

General Description

RPG offers full band waveguide transmitters covering the frequency range 50 – 500 GHz. Standard versions are optimized for broadband operation; high power transmitters with reduced bandwidth can be customized.

All transmitters are equipped with UG-387 waveguide flange and delivered with testport adapters and power supplies. Matched feed horn antennas are part of RPG's product portfolio.

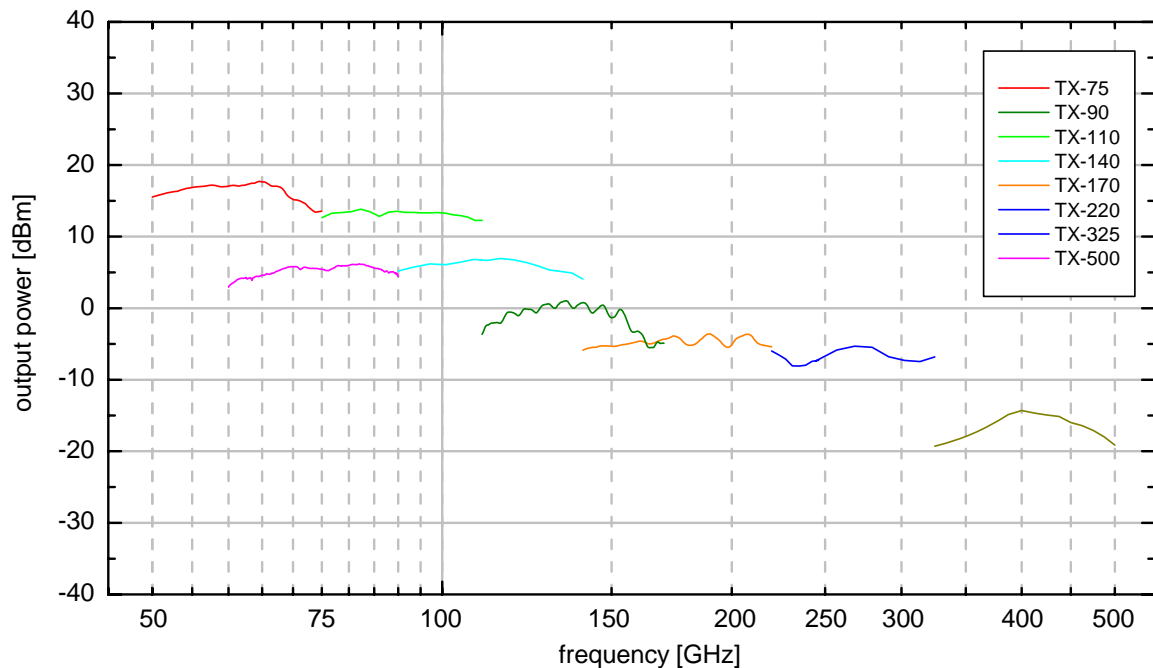


Key Features

- full band WR15 to WR2.2
- high output power
- no mechanical tuners
- passive cooling
- RF chopping possible

Order Code: TX-yy

option	description
yy	upper frequency of desired frequency band, e.g. yy=110 for WR10
-A	select option -A for additional tunable waveguide attenuator (WTA-series)
TXR	select TXR version for TX transmitter with additional reference port



