

Measurement Report

This is a sample measurement report of the calibration of a Vector Network Analyzer. Depending on the features of your Vector Network Analyzer measurements might vary.

As Completed Data

Report Number: S-20-WO-02568
Model Number: ZNB20
Tested Options:

Customer:
Serial Number:

Test Date: 12 May 2020
Temperature: (23.0±5) °C

Tested By: IY
Humidity: (20 to 80)% RH

Test Program Name: ROS_ZNB Part No. 5011-4639
Test Program Version: A.02.00
Test Executive: STE/9000 C.08.98W (MENDOR B.06.34)

Specification Limits:

Unless indicated otherwise, the units for minimum and/or maximum specification limits are the same as the units stated for the measured value.

Measurement Report (As Completed)

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Result Status Flags:

Each measurement result stated will contain a result status flag.

The status flags are defined as follows:

- ' ' Passed. The measured values of the equipment were observed in specification at the points tested. Additionally, the expanded measurement uncertainty intervals about the measured values were in specification.
- 'U' Undetermined. The expanded measurement uncertainty intervals about one or more measured values were in as well as out of specification. Consequently, neither compliance nor non-compliance with specification can be declared based on the stated coverage probability.
- 'F' Failed. One or more measured values of the equipment were observed out of specification at the points tested. Additionally, the expanded measurement uncertainty intervals about one or more measured values were entirely outside the specification.

Calibration Standards Used

<u>Model No.</u>	<u>Serial No.</u>	<u>Asset No.</u>	<u>Trace No.</u>	<u>Cal Due Date</u>
AGT11667B	MY51362165		S-176	22 Aug 2020
AGT33250A	MY40021530		S-145	11 Mar 2021
AGT85052B	MY44350507		S-040	06 Sep 2020
AGTE4419B	MY50000624		S-043	29 Aug 2020
AGTE4448A	MY46180393		S-216	11 Mar 2022
AGTE8257D	US51110119		DESPARK0013	12 Feb 2022
AGTE9304A	MY50340017		S-045	23 Aug 2020
AGTN8485A	MY50310002		S-003	21 Aug 2020
GPS-89	SN175663		S-080	26 Jan 2021
HP53132A	MY47003443	1-7709838568-1	S-039	11 Mar 2022

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PERFORMANCE TEST RESULTS SUMMARY

Test Name	Status
INITIAL SETUP	DONE
STATIC FREQ ACCY	PASSED
INPUT NOISE LEVEL	PASSED
TRACE NOISE PHASE AND MAGNITUDE	PASSED
DYNAMIC RANGE	PASSED
UNCORRECTED SYSTEM PERFORMANCE	PASSED
OUTPUT HARMONICS	PASSED
OUTPUT LEVEL LINEARITY	PASSED
REFERENCE OUTPUT LEVEL	PASSED
REFERENCE CHANNEL LINEARITY	PASSED
INPUT POWER LINEARITY (LOW LEVEL)	PASSED
INPUT POWER LINEARITY (HIGH LEVEL)	UNDETERMINED
MAXIMUM OUTPUT POWER	PASSED
OUTPUT POWER ACCURACY	PASSED
INPUT POWER MEASUREMENT ACCURACY	PASSED

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STATIC FREQ ACCY

PASSED

TEST COND.	MINIMUM	MEASURED	MAXIMUM	UNCERT.
1 GHz	-5000	-128 Hz	5000	1.0 Hz

INPUT NOISE LEVEL

PASSED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
Measured at 1 kHz IF bandwidth and corrected by 30 dB			
PORT 1			
100 kHz	-115 dBm	-105	2.8 dB
200 kHz	-117 dBm	-105	2.8 dB
500 kHz	-123 dBm	-110	2.8 dB
1 MHz	-127 dBm	-115	2.8 dB
2 MHz	-130 dBm	-115	2.8 dB
5 MHz	-134 dBm	-115	2.8 dB
10 MHz	-132 dBm	-120	2.8 dB
20 MHz	-130 dBm	-120	2.8 dB
50 MHz	-136 dBm	-120	2.8 dB
100 MHz	-136 dBm	-125	2.8 dB
200 MHz	-136 dBm	-125	2.8 dB
500 MHz	-136 dBm	-125	2.8 dB
1 GHz	-137 dBm	-125	2.8 dB
1.5 GHz	-132 dBm	-125	2.8 dB
2 GHz	-138 dBm	-125	2.8 dB
2.5 GHz	-136 dBm	-125	2.8 dB
3 GHz	-134 dBm	-125	2.8 dB
3.5 GHz	-139 dBm	-125	2.8 dB
4 GHz	-137 dBm	-125	2.8 dB
4.5 GHz	-138 dBm	-125	2.8 dB
5 GHz	-137 dBm	-125	2.8 dB
5.5 GHz	-137 dBm	-125	2.8 dB
6 GHz	-135 dBm	-125	2.8 dB
6.5 GHz	-136 dBm	-125	2.8 dB
7 GHz	-135 dBm	-125	2.8 dB
7.5 GHz	-134 dBm	-125	2.8 dB
8 GHz	-136 dBm	-125	2.8 dB
8.5 GHz	-136 dBm	-125	2.8 dB
9 GHz	-137 dBm	-125	2.8 dB
10 GHz	-135 dBm	-125	2.8 dB
11 GHz	-136 dBm	-120	2.8 dB
12 GHz	-135 dBm	-120	2.8 dB
13 GHz	-134 dBm	-120	2.8 dB
14 GHz	-131 dBm	-120	2.8 dB
15 GHz	-135 dBm	-120	2.8 dB
16 GHz	-137 dBm	-120	2.8 dB
17 GHz	-137 dBm	-120	2.8 dB
18 GHz	-136 dBm	-120	2.8 dB

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INPUT NOISE LEVEL

CONTINUED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
19 GHz	-132 dBm	-120	2.8 dB
20 GHz	-133 dBm	-120	2.8 dB
PORT 2			
100 kHz	-111 dBm	-105	2.8 dB
200 kHz	-118 dBm	-105	2.8 dB
500 kHz	-124 dBm	-110	2.8 dB
1 MHz	-127 dBm	-115	2.8 dB
2 MHz	-131 dBm	-115	2.8 dB
5 MHz	-135 dBm	-115	2.8 dB
10 MHz	-133 dBm	-120	2.8 dB
20 MHz	-132 dBm	-120	2.8 dB
50 MHz	-137 dBm	-120	2.8 dB
100 MHz	-135 dBm	-125	2.8 dB
200 MHz	-138 dBm	-125	2.8 dB
500 MHz	-134 dBm	-125	2.8 dB
1 GHz	-133 dBm	-125	2.8 dB
1.5 GHz	-134 dBm	-125	2.8 dB
2 GHz	-136 dBm	-125	2.8 dB
2.5 GHz	-134 dBm	-125	2.8 dB
3 GHz	-135 dBm	-125	2.8 dB
3.5 GHz	-135 dBm	-125	2.8 dB
4 GHz	-136 dBm	-125	2.8 dB
4.5 GHz	-139 dBm	-125	2.8 dB
5 GHz	-135 dBm	-125	2.8 dB
5.5 GHz	-135 dBm	-125	2.8 dB
6 GHz	-139 dBm	-125	2.8 dB
6.5 GHz	-138 dBm	-125	2.8 dB
7 GHz	-137 dBm	-125	2.8 dB
7.5 GHz	-136 dBm	-125	2.8 dB
8 GHz	-136 dBm	-125	2.8 dB
8.5 GHz	-138 dBm	-125	2.8 dB
9 GHz	-139 dBm	-125	2.8 dB
10 GHz	-135 dBm	-125	2.8 dB
11 GHz	-134 dBm	-120	2.8 dB
12 GHz	-137 dBm	-120	2.8 dB
13 GHz	-133 dBm	-120	2.8 dB
14 GHz	-134 dBm	-120	2.8 dB
15 GHz	-138 dBm	-120	2.8 dB
16 GHz	-136 dBm	-120	2.8 dB
17 GHz	-138 dBm	-120	2.8 dB
18 GHz	-135 dBm	-120	2.8 dB
19 GHz	-133 dBm	-120	2.8 dB
20 GHz	-133 dBm	-120	2.8 dB

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TRACE NOISE PHASE AND MAGNITUDE

PASSED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
Measurement: S11 total reflection	RMS	StdDev	
PORT 1, 100 kHz			
TRACE NOISE MAGNITUDE	0.003 dB	0.008	0.00067 dB
TRACE NOISE PHASE	0.018 °	0.070	0.0022 °
PORT 1, 200 kHz			
TRACE NOISE MAGNITUDE	0.002 dB	0.008	0.00067 dB
TRACE NOISE PHASE	0.010 °	0.070	0.0022 °
PORT 1, 500 kHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.009 °	0.035	0.0022 °
PORT 1, 1 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 1, 2 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 1, 5 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 10 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 1, 20 MHz			
TRACE NOISE MAGNITUDE	0.002 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.012 °	0.035	0.0022 °
PORT 1, 50 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 100 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 500 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 1 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 1.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 2 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 2.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 3 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °

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TRACE NOISE PHASE AND MAGNITUDE

CONTINUED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
PORT 1, 3.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 4 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 4.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 5.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.004 °	0.035	0.0022 °
PORT 1, 6 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 6.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 7 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.004 °	0.035	0.0022 °
PORT 1, 7.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 8 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 8.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 9 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 1, 10 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 11 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 1, 12 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 13 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 1, 14 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB

