

**MOTOROLA SOLUTIONS**

SAMM No.0826



CERTIFICATE 2518.05

**DECLARATION OF COMPLIANCE: MPE ASSESSMENT****Motorola Solutions Inc.  
EME Test Laboratory**

Motorola Solutions Malaysia Sdn Bhd (Innoplex)  
Plot 2A, Medan Bayan Lepas,  
Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

**Date of Report:** 08/13/2019  
**Report Revision:** A

**Responsible Engineer:** Saw Sun Hock (EME Engineer)  
**Report author:** Saw Sun Hock (EME Engineer)  
**Date(s) Tested:** 4/23/2019 - 4/24/2019, 5/7/2019, 5/9/2019, 5/13/2019 - 5/14/2019, 5/29/2019  
**Manufacturer:** Motorola Solutions Inc.  
**Date submitted for test:** 04/12/2019  
**DUT Description:** APX6500 7/800MHz - Multiple HW Encryption WiFi Interoperability Data Modem Tethering via WiFi or Cable  
**Test TX mode(s):** CW  
**Max. Power output:** 36W (762-805 MHz), 42W (806-870 MHz); 11.22 mW (Bluetooth); 6.3 mW (Bluetooth LE); 39.8 mW (WLAN 2.4GHz 802.11b), 15.8 mW (WLAN 2.4GHz 802.11g), 12.6mW (WLAN 2.4GHz 802.11n); 15.8mW (WLAN 5GHz 802.11a/n/ac)  
**TX Frequency Bands:** 762-806 MHz; 806-870 MHz; WLAN 2412-2462 MHz; WLAN 5180-5825 MHz; BT 2402-2480 MHz  
**Signaling type:** FM, TDMA, FHSS (Bluetooth), 802.11b/g/n (WLAN 2.4 GHz), 802.11 a/n/ac (WLAN 5 GHz)  
**Model(s) Tested:** M25URS9PW1BN (PMUF1969A)  
**Model(s) Certified:** M25URS9PW1BN (PMUF1969A), M22URS9PW1BN (PMUF1969A), M24URS9PW1BN (PMUF1969A), M36URS9PW1BN (PMUF1969A),  
**Serial Number(s):** 471TVF3314  
**Classification:** Occupational/Controlled Environment  
**FCC ID:** AZ492FT7124  
 769-775 MHz, 799-824 MHz, 851-869 MHz, 2402-2480 MHz, 2412-2462 MHz;  
 5180-5825 MHz  
 This report contains results that are immaterial for FCC equipment approval, which are clearly identified.  
**IC:** 109U-92FT7124  
 This report contains results that are immaterial for ISED Canada equipment approval, which are clearly identified.

The MPE results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits. FCC rules require compliance for Passengers and Bystanders to the FCC General Population/Uncontrolled limits. The test results clearly demonstrate compliance with ICNIRP Guidelines for limiting exposure in time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz).

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 4.0 of this report (no deviation from standard methods). This report shall not be reproduced without written approval from an officially designated representative of the Motorola Solutions Inc. EME Laboratory.

I attest to the accuracy of the data and assume full responsibility for the completeness of these measurements.

This reporting format is consistent with the suggested guidelines of the TIA TSB-159 April 2006

The results and statements contained in this report pertain only to the device(s) evaluated herein.

*Tiong***Tiong Nguk Ing****Deputy Technical Manager (Approved Signatory)****Approval Date: 8/16/2019**

**Document Revision History**

| <b>Date</b> | <b>Revision</b> | <b>Comments</b> |
|-------------|-----------------|-----------------|
| 08/13/2019  | A               | Initial release |

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## 1.0 Introduction

This report details the test setup, test equipment and test results of Maximum Permissible Exposure (MPE) performed at Motorola Solutions' outside test site for product model M25URS9PW1BN (PMUF1969A).

## 2.0 FCC MPE Summary

**Table 1**

| Equipment Class                                     | Frequency band (MHz)                  | Trunk Mounted Antennas              |                         |                                     |                         | Roof Mounted Antennas               |                         |                                     |                         |
|-----------------------------------------------------|---------------------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|
|                                                     |                                       | Passenger                           |                         | Bystander                           |                         | Passenger                           |                         | Bystander                           |                         |
|                                                     |                                       | Power Density (mW/cm <sup>2</sup> ) | Percentage of Limit (%) | Power Density (mW/cm <sup>2</sup> ) | Percentage of Limit (%) | Power Density (mW/cm <sup>2</sup> ) | Percentage of Limit (%) | Power Density (mW/cm <sup>2</sup> ) | Percentage of Limit (%) |
| TNB                                                 | 769-775; 799-824; 851-869 (LMR 7/800) | 0.126                               | 23.6                    | 0.132                               | 23.2                    | 0.029                               | 5.5                     | 0.075                               | 14.1                    |
| DTS                                                 | 2412 – 2462 (WLAN 2.4 GHz)            | 0.019                               | 1.90                    | 0.019                               | 1.90                    | 0.019                               | 1.90                    | 0.019                               | 1.90                    |
| NII                                                 | 5180 - 5825 (WLAN 5 GHz)              | 0.005                               | 0.46                    | 0.005                               | 0.46                    | 0.005                               | 0.46                    | 0.005                               | 0.46                    |
| DSS                                                 | 2402-2480 (Bluetooth)                 | 0.005                               | 0.54                    | 0.005                               | 0.54                    | 0.005                               | 0.54                    | 0.005                               | 0.54                    |
| Simultaneous (Highest Combined Percentage of Limit) |                                       |                                     | 25.5                    |                                     | 25.1                    |                                     | 7.4                     |                                     | 16.0                    |

## 3.0 Abbreviations / Definitions

BT: Bluetooth  
 CNR: Calibration Not Required  
 CW: Continuous Wave  
 DUT: Device Under Test  
 EME: Electromagnetic Energy  
 FHSS: Frequency Hopping Spread Spectrum  
 FM: Frequency Modulation  
 MPE: Maximum Permissible Exposure  
 GPS: Global Positioning System  
 LMR: Land Mobile Radio  
 NA: Not Applicable  
 BS: Bystander  
 PB: Passenger Back seat  
 PF: Passenger Front seat  
 PTT: Push to Talk  
 WLAN: Wireless Local Area Network  
 TDMA: Time Division Multiple Access

#### 4.0 Referenced Standards and Guidelines

This product is designed to comply with the following applicable national and international standards and guidelines.

- United States Federal Communications Commission, Code of Federal Regulations; Rule Part 47CFR § 1.1310, § 2.1091 (d) and § 2.1093 for RF Exposure, where applicable.
- Federal Communications Commission, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields”, OET Bulletin 65 (Edition 97-01), FCC, Washington, D.C.: August 1997.
- American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE) C95. 1-1999
- American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE) C95. 1-1992. Specific to FCC rules and regulations.
- Institute of Electrical and Electronics Engineers (IEEE) C95.3-2002
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6 (2015), Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz
- RSS-102 (Issue 5) – Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)
- FCC KDB – 447498 D01 General RF Exposure Guidance v06
- FCC KDB – 865664 D02 RF Exposure Reporting v01r02

#### 5.0 Power Density Limits

**Table 2 – Occupational / Controlled Exposure Limits**

| Frequency Range (MHz) | FCC OET Bulletin 65<br>mW/cm <sup>2</sup> | ICNIRP<br>W/m <sup>2</sup> | IEEE C95.1 1992/1999<br>mW/cm <sup>2</sup> | IEEE C95.1 2005<br>W/m <sup>2</sup> | RSS-102 Issue 5 2015<br>W/m <sup>2</sup> |
|-----------------------|-------------------------------------------|----------------------------|--------------------------------------------|-------------------------------------|------------------------------------------|
| 10 – 20               |                                           |                            |                                            |                                     | 10.0                                     |
| 20 – 48               |                                           |                            |                                            |                                     | $44.72 / f^{0.5}$                        |
| 30 – 300              | 1.0                                       |                            |                                            |                                     |                                          |
| 48 – 100              |                                           |                            |                                            |                                     | 6.455                                    |
| 10 – 400              |                                           | 10.0                       |                                            |                                     |                                          |
| 100 – 300             |                                           |                            | 1.0                                        | 10.0                                |                                          |
| 100 – 6,000           |                                           |                            |                                            |                                     | $0.6455 f^{0.5}$                         |
| 300 – 1,500           | $f/300$                                   |                            |                                            |                                     |                                          |

**Table 2 – Occupational / Controlled Exposure Limits (Con't.)**

| Frequency Range (MHz) | FCC OET Bulletin 65 | ICNIRP           | IEEE C95.1 1992/1999 | IEEE C95.1 2005  | RSS-102 Issue 5 2015    |
|-----------------------|---------------------|------------------|----------------------|------------------|-------------------------|
|                       | mW/cm <sup>2</sup>  | W/m <sup>2</sup> | mW/cm <sup>2</sup>   | W/m <sup>2</sup> | W/m <sup>2</sup>        |
| 300 – 3,000           |                     |                  | f/300                | f/30             |                         |
| 400 – 2,000           |                     | f/40             |                      |                  |                         |
| 1,500 – 15,000        |                     |                  |                      |                  |                         |
| 1,500 – 100,000       | 5.0                 |                  |                      |                  |                         |
| 2,000 – 300,000       |                     | 50.0             |                      |                  |                         |
| 3,000 – 300,000       |                     |                  | 10.0                 | 100.0            |                         |
| 6,000 – 15,000        |                     |                  |                      |                  | 50.0                    |
| 15000 – 150,000       |                     |                  |                      |                  | 50.0                    |
| 150000 – 300,000      |                     |                  |                      |                  | $3.33 \times 10^{-4} f$ |

**Table 3 – General Population / Uncontrolled Exposure Limits**

| Frequency Range (MHz) | FCC OET Bulletin 65 | ICNIRP           | IEEE C95.1 1992/1999 | IEEE C95.1 2005  | RSS-102 Issue 5 2015    |
|-----------------------|---------------------|------------------|----------------------|------------------|-------------------------|
|                       | mW/cm <sup>2</sup>  | W/m <sup>2</sup> | mW/cm <sup>2</sup>   | W/m <sup>2</sup> | W/m <sup>2</sup>        |
| 10 – 20               |                     |                  |                      |                  | 2.0                     |
| 20 – 48               |                     |                  |                      |                  | $8.944 / f^{0.5}$       |
| 30 – 300              | 0.2                 |                  |                      |                  |                         |
| 48 – 300              |                     |                  |                      |                  | 1.291                   |
| 10 – 400              |                     | 2.0              |                      |                  |                         |
| 100 – 300             |                     |                  | 0.2                  |                  |                         |
| 100 – 400             |                     |                  |                      | 2.0              |                         |
| 300 – 1,500           | f/1,500             |                  |                      |                  |                         |
| 300 – 6000            |                     |                  |                      |                  | $0.02619 f^{0.6834}$    |
| 400 – 2,000           |                     | f/200            |                      | f/200            |                         |
| 300 – 15,000          |                     |                  | f/1,500              |                  |                         |
| 1,500 – 15,000        |                     |                  |                      |                  |                         |
| 1,500 – 100,000       | 1.0                 |                  |                      |                  |                         |
| 2,000 – 100,000       |                     |                  |                      | 10.0             |                         |
| 2,000 – 300,000       |                     | 10.0             |                      |                  |                         |
| 6,000 – 15,000        |                     |                  |                      |                  | 10.0                    |
| 15,000 – 150,000      |                     |                  |                      |                  | 10.0                    |
| 150,000 – 300,000     |                     |                  |                      |                  | $6.67 \times 10^{-5} f$ |

## 6.0 $N_c$ Test Channels

The number of test channels is determined by using Equation 1 below. This equation is available in FCC's KDB 447498. The test channels are appropriately spaced across the antenna's frequency range.

### Equation 1 – Number of test channels

$$N_c = \text{Round} \{ [100(f_{\text{high}} - f_{\text{low}})/f_c]^{0.5} \times (f_c / 100)^{0.2} \}$$

where  $N_c$  is the number of test channels,  $f_{\text{high}}$  and  $f_{\text{low}}$  are the highest and lowest frequencies within the transmission band,  $f_c$  is the mid-band frequency, and frequencies are in MHz.

## 7.0 Measurement Equipment

**Table 4 – Equipment**

| Equipment Type  | Model #           | SN       | Calibration Date | Calibration Due Date |
|-----------------|-------------------|----------|------------------|----------------------|
| Automobile      | Volvo 240-1988    | NA       | NA               | NA                   |
| Survey Meter    | ETS Model HI-2200 | 00086316 | 07/02/2018       | 07/02/2019           |
| Probe – E-Field | ETS Model E100    | 00206767 |                  |                      |

E-field measurements are in mW/cm<sup>2</sup>.

## 8.0 Measurement System Uncertainty Levels

**Table 5 – Uncertainty Budget for Near Field Probe Measurements**

|                                                       | Tol.<br>(±<br>%) | Prob.<br>Dist. | Divisor | $u_i$<br>(±%) |        | $v_i$ |
|-------------------------------------------------------|------------------|----------------|---------|---------------|--------|-------|
| <b>Measurement System</b>                             |                  |                |         |               |        |       |
| Probe Calibration                                     | 7.1              | N              | 1.00    | 7.1           | 50.4   | ∞     |
| Survey Meter Calibration                              | 0.0              | N              | 1.00    | 0.0           | 0.0    | ¥     |
| Hemispherical Isotropy                                | 8.0              | R              | 1.73    | 4.6           | 21.33  | ∞     |
| Linearity                                             | 5.0              | R              | 1.73    | 2.9           | 8.33   | ∞     |
| Pulse Response                                        | 1.0              | R              | 1.73    | 0.6           | 0.33   | ∞     |
| RF Ambient Noise                                      | 3.0              | R              | 1.73    | 1.7           | 3.00   | ∞     |
| RF Reflections                                        | 8.0              | R              | 1.73    | 4.6           | 21.33  | ∞     |
| Probe Positioning                                     | 10.0             | R              | 1.73    | 5.8           | 33.333 | ∞     |
| <b>Test sample Related</b>                            |                  |                |         |               | 0.00   |       |
| Antenna Positioning                                   | 3.0              | N              | 1.00    | 3.0           | 9.0    | ∞     |
| Power drift                                           | 5.0              | R              | 1.73    | 2.9           | 8.33   | ∞     |
| Bystander measurement uncertainty                     | 4.8              | N              | 1.00    | 4.8           | 23.04  | ∞     |
| Passenger measurement uncertainty                     | 8.1              | N              | 1.00    | 8.1           | 65.61  | ∞     |
| <b>Combined Standard Uncertainty</b>                  |                  | RSS            |         | 15.6          | 15.6   | ∞     |
| <b>Expanded Uncertainty</b><br>(95% CONFIDENCE LEVEL) |                  | $k=2$          |         | 31            | 31     |       |

## 9.0 Product and System Description

This mobile device operates in the LMR bands using either frequency modulation (FM) with 100% transmit duty cycle or TDMA signals with maximum of 50% transmit duty cycle. For conservative assessment, FM signal was tested. A duty factor of 50% applies for PTT operation mode.

This device also incorporates a Class 1 Bluetooth device which is a Frequency Hopping Spread Spectrum (FHSS) technology. The Bluetooth radio modem is used to wireless link audio accessories. The maximum actual transmission duty cycle is imposed by the Bluetooth standard. The maximum duty cycle for BT is 100%. Bluetooth Low Energy (BT LE) intended to reduce power consumption.

This device also contains WLAN technology for data capabilities over 802.11b/g/n 2.4 GHz and 802.11 a/n/ac 5 GHz wireless networks.

Table 6 below summarizes the technologies, bands, maximum duty cycles and maximum output powers. Maximum output powers are defined as upper limit of the production line final test station.

**Table 6**

| Technologies | Bands (MHz)                    |         | Duty Cycle (%) | Max Power (W)    |
|--------------|--------------------------------|---------|----------------|------------------|
| LMR          | 762-805 ; 806-870 (7/800 band) | 762-805 | 50 (PTT)       | 36               |
|              |                                | 806-870 | 50 (PTT)       | 42               |
| BT           | 2402-2480                      |         | 100            | 0.0112           |
| BT LE        | 2402-2480                      |         | 100            | 0.0063           |
| WLAN         | 2400 – 2462 (802.11b/g/n)      |         | 100            | 0.0398 (802.11b) |
|              |                                |         |                | 0.0158 (802.11g) |
|              |                                |         |                | 0.0126 (802.11n) |
|              | 5180-5825 (802.11 a/n/ac)      |         | 100            | 0.0158           |

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 “Bystanders” as used herein are people other than operator)



## 10.0 Additional Options and Accessories

Not available.

## 11.0 Test Set-Up Description

Assessments were performed with mobile radio installed in the test vehicle, at the specified distances and test locations indicated in sections 12.0, 13.0 and Appendix A.

All antennas described in Table 7 were considered in order to develop the test plan for this product. Antennas were installed and tested per their appropriate mount locations (Roof / Trunk) and defined test channels.

The system was tested using a low-loss 16' Teflon RG58A/U cable attaching the radio to the transmit antenna. This cable is shorter and lower attenuation than the 17' RG58A/U cables supplied in the customer kits for connecting the radio to the transmit antenna. The cable used in the test setup also has lower attenuation over the test frequency range than the cable provided in the customer kits. The use of a shorter cable with lower attenuation in the test setup ensures that the test data is more conservative with regards to the actual installation. Cable losses are reported in Appendix A.

## 12.0 Method of Measurement with trunk mounted antenna(s)

### 12.1 External/Bystander vehicle MPE measurements

Initially the antenna is located at the center of the trunk. Refer to Appendix A for antenna location and distance.

MPE measurements for bystander (BS) conditions are determined by taking the average of (10) measurements in a 2 m vertical line for each of the (3) bystander test locations indicated in Appendix A with 20 cm height increments, with the distance between the antenna and the geometric center of the probe sensor equal to 60 cm (for 7/800 band). The measurement probe is positioned orthogonal to antenna (typically parallel to ground with a vertically mounted antenna) and aimed directly at the antenna's axis. These measurements are representative of persons other than the operator standing next to the vehicle.

Each of the offered antennas mounted at the center of the trunk were assessed at the rear of the vehicle while maintaining a minimum of twenty (20) centimeter separation distance between the probe sensor and vehicle body. The worst case antenna was then tested at a 45° radial at the corner of the trunk, and 90° radial at the side of the trunk.

Tests for the 90° radial direction were conducted with the antenna displaced towards the "bystander on the side of the trunk" test location in order to attain 60 cm (42 cm antenna displacement) distances from that test location. In this way, the antenna is closer to the test location, and the MPE is higher, than it would be if the antenna was left at the center of the trunk

## 12.2 Internal/Passenger vehicle MPE measurements

Antenna is located toward the center of the trunk at a minimum 85 cm from backseat passenger. Users are instructed, per installation manual, to mount antennas on the roof only if a minimum 85cm cannot be achieved. Refer to Appendix A for antenna location and distance.

MPE measurements for passenger front seat (PF) and backseat (PB) conditions are determined by taking the average of the (3) measurements (Head, Chest, and Lower Trunk) inside the vehicle for both the front and back seats.

