EXHIBIT 9: TEST REPORT

SYNOPSIS

The test report attached to this exhibit demonstrates that the Alcatel-Lucent Cellular Frequency UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System, is in full compliance with all requirements of the Rules of the Commission as specified in the Code of Federal Regulations (CFR), Title 47 – Telecommunication; Part 22, Subpart H – Cellular Radiotelephone Service; Section 22.917 - Emission Limitations for Cellular Equipment; effective October 1, 2006. All testing was performed in accordance with CFR 47, Part 2, Subpart J – Equipment Authorization Procedures, effective October 1, 2007.

This system also complies with the European Telecommunications Standards Institute (ETSI) 3rd Generation Partnership Project (3GPP) Technical Specifications TS 25.104 and TS 25.141. The UMTS carrier and system are designed and developed for compliance with the *ETSI TS 25.141 V7.4.0 (2006-06) standard: "Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD) (3GPP TS 25.141 version 7.4.0 Release 7)"* standard. In accordance with FCC Rule Part 2.947 *Measurement Procedure*, the Commission will accept data which have been measured in accordance with the following standards or measurement procedures: (1) Those originating with the OET, and (2) Those acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic Engineers, Inc., and the American National Standards Institute. ETSI qualifies for this category. The UMTS carriers and system were designed based on the guideline of and in compliance with the ETSI TS 25.141 standard.

The initial FCC authorization, under FCC ID: AS5ONEBTS-17, covered operation over a 21 MHz portion of the Cellular Frequency Spectrum 869-890 MHz. The objective of this Class II Permissive Change request is to obtain authorization to operate over the full 25 MHz Cellular Spectrum 869-894 MHz.

The **9341 RRH 40W 850 MHz** wireless UMTS Distributed Base Station Transceiver System (850 MHz) is the subject of this request for a Class II Permissive Change authorization under the FCC ID: AS5ONEBTS-17. It is designed to operate in the North America Region (NAR) Cellular Frequency Spectrum 869-894 MHz, with bandwidth of 25 MHz over the A", A, B, A' and B' Bands. The ETSI TS 25.141 V7.4.0 (2006-06) standard: *"Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD) (3GPP TS 25.141 version 7.4.0 Release 7)"* specifies this spectrum as the UMTS Terrestrial Radio Access/Frequency Division Duplexing (UTRA/FDD) Radio Frequency Band V: UL 824-849 MHz and DL 869-894 MHz.

The **9341 RRH 40W 850 MHz** Distributed Base Station is rated at 40 Watts maximum RF power, based on the 3-second average, employing the Aggregate Overload Control (AOC) algorithm. The 40W is the total composite power that covers both single carrier operation at 40W (+46 dBm) and 2 carrier operation at 20W (+43 dBm) per carrier. Enhanced Digital Pre-Distortion (EDPD) and Closed Loop Gain Control (CLGC) are features that are enabled for each carrier. The carrier power level and frequency are remotely controlled by software. The single UMTS carrier has a 5 MHz emission bandwidth, with an emission designator at 4M10F9W, based on measurement of the Necessary Bandwidth. UMTS modulation capability demonstrated includes 1) up to 68 active channels, consisting of 64 voice + 4 control, 2) up to 44 active channels, which include 8 High Speed Downlink Packet Access (HSDPA) channels, and 3) a single active channel *Synchronization Channel* (SCH).

The Distributed Base Station (DBS) system, subject of this Class II Chenge, is comprised of two separate modules interconnected by fiber optic cable: 1) the digital Base Band Unit (BBU), and 2) the Remote Radio Head (RRH). They have the flexibility of being installed either in close proximity to or remotely

located from each other. The BBU has the capability of controlling up to 3 remotely located RRH units, via fiber optic cable, and incorporates the digital channel cards, reference oscillator module, T1/E1 and alarm interface, and the RF-to-Optical and Optical-to-RF conversion circuitry. The 850 MHz RRH incorporates the Future Technology Radio (FTR850), power amplifier (PA) and passive filter with single transmit (Tx) and diversity receive functionality (Rx0, Rx1). This system complies both with the Federal Communication Commission (FCC) Rules and Regulations (47 CFR Part 22), and with the European Telecommunications Standards Institute (ETSI) 3rd Generation Partnership Project (3GPP) Technical Specifications TS 25.104 and TS 25.141.

