

To: Ying Wang, Sierra Wireless Inc.  
From: Stan Lyles  
styles@fcc.gov  
FCC Application Processing Branch

Re: FCC ID N7NAC575  
Applicant: Sierra Wireless Inc.  
Correspondence Reference Number: 23677  
731 Confirmation Number: EA791647

1.) What are the exact frequencies for the low and high channels for both modes? On page 12 of CCS test report, it appears from page 12 of CCS test report that this device can be tune to the band edge. Please clarify.

**[Reply]** During normal operation, the frequencies for the lowest channel and the highest channel in cellular band are 824.700 MHz and 848.310 MHz respectively, and the frequencies for the lowest channel and the highest channel in PCS band are 1851.250 MHz and 1908.750 MHz respectively. With special software the EUT can be set to diagnostic mode. Only in diagnostic mode the EUT can be tuned to any channel in the band including the channel at the band edge. The diagnostic mode is only intended for engineering testing and is not accessible by the end users of this product.

2.) For 800 MHz band the conducted power is 0.549 watts and the ERP power is 0.0822 watts. For 1900 MHz band the conducted power is 0.562 watts and the EIRP power is 0.136 watts. Please explain this large difference between the radiated power and conducted power.

**[Reply]** Because of CDMA's unique spread spectrum technology, the RF energy is spread over a bandwidth of 1.25MHz. The large difference between the radiated power and conducted power is due to a smaller resolution bandwidth being used in the measurement. The ERP and EIRP was measured again using a wider RBW after consulting Mr. Tom Phillips of FCC on the RBW. Please see the attached file (ERP EIRP 9-9-02.pdf) for the test result.

3.) User manual. Only a "quick start guide" was found. Please include in the manual appropriate RF safety information.

**[Reply]** Please see the attached file AC575\_User\_Guide.pdf.

4.) Clarification of maximum conducted power. EMC report on page 6 of 42 states 27 dBm maximum and 23 dBm average. Please clarify.

**[Reply]** Because of CDMA's unique spread spectrum technology, the RF energy is spread over a bandwidth of 1.25MHz. In CDMA system the transmitting power is expressed as channel power, which is the averaged power in the frequency bandwidth of the signal. On page 6 of 42 of the EMC report, the EUT was set to transmit PN (Pseudorandom Noise) sequence. The channel power was adjusted to 23 dBm (measured by an Average Power Meter) and the peak power (about 27dBm) was recorded by the spectrum analyzer using its

Max. Hold feature. (Note: this peak power is not a power at any particular frequency, but an integrated power over the frequency band. ) The difference between peak power and average power is the peak-to-average ratio, which is common on any digitally modulated transmitters.

5.) General details of host devices.

**[Reply]** The SAR evaluation was performed on two hosts. One is an IBM ThinkPad, which has a dimension of 30cm x 25cm x 3.5cm and the other is a Compaq iPaq Pocket PC, which has a dimension of 13cm x 8.5cm x 3cm.

6.) Details of any voice modes for the device. Please include details of any potential user positions for voice use.

**[Reply]** This device does not support voice, therefore there is no voice mode.

7.) Discussion of how the EUT was operated/controlled during the test to assure the testing of all appropriate modes, maximum power.

**[Reply]** Special commands were used to set the EUT in testing mode. The conducted output power was measured before and after each test.

8.) New uncertainty budget information. Please use draft P1528 template.

**[Reply]** Please see the attached file com\_P1528\_Aug02-1.pdf provided by CCS.

9.) Additional test data according to the following criteria.

**[Reply]** We choose Option A for this application– No additional data provided.

A) No additional data required.

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The SAR data in this filing is not applicable to demonstrate compliance for final host products other than as shown in this filing. Installation of this device into other host products requires the submission of a Class II permissive change application containing data demonstrating compliance for SAR, spurious emissions, and EIRP. Otherwise, any new host devices will be considered unauthorized equipment. Marketing of unauthorized equipment is prohibited by Section 2.803 of the FCC Rules. Compliance of this device in any final host configuration is the responsibility of the Grantee. The antenna(s) used for this transmitter must not be co-located or must not operate in conjunction with any other antenna or transmitter within a host device. The user must be provided with any information required to satisfy RF exposure compliance for the final host device.

B) Testing with two additional host devices using the same test device at the same SAR lab.

Proposed grant comment similar to

device has been tested for SAR compliance in laptop computers with side and rear PCMCIA slot, and PDA as described in this filing, and can be used in laptop computers and PDAs with substantially similar physical dimensions, construction, and electrical and RF characteristics. Device has not been tested for compliance in a held-to-head position. The antenna(s) used for this transmitter must not be co-located or must not operate in conjunction with any other antenna or transmitter within a host device. The user must be provided with any information required to satisfy RF exposure compliance for the final host device.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 60 days of the original e-mail date may result in application dismissal pursuant to Section 2.917 (c) and forfeiture of the filing fee pursuant to section 1.1108.

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