052	0.20	26.0	0.13	40.3
						59.3	173.0125	0.047	0.20	23.6	0.13	36.5
Roof	BS3	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.036	0.20	17.9	0.13	27.8
						58.6	150.8000	0.040	0.20	19.9	0.13	30.8
						58.6	158.0125	0.041	0.20	20.7	0.13	32.0
						59.0	165.0125	0.032	0.20	16.0	0.13	24.8
						59.3	173.0125	0.031	0.20	15.5	0.13	24.0

Notes:

Table E.1 (continued)

MPE assessment for Companion Mobile LMR VHF- roof mounted antenna – Bystander

Note: Blue fonts: Frequencies not regulated by FCC.

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	BS4	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.037	0.20	18.6	0.13	28.8
						58.6	150.8000	0.037	0.20	18.6	0.13	28.8
						58.6	158.0125	0.049	0.20	24.7	0.13	38.3
						59.0	165.0125	0.029	0.20	14.7	0.13	22.7
						59.3	173.0125	0.039	0.20	19.6	0.13	30.4
Roof	BS4	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.020	0.20	10.0	0.13	15.5
						58.6	150.8000	0.031	0.20	15.7	0.13	24.3
						58.6	158.0125	0.023	0.20	11.5	0.13	17.9
						59.0	165.0125	0.022	0.20	11.2	0.13	17.4
						59.3	173.0125	0.026	0.20	13.2	0.13	20.5
Roof	BS5	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.019	0.20	9.5	0.13	14.8
						58.6	150.8000	0.019	0.20	9.4	0.13	14.6
						58.6	158.0125	0.034	0.20	16.8	0.13	26.0
						59.0	165.0125	0.017	0.20	8.6	0.13	13.3
						59.3	173.0125	0.019	0.20	9.5	0.13	14.6
Roof	BS5	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.013	0.20	6.7	0.13	10.3
						58.6	150.8000	0.017	0.20	8.5	0.13	13.2
						58.6	158.0125	0.015	0.20	7.6	0.13	11.8
						59.0	165.0125	0.022	0.20	10.9	0.13	16.8
						59.3	173.0125	0.015	0.20	7.6	0.13	11.7

Table E.2

MPE assessment for Companion Mobile LMR VHF- roof mounted antenna – Passenger

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results in bold font are configurations with highest percentage of limits.

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	PB	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.128	0.20	64.1	0.13	99.3
						58.6	150.8000	0.108	0.20	54.0	0.13	83.7
						58.6	158.0125	0.127	0.20	63.5	0.13	98.4
						59.0	165.0125	0.073	0.20	36.5	0.13	56.6
						59.3	173.0125	0.047	0.20	23.3	0.13	36.1
Roof	PB	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.100	0.20	50.2	0.13	77.7
						58.6	150.8000	0.116	0.20	57.9	0.13	89.6
						58.6	158.0125	0.123	0.20	61.7	0.13	95.6
						59.0	165.0125	0.057	0.20	28.7	0.13	44.4
						59.3	173.0125	0.021	0.20	10.4	0.13	16.1
Roof	PF	E	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.036	0.20	18.1	0.13	28.1
						58.6	150.8000	0.033	0.20	16.7	0.13	25.9
						58.6	158.0125	0.046	0.20	22.8	0.13	35.3
						59.0	165.0125	0.051	0.20	25.3	0.13	39.1
						59.3	173.0125	0.028	0.20	14.2	0.13	22.0
Roof	PF	H	5	AN000131A01, 1/4 wave (136-870MHz)	60.0	58.3	146.0000	0.059	0.20	29.4	0.13	45.6
						58.6	150.8000	0.043	0.20	21.6	0.13	33.4
						58.6	158.0125	0.061	0.20	30.5	0.13	47.2
						59.0	165.0125	0.063	0.20	31.4	0.13	48.6
						59.3	173.0125	0.028	0.20	14.0	0.13	21.7

Table E.3
Companion Mobile LMR VHF MPE Results for FCC

Note: Blue fonts: Frequencies not regulated by FCC.

