

94 GHz FMCW Radar Module

General Features

- Internal VCO with DC frequency control voltage
- High output power (> + 20 dBm)
- Stability better than $8 \cdot 10^{-5} / \text{deg C}$
- Linearity of sweep 1% maximum
- Receiver noise figure < 8 dB typical
- Rugged screened enclosure machined from solid
- Frequency bands 77 GHz to 670 GHz



Figure 1 : W band FMCW Radar Module

Model	THZFMCW-10S
Output Frequency (GHz)	94
Output Frequency Sweep BW (MHz)	1600
Minimum Sweep Time (μs)	30
Power Output (dBm)	+22 typical, +20 min
Linearity (%)	< 1
VCO Stability (deg/C)	< $8 \cdot 10^{-5}$
IF Frequency	1 KHz to 30 MHz
RF to IF gain (dB)	30 minimum
Receiver Noise Figure (dB)	8 typical, 10 max
Waveguide / Flange	WR10, UG 387/U-M
IF and Frequency Control	SMA-F
Maximum Tuning Voltage (V)	20
Operating Temperature (deg C)	-20 to +65
Dimensions (mm)	145 x 230 x 60

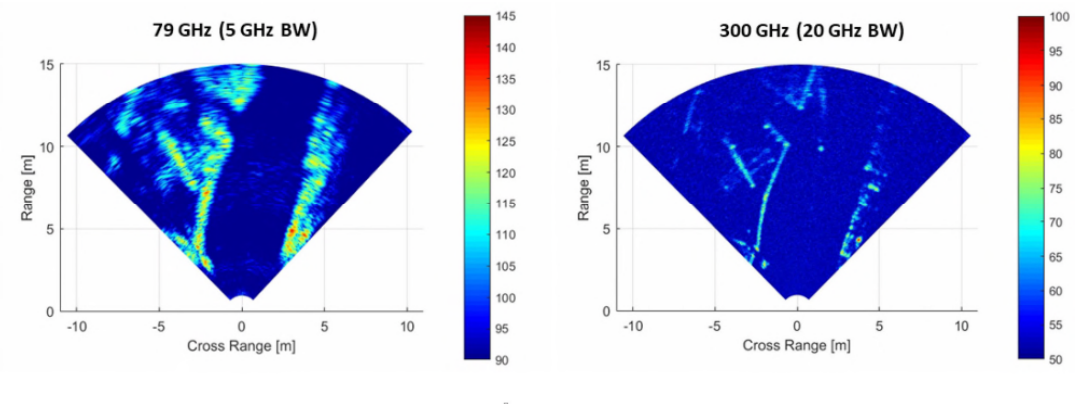


Figure 2 : Resolution Comparisons 79 / 300 GHz FMCW Front Ends

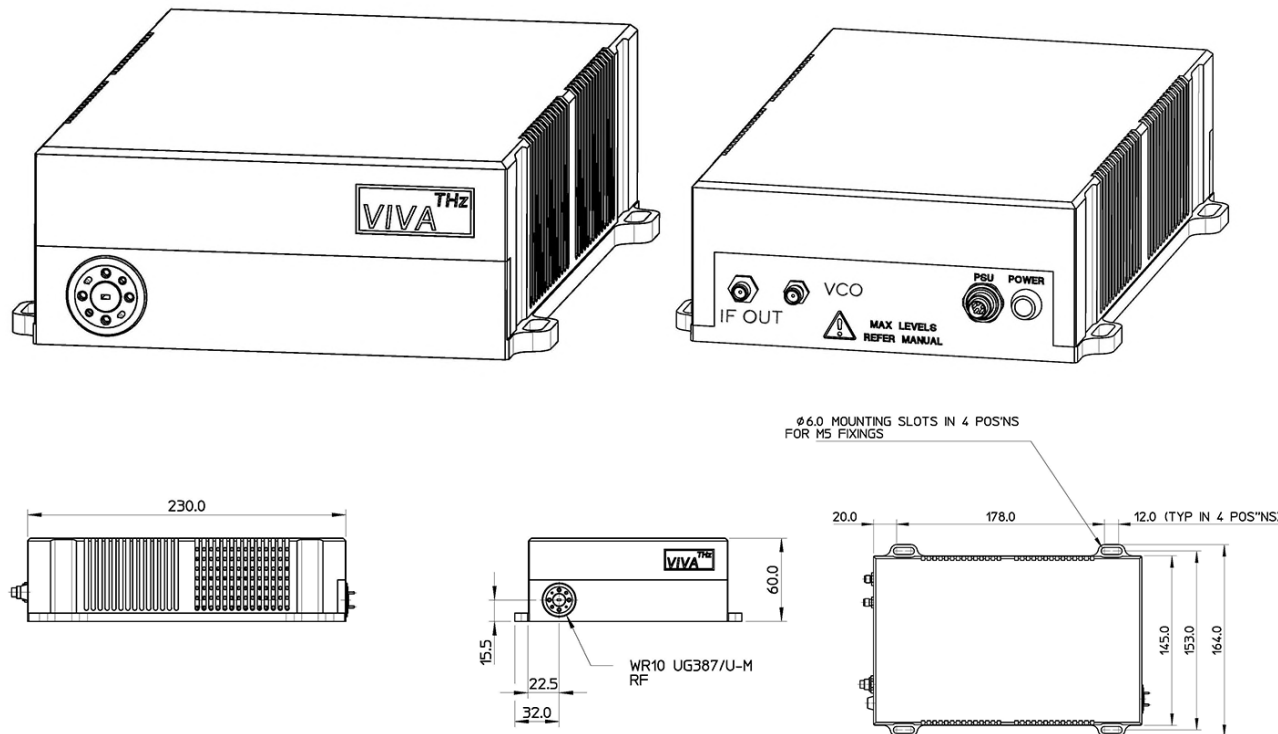


Figure 3 : Outline Dimensions 94 GHz FMCW Module

Notes

1. Specifications apply at 25 deg C
2. External AC PSU 110-240 VAC supplied
3. Other frequency ranges on request
4. Radar scans with VivaTech front end courtesy of Univ of Birmingham, UK
5. **How to make a request:** choose Model, or state frequency range, required interfaces, email to: sales@vivatechthz.com



Figure 4 : Test Scene 79/300 GHz Radar Image