Table 1. 560-9XXX and 5400-6XXXX SWR Autotester Performance Specifications (Page 1 of 2)

Models	Directivity (dB)	Accuracy [1] [2]				Freq Sensitivity (dB)	Test Port Conn.	Physical
560-97XXXX Series SWR Autotesters, 10 MHz to 18 GHz [3]								
560-		**0.01–8 GHz**	**8–18 GHz**					
-97A50	36	$0.016 \pm 0.06\rho^2$	$0.016 \pm 0.10\rho^2$			±1.2	GPC–7	*Dimensions* [6]: 7.6 x 5.1 x 2.8 cm (3 x 2 x 1 ⅛ in.)
-97A50-1	40	$0.010 \pm 0.06\rho^2$	$0.010 \pm 0.10\rho^2$			±1.2	GPC–7	
-97N50 -97NF50	35	$0.018 \pm 0.08\rho^2$	$0.018 \pm 0.12\rho^2$			±1.5	Type N (m) Type N (f)	*Weight:* 340 g (12 oz)
-97N50-1 -97NF50-1	38	$0.013 \pm 0.08\rho^2$	$0.013 \pm 0.12\rho^2$			±1.5	Type N (m) Type N (f)	
560-98XXXX Series SWR Autotesters, 10 MHz to 40 GHz [4]								
560-		**0.01–8 GHz**	**8–18 GHz**	**18–26.5 GHz**	**26.5–40 GHz**			
-98S50 -98SF50	37 36	$0.014 \pm 0.07\rho^2$	$0.014 \pm 0.10\rho^2$	$0.016 \pm 0.13\rho^2$		±2.0	WSMA (m) WSMA (f)	*Dimensions* [6]: 1.9 x 3.8 x 2.9 cm (¾ x 1-½ x 1-⅛ in.)
-98S50-1 -98SF50-1	40 38	$0.010 \pm 0.07\rho^2$	$0.010 \pm 0.10\rho^2$	$0.013 \pm 0.13\rho^2$		±2.0	WSMA (m) WSMA (f)	
-98K50 -98KF50	35 32 30	$0.018 \pm 0.07\rho^2$	$0.018 \pm 0.07\rho^2$	$0.026 \pm 0.15\rho^2$	$0.032 \pm 0.18\rho^2$	±3.0	Type K (m) Type K (f)	*Weight:* 198 g (7 oz)
560-98C50A Convertible SWR Autotester, 10 MHz to 40 GHz [4]								
560-		**0.01-20 GHz**	**20-26.5 GHz**	**26.5-40 GHz**				
-98C50A	34 32 29	$0.020 \pm 0.09\rho^2$	$0.025 \pm 0.13\rho^2$	$0.036 \pm 0.13\rho^2$		±3.0	WSMA (m) WSMA (f) 3.5 mm (m) 3.5 mm (f) Type K (m) Type K (f)	*Dimensions* [6]: 2.2 x 6.6 x 5.3 cm (⅞ x 2-⅝ x 2-⅛ in.) *Weight:* 198 g (7 oz)
560-98XXXX Series SWR Autotesters, 10 MHz to 50 GHz [5]								
560-		**0.01-50 GHz**						
-98VA50 -98VFA50	30	$0.032 \pm 0.11\rho^2$				±4.0	Type V (m) Type V (f)	*Dimensions* [6]: 2.2 x 6.6 x 5.3 cm (⅞ x 2-⅝ x 2-⅛ in.) *Weight:* 198 g (7 oz)

<u>All Models</u>:

Input Port Impedance: 50Ω

Insertion Loss (from input to test port): 6.5 dB nominal

Detector Output Polarity: Negative

Cable Length: 122 cm (4 ft.)

Output Time Constant: 2 µs

Maximum Power Input: 0.5 watts (+27 dBm)

(560-98C50A: +24 dBm)

[1] Where ρ is the reflection coefficient being measured. Accuracy includes the effects of test port reflections and directivity.