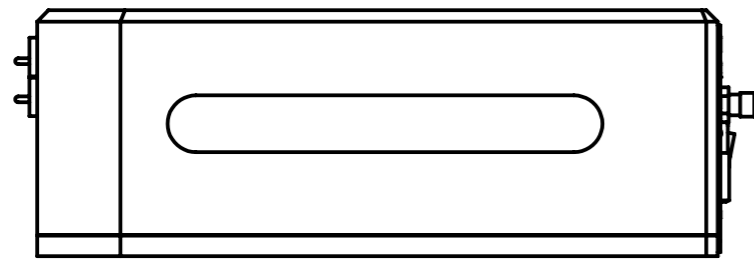
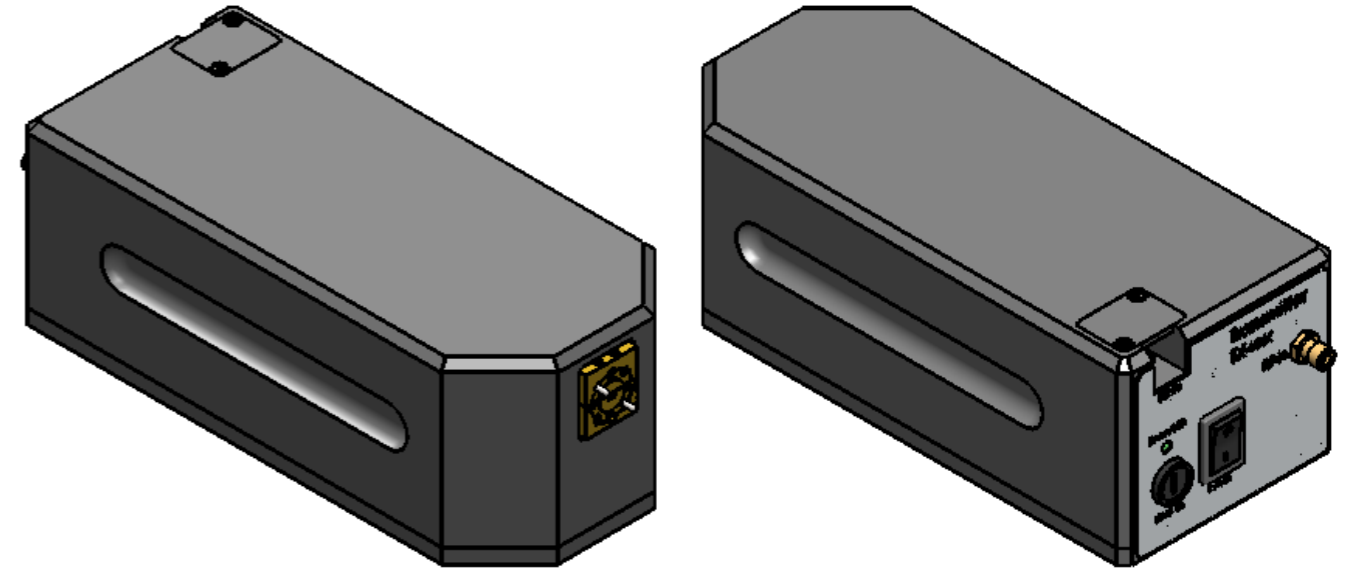
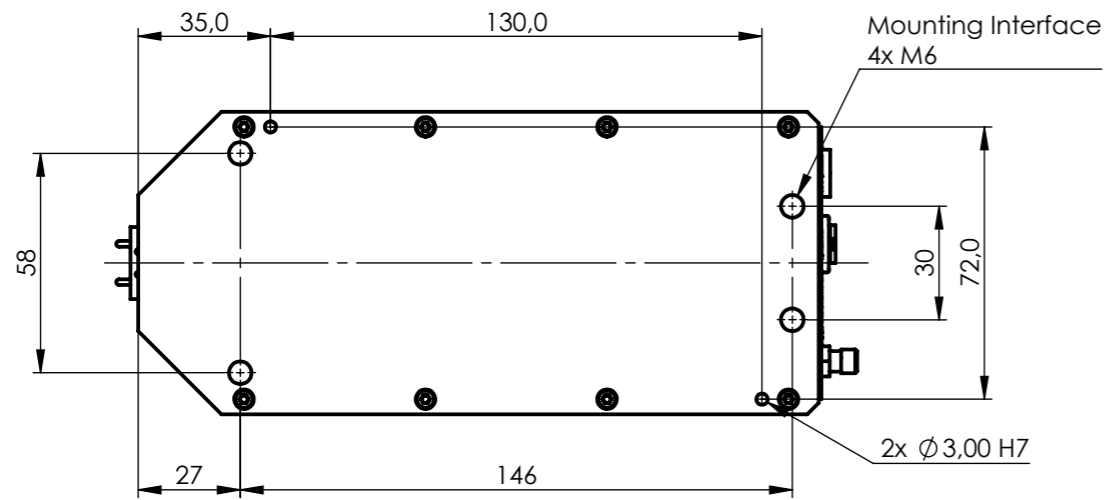
Product Data Sheet – April 2011 Iss 1 Rev 1