As a Transceiver System, all conducted RF characteristics and emissions measurements were performed at the transmit antenna terminal, using a production equipment frame. All testing was performed in the Alcatel-Lucent, Whippany, NJ, compliance laboratory by F. E. Chetwynd and M. P. Farina during the period March 17 – 25, 2008; in adherence to a test plan generated by M. P. Farina, in accordance with Alcatel-Lucent's ISO/TL9000 Registration. All measurement instrumentation utilized were also calibrated in compliance with Lucent's ISO/TL9000 Registration. The Whippany 3 & 10 Meter Open Area Test Site (OATS) is authorized by the Federal Communications Commission (FCC) under Registration Number: 90770, in compliance with the requirements of Section 2.948 of the Rules of the Commission.

Frequency stability measurements were previously performed by N.Hussain, Alcatel-Lucent , Swindon, United Kingdom, under the direction of M. P. Farina, and in adherence to the previously cited ISO/TL9000 test plan. A full report was attached to this exhibit in the initial FCC application for certification and will not be repeated in this application for a Class II Permissive Change, since the radio, reference frequency oscillator and frequency determining and stabilization circuitry are unchanged.

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Subject: **Application for Class II Permissive Change under FCC ID:AS5ONEBTS-17, Covering the 9341 RRH 40W 850 MHz Base Station, Operating in the Cellular Radiotelephone Service, 869-894 MHz.**
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March 26, 2008

TEST REPORT

INTRODUCTION:

The Alcatel-Lucent UMTS **9341 RRH 40W 850 MHz** Distributed Base Station was previously authorized by the FCC under FCC ID: AS5ONEBTS-17, effective October 26, 2007. This initial Grant covered 21 MHz of the Cellular Frequency Spectrum 869-890 MHz. The purpose of this request for a Class II Permissive Change authorization is to extend the initial coverage to the full 25 MHz bandwidth of the Cellular Frequency Spectrum 869-894 MHz. The only modification to the equipment was to increase the transmit and receive bandwidths of the Tx/Rx filter. The transceiver (radio), power amplifier, reference oscillator and digital circuitry have not been changed, altered or modified. As a Class II Permissive Change, Part 2, Sec. 2.1043 *Changes in certificated equipment.(b)(2)* requires that *When a Class II permissive change is made by the grantee, the grantee shall supply the Commission with complete information and the results of tests of the characteristics affected by such change.*

The exhibits and measurements presented in this test report demonstrate that the Alcatel-Lucent UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System (850 MHz), is in full compliance with all requirements of the Rules of the Commission as specified in the Code of Federal Regulations (CFR), Title 47 – Telecommunication; Part 22, Subpart H – Cellular Radiotelephone Service; Section 22.917 - Emission Limitations for Cellular Equipment; effective October 1, 2007, as a valid Class II Permissive Change. All testing was performed in accordance with CFR 47, Part 2, Subpart J – Equipment Authorization Procedures; effective October 1, 2007, as a valid Class II Permissive Change.

