



TESTING CERT: 2518.01

**FCC ID: LO6-DVRS800
DECLARATION OF COMPLIANCE MPE ASSESSMENT**

Networks & Enterprise
EME Test Laboratory
 8000 West Sunrise Blvd
 Fort Lauderdale, FL. 33322

Date of Report: March 29, 2007
Report Revision: Rev. 0
Report ID: FCC MPE rpt_DVR 800 XTL
 UHF R1 Rev O_070329_SR3629

Responsible Engineer: Stephen Whalen (EME Principle Staff Eng.)
Date/s Tested: 3/9/2006, 4/19/2006 & 6/3/2006 – 6/4/2006
Manufacturer/Location: Futurecom Systems Group Inc., Concord, Ontario, Canada
Date submitted for test: 2/16/06 (DVR)
DUT Description: 800MHz DVRS
Test TX mode(s): CW
Max. Power output: 10W (conducted into antenna), 100% Duty Cycle
TX Frequency Bands: 806-825MHz and 851-870MHz
Signaling type: FM; APCO 25
Model(s) Tested: DQPM DVRS8000P
Model(s) Certified: DQPM DVRS8000P
Serial Number(s): 05091244
Classification: Occupational Controlled (Operator); General Population/Uncontrolled (Passengers/Bystanders)
Rule Part(s): 2.1091 (d)



Approved Accessories:
Antenna(s):
 HAF4016A (764-870MHz ¼ wave trunk mount antenna; 0dBd gain)

Companion Mobiles and Antennas:

FCC ID	Mobile Description	Antenna(s)
AZ492FT4870	Motorola XTL5000 Model M20QTS9PW1AN, 380-470MHz Mobile, Transmit conducted power up to 100W (nominal), 50% transmit duty cycle.	HAE6012A (380-433MHz; ¼ wave Roof mount; 0dBd gain) HAE6013A (380-470MHz; ½ wave Roof mount; 2dBd gain) HAE4003A (450-470MHz; ¼ wave Roof mount; 0dBd gain) HAE4011A (445-470MHz; ½ wave Roof mount; 3.5dBd gain)
AZ492FT4862	Motorola XTL5000 Model M20QSS9PW1AN, 380-470MHz Mobile, Transmit conducted power up to 40W (nominal), 50% transmit duty cycle.	HAE6012A (380-433MHz; ¼ wave Roof mount; 0dBd gain) HAE6013A (380-470MHz; ½ wave Roof mount; 2dBd gain) HAE4003A (450-470MHz; ¼ wave Roof mount; 0dBd gain) HAE4011A (445-470MHz; ½ wave Roof mount; 3.5dBd gain)

**Final RF Exposure Results:
 Combined 800MHz DVR and UHF Mobile max calculated power density % of limit = 77.4%**

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 EME Laboratory.

Signature on file
 Deanna Zakharia NE EME Lab Senior Resource Manager,
 Laboratory Director,

Approval Date: 3/29/2007

Certification Date:

Certification No.:

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REVISION HISTORY

Date	Revision	Comments
03/29/07	O	Original release

1.0 Product and System Description

FCC ID: LO6-DVRS800 is a MOBEXCOM Digital Vehicular Repeater (DVR) manufactured by FUTURECOM Systems Group. The DVR, in addition to standalone operation, is capable of interfacing to a companion mobile radio using serial data protocol for audio and control. The full duplex DVR provides local area coverage for portable to portable communication in the 806-825 and 851-870MHz bands while the companion mobile radio provides wide-area coverage extension.

The system can operate in the following modes: Mobile mode - where the vehicular repeat function is off but receives emergency and mode change commands from portable devices; Local mode - with portable to portable repeat and network monitoring capabilities; and System mode - with portable to portable repeat functions with full network interconnect. Furthermore, the DVRS offers a busy lockout feature where a simulcast prevention algorithm is used for seamless multi-vehicle operation on the same channel. Moreover, the system supports emergency calls in the MDC1200 signaling format. Other system features include field programmability, seamless interface to a mobile radio through the control head bus, controllability via a mobile radio control head, as well as remotely by a dispatcher or portable user. The DVR supports up to 64 channels and 255 talk groups, MDC1200, DTMF, EIA, CCIR signaling as well as PL and DPL. The DVR supports programmability of leading and/or trailing tones, and audio and TX priorities per mode as well as talk group steering.

This test report covers the RF Exposure performance of the 800MHz 10 watts DVR interfaced with, and transmitting simultaneously with, either companion UHF (380-470MHz) mobile radios with maximum transmit powers up to 48 watts (M20QSS9PW1AN) and 120 watts (M20QTS9PW1AN) and with both units, installed in a typical vehicle.

The DVR transmit frequency ranges are 806-825 and 851-870MHz at transmit duty cycle up to 100%. The UHF mobile transmit frequency range is 380-470MHz at transmit duty cycle up to 50%. The DVR antenna is limited to $\frac{1}{4} \lambda$ (0dBd gain) mounted at the center of the trunk, and the UHF mobile antennas are limited to $\frac{1}{4} \lambda$ and $\frac{1}{2} \lambda$ (0dBd, 2dBd and 3.5dBd gain) mounted at the center of the roof. The maximum conducted power delivered to the DVR antenna is 10 watts.

This device will be marketed to and used by employees solely for work-related operations, such as public safety agencies, e.g. police, fire and emergency medical. User training is the responsibility of these agencies which can be expected to employ the usage instructions, safety information and operational cautions set forth in the user's manual, instructional sessions or other means.

Accordingly this product is classified as Occupational/Controlled Exposure. However, In accordance with FCC requirements, the passengers inside the vehicle and the bystanders external to the vehicle are evaluated to the General Population/Uncontrolled Exposure Limits.

(Note that "By-standers" as used herein mean people other than operator)

2.0 Additional Options and Accessories:

NA

3.0 Measurement and Limit Standards

Measurements were performed according to the recommended guidelines in IEEE/ANSI C95.3-2002 and compared to FCC Limits Per 47 CFR 2.1091 (d) for General Population/Uncontrolled RF Exposure.

For test frequencies ranging from 806-870MHz and 380-470MHz the MPE (Maximum Permissible Exposure) limit to electromagnetic energy in equivalent plane wave free-space power density is 0.54-0.58mW/cm² and 0.25–0.31mW/cm² respectively and calculated using the formula $f/1500$.

4.0 Data Collection Consideration

Power density testing was performed with DUT installed in a 1991 Ford Taurus (4-door). Measurement data was taken with the vehicles’ electrical system powered by an equivalent source equal to the car running at idle and the vehicle battery measuring 13.8-14.0 volts.

5.0 Measurement System Uncertainty Levels

The information below presents an estimate of the possible errors that are associated with the measurement system.

Uncertainty Budget for Near Field Probe Measurements

	Tol. (± %)	Prob. Dist.	Divisor	u_i (±%)
Measurement System				
Survey Meter Calibration	3.0	N	1.00	3.0
Repeatability Accuracy	7.0	N	1.00	7.0
Combined Standard Uncertainty		RSS		7.6
Expanded Uncertainty		$k=2$		15

6.0 Method of Measurement

MPE measurements were conducted for each transmitter individually per the procedures described in the following sections. Percent of Limit was calculated for each transmitter individually for each position. Final results representing the maximum combined exposure of DVR and mobile radio were obtained by summing the highest percent of limit results from each transmitter.

6.1 DVR 800MHz EME measurements made with trunk mounted antenna(s)
(For reference, see Illustration of antenna location and test distances in APPENDIX A)

6.1.1 External vehicle EME measurement
(Antenna mounted at trunk center)

MPE measurements for by-stander conditions are determined by taking the average of (10) measurements in a 2m vertical line for each of the (5) test locations indicated in APPENDIX A with 20cm increments at the test distance of 90cm from the test vehicle's body, as stated in the user manual. The measurement probe sensor is rotated 180° at each of the ten incremental measurements to ensure the highest result is captured. These measurements are representative of persons other than the operator standing next to the vehicle.

The DVR antenna mounted at the center of the trunk was assessed across the TX band for the (5) by-stander conditions presented in APPENDIX A.

6.1.2 Internal vehicle EME measurement
(Antenna mounted at trunk center)

While rotating survey meter probe through 180 degrees to ensure that the highest level is found, scans were performed inside of the vehicle, at both front and back seating areas, across the TX band to ascertain the highest level at the head. After the highest level is found, scans were performed vertically making two (2) additional measurements within an area approximately 40cm wide (representing the width of a person) so as to have a total of three (3) measured points, indicated below, that are averaged.

- a) Head area
- b) Chest area
- c) Lower Trunk area

6.2 Mobile UHF EME measurements made with roof mounted antenna(s)
(For reference, see Illustration of antenna location and test distances in APPENDIX A).

6.2.1 External vehicle EME measurement
(Antenna mounted at roof center)

MPE measurements for by-stander conditions are determined by taking the average of (10) measurements in a 2m vertical line for each of the (5) test locations indicated in APPENDIX A with 20cm increments at the test distance of 90cm from the test vehicle's body, as stated in the user manual. The measurement probe sensor is rotated 180° at each of the ten incremental measurements to ensure the highest result is captured. These measurements are representative of persons other than the operator standing next to the vehicle.

The mobile antennas mounted at the center of the roof were assessed across the TX band for the (5) by-stander conditions presented in APPENDIX A.

6.2.2 Internal vehicle EME measurement
(Antenna mounted at roof center)

While rotating survey meter probe through 180 degrees to ensure that the highest level is found, scans were performed inside of the vehicle, both at the front and back seating areas, across the TX band to ascertain the highest level in each location. After the highest level is found, two (2) additional measurements were performed vertically within an area approximately 40cm wide (representing the width of a person) so as to have a total of three (3) measured points as indicated below that are averaged.

- a) Head area
- b) Chest area
- c) Lower Trunk area

7.0 Test Site

The test site is the Motorola open area test site located at 8000 W. Sunrise Blvd., Plantation, FL. 33322.

