

Smart Coverage Solution System

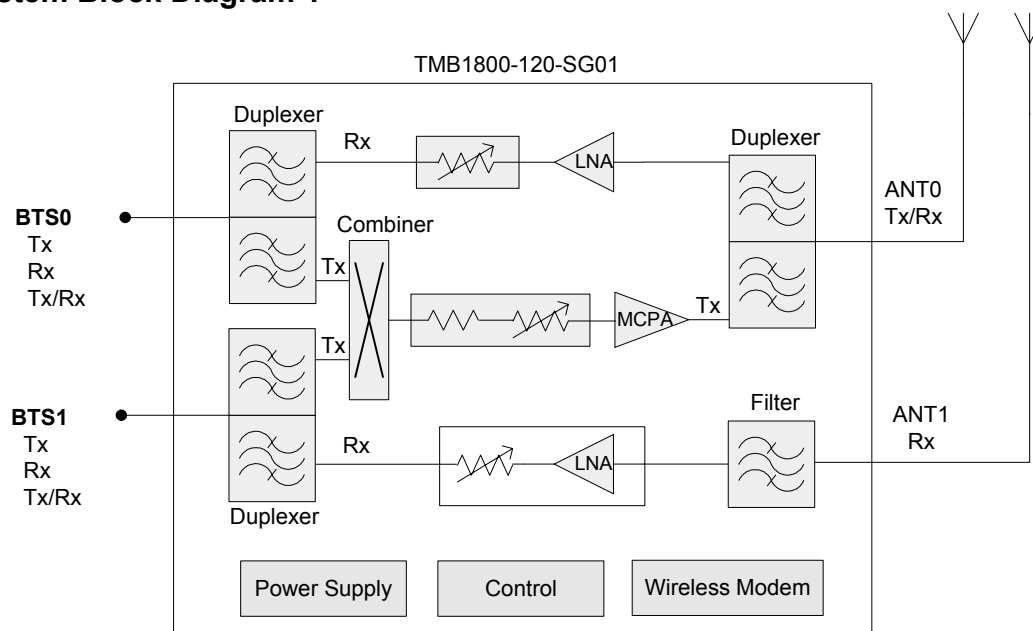
GSM1800MHz Multi-Carrier High Power Tower Mounted Booster (TMB) System

System advantages

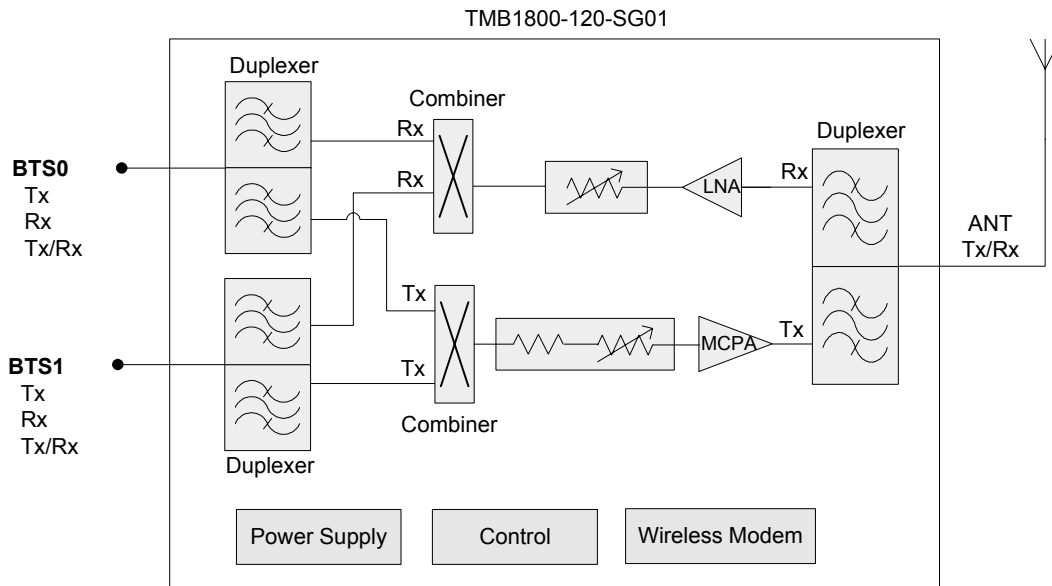
Bravo Tech's (TMB1800-120-SG01) is a 1800 GSM Multi Carrier High Power Tower Mounted Booster provides higher downlink output and improved uplink sensitivity and at the same time extending existing Nano BTS coverage. This multi-carrier high power product can be customized to work with any BTS system to improve performance of coverage and low implementation cost.

- Support multi-carrier GSM/EDGE signals, with mixed mode operation
- Downlink output maximum power 120W, support multi-carrier signal amplifier.
- Downlink and uplink gain adjustable with wide dynamic range, up to 30dB
- Wide uplink input dynamic range
- 1.8dB uplink noise figure
- Very high system efficiency
- Extensive product monitoring and control (local and remote)
- Centralized system control/alarms
- Great system reliability supported by architecture built-in redundancy (optional)
- Powered by -48VDC, 220VAC, 110VAC available
- IP54 environmental protection. Designed for indoor or outdoor installations.
- Extensive protection for lightning, voltage surge, and any high failure rate assemblies

