

# EXHIBIT 11

# TEST REPORT

The Alcatel-Lucent AWS Digital Host Base Transceiver Station was configured in IS-856 (1x-EVDO "Evolution Data Only") mode with pilot, MAC, data and preamble channels per 3GPP2 C.S.0032 High Rate Packet Data and cdma2000 (3G-1x "3<sup>rd</sup> Generation") mode with pilot, page, sync and traffic channels per 3GPP2 C.S.0010.

The measurement results have demonstrated the Alcatel-Lucent AWS Digital Host base station is in full compliance with the Rules of the Department.





# Section 2.1033(c)(14) REQUIRED MEASUREMENT DATA

The required measurement data is presented in the following exhibits as follows:

SUBEXHIBIT 11.2	Section 2.1046	Measurements Required: RF Power Output
SUBEXHIBIT 11.3	Section 2.1047	Modulation Characteristics
SUBEXHIBIT 11.4	Sections 2.1049, 27.53(g)	Measurement Required: Occupied Bandwidth and out-of-band emissions
SUBEXHIBIT 11.5	Sections 2.1051, 27.53(g)	Measurements Required: Spurious Emissions at Antenna Terminals
SUBEXHIBIT 11.6	Sections 2.1053, 27.53(g)	Measurements Required: Field Strength of Spurious Radiation
SUBEXHIBIT 11.7	Sections 2.1055, 27.54	Measurements Required: Frequency Stability
SUBEXHIBIT 11.8	Section 2.947	List of Test Equipment





#### Section 2.1046 Measurement Required : RF POWER OUTPUT

This test is a measurement of the RF power level transmitted at the antenna transmitting terminal (End Antenna Connector), as shown in the accompanying test set-up diagram. According to the requirements, since the antenna is detachable, the transmitter output power may be measured by replacing the antenna with a spectrum analyzer. The Alcatel-Lucent AWS Base Transceiver Station was first tuned to a channel which is the approximate mid channel of the Frequency Band. The power level of the base station was calibrated to allow the base station to operate at the manufacturer's maximum rated mean power level, i.e., 0 d Bm or 1 milliwatt at the antenna transmitting terminal. Then the carrier was tuned to other channels in the frequency band without adjusting the power level and recalibrating. The corresponding mean RF output power level was measured.

Power measurements were made with a Giga-tronics 8542C Universal Power Meter with 80621A Power Sensor (0.01 - 18 GHz) in the average mode. The test set-up for conducting the RF power output measurement from the Alcatel-Lucent AWS Base Transceiver Station is shown in the following figure. Before the testing was started, the Base Station was given a sufficient "warm-up" period as required.

For testing in accordance with 47 CFR 2.1046, the following requirements are to be used to select test frequencies for licensed devices; frequency range over which device operates=10-100 MHz, Number of Frequencies=3 1 near top, 1 near middle, 1 near bottom. Single carrier and multiple carrier configurations are reported. The measured channels and results are tabulated in the following table:

AWS Channel Number	Frequency (MHz)	AWS Frequency Block
25	2111.5	A (low)
525	2136.25	D (middle)
875	2153.75	F (high)

#### Table 11.2.1 Results of single carrier RF Power Output

Frequency Range	Frequency (MHz)
bottom	2111.5-2125.25
middle	2136.25-2150
top	2140 -2153.75

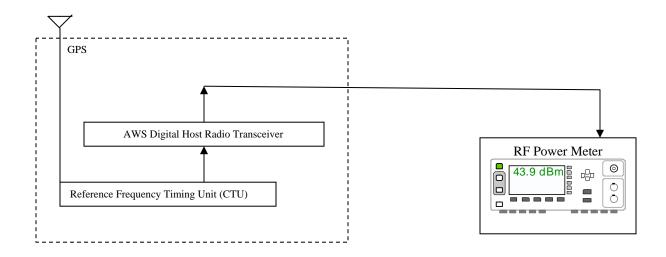
#### **Results:**

The RF power output across the AWS 2110-2155 MHz Frequency Band are in full compliance with the Rules of the Department.





#### FIGURE 11.2.1 TEST SET-UP FOR MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT







#### Section 2.1047 : MODULATION CHARACTERISTICS

The Alcatel-Lucent AWS Digital Host Base Transceiver Station utilizes digital Phase Shift Key (PSK) modulation and Quadrature Amplitude Modulation (QAM). The modulation accuracy measures the ability of the transmitter to generate the ideal signal which is defined by the waveform quality. The waveform quality is measured by determining the normalized correlated power between the actual waveform and the ideal waveform.

The measurements were performed with an Agilent E4440A PSA Spectrum Analyzer which was calibrated in accordance with ISO 9001 process.

The test set-up diagram is given in the Figure 11.3.1, where the Agilent E4440A PSA Spectrum Analyzer used the external signals from the base station as its trigger source and time reference.

The representative screen plots of the code domain and modulation accuracy measurements are included for IS-856 (1x-EVDO "Evolution Data Only") mode with pilot, MAC, data and preamble channels per 3GPP2 C.S.0032 High Rate Packet Data and cdma2000 (3G-1x "3<sup>rd</sup> Generation") mode with pilot, page, sync and traffic channels per 3GPP2 C.S.0010.

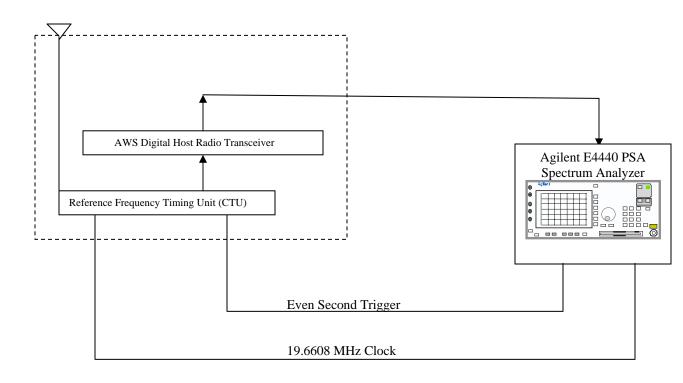
#### Results:

The wave quality factors  $\rho$  (rho) modulation characteristics meet 3GPP2 C.S0010-C and 3GPP2C.S0032 specifications and are in full compliance with the Rules of the Department.





