TransCell 1900TM
47CFR2.10XX Compliance

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Revision –

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LIST OF ILLUSTRATIONS

In addition to exhibits already submitted, the following details are furnished in response to the notice generated by Elite regarding outstanding issues with the current application for FCC certification of the TransCell 1900TM system.

1.0   47CFR2.1033

This section had been written up as of February 16th as a separate document, 47cfr2_1033.pdf. Please refer to 47cfr2_1033.pdf for sections not appearing here. Also, these sections supercede the equivalent sections in 47cfr2_1033.pdf.

1.1   2.1033C(4)

The TransCell 1900TM system is an intentional radiator which employs two transmitter types. One type is designed for PCS frequency transmission of TIA/EIA-136 "TDMA" modulated signals under 47CFR Part 24. The other transmission type is designed for point-to-point data-link communications utilizing spread spectrum techniques in the ISM band under 47CFR Part 15.247. However, the requirement for this second transmitter *description* falls under 47CFR2.1033B, not paragraph c(4).

1.2   2.1033C(12)

In addition to photos furnished by Transcept in exhibits C and D, and in 47cfr2_1033.pdf, the following figures are offered.
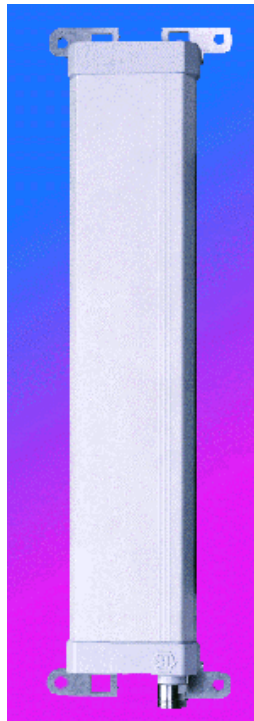
Figure 1-1. Typical PCS Flat Panel Antenna.

Figure 1-2. Typical ISM Dish Antenna.

1.3   2.1033C(13)

The only digital modulation present in the TransCell 1900TM system is the data-link bit stream covered in 47cfr15.247. It utilizes 11 megabits per second CCK. A digitized (base-band) version of the original IF TDMA signal is digitally filtered and taken as input to be modulated as spread spectrum at 5.8 GHz. Three bits per packet are set aside for internal system communications. The resulting RF is shaped by a diplexer before transmission. A sample plot of this output is included in **/15_247/attach4.tif** of the CD-ROM furnished to NTS by Transcept. It has been reprinted in this section as Figure 1-3. At the data-link receiver, the 5.8 GHz signal is demodulated back to base-band and the internal system communications bits are stripped from the data stream in preparation for conversion to a TDMA analog IF. The original TDMA signal modulation and synthesis is done in the mobile handset and at the base station, outside of our system.
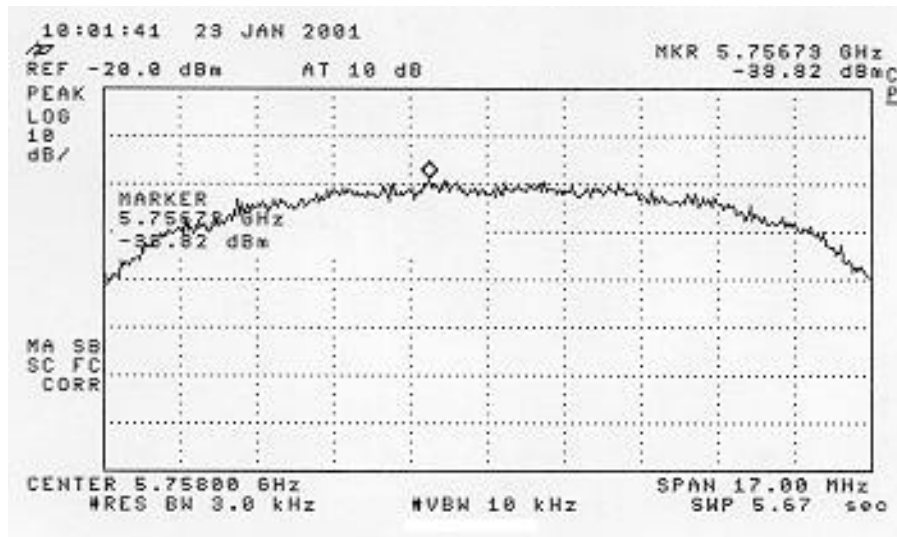
Figure 1-3. 5.8 GHz Spread Spectrum.

