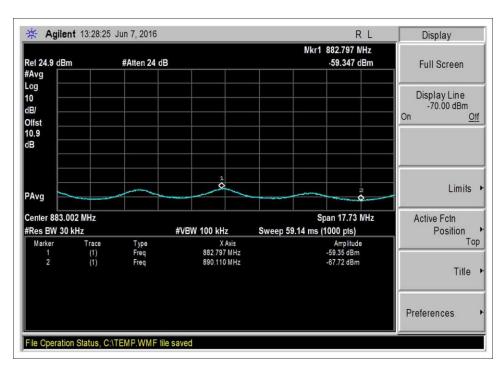
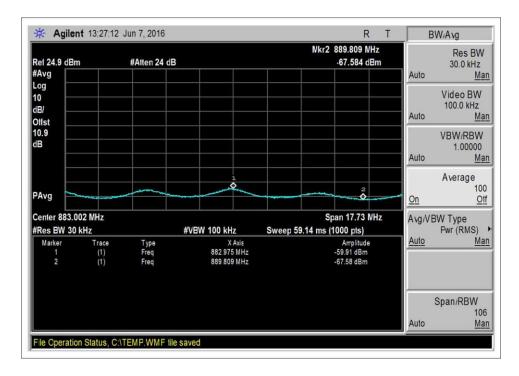


