

# 800 MHz TTA – Public Safety Dual Duplexed

**Model Number: 438-89A-23005**



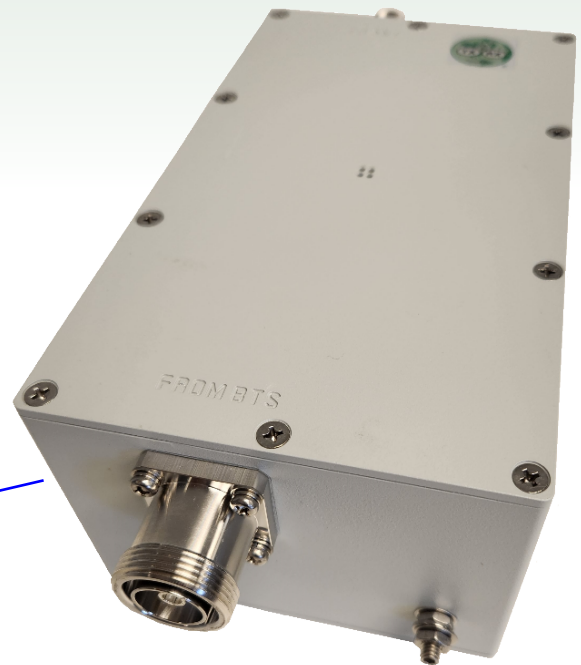
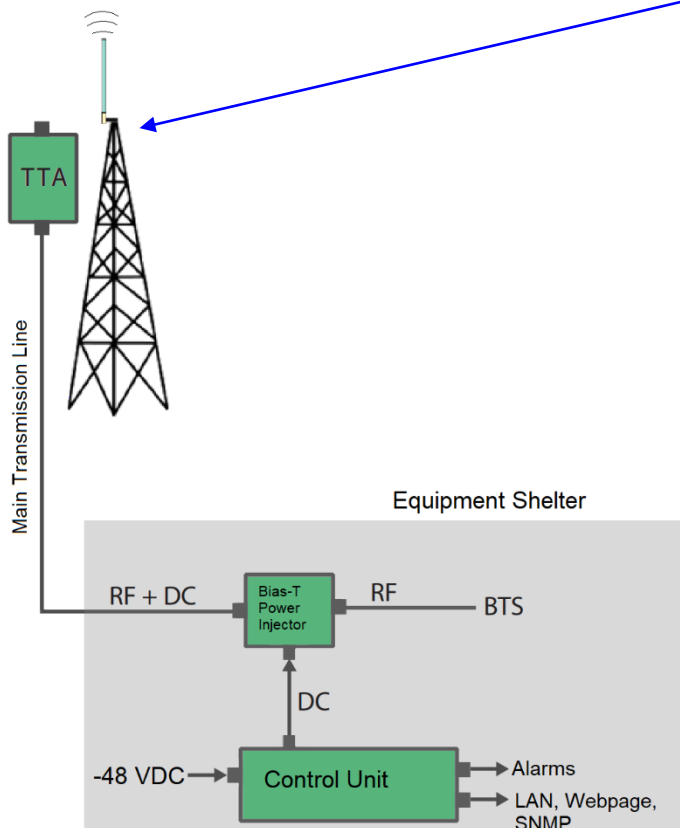
DS039447-1C  
2/16/2024

**Covers Public Safety 800 MHz Band (narrow band segment)**

## Features:

- **Duplexed transmit and receive paths**
  - Uplink: 806-824 MHz
  - Downlink: 851-869 MHz
- **Uplink Gain: 12 dB (low ripple)**
- **Downlink handles 200 W**
- **Test Port for direct antenna sampling**
- **Bypass Mode - failsafe**

