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01 November 2005

American TCB
6731 Whittier Avenue
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RE: ADC Telecommunications
Response to 10282005 Comments

FCC ID: F8I-DCX1902A

In response to your comments on the above submittal from October 28, 2005.

1. Please note that the manual and operational description describe this device as a multi-band device operating in the 850MHz and 1900MHz bands. Please note that this application is only for the 1900MHz system. Please note that the manual and other documentation does not clearly separate the 850MHz from the 1900MHz versions. Please explain and please clearly identify the separate systems. Please confirm that this device does not have capability of operating at 850MHz. If the device does operate in the 850MHz band, please correct the 731 and please provide all appropriate test data. If this device does not operate in the 850MHz band, then the manual and other documentation must appropriately address this specific device (i.e. a table of models and their specific operating range).

   RESPONSE: New Theory of Operation and Block Diagrams submitted. The following statement has been added to the manual:

   > Each respective SMR, Cellular, and PCS system in this CXD platform is singularly FCC and IC approved. Information in this manual explains applicable portions of these systems.

2. Please note that the manual also indicates that this device operates in the Part 90 iDEN service. Please explain and please clearly identify this device and the FCC rules under which it operates.If the device does operate in the iDEN service, please provide a corrected 731 and all appropriate test data. If this device does not operate in the iDEN service, then the manual and othe documentation must appropriately address this specific device.

   RESPONSE: The top-level product that is sold to the customer to operate within the various frequency blocks pertaining to the systems respect approvals. Each system is approved specifically, in this case we approving the PCS 1900 MHz (1930-1965) system. A separate approval for the Cellular 800 MHz (869-880 MHz) is in progress as well. Each system is approved separately, though documentation has been combined for the ease of customer convenience. The Part 90 system has previously been approved and is not applicable to this submittal. The following statement has been added to the manual:

   > Each respective SMR, Cellular, and PCS system in this CXD platform is singularly FCC and IC approved. Information in this manual explains applicable portions of these systems.

3. The operational description indicates that this device works not only with conventional CDMA but has CDMA200 capabilities. Please note that CDMA2000 has both 1x EV-DO and cdma2000 3x standards. Cdma2000 3x as part of what the ITU has termed IMT-2000 CDMA MC (Multi Carrier). It uses less that 5 MHz spectrum (3x 1.25 MHz channels) to give speeds of over 2 Mbps. Cdma2000 1x with lower data speed is considered to be a 2.5G technology Please note that the type CDMA2000 modulation scheme used in this device has not been defined. Please note also that the

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device in question needs to provide the appropriate CDMA200 occupied bandwidths commensurate with the modulation types available in in the device. Please provide the appropriate CDMA2000 occupied bandwidth plots. Alternately, this device would not be approved for CDMA2000 operation and the operational description would have to be changed to remove this option. Please advise as to how the applicant wishes to proceed.

RESPONSE: Additional CDMA2000 test information provided. The CDMA2000 modulation used is 1xRTT. See attached "1900 MHz Conducted Emissions CDMA2000"

4. Please note that the manual and other documentation indicates CDMA2000. If the CDMA2000 modulation is for the EU version, please clearly specify. Alternately additional testing as mentioned the items below.

   RESPONSE: Additional CDMA2000 test information is provided in "1900 MHz Conducted Emissions CDMA2000"

5. Please note that section 7.1 of the manual indicates that AMPS is also an available modulation. If AMPS is a modulation type, please provide that necessary data for AMPS mode; alternately, please explain how the provided data meets AMPS requirements.

   RESPONSE: AMPS signal testing is conducted using the FM modulation shown in the test data and report. The patented technology of this equipment digitizes the entire designated RF band, digitally transports it over fiber, and reconstructs the signal at full bandwidth, regardless of modulation technology. The EUT is a repeater device, therefore no specific mode is required for operation. F3E modulation designation has been added to the Form 731 and the Operating Description revised.

6. Please note that the output power for each type emissions designator is required to be on the grant. Please note that only a CW signal was used to measure output power for this device. While this may be OK for FM, it is not appropriate for GSM or CDMA type modulations. Please provide the conducted antenna terminal output powers for all emissions types.

   RESPONSE: Additional ERP test information is provided in "1900 Updated EIRP Limit Test"

7. As the device accepts multiple inputs, please clarify if the power out of the device listed on the 731 is a composite of multichannels or per carrier.

   RESPONSE: The output power of the equipment is composite. When additional signals are input to the equipment, the gain of each signal must decrease with respect to the maximum output power approved on the grant.

8. Please note that the FCC has designated F9W as the appropriate emissions designator for CDMA and W-CDMA. Please correct the 731 to reflect the accepted emissions designators.

   RESPONSE: The Form 731 has been updated and the Operating Description revised.

9. Please note that band edge compliance and out of band compliance must be shown for each emissions type. Please note that CW is only acceptable for FM modulation and is not acceptable for

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GSM or CDMA type modulations. Please provide the appropriate band edge compliance data for the type modulations requested.

RESPONSE: Additional Band Edge test information is provided in "1900 MHz Conducted Emissions Band Edge"

10. Please note that compliance is unclear on the conducted emissions plots as the trace from 10GHz to 20GHz appears to show frequencies that are over the limit in places. It is not possible to tell if these are signals from the EUT and thus making the EUT is non-compliant, or if these signals are actually noise floor. Please clearly show compliance of the EUT at these frequencies.

    RESPONSE: Additional noise floor measurements are shown in the latest attachments using a lower resolution and video bandwidth. These are analyzer noise floor measurements and no EUT spurious frequencies have been found.

11. Please note that as long as there are no radiated spurious emissions within 20dB of the limit field strength data from an OATS can be used to justify not making antenna substitution measurements. Please note that the radiated spurious emissions test data on pages 31 through 46 of the test report are ambiguous as they do not provide information as to the modulation type used. Please also note that all modulation types must be tested. Please provide measured data for all modulation types used in the device. If any emissions from the OATS field strength data is within 20dB of the limit (-13dBm) please provide antenna substitution data for those emissions in accordance with TIA603.

    RESPONSE: The patented technology of this equipment digitizes the entire designated RF band, digitally transports it over fiber, and reconstructs the signal at full bandwidth, regardless of modulation technology. The spurious and harmonics of the system are not dependant upon the input modulation.

12. Please note that the email form the applicant stated that this system was to be used with a maximum antenna gain of 5.5dBi. Please note that the MPE report state that the maximum gain is 16.87dBi. Please explain and please provide an MPE report that represents the actual device and antenna.

    RESPONSE: The reference to the 5.5 dBi antenna was incorrect and has been deleted. The information pertaining to the 1900 MHz max antenna has been updated to 18.03 dBi. The maximum antenna gain allows the customer to attain the desired coverage area with the understanding that they are regulated to stay within their licensed service area. A new MPE report is provided and the Operating Description revised.

13. Please note that based on the responses to the above comments, further questions may arise.
    RESPONSE: Understood.

Is uploading the additional data mentioned above, or do you require that the test report be revised to include said data?

Jolene S Murphy

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