



Techno Design  
Engineering



# ISM

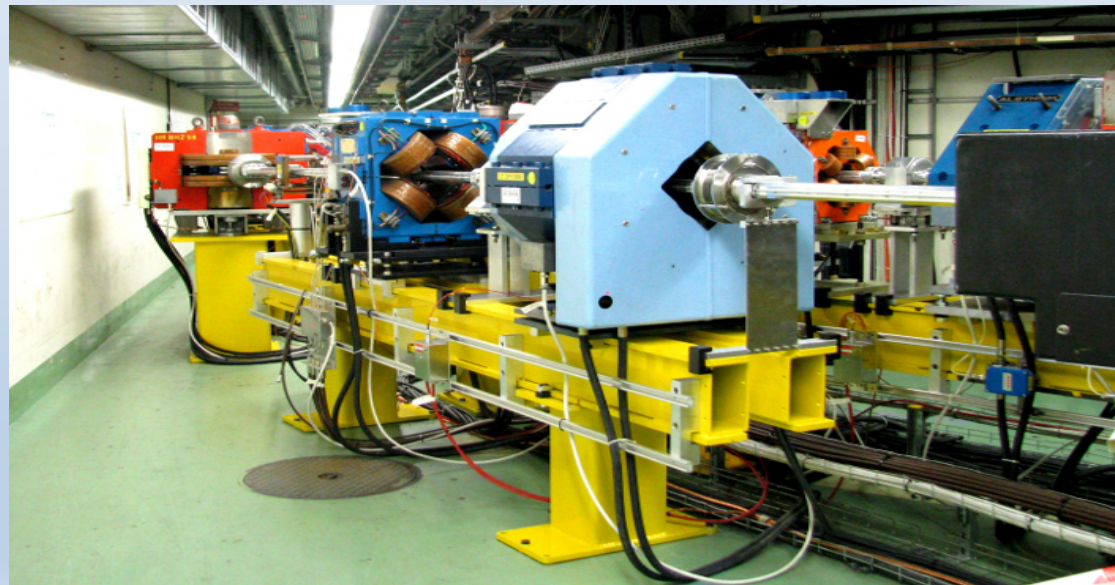
**INDUSTRIAL, SCIENTIFIC & MEDICAL**



We are specialized in radio frequency and microwave components and sub-systems design, intended for Broadcast, Industrial, Scientific and Military applications. The requirements of these market are a good design capability and flexibility in order to reduce time to market. Even if design is our core business, we are able to manage the production in outsourcing using our partners or the capabilities of the customer. Our policy is to be a partner and not just a supplier. We follow the customer in all phases of the project, sharing experiences as well as the results

## Scientific application

- Linear and ring particle accelerator
- Plasma generator
- Geo radar
- Laboratory instruments



# TDE1K0-HF-DW

1.5-30 MHz 1000W CW power amplifier

## General Description

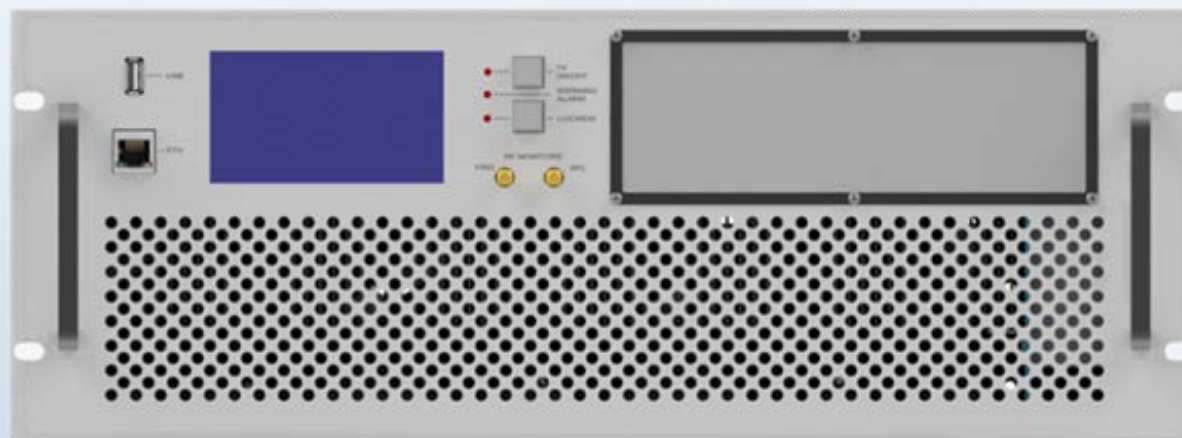
TDE1K0-HF-DW is a power amplifier which works in AB class and is able to cover the band 1.5 - 30 MHz.

TDE1K0-HF-DW is air cooled and installed into a 4U mechanical frame.

