

STIT 1.2: Intelligent Three-Stub Tuner, R26 Waveguide

General Description

The STIT 1.2 intelligent three-stub waveguide tuner¹ (Fig. 1) is designed for manual impedance matching of R26 (WR340) waveguide loads in the 2450 MHz ISM band. Conversely, when terminated in a matched load, the STIT can serve for realization of reflection coefficients covering an extensive area of the Smith Chart.

The tuner basic design is derived from the HOMER-Series STHT 2.45-GHz Autotuner. Each stub is equipped with a stepper motor and a top-travel terminal switch. RS232 or RS422 interface is available to the user for remote control and monitoring, optionally also Controller Atea Network (CAN). The desired stub positions can be easily adjusted and monitored by a built-in 3.2-inch color LCD display with a touch panel (touchscreen).

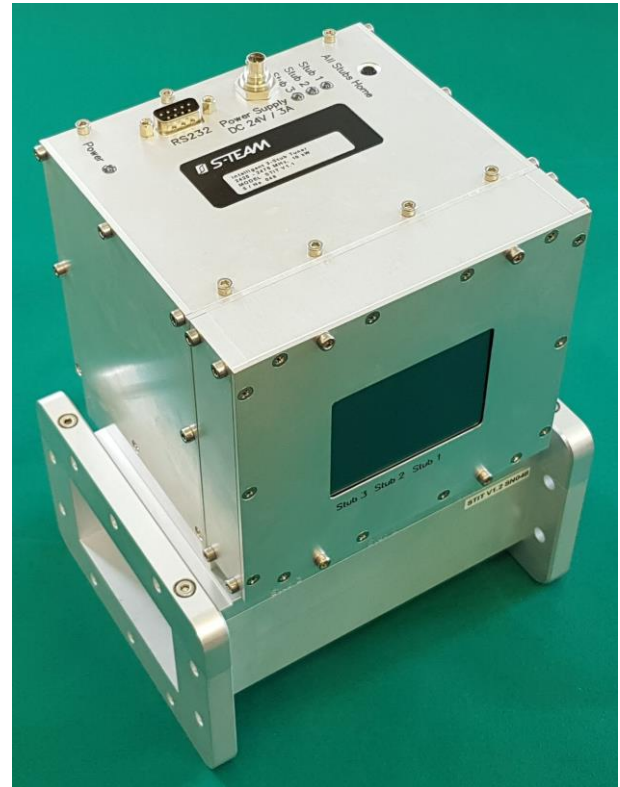


Fig. 1. Intelligent three-stub tuner STIT 1.2.

Specifications

Electrical	
Waveguide type	R26 (WR340)
Flange type	IEC
Frequency range	2425 – 2475 MHz
Maximum working power ²	10 kW
Power supply voltage	24 V ± 10% DC
Peak current consumption (all stubs moving)	3 A
Interface	RS232 or RS422 or CAN
Display	3.2" Wide color LCD with touch-panel
Tuning	
Max tuning stub travel	25 mm
Tuning range	VSWR ≤ 10:1
Full stub insertion travel time	2.3 s

Notes:

¹ The acronym STIT stands for S-Team Intelligent Tuner.

² Maximum working power is specified for **matched load** conditions. For loads with high reflection coefficient magnitude (>0.9), the maximum power applied must be lower to avoid arcing with deeply inserted tuning stubs.

