

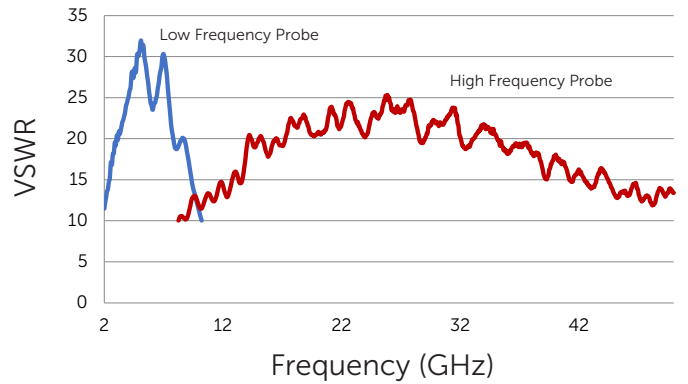
Fundamental Tuners



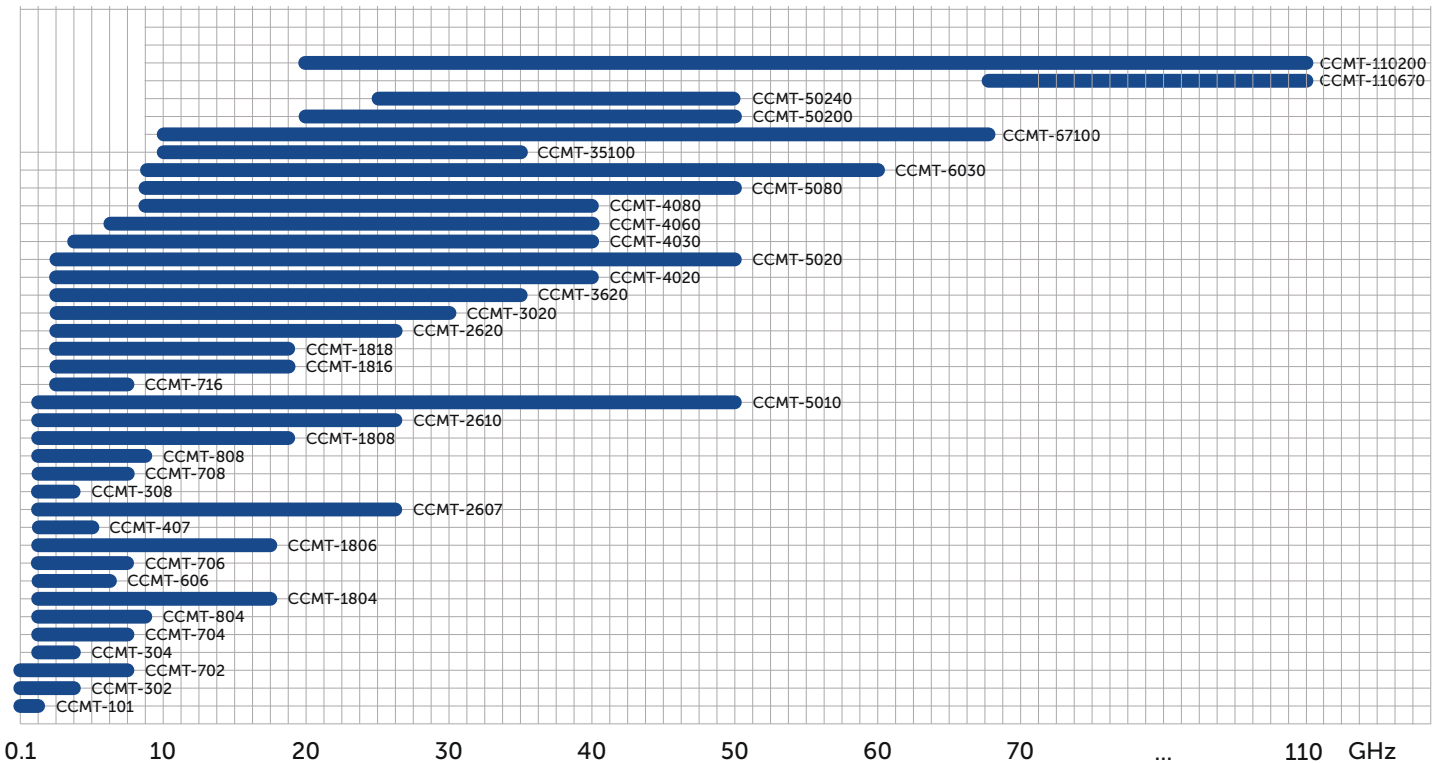
The industry's deepest portfolio of wideband fundamental tuners engineered for the broadest measurement capability

CCMT Series

Since 1989 Focus Microwaves manufactures wideband coaxial programmable (slide screw) impedance tuners from 100MHz up to 110GHz. Focus' fundamental tuners were designed with versatility in mind. The CCMT (Computer Controlled Microwave Tuner) family of tuners have one to three wideband probes enabling very wideband frequency coverage making it ideal for high power applications as well as wideband noise applications. The very long lasting RF probes used in the tuner are also designed for optimal tuning accuracy, free of spurious resonances. The combination of multiple probes provide ultra wideband coverage in one single tuner. All Focus tuners are LAN controlled and include on-board impedance synthesis firmware (iTuner).



