MCM-4 TUNE-UP PROCEDURE

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1.0   PURPOSE

This document describes the tune-up procedure to set the MCM-4 and Remote Active Antenna (RAA) to the appropriate level to ensure that the peak RF output power is not exceeded.

2.0   TUNE-UP PROCEDURE

Fig. 1 shows an overall view of the test set up used to perform the RF output power adjustment to the RAA unit. Since the modems are only capable of putting out a max RF power of +26dBm, the use of only two Modems produces an output power of about +22.3dBm at the "Transmit" port of the MCM-4 unit. With the use of a 53ft LMR-300 Cable, the incurred losses would be approximately 4.5dB so by the time the CDMA signal reaches the Tx input port of the RAA, the RF level will be in the order of 17.8dBm composite power. To emulate four modems we need to lower the loss between the MCM-4 and the RAA unit by 3dB. So to ensure an input power level to the RAA of 20.8dBm, 1.5dB of losses must be implemented between the Transmit port of the MCM-4 and the TX input port of the RAA.

The steps to make the power adjustments are summarized as follow:

1. Inject a 20.8dBm composite power level to the TX input port of the RAA unit. Use channels 8 and 9.
2. Measure the composite output power level at the TX output connector of the RAA. For this step to occur, it will be necessary to detach the antenna assembly from the rest of the RAA unit.
3. Open the RAA unit and proceed to adjust the output power of the unit by adjusting the POT. The location of the POT in the PCB board is as indicated in Fig. 2. Set the power level to +31dBm.
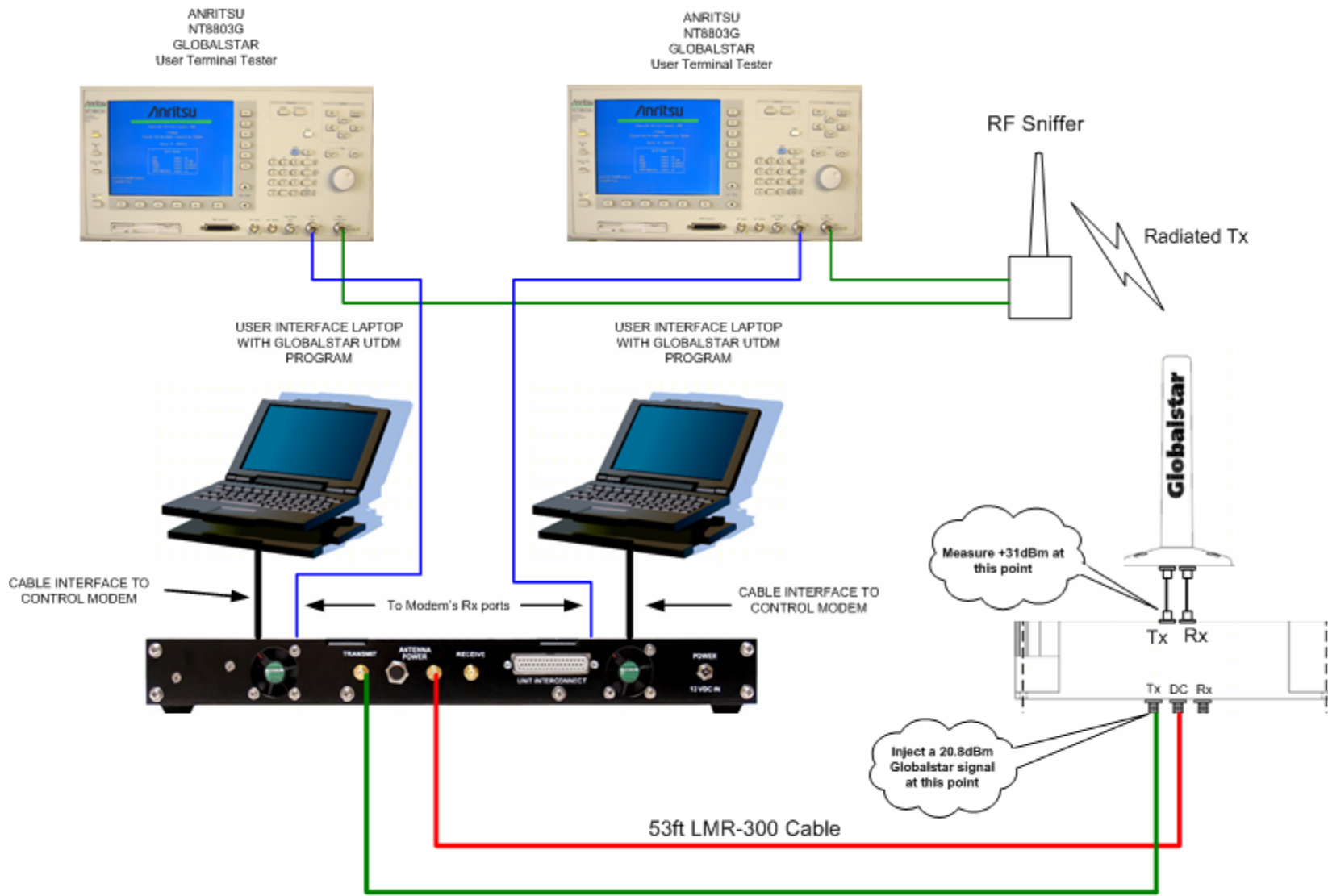
ANRITSU
NT8803G
GLOBALSTAR
User Terminal Tester