The backseat is a bench seat and therefore each position (Head, Chest & Lower Trunk) were scanned across (horizontally) the seat starting from the middle of the seat to the edge of the seat stopping 20 cm from the vehicle door. Similar process was used in the front bucket seat.

The probe handle is oriented parallel (horizontal) to the ground and pointed towards the back of the vehicle. The probe handle is not oriented normal to the seat surface. The probe head (incorporating the field sensors) is scanned continuously (using the max-hold function available in the meter) along three test axes which are parallel to the seat angle (intended as the line determined by the intersection of the plane of the seat and the plane of the backrest) and are 20 cm from the seat surface. One test axis is at the Head height, another is at the Chest height, and another is at the Lower Trunk height. The maximum field level value recorded for each test axis is logged. The MPE is determined by averaging these three maximum values regardless of the geometrical location where they were observed. For instance, the locations of the three maxima may lie on different vertical (relative to ground) lines.

This approach leads to results that are representative of the exposure of vehicle occupants since it is based on an average across the body portions closest to the antenna for both trunk and roof mount positions, and is conservatively biased because the highest results for each test axis are combined, e.g. the highest head exposure could be in the middle of the seat while the highest lower trunk exposure could be closer to the door.

### **13.0 Method of Measurement with roof mounted antenna(s)**

#### **13.1 External/Bystander vehicle MPE measurements**

Antenna is located at the center of the roof. Refer to Appendix A for antenna location and distance.

MPE measurements for bystander (BS) conditions are determined by taking the average of (10) measurements in a 2m vertical line for the test location indicated in Appendix A with 20 cm height increments, with the distance between the antenna and the geometric center of the probe sensor equal to 60 cm (for 7/800 band). The measurement probe is positioned orthogonal to antenna (typically parallel to ground with a vertically mounted antenna) and aimed directly at the antenna's axis. These measurements are representative of persons other than the operator standing next to the vehicle.

**Note: Actual test distance for 7/800 band was approximately 105cm from roof mounted antenna to the measurement probe. This is the closet distance that can be achieved to maintain minimum 20cm separation between probe sensor and vehicle body used for MPE compliance assessment herein.**

#### **13.2 Internal/Passenger vehicle MPE measurements**

Antenna is located at the center of the roof. Refer to Appendix A for antenna location and distance.

MPE measurements for passenger front seat (PF) and backseat (PB) conditions are determined by taking the average of the (3) measurements (Head, Chest, and Lower Trunk) inside the vehicle for both the front and back seats.

The backseat is a bench seat and therefore each position (Head, Chest & Lower Trunk) were scanned across (horizontally) the seat starting from the middle of the seat to the edge of the seat stopping 20 cm from the vehicle door. Similar process was used in the front bucket seat.

The probe handle is oriented parallel (horizontal) to the ground and pointed towards the back of the vehicle. The probe handle is not oriented normal to the seat surface. The probe head (incorporating the field sensors) is scanned continuously (using the max-hold function available in the meter) along three test axes which are parallel to the seat angle (intended as the line determined by the intersection of the plane of the seat and the plane of the backrest) and are 20 cm from the seat surface. One test axis is at the Head height, another is at the Chest height, and another is at the Lower Trunk height. The maximum field level value recorded for each test axis is logged. The MPE is determined by averaging these three maximum values regardless of the geometrical location where they were observed. For instance, the locations of the three maxima may lie on different vertical (relative to ground) lines.

This approach leads to results that are representative of the exposure of vehicle occupants since it is based on an average across the body portions closest to the antenna for both trunk and roof mount positions, and is conservatively biased because the highest results for each test axis are combined, e.g. the highest head exposure could be in the middle of the seat while the highest lower trunk exposure could be closer to the door.

## 14.0 MPE Calculations

The final MPE results for this mobile radio are presented in section 16.0. These results are based on 50% duty cycle for PTT for LMR bands.

Below is an explanation of how the MPE results are calculated. Refer to Appendix D for MPE measurement results and calculations for LMR band.

External to vehicle (Bystander) - 10 measurements are averaged over the body (*Avg\_over\_body*).

Internal to vehicle (Passengers) - 3 measurements are averaged over the body (*Avg\_over\_body*).

The Average over Body test methodology is consistent with IEEE/ANSI C95.3-2002 guidelines.

Therefore;

### Equation 2 – Power Density Calculation (*Calc. P.D.*)

$$\text{Calc. P.D.} = (\text{Avg\_over\_body}) * (\text{probe\_frequency\_cal\_factor}) * (\text{duty\_cycle})$$

*Note 1: The highest “average” cal factors from the calibration certificates were selected for the applicable frequency range. Linear interpretation was used to determine “probe\_frequency\_cal\_factor” for the specific test frequencies.*

*Note 2: The E-field probe calibration certificate’s frequency cal factors were determined by measuring V/m. The survey meter’s results were measured in power density (mW/cm<sup>2</sup>) and therefore the “probe\_frequency\_cal\_factor” was squared in equation 2 to account for these results.*

*Note 3: The H-field probe calibration certificate’s frequency cal factors were determined by measuring A/m. The survey meter’s results were measured in A/m and therefore the “Avg\_over\_body” A/m results were converted to power density (mW/cm<sup>2</sup>) using the equation 3. H-field measurements are only applicable to frequencies below 300MHz.*

### Equation 3 – Converting A/m to mW/cm<sup>2</sup>

$$\text{mW/cm}^2 = (\text{A/m})^2 * 37.699$$

### Equation 4 – Power Density Maximum Calculation

$$\text{Max\_Calc. P.D.} = \text{P.D.}_{\text{calc}} * \frac{\text{max\_output\_power}}{\text{initial\_output\_power}}$$

*Note 4: For initial output power > max\_output\_power; max\_output\_power / initial output power = 1*

## 15.0 Antenna Summary

Table below summarizes the tested or evaluated antennas and their descriptions, mount location (roof/trunk), overlap of FCC bands, number of test channels per FCC KDB 447498 (FCC N<sub>c</sub>) and actual number of tested channels (Actual N<sub>c</sub>). This information was used to determine the test configurations presented in this report.

**Table 7**

| Antenna No.    | Antenna Model | Frequency Range (MHz) | Physical Length (cm) | Gain (dBi) | Remarks  | Mount Location (Roof/Trunk) | Overlap FCC Bands (MHz)         | FCC N <sub>c</sub> | Actual N <sub>c</sub> |
|----------------|---------------|-----------------------|----------------------|------------|----------|-----------------------------|---------------------------------|--------------------|-----------------------|
| 1              | HAF4013A      | 762-870               | 6.1                  | 5.15       | 1/4 wave | R/T                         | 769-775;<br>799-824;<br>851-869 | 9                  | 11                    |
| 2              | HAF4014A      | 762-870               | 57.7                 | 5.15       | 1/4 wave | R/T                         | 769-775;<br>799-824;<br>851-869 | 9                  | 11                    |
| 3              | HAF4016A      | 762-870               | 9                    | 2.15       | 1/4 wave | R/T                         | 769-775;<br>799-824;<br>851-869 | 9                  | 11                    |
| 4              | HAF4017A      | 762-870               | 34.5                 | 5.15       | 1/4 wave | R/T                         | 769-775;<br>799-824;<br>851-869 | 9                  | 11                    |
| <b>BT/WLAN</b> |               |                       |                      |            |          |                             |                                 |                    |                       |
| 5              | PMAN5100A     | 2400-2500             | 5.7 (L) x 1.9 (W)    | 6          |          | Glass mount                 | 2412-2462                       | 3                  | 3                     |
| 6              | PMAN5101A     | 2400-2500 / 4900-5900 | 5.4 (L) x 1.32 (W)   | 6 / 3.2    |          | Glass mount                 | 2412-2462 ; 5180-5825           | 3                  | 3                     |
| 7              | AN000163A01   | 2400-2500 / 4900-5900 | 7                    | 5.15       | Monopole | Roof/Trunk                  | 2412-2462 ; 5180-5825           | 3                  | 3                     |
| 8              | AN000163A05   | 2400-2500 / 4900-5900 | 7                    | 5.15       | Monopole | Roof/Trunk                  | 2412-2462 ; 5180-5825           | 3                  | 3                     |

## 16.0 Test Results Summary

### 16.1 MPE Test Results Summary for LMR

**Table 8**

MPE assessment for LMR 7/800 band - trunk mounted antenna – Bystander

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results highlight in yellow are configurations with highest percentage of limits

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Trunk          | BS               | E            | 0                 | HAF4013A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.094                                             | 0.51         | 18.5                         | 0.38            | 24.7                            | 0.24          | 38.5                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.093                                             | 0.51         | 18.1                         | 0.38            | 24.2                            | 0.25          | 37.8                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.094                                             | 0.51         | 18.4                         | 0.39            | 24.5                            | 0.25          | 38.4                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.101                                             | 0.52         | 19.5                         | 0.39            | 26.0                            | 0.25          | 40.7                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.106                                             | 0.53         | 20.0                         | 0.40            | 26.7                            | 0.25          | 42.2                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.100                                             | 0.53         | 18.7                         | 0.40            | 24.9                            | 0.25          | 39.5                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.108                                             | 0.54         | 19.9                         | 0.41            | 26.6                            | 0.25          | 42.3                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.114                                             | 0.55         | 20.8                         | 0.41            | 27.7                            | 0.26          | 44.3                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.090                                             | 0.57         | 15.9                         | 0.43            | 21.1                            | 0.26          | 34.2                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.099                                             | 0.57         | 17.3                         | 0.43            | 23.0                            | 0.27          | 37.4                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.088                                             | 0.58         | 15.2                         | 0.43            | 20.3                            | 0.27          | 33.0                          |
|                |                  |              |                   | HAF4014A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.080                                             | 0.51         | 15.8                         | 0.38            | 21.1                            | 0.24          | 32.9                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.079                                             | 0.51         | 15.5                         | 0.38            | 20.6                            | 0.25          | 32.3                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.080                                             | 0.51         | 15.6                         | 0.39            | 20.8                            | 0.25          | 32.6                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.087                                             | 0.52         | 16.9                         | 0.39            | 22.5                            | 0.25          | 35.2                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.098                                             | 0.53         | 18.5                         | 0.40            | 24.7                            | 0.25          | 39.1                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.088                                             | 0.53         | 16.5                         | 0.40            | 22.0                            | 0.25          | 34.8                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.093                                             | 0.54         | 17.2                         | 0.41            | 22.9                            | 0.25          | 36.5                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.117                                             | 0.55         | 21.2                         | 0.41            | 28.3                            | 0.26          | 45.3                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.132                                             | 0.57         | 23.2                         | 0.43            | 30.9                            | 0.26          | 50.0                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.124                                             | 0.57         | 21.7                         | 0.43            | 28.9                            | 0.27          | 46.9                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.131                                             | 0.58         | 22.6                         | 0.43            | 30.1                            | 0.27          | 49.0                          |
|                |                  |              |                   | HAF4016A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.110                                             | 0.51         | 21.6                         | 0.38            | 28.8                            | 0.24          | 44.9                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.109                                             | 0.51         | 21.3                         | 0.38            | 28.4                            | 0.25          | 44.4                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.107                                             | 0.51         | 20.8                         | 0.39            | 27.7                            | 0.25          | 43.4                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.111                                             | 0.52         | 21.4                         | 0.39            | 28.5                            | 0.25          | 44.8                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.117                                             | 0.53         | 22.0                         | 0.40            | 29.4                            | 0.25          | 46.5                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.111                                             | 0.53         | 20.8                         | 0.40            | 27.8                            | 0.25          | 44.0                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.094                                             | 0.54         | 17.4                         | 0.41            | 23.3                            | 0.25          | 37.0                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.093                                             | 0.55         | 16.9                         | 0.41            | 22.5                            | 0.26          | 36.0                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.074                                             | 0.57         | 13.0                         | 0.43            | 17.3                            | 0.26          | 28.0                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.083                                             | 0.57         | 14.5                         | 0.43            | 19.3                            | 0.27          | 31.3                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.069                                             | 0.58         | 12.0                         | 0.43            | 16.0                            | 0.27          | 26.0                          |

**Table 8 (Continued)**

MPE assessment for LMR 7/800 band - trunk mounted antenna – Bystander

Notes:

Blue fonts: Frequencies not regulated by FCC.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                        | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm^2) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|-----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Trunk          | BS               | E            | 0                 | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 36.0              | 35.2                  | 762.0125         | 0.095                                 | 0.51         | 18.6                         | 0.38            | 24.9                            | 0.24          | 38.8                          |
|                |                  |              |                   |                                         |                   | 35.2                  | 769.0125         | 0.096                                 | 0.51         | 18.8                         | 0.38            | 25.0                            | 0.25          | 39.2                          |
|                |                  |              |                   |                                         |                   | 35.0                  | 772.0000         | 0.092                                 | 0.51         | 17.8                         | 0.39            | 23.7                            | 0.25          | 37.2                          |
|                |                  |              |                   |                                         |                   | 34.9                  | 774.9875         | 0.095                                 | 0.52         | 18.4                         | 0.39            | 24.5                            | 0.25          | 38.5                          |
|                |                  |              |                   |                                         |                   | 34.6                  | 794.0125         | 0.100                                 | 0.53         | 18.8                         | 0.40            | 25.1                            | 0.25          | 39.6                          |
|                |                  |              |                   |                                         |                   | 35.5                  | 799.0125         | 0.093                                 | 0.53         | 17.6                         | 0.40            | 23.4                            | 0.25          | 37.1                          |
|                |                  |              |                   |                                         | 42.0              | 42.0                  | 811.5000         | 0.079                                 | 0.54         | 14.6                         | 0.41            | 19.5                            | 0.25          | 31.1                          |
|                |                  |              |                   |                                         |                   | 40.8                  | 823.9875         | 0.085                                 | 0.55         | 15.4                         | 0.41            | 20.5                            | 0.26          | 32.9                          |
|                |                  |              |                   |                                         |                   | 41.8                  | 851.0125         | 0.066                                 | 0.57         | 11.6                         | 0.43            | 15.5                            | 0.26          | 25.1                          |
|                |                  |              |                   |                                         |                   | 41.1                  | 860.5000         | 0.070                                 | 0.57         | 12.2                         | 0.43            | 16.3                            | 0.27          | 26.4                          |
|                |                  |              |                   |                                         |                   | 41.1                  | 868.9875         | 0.057                                 | 0.58         | 9.8                          | 0.43            | 13.1                            | 0.27          | 21.3                          |
|                |                  |              |                   |                                         |                   |                       |                  |                                       |              |                              |                 |                                 |               |                               |
|                |                  |              | 45                | HAF4014A,<br>1/4 Wave,<br>(762-870MHz)  | 42.0              | 41.8                  | 851.0125         | 0.045                                 | 0.57         | 7.9                          | 0.43            | 10.6                            | 0.26          | 17.1                          |
|                |                  |              | 90                | HAF4014A,<br>1/4 Wave,<br>(762-870MHz)  | 42.0              | 41.8                  | 851.0125         | 0.104                                 | 0.57         | 18.4                         | 0.43            | 24.5                            | 0.26          | 39.6                          |

**Table 9****MPE assessment for LMR 7/800 band - roof mounted antenna – Bystander**

Notes:

Blue fonts: Frequencies not regulated by FCC.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Roof           | BS               | E            | 0                 | HAF4013A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.045                                             | 0.51         | 8.8                          | 0.38            | 11.7                            | 0.24          | 18.3                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.045                                             | 0.51         | 8.8                          | 0.38            | 11.7                            | 0.25          | 18.3                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.049                                             | 0.51         | 9.5                          | 0.39            | 12.6                            | 0.25          | 19.8                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.048                                             | 0.52         | 9.3                          | 0.39            | 12.4                            | 0.25          | 19.5                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.054                                             | 0.53         | 10.1                         | 0.40            | 13.5                            | 0.25          | 21.3                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.055                                             | 0.53         | 10.3                         | 0.40            | 13.8                            | 0.25          | 21.8                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.047                                             | 0.54         | 8.7                          | 0.41            | 11.6                            | 0.25          | 18.4                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.056                                             | 0.55         | 10.2                         | 0.41            | 13.5                            | 0.26          | 21.7                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.044                                             | 0.57         | 7.7                          | 0.43            | 10.2                            | 0.26          | 16.5                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.052                                             | 0.57         | 9.0                          | 0.43            | 12.0                            | 0.27          | 19.5                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.046                                             | 0.58         | 8.0                          | 0.43            | 10.6                            | 0.27          | 17.3                          |
|                |                  |              |                   | HAF4014A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.040                                             | 0.51         | 7.9                          | 0.38            | 10.6                            | 0.24          | 16.5                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.040                                             | 0.51         | 7.8                          | 0.38            | 10.4                            | 0.25          | 16.2                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.049                                             | 0.51         | 9.5                          | 0.39            | 12.7                            | 0.25          | 19.8                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.052                                             | 0.52         | 10.2                         | 0.39            | 13.5                            | 0.25          | 21.3                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.058                                             | 0.53         | 10.9                         | 0.40            | 14.6                            | 0.25          | 23.0                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.072                                             | 0.53         | 13.6                         | 0.40            | 18.1                            | 0.25          | 28.7                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.058                                             | 0.54         | 10.7                         | 0.41            | 14.2                            | 0.25          | 22.6                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.058                                             | 0.55         | 10.6                         | 0.41            | 14.1                            | 0.26          | 22.6                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.046                                             | 0.57         | 8.2                          | 0.43            | 10.9                            | 0.26          | 17.6                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.044                                             | 0.57         | 7.7                          | 0.43            | 10.3                            | 0.27          | 16.8                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.040                                             | 0.58         | 6.9                          | 0.43            | 9.2                             | 0.27          | 15.0                          |
|                |                  |              |                   | HAF4016A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.054                                             | 0.51         | 10.5                         | 0.38            | 14.1                            | 0.24          | 21.9                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.054                                             | 0.51         | 10.5                         | 0.38            | 13.9                            | 0.25          | 21.8                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.057                                             | 0.51         | 11.2                         | 0.39            | 14.9                            | 0.25          | 23.3                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.057                                             | 0.52         | 11.1                         | 0.39            | 14.8                            | 0.25          | 23.2                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.062                                             | 0.53         | 11.7                         | 0.40            | 15.6                            | 0.25          | 24.7                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.065                                             | 0.53         | 12.1                         | 0.40            | 16.2                            | 0.25          | 25.6                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.053                                             | 0.54         | 9.9                          | 0.41            | 13.1                            | 0.25          | 20.9                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.056                                             | 0.55         | 10.2                         | 0.41            | 13.6                            | 0.26          | 21.8                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.045                                             | 0.57         | 7.9                          | 0.43            | 10.5                            | 0.26          | 17.0                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.049                                             | 0.57         | 8.6                          | 0.43            | 11.5                            | 0.27          | 18.6                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.046                                             | 0.58         | 7.9                          | 0.43            | 10.6                            | 0.27          | 17.2                          |



**Table 9 (Continued)****MPE assessment for LMR 7/800 band - roof mounted antenna – Bystander**

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results highlight in yellow are configurations with highest percentage of limits