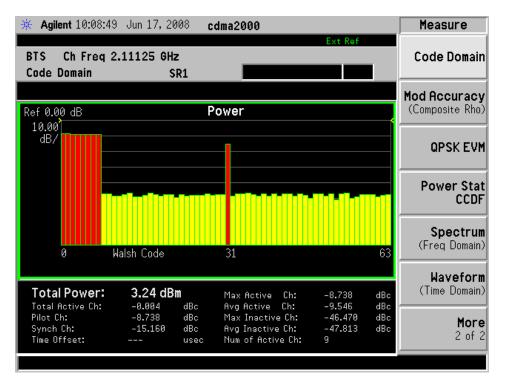
### FIGURE 11.3.1 TEST SET-UP FOR MEASUREMENT OF MODULATION CHARACTERISTICS

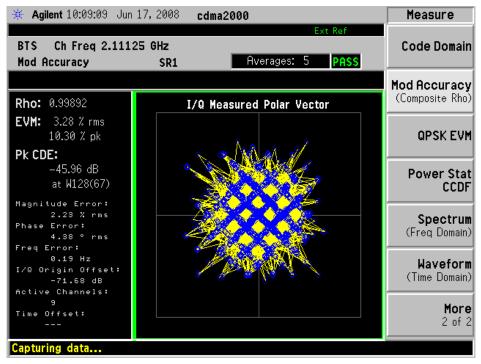






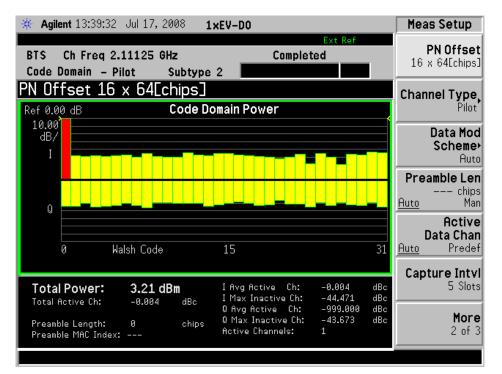
#### SUBEXHIBIT 11.3 CDMA2000

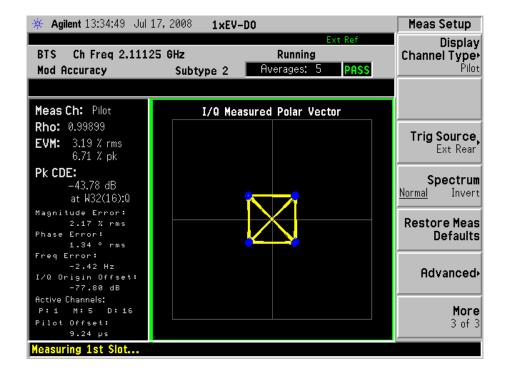






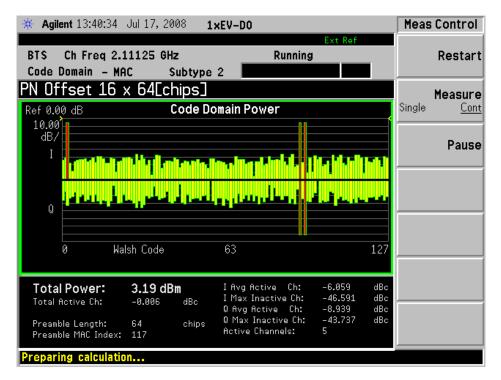


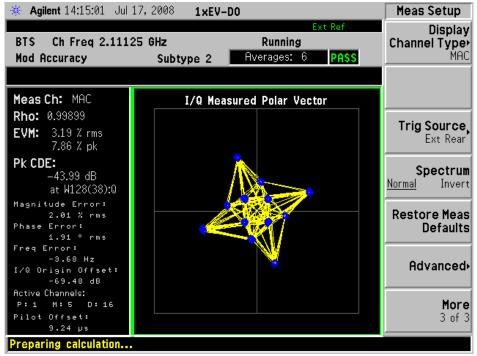






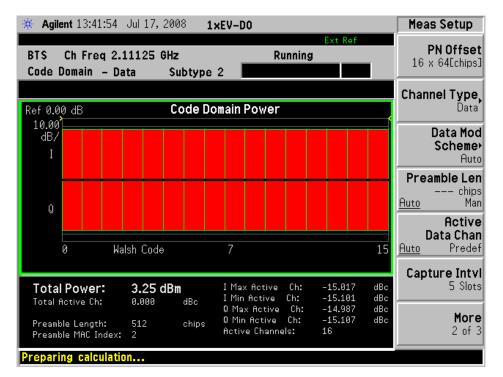


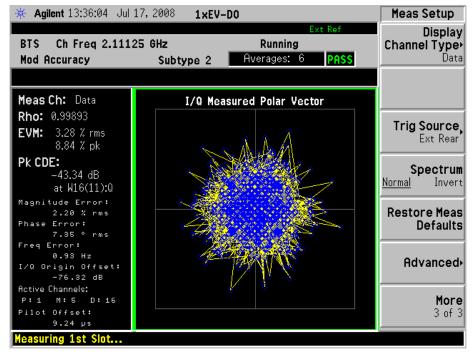






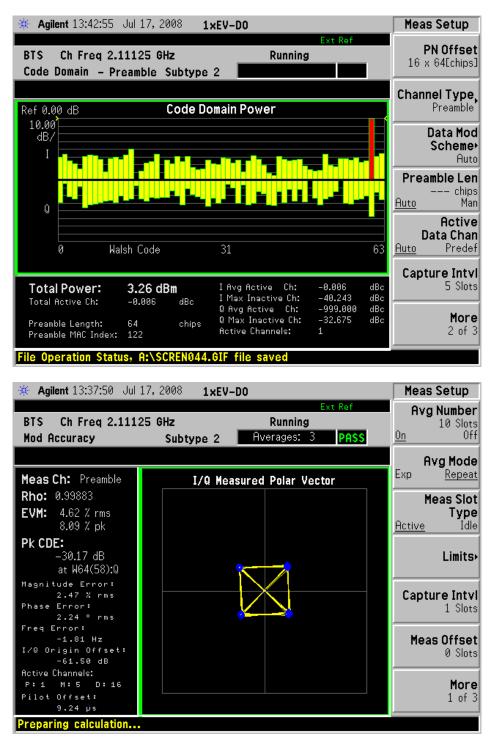














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# SUBEXHIBIT 11.4

#### Section 2.1049 MEASUREMENT REQUIRED: OCCUPIED BANDWIDTH

The Alcatel-Lucent AWS Base Transceiver Station base station was first tuned to a channel which is the approximate mid channel of the Frequency Band. The base station was calibrated to allow the base station to operate at the manufacturer's maximum rated mean power level, i.e., 0 dBm / 1 mW at the antenna transmitting terminal.

The minimum emission requirements and the setting of measurement equipment for the occupied bandwidth measurement of a AWS carrier are specified in FCC Part 27 tabulated in the following table.

Frequency	Required Minimum Attenuation below the Mean Carrier Power <i>P</i>	Minimum Resolution Bandwidth of Spectrum Analyzer	
1MHz Bands Immediately Outside the Transmitting Frequency Band	(43 + P dBW) dBc	12.5 kHz	
Out-of-Band (other than above)	(43 + P dBW) dBc	100 kHz	

#### Table 11.4.1 FCC Part 27(g) Transmitter Unwanted Emission Limits

The requirements specified in 3GPP2 Transmitter Spurious Limits for single carrier configurations are tabulated in the following table

Displacement from the Carrier Center Frequency $f_c$	Required Minimum Attenuation	Resolution Bandwidth of Spectrum Analyzer	
885 kHz $<  f - f_c  \le 1.25$ MHz	-45 dBc	30 kHz	
$1.25 \text{ MHz} <  f - f_c  \le 1.98 \text{ MHz}$	Min (-45 dBc, -9 dBm)	30 kHz	
$1.98 \text{ MHz} <  f - f_c  \le 2.25 \text{ MHz}$	-50 dBc	30 kHz	