2.0   47CFR2.1046

2.1   2.1046A, C

The RF output measurements for part 15 are shown in Exhibit E. Maximum transmit power out of the Transcell 1900TM antenna port is less than 1 Watt, and the 5.8 GHz dish is typically 100 feet or more up a cell tower, adding a typical cable loss of 4.5 dB.

3.0   47CFR2.1047D

The TransCell 1900TM transmission falls completely within the ISM 5.8GHz band. See Exhibit E.

4.0   47CFR2.1049

4.1   2.1049C

The occupied bandwidth is shown in Exhibit E.

4.2   2.1049C(4)

The nominal TDMA input signal used is shown in Figure 4-1 below. This modulated TDMA signal was generated using the Agilent E4433 specified in Exhibit E of the part 24 submittal. See Exhibit E for a typical 15.247 output waveform.
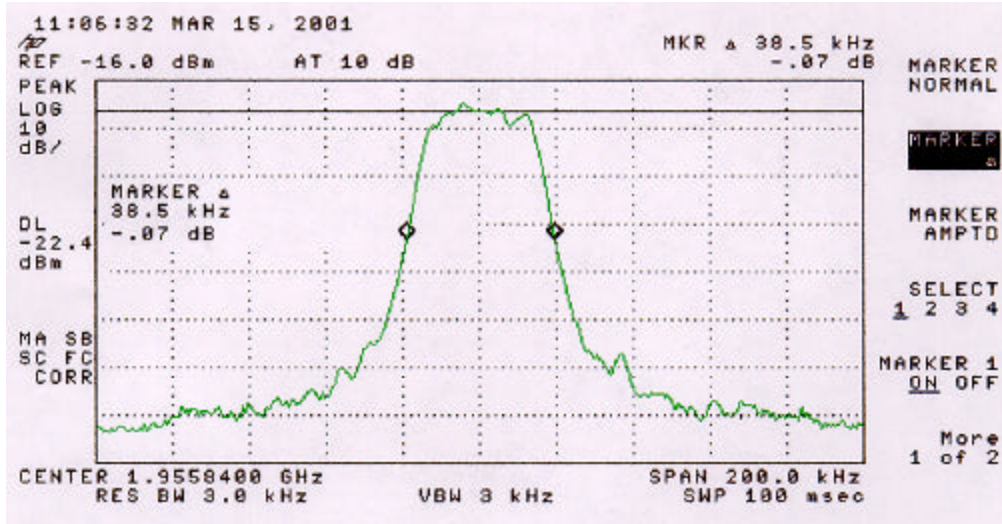
Figure 4-1. TDMA Input Signal.

5.0　47CFR2.1051

This spurious data test is documented in Exhibit E6.

6.0　47CFR2.1053

This emissions testing was performed at NTS, and is included in the NTS test report. The TransCell 1900TM passes the more stringent 15.207 and 15.209 intentional radiator limits.

7.0　47CFR2.1055

This frequency stability testing was performed at NTS and the corresponding data is captured in 47cfr2_1055.pdf, furnished by Transcept.

