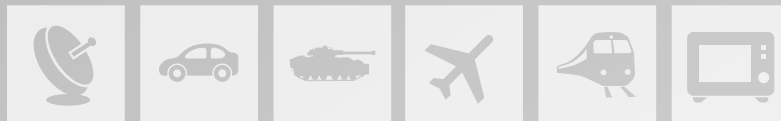


Teseq TWT Series **BROADBAND POWER AMPLIFIERS**

2-40 GHz - Traveling Wave Tube Amplifiers



More choice, means optimum performance, whatever the application.



TESEQ | MILMEGA | IFI

the power is the range



Ametek CTS' brands have been designing and manufacturing RF amplifiers for over 30 years. Under the product names of Teseq, IFI and Milmega, we have produced RF amplifiers suitable for the widest range of applications, including products for EMC Testing, Communications, Aerospace & Defence and the Component Test industries.

We are now launching a new range of advanced TWT amplifiers, branded Teseq, to complement our widely successful Teseq solid-state amplifiers.

From our design and manufacturing facilities in the UK, Switzerland and Germany, our customers can be confident they will always get an RF amplifier solution that is correctly matched to their requirement.

Our know-how and experience will ensure you get a solution that is optimised to meet your application requirements at the right cost.

Teseq's new CW or pulsed TWT series of high-power amplifiers are modular, scalable, and designed explicitly for reliability whatever your application needs. Either as a standalone bench mount device or seamlessly integrated as part of a Teseq radiated Immunity test system.

Though unlikely, should an issue occur these amplifiers can be remotely integrated (with customer permission) via the embedded web server which offers a built-in self-test function and advanced rapid fault diagnostics to modular level. In conjunction with the modular plug and play design, this enables excellent service response times from one of our local in-country service centres minimising down time and disruption to testing.



TESEQ TWT SERIES

Broadband power amplifiers



- ▷ Rugged, ultra-reliable design
- ▷ Standard 6U and high power dual TWT in 12U chassis
- ▷ Advanced Self-Diagnostics
- ▷ Ethernet interface or optional RS422, RS485, RS232, Fiber Optic
- ▷ Remote Management and diagnostics via an embedded web server
- ▷ Graphical User Interface to run on any PC or laptop with a standard browser with operational parameters updated in real-time
- ▷ VSWR Reflected Power Protection
- ▷ RF forward and reverse sample ports
- ▷ Plug and Play field-replaceable power supplies
- ▷ 100 – 240 VAC single phase

APPLICATIONS

Standard product, tailored solutions

EMC

Flexible combination from 2GHz to 40 GHz. Power levels up to 11KW (pulsed) for radiated susceptibility turn-key test system applications covering, MIL-STD-461G, MIL-STD-464 & DO-160 standards (HIRF, Cat-G & Cat-L),

Communications

Earth-based transmitters provide uplink signals to satellites, mainly for telecommunications or broadcast; image, voice or data. For these systems, the emphasis is on the highest reliability and durability, ease of transport and ease of use.

EW & Radar

Applications Including search and rescue, airborne early warning (AEW), ground mobile air defence, anti-submarine warfare (ASW), terrain-following radar (TFR), maritime patrol aircraft (MPA). Pulse and CW for shipborne military environments.



TESEQ TWT SERIES

Key features

The NEW TWT Series has many innovative features that are designed to extend the instrument's functionality. Ease of use remains central to the Teseq design philosophy enabling users to quickly become familiar with the instruments capabilities and operation.

USER INTERFACE AND REMOTE MONITORING AND CONTROL

The display interface indicates the amplifier mode of operation (Standby or Operate) and reports all critical voltage, current and pulse parameters. The default remote interface type is Ethernet, though almost all interface types are optionally available enabling remote operation either point to point, via the web browser or EMC control software.

REMOTE LOGGING

The amplifier series logs operational hours and any trip's recorded throughout its life. This greatly aids diagnostics, and this information can be assessed (with customer permission) to determine the health of the Traveling Wave Tube.

RELIABILITY AND THERMAL MANAGEMENT

All amplifiers are manufactured to ISO 9001 standards, temperature and vibration tested to Military Standard 810G-Transport and have 100hr burn-in at full power. The topology is based on ultra-reliable military power supplies – proven over the years in the field with a state-of-the-art cooling system, incorporating heat pipe technology. This has the effect of spreading the heat dissipated by the TWT over a large area, reducing peak temperatures and significantly improving MTBF.