$2.25 \text{ MHz} <  f - f_c  \le 4.0 \text{ MHz}$	- 13 dBm	1 MHz	

The requirements specified in 3GPP2 Transmitter Spurious Limit for multiple carrier configurations are tabulated in the following table:

Displacement from the Carrier Center Frequency $f_c$	Required Minimum Attenuation	Resolution Bandwidth of Spectrum Analyzer	
750 kHz $<  f - f_c  \le 1.98$ MHz	45 dBc	30 kHz	
1.98 MHz $<  f - f_c  \le 4.0$ MHz	55 dBc	1 MHz	

A combined requirement of RSS requirements and TIA/EIA-3GPP2 was used as the required emissions limit mask in the measurement. The measurements were performed with an Agilent PSA Spectrum Analyzer which was calibrated in accordance with ISO 9001 process.





The spectrum analyzer was set with a 30 kHz resolution bandwidth and 8 MHz span, as shown in the plots of the occupied bandwidth measurement attached in the following pages. The emissions outside the 8MHz span was evaluated in Measurement Required: Out-of-block Spurious Conducted Emissions. The maximum mean output power of the CDMA carrier, measured with a 3 MHz resolution bandwidth, aligns with the top of the spectrum analyzer display reticule, i.e., 0 dBm, by adjusting the REF LEVEL OFFSET of the spectrum analyzer. The top of the carrier measured with a 30 kHz resolution bandwidth, thus, was 16.1 dB below the carrier power measured with a resolution bandwidth greater than the carrier bandwidth 1.23 MHz. This 16.1dB offset was due to the fact that  $10 \log (1230 \text{kHz}/30 \text{kHz}) = 16.1 \text{ dB}$ .

For testing in accordance with 47 CFR 2.1049, the following requirements are to be used to select test frequencies for licensed devices; frequency range over which device operates=10-100 MHz, Number of Frequencies=3 1 near top, 1 near middle, 1 near bottom. Single carrier and multiple carrier configurations are reported.

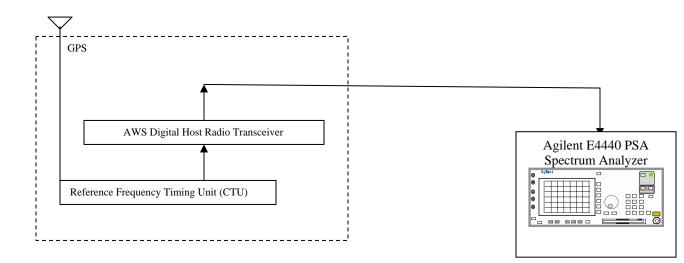
#### **Results:**

The Occupied Bandwith results across the AWS 2110-2155 MHz Frequency Band are in full compliance with the Rules of the Department.





