

RFI Test on the FAST Site

(as of December 2020)

1. Test Time:

2020-12-29 01: 00-05: 00 & 13: 00-17: 00

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;

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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:

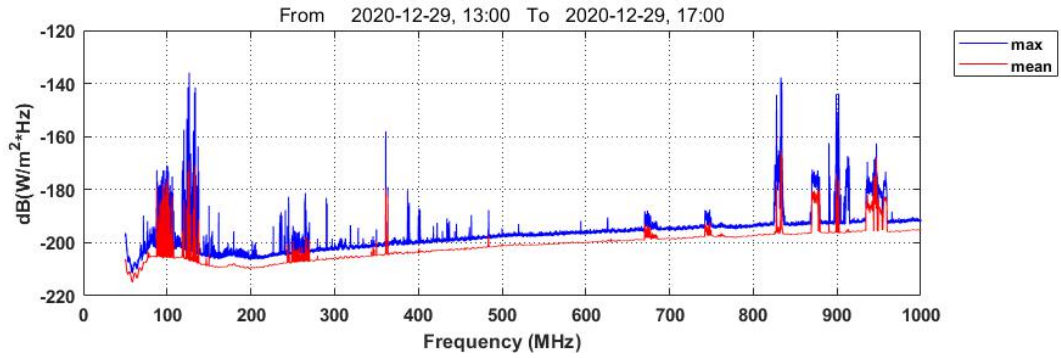


Fig.2 RFI scan of 70-1000MHz in daytime.

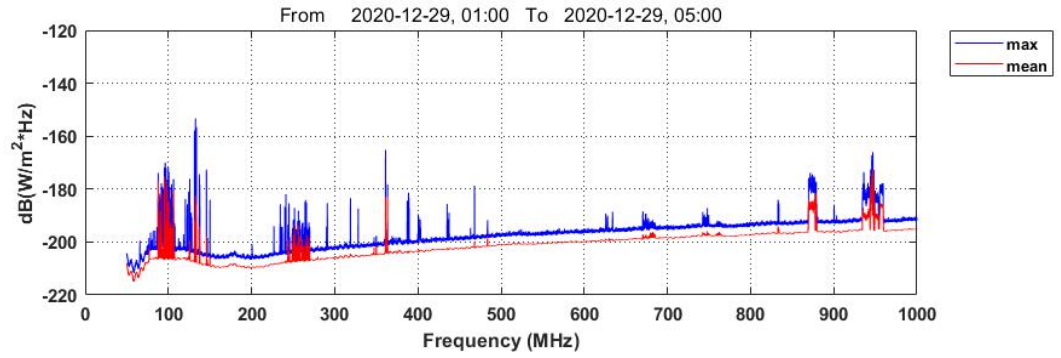


Fig.3 RFI scan of 70-1000MHz in night time.

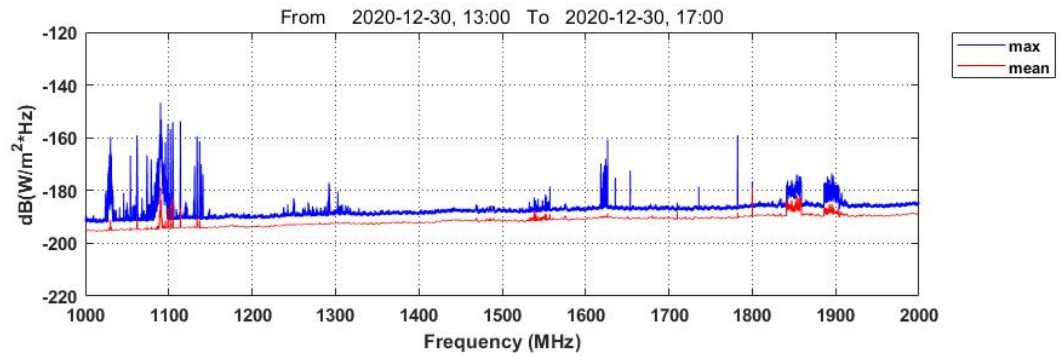


Fig.4 RFI scan of 1000-2000MHz in daytime.

