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SWEEP GENERATOR



- ◆ Full waveguide bandwidth
- ◆ BWO source
- ◆ High output power
- ◆ GPIB, USB, RS-232 programmable

The **G440XE** Sweep Generators are a portable powerful wideband general-purpose sources for swept and CW microwave measurements local, remote, manual or automated testing. It incorporates the efficiency of micro-processing control with state-of-the-art BWO oscillator to produce a high performance sweep generator system suited for either manual or automatic measurements.

Model number	Frequency range, GHz	Frequency accuracy, %	Frequency stability	Residual FM	Min/Typ* output power, mW	Output VSWR
G4406E	33 - 50	±0.2	2·10 ⁻⁴	2·10 ⁻⁶	5/25	1.5
G4404E	50 - 75	±0.2	2·10 ⁻⁴	2·10 ⁻⁶	5/25	1.5
G4403E	75 - 110	±0.2	2·10 ⁻⁴	2·10 ⁻⁶	3/10	1.5
G4402E	110 - 170	±0.2	2·10 ⁻⁴	2·10 ⁻⁶	2/5	1.5

CW, internal square-wave modulation and external pulse modulation modes

Internal square-wave modulation frequencies: 1 and 100 kHz

External pulse modulation (with external pin modulator, optional)

- pulse duration: 50 ns
- pulse repetition rate: 1-10 kHz

External square-wave modulation frequencies: 0.3-10 kHz

Operating temperature range: 5-40 °C

Sweep time: 0.08, 1.0, 40 s

Remote programming: IEEE-488, USB, RS-232C

Mains power source requirements: 220±20 V, 50-60, 400 Hz

Power consumption: 250 V·A

Dimensions: 360 x 160 x 380 mm

Weight: 12 kg

* Required output power is a subject of negotiation with customer

SIGNAL GENERATOR



- ◆ Full waveguide bandwidth *
- ◆ BWO source
- ◆ Reference output power
- ◆ GPIB, USB, RS-232 programmable

The **G4-1XXM** series Signal Generator is general-purpose source for testing and verification of microwave equipment in industrial and laboratory conditions. The instrument provides high accuracy millimeter-wave signal level in wide attenuation range and can be integrated in manual or automatic measurement systems.

Model number	Operation frequency range, GHz *	Frequency accuracy, %	Frequency stability	Residual FM	Reference output power level, mW	Output VSWR
G4-178M	33 - 50	±0.2	±2·10 ⁻⁴	2·10 ⁻⁶	0.5	1.5
G4-179M	50 - 75	±0.2	±2·10 ⁻⁴	2·10 ⁻⁶	0.5	1.5
G4-199M	90 - 100	±0.2	±2·10 ⁻⁴	2·10 ⁻⁶	0.1	1.5
G4-177M	129.2 - 142.8	±0.2	±2·10 ⁻⁴	2·10 ⁻⁶	0.1	1.5

Reference power attenuation range: from 0 to minus 100 dB
Reference power level maintenance level error: ± 1.0 dB
Reference power attenuation level set accuracy: for 0÷20dB: not more than 0.4dB; for 20÷100dB: not more than 2%A; for 100÷120dB: 2dB+3%A-100dB; where A is set attenuation in dB
CW, internal square-wave modulation and external pulse modulation modes
Internal square-wave modulation frequencies: 1 kHz
External pulse modulation (with external pin modulator, optional)
- pulse duration: 50 ns ±2µs
- pulse repetition rate: 0.1-20 kHz
External square-wave modulation frequencies: 0.3-10 kHz
Operating temperature range: 5-40 °C
Microwave signal radiation level 5·10 ⁻⁵ W/m ² at 1 m distance
Remote programming: IEEE-488 (IEC 625 part I), USB, RS-232C
Mains power source requirements: 220±22 and 110±11 V, 50-60, 400 Hz
Power consumption: 300 V·A
Size: 495x132x475 mm
Weight: 16.5 kg

* The Instrument operation frequency range should be specified separately (customised) for short pulse modulation.