System Block Diagram 1



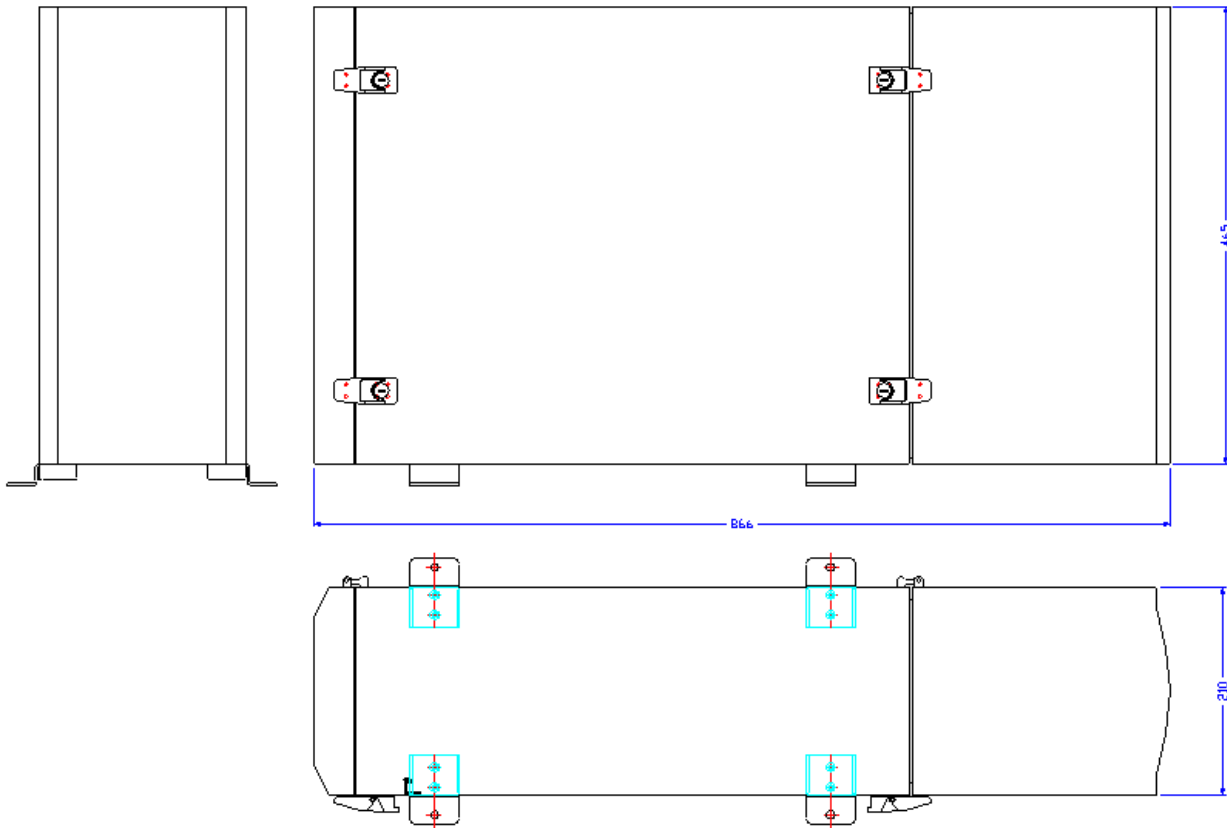
System Block Diagram 2



Product Picture



Outline Drawing



Specifications

RX Characteristics	Specification
Frequency Range	1710 – 1785MHz
Instantaneous Bandwidth	30MHz
Max Gain over frequency and temperature	15±1 dB
Adjustable Gain Range	0~15dB
Flatness over Frequency	±1dB
Noise Figure	2dB, Typical
Output 1dB Compression (max. Gain)	+12dBm
Output IP3 (max. Gain)	+23dBm
Return loss(VSWR)	14dB (1.5:1)
TX Characteristics	Specification
Frequency Range	1805 – 1880MHz
Instantaneous Bandwidth	30MHz
Number of Carriers	4 or 8 carriers
Average Output Power	120W (30W/carrier for 4 carriers system)
Maximum Input Power	30dBm
Gain	10 - 40dB
	Adjustable in 1dB step
Gain Flatness	+/-1dB
Gain Variation Over Temp	+/-1dB
IMD	-65dBc for multi-carrier (typical)
Spectrum Masks and Spurious Emissions	FCC compliant

System Characteristics	Specification
Return loss(VSWR)	
BTS Ports	14dB (1.5:1)
Antenna Ports	14dB (1.5:1)
Monitor & Control	Forward Power, Reverse Power, Temp, LNA Conditions, PA Conditions, TX Gain Setting, RX Gain Setting, DC Voltage
Alarm & Protection	Overpower Shutdown, Over Temp Shutdown, VSWR Shutdown, DC Fail Shutdown
Environmental Characteristics	Specification
Operating Temperature Range	-20°C to +55°C
Cold Start Temperature	-40°C
Storage Temperature	-40°C to +85°C
Humidity	5%~95%
EMC	ETS 300 342-3
Ingress Protection Class	IP54
Mechanical Characteristics	Specification
Material	Steel& Aluminum Frame
Weight	48Kg
Dimensions (H x W x D)	210mm x 465mm x 866mm
Connectors	
BTS Ports	7/16 DIN female
ANT Ports	7/16 DIN female
ALARM Port	DB15 female
Reliability Characteristics	Specification
MTBF	
MCPA	100,000 hours
Rectifier	70,000 hours
Fan	50,000 hours
Other Parts	150,000 hours
Options	Specification
Power Input	220VAC, 110VAC, -48VDC available