8.0　47CFR2.1057

This spurious data test is documented in Exhibit E6. There are no measurable harmonic or spurious outputs outside the band of 5725 to 5850 MHz. This is due to the rejection provided by the internal filtering of the datalink duplexer. Out of band rejection is equal to or greater than 60 dB. See Figure 8-1 for a typical duplexer sweep.
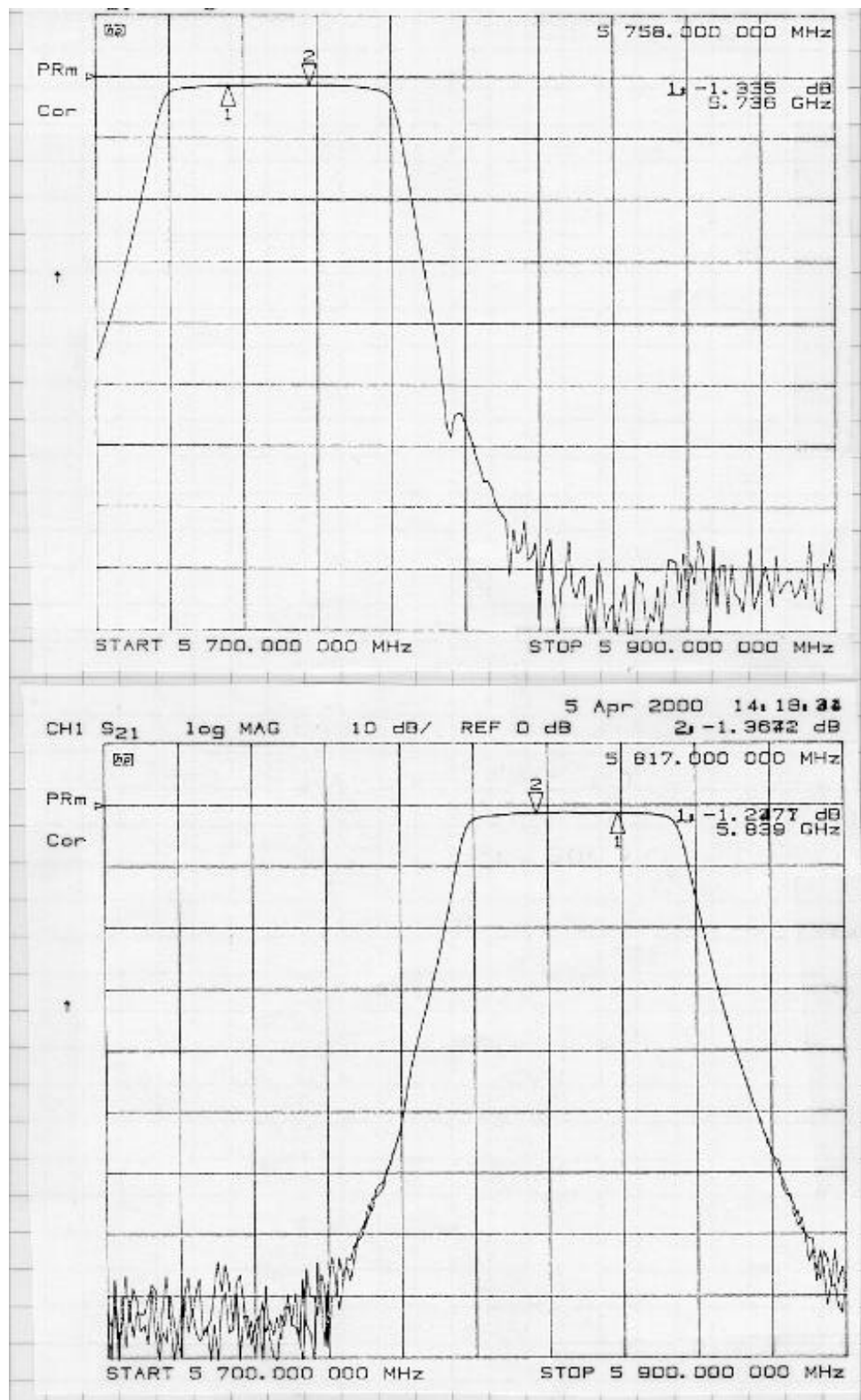
Figure 8-1. 5.8 GHz Duplexer at Transmitter Output.