

Transmitter Module

Reference: **TX-X-X-X-NX** ("X" value must be selected).



On Board transmitter module for NanoX system or other third-party system from 5 to 20W RF output power.

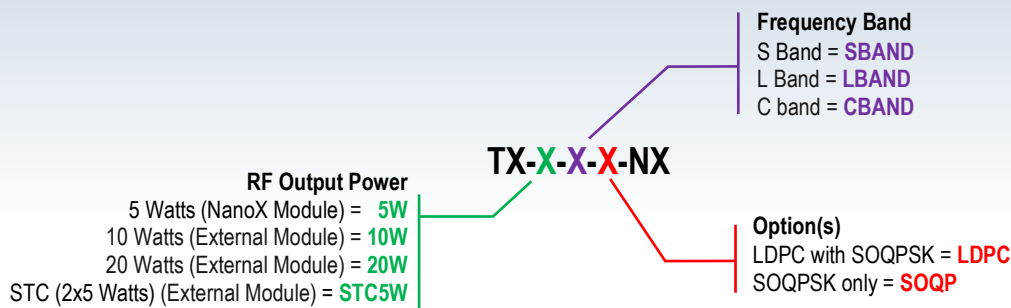
This module can be combined to **CPU-NRT-NX** or **CPU-NT-NX** controller modules to integrate telemetry transmitter functionality

Quick notes

Module Mass	350g without heat sink
Environmental ratings	
Operating temperature	-40°C to 85°C
Storage temperature	-55C to 85°C
Socket Connectors type	
Number	1
pins	15
Socket Connectors type	
Number	1 or 2 depending on version



Part Number Selection



Specifications

RF Specifications	
Carrier frequency range:	2150 to 2400 MHz S band or 1400 to 1600 MHz L band or C band 4400 to 4900 MHz or 5091 to 5150 MHz (band must be specified when order).
RF output power:	From 5 W to 20 W (43 dBm ± 1 dB) all conditions (Following part number).
VSWR	1.5:
Load mismatch	no degradation (RF = open or short)
Spurious outputs	In accordance IRIG106-96 (-60 dBc typical)
Harmonics	In accordance IRIG106-96.
Carrier frequency tuning step	125 kHz (for rate below 1Mbits/s) 250 kHz (for rate 1Mbits/s to 40Mbits/s),
Carrier frequency stability	± 2.5 ppm over temperature range. ± 7.5 ppm all clauses including aging over 5 years.
Modulation	User selectable digital PCM/FM (Tier 0)
Spectral occupancy	IRIG 106-17 Chapter 2 spectral mask for tier 0 and tier 1.
Data rate	1000 kbps to 40Mbps (100kbps option available) automatic adaptation of deviation according to Tier 0 and Tier I IRIG mask.
Options	
STC Option	2 x 5 W for STC with two antennas with SMA connectors according to IRIG 106-15 Appendix S
LDPC Option	1024, 4096 blocks code rate 1/2, 2/3 and 4/5 according to IRIG 106-15 Appendix R.
SOQPSK Option	SOQPSK-TG (Tier I) – The LDPC option include automatically the SOQPSK option.

Monitoring and Settings	
Through GUI or IRIG 106-17 Chapter 2 Appendix 2C	Temperature Alarms, Frequency, Modulation etc ...
Power Requirement	
Power input	28 V DC typical 18 V min to 36 V max
Current:	3A under 28V DC for 10 W RF output power.
Reverse polarity protection	✓ Included
Thermal protection	✓ Option available
Dimension	
NanoX Module	(L x h x l) 85x 100 x 28 excluding heatsink and connectors.
External Module	(L x h x l): 99 x 63.5 x 33 mm excluding heatsink and connectors.

Connector pinout

TX ANTENNA OUTPUT

J2 SOCKET

TYPE: **SMA**

MANUFACTURE: **RADIALL**

SERIAL: **R.125.680.000**

SOCKET MARKING: « **TX ANTENNA** »

NUMBER OF THIS SOCKET ON MODULE: **1** (2 if STC option).