ENVIRONMENTAL

0°C to +40°C operational temperature -10°C to +50°C storage temperature
 Mechanical 19" Front Panel, 6U height, 800 mm long Weight - 47 kg Fan Noise - TBD

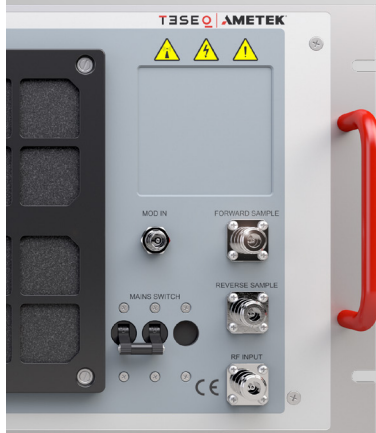
SAFETY & EMC

CE marked and certified to comply with EN 61010-1:2010 and EN 61000 UL certified.

OPTIONS

- ▷ 5" LCD Screen
- ▷ Rear Panel RF
- ▷ RF Inhibit BNC
- ▷ IEEE GPIB / RS-232 / RS-485 / Fibre-Optic*
- ▷ Rack Slides (100% extension)
- ▷ Extended Pulse Width **
- ▷ WRD750 RF Output ***
- ▷ WRD650 RF Output ***
- ▷ Reflected Power Monitoring Port
- ▷ External Accessories****

* The unit comes with a RJ45 Ethernet port as standard or optional Fibre Optic. The other interfaces are available as well, if requested. ** Up to 100us on selected models only *** Only available on certain models ****The External Accessories can include Harmonic Filters or RF Adapters, which need to be requested and specified in the Configuration Summary



CUSTOM CONFIGURATIONS

Our new 6U and 12U standard but customisable chassis and "soft" re-configurable control system enables custom built product and options.



SERVICE AND SUPPORT

Quality accuracy speed



TESEQ | MILMEGA | IFI

the power is the range

GLOBAL SUPPORT NETWORK

When you choose an AMETEK-CTS instrument, you benefit from our promise to provide consistent, reliable performance for the lifetime of the product.

Our promise begins with robust innovative product designs and precise control of the manufacturing process at our factories in Switzerland, Germany, the United States and the UK. The ongoing performance of our products are supported by a network of internationally recognised laboratories and service centres providing a range of services.



Regional laboratories and service centers provide customers with "peace-of-mind" support that respects the need for fast turnaround without any compromise on quality or product performance... Quality Accuracy, Speed.

Product know-how, robust processes and expert people - these are some of the reasons why our customers trust us to provide a professional support service that matches the quality of our instruments.

PRODUCT SELECTOR

TWT Broadband Power Amplifiers

Use the product selector table below to quickly find the optimum device for your application. Detailed performance data and graphs are available for each product on pages 7-11



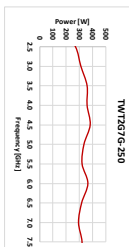
CW TWT Performance data

Please contact us if you require any product selection or application advice

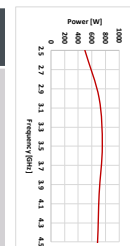


Click on the magnify icon to view the product power / frequency performance graph

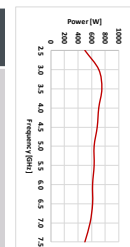
Model TWT2G7G-250			
Frequency	2.5-7.5 GHz	Line Power (typ)	2.3 KVA
Psat (min)	250 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	270 W	Weight	45 KG
Gain (min)	54 dB	RF Input	N-Female
Harmonics (typ)	-3.5 dBc	RF Output	N-Female



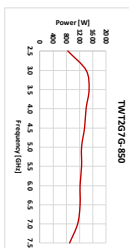
Model TWT2G4G-500			
Frequency	2.5-4 GHz	Line Power (typ)	3.1 KVA
Psat (min)	500 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	700 W	Weight	47 kG
Gain (min)	57 dB	RF Input	N-Female
Harmonics (typ)	-5 dBc	RF Output	SC-Female