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TRACE NOISE PHASE AND MAGNITUDE

CONTINUED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 1, 15 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 1, 16 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 1, 17 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 1, 18 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 1, 19 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.009 °	0.035	0.0022 °
PORT 1, 20 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
Measurement: S22 total reflection RMS StdDev			
PORT 2, 100 kHz			
TRACE NOISE MAGNITUDE	0.003 dB	0.008	0.00067 dB
TRACE NOISE PHASE	0.019 °	0.070	0.0022 °
PORT 2, 200 kHz			
TRACE NOISE MAGNITUDE	0.002 dB	0.008	0.00067 dB
TRACE NOISE PHASE	0.011 °	0.070	0.0022 °
PORT 2, 500 kHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.009 °	0.035	0.0022 °
PORT 2, 1 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 2, 2 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 2, 5 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 10 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 2, 20 MHz			
TRACE NOISE MAGNITUDE	0.002 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.010 °	0.035	0.0022 °
PORT 2, 50 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 100 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB

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TRACE NOISE PHASE AND MAGNITUDE

CONTINUED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 500 MHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 1 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 1.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 2 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 2.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 3 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 3.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 4 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 4.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.004 °	0.035	0.0022 °
PORT 2, 5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 5.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.004 °	0.035	0.0022 °
PORT 2, 6 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 6.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 7 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 7.5 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 8 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 8.5 GHz			

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TRACE NOISE PHASE AND MAGNITUDE

CONTINUED

TEST CONDITIONS	MEASURED	MAXIMUM	UNCERT.
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 9 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 10 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 11 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 12 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 13 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.006 °	0.035	0.0022 °
PORT 2, 14 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 2, 15 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 2, 16 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.005 °	0.035	0.0022 °
PORT 2, 17 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 2, 18 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °
PORT 2, 19 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.008 °	0.035	0.0022 °
PORT 2, 20 GHz			
TRACE NOISE MAGNITUDE	0.001 dB	0.004	0.00067 dB
TRACE NOISE PHASE	0.007 °	0.035	0.0022 °

DYNAMIC RANGE

PASSED

TEST CONDITIONS	MIN	MEASURED	UNCERT.
Measurement: S21, power setting: +20 dBm			
PORT 1			
100 kHz	100	110 dB	2.6 dB
200 kHz	100	118 dB	2.6 dB

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DYNAMIC RANGE

CONTINUED

TEST CONDITIONS	MIN	MEASURED	UNCERT.
500 kHz	100	124 dB	2.6 dB
1 MHz	110	125 dB	2.6 dB
2 MHz	110	123 dB	2.6 dB
5 MHz	110	135 dB	2.6 dB
10 MHz	115	136 dB	2.6 dB
20 MHz	115	126 dB	2.6 dB
50 MHz	115	135 dB	2.6 dB
100 MHz	125	136 dB	2.6 dB
500 MHz	125	141 dB	2.6 dB
1 GHz	125	143 dB	2.6 dB
1.5 GHz	125	139 dB	2.6 dB
2 GHz	125	141 dB	2.6 dB
2.5 GHz	125	139 dB	2.6 dB
3 GHz	125	140 dB	2.6 dB
3.5 GHz	125	141 dB	2.6 dB
4 GHz	125	144 dB	2.6 dB
4.5 GHz	125	141 dB	2.6 dB
5 GHz	125	142 dB	2.6 dB
5.5 GHz	125	143 dB	2.6 dB
6 GHz	125	142 dB	2.6 dB
6.5 GHz	120	143 dB	2.6 dB
7 GHz	120	141 dB	2.6 dB
7.5 GHz	120	140 dB	2.6 dB
8 GHz	120	141 dB	2.6 dB
8.5 GHz	120	141 dB	2.6 dB
9 GHz	120	141 dB	2.6 dB
10 GHz	120	140 dB	2.6 dB
11 GHz	120	138 dB	2.6 dB
12 GHz	120	138 dB	2.6 dB
13 GHz	120	135 dB	2.6 dB
14 GHz	120	135 dB	2.6 dB
15 GHz	120	139 dB	2.6 dB
16 GHz	120	138 dB	2.6 dB
17 GHz	120	139 dB	2.6 dB
18 GHz	120	138 dB	2.6 dB
19 GHz	120	137 dB	2.6 dB
20 GHz	120	135 dB	2.6 dB

Measurement: S12, power setting: +20 dBm

TEST CONDITIONS	MIN	MEASURED	UNCERT.
PORT 2			
100 kHz	100	114 dB	2.6 dB
200 kHz	100	118 dB	2.6 dB
500 kHz	100	125 dB	2.6 dB
1 MHz	110	128 dB	2.6 dB
2 MHz	110	121 dB	2.6 dB
5 MHz	110	138 dB	2.6 dB
10 MHz	115	132 dB	2.6 dB
20 MHz	115	128 dB	2.6 dB
50 MHz	115	134 dB	2.6 dB
100 MHz	125	137 dB	2.6 dB

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DYNAMIC RANGE

CONTINUED

TEST CONDITIONS	MIN	MEASURED	UNCERT.
500 MHz	125	140 dB	2.6 dB
1 GHz	125	142 dB	2.6 dB
1.5 GHz	125	140 dB	2.6 dB
2 GHz	125	140 dB	2.6 dB
2.5 GHz	125	140 dB	2.6 dB
3 GHz	125	138 dB	2.6 dB
3.5 GHz	125	142 dB	2.6 dB
4 GHz	125	142 dB	2.6 dB
4.5 GHz	125	145 dB	2.6 dB
5 GHz	125	142 dB	2.6 dB
5.5 GHz	125	143 dB	2.6 dB
6 GHz	125	144 dB	2.6 dB
6.5 GHz	120	142 dB	2.6 dB
7 GHz	120	140 dB	2.6 dB
7.5 GHz	120	138 dB	2.6 dB
8 GHz	120	142 dB	2.6 dB
8.5 GHz	120	137 dB	2.6 dB
9 GHz	120	141 dB	2.6 dB
10 GHz	120	139 dB	2.6 dB
11 GHz	120	135 dB	2.6 dB
12 GHz	120	137 dB	2.6 dB
13 GHz	120	137 dB	2.6 dB
14 GHz	120	134 dB	2.6 dB
15 GHz	120	136 dB	2.6 dB
16 GHz	120	139 dB	2.6 dB
17 GHz	120	137 dB	2.6 dB
18 GHz	120	135 dB	2.6 dB
19 GHz	120	134 dB	2.6 dB
20 GHz	120	134 dB	2.6 dB

UNCORRECTED SYSTEM PERFORMANCE

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	MAX	UNCERT.
Reflection Tracking - PORT 1				
100 kHz	-0.5	0.1 dB	0.5	0.11 dB
200 kHz	-0.5	0.0 dB	0.5	0.11 dB
500 kHz	-0.5	0.0 dB	0.5	0.11 dB
1 MHz	-0.5	0.0 dB	0.5	0.11 dB
2 MHz	-0.5	0.0 dB	0.5	0.11 dB
5 MHz	-0.5	0.0 dB	0.5	0.11 dB
10 MHz	-0.5	0.0 dB	0.5	0.11 dB
20 MHz	-0.5	0.0 dB	0.5	0.11 dB
50 MHz	-0.5	0.0 dB	0.5	0.11 dB
100 MHz	-0.5	0.0 dB	0.5	0.11 dB
200 MHz	-0.5	0.0 dB	0.5	0.11 dB

Report Number: S-20-WO-02568
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UNCORRECTED SYSTEM PERFORMANCE

CONTINUED

	<u>TEST CONDITIONS</u>	<u>MINIMUM</u>	<u>MEASURED</u>	<u>MAX</u>	<u>UNCERT.</u>
500	MHz	-0.5	0.0 dB	0.5	0.11 dB
1	GHz	-0.5	0.0 dB	0.5	0.11 dB
1.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
2	GHz	-0.5	0.0 dB	0.5	0.11 dB
2.5	GHz	-0.5	0.0 dB	0.5	0.11 dB
3	GHz	-0.5	0.1 dB	0.5	0.11 dB
3.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
4	GHz	-0.5	0.1 dB	0.5	0.11 dB
4.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
5	GHz	-0.5	0.1 dB	0.5	0.11 dB
5.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
6	GHz	-0.5	0.2 dB	0.5	0.11 dB
6.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
7	GHz	-0.5	0.1 dB	0.5	0.11 dB
7.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
8	GHz	-0.5	0.1 dB	0.5	0.11 dB
8.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
9	GHz	-0.5	0.1 dB	0.5	0.11 dB
10	GHz	-0.5	0.1 dB	0.5	0.11 dB
11	GHz	-0.5	0.1 dB	0.5	0.14 dB
12	GHz	-0.5	0.1 dB	0.5	0.14 dB
13	GHz	-0.5	0.2 dB	0.5	0.14 dB
14	GHz	-0.5	0.1 dB	0.5	0.14 dB
15	GHz	-0.5	0.2 dB	0.5	0.14 dB
16	GHz	-0.5	0.2 dB	0.5	0.14 dB
17	GHz	-0.5	0.2 dB	0.5	0.14 dB
18	GHz	-0.5	0.2 dB	0.5	0.14 dB
19	GHz	-0.5	0.2 dB	0.5	0.14 dB
20	GHz	-0.5	0.2 dB	0.5	0.14 dB