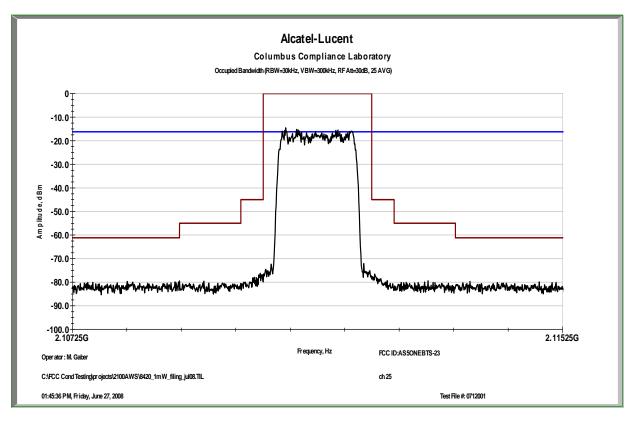
# FIGURE 11.4.1 TEST SET-UP FOR MEASUREMENT OF OCCUPIED BANDWIDTH



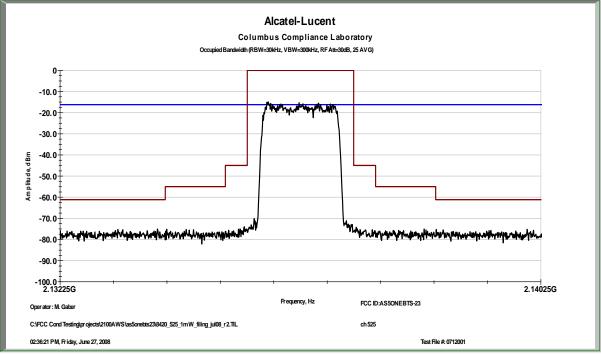




## SUBEXHIBIT 11.4 - ch 25 -2111.5MHz (low)



#### SUBEXHIBIT 11.4 ch 525-2136.25MHz (middle)

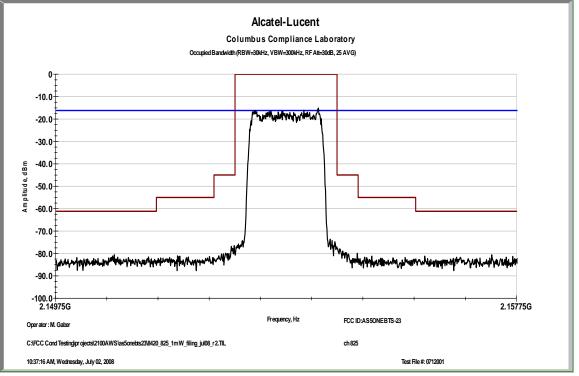


Page 15 of 31 Alcatel-Lucent Proprietary Use pursuant to Company Instructions

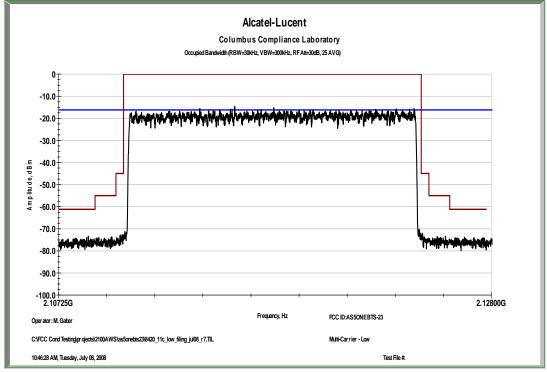




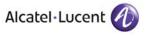


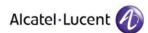


# SUBEXHIBIT 11.4 Multi-Channel 2111.5-2125.255MHz (low)

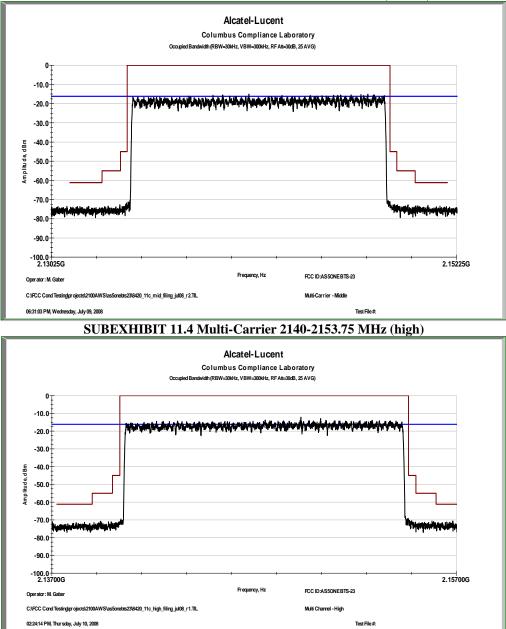


Page 16 of 31 Alcatel-Lucent Proprietary Use pursuant to Company Instructions



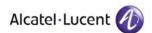


### SUBEXHIBIT 11.4 Multi-Carrier 2136.25-2150 MHz (middle)





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# **SUBEXHIBIT 11.5**

#### Section 2.1051 MEASUREMENT REQUIRED: SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS

The spurious emissions at the end antenna connector (EAC) of the AS5ONEBTS-23 transceiver were investigated from 10 MHz to the 10<sup>th</sup> harmonic of the carrier or 22 GHz, per Section 2.1057(a)(1). The AS5ONEBTS-23 transceiver was configured in cdma2000 (3G-1x) mode with pilot, page, sync and traffic channels per 3GPP2 cdma2000 standards, or in IS856 (3G-1xEV) mode with pilot, MAC and data channels per 3GPP2 High Rate Packet Data standards.

The spurious emission measurements were made at the end antenna connector (EAC) of the AS5ONEBTS-23 AWS transceiver. The carrier power level at the end antenna connector (EAC) of the AS5ONEBTS-23 AWS transceiver was transmitting to the maximum rated mean power.