Technical specifications TX / TXR modules*									
specification	unit	TX-75 TXR-75	TX-90 TXR-90	TX-110 TXR-110	TX-140 TXR-140	TX-170 TXR-170	TX-220 TXR-220	TX-325 TXR-325	TX-500 TXR-500
frequency range	GHz	50 – 75	60 – 90	75 – 110	90 – 140	110 – 170	140 – 220	220 – 325	325 – 500
waveguide band		WR15	WR12	WR10	WR8	WR6.5	WR5.1	WR3.4	WR2.2
minimal output power	dBm	+11 +10	+2 +0	+9 +8	+2 +0	-10 -12	-10 -13	-12 -15	-22 -26
typical output power	dBm	+16 +15	+5 +3	+13 +12	+6 +4	-1 -3	-5 -8	-7 -10	-16 -20
output match	dB	-15	-15	-17	-15	-15	-12	-6	-6
output connector		UG-387	UG-387	UG-387	UG-387	UG-387	UG-387	UG-387	UG-387
RF frequency range	GHz	8.3 - 12.5	10 - 15	12.5 - 18.4	15 - 23.4 (7.5 - 11.7)	9.1 - 14.1	11.6 - 18.4	12.2 - 18.1	10.8 - 16.7
RF multiplication factor		6	6	6	6 (12)	12	12	18	30
RF input power	dBm	+7	+7	+7	+7	+7	+7	+7	+7
RF input connector		SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)
supply voltage	V _{DC}	+9	+9	+9	+9	+9	+9	+9	+9
supply current	mA	350 500	350 500	500 650	800 950	650 800	500 650	500 650	500 650
power supply voltage	V _{AC}	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240

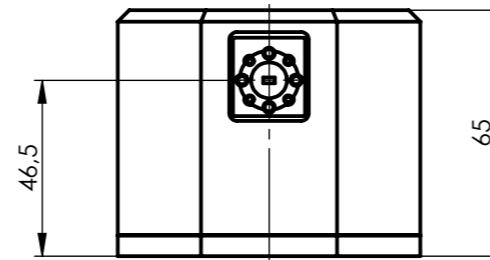
Technical specifications TXR modules (TX module with additional reference port)*									
specification	unit	TXR-75	TXR-90	TXR-110	TXR-140	TXR-170	TXR-220	TXR-325	TXR-500
LO frequency range	GHz	8.3 - 12.5	10 - 15	12.5 - 18.4	11.2 - 17.5	6.8 - 10.7	11.6 - 18.4	13.7 – 20.4	13.5 - 20.9
LO multiplication factor		6	6	6	8	16	12	16	24
LO input power	dBm	+7	+7	+7	+7	+7	+7	+7	+7
LO input connector		SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)
IF frequency range	MHz	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*
IF frequency power level	dBm	<-13	<-13	<-13	<-13	<-13	<-13	<-13	<-13
IF output connector		SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)

Absolute maximum ratings		
RF input power	dBm	+10
LO input power	dBm	+10
supply voltage	V _{DC}	+12
case temperature	°C	+85