Reflection Tracking - PORT 2

100	kHz	-0.5	0.1 dB	0.5	0.11 dB
200	kHz	-0.5	0.0 dB	0.5	0.11 dB
500	kHz	-0.5	0.0 dB	0.5	0.11 dB
1	MHz	-0.5	0.0 dB	0.5	0.11 dB
2	MHz	-0.5	0.0 dB	0.5	0.11 dB
5	MHz	-0.5	0.0 dB	0.5	0.11 dB
10	MHz	-0.5	0.0 dB	0.5	0.11 dB
20	MHz	-0.5	0.0 dB	0.5	0.11 dB
50	MHz	-0.5	0.0 dB	0.5	0.11 dB
100	MHz	-0.5	0.0 dB	0.5	0.11 dB
200	MHz	-0.5	0.0 dB	0.5	0.11 dB
500	MHz	-0.5	0.0 dB	0.5	0.11 dB
1	GHz	-0.5	0.0 dB	0.5	0.11 dB
1.5	GHz	-0.5	0.0 dB	0.5	0.11 dB
2	GHz	-0.5	0.0 dB	0.5	0.11 dB
2.5	GHz	-0.5	0.0 dB	0.5	0.11 dB
3	GHz	-0.5	0.1 dB	0.5	0.11 dB
3.5	GHz	-0.5	0.1 dB	0.5	0.11 dB
4	GHz	-0.5	0.1 dB	0.5	0.11 dB

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UNCORRECTED SYSTEM PERFORMANCE

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAX	UNCERT.
4.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
5 GHz	-0.5	0.1 dB	0.5	0.11 dB
5.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
6 GHz	-0.5	0.1 dB	0.5	0.11 dB
6.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
7 GHz	-0.5	0.1 dB	0.5	0.11 dB
7.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
8 GHz	-0.5	0.1 dB	0.5	0.11 dB
8.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
9 GHz	-0.5	0.1 dB	0.5	0.11 dB
10 GHz	-0.5	0.1 dB	0.5	0.11 dB
11 GHz	-0.5	0.1 dB	0.5	0.14 dB
12 GHz	-0.5	0.1 dB	0.5	0.14 dB
13 GHz	-0.5	0.1 dB	0.5	0.14 dB
14 GHz	-0.5	0.2 dB	0.5	0.14 dB
15 GHz	-0.5	0.2 dB	0.5	0.14 dB
16 GHz	-0.5	0.2 dB	0.5	0.14 dB
17 GHz	-0.5	0.2 dB	0.5	0.14 dB
18 GHz	-0.5	0.2 dB	0.5	0.14 dB
19 GHz	-0.5	0.2 dB	0.5	0.14 dB
20 GHz	-0.5	0.3 dB	0.5	0.14 dB
Transmission Tracking - PORT 1-2				
100 kHz	-0.5	0.1 dB	0.5	0.11 dB
200 kHz	-0.5	0.0 dB	0.5	0.11 dB
500 kHz	-0.5	0.0 dB	0.5	0.11 dB
1 MHz	-0.5	0.0 dB	0.5	0.11 dB
2 MHz	-0.5	0.0 dB	0.5	0.11 dB
5 MHz	-0.5	0.0 dB	0.5	0.11 dB
10 MHz	-0.5	0.0 dB	0.5	0.11 dB
20 MHz	-0.5	0.0 dB	0.5	0.11 dB
50 MHz	-0.5	0.0 dB	0.5	0.11 dB
100 MHz	-0.5	0.0 dB	0.5	0.11 dB
200 MHz	-0.5	0.0 dB	0.5	0.11 dB
500 MHz	-0.5	0.0 dB	0.5	0.11 dB
1 GHz	-0.5	0.0 dB	0.5	0.11 dB
1.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
2 GHz	-0.5	0.0 dB	0.5	0.11 dB
2.5 GHz	-0.5	0.0 dB	0.5	0.11 dB
3 GHz	-0.5	0.1 dB	0.5	0.11 dB
3.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
4 GHz	-0.5	0.1 dB	0.5	0.11 dB
4.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
5 GHz	-0.5	0.1 dB	0.5	0.11 dB
5.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
6 GHz	-0.5	0.1 dB	0.5	0.11 dB
6.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
7 GHz	-0.5	0.1 dB	0.5	0.11 dB
7.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
8 GHz	-0.5	0.1 dB	0.5	0.11 dB

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CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAX	UNCERT.
8.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
9 GHz	-0.5	0.1 dB	0.5	0.11 dB
10 GHz	-0.5	0.1 dB	0.5	0.11 dB
11 GHz	-0.5	0.2 dB	0.5	0.11 dB
12 GHz	-0.5	0.1 dB	0.5	0.11 dB
13 GHz	-0.5	0.2 dB	0.5	0.11 dB
14 GHz	-0.5	0.2 dB	0.5	0.11 dB
15 GHz	-0.5	0.2 dB	0.5	0.11 dB
16 GHz	-0.5	0.2 dB	0.5	0.11 dB
17 GHz	-0.5	0.2 dB	0.5	0.11 dB
18 GHz	-0.5	0.2 dB	0.5	0.11 dB
19 GHz	-0.5	0.2 dB	0.5	0.11 dB
20 GHz	-0.5	0.2 dB	0.5	0.11 dB
Transmission Tracking - PORT 2-1				
100 kHz	-0.5	0.1 dB	0.5	0.11 dB
200 kHz	-0.5	0.0 dB	0.5	0.11 dB
500 kHz	-0.5	0.0 dB	0.5	0.11 dB
1 MHz	-0.5	0.0 dB	0.5	0.11 dB
2 MHz	-0.5	0.0 dB	0.5	0.11 dB
5 MHz	-0.5	0.0 dB	0.5	0.11 dB
10 MHz	-0.5	0.0 dB	0.5	0.11 dB
20 MHz	-0.5	0.0 dB	0.5	0.11 dB
50 MHz	-0.5	0.0 dB	0.5	0.11 dB
100 MHz	-0.5	0.0 dB	0.5	0.11 dB
200 MHz	-0.5	0.0 dB	0.5	0.11 dB
500 MHz	-0.5	0.0 dB	0.5	0.11 dB
1 GHz	-0.5	0.0 dB	0.5	0.11 dB
1.5 GHz	-0.5	0.0 dB	0.5	0.11 dB
2 GHz	-0.5	0.0 dB	0.5	0.11 dB
2.5 GHz	-0.5	0.0 dB	0.5	0.11 dB
3 GHz	-0.5	0.0 dB	0.5	0.11 dB
3.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
4 GHz	-0.5	0.1 dB	0.5	0.11 dB
4.5 GHz	-0.5	0.0 dB	0.5	0.11 dB
5 GHz	-0.5	0.1 dB	0.5	0.11 dB
5.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
6 GHz	-0.5	0.1 dB	0.5	0.11 dB
6.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
7 GHz	-0.5	0.1 dB	0.5	0.11 dB
7.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
8 GHz	-0.5	0.1 dB	0.5	0.11 dB
8.5 GHz	-0.5	0.1 dB	0.5	0.11 dB
9 GHz	-0.5	0.1 dB	0.5	0.11 dB
10 GHz	-0.5	0.1 dB	0.5	0.11 dB
11 GHz	-0.5	0.1 dB	0.5	0.11 dB
12 GHz	-0.5	0.1 dB	0.5	0.11 dB
13 GHz	-0.5	0.1 dB	0.5	0.11 dB
14 GHz	-0.5	0.2 dB	0.5	0.11 dB
15 GHz	-0.5	0.1 dB	0.5	0.11 dB

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UNCORRECTED SYSTEM PERFORMANCE

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAX	UNCERT.
16 GHz	-0.5	0.2 dB	0.5	0.11 dB
17 GHz	-0.5	0.2 dB	0.5	0.11 dB
18 GHz	-0.5	0.2 dB	0.5	0.11 dB
19 GHz	-0.5	0.2 dB	0.5	0.11 dB
20 GHz	-0.5	0.2 dB	0.5	0.11 dB
Directivity - PORT 1				
100 kHz	30	60 dB		3.6 dB
200 kHz	30	60 dB		3.6 dB
500 kHz	30	49 dB		3.6 dB
1 MHz	30	49 dB		3.6 dB
2 MHz	30	52 dB		3.6 dB
5 MHz	30	52 dB		3.6 dB
10 MHz	30	51 dB		3.6 dB
20 MHz	30	51 dB		3.6 dB
50 MHz	30	56 dB		3.6 dB
100 MHz	30	56 dB		3.6 dB
200 MHz	30	56 dB		3.6 dB
500 MHz	30	51 dB		3.6 dB
1 GHz	30	46 dB		3.6 dB
1.5 GHz	30	46 dB		3.6 dB
2 GHz	30	47 dB		3.6 dB
2.5 GHz	30	45 dB		3.6 dB
3 GHz	30	50 dB		3.6 dB
3.5 GHz	30	53 dB		3.6 dB
4 GHz	30	54 dB		3.6 dB
4.5 GHz	30	48 dB		3.6 dB
5 GHz	30	47 dB		3.6 dB
5.5 GHz	30	51 dB		3.6 dB
6 GHz	30	50 dB		3.6 dB
6.5 GHz	30	48 dB		3.6 dB
7 GHz	30	48 dB		3.6 dB
7.5 GHz	30	49 dB		3.6 dB
8 GHz	30	48 dB		3.6 dB
8.5 GHz	30	49 dB		3.6 dB
9 GHz	30	45 dB		3.6 dB
10 GHz	30	45 dB		3.6 dB
11 GHz	25	45 dB		3.6 dB
12 GHz	25	44 dB		3.6 dB
13 GHz	25	44 dB		3.6 dB
14 GHz	25	41 dB		3.6 dB
15 GHz	25	45 dB		3.6 dB
16 GHz	25	45 dB		3.6 dB
17 GHz	25	42 dB		3.6 dB
18 GHz	25	52 dB		3.6 dB
19 GHz	25	43 dB		3.6 dB
20 GHz	25	55 dB		3.6 dB
Directivity - PORT 2				
100 kHz	30	42 dB		3.6 dB

