

RF Subsystem Validation

Production Test — Board Rev A

ENGINEER
Abduznik

UUT
Signal Analyzer Module

SERIAL
SN-2024-001

REVISION
A

DATE
2026-06-27

BATCH
LOT-88B

TEST STATION
TS-02

1. Power Supply Checks

DC rail validation at nominal load

1.1 Voltage Rails						
TEST NO.	NAME	VALUE	UNIT	EXPECTED	PASS / FAIL	NOTES
1.1.1	3.3V Rail	3.31	V	3.2 – 3.4 V	PASS	Nominal
1.1.2	5V Rail	5.02	V	4.9 – 5.1 V	PASS	
1.1.3	12V Rail	11.0	V	11.5 – 12.5 V	FAIL	Under spec — check regulator
1.1.4	-5V Rail	-4.98	V	-5.1 – -4.9 V	PASS	

1.2 Current Draw						
TEST NO.	NAME	VALUE	UNIT	EXPECTED	PASS / FAIL	NOTES
1.2.1	3.3V Current	0.42	A	< 0.6 A	PASS	
1.2.2	5V Current	0.88	A	< 1.0 A	PASS	
1.2.3	12V Current	1.35	A	< 1.2 A	FAIL	Exceeds limit

2. RF Performance

Measured at 25 °C ambient, 50 Ω termination

2.1 Frequency Response						
TEST NO.	NAME	VALUE	UNIT	EXPECTED	PASS / FAIL	NOTES
2.1.1	Center Frequency	2401.5	MHz	2400 – 2403 MHz	PASS	
2.1.2	Bandwidth (-3dB)	82.4	MHz	80 – 90 MHz	PASS	
2.1.3	Insertion Loss	2.1	dB	< 3 dB	PASS	
2.1.4	Return Loss	18.5	dB	>= 15 dB	PASS	

2.2 Noise & Spurious						
TEST NO.	NAME	VALUE	UNIT	EXPECTED	PASS / FAIL	NOTES
2.2.1	Noise Figure	3.8	dB	< 5 dB	PASS	
2.2.2	Phase Noise @1 kHz	-88	dBc/Hz	< -85 dBc/Hz	PASS	
2.2.3	Spurious Level	-62	dBc	< -60 dBc	PASS	
2.2.4	Harmonic 2nd	-45	dBc	< -40 dBc	PASS	Marginal

3. Environmental

Recorded during test — informational only

3.1 Ambient Conditions						
TEST NO.	NAME	VALUE	UNIT	EXPECTED	PASS / FAIL	NOTES
	Temperature	24.3	°C		N/A	
	Humidity	41.0	%RH		N/A	
3.1.3	Supply Temp	38.5	°C	< 50 °C	PASS	PSU heatsink

SUMMARY

18

TOTAL

14

PASSED

2

FAILED

77.8%

PASS RATE