

**Panasonic Avionics Corporation  
Modification of Call Sign WG2XRN  
T-PED Interference Ground Testing at  
George Bush Intercontinental Airport, Houston, Texas  
May 12, 2015**

**MODIFICATION NARRATIVE**

Panasonic Avionics Corporation (“Panasonic”) respectfully requests a modification of its existing two-year experimental license (Call Sign WG2XRN) to add five frequency bands at the authorized test site where Panasonic will conduct ground testing in support of Panasonic’s Global Communications Suite (“GCS”) featuring the “eXconnect” Ku-band aeronautical mobile-satellite service (“AMSS”) off-board link and onboard connectivity for transmit portable devices (“T-PEDs”).

Panasonic has sought and received FCC authorization for other STAs to conduct T-PED interference testing at airfields using the same test frequency bands that are proposed in the amendment. Most recently, the FCC authorized Panasonic to conduct testing under Call Sign WI9XHC (File No. 0079-EX-ST-2015), an experimental STA at the Sussex County Airport in Georgetown, Delaware.

Attached is Table 1, which lists the amended test frequency bands. Also listed are the proposed wireless standards and associated technical information for each test band: modulation (pulse or continuous wave), maximum EIRP, maximum ERP, emission designator, among others. A single 1 MHz test frequency in each uplink band, also identified, will be used for testing. Specifically, Panasonic seeks to add the following frequency bands:

- 614-698 MHz: 656 MHz
- 1427.9-1447.9 MHz: 1438 MHz
- 1447.9-1462.9 MHz: 1455 MHz
- 1626.5-1660.5 MHz: 1644 MHz
- 2300-2400 MHz: 2350 MHz

The modification to the two-year experimental license does not make any changes to the test site or other information included in the application.

Please direct any questions regarding this submission to:

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**Table 1 - T-PED EMI Test Frequencies / Transmit Power Requirements**

| <b>Wireless Standard</b> | <b>Frequency start of band (MHz)</b> | <b>Frequency end of band (MHz)</b> | <b>Test Frequency (MHz)</b> | <b>Modulation</b> | <b>Test Waveform</b> | <b>Target EIRP (dBm)</b> | <b>Target EIRP (W)</b> | <b>Target ERP (W) ②</b> | <b>Emission Code</b> |
|--------------------------|--------------------------------------|------------------------------------|-----------------------------|-------------------|----------------------|--------------------------|------------------------|-------------------------|----------------------|
| CDMA 2000                | 410                                  | 420                                | 415                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| GSM 400                  | 450.4                                | 457.6                              | 454                         | Pulse             | 1                    | 45.0                     | 31.7                   | 29.5                    | P0N                  |
| CDMA 2000                | 450                                  | 460                                | 455                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| CDMA 2000                | 479                                  | 484                                | 482                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| 600 MHz Band             | 614.0                                | 698.0                              | 656                         | CW                | 2                    | 45.0                     | 31.7                   | 29.6                    | N0N                  |
| 600 MHz Band             | 614.0                                | 698.0                              | 656                         | Pulse             | 1                    | 45.0                     | 31.7                   | 29.6                    | P0N                  |
| CDMA 2000                | 776                                  | 794                                | 785                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| CDMA 2000                | 806                                  | 849                                | 828                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| CDMAone                  | 824                                  | 849                                | 828                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| UMTS FDD                 | 824                                  | 849                                | 828                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| GSM 850                  | 824                                  | 849                                | 828                         | Pulse             | 1                    | 45.0                     | 31.7                   | 29.5                    | P0N                  |
| IS-136                   | 824                                  | 849                                | 828                         | Pulse             | 1                    | 45.0                     | 31.7                   | 29.5                    | P0N                  |
| UMTS TDD                 | 824                                  | 849                                | 828                         | Pulse             | 1                    | 45.0                     | 31.7                   | 29.5                    | P0N                  |
| CDMA 2000                | 870                                  | 925                                | 898                         | CW                | 2                    | 42.0                     | 15.8                   | 13.7                    | N0N                  |
| GSM 900                  | 876                                  | 915                                | 913                         | Pulse             | 1                    | 45.0                     | 31.7                   | 29.5                    | P0N                  |
| LTE E-UTRA Band 11       | 1427.9                               | 1447.9                             | 1438                        | CW                | 2                    | 35.0                     | 3.16                   | 1.06                    | N0N                  |
| LTE E-UTRA Band 11       | 1427.9                               | 1447.9                             | 1438                        | Pulse             | 1                    | 35.0                     | 3.16                   | 1.06                    | P0N                  |
| LTE E-UTRA Band 21       | 1447.9                               | 1462.9                             | 1455                        | CW                | 2                    | 35.0                     | 3.16                   | 1.06                    | N0N                  |
| LTE E-UTRA Band 21       | 1447.9                               | 1462.9                             | 1455                        | Pulse             | 1                    | 35.0                     | 3.16                   | 1.06                    | P0N                  |
| Mobile Sat               | 1613.8                               | 1626.5                             | 1626                        | Pulse             | 1                    | 42.0                     | 15.8                   | 13.7                    | P0N                  |
| LTE E-UTRA Band 24       | 1626.5                               | 1660.5                             | 1644                        | CW                | 2                    | 35.0                     | 3.16                   | 1.06                    | N0N                  |
| LTE E-UTRA Band 24       | 1626.5                               | 1660.5                             | 1644                        | Pulse             | 1                    | 35.0                     | 3.16                   | 1.06                    | P0N                  |