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CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED MAX	UNCERT.
200 kHz	30	47 dB	3.6 dB
500 kHz	30	49 dB	3.6 dB
1 MHz	30	50 dB	3.6 dB
2 MHz	30	49 dB	3.6 dB
5 MHz	30	49 dB	3.6 dB
10 MHz	30	48 dB	3.6 dB
20 MHz	30	48 dB	3.6 dB
50 MHz	30	49 dB	3.6 dB
100 MHz	30	49 dB	3.6 dB
200 MHz	30	50 dB	3.6 dB
500 MHz	30	49 dB	3.6 dB
1 GHz	30	50 dB	3.6 dB
1.5 GHz	30	46 dB	3.6 dB
2 GHz	30	51 dB	3.6 dB
2.5 GHz	30	54 dB	3.6 dB
3 GHz	30	55 dB	3.6 dB
3.5 GHz	30	52 dB	3.6 dB
4 GHz	30	48 dB	3.6 dB
4.5 GHz	30	46 dB	3.6 dB
5 GHz	30	47 dB	3.6 dB
5.5 GHz	30	52 dB	3.6 dB
6 GHz	30	50 dB	3.6 dB
6.5 GHz	30	45 dB	3.6 dB
7 GHz	30	47 dB	3.6 dB
7.5 GHz	30	48 dB	3.6 dB
8 GHz	30	46 dB	3.6 dB
8.5 GHz	30	47 dB	3.6 dB
9 GHz	30	44 dB	3.6 dB
10 GHz	30	46 dB	3.6 dB
11 GHz	25	43 dB	3.6 dB
12 GHz	25	44 dB	3.6 dB
13 GHz	25	45 dB	3.6 dB
14 GHz	25	40 dB	3.6 dB
15 GHz	25	52 dB	3.6 dB
16 GHz	25	43 dB	3.6 dB
17 GHz	25	50 dB	3.6 dB
18 GHz	25	45 dB	3.6 dB
19 GHz	25	63 dB	3.6 dB
20 GHz	25	44 dB	3.6 dB
Source Match - PORT 1			
100 kHz	30	44 dB	3.4 dB
200 kHz	30	47 dB	3.4 dB
500 kHz	30	47 dB	3.4 dB
1 MHz	30	47 dB	3.4 dB
2 MHz	30	48 dB	3.4 dB
5 MHz	30	47 dB	3.4 dB
10 MHz	30	47 dB	3.4 dB
20 MHz	30	46 dB	3.4 dB
50 MHz	30	49 dB	3.4 dB

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CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	M AX	UNCERT.
100 MHz	30	49 dB		3.4 dB
200 MHz	30	51 dB		3.4 dB
500 MHz	30	52 dB		3.4 dB
1 GHz	30	50 dB		3.4 dB
1.5 GHz	30	47 dB		3.4 dB
2 GHz	30	53 dB		3.4 dB
2.5 GHz	30	53 dB		3.4 dB
3 GHz	30	51 dB		3.4 dB
3.5 GHz	30	51 dB		3.4 dB
4 GHz	30	59 dB		3.4 dB
4.5 GHz	30	49 dB		3.4 dB
5 GHz	30	49 dB		3.4 dB
5.5 GHz	30	48 dB		3.4 dB
6 GHz	30	47 dB		3.4 dB
6.5 GHz	30	44 dB		3.4 dB
7 GHz	30	45 dB		3.4 dB
7.5 GHz	30	45 dB		3.4 dB
8 GHz	30	45 dB		3.4 dB
8.5 GHz	30	41 dB		3.4 dB
9 GHz	30	43 dB		3.4 dB
10 GHz	30	43 dB		3.4 dB
11 GHz	25	43 dB		3.4 dB
12 GHz	25	43 dB		3.4 dB
13 GHz	25	45 dB		3.4 dB
14 GHz	25	43 dB		3.4 dB
15 GHz	25	44 dB		3.4 dB
16 GHz	25	44 dB		3.4 dB
17 GHz	25	42 dB		3.4 dB
18 GHz	25	40 dB		3.4 dB
19 GHz	25	40 dB		3.4 dB
20 GHz	25	40 dB		3.4 dB

Source Match - PORT 2

100 kHz	30	50 dB		3.4 dB
200 kHz	30	49 dB		3.4 dB
500 kHz	30	48 dB		3.4 dB
1 MHz	30	47 dB		3.4 dB
2 MHz	30	48 dB		3.4 dB
5 MHz	30	47 dB		3.4 dB
10 MHz	30	49 dB		3.4 dB
20 MHz	30	49 dB		3.4 dB
50 MHz	30	49 dB		3.4 dB
100 MHz	30	49 dB		3.4 dB
200 MHz	30	50 dB		3.4 dB
500 MHz	30	51 dB		3.4 dB
1 GHz	30	50 dB		3.4 dB
1.5 GHz	30	48 dB		3.4 dB
2 GHz	30	51 dB		3.4 dB
2.5 GHz	30	52 dB		3.4 dB
3 GHz	30	50 dB		3.4 dB

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CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED MAX	UNCERT.
3.5 GHz	30	46 dB	3.4 dB
4 GHz	30	55 dB	3.4 dB
4.5 GHz	30	46 dB	3.4 dB
5 GHz	30	47 dB	3.4 dB
5.5 GHz	30	45 dB	3.4 dB
6 GHz	30	50 dB	3.4 dB
6.5 GHz	30	41 dB	3.4 dB
7 GHz	30	42 dB	3.4 dB
7.5 GHz	30	44 dB	3.4 dB
8 GHz	30	50 dB	3.4 dB
8.5 GHz	30	40 dB	3.4 dB
9 GHz	30	41 dB	3.4 dB
10 GHz	30	45 dB	3.4 dB
11 GHz	25	40 dB	3.4 dB
12 GHz	25	43 dB	3.4 dB
13 GHz	25	43 dB	3.4 dB
14 GHz	25	41 dB	3.4 dB
15 GHz	25	44 dB	3.4 dB
16 GHz	25	46 dB	3.4 dB
17 GHz	25	46 dB	3.4 dB
18 GHz	25	48 dB	3.4 dB
19 GHz	25	42 dB	3.4 dB
20 GHz	25	44 dB	3.4 dB
Load Match - PORT 1			
100 kHz	16	23 dB	2.0 dB
200 kHz	16	24 dB	2.0 dB
500 kHz	16	27 dB	2.0 dB
1 MHz	20	29 dB	2.0 dB
2 MHz	20	30 dB	2.0 dB
5 MHz	20	31 dB	2.0 dB
10 MHz	20	33 dB	2.0 dB
20 MHz	20	31 dB	2.0 dB
50 MHz	20	29 dB	2.0 dB
100 MHz	20	31 dB	2.0 dB
200 MHz	20	37 dB	2.0 dB
500 MHz	20	24 dB	2.0 dB
1 GHz	20	30 dB	2.0 dB
1.5 GHz	20	24 dB	2.0 dB
2 GHz	20	25 dB	2.0 dB
2.5 GHz	16	23 dB	2.0 dB
3 GHz	16	25 dB	2.0 dB
3.5 GHz	16	23 dB	2.0 dB
4 GHz	16	22 dB	2.0 dB
4.5 GHz	16	24 dB	2.0 dB
5 GHz	16	23 dB	2.0 dB
5.5 GHz	16	23 dB	2.0 dB
6 GHz	16	23 dB	2.0 dB
6.5 GHz	16	21 dB	2.0 dB
7 GHz	16	23 dB	2.0 dB

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CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED MAX	UNCERT.
7.5 GHz	16	23 dB	2.0 dB
8 GHz	16	23 dB	2.0 dB
8.5 GHz	16	23 dB	2.0 dB
9 GHz	16	25 dB	2.0 dB
10 GHz	16	21 dB	2.0 dB
11 GHz	16	22 dB	2.0 dB
12 GHz	16	24 dB	2.0 dB
13 GHz	16	27 dB	2.0 dB
14 GHz	16	22 dB	2.0 dB
15 GHz	16	23 dB	2.0 dB
16 GHz	16	24 dB	2.0 dB
17 GHz	16	45 dB	2.0 dB
18 GHz	16	30 dB	2.0 dB
19 GHz	16	27 dB	2.0 dB
20 GHz	16	26 dB	2.0 dB
Load Match - PORT 2			
100 kHz	16	22 dB	2.0 dB
200 kHz	16	22 dB	2.0 dB
500 kHz	16	25 dB	2.0 dB
1 MHz	20	28 dB	2.0 dB
2 MHz	20	29 dB	2.0 dB
5 MHz	20	31 dB	2.0 dB
10 MHz	20	34 dB	2.0 dB
20 MHz	20	31 dB	2.0 dB
50 MHz	20	30 dB	2.0 dB
100 MHz	20	32 dB	2.0 dB
200 MHz	20	37 dB	2.0 dB
500 MHz	20	25 dB	2.0 dB
1 GHz	20	28 dB	2.0 dB
1.5 GHz	20	23 dB	2.0 dB
2 GHz	20	24 dB	2.0 dB
2.5 GHz	16	23 dB	2.0 dB
3 GHz	16	25 dB	2.0 dB
3.5 GHz	16	24 dB	2.0 dB
4 GHz	16	22 dB	2.0 dB
4.5 GHz	16	23 dB	2.0 dB
5 GHz	16	22 dB	2.0 dB
5.5 GHz	16	23 dB	2.0 dB
6 GHz	16	22 dB	2.0 dB
6.5 GHz	16	21 dB	2.0 dB
7 GHz	16	22 dB	2.0 dB
7.5 GHz	16	23 dB	2.0 dB
8 GHz	16	23 dB	2.0 dB
8.5 GHz	16	23 dB	2.0 dB
9 GHz	16	24 dB	2.0 dB
10 GHz	16	21 dB	2.0 dB
11 GHz	16	21 dB	2.0 dB
12 GHz	16	24 dB	2.0 dB
13 GHz	16	27 dB	2.0 dB