Automated Wideband Tuner Portfolio

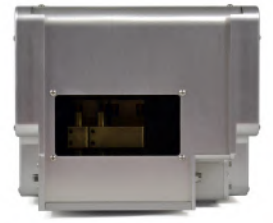


Coaxial CCMT

12 US Patents 

0.1-110GHz

Engineered for performance and reliability, the CCMT series of tuners are high performance LAN Controlled wideband passive tuners delivering unmatched value to the engineers. Ideal for ruggedness testing, this series of tuners is also widely used for wideband noise parameter extraction and high power load pull.



Waveguide CCMT


2 US Patents 

26-140GHz

The need for more bandwidth is steadily increasing, pushing mobile carriers to new frequency spectrums. Focus' series of waveguide tuners provide high tuning range in a small footprint, making them ideal for on wafer applications. Multiple models are available for Ka, V, E and W bands.



Differential DMT

2 US Patents 

2-50GHz

Focus' differential tuners are a unique offering in today's market. Based on proven load pull technology for single ended devices, the Differential Microwave Tuner series allow to easily synthesize differential impedances through differential/balanced lines at the DUT's reference plane.



High Reflection MRT / HR

3 US Patents 

Maximum Reflection typically >100:1 VSWR
High Reflection typically 30:1 to 50:1 VSWR

Focus has introduced multiple solutions and innovations (patents) for high VSWR tuning. The latest generation of Focus tuners offers unmatched tuning capability as well as frequency coverage.



Low Frequency Tuner LFT

9 US Patents 

10MHz-170MHz

The LFT is a unique product technology using MPT algorithms for low frequency wideband tuning. Three or more cascaded tuning sections use series transmission cables and parallel rotary capacitors. The length of the cables and number of tuning sections are optimized for maximum tuning range over a given bandwidth. HLFT tuners use 6 tuning sections allowing second harmonic frequency tuning.



Model Specifications

Tuner Models: CCMT-XXYY(Y): XX=Fmax (in GHz); YY=Fmin (in x 0.1GHz)