8.0 Measurement System/Equipment

Equipment Type	Model #	SN	Calibration Due Date
Automobile	1991 Ford Taurus, 4-Door		
*Survey Meter	NARDA Model 8718	01108	5/17/06
*Probe - E-Field (Electric Field)	NARDA Model 8722B	13001	2/28/07
**Survey Meter	NARDA Model 8718	01108	5/17/06
**Probe - E-Field (Electric Field)	NARDA Model 8722B	13001	2/28/07
***Survey Meter	NARDA Model 8718	01122	4/20/07
***Probe - E-Field (Electric Field)	NARDA Model 8722B	13001	2/28/07

* Equipment used during DVR 800MHz (test date 3/9/2006)
 ** Equipment used during UHF mobile M20QSS9PW1AN (test date 4/19/2006)
 *** Equipment used during UHF mobile M20QTS9PW1AN (test dates 6/3/2006 – 6/4/2006)

9.0 Test Unit Description

Power density measurements were performed on a representative sample of the DVR 800MHz 10 watt radio with serial number 05091244.

Power density measurements were performed on the following representative sample of the Motorola XTL5000 UHF M20QSS9PW1AN 48watt radio with serial number X17890085 and XTL5000 UHF M20QTS9PW1AN 120 watt with radio serial number U2A024.

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

DVR	
DQPM DVR8000P	
Frequency (MHz)	Po (W)
806	10.0
815	9.98
824	9.95
851	10.0
860	9.98
869	10.0

Mobile UHF Radios			
M20QSS9PW1AN		M20QTS9PW1AN	
Frequency (MHz)	Po (W)	Frequency (MHz)	Po (W)
380.012	47.3	380.012	117.0
425.0125	47.1	425.0125	119.0
460.0125	47.2	460.0125	119.0
469.9875	47.5	469.9875	120.0

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)

Mobile - The ¼ and ½ wave antennas (HAE6012A 0dBd, HAE6013A 2dBd, HAE4003A 0dBd, HAE4011A 3.5dBd) were assessed while mounted at the center of the roof of the test vehicle.

DVR - The ¼ wave antenna (HAF4016A 0dBd) 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 MPE measurement 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 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 C95.3-2002 guidelines

MPE results are based on a DVR 100% duty cycle and 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 field test configurations for the UHF mobiles, DVR 800MHz, and combined assessments. See APPENDICES A and E respectively for the indicated test locations and detailed MPE measurement data.

Table 1 – UHF mobile M20QTS9PW1AN 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	HAE6013A	Roof	425.0125	E	Passenger	0.17	60.7%
Table 7	HAE6013A	Roof	380.0125	E	By-Stander Pos. #1	0.10	40.0%
Table 18	HAE6013A	Roof	380.0125	E	By-Stander Pos. #2	0.09	36.0%
Table 26	HAE6013A	Roof	425.0125	E	By-Stander Pos. #3	0.11	39.3%
Table 33	HAE6013A	Roof	425.0125	E	By-Stander Pos. #4	0.09	32.1%
Table 36	HAE6012A	Roof	380.0125	E	By-Stander Pos. #5	0.07	25.9%

Table 2 – UHF mobile M20QSS9PW1AN 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	HAE6013A	Roof	425.0125	E	Passenger	0.07	25.0%
Table 9	HAE6013A	Roof	425.0125	E	By-Stander Pos. #1	0.06	21.4%
Table 18	HAE6013A	Roof	380.0125	E	By-Stander Pos. #2	0.04	16.0%
Table 25	HAE6013A	Roof	380.0125	E	By-Stander Pos. #3	0.04	16.0%
Table 32	HAE6013A	Roof	380.0125	E	By-Stander Pos. #4	0.02	8.0%
Table 39	HAE6013A	Roof	380.0125	E	By-Stander Pos. #5	0.02	8.0%

Table 3 – DVR 800MHz DQPM DVR8000P 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	HAF4016A	Trunk	806	E	Passenger	0.09	16.7%
Table 5	HAF4016A	Trunk	824	E	By-Stander Pos. #1	0.03	5.5%
Table 14	HAF4016A	Trunk	815	E	By-Stander Pos. #2	0.04	7.4%
Table 20	HAF4016A	Trunk	815	E	By-Stander Pos. #3	0.04	7.4%
Table 26	HAF4016A	Trunk	815	E	By-Stander Pos. #4	0.04	7.4%
Table 35	HAF4016A	Trunk	860	E	By-Stander Pos. #5	0.06	10.5%

Table 4 - Combined UHF Mobile M20QTS9PW1AN and DVR 800MHz DQPM D VR8000P (Calculated % of limit performance)

Test Position	Percentage of Limit		
	UHF Mobile (380-470MHz)	DVR 800MHz (806-824 and 851-870MHz)	Combined Percentages
Passenger	60.7%	16.7%	77.4%
By-Stander #1	40.0%	5.5%	45.5%
By-Stander #2	36.0%	7.4%	43.4%
By-Stander #3	39.3%	7.4%	46.7%
By-Stander #4	32.1%	7.4%	39.5%
By-Stander #5	25.9%	10.5%	36.4%

Table 5 - Combined UHF Mobile M20QSS9PW1AN and DVR 800MHz DQPM D VR8000P (Calculated % of limit performance)

Test Position	Percentage of Limit		
	UHF Mobile (380-470MHz)	DVR 800MHz (806-824 and 851-870MHz)	Combined Percentages
Passenger	25.0%	16.7%	41.7%
By-Stander #1	21.4%	5.5%	26.9%
By-Stander #2	16.0%	7.4%	23.4%
By-Stander #3	16.0%	7.4%	23.4%
By-Stander #4	8.0%	7.4%	15.4%
By-Stander #5	8.0%	10.5%	18.5%

12.0 Conclusion

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:

Formula:

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

Depending on the test frequency, the mobile assessments were performed with an output power range of 47.1W – 47.5W (M20QSS9PW1AN) and 117.0W – 120.0W (M20QTS9PW1AN). The DVR output power range across the TX band is 9.95 – 10.00W. The highest power density results for the XTL5000 UHF mobile device scaled to the maximum allowable power output is 0.17mW/cm² internal to the vehicle and 0.11mW/cm² external to the vehicle. The highest power density results for the DVR 800MHz device scaled to the maximum allowable power output is 0.09mW/cm² internal to the vehicle and 0.06mW/cm² external to the vehicle. The highest combined passenger power density performance is 77.4% and highest combined by-stander power density performance is 46.7% (refer to table 4 test position 3) of the FCC/IEEE MPE limits using the methodology and formula below.

Therefore:

Passenger	$T = \frac{0.17}{0.28} + \frac{0.09}{0.54} = 0.774 < 1$	(compliant)
By-stander	$T = \frac{0.11}{0.28} + \frac{0.04}{0.54} = 0.467 < 1$	(compliant)

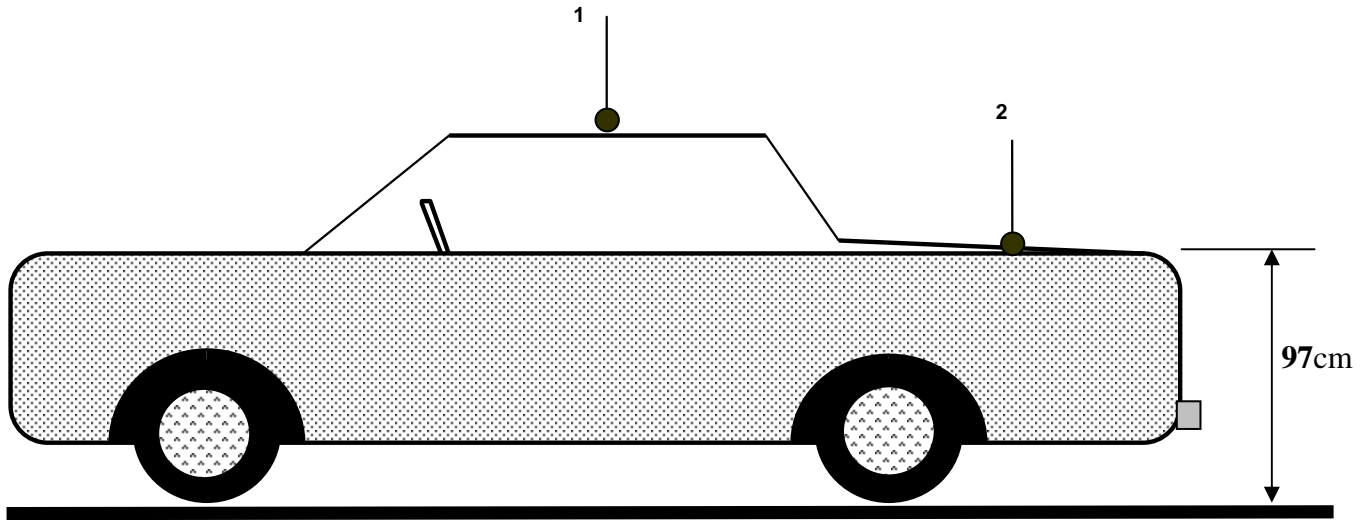
The MPE results presented herein demonstrate compliance to the applicable FCC/IEEE Occupational/Controlled exposure limit of 2.69-2.90mW/cm² for the 806-870MHz frequency range and 1.27-1.57mW/cm² for the 380-470MHz frequency range. FCC/IEEE Occupational/Controlled exposure limits are calculated by f/300 for the frequency range of 300-1500MHz.

Compliance to the FCC/IEEE General population/Uncontrolled exposure limits of 0.54-0.58mW/cm² for the frequency range of 806-870MHz and 0.25–0.31mW/cm² for frequency range of 380-470MHz, using formula f/1500, is demonstrated herein for both passengers and by-standers.