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UNCORRECTED SYSTEM PERFORMANCE

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED MAX	UNCERT.
14 GHz	16	22 dB	2.0 dB
15 GHz	16	22 dB	2.0 dB
16 GHz	16	22 dB	2.0 dB
17 GHz	16	32 dB	2.0 dB
18 GHz	16	35 dB	2.0 dB
19 GHz	16	24 dB	2.0 dB
20 GHz	16	22 dB	2.0 dB

OUTPUT HARMONICS

PASSED

TEST CONDITIONS	MEASURED	MAX	UNCERT.
Source power level = 0 dBm			
PORT 1			
100 kHz - 2nd Harm.	-26 dBc	-15	1.2 dB
100 kHz - 3rd Harm.	-38 dBc	-15	1.2 dB
200 kHz - 2nd Harm.	-35 dBc	-15	1.2 dB
200 kHz - 3rd Harm.	-39 dBc	-15	1.2 dB
500 kHz - 2nd Harm.	-51 dBc	-15	1.2 dB
500 kHz - 3rd Harm.	-38 dBc	-15	1.2 dB
1 MHz - 2nd Harm.	-47 dBc	-15	1.2 dB
1 MHz - 3rd Harm.	-38 dBc	-15	1.2 dB
2 MHz - 2nd Harm.	-39 dBc	-15	1.2 dB
2 MHz - 3rd Harm.	-37 dBc	-15	1.2 dB
5 MHz - 2nd Harm.	-39 dBc	-15	1.2 dB
5 MHz - 3rd Harm.	-42 dBc	-15	1.2 dB
7 MHz - 2nd Harm.	-35 dBc	-15	1.2 dB
7 MHz - 3rd Harm.	-43 dBc	-15	1.2 dB
10 MHz - 2nd Harm.	-32 dBc	-20	1.2 dB
10 MHz - 3rd Harm.	-44 dBc	-20	1.2 dB
20 MHz - 2nd Harm.	-29 dBc	-20	1.2 dB
20 MHz - 3rd Harm.	-47 dBc	-20	1.2 dB
50 MHz - 2nd Harm.	-30 dBc	-20	1.2 dB
50 MHz - 3rd Harm.	-45 dBc	-20	1.2 dB
100 MHz - 2nd Harm.	-41 dBc	-25	1.2 dB
100 MHz - 3rd Harm.	-52 dBc	-25	1.2 dB
200 MHz - 2nd Harm.	-56 dBc	-25	1.2 dB
200 MHz - 3rd Harm.	-58 dBc	-25	1.2 dB
500 MHz - 2nd Harm.	-55 dBc	-25	1.2 dB
500 MHz - 3rd Harm.	-54 dBc	-25	1.2 dB
1 GHz - 2nd Harm.	-52 dBc	-25	1.2 dB
1 GHz - 3rd Harm.	-53 dBc	-25	2.0 dB
2 GHz - 2nd Harm.	-41 dBc	-25	1.2 dB
2 GHz - 3rd Harm.	-49 dBc	-25	2.0 dB
3 GHz - 2nd Harm.	-41 dBc	-25	2.6 dB
3 GHz - 3rd Harm.	-51 dBc	-25	3.1 dB
5 GHz - 2nd Harm.	-39 dBc	-25	3.1 dB

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OUTPUT HARMONICS

CONTINUED

TEST CONDITIONS				MEASURED	MAX	UNCERT.
5	GHz	-	3rd Harm.	-60 dBc	-25	3.1 dB
7	GHz	-	2nd Harm.	-45 dBc	-25	3.4 dB
7	GHz	-	3rd Harm.	-58 dBc	-25	3.4 dB
10	GHz	-	2nd Harm.	-37 dBc	-25	3.4 dB
10	GHz	-	3rd Harm.	-58 dBc	-25	3.2 dB
13	GHz	-	2nd Harm.	-35 dBc	-25	3.8 dB
13	GHz	-	3rd Harm.	-60 dBc	-25	3.8 dB
15	GHz	-	2nd Harm.	-41 dBc	-25	3.2 dB
17	GHz	-	2nd Harm.	-35 dBc	-20	3.8 dB
20	GHz	-	2nd Harm.	-40 dBc	-20	3.8 dB
PORT 2						
100	kHz	-	2nd Harm.	-25 dBc	-15	1.2 dB
100	kHz	-	3rd Harm.	-38 dBc	-15	1.2 dB
200	kHz	-	2nd Harm.	-33 dBc	-15	1.2 dB
200	kHz	-	3rd Harm.	-38 dBc	-15	1.2 dB
500	kHz	-	2nd Harm.	-48 dBc	-15	1.2 dB
500	kHz	-	3rd Harm.	-37 dBc	-15	1.2 dB
1	MHz	-	2nd Harm.	-52 dBc	-15	1.2 dB
1	MHz	-	3rd Harm.	-38 dBc	-15	1.2 dB
2	MHz	-	2nd Harm.	-42 dBc	-15	1.2 dB
2	MHz	-	3rd Harm.	-37 dBc	-15	1.2 dB
5	MHz	-	2nd Harm.	-38 dBc	-15	1.2 dB
5	MHz	-	3rd Harm.	-42 dBc	-15	1.2 dB
7	MHz	-	2nd Harm.	-34 dBc	-15	1.2 dB
7	MHz	-	3rd Harm.	-43 dBc	-15	1.2 dB
10	MHz	-	2nd Harm.	-31 dBc	-20	1.2 dB
10	MHz	-	3rd Harm.	-44 dBc	-20	1.2 dB
20	MHz	-	2nd Harm.	-28 dBc	-20	1.2 dB
20	MHz	-	3rd Harm.	-48 dBc	-20	1.2 dB
50	MHz	-	2nd Harm.	-29 dBc	-20	1.2 dB
50	MHz	-	3rd Harm.	-45 dBc	-20	1.2 dB
100	MHz	-	2nd Harm.	-40 dBc	-25	1.2 dB
100	MHz	-	3rd Harm.	-52 dBc	-25	1.2 dB
200	MHz	-	2nd Harm.	-53 dBc	-25	1.2 dB
200	MHz	-	3rd Harm.	-59 dBc	-25	1.2 dB
500	MHz	-	2nd Harm.	-52 dBc	-25	1.2 dB
500	MHz	-	3rd Harm.	-54 dBc	-25	1.2 dB
1	GHz	-	2nd Harm.	-51 dBc	-25	1.2 dB
1	GHz	-	3rd Harm.	-53 dBc	-25	2.0 dB
2	GHz	-	2nd Harm.	-40 dBc	-25	1.2 dB
2	GHz	-	3rd Harm.	-49 dBc	-25	2.0 dB
3	GHz	-	2nd Harm.	-39 dBc	-25	2.6 dB
3	GHz	-	3rd Harm.	-51 dBc	-25	3.1 dB
5	GHz	-	2nd Harm.	-39 dBc	-25	3.1 dB
5	GHz	-	3rd Harm.	-61 dBc	-25	3.1 dB
7	GHz	-	2nd Harm.	-44 dBc	-25	3.4 dB
7	GHz	-	3rd Harm.	-61 dBc	-25	3.4 dB
10	GHz	-	2nd Harm.	-38 dBc	-25	3.4 dB
10	GHz	-	3rd Harm.	-61 dBc	-25	3.2 dB

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OUTPUT HARMONICS

CONTINUED

TEST CONDITIONS	MEASURED	MAX	UNCERT.
13 GHz - 2nd Harm.	-32 dBc	-25	3.8 dB
13 GHz - 3rd Harm.	-63 dBc	-25	3.8 dB
15 GHz - 2nd Harm.	-42 dBc	-25	3.2 dB
17 GHz - 2nd Harm.	-35 dBc	-20	3.8 dB
20 GHz - 2nd Harm.	-40 dBc	-20	3.8 dB

OUTPUT LEVEL LINEARITY

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
Reference level = -10 dBm				
PORT 1				
10 MHz, 22 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, 20 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, 15 dB	-1.0	-0.1 dB	1.0	0.18 dB
10 MHz, 10 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, 5 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, -5 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, -10 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, -15 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz, -20 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz, 22 dB	-1.0	0.1 dB	1.0	0.18 dB
1 GHz, 20 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, 15 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, 10 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, 5 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, -5 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, -10 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, -15 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz, -20 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, 22 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, 20 dB	-1.0	0.1 dB	1.0	0.18 dB
3 GHz, 15 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, 10 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, 5 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -5 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -10 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -15 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -20 dB	-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, 22 dB	-1.0	0.0 dB	1.0	0.18 dB
5 GHz, 20 dB	-1.0	0.0 dB	1.0	0.18 dB
5 GHz, 15 dB	-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, 10 dB	-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, 5 dB	-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, -5 dB	-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, -10 dB	-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, -15 dB	-1.0	-0.1 dB	1.0	0.18 dB

