

## MAIN FEATURES

- ❖ 500 W output RF power
- ❖ Stable output power over temperature
- ❖ Low noise figure
- ❖ Ethernet or RS-485 M&C interface
- ❖ High reliability



## DESCRIPTION

This solid state power amplifier is intended for use in S-band satellite communications systems as uplink SSPA. It is to be installed directly to the antenna. The outdoor construction protects the amplifier against harsh environmental conditions. The SSPA can be fully remotely monitored and controlled via the built-in Ethernet interface. Optional 1:1 hot redundant arrangement increases the reliability of the system.

## SPECIFICATIONS

ELECTRICAL PARAMETERS	
Frequency band	2025 – 2120 MHz
RF output power	57 dBm @ P1dB
Gain	75 dB min.
Gain slope	±0.1 dB / 10 MHz max.
Gain flatness	±0.5 dB
Output power stability vs. temp (ALC ON)	±1 dB (-40°C to +60°C) max.
AM/PM conversion @ P1dB	<3 °/dB
ALC control range	20 dB min. with 0.5 dB step
In/Out impedance nominally	50 Ω
Input VSWR	<1.3 : 1
Output VSWR	<1.4 : 1
Output noise in 2.2 – 2.3 GHz band with filter	<-125 dBm/Hz (filter characteristics can be improved upon request)
Group delay variation (with filter)	Linear: 0.05 ns/MHz Parabolic: 0.001ns/MHz <sup>2</sup> Ripple: 1ns pk-pk
Gain adjustment range	20 dB
Gain adjustment step	0.1 dB typ.
Noise figure	<4 dB (@max. gain)
Harmonics @ P1dB-3dB	<-60 dBc
Spurious @ P1dB-3dB	<-80 dBc
Output sample	-50 dBc typ.
Intermodulation distortion @ Pout= 54 dBm (two tone, 51 dBm/tone, 1 MHz spacing)	<-25 dBc
MTBF	>60 000 hours
Power supply voltage	110 – 240 VAC, 47 – 63 Hz
AC Power Consumption (230 VAC) @ Pout= 57 dBm	<1500 VA



## BPBS59 500 W S-band Outdoor Power Amplifier

MECHANICAL PARAMETERS	
Connectors	AC: MS3102E18-10P Ethernet: Amphenol MS3112E12-10S RF IN: N-female Sample: N-female RF OUT: N-female
Weight	45 kg
Dimensions	Approx. 230 x 420 x 605 mm (see outline dimensions)
ENVIRONMENTAL PARAMETERS	
Operating temperature range	-40°C ... +60°C
Degree of protection	IP67 Outdoor
Relative Humidity	100%
Cooling	Forced air cooling
Shock & Vibration	Transportation
SOFTWARE PARAMETERS	
Remote M&C interface	Ethernet (TCP/IP); Optional: RS-485
External RF mute on M&C interface	Optional

Specifications are subject to change without notice.

## SOFTWARE SCREENSHOT

BPBS Control Program v1.4.1.2

Factory Settings: Recall, Boot Mode  
User Settings: Recall, Save  
Remote Control: Restart Device, Settings  
Connection Mode: TCP/IP, Serial  
IP: 192.168.16.109, Port: 23, Connect  
System Status: Connected, Connections: 1

Summary | Details | End FET Summary

Device Type: BPBS59  
Serial Number: 001  
Date of Manufacture: 26.11.2019  
Firmware Version: 0.8  
Hardware Version: 1.0

