Date : January 19, 2000

To : Errol Chang
FCC Application Processing Branch
echang@fcc.gov

Subject: Exhibit Explanations and Exhibit Road Map

FCC Identification Number : OQ7OS2400
731 Confirmation Number : EA95743

Dear Mr. Chang,

Since the filing of the original exhibits for the OS2400 DSS module, the manufacturer has discontinued production of some of the critical electrical components used by the module. Consequently, these critical electrical components are no longer available making it necessary to find replacement components. This required some modifications to the original module design. Mr. Fabina indicated that, since the grant for the original module design had not been granted, we could just add exhibits to the original application and get both designs approved simultaneously.

To that end, **Exhibits 13 through Exhibits 19** have been added to the list of exhibits originally uploaded. Presented below is a list of module changes.

**Changes To OS24000 DSS Module**

- The main change to the radio is the transmit modulator U16 on the schematic. The old Motorola MRFIC0001 IC is being obsoleted, so we replaced it with a new one, an Analog Devices AD6122.

- The only change to the operating frequencies is that the VCO in transmit mode operates at exactly twice the old frequency and the new device divides it by two resulting in the same IF frequency.

- Since the IC is different, the control circuitry around it changed some, such as the bypass caps, gain control scaling, and output matching.

- Of course the layout is changed around this IC. The front end RF layout is the same.

- Two values in the amplifier chain were changed for a better match and a resistor was added to increase the stability margin, C15, L6 and R47.

- There are only two changes to the radio embedded software: the VCO transmit frequency is set to double the IF frequency since it is divided by 2 by the new IC; and the modulator power down control line is inverted for the new modulator IC.

- All the communication format, number of channels, channel frequencies, hop order, hop times, data rates, modulation type, etc. are identical.

- 10 resistor values were scaled on the digital schematic to change the IQ drive level to the value required by the new IC- no other changes to the digital schematic.

Should you have any questions, please contact me at your convenience. Thank you in advance for your time and

Best Regards,

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