

IP.ACCESS EDGE NANO BASE STATION BOOSTER

Product code: GPA-206



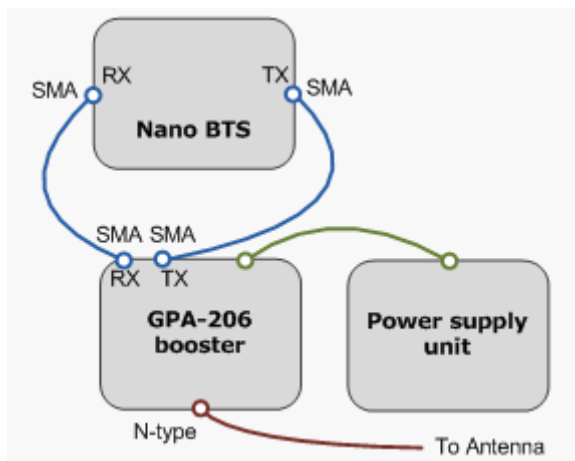
GPA-206 GSM booster provides an exceptional booster performances resulting in extended coverage area of pico and nano cellular base station (for example, ip.access, ltd nanoBTS).

Low noise and high linearity power amplifiers are contributing to the overall improved system performance. The unit is based on a duplexed two-path configuration, having sharp out of band attenuation and improved isolation between the receiving and transmitting paths, together with low pass band insertion loss at the transmit path.

The booster significantly increases extend the coverage range of ip.access nano base stations to a few kilometers. At the same time the unit can be used along with any other type of GSM pico or nano base station.

Combination of GPA-206 booster and nano base station allows to significantly increase cell coverage especially in rural areas where capacity requirements are not strict, or when used along with cellular sites powered by solar batteries.

Installation procedure and operation



STEP 1: Make sure the booster does not have any mechanical damages and attach it to the mounting surface.

STEP2: You will need to Interconnect 40pin external LED wire to the booster. Fix LED indicator in appropriate position.

STEP 3: Interconnect service 50 Ohm antenna or equivalent load to the booster (N-type connector)

Important: all interconnections have to be done with active equipment (nano-BTS) turned off

STEP 4: Using built-in SMA connector, interconnect RF cable for Rx path (SMA Rx) and Tx path (SMA Tx). Make sure all connections re done properly.

STEP 5: Interconnect GPA-206 and 27 VDC power supply unit and switch power supply on.

STEP 6: Put nano-BTS in operational mode. LED indicator may temporarily display full scale. After a few seconds LED indicator will display effective output power (one cell of LED indicator is equivalent to 330 mW). Important: input power should not exceed 500 mW.

GPA-206 booster has been designed for maximum safety when installed and operated. Refer to all safety instructions as per the antenna installation instruction sheets. Do not bypass any of the safety features with the equipment provided, nor operate the system in an inappropriate environment.

The service antenna used along with the booster must be fixed-mounted on outdoor or indoor permanent structures with a separation distance of at least 1.5 meters from all persons during normal operation. Additional wiring required to install the booster should comply with national or local governing Electrical Codes.

Indoor RF coaxial cable installations should comply with local Electrical Code requirements. GPA-206 booster is designed for indoor application. Keep it away from water, rain and any chemical liquid. Please discharge the static before you touch the connectors of the booster. Do not open the booster, this will destroy it. Booster power supply unit is connected to the mains (primary AC power) that contains dangerous voltage level which will cause electric shock, so please turn off the mains before you install or uninstall the booster.

The primary AC power should be in the range of AC 100-220V, 50 Hz. Booster will be damaged if the primary AC power is out of the range. The RF electric performance of GPA-206 booster conforms to ETSI requirements on inter-modulation and spurious emissions.

Important: installation of antennas near power lines is dangerous. For safety reasons, follow all installation directions and keep safe distance from any high voltage power lines that could result in shock or loss of life. This equipment complies with FCC & IC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Specifications

Gain Downlink (HPA)	16 dB
Gain Uplink (LNA)	20 dB
Output RF power (Downlink)	6-8 W
Input RF signal (min)	20 dBm
Duplexer isolation	75 dB
NF (Uplink LNA)	1,25 dB
Input SWR (Downlink)	less than 1.2
Input/Output Bandwidth	GSM 850, 900, 1800 or 1900: entire band
External antenna connector	N-type
Booster-to-nano BTS connectors	SMA
Operating temperature range	-5...+55 deg. C
Power supply	Nominal 27 VDC, 220 VAC to 27 VDC
Peak power consumption	54 W
Booster dimensions, mm	120*70*120
Weight, kg	1,97

GPA-206 nano base station booster output vs consumed power

Measurement:

- a) less transmitter and receiver antenna gain figure
- b) measured at direct LoS conditions
- c) free space losses at 900 MHz range: 121.1 dB
- d) free space losses at 1800 MHz range: 127.1 dB

GSM 1800 (Mast height - 20m, omni antenna $\frac{1}{4} \lambda$)

Voltage	Output power	Consumed current	Coverage
27 V	1 W	800-950 mA	6 km
27 V	2 W	950-1100 mA	8 km
27 V	3 W	1100-1150 mA	10 km
27 V	4 W	1150-1300 mA	12 km
27 V	5 W	1300-1450 mA	14 km
27 V	6 W	1450-1600 mA	16 km
27 V	7 W	1600-1700 mA	18 km
27 V	8 W	1700-1800 mA	20 km

GSM 900 (Mast height - 20m, omni antenna $\frac{1}{4} \lambda$)

Voltage	Output power	Consumed current	Coverage
27 V	1 W	850-950 mA	12 km
27 V	2 W	950-1050 mA	16 km
27 V	3 W	1050-1150 mA	20 km
27 V	4 W	1150-1250 mA	25 km
27 V	5 W	1250-1350 mA	28 km
27 V	6 W	1350-1400 mA	32 km
27 V	7 W	1400-1450 mA	35 km
27 V	8 W	1450-1500 mA	38 km