# Table 11.5.1 FCC Part 27(g) Transmitter Unwanted Emission Limits

Frequency	Required Minimum Attenuation below the Mean Carrier Power <i>P</i>	Minimum Resolution Bandwidth of Spectrum Analyzer
1MHz Bands Immediately Outside the Transmitting Frequency Band	(43 + P dBW) dBc	12.5 kHz
Out-of-Band (other than above)	(43 + P dBW) dBc	100 kHz

The requirements specified in 3GPP2 Transmitter Spurious Limits for single carrier configurations are tabulated in the following table

Displacement from the Carrier Center Frequency $f_c$	Required Minimum Attenuation	Resolution Bandwidth of Spectrum Analyzer	
885 kHz $<  f - f_c  \le 1.25$ MHz	-45 dBc	30 kHz	
$1.25 \text{ MHz} <  f - f_c  \le 1.98 \text{ MHz}$	Min (-45 dBc, -9 dBm)	30 kHz	
1.98 MHz $<  f - f_c  \le 2.25$ MHz	-50 dBc	30 kHz	
$2.25 \text{ MHz} <  f - f_c  \le 4.0 \text{ MHz}$	- 13 dBm	1 MHz	

The requirements specified in 3GPP2 Transmitter Spurious Limit for multiple carrier configurations are tabulated in the following table:

Displacement from the Carrier Center Frequency $f_c$	Required Minimum Attenuation	Resolution Bandwidth of Spectrum Analyzer
$750 \text{ kHz} <  f - f_c  \le 1.98 \text{ MHz}$	45 dBc	30 kHz
$1.98 \text{ MHz} <  f - f_c  \le 4.0 \text{ MHz}$	55 dBc	1 MHz

#### Table 11.5.2 TIA/EIA and 3GPP2 Spurious Emission Limits





The spectrum analyzer was set to a 1 MHz resolution bandwidth. The maximum mean output power of the carrier, measured with a 3 MHz resolution bandwidth, aligns with the top of the spectrum analyzer display, i.e. 0 dBm by adjusting REF LEVEL OFFSET of the spectrum analyzer.

Sections 2.1051 and 2.1057(c) specify that the spurious emissions attenuated more than 20 dB below the permissible value need not be reported.

The measurements were performed with Spectrum Analyzer which was calibrated in accordance with ISO 9001 process. The test set-up diagram is given in the following.

For testing in accordance with 47 CFR 2.1051, the following requirements are to be used to select test frequencies for licensed devices; frequency range over which device operates=10-100 MHz, Number of Frequencies=3 1 near top, 1 near middle, 1 near bottom. Single carrier and multiple carrier configurations are reported.

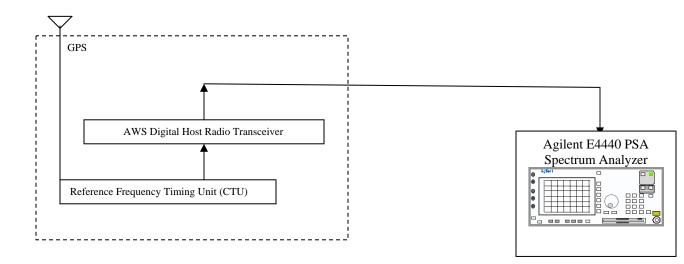
#### **Results:**

The measurement results demonstrate the full compliance with the Rules of the Commission of the Cellular bands.