Specifications – continued

Mechanical and environmental	
Mass	4.6 kg
Dimensions (L × W × H)	STIT 1.1: 174 × 138.2 × 225.1 mm STIT 1.2: 171 × 138.2 × 225.1 mm
Surface finish	E-CLPS 4600
Operating temperature range	+5 to +55 °C
Storage temperature range	-10 to +70 °C
Optimal conditions for long term storage	+5 to +35 °C, humidity < 75%

Dimensional Drawing

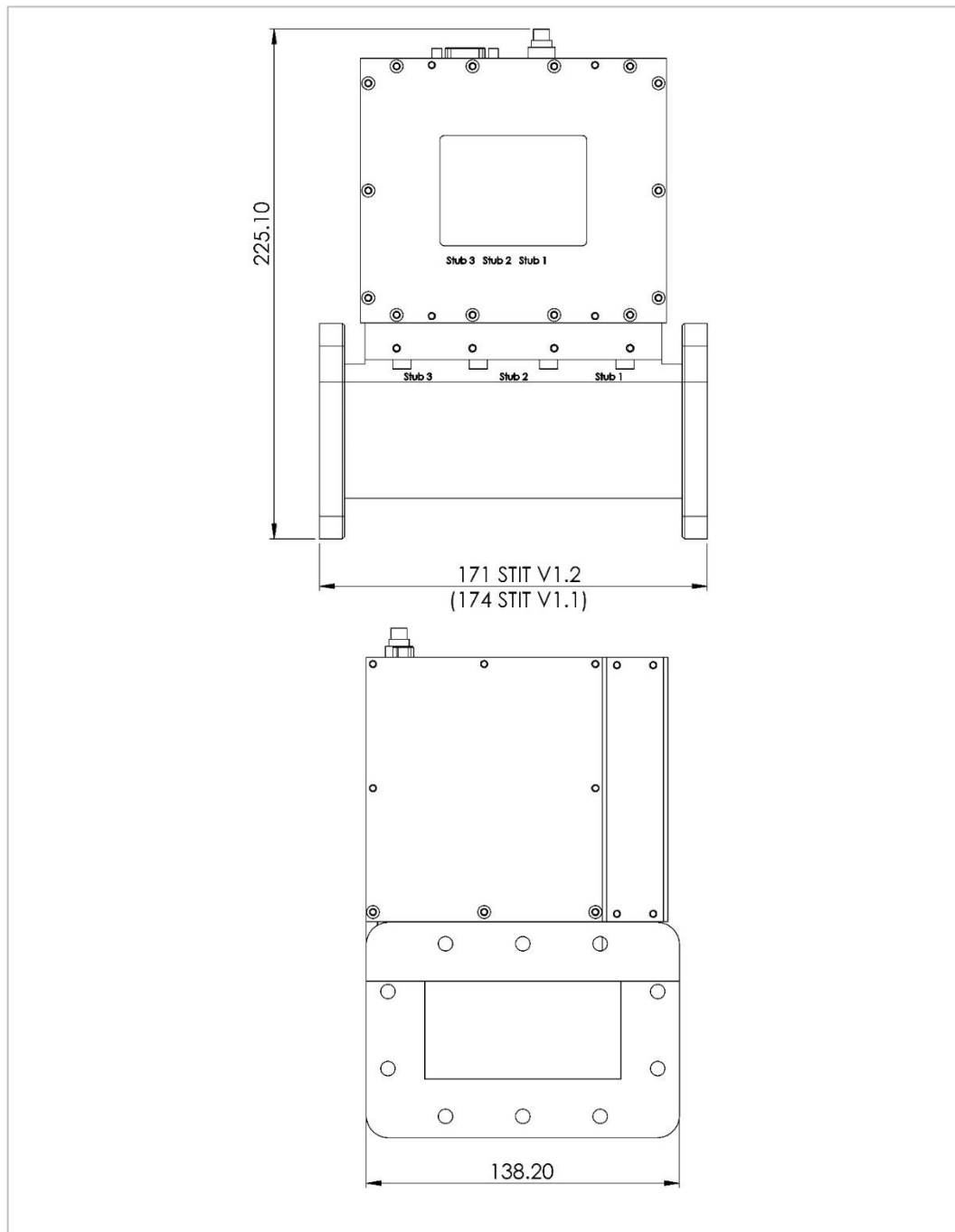


Fig. 2. Basic STIT dimensions (in millimeters).