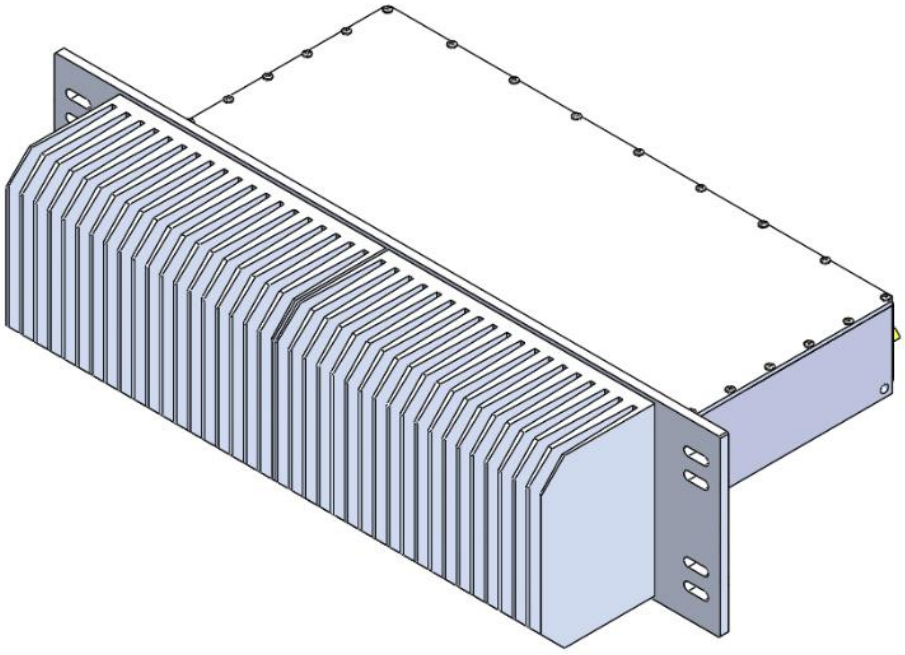
English

fipleX®

TXPA220 - Amplifier
User & Installation Manual



Document History

Description	Revision	Date Issued
Original version	001	Aug 17th, 2018

About this manual

This manual describes installation, commissioning and operation of the Fiplex **TXPA220 Amplifier**

Hardware mentioned in this manual are subjected to continuous development and improvement. Consequently, there may be minor discrepancies between the information in this manual and the performance and design of the hardware. Specifications, dimensions and other statements mentioned in this manual are subject to change without notice.

Abbreviations

AGC	Automatic Gain Control
AMPS	Advanced Mobile Phone Service
ARFCN	Absolute Radio Frequency Channel Number
BCCH	Broadcast Control Channel (GSM broadcast channel time slot)
BS	Base Station, BS antenna = towards the base station
CDMA	Code Division Multiple Access
DC	Direct Current
DCS	Digital Communication System (same as PCN)
DL	Downlink signal direction (from base station via Signal Booster to mobile station)
DPLX	Duplex filter
EEPROM	Electrical Erasable Programmable Read Only Memory
EGSM	Extended Global System for Mobile communication
ETACS	Extended Total Access Communication System
ETSI	European Telecommunications Standard Institute
FCS	Fiplex Control Software
GSM	Global System for Mobile communication
HW	Hardware
LED	Light Emitting Diode
LNA	Low Noise Amplifier, uplink and downlink
MS	Mobile Station, MS antenna = towards the mobile station
OMS	Operation and Maintenance System
OL	Overload
PA	Power Amplifier
PCN	Personal Communication Network (same as DCS)
PCS	Personal Communication System
PS	Power Supply
RF	Radio Frequency
RSSI	Received Signal Strength Indication
SW	Software
UL	Uplink signal direction (from mobile station via Signal Booster to base station)
WEEE	Waste of Electric and Electronic Equipment

Part 1 HARDWARE

1. Safety

Dangerous Voltage Warning

Any personnel involved in installation, operation or service of Fiplex Signal Boosters **must** understand and obey the following:

The power supply unit in Signal Boosters supplied from the mains contains dangerous voltage level, which can cause electric shock. Switch the mains off prior to any work in such a Signal Booster. Any local regulations are to be followed when servicing Signal Boosters.
Authorized service personnel only are allowed to service Signal Boosters while the main is switched on.