SCALAR NETWORK ANALYZER



- ◆ Automated scalar measurements from 33 to 170 GHz
- ◆ Full waveguide bandwidth
- ◆ PC based Instrument
- ◆ ETHERNET programmable

The **R24XE** Scalar Network Analyzers provide both manual and automated VSWR, insertion and return losses' measurements in five rectangular waveguide bands from 33 to 225 GHz. The system consists of the G44XE sweep generator, waveguide reflectometer, network analyzer and personal computer*.

Model number	Frequency range, GHz	Frequency accuracy, %	VSWR meas range	VSWR meas accuracy, %	Transmission loss meas. range, dB	Transmission loss meas. accuracy, dB
R2406E	33 – 50	±0.2	1.1-5.0	±(5K+5) for K=1.1-2.0	0-35	±(0.6+0.06A) A=0-30 dB
R2404E	50 - 75	±0.2	1.1-5.0	±(5K+5) for K=1.1-2.0	0-35	±(0.6+0.06A) A=0-30 dB
R2403E	75 - 110	±0.2	1.1-5.0	±(5K+6) for K=1.1-2.0	0-35	±(0.6+0.06A) A=0-25 dB; ±(0.4+0.1A) A>25 dB
R2402E	110 - 170	±0.2	1.1-5.0	±(5K+6) for K=1.1-2.0	0-35	±(0.6+0.06A) A=0-25 dB; ±(0.8+0.08A) A>25 dB
R24015E	170 - 225	±0.2	1.1-5.0	±(5K+6) for K=1.1-2.0	0-30 @ 170-215 GHz 0-20 @ 215-225 GHz	±(0.6+0.06A) A=0-25 dB; ±(0.8+0.08A) A>25 dB
Operating temperature range			5-40 °C			
Mains power source requirements:			220±20 V, 50-60 Hz			
Power consumption			400 V·A			
Remote programming			ETHERNET			

* PC is not included into delivery set of the Instrument

VECTOR NETWORK ANALYZER



- ◆ Automated vector measurements in frequency range from 33 to 170 GHz
- ◆ Full waveguide frequency bandwidth
- ◆ PC based Instrument
- ◆ ETHERNET programmable

The **R44XXE** Vector Network Analyzers are designed for measuring of S-parameters, VSWR and impedance of waveguide networks in the full frequency ranges of rectangular waveguides between 33 and 170 GHz. Frequency accuracy is $\pm 0.2\%$. The measurement range of reflection factor modulus is from 0 to 1. The measurement range of reflection factor phase is from 0 to $\pm 180^\circ$ for $0.1 < |G_x| < 1$ with accuracy $\pm 7.5^\circ$ in 18-75 GHz frequency range and $\pm 9.6^\circ$ in 75-170 GHz frequency range.

The measurement range of transmission factor phase is from 0 to $\pm 180^\circ$ with accuracy $\pm (5 + 0.1 |A_x|)^\circ$ for $A_x > -50$ dB in frequency range to 75 GHz, for $A_x > -30$ dB - to 170 GHz. Data can be displayed in the rectangular, Smith or polar diagrams.

Model number	Frequency range, GHz	VSWR measur. range	Attenuation meas. range, dB	VSWR measur. accuracy, %	Reflection factor modulus meas. accuracy	Attenuation meas. accuracy, dB
R4406E*	33 - 50	1.03 - 5	+10 ÷ -60	± 10 for K=1.03-2	± 0.044 for $ \Gamma_x = 0.33$	$\pm (0.2 + 0.03 A_x)$ K < 1.2
R4404E*	50 - 75	1.03 - 5	+10 ÷ -60	± 10 for K=1.03-2	± 0.044 for $ \Gamma_x = 0.33$	$\pm (0.2 + 0.03 A_x)$ K < 1.2
R4403E*	75 - 110	1.03 - 5	0 ÷ -50	+13.5 -11.5 for K=1.03-2	± 0.056 for $ \Gamma_x = 0.33$	$\pm (0.3 + 0.04 A_x)$ K < 1.2
R4402E*	110 - 170	1.03 - 5	0 ÷ -50	+13.5 -11.5 for K=1.03-2	± 0.056 for $ \Gamma_x = 0.33$	$\pm (0.3 + 0.04 A_x)$ K < 1.2
Operating temperature range				5-40 °C		
Mains power source requirements:				220±20 V; 50-60 Hz		
Power consumption				400 V·A		

* discontinued models; new models are under construction.