Pmax (W)	60	Pinitial (W)	58.3	58.6	58.6	59.0	59.3
		FCCLimit (mW/cm ²)	0.20	0.20	0.20	0.20	0.20

Table	Test Post.	Angle	Trunk / Roof	E/H Field	Antenna No.	f1	f2	f3	f4	f5
						146.0000	150.8000	158.0125	165.0125	173.0125
E.1	BS1		Roof	E	5	0.059	0.072	0.055	0.046	0.037
E.1	BS2		Roof	E	5	0.070	0.067	0.060	0.052	0.036
E.1	BS3		Roof	E	5	0.064	0.045	0.051	0.052	0.047
E.1	BS4		Roof	E	5	0.037	0.037	0.049	0.029	0.039
E.1	BS5		Roof	E	5	0.019	0.019	0.034	0.017	0.019
E.1	BS1		Roof	H	5	0.081	0.081	0.063	0.056	0.045
E.1	BS2		Roof	H	5	0.061	0.061	0.075	0.068	0.070
E.1	BS3		Roof	H	5	0.036	0.040	0.041	0.032	0.031
E.1	BS4		Roof	H	5	0.020	0.031	0.023	0.022	0.026
E.1	BS5		Roof	H	5	0.013	0.017	0.015	0.022	0.015
E.2	PB		Roof	E	5	0.128	0.108	0.127	0.073	0.047
E.2	PF		Roof	E	5	0.036	0.033	0.046	0.051	0.028
E.2	PB		Roof	H	5	0.100	0.116	0.123	0.057	0.021
E.2	PF		Roof	H	5	0.059	0.043	0.061	0.063	0.028

Appendix F – MPE Test Results Summary for Companion Mobile LMR UHF R1

Table F.1

MPE assessment for Companion Mobile LMR UHF1- roof mounted antenna - Bystander

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	BS1	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.019	0.27	6.9	0.16	11.7
						53.5	422.0125	0.029	0.28	10.4	0.16	17.9
						53.0	438.0125	0.042	0.29	14.2	NA	NA
						53.2	450.0125	0.028	0.30	9.2	0.17	16.3
						53.3	469.9875	0.030	0.31	9.7	0.18	17.4
Roof	BS2	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.015	0.27	5.6	0.16	9.5
						53.5	422.0125	0.016	0.28	5.7	0.16	9.9
						53.0	438.0125	0.023	0.29	8.0	NA	NA
						53.2	450.0125	0.018	0.30	5.9	0.17	10.3
						53.3	469.9875	0.021	0.31	6.7	0.18	11.9
Roof	BS3	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.014	0.27	5.0	0.16	8.5
						53.5	422.0125	0.015	0.28	5.2	0.16	8.9
						53.0	438.0125	0.019	0.29	6.4	NA	NA
						53.2	450.0125	0.015	0.30	5.1	0.17	9.0
						53.3	469.9875	0.018	0.31	5.9	0.18	10.5
Roof	BS4	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.007	0.27	2.7	0.16	4.5
						53.5	422.0125	0.007	0.28	2.5	0.16	4.4
						53.0	438.0125	0.008	0.29	2.6	NA	NA
						53.2	450.0125	0.006	0.30	2.1	0.17	3.6
						53.3	469.9875	0.007	0.31	2.2	0.18	3.9
Roof	BS5	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.003	0.27	1.1	0.16	1.9
						53.5	422.0125	0.003	0.28	1.1	0.16	1.9
						53.0	438.0125	0.005	0.29	1.7	NA	NA
						53.2	450.0125	0.003	0.30	1.1	0.17	1.9
						53.3	469.9875	0.004	0.31	1.1	0.18	2.0

Note: Results in bold font are configurations with highest percentage of limits.

Table F.2

MPE assessment for Companion Mobile LMR UHF1- roof mounted antenna - Passenger

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	PB	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.044	0.27	16.3	0.16	27.7
						53.5	422.0125	0.027	0.28	9.4	0.16	16.3
						53.0	438.0125	0.056	0.29	19.1	NA	NA
						53.2	450.0125	0.037	0.30	12.3	0.17	21.7
						53.3	469.9875	0.032	0.31	10.1	0.18	18.0
Roof	PF	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.4	406.5000	0.002	0.27	0.8	0.16	1.4
						53.5	422.0125	0.005	0.28	1.9	0.16	3.2
						53.0	438.0125	0.004	0.29	1.5	NA	NA
						53.2	450.0125	0.008	0.30	2.5	0.17	4.5
						53.3	469.9875	0.005	0.31	1.6	0.18	2.8

Note: Results in bold font are configurations with highest percentage of limits.