DL-869-894-AWGNL+2

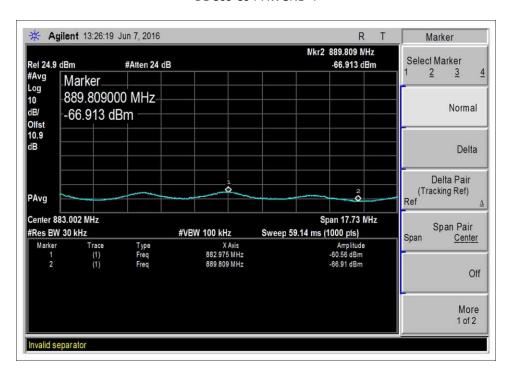


DL-869-894-AWGNL+3



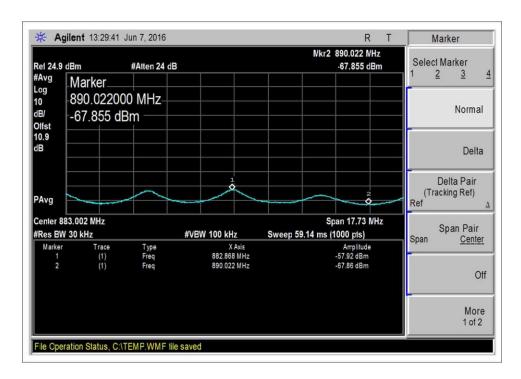


DL-869-894-AWGNL+4

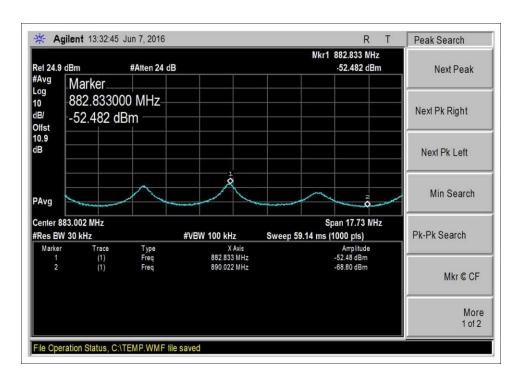


DL-869-894-AWGNL+5



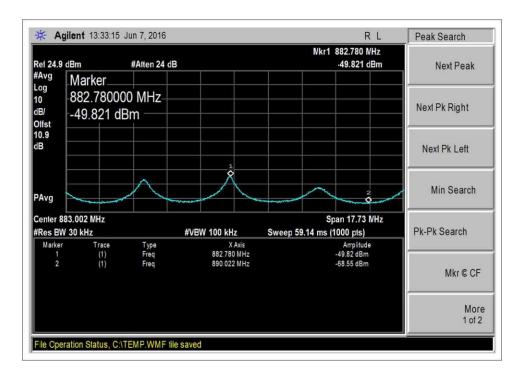


DL-869-894-AWGNL-1

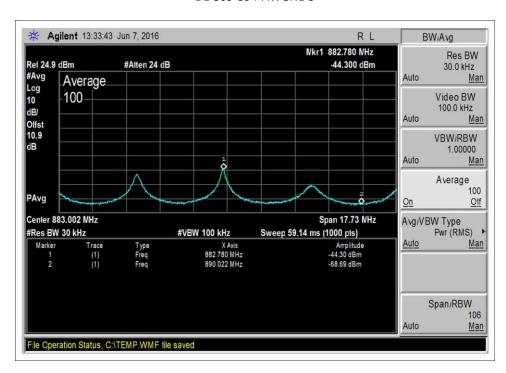


DL-869-894-AWGNL-2



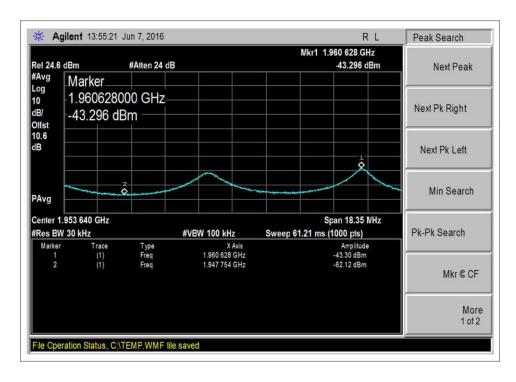


DL-869-894-AWGNL-3

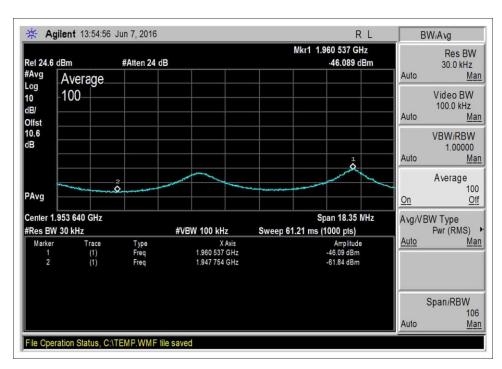


DL-869-894-AWGNL-4



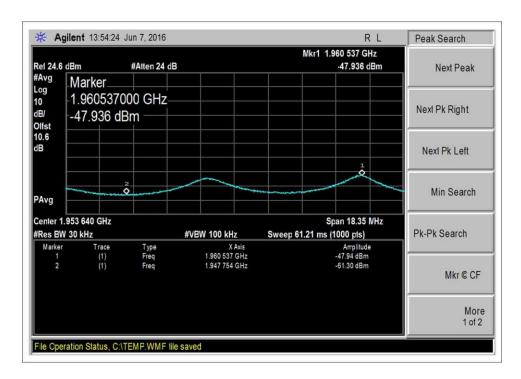


DL-1930-1995-AWGNR+0

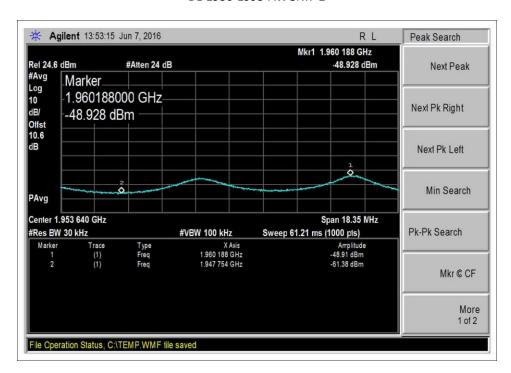


DL-1930-1995-AWGNR+1

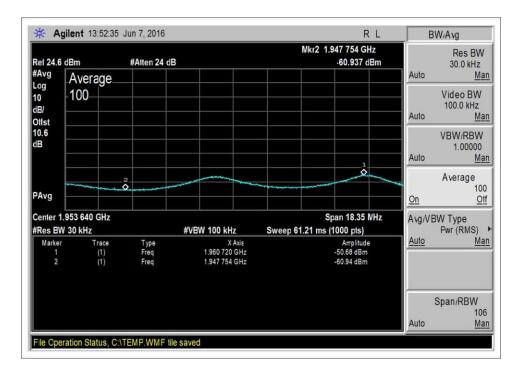




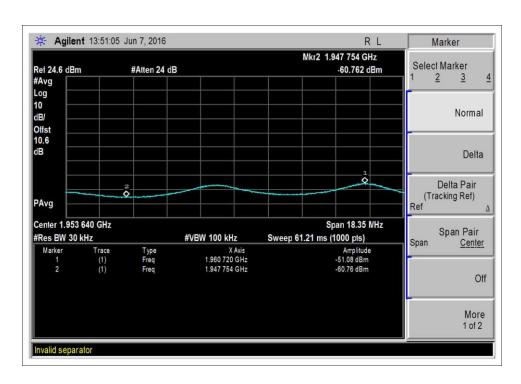
DL-1930-1995-AWGNR+2



