Presented below is a summary of the tested frequencies and associated power outputs for each DUT.

DVR		Mobile VHF Radios			
		M20KSS9PW1AN		M20KTS9PW1AN	
Frequency	Po (W)	Frequency	Po (W)	Frequency	Po (W)
764	4.99	147.0125	55.6	147.4000	55.8
770	5.02	155.0125	55.8	155.0000	55.6
776	4.97	173.9875	55.6	173.9875	55.8
794	4.98				
800	5.00				
806	4.98				

10.0 Test Set-Up Description

The following are the mobile antenna test configurations used for this product.
(for reference, see Illustration of antenna location and test distances in the APPENDIX A)

a) Each of the ¼ wave 0dBd gain antennas (HAD4007A, HAD4008A, HAD4009A) was assessed while mounted at the center of the roof of the test vehicle.

b) The ¼ wave 0dBd gain antenna model HAF4016A was assessed while mounted at the trunk.

Assessments were made internal and external to the test vehicle at the specified distances and test locations indicated in sections 6.0, 11.0, and the APPENDIX A.

11.0 Test Results Summary

APPENDIX E presents detailed raw MPE measurement grid information for each test configuration; person external or internal to the vehicle, TX frequency, antenna (location, model and gain), distance from antenna to probe sensor, E/H field measurements, calibration factor, MPE average over body, initial power, power density calc, power density max calc, IEEE/FCC controlled and uncontrolled limits, and maximum output power.

The Average over Body test methodology is consistent with IEEE/ANSI C95.1-1999 guidelines

MPE results are based on a DVR 100% duty cycle and VHF mobile 50% duty cycle which is in accordance with the User Manual instructions.

Below is an explanation of how the MPE results are calculated.

External to vehicle - 10 measurements are averaged over the body (*Body_Avg*).
Internal to vehicle - 3 measurements are averaged over the body (*Body_Avg*).
Narda Survey Meter measures in percent of the controlled limit. Therefore the averages over the body used in the calculations below reflect percentages.

Therefore;

$$Average\_over\_Body = Body\_Avg * Controlled\_Limit$$

$$Pwr\_Density\_Calc = Average\_over\_Body * \_Duty\_Cycle$$

$$Pwr\_Density\_Max\_Calc = Pwr\_Density\_Calc * \frac{Max\_Output\_Power}{Initial\_Output\_Power}$$

Note; For *Initial Output Power*> *Max_Output_Power*, *Max_Output_Power* / *Initial Output Power* = 1

The tables below summarize the highest MPE results of the E and H test configurations for the VHF mobiles, DVR, and combined assessments. See APPENDICES A and E respectively for the indicated test positions and associated raw measurement grid tables.

Table 1 - M20KSS9PW1AN VHF Mobile Assessments – Highest MPE result per test position

Tables	Antenna Model	Antenna Location	Test Frequency (MHz)	E/H Field	Passenger/ By-Stander Pos.	Max Calc Pwr Density (mW/cm^2)	% of Uncontrolled limit
Table 2	HAD4007A	Roof	147.0125	E	Passenger	0.16	80.0%
Table 23	HAD4009A	Roof	173.9875	H	By-Stander Pos. #1	0.04	20.0%
Table 7	HAD4007A	Roof	147.0125	E	By-Stander Pos. #2	0.07	35.0%
Table 12	HAD4009A	Roof	173.9875	E	By-Stander Pos. #3	0.06	30.0%
Table 32	HAD4008A	Roof	155.0125	E	By-Stander Pos. #4	0.04	20.0%
Table 17	HAD4008A	Roof	155.0125	E	By-Stander Pos. #5	0.04	20.0%

Table 2 - M20KTS9PW1AN VHF Mobile Assessments - Highest MPE result per test position

Tables	Antenna Model	Antenna Location	Test Frequency (MHz)	E/H Field	Passenger/ By-Stander Pos.	Max Calc Pwr Density (mW/cm^2)	% of Uncontrolled limit
Table 2	HAD4007A	Roof	147.4000	E	Passenger	0.16	80.0%
Table 3	HAD4008A	Roof	155.0000	E	By-Stander Pos. #1	0.04	20.0%
Table 8	HAD4008A	Roof	155.0000	E	By-Stander Pos. #2	0.07	35.0%
Table 29	HAD4008A	Roof	155.0000	H	By-Stander Pos. #3	0.06	30.0%
Table 31	HAD4007A	Roof	147.4000	H	By-Stander Pos. #4	0.06	30.0%
Table 35	HAD4008A	Roof	155.0000	H	By-Stander Pos. #5	0.06	30.0%