DIRECT READING ATTENUATOR



- ◆ High resolution
- ◆ High accuracy

The **DA-XXE** Millimeter-Wave Direct Reading Attenuators are rotary-vane type attenuators. The value of attenuation is determined by the angle of rotation of a resistive film with respect to the waveguide and thus is independent of frequency.

The Attenuators are provided in seven waveguide bands between 18 GHz and 225 GHz.

Model number	Frequency range, GHz	Waveguide type	Waveguide flange	Attenuation accuracy	Insertion loss, dB, max	VSWR, max
DA-12E	18 – 26.5	WR - 42	UG 595/U		0.5	1.15
DA-08E	26.5 - 40	WR - 28	UG 599/U		0.6	1.15
DA-06E	33 - 50	WR - 22	UG 383/U	±0.2dB for A=0÷10dB; ±0.02·A for A=10÷50dB;	0.8	1.2 _(33-34GHz) 1.15 _(34-50GHz)
DA-04E	50 - 75	WR - 15	UG 385/U		±[1+0.08·(A-50)]dB for A=50÷60dB, where A is attenuation in dB.	1.0
DA-03E	75 - 110	WR - 10	UG 387/UM		1.5	1.2
DA-02E	110 - 170	WR - 06	UG 387/UM		3.0 _(110-114 GHz) 2.5 _(114-120 GHz) 2.0 _(120-170 GHz)	1.3 _(110-114 GHz) 1.2 _(114-170 GHz)
DA-015E	170 - 225	WR - 05	UG 387/UM	±0.3dB for A=0÷10dB; ±0.02·A for A=10÷30dB;	3.0	1.3

Attenuation range 0 ÷ 60 dB for WR-42, WR-28, WR-22, WR-15, WR-10, WR-6 models

Attenuation range 0 ÷ 30 dB for WR-5 model

Power rating (CW, max): 0.1 W

BEND WAVEGUIDE SECTION



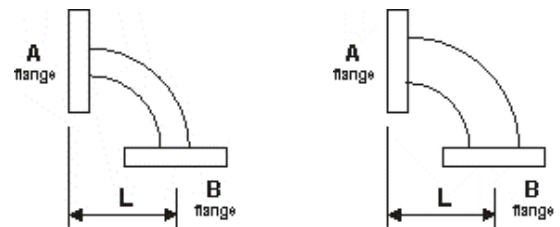
- Precision flanges
- Low VSWR
- Low insertion losses

E- or H-Plane Bends are essential parts of every waveguide systems. E- or H-Plane formed bends are available with angles of 15°, 30°, 45°, 90°. Maximum VSWR is 1.1 (within 33-170 GHz). The sizes and combinations are available on request.

Model number	Frequency range, GHz	Waveguide size	VSWR
BE90D-06E BH90D-06E	33 - 50	WR-22	1,1
BE90D-04E BH90D-04E	50 - 75	WR-15	1,1
BE90D-03E BH90D-03E	75 - 110	WR-10	1,1
BE90D-02E BH90D-02E	110 - 170	WR-6	1,1
BE90D-015E BH90D-015E	140 - 220	WR-5	
BE90D-014E BH90D-014E	170 - 260	WR-4	
BE90D-012E BH90D-012E	220 - 325	WR-3	

ORDERING INFORMATION

- XX Operation range wave length, mm
- L Dimensions, (mm)
- E E-plane bend
- H H-plane bend
- Finish (flanges):
- F S – silver
- G - gold
- YY Degrees
- 90°, 45°, 30°, 15°, (and others)



BEYYD-XXE/L-F

Example: BE90D-06E/50-S

E-Plane Bend for 33 - 50 GHz frequency range, 50mm length, 90° angle, silver plated.