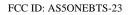




# FIGURE 11.5.1 TEST SET-UP FOR MEASUREMENT OF SPURIOUS EMISSIONS AT ANTENNA TERMINAL

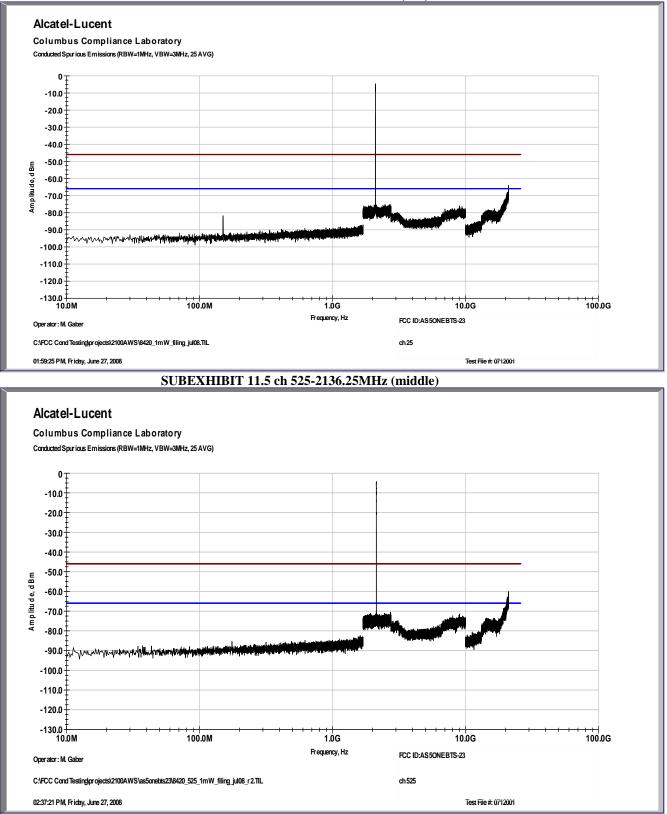








#### SUBEXHIBIT 11.5 - ch 25 -2111.5MHz (low)

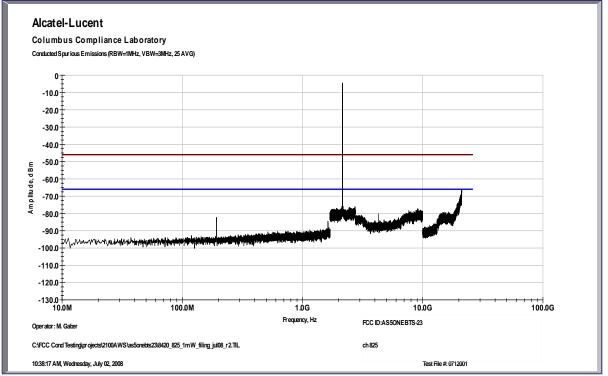


Page 21 of 31 Alcatel-Lucent Proprietary Use pursuant to Company Instructions

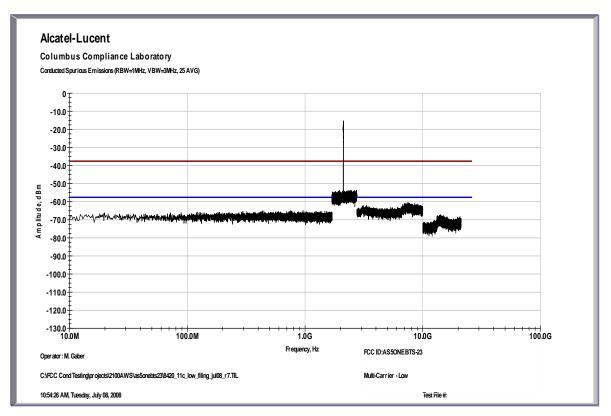




#### SUBEXHIBIT 11.5 ch 875-2153.75MHz (high)



# SUBEXHIBIT 11.5 Multi-Channel 2111.5-2125.255MHz (low)

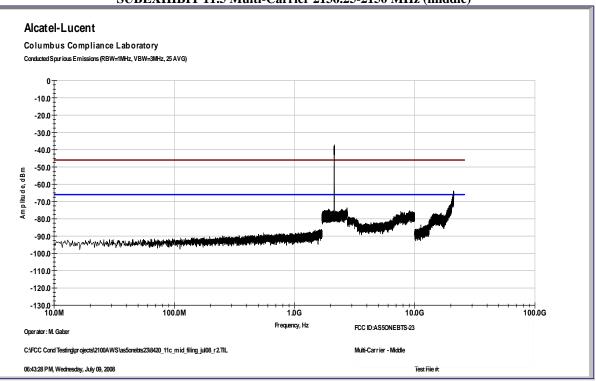


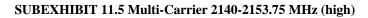
Page 22 of 31 Alcatel-Lucent Proprietary Use pursuant to Company Instructions

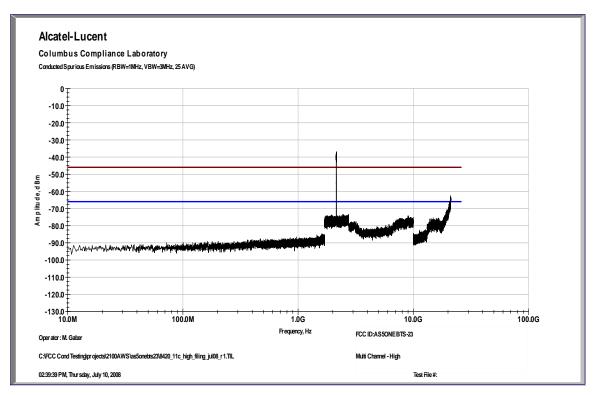




# SUBEXHIBIT 11.5 Multi-Carrier 2136.25-2150 MHz (middle)







Page 23 of 31 Alcatel-Lucent Proprietary Use pursuant to Company Instructions





#### Section 2.1053 MEASUREMENT REQUIRED: FIELD STREGTH OF SPURIOUS RADIATION

The field strength measurements were made in the FCC registered three-meter semi-anechoic chamber which is maintained by Alcatel-Lucent in Columbus, Ohio, USA (FCC # 92731).

The AS5ONEBTS-23 transceiver was investigated from 10 MHz to the 10th harmonic of the carrier or 22 GHz, per Section 21057(a)(1) using substitution method. The equipment under test (EUT) was configured in the normal mode of installation and operation. The recommendations of ANSI C63.4 were followed for EUT testing setup and cabling. Field strength was measured in both horizontal and vertical antenna orientations.

The emission levels were found by:

E(dBuV/m) = Vmeas(dBuV) + Amplifier Gain / Cable Loss (dB) + Antenna Factor

Per FCC Part 2.1053 and FCC Part 27.5(g) the power of any emission outside a licensee's frequency block shall be attenuated below the transmit power by at least  $43 + 10 \log P (dB) = -13 dBm$ . Per FCC Part 2.1057, the amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Compliance margin is calculated by the following

Effective Radiated Power (ERP) = Signal Generator Level + Amplifier Gain / Cable Loss (dB) - Half Wave Dipole gain

Margin = Limit - ERP

Results:

The AS5ONEBTS-23 AWS transceiver demonstrates full compliance with the Rules of the Commission.





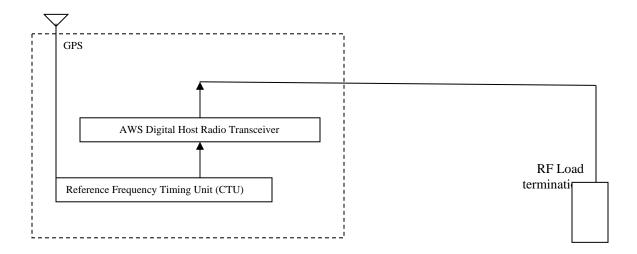
# Table 11.6.1 FIELD STREGTH OF SPURIOUS RADIATION RESULTS

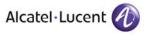
Frequency	Measured Field	Signal Generator	ERP (dBm)	Margin (dB)
(MHz)	Strength	Power (dBm)		
	(dBuV)			
34.7	39.01	-53.10	-62.58	49.58
79.2	42.96	-59.80	-63.13	50.12
98.4	44.43	-52.50	-54.36	41.36
197.1	34.68	-67.50	-64.80	51.80
334.0	42.01	-62.50	-57.28	44.28
493.0	36.55	-65.50	-63.34	50.34
590.3	40.18	-66.00	-59.21	46.21
688.8	38.48	-68.40	-61.21	48.21
885.6	39.53	-75.00	-61.66	48.66
1173.0	51.78	-58.00	-42.86	29.86
1278.0	50.45	-65.00	-49.20	36.20
1476.0	52.31	-66.00	-47.19	34.19
1668.0	47.53	-57.00	-48.12	35.12
2538.0	47.63	60.00	-52.02	39.02
2665.0	49.46	-50.00	-49.89	36.89
2670.0	47.94	-53.50	-51.97	38.97
4236.0	47.89	-76.00	-51.50	38.50
6433.0	52.45	-71.00	-46.50	33.50
8647.0	56.13	-70.00	-42.50	29.56
12887.0	63.31	-51.00	-39.47	21.47
14804.0	65.38	-41.92	-34.31	21.31
17025.0	67.95	-39.35	-31.74	18.74





# FIGURE 11.6.1 TEST SET-UP FOR MEASUREMENT OF RADIATED SPURIOUS EMISSIONS







#### Section 2.1055 MEASUREMENT REQUIRED: FREQUENCY STABILITY

The output frequency of the AS5ONEBTS-23 AWS transceiver is determined by the internal transmit synthesizer and the external OM. The 15 MHz output frequency of OM is disciplined by the CTU using proprietary phase lock loop (PLL) software and GPS reference.

