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25 August 2005

From: George Paclik

To: Dharmajit Solanki
Ultratech Labs

Subject: TFM-138 12.5 kHz channel spacing.

Dear Mr. Solanki

Here are the responses for points 1 to 3 in your email of 25 Aug 2005.

1. Transmitter - No changes were made to the VCO, synthesizer or RF amplifiers. However a second deviation potentiometer was added to facilitate narrow band modulation along with an analog switch to select wide or narrow operation. The mic audio filter was modified to maintain compliance with the occupied bandwidth spec. The software was changed to allow selection of 25 or 12.5 kHz spacing on a channel by channel basis.

Receiver - The first IF crystal filters were changed from 10M12B to 10M7B type and the second IF ceramic filter was changed from CFWM455F to CFZM455E. These new filters meet both the 25 and 12.5 kHz requirements. No other changes were made to the receive circuits.
2. The original configuration of the radio was not capable of switchable operation on 25 and 12.5 kHz channel spacing.
3. Other than the capability to select wide or narrow while programming a channel, the circuitry is purely analog without a DSP or software for signal generation.

The above modifications are identical to the configuration used in the TFM-500 transceiver which was tested and certified to FCC and ICAN requirements.

Please let me know if you require any other information.

Regards,

George Paclik