-IBL = Integrated Bendline

-HR = High Reflection

CCMT Tuners

Model	Frequency	VSWR	Connector
CCMT-101	0.1 - 1.1GHz	≥12:1 (typ. 20:1)	7/16
CCMT-702	0.2-1.1 / 1.1-6.5GHz	≥15:1	7/16
CCMT-302	0.2 - 3GHz	≥15:1	7/16
CCMT-304	0.4 - 3GHz	≥15:1	7/16
CCMT-704	0.4-2 / 2-6.5GHz	≥15:1	7/16
CCMT-804	0.4 - 8GHz	≥15:1	APC-7, N Type
CCMT-1804	0.4 - 18GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-406	0.6 - 4GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-606	0.6 - 6GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-1806	0.6 - 18GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-706	0.6 - 6.5GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-407	0.7 - 4GHz	≥12:1	APC-7, N Type
CCMT-1007	0.7 - 10GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-2607	0.7 - 26.5GHz	≥10:1 (typ. 15:1)	3.5 mm
CCMT-308	0.8 - 3GHz	≥12:1 (typ. 15:1)	APC-7, 7/16, N T.
CCMT-708	0.8 - 6.5GHz	≥12:1 (typ. 15:1)	APC-7, N Type
CCMT-808	0.8 - 8GHz	≥20:1	APC-7, N Type
CCMT-1808	0.8 - 18GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-710	1 - 7GHz	≥10:1 (typ. 12:1)	APC-7, N Type
CCMT-2110	1 - 21GHz	≥10:1 (typ. 12:1)	2.9 mm
CCMT-2610	1 - 26.5GHz	≥10:1 (typ. 12:1)	2.9 mm
CCMT-716	1.6 - 6.5GHz	≥12:1 (typ. 20:1)	APC-7, 7/16, N T.
CCMT-1816	1.6 - 18GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-1818	1.8 - 18GHz	≥10:1 (typ. 15:1)	APC-7, N Type
CCMT-2620	2 - 26.5GHz	≥10:1 (typ. 12:1)	3.5 mm
CCMT-3020	2 - 30GHz	≥10:1 (typ. 12:1)	2.9 mm (K@)
CCMT-3620	2 - 36GHz	≥10:1 (typ. 12:1)	2.9 mm (K@)
CCMT-4020	2 - 40GHz	≥10:1 (typ. 12:1)	2.9 mm (K@)
CCMT-5020	2 - 50GHz	≥10:1 (typ. 12:1)	2.4 mm
CCMT-4030	3 - 40GHz	≥10:1 (typ. 12:1)	2.9 mm (K@)
CCMT-5030	3 - 50GHz	≥10:1 (typ. 12:1)	2.4 mm
CCMT-2640	4 - 26.5GHz	≥12:1 (typ. 15:1)	3.5 mm
CCMT-3640	4 - 36GHz	≥10:1 (typ. 15:1)	2.9 mm (K@)
CCMT-3660	6 - 36GHz	≥12:1 (typ. 15:1)	2.9 mm (K@)
CCMT-5060	6 - 50GHz	≥10:1 (typ. 12:1)	2.4 mm
CCMT-3680	8 - 36GHz	≥12:1 (typ. 15:1)	2.9 mm (K@)
CCMT-4080	8 - 40GHz	≥12:1 (typ. 15:1)	2.9 mm (K@)
CCMT-5080	8 - 50GHz	≥12:1 (typ. 15:1)	2.4 mm
CCMT-6580	8 - 65GHz	≥10:1 (typ. 15:1)	1.85 mm (V@)
CCMT-18100-IBL	10 - 18GHz	≥12:1 (typ. 15:1)	APC-7, N Type
CCMT-35100	10 - 35GHz	≥12:1 (typ. 15:1)	2.9 mm (K@)
CCMT-40100	10 - 40GHz	≥12:1 (typ. 15:1)	2.9 mm (K@)
CCMT-5010	1-50GHz	≥10:1	2.4mm
CCMT-50100	10 - 50GHz	≥12:1 (typ. 15:1)	2.4 mm
CCMT-67100	10 - 67GHz	≥10:1 (typ. 15:1)	1.85 mm
CCMT-50150	15 - 50GHz	≥12:1 (typ. 15:1)	2.4 mm
CCMT-40200	20 - 40GHz	≥12:1 (typ. 15:1)	2.9 mm
CCMT-50200	20 - 50GHz	≥12:1 (typ. 15:1)	2.4 mm
CCMT-110100	10-110GHz	≥8:1	1.0mm

High Reflection Tuners

Model	Frequency	VSWR	Connector
304-HR	0.4 - 3 GHz	≥30:1	APC-7, N Type
404-HR	0.4 - 4 GHz	≥30:1	APC-7, N Type
606-HR	0.6 - 6 GHz	≥30:1	APC-7, N Type
808-HR	0.8 - 8 GHz	≥30:1	APC-7, N Type

Differential Tuners

Model	Frequency	Connector
DMT-606	0.6 - 6 GHz	APC-7, N Type
DMT-1820	2 - 18 GHz	APC-7, N Type
DMT-5080	8 - 50 GHz	2.4 mm

Waveguide Tuners

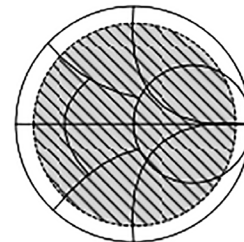
Model	Frequency	VSWR	Connector
40260 (Ka band)	26.5 - 40 GHz	12:1	WR-28
50330 (Q band)	33 - 50 GHz	12:1	WR-22
75500 (V band)	50 - 75 GHz	15:1	WR-15
90600 (E band)	60 - 90 GHz	12:1	WR-12
110750 (W band)	75 - 110 GHz	15:1	WR-10

Low Frequency Tuners

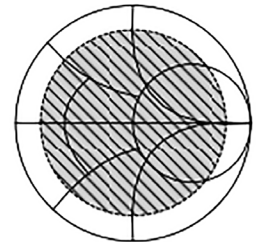
Model	Frequency	Connector
LFT-002001	10 - 20 MHz	N, SMA
LFT-004002	20 - 40 MHz	N, SMA
LFT-004113	13 - 41 MHz	N, SMA
LFT-006003	30 - 60 MHz	N, SMA
LFT-008004	40 - 80 MHz	N, SMA
LFT-01005	50 - 100 MHz	N, SMA
LFT-090003	30 - 90 MHz	N, SMA
LFT-013006	60 - 130 MHz	N, SMA
LFT-0170130	130 - 170 MHz	N, SMA

Bendline

Focus has developed rigid low loss airlines for on wafer measurements either as an accessory (bendline) or as part of the tuner airline (integrated bendline). These airlines connect directly to the RF probes minimizing the loss between the DUT and the tuner and maximizing tuning range and phase stability. Traditional RF/uW cables and connectors have higher loss and poor phase stability compared to Focus' rigid airline technology.



Bendline



Cable