

RFI Test on the FAST Site

(as of July 2023)

1. Test Time:

2023-07-27 01:00-04:59 & 07-27 12:00-16:59

2. Test Spot:

At the bottom of the 7H feed support tower



Fig.1 RFI test spot at the bottom of the 7H feed support tower.

3. Test Operator:

Dr. Hu Hao at huhao@nao.cas.cn;

Dr. Huang Shijie at huangshijie@nao.cas.cn

4. Test Instruments:

Log-periodic antenna (R&S HL033, 80MHz-2GHz, 6.5dBi) ;

Low noise amplifier (87405B, Gain: 24dB, Noise Factor:5dB) ;

Spectrum analyzer (Agilent N9000A, DNAL: -147dBm/1Hz RBW)

5. Test Results:

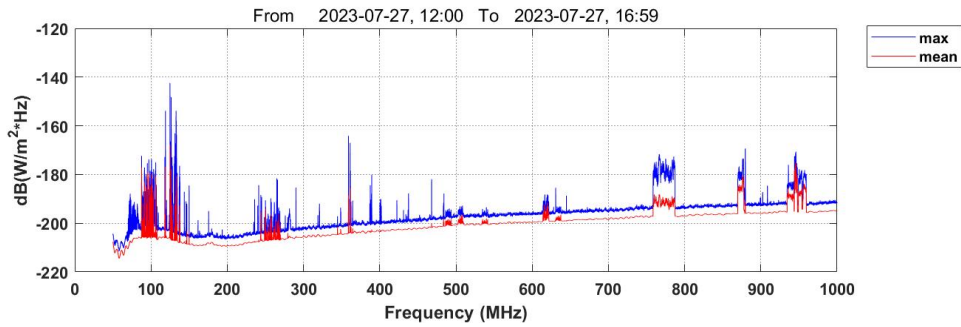


Fig.1 RFI scan of 70-1000MHz in daytime.

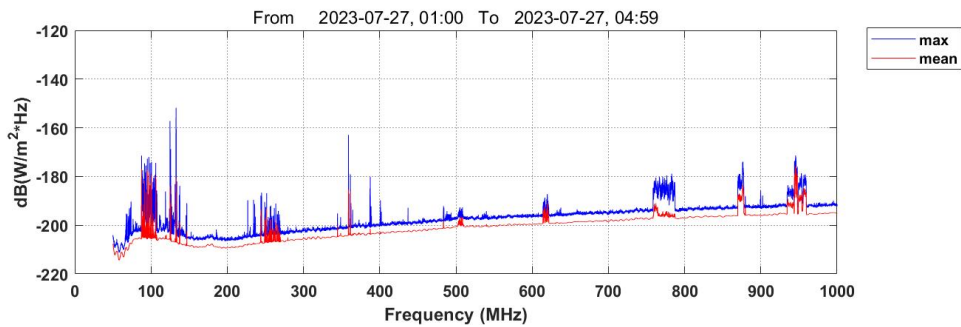


Fig.2 RFI scan of 70-1000MHz in night time.

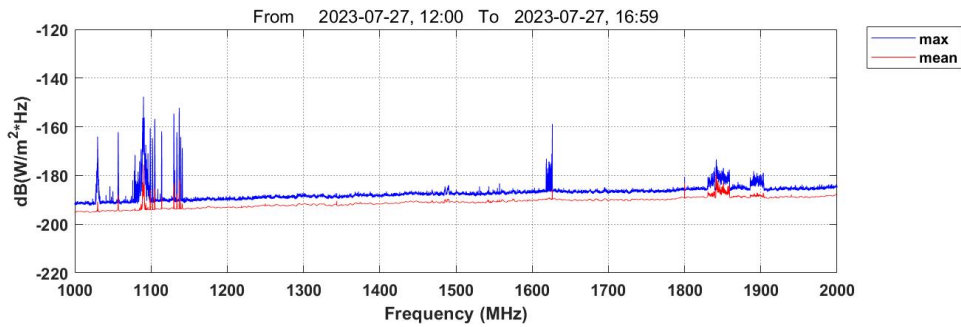


Fig.3 RFI scan of 1000-2000MHz in daytime.