TWIST WAVEGUIDE SECTION



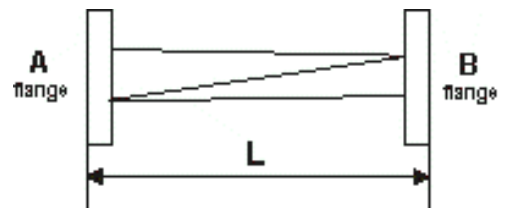
- Precision flanges
- Low VSWR
- Low insertion losses

Twists of 90° and 45° are used for changing of polarization in waveguide networks. Twists with different angles and combinations of bends are available on special order. Maximum VSWR is less than 1.10 over the full frequency range (within 33-170 GHz).

Model number	Frequency range, GHz	Waveguide size	VSWR
TW90D-06E	33 - 50	WR-22	1,1
TW90D-04E	50 - 75	WR-15	1,1
TW90D-03E	75 - 110	WR-10	1,1
TW90D-02E	110 - 170	WR-6	1,1
TW90D-015E	140 - 220	WR-5	
TW90D-014E	170 - 260	WR-4	
TW90D-012E	220 - 325	WR-3	

ORDERING INFORMATION

- XX Operation range wave length, mm
- L Length, (mm)
- YY Twist angle
90°, 45°, (and others)
- F Finish (flanges):
S – silver
G - gold



TWYYD-XXE/L-F

Example: TW90D-06E/50-S

Twist for 33 - 50 GHz frequency range, 50mm length, 90° twist angle, silver plated.

DIRECTIONAL COUPLER



- High directivity
- Minimum coupling variation
- Low VSWR

The **DCZ-XXE/Y** directional couplers are used for extracting or introducing RF power flow in a transmission line without distortion of signal characteristics. The directional couplers are available in 3, 6, 10, 15, 20 dB coupling values and 30 - 35 dB minimum directivities* (for 18-170 GHz). 4-ports directional couplers are available in bi-directional (BDC4-XXE/Y) and dual-directional (DDC4-XXE/Y) configurations.

Model number	Frequency range, GHz	Waveguide size	Main line VSWR	Secondary line VSWR	Insertion loss, dB	Coupling accuracy, %
DCZ-12E/Y	18 – 26,5	WR-42	1,05	1,1	0,8	7
DCZ-08E/Y	26,5 - 40	WR-28	1,05	1,1	0,8	7
DCZ-06E/Y	33 - 50	WR-22	1,05	1,1	0,8	7
DCZ-04E/Y	50 - 75	WR-15	1,08	1,1	1,1	7
DCZ-03E/Y	75 - 110	WR-10	1,1	1,15	1,5	10
DCZ-02E/Y	110 - 170	WR-6	1,15	1,2	2,5	10
DCZ-015E/Y	140 - 220	WR-5	1.15	1.2	2,5	12
DCZ-014E/Y	170 - 260	WR-4				12
DCZ-012E/Y	220 - 325	WR-3				15
DCZ-011E/Y	260 - 400	WR-2.8				15
DCZ-010E/Y	325 - 500	WR-2.2				20
Coupling flatness			±0.7 dB			

* ask for directivity specification in 140-325 GHz frequency range

ORDERING INFORMATION

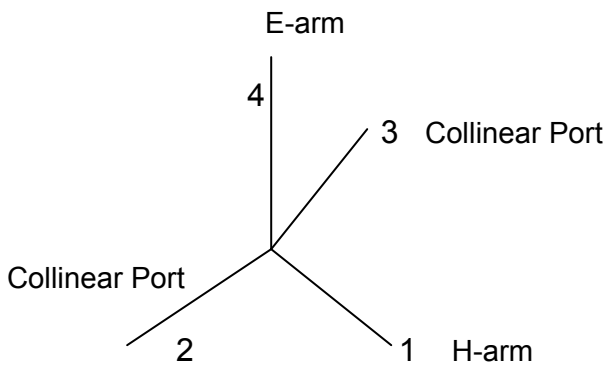
XX	Operation range wave length, mm	
Z	3 – 3 ports 4 – 4 ports	
Y	Coupling value 3, 6, 10, 15, 20 dB	
F	Finish: S - silver G - gold	DCZ-XXE/Y-F
		Example: DC3-06E/20-S
		3-ports Directional Coupler for 33 ÷ 50 GHz frequency range, 20dB coupling value, silver plated.