Table 3 - DQPMDVR7000P - DVR 700MHz Assessments - Highest MPE result per test position

Tables	Antenna Model	Antenna Location	Test Frequency (MHz)	E/H Field	Passenger/ By-Stander Pos.	Max Calc Pwr Density (mW/cm^2)	% of Uncontrolled limit
Table 10	HAF4016A	Trunk	800	E	Passenger	0.06	11.3%
Table 11	HAF4016A	Trunk	806	E	By-Stander Pos. #1	0.07	13.0%
Table 15	HAF4016A	Trunk	776	E	By-Stander Pos. #2	0.07	13.5%
Table 19	HAF4016A	Trunk	764	E	By-Stander Pos. #3	0.06	11.8%
Table 27	HAF4016A	Trunk	776	E	By-Stander Pos. #4	0.10	19.2%
Table 31	HAF4016A	Trunk	764	E	By-Stander Pos. #5	0.09	17.6%

Table 4 - Combined VHF Mobile M20KSS9PW1AN and DVR DQPMDVR7000P (Calculated % of limit performance)

	Percentage of Limit		
Test Position	M20KSS9PW1AN (147-174MHz)	DVR (700MHz)	Combined Percentages
Passenger	80.0%	11.3%	91.3%
By-Stander #1	20.0%	13.0%	33.0%
By-Stander #2	35.0%	13.5%	48.5%
By-Stander #3	30.0%	11.8%	41.8%
By-Stander #4	20.0%	19.2%	39.2%
By-Stander #5	20.0%	17.6%	37.6%

Table 5 - Combined VHF Mobile M20KTS9PW1AN and DVR DQPMDVR7000P (Calculated % of limit performance)

	Percentage of Limit		
Test Position	M20KTS9PW1AN (147-174MHz)	DVR (700MHz)	Combined Percentages
Passenger	80.0%	11.3%	91.3%
By-Stander #1	20.0%	13.0%	33.0%
By-Stander #2	35.0%	13.5%	48.5%
By-Stander #3	30.0%	11.8%	41.8%
By-Stander #4	30.0%	19.2%	49.2%
By-Stander #5	30.0%	17.6%	47.6%

12.0 Conclusion

Depending on the test frequency, both VHF mobile assessments were performed with an output power range of 55.6W – 55.8W. The DVR output power across the TX band (with 2dB duplexer loss) is 4.97W – 5.02W. The highest power density results for the XTL5000 VHF mobile devices scaled to the maximum allowable power output is 0.16mW/cm^2 internal to the vehicle and 0.07mW/cm^2 external to the vehicle. The highest power density results for the DVR device scaled to the maximum allowable power output is 0.06mW/cm^2 internal to the vehicle and 0.10mW/cm^2 external to the vehicle. The highest combined power density performance is 91.3% of the applicable FCC/IEEE MPE limits using the following methodology and formula:

Because the signals emitted by each individual transmitter are statistically uncorrelated, the collective compliance of the transmitters is determined by summing the individual ratios between actual (S) and maximum allowed (MPE) exposure. Compliance is achieved if the total exposure level (T) is less than one:

$$T = \frac{S_1}{MPE_1} + \frac{S_2}{MPE_2} + \ldots < 1$$

Therefore:

$$T = \frac{0.06}{0.53} + \frac{0.16}{0.20} = 0.913 < 1$$

The MPE results presented herein demonstrate compliance to the applicable FCC/IEEE Occupational/Controlled exposure limit of 1.0mW/cm^2 for the frequency range of 30-300MHz and f/300 for the frequency range of 300-1500MHz.

Compliance to the FCC/IEEE General population/Uncontrolled exposure limits of 0.2mW/cm^2 for the frequency range of 30-300MHz and f/1500 for the frequency range of 300-1500MHz is also demonstrated herein for both passengers and by-standers.