TDE1K0-HF-DW is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR
- Over – Drive

TDE1K0-HF-DW allows to monitor the main working parameters of the amplifier by touchscreen display or by RS485 communication protocol. Other communication protocols (Web -SNMP – GPIB) are available as options.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	900	1000		W
Frequency Range	1.5		30	MHz
Gain	60			dB
Input Return Loss	-15			dB
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @1kW@230Vac			15	A
Harmonics Content	-10			dB <sub>c</sub>

# TDE1K0-VBB-DW

30-512 MHz 1000W CW power amplifier

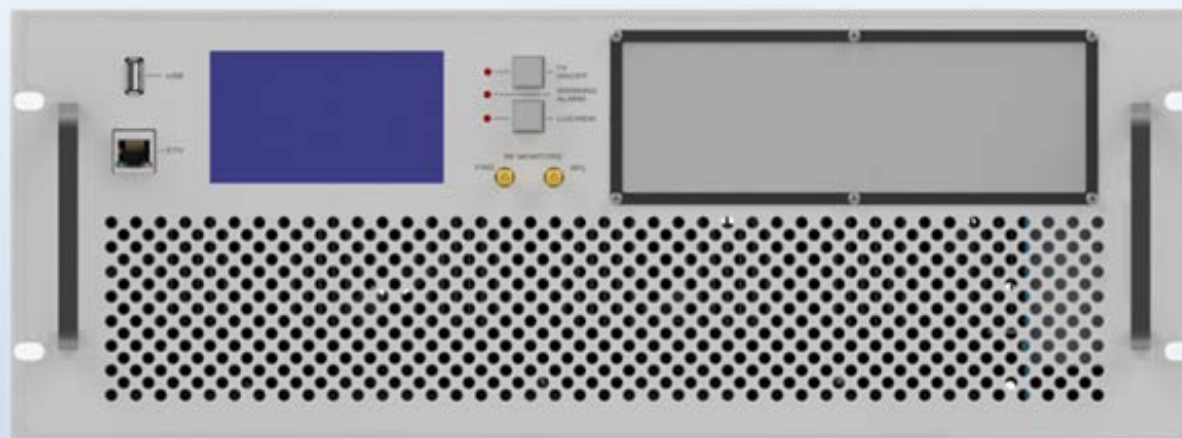
## General Description

TDE1K0-VBB-DW is a power amplifier which works in AB class and is able to cover the band 30 – 512 MHz. TDE1K0-VBB-DW is air cooled and installed into a 4U mechanical frame.

TDE1K0-VBB-DW is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR
- Over – Drive

TDE1K0-VBB-DW allows to monitor the main working parameters of the amplifier by touchscreen display or by RS485 communication protocol. Other communication protocols (Web -SNMP – GPIB) are available as options.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	900	1000		W
Frequency Range	30		512	MHz
Gain	60			dB
Input Return Loss	-15			dB
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @1kW@230Vac			16	A
Harmonics Content	-15			dB <sub>c</sub>

# TDE1K0-UBB-DW

500-1000 MHz 1000W CW power amplifier

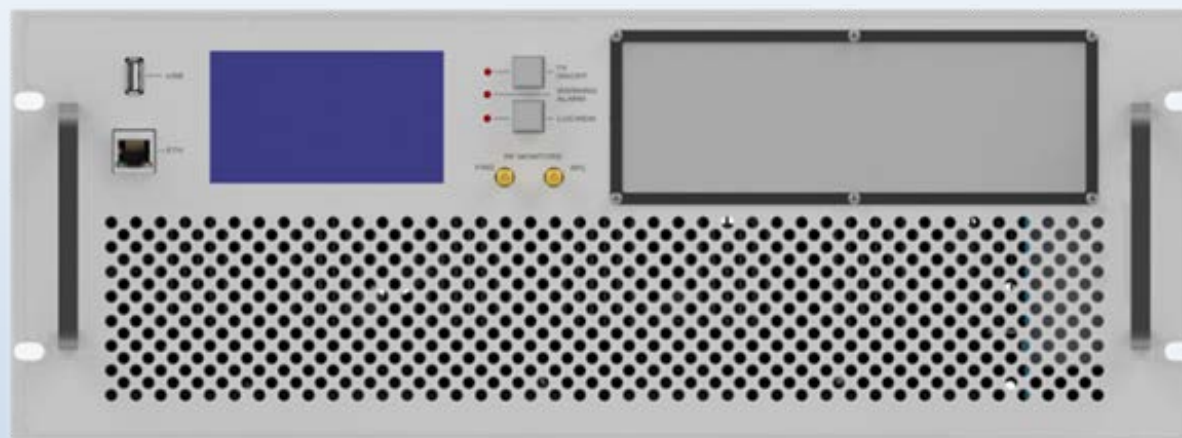
## General Description

TDE1K0-UBB-DW is a power amplifier which works in AB class and is able to cover the band 30 – 512 MHz. TDE1K0-UBB-DW is air cooled and installed into a 4U mechanical frame.