MAGIC TEE



- Low insertion losses
- High matching / high isolation
- Low power split unbalance

The **MHT-XXE** Magic Tee Hybrid Couplers for millimeter wave are matched power dividers for variety of applications (general purpose power splitters, power combining, phase measurement circuits, phase / frequency discriminators). The **MHT-XXE** Magic Tee Hybrid Couplers are available in waveguide bands between 33 and 220 GHz. These couplers are four-port transmission line components with a port configuration as shown in figure. Operation bandwidth is limited to 20÷90% waveguide operation frequency range depending on performance specifications.



$$S_{24} = -S_{34} \quad S_{22} = S_{33}$$

$$S_{24} = S_{34} \quad S_{14} = 0$$

Model number	Frequency range, GHz	Waveguide size	Insertion loss, dB	Isolation, (min) dB E-H/Col	VSWR max		Balance, dB
					E-arm	H-arm	
MHT-06E	33 - 50	WR - 22	0,7	30/20	1,5	1,5	±0,5
MHT-04E	50 - 75	WR - 15	1,0	30/20	1,5	1,5	±0,5
MHT-03E	75 - 110	WR - 10	1,2	30/20	1,6	1,6	±0,5
MHT-02E	110 - 170	WR - 6	1,5	30/20	1,6	1,6	±0,5
MHT-015E	140 - 220	WR - 5					

The above presented specifications can be reached not in full frequency band.

ORDERING INFORMATION

XX Operation wave length range, mm

MHT-XXE/F

F Finish:
S – silver
G - gold

Example: MHT-06E/S

Hybrid coupler for 33 - 50 GHz frequency range, silver plated.

FIXED ATTENUATOR



- Full waveguide bandwidth
- High attenuation accuracy

The **FA-XXE** Fixed Attenuators can be used as a lab standard against which other instruments or device are calibrated. The attenuators consist of the waveguide section with resistive plate in the waveguide diagonal plane. The **FA-XXE** 3, 6, 10, 15, 20, 30 dB attenuators are available in waveguide bands from 18 through 325 GHz.

Model	Frequency range, GHz	Waveguide size	Attenuation, dB	VSWR
FA-12E	18 – 26.5	WR - 42	3±0.5	1.15
FA-08E	26.5 - 40	WR - 28	6±1.0	1,15
FA-06E	33 - 50	WR - 22	10±1.5	1,15
FA-04E	50 - 75	WR - 15	20±2.0	1,15
			30±3.0	1,15
FA-03E	75 - 110	WR - 10	3, 6, 10, 20, 30	1,15
FA-02E	110 - 170	WR - 6	3, 6, 10, 20, 30	1,15
FA-015E	140 - 220	WR - 5	3, 6, 10, 20	1,15
FA-014E	170 - 260	WR - 4	3, 6, 10, 20	
FA-012E	220 - 325	WR - 3	3, 6, 10, 20	

ORDERING INFORMATION

XX Operation range wave length, mm

F Finish:
S – silver
G - gold

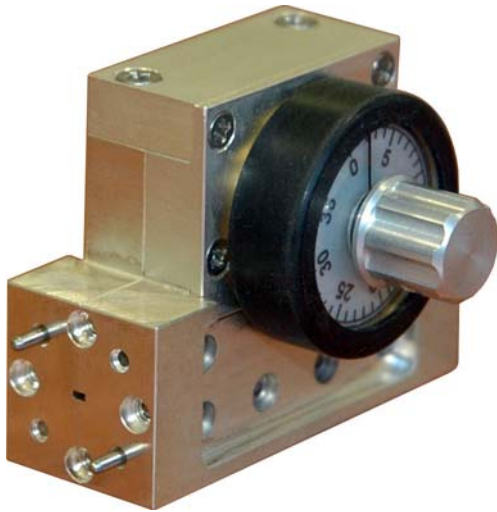
A Attenuation, dB

FA-XXE/A-F

Example: FA-06E/15-S

15 dB fixed attenuator for 33 - 50 GHz frequency range, silver plated.

