



## Certificate of Calibration

Customer Address: Rental Unit

Certificate #: 23051601DR

Product: Spectrum Analyzer

Manufacturer: Rhode & Schwarz  
 Model: FSL  
 Serial #: 100111

Notes: 9kHz to 6GHz

Date of Calibration: 5/16/2023

Next Calibration: \*

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

### Calibration Equipment

Model	Description	Serial Number	Due Date
N9010A	Signal Analyzer	MY54510521	3/1/2024
E8257D	Signal Generator	MY46410341	4/1/2024
SMB100A	Signal Generator	105405	3/30/2024
E9304A H18	Power Sensor	MY41497710	2/5/2024
E4419B	Power Meter	GB40202891	2/23/2024

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 IEC 61000-4-6:2014 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.

#### Ambient Conditions of Laboratory

Temperature (°C): **20**  
 Relative Humidity (%): **44**

Technician: **Dan Raines**

Technician Signature: \_\_\_\_\_




**1dB step Accuracy tested at 9kHz**

Nominal (dBm)	Actual (dBm)	Difference (dBm)	Tol. Error (dBm)	Verdict
0.00	-0.50	-0.50	±1.00	PASS
-1.00	-1.50	-0.50	±1.00	PASS
-2.00	-2.50	-0.50	±1.00	PASS
-3.00	-3.50	-0.50	±1.00	PASS
-4.00	-4.50	-0.50	±1.00	PASS
-5.00	-5.50	-0.50	±1.00	PASS
-6.00	-6.50	-0.50	±1.00	PASS
-7.00	-7.50	-0.50	±1.00	PASS
-8.00	-8.50	-0.50	±1.00	PASS
-9.00	-9.50	-0.50	±1.00	PASS
-10.00	-10.50	-0.50	±1.00	PASS

**1dB step Accuracy tested at 5.99 GHz**

Nominal (dBm)	Actual (dBm)	Difference (dBm)	Tol. Error (dBm)	Verdict
0.00	-1.00	-1.00	±1.00	PASS
-1.00	-2.00	-1.00	±1.00	PASS
-2.00	-3.00	-1.00	±1.00	PASS
-3.00	-4.00	-1.00	±1.00	PASS
-4.00	-5.00	-1.00	±1.00	PASS
-5.00	-6.00	-1.00	±1.00	PASS
-6.00	-7.00	-1.00	±1.00	PASS
-7.00	-8.00	-1.00	±1.00	PASS
-8.00	-9.00	-1.00	±1.00	PASS
-9.00	-10.00	-1.00	±1.00	PASS
-10.00	-11.00	-1.00	±1.00	PASS



**Power Level Accuracy versus Frequency tested at 6dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	5.20	±1.00	PASS
30 kHz	5.90	±1.00	PASS
100 kHz	6.00	±1.00	PASS
300 kHz	6.00	±1.00	PASS
1 MHz	5.80	±1.00	PASS
3 MHz	5.70	±1.00	PASS
10 MHz	6.30	±1.00	PASS
30 MHz	6.40	±1.00	PASS
100 MHz	5.80	±1.00	PASS
300 MHz	6.20	±1.00	PASS
1 GHz	6.10	±1.00	PASS
3 GHz	5.00	±1.00	PASS
5.99 GHz	5.00	±1.00	PASS

**Power Level Accuracy versus Frequency tested at 0dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-0.50	±1.00	PASS
30 kHz	-0.10	±1.00	PASS
100 kHz	-0.20	±1.00	PASS
300 kHz	0.00	±1.00	PASS
1 MHz	-0.20	±1.00	PASS
3 MHz	-0.30	±1.00	PASS
10 MHz	0.20	±1.00	PASS
30 MHz	0.40	±1.00	PASS
100 MHz	-0.20	±1.00	PASS
300 MHz	0.20	±1.00	PASS
1 GHz	0.00	±1.00	PASS
3 GHz	-1.00	±1.00	PASS
5.99 GHz	-1.00	±1.00	PASS