Any Signal Booster, including this Signal Booster, will generate radio signals and thereby give rise to electromagnetic fields that may be hazardous to the health of any person who is extensively exposed to the signals at the immediate proximity of the Signal Booster and the Signal Booster antennas.

Radiation Hazard Warning

R&TTE Compliance Statement

This equipment complies with the appropriate essential requirements of Article 3 of the R&TTE Directive 1999/5/EC.

Station Ground

BTS chassis, Signal Booster, feeders, donor antenna, service antenna/s and auxiliary equipment (splitters, tabs, .etc) are required to be bonded to protective grounding using the bonding stud or screw provided with each unit.

Electrostatic Discharge

Static electricity means no risk of personal injury but it can severely damage essential parts of the Signal Booster, if not handled carefully.
Parts on the printed circuit boards as well as other parts in the Signal Booster are sensitive to electrostatic discharge.
Never touch printed circuit boards or uninsulated conductor surfaces unless absolutely necessary.
If you must handle printed circuit boards or uninsulated conductor surfaces, use ESD protective equipment, or first touch the Signal Booster chassis with your hand and then do not move your feet on the floor.
Never let your clothes touch printed circuit boards or uninsulated conductor surfaces.

Disposal of Electric and Electronic Waste

Pursuant to the WEEE EU Directive electronic and electrical waste must not be disposed of with unsorted waste. Please contact your local recycling authority for disposal of this product.

FCC Compliance

FCC Part 15.19 Warning Statement
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

FCC Part 15.21 Warning Statement
NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

FCC Part 15.105(b) Warning Statement NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: - Reorient or relocate the receiving antenna. - Increase the separation between the equipment and receiver. - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. - Consult the dealer or an experienced radio/TV technician for help.

ATTENTION:

For safety reasons maintain a minimum separation of 114.92 cm from the antenna to all persons.

2. Product Description.

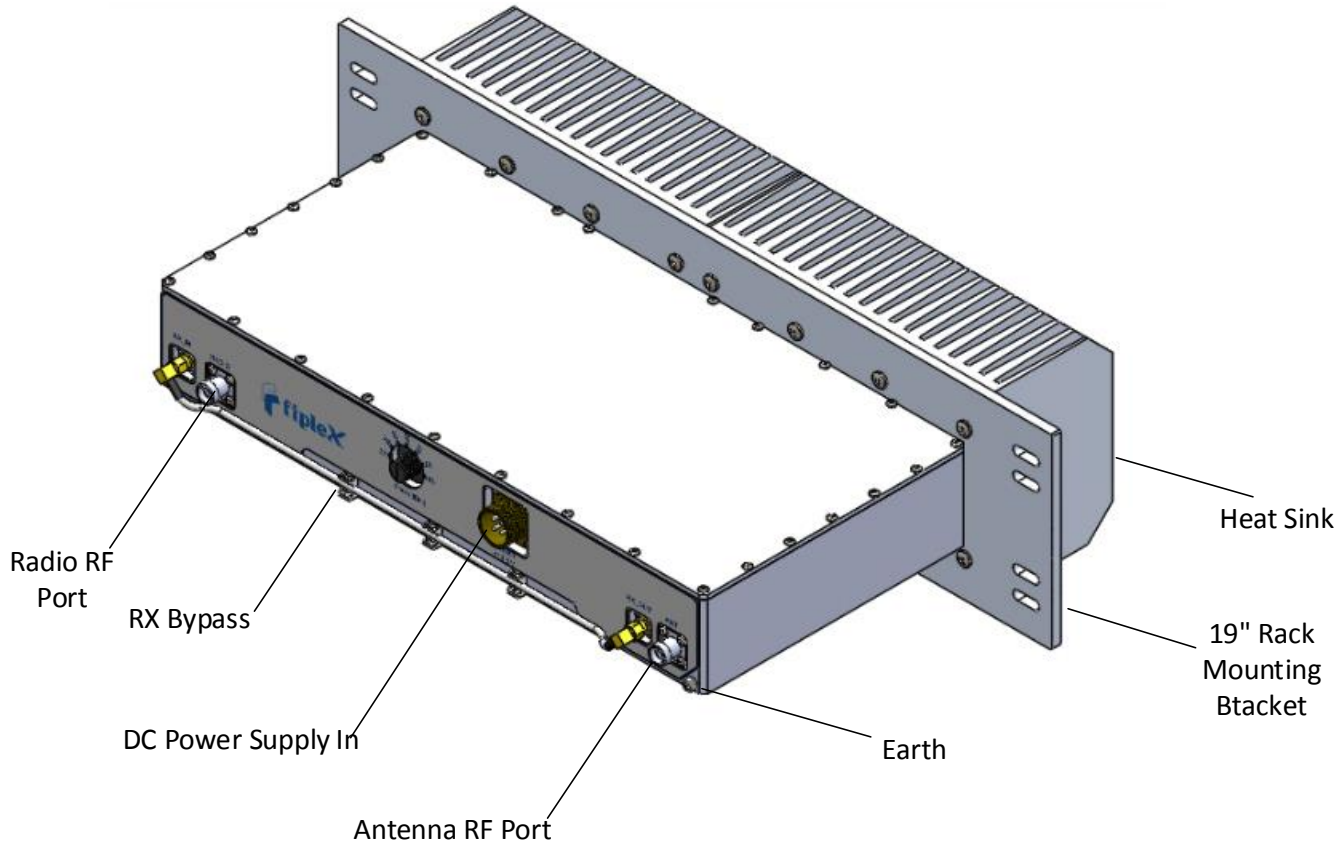
The TXPA220 is an amplifier designed to amplify the output of the GEMDS TD220 family of radios in the frequency range of 218-219MHz.