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Roof           | BS               | E            | 0                 | HAF4017A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.052                                             | 0.51         | 10.3                         | 0.38            | 13.8                            | 0.24          | 21.5                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.053                                             | 0.51         | 10.3                         | 0.38            | 13.8                            | 0.25          | 21.5                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.058                                             | 0.51         | 11.3                         | 0.39            | 15.0                            | 0.25          | 23.5                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.058                                             | 0.52         | 11.1                         | 0.39            | 14.9                            | 0.25          | 23.3                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.065                                             | 0.53         | 12.3                         | 0.40            | 16.4                            | 0.25          | 25.9                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.075                                             | 0.53         | 14.1                         | 0.40            | 18.8                            | 0.25          | 29.8                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.053                                             | 0.54         | 9.7                          | 0.41            | 12.9                            | 0.25          | 20.6                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.060                                             | 0.55         | 10.9                         | 0.41            | 14.5                            | 0.26          | 23.2                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.039                                             | 0.57         | 6.8                          | 0.43            | 9.1                             | 0.26          | 14.7                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.041                                             | 0.57         | 7.1                          | 0.43            | 9.5                             | 0.27          | 15.5                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.036                                             | 0.58         | 6.2                          | 0.43            | 8.3                             | 0.27          | 13.4                          |

**Table 10****MPE assessment for LMR 7/800 band - trunk mounted antenna – Passenger Back**

Notes:

Blue fonts: Frequencies not regulated by FCC.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Trunk          | PB               | E            | 0                 | HAF4013A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.044                                             | 0.51         | 8.6                          | 0.38            | 11.5                            | 0.24          | 17.9                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.042                                             | 0.51         | 8.3                          | 0.38            | 11.0                            | 0.25          | 17.3                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.050                                             | 0.51         | 9.7                          | 0.39            | 13.0                            | 0.25          | 20.4                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.042                                             | 0.52         | 8.1                          | 0.39            | 10.8                            | 0.25          | 17.0                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.054                                             | 0.53         | 10.2                         | 0.40            | 13.6                            | 0.25          | 21.5                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.058                                             | 0.53         | 10.9                         | 0.40            | 14.6                            | 0.25          | 23.1                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.065                                             | 0.54         | 12.1                         | 0.41            | 16.1                            | 0.25          | 25.6                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.053                                             | 0.55         | 9.6                          | 0.41            | 12.8                            | 0.26          | 20.4                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.057                                             | 0.57         | 10.0                         | 0.43            | 13.4                            | 0.26          | 21.6                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.058                                             | 0.57         | 10.1                         | 0.43            | 13.5                            | 0.27          | 21.9                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.055                                             | 0.58         | 9.4                          | 0.43            | 12.6                            | 0.27          | 20.5                          |
|                |                  |              |                   | HAF4014A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.018                                             | 0.51         | 3.6                          | 0.38            | 4.8                             | 0.24          | 7.6                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.023                                             | 0.51         | 4.5                          | 0.38            | 6.0                             | 0.25          | 9.4                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.019                                             | 0.51         | 3.7                          | 0.39            | 4.9                             | 0.25          | 7.6                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.021                                             | 0.52         | 4.1                          | 0.39            | 5.4                             | 0.25          | 8.5                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.051                                             | 0.53         | 9.6                          | 0.40            | 12.8                            | 0.25          | 20.2                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.061                                             | 0.53         | 11.5                         | 0.40            | 15.3                            | 0.25          | 24.2                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.090                                             | 0.54         | 16.6                         | 0.41            | 22.1                            | 0.25          | 35.2                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.081                                             | 0.55         | 14.7                         | 0.41            | 19.6                            | 0.26          | 31.4                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.098                                             | 0.57         | 17.3                         | 0.43            | 23.1                            | 0.26          | 37.4                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.080                                             | 0.57         | 13.9                         | 0.43            | 18.5                            | 0.27          | 30.0                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.074                                             | 0.58         | 12.8                         | 0.43            | 17.0                            | 0.27          | 27.7                          |
|                |                  |              |                   | HAF4016A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.046                                             | 0.51         | 9.1                          | 0.38            | 12.1                            | 0.24          | 18.9                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.042                                             | 0.51         | 8.1                          | 0.38            | 10.8                            | 0.25          | 16.9                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.047                                             | 0.51         | 9.2                          | 0.39            | 12.3                            | 0.25          | 19.3                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.041                                             | 0.52         | 7.8                          | 0.39            | 10.5                            | 0.25          | 16.4                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.062                                             | 0.53         | 11.8                         | 0.40            | 15.7                            | 0.25          | 24.9                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.076                                             | 0.53         | 14.2                         | 0.40            | 19.0                            | 0.25          | 30.1                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.064                                             | 0.54         | 11.8                         | 0.41            | 15.8                            | 0.25          | 25.1                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.052                                             | 0.55         | 9.4                          | 0.41            | 12.5                            | 0.26          | 20.0                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.065                                             | 0.57         | 11.5                         | 0.43            | 15.4                            | 0.26          | 24.8                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.078                                             | 0.57         | 13.5                         | 0.43            | 18.0                            | 0.27          | 29.2                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.064                                             | 0.58         | 11.1                         | 0.43            | 14.8                            | 0.27          | 24.0                          |

**Table 10 (Continued)****MPE assessment for LMR 7/800 band - trunk mounted antenna – Passenger Back**

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results highlight in yellow are configurations with highest percentage of limits

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Trunk          | PB               | E            | 0                 | HAF4017A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.067                                             | 0.51         | 13.1                         | 0.38            | 17.5                            | 0.24          | 27.3                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.073                                             | 0.51         | 14.3                         | 0.38            | 19.0                            | 0.25          | 29.8                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.065                                             | 0.51         | 12.6                         | 0.39            | 16.9                            | 0.25          | 26.4                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.061                                             | 0.52         | 11.8                         | 0.39            | 15.8                            | 0.25          | 24.7                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.095                                             | 0.53         | 18.0                         | 0.40            | 24.0                            | 0.25          | 37.9                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.126                                             | 0.53         | 23.6                         | 0.40            | 31.5                            | 0.25          | 49.8                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.119                                             | 0.54         | 22.0                         | 0.41            | 29.3                            | 0.25          | 46.6                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.116                                             | 0.55         | 21.1                         | 0.41            | 28.1                            | 0.26          | 45.0                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.083                                             | 0.57         | 14.5                         | 0.43            | 19.4                            | 0.26          | 31.3                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.096                                             | 0.57         | 16.7                         | 0.43            | 22.3                            | 0.27          | 36.1                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.081                                             | 0.58         | 13.9                         | 0.43            | 18.5                            | 0.27          | 30.2                          |

**Table 11****MPE assessment for LMR 7/800 band - roof mounted antenna – Passenger Back**

Notes:

Blue fonts: Frequencies not regulated by FCC.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Roof           | PB               | E            | 0                 | HAF4013A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.016                                             | 0.51         | 3.2                          | 0.38            | 4.3                             | 0.24          | 6.7                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.016                                             | 0.51         | 3.2                          | 0.38            | 4.2                             | 0.25          | 6.6                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.018                                             | 0.51         | 3.5                          | 0.39            | 4.7                             | 0.25          | 7.4                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.018                                             | 0.52         | 3.6                          | 0.39            | 4.7                             | 0.25          | 7.4                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.018                                             | 0.53         | 3.3                          | 0.40            | 4.4                             | 0.25          | 7.0                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.016                                             | 0.53         | 2.9                          | 0.40            | 3.9                             | 0.25          | 6.2                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.013                                             | 0.54         | 2.5                          | 0.41            | 3.3                             | 0.25          | 5.2                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.016                                             | 0.55         | 2.9                          | 0.41            | 3.8                             | 0.26          | 6.1                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.007                                             | 0.57         | 1.2                          | 0.43            | 1.7                             | 0.26          | 2.7                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.010                                             | 0.57         | 1.8                          | 0.43            | 2.4                             | 0.27          | 3.9                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.008                                             | 0.58         | 1.4                          | 0.43            | 1.9                             | 0.27          | 3.1                           |
|                |                  |              |                   |                                        |                   |                       |                  |                                                   |              |                              |                 |                                 |               |                               |
|                |                  |              |                   | HAF4014A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.001                                             | 0.51         | 0.3                          | 0.38            | 0.4                             | 0.24          | 0.6                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.002                                             | 0.51         | 0.3                          | 0.38            | 0.4                             | 0.25          | 0.6                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.001                                             | 0.51         | 0.3                          | 0.39            | 0.4                             | 0.25          | 0.6                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.001                                             | 0.52         | 0.2                          | 0.39            | 0.3                             | 0.25          | 0.5                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.004                                             | 0.53         | 0.8                          | 0.40            | 1.0                             | 0.25          | 1.6                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.006                                             | 0.53         | 1.0                          | 0.40            | 1.4                             | 0.25          | 2.2                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.010                                             | 0.54         | 1.9                          | 0.41            | 2.6                             | 0.25          | 4.1                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.013                                             | 0.55         | 2.3                          | 0.41            | 3.1                             | 0.26          | 5.0                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.011                                             | 0.57         | 1.9                          | 0.43            | 2.5                             | 0.26          | 4.0                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.007                                             | 0.57         | 1.3                          | 0.43            | 1.7                             | 0.27          | 2.8                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.011                                             | 0.58         | 1.8                          | 0.43            | 2.5                             | 0.27          | 4.0                           |
|                |                  |              |                   |                                        |                   |                       |                  |                                                   |              |                              |                 |                                 |               |                               |
|                |                  |              |                   | HAF4016A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.016                                             | 0.51         | 3.1                          | 0.38            | 4.2                             | 0.24          | 6.5                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.018                                             | 0.51         | 3.5                          | 0.38            | 4.7                             | 0.25          | 7.3                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.017                                             | 0.51         | 3.3                          | 0.39            | 4.3                             | 0.25          | 6.8                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.017                                             | 0.52         | 3.3                          | 0.39            | 4.3                             | 0.25          | 6.8                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.019                                             | 0.53         | 3.6                          | 0.40            | 4.8                             | 0.25          | 7.6                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.016                                             | 0.53         | 2.9                          | 0.40            | 3.9                             | 0.25          | 6.2                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.012                                             | 0.54         | 2.2                          | 0.41            | 2.9                             | 0.25          | 4.6                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.018                                             | 0.55         | 3.4                          | 0.41            | 4.5                             | 0.26          | 7.2                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.009                                             | 0.57         | 1.6                          | 0.43            | 2.2                             | 0.26          | 3.5                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.009                                             | 0.57         | 1.5                          | 0.43            | 2.0                             | 0.27          | 3.3                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.009                                             | 0.58         | 1.6                          | 0.43            | 2.1                             | 0.27          | 3.4                           |

**Table 11 (Continued)****MPE assessment for LMR 7/800 band - roof mounted antenna – Passenger Back**

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results highlight in yellow are configurations with highest percentage of limits

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Roof           | PB               | E            | 0                 | HAF4017A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.030                                             | 0.51         | 5.8                          | 0.38            | 7.8                             | 0.24          | 12.1                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.027                                             | 0.51         | 5.2                          | 0.38            | 7.0                             | 0.25          | 10.9                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.028                                             | 0.51         | 5.5                          | 0.39            | 7.3                             | 0.25          | 11.5                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.029                                             | 0.52         | 5.5                          | 0.39            | 7.4                             | 0.25          | 11.6                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.028                                             | 0.53         | 5.4                          | 0.40            | 7.1                             | 0.25          | 11.3                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.027                                             | 0.53         | 5.0                          | 0.40            | 6.7                             | 0.25          | 10.6                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.021                                             | 0.54         | 3.8                          | 0.41            | 5.1                             | 0.25          | 8.1                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.022                                             | 0.55         | 3.9                          | 0.41            | 5.2                             | 0.26          | 8.4                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.012                                             | 0.57         | 2.1                          | 0.43            | 2.8                             | 0.26          | 4.6                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.019                                             | 0.57         | 3.3                          | 0.43            | 4.4                             | 0.27          | 7.2                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.012                                             | 0.58         | 2.0                          | 0.43            | 2.7                             | 0.27          | 4.4                           |

**Table 12****MPE assessment for LMR 7/800 band - trunk mounted antenna – Passenger Front**

Notes:

Blue fonts: Frequencies not regulated by FCC.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Trunk          | PF               | E            | 0                 | HAF4013A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.039                                             | 0.51         | 7.8                          | 0.38            | 10.4                            | 0.24          | 16.2                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.042                                             | 0.51         | 8.1                          | 0.38            | 10.9                            | 0.25          | 17.0                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.055                                             | 0.51         | 10.6                         | 0.39            | 14.2                            | 0.25          | 22.2                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.045                                             | 0.52         | 8.7                          | 0.39            | 11.6                            | 0.25          | 18.3                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.049                                             | 0.53         | 9.2                          | 0.40            | 12.3                            | 0.25          | 19.5                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.039                                             | 0.53         | 7.3                          | 0.40            | 9.7                             | 0.25          | 15.3                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.049                                             | 0.54         | 9.0                          | 0.41            | 12.0                            | 0.25          | 19.2                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.047                                             | 0.55         | 8.5                          | 0.41            | 11.4                            | 0.26          | 18.2                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.020                                             | 0.57         | 3.5                          | 0.43            | 4.7                             | 0.26          | 7.5                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.031                                             | 0.57         | 5.4                          | 0.43            | 7.2                             | 0.27          | 11.7                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.024                                             | 0.58         | 4.2                          | 0.43            | 5.6                             | 0.27          | 9.1                           |
|                |                  |              |                   |                                        |                   |                       |                  |                                                   |              |                              |                 |                                 |               |                               |
|                |                  |              |                   | HAF4014A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.022                                             | 0.51         | 4.3                          | 0.38            | 5.7                             | 0.24          | 8.9                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.022                                             | 0.51         | 4.2                          | 0.38            | 5.6                             | 0.25          | 8.8                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.031                                             | 0.51         | 6.0                          | 0.39            | 7.9                             | 0.25          | 12.5                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.035                                             | 0.52         | 6.7                          | 0.39            | 9.0                             | 0.25          | 14.1                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.046                                             | 0.53         | 8.7                          | 0.40            | 11.6                            | 0.25          | 18.3                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.040                                             | 0.53         | 7.5                          | 0.40            | 9.9                             | 0.25          | 15.7                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.062                                             | 0.54         | 11.4                         | 0.41            | 15.2                            | 0.25          | 24.2                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.070                                             | 0.55         | 12.8                         | 0.41            | 17.0                            | 0.26          | 27.2                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.050                                             | 0.57         | 8.8                          | 0.43            | 11.8                            | 0.26          | 19.0                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.040                                             | 0.57         | 7.0                          | 0.43            | 9.3                             | 0.27          | 15.0                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.037                                             | 0.58         | 6.3                          | 0.43            | 8.5                             | 0.27          | 13.8                          |
|                |                  |              |                   |                                        |                   |                       |                  |                                                   |              |                              |                 |                                 |               |                               |
|                |                  |              |                   | HAF4016A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.046                                             | 0.51         | 9.0                          | 0.38            | 12.0                            | 0.24          | 18.8                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.045                                             | 0.51         | 8.9                          | 0.38            | 11.8                            | 0.25          | 18.5                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.057                                             | 0.51         | 11.1                         | 0.39            | 14.8                            | 0.25          | 23.2                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.043                                             | 0.52         | 8.3                          | 0.39            | 11.1                            | 0.25          | 17.4                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.051                                             | 0.53         | 9.7                          | 0.40            | 12.9                            | 0.25          | 20.4                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.045                                             | 0.53         | 8.5                          | 0.40            | 11.3                            | 0.25          | 17.9                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.052                                             | 0.54         | 9.6                          | 0.41            | 12.8                            | 0.25          | 20.4                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.049                                             | 0.55         | 8.8                          | 0.41            | 11.8                            | 0.26          | 18.9                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.022                                             | 0.57         | 3.9                          | 0.43            | 5.2                             | 0.26          | 8.5                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.030                                             | 0.57         | 5.2                          | 0.43            | 6.9                             | 0.27          | 11.2                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.023                                             | 0.58         | 4.0                          | 0.43            | 5.3                             | 0.27          | 8.6                           |

**Table 12 (Continued)****MPE assessment for LMR 7/800 band - trunk mounted antenna – Passenger Front**

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results highlight in yellow are configurations with highest percentage of limits

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm^2) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Trunk          | PF               | E            | 0                 | HAF4017A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.070                                 | 0.51         | 13.7                         | 0.38            | 18.3                            | 0.24          | 28.6                          |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.074                                 | 0.51         | 14.4                         | 0.38            | 19.2                            | 0.25          | 30.0                          |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.097                                 | 0.51         | 18.9                         | 0.39            | 25.2                            | 0.25          | 39.5                          |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.096                                 | 0.52         | 18.5                         | 0.39            | 24.7                            | 0.25          | 38.7                          |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.081                                 | 0.53         | 15.3                         | 0.40            | 20.4                            | 0.25          | 32.3                          |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.075                                 | 0.53         | 14.1                         | 0.40            | 18.8                            | 0.25          | 29.8                          |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.101                                 | 0.54         | 18.7                         | 0.41            | 25.0                            | 0.25          | 39.8                          |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.077                                 | 0.55         | 14.1                         | 0.41            | 18.8                            | 0.26          | 30.1                          |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.029                                 | 0.57         | 5.2                          | 0.43            | 6.9                             | 0.26          | 11.1                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.043                                 | 0.57         | 7.6                          | 0.43            | 10.1                            | 0.27          | 16.4                          |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.030                                 | 0.58         | 5.2                          | 0.43            | 6.9                             | 0.27          | 11.3                          |

**Table 13****MPE assessment for LMR 7/800 band - roof mounted antenna – Passenger Front**

Notes:

Blue fonts: Frequencies not regulated by FCC.