DL-1930-1995-AWGNR+3

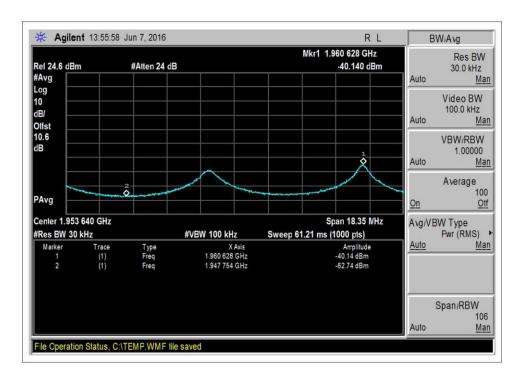


DL-1930-1995-AWGNR+4

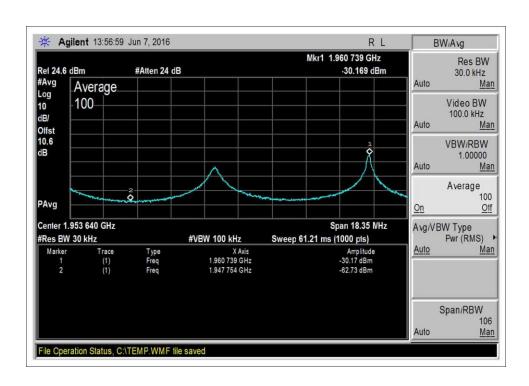


DL-1930-1995-AWGNR+5

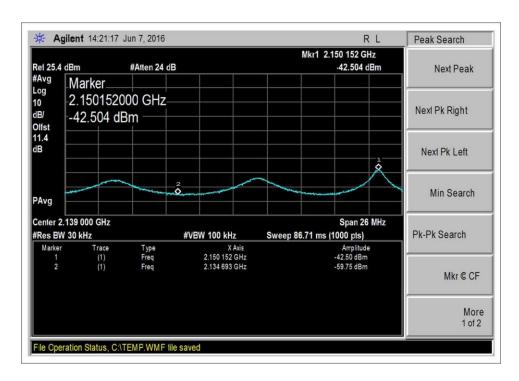




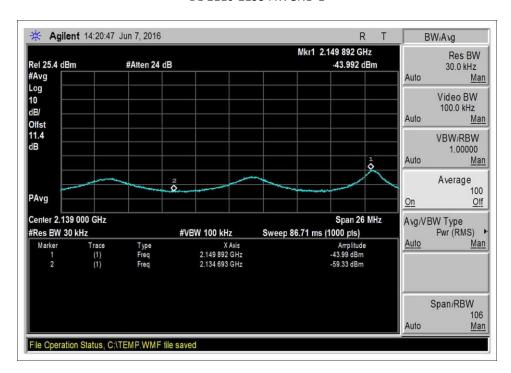
DL-1930-1995-AWGNR-1





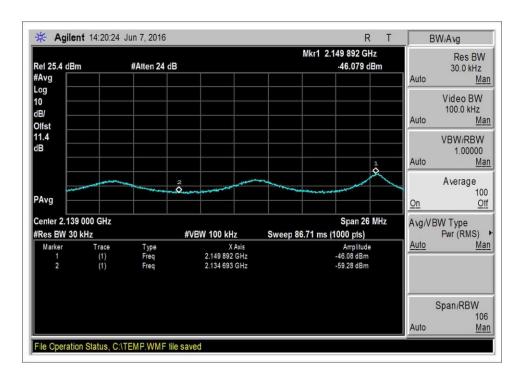


DL-2110-2155-AWGNL+1

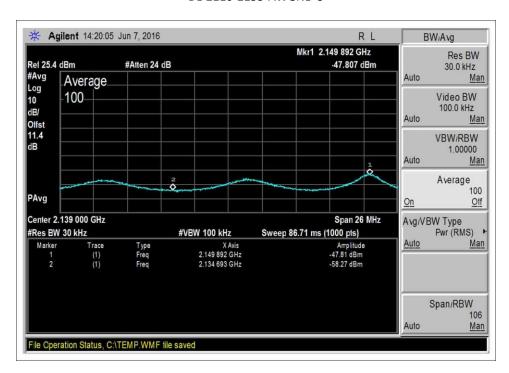


DL-2110-2155-AWGNL+2



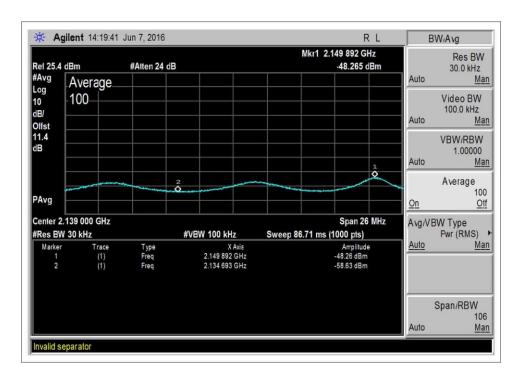


DL-2110-2155-AWGNL+3

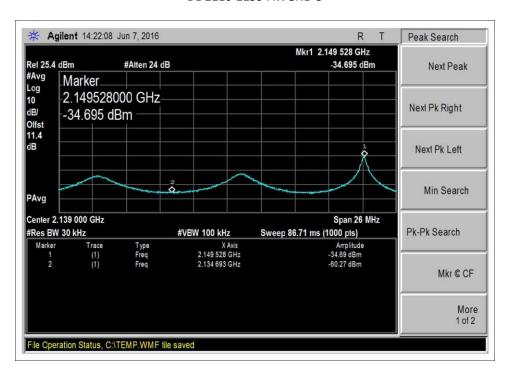


DL-2110-2155-AWGNL+4





DL-2110-2155-AWGNL+5



DL-2110-2155-AWGNL-1



7.12 - Radiated Spurious Emissions

Test Conditions / Setup

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: Cellphone-Mate, Inc.

Specification: 7.12 Radiated Spurious Emissions / 2.1053 Radiated Spurious Emissions

47 CFR §22.917(a) Radiated Spurious Emissions 47 CFR §24.238(a) Radiated Spurious Emissions 47 CFR §27.53(c), (f), (g) and (h) Spurious Emissions

Work Order #: 98648 Date: 06/15/2016
Test Type: Radiated Emissions Time: 08:36:36
Tested by: Daniel Bertran Sequence#: 1

Software: EMITest 5.03.02

Equipment Tested:

Device Manufacturer Model # S/N
Configuration 1

Support Equipment:

| Device | Manufacturer | Model # | S/N | |
|-----------------|--------------|---------|-----|--|
| Configuration 1 | | | | |

Test Conditions / Notes:

The equipment under test (EUT) is a Fixed CMRS Wideband Consumer Booster.