The maximum output power of this amplifier is 20W (43dBm). The amplifier is equipped with an AGC circuitry to make sure no more than the maximum power will be transmitted.

The input power can vary from 200mW to 2W.

This amplifier also is equipped with an RX bypass to pass the reception if needed

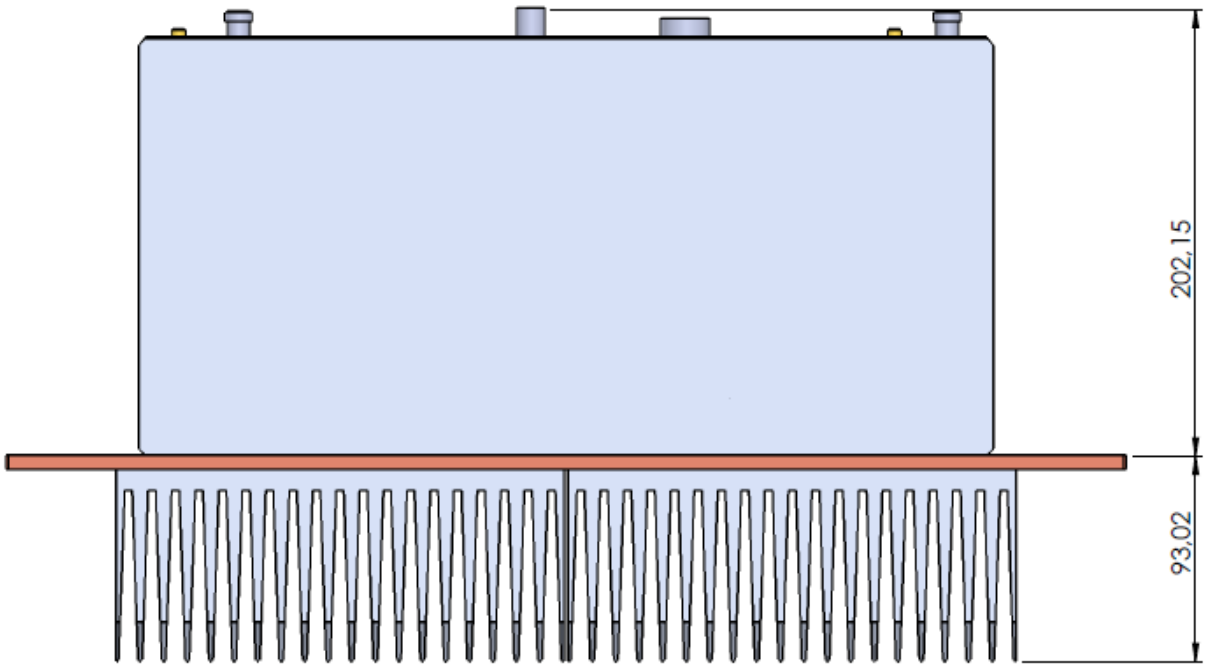
2.1. Product Parts.