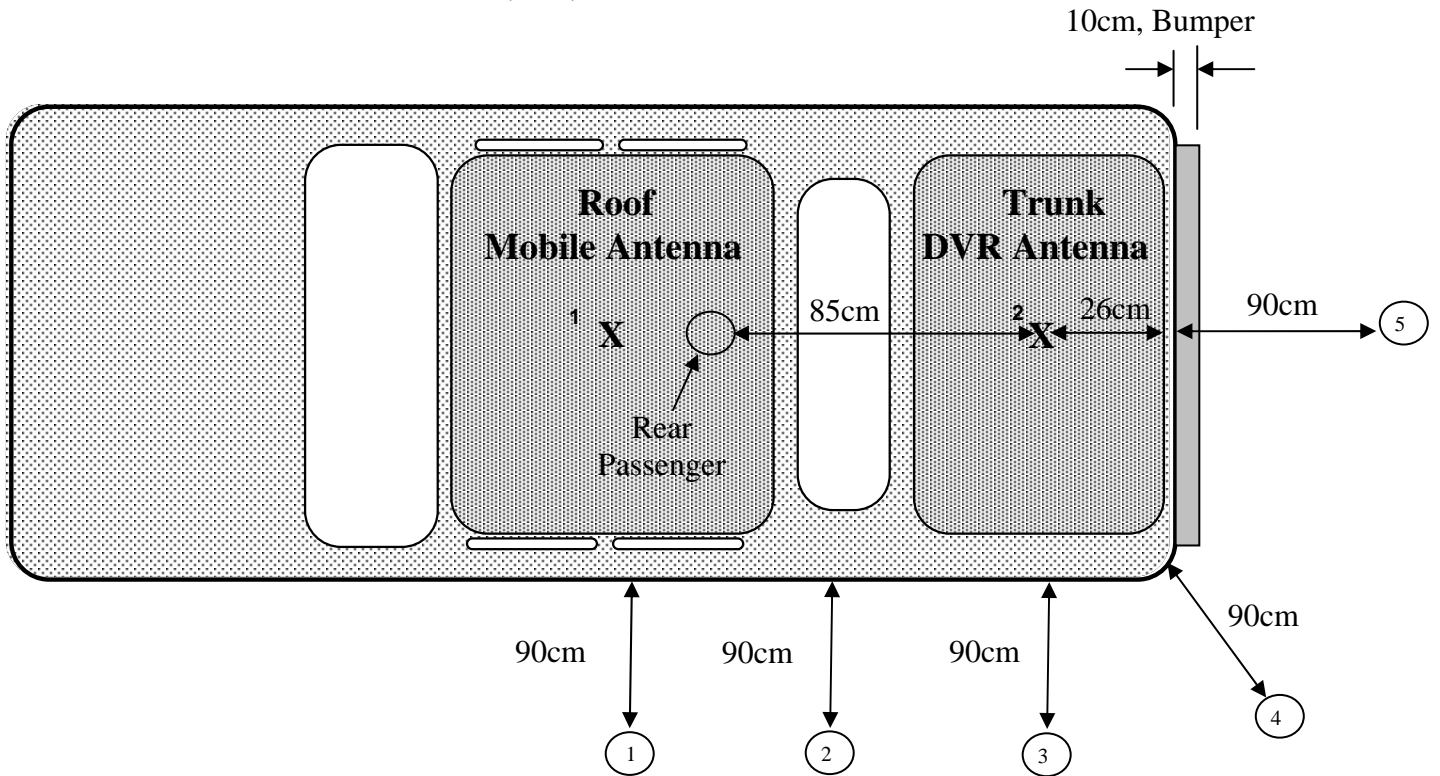
APPENDIX A

Illustration of Antenna Locations and Test Distances

Illustration of Antenna Locations and Test Distances



1 - Roof (center)
2 - Trunk (center)



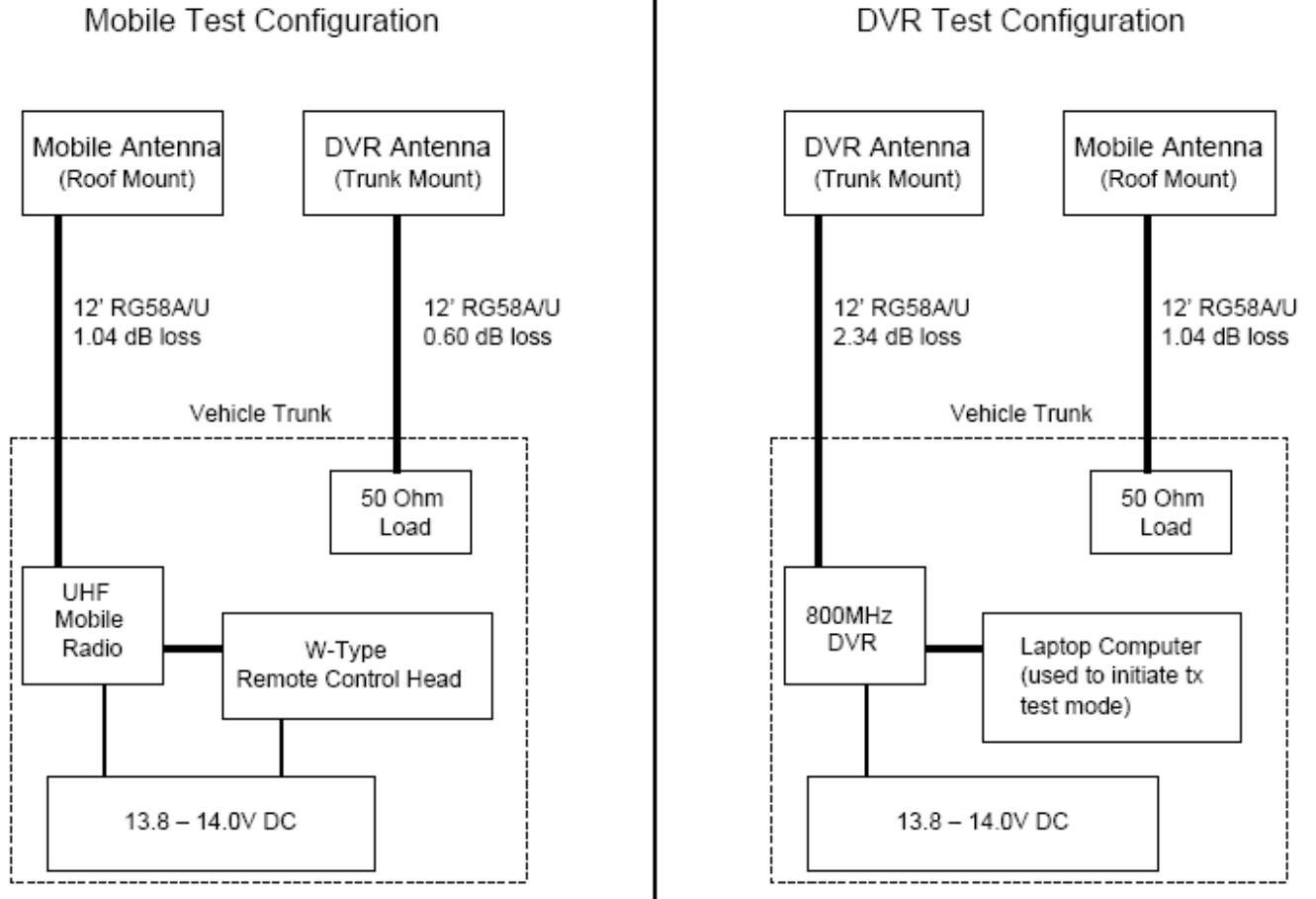
Notes

- 1) Assessments were performed at each test position for each offered antenna
- 2) By-stander positions (1-5) are 90cm from the vehicle body
- 3) By-stander position 2 is located at the mid point between the two antennas
- 4) Total distance between by-stander position 1 and roof mount antenna is 180cm
- 5) Total distance between by-stander position 5 and trunk mount antenna is 119.5cm
- 6) Total distance between trunk mount antenna and rear passenger is 85cm

APPENDIX B

Block Diagram of MPE Test Configuration

MPE Test Configuration



APPENDIX C

Meter/Probe Calibration Certificates



NARDA MICROWAVE-EAST
CALIBRATED IN ACCORDANCE
WITH ANSI Z540
CAL DATE 5-17-06 BY [Signature]
CAL DUE 5-17-06
MOD. 8718-10 SN. 01108

Certificate of Calibration

L-3 Communications, Narda Microwave-East, hereby certifies that the referenced RF Radiation Hazard monitoring equipment has been calibrated in accordance with MIL-STD-45662A, ANSI Z540, ISO 10012 and ISO 9001: 2000.

The measured values were determined by comparison with our standards, which are traceable to the National Institute of Standards and Technology to the extent allowed by NIST's calibration facilities.

Customer: MOTOROLA Certificate #: 56219 1
SCHAUMBURG, IL 60168-0429
Model #: 8718-10 Serial #: 01108
Description: METER W/CABLE PO #: NP1819669
Date Calibrated: 05/17/2005 R.O. #: 56219

Vince Donovan
Vince Donovan
Manager of Instruments Assembly and Test

John C. Stine
John C. Stine
Director of Quality Assurance

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Certificate of Calibration

L-3 Communications, Narda Microwave-East, hereby certifies that the referenced RF Radiation Hazard monitoring equipment has been calibrated in accordance with MIL-STD-45662A, ANSI Z540, ISO 10012 and ISO 9001: 2000.

The measured values were determined by comparison with our standards, which are traceable to the National Institute of Standards and Technology to the extent allowed by NIST's calibration facilities.

Customer: MOTOROLA
SCHAUMBURG, IL 60168-0429

Certificate #: 64777 1

Model #: 8718-10

Serial #: 01122

Description: METER W/CABLE

PO #: NP2398645

Date Calibrated: 04/20/2006

R.O. #: 64777


Vince Donovan
Manufacturing


Ken Peck
Quality Assurance

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Certificate of Calibration

L-3 Communications, Narda Microwave-East, hereby certifies that the referenced RF Radiation Hazard monitoring equipment has been calibrated in accordance with MIL-STD-45662A, ANSI Z540, ISO 10012 and ISO 9001: 2000.

The measured values were determined by comparison with our standards, which are traceable to the National Institute of Standards and Technology to the extent allowed by NIST's calibration facilities.