During testing, the (EUT) is placed on the Styrofoam table top.

Five different CW signals (one per each band) are injected sequentially to the input port of EUT using a signal generator. The signal generator is set to produce a CW signal with the frequency set to the center of each operational band under test and the power level is set at Pin as determined from 7.2 section of the test procedure indicated further below.

Evaluation of DL path was performed with signals fed into the Outside antenna port while Inside antenna port was terminated with equivalent 50 Ohm Pasternack load (MN: PE6187 / SN: 1443).

Evaluation of UL path was performed with signal fed into the Inside antenna port while Outside antenna port was terminated with the same above 50 Ohm load via a 75/50 Ohm impedance matching pad.

Test environment conditions: Temperature: 21°C, Relative Humidity: 48% and Atmospheric Pressure: 101.4 kPa

Part 22

UL: 824-849MHz DL: 869-894MHz

Part 24

UL: 1850-1915MHz DL: 1930-1995MHz

Part 27

UL: 1710-1755MHz, 698-716MHz, 776-787MHz DL: 2110-2155MHz, 728-746MHz, 746-757MHz

TX Freq = > Center frequency of above listed bands.

Test Conditions / Notes Continued:

Modulation=> CW

Frequency range of measurement = 9 kHz- 22 GHz.

9 kHz - 150 kHz -> RBW=200 Hz VBW=200 Hz 150 kHz - 30 MHz -> RBW=9 kHz VBW=9 kHz

> Page 256 of 267 Report No.: 98648-12



30 MHz - 1000MHz -> RBW=120 kHz VBW=120 kHz 1000 MHz-22000MHz -> RBW=1 MHz VBW=1 MHz

Test procedure: The test was performed in accordance with section 7.12 of the FCC document: 935210 D03 Wideband Consumer Signal Booster Measurement Guidance v04 Dated February 12, 2016.

Note:

Modification 1 was in place during testing.

Placement of the PCB is identical to test setup which is encased in a plastic housing in the final host.

Chassis is made out of material with dielectric constant near air.

No spurious emissions were found within 20dB of the limit line.

Emissions in the band 1559-1610 MHz were investigated and these were not found within 20dB of the limit line.

27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

Test Equipment:

