

# Key Specifications



Model	RF		
	E8356/7/8A	E8801/2/3A	N3381/2/3A
Frequency range	300 kHz to 3/6/9 GHz	300 kHz to 3/6/9 GHz	300 kHz to 3/6/9 GHz
Number of ports	2	2	3
Measurement receivers <sup>1</sup>	4	3	4
Configurable test set	■	▲	▲
Receiver attenuators	■	▲	▲
Extended power range	■	▲	▲
High stability timebase	■	▲	▲
Bias-tees	■	–	–
Time domain	▲	▲	▲
ECal support	Yes	Yes	Yes
<b>Dynamic range (at test port)</b>	Port 1/Port 2, 3		
300 kHz to 1 MHz	125 dB	125 dB	125/123 dB
1 MHz to 3 GHz	128 dB	128 dB	128/126 dB
3 to 6 GHz	118 dB	118 dB	118/116 dB
6 to 9 GHz	113 dB	113 dB	113/113 dB
<b>Dynamic range (receiver access)</b>	Port 1/Port 2, 3		
300 kHz to 1 MHz	140 dB	140 dB	140/138 dB
1 MHz to 3 GHz	143 dB	143 dB	143/141 dB
3 to 6 GHz	133 dB	133 dB	133/131 dB
6 to 9 GHz	128 dB	128 dB	128/128 dB
<b>Trace noise (1kHz IF BW)</b>	Port 1/Port 2, 3		
300 kHz to 9 GHz	< 0.002 dB < 0.010 deg rms	< 0.002 dB < 0.010 deg rms	< 0.002 dB < 0.010 deg rms
<b>Maximum output power</b>	Port 1/Port 2, 3		
300 kHz to 6 GHz	+10 dBm	+10 dBm	+10/+8 dBm
6 to 9 GHz	+5 dBm	+5 dBm	+5/+5 dBm

■ Standard ▲ Optional – Not available ◆ Available soon

Model	Microwave	
	E8362/3/4/B	E8361A
Frequency range	10 MHz to 20/40/50 GHz	10 MHz to 67 GHz
Number of ports	2	2
Measurement receivers	4	4
Configurable test set	▲	▲
Receiver attenuators	▲	◆
Extended power range	▲	◆
High stability timebase	■	■
Bias-tees	▲	◆
Frequency-offset mode	▲	◆
Reference channel switch	▲	◆
Frequency converter measurement application	▲	◆
Time domain	▲	▲
ECal support	Yes	Yes
<b>Dynamic range (at test port)<sup>2</sup></b>		
10 to 45 MHz	78 dB	70 dB
45 MHz to 2 GHz	94 to 119 dB	89 to 114 dB
2 to 20 GHz	122 dB	118 dB
20 to 40 GHz	110 dB	106 dB
40 to 50 GHz	104 dB	98 dB
50 to 60 GHz	–	97 dB
60 to 70 GHz	–	93 dB
<b>Dynamic range (receiver access)<sup>2</sup></b>		
10 to 45 MHz	130 dB	104 dB
45 MHz to 2 GHz	132 dB	101 to 125 dB
2 to 20 GHz	136 dB	127 dB
20 to 40 GHz	119 dB	114 dB
40 to 50 GHz	111 dB	105 dB
50 to 60 GHz	–	102 dB
60 to 70 GHz	–	96 dB
<b>Trace noise (1kHz IF BW)<sup>2</sup></b>		
10 MHz to 50 GHz	< 0.006 dB < 0.1 deg rms	< 0.006 dB < 0.1 deg rms
<b>Maximum output power<sup>2</sup></b>		
10 to 45 MHz	+2 dBm	-10 dB
45 MHz to 10 GHz	+5 dBm	0 dB
10 to 20 GHz	+3 dBm	+1 dB
20 to 40 GHz	-4 dBm	-2 dB
40 to 45 GHz	-5 dBm	-4 dB
45 to 50 GHz	-10 dBm	-5 dB
50 to 60 GHz	–	-6 dB
60 to 70 GHz	–	-10 dB

■ Standard ▲ Optional – Not available ◆ Available soon

## Measurement speed (35 kHz IF bandwidth)

Model	Frequency	Points	Cycle time (ms) <sup>3</sup>	µs/point	Updates/second
All	1.8 GHz to 2 GHz	101	9	89	111
All	1.8 GHz to 2 GHz	1601	56	26	18
All	300 kHz to 9 GHz	201	57	284	18
E8361A/2/3/4B	10 MHz to 20/40/50/67 GHz	201	126/185/210/244	627/920/1045/1214	8/6/5/4
E8361A	10 MHz to 67 GHz	16,001	645	40	1.5

## Data transfer speed, 32-bit binary (ms)<sup>4</sup>

	201 points	16,001 points
COM <sup>5</sup>	2	6
SCPI <sup>5</sup>	3	30
DCOM <sup>6</sup>	3	121
SCPI over GPIB <sup>6</sup>	9	435

- TRL calibration not available on 3-port.
- Typical performance below 45 MHz and above 67 GHz.
- Typical performance includes retrace and band-switching times with response calibration. Two-port calibration approximately doubles cycle time.

- Typical performance.
- Program executed in PNA.
- Program executed on an external PC.