

RadaScan RF Frequency Tuning Procedure

From RadaScan Transceiver production calibration document:

CMR-1091 Issue 1, Test Procedure for CMD100414 GN Transceiver, I Weller, Oct 2006.

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3.3 YIG Drive Tuning

The YIG frequency may be monitored by tapping into the LO breakthrough of the mixer by attaching a counter either to the Receiver input connector Rx_sk1 or to the IF output Rx_sk4 via a suitable adaptor.

Wait until the Transceiver has been powered up for a period of 10 minutes.

Set the switch on the Test Facility to 'Set'. This turns off any ramp input to the Transceiver. The switch labelled Max and Min toggles the ramp to the Transceiver between 255 and 0.

Switch the frequency between Max and Min repeatedly at approximately 0.5 second intervals. It is necessary to do this so that the temperature of the YIG is stabilised between the two settings.

Whilst monitoring the frequency of the YIG at the two settings using the frequency counter, adjust potentiometer R43 on the IF board so that the difference between them is as close to 100MHz as possible. With a little practice this can be achieved to an accuracy of $\pm 50\text{kHz}$.

Once this has been done, adjust potentiometer R40 on the IF board so that the maximum and minimum frequencies are 9.3GHz and 9.2GHz respectively.

Check the frequency deviation once again.

Record the maximum frequency, minimum frequency and frequency deviation on the test sheet.