TDE1K0-UBB-DW is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR
- Over – Drive

TDE1K0-UBB-DW allows to monitor the main working parameters of the amplifier by touchscreen display or by RS485 communication protocol. Other communication protocols (Web -SNMP – GPIB) are available as options.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	900	1000		W
Frequency Range	500		1000	MHz
Gain	60			dB
Input Return Loss	-15			dB
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @1kW@230Vac			16	A
Harmonics Content	-20			dB <sub>c</sub>

# TDE1K0-433-DW

400-450 MHz 1000W CW power amplifier

## General Description

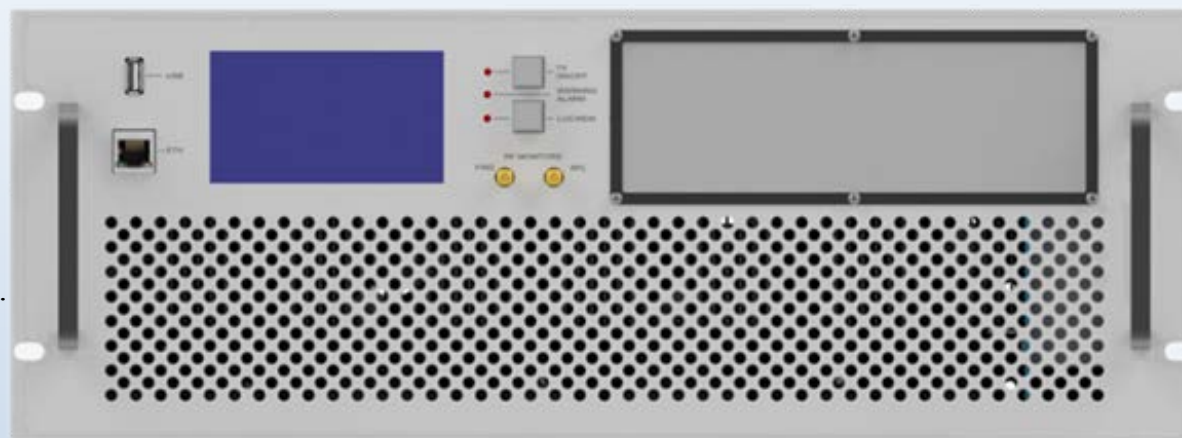
TDE1K0-433-DW is a power amplifier which works in AB class and is able to cover the band 400 – 450 MHz.

TDE1K0-433-DW is air cooled and installed into a 4U mechanical frame.

TDE1K0-433-DW is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR
- Over – Drive

TDE1K0-UBB-DW allows to monitor the main working parameters of the amplifier by touchscreen display or by RS485 communication protocol. Other communication protocols (Web -SNMP – GPIB) are available as options.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Pout @ 1dBc	1000	1100		W
Frequency Range	400		450	MHz
Gain	60			dB
Input Return Loss	-15			dB
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @1kW@230Vac			12	A
Harmonics Content	-15			dB <sub>c</sub>

# TDE1K0-915-DW

900-930 MHz 1000W CW power amplifier

## General Description

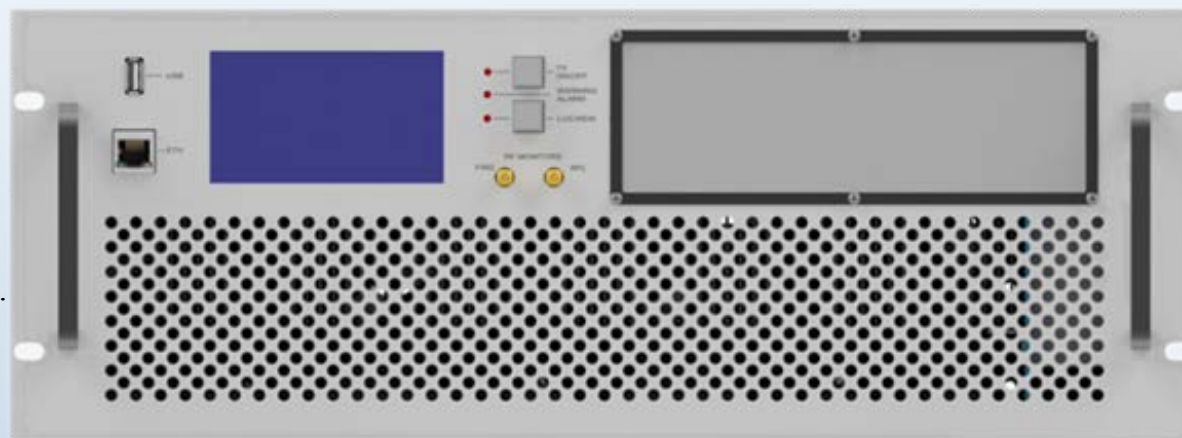
TDE1K0-915-DW is a power amplifier which works in AB class and is able to cover the band 900 – 930 MHz.