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm <sup>2</sup> ) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Roof           | PF               | E            | 0                 | HAF4013A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.008                                             | 0.51         | 1.7                          | 0.38            | 2.2                             | 0.24          | 3.4                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.010                                             | 0.51         | 2.0                          | 0.38            | 2.6                             | 0.25          | 4.1                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.009                                             | 0.51         | 1.8                          | 0.39            | 2.5                             | 0.25          | 3.9                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.010                                             | 0.52         | 1.9                          | 0.39            | 2.6                             | 0.25          | 4.1                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.008                                             | 0.53         | 1.4                          | 0.40            | 1.9                             | 0.25          | 3.0                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.007                                             | 0.53         | 1.3                          | 0.40            | 1.7                             | 0.25          | 2.7                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.008                                             | 0.54         | 1.4                          | 0.41            | 1.9                             | 0.25          | 3.0                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.010                                             | 0.55         | 1.8                          | 0.41            | 2.5                             | 0.26          | 3.9                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.008                                             | 0.57         | 1.5                          | 0.43            | 2.0                             | 0.26          | 3.2                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.009                                             | 0.57         | 1.6                          | 0.43            | 2.1                             | 0.27          | 3.4                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.007                                             | 0.58         | 1.3                          | 0.43            | 1.7                             | 0.27          | 2.8                           |
|                |                  |              |                   |                                        |                   |                       |                  |                                                   |              |                              |                 |                                 |               |                               |
|                |                  |              |                   | HAF4014A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.002                                             | 0.51         | 0.3                          | 0.38            | 0.4                             | 0.24          | 0.6                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.002                                             | 0.51         | 0.3                          | 0.38            | 0.4                             | 0.25          | 0.7                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.002                                             | 0.51         | 0.4                          | 0.39            | 0.5                             | 0.25          | 0.8                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.002                                             | 0.52         | 0.3                          | 0.39            | 0.4                             | 0.25          | 0.6                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.003                                             | 0.53         | 0.6                          | 0.40            | 0.8                             | 0.25          | 1.2                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.004                                             | 0.53         | 0.7                          | 0.40            | 0.9                             | 0.25          | 1.4                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.006                                             | 0.54         | 1.1                          | 0.41            | 1.5                             | 0.25          | 2.4                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.008                                             | 0.55         | 1.5                          | 0.41            | 2.0                             | 0.26          | 3.2                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.012                                             | 0.57         | 2.0                          | 0.43            | 2.7                             | 0.26          | 4.4                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.011                                             | 0.57         | 1.8                          | 0.43            | 2.5                             | 0.27          | 4.0                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.008                                             | 0.58         | 1.4                          | 0.43            | 1.9                             | 0.27          | 3.1                           |
|                |                  |              |                   |                                        |                   |                       |                  |                                                   |              |                              |                 |                                 |               |                               |
|                |                  |              |                   | HAF4016A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.009                                             | 0.51         | 1.8                          | 0.38            | 2.4                             | 0.24          | 3.7                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.010                                             | 0.51         | 1.9                          | 0.38            | 2.6                             | 0.25          | 4.0                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.007                                             | 0.51         | 1.4                          | 0.39            | 1.9                             | 0.25          | 3.0                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.008                                             | 0.52         | 1.6                          | 0.39            | 2.2                             | 0.25          | 3.4                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.007                                             | 0.53         | 1.3                          | 0.40            | 1.8                             | 0.25          | 2.8                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.007                                             | 0.53         | 1.3                          | 0.40            | 1.8                             | 0.25          | 2.8                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.008                                             | 0.54         | 1.4                          | 0.41            | 1.9                             | 0.25          | 3.0                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.010                                             | 0.55         | 1.9                          | 0.41            | 2.5                             | 0.26          | 4.1                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.008                                             | 0.57         | 1.4                          | 0.43            | 1.9                             | 0.26          | 3.1                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.008                                             | 0.57         | 1.4                          | 0.43            | 1.9                             | 0.27          | 3.1                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.007                                             | 0.58         | 1.2                          | 0.43            | 1.6                             | 0.27          | 2.5                           |



**Table 13 (Continued)****MPE assessment for LMR 7/800 band - roof mounted antenna – Passenger Front**

Notes:

Blue fonts: Frequencies not regulated by FCC.

Results highlight in yellow are configurations with highest percentage of limits

| Trunk/<br>Roof | Test<br>Position | E/H<br>Field | Angle<br>(Degree) | Antenna<br>Model                       | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Tx Freq<br>(MHz) | Max<br>Calc.<br>P.D.<br>(mW/<br>cm^2) | FCC<br>Limit | % To<br>FCC<br>Spec<br>Limit | ICNIRP<br>Limit | % To<br>ICNIRP<br>Spec<br>Limit | ISED<br>Limit | % To<br>ISED<br>Spec<br>Limit |
|----------------|------------------|--------------|-------------------|----------------------------------------|-------------------|-----------------------|------------------|---------------------------------------|--------------|------------------------------|-----------------|---------------------------------|---------------|-------------------------------|
| Roof           | PF               | E            | 0                 | HAF4017A,<br>1/4 Wave,<br>(762-870MHz) | 36.0              | 35.2                  | 762.0125         | 0.018                                 | 0.51         | 3.5                          | 0.38            | 4.7                             | 0.24          | 7.4                           |
|                |                  |              |                   |                                        |                   | 35.2                  | 769.0125         | 0.018                                 | 0.51         | 3.4                          | 0.38            | 4.6                             | 0.25          | 7.2                           |
|                |                  |              |                   |                                        |                   | 35.0                  | 772.0000         | 0.017                                 | 0.51         | 3.3                          | 0.39            | 4.4                             | 0.25          | 6.9                           |
|                |                  |              |                   |                                        |                   | 34.9                  | 774.9875         | 0.015                                 | 0.52         | 2.8                          | 0.39            | 3.8                             | 0.25          | 5.9                           |
|                |                  |              |                   |                                        |                   | 34.6                  | 794.0125         | 0.015                                 | 0.53         | 2.8                          | 0.40            | 3.7                             | 0.25          | 5.9                           |
|                |                  |              |                   |                                        |                   | 35.5                  | 799.0125         | 0.012                                 | 0.53         | 2.3                          | 0.40            | 3.0                             | 0.25          | 4.8                           |
|                |                  |              |                   |                                        | 42.0              | 42.0                  | 811.5000         | 0.011                                 | 0.54         | 2.1                          | 0.41            | 2.8                             | 0.25          | 4.4                           |
|                |                  |              |                   |                                        |                   | 40.8                  | 823.9875         | 0.017                                 | 0.55         | 3.0                          | 0.41            | 4.0                             | 0.26          | 6.4                           |
|                |                  |              |                   |                                        |                   | 41.8                  | 851.0125         | 0.012                                 | 0.57         | 2.1                          | 0.43            | 2.8                             | 0.26          | 4.5                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 860.5000         | 0.011                                 | 0.57         | 2.0                          | 0.43            | 2.6                             | 0.27          | 4.3                           |
|                |                  |              |                   |                                        |                   | 41.1                  | 868.9875         | 0.009                                 | 0.58         | 1.5                          | 0.43            | 2.0                             | 0.27          | 3.3                           |

## 16.2 MPE Test Results for Bluetooth and WLAN

Antenna PMAN5100A and PMAN5101A was intended for mounting on the windshield of the vehicle. These antennas should be installed close to the top, and on the front windshield only. Antennas AN000163A01 and AN000163A05 support WLAN 2.4 GHz / 5 GHz should be installed at roof or trunk of the vehicle. WLAN 2.4 GHz and 5 GHz will not transmit simultaneously.

MPE calculation was use to determine power density for these transmitters due to lower power. According to FCC's OET Bulletin 65 Edition 97-01 Section 2, calculations can be made to predict RF field strength and power density levels around typical RF sources. Equation (5) is generally accurate in far-field of an antenna.

### Equation 5 – Power Density Calculation

$$S = \frac{P_t G}{4\pi d^2} F$$

Equation (5) accounts for the maximum duty cycle of the signal, and the factor, F, to provide a worst-case prediction of power density per FCC OET Bulletin 65, Edition 97-01 1997.

Where:

- S = power density
- $P_t$  = maximum output power scaled by the maximum duty cycle of the signal
- G = power gain of the antenna in the direction of interest relative to an isotropic radiator
- d = distance from antenna
- F = Enhancement factor [1 or 2.56 for predicting ground-level field strength]

Table 14 summarized the MPE calculation for each standalone transmitter bands, Bluetooth and WLAN.

**Table 14**

| Antenna #                 | Max Power (W) | Duty Cycle (%) | Tx Frequency (MHz) | Antenna Gain (dBi) | Cable Loss, L (dB) | Dist., d (cm) | Enhance Factor, F | Max Calc. MPE (mW/cm²) | MPE Spec Limit (mW/cm²) |                     |        |                        |            |                      |
|---------------------------|---------------|----------------|--------------------|--------------------|--------------------|---------------|-------------------|------------------------|-------------------------|---------------------|--------|------------------------|------------|----------------------|
|                           |               |                |                    |                    |                    |               |                   |                        | FCC                     | % To FCC Spec Limit | ICNIRP | % To ICNIRP Spec Limit | ISED limit | % To ISED Spec Limit |
| WLAN 2.4 GHz              |               |                |                    |                    |                    |               |                   |                        |                         |                     |        |                        |            |                      |
| AN000163A01 / AN000163A05 | 0.040         | 100%           | 2412.0             | 5.15               | 2.20               | 20            | 1.00              | 0.016                  | 1.00                    | 1.56                | 1.00   | 1.56                   | 0.54       | 2.91                 |
| AN000163A01 / AN000163A05 | 0.040         | 100%           | 2437.0             | 5.15               | 2.20               | 20            | 1.00              | 0.016                  | 1.00                    | 1.56                | 1.00   | 1.56                   | 0.54       | 2.89                 |
| AN000163A01 / AN000163A05 | 0.040         | 100%           | 2462.0             | 5.15               | 2.20               | 20            | 1.00              | 0.016                  | 1.00                    | 1.56                | 1.00   | 1.56                   | 0.54       | 2.87                 |
| PMAN5100A                 | 0.040         | 100%           | 2412.0             | 6.00               | 2.20               | 20            | 1.00              | 0.019                  | 1.00                    | 1.90                | 1.00   | 1.90                   | 0.54       | 3.54                 |
| PMAN5100A                 | 0.040         | 100%           | 2437.0             | 6.00               | 2.20               | 20            | 1.00              | 0.019                  | 1.00                    | 1.90                | 1.00   | 1.90                   | 0.54       | 3.52                 |
| PMAN5100A                 | 0.040         | 100%           | 2462.0             | 6.00               | 2.20               | 20            | 1.00              | 0.019                  | 1.00                    | 1.90                | 1.00   | 1.90                   | 0.54       | 3.49                 |
| PMAN5101A                 | 0.040         | 100%           | 2412.0             | 6.00               | 3.00               | 20            | 1.00              | 0.016                  | 1.00                    | 1.58                | 1.00   | 1.58                   | 0.54       | 2.94                 |
| PMAN5101A                 | 0.040         | 100%           | 2437.0             | 6.00               | 3.00               | 20            | 1.00              | 0.016                  | 1.00                    | 1.58                | 1.00   | 1.58                   | 0.54       | 2.92                 |
| PMAN5101A                 | 0.040         | 100%           | 2462.0             | 6.00               | 3.00               | 20            | 1.00              | 0.016                  | 1.00                    | 1.58                | 1.00   | 1.58                   | 0.54       | 2.90                 |
| WLAN 5 GHz                |               |                |                    |                    |                    |               |                   |                        |                         |                     |        |                        |            |                      |
| AN000163A01 / AN000163A05 | 0.016         | 100%           | 5180.0             | 5.15               | 3.47               | 20            | 1.00              | 0.005                  | 1.00                    | 0.46                | 1.00   | 0.46                   | 0.90       | 0.51                 |
| AN000163A01 / AN000163A05 | 0.016         | 100%           | 5502.5             | 5.15               | 3.47               | 20            | 1.00              | 0.005                  | 1.00                    | 0.46                | 1.00   | 0.46                   | 0.94       | 0.49                 |
| AN000163A01 / AN000163A05 | 0.016         | 100%           | 5825.0             | 5.15               | 3.47               | 20            | 1.00              | 0.005                  | 1.00                    | 0.46                | 1.00   | 0.46                   | 0.98       | 0.47                 |
| PMAN5101A                 | 0.016         | 100%           | 5180.0             | 3.20               | 4.00               | 20            | 1.00              | 0.003                  | 1.00                    | 0.26                | 1.00   | 0.26                   | 0.90       | 0.29                 |
| PMAN5101A                 | 0.016         | 100%           | 5502.5             | 3.20               | 4.00               | 20            | 1.00              | 0.003                  | 1.00                    | 0.26                | 1.00   | 0.26                   | 0.94       | 0.28                 |
| PMAN5101A                 | 0.016         | 100%           | 5825.0             | 3.20               | 4.00               | 20            | 1.00              | 0.003                  | 1.00                    | 0.26                | 1.00   | 0.26                   | 0.98       | 0.27                 |
| Bluetooth 2.4 GHz         |               |                |                    |                    |                    |               |                   |                        |                         |                     |        |                        |            |                      |
| AN000163A01 / AN000163A05 | 0.011         | 100%           | 2402.0             | 5.15               | 2.20               | 20            | 1.00              | 0.004                  | 1.00                    | 0.44                | 1.00   | 0.44                   | 0.54       | 0.82                 |
| AN000163A01 / AN000163A05 | 0.011         | 100%           | 2441.0             | 5.15               | 2.20               | 20            | 1.00              | 0.004                  | 1.00                    | 0.44                | 1.00   | 0.44                   | 0.54       | 0.81                 |
| AN000163A01 / AN000163A05 | 0.011         | 100%           | 2480.0             | 5.15               | 2.20               | 20            | 1.00              | 0.004                  | 1.00                    | 0.44                | 1.00   | 0.44                   | 0.55       | 0.81                 |
| PMAN5100A                 | 0.011         | 100%           | 2402.0             | 6.00               | 2.20               | 20            | 1.00              | 0.005                  | 1.00                    | 0.54                | 1.00   | 0.54                   | 0.54       | 1.00                 |
| PMAN5100A                 | 0.011         | 100%           | 2441.0             | 6.00               | 2.20               | 20            | 1.00              | 0.005                  | 1.00                    | 0.54                | 1.00   | 0.54                   | 0.54       | 0.99                 |
| PMAN5100A                 | 0.011         | 100%           | 2480.0             | 6.00               | 2.20               | 20            | 1.00              | 0.005                  | 1.00                    | 0.54                | 1.00   | 0.54                   | 0.55       | 0.98                 |
| PMAN5101A                 | 0.011         | 100%           | 2402.0             | 6.00               | 3.00               | 20            | 1.00              | 0.004                  | 1.00                    | 0.45                | 1.00   | 0.45                   | 0.54       | 0.83                 |
| PMAN5101A                 | 0.011         | 100%           | 2441.0             | 6.00               | 3.00               | 20            | 1.00              | 0.004                  | 1.00                    | 0.45                | 1.00   | 0.45                   | 0.54       | 0.82                 |
| PMAN5101A                 | 0.011         | 100%           | 2480.0             | 6.00               | 3.00               | 20            | 1.00              | 0.004                  | 1.00                    | 0.45                | 1.00   | 0.45                   | 0.55       | 0.81                 |

Notes:

- Distance from antenna (d), 20cm for more conservative estimation.
- Cable loss (L),
  - 2.20 dB with 17' PFP240 cable for 2.4 GHz WLAN (Antenna PMAN5100A, AN000163A01, AN000163A05)
  - 3.00 dB with 1' RG316 and 16' PFP195 cable for 2.4 GHz WLAN (Antenna PMAN5101A)
  - 3.47 dB with 17' PFP240 cable for 5.0 GHz WLAN (Antenna AN000163A01, AN000163A05)
  - 4.00 dB with 1' RG316 and 16' PFP195 cable for 5.0 GHz WLAN (Antenna PMAN5101A)
- Numeric gain (G), factor in the cable loss with conversion  $10^{((\text{dBi}-L)/10)}$
- Enhancement Factor (F), 1 (Ground reflection already factor in during antenna characterization)

## 16.3 Simultaneous Transmission

LMR bands can transmit simultaneously with Bluetooth or WLAN 2.4 GHz or WLAN 5 GHz. Bluetooth and WLAN 2.4 GHz or WLAN 5 GHz transmitters cannot transmit at the same time.

The highest percentage of limit for each standalone transmitters indicated in Table 15.

**Table 15**

| Transmitters | Frequency Band (MHz)      | Highest Percentage of Limit (%) |                           |                |
|--------------|---------------------------|---------------------------------|---------------------------|----------------|
|              |                           | Passenger, Front Seat (PF)      | Passenger, Back Seat (PB) | Bystander (BS) |
| FCC US       |                           |                                 |                           |                |
| LMR 7/800    | 769-775; 799-824; 851-869 | 18.9 %                          | 23.6 %                    | 23.2 %         |
| Bluetooth    | 2402 - 2480               | 0.54 %                          | 0.54 %                    | 0.54 %         |
| WLAN 2.4 GHz | 2412 - 2462               | 1.90 %                          | 1.90 %                    | 1.90 %         |
| WLAN 5 GHz   | 5180 - 5825               | 0.46 %                          | 0.46 %                    | 0.46 %         |
| ISED Canada  |                           |                                 |                           |                |
| LMR 7/800    | 769-775; 799-824; 851-869 | 39.8 %                          | 49.8 %                    | 50.0 %         |
| Bluetooth    | 2402 - 2480               | 1.00 %                          | 1.00 %                    | 1.00 %         |
| WLAN 2.4 GHz | 2412 - 2462               | 3.54 %                          | 3.54 %                    | 3.54 %         |
| WLAN 5 GHz   | 5180 - 5825               | 0.51 %                          | 0.51 %                    | 0.51 %         |
| ICNIRP       |                           |                                 |                           |                |
| LMR 7/800    | 762 – 805; 806 -870       | 25.2 %                          | 31.5 %                    | 30.9 %         |
| Bluetooth    | 2402 - 2480               | 0.54 %                          | 0.54 %                    | 0.54 %         |
| WLAN 2.4 GHz | 2412 - 2462               | 1.90 %                          | 1.90 %                    | 1.90 %         |
| WLAN 5 GHz   | 5180 - 5825               | 0.46 %                          | 0.46 %                    | 0.46 %         |

Per KDB 447498 D01, simultaneous transmission MPE test exclusion applies when the sum of MPE ratios for all simultaneous transmitting antennas incorporated in a host device is  $\leq 1.0$ , according to calculated/estimated, numerically modeled, or measured field strengths or power density.

Calculated Maximum Power density for WLAN 2.4 GHz is greater than WLAN 5 GHz and Bluetooth. WLAN 2.4 GHz, WLAN 5 GHz and Bluetooth transmitters cannot transmit at the same time. Thus, WLAN 2.4 GHz will be used to evaluate simultaneous transmission test exclusion. The highest combined power density percentage for simultaneous transmission indicated in Table 16.

**Table 16**

| Designator  | Simultaneous Transmission Scenario | Highest Combined Percentage of Limit (%) |                           |                |
|-------------|------------------------------------|------------------------------------------|---------------------------|----------------|
|             |                                    | Passenger, Front Seat (PF)               | Passenger, Back Seat (PB) | Bystander (BS) |
| FCC         | LMR 7/800 and WLAN                 | 20.8 %                                   | 25.5 %                    | 25.1 %         |
| ISED Canada | LMR 7/800 and WLAN                 | 43.3 %                                   | 53.3 %                    | 53.5 %         |
| ICNIRP      | LMR 7/800 and WLAN                 | 27.1 %                                   | 33.4 %                    | 32.8 %         |

## 17.0 Conclusion

The assessments for this device were performed with an output power range as indicated in section 16.1 (for LMR) and 16.2 (for BT/WLAN). The maximum allowable output power is equal to the upper limit of the final test factory transmit power specification listed in Table 6. The highest power density results for LMR and BT/WLAN transmitters scaled to maximum allowable power output are indicated in Table 17 and 18 for internal/passenger to the vehicle, and external/bystander to the vehicle.