TX & POWER INPUT

J1 SOCKET

TYPE: SOCKET **15 CONTACTS FEMALE**

MANUFACTURE: **GLENAIR**

TYPE: **MIL-DTL-83513**

REFERENCE: **MR75-90-15-S-1-B-S-U**

SOCKET 1 MARKING: « **TX & POWER** »

NUMBER OF THIS SOCKET ON MODULE: **1**

PLUG

TYPE: PLUG **15 CONTACTS MALE**

MANUFACTURE: **GLENAIR**

TYPE: **MIL-DTL-83513**

REFERENCE: **MWDM-2-L-15-P-6-E-5-18-M**

CABLE MARKING: « **TX & POWER** »

NUMBER OF THIS PLUG ON MODULE: **1**

N° Pin	Name	INTERFACE	Direction
1	TX COMMAND	RS232	From Transmitter
2	NRZ-L	TTL	To Transmitter
3	GROUND		To Transmitter
4	DATA(+) (NRZL+)	RS422	To Transmitter
5	CLOCK(+)	RS422	To Transmitter
6	GROUND		To Transmitter
7	POWER SUPPLY negative		To Transmitter
8	POWER SUPPLY positive		To Transmitter
9	RX COMMAND	RS232	To Transmitter
10	CLOCK	TTL	To Transmitter
11	DATA(-) (NRZL-)	RS422	To Transmitter
12	CLOCK(-)	RS422	To Transmitter
13	GROUND		To Transmitter
14	POWER SUPPLY negative		To Transmitter
15	POWER SUPPLY positive		To Transmitter

Dimensional Drawing

RF External module

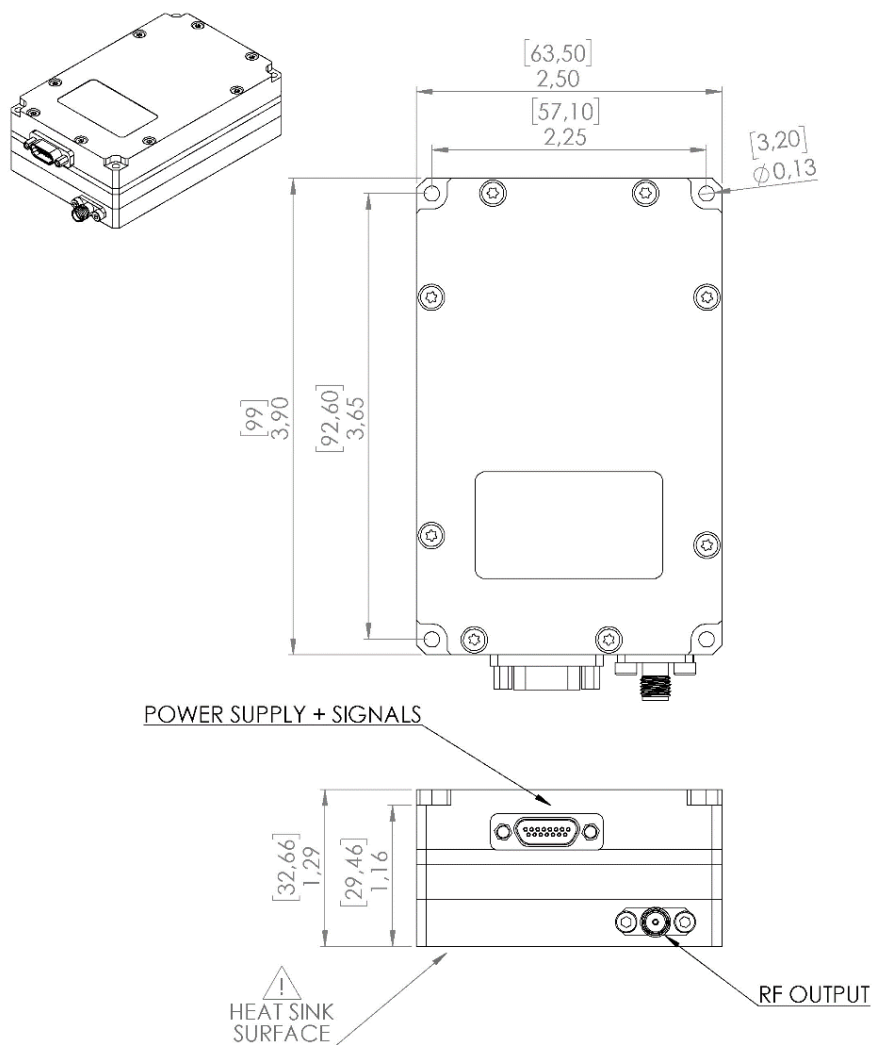
Dimension are expressed in mm

Dimensions (L x h x l) : 99 x 63.5 x 33 mm excluding heatsink and connectors.

With heatsink around 160 x 110 x 70 mm. Ambient temperature is limited around 40° C.

Without heatsink, it needs a thermal resistance below 0.75°K/W for operating properly without permanent damage.

Weight: around 0.4 kg without heatsink, around 2 kg with heatsink



RF Internal module

Dimension are expressed in mm

With heatsink Dimensions (L x h x l): 85x 100 x 55 mm excluding heatsink and connectors.

Weight: around 0.6 kg with heatsink

Representation include "CPU-NRT-NX" and "TX-5W-SBAND-NX" modules.