Table F.3
Companion Mobile LMR UHF1 MPE Results for FCC

Pmax (W)	54	Pinitial (W)	53.4	53.5	53.0	53.2	53.3
			FCCLimit (mW/cm²)	0.27	0.28	0.29	0.30

Table	Test Post.	Angle	Trunk / Roof	E/H Field	Antenna No.	f1	f2	f3	f4	f5
						406.5000	422.0125	438.0125	450.0125	469.9875
F.1	BS1		Trunk	E	5	0.019	0.029	0.042	0.028	0.030
F.1	BS2		Trunk	E	5	0.015	0.016	0.023	0.018	0.021
F.1	BS3		Trunk	E	5	0.014	0.015	0.019	0.015	0.018
F.1	BS4		Trunk	E	5	0.007	0.007	0.008	0.006	0.007
F.1	BS5		Trunk	E	5	0.003	0.003	0.005	0.003	0.004
F.2	PB		Trunk	E	5	0.044	0.027	0.056	0.037	0.032
F.2	PF		Trunk	E	5	0.002	0.005	0.004	0.008	0.005

Appendix G – MPE Test Results Summary for Companion Mobile LMR UHF R2

Table G.1

MPE assessment for Companion Mobile LMR UHF2- roof mounted antenna - Bystander

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	BS1	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.2	450.0125	0.028	0.30	9.2	0.17	16.3
						53.3	469.9875	0.030	0.31	9.7	0.18	17.4
						53.5	482.5000	0.032	0.32	9.9	NA	NA
					48.0	46.7	496.5000	0.026	0.33	8.0	NA	NA
						47.5	511.9875	0.038	0.34	11.1	NA	NA
Roof	BS2	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.2	450.0125	0.018	0.30	5.9	0.17	10.3
						53.3	469.9875	0.021	0.31	6.7	0.18	11.9
						53.5	482.5000	0.023	0.32	7.3	NA	NA
					48.0	46.7	496.5000	0.022	0.33	6.7	NA	NA
						47.5	511.9875	0.031	0.34	9.0	NA	NA
Roof	BS3	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.2	450.0125	0.015	0.30	5.1	0.17	9.0
						53.3	469.9875	0.018	0.31	5.9	0.18	10.5
						53.5	482.5000	0.021	0.32	6.6	NA	NA
					48.0	46.7	496.5000	0.017	0.33	5.3	NA	NA
						47.5	511.9875	0.021	0.34	6.1	NA	NA
Roof	BS4	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.2	450.0125	0.006	0.30	2.1	0.17	3.6
						53.3	469.9875	0.007	0.31	2.2	0.18	3.9
						53.5	482.5000	0.007	0.32	2.3	NA	NA
					48.0	46.7	496.5000	0.008	0.33	2.3	NA	NA
						47.5	511.9875	0.011	0.34	3.2	NA	NA
Roof	BS5	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.2	450.0125	0.003	0.30	1.1	0.17	1.9
						53.3	469.9875	0.004	0.31	1.1	0.18	2.0
						53.5	482.5000	0.005	0.32	1.7	NA	NA
					48.0	46.7	496.5000	0.005	0.33	1.4	NA	NA
						47.5	511.9875	0.007	0.34	2.1	NA	NA

Note: Results in bold font are configurations with highest percentage of limits.

