

Description of the CDMA Base station Range Extension System (C-BRES) for the experimental license application

The C-BRES system is being developed under a small business innovative research contract with the US Army CECOM RDEC.

Developmental Contract No: DAAB07-03-C-J603,
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US Army CECOM RDEC
Fort Monmouth N.J.

The C-BRES is essentially a two part repeater system which will repeat System B, cellular Band Class 0 base station and mobile transmissions. The system essentially amplifies and repeats standard IS-95 CDMA waveforms, at power levels substantially lower than the base-station equipment. In order to fulfill requirements of the Army contract, Oberon will be required to demonstrate the C-BRES system while transmitting at frequencies and powers described in the application. The modulations are identical to CDMA IS-95 emissions from the base-station or mobile handset.

Oberon attests that the equipment to be demonstrated shall comply with requirements for power, ERP, modulation, and in-band and out-of-band emissions for Cellular band class 0 equipment as specified in part 22 of the CFR. Compliance with applicable cellular standards is verified using RF test equipment, which includes calibrated vector signal generators which are able to exactly simulate those waveforms which are to be transmitted, and vector signal generators which are able to accurately measure signals.

Oberon is aware that the prevailing license holder has sole rights to transmissions and use of the band. Oberon has contacted the prevailing cellular license holder for this band, and has reviewed the intent and objectives of demonstration of the equipment to US Army representatives. The license holder has agreed to permit in writing, limited demonstrations during pre-arranged periods of time.

Advancement to the state of the art:

The C-BRES system as described is intended to provide the US Army with a rapidly deployable method for extending the range of the Army's cellular base stations. Oberon believes demonstration of the C-BRES system within the cellular infrastructure, will permit the Army to make decisions as to further test and evaluation of the product at Army research facilities. Since the C-BRES system is designed to augment existing infrastructure (base stations and cell phones), it is desirable to have a preliminary demonstration with existing infrastructure.

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