



FEATURES

- Tuning range 0.45 to 26.5 GHz
- 1GHz IF with 500 MHz BW and 160 MHz or 140 MHz IF with 80 MHz BW
- Low phase noise $< 0.4^\circ$ RMS
- 3U VPX form factor
- Tuning Speed: Contact for factory information
- Optional: Strobe-driven tuning/ feedback via discrete backplane signals

The iWR-6800 Single Channel 3U VPX Microwave Tuner is based on iRF's SMART receiver technology which addresses SWAP while maintaining superior RF performance. The iWR-6800 provides industry leading SWAP with a fully synthesized 0.45 to 26.5 GHz microwave tuner on a 3U VPX single slot card. The unit requires less than 30 watts of power while maintaining superior Spur Free Dynamic Range (> 60 dB). All RF interconnections are via VITA 67.2 blind mate connectors.

The iWR-6800 converts the 0.45 to 26.5 GHz frequency range to a 1GHz IF with 500 MHz of signal bandwidth. The signal is further down-converted to an IF at 160 MHz with 80 MHz bandwidth. The tuner operates in both single and multi-channel (frequency and amplitude coherent) systems through use of a self-contained LO distribution system.

The iWR-6800 is capable of performing in a variety of applications. The solutions is used in as a microwave COMINT/ELINT frequency extender, in direction finding & beam forming applications, as a SATCOM down converter, or in UAV SWAP constrained payloads.

iWR-6800 Applications

- SIGINT / EW
- DIRECTION FINDING
- BEAM FORMING

SPECIFICATIONS (AT 25° C)

Frequency Range: 0.45 to 26.5 GHz

Max Signal Amplitude: +20 dBm without damage

Noise Figure: 15 dB max., 13 dB typ.

Input IP3: +5 dBm typ., +2 dBm min.

Second Order Input Intercept Point: $\geq +50$ dBm

IF Outputs: 160 MHz, 140 MHz (optional), 1 GHz

IF Bandwidths: 500 MHz min @ 1 GHz, 80 MHz @ 160 MHz or 140 MHz min., 90 MHz typ. NBIF

Image and IF Rejection: > 70 dB

Frequency Stability: $\leq \pm 1$ ppm

Tuning Speed: Contact factory for more details
Tuning Resolution: 1 kHz

Integrated Phase Noise: $\leq 0.4^\circ$ rms
(100 Hz to 10 MHz) typ.

Single Tone Spurious Free Dynamic Range:
 ≥ 55 dB, 60 dB typ.

RF to IF Gain: +20 dB ± 1 dB

RF Attenuation: 0 to 20 dB, 10 dB steps

IF Attenuation: 0 to 30 dB, 1dB steps
(independent control for each IF output)

LO Leakage: < -90 dBm

Internally Generated Spurious: < -90 dBm

Phase Coherent: Through use of daisy chained LOs

Linear Dynamic Range: > 90 dB in a 1 MHz BW

IF Passband Flatness: ± 1 dB across 80% of BW

OPERATING INFORMATION

Operating Temperature Range: -10°C to $+50^\circ\text{C}$

Control Interface: 1 GigE via the VPX control plane

Built In Test: Monitoring of internal voltages and phase-lock status

Power Consumption: 30 watts

Packaging: 3U VPX form factor
