

FEATURES

- ▶ Tuning range 0.5 to 18 GHz (26.5 GHz optional)
- ▶ 1 GHz IF with 500 MHz BW and 160 MHz IF with 80 MHz BW
- ▶ <15 dB noise figure
- ▶ Single slot configuration
- ▶ Tuning speed: Contact factory for information
- ▶ Optional: Integrated A/D converter (either at 1 GHz or 160 MHz IF)
- ▶ Optional: Strobe-driven tuning/ feedback via discrete backplane signals



The iTU-6410 Microwave Tuner is an ultra-high performance wideband microwave tuner. The RF down converter is used in conjunction with a series of fixed and tunable VCO's to create a microwave tuner featuring low phase noise and extremely fast tuning speed. All of these features are compressed into a single slot 6U VME design.

The iTU-6410 is capable of tuning over the entire 0.5 to 18 GHz range providing both narrowband and wideband outputs. Supports highly-deterministic tuning via a discrete backplane strobe signal that steps the tuner through a user-defined set of frequencies while allowing for a selectable dwell time at each step. Discrete feedback signals for tune-complete and wrap-back-to-start are also

provided via the backplane so the system controller can stay precisely synchronized with the tuner as it steps to each frequency. The simultaneous analog outputs of 80 MHz BW and 500 MHz BW are centered at 160 MHz and 1 GHz, respectively. The analog outputs are suitable for direct input into an external A/D converter for special signal processing, spectral analysis or pulse parameterization.

The iTU-6410 functions for both single and multi-channel (frequency coherent) systems. This is accomplished using a self-contained LO distribution system. This feature makes the iTU-6410 an excellent choice for beamforming and direction finding systems, and for a wide range of scanning/ acquisition ELINT and/or EW applications.

SPECIFICATIONS (AT 25° C)

Frequency Range: 0.5 to 18 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: >+50 dBm

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

IF Bandwidths: 500 MHz @ 1 GHz, 80 MHz
@ 160 MHz or 140 MHz

Image and IF Rejection: >70dB

Frequency Stability: < ±1 ppm

Tuning Speed: Contact factory for more details

Tuning Resolution: 1 kHz

Integrated Phase Noise: < 0.4° rms (100 Hz
to 10 MHz) typ.

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

RF to IF Gain: +20 dB ± 1dB

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

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

IF Passband Flatness: ±1.5 dB across 80% of BW

Phase Coherent: Through use of daisy chained LO's

OPERATING INFORMATION

Operating Temperature Range: -10°C to +50°C

Control Interface: Front panel Ethernet control
or VME bus

Built In Test: Activated during power up command.
Monitors DC voltages, temperature, and phase lock.

Power Consumption: <30 watts nominal

Operating Power: VME bus power (P1 & P2)

Dimensions: VME single slot, 6U high

Weight: <4 lbs