ALC ON-OFF: ON OFF  
ALC Level: 57.0 dBm  
Attenuation: 20.0 dB

**AMPLIFIER OPERATING**  
RF Out: ON

Output Power: 57.1 dBm  
End FETs Temp.: 39.50 °C

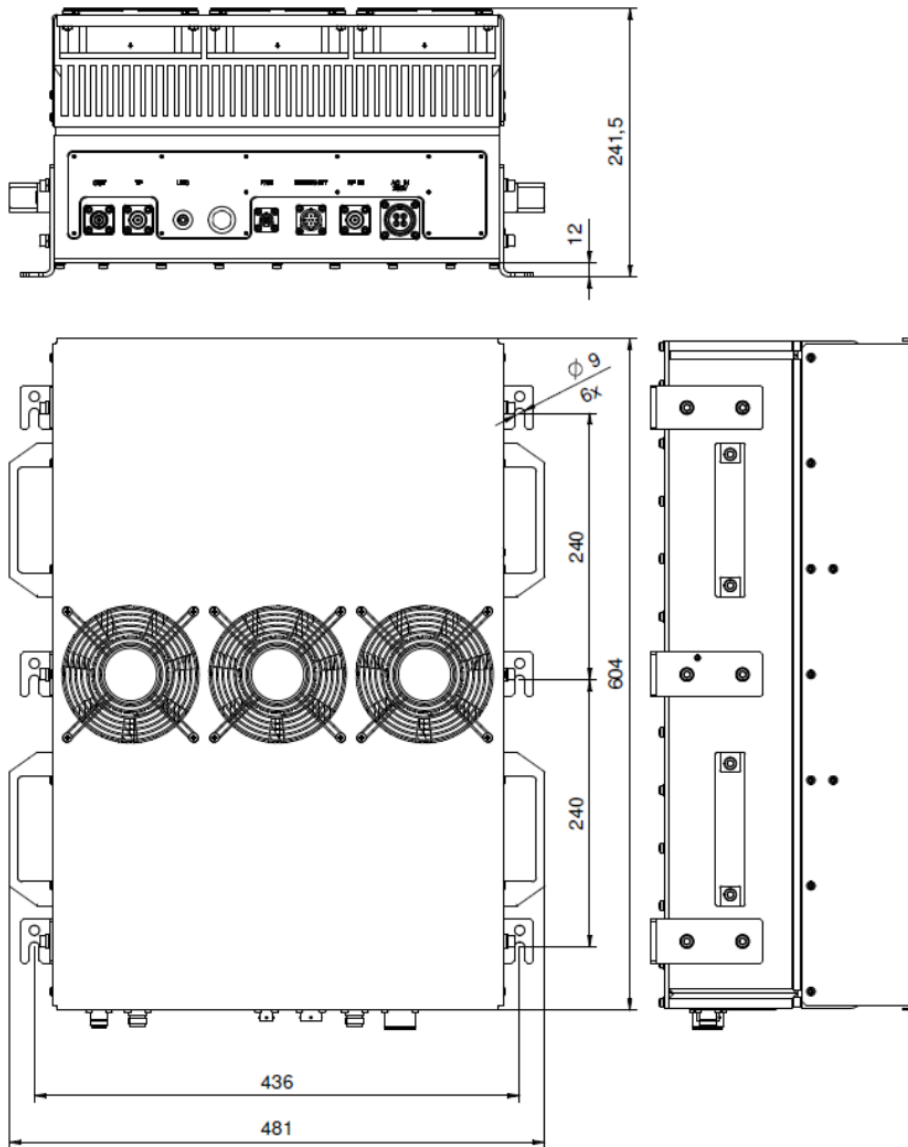
Monitor	Current	History
End FETs Temp.	●	●
Sum FET Current	●	●
9V Supply Voltage	●	●
30V Supply Voltage	●	●
Output Return Loss	●	●
9V Current	●	●
Driver FET Current	●	●
Fan curr.	●	●
Preamp. Temp.	●	●

Clear Alarm History CLEAR

RF by User: ON OFF  
Operating Mode = Standalone

Output Return Loss = -18.90 dB

## OUTLINE DRAWING (mm)



## ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BPBS59K10707	BPBS59 500 W, S-band 2025-2120 MHz, single outdoor SSPA, Ethernet control
BPBS59K11123	BPBS59 500 W, S-band 2025-2120 MHz, single outdoor SSPA, mute function, Ethernet control

## DOCUMENT REVISION

DOCUMENT NAME	REVISION	DATE
BPBS59-LM-gyűjtő	V01	2023-05-10