Calibration Laboratory Cert: 5518.01

ISO/IEC 17025:2017 and ANSI/NCSL Z540.1-1994
Accredited Calibration Certificate

Customer Address:	Rental
Order:	
Certificate:	A24110103DR
Product:	Power Sensor
Manufacturer:	Rohde&Schwarz
Model:	NRP8S
Serial:	105912
Notes:	Frequency Range: 10MHz to 8GHz
Date of Report:	11/1/2024
Date of Calibration:	11/1/2024
Next Calibration:	

The next calibration date is defined by the equipment user/owner. We recommend recalibration annually.

The above instrument was tested and found to be within the manufacturer's specification. The results of the tests performed are held on file at The EMC Shop. The calibration was carried out in accordance with the general requirements of ISO/IEC 17025-2017, IEC 61000-4-6 using laboratory standards which are traceable to the SI International System of Quantities through the National Institute of Standards and Technology (NIST), and or other Accredited bodies except where none exist. Tests are carried out in environmental conditions controlled to the extent appropriate to the instrument's specification. This certificate shall not be reproduced except in full without the written approval of the laboratory. The uncertainty results meet the requirements of the ISO/IEC 17025-2017 standard and ILAC Doc.P14.

Ambient Conditions of Laboratory	
Temperature (°C):	**21.2**
Relative Humidity (%):	**42**

Technician: **Dan Raines**

Signature: Dan Raines

The EMC Shop

Calibration Equipment				
Model	**Description**	**Serial Number**	**Certificate #**	**Due Date**
ZNB8	Network Analyzer	102017	7280-311003893	5/31/2025
ZV-Z21	Cal Kit	100800	58425D-K-15195-01-00	7/26/2025
NRP2	Power Meter	103287	A23041401DR	4/14/2025
N5183A	Signal Generator	MY50140756	W/O 00569551	9/1/2025

Calibration method used: IEC 61000-4-6

VSWR measurements made are not accredited

Condition as found:	**IN tolerance**
Condition as left:	**IN tolerance**

Measuring Uncertainties	
Insertion Loss	**± 0.2 dB**
RF Power Level	**± 0.3 dB**
Power Amplifer Gain Linearity	**± 0.44 dB**

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95%

1dB step Accuracy tested at 10MHz

Nominal (dBm)	Actual (dBm)	Difference (dBm)	Tol. Error (dBm)	Verdict
0.00	-0.03	-0.03	±1.00	PASS
-1.00	-1.03	-0.03	±1.00	PASS
-2.00	-2.03	-0.03	±1.00	PASS
-3.00	-3.03	-0.03	±1.00	PASS
-4.00	-4.03	-0.03	±1.00	PASS
-5.00	-5.03	-0.03	±1.00	PASS
-6.00	-6.03	-0.03	±1.00	PASS
-7.00	-7.03	-0.03	±1.00	PASS
-8.00	-8.03	-0.03	±1.00	PASS
-9.00	-9.03	-0.03	±1.00	PASS
-10.00	-10.02	-0.02	±1.00	PASS

1dB step Accuracy tested at 8GHz

Nominal (dBm)	Actual (dBm)	Difference (dBm)	Tol. Error (dBm)	Verdict
0.00	-0.21	-0.21	±1.00	PASS
-1.00	-1.21	-0.21	±1.00	PASS
-2.00	-2.21	-0.21	±1.00	PASS
-3.00	-3.21	-0.21	±1.00	PASS
-4.00	-4.23	-0.23	±1.00	PASS
-5.00	-5.23	-0.23	±1.00	PASS
-6.00	-6.23	-0.23	±1.00	PASS
-7.00	-7.23	-0.23	±1.00	PASS
-8.00	-8.23	-0.23	±1.00	PASS
-9.00	-9.23	-0.23	±1.00	PASS
-10.00	-10.23	-0.23	±1.00	PASS