VARIABLE ATTENUATOR



- Wide attenuation range
- Low VSWR
- Low insertion losses
- Full waveguide bandwidth

The **VA-XXE** Variable Attenuators are used for level-setting. The Attenuators consist of a section of waveguide with a resistive film evaporated on the mica surface.

The Attenuators has 0 ÷30 dB minimum attenuation range. The **VA-XXE** Attenuators are available in four waveguide bands between 33 GHz and 325 GHz.

Model number	Frequency range, GHz	Waveguide size	Attenuation range, dB	VSWR	Insertion loss, dB
VA-06E	33 - 50	WR - 22	0÷30	1,15	0,5
VA-04E	50 - 75	WR - 15	0÷30	1,15	0,5
VA-03E	75 - 110	WR - 10	0÷30	1,15	0,7
VA-02E	110 - 170	WR - 06	0÷30	1,2	1,0
VA-015E	140 - 220	WR - 05	0÷30		
VA-014E	170 - 260	WR - 04	0÷30		
VA-012E	220 - 325	WR - 03	0÷30		

ORDERING INFORMATION

XX Operation wave length range, mm

F Finish:
S – silver
G - gold

VA-XXE/F

Example: VA-06E/S

Variable attenuator for 33 - 50 GHz frequency ranged, silver plated.

SHORT



Fixed waveguide short



Tunable waveguide short

The **FS-XE** Fixed Waveguide Shorts and the **TS-XE** Tunable Shorts are designed to create the shorts circuit conditions in waveguides.

The **TS-XE** Tunable Waveguide Shorts are movable shorts, adjustable through at least half a wavelength at the low end of the band. The **TS-XE** Shorts consist of movable noncontacting choke plungers within a straight section of waveguide.

The **FS-XE** and **TS-XE** Shorts are provided in five waveguide bands between 33 and 225 GHz.

Model number	Frequency range, GHz	Waveguide size	VSWR
FS06E	33 - 50	WR - 22	30
FS04E	50 - 75	WR - 15	30
FS03E	75 - 110	WR - 10	20
FS02E	110 - 170	WR - 6	20
FS015E	170 - 225	WR - 5	20
TS06E	33 - 50	WR - 22	30
TS04E	50 - 75	WR - 15	30
TS03E	75 - 110	WR - 10	20
TS02E	110 - 170	WR - 6	20
TS015E	170 - 225	WR - 5	20

ORDERING INFORMATION

XX Operation wave length range, mm

TS-XXE/F

F Finish:
S - silver

Example: TS-06E/S

Tunable short for 33 - 50 GHz frequency range, silver plated.

MATCHED LOAD



Sliding Matched Load



Matched Load

The **SMLXE** Sliding Matched Loads and the **MLXE** fixed Matched Loads consist of tapered absorber within a waveguide section. The **SMLXE** Loads utilize a metric micrometer tuning mechanism allows the microwave absorber to be positioned within the guide while maintaining a constant magnitude of reflection coefficient.

The **MLXE** Terminations and the **SMLXE** Sliding Matched Loads are provided in five waveguide bands between 33 GHz and 225 GHz.

Model number	Frequency range, GHz	Waveguide size	VSWR
SML06E	33 - 50	WR - 22	1,05
SML04E	50 - 75	WR - 15	1,05
SML03E	75 - 110	WR - 10	1,05
SML02E	110 - 170	WR - 6	1,05
SML015E	170 - 225	WR - 5	1.05
ML06E	33 - 50	WR - 22	1,07
ML04E	50 - 75	WR - 15	1,07
ML03E	75 - 110	WR - 10	1,07
ML02E	110 - 170	WR - 6	1,07
ML015E	170 - 225	WR - 5	1.07

ORDERING INFORMATION

XX Operation wave length range, mm

ML-XXE/F

F S – silver
G - gold

Example: ML-06E/S
Matched Load for 33 - 50 GHz frequency range,
silver plated.

DETECTOR MOUNT



- High sensitivity
- Millimeter and sub-millimeter wave detection
- Full waveguide bandwidth

The **DMXE** Detector Mounts are broadband devices designed for operation in millimeter wave range. The Detectors are optimized for broadband performance and are used in mm-wave test setups to detect, monitor and measure modulated signals.