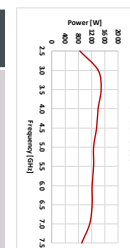
Model TWT2G7G-500			
Frequency	2.5-7.5 GHz	Line Power (typ)	3.1 KVA
Psat (min)	500 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	650 W	Weight	47 kG
Gain (min)	57 dB	RF Input	N-Female
Harmonics (typ)	-5 dBc	RF Output	SC-Female



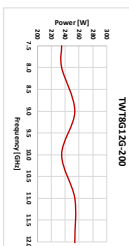
Model TWT2G7G-850			
Frequency	2.5-7.5 GHz	Line Power (typ)	5.9 KVA
Psat (min)	850 W	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	1000 W	Weight	90 KG
Gain (min)	59 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WRD250



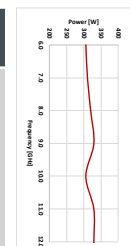
Model TWT2G7G-1600			
Frequency	2.5-7.5 GHz	Line Power (typ)	12 KVA
Psat (min)	1600 W	Dimensions	36 U, 19 Inch, 1200 mm
Psat (nom)	2400 W	Weight	TBD
Gain (min)	62 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WRD250



Model TWT8G12G-200			
Frequency	7.5 - 12 GHz	Line Power (typ)	1.7 KVA
Psat (min)	200 W	Dimensions	6 U, 19 inch, 800 mm
Psat (nom)	250 W	Weight	44 KG
Gain (min)	53 dB	RF Input	N-Female
Harmonics (typ)	-8 dBc	RF Output	WRD750



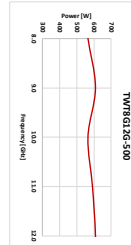
Model TWT6G12G-280			
Frequency	6 - 12 GHz	Line Power (typ)	2 KVA
Psat (min)	280 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	300 W	Weight	44 KG
Gain (min)	54 dB	RF Input	N-Female
Harmonics (typ)	-5.5 dBc	RF Output	WRD650



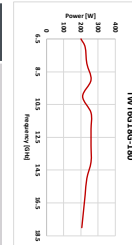
CW TWT Performance data

Please contact us if you require any product selection or application advice

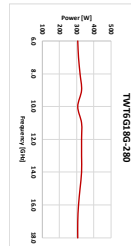
Model TWT8G12G-500			
Frequency	7.5 - 12 GHz	Line Power (typ)	3.5 KVA
Psat (min)	500 W	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	600 W	Weight	87 KG
Gain (min)	57 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WRD750



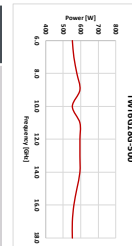
Model TWT6G18G-180			
Frequency	6 - 18 GHz	Line Power (typ)	2 KVA
Psat (min)	180 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	250 W	Weight	44 KG
Gain (min)	53 dB	RF Input	N-Female
Harmonics (typ)	-6 dBc	RF Output	WRD650



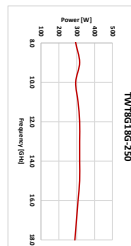
Model TWT6G18G-280			
Frequency	6.0 - 18 GHz	Line Power (typ)	2 KVA
Psat (min)	280 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	320 W	Weight	44 KG
Gain (min)	54 dB	RF Input	N-Female
Harmonics (typ)	-5.5 dBc	RF Output	WRD650



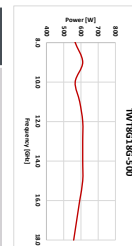
Model TWT6G18G-500			
Frequency	6 - 18 GHz	Line Power (typ)	3.5 KVA
Psat (min)	500 W	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	600 W	Weight	87 KG
Gain (min)	57 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WRD650



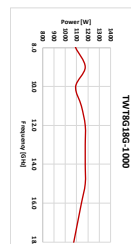
Model TWT8G18G-300			
Frequency	7.5 - 18 GHz	Line Power (typ)	1.8 KVA
Psat (min)	300 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	320 W	Weight	44 KG
Gain (min)	54 dB	RF Input	N-Female
Harmonics (typ)	-7 dBc	RF Output	WRD750



Model TWT8G18G-500			
Frequency	7.5 - 18 GHz	Line Power (typ)	3.5 KVA
Psat (min)	500 W	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	600 W	Weight	87 KG
Gain (min)	57 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WRD750



