

## Modulated Wideband Power Amplifier

18.1% @35 MHz, Pout=36 dBm typ.

Third order intercept point: +53dBm, @25 MHz,  $\Delta f = 200\text{kHz}$  typ.

Noise figure @35 MHz: 7.2 dB

Internal modulation frequency AM: 1 kHz  $\pm 20\%$

Internal modulation frequencies PM: 1 kHz  $\pm 10\%$ , 217 Hz  $\pm 20\%$

Duty cycle, PM: 50%  $\pm 10\%$  @ 1 kHz; 12.5%  $\pm 20\%$  @ 217 Hz

### Maximum ratings:

Maximum input power: 0 dBm

The output of the TBMDA4B is quite tolerant to output mismatch, however open or shorted load is not recommended, as it potentially can cause damage. When driving near field probes or current probes, it is highly recommended to insert a 3dB attenuator at the output of the amplifier in order to protect the output stage.

### Small Signal Performance (@ Pin = -30 dBm):

Frequency [MHz]	0.05	0.075	0.1	0.25	0.5	0.75	1	5	10	25	50	75	100
Output power [dBm]	17.5	20.2	21.2	23.1	23.4	23.7	23.7	23.9	23.9	23.8	22.6	21.7	17.6
Gain [dB]	47.5	50.2	51.2	53.1	53.4	53.7	53.7	53.9	53.9	53.8	52.6	51.7	47.6

Table 1 – TBMDA4B small signal gain

### Linear output power (@ Pin = -22 dBm):

Frequency [MHz]	0.05	0.075	0.1	0.25	0.5	0.75	1	5	10	25	50	75	100
Output power [dBm]	25.4	28.1	29.3	31.1	31.4	31.7	31.7	31.9	31.9	31.8	30.5	29.7	25.6
Gain [dB]	47.4	50.1	51.3	53.1	53.4	53.7	53.7	53.9	53.9	53.8	52.5	51.7	47.6

Table 2 – TBMDA4B, linear output power versus frequency, 50 kHz – 100 MHz

### 1 dB compression point (@ Pin = -17 dBm):

Frequency [MHz]	0.05	0.075	0.1	0.25	0.5	0.75	1	5	10	25	50	75	100
Output power [dBm]	30.2	32.8	33.9	35.4	35.4	35.8	36	36	36	35.9	34.7	34.1	29.5
Gain [dB]	47.2	49.8	50.9	52.4	52.4	52.8	53	53	53	52.9	51.7	51.1	46.5

Table 3 – TBMDA4B, 1 dB compression point versus frequency, 50 kHz – 100 MHz

# Modulated Wideband Power Amplifier

## Saturation (@ Pin = -10 dBm):

Frequency [MHz]	0.05	0.075	0.1	0.25	0.5	0.75	1	5	10	25	50	75	100
Output power [dBm]	34.4	36.1	36.7	37.4	37.1	37.6	37.6	37.6	37.6	37.4	36.8	36.6	31.6
Gain [dB]	44.4	46.1	46.7	47.4	47.1	47.6	47.6	47.6	47.6	47.4	46.8	46.6	41.6

Table 3 – TBMDA4B, Saturation versus frequency, 50 kHz – 100 MHz

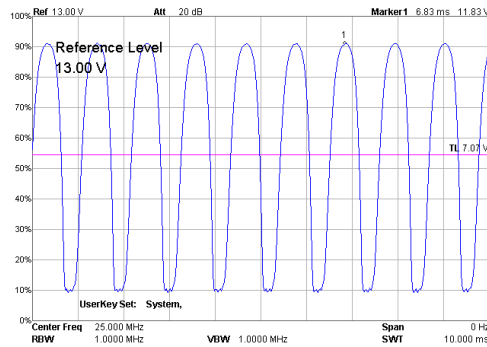


Figure 1 – 1 kHz, 80 % AM envelope, 25 MHz

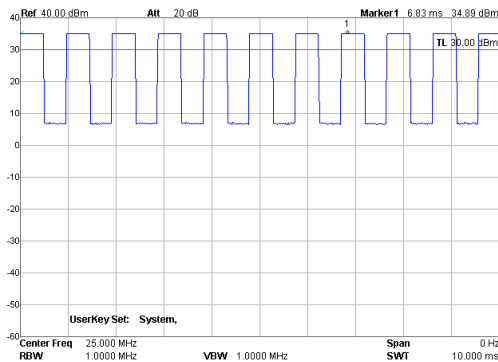


Figure 2 – 1 kHz, 50 % PM envelope, 25 MHz

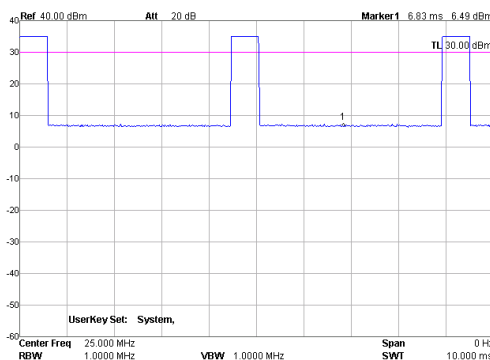


Figure 3 – 217 Hz, 12.5 % PM envelope, 25 MHz