Customer: MOTOROLA
PLANTATION, FL 33322

Certificate #: 63648 1

Model #: 8722B

Serial #: 13001

Description: PROBE

PO #: NP2316554

Date Calibrated: 02-28-06

R.O. #: 63648


Vince Donovan
Manufacturing


Ken Peck
Quality Assurance

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DATE 28-Feb-2006
REL HUMIDITY 25%

RELEASE # R63648
TEMP 20 DEG. C

NARDA MICROWAVE - EAST

MODEL # 8722B
SERIAL # 13001

Recal Probe - Date of Previous Probe Data = 07/21/2005

FREQ MHZ	PRE-CAL DATA	FINAL CAL DATA	ELLIPSE RATIO, dB	FINAL CORR. FACTOR	DEVIATION DELTA DB	PREVIOUS FINAL CORR.
.30	0.95	0.83	+/- 0.69	1.20	+1.06	1.34
3.00	1.74	1.53	+/- 0.91	0.65	+1.26	0.77
10.00	0.98	0.86	+/- 0.72	1.16	+0.04	1.03
30.00	0.75	0.65	+/- 0.68	1.53	-0.13	1.30
100.00	1.20	1.05	+/- 0.36	0.95	-0.16	0.80
300.00	0.75	0.66	+/- 0.47	1.52	-0.74	1.13
750.00	1.35	1.19	+/- 0.16	0.84	+0.89	0.91
1000.00	1.16	1.02	+/- 0.38	0.98	-0.32	0.80
1700.00	0.79	0.69	+/- 0.39	1.44	-0.44	1.14
2450.00	1.13	1.19	+/- 0.29	0.84	-0.43	0.81
4000.00	0.81	0.86	+/- 0.32	1.16	-0.37	1.13
8200.00	1.00	1.06	+/- 0.55	0.95	-0.33	0.93
10000.00	0.99	1.05	+/- 0.49	0.95	-0.17	0.97
18000.00	1.11	1.18	+/- 0.75	0.85	-0.34	0.83
26500.00	1.03	1.09	+/- 0.93	0.92	-0.10	0.95
40000.00	0.79	0.84	+/- 0.67	1.19	-0.08	1.24

LOW FREQUENCY MULTIPLIER = 0.878 HIGH FREQUENCY MULTIPLIER = 1.061

FREQ. DEV. (3-40000 MHZ) = 3.684 DB

FREQ. DEV. (0.3-40000 MHZ) = 3.68 DB

MAX. ELLIPSE RATIO (0.3-40000 MHZ) = +/- 0.93 DB

PRE-CAL DATA REFLECTS THE MEAN ELLIPSE RATIO OF PROBE AS RECEIVED BY

NARDA CALIBRATION DEPARTMENT, OR IS THE INITIAL, UN-ADJUSTED RATIO.

(PRE-CAL x OLD CORR. FACTOR) - 1 = DEVIATION FROM PREVIOUS (OLD)

CALIBRATION DATA. NOTE: NOT APPLICABLE FOR NEW PROBES.

FINAL CAL DATA IS THE RATIO OF THE DISPLAYED TO THE APPLIED FIELD STRENGTH.

FINAL CORR. FACTOR IS THE RECIPROCAL OF FINAL CAL DATA.

FINAL CORR. FACTOR MULTIPLIED BY THE DISPLAYED FIELD STRENGTH READING

GIVES THE ACTUAL ("CORRECTED") FIELD STRENGTH.

ELLIPSE RATIO IS EXPRESSED IN dB DEVIATION FROM THE MEAN DATA

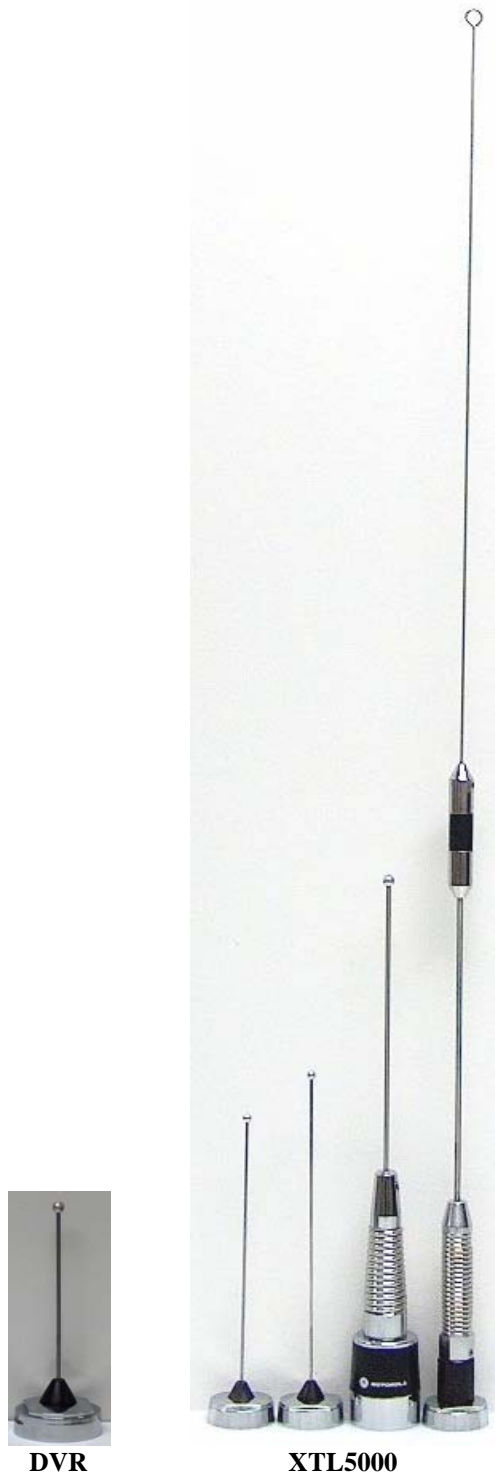
RMS Uncertainty = +/- 0.5db. ATP # = 502120 REV J

TESTER C-V.

Q.A. APPROVAL [Stamp: ACCEPT 110 NARDA]

APPENDIX D

Photos of Assessed Antennas



DVR

XTL5000

**Antenna kit numbers, from left to right;
DVR HAF4016A, XTL5000 HAE4003A, HAE6012A, HAE6013A, HAE4011A**

APPENDIX E

Detailed MPE Measurement Data

800MHZ DVR DQPM DVR8000P

BS-Position 1

Table 1

External Vehicle MPE Assessment @ 806 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.87	0.024	10.0	0.024	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.6%		6	120	1.3%		2.69	0.54
2	40	0.6%		7	140	1.1%			
3	60	0.7%		8	160	1.0%			
4	80	0.6%		9	180	1.0%			
5	100	1.0%		10	200	0.9%			

P-Position 1

Table 2

Internal Vehicle MPE Assessment @ 806 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Trunk (cnt)	HAF4016A	2.15	Highest Reading	E	0.87	0.089	0.031	10.0	0.089	0.09
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		2.69
Back Seat		3.9%		3.3%		2.7%		IEEE Uncontrolled Limit:		0.54
Front Seat		1.4%		0.8%		1.3%		RF Po (*Max):		10.0

BS-Position 1

Table 3

External Vehicle MPE Assessment @ 815 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.023	9.98	0.023	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%		6	120	1.1%		2.72	0.54
2	40	0.6%		7	140	1.1%			
3	60	0.8%		8	160	1.1%			
4	80	0.8%		9	180	0.8%			
5	100	0.8%		10	200	0.7%			

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P-Position 1

Table 4

Internal Vehicle MPE Assessment @ 815 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Trunk (cnt)	HAF4016A	2.15	Highest Reading	E	0.88	0.062	0.054	9.98	0.062	0.06
Measurement Grid										
Test Position	% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		2.72	
Back Seat	3.2%		1.8%		1.9%		IEEE Uncontrolled Limit:		0.54	
Front Seat	2.9%		1.5%		1.6%		RF Po (*Max):		10.0	

BS-Position 1

Table 5

External Vehicle MPE Assessment @ 824 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.029	9.95	0.029	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	1.2%		2.75	0.55
2	40	1.0%		7	140	1.1%			
3	60	1.0%		8	160	1.1%			
4	80	1.0%		9	180	1.0%			
5	100	1.2%		10	200	1.0%			
								RF Po (*Max)	10.0

P-Position 1

Table 6

Internal Vehicle MPE Assessment @ 824 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Trunk (cnt)	HAF4016A	2.15	Highest Reading	E	0.88	0.050	0.036	9.95	0.050	0.05
Measurement Grid										
Test Position	% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		2.75	
Back Seat	2.2%		1.5%		1.8%		IEEE Uncontrolled Limit:		0.55	
Front Seat	1.3%		1.3%		1.3%		RF Po (*Max):		10.0	

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BS-Position 1

Table 7

External Vehicle MPE Assessment @ 851 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.026	10.0	0.026	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%		6	120	1.3%		2.84	0.57
2	40	0.7%		7	140	1.0%			
3	60	0.8%		8	160	0.9%			
4	80	0.7%		9	180	1.0%			
5	100	1.1%		10	200	1.0%			

P-Position 1

Table 8

Internal Vehicle MPE Assessment @ 851 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Trunk (cnt)	HAF4016A	2.15	Highest Reading	E	0.9	0.042	0.032	10.0	0.042	0.04
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		2.84
Back Seat		1.2%		1.5%		1.7%		IEEE Uncontrolled Limit:		0.57
Front Seat		1.8%		0.8%		0.8%		RF Po (*Max):		10.0

BS-Position 1

Table 9

External Vehicle MPE Assessment @ 860 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.026	9.98	0.026	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%		6	120	1.1%		2.87	0.57
2	40	0.8%		7	140	1.0%			
3	60	0.8%		8	160	0.9%			
4	80	0.9%		9	180	0.9%			
5	100	1.1%		10	200	0.9%			

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P-Position 1

Table 10

Internal Vehicle MPE Assessment @ 860 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Trunk (cnt)	HAF4016A	2.15	Highest Reading	E	0.9	0.049	0.047	9.98	0.049	0.05
Measurement Grid										
Test Position	% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		2.87	
Back Seat	2.1%		1.6%		1.4%		IEEE Uncontrolled Limit:		0.57	
Front Seat	3.4%		0.8%		0.7%		RF Po (*Max):		10.0	

BS-Position 1

Table 11

External Vehicle MPE Assessment @ 869 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)	
Trunk (cnt)	HAF4016A	2.15	90	E	0.91	0.026	10.0	0.026	0.03	
Measurement Grid										
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit	
1	20	0.8%		6	120	1.1%		2.90	0.58	
2	40	0.8%		7	140	0.9%				
3	60	1.0%		8	160	0.8%				
4	80	1.1%		9	180	0.8%				
5	100	1.1%		10	200	0.7%				
								RF Po (*Max)		10.0

P-Position 1

Table 12

Internal Vehicle MPE Assessment @ 869 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Trunk (cnt)	HAF4016A	2.15	Highest Reading	E	0.91	0.042	0.027	10.0	0.042	0.04
Measurement Grid										
Test Position	% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		2.90	
Back Seat	2.0%		1.4%		0.9%		IEEE Uncontrolled Limit:		0.58	
Front Seat	1.7%		0.6%		0.5%		RF Po (*Max):		10.0	

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BS-Position 2

Table 13

External Vehicle MPE Assessment @ 806 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.87	0.029	10.0	0.029	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit	IEEE Uncontrolled Limit		
1	20	0.8%	6	120	1.1%	2.69	0.54		
2	40	0.9%	7	140	1.3%				
3	60	0.7%	8	160	1.4%				
4	80	0.9%	9	180	1.5%				
5	100	1.0%	10	200	1.3%			RF Po (*Max)	10.0