TDE1K0-915-DW is air cooled and installed into a 4U mechanical frame.

TDE1K0-915-DW is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR
- Over – Drive

TDE1K0-UBB-DW allows to monitor the main working parameters of the amplifier by touchscreen display or by RS485 communication protocol. Other communication protocols (Web -SNMP – GPIB) are available as options.



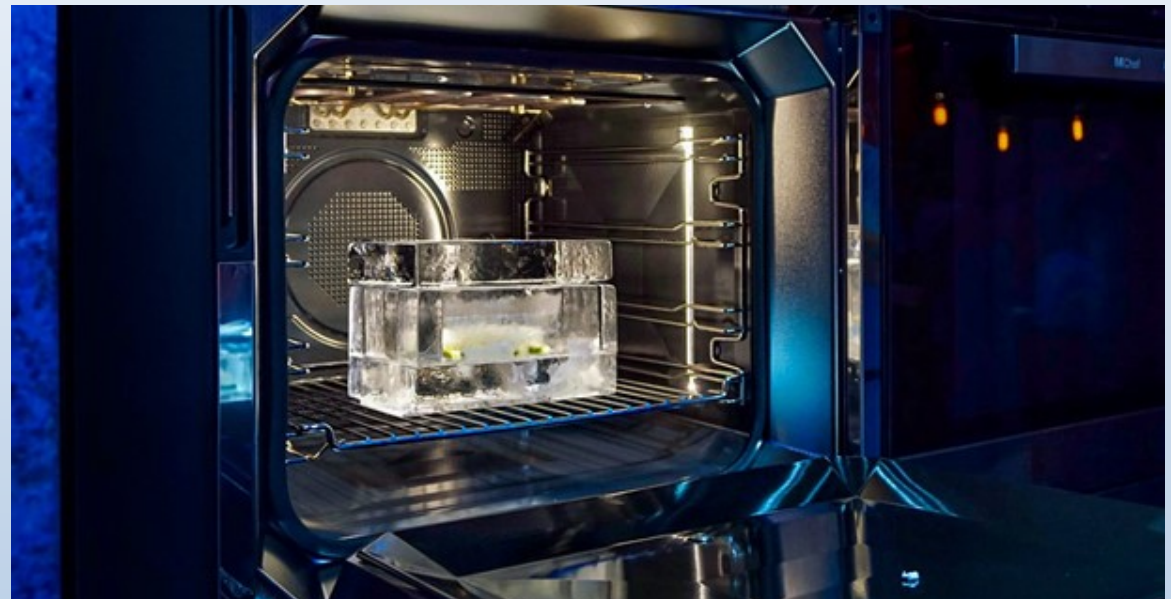
## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Pout @ 1dBc	900	1000		W
Frequency Range	900		930	MHz
Gain	60			dB
Input Return Loss	-15			dB
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @1kW@230Vac			13	A
Harmonics Content	-30			dB <sub>c</sub>



## Industrial application

- Heating and vulcanization
- Plasma generator
- RF plastic welding
- Industrial defrosting
- Industrial food heating
- High efficiency lighting



# TDE2K0-HF-G

1.5-30 MHz 2000W CW power generator

## General Description

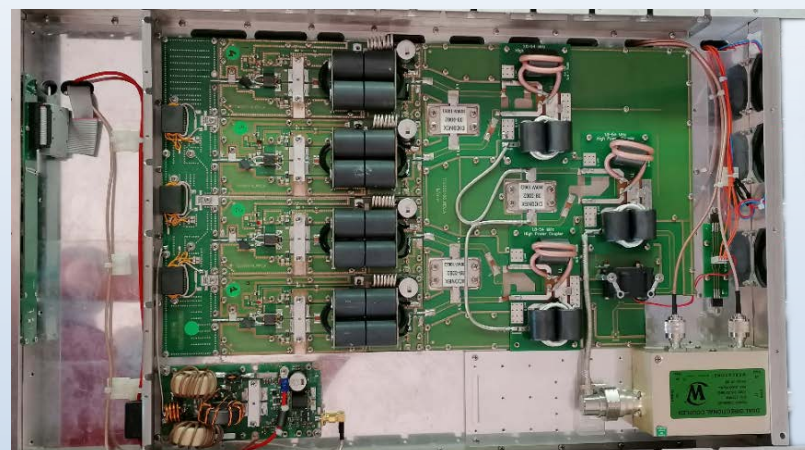
TDE2K0-HF-G is a power generator which works in AB class and is able to cover the band 1.5 - 30 MHz.

TDE2K0-HF-G is liquid cooled and installed into a 3U mechanical frame.