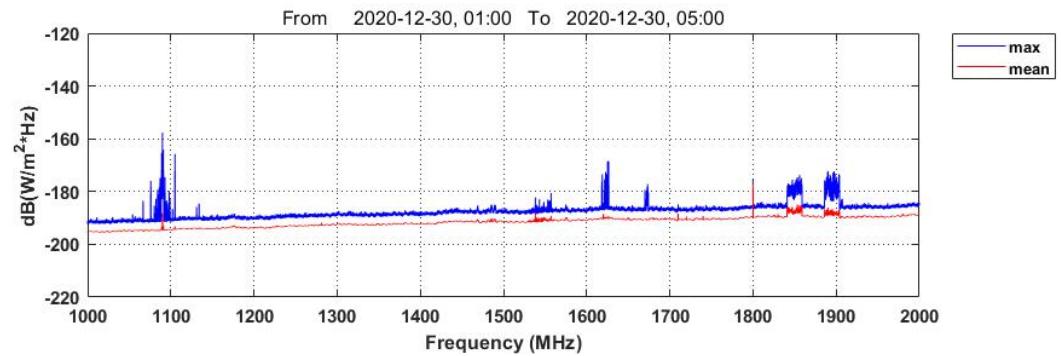


Fig.5 RFI scan of 1000-2000MHz in nighttime.

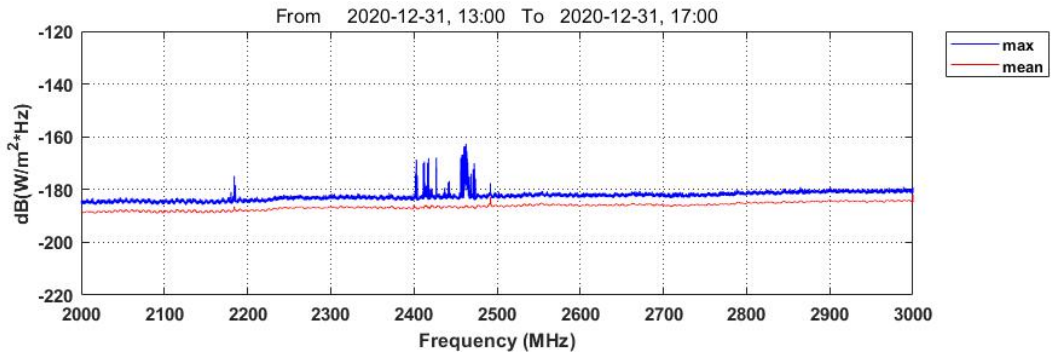


Fig.6 RFI scan of 2000-3000MHz in daytime.

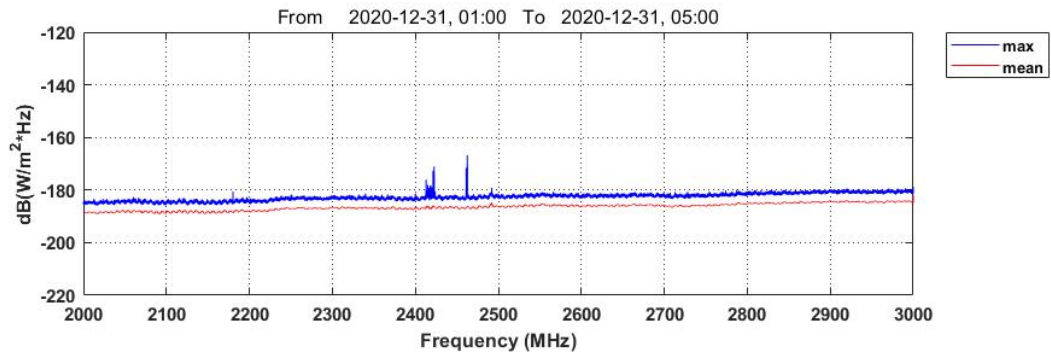


Fig.7 RFI scan of 2000-3000MHz in nighttime.

Table: List of Known Sources of RFI

Frequency/band (MHz)	business
87-108	FM radio
117-137	civil aviation
145.9	Amateur radio intercom
147	Forest fire prevention
245-270	FLTSATCOM
361-368	Public security cluster intercom
411、421	intercom
670.7-684.7、742.4-749.4	Digital TV
870-880	CDMA downlink
935-954	GSM downlink
954-960	GSM 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
1800、2400	test system
1842-1859	FDD downlink
2400-2480	WIFI、Bluetooth