| ID | Asset # | Description | Model | Cal Date | Cal Due Date |
|----|----------|--------------------------------|----------------------|------------|--------------|
| | AN00852 | Biconilog Antenna | CBL 6111C | 11/24/2014 | 11/24/2016 |
| | ANP06049 | Attenuator | PE7002-6 | 5/9/2016 | 5/9/2018 |
| | ANP00880 | Cable | RG214U | 5/10/2016 | 5/10/2018 |
| | ANP06691 | Cable | PE3062-180 | 8/8/2014 | 8/8/2016 |
| | AN00567 | Preamp | 8447D | 1/2/2015 | 1/2/2017 |
| | ANP01187 | Cable | CNT-195 | 12/30/2014 | 12/30/2016 |
| | AN02871 | Spectrum Analyzer | E4440A | 8/25/2015 | 8/25/2017 |
| | AN02113 | Horn Antenna | 3115 | 2/3/2015 | 2/3/2017 |
| | ANP06900 | Cable | 32022-29094K-29094K- | 12/30/2015 | 12/30/2017 |
| | | | 36TC | | |
| | AN03303 | Preamp | AMF-7D-00101800-30- | 1/4/2016 | 1/4/2018 |
| | | | 10P | | |
| | ANP01210 | Cable | FSJ1P-50A-4A | 1/15/2015 | 1/15/2017 |
| | AN03302 | Cable | 32026-29094K-29094K- | 1/29/2016 | 1/29/2018 |
| | | | 72TC | | |
| | AN02693 | Active Horn Antenna-ANSI C63.5 | AMFW-5F-12001800-20- | 5/6/2015 | 5/6/2017 |
| | | 3m | 10P | | |
| | AN02694 | Horn Antenna-ANSI C63.5 3m | AMFW-5F-18002650-20- | 5/7/2015 | 5/7/2017 |
| | | | 10P | | |
| | ANP00928 | Cable | various | 1/25/2016 | 1/25/2018 |
| | ANP00929 | Cable | various | 1/25/2016 | 1/25/2018 |
| | ANP06126 | Cable | 32022-29094K-29094K- | 3/18/2015 | 3/18/2017 |
| | | | 168TC | | |
| | ANP06901 | Cable | 32022-29094K-29094K- | 12/30/2015 | 12/30/2017 |
| | | | 36TC | | |
| | AN00432 | Loop Antenna | 6502 | 5/8/2015 | 5/8/2017 |
| | ANP06710 | Cable | 32026-29094K-29094K- | 9/18/2014 | 9/18/2016 |
| | | | 72TC | | |
| | ANP06467 | Attenuator | PE7014-10 | 5/13/2015 | 5/13/2017 |

Page 257 of 267 Report No.: 98648-12



Summary of Results

Pass: All Radiated Spurious Emissions were found with more than 20dB margin of the limit line.

Frequency Range of measurement 9kHz -> 22GHz

LIMIT LINE FOR SPURIOUS RADIATED EMISSION

REQUIRED ATTENUATION = 43+10 LOG P (DB)

For radiated spurious emission measured at 3 meter test distance,

Required attenuation = $43+10 \text{ Log } P_{t \text{ at 3 meter}} \text{ dB}$ Limit line (dBuV) = E_{dBuv} - Attenuation

E_{dBuv} = Measured field strength at 3 meter in dBuV/m

Power Density (Isotropic)

$$P_D = -\frac{P_t}{4\pi r^2}$$

 P_D = Power Density in Watts $/m^2$

Pt = Average Transmit Power

r = Test distance

Field Intensity E (V/m)

$$E = \sqrt{P_D \times 377}$$

$$E = \frac{\sqrt{P_t \times 377}}{4\pi r^2}$$

$$E = \sqrt{\frac{P_t \ x \ 30}{r^2}}$$

Page 258 of 267 Report No.: 98648-12



$$P_t = \left(\frac{E^2 x r^2}{30}\right)$$

10 Log $P_t = 10 \text{ Log } E^2 (V/m) + 10 \text{ Log } r^2 - 10 \text{ Log } 30$

 $10 \text{ Log P}_t = 20 \text{ Log E (V/m)} + 20 \text{ Log r} - 10 \text{ Log } 30$

At 3 meter, r = 3 m

 $10 \text{ Log P}_t = 20 \text{ Log E } (V/m) + 20 \text{ Log } 3 - 10 \text{ Log } 30$

 $10 \text{ Log P}_t = 20 \text{ Log E (V/m)} + 9.54 - 14.77$

 $10 \text{ Log P}_t = 20 \text{ Log E } (V/m) - 5.23$

Since 20 Log E (V/m) = 20 Log E (uV/m) -120

 $10 \text{ Log P}_t = 20 \text{ Log E (uV/m)} - 120 - 5.23$

 $10 \text{ Log P}_t = 20 \text{ Log E } (uV/m) -125.23$

Limit line (dBuV) at 3 meter = E_{dBuv} – Attenuation

= E_{dBuv} - (43+10 Log $P_{t at 3 meter}$)