ANRITSU
NT8803G
GLOBALSTAR
User Terminal Tester

RF Sniffer

Radiated Tx

USER INTERFACE LAPTOP
WITH GLOBALSTAR UTDM
PROGRAM

USER INTERFACE LAPTOP
WITH GLOBALSTAR UTDM
PROGRAM

Globalstar

CABLE INTERFACE TO
CONTROL MODEM

To Modem's Rx ports

CABLE INTERFACE TO
CONTROL MODEM

Measure +31dBm at
this point

Tx   Rx

TRANSMIT   ANTENNA POWER   RECEIVE   UNIT INTERCONNECT   POWER 12 VDC IN

Tx DC Rx

Inject a 20.8dBm
Globalstar signal
at this point

53ft LMR-300 Cable

FIG1. Test setup to implement RF output power adjustment to the Remote Active Antenna Unit

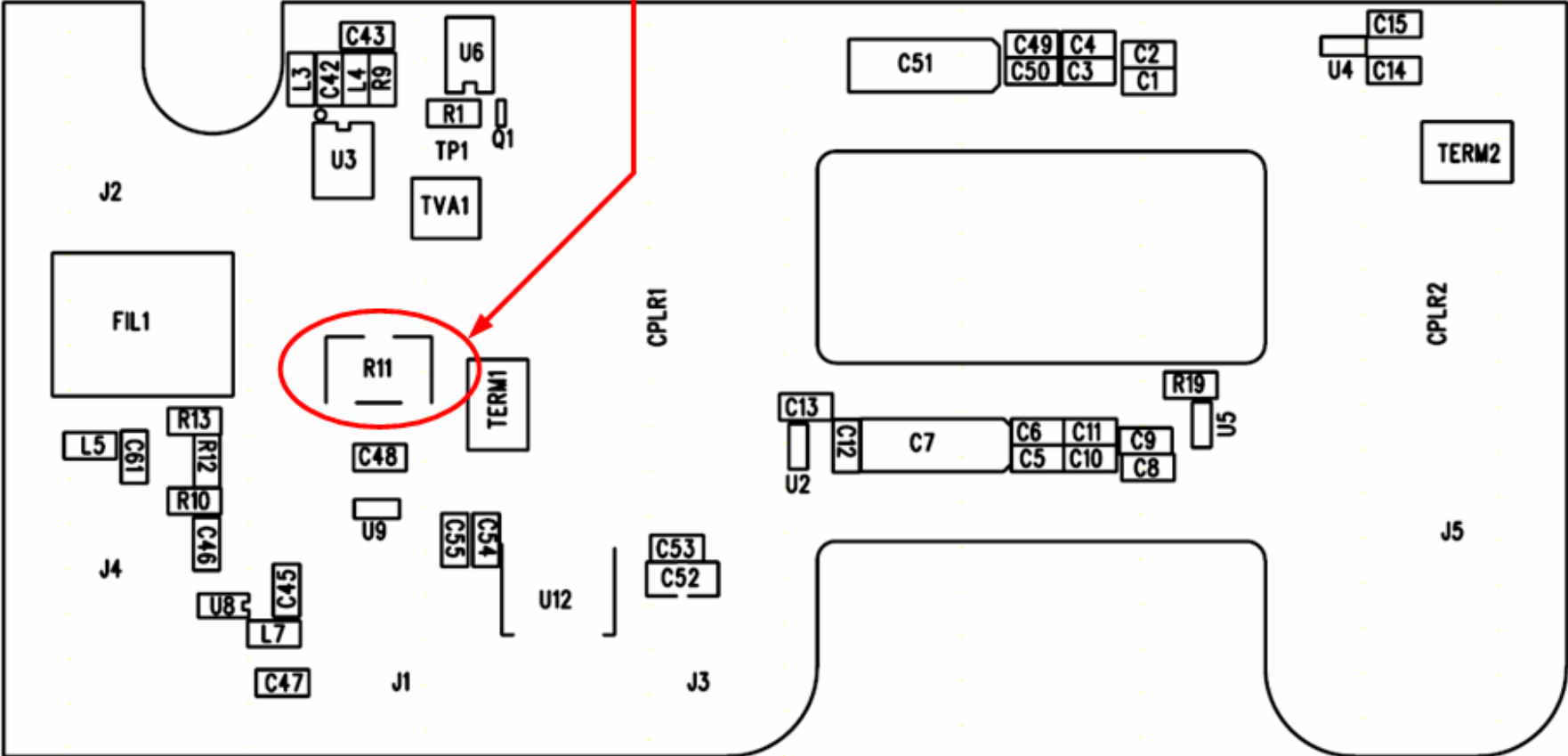**POT USED TO ADJUST THE RF OUTPUT POWER OF THE RAA UNIT**

FIG2. POT location to perform RF output power adjusment on the RAA unit.