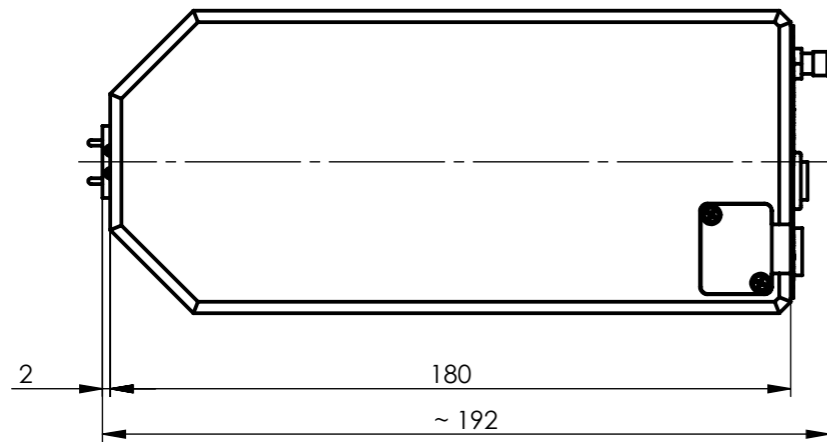
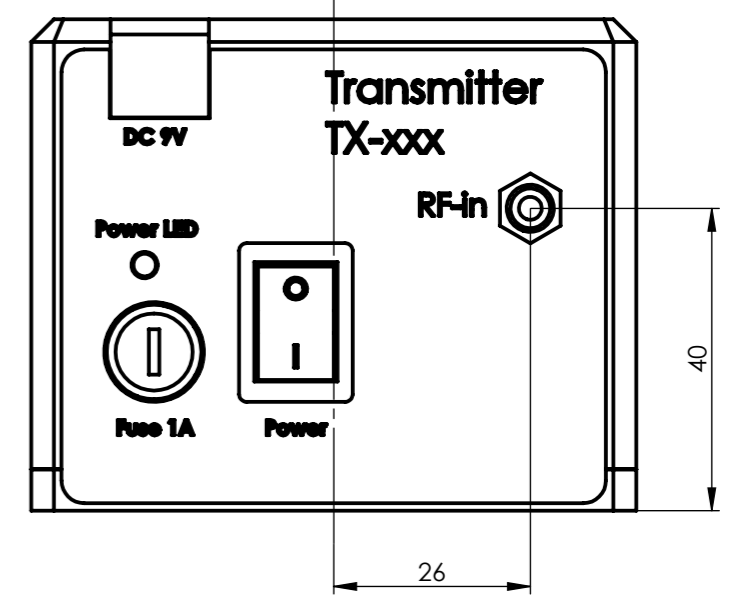
*Contact RPG for TX/TXR modules with modified specifications