**Table 17: Maximum MPE RF Exposure Summary (LMR)**

| Designator  | Transmitters | Frequency Band (MHz)      | Passenger (mW/cm <sup>2</sup> ) | Bystander (mW/cm <sup>2</sup> ) |
|-------------|--------------|---------------------------|---------------------------------|---------------------------------|
| FCC         | LMR 7/800    | 769-775; 799-824; 851-869 | 0.126                           | 0.132                           |
| ISED Canada | LMR 7/800    | 769-775; 799-824; 851-869 | 0.126                           | 0.132                           |
| ICNIRP      | LMR 7/800    | 762 – 805; 806 -870       | 0.126                           | 0.132                           |

**Table 18: Maximum MPE RF Exposure Summary (BT/WLAN)**

| Designator                    | Transmitters | Frequency Band (MHz) | Passenger (mW/cm <sup>2</sup> ) | Bystander (mW/cm <sup>2</sup> ) |
|-------------------------------|--------------|----------------------|---------------------------------|---------------------------------|
| FCC / ISED<br>Canada / ICNIRP | Bluetooth    | 2402 – 2480          | 0.005                           | 0.005                           |
|                               | WLAN         | 2412-2462            | 0.019                           | 0.019                           |
|                               | WLAN         | 5180-5825            | 0.005                           | 0.005                           |

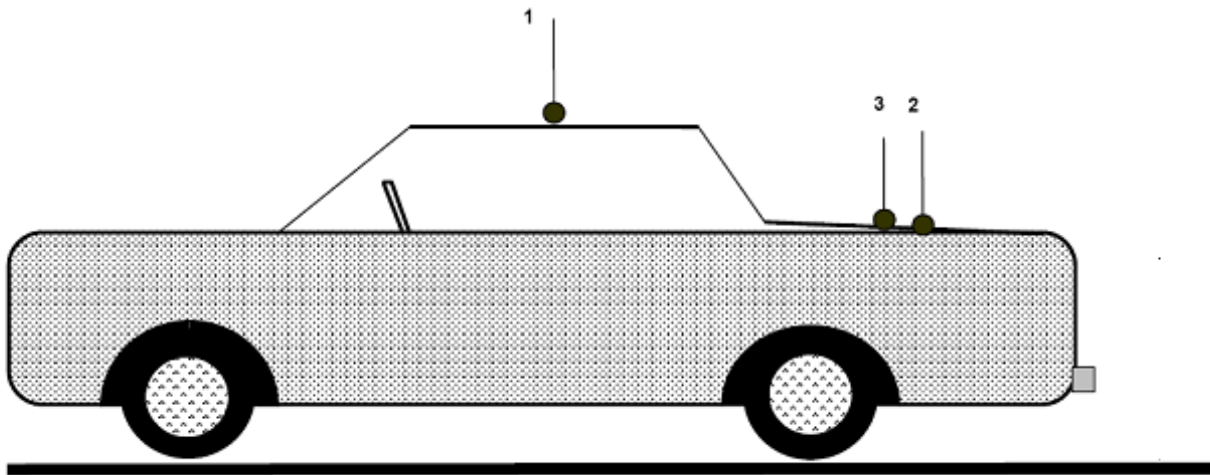
These MPE results herein demonstrate compliance to the FCC, ISED Canada and ICNIRP Occupational/Controlled Exposure limit. FCC rules require compliance for Passengers and Bystanders to the FCC General Population/Uncontrolled limits.

## 18.0 User Instructions Considerations

In order to facilitate the task of professional users, the Safety Manual for this radio requires that bystanders be kept at least 2 ft (60 cm) from the vehicle Body.

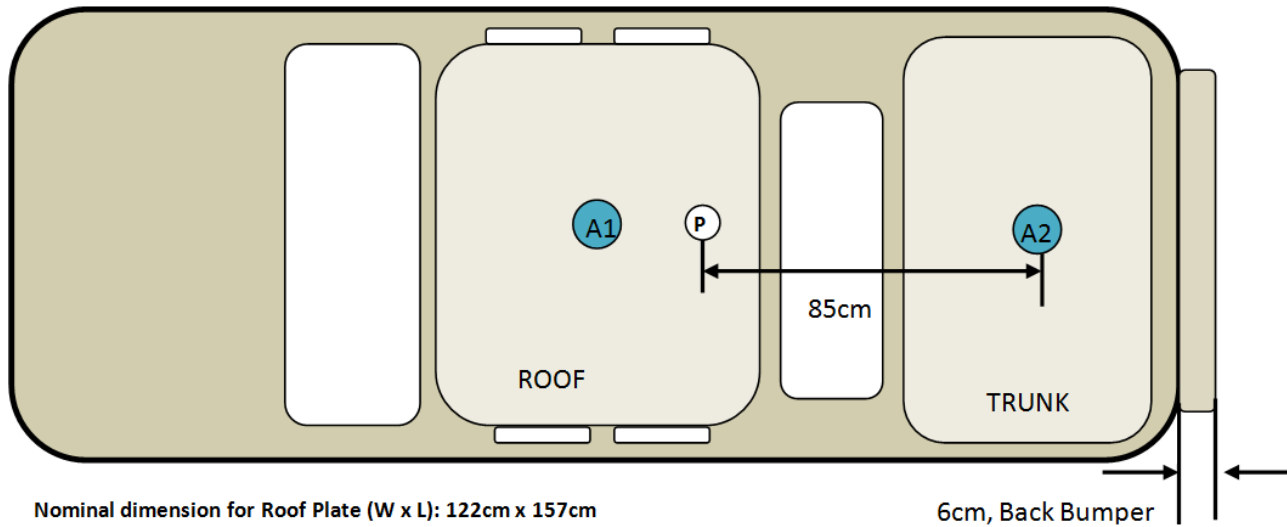
## **Appendix A - Antenna Locations, Test Distances, and Cable Losses**

## Antenna locations



1. Roof (20cm from center)
2. Trunk (85cm from back of the back seat)
3. Trunk (center)

### Passenger Antenna mounting (7/800 band)



Nominal dimension for Roof Plate (W x L): 122cm x 157cm

6cm, Back Bumper

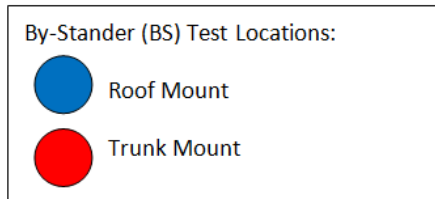
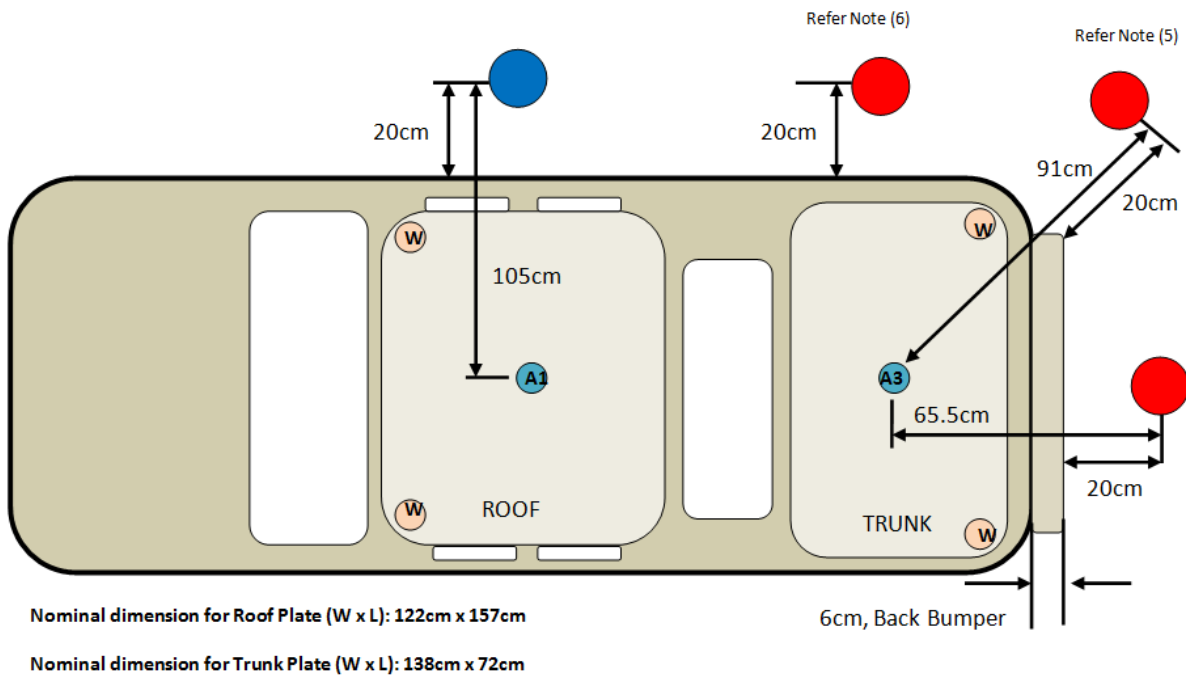
Nominal dimension for Trunk Plate (W x L): 138cm x 72cm

#### Notes:

- 1.) Antenna location A1: APX mobile radio roof antenna mounting locations for passenger back and front testing (7/800 band)
- 2.) Antenna location A2: APX mobile trunk antenna mounting locations for passenger back and front testing (7/800 band)
- 3.) Total distance between trunk mount antenna and rear passenger is 85cm



## Bystander Antenna mounting (7/800 band)



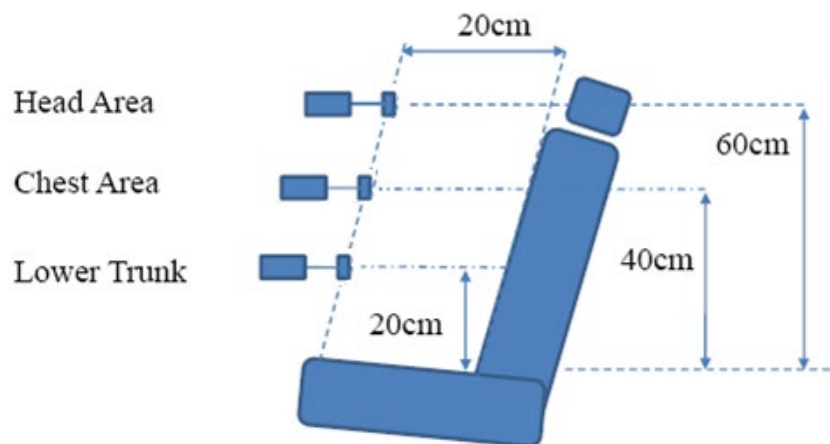
### Notes:

- 1.) Antenna location A1: LMR antennas roof mount for bystander testing
- 2.) Antenna location A3: LMR antennas trunk mount for bystander testing
- 3.) Antenna location W: Total 4 locations identified for WLAN antenna roof/trunk mounting.
- 4.) Total distance between Bystanders from the centered-trunk mount antenna is 60cm and 65.5cm at bumper to maintain a minimum 20cm separation between probe sensor to the vehicle body.
- 5.) Total distance between Bystander 45 degree angle from the centered-trunk mount antenna is 91cm to maintain a minimum 20cm separation between probe sensor to the vehicle body.
- 6.) Total distance between Bystander 90 degree angle from the centered-trunk mount antenna is 60cm (by moving antenna location A3 42cm from center of the trunk)

Seat scan areas  
(Applicable to both front and back seats)

Meter - Probe

Probe diameter is 5.5cm



## Cable Losses

### Test Cable

#### Teflon RG58A/U Loss Per 100 Feet

160 MHz - 5 dB

450 MHz - 9 dB

1 GHz - 13.8 dB

### Customer Cable

#### RG-58A/U Loss Per 100 Feet (For LMR)

136 MHz – 5.5 dB

450 MHz – 9.6 dB

900 MHz – 13.9 dB

#### PFP 240 Loss Per 100 Feet (For BT/WLAN)

2500 MHz - 12.9 dB

5800 MHz -20.4 dB

**Appendix B - Probe Calibration Certificates****Service Test Report**

QAF 1126, 03/11

Report ID: 125391



An ESCO Technologies Company

1301 Arrow Point Drive  
Cedar Park, Texas 78613  
(512) 531-6400

Tracking #: S000043311

**Equipment Check**Attested by QC Date: 02-Jul-18  
www.ets-lindgren.com**Certificate of Test Conformance**

Page 1 of 1

**Reference:** S 000043311**Customer:** Motorola Solutions Malaysia Sdn. Bhd. - 2A, Medan Bayan Lepas, Baymen Lepas  
Technoplex, 11900 Bayan Lepas, Pulau Pinang, Malaysia

The instrument listed below has been tested and verified to Internal Quality Standards. Test data is Attached. Equipment used during instrument testing is controlled by laboratory compliance with ISO/IEC 17025-2005 and ANSI/NCCL Z540-1-1994 using ETS-Lindgren Quality Management System internal procedures.

**Manufacturer** ETS-Lindgren**Instrument Type** RF Survey Meter**Model** HI-2200**Serial Number/ID** 00086316**Status In**

In Tolerance

**Date Completed**

02-Jul-18

**Status Out**

Compliant with Internal Quality Standards

**Remarks**

Tested with customer E100 00206767 and customer H200 00206937.

Sincerely,

A handwritten signature in black ink, appearing to read 'George Cisneros', written over the printed name and title.  
George Cisneros  
Calibration Supervisor**Date Attested:** 02-Jul-18



Cert I.D.: 125390

**Certificate of Calibration Conformance**

Page 1 of 3

The instrument identified below has been individually calibrated in compliance with the following standard(s):

IEEE 1309 - 2013, Institute of Electrical and Electronics Engineers, Standard for Calibration of Electromagnetic Field Sensors and Probes, Excluding Antennas from 9 kHz to 40 GHz

Environment: Laboratory MTE is maintained in a temperature controlled environment with ambient conditions from 18 to 28 C, relative humidity less than 90%. The instrument under test has been calibrated in a suitable environment using an EMCO TEM Cell 5101C, GTEM 5305/5402 and an RF Shielded EMC Chamber which is conducive to maintaining accurate and reliable measurement quality.

|                           |                                |                         |                                                                                                                                   |
|---------------------------|--------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Manufacturer:</b>      | ETS-Lindgren                   | <b>Operating Range:</b> | 100kHz - 5GHz                                                                                                                     |
| <b>Model Number:</b>      | E100                           | <b>Instrument Type:</b> | Isotropic Probe > 1 GHz                                                                                                           |
| <b>Serial Number/ ID:</b> | 00206767                       | <b>Date Code:</b>       |                                                                                                                                   |
| <b>Tracking Number:</b>   | S 000043311                    | <b>Alternate ID:</b>    |                                                                                                                                   |
| <b>Date Completed:</b>    | 02-Jul-18                      | <b>Customer:</b>        | Motorola Solutions Malaysia Sdn. Bhd. - 2A, Medan Bayan Lepas, Baymen Lepas Technoplex, 11900 Bayan Lepas, Pulau Pinang, Malaysia |
| <b>Test Type:</b>         | Standard Field, Field Strength |                         |                                                                                                                                   |

**Calibration Uncertainty:** Std Field Method 100kHz - 6 GHz, +/-0.64 dB, Linearity +/- 0.95 dB, Isotropy +/- 0.86

k=2, (95% Confidence Level)

**Test Remarks:** Probe received in tolerance thus before and after data are the same. Additional data points included as per customer request. Tested with customer HI-2200 00066316.

**Calibration Traceability:** All Measuring and Test Equipment (MTE) identified below are traceable to the SI units through the National Institute for Standards and Technology (NIST) or other recognized National Metrology Institute. Calibration Laboratory and Quality System controls are compliant with ISO/IEC 17025-2005 and ANSI/NCCL Z540-1-1994.

**Standards and Equipment Used:****Make / Model / Name / S/N / Recall Date**

|                 |          |                       |            |           |
|-----------------|----------|-----------------------|------------|-----------|
| HP              | 8648C    | Signal Generator      | 3836U02236 | 16-Mar-19 |
| Keysight        | E9304A   | Power Sensor          | MY56100039 | 16-Mar-19 |
| Hewlett Packard | E4422B   | Signal Generator      | US40050591 | 09-Aug-18 |
| Agilent         | E4419B   | Power Meter           | MY45104171 | 27-Jan-19 |
| Rohde & Schwarz | SMB 100A | Signal Generator      | 101558     | 13-Sep-18 |
| Agilent         | E9304A   | Power Sensor          | MY41499013 | 16-Mar-19 |
| Agilent         | E9304A   | Power Sensor          | MY41499012 | 16-Mar-19 |
| Rohde & Schwarz | NRP-Z91  | Power Sensor          | 100733     | 28-Jan-19 |
| Agilent         | E4419B   | Power Meter           | MY40510693 | 27-Jan-19 |
| Rohde & Schwarz | NRP-Z21  | Power Sensor          | 100525     | 06-Sep-18 |
| Rohde & Schwarz | NRV-Z55  | Thermal Power Sensor  | 100354     | 14-Nov-18 |
| Rohde & Schwarz | NRP-Z11  | Power Sensor          | 108043     | 24-Jan-19 |
| Marconi         | 2024     | Signal Generator      | 112343/043 | 06-Apr-19 |
| Rohde & Schwarz | NRVD     | Power Meter           | 100451     | 06-Sep-18 |
| Hewlett Packard | 83650L   | Synthesized Sweep Gen | 3844A00422 | 20-Dec-18 |
| Hewlett Packard | E4419B   | Power Meter           | US39250717 | 10-Aug-18 |
| Keysight        | E9304A   | Power Sensor          | MY56100005 | 16-Mar-19 |
| Rohde & Schwarz | NRV-Z55  | Thermal Power Sensor  | 100037     | 06-Sep-18 |
| Rohde & Schwarz | NRV-Z55  | Thermal Power Sensor  | 100363     | 14-Nov-18 |

**Condition of Instrument****Upon Receipt:**

In Tolerance to Internal Quality Standards

**On Release:**

In Tolerance to Internal Quality Standards

**Calibration Completed By**  
Shawn Schmitt, Calibration Technician

**Attested and Issued on** 02-Jul-18  
George Cisneros, Calibration Supervisor

This document provides traceability of measurements to recognized national standards using controlled processes at the ETS-Lindgren Calibration Laboratory. Uncertainties listed are derived from the methods described by NIST Tech Note 1287. This certificate and report may not be reproduced, except in full, without the written approval of ETS-Lindgren Calibration Laboratory in accordance with ISO/IEC 17025-2005 and ANSI/NCCL Z540-1-1994. The results in this document relate only to the item(s) listed and should not be considered representative of a population unless otherwise noted. QAF 1127 (03/11)

## CALIBRATION REPORT

**Electric Field Sensor**

|         |          |
|---------|----------|
| Model   | S/N      |
| E100    | 00206767 |
| HI-2200 | 00086316 |

Date: 02 Jul 2018

New instrument

\_ Other

\_ Out of Tolerance

☒ Within Tolerance
**Frequency Response**

| Frequency Response | Nominal Field | Cal Factor*         | Deviation |
|--------------------|---------------|---------------------|-----------|
| MHz                | V/m           | (Applied/Indicated) | dB        |
| 1                  | 1             | 20                  | 1.05      |
| 2                  | 15            | 20                  | 0.98      |
| 3                  | 30            | 20                  | 0.99      |
| 4                  | 75            | 20                  | 0.99      |
| 5                  | 100           | 20                  | 0.99      |
| 6                  | 150           | 20                  | 0.99      |
| 7                  | 200           | 20                  | 0.98      |
| 8                  | 250           | 20                  | 0.98      |
| 9                  | 300           | 20                  | 0.97      |
| 10                 | 400           | 20                  | 1.04      |
| 11                 | 500           | 20                  | 0.93      |
| 12                 | 600           | 20                  | 0.93      |
| 13                 | 700           | 20                  | 0.98      |
| 14                 | 800           | 20                  | 1.00      |
| 15                 | 900           | 20                  | 1.03      |
| 16                 | 1000          | 20                  | 1.01      |
| 17                 | 2000          | 20                  | 1.05      |
| 18                 | 2450          | 20                  | 1.04      |
| 19                 | 3000          | 20                  | 1.07      |
| 20                 | 3500          | 20                  | 1.02      |
| 21                 | 4000          | 20                  | 1.03      |
| 22                 | 4500          | 20                  | 1.10      |
| 23                 | 5000          | 20                  | 1.34      |
| 24                 | 5500          | 20                  | 1.49      |
| 25                 | 6000          | 20                  | 1.49      |

\* Corrected electric field values (V/m) can be obtained by multiplying the Cal Factor with the indicated E field readings.