BS-Position 2

Table 14

External Vehicle MPE Assessment @ 815 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.035	9.98	0.035	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit	IEEE Uncontrolled Limit		
1	20	0.8%	6	120	1.8%	2.72	0.54		
2	40	0.7%	7	140	1.6%				
3	60	1.1%	8	160	1.6%				
4	80	1.0%	9	180	1.8%				
5	100	1.2%	10	200	1.4%			RF Po (*Max)	10.0

BS-Position 2

Table 15

External Vehicle MPE Assessment @ 824 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.031	9.95	0.031	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit	IEEE Uncontrolled Limit		
1	20	0.9%	6	120	1.4%	2.75	0.55		
2	40	0.7%	7	140	1.4%				
3	60	0.9%	8	160	1.4%				
4	80	0.9%	9	180	1.3%				
5	100	1.1%	10	200	1.2%			RF Po (*Max)	10.0

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BS-Position 2

Table 16

External Vehicle MPE Assessment @ 851 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.029	10.0	0.029	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.6%	6	120	1.3%			2.84	0.57
2	40	0.8%	7	140	1.3%				
3	60	0.8%	8	160	1.1%				
4	80	0.8%	9	180	1.4%				
5	100	1.0%	10	200	1.1%				
								RF Po (*Max)	10.0

BS-Position 2

Table 17

External Vehicle MPE Assessment @ 860 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.032	9.98	0.032	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%	6	120	1.3%			2.87	0.57
2	40	0.5%	7	140	1.3%				
3	60	1.0%	8	160	1.3%				
4	80	1.1%	9	180	1.3%				
5	100	1.4%	10	200	1.2%				
								RF Po (*Max)	10.0

BS-Position 2

Table 18

External Vehicle MPE Assessment @ 869 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.91	0.030	10.0	0.030	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.6%	6	120	1.2%			2.90	0.58
2	40	0.6%	7	140	1.2%				
3	60	1.0%	8	160	1.3%				
4	80	1.0%	9	180	1.2%				
5	100	1.0%	10	200	1.2%				
								RF Po (*Max)	10.0

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BS-Position 3

Table 19

External Vehicle MPE Assessment @ 806 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.87	0.029	10.0	0.029	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%		6	120	1.3%		2.69	0.54
2	40	1.0%		7	140	1.2%			
3	60	0.9%		8	160	1.2%			
4	80	0.8%		9	180	1.2%			
5	100	1.2%		10	200	1.0%			
								RF Po (*Max)	10.0

BS-Position 3

Table 20

External Vehicle MPE Assessment @ 815 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.038	9.98	0.038	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%		6	120	1.6%		2.72	0.54
2	40	0.9%		7	140	1.7%			
3	60	0.9%		8	160	1.8%			
4	80	1.4%		9	180	1.9%			
5	100	1.4%		10	200	1.4%			
								RF Po (*Max)	10.0

BS-Position 3

Table 21

External Vehicle MPE Assessment @ 824 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.033	9.95	0.033	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%		6	120	1.5%		2.75	0.55
2	40	1.0%		7	140	1.4%			
3	60	1.0%		8	160	1.5%			
4	80	0.8%		9	180	1.4%			
5	100	1.3%		10	200	1.2%			
								RF Po (*Max)	10.0

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BS-Position 3

Table 22

External Vehicle MPE Assessment @ 851 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.034	10.0	0.034	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%	6	120	1.3%			2.84	0.57
2	40	0.7%	7	140	1.6%				
3	60	1.0%	8	160	1.5%				
4	80	1.3%	9	180	1.3%				
5	100	1.3%	10	200	1.1%				
								RF Po (*Max)	
								10.0	

BS-Position 3

Table 23

External Vehicle MPE Assessment @ 860 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.034	9.98	0.034	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.7%	6	120	1.5%			2.87	0.57
2	40	0.8%	7	140	1.6%				
3	60	0.9%	8	160	1.6%				
4	80	1.0%	9	180	1.3%				
5	100	1.1%	10	200	1.2%				
								RF Po (*Max)	
								10.0	

BS-Position 3

Table 24

External Vehicle MPE Assessment @ 869 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.91	0.031	10.0	0.031	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.7%	6	120	1.3%			2.90	0.58
2	40	0.7%	7	140	1.3%				
3	60	0.8%	8	160	1.7%				
4	80	0.9%	9	180	1.3%				
5	100	0.9%	10	200	1.0%				
								RF Po (*Max)	
								10.0	

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BS-Position 4

Table 25

External Vehicle MPE Assessment @ 806 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.87	0.033	10.0	0.033	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit	IEEE Uncontrolled Limit		
1	20	1.2%	6	120	1.6%	2.69	0.54		
2	40	0.8%	7	140	1.4%				
3	60	0.9%	8	160	1.2%				
4	80	1.3%	9	180	1.2%				
5	100	1.4%	10	200	1.1%				
								RF Po (*Max)	10.0

BS-Position 4

Table 26

External Vehicle MPE Assessment @ 815 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.038	9.98	0.038	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit	IEEE Uncontrolled Limit		
1	20	1.0%	6	120	2.0%	2.72	0.54		
2	40	0.8%	7	140	1.8%				
3	60	1.0%	8	160	1.5%				
4	80	1.5%	9	180	1.4%				
5	100	1.6%	10	200	1.5%				
								RF Po (*Max)	10.0

BS-Position 4

Table 27

External Vehicle MPE Assessment @ 824 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.033	9.95	0.033	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit	IEEE Uncontrolled Limit		
1	20	0.9%	6	120	1.5%	2.75	0.55		
2	40	0.8%	7	140	1.4%				
3	60	1.1%	8	160	1.3%				
4	80	1.2%	9	180	1.2%				
5	100	1.3%	10	200	1.3%				
								RF Po (*Max)	10.0

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Table 28

External Vehicle MPE Assessment @ 851 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.035	10.0	0.035	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit		IEEE Uncontrolled Limit	
1	20	0.7%	6	120	1.6%	2.84		10.0	
2	40	0.7%	7	140	1.6%				
3	60	1.0%	8	160	1.6%				
4	80	1.0%	9	180	1.5%				
5	100	1.5%	10	200	1.2%				

BS-Position 4

Table 29

External Vehicle MPE Assessment @ 860 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.042	9.98	0.042	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit		IEEE Uncontrolled Limit	
1	20	0.7%	6	120	1.9%	2.87		10.0	
2	40	0.8%	7	140	2.0%				
3	60	1.0%	8	160	2.1%				
4	80	1.1%	9	180	1.7%				
5	100	1.8%	10	200	1.4%				

BS-Position 4

Table 30

External Vehicle MPE Assessment @ 869 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.91	0.038	10.0	0.038	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit	IEEE Controlled Limit		IEEE Uncontrolled Limit	
1	20	0.8%	6	120	1.8%	2.90		10.0	
2	40	1.0%	7	140	1.6%				
3	60	1.0%	8	160	1.5%				
4	80	1.3%	9	180	1.3%				
5	100	1.6%	10	200	1.1%				

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BS-Position 5

Table 31

External Vehicle MPE Assessment @ 806 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.87	0.038	10.0	0.038	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.6%		6	120	1.9%		2.69	0.54
2	40	0.9%		7	140	1.7%			
3	60	1.1%		8	160	1.6%			
4	80	1.5%		9	180	1.5%			
5	100	2.2%		10	200	1.3%			
								RF Po (*Max)	10.0

BS-Position 5

Table 32

External Vehicle MPE Assessment @ 815 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.054	9.98	0.054	0.05
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	3.3%		2.72	0.54
2	40	1.3%		7	140	2.4%			
3	60	1.4%		8	160	1.9%			
4	80	2.1%		9	180	1.8%			
5	100	3.1%		10	200	1.4%			
								RF Po (*Max)	10.0

BS-Position 5

Table 33

External Vehicle MPE Assessment @ 824 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.88	0.051	9.95	0.051	0.05
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%		6	120	2.8%		2.75	0.55
2	40	0.9%		7	140	2.5%			
3	60	1.7%		8	160	2.0%			
4	80	2.0%		9	180	1.6%			
5	100	2.9%		10	200	1.5%			
								RF Po (*Max)	10.0

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BS-Position 5

Table 34

External Vehicle MPE Assessment @ 851 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.041	10.0	0.041	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.7%	6	120	1.9%			2.84	0.57
2	40	1.0%	7	140	1.9%				
3	60	1.1%	8	160	1.8%				
4	80	1.6%	9	180	1.5%				
5	100	1.8%	10	200	1.3%				
								RF Po (*Max)	
								10.0	

BS-Position 5

Table 35

External Vehicle MPE Assessment @ 860 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.9	0.057	9.98	0.057	0.06
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%	6	120	2.9%			2.87	0.57
2	40	0.8%	7	140	2.7%				
3	60	1.5%	8	160	2.6%				
4	80	2.2%	9	180	2.0%				
5	100	2.7%	10	200	1.5%				
								RF Po (*Max)	
								10.0	

BS-Position 5

Table 36

External Vehicle MPE Assessment @ 869 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Trunk (cnt)	HAF4016A	2.15	90	E	0.91	0.042	10.0	0.042	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit	Test Position	Height (cm)	% of Control Limit			IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%	6	120	2.1%			2.90	0.58
2	40	0.9%	7	140	1.9%				
3	60	1.3%	8	160	1.9%				
4	80	1.4%	9	180	1.3%				
5	100	1.8%	10	200	1.0%				
								RF Po (*Max)	
								10.0	

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BS-Position 1

Table 1

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.083	47.3	0.041	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.7%		6	120	7.5%		1.27	0.25
2	40	2.2%		7	140	9.4%			
3	60	2.5%		8	160	9.4%			
4	80	4.9%		9	180	10.5%			
5	100	7.1%		10	200	10.1%			
								RF Po (*Max)	48.0

P-Position 1

Table 2

Internal Vehicle MPE Assessment @ 380.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6012A	2.15	Highest Reading	E	1.40	0.065	0.078	47.3	0.039	0.04
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.27
Back Seat		8.1%		4.0%		3.4%		IEEE Uncontrolled Limit:		0.25
Front Seat		8.3%		5.7%		4.5%		RF Po (*Max):		48.0