[2] See paragraph 4 for an explanation of accuracy and other terms.

[3] Input Connector: Type N Female

[4] Input Connector: Ruggedized Type K Female

[5] Input Connector: Ruggedized Type V Female

[6] Plus connectors and cable

Models	Directivity (dB)	Accuracy [1] [2]			Freq Sensitivity (dB)	Test Port Conn.	Physical
		5400-6XXXX Series SWR Autotesters, 1 MHz to 3000 MHz					
5400- -67FF75 [3][6]	40	**10–1000 MHz** $0.010 \pm 0.01\rho^2$				F (f)	
-6B50B [4] -6BF50B [4]	40	**1-1500 MHz** $0.010 \pm 0.01\rho^2$				BNC (m) BNC (f)	*Dimensions* [5]: 2.5 x 5.1 x 7.0 cm (1 x 2 x 2-¾ in.)
-6B75B [4][6] -6BF75B [4][6]	40	$0.010 \pm 0.10\rho^2$				BNC (m) BNC (f)	
-6N50 [4] -6NF50 [4]	40 40	**1-1000 MHz** $0.010 \pm 0.05\rho^2$ $0.010 \pm 0.05\rho^2$	**1000-2000 MHz** $0.010 \pm 0.05\rho^2$ $0.010 \pm 0.05\rho^2$	**2000-3000 MHz** $0.010 \pm 0.05\rho^2$ $0.010 \pm 0.05\rho^2$		Type N (m) Type N (f)	*Weight:* 255 g (9 oz)
-6N75 [4][6] -6NF75 [4][6]	40 40	$0.010 \pm 0.05\rho^2$ $0.010 \pm 0.05\rho^2$	$0.010 \pm 0.05\rho^2$ $0.010 \pm 0.05\rho^2$	$0.010 \pm 0.08\rho^2$ $0.010 \pm 0.08\rho^2$		Type N (m) Type N (f)	

All Models:

Input Port Impedance: 50Ω (Except as Noted)   *Output Time Constant:* 2 μs
Insertion Loss (from input to test port): 6.5 dB nominal   *Maximum Power Input:* 0.5 watts (+27 dBm)
Detector Output Polarity: Negative   *Cable Length:* 122 cm (4 ft.)

[1] Where ρ is the reflection coefficient being measured. Accuracy includes the effects of test port reflections and directivity.

[2] See paragraph 4 for an explanation of accuracy and other terms.

[3] Input Connector: BNC Female

[4] Input Connector: Type N Female

[5] Plus connectors and cable

[6] Impedance 75Ω

4. EXPLANATION OF SWR AUTOTESTER SPECIFICATIONS

Certain key specification terms are explained below.

a. Accuracy. This three-element term defines the accuracy with which an SWR Autotester can make a reflected signal measurement. The three elements ($\underline{0.01} \pm 0.06 \rho^2$) are described below.

1st Element: (0.01) is the directivity of the SWR Autotester expressed as a reflection coefficient (40 dB for this example, refer to Table 6 on page 14).

2nd and 3rd Elements: $\pm 0.06\rho^2$ is the degradation in accuracy due to test port mismatch (impedance discontinuity). Element 2 (0.06) is the inherent test port mismatch expressed as a reflection coefficient. The 3rd element, rho (ρ), is the reflection coefficient of the device under test (DUT). The entire expression describes the measurement uncertainty caused by the reflected signal being re-reflected by the test port mismatch.

b. Directivity. A figure of merit expressed in dB. This figure represents the ratio of the power levels as seen at the output port when (1) the test port signal is fully reflected, and (2) the test port is perfectly terminated.

c. Frequency Sensitivity. The maximum variation in output power/voltage that can be expected due to a change in frequency over the specified range when the input power is held constant

d. Output Time Constant. The amount of time required for the selected output pulse to either rise from the 10% to the 90% point or fall from the 90% to the 10% point on the waveform.