= E dBuv - 43 - 10 Log Pt at 3 meter

= $E_{dBuv} - 43 - (20 \text{ Log E (uV/m)} - 125.23)$

= E dBuv - 43 - 20 Log E (uV/m) + 125.23

= E _{dBuv} - 20 Log E (uV/m) + 82.23

Since 20 Log E(uV/m) = E in dBuV/m

= E dBuv - E dBuv + 82.23

Radiated Emission limit 3 meter = 82.23 dBuV at any power level measured in dBuV



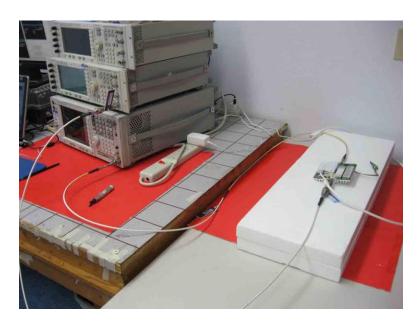
7.13 Spectrum Block Filter

Section 7.13 not applicable because the EUT does not utilize spectrum block filtering.

Page 260 of 267 Report No.: 98648-12



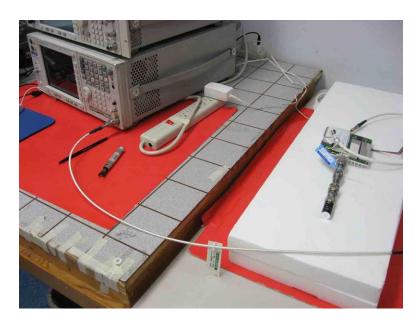
EXHIBIT A: TEST SETUP PHOTOS



7.1, 7.2, 7.3, 7.4, 7.5, 7.6 & 7.10

Page 261 of 267 Report No.: 98648-12



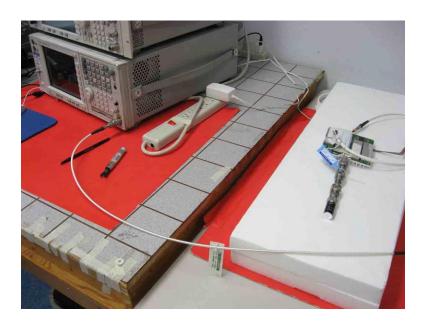


7.7.1 Noise Fig 3



7.7.1 Noise Fig 3



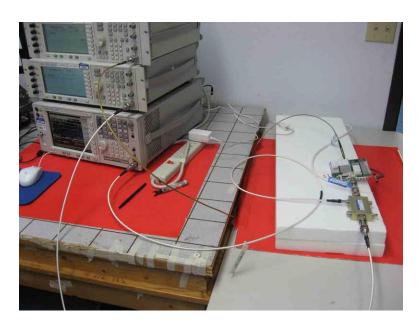


7.8 Uplink



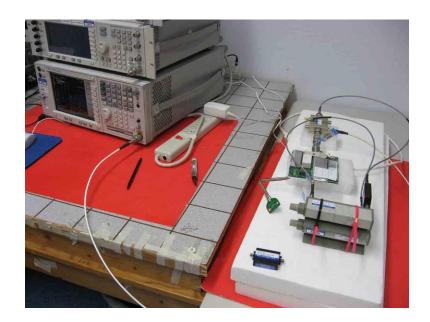


7.9.1 Max Gain



7.9.2 Variable Gain





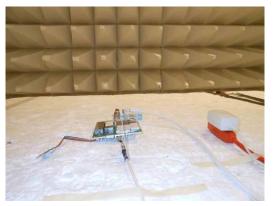
7.11.2



7.11.3







7.12



Intended chassis installed in the final host



SUPPLEMENTAL INFORMATION

Measurement Uncertainty

| Uncertainty Value | Parameter | |
|-------------------|---------------------------|--|
| 4.73 dB | Radiated Emissions | |
| 3.34 dB | Mains Conducted Emissions | |
| 3.30 dB | Disturbance Power | |

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

Page 267 of 267 Report No.: 98648-12