UltraTech
Group of Labs

31040/SIT

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May 28, 2002

TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
USA

Subject: **Type Acceptance Application under FCC 47 CFR, Parts 2, 22 (Subpart H) – Cellular Radiotelephone Sevice (824-849 MHz Band); 24 (Subpart E) – Broadband PCS (1850-1910 MHz Band)**

Product: Variable Gain RF Amplifier
Model: DA4000

FCC ID: PZODA4000

Dear Sir/Madam,

In respond to the dimissed application, please accept the following explanations:

FCC Issue 1:
The ERP and EIRP RF power levels will exceed the limits of Parts 22H and 24E when the devices is connected to the recommended 9.1 dBi antenna.

Digital Antenna Inc. Respond:

The recommended 9 dBi antenna is configured and specified as follows:

(Cell Band)

Internal radiating element gain = 8.14 dBi, 6.0 dBd.
Cable length = 20 ft. exposed, 3ft. internal to radom = 23 ft. total.
23 ft cable loss including connector insertion loss @ 800 to 900 MHz = 4.37dB.
DA4000 output power in Cell band = 33.8 dB.
Effective radiated power (ERP) at antenna = 35.43 dBd, (3.5 W)
Effective isotropic radiated power (EIRP)at antenna = 37.57 dBi, (5.75 W)

ERP(35.43 dB, 3.5 W)=Amp output power(33.8 dB)-Cable loss(4.37 dB)+Antenna gain(6 dBd).
EIRP(37.57 dB, 5.75 W)=Amp output power(33.8 dB)-Cable loss(4.37 dB)+Antenna gain(8.14 dBi).

(PCS Band)

Internal radiating element gain = 8.6 dBi.
Cable length = 20 ft. exposed, 3ft. internal to radom = 23 ft. total.
23 ft cable loss including connector insertion loss @ 1800 to 2000 MHz = 8.51 dB.
DA4000 output power in PCS band = 32.8 dB.
Effective isotropic radiated power (EIRP)at antenna = 32.89 dBi, (1.95 W)

EIRP(32.89 dB, 1.95 W)=Amp output power(32.8 dB)-Cable loss(8.51 dB)+Antenna gain(8.6 dBi).

FCC Issue 2:
The 3-tone intermodulation test is required since the amplifier covers the full PCS and Cell bands, and because the moble usage makes it possible to be near other Cell/PCS phone user. This data was not provided in the filing.

Digital Antenna Inc. Respond:

The DA4000 is a single input, single output device. The transmitted output frequency is controlled solely by the telephone wired to its input.

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FCC Issue 3:
The amplifier is Bi-directional, but only the uplink output was tested. The downlink output should also be tested even though it is lower power.

Digital Antenna Inc. Respond:

The DA4000 is a single channel one way power amplifier. The transmitted output frequency is controlled solely by the telephone wired to its input. The bi-directional feature of this amplifier down link is a low noise, extreme low level receive booster and operates in the -50 dB region with a gain of approx. 10 dB. This boosted down link signal is only passed on wire to the receiver of the attached input telephone and is never re-transmitted over the air.

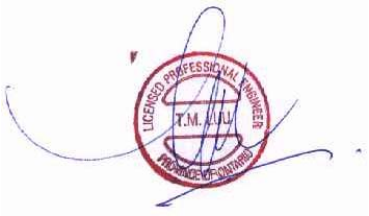
FCC Issue 4:
The grant conditions as required by the TCB Review & Approval Procedures, were not added to the Cetification Grant.

To be addressed by TCB (Timco Engineering, Inc).

If you have any queries, please do not hesitate to contact us by our TOLL FREE numbers:

OUR TELEPHONE NO.: 1-877-765-4173

Yours truly,



Tri Minh Luu, P. Eng.,
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