TDE2K0-HF-G is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR

TDE2K0-HF-G allows to monitor the main working parameters of the amplifier by the LCD display or by RS485 communication protocol. TDE2K0-HF-G supports WEB INTERFACE and ModBus protocol.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	2000	2200		W
Frequency Range	1.5		30	MHz
Input Return Loss	-15			dB
Voltage Range	360	400	440	V <sub>ac</sub>
Current Absorption @2000W@400Vac			14	A
Harmonics Content	-10			dB <sub>c</sub>

# TDE300-MW-G

2400-2500 MHz 300W CW power generator

## General Description

TDE300-MW-G is a power generator which works in AB class and is able to cover the band 2400 - 2500 MHz.

TDE300-MW-G is air cooled and installed into a 3U mechanical frame.

TDE300-MW-G is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR

TDE300-MW-G allows to monitor the main working parameters of the amplifier by the LCD display.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	250	300		W
Frequency Range	2400		2500	MHz
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @300W@230Vac			5	A
Harmonics Content	-40			dB <sub>c</sub>

# TDE1K0-MW-G

2400-2500 MHz 1000W CW power generator

## General Description

TDE1K0-MW-G is a power generator which works in AB class and is able to cover the band 2400 - 2500 MHz.

TDE1K0-MW-G is air cooled and installed into a 3U mechanical frame.

TDE1K0-MW-G is fully self-protected against:

- Over – Voltage
- Over – Current
- Temperature
- Abnormal VSWR

TDE1K0-MW-G allows to monitor the main working parameters of the amplifier by the LCD display.



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	1000			W
Frequency Range	2400		2500	MHz
Voltage Range	180	230	264	V <sub>ac</sub>
Current Absorption @1000W@230Vac			12	A
Harmonics Content	-40			dB <sub>c</sub>

# TDE700-915-G

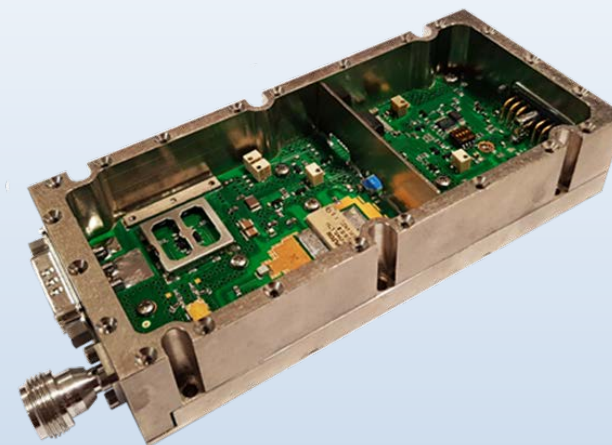
900-930 MHz 700W CW power generator

## General Description

TDE700-915-G is a power generator which works in AB class and is able to cover the band 900 - 930 MHz. TDE700-915-G is air cooled and must be installed on a dedicated heat-sink.

TDE700-915-G is fully self-protected against:

- Temperature
- Abnormal VSWR



## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Saturated Output Power	700			W
Frequency Range	900		930	MHz
Voltage Range		48	50	V <sub>dc</sub>
Current Absorption @700W@48Vac			22	A
Harmonics Content	-40			dB <sub>c</sub>

# ISM PALLETS FOR ALL THE FREQUENCY BANDS



Techno Design  
Engineering

AND MUCH MORE...

# TDE100HF

1.5-30 MHz 100W HF pallet

## General Description

TDE100HF is a power amplifier which works in AB class and is able to cover the band 1.5 - 30 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Pout@1dB <sub>dc</sub>	100			W
Frequency Range	1.5		30	MHz
G <sub>p</sub> @100W CW	21			dB
Voltage Range		48	50	V <sub>dc</sub>
Current Absorption @100W@48V <sub>dc</sub>		6		A
Harmonics Content	-15			dB <sub>c</sub>



