

# FM LINK TRANSMITTER NBESTL-10

## 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 three active devices, the first one is a BFR96S working on AB class that has an output of 0,2W, then the driving device is an LDMOS mod. PD55003 by ST Microelectronics, and then the final stage is again an LDMOS device mod. PD55025.

Below the technical working specifications of PD55003 and PD 55025:

### PD55003

|                          |                      |
|--------------------------|----------------------|
| <b>Vcc</b>               | <b>15 V</b>          |
| <b>Idq</b>               | <b>5 mA</b>          |
| <b>IDC at Full Power</b> | <b>500 mA</b>        |
| <b>Power Gain</b>        | <b>&gt;12 dB</b>     |
| <b>Output Power</b>      | <b>&gt; 600mW</b>    |
| <b>Frequency range</b>   | <b>940 - 960 MHz</b> |
| <b>Polarization</b>      | <b>B class</b>       |

### PD55025

|                          |                      |
|--------------------------|----------------------|
| <b>Vcc</b>               | <b>15 V</b>          |
| <b>Idq</b>               | <b>10 mA</b>         |
| <b>IDC at Full Power</b> | <b>1.8 A</b>         |
| <b>Power Gain</b>        | <b>&gt;12 dB</b>     |
| <b>Output Power</b>      | <b>&gt; 10 W</b>     |
| <b>Frequency range</b>   | <b>940 - 960 MHz</b> |
| <b>Polarization</b>      | <b>B class</b>       |

The signal, after going out from the final power stage goes to a low pass filter made by in air wounded inductances in order to have a good Q, afterthen the

signal passes through a directional coupler for sampling the forward and reflected RF power.

Below the low pass filter specifications:

|                                |                    |
|--------------------------------|--------------------|
| <b>In band insertion loss</b>  | <b>&lt; 0.5 dB</b> |
| <b>Insertion Loss @ 1.8GHz</b> | <b>&gt; 42dB</b>   |
| <b>In band return loss</b>     | <b>&lt; - 25dB</b> |

Here below we can see a photo of the NBESTL10 RF module amplifier

