RESPONSE TO FCC EQUIPMENT AUTHORIZATION
DATA REQUEST
FCC ID F3JLAU1900, SUBMISSION NO: EA89211

July 14, 1998

The following information is provided in response to an inquiry from the FCC made regarding the application for the Maxon America LAU1900 Wireless Local Loop. The request for information was dated June 25, 1998 and was originated by Greg Csumak.

1.0 List of Questions

The following questions were me

(a) Verify the bandwidth used for the EIRP measurements. Also, change the power rating used for the 731 to that based on the final EIRP rather than conducted power measurements.

(b) Determine the bandwidth for the emission designator & provide the appropriate designator for the 731.

(c) Update the 731 based on items (a) & (b).

2.0 EIRP Resolution

The radiated electric field used for the EIRP measurement was varied from 30 kHz to 3 MHz to provide the highest radiated power for the energy in the emission band of the device. The highest radiated emission level occurred for Channel 600, which has a center frequency of 189.50 MHz. The recorded emission level for this channel was 125 dBµV/m at a distance of 1 meter. The EIRP for this signal may be calculated based on the following formula:

$$EIRP = (E*r)/((30)^{1/2})$$

where r = Measurement Distance in Meters

E = Radiated Electric Field in V/m

For this signal, r = 1 and E = 1.949 V/m. By Substitution, the resulting EIRP is:

$$EIRP = (1.949*1)/((30)^{1/2}) = \mathbf{0.356\ W}$$

3.0 Emission Designator/Occupied Bandwidth Resolution

The measurement submitted for the occupied bandwidth is based on the measurement of the worst case emissions using a 26 dBc criteria. During the roundtable sessions presented by the FCC in January and February of 1998, three methods for Occupied Bandwidth (OBW) measurements were presented. These measurements included:

- Measurement using an internal 99% built-in power function
- Measurement using a 20 dBc bandwidth criteria
- Measurement using a 26 dBc bandwidth criteria

Since the last method was viewed during these sessions as being the most reliable and the worst case (the built-in functions may have problems based on the spectral distribution of the emission) bandwidth, the 26 dBc method is usually used by PTI for measurement of the OBW.

Regarding the emission designator, the LAU1900 is an IS-95 CDMA complaint device. This means that the necessary bandwidth for reliable communication for this unit (as with all IS-95 devices) is 1.25 MHz. The variation between the necessary BW and the OBW is usually approximately 10 to 15% due to the difference in BW criteria between necessary BW and that for the OBW. The worst case OBW for the LAU1900 is 11.5% wider (using the 26 dBc criteria) than the necessary bandwidth for this unit.

Based on previous conversations with FCC engineers, the commission has usually prefers that the emission designator bandwidth be based on the calculated necessary bandwidth required for reliable communication rather than the measured OBW. This is in keeping with the requirement of 2.201(a) stating that the bandwidth used for the emission designator be based on the necessary bandwidth. Based on the analysis provided in the application for the LAU1900, the necessary bandwidth for this device is 1.25 MHz.

4.0 Request for 731 Modifications

Based on a conversation with Charlie Cobbs, (week of 7/2/98) modification of the 731 for is not possible by personnel outside the commission when using the electronic filing system. He suggested that a formal request for modification be made as part of this response and that the changes be made to the database by the commission.

PTI formally requests that the following changes be made to the Form 731 for FCC ID F3JLAU1900 by the FCC:

(a) The rated power for the device be changed to 0.356 W. This change reflects the specification of the rating of this unit in terms of EIRP rather than conducted antenna power.

(b) The emission designator remain at 1M25F9W. Since this is a 2 GHz band CDMA device and the unit is IS-95 compliant, the device should be specified with the same emission designator used for all other CDMA IS-95 compliant devices.