**Linearity**

maximum linearity deviation is 0.58 dB

(measurements taken from 0.3 V/m to 800 V/m at 27.12 MHz)

**Test Conditions**

Calibration performed at ambient room temperature: 23 ±3°C



### PROBE ROTATIONAL RESPONSE

Model E100  
S/N 00206767  
Report S000043311  
Date Date of Calibration 02 July 2018  
Time 03:24:41 PM  
Isotropy \* + 0.177 dB/ -0.177 dB

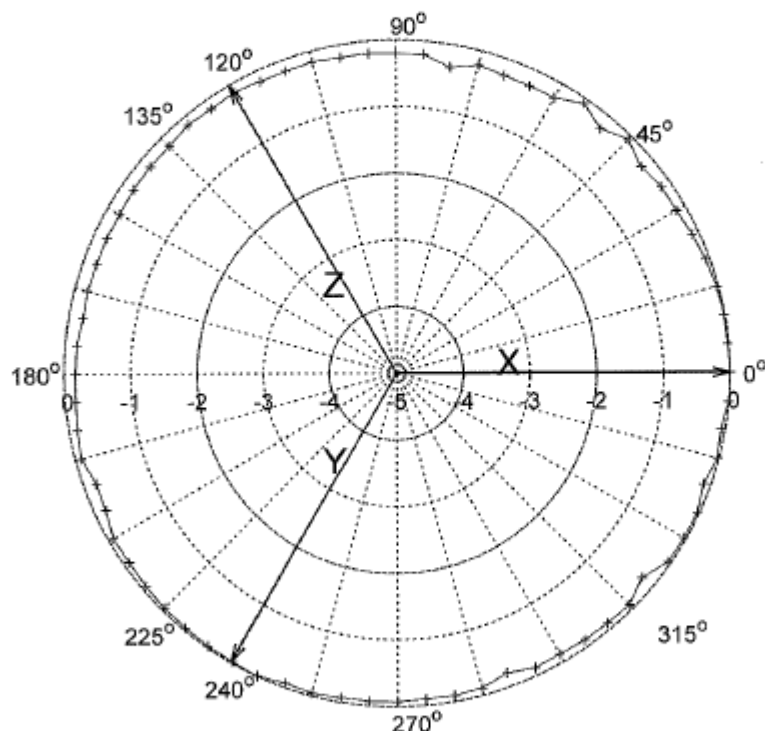


Figure 1: Probe Isotropic Response Chart.

Isotropic response is measured in a 20 V/m field at 400 MHz

\*Isotropy is the maximum deviation from the geometric mean as defined by IEEE 1309-2013.

**Appendix C - Photos of Assessed Antennas**  
(Refer to Exhibit 7B)



## **Appendix D - MPE Measurement Results**

**Table D.1**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |        |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |                    |                         |                     |                         |        |
|              |                                  |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm |                    |                         |                     |                         | 200 cm |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS        | 0.018                    | 0.045 | 0.029 | 0.134 | 0.314  | 0.552  | 0.37   | 0.206  | 0.125  | 0.073              | 0.5                     | 0.184               | 0.092                   | 0.094  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS        | 0.017                    | 0.047 | 0.031 | 0.124 | 0.309  | 0.56   | 0.354  | 0.202  | 0.124  | 0.071              | 0.5                     | 0.182               | 0.091                   | 0.093  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS        | 0.014                    | 0.046 | 0.032 | 0.107 | 0.3    | 0.551  | 0.382  | 0.23   | 0.107  | 0.089              | 0.5                     | 0.184               | 0.092                   | 0.094  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS        | 0.02                     | 0.05  | 0.034 | 0.118 | 0.355  | 0.604  | 0.389  | 0.213  | 0.109  | 0.079              | 0.5                     | 0.195               | 0.098                   | 0.101  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS        | 0.015                    | 0.048 | 0.024 | 0.096 | 0.312  | 0.59   | 0.492  | 0.247  | 0.133  | 0.087              | 0.5                     | 0.204               | 0.102                   | 0.106  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS        | 0.018                    | 0.04  | 0.019 | 0.096 | 0.304  | 0.504  | 0.492  | 0.274  | 0.142  | 0.078              | 0.5                     | 0.197               | 0.098                   | 0.100  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS        | 0.021                    | 0.031 | 0.011 | 0.136 | 0.322  | 0.514  | 0.54   | 0.318  | 0.155  | 0.092              | 0.5                     | 0.215               | 0.108                   | 0.108  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS        | 0.025                    | 0.027 | 0.026 | 0.167 | 0.385  | 0.524  | 0.483  | 0.259  | 0.169  | 0.122              | 0.5                     | 0.222               | 0.111                   | 0.114  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS        | 0.012                    | 0.008 | 0.038 | 0.184 | 0.249  | 0.473  | 0.47   | 0.174  | 0.076  | 0.053              | 0.5                     | 0.179               | 0.090                   | 0.090  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.015                    | 0.013 | 0.048 | 0.163 | 0.242  | 0.609  | 0.447  | 0.197  | 0.082  | 0.055              | 0.5                     | 0.194               | 0.097                   | 0.099  |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.013                    | 0.015 | 0.04  | 0.132 | 0.282  | 0.556  | 0.363  | 0.164  | 0.064  | 0.029              | 0.5                     | 0.173               | 0.086                   | 0.088  |

MPE calculations are defined in section 14.0.

**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |        |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |                    |                         |                     |                         |        |
|              |                                  |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm |                    |                         |                     |                         | 200 cm |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS        | 0.001                    | 0.008 | 0.009 | 0.015 | 0.047  | 0.497  | 0.693  | 0.165  | 0.061  | 0.098              | 0.5                     | 0.157               | 0.078                   | 0.080  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS        | 0.002                    | 0.008 | 0.009 | 0.014 | 0.044  | 0.495  | 0.684  | 0.159  | 0.061  | 0.093              | 0.5                     | 0.155               | 0.077                   | 0.079  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS        | 0.002                    | 0.007 | 0.009 | 0.005 | 0.036  | 0.498  | 0.709  | 0.16   | 0.05   | 0.101              | 0.5                     | 0.156               | 0.078                   | 0.080  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS        | 0.002                    | 0.009 | 0.006 | 0.01  | 0.053  | 0.578  | 0.777  | 0.142  | 0.044  | 0.084              | 0.5                     | 0.169               | 0.084                   | 0.087  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS        | 0.001                    | 0.003 | 0.002 | 0.003 | 0.081  | 0.652  | 0.87   | 0.225  | 0.013  | 0.043              | 0.5                     | 0.189               | 0.094                   | 0.098  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS        | 0.001                    | 0.005 | 0.001 | 0.004 | 0.084  | 0.58   | 0.802  | 0.223  | 0.01   | 0.024              | 0.5                     | 0.173               | 0.087                   | 0.088  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS        | 0.002                    | 0.01  | 0.008 | 0.01  | 0.139  | 0.592  | 0.826  | 0.219  | 0.014  | 0.028              | 0.5                     | 0.186               | 0.093                   | 0.093  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS        | 0.01                     | 0.019 | 0.007 | 0.065 | 0.215  | 0.691  | 0.83   | 0.285  | 0.055  | 0.058              | 0.5                     | 0.227               | 0.113                   | 0.117  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS        | 0.01                     | 0.01  | 0.02  | 0.164 | 0.299  | 0.454  | 0.662  | 0.495  | 0.262  | 0.164              | 0.5                     | 0.262               | 0.131                   | 0.132  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.006                    | 0.009 | 0.032 | 0.139 | 0.272  | 0.334  | 0.658  | 0.473  | 0.255  | 0.169              | 0.5                     | 0.243               | 0.122                   | 0.124  |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.008                    | 0.009 | 0.044 | 0.134 | 0.306  | 0.368  | 0.695  | 0.446  | 0.231  | 0.216              | 0.5                     | 0.256               | 0.128                   | 0.131  |

MPE calculations are defined in section 14.0.

**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                          |       |       |       |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |        |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Bystander (BS) Positions |       |       |       |        |        |        |        |                    |                         |                     |                         |        |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm |                    |                         |                     |                         | 180 cm |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS | 0.015            | 0.047                    | 0.043 | 0.151 | 0.374 | 0.683  | 0.445  | 0.229  | 0.117  | 0.075              | 0.5                     | 0.215               | 0.107                   | 0.110  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS | 0.017            | 0.045                    | 0.044 | 0.144 | 0.375 | 0.684  | 0.436  | 0.225  | 0.118  | 0.073              | 0.5                     | 0.213               | 0.107                   | 0.109  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS | 0.015            | 0.048                    | 0.047 | 0.112 | 0.343 | 0.655  | 0.456  | 0.241  | 0.103  | 0.08               | 0.5                     | 0.208               | 0.104                   | 0.107  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS | 0.018            | 0.05                     | 0.04  | 0.134 | 0.386 | 0.664  | 0.469  | 0.219  | 0.112  | 0.074              | 0.5                     | 0.214               | 0.107                   | 0.111  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS | 0.015            | 0.044                    | 0.026 | 0.098 | 0.364 | 0.671  | 0.555  | 0.271  | 0.12   | 0.086              | 0.5                     | 0.224               | 0.112                   | 0.117  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS | 0.016            | 0.041                    | 0.025 | 0.101 | 0.355 | 0.599  | 0.571  | 0.295  | 0.122  | 0.064              | 0.5                     | 0.219               | 0.109                   | 0.111  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS | 0.012            | 0.03                     | 0.009 | 0.103 | 0.299 | 0.482  | 0.48   | 0.265  | 0.128  | 0.067              | 0.5                     | 0.189               | 0.094                   | 0.094  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS | 0.014            | 0.023                    | 0.01  | 0.118 | 0.302 | 0.44   | 0.441  | 0.212  | 0.136  | 0.08               | 0.5                     | 0.180               | 0.090                   | 0.093  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS | 0.008            | 0.003                    | 0.021 | 0.129 | 0.204 | 0.399  | 0.405  | 0.155  | 0.06   | 0.038              | 0.5                     | 0.147               | 0.073                   | 0.074  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS | 0.009            | 0.008                    | 0.027 | 0.112 | 0.211 | 0.503  | 0.405  | 0.187  | 0.063  | 0.045              | 0.5                     | 0.163               | 0.081                   | 0.083  |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS | 0.004            | 0.006                    | 0.026 | 0.099 | 0.198 | 0.444  | 0.321  | 0.143  | 0.045  | 0.019              | 0.5                     | 0.136               | 0.068                   | 0.069  |

MPE calculations are defined in section 14.0.

**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                  | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe CaL Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                         |                     |                         |
|              |                                  |                 |               |             |                 |           |             |                  |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                         |                     |                         |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98             | BS        | 0.021                    | 0.058 | 0.058 | 0.204 | 0.546  | 0.734  | 0.146  | 0.021  | 0.054  | 0.038  | 0.5                | 0.185                   | 0.093               | 0.095                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99             | BS        | 0.02                     | 0.06  | 0.058 | 0.202 | 0.551  | 0.744  | 0.153  | 0.023  | 0.057  | 0.037  | 0.5                | 0.188                   | 0.094               | 0.096                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99             | BS        | 0.02                     | 0.063 | 0.061 | 0.171 | 0.521  | 0.708  | 0.147  | 0.015  | 0.051  | 0.045  | 0.5                | 0.178                   | 0.089               | 0.092                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99             | BS        | 0.019                    | 0.055 | 0.049 | 0.169 | 0.568  | 0.743  | 0.156  | 0.016  | 0.046  | 0.041  | 0.5                | 0.184                   | 0.092               | 0.095                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00             | BS        | 0.02                     | 0.056 | 0.037 | 0.138 | 0.549  | 0.766  | 0.204  | 0.022  | 0.059  | 0.068  | 0.5                | 0.191                   | 0.096               | 0.100                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00             | BS        | 0.018                    | 0.057 | 0.035 | 0.126 | 0.536  | 0.706  | 0.225  | 0.027  | 0.053  | 0.062  | 0.5                | 0.184                   | 0.092               | 0.093                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01             | BS        | 0.017                    | 0.043 | 0.019 | 0.122 | 0.468  | 0.578  | 0.183  | 0.034  | 0.058  | 0.052  | 0.5                | 0.158                   | 0.079               | 0.079                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01             | BS        | 0.017                    | 0.037 | 0.011 | 0.153 | 0.454  | 0.579  | 0.199  | 0.031  | 0.072  | 0.068  | 0.5                | 0.164                   | 0.082               | 0.085                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03             | BS        | 0.01                     | 0.007 | 0.017 | 0.16  | 0.311  | 0.493  | 0.197  | 0.011  | 0.025  | 0.044  | 0.5                | 0.131                   | 0.066               | 0.066                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04             | BS        | 0.007                    | 0.008 | 0.023 | 0.146 | 0.321  | 0.56   | 0.184  | 0.009  | 0.025  | 0.041  | 0.5                | 0.137                   | 0.069               | 0.070                   |
| Trunk        | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04             | BS        | 0.005                    | 0.005 | 0.02  | 0.11  | 0.265  | 0.479  | 0.136  | 0.009  | 0.015  | 0.024  | 0.5                | 0.111                   | 0.056               | 0.057                   |
|              |                                  |                 |               |             |                 |           |             |                  |           |                          |       |       |       |        |        |        |        |        |        |                    |                         |                     |                         |
| 45 Degree    |                                  |                 |               |             |                 |           |             |                  |           |                          |       |       |       |        |        |        |        |        |        |                    |                         |                     |                         |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03             | BS        | 0.003                    | 0.01  | 0.036 | 0.102 | 0.148  | 0.156  | 0.105  | 0.103  | 0.121  | 0.086  | 0.5                | 0.090                   | 0.045               | 0.045                   |
| 90 Degree    |                                  |                 |               |             |                 |           |             |                  |           |                          |       |       |       |        |        |        |        |        |        |                    |                         |                     |                         |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03             | BS        | 0.004                    | 0.018 | 0.027 | 0.157 | 0.242  | 0.376  | 0.612  | 0.313  | 0.16   | 0.104  | 0.5                | 0.208                   | 0.104               | 0.104                   |

MPE calculations are defined in section 14.0.

**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |        |                    |                         |                     |                         |
|              |                                  |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm | 200 cm |                    |                         |                     |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS        | 0.003                    | 0.012 | 0.011 | 0.015 | 0.028  | 0.066  | 0.094  | 0.221  | 0.251  | 0.186  | 0.5                | 0.087                   | 0.044               | 0.045                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS        | 0.003                    | 0.012 | 0.011 | 0.014 | 0.027  | 0.066  | 0.095  | 0.225  | 0.25   | 0.186  | 0.5                | 0.088                   | 0.044               | 0.045                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS        | 0.005                    | 0.015 | 0.012 | 0.015 | 0.033  | 0.067  | 0.097  | 0.262  | 0.27   | 0.183  | 0.5                | 0.095                   | 0.047               | 0.049                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS        | 0.004                    | 0.012 | 0.012 | 0.011 | 0.032  | 0.059  | 0.078  | 0.248  | 0.281  | 0.207  | 0.5                | 0.093                   | 0.047               | 0.048                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS        | 0.009                    | 0.011 | 0.011 | 0.012 | 0.031  | 0.051  | 0.105  | 0.301  | 0.277  | 0.225  | 0.5                | 0.103                   | 0.051               | 0.054                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS        | 0.007                    | 0.013 | 0.012 | 0.014 | 0.021  | 0.049  | 0.135  | 0.325  | 0.314  | 0.196  | 0.5                | 0.109                   | 0.054               | 0.055                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS        | 0.005                    | 0.007 | 0.007 | 0.013 | 0.026  | 0.056  | 0.109  | 0.233  | 0.263  | 0.215  | 0.5                | 0.094                   | 0.047               | 0.047                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS        | 0.005                    | 0.005 | 0.007 | 0.015 | 0.018  | 0.054  | 0.116  | 0.227  | 0.356  | 0.266  | 0.5                | 0.108                   | 0.054               | 0.056                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS        | 0.005                    | 0.004 | 0.005 | 0.019 | 0.021  | 0.048  | 0.083  | 0.206  | 0.238  | 0.212  | 0.5                | 0.087                   | 0.043               | 0.044                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.004 | 0.008 | 0.022 | 0.023  | 0.039  | 0.1    | 0.231  | 0.307  | 0.241  | 0.5                | 0.101                   | 0.051               | 0.052                   |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.003 | 0.007 | 0.017 | 0.02   | 0.041  | 0.088  | 0.218  | 0.255  | 0.214  | 0.5                | 0.090                   | 0.045               | 0.046                   |

MPE calculations are defined in section 14.0.

**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |        |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |                    |                         |                     |                         |        |
|              |                                  |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm |                    |                         |                     |                         | 200 cm |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS        | 0.001                    | 0.001 | 0.002 | 0.005 | 0.004  | 0.006  | 0.012  | 0.156  | 0.379  | 0.235              | 0.5                     | 0.079               | 0.039                   | 0.040  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS        | 0.001                    | 0.001 | 0.002 | 0.005 | 0.004  | 0.006  | 0.012  | 0.148  | 0.373  | 0.238              | 0.5                     | 0.078               | 0.039                   | 0.040  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS        | 0.002                    | 0.001 | 0.003 | 0.004 | 0.006  | 0.005  | 0.021  | 0.204  | 0.455  | 0.26               | 0.5                     | 0.095               | 0.048                   | 0.049  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS        | 0.001                    | 0.001 | 0.003 | 0.002 | 0.004  | 0.002  | 0.017  | 0.212  | 0.474  | 0.312              | 0.5                     | 0.102               | 0.051                   | 0.052  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS        | 0.001                    | 0.001 | 0.002 | 0.001 | 0.008  | 0.011  | 0.044  | 0.32   | 0.451  | 0.276              | 0.5                     | 0.111               | 0.056                   | 0.058  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS        | 0.001                    | 0.001 | 0.003 | 0.002 | 0.006  | 0.005  | 0.081  | 0.442  | 0.577  | 0.308              | 0.5                     | 0.143               | 0.071                   | 0.072  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS        | 0.003                    | 0.001 | 0.003 | 0.001 | 0.011  | 0.022  | 0.087  | 0.329  | 0.409  | 0.28               | 0.5                     | 0.115               | 0.058                   | 0.058  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS        | 0.003                    | 0.003 | 0.002 | 0.006 | 0.01   | 0.034  | 0.127  | 0.306  | 0.346  | 0.278              | 0.5                     | 0.113               | 0.057                   | 0.058  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS        | 0.002                    | 0.004 | 0.008 | 0.028 | 0.018  | 0.061  | 0.105  | 0.202  | 0.219  | 0.25               | 0.5                     | 0.092               | 0.046                   | 0.046  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.002 | 0.007 | 0.021 | 0.027  | 0.046  | 0.09   | 0.204  | 0.209  | 0.23               | 0.5                     | 0.087               | 0.043                   | 0.044  |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.003 | 0.007 | 0.018 | 0.02   | 0.047  | 0.098  | 0.159  | 0.151  | 0.249              | 0.5                     | 0.079               | 0.039                   | 0.040  |

MPE calculations are defined in section 14.0.