BS-Position 1

Table 3

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.090	47.1	0.045	0.05
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%		6	120	6.5%		1.42	0.28
2	40	2.0%		7	140	10.4%			
3	60	2.0%		8	160	11.9%			
4	80	2.0%		9	180	11.6%			
5	100	4.0%		10	200	12.5%			
								RF Po (*Max)	48.0

UHF Mobile M20QSS9PW1AN

P-Position 1

Table 4

Internal Vehicle MPE Assessment @ 425.0125 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6012A	2.15	Highest Reading	E	1.33	0.120	0.080	47.1	0.060	0.06
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.42
Back Seat		13.2%		5.5%		6.8%		IEEE Uncontrolled Limit:		0.28
Front Seat		4.2%		4.5%		8.2%		RF Po (*Max):		48.0

BS-Position 1

Table 5

External Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)	
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.100	47.5	0.050	0.05	
Measurement Grid										
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit	
1	20	0.9%		6	120	5.1%		1.57	0.31	
2	40	1.4%		7	140	8.8%				
3	60	2.3%		8	160	11.1%				
4	80	3.5%		9	180	13.0%				
5	100	5.0%		10	200	12.5%				
								RF Po (*Max):		48.0

P-Position 1

Table 6

Internal Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE4003A	2.15	Highest Reading	E	1.26	0.083	0.074	47.5	0.041	0.04
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.57
Back Seat		5.8%		5.8%		4.2%		IEEE Uncontrolled Limit:		0.31
Front Seat		3.0%		3.1%		8.1%		RF Po (*Max):		48.0

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BS-Position 1

Table 7

External Vehicle MPE Assessment @ 380.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)	
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.097	47.3	0.048	0.05	
Measurement Grid										
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.1%			6	120	8.1%		1.27	0.25
2	40	3.3%			7	140	9.9%			
3	60	4.5%			8	160	10.4%			
4	80	5.7%			9	180	11.6%			
5	100	8.1%			10	200	12.8%			
								RF Po (*Max)	48.0	

P-Position 1

Table 8

Internal Vehicle MPE Assessment @ 380.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6013A	4.15	Highest Reading	E	1.40	0.088	0.076	47.3	0.044	0.04
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.27
Back Seat		7.7%		7.9%		5.2%		IEEE Uncontrolled Limit:		0.25
Front Seat		6.7%		5.6%		5.6%		RF Po (*Max):		48.0

BS-Position 1

Table 9

External Vehicle MPE Assessment @ 425.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)	
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.113	47.1	0.057	0.06	
Measurement Grid										
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.6%			6	120	8.0%		1.42	0.28
2	40	1.7%			7	140	12.1%			
3	60	2.3%			8	160	13.7%			
4	80	4.7%			9	180	14.3%			
5	100	7.3%			10	200	14.2%			
								RF Po (*Max)	48.0	

UHF Mobile M20QSS9PW1AN

P-Position 1

Table 10

Internal Vehicle MPE Assessment @ 425.0125 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6013A	4.15	Highest Reading	E	1.33	0.142	0.089	47.1	0.071	0.07
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.42
Back Seat		13.3%		6.8%		10.0%		IEEE Uncontrolled Limit:		0.28
Front Seat		6.6%		5.1%		7.2%			RF Po (*Max):	48.0

BS-Position 1

Table 11

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	6.0%		1.57	0.31
2	40	1.1%		7	140	9.4%			
3	60	2.9%		8	160	11.5%			
4	80	4.6%		9	180	13.0%			
5	100	5.8%		10	200	13.1%			
								RF Po (*Max)	48.0

P-Position 1

Table 12

Internal Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6013A	4.15	Highest Reading	E	1.26	0.073	0.079	47.5	0.040	0.04
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.57
Back Seat		5.6%		5.8%		2.6%		IEEE Uncontrolled Limit:		0.31
Front Seat		2.4%		3.7%		9.1%			RF Po (*Max):	48.0

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BS-Position 1

Table 13

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.092	47.2	0.046	0.05
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.7%		6	120	4.8%		1.53	0.31
2	40	0.9%		7	140	8.4%			
3	60	1.0%		8	160	11.6%			
4	80	1.9%		9	180	14.2%			
5	100	3.5%		10	200	13.3%			
								RF Po (*Max)	48.0

P-Position 1

Table 14

Internal Vehicle MPE Assessment @ 460.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE4011A	5.65	Highest Reading	E	1.28	0.022	0.027	47.2	0.014	0.01
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.53
Back Seat		1.1%		1.4%		1.8%		IEEE Uncontrolled Limit:		0.31
Front Seat		1.1%		1.7%		2.5%		RF Po (*Max):		48.0

BS-Position 2

Table 15

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.073	47.3	0.036	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.0%		6	120	6.6%		1.27	0.25
2	40	3.2%		7	140	7.0%			
3	60	3.4%		8	160	8.0%			
4	80	5.5%		9	180	8.2%			
5	100	6.4%		10	200	7.2%			
								RF Po (*Max)	48.0

UHF Mobile M20QSS9PW1AN

BS-Position 2

Table 16

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.069	47.1	0.035	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.0%		6	120	5.4%		1.42	0.28
2	40	2.1%		7	140	6.5%			
3	60	2.5%		8	160	6.9%			
4	80	4.0%		9	180	8.2%			
5	100	5.3%		10	200	6.0%			

BS-Position 2

Table 17

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.065	47.5	0.033	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.0%		6	120	4.6%		1.57	0.31
2	40	2.3%		7	140	5.3%			
3	60	2.6%		8	160	5.9%			
4	80	2.9%		9	180	6.2%			
5	100	3.0%		10	200	7.0%			

BS-Position 2

Table 18

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.078	47.3	0.039	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.2%		6	120	7.1%		1.27	0.25
2	40	3.4%		7	140	9.2%			
3	60	3.7%		8	160	8.4%			
4	80	4.1%		9	180	8.7%			
5	100	6.8%		10	200	7.7%			

UHF Mobile M20QSS9PW1AN

BS-Position 2

Table 19

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.077	47.1	0.039	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.4%		6	120	6.5%		1.42	0.28
2	40	3.5%		7	140	7.4%			
3	60	3.7%		8	160	7.9%			
4	80	3.8%		9	180	7.8%			
5	100	4.9%		10	200	6.8%			
								RF Po (*Max)	48.0

BS-Position 2

Table 20

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.076	47.5	0.038	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.2%		6	120	5.7%		1.57	0.31
2	40	2.5%		7	140	6.3%			
3	60	2.7%		8	160	6.6%			
4	80	3.6%		9	180	7.2%			
5	100	3.7%		10	200	7.7%			
								RF Po (*Max)	48.0

BS-Position 2

Table 21

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.073	47.2	0.036	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.3%		6	120	3.5%		1.53	0.31
2	40	1.4%		7	140	6.7%			
3	60	1.8%		8	160	8.8%			
4	80	2.5%		9	180	9.5%			
5	100	2.8%		10	200	9.2%			
								RF Po (*Max)	48.0

UHF Mobile M20QSS9PW1AN

BS-Position 3

Table 22

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.059	47.3	0.029	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.7%		6	120	4.5%		1.27	0.25
2	40	2.7%		7	140	5.1%			
3	60	3.2%		8	160	6.6%			
4	80	3.3%		9	180	6.9%			
5	100	4.3%		10	200	7.1%			
								RF Po (*Max)	48.0

BS-Position 3

Table 23

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.067	47.1	0.034	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.9%		6	120	6.0%		1.42	0.28
2	40	2.8%		7	140	6.4%			
3	60	3.4%		8	160	5.8%			
4	80	4.8%		9	180	5.8%			
5	100	5.4%		10	200	5.3%			
								RF Po (*Max)	48.0

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Table 24

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.072	47.5	0.036	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.2%		6	120	4.6%		1.57	0.31
2	40	2.4%		7	140	5.3%			
3	60	3.6%		8	160	6.3%			
4	80	4.5%		9	180	6.9%			
5	100	4.5%		10	200	5.9%			
								RF Po (*Max)	48.0

UHF Mobile M20QSS9PW1AN

BS-Position 3

Table 25

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.071	47.3	0.035	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.5%		6	120	6.4%		1.27	0.25
2	40	3.2%		7	140	6.8%			
3	60	4.1%		8	160	7.1%			
4	80	4.2%		9	180	8.1%			
5	100	5.4%		10	200	8.0%			

BS-Position 3

Table 26

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.083	47.1	0.041	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.0%		6	120	6.4%		1.42	0.28
2	40	3.0%		7	140	7.1%			
3	60	4.4%		8	160	7.5%			
4	80	5.5%		9	180	7.1%			
5	100	7.7%		10	200	6.8%			

BS-Position 3

Table 27

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.060	47.5	0.030	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.5%		6	120	3.9%		1.57	0.31
2	40	2.6%		7	140	4.1%			
3	60	2.6%		8	160	4.4%			
4	80	3.8%		9	180	5.4%			
5	100	4.4%		10	200	5.4%			

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BS-Position 3

Table 28

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.054	47.2	0.027	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%		6	120	3.6%		1.53	0.31
2	40	1.1%		7	140	4.2%			
3	60	1.4%		8	160	5.7%			
4	80	2.9%		9	180	6.0%			
5	100	3.1%		10	200	6.0%			
								RF Po (*Max)	48.0

BS-Position 4

Table 29

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.033	47.3	0.017	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.3%		6	120	3.5%		1.27	0.25
2	40	1.6%		7	140	3.2%			
3	60	1.8%		8	160	2.5%			
4	80	2.6%		9	180	2.7%			
5	100	4.0%		10	200	3.2%			
								RF Po (*Max)	48.0

BS-Position 4

Table 30

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.038	47.1	0.019	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.8%		6	120	2.8%		1.42	0.28
2	40	1.7%		7	140	2.6%			
3	60	2.3%		8	160	3.1%			
4	80	2.5%		9	180	2.8%			
5	100	3.5%		10	200	3.9%			
								RF Po (*Max)	48.0

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BS-Position 4

Table 31

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.036	47.5	0.018	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.3%		6	120	3.2%		1.57	0.31
2	40	1.2%		7	140	2.1%			
3	60	1.6%		8	160	2.4%			
4	80	2.6%		9	180	2.6%			
5	100	2.5%		10	200	3.3%			
								RF Po (*Max)	48.0