## System Configuration:



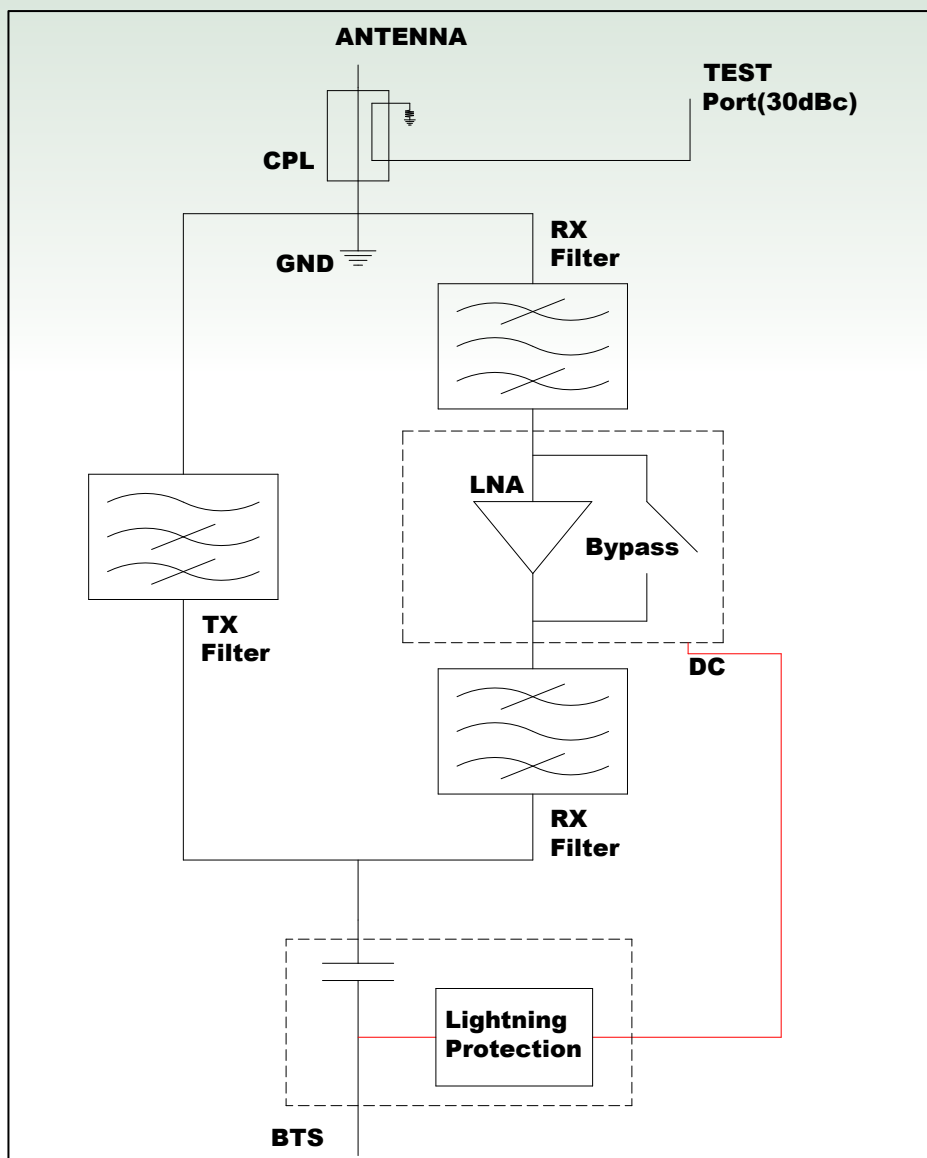
Connected with Bias-T power injector and control unit.

Control Unit provides full monitoring of TTA operation for up to two TTAs.

## System features:

- Advanced current monitoring
- Alarm logging / Historical data
- LAN Connection.
- Remote control monitoring via Webpage.
- SNMP alarm management

TTA Block Diagram:



**Electrical Specifications:**

Item	Specification
<b>Downlink:</b>	
Frequency Range	851MHz - 869MHz
Return Loss, All Ports	18dB Min
Insertion Loss	0.5dB Typical, 0.7dB Max
Rx Band Rejection (806-824MHz)	50dBc Min
Maximum Power Handling, avg	200Watts Max
IMD at Uplink Band	-115dBm, 2-Tone 43dBm carriers
<b>Uplink:</b>	
Frequency Range	806MHz - 824MHz
RF Gain, nominal	12dB Min
Gain variation	±0.5dB
In-Band Role Off	<1.2dB
Gain Variation (over temperature)	±1.5dB
Rejection to Tx Band (851-869MHz)	85dBc Min (RX1 60dB, Rx2 60dB)
Return Loss, All Ports	18dB Min
Bypass Mode	Yes
Insertion Loss, (Bypass mode)	3.0dB max
Return Loss (Bypass Mode)	14dB Min
Noise Figure	1.8dB typ. (room Temp), 2.3dB max (over temp range)
Output 1dB compression	+16dBm Min
OIP3	+28dBm Min
Test Port Coupling Value	30dBc ± 2.0dB
DC Supply Voltage	11V to 18V DC
DC Current Consumption	170mA Max, (LNA on)
DC Injection	Via BTS Connector
Input/Output Impedance	50 Ohm nominal
MTBF	>100,000 hours