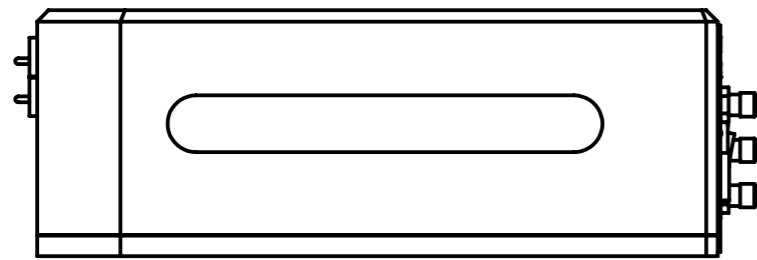
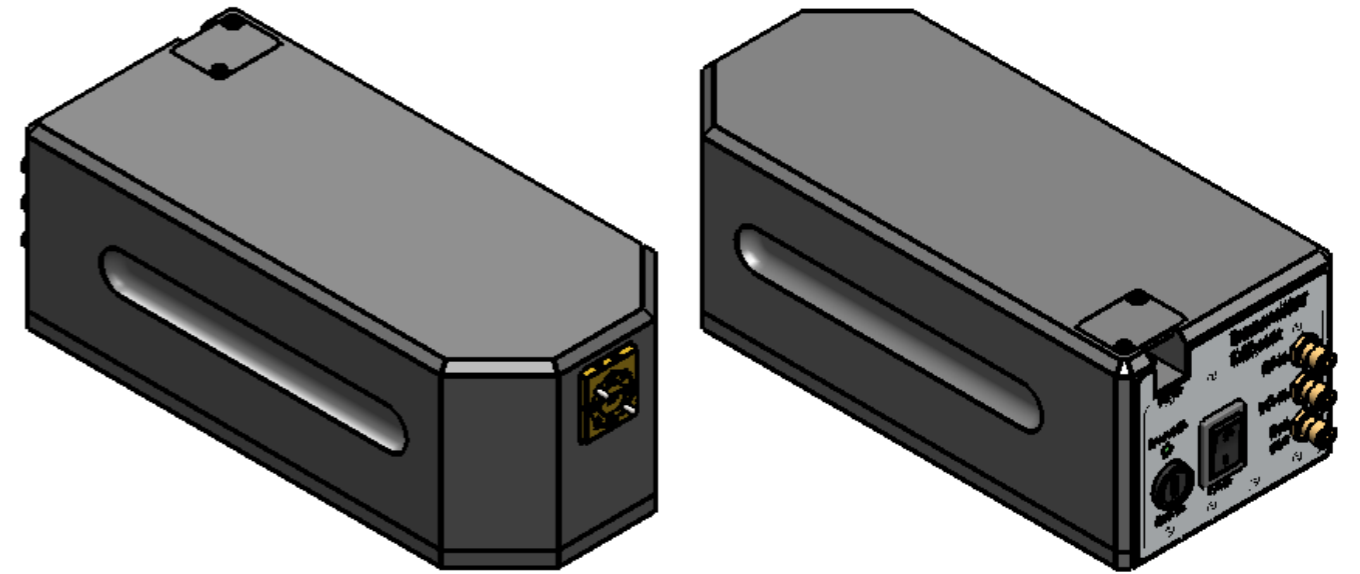
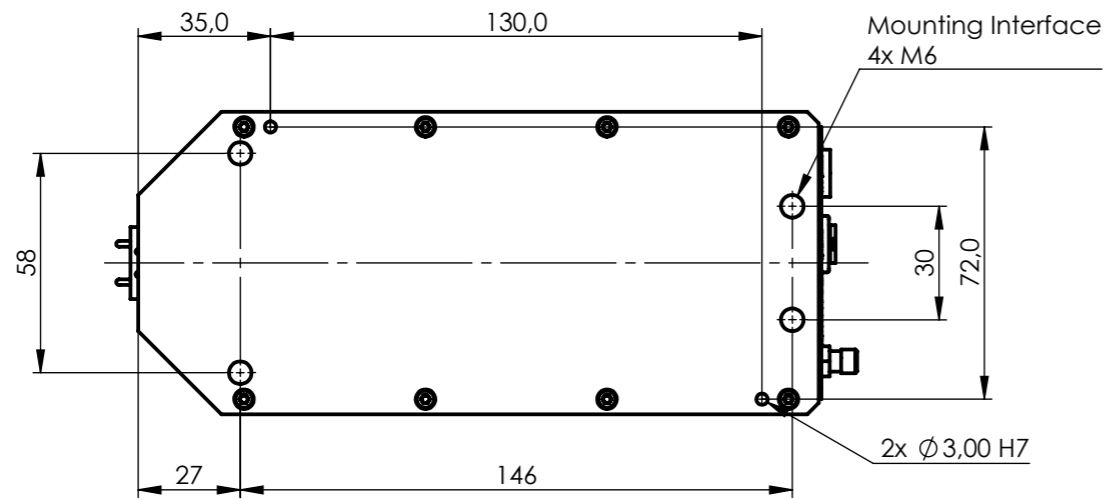
RF Interface
UG387 anti cocking precision flange



