

FM TRANSMITTER NBE250

Technical features of RF driver section and RF final power stage

The driver stage is placed in the main board and it is composed by two active devices, the first one is a BFR96S working on AB class that has an output of 0,2W, then the true driving device is an LDMOS mod. PD55003 by ST Microelectronics, and below the technical working specifications:

Vcc	15 V
Idq	25 mA
IDC at Full Power	850 mA
Power Gain	>13 dB
Output Power	> 4W
Frequency range	87.5 – 108 MHz
Polarization	B class

The signal, after going out from the driver, goes to the final power stage made by a double Mos-Fet mod. SD2932 by ST and then to a low pass filter and a notch circuit tuned on 176MHz, after then the signal passes trough a directional coupler for sampling the forward and reflected RF power.

Below the technical specifications of the power stage:

Vcc	48 V
Idq	50 mA
IDC at Full Power	7.6 A typ.
Power Gain	>18 dB
Output Power	> 250W
Frequency range	87.5 – 108 MHz
Polarization	B class

Below the low pass filter specifications:

In band insertion loss	< 0.3dB
Insertion Loss @ 175 MHz	> 60dB
In band return loss	< - 30dB

Here below we can see a photo of the NBE 250 RF module amplifier