Model TWT8G18G-1000			
Frequency	7.5 - 18 GHz	Line Power (typ)	7 KVA
Psat (min)	1000 W	Dimensions	32 U, 19 Inch, 1000 mm
Psat (nom)	1100 W	Weight	TBD
Gain (min)	60 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WRD750



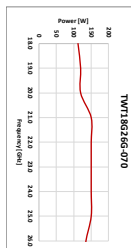
Model TWT18G26G-040			
Frequency	18 - 26.5 GHz	Line Power (typ)	0.75 KVA
Psat (min)	40 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	70 W	Weight	45 KG
Gain (min)	46 dB	RF Input	N-Female
Harmonics (typ)	-8 dBc	RF Output	WR42



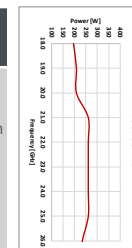
CW TWT Performance data

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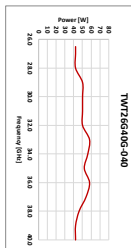
Model TWT18G26G-070			
Frequency	18 - 26.5 GHz	Line Power (typ)	1.5 KVA
Psat (min)	70 W	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	140 W	Weight	90 KG
Gain (min)	48 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WR42



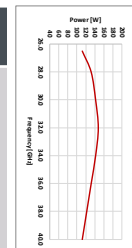
Model TWT18G26G-175			
Frequency	18 - 26.5 GHz	Line Power (typ)	3 KVA
Psat (min)	175 W	Dimensions	32 U, 19 Inch, 1000 mm
Psat (nom)	250 W	Weight	TBD
Gain (min)	51 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WR42



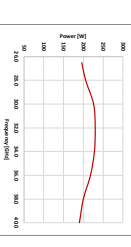
Model TWT26G40G-040			
Frequency	26.5 - 40 GHz	Line Power (typ)	0.75 KVA
Psat (min)	40 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	45 W	Weight	45 KG
Gain (min)	45 dB	RF Input	N-Female
Harmonics (typ)	-8 dBc	RF Output	WR28



Model TWT26G40G-100			
Frequency	26.5 - 40 GHz	Line Power (typ)	1 KVA
Psat (min)	100 W	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	110 W	Weight	45KG
Gain (min)	50 dB	RF Input	N-Female
Harmonics (typ)	TBC	RF Output	WR28



Model TWT26G40G-175			
Frequency	26.5 - 40 GHz	Line Power (typ)	2 KVA
Psat (min)	175 W	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	200 W	Weight	90 KG
Gain (min)	52 dB	RF Input	N-Female
Harmonics (typ)	TBC	RF Output	WR28



PULSED TWT Performance data

Please contact us if you require any product selection or application advice

Model PTWT2G4G-1.9KW			
Frequency	2.0-4.0 GHz	Line Power	1.5 KVA
Psat (min)	1.9 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	2.2 KW	Weight	45 KG
Gain (nom)	57.8 dB	RF Input	N-Female
Harmonics (typ)	-3.5 dBc	RF Output	N-Female
Duty	6%		
Pulse Width (max)	50 μ s		

Model PTWT2G4G-4KW			
Frequency	2 - 4 GHz	Line Power	2.5 KVA
Psat (min)	4 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	5KW	Weight	51 KG
Gain (nom)	66 dB	RF Input	N-Female
Harmonics (typ)	-3.8 dBc	RF Output	7/16-Female
Duty	6%		
Pulse Width (max)	50 μ s		

Model PTWT2G4G-9KW			
Frequency	2 - 4 GHz	Line Power	4.3 KVA
Psat (min)	9 KW	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	10 KW	Weight	105 KG
Gain (nom)	70 dB	RF Input	N-Female
Harmonics (typ)	-14 dBc	RF Output	7/16-Female
Duty	6%		
Pulse Width (max)	50 μ s		

Model PTWT4G8G-1.9KW			
Frequency	4 - 8 GHz	Line Power	1.5 KVA
Psat (min)	1.9 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	2.2KW	Weight	45 KG
Gain (nom)	63 dB	RF Input	N-Female
Harmonics (typ)	-3.5 dBc	RF Output	N-Female
Duty	6%		
Pulse Width (max)	50 μ s		