**Environmental Specifications:**

Item	Specification
Operating Temperature Range	-40°C to+70°C
Relative Humidity	5% to 99%
Weather Protection	IP-68
Lightning Protection	BTS Port: 8/20uS 10kA Antenna Port: 1/4 wavelength grounded (DC GND)
Operational	ETS 300 019-1-4
Transportation	ETS 300 019-1-2
Storage	ETS 300 019-1-11

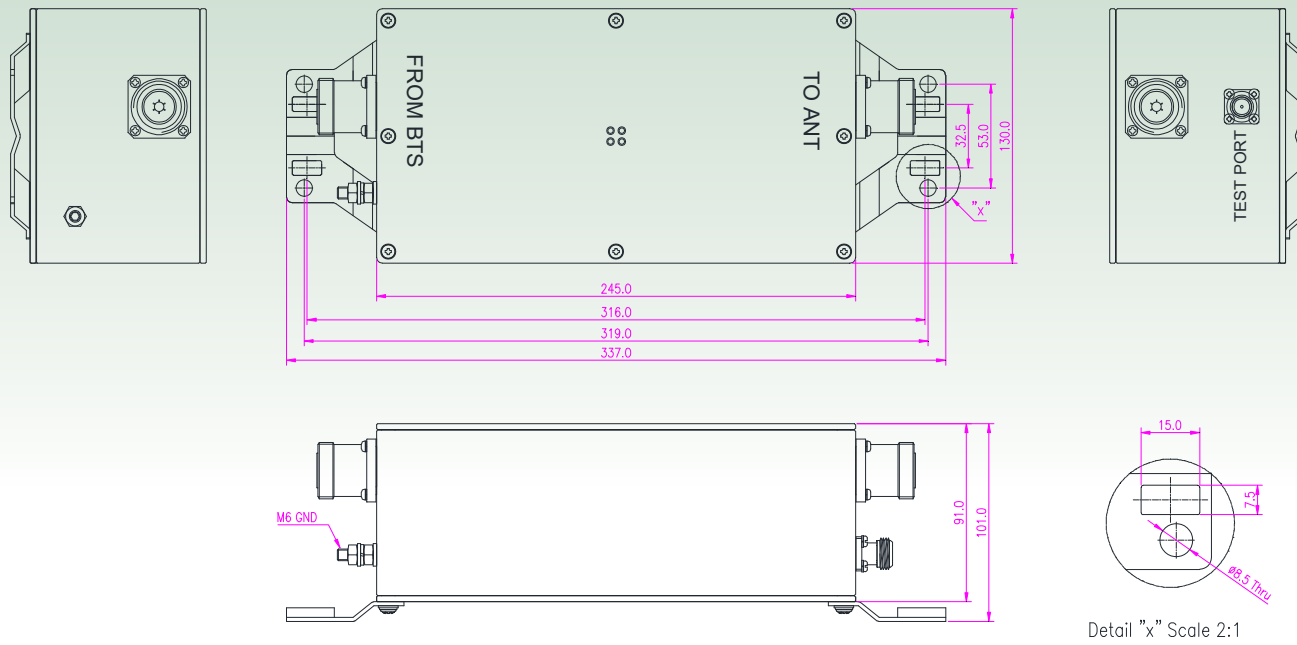
**Mechanical Specifications:**

Item	Specification
Dimension	337.0 x 130.0 x 101.0 mm 13.27 x 5.12 x 3.98 inches
Mounting Points	See Outline Drawing
RF Connector	BTS & Antenna Ports: 7/16 DIN Female Test Port: Type-N Female
Connector Position	See Outline Drawing
Finish	Gray color coating
Mounting Brackets	Included, for pole and wall mounting