# TDE300HF

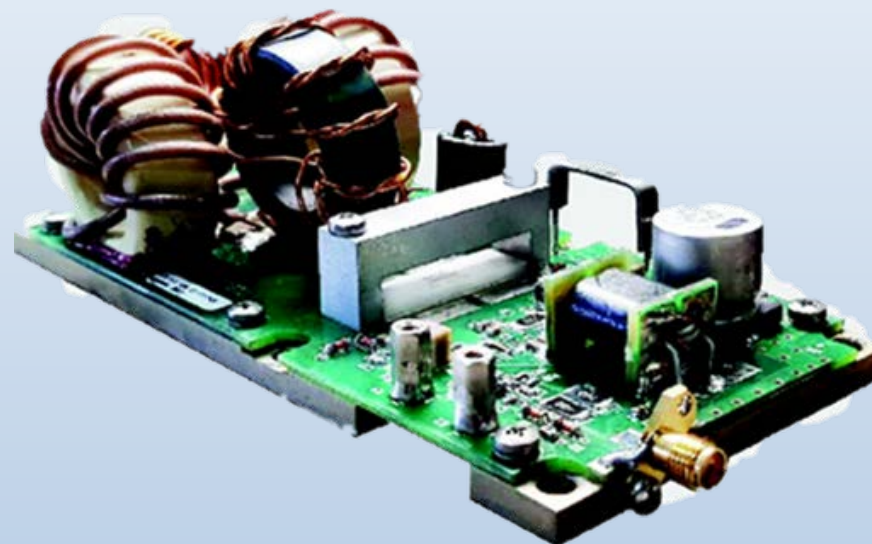
*1.5-30 MHz 300W HF pallet*

## General Description

TDE300HF is a power amplifier which works in AB class and is able to cover the band 1.5 - 30 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
<b>Pout@3dB<sub>dc</sub></b>		<b>300</b>		<b>W</b>
Frequency Range	1.5		30	MHz
<b>G<sub>p</sub>@300W CW</b>	24			<b>dB</b>
Voltage Range		48	50	V <sub>dc</sub>
Current Absorption @300W@48V <sub>dc</sub>		11		A
Harmonics Content	-10			dB <sub>c</sub>





# TDE600HF

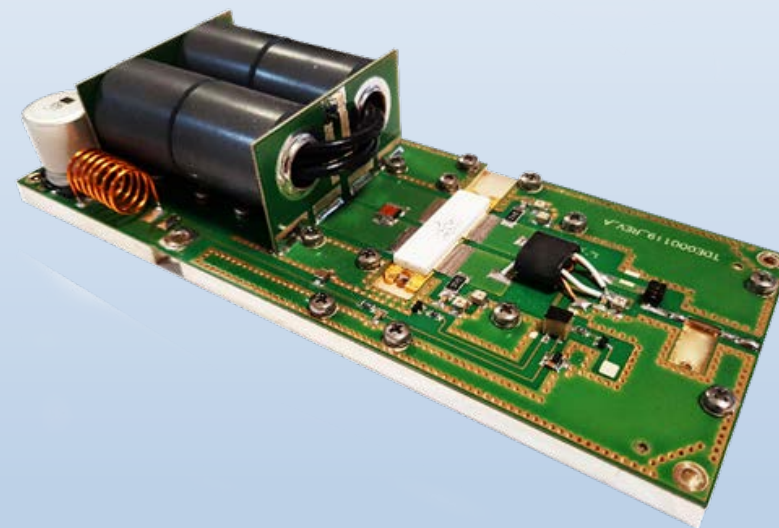
1.5-30 MHz 600W HF pallet

## General Description

TDE600HF is a power amplifier which works in AB class and is able to cover the band 1.5 - 30 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
$P_{out@3dB_{dc}}$		600		W
Frequency Range	1.5		30	MHz
$G_p@600W\ CW$	18			dB
Voltage Range		50		V <sub>dc</sub>
Current Absorption @600W@50V <sub>dc</sub>			23	A
Harmonics Content	-10			dB <sub>c</sub>



# TDE1K0HF

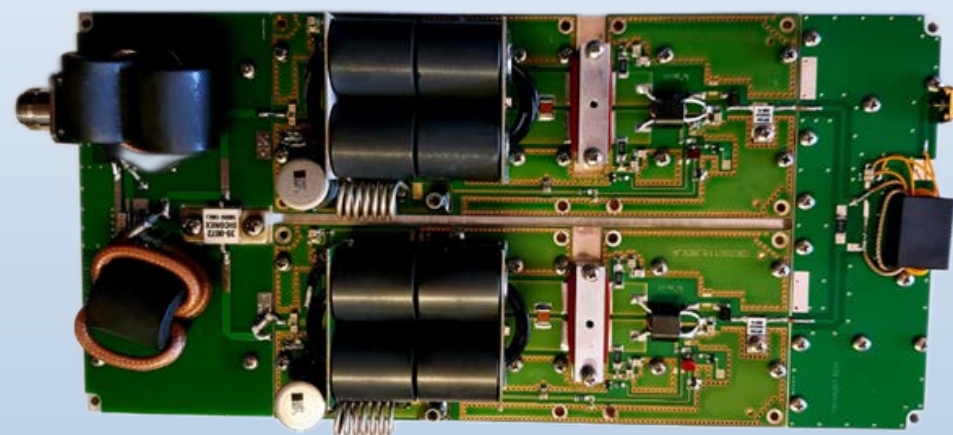
*1.5-30 MHz 1000W HF pallet*

## General Description

TDE1K0HF is a power amplifier which works in AB class and is able to cover the band 1.5 - 30 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
Pout@3dB <sub>dc</sub>	1000		1100	W
Frequency Range	1.5		30	MHz
G <sub>p</sub> @1000W CW	18			dB
Voltage Range		50		V <sub>dc</sub>
Current Absorption @1000W@50V <sub>dc</sub>			54	A
Harmonics Content	-10			dB <sub>c</sub>