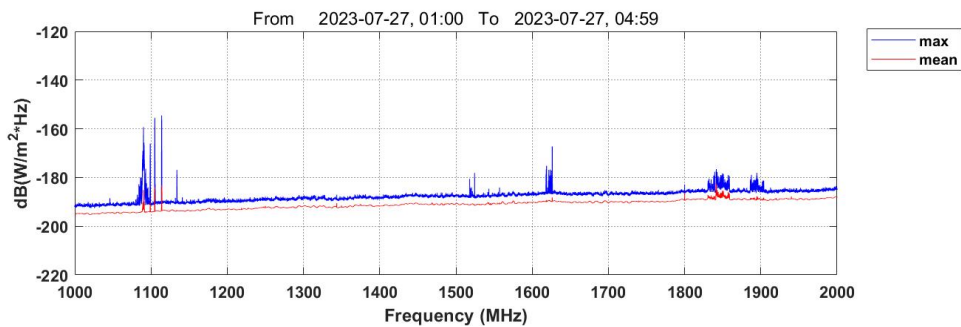


Fig.4 RFI scan of 1000-2000MHz in nighttime.

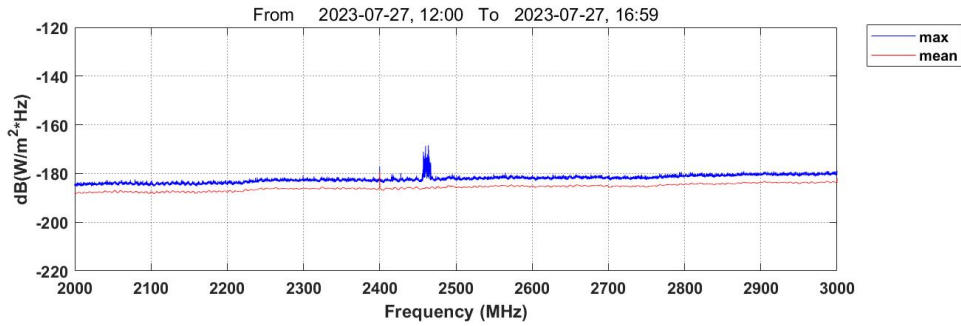


Fig.5 RFI scan of 2000-3000MHz in daytime.

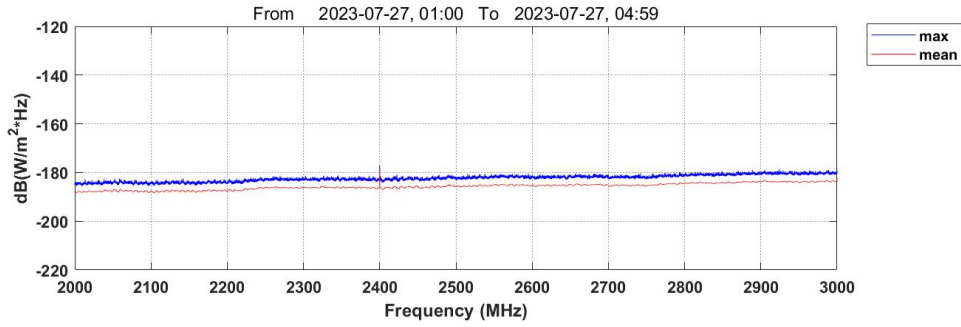


Fig.6 RFI scan of 2000-3000MHz in nightttime.

Table: List of Known Sources of RFI

Frequency/band (MHz)	business
87-108	FM radio
117-137	civil aviation
245-270	FLTSATCOM
361-368	Public security cluster intercom
670.7-684.7、742.4-749.4	Digital TV
758-788、869-880、934-949、949-960	FDD downlink
1030-1140	civil aviation
1176、1207、1227、1268、1381、1561、2492	Navigation satellite
1467-1492	ASIASTAR
1525-1559	INMARSAT global mobile services
1616.06-1625.5	IRIDIUM satellite phone
1842-1859	FDD downlink
1887-1903	TDD