

1. We have changed the contact person of this PBA KDB to Richard Block per your request. However, TCB and test lab are still the same person on Form 731. TCB should not be the player and the referee at the same time.

The issue with the 731 form appears to be irresolvable from our end. The FCC drop down menu indicates the president of the company's name being listed for both entries and no other selection can be made. We will work with the FCC to resolve this matter.

2. The spectral efficiency analysis claims a total of 8 transmissions, 4 meter-reading plus 4 hourly usage, per 24 hours (Page 5) and 120 ms is the maximum transmission time (Page 3). However, RF exposure reports states 16 transmission in 24 hours and 100 ms is the maximum transmission time. Please clarify.

The 8 transmissions per 24 hours represent an endpoint radio transmitter attached to a single meter which is the most common configuration. The worst case scenario of 16 transmissions per 24 hours comes from a radio transmitter attached to two meters, which logically has twice the number of transmissions. In the vast majority of cases, a radio transmitter is attached to a single meter.

The 120ms was a system limit for future systems. 100ms is the design limit of our current system. As noted in the analysis, both packet types are much less than either of these values

3. Please add in the Technical Appendix discussion on how interference is avoided with MIUs in the neighboring grid (1-1.5 mile grid) if the same radio channel is used. On the other hand, if different channels are used in adjacent grids, how many grids away is a radio channel re-used? Do MIUs coordinate their transmission in each cell or it is CSMA (Carrier Sensed Multiple Access)?

The endpoint (MIU) radio transmitters use a randomization algorithm that schedules transmissions at random times within a time window and restricts transmission until the next defined transmit window. Four time windows are used for the initial transmission and retransmission. This will support 50,000 meters within range of receiving or within range of causing interference on a single channel. We do not expect to need more than one pair of frequencies.

4. The reading transmission appears to have a lower data rate (7143 bps) than the usage transmission (7210 bps) in the Technical Appendix. Please elaborate.

The durations of both of the packets were rounded to the nearest millisecond. The target baud rate is 7200, but the design [as implemented in the device in practice] typically results in a slightly lower rate, but in no case is the rate more than 1% below the target 7200 baud rate. We apologize for any discrepancy, slight as we believe it to be for purposes of the overall spectral efficiency of our system. Using both the lowest and highest baud rates in the range, there is no difference in the single channel throughput calculated at the end of the Technical Appendix.

5. In the Technical Appendix the usage packet length is said to be 584 bits, but 534 bits is used in the calculation. Please clarify.

This is a transcription error from the Excel worksheet where the values were worked out. The value 584 was used in the calculation so the baud rate is correct as presented.

6. A revised version of the Theory of Operation is said to be available in 1/11 "Reply to FCC". However, the revision has not been uploaded.

The revised Theory of Operation should now have been uploaded.

7. A spectrum analyzer has its calibration date and the next due date being the same.

The test report typographical error has been corrected. A revised test report uploaded.

8. The power listing is still inconsistent. If 1.2 Watts is the measured power, then 90.205(s) in fact allows up to 1.44 Watts, hence the statements in the proposed grant note and the Theory of Operation are incorrect.

A revised grant note is attached and the Theory of operation has been revised.

9. Compliance with 90.210(d) is not limited to 100 kHz span and 100 Hz RBW. For emission beyond 50 kHz from the edge of the authorized bandwidth, per 90.210(d)(4) and 90.210(o), a resolution bandwidth of 100 kHz (< 1 GHz) or 1 MHz (> 1 GHz) should be used in spurious emission tests. The test report appears to be inadequate in demonstrating compliance.

I have reformatted the test report to merge the radiated test procedure sections together to better indicate that the correct measurement techniques were employed.