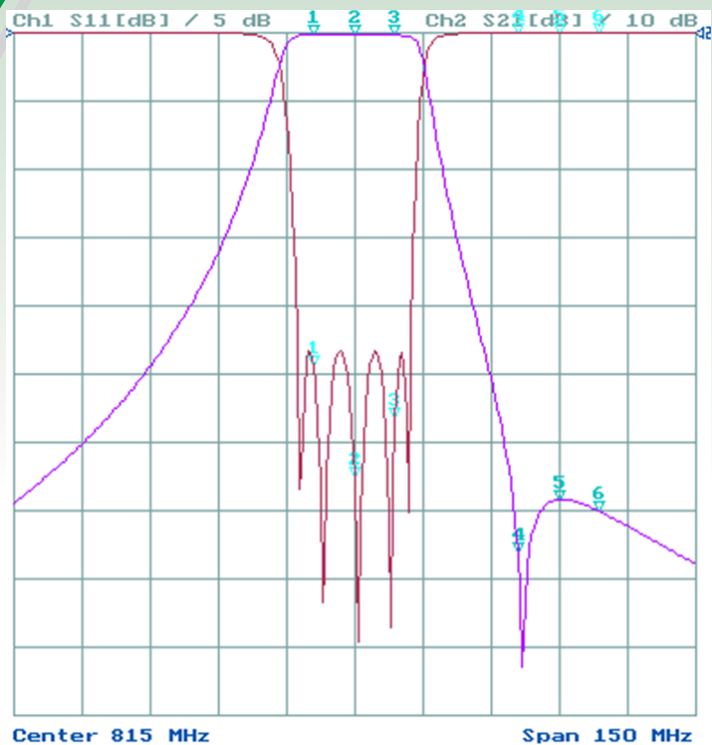
**Accessories:**

Item	Model Number
Bias-T Power injector	8-038480
TTA Control Unit	438-89A-23005-CU-S

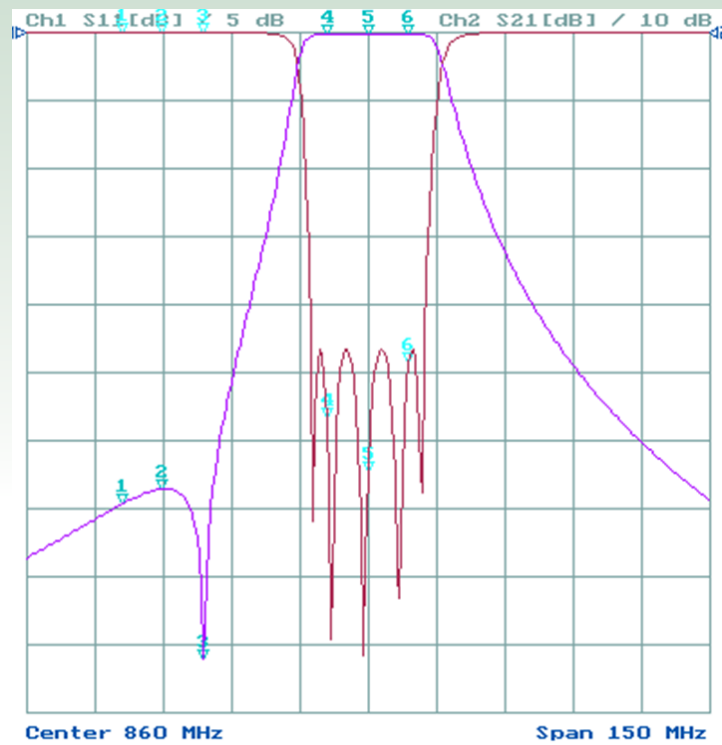
Outline Drawing:



**Filter Performance:**



**806-824MHz**



**851-869MHz**

Markers:	
1 = 806MHz,	-0.41dB
2= 815MHz,	-0.36dB
3= 824MHz,	-0.46dB
4= 851MHz	-76.14dB
5= 860MHz,	-68.5dB
6= 869MHz,	-70.2dB

Markers:	
1 = 806MHz,	-69.45dB
2= 815MHz,	-67.21dB
3= 824MHz,	-92.26dB
4= 851MHz	-0.42dB
5= 860MHz,	-0.32dB
6= 869MHz,	-0.37dB