The stability of the AS5ONEBTS-23 AWS transceiver output frequency was measured at the transmit port end antenna connector (EAC) from -40 °C to +50 °C in 10 °C steps and with a variation of primary supply voltage from 85% to 115% of the nominal value per Section 2.1055. The nominal supply voltage is +24 VDC. The 85% of 24 VDC is 20.4 V and 115% is 27.6 V. The frequency was measured at the radio output every 30 seconds at each temperature and each supply voltage. Seven data were collected at each temperature and each supply voltage.

At each temperature and each supply voltage, the AS5ONEBTS-23 AWS Digital Host transceiver was given sufficient time for its thermal stabilization. The primary OM was used for providing 15MHz reference frequency to the CTU. The temperature was recorded during the testing to ensure that the thermal stability was achieved at each temperature prior to frequency measurement.

FCC Section 27.53 specifies that the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation. 3GPP2 C.S0032 and 3GPP2 C.S0010-C specify the minimum requirement is  $\pm 0.050$  ppm (i.e. maximum frequency error of 44 Hz).

The maximum measured frequency derivations ( $\Delta f$ ) at each temperature and supply voltage are summarized in the following table.

Stabilized Temp.	Δf 85% V <sub>norm</sub>	Δf 100% V <sub>norm</sub>	Δf 115% V <sub>norm</sub>
(°C)	(Hz)	(Hz)	(Hz)
-40	2.5349	2.9182	3.0166
-30	4.5175	4.6836	3.7564
-20	3.0818	2.8380	2.0959
-10	3.1479	2.4776	4.4398
0	9.8171	5.3607	2.4446
+10	4.5985	1.2318	6.4643
+20	2.9057	3.9975	5.0974
+30	6.1780	5.9090	2.9059
+40	3.6366	7.5236	4.6304
+50	4.0563	2.2803	2.8642

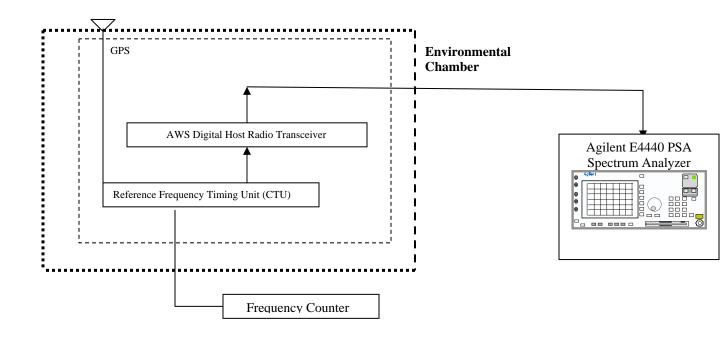
All the measurement equipment was calibrated in accordance with ISO 9001 process. The EUT configuration diagram is given in the following.





# **Results:**

The AS5ONEBTS-23 AWS transceiver demonstrates full compliance with the Rules of the Commission.







Section 2.947 LISTING OF TEST EQUIPMENT USED

Equipment	Manufacturer	Model	Serial No.	Calibrated Date	Due Cal. Date
1.5 GHz Filter	Agilent		84300-80037	N/A	N/A
3.5 GHz Filter	Agilent		84300-80038	N/A	N/A
8.2 GHz Filter	Agilent		84300-80039	N/A	N/A
Spectrum Analyzer	Agilent	E4440A	US42221614	10/20/07	11/20/08
Coaxial Resistor	Bird	8201	4252	N/A	N/A
Coaxial Resistor	Bird	8329	204506	N/A	N/A
Coaxial Resistor	Bird	8890-300	2289	N/A	N/A
Antenna Positioning System	EMCO	1051	1321	N/A	N/A
Bore Sight Antenna Mast	EMCO	2071-2	2239	N/A	N/A
Antenna Mast	EMCO	2075-2	2388	N/A	N/A
Biconical Antenna	EMCO	3110B	3127	5/16/08	6/16/09
Biconical Antenna	EMCO	3110B	3128	5/16/08	6/16/09
Horn Antenna	EMCO	3115	3324	5/20/08	6/20/09
Horn Antenna	EMCO	3115	5638	4/8/08	6/8/09
Log Periodic Antenna	EMCO	3148	1030	6/12/08	6/12/09
Log Periodic Antenna	EMCO	3148	1029	6/12/08	6/12/09
Active Loop Antenna	EMCO	6502	3441	7/15/07	8/16/08
Active Loop Antenna	EMCO	6502	3442	4/20/08	5/20/09
Near Filed Probe Set	EMCO	7405	1385	N/A	N/A
Multi-Device Controller	ETS	2090	9804-1319	N/A	N/A
Multi-Device Controller	ETS	2090	9912-1477	N/A	N/A
Current Probe	Fisher Comm Co	F-2000	68	11/11/07	11/11/08
Current Probe	Fisher Comm Co	F-2000	67	11/11/07	11/11/08
Current Probe	Fisher Comm Co	F-51	283	11/11/07	11/11/08
Current Probe	Fisher Comm Co	F-51	284	11/11/07	11/11/08
Balance Voltage Probe	Fisher Comm Co	FCC-BCP-1	62	11/11/07	11/11/08
Multimeter	Fluke	23	49330331	1/13/08	2/13/09
AC/DC Current Multimeter	FWB	C-600	94040227	1/13/08	2/13/09
Microwave Synthesizer	Giga-tronics	12520A	0032007	6/15/08	6/15/09
Microwave Synthesizer	Giga-tronics	12520A	0214004	6/15/08	6/15/09
Power Sensor	Giga-tronics	80421A	1830056	3/15/08	3/15/09
Power Sensor	Giga-tronics	80621A	1950053	10/11/07	10/11/08
High Power Sensor	Giga-tronics	80621A	1950054	1/17/08	2/17/09
Power Meter	Giga-tronics	8542C	1834318	1/17/08	2/17/09
Power Meter	Giga-tronics	8542C	1834280	10/11/06	10/11/07
Power Meter	Hewlett-Packard	437B	312SU11066	1/05/07	1/05/08
Power Sensor	Hewlett-Packard	8482A	2652A22587	1/05/07	1/05/08
Power Supply 0-36 V,0-25A	HL	520A	1754	NA	NA
Power Supply 0-36 V,0-25A	HL	520A	1755	NA	NA
Power Supply 0-36 V,0-25A	HL	520A	4L1919	NA	NA
Power Supply 0-36 V,100A	HL	6456B	5H0646	NA	NA
Power Supply 0-36 V,100A	HL	6456B	5H0232	NA	NA