**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |        |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |                    |                         |                     |                         |        |
|              |                                  |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm |                    |                         |                     |                         | 200 cm |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS        | 0.005                    | 0.014 | 0.014 | 0.017 | 0.035  | 0.083  | 0.115  | 0.271  | 0.296  | 0.213              | 0.5                     | 0.105               | 0.052                   | 0.054  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS        | 0.004                    | 0.014 | 0.014 | 0.018 | 0.034  | 0.082  | 0.116  | 0.271  | 0.294  | 0.214              | 0.5                     | 0.105               | 0.052                   | 0.054  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS        | 0.007                    | 0.017 | 0.014 | 0.018 | 0.041  | 0.081  | 0.117  | 0.314  | 0.316  | 0.204              | 0.5                     | 0.112               | 0.056                   | 0.057  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS        | 0.006                    | 0.014 | 0.014 | 0.014 | 0.04   | 0.072  | 0.095  | 0.302  | 0.332  | 0.234              | 0.5                     | 0.111               | 0.056                   | 0.057  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS        | 0.011                    | 0.014 | 0.013 | 0.014 | 0.038  | 0.063  | 0.125  | 0.351  | 0.32   | 0.246              | 0.5                     | 0.119               | 0.060                   | 0.062  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS        | 0.009                    | 0.014 | 0.014 | 0.017 | 0.026  | 0.062  | 0.147  | 0.398  | 0.375  | 0.213              | 0.5                     | 0.127               | 0.064                   | 0.065  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS        | 0.007                    | 0.009 | 0.008 | 0.018 | 0.031  | 0.064  | 0.128  | 0.267  | 0.289  | 0.238              | 0.5                     | 0.107               | 0.053                   | 0.053  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS        | 0.005                    | 0.006 | 0.008 | 0.016 | 0.02   | 0.062  | 0.134  | 0.254  | 0.332  | 0.238              | 0.5                     | 0.109               | 0.055                   | 0.056  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS        | 0.005                    | 0.004 | 0.006 | 0.021 | 0.023  | 0.052  | 0.089  | 0.216  | 0.243  | 0.206              | 0.5                     | 0.089               | 0.045                   | 0.045  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.004 | 0.008 | 0.022 | 0.023  | 0.041  | 0.102  | 0.226  | 0.287  | 0.217              | 0.5                     | 0.097               | 0.048                   | 0.049  |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.003 | 0.007 | 0.018 | 0.022  | 0.041  | 0.089  | 0.222  | 0.258  | 0.201              | 0.5                     | 0.090               | 0.045                   | 0.046  |

MPE calculations are defined in section 14.0.



**Table D.1 (Continued)**  
**MPE measurement data for Bystander**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements         |       |       |       |        |        |        |        |        | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |        |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|--------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|-------------------------|---------------------|-------------------------|--------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Bystander (BS) Positions |       |       |       |        |        |        |        |        |                    |                         |                     |                         |        |
|              |                                  |                 |               |             |                 |           |             |                   |           | 20 cm                    | 40 cm | 60 cm | 80 cm | 100 cm | 120 cm | 140 cm | 160 cm | 180 cm |                    |                         |                     |                         | 200 cm |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | BS        | 0.005                    | 0.02  | 0.018 | 0.019 | 0.053  | 0.124  | 0.198  | 0.367  | 0.204  | 0.034              | 0.5                     | 0.103               | 0.051                   | 0.052  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | BS        | 0.005                    | 0.02  | 0.019 | 0.019 | 0.054  | 0.125  | 0.2    | 0.371  | 0.2    | 0.034              | 0.5                     | 0.103               | 0.052                   | 0.053  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | BS        | 0.006                    | 0.02  | 0.015 | 0.02  | 0.054  | 0.128  | 0.206  | 0.419  | 0.235  | 0.037              | 0.5                     | 0.113               | 0.056                   | 0.058  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | BS        | 0.007                    | 0.019 | 0.018 | 0.019 | 0.058  | 0.129  | 0.183  | 0.392  | 0.251  | 0.052              | 0.5                     | 0.112               | 0.056                   | 0.058  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | BS        | 0.013                    | 0.017 | 0.018 | 0.017 | 0.062  | 0.109  | 0.214  | 0.489  | 0.26   | 0.056              | 0.5                     | 0.125               | 0.063                   | 0.065  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | BS        | 0.011                    | 0.018 | 0.019 | 0.021 | 0.046  | 0.093  | 0.278  | 0.588  | 0.353  | 0.055              | 0.5                     | 0.148               | 0.074                   | 0.075  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | BS        | 0.009                    | 0.012 | 0.01  | 0.015 | 0.041  | 0.083  | 0.2    | 0.378  | 0.228  | 0.067              | 0.5                     | 0.105               | 0.053                   | 0.053  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | BS        | 0.008                    | 0.009 | 0.009 | 0.017 | 0.025  | 0.089  | 0.234  | 0.383  | 0.286  | 0.085              | 0.5                     | 0.116               | 0.058                   | 0.060  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | BS        | 0.004                    | 0.004 | 0.006 | 0.024 | 0.024  | 0.069  | 0.129  | 0.255  | 0.176  | 0.054              | 0.5                     | 0.077               | 0.038                   | 0.039  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.002 | 0.007 | 0.023 | 0.026  | 0.049  | 0.13   | 0.281  | 0.199  | 0.054              | 0.5                     | 0.080               | 0.040                   | 0.041  |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | BS        | 0.003                    | 0.002 | 0.005 | 0.014 | 0.018  | 0.049  | 0.121  | 0.253  | 0.163  | 0.046              | 0.5                     | 0.070               | 0.035                   | 0.036  |

MPE calculations are defined in section 14.0.

**Table D.2**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                         |                    |                  |                   |                       |              | Probe Info.  |                         |    | MPE Measurements |                                      |                         |     |       |       |       |                                  |
|--------------|-----------------------------------------|--------------------|------------------|-------------------|-----------------------|--------------|--------------|-------------------------|----|------------------|--------------------------------------|-------------------------|-----|-------|-------|-------|----------------------------------|
| Ant Loc.     | Ant. Model/<br>Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Test<br>Mode | E/H<br>Field | Probe<br>Cal.<br>Factor |    | Test<br>Pos.     | Passenger/Operator (MC)<br>Positions |                         |     |       |       |       |                                  |
|              |                                         |                    |                  |                   |                       |              |              |                         |    |                  | Head/<br>Top 1/3                     | Chest/<br>Middle<br>1/3 |     |       |       |       | Lower<br>Trunk/<br>Bottom<br>1/3 |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 762.0125         | 36.0              | 35.2                  | CW           | E            | 0.98                    | PB | 0.142            | 0.060                                | 0.058                   | 0.5 | 0.085 | 0.043 | 0.044 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 769.0125         | 36.0              | 35.2                  | CW           | E            | 0.99                    | PB | 0.158            | 0.048                                | 0.046                   | 0.5 | 0.083 | 0.041 | 0.042 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 772.0000         | 36.0              | 35.0                  | CW           | E            | 0.99                    | PB | 0.163            | 0.065                                | 0.068                   | 0.5 | 0.098 | 0.049 | 0.050 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 774.9875         | 36.0              | 34.9                  | CW           | E            | 0.99                    | PB | 0.128            | 0.075                                | 0.043                   | 0.5 | 0.081 | 0.041 | 0.042 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 794.0125         | 36.0              | 34.6                  | CW           | E            | 1.00                    | PB | 0.112            | 0.089                                | 0.111                   | 0.5 | 0.104 | 0.052 | 0.054 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 799.0125         | 36.0              | 35.5                  | CW           | E            | 1.00                    | PB | 0.139            | 0.107                                | 0.099                   | 0.5 | 0.115 | 0.057 | 0.058 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 811.5000         | 42.0              | 42.0                  | CW           | E            | 1.01                    | PB | 0.183            | 0.093                                | 0.113                   | 0.5 | 0.131 | 0.065 | 0.065 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 823.9875         | 42.0              | 40.8                  | CW           | E            | 1.01                    | PB | 0.146            | 0.074                                | 0.082                   | 0.5 | 0.102 | 0.051 | 0.053 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 851.0125         | 42.0              | 41.8                  | CW           | E            | 1.03                    | PB | 0.163            | 0.088                                | 0.079                   | 0.5 | 0.113 | 0.057 | 0.057 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 860.5000         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PB | 0.128            | 0.103                                | 0.098                   | 0.5 | 0.114 | 0.057 | 0.058 |                                  |
| Trunk        | HAF4013A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 868.9875         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PB | 0.165            | 0.010                                | 0.133                   | 0.5 | 0.107 | 0.053 | 0.055 |                                  |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements                  |                   |                         | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|-----------------------------------|-------------------|-------------------------|--------------------|-------------------------|---------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger/Operator (MC) Positions |                   |                         |                    |                         |                     |                         |
|              |                                  |                 |               |             |                 |           |             |                   |           | Head/ Top 1/3                     | Chest/ Middle 1/3 | Lower Trunk/ Bottom 1/3 |                    |                         |                     |                         |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PB        | 0.059                             | 0.024             | 0.027                   | 0.5                | 0.036                   | 0.018               | 0.018                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PB        | 0.086                             | 0.024             | 0.027                   | 0.5                | 0.045                   | 0.023               | 0.023                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PB        | 0.071                             | 0.017             | 0.023                   | 0.5                | 0.037                   | 0.018               | 0.019                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PB        | 0.08                              | 0.015             | 0.028                   | 0.5                | 0.041                   | 0.020               | 0.021                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PB        | 0.086                             | 0.135             | 0.073                   | 0.5                | 0.098                   | 0.049               | 0.051                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PB        | 0.132                             | 0.125             | 0.105                   | 0.5                | 0.121                   | 0.060               | 0.061                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PB        | 0.284                             | 0.127             | 0.124                   | 0.5                | 0.180                   | 0.090               | 0.090                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PB        | 0.217                             | 0.156             | 0.092                   | 0.5                | 0.157                   | 0.079               | 0.081                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PB        | 0.318                             | 0.136             | 0.116                   | 0.5                | 0.196                   | 0.098               | 0.098                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PB        | 0.171                             | 0.144             | 0.136                   | 0.5                | 0.156                   | 0.078               | 0.080                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PB        | 0.17                              | 0.152             | 0.095                   | 0.5                | 0.145                   | 0.072               | 0.074                   |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements                  |                   |                         | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|-----------------------------------|-------------------|-------------------------|--------------------|-------------------------|---------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger/Operator (MC) Positions |                   |                         |                    |                         |                     |                         |
|              |                                  |                 |               |             |                 |           |             |                   |           | Head/ Top 1/3                     | Chest/ Middle 1/3 | Lower Trunk/ Bottom 1/3 |                    |                         |                     |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PB        | 0.152                             | 0.063             | 0.060                   | 0.5                | 0.090                   | 0.045               | 0.046                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PB        | 0.11                              | 0.084             | 0.053                   | 0.5                | 0.081                   | 0.041               | 0.042                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PB        | 0.174                             | 0.056             | 0.050                   | 0.5                | 0.092                   | 0.046               | 0.047                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PB        | 0.123                             | 0.055             | 0.060                   | 0.5                | 0.079                   | 0.039               | 0.041                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PB        | 0.123                             | 0.112             | 0.126                   | 0.5                | 0.120                   | 0.060               | 0.062                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PB        | 0.185                             | 0.120             | 0.144                   | 0.5                | 0.150                   | 0.075               | 0.076                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PB        | 0.175                             | 0.125             | 0.081                   | 0.5                | 0.128                   | 0.064               | 0.064                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PB        | 0.146                             | 0.094             | 0.056                   | 0.5                | 0.100                   | 0.050               | 0.052                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PB        | 0.181                             | 0.097             | 0.101                   | 0.5                | 0.130                   | 0.065               | 0.065                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PB        | 0.153                             | 0.115             | 0.171                   | 0.5                | 0.152                   | 0.076               | 0.078                   |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PB        | 0.123                             | 0.107             | 0.132                   | 0.5                | 0.126                   | 0.063               | 0.064                   |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                         |                    |                  |                   |                       |              | Probe Info.  |                         |    | MPE Measurements |                                      |                         | DUT<br>Max.<br>TX<br>Factor | Avg. over<br>Body (mW/<br>cm2) | Calc. P.D.<br>(mW/ cm2) | Max Calc.<br>P.D. (mW/<br>cm2) |                                  |
|--------------|-----------------------------------------|--------------------|------------------|-------------------|-----------------------|--------------|--------------|-------------------------|----|------------------|--------------------------------------|-------------------------|-----------------------------|--------------------------------|-------------------------|--------------------------------|----------------------------------|
| Ant<br>Loc.  | Ant. Model/<br>Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Test<br>Mode | E/H<br>Field | Probe<br>Cal.<br>Factor |    | Test<br>Pos.     | Passenger/Operator (MC)<br>Positions |                         |                             |                                |                         |                                |                                  |
|              |                                         |                    |                  |                   |                       |              |              |                         |    |                  | Head/<br>Top 1/3                     | Chest/<br>Middle<br>1/3 |                             |                                |                         |                                | Lower<br>Trunk/<br>Bottom<br>1/3 |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 762.0125         | 36.0              | 35.2                  | CW           | E            | 0.98                    | PB | 0.191            | 0.086                                | 0.120                   | 0.5                         | 0.130                          | 0.065                   | 0.067                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 769.0125         | 36.0              | 35.2                  | CW           | E            | 0.99                    | PB | 0.244            | 0.082                                | 0.109                   | 0.5                         | 0.143                          | 0.072                   | 0.073                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 772.0000         | 36.0              | 35.0                  | CW           | E            | 0.99                    | PB | 0.193            | 0.078                                | 0.113                   | 0.5                         | 0.127                          | 0.063                   | 0.065                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 774.9875         | 36.0              | 34.9                  | CW           | E            | 0.99                    | PB | 0.201            | 0.078                                | 0.080                   | 0.5                         | 0.118                          | 0.059                   | 0.061                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 794.0125         | 36.0              | 34.6                  | CW           | E            | 1.00                    | PB | 0.177            | 0.180                                | 0.193                   | 0.5                         | 0.183                          | 0.091                   | 0.095                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 799.0125         | 36.0              | 35.5                  | CW           | E            | 1.00                    | PB | 0.284            | 0.266                                | 0.194                   | 0.5                         | 0.248                          | 0.124                   | 0.126                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 811.5000         | 42.0              | 42.0                  | CW           | E            | 1.01                    | PB | 0.286            | 0.219                                | 0.203                   | 0.5                         | 0.238                          | 0.119                   | 0.119                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 823.9875         | 42.0              | 40.8                  | CW           | E            | 1.01                    | PB | 0.296            | 0.233                                | 0.137                   | 0.5                         | 0.225                          | 0.113                   | 0.116                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 851.0125         | 42.0              | 41.8                  | CW           | E            | 1.03                    | PB | 0.219            | 0.148                                | 0.111                   | 0.5                         | 0.164                          | 0.082                   | 0.083                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 860.5000         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PB | 0.221            | 0.141                                | 0.181                   | 0.5                         | 0.188                          | 0.094                   | 0.096                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 868.9875         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PB | 0.198            | 0.107                                | 0.149                   | 0.5                         | 0.158                          | 0.079                   | 0.081                          |                                  |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF | 0.083            | 0.108                             | 0.044             | 0.5                | 0.077                   | 0.039               | 0.039                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF | 0.078            | 0.13                              | 0.04              | 0.5                | 0.082                   | 0.041               | 0.042                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF | 0.101            | 0.172                             | 0.05              | 0.5                | 0.106                   | 0.053               | 0.055                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF | 0.095            | 0.132                             | 0.038             | 0.5                | 0.087                   | 0.044               | 0.045                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF | 0.107            | 0.144                             | 0.032             | 0.5                | 0.094                   | 0.047               | 0.049                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF | 0.092            | 0.11                              | 0.027             | 0.5                | 0.076                   | 0.038               | 0.039                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF | 0.118            | 0.123                             | 0.05              | 0.5                | 0.098                   | 0.049               | 0.049                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF | 0.117            | 0.096                             | 0.056             | 0.5                | 0.091                   | 0.045               | 0.047                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF | 0.052            | 0.037                             | 0.026             | 0.5                | 0.040                   | 0.020               | 0.020                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.09             | 0.052                             | 0.034             | 0.5                | 0.061                   | 0.030               | 0.031                   |                         |
| Trunk        | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.075            | 0.035                             | 0.027             | 0.5                | 0.048                   | 0.024               | 0.024                   |                         |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements                  |                   |                         | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|-----------------------------------|-------------------|-------------------------|--------------------|-------------------------|---------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger/Operator (MC) Positions |                   |                         |                    |                         |                     |                         |
|              |                                  |                 |               |             |                 |           |             |                   |           | Head/ Top 1/3                     | Chest/ Middle 1/3 | Lower Trunk/ Bottom 1/3 |                    |                         |                     |                         |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF        | 0.045                             | 0.062             | 0.023                   | 0.5                | 0.043                   | 0.021               | 0.022                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF        | 0.035                             | 0.067             | 0.026                   | 0.5                | 0.042                   | 0.021               | 0.022                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF        | 0.059                             | 0.095             | 0.027                   | 0.5                | 0.060                   | 0.030               | 0.031                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF        | 0.071                             | 0.107             | 0.026                   | 0.5                | 0.067                   | 0.034               | 0.035                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF        | 0.109                             | 0.144             | 0.013                   | 0.5                | 0.088                   | 0.044               | 0.046                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF        | 0.121                             | 0.097             | 0.017                   | 0.5                | 0.078                   | 0.039               | 0.040                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF        | 0.15                              | 0.18              | 0.037                   | 0.5                | 0.123                   | 0.062               | 0.062                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF        | 0.156                             | 0.159             | 0.088                   | 0.5                | 0.136                   | 0.068               | 0.070                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF        | 0.077                             | 0.141             | 0.072                   | 0.5                | 0.100                   | 0.050               | 0.050                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF        | 0.105                             | 0.077             | 0.044                   | 0.5                | 0.078                   | 0.039               | 0.040                   |
| Trunk        | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF        | 0.1                               | 0.057             | 0.05                    | 0.5                | 0.072                   | 0.036               | 0.037                   |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF | 0.068            | 0.163                             | 0.042             | 0.5                | 0.090                   | 0.045               | 0.046                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF | 0.064            | 0.163                             | 0.043             | 0.5                | 0.089                   | 0.044               | 0.045                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF | 0.089            | 0.205                             | 0.043             | 0.5                | 0.111                   | 0.056               | 0.057                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF | 0.088            | 0.123                             | 0.041             | 0.5                | 0.083                   | 0.042               | 0.043                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF | 0.112            | 0.141                             | 0.043             | 0.5                | 0.098                   | 0.049               | 0.051                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF | 0.106            | 0.122                             | 0.04              | 0.5                | 0.089                   | 0.045               | 0.045                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF | 0.148            | 0.116                             | 0.046             | 0.5                | 0.104                   | 0.052               | 0.052                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF | 0.12             | 0.105                             | 0.054             | 0.5                | 0.094                   | 0.047               | 0.049                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF | 0.058            | 0.048                             | 0.023             | 0.5                | 0.044                   | 0.022               | 0.022                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.081            | 0.06                              | 0.027             | 0.5                | 0.058                   | 0.029               | 0.030                   |                         |
| Trunk        | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.055            | 0.045                             | 0.029             | 0.5                | 0.045                   | 0.022               | 0.023                   |                         |

MPE calculations are defined in section 14.0.