# TDE500-433

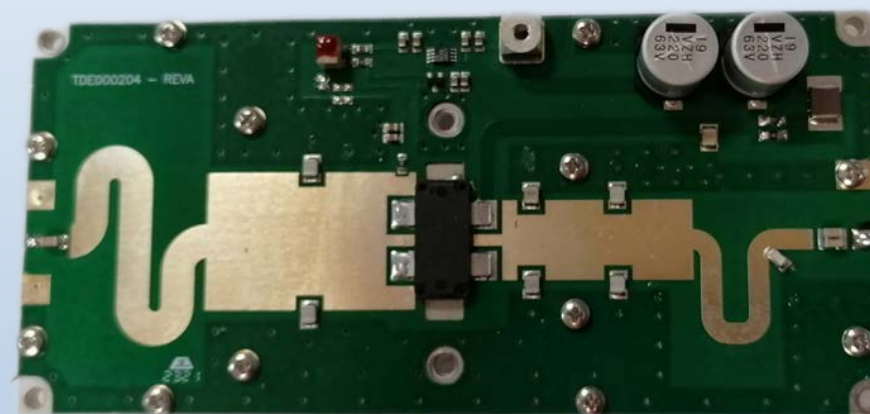
400-450 MHz 500W pallet

## General Description

TDE500-433 is a power amplifier which works in AB class and is able to cover the band 400 - 450 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
$P_{out@3dB_{dc}}$	500			W
Frequency Range	400		450	MHz
$G_p@500W\ CW$	20			dB
Voltage Range		50		V <sub>dc</sub>
Current Absorption @500W@50V <sub>dc</sub>		14		A
Harmonics Content	-25			dB <sub>c</sub>



# TDE1K0-915

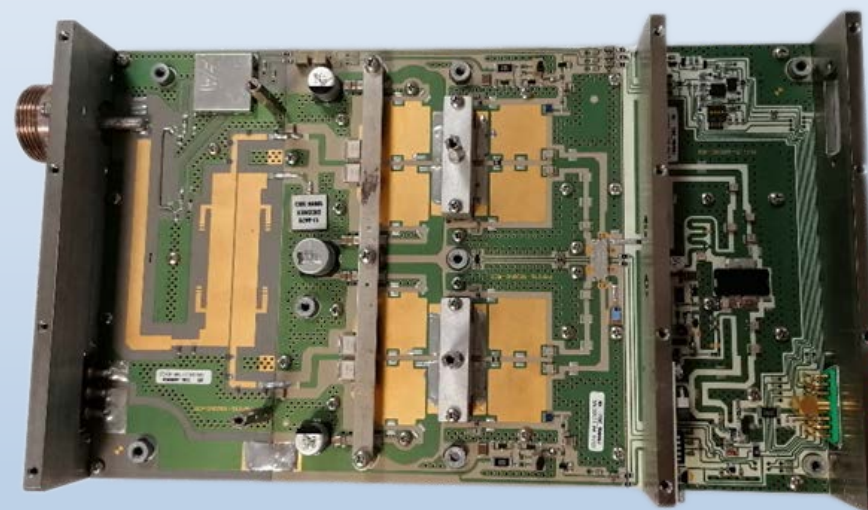
900-930 MHz 1000W pallet

## General Description

TDE1K0-915 is a power amplifier which works in AB class and is able to cover the band 900 - 930 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
$P_{out@1dB_{dc}}$	1000			W
Frequency Range	900		930	MHz
$G_p@1000W\ CW$	45			dB
Voltage Range		50		V <sub>dc</sub>
Current Absorption @1000W@50V <sub>dc</sub>			50	A
Harmonics Content	-30			dB <sub>c</sub>



# TDE100-VBB

30-530 MHz 100W broadband pallet

## General Description

TDE100-VBB is a broadband power amplifier which works in AB class and is able to cover the whole band 30 - 530 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
$P_{out@3dB_{dc}}$	100			W
Frequency Range	30		530	MHz
$G_p@100W\ CW$	50			dB
Voltage Range		28		V <sub>dc</sub>
Current Absorption @100W@28V <sub>dc</sub>			7	A
Harmonics Content	-10			dB <sub>c</sub>