The **9341 RRH 40W 850 MHz** system, subject of this Class II Change certification, is comprised of two separate modules interconnected by fiber optic cable: 1) the digital Base Band Unit (BBU), and 2) the Remote Radio Head (RRH). They have the flexibility of being installed either in close proximity to or remotely located from each other. The BBU has the capability of controlling up to 3 remotely located RRH units, via fiber optic cable, and incorporates the digital channels cards, reference oscillator module, T1/E1 and alarm interface, and the RF-to-Optical and Optical-to-RF conversion circuitry. The 850 MHz RRH incorporates the Future Technology Radio (FTR), power amplifier (PA) and passive filter with single transmit (Tx) and diversity receive functionality (Rx0, Rx1). This system complies both with the Federal Communication Commission (FCC) Rules and Regulations (47 CFR Part 22), and with the European Telecommunications Standards Institute (ETSI) 3rd Generation Partnership Project (3GPP) Technical Specifications TS 25.104 and TS 25.141. The UMTS carrier and system are designed and developed for compliance with the *ETSI TS 25.141 V7.4.0 (2006-06) standard: "Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD) (3GPP TS 25.141 version 7.4.0 Release 7)"* standard. In accordance with FCC Rule Part 2.947 *Measurement Procedure*, the Commission will accept data which have been measured in accordance with the following standards or measurement procedures: (1) Those originating with the OET, and (2) Those acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic Engineers, Inc., and the American National Standards Institute. ETSI qualifies for this category.

The UMTS carrier and system, subject of this application for Class II Permissive Change authorization, was designed to be compliant with and in accordance with the guideline of the standard: ETSI TS 125 141 V7.4.0 (2006-06): Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD), (3GPP TS 25.141, Version 7.4.0, Release 7). As such, the 5 MHz emission bandwidth carrier is defined by a 5 MHz wide emission mask , which is based on a 30 kHz Resolution Bandwidth of the measuring instrumentation. The emission designator was determined from the measurement of the necessary bandwidth to be 4M10F9W.

The **9341 RRH 40W 850 MHz** system is designed to operate in the North America Region (NAR) Cellular Frequency Spectrum 869-894 MHz, with bandwidth of 25 MHz over the A", A, B, A' and B' Cellular Bands. The ETSI TS 25.141 V7.4.0 (2006-06) standard: *"Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD) (3GPP TS 25.141 version 7.4.0 Release 7)"* specifies this spectrum as the UMTS Terrestrial Radio Access/Frequency Division Duplexing (UTRA/FDD) Radio Frequency Band V: UL 824-849 MHz and DL 869-894 MHz.

The RF power rating is 40 Watts maximum composite, based the 3-second average employing the Aggregate Overload Control (AOC) algorithm, which includes both a single carrier at 40W and 2 carriers at 20W per carrier. Enhanced Digital Pre-Distortion (EDPD) and Closed Loop Gain Control (CLGC) are features that are enabled for each carrier. The carrier power level and frequency are remotely controlled by software. UMTS modulation capability demonstrated includes 1) up to 68 active channels, consisting of 64 voice + 4 control, 2) up to 44 active channels, which include 8 High Speed Downlink Packet Access (HSDPA) channels, and 3) a single active channel *Synchronization Channel* (SCH).

The **9341 RRH 40W 850 MHz** system, subject of this Class II certification, is comprised of two separate modules interconnected by fiber optic cable: 1) the digital Base Band Unit (BBU), and 2) the RF Remote Radio Head (RRH). They have the flexibility of being installed either in close proximity to or remotely located from each other. The BBU has the capability of controlling up to 3 remotely located RRH units, via fiber optic cable, and incorporates the digital channel cards, reference oscillator module, T1/E1 and alarm interface, and the RF-to-Optical and Optical-to-RF conversion circuitry. The 850 MHz RRH incorporates the Future Technology Radio (FTR850), power amplifier (PA) and passive filter with single transmit (Tx) and diversity receive functionality (Rx0, Rx1).

As a Transceiver System, all conducted RF characteristics and emissions measurements were performed at the transmit antenna terminal, using a production equipment frame. All testing was performed in the Alcatel-Lucent, Whippany, NJ, compliance laboratory by F. E. Chetwynd and M. P. Farina during the period March 17 - 25, 2008; in adherence to a test plan generated by M. P. Farina, in accordance with Alcatel-Lucent's ISO/TL9000 Registration. All measurement instrumentation utilized were also calibrated in compliance with Alcatel-Lucent's ISO/TL9000 Registration. The Whippany 3 & 10 Meter Open Area Test Site (OATS) is authorized by the Federal Communications Commission (FCC) under Registration Number: 90770, in compliance with the requirements of Section 2.948 of the Rules of the Commission.