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OUTPUT LEVEL LINEARITY

CONTINUED

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	UNCERT.
5 GHz,	-20 dB	-1.0	-0.2 dB	1.0	0.18 dB
10 GHz,	22 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	20 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	15 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	10 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	5 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	-5 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	-10 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	-15 dB	-1.0	0.1 dB	1.0	0.18 dB
10 GHz,	-20 dB	-1.0	0.0 dB	1.0	0.18 dB
15 GHz,	20 dB	-1.0	-0.2 dB	1.0	0.18 dB
15 GHz,	15 dB	-1.0	-0.1 dB	1.0	0.18 dB
15 GHz,	10 dB	-1.0	0.0 dB	1.0	0.18 dB
15 GHz,	5 dB	-1.0	0.1 dB	1.0	0.18 dB
15 GHz,	-5 dB	-1.0	0.2 dB	1.0	0.18 dB
15 GHz,	-10 dB	-1.0	0.0 dB	1.0	0.18 dB
15 GHz,	-15 dB	-1.0	0.1 dB	1.0	0.18 dB
15 GHz,	-20 dB	-1.0	0.2 dB	1.0	0.18 dB
20 GHz,	18 dB	-1.0	-0.2 dB	1.0	0.18 dB
20 GHz,	15 dB	-1.0	-0.2 dB	1.0	0.18 dB
20 GHz,	10 dB	-1.0	0.0 dB	1.0	0.18 dB
20 GHz,	5 dB	-1.0	0.2 dB	1.0	0.18 dB
20 GHz,	-5 dB	-1.0	0.3 dB	1.0	0.18 dB
20 GHz,	-10 dB	-1.0	0.1 dB	1.0	0.18 dB
20 GHz,	-15 dB	-1.0	0.3 dB	1.0	0.18 dB
20 GHz,	-20 dB	-1.0	0.3 dB	1.0	0.18 dB
PORT 2					
10 MHz,	22 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	20 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	15 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	10 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	5 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	-5 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	-10 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	-15 dB	-1.0	0.0 dB	1.0	0.18 dB
10 MHz,	-20 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	22 dB	-1.0	0.1 dB	1.0	0.18 dB
1 GHz,	20 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	15 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	10 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	5 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	-5 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	-10 dB	-1.0	0.0 dB	1.0	0.18 dB
1 GHz,	-15 dB	-1.0	-0.1 dB	1.0	0.18 dB
1 GHz,	-20 dB	-1.0	-0.1 dB	1.0	0.18 dB
3 GHz,	22 dB	-1.0	0.1 dB	1.0	0.18 dB
3 GHz,	20 dB	-1.0	0.1 dB	1.0	0.18 dB
3 GHz,	15 dB	-1.0	0.0 dB	1.0	0.18 dB
3 GHz,	10 dB	-1.0	0.0 dB	1.0	0.18 dB

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OUTPUT LEVEL LINEARITY

CONTINUED

TEST CONDITIONS		MINIMUM	MEASURED	MAXIMUM	UNCERT.
3 GHz, 5 dB		-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -5 dB		-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -10 dB		-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -15 dB		-1.0	0.0 dB	1.0	0.18 dB
3 GHz, -20 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, 22 dB		-1.0	0.1 dB	1.0	0.18 dB
5 GHz, 20 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, 15 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, 10 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, 5 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, -5 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, -10 dB		-1.0	0.0 dB	1.0	0.18 dB
5 GHz, -15 dB		-1.0	-0.1 dB	1.0	0.18 dB
5 GHz, -20 dB		-1.0	-0.1 dB	1.0	0.18 dB
10 GHz, 22 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, 20 dB		-1.0	0.2 dB	1.0	0.18 dB
10 GHz, 15 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, 10 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, 5 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, -5 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, -10 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, -15 dB		-1.0	0.1 dB	1.0	0.18 dB
10 GHz, -20 dB		-1.0	0.0 dB	1.0	0.18 dB
15 GHz, 20 dB		-1.0	0.0 dB	1.0	0.18 dB
15 GHz, 15 dB		-1.0	-0.2 dB	1.0	0.18 dB
15 GHz, 10 dB		-1.0	0.0 dB	1.0	0.18 dB
15 GHz, 5 dB		-1.0	0.1 dB	1.0	0.18 dB
15 GHz, -5 dB		-1.0	0.1 dB	1.0	0.18 dB
15 GHz, -10 dB		-1.0	0.0 dB	1.0	0.18 dB
15 GHz, -15 dB		-1.0	0.1 dB	1.0	0.18 dB
15 GHz, -20 dB		-1.0	0.3 dB	1.0	0.18 dB
20 GHz, 18 dB		-1.0	0.0 dB	1.0	0.18 dB
20 GHz, 15 dB		-1.0	-0.1 dB	1.0	0.18 dB
20 GHz, 10 dB		-1.0	0.1 dB	1.0	0.18 dB
20 GHz, 5 dB		-1.0	0.2 dB	1.0	0.18 dB
20 GHz, -5 dB		-1.0	0.3 dB	1.0	0.18 dB
20 GHz, -10 dB		-1.0	0.1 dB	1.0	0.18 dB
20 GHz, -15 dB		-1.0	0.3 dB	1.0	0.18 dB
20 GHz, -20 dB		-1.0	0.3 dB	1.0	0.18 dB

REFERENCE OUTPUT LEVEL

PASSED

TEST CONDITIONS	MIN	MEASURED	MAXIMUM	UNCERT.
Reference output level	5.0	7.8 dBm	13.0	0.55 dB

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REFERENCE CHANNEL LINEARITY

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
Reference to a nominal input power level of -10 dBm				
PORT 1				
1 GHz, 20 dB	-0.20	-0.02 dB	0.20	0.042 dB
1 GHz, 15 dB	-0.20	-0.02 dB	0.20	0.028 dB
1 GHz, 10 dB	-0.10	-0.03 dB	0.10	0.028 dB
1 GHz, 5 dB	-0.10	-0.03 dB	0.10	0.028 dB
1 GHz, 0 dB	-0.10	-0.06 dB	0.10	0.028 dB
10 GHz, 20 dB	-0.20	0.05 dB	0.20	0.042 dB
10 GHz, 15 dB	-0.20	0.08 dB	0.20	0.028 dB
10 GHz, 10 dB	-0.10	0.07 dB	0.10	0.028 dB
10 GHz, 5 dB	-0.10	0.06 dB	0.10	0.028 dB
10 GHz, 0 dB	-0.10	-0.01 dB	0.10	0.028 dB
20 GHz, 20 dB	-0.20	0.07 dB	0.20	0.042 dB
20 GHz, 15 dB	-0.20	0.08 dB	0.20	0.028 dB
20 GHz, 10 dB	-0.10	0.06 dB	0.10	0.028 dB
20 GHz, 5 dB	-0.10	0.06 dB	0.10	0.028 dB
20 GHz, 0 dB	-0.10	0.01 dB	0.10	0.028 dB
PORT 2				
1 GHz, 20 dB	-0.20	0.00 dB	0.20	0.042 dB
1 GHz, 15 dB	-0.20	0.01 dB	0.20	0.028 dB
1 GHz, 10 dB	-0.10	0.00 dB	0.10	0.028 dB
1 GHz, 5 dB	-0.10	0.00 dB	0.10	0.028 dB
1 GHz, 0 dB	-0.10	-0.04 dB	0.10	0.028 dB
10 GHz, 20 dB	-0.20	0.05 dB	0.20	0.042 dB
10 GHz, 15 dB	-0.20	0.08 dB	0.20	0.028 dB
10 GHz, 10 dB	-0.10	0.07 dB	0.10	0.028 dB
10 GHz, 5 dB	-0.10	0.06 dB	0.10	0.028 dB
10 GHz, 0 dB	-0.10	0.02 dB	0.10	0.028 dB
20 GHz, 20 dB	-0.20	0.07 dB	0.20	0.042 dB
20 GHz, 15 dB	-0.20	0.06 dB	0.20	0.028 dB
20 GHz, 10 dB	-0.10	0.06 dB	0.10	0.028 dB
20 GHz, 5 dB	-0.10	0.06 dB	0.10	0.028 dB
20 GHz, 0 dB	-0.10	0.02 dB	0.10	0.028 dB

INPUT POWER LINEARITY (LOW LEVEL)

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
Reference to a nominal input power level of -10 dBm				
PORT 1				
500.001 MHz, 0 dB	-0.10	0.00 dB	0.10	0.015 dB
500.001 MHz, -5 dB	-0.10	0.00 dB	0.10	0.015 dB
500.001 MHz, -10 dB	-0.10	0.00 dB	0.10	0.017 dB
500.001 MHz, -15 dB	-0.10	0.00 dB	0.10	0.017 dB
500.001 MHz, -20 dB	-0.10	-0.01 dB	0.10	0.020 dB

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INPUT POWER LINEARITY (LOW LEVEL)