Model PTWT4G8G-4KW			
Frequency	4 - 8 GHz	Line Power	2.2 KVA
Psat (min)	4 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	5 KW	Weight	53 KG
Gain (nom)	66 dB	RF Input	N-Female
Harmonics (typ)	-5.1 dBc	RF Output	WRD350
Duty	6%		
Pulse Width (max)	50 μ s		

Model PTWT4G8G-8KW			
Frequency	4 - 8 GHz	Line Power	3.8 KVA
Psat (min)	8 KW	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	9 KW	Weight	96 KG
Gain (nom)	69 dB	RF Input	N-Female
Harmonics (typ)	-10 dBc	RF Output	WRD350
Duty	6%		
Pulse Width (max)	50 μ s		

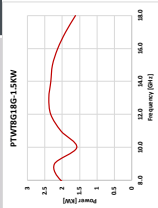
Model PTWT6G18G-1KW			
Frequency	6.5 - 18 GHz	Line Power	1.5 KVA
Psat (min)	1 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	2 KW	Weight	44 KG
Gain (nom)	60 dB	RF Input	N-Female
Harmonics (typ)	-6.5 dBc	RF Output	WRD650
Duty	6%		
Pulse Width (max)	50 μ s		

Model PTWT6G18G-2.2KW			
Frequency	6.5 - 18 GHz	Line Power	3 KVA
Psat (min)	2.2 KW	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	3.8 KW	Weight	90 KG
Gain (nom)	63dB	RF Input	N-Female
Harmonics (typ)	-10 dBc	RF Output	WRD650
Duty	6%		
Pulse Width (max)	50 μ s		

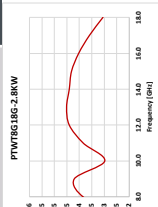
PULSED TWT Performance data

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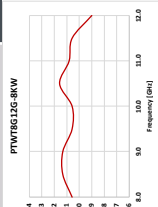
Model PTWT8G18G-1.5KW			
Frequency	6.5 - 18 GHz	Line Power	1.5 KVA
Psat (min)	1.5 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	2 KW	Weight	44 KG
Gain (nom)	62 dB	RF Input	N-Female
Harmonics (typ)	-6.5 dBc	RF Output	WRD750
Duty	6%		
Pulse Width (max)	50 µs		



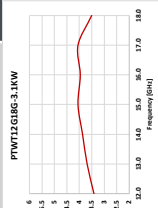
Model PTWT8G18G-2.8KW			
Frequency	7.5 - 18 GHz	Line Power	3 KVA
Psat (min)	2.8 KW	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	3.8 KW	Weight	90 KG
Gain (nom)	64 dB	RF Input	N-Female
Harmonics (typ)	-13 dBc	RF Output	WRD750
Duty	6%		
Pulse Width (max)	50 µs		



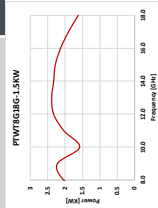
Model PTWT8G12G-8KW			
Frequency	8 - 12 GHz	Line Power	4.3 KVA
Psat (min)	8 KW	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	9 KW	Weight	90 KG
Gain (nom)	69 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WR90
Duty	6%		
Pulse Width (max)	50 µs		



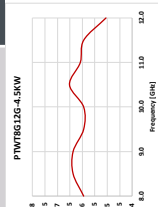
Model PTWT12G18G-3.1KW			
Frequency	12 - 18 GHz	Line Power	2.2 KVA
Psat (min)	3.1 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	4.5 KW	Weight	45 KG
Gain (nom)	65 dB	RF Input	N-Female
Harmonics (typ)	TBD	RF Output	WR62
Duty	6%		
Pulse Width (max)	50 µs		



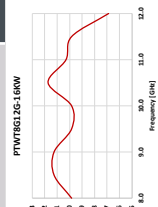
Model PTWT8G18G-2KW			
Frequency	7.5 - 18 GHz	Line Power	2.5 KVA
Psat (min)	1.9 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	2.5 KW	Weight	45 KG
Gain (nom)	63 dB	RF Input	N-Female
Harmonics (typ)	-8 dBc	RF Output	WRD750
Duty	6%		
Pulse Width (max)	50 µs		