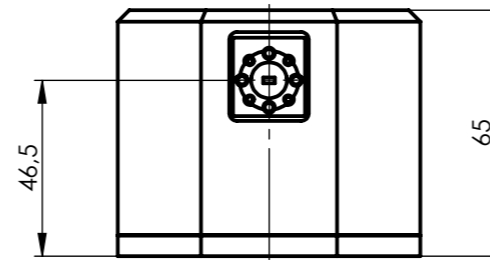
Label / Interface



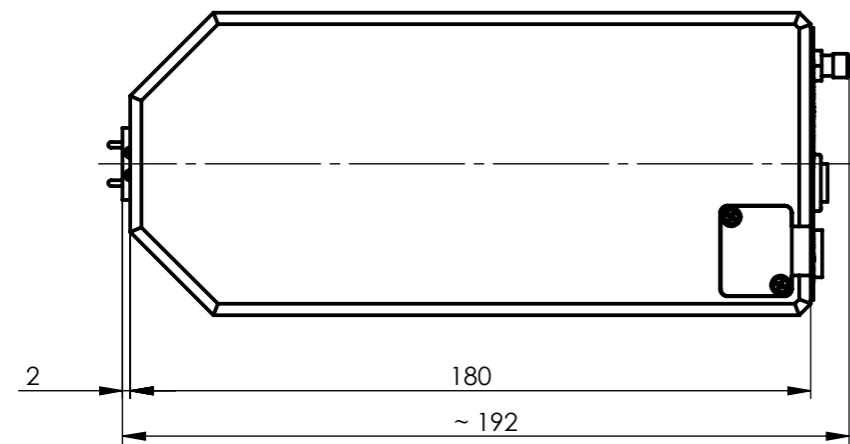
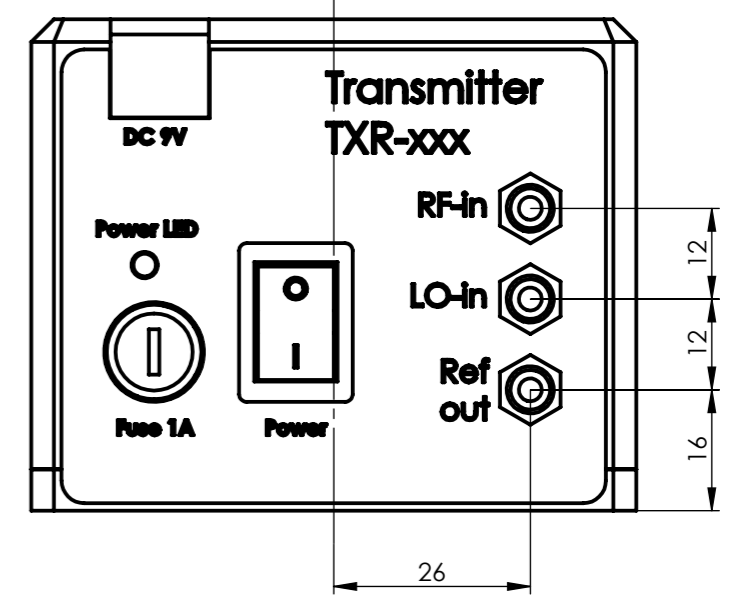
Toleranzen / TOLERANCES: X = ±0,2 mm X.X = ±0,05 mm X.XX = ±0,02 mm X.XXX = ±0,005 mm		Radiometer Physics GmbH Birkenmaarstraße 10 53340 Meckenheim Germany		Scharfe Kanten fasen und brechen DEBUR AND BREAK SHARP EDGES	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS Änderungen siehe / CHANGES SEE	Version / Überarbeitung VERSION / REVISION Ersatz für / REPLACEMENT FOR	1B
Gezeichnet / DRAWN	Abeling	Unterschrift / SIGN.	30.3.2011	Eigenschaften / PROPERTIES: Material / MATERIAL: ---	Benennung TITLE Transmitter TX-xxx Outline Drawing		A3
Geprüft / CHKD				Gewicht / WEIGHT: --- g	Zeichnungsnr. DRAWING NO. OUT-0000-950-100-00-1B		
Freigegeben / APPVD				Oberfläche / SURFACE: --- mm ²	Maßstab / SCALE: ---		SHEET 2 OF 3
Gefertigt / MFG				Oberfläche vergolden / SURFACE GILDING: --- mm ²	Bestellcode / Order Code: ---		
Zeichnung nicht skalieren DO NOT SCALE DRAWING							



RF Interface
UG387 anti cocking precision flange



Label / Interface



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Qualitätskontrolle / Q.A					Oberfläche / SURFACE: --- mm ²		Zeichnungsnr. DRAWING NO. OUT-0000-950-100-00-1B
Zeichnung nicht skalieren DO NOT SCALE DRAWING					Oberfläche vergolden / SURFACE GILDING: --- mm ²		
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