

1 Purpose

This procedure allows to determine losses in the transmit chain at low power. It helps to identify eventually broken components in the transmit chain (e.g. circulator, antenna switch, cables).

2 Remarks

This procedure tests all the elements along the signal path: cables inside the outdoor cabinet, circulator, VSWR coupler, antenna switch and finally the antenna cable. An alternative to this method would be to measure the S21 parameter using an S-parameter analyzer set at the radar frequency.

3 Material

- Spectrum analyser

4 Procedure

1. Stop acquisition
2. Disconnect the RF signal cable from the input of the amplifier ([Media:PictureAmpInputDegreane.png](#)) and connect it to the input of the spectrum analyser
3. Configure a one-measurement (vertical beam) wind cycle on PCA (pulse width = 2500 ns)
4. Start acquisition
5. Measure the peak power with the spectrum analyser (settings: center frequency = 1290 MHz, video bandwidth = 2 MHz)
6. Connect the RF signal cable to the circulator input ([Media:PictureAmpInputDegreane.png](#))
7. Disconnect the cable from the divider of the vertical antenna and connect it to the spectrum analyser
8. Measure the peak power
9. Repeat step 3 and 8 for each antenna

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