Power Level Accuracy versus Frequency tested at 14dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	13.97	±1.00	PASS
30 MHz	13.97	±1.00	PASS
100 MHz	13.99	±1.00	PASS
300 MHz	13.99	±1.00	PASS
1 GHz	13.97	±1.00	PASS
3 GHz	13.93	±1.00	PASS
6 GHz	13.88	±1.00	PASS
8 GHz	13.71	±1.00	PASS

Power Level Accuracy versus Frequency tested at 10dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	9.97	±1.00	PASS
30 MHz	9.98	±1.00	PASS
100 MHz	9.99	±1.00	PASS
300 MHz	9.99	±1.00	PASS
1 GHz	9.97	±1.00	PASS
3 GHz	9.93	±1.00	PASS
6 GHz	9.88	±1.00	PASS
8 GHz	9.71	±1.00	PASS

Power Level Accuracy versus Frequency tested at 0dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-0.03	±1.00	PASS
30 MHz	-0.03	±1.00	PASS
100 MHz	-0.05	±1.00	PASS
300 MHz	-0.04	±1.00	PASS
1 GHz	-0.11	±1.00	PASS
3 GHz	-0.21	±1.00	PASS
6 GHz	-0.21	±1.00	PASS
8 GHz	-0.21	±1.00	PASS

Power Level Accuracy versus Frequency tested at -10dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-10.02	±1.00	PASS
30 MHz	-10.02	±1.00	PASS
100 MHz	-10.04	±1.00	PASS
300 MHz	-10.04	±1.00	PASS
1 GHz	-10.10	±1.00	PASS
3 GHz	-10.20	±1.00	PASS
6 GHz	-10.22	±1.00	PASS
8 GHz	-10.23	±1.00	PASS

Power Level Accuracy versus Frequency tested at -20dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-20.02	±1.00	PASS
30 MHz	-20.00	±1.00	PASS
100 MHz	-20.02	±1.00	PASS
300 MHz	-20.02	±1.00	PASS
1 GHz	-20.09	±1.00	PASS
3 GHz	-20.19	±1.00	PASS
6 GHz	-20.22	±1.00	PASS
8 GHz	-20.24	±1.00	PASS

Power Level Accuracy versus Frequency tested at -30dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-30.01	±1.00	PASS
30 MHz	-30.01	±1.00	PASS
100 MHz	-30.02	±1.00	PASS
300 MHz	-30.02	±1.00	PASS
1 GHz	-30.10	±1.00	PASS
3 GHz	-30.16	±1.00	PASS
6 GHz	-30.18	±1.00	PASS
8 GHz	-30.19	±1.00	PASS

Power Level Accuracy versus Frequency tested at -40dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-40.01	±1.00	PASS
30 MHz	-40.01	±1.00	PASS
100 MHz	-40.01	±1.00	PASS
300 MHz	-40.01	±1.00	PASS
1 GHz	-40.10	±1.00	PASS
3 GHz	-40.17	±1.00	PASS
6 GHz	-40.19	±1.00	PASS
8 GHz	-40.21	±1.00	PASS

Power Level Accuracy versus Frequency tested at -50dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-50.00	±1.00	PASS
30 MHz	-50.00	±1.00	PASS
100 MHz	-50.01	±1.00	PASS
300 MHz	-50.01	±1.00	PASS
1 GHz	-50.09	±1.00	PASS
3 GHz	-50.15	±1.00	PASS
6 GHz	-50.18	±1.00	PASS
8 GHz	-50.21	±1.00	PASS