Frequency stability measurements were previously performed by N.Hussain, Alcatel-Lucent, Swindon, United Kingdom, under the direction of M. P. Farina, and in adherence to the previously cited ISO/TL9000 test plan. Since the frequency determining and stabilization circuitry were not affected by this transmit bandwidth increase, the frequency stability measurements were not repeated; the original remain valid.

This report fully documents all required tests and the test results, sufficient to show full compliance with the Rules of the Commission, as a valid Class II Permissive Change under FCC ID: AS5ONEBTS-17.

APPLICABLE FCC RULES AND INDUSTRY STANDARDS:

The exhibits presented in this test report demonstrate that Alcatel-Lucent's Cellular Frequency UMTS **9341 RRH 40W 850 MHz** Base Station Transceiver System, is in full compliance with all requirements of the Rules of the Commission, as specified in the Code of Federal Regulations (CFR), Title 47 – Telecommunication; Part 22, Subpart H – Cellular Radiotelephone Service; Section 22.917 - Emission Limitations for Cellular Equipment; effective October 1, 2007. All testing was performed in accordance with CFR 47, Part 2, Subpart J – Equipment Authorization Procedures; effective October 1, 2007. Compliance is also demonstrated with the spurious emission limitations specified in ETSI TS 125 141 V7.4.0 (2006-06): Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD), (3GPP TS 25.141, Version 7.4.0, Release 7). The specific test procedures that are both required for and are applicable to the UMTS Distributed Base Station Transceiver System are:

Part 2.1046	RF Power Output	**Pages 5 – 7**
Part 2.1047	Modulation Characteristics	**Pages 8-10**
Part 2.1049	Occupied Bandwidth	**Pages 11-18**
Special Test	Two Carrier Operation and Performance	**Pages 19 - 21**
Part 2.1051	Spurious Emissions at the Antenna Terminals.	**Pages 22-27**
Part 2.1053	Field Strength of Spurious Radiation	**Pages 28**
Part 2.1055	Frequency Stability	**Pages 29-30**
Part 2.1057	Frequency Spectrum to be Investigated	
Part 22	Public Mobile Services; Subpart H – Cellular Radiotelephone Service	
Part 22.917	Emission Limitations for Cellular Equipment	

ETSI TS 125 141 V7.4.0 (2006-06): Universal Mobile Telecommunications System (UMTS); Base Station (BS) Conformance Testing (FDD), (3GPP TS 25.141, Version 7.4.0, Release 7).

ETSI TS 125 104 V7.4.0 (2006-06): Universal Mobile Telecommunications System (UMTS); Base Station (BS) Radio Transmission and Reception (FDD), (3GPP TS 25.104, Version 7.4.0, Release 7).

ANSI C63.4-2003 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic in the Range of 9 kHz to 40 GHz; January 30, 2004

PART 2.1046 MEASUREMENTS REQUIRED: RF POWER OUTPUT

The UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System, subject of this application for Class II Permissive Change authorization, is designed to provide a maximum RF power level, per single 5 MHz carrier emission bandwidth, of 40 Watts (+46 dBm) at the Equipment Antenna Terminal (EAC). The RF power rating is based the 3-second average, employing the Aggregate Overload Control (AOC) algorithm. Enhanced Digital Pre-Distortion (EDPD) and Closed Loop Gain Control (CLGC) are features that are enabled for each carrier. The system is also designed to generate 2 adjacent carriers at 20 Watts (+43 dBm) per carrier, for a total composite power of 40W.

All conducted emission measurements are performed at the EAC, with measurements being made at the lowest and the highest settable UMTS carrier frequencies both in the A"+A and the B-B' Bands, i.e., at each UMTS end frequency. These 4 carrier channels were used throughout this test procedure, as tabulated below. Each time the carrier is set to each of the channels, and to each of 2 ETSI Test Modulation schemes, the power level is adjusted, by software control, to +46 dBm (40 Watts at 3-second average), and +43 dBm/C for 2 carrier operation, before performing each emission measurement.

SINGLE CARRIER AT 40 Watts (+