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
500.001 MHz, -25 dB	-0.10	-0.01 dB	0.10	0.020 dB
500.001 MHz, -30 dB	-0.10	-0.01 dB	0.10	0.023 dB
500.001 MHz, -35 dB	-0.10	-0.02 dB	0.10	0.023 dB
500.001 MHz, -40 dB	-0.10	-0.01 dB	0.10	0.026 dB
PORT 2				
500.001 MHz, 0 dB	-0.10	0.00 dB	0.10	0.015 dB
500.001 MHz, -5 dB	-0.10	0.00 dB	0.10	0.015 dB
500.001 MHz, -10 dB	-0.10	0.00 dB	0.10	0.017 dB
500.001 MHz, -15 dB	-0.10	-0.01 dB	0.10	0.017 dB
500.001 MHz, -20 dB	-0.10	-0.01 dB	0.10	0.020 dB
500.001 MHz, -25 dB	-0.10	-0.01 dB	0.10	0.020 dB
500.001 MHz, -30 dB	-0.10	-0.01 dB	0.10	0.023 dB
500.001 MHz, -35 dB	-0.10	-0.02 dB	0.10	0.023 dB
500.001 MHz, -40 dB	-0.10	-0.02 dB	0.10	0.026 dB

INPUT POWER LINEARITY (HIGH LEVEL)

UNDETERMINED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
Reference to a nominal input power of -10 dBm				
PORT 1				
1 GHz, 0 dB	-0.10	0.00 dB	0.10	0.076 dB
1 GHz, 5 dB	-0.10	0.08 dB	0.10	0.076 dB U
1 GHz, 10 dB	-0.10	0.08 dB	0.10	0.080 dB U
1 GHz, 15 dB	-0.30	0.08 dB	0.30	0.080 dB
1 GHz, 20 dB	-0.30	0.09 dB	0.30	0.080 dB
20 GHz, 0 dB	-0.10	0.00 dB	0.10	0.076 dB
20 GHz, 5 dB	-0.10	-0.11 dB	0.10	0.076 dB U
20 GHz, 10 dB	-0.10	-0.11 dB	0.10	0.080 dB U
20 GHz, 15 dB	-0.30	-0.11 dB	0.30	0.080 dB
20 GHz, 18 dB	-0.30	-0.11 dB	0.30	0.080 dB
PORT 2				
1 GHz, 0 dB	-0.10	0.00 dB	0.10	0.076 dB
1 GHz, 5 dB	-0.10	0.09 dB	0.10	0.076 dB U
1 GHz, 10 dB	-0.10	0.10 dB	0.10	0.080 dB U
1 GHz, 15 dB	-0.30	0.11 dB	0.30	0.080 dB
1 GHz, 20 dB	-0.30	0.12 dB	0.30	0.080 dB
20 GHz, 0 dB	-0.10	0.00 dB	0.10	0.076 dB
20 GHz, 5 dB	-0.10	-0.12 dB	0.10	0.076 dB U
20 GHz, 10 dB	-0.10	-0.13 dB	0.10	0.080 dB U
20 GHz, 15 dB	-0.30	-0.13 dB	0.30	0.080 dB
20 GHz, 18 dB	-0.30	-0.12 dB	0.30	0.080 dB

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MAXIMUM OUTPUT POWER

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	UNCERT.
Power setting: +20 dBm			
PORT 1			
100 kHz	8.0	10.5 dBm	0.090 dB
200 kHz	8.0	12.1 dBm	0.090 dB
500 kHz	8.0	12.9 dBm	0.090 dB
1 MHz	10.0	12.9 dBm	0.090 dB
2 MHz	10.0	12.9 dBm	0.090 dB
5 MHz	10.0	13.9 dBm	0.090 dB
10 MHz	12.0	14.5 dBm	0.090 dB
20 MHz	12.0	15.4 dBm	0.086 dB
50 MHz	12.0	16.3 dBm	0.10 dB
100 MHz	12.0	16.4 dBm	0.10 dB
200 MHz	12.0	16.2 dBm	0.10 dB
500 MHz	12.0	15.8 dBm	0.10 dB
1 GHz	12.0	16.0 dBm	0.10 dB
1.5 GHz	12.0	15.2 dBm	0.11 dB
2 GHz	12.0	15.2 dBm	0.11 dB
2.5 GHz	12.0	15.4 dBm	0.11 dB
3 GHz	12.0	15.3 dBm	0.11 dB
3.5 GHz	12.0	15.4 dBm	0.11 dB
4 GHz	12.0	15.7 dBm	0.11 dB
4.5 GHz	12.0	15.8 dBm	0.11 dB
5 GHz	12.0	15.9 dBm	0.11 dB
5.5 GHz	12.0	15.8 dBm	0.12 dB
6 GHz	12.0	15.6 dBm	0.12 dB
6.5 GHz	12.0	15.4 dBm	0.12 dB
7 GHz	12.0	15.5 dBm	0.12 dB
7.5 GHz	12.0	15.4 dBm	0.12 dB
8 GHz	12.0	15.3 dBm	0.12 dB
8.5 GHz	12.0	15.0 dBm	0.12 dB
9 GHz	12.0	14.8 dBm	0.12 dB
10 GHz	12.0	13.7 dBm	0.12 dB
11 GHz	10.0	12.3 dBm	0.12 dB
12 GHz	10.0	12.4 dBm	0.12 dB
13 GHz	10.0	12.2 dBm	0.12 dB
14 GHz	10.0	12.7 dBm	0.13 dB
15 GHz	10.0	12.7 dBm	0.13 dB
16 GHz	8.0	12.5 dBm	0.13 dB
17 GHz	8.0	12.7 dBm	0.13 dB
18 GHz	8.0	12.7 dBm	0.17 dB
19 GHz	8.0	12.7 dBm	0.17 dB
20 GHz	8.0	12.3 dBm	0.17 dB
PORT 2			
100 kHz	8.0	10.5 dBm	0.090 dB
200 kHz	8.0	12.0 dBm	0.090 dB
500 kHz	8.0	12.9 dBm	0.090 dB
1 MHz	10.0	12.9 dBm	0.090 dB
2 MHz	10.0	13.0 dBm	0.090 dB

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MAXIMUM OUTPUT POWER

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	UNCERT.
5 MHz	10.0	14.0 dBm	0.090 dB
10 MHz	12.0	14.6 dBm	0.090 dB
20 MHz	12.0	15.5 dBm	0.086 dB
50 MHz	12.0	16.4 dBm	0.10 dB
100 MHz	12.0	16.6 dBm	0.10 dB
200 MHz	12.0	16.3 dBm	0.10 dB
500 MHz	12.0	15.9 dBm	0.10 dB
1 GHz	12.0	16.1 dBm	0.10 dB
1.5 GHz	12.0	15.3 dBm	0.11 dB
2 GHz	12.0	15.3 dBm	0.11 dB
2.5 GHz	12.0	15.6 dBm	0.11 dB
3 GHz	12.0	15.5 dBm	0.11 dB
3.5 GHz	12.0	15.7 dBm	0.11 dB
4 GHz	12.0	15.8 dBm	0.11 dB
4.5 GHz	12.0	15.8 dBm	0.11 dB
5 GHz	12.0	15.7 dBm	0.11 dB
5.5 GHz	12.0	15.9 dBm	0.12 dB
6 GHz	12.0	15.7 dBm	0.12 dB
6.5 GHz	12.0	15.6 dBm	0.12 dB
7 GHz	12.0	15.6 dBm	0.12 dB
7.5 GHz	12.0	15.4 dBm	0.12 dB
8 GHz	12.0	15.5 dBm	0.12 dB
8.5 GHz	12.0	15.3 dBm	0.12 dB
9 GHz	12.0	15.2 dBm	0.12 dB
10 GHz	12.0	14.1 dBm	0.12 dB
11 GHz	10.0	12.3 dBm	0.12 dB
12 GHz	10.0	12.3 dBm	0.12 dB
13 GHz	10.0	12.3 dBm	0.12 dB
14 GHz	10.0	12.6 dBm	0.13 dB
15 GHz	10.0	12.7 dBm	0.13 dB
16 GHz	8.0	12.8 dBm	0.13 dB
17 GHz	8.0	12.7 dBm	0.13 dB
18 GHz	8.0	12.6 dBm	0.17 dB
19 GHz	8.0	12.6 dBm	0.17 dB
20 GHz	8.0	12.4 dBm	0.17 dB

OUTPUT POWER ACCURACY

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
Source power = -10 dBm				
PORT 1				
100 kHz	-2.0	-0.7 dB	2.0	0.086 dB
200 kHz	-2.0	-0.5 dB	2.0	0.086 dB
500 kHz	-2.0	-0.5 dB	2.0	0.086 dB
1 MHz	-2.0	-0.5 dB	2.0	0.086 dB
2 MHz	-2.0	-0.4 dB	2.0	0.086 dB