Table G.2

MPE assessment for Companion Mobile LMR UHF2- roof mounted antenna - Passenger

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	PB	E	5	AN000131A01, 1/4 wave (136-870MHz)	54.0	53.2	450.0125	0.037	0.30	12.3	0.17	21.7
						53.3	469.9875	0.032	0.31	10.1	0.18	18.0
						53.5	482.5000	0.026	0.32	8.0	NA	NA
					48.0	46.7	496.5000	0.022	0.33	6.5	NA	NA
						47.5	511.9875	0.022	0.34	6.6	NA	NA
Roof	PF	E	5	HAE6031A, 1/2 Wave (380-520MHz)	54.0	53.2	450.0125	0.008	0.30	2.5	0.17	4.5
						53.3	469.9875	0.005	0.31	1.6	0.18	2.8
						53.5	482.5000	0.020	0.32	6.3	NA	NA
					48.0	46.7	496.5000	0.045	0.33	13.6	NA	NA
						47.5	511.9875	0.034	0.34	9.9	NA	NA

Note: Results in bold font are configurations with highest percentage of limits.

Table G.3
Companion Mobile LMR UHF2 MPE Results for FCC

Pmax (W)	54/48	Pinitial (W)	53.2	53.3	53.5	46.7	47.5
			FCCLimit (mW/cm ²)	0.30	0.31	0.32	0.33

Table	Test Post.	Angle	Trunk / Roof	E/H Field	Antenna No.	f1	f2	f3	f4	f5
						450.0125	469.9875	482.5000	496.5000	511.9875
G.1	BS1		Roof	E	5	0.028	0.030	0.032	0.026	0.038
G.1	BS2		Roof	E	5	0.018	0.021	0.023	0.022	0.031
G.1	BS3		Roof	E	5	0.015	0.018	0.021	0.017	0.021
G.1	BS4		Roof	E	5	0.006	0.007	0.007	0.008	0.011
G.1	BS5		Roof	E	5	0.003	0.004	0.005	0.005	0.007
G.2	PB		Roof	E	5	0.037	0.032	0.026	0.022	0.022
G.2	PF		Roof	E	5	0.008	0.005	0.020	0.045	0.034

Appendix H – MPE Test Results Summary for Companion Mobile LMR 7/800

Table H.1

MPE assessment for Companion Mobile LMR 7/800- roof mounted antenna - Bystander

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	BS1	E	5	AN000131A01, 1/4 wave (136-870MHz)	36.0	36.0	770.0125	0.033	0.51	6.4	0.25	13.3
						36.0	775.9125	0.026	0.52	5.1	0.25	10.6
					42.0	41.6	806.0125	0.014	0.54	2.5	0.25	5.4
						41.0	823.9875	0.011	0.55	1.9	0.26	4.1
						40.3	851.0125	0.005	0.57	0.9	0.26	1.9
						40.0	862.0125	0.007	0.57	1.2	0.27	2.5
						40.1	868.8875	0.003	0.58	0.5	0.27	1.2
Roof	BS2	E	5	AN000131A01, 1/4 wave (136-870MHz)	36.0	36.0	770.0125	0.027	0.51	5.2	0.25	10.9
						36.0	775.9125	0.033	0.52	6.3	0.25	13.3
					42.0	41.6	806.0125	0.011	0.54	2.0	0.25	4.2
						41.0	823.9875	0.010	0.55	1.9	0.26	4.0
						40.3	851.0125	0.005	0.57	0.9	0.26	1.9
						40.0	862.0125	0.004	0.57	0.7	0.27	1.5
						40.1	868.8875	0.002	0.58	0.4	0.27	0.9
Roof	BS3	E	5	AN000131A01, 1/4 wave (136-870MHz)	36.0	36.0	770.0125	0.015	0.51	2.9	0.25	6.1
						36.0	775.9125	0.021	0.52	4.0	0.25	8.3
					42.0	41.6	806.0125	0.008	0.54	1.5	0.25	3.1
						41.0	823.9875	0.006	0.55	1.2	0.26	2.5
						40.3	851.0125	0.003	0.57	0.5	0.26	1.1
						40.0	862.0125	0.003	0.57	0.4	0.27	1.0
						40.1	868.8875	0.001	0.58	0.3	0.27	0.6

Note: Results in bold font are configurations with highest percentage of limits.