D	TTT	(170)	510107	NT A	NT A
Power Supply 0-36 V,100A	HL	6472A	5M0107	NA	NA
RF Limiter	HP	11693A	03532	NA	NA
Spectrum Analyzer	Agilent	E4440A	US41421393	3/27/08	4/27/09
Spectrum analyzer, RF Sec	Hewlett-Packard	8566B	3026A19151	3/6/08	4/6/09
Spectrum analyzer, Disp Sec	Hewlett-Packard	8566B	3014A06682	3/6/08	4/6/09
EMI Test Receiver, Disp Sec	Rohde & Schwarz	ESA1-D	DE25102	12/06/07	1/06/09
EMI Test Receiver, RF Sec	Rohde & Schwarz	EMS1-RF	DE25102	12/06/07	1/06/09
Attenuator	Weinschel	6dB	AV9010	N/A	N/A
RF Limiter	Hewlett-Packard	11867A	03533	N/A	N/A
Loop Antenna	EMCO	6502	3441	12/06/07	1/06/09
Biconical Antenna	EMCO	3110B	9807-3128	2/2/2008	2/2/09
Log-periodic Antenna	EMCO	3148	9707-1029	1/31/08	1/31/09
Double Ridged Horn Ant.	EMCO	3115	9812-5638	1/27/08	1/27/09
Pre-amplifier	Hewlett-Packard	8449B	3008A01355	1/18/08	1/18/09
Pre-amplifier	Sonoma - HP	310	185704	1/18/08	1/18/09
Multi-device Controller	EMCO	2090	9912-147-7	N/A	N/A
Thermal Coupler	Omega	Т	N/A	N/A	N/A
Directional Coupler	MECA	715-40-3.5	N/A	N/A	N/A
50Ω Resistive Load	Bird Electronic	8166	9349	N/A	N/A
$50\Omega$ Resistive Load	Bird Electronic	8166	8283	N/A	N/A
$50\Omega$ Resistive Load	Bird Electronic	8166	8276	N/A	N/A
28V Power Supply	Hewlett-Packard	6684A	US36410429	N/A	N/A
28V Power Supply	Hewlett-Packard	6684A	US36410433	N/A	N/A
DC Power Supply	Hewlett-Packard	6683A	36420289	N/A	N/A
DC Power Supply	Hewlett-Packard	6038A	3025A-09939	N/A	N/A
Multi-meter	Fluke	23	49330331	1/13/08	1/13/09
RF Switch	Hewlett-Packard	11713A	2223A01767	N/A	N/A
RF Switch	Hewlett-Packard	44477A	MY42000146	N/A N/A	N/A N/A
RF Switch	Hewlett-Packard	44477A	MY42000147	N/A	N/A
RF Switch	Hewlett-Packard	8764C	3241A00605	N/A N/A	N/A N/A
RF Switch	Hewlett-Packard	8764C	3241A00603	N/A N/A	N/A N/A
RF Switch	Agilent	8761B	74304	N/A N/A	N/A N/A
RF Switch	Agilent	8761B	74261	N/A N/A	N/A N/A
RF Switch	Agilent	8761B	74305	N/A N/A	N/A N/A
Switch Control Unit	Hewlett-Packard	3488A	204925	N/A N/A	N/A N/A
Switch Control Unit	Hewlett-Packard	3488A	14202	N/A N/A	N/A N/A
Tunable Bandreject Filter	K&L	3TNF500/1000	14202	N/A N/A	N/A N/A
Low Pass Filter	Trilithic	10LC800-3-AA	200201001	N/A N/A	N/A
High Pass Filter	Hewlett-Packard	84300-80037	015	N/A N/A	N/A N/A
E4440A PSA	Agilent	E4440A	US42221740	10/13/07	10/13/08
	SRFI	184	150	NA	NA
Switch Power Divider	Weinschel	184 1506A	150	NA NA	NA NA
Attenuator	Weinschel	48-20-33		NA NA	NA NA
			2024 & 14200	NA 12/06/07	NA 1/06/09
Universal Counter Rectifier	Hp TDI	5335A	2934A14399 128981-12	12/06/07 NA	1/06/09 NA
Freq Ref. Receiver	Symmetricon	AC-DC 58503B	KR93200773	NA NA	NA NA
Power Meter	HP	EPM-442A	GB37170388	5/22/2008	5/22/09
Power Meter Power Sensor	HP	8482A	US37292961	5/30/08	5/30/09
	HP	8482A 8595E	3264A02230	3/30/08 12/06/07	1/06/09
Spec Analyzer	HP				
Freq Counter		53181A	3418A00309	10/18/07	10/18/08
Spec Analyzer	Agilent	E4443A	US41420102	12/06/07	1/06/09
Variable AC power supply	California Inst	MX45-3PI	55562	NA	NA

Page 30 of 31 Alcatel-Lucent Proprietary Use pursuant to Company Instructions