BS-Position 4

Table 32

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.037	47.3	0.018	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.3%		6	120	3.5%		1.27	0.25
2	40	2.1%		7	140	3.4%			
3	60	2.9%		8	160	3.0%			
4	80	3.6%		9	180	2.3%			
5	100	4.2%		10	200	2.7%			
								RF Po (*Max)	48.0

BS-Position 4

Table 33

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.048	47.1	0.024	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.7%		6	120	3.3%		1.42	0.28
2	40	2.2%		7	140	3.9%			
3	60	2.4%		8	160	4.0%			
4	80	2.8%		9	180	3.8%			
5	100	4.9%		10	200	4.6%			
								RF Po (*Max)	48.0

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BS-Position 4

Table 34

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.040	47.5	0.020	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.1%		6	120	2.7%		1.57	0.31
2	40	1.4%		7	140	3.3%			
3	60	1.8%		8	160	3.1%			
4	80	2.4%		9	180	3.4%			
5	100	2.2%		10	200	4.1%			
								RF Po (*Max)	48.0

BS-Position 4

Table 35

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.042	47.2	0.021	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	3.2%		1.53	0.31
2	40	1.2%		7	140	3.0%			
3	60	1.3%		8	160	3.4%			
4	80	1.9%		9	180	4.0%			
5	100	3.2%		10	200	5.5%			
								RF Po (*Max)	48.0

BS-Position 5

Table 36

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.023	47.3	0.011	0.01
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.4%		6	120	1.3%		1.27	0.25
2	40	0.4%		7	140	2.6%			
3	60	0.6%		8	160	3.3%			
4	80	0.8%		9	180	4.0%			
5	100	1.2%		10	200	3.4%			
								RF Po (*Max)	48.0

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BS-Position 5

Table 37

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.021	47.1	0.011	0.01
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	2.0%		1.42	0.28
2	40	0.6%		7	140	1.4%			
3	60	0.9%		8	160	1.6%			
4	80	1.0%		9	180	1.9%			
5	100	2.1%		10	200	2.5%			
								RF Po (*Max)	48.0

BS-Position 5

Table 38

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.023	47.5	0.012	0.01
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.9%		6	120	1.5%		1.57	0.31
2	40	0.6%		7	140	2.0%			
3	60	0.8%		8	160	2.2%			
4	80	0.8%		9	180	2.1%			
5	100	1.3%		10	200	2.8%			
								RF Po (*Max)	48.0

BS-Position 5

Table 39

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.030	47.3	0.015	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.2%		6	120	2.4%		1.27	0.25
2	40	0.7%		7	140	2.9%			
3	60	1.3%		8	160	3.7%			
4	80	1.7%		9	180	3.7%			
5	100	2.1%		10	200	4.3%			
								RF Po (*Max)	48.0

UHF Mobile M20QSS9PW1AN

BS-Position 5

Table 40

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.024	47.1	0.012	0.01
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%		6	120	1.9%		1.42	0.28
2	40	0.8%		7	140	1.9%			
3	60	1.0%		8	160	2.1%			
4	80	0.9%		9	180	2.1%			
5	100	2.1%		10	200	3.2%			
								RF Po (*Max)	
								48.0	

BS-Position 5

Table 41

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.027	47.5	0.014	0.01
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.7%		6	120	1.9%		1.57	0.31
2	40	0.6%		7	140	2.5%			
3	60	0.8%		8	160	2.6%			
4	80	1.3%		9	180	2.2%			
5	100	1.4%		10	200	3.3%			
								RF Po (*Max)	
								48.0	

BS-Position 5

Table 42

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.029	47.2	0.015	0.01
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.7%		6	120	2.4%		1.53	0.31
2	40	0.6%		7	140	2.8%			
3	60	0.7%		8	160	2.7%			
4	80	0.8%		9	180	3.3%			
5	100	1.2%		10	200	3.9%			
								RF Po (*Max)	
								48.0	

UHF Mobile M20QTS9PW1AN

BS-Position 1

Table 1

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.198	117.0	0.099	0.10
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.4%		6	120	17.2%		1.27	0.25
2	40	4.6%		7	140	21.5%			
3	60	7.8%		8	160	23.5%			
4	80	11.7%		9	180	25.3%			
5	100	14.5%		10	200	27.0%			
								RF Po (*Max)	120.0

P-Position 1

Table 2

Internal Vehicle MPE Assessment @ 380.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6012A	2.15	Highest Reading	E	1.40	0.201	0.175	117.0	0.101	0.10
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.27
Back Seat		19.7%		15.9%		12.1%		IEEE Uncontrolled Limit:		0.25
Front Seat		15.2%		11.4%		14.9%		RF Po (*Max):		120.0

BS-Position 1

Table 3

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.177	119.0	0.089	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.8%		6	120	14.5%		1.42	0.28
2	40	3.2%		7	140	17.8%			
3	60	4.3%		8	160	20.3%			
4	80	5.2%		9	180	24.7%			
5	100	7.6%		10	200	25.7%			
								RF Po (*Max)	120.0

UHF Mobile M20QTS9PW1AN

P-Position 1

Table 4

Internal Vehicle MPE Assessment @ 425.0125 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6012A	2.15	Highest Reading	E	1.33	0.263	0.147	119.0	0.132	0.13
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.42
Back Seat		30.1%		13.8%		11.8%		IEEE Uncontrolled Limit:		0.28
Front Seat		7.9%		8.2%		15.0%		RF Po (*Max):		120.0

BS-Position 1

Table 5

External Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)	
										Roof (cnt)
Measurement Grid										
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit	
1	20	2.1%		6	120	13.8%		1.57	0.31	
2	40	2.5%		7	140	20.3%				
3	60	3.6%		8	160	23.9%				
4	80	5.9%		9	180	29.3%				
5	100	8.3%		10	200	29.2%				
								RF Po (*Max):		120.0

P-Position 1

Table 6

Internal Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE4003A	2.15	Highest Reading	E	1.26	0.174	0.260	120.0	0.130	0.13
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.57
Back Seat		8.6%		15.7%		9.0%		IEEE Uncontrolled Limit:		0.31
Front Seat		10.6%		10.6%		28.5%		RF Po (*Max):		120.0

UHF Mobile M20QTS9PW1AN

BS-Position 1

Table 7

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.191	117.0	0.095	0.10
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.3%		6	120	15.7%		1.27	0.25
2	40	4.3%		7	140	19.2%			
3	60	6.5%		8	160	22.4%			
4	80	10.8%		9	180	26.3%			
5	100	15.6%		10	200	26.6%			
								RF Po (*Max)	120.0

P-Position 1

Table 8

Internal Vehicle MPE Assessment @ 380.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6013A	4.15	Highest Reading	E	1.40	0.176	0.149	117.0	0.088	0.09
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.27
Back Seat		16.5%		17.7%		7.4%		IEEE Uncontrolled Limit:		0.25
Front Seat		11.1%		11.4%		12.7%		RF Po (*Max):		120.0

BS-Position 1

Table 9

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.216	119.0	0.108	0.11
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.5%		6	120	13.8%		1.42	0.28
2	40	3.6%		7	140	21.3%			
3	60	4.4%		8	160	27.8%			
4	80	6.5%		9	180	31.9%			
5	100	9.5%		10	200	31.1%			
								RF Po (*Max)	120.0

UHF Mobile M20QTS9PW1AN

P-Position 1

Table 10

Internal Vehicle MPE Assessment @ 425.0125 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6013A	4.15	Highest Reading	E	1.33	0.338	0.261	119.0	0.169	0.17
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.42
Back Seat		42.2%		18.4%		11.0%		IEEE Uncontrolled Limit:		0.28
Front Seat		13.0%		15.8%		26.4%		RF Po (*Max):		120.0

BS-Position 1

Table 11

External Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)	
										Roof (cnt)
Measurement Grid										
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit	
1	20	1.9%		6	120	14.1%		1.57	0.31	
2	40	2.7%		7	140	19.3%				
3	60	4.0%		8	160	23.5%				
4	80	5.3%		9	180	26.3%				
5	100	8.5%		10	200	25.4%				
								RF Po (*Max)		120.0

P-Position 1

Table 12

Internal Vehicle MPE Assessment @ 469.9875 MHz										
Antenna Location	Antenna	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE6013A	4.15	Highest Reading	E	1.26	0.184	0.242	120.0	0.121	0.12
Measurement Grid										
Test Position		% of Control Limit Head		% of Control Limit Chest		% of Control Limit Lower Trunk		IEEE Controlled Limit:		1.57
Back Seat		9.4%		17.4%		8.5%		IEEE Uncontrolled Limit:		0.31
Front Seat		12.4%		10.1%		23.8%		RF Po (*Max):		120.0

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BS-Position 1

Table 13

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.203	119.0	0.102	0.10
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	12.1%		1.53	0.31
2	40	1.5%		7	140	18.6%			
3	60	1.8%		8	160	28.2%			
4	80	2.5%		9	180	31.3%			
5	100	5.4%		10	200	30.3%			
								RF Po (*Max)	120.0

P-Position 1

Table 14

Internal Vehicle MPE Assessment @ 460.0125 MHz										
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Head, Chest, Lower Trunk Back/Front seats (mW/cm ²)		Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
						Back	Front			
Roof (cnt)	HAE4011A	5.65	Highest Reading	E	1.28	0.038	0.063	119.0	0.031	0.03
Measurement Grid										
Test Position		% of Control Limit Head	% of Control Limit Chest	% of Control Limit Lower Trunk		IEEE Controlled Limit:			1.53	
Back Seat		2.0%	2.3%	3.2%		IEEE Uncontrolled Limit:			0.31	
Front Seat		2.2%	3.2%	6.9%		RF Po (*Max):			120.0	

BS-Position 2

Table 15

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.162	117.0	0.081	0.08
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	5.6%		6	120	13.3%		1.27	0.25
2	40	7.1%		7	140	15.0%			
3	60	7.6%		8	160	18.9%			
4	80	7.7%		9	180	20.5%			
5	100	11.7%		10	200	20.6%			
								RF Po (*Max)	120.0

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BS-Position 2

Table 16

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.117	119.0	0.059	0.06
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.1%		6	120	7.5%		1.42	0.28
2	40	3.7%		7	140	13.1%			
3	60	3.3%		8	160	13.5%			
4	80	4.6%		9	180	14.7%			
5	100	7.0%		10	200	12.4%			
								RF Po (*Max)	120.0