Table H.1 (Continued)

MPE assessment for Companion Mobile LMR 7/800- roof mounted antenna - Bystander

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	BS4	E	5	AN000131A01, 1/4 wave (136-870MHz)	36.0	36.0	770.0125	0.007	0.51	1.3	0.25	2.7
						36.0	775.9125	0.010	0.52	2.0	0.25	4.1
					42.0	41.6	806.0125	0.011	0.54	2.0	0.25	4.3
						41.0	823.9875	0.014	0.55	2.6	0.26	5.6
						40.3	851.0125	0.012	0.57	2.1	0.26	4.4
						40.0	862.0125	0.011	0.57	2.0	0.27	4.3
						40.1	868.8875	0.007	0.58	1.2	0.27	2.7
Roof	BS5	E	5	AN000131A01, 1/4 wave (136-870MHz)	36.0	36.0	770.0125	0.007	0.51	1.5	0.25	3.0
						36.0	775.9125	0.005	0.52	1.0	0.25	2.0
					42.0	41.6	806.0125	0.007	0.54	1.3	0.25	2.7
						41.0	823.9875	0.008	0.55	1.5	0.26	3.3
						40.3	851.0125	0.004	0.57	0.7	0.26	1.5
						40.0	862.0125	0.005	0.57	0.9	0.27	2.0
						40.1	868.8875	0.003	0.58	0.5	0.27	1.1

Table H.2

MPE assessment for Companion Mobile LMR 7/800- roof mounted antenna - Passenger

Trunk / Roof	Test Post.	E/H Field	Antenna No.	Antenna Model	Max Pwr (W)	Initial Pwr (W)	Tx Freq (MHz)	Max Calc. P.D. (mW/cm ²)	FCC Limit	% To FCC Spec Limit	ISED Limit	% To ISED Spec Limit
Roof	PB	E	5	AN000131A01, 1/4 wave (136-870MHz)	36.0	36.0	770.0125	0.020	0.51	3.8	0.25	7.9
						36.0	775.9125	0.015	0.52	2.9	0.25	6.0
					42.0	41.6	806.0125	0.027	0.54	5.0	0.25	10.6
						41.0	823.9875	0.022	0.55	4.1	0.26	8.7
						40.3	851.0125	0.015	0.57	2.7	0.26	5.9
						40.0	862.0125	0.010	0.57	1.7	0.27	3.8
						40.1	868.8875	0.006	0.58	1.0	0.27	2.1
Roof	PF	E	5	HAF4013A, 1/4 Wave (764-870MHz)	36.0	36.0	770.0125	0.002	0.51	0.3	0.25	0.6
						36.0	775.9125	0.002	0.52	0.3	0.25	0.7
					42.0	41.6	806.0125	0.005	0.54	0.9	0.25	1.9
						41.0	823.9875	0.008	0.55	1.5	0.26	3.3
						40.3	851.0125	0.006	0.57	1.0	0.26	2.2
						40.0	862.0125	0.004	0.57	0.7	0.27	1.5
						40.1	868.8875	0.005	0.58	0.9	0.27	1.9

Note: Results in bold font are configurations with highest percentage of limits.

Table H.3
Companion Mobile LMR 7/800 MPE Results for FCC

Pmax (W)	36/42	Pinitial (W)	36.0	36.0	41.6	41.0	40.3	40.0	40.1
			FCCLimit (mW/cm ²)	0.51	0.52	0.54	0.55	0.57	0.57

Table	Test Post.	Angle	Trunk / Roof	E/H Field	Antenna No.	f1	f2	f3	f4	f5	f6	f7
						770.0125	775.9125	806.0125	823.9875	851.0125	862.0125	868.8875
H.1	BS1		Roof	E	5	0.033	0.026	0.014	0.011	0.005	0.007	0.003
H.1	BS2		Roof	E	5	0.027	0.033	0.011	0.010	0.005	0.004	0.002
H.1	BS3		Roof	E	5	0.015	0.021	0.008	0.006	0.003	0.003	0.001
H.1	BS4		Roof	E	5	0.007	0.010	0.011	0.014	0.012	0.011	0.007
H.1	BS5		Roof	E	5	0.007	0.005	0.007	0.008	0.004	0.005	0.003
H.2	BS2		Roof	E	5	0.020	0.015	0.027	0.022	0.015	0.010	0.006
H.2	BS2		Roof	E	5	0.002	0.002	0.005	0.008	0.006	0.004	0.005