# TDE500VCA

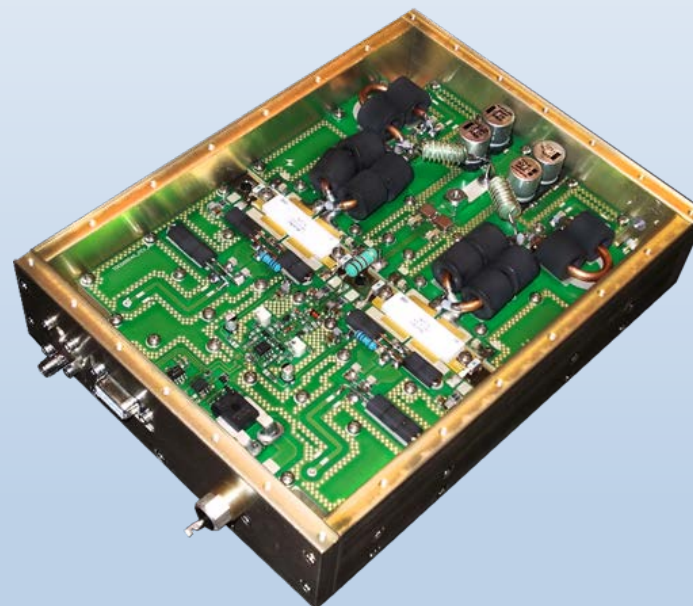
*100-500 MHz 500W broadband pallet*

## General Description

TDE500VCA is a broadband power amplifier which works in AB class and is able to cover the whole band 100-500 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
$P_{out@1dB_{dc}}$	500			W
Frequency Range	100		500	MHz
$G_p@500W\ CW$	19			dB
Voltage Range		50		V <sub>dc</sub>
Current Absorption @500W@50V <sub>dc</sub>		22		A
Harmonics Content	-20			dB <sub>c</sub>



# TDE500UCA

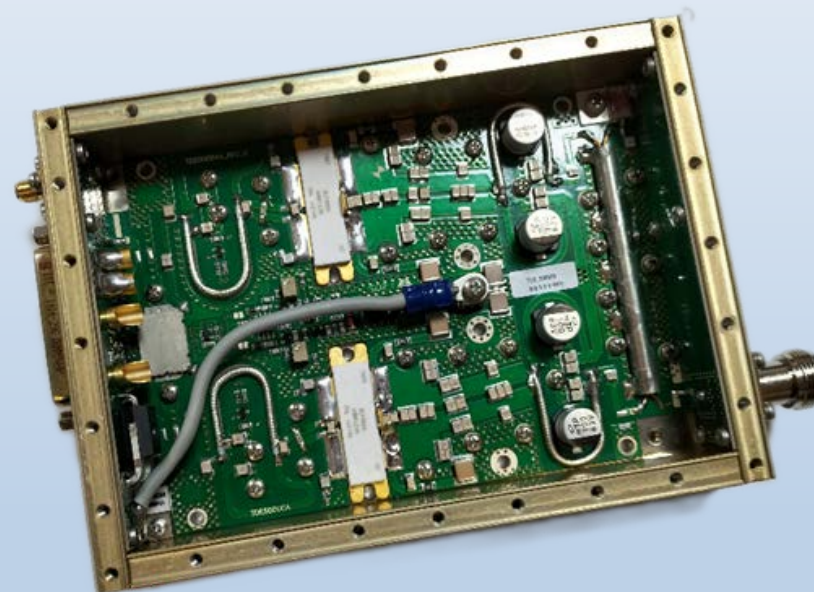
*500-1000 MHz 500W broadband pallet*

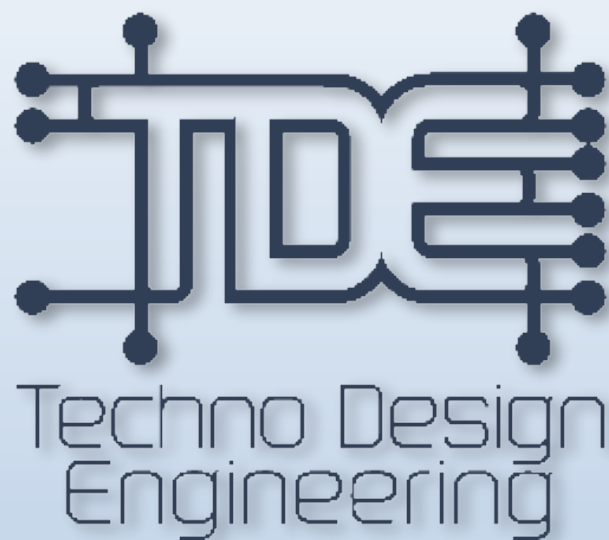
## General Description

TDE500UCA is a broadband power amplifier which works in AB class and is able to cover the whole band 500-1000 MHz.

## Performance Summary

Parameter	Min.	Typ.	Max.	Units
$P_{out@1dB_{dc}}$	500			W
Frequency Range	500		1000	MHz
$G_p@500W\ CW$	14			dB
Voltage Range		50		V <sub>dc</sub>
Current Absorption @500W@50V <sub>dc</sub>		25		A
Harmonics Content	-30			dB <sub>c</sub>





**THANK YOU FOR YOUR ATTENTION!**

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