2.2. Dimensions

The amplifier is for 19” rack mount and it uses 3RU of space.

Additional dimensions (in mm):



3. Installation

Mounting the TXPA220 Amplifier

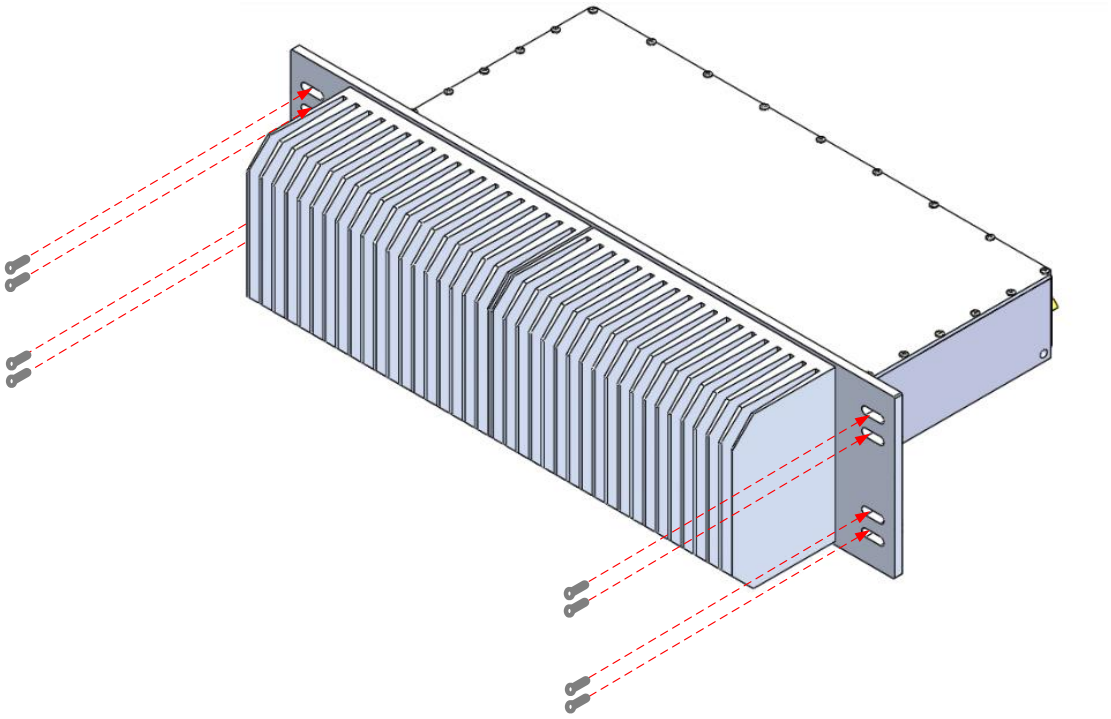
The Fiplex TXPA220 Amplifier is designed for outdoor usage with a weather proof outdoor NEMA4 cabinet that can be mounted without any kind of shelter from rain, snow or hail.
However, to improve reliability, it is recommended to mount the Device on a site with shelter from direct exposure to sun, rain, snow and hailing.

It is not recommended to operate the TXPA220 under bad weather conditions, such as:

- Intense rainfall, snowfall or hail
- Storm or high wind
- Extremely low or high temperature
- High humidity of the air

Mounting

The Fiplex TXPA220 Amplifier is 19” Rack Mount.
Has 8 fixing perforations available to mount the amplifier on the Rack



4. Commissioning

4.1. Connection step by step

1. Connect the antenna in the Antenna RF Port of the amplifier. N (F) type of connector.
2. Connect the Radio in the Radio RF Port of the amplifier. N (F) type of connector.
3. Once the RF ports of the Amplifier are properly loaded connect the DC power.
4. The amplifier is ready to be used.