The **DMXE** Detector Mounts use Schottky Barrier packaged diodes and are provided in five waveguide bands between 33 GHz and 225 GHz.

Model number	Frequency range, GHz	Waveguide size	Sensitivity, mV/mW	Maximum input, mW	Sensitivity flatness (S _{max} / S _{min})
DM-06E	33 - 50	WR - 22	300	15	2,5
DM-04E	50 - 75	WR - 15	300	15	2,5
DM-03E	75 - 110	WR - 10	200	15	2,5
DM-02E	110 - 170	WR - 6	100	15	2,5
DM-015E	170 - 225	WR - 5	100	15	3,0

ORDERING INFORMATION

XX Operation wave length range, mm

DM-XXE/F

F Finish:
S – silver
G - gold

Example: DM-06E/S

Detector mount for 33 - 50 GHz frequency range, silver plated.

CALORIMETRIC POWER METER



- **High Accuracy**
- **High Sensitivity**
- **Automated Measurements**
- **Full Waveguide Frequency Band**

The Calorimetric Power Meter M1-25M/XX is a high precision broadband calorimetric microwave power measurement instrument operating in millimeter and sub-millimeter wave range.

The Instrument has a waveguide type Calorimetric Sensor for corresponding frequency ranges. The sensor has a self compensation transistor transducers that substitute the absorbed microwave power with direct current power. The five sensors' models provide accurate absolute power measurement in single mode waveguides, and one – in multimode Metal-Dielectric Waveguide (MDW). The last model could be a priority for terahertz (THz) physics and technology.

The Calorimetric Power Meter M1-25M provides PC connection via RS-232 interface.

Sensor Model	Frequency range, GHz	Input Waveguide Port	Power measurement range, mW	Power measurement error	VSWR, max
M1-25M/06E	33 - 50	WR-22, UG383/U	0,020-20	3%+2μW	1.1*
M1-25M/04E	50 - 75	WR-15, UG385/U	0,020-20	3%+2μW	1.1
M1-25M/035E	60 - 90	WR-12, UG387/U	0,020-20	3%+2μW	1.1
M1-25M/03E	75 - 110	WR-10, UG387/UM	0,020-20	3%+2μW	1.1
M1-25M/025E	90 - 140	WR-08, UG387/UM	0,020-20	3%+2μW	1.1
M1-25M/02E	110 - 170	WR-06, UG387/UM	0,020-20	3%+2μW	1.1
M1-25M/015E	140 - 220	WR-05, UG387/UM	0,020-20	5%+2μW	1.15
M1-25M/014E	170 - 260	WR-04, UG387/UM	0,020-20	5%+2μW	1.2
M1-25M/012E	220 - 325	WR-03, UG387/UM	0,020-20	5%+2μW	1.25
M1-25M /011E	260 – 400	WR-2.8 (0,711 x 0,356)	0,020-20	10%+2μW	-
M1-25M /010E	325 – 500	WR-2.2 (0,559 x 0,279)	0,020-20	10%+2μW	-
M1-25M /MDW	170 - 2500	10 x 10 (mm)	0,020-20	10%+2μW	-

* VSWR 1.2 max in 33-37.5 GHz frequency range;

ABOUT US

"Elmika" Joint Stock Company was established in the 1993 as a former microwave division of Vilnius Scientific Research Institute of Radio Measurement Instruments.

Now "Elmika" is a research, development and manufacturing company, which works in the area of mm-wave and sub-mm wave (THz) measurement instruments.

We design and manufacture sweep and signal generators, scalar and vector network analyzers, power meters, direct reading attenuators, frequency measurement instruments.

"Elmika" also produces waveguides and waveguide components for measurement instruments and wireless applications.

At present, "Elmika" has about 50 employees, more than half of them are degreed scientists and engineers.

"Elmika" provides integration and test services to match individual customers' needs. Complete turnkey systems including installation services are offered. Custom design sub-systems and components are designed, developed, and manufactured at our facilities.

Our engineering staff welcomes your special requirements and the opportunity to be useful for your needs.

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