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OUTPUT POWER ACCURACY

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
5 MHz	-2.0	-0.2 dB	2.0	0.086 dB
10 MHz	-2.0	-0.1 dB	2.0	0.086 dB
20 MHz	-2.0	-0.1 dB	2.0	0.082 dB
50 MHz	-2.0	-0.1 dB	2.0	0.098 dB
100 MHz	-2.0	-0.2 dB	2.0	0.098 dB
200 MHz	-2.0	-0.4 dB	2.0	0.098 dB
500 MHz	-2.0	-0.4 dB	2.0	0.099 dB
1 GHz	-2.0	-0.4 dB	2.0	0.099 dB
1.5 GHz	-2.0	-0.6 dB	2.0	0.10 dB
2 GHz	-2.0	-0.7 dB	2.0	0.10 dB
2.5 GHz	-2.0	-0.8 dB	2.0	0.10 dB
3 GHz	-2.0	-0.7 dB	2.0	0.10 dB
3.5 GHz	-2.0	-0.8 dB	2.0	0.10 dB
4 GHz	-2.0	-0.9 dB	2.0	0.10 dB
4.5 GHz	-2.0	-1.0 dB	2.0	0.10 dB
5 GHz	-2.0	-1.0 dB	2.0	0.10 dB
6 GHz	-2.0	-1.3 dB	2.0	0.12 dB
7 GHz	-2.0	-1.1 dB	2.0	0.12 dB
8 GHz	-2.0	-0.6 dB	2.0	0.12 dB
9 GHz	-2.0	-1.1 dB	2.0	0.12 dB
10 GHz	-2.0	-0.9 dB	2.0	0.12 dB
11 GHz	-3.0	-1.3 dB	3.0	0.12 dB
12 GHz	-3.0	-0.8 dB	3.0	0.12 dB
13 GHz	-3.0	-1.3 dB	3.0	0.12 dB
14 GHz	-3.0	-0.7 dB	3.0	0.12 dB
15 GHz	-3.0	-0.6 dB	3.0	0.12 dB
16 GHz	-3.0	-0.1 dB	3.0	0.12 dB
17 GHz	-3.0	-0.6 dB	3.0	0.12 dB
18 GHz	-3.0	-0.9 dB	3.0	0.17 dB
19 GHz	-3.0	-1.3 dB	3.0	0.17 dB
20 GHz	-3.0	-0.5 dB	3.0	0.17 dB
PORT 2				
100 kHz	-2.0	-0.4 dB	2.0	0.086 dB
200 kHz	-2.0	-0.4 dB	2.0	0.086 dB
500 kHz	-2.0	-0.4 dB	2.0	0.086 dB
1 MHz	-2.0	-0.4 dB	2.0	0.086 dB
2 MHz	-2.0	-0.3 dB	2.0	0.086 dB
5 MHz	-2.0	-0.1 dB	2.0	0.086 dB
10 MHz	-2.0	0.0 dB	2.0	0.086 dB
20 MHz	-2.0	0.0 dB	2.0	0.082 dB
50 MHz	-2.0	0.0 dB	2.0	0.098 dB
100 MHz	-2.0	-0.2 dB	2.0	0.098 dB
200 MHz	-2.0	-0.3 dB	2.0	0.098 dB
500 MHz	-2.0	-0.4 dB	2.0	0.099 dB
1 GHz	-2.0	-0.4 dB	2.0	0.099 dB
1.5 GHz	-2.0	-0.5 dB	2.0	0.10 dB
2 GHz	-2.0	-0.7 dB	2.0	0.10 dB
2.5 GHz	-2.0	-0.7 dB	2.0	0.10 dB
3 GHz	-2.0	-0.7 dB	2.0	0.10 dB

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OUTPUT POWER ACCURACY

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
3.5 GHz	-2.0	-0.7 dB	2.0	0.10 dB
4 GHz	-2.0	-0.8 dB	2.0	0.10 dB
4.5 GHz	-2.0	-0.9 dB	2.0	0.10 dB
5 GHz	-2.0	-1.2 dB	2.0	0.10 dB
6 GHz	-2.0	-1.2 dB	2.0	0.12 dB
7 GHz	-2.0	-1.3 dB	2.0	0.12 dB
8 GHz	-2.0	-0.5 dB	2.0	0.12 dB
9 GHz	-2.0	-1.3 dB	2.0	0.12 dB
10 GHz	-2.0	-1.0 dB	2.0	0.12 dB
11 GHz	-3.0	-1.2 dB	3.0	0.12 dB
12 GHz	-3.0	-1.1 dB	3.0	0.12 dB
13 GHz	-3.0	-1.2 dB	3.0	0.12 dB
14 GHz	-3.0	-1.2 dB	3.0	0.12 dB
15 GHz	-3.0	-1.0 dB	3.0	0.12 dB
16 GHz	-3.0	0.2 dB	3.0	0.12 dB
17 GHz	-3.0	-0.9 dB	3.0	0.12 dB
18 GHz	-3.0	-1.2 dB	3.0	0.17 dB
19 GHz	-3.0	-1.7 dB	3.0	0.17 dB
20 GHz	-3.0	-0.8 dB	3.0	0.17 dB

INPUT POWER MEASUREMENT ACCURACY

PASSED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
Test level = -10 dBm				
PORT 1				
100 kHz	-1.0	0.0 dB	1.0	0.12 dB
200 kHz	-1.0	0.1 dB	1.0	0.12 dB
500 kHz	-1.0	0.1 dB	1.0	0.10 dB
1 MHz	-1.0	0.1 dB	1.0	0.10 dB
2 MHz	-1.0	0.2 dB	1.0	0.098 dB
5 MHz	-1.0	0.1 dB	1.0	0.098 dB
10 MHz	-1.0	0.0 dB	1.0	0.098 dB
20 MHz	-1.0	0.1 dB	1.0	0.095 dB
50 MHz	-1.0	-0.1 dB	1.0	0.11 dB
100 MHz	-1.0	-0.1 dB	1.0	0.11 dB
200 MHz	-1.0	-0.1 dB	1.0	0.11 dB
500 MHz	-1.0	-0.1 dB	1.0	0.11 dB
1 GHz	-1.0	-0.1 dB	1.0	0.11 dB
1.5 GHz	-1.0	-0.1 dB	1.0	0.12 dB
2 GHz	-1.0	-0.1 dB	1.0	0.12 dB
2.5 GHz	-1.0	-0.1 dB	1.0	0.12 dB
3 GHz	-1.0	-0.1 dB	1.0	0.12 dB
4 GHz	-1.0	-0.2 dB	1.0	0.12 dB
5 GHz	-1.0	-0.2 dB	1.0	0.12 dB
6 GHz	-1.0	-0.3 dB	1.0	0.13 dB
7 GHz	-1.0	-0.2 dB	1.0	0.13 dB

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INPUT POWER MEASUREMENT ACCURACY

CONTINUED

TEST CONDITIONS	MINIMUM	MEASURED	MAXIMUM	UNCERT.
8 GHz	-1.0	-0.1 dB	1.0	0.13 dB
9 GHz	-1.0	-0.2 dB	1.0	0.13 dB
10 GHz	-1.0	-0.2 dB	1.0	0.13 dB
11 GHz	-1.0	-0.2 dB	1.0	0.13 dB
12 GHz	-1.0	-0.2 dB	1.0	0.13 dB
13 GHz	-1.0	-0.3 dB	1.0	0.13 dB
14 GHz	-1.0	-0.3 dB	1.0	0.14 dB
15 GHz	-1.0	-0.3 dB	1.0	0.14 dB
16 GHz	-1.0	-0.3 dB	1.0	0.14 dB
17 GHz	-1.0	-0.3 dB	1.0	0.14 dB
18 GHz	-1.0	-0.3 dB	1.0	0.18 dB
19 GHz	-1.0	-0.4 dB	1.0	0.18 dB
20 GHz	-1.0	-0.4 dB	1.0	0.18 dB
PORT 2				
100 kHz	-1.0	0.0 dB	1.0	0.12 dB
200 kHz	-1.0	0.1 dB	1.0	0.12 dB
500 kHz	-1.0	0.1 dB	1.0	0.10 dB
1 MHz	-1.0	0.1 dB	1.0	0.10 dB
2 MHz	-1.0	0.2 dB	1.0	0.098 dB
5 MHz	-1.0	0.1 dB	1.0	0.098 dB
10 MHz	-1.0	0.0 dB	1.0	0.098 dB
20 MHz	-1.0	0.0 dB	1.0	0.095 dB
50 MHz	-1.0	-0.1 dB	1.0	0.11 dB
100 MHz	-1.0	-0.1 dB	1.0	0.11 dB
200 MHz	-1.0	-0.1 dB	1.0	0.11 dB
500 MHz	-1.0	-0.1 dB	1.0	0.11 dB
1 GHz	-1.0	-0.1 dB	1.0	0.11 dB
1.5 GHz	-1.0	-0.1 dB	1.0	0.11 dB
2 GHz	-1.0	-0.1 dB	1.0	0.12 dB
2.5 GHz	-1.0	-0.1 dB	1.0	0.12 dB
3 GHz	-1.0	-0.2 dB	1.0	0.12 dB
4 GHz	-1.0	-0.2 dB	1.0	0.12 dB
5 GHz	-1.0	-0.2 dB	1.0	0.12 dB
6 GHz	-1.0	-0.3 dB	1.0	0.13 dB
7 GHz	-1.0	-0.2 dB	1.0	0.13 dB
8 GHz	-1.0	-0.2 dB	1.0	0.13 dB
9 GHz	-1.0	-0.3 dB	1.0	0.13 dB
10 GHz	-1.0	-0.2 dB	1.0	0.13 dB
11 GHz	-1.0	-0.3 dB	1.0	0.13 dB
12 GHz	-1.0	-0.3 dB	1.0	0.13 dB
13 GHz	-1.0	-0.3 dB	1.0	0.13 dB
14 GHz	-1.0	-0.3 dB	1.0	0.14 dB
15 GHz	-1.0	-0.3 dB	1.0	0.14 dB
16 GHz	-1.0	-0.4 dB	1.0	0.14 dB
17 GHz	-1.0	-0.3 dB	1.0	0.14 dB
18 GHz	-1.0	-0.3 dB	1.0	0.18 dB
19 GHz	-1.0	-0.4 dB	1.0	0.18 dB
20 GHz	-1.0	-0.4 dB	1.0	0.18 dB