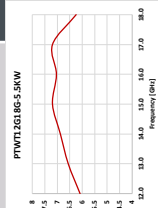
Model PTWT8G12G-4.5KW			
Frequency	7.5 - 18 GHz	Line Power	2.6 KVA
Psat (min)	4.5 KW	Dimensions	6 U, 19 Inch, 800 mm
Psat (nom)	5 KW	Weight	45 KG
Gain (nom)	67 dB	RF Input	N-Female
Harmonics (typ)	-13 dBc	RF Output	WR90
Duty	6%		
Pulse Width (max)	50 µs		

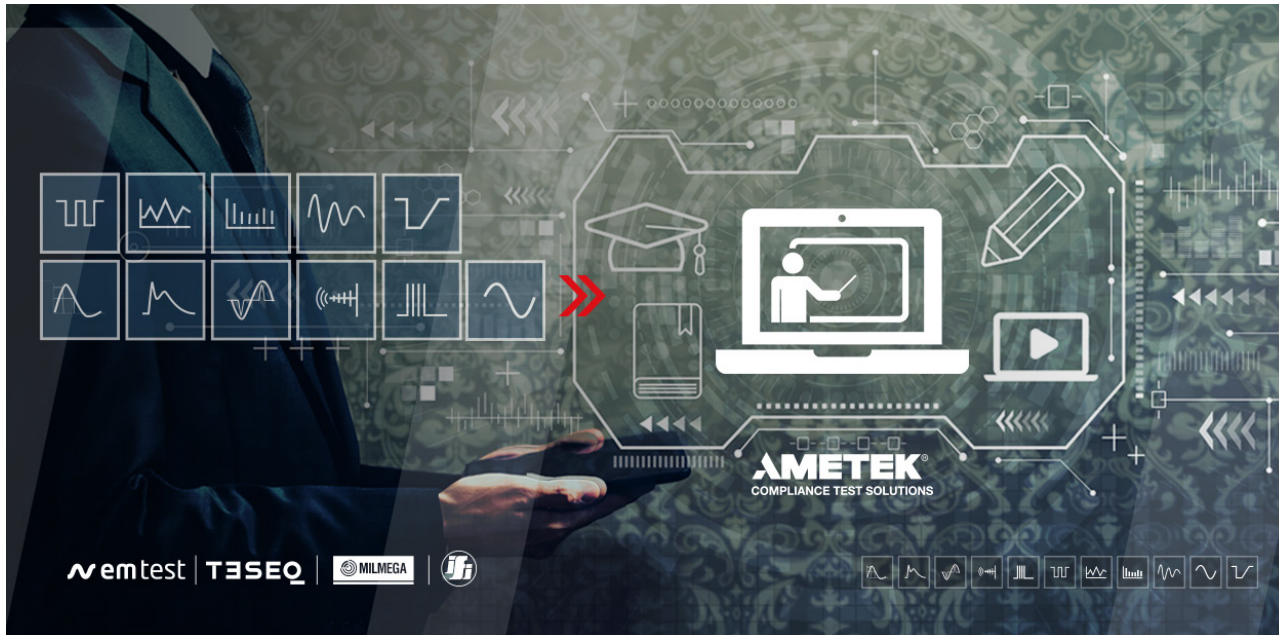


Model PTWT8G12G-16KW			
Frequency	8 - 12 GHz	Line Power	8.6 KVA
Psat (min)	16 KW	Dimensions	32 U, 19 Inch, 800 mm
Psat (nom)	20 KW	Weight	TBD
Gain (nom)	71 dB	RF Input	N-Female
Harmonics (typ)	-15 dBc	RF Output	WR90
Duty	6%		
Pulse Width (max)	50 µs		



Model PTWT12G18G-5.5KW			
Frequency	12 - 18 GHz	Line Power	4.3 KVA
Psat (min)	5.5 KW	Dimensions	12 U, 19 Inch, 800 mm
Psat (nom)	6.5 KW	Weight	94 KG
Gain (nom)	67 dB	RF Input	N-Female
Harmonics (typ)	TBD	RF Output	WR62
Duty	6%		
Pulse Width (max)	50 µs		





KNOW-HOW Learning hub and resources

KNOW-HOW is our online Learning Hub and Resource Centre. Here you will find EMC and RF Amplifier education content and best practice information.

Included is on the site is our series of 30 minute webinars. You can stream the full presentation content and download the accompanying technical papers.



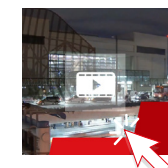
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