

USB powered RF preamplifiers H TEST PE-PA

Family of USB powered RF preamplifiers H TEST PE-PA provides easy way how to increase the sensitivity of your measurement. Thanks to this simple and compact accessory you can turn your oscilloscope into real RF measurement tool or capture small signals which were invisible for spectrum analyzer.



Fig. 1 – Turn your scope into real RF measurement tool



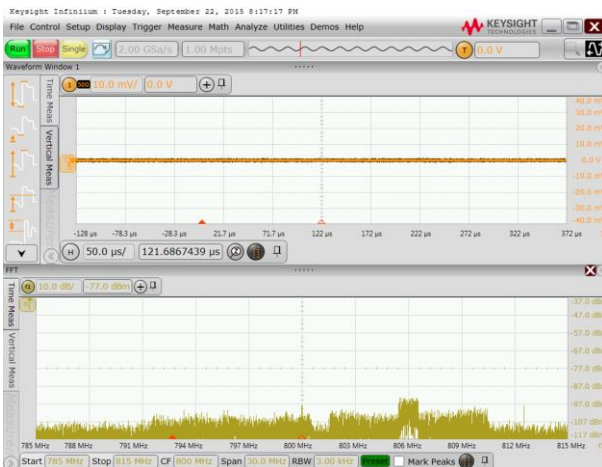
Fig. 2 – Compact dimensions, only 39x40x17 mm

PE-PA family of amplifiers consists of 5 models with different bandwidth, gain and noise figures:

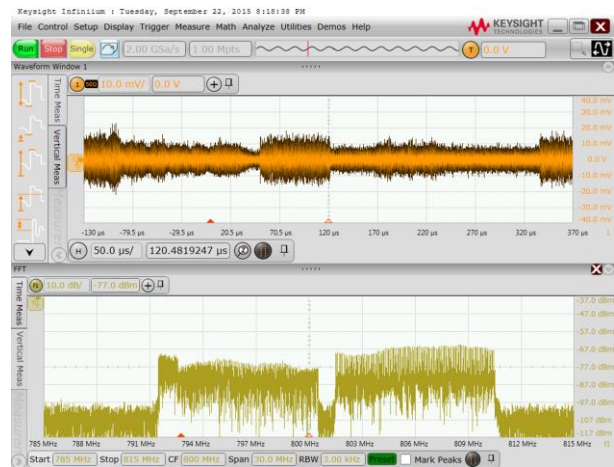
Parameter	Unit	Model				
		PE-PA A	PE-PA B	PE-PA C	PE-PA D	PE-PA E
Min. frequency	MHz	10	10	10	0.009	10
Max. frequency	MHz	1000	1000	1000	3000	3000
Gain	dB	min. 28 typ. 30 max. 32	min. 37 typ. 40 max. 42	min. 47 typ. 50 max. 54	min. 32 typ. 34 max. 36	min. 32.5 typ. 34 max. 36.5
Output at 1 dB compression point	dBm	min. +16 typ. +17	min. +16 typ. +18	min. +16 typ. +18	min. +15 typ. +16	min. +10 typ. +11
Noise figure	dBm	typ. 1.0 max. 1.2	typ. 0.8 max. 1.0	typ. 1.0 max. 1.1	typ. 2.5 max. 3.0	typ. 1.4 max. 1.7
Gain flatness	dB	typ. ±0.7 max. ±1.0	typ. ±1.0 max. ±1.25	typ. ±1.25 max. ±1.5	typ. ±1.25 max. ±1.5	typ. ±0.75 max. ±1.0
Gain temperature drift	dB	typ. ±1.0	typ. ±1.25	typ. ±1.5	typ. ±1.0	typ. ±1.25
Reverse isolation	dB	min. 45 typ. 49	min. 50 typ. 55	min. 60 typ. 65	min. 60 typ. 65	min. 40 typ. 50
Input VSWR	-	typ. 1.3 max. 1.5	typ. 1.45 max. 1.65	typ. 1.5 max. 1.7	typ. 1.6 max. 2.0	typ. 1.4 max. 1.6
Output VSWR	-	typ. 1.2 max. 1.5	typ. 1.3 max. 1.5	typ. 1.6 max. 1.8	typ. 1.8 max. 2.5	typ. 1.4 max. 1.6
Max. output power	dBm	+10	+10	+10	0	+5
Operating temperature	°C	min. -40 max. +75				
Operating DC voltage	V	min. 4.5, typ. 5.0, max. 5.5				
Operating DC current	mA	typ. 330 max. 400	typ. 330 max. 400	typ. 380 max. 500	typ. 330 max. 400	typ. 330 max. 400

PE-PA preamplifiers provide perfect noise figure parameters and gain. All values are available in the wide bandwidth up to 9 kHz – 3 GHz. Amplifiers are powered by dc 5 V voltage through microUSB connector. Thanks to current consumption below 500 mA it can be powered by standard USB port present on many test instruments and notebooks.