|                    |      |      |      |       |   |      |      |      |     |
|--------------------|------|------|------|-------|---|------|------|------|-----|
| CDMA 2000          | 1710 | 1785 | 1748 | CW    | 2 | 42.0 | 15.8 | 13.7 | N0N |
| DCS 1800           | 1710 | 1785 | 1748 | Pulse | 1 | 42.0 | 15.8 | 13.7 | P0N |
| CDMA 2000          | 1850 | 1910 | 1884 | CW    | 2 | 42.0 | 15.8 | 13.7 | N0N |
| UMTS FDD           | 1850 | 1910 | 1884 | CW    | 2 | 42.0 | 15.8 | 13.7 | N0N |
| CDMAone            | 1850 | 1910 | 1884 | CW    | 2 | 42.0 | 15.8 | 13.7 | N0N |
| UMTS TDD           | 1850 | 1910 | 1884 | Pulse | 1 | 42.0 | 15.8 | 13.7 | P0N |
| PCS 1900           | 1850 | 1910 | 1884 | Pulse | 1 | 42.0 | 15.8 | 13.7 | P0N |
| IS-136             | 1850 | 1910 | 1884 | Pulse | 1 | 42.0 | 15.8 | 13.7 | P0N |
| UMTS TDD           | 1900 | 1920 | 1910 | Pulse | 1 | 36.0 | 4.0  | 1.8  | P0N |
| CDMA 2000          | 1920 | 1980 | 1949 | CW    | 2 | 42.0 | 15.8 | 13.7 | N0N |
| UMTS FDD           | 1920 | 1980 | 1949 | CW    | 2 | 42.0 | 15.8 | 13.7 | N0N |
| UMTS TDD           | 2010 | 2025 | 2018 | Pulse | 1 | 36.0 | 4.0  | 1.8  | P0N |
| UMTS/3G/PCN        | 2110 | 2170 | 2140 | CW    | 2 | 36.0 | 4.0  | 1.8  | N0N |
| LTE E-UTRA Band 40 | 2300 | 2400 | 2350 | CW    | 2 | 35.0 | 3.16 | 1.06 | N0N |
| LTE E-UTRA Band 40 | 2300 | 2400 | 2350 | Pulse | 1 | 35.0 | 3.16 | 1.06 | P0N |
| 802.11b/g          | 2400 | 2497 | 2412 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |
| 802.11b/g          |      |      | 2437 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |
| 802.11b/g          |      |      | 2462 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |
| FDD LTE            | 2500 | 2685 | 2595 | Pulse | 2 | 42.0 | 15.8 | 13.7 | P0N |
| FDD LTE            | 2500 | 2685 | 2595 | CW    | 1 | 42.0 | 15.8 | 13.7 | N0N |
| Wi-Max             | 3400 | 3600 | 3450 | Pulse | 2 | 42.0 | 15.8 | 13.7 | P0N |
| Wi-Max             | 3400 | 3600 | 3450 | CW    | 1 | 42.0 | 15.8 | 13.7 | N0N |
| 802.11a/n          | 5150 | 5250 | 5170 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |
| 802.11a/n          | 5250 | 5350 | 5300 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |
| 802.11a            | 5470 | 5725 | 5580 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |
| 802/11a/n          | 5725 | 5825 | 5825 | Pulse | 1 | 37.0 | 5.0  | 2.9  | P0N |