

PSU and NXP RF Power Reference Circuit MRF1K50M

Power **S**upply **U**nit
includes a **modulator**
optimized for RF generators

Specifications

Three phase input	208 V or 400 V
Output Power @ 50 V	4500 W CW 6000 W Peak
Output Voltage:	0 - 50 V
Max. modulation frequency	3 kHz sine wave
Control	analogous and digital
Interface	0 - 10 V and RS422
Standards	EN 55011, EN 50178 optional EN 60601
Size: foot plate height incl. foot plate	500 x 126 mm ² 97 mm

Option

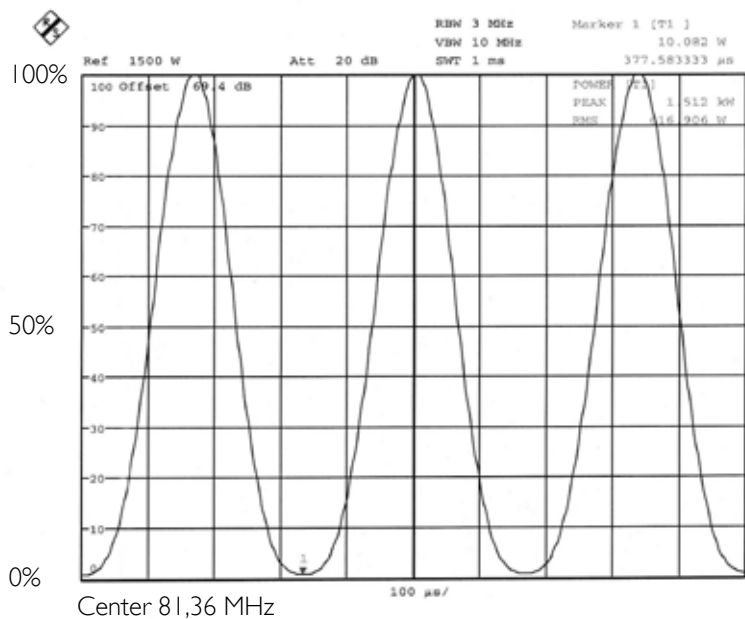
Bias supply	0 - 5 V, max. 300 mA
Fast shutdown input for mismatch power shutdown	comparator input 0,2 - 2 V

Comparison between modulation of the supply voltage and the RF input signal

3 kHz sine wave modulation of a RF power amplifier

MRF 1K50M - 1400 W CW @ 81.36 MHz (1500 W peak)

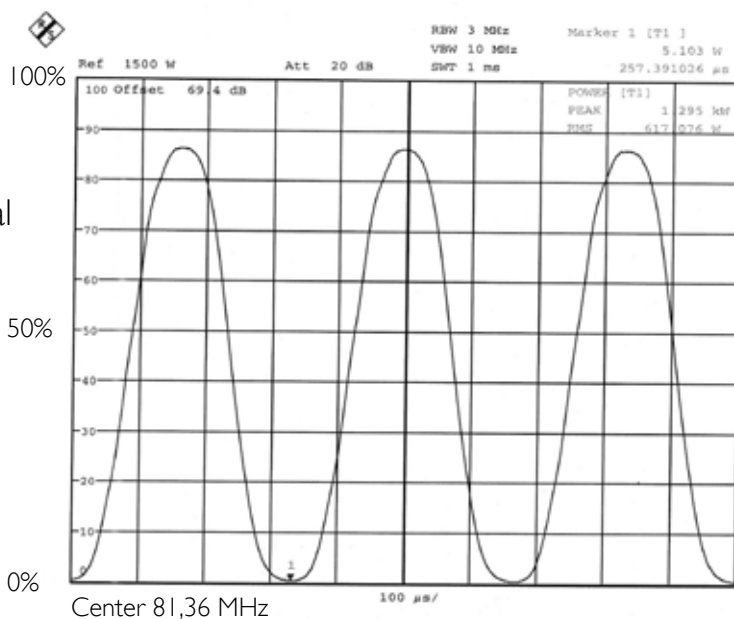
NXP Reference Circuit



1500 W

Modulation by supply voltage

Time domain power shown (100 μs/div)



1500 W

Modulation by amplifier RF input signal

Time domain power shown (100 μs/div)

Modulation by	Supply Voltage	Amplifier RF input signal
RF Power	616,9 W	617,1 W
RF Peak Power	1512 W	1295 W
DC Input Power	830,3 W	1054 W
Power Loss	213,4 W	437,3 W
Efficiency factor	74,3 %	58,5 %