**Power Level Accuracy versus Frequency tested at -10dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-10.50	±1.00	PASS
30 kHz	-10.10	±1.00	PASS
100 kHz	-10.20	±1.00	PASS
300 kHz	-10.10	±1.00	PASS
1 MHz	-9.90	±1.00	PASS
3 MHz	-10.20	±1.00	PASS
10 MHz	-9.90	±1.00	PASS
30 MHz	-9.60	±1.00	PASS
100 MHz	-10.30	±1.00	PASS
300 MHz	-9.90	±1.00	PASS
1 GHz	-10.00	±1.00	PASS
3 GHz	-11.00	±1.00	PASS
5.99 GHz	-11.00	±1.00	PASS

**Power Level Accuracy versus Frequency tested at -20dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-19.70	±1.00	PASS
30 kHz	-19.60	±1.00	PASS
100 kHz	-19.70	±1.00	PASS
300 kHz	-19.70	±1.00	PASS
1 MHz	-19.90	±1.00	PASS
3 MHz	-20.00	±1.00	PASS
10 MHz	-19.70	±1.00	PASS
30 MHz	-19.60	±1.00	PASS
100 MHz	-20.30	±1.00	PASS
300 MHz	-19.80	±1.00	PASS
1 GHz	-20.10	±1.00	PASS
3 GHz	-21.10	±1.20	PASS
5.99 GHz	-21.20	±1.20	PASS



**Power Level Accuracy versus Frequency tested at -30dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-29.70	±1.00	PASS
30 kHz	-29.60	±1.00	PASS
100 kHz	-29.60	±1.00	PASS
300 kHz	-29.60	±1.00	PASS
1 MHz	-29.70	±1.00	PASS
3 MHz	-30.00	±1.00	PASS
10 MHz	-29.70	±1.00	PASS
30 MHz	-30.20	±1.00	PASS
100 MHz	-30.30	±1.00	PASS
300 MHz	-30.50	±1.00	PASS
1 GHz	-30.50	±1.00	PASS
3 GHz	-31.10	±1.20	PASS
5.99 GHz	-31.20	±1.20	PASS

**Power Level Accuracy versus Frequency tested at -40dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-39.50	±1.00	PASS
30 kHz	-39.60	±1.00	PASS
100 kHz	-39.60	±1.00	PASS
300 kHz	-39.60	±1.00	PASS
1 MHz	-39.70	±1.00	PASS
3 MHz	-40.00	±1.00	PASS
10 MHz	-39.70	±1.00	PASS
30 MHz	-40.20	±1.00	PASS
100 MHz	-40.30	±1.00	PASS
300 MHz	-40.50	±1.00	PASS
1 GHz	-40.50	±1.00	PASS
2.99 GHz	-41.10	±1.20	PASS
2.99 GHz	-41.20	±1.20	PASS



**Power Level Accuracy versus Frequency tested at -50dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-49.50	±1.00	PASS
30 kHz	-49.60	±1.00	PASS
100 kHz	-49.60	±1.00	PASS
300 kHz	-49.60	±1.00	PASS
1 MHz	-49.70	±1.00	PASS
3 MHz	-50.00	±1.00	PASS
10 MHz	-49.70	±1.00	PASS
30 MHz	-50.30	±1.00	PASS
100 MHz	-50.30	±1.00	PASS
300 MHz	-50.50	±1.00	PASS
1 GHz	-50.50	±1.00	PASS
3 GHz	-51.30	±1.30	PASS
5.99 GHz	-51.30	±1.30	PASS

**Power Level Accuracy versus Frequency tested at -60dBm**

Frequency	Actual (dBm)	Tol. Error (dBm)	Verdict
9 kHz	-59.50	±1.00	PASS
30 kHz	-59.60	±1.00	PASS
100 kHz	-59.70	±1.00	PASS
300 kHz	-59.60	±1.00	PASS
1 MHz	-59.70	±1.00	PASS
3 MHz	-59.90	±1.00	PASS
10 MHz	-59.80	±1.00	PASS
30 MHz	-60.40	±1.00	PASS
100 MHz	-60.40	±1.00	PASS
300 MHz	-60.60	±1.00	PASS
1 GHz	-60.60	±1.00	PASS
3 GHz	-61.50	±1.50	PASS
5.99 GHz	-61.50	±1.50	PASS