**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                         |                    |                  |                   |                       |              | Probe Info.  |                         |    | MPE Measurements |                                      |                         | DUT<br>Max.<br>TX<br>Factor | Avg. over<br>Body (mW/<br>cm2) | Calc. P.D.<br>(mW/ cm2) | Max Calc.<br>P.D. (mW/<br>cm2) |                                  |
|--------------|-----------------------------------------|--------------------|------------------|-------------------|-----------------------|--------------|--------------|-------------------------|----|------------------|--------------------------------------|-------------------------|-----------------------------|--------------------------------|-------------------------|--------------------------------|----------------------------------|
| Ant<br>Loc.  | Ant. Model/<br>Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Test<br>Mode | E/H<br>Field | Probe<br>Cal.<br>Factor |    | Test<br>Pos.     | Passenger/Operator (MC)<br>Positions |                         |                             |                                |                         |                                |                                  |
|              |                                         |                    |                  |                   |                       |              |              |                         |    |                  | Head/<br>Top 1/3                     | Chest/<br>Middle<br>1/3 |                             |                                |                         |                                | Lower<br>Trunk/<br>Bottom<br>1/3 |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 762.0125         | 36.0              | 35.2                  | CW           | E            | 0.98                    | PF | 0.121            | 0.234                                | 0.061                   | 0.5                         | 0.137                          | 0.068                   | 0.070                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 769.0125         | 36.0              | 35.2                  | CW           | E            | 0.99                    | PF | 0.122            | 0.248                                | 0.068                   | 0.5                         | 0.144                          | 0.072                   | 0.074                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 772.0000         | 36.0              | 35.0                  | CW           | E            | 0.99                    | PF | 0.163            | 0.335                                | 0.076                   | 0.5                         | 0.189                          | 0.095                   | 0.097                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 774.9875         | 36.0              | 34.9                  | CW           | E            | 0.99                    | PF | 0.196            | 0.302                                | 0.064                   | 0.5                         | 0.185                          | 0.093                   | 0.096                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 794.0125         | 36.0              | 34.6                  | CW           | E            | 1.00                    | PF | 0.167            | 0.243                                | 0.059                   | 0.5                         | 0.156                          | 0.078                   | 0.081                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 799.0125         | 36.0              | 35.5                  | CW           | E            | 1.00                    | PF | 0.209            | 0.177                                | 0.059                   | 0.5                         | 0.148                          | 0.074                   | 0.075                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 811.5000         | 42.0              | 42.0                  | CW           | E            | 1.01                    | PF | 0.325            | 0.190                                | 0.089                   | 0.5                         | 0.203                          | 0.101                   | 0.101                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 823.9875         | 42.0              | 40.8                  | CW           | E            | 1.01                    | PF | 0.176            | 0.157                                | 0.112                   | 0.5                         | 0.150                          | 0.075                   | 0.077                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 851.0125         | 42.0              | 41.8                  | CW           | E            | 1.03                    | PF | 0.061            | 0.067                                | 0.042                   | 0.5                         | 0.058                          | 0.029                   | 0.029                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 860.5000         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PF | 0.128            | 0.081                                | 0.037                   | 0.5                         | 0.085                          | 0.043                   | 0.043                          |                                  |
| Trunk        | HAF4017A, 1/4<br>Wave, (762-<br>870MHz) | 5.15               | 868.9875         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PF | 0.086            | 0.044                                | 0.040                   | 0.5                         | 0.059                          | 0.030                   | 0.030                          |                                  |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PB | 0.036            | 0.024                             | 0.038             | 0.5                | 0.032                   | 0.016               | 0.016                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PB | 0.033            | 0.026                             | 0.038             | 0.5                | 0.032                   | 0.016               | 0.016                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PB | 0.035            | 0.031                             | 0.041             | 0.5                | 0.035                   | 0.018               | 0.018                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PB | 0.036            | 0.035                             | 0.037             | 0.5                | 0.036                   | 0.018               | 0.018                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PB | 0.042            | 0.036                             | 0.024             | 0.5                | 0.034                   | 0.017               | 0.018                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PB | 0.034            | 0.033                             | 0.025             | 0.5                | 0.031                   | 0.015               | 0.016                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PB | 0.024            | 0.031                             | 0.024             | 0.5                | 0.027                   | 0.013               | 0.013                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PB | 0.024            | 0.015                             | 0.052             | 0.5                | 0.031                   | 0.015               | 0.016                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PB | 0.016            | 0.012                             | 0.013             | 0.5                | 0.014                   | 0.007               | 0.007                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PB | 0.021            | 0.022                             | 0.016             | 0.5                | 0.020                   | 0.010               | 0.010                   |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PB | 0.016            | 0.018                             | 0.013             | 0.5                | 0.016                   | 0.008               | 0.008                   |                         |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PB | 0.002            | 0.004                             | 0.002             | 0.5                | 0.003                   | 0.001               | 0.001                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PB | 0.002            | 0.004                             | 0.003             | 0.5                | 0.003                   | 0.001               | 0.002                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PB | 0.002            | 0.003                             | 0.003             | 0.5                | 0.003                   | 0.001               | 0.001                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PB | 0.002            | 0.003                             | 0.002             | 0.5                | 0.002                   | 0.001               | 0.001                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PB | 0.013            | 0.005                             | 0.005             | 0.5                | 0.008                   | 0.004               | 0.004                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PB | 0.01             | 0.013                             | 0.01              | 0.5                | 0.011                   | 0.005               | 0.006                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PB | 0.018            | 0.027                             | 0.017             | 0.5                | 0.021                   | 0.010               | 0.010                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PB | 0.018            | 0.013                             | 0.043             | 0.5                | 0.025                   | 0.013               | 0.013                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PB | 0.024            | 0.015                             | 0.022             | 0.5                | 0.021                   | 0.010               | 0.011                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PB | 0.012            | 0.016                             | 0.014             | 0.5                | 0.015                   | 0.007               | 0.007                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PB | 0.028            | 0.017                             | 0.015             | 0.5                | 0.021                   | 0.010               | 0.011                   |                         |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                         |                    |                  |                   |                       |              | Probe Info.  |                         |    | MPE Measurements |                                      |                         |     |       |       |       |                                  |
|--------------|-----------------------------------------|--------------------|------------------|-------------------|-----------------------|--------------|--------------|-------------------------|----|------------------|--------------------------------------|-------------------------|-----|-------|-------|-------|----------------------------------|
| Ant Loc.     | Ant. Model/<br>Desc.                    | Ant. Gain<br>(dBi) | Tx Freq<br>(MHz) | Max<br>Pwr<br>(W) | Initial<br>Pwr<br>(W) | Test<br>Mode | E/H<br>Field | Probe<br>Cal.<br>Factor |    | Test<br>Pos.     | Passenger/Operator (MC)<br>Positions |                         |     |       |       |       |                                  |
|              |                                         |                    |                  |                   |                       |              |              |                         |    |                  | Head/<br>Top 1/3                     | Chest/<br>Middle<br>1/3 |     |       |       |       | Lower<br>Trunk/<br>Bottom<br>1/3 |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 762.0125         | 36.0              | 35.2                  | CW           | E            | 0.98                    | PB | 0.037            | 0.031                                | 0.027                   | 0.5 | 0.031 | 0.016 | 0.016 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 769.0125         | 36.0              | 35.2                  | CW           | E            | 0.99                    | PB | 0.04             | 0.027                                | 0.04                    | 0.5 | 0.035 | 0.018 | 0.018 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 772.0000         | 36.0              | 35.0                  | CW           | E            | 0.99                    | PB | 0.033            | 0.027                                | 0.039                   | 0.5 | 0.033 | 0.016 | 0.017 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 774.9875         | 36.0              | 34.9                  | CW           | E            | 0.99                    | PB | 0.035            | 0.022                                | 0.042                   | 0.5 | 0.033 | 0.016 | 0.017 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 794.0125         | 36.0              | 34.6                  | CW           | E            | 1.00                    | PB | 0.046            | 0.034                                | 0.031                   | 0.5 | 0.037 | 0.018 | 0.019 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 799.0125         | 36.0              | 35.5                  | CW           | E            | 1.00                    | PB | 0.035            | 0.03                                 | 0.028                   | 0.5 | 0.031 | 0.015 | 0.016 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 811.5000         | 42.0              | 42.0                  | CW           | E            | 1.01                    | PB | 0.02             | 0.026                                | 0.024                   | 0.5 | 0.023 | 0.012 | 0.012 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 823.9875         | 42.0              | 40.8                  | CW           | E            | 1.01                    | PB | 0.022            | 0.017                                | 0.067                   | 0.5 | 0.036 | 0.018 | 0.018 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 851.0125         | 42.0              | 41.8                  | CW           | E            | 1.03                    | PB | 0.022            | 0.015                                | 0.016                   | 0.5 | 0.018 | 0.009 | 0.009 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 860.5000         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PB | 0.02             | 0.019                                | 0.01                    | 0.5 | 0.017 | 0.008 | 0.009 |                                  |
| Roof         | HAF4016A, 1/4<br>Wave, (762-<br>870MHz) | 2.15               | 868.9875         | 42.0              | 41.1                  | CW           | E            | 1.04                    | PB | 0.025            | 0.014                                | 0.012                   | 0.5 | 0.018 | 0.009 | 0.009 |                                  |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   | Test Pos. | MPE Measurements                  |                   |                         | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|-----------|-----------------------------------|-------------------|-------------------------|--------------------|-------------------------|---------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |           | Passenger/Operator (MC) Positions |                   |                         |                    |                         |                     |                         |
|              |                                  |                 |               |             |                 |           |             |                   |           | Head/ Top 1/3                     | Chest/ Middle 1/3 | Lower Trunk/ Bottom 1/3 |                    |                         |                     |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PB        | 0.066                             | 0.04              | 0.07                    | 0.5                | 0.058                   | 0.029               | 0.030                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PB        | 0.066                             | 0.041             | 0.052                   | 0.5                | 0.052                   | 0.026               | 0.027                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PB        | 0.054                             | 0.04              | 0.073                   | 0.5                | 0.055                   | 0.028               | 0.028                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PB        | 0.055                             | 0.041             | 0.072                   | 0.5                | 0.055                   | 0.028               | 0.029                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PB        | 0.053                             | 0.058             | 0.053                   | 0.5                | 0.055                   | 0.027               | 0.028                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PB        | 0.06                              | 0.053             | 0.045                   | 0.5                | 0.053                   | 0.026               | 0.027                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PB        | 0.039                             | 0.043             | 0.041                   | 0.5                | 0.041                   | 0.021               | 0.021                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PB        | 0.055                             | 0.029             | 0.040                   | 0.5                | 0.042                   | 0.021               | 0.022                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PB        | 0.035                             | 0.019             | 0.016                   | 0.5                | 0.024                   | 0.012               | 0.012                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PB        | 0.040                             | 0.043             | 0.025                   | 0.5                | 0.037                   | 0.019               | 0.019                   |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PB        | 0.03                              | 0.018             | 0.018                   | 0.5                | 0.023                   | 0.011               | 0.012                   |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/ cm2) | Calc. P.D. (mW/ cm2) | Max Calc. P.D. (mW/ cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|--------------------------|----------------------|--------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                          |                      |                          |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                          |                      |                          | Lower Trunk/ Bottom 1/3 |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF | 0.014            | 0.019                             | 0.017             | 0.5                | 0.016                    | 0.008                | 0.008                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF | 0.016            | 0.025                             | 0.019             | 0.5                | 0.020                    | 0.010                | 0.010                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF | 0.011            | 0.028                             | 0.017             | 0.5                | 0.018                    | 0.009                | 0.009                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF | 0.018            | 0.029                             | 0.012             | 0.5                | 0.019                    | 0.010                | 0.010                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF | 0.011            | 0.025                             | 0.008             | 0.5                | 0.015                    | 0.007                | 0.008                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF | 0.018            | 0.012                             | 0.01              | 0.5                | 0.013                    | 0.007                | 0.007                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF | 0.013            | 0.018                             | 0.015             | 0.5                | 0.015                    | 0.008                | 0.008                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF | 0.024            | 0.017                             | 0.017             | 0.5                | 0.020                    | 0.010                | 0.010                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF | 0.02             | 0.016                             | 0.013             | 0.5                | 0.017                    | 0.008                | 0.008                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.014            | 0.018                             | 0.019             | 0.5                | 0.018                    | 0.009                | 0.009                    |                         |
| Roof         | HAF4013A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.018            | 0.014                             | 0.01              | 0.5                | 0.015                    | 0.007                | 0.007                    |                         |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF | 0.002            | 0.004                             | 0.003             | 0.5                | 0.003                   | 0.001               | 0.002                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF | 0.003            | 0.004                             | 0.003             | 0.5                | 0.003                   | 0.002               | 0.002                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF | 0.004            | 0.004                             | 0.003             | 0.5                | 0.004                   | 0.002               | 0.002                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF | 0.004            | 0.003                             | 0.002             | 0.5                | 0.003                   | 0.001               | 0.002                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF | 0.006            | 0.008                             | 0.004             | 0.5                | 0.006                   | 0.003               | 0.003                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF | 0.004            | 0.010                             | 0.007             | 0.5                | 0.007                   | 0.003               | 0.004                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF | 0.009            | 0.019                             | 0.009             | 0.5                | 0.012                   | 0.006               | 0.006                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF | 0.023            | 0.010                             | 0.014             | 0.5                | 0.016                   | 0.008               | 0.008                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF | 0.029            | 0.030                             | 0.008             | 0.5                | 0.023                   | 0.012               | 0.012                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.020            | 0.025                             | 0.015             | 0.5                | 0.021                   | 0.010               | 0.011                   |                         |
| Roof         | HAF4014A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.021            | 0.014                             | 0.011             | 0.5                | 0.016                   | 0.008               | 0.008                   |                         |

MPE calculations are defined in section 14.0.

**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF | 0.015            | 0.022                             | 0.017             | 0.5                | 0.018                   | 0.009               | 0.009                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF | 0.017            | 0.024                             | 0.018             | 0.5                | 0.019                   | 0.010               | 0.010                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF | 0.013            | 0.016                             | 0.014             | 0.5                | 0.014                   | 0.007               | 0.007                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF | 0.01             | 0.026                             | 0.013             | 0.5                | 0.016                   | 0.008               | 0.008                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF | 0.013            | 0.021                             | 0.007             | 0.5                | 0.014                   | 0.007               | 0.007                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF | 0.016            | 0.016                             | 0.01              | 0.5                | 0.014                   | 0.007               | 0.007                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF | 0.01             | 0.025                             | 0.011             | 0.5                | 0.015                   | 0.008               | 0.008                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF | 0.023            | 0.018                             | 0.019             | 0.5                | 0.020                   | 0.010               | 0.010                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF | 0.021            | 0.016                             | 0.01              | 0.5                | 0.016                   | 0.008               | 0.008                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.017            | 0.016                             | 0.014             | 0.5                | 0.016                   | 0.008               | 0.008                   |                         |
| Roof         | HAF4016A, 1/4 Wave, (762-870MHz) | 2.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.016            | 0.014                             | 0.008             | 0.5                | 0.013                   | 0.007               | 0.007                   |                         |

MPE calculations are defined in section 14.0.



**Table D.2 (Continued)**  
**MPE measurement data for Passenger**

| D.U.T. Info. |                                  |                 |               |             |                 |           | Probe Info. |                   |    | MPE Measurements |                                   |                   | DUT Max. TX Factor | Avg. over Body (mW/cm2) | Calc. P.D. (mW/cm2) | Max Calc. P.D. (mW/cm2) |                         |
|--------------|----------------------------------|-----------------|---------------|-------------|-----------------|-----------|-------------|-------------------|----|------------------|-----------------------------------|-------------------|--------------------|-------------------------|---------------------|-------------------------|-------------------------|
| Ant Loc.     | Ant. Model/ Desc.                | Ant. Gain (dBi) | Tx Freq (MHz) | Max Pwr (W) | Initial Pwr (W) | Test Mode | E/H Field   | Probe Cal. Factor |    | Test Pos.        | Passenger/Operator (MC) Positions |                   |                    |                         |                     |                         |                         |
|              |                                  |                 |               |             |                 |           |             |                   |    |                  | Head/ Top 1/3                     | Chest/ Middle 1/3 |                    |                         |                     |                         | Lower Trunk/ Bottom 1/3 |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 762.0125      | 36.0        | 35.2            | CW        | E           | 0.98              | PF | 0.032            | 0.042                             | 0.033             | 0.5                | 0.035                   | 0.018               | 0.018                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 769.0125      | 36.0        | 35.2            | CW        | E           | 0.99              | PF | 0.033            | 0.038                             | 0.034             | 0.5                | 0.035                   | 0.017               | 0.018                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 772.0000      | 36.0        | 35.0            | CW        | E           | 0.99              | PF | 0.029            | 0.038                             | 0.033             | 0.5                | 0.033                   | 0.016               | 0.017                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 774.9875      | 36.0        | 34.9            | CW        | E           | 0.99              | PF | 0.016            | 0.049                             | 0.021             | 0.5                | 0.028                   | 0.014               | 0.015                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 794.0125      | 36.0        | 34.6            | CW        | E           | 1.00              | PF | 0.026            | 0.044                             | 0.015             | 0.5                | 0.028                   | 0.014               | 0.015                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 799.0125      | 36.0        | 35.5            | CW        | E           | 1.00              | PF | 0.026            | 0.027                             | 0.019             | 0.5                | 0.024                   | 0.012               | 0.012                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 811.5000      | 42.0        | 42.0            | CW        | E           | 1.01              | PF | 0.014            | 0.035                             | 0.018             | 0.5                | 0.022                   | 0.011               | 0.011                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 823.9875      | 42.0        | 40.8            | CW        | E           | 1.01              | PF | 0.046            | 0.028                             | 0.021             | 0.5                | 0.032                   | 0.016               | 0.017                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 851.0125      | 42.0        | 41.8            | CW        | E           | 1.03              | PF | 0.034            | 0.024                             | 0.011             | 0.5                | 0.024                   | 0.012               | 0.012                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 860.5000      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.022            | 0.026                             | 0.016             | 0.5                | 0.022                   | 0.011               | 0.011                   |                         |
| Roof         | HAF4017A, 1/4 Wave, (762-870MHz) | 5.15            | 868.9875      | 42.0        | 41.1            | CW        | E           | 1.04              | PF | 0.021            | 0.017                             | 0.011             | 0.5                | 0.017                   | 0.009               | 0.009                   |                         |

MPE calculations are defined in section 14.0.