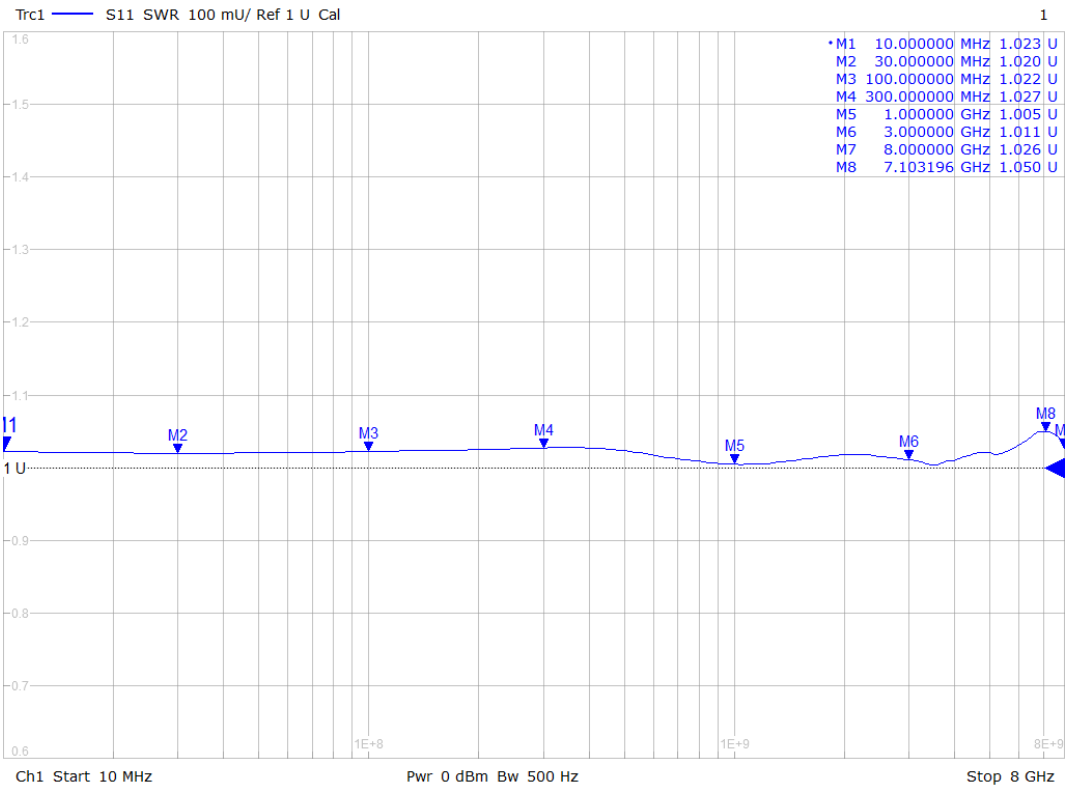
Power Level Accuracy versus Frequency tested at -60dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-60.03	±1.00	PASS
30 MHz	-59.98	±1.00	PASS
100 MHz	-59.93	±1.00	PASS
300 MHz	-59.96	±1.00	PASS
1 GHz	-60.07	±1.00	PASS
3 GHz	-60.06	±1.00	PASS
6 GHz	-60.05	±1.00	PASS
8 GHz	-60.05	±1.00	PASS

Power Level Accuracy versus Frequency tested at -70dBm

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
10 MHz	-69.44	±1.00	PASS
30 MHz	-69.28	±1.00	PASS
100 MHz	-69.41	±1.00	PASS
300 MHz	-69.43	±1.00	PASS
1 GHz	-69.59	±1.00	PASS
3 GHz	-69.73	±1.00	PASS
6 GHz	-69.63	±1.00	PASS
8 GHz	-69.57	±1.00	PASS

VSWR


Trc1 S11 SWR 100 mU/ Ref 1 U Cal
1
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M2 30.000000 MHz 1.020 U
M3 100.000000 MHz 1.022 U
M4 300.000000 MHz 1.027 U
M5 1.000000 GHz 1.005 U
M6 3.000000 GHz 1.011 U
M7 8.000000 GHz 1.026 U
M8 7.103196 GHz 1.050 U
1.6
1.5
1.4
1.3
1.2
1.1
1 U
0.9
0.8
0.7
0.6
1E+8
1E+9
8E+9
Ch1 Start 10 MHz
Pwr 0 dBm Bw 500 Hz
Stop 8 GHz