BS-Position 2

Table 17

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.159	120.0	0.079	0.08
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.9%		6	120	10.2%		1.57	0.31
2	40	4.8%		7	140	11.9%			
3	60	5.4%		8	160	16.4%			
4	80	5.7%		9	180	16.4%			
5	100	7.4%		10	200	19.2%			
								RF Po (*Max)	120.0

BS-Position 2

Table 18

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.176	117.0	0.088	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	6.9%		6	120	14.7%		1.27	0.25
2	40	8.6%		7	140	17.7%			
3	60	8.9%		8	160	20.1%			
4	80	9.5%		9	180	20.7%			
5	100	11.8%		10	200	19.7%			
								RF Po (*Max)	120.0

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BS-Position 2

Table 19

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.184	119.0	0.092	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	7.8%		6	120	16.4%		1.42	0.28
2	40	6.5%		7	140	18.9%			
3	60	5.8%		8	160	18.7%			
4	80	7.8%		9	180	21.0%			
5	100	10.1%		10	200	16.8%			
								RF Po (*Max)	120.0

BS-Position 2

Table 20

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.192	120.0	0.096	0.10
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	4.6%		6	120	12.9%		1.57	0.31
2	40	6.2%		7	140	16.9%			
3	60	6.3%		8	160	18.0%			
4	80	7.0%		9	180	18.9%			
5	100	11.8%		10	200	19.7%			
								RF Po (*Max)	120.0

BS-Position 2

Table 21

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.184	119.0	0.092	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	2.6%		6	120	12.4%		1.53	0.31
2	40	4.1%		7	140	17.1%			
3	60	4.4%		8	160	20.7%			
4	80	5.7%		9	180	21.9%			
5	100	7.3%		10	200	23.7%			
								RF Po (*Max)	120.0

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BS-Position 3

Table 22

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.112	117.0	0.056	0.06
Measurement Grid									
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		
1	20	3.6%			6	120	8.4%		
2	40	4.7%			7	140	10.9%		
3	60	4.9%			8	160	12.1%		
4	80	6.5%			9	180	13.3%		
5	100	9.1%			10	200	14.7%		
								IEEE Controlled Limit	IEEE Uncontrolled Limit
								1.27	0.25
								RF Po (*Max)	120.0

BS-Position 3

Table 23

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.137	119.0	0.069	0.07
Measurement Grid									
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		
1	20	5.0%			6	120	9.5%		
2	40	6.3%			7	140	11.3%		
3	60	8.4%			8	160	13.6%		
4	80	9.0%			9	180	13.4%		
5	100	9.3%			10	200	11.2%		
								IEEE Controlled Limit	IEEE Uncontrolled Limit
								1.42	0.28
								RF Po (*Max)	120.0

BS-Position 3

Table 24

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.141	120.0	0.070	0.07
Measurement Grid									
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		
1	20	4.8%			6	120	10.3%		
2	40	5.5%			7	140	10.8%		
3	60	7.4%			8	160	10.9%		
4	80	9.5%			9	180	11.0%		
5	100	9.6%			10	200	10.0%		
								IEEE Controlled Limit	IEEE Uncontrolled Limit
								1.57	0.31
								RF Po (*Max)	120.0

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BS-Position 3

Table 25

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.153	117.0	0.077	0.08
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.2%		6	120	13.8%		1.27	0.25
2	40	4.1%		7	140	15.4%			
3	60	5.2%		8	160	17.4%			
4	80	7.0%		9	180	18.8%			
5	100	12.3%		10	200	23.6%			
								RF Po (*Max)	120.0

BS-Position 3

Table 26

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.211	119.0	0.105	0.11
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	6.1%		6	120	15.6%		1.42	0.28
2	40	8.1%		7	140	19.0%			
3	60	10.2%		8	160	19.1%			
4	80	14.5%		9	180	20.5%			
5	100	15.1%		10	200	20.4%			
								RF Po (*Max)	120.0

BS-Position 3

Table 27

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.161	120.0	0.081	0.08
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	6.3%		6	120	10.7%		1.57	0.31
2	40	7.6%		7	140	10.5%			
3	60	10.8%		8	160	10.3%			
4	80	11.5%		9	180	11.9%			
5	100	10.0%		10	200	13.4%			
								RF Po (*Max)	120.0

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Table 28

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.166	119.0	0.083	0.08
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	3.7%		6	120	10.2%		1.53	0.31
2	40	5.3%		7	140	12.3%			
3	60	6.2%		8	160	14.3%			
4	80	8.0%		9	180	21.0%			
5	100	8.2%		10	200	19.0%			
								RF Po (*Max)	120.0

BS-Position 4

Table 29

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.106	117.0	0.053	0.05
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	4.9%		6	120	11.1%		1.27	0.25
2	40	5.6%		7	140	10.1%			
3	60	6.2%		8	160	8.8%			
4	80	7.3%		9	180	9.8%			
5	100	10.3%		10	200	9.9%			
								RF Po (*Max)	120.0

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Table 30

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.113	119.0	0.057	0.06
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	4.7%		6	120	9.7%		1.42	0.28
2	40	5.7%		7	140	7.5%			
3	60	5.8%		8	160	7.7%			
4	80	8.9%		9	180	9.7%			
5	100	10.5%		10	200	9.8%			
								RF Po (*Max)	120.0

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Table 31

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.141	120.0	0.070	0.07
Measurement Grid									
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		
1	20	3.3%			6	120	12.4%		
2	40	4.1%			7	140	11.1%		
3	60	4.3%			8	160	12.3%		
4	80	8.3%			9	180	12.8%		
5	100	9.2%			10	200	12.0%		
								IEEE Controlled Limit	IEEE Uncontrolled Limit
								1.57	0.31
								RF Po (*Max)	120.0

BS-Position 4

Table 32

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.163	117.0	0.082	0.08
Measurement Grid									
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		
1	20	2.9%			6	120	16.1%		
2	40	11.3%			7	140	15.8%		
3	60	10.3%			8	160	14.4%		
4	80	11.6%			9	180	13.6%		
5	100	15.9%			10	200	16.8%		
								IEEE Controlled Limit	IEEE Uncontrolled Limit
								1.27	0.25
								RF Po (*Max)	120.0

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Table 33

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.172	119.0	0.086	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit			Test Position	Height (cm)	% of Control Limit		
1	20	3.3%			6	120	14.2%		
2	40	11.8%			7	140	9.9%		
3	60	12.0%			8	160	13.3%		
4	80	12.8%			9	180	13.2%		
5	100	14.0%			10	200	16.8%		
								IEEE Controlled Limit	IEEE Uncontrolled Limit
								1.42	0.28
								RF Po (*Max)	120.0

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Table 34

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.180	120.0	0.090	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	8.0%		6	120	12.2%		1.57	0.31
2	40	10.2%		7	140	11.5%			
3	60	8.7%		8	160	11.2%			
4	80	12.9%		9	180	12.6%			
5	100	12.4%		10	200	15.2%			
								RF Po (*Max)	120.0

BS-Position 4

Table 35

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.184	119.0	0.092	0.09
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	4.7%		6	120	12.0%		1.53	0.31
2	40	7.0%		7	140	11.3%			
3	60	9.0%		8	160	14.2%			
4	80	11.5%		9	180	18.3%			
5	100	12.6%		10	200	19.6%			
								RF Po (*Max)	120.0

BS-Position 5

Table 36

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.40	0.131	117.0	0.066	0.07
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	12.3%		1.27	0.25
2	40	0.5%		7	140	14.4%			
3	60	1.9%		8	160	17.0%			
4	80	10.3%		9	180	18.0%			
5	100	11.1%		10	200	17.3%			
								RF Po (*Max)	120.0

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Table 37

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6012A	2.15	90	E	1.33	0.050	119.0	0.025	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.2%		6	120	2.1%		1.42	0.28
2	40	1.1%		7	140	2.4%			
3	60	1.1%		8	160	2.6%			
4	80	1.2%		9	180	11.4%			
5	100	1.2%		10	200	12.1%			
								RF Po (*Max)	120.0

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Table 38

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4003A	2.15	90	E	1.26	0.092	120.0	0.046	0.05
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	1.0%		6	120	3.4%		1.57	0.31
2	40	1.0%		7	140	9.5%			
3	60	1.0%		8	160	12.6%			
4	80	1.6%		9	180	11.9%			
5	100	2.7%		10	200	13.8%			
								RF Po (*Max)	120.0

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Table 39

External Vehicle MPE Assessment @ 380.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.40	0.057	117.0	0.028	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.3%		6	120	4.3%		1.27	0.25
2	40	1.0%		7	140	6.8%			
3	60	1.2%		8	160	7.4%			
4	80	1.5%		9	180	8.7%			
5	100	4.0%		10	200	9.5%			
								RF Po (*Max)	120.0

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Table 40

External Vehicle MPE Assessment @ 425.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.33	0.048	119.0	0.024	0.02
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.8%		6	120	3.2%		1.42	0.28
2	40	0.8%		7	140	4.4%			
3	60	1.2%		8	160	4.9%			
4	80	2.9%		9	180	6.1%			
5	100	3.6%		10	200	5.9%			
								RF Po (*Max)	120.0

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Table 41

External Vehicle MPE Assessment @ 469.9875 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE6013A	4.15	90	E	1.26	0.053	120.0	0.027	0.03
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.1%		6	120	3.1%		1.57	0.31
2	40	0.8%		7	140	4.8%			
3	60	1.0%		8	160	5.8%			
4	80	1.7%		9	180	6.9%			
5	100	2.1%		10	200	7.7%			
								RF Po (*Max)	120.0

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Table 42

External Vehicle MPE Assessment @ 460.0125 MHz									
Antenna Location	Antenna Model	Gain (dBi)	Meas. Distance (cm)	E/H Field	Calibration Factor	Average over Body (mW/cm ²)	Initial Power (W)	Pwr. Density Calc. (mW/cm ²)	Pwr. Density Max Calc. (mW/cm ²)
Roof (cnt)	HAE4011A	5.65	90	E	1.28	0.076	119.0	0.038	0.04
Measurement Grid									
Test Position	Height (cm)	% of Control Limit		Test Position	Height (cm)	% of Control Limit		IEEE Controlled Limit	IEEE Uncontrolled Limit
1	20	0.2%		6	120	4.8%		1.53	0.31
2	40	0.4%		7	140	7.5%			
3	60	1.1%		8	160	8.8%			
4	80	1.8%		9	180	10.2%			
5	100	2.7%		10	200	12.3%			
								RF Po (*Max)	120.0