Fig. 3 – Measurement of 800 MHz LTE signal using digital oscilloscope

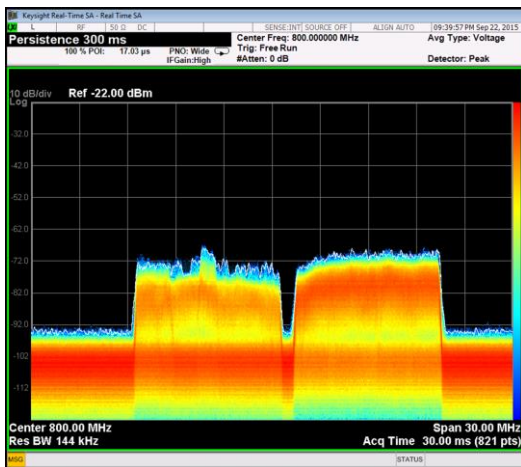


Without preamplifier

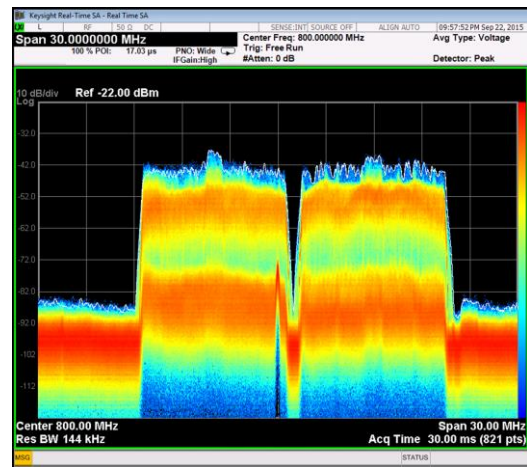


With PE-PA preamplifier connected to scope input

Fig. 4 – Measurement of 800 MHz LTE signal using spectrum analyzer



Without preamplifier



With PE-PA preamplifier connected to analyzer input

Thanks to excellent parameters of built-in Pasternack amplifier blocks you can use PE-PA RF preamplifiers in many demanding applications. All preamplifiers are unconditionally stable and can be easily and safely used. Typical application include search of sources of electromagnetic disturbances or amplification of signals with small amplitude in the wide range of frequencies.

Ordering information:

Model number PE-PA A/B/C/D/E

Input/Output connector: SMA female

Supplied accessories: cable SMA(m)-BNC(m), 12 inch long (PN PE3885LF-12)

cable SMA(m)-N(m), 12 inch long (PN PE3911LF-12)

cable SMA(m)-SMA(m), 12 inch long (PN PE3778-12)

USB-microUSB cable 0,5m

Optional accessories: USB power adapter

Fig. 5 – PE-PA preamplifier connected to Keysight DSOX3000T oscilloscope

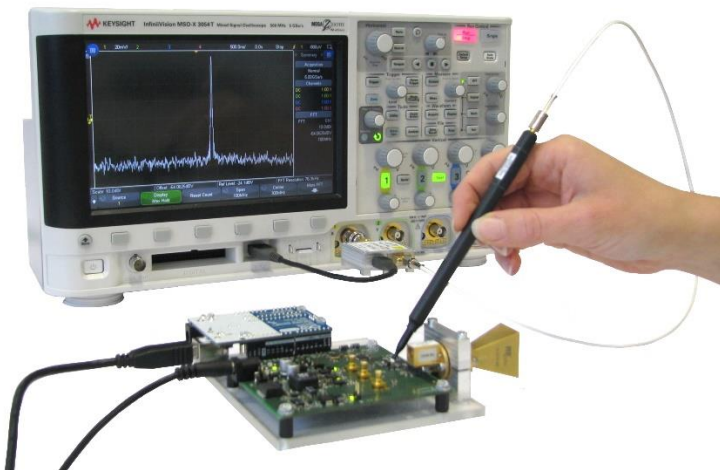


Fig. 6 – PE-PA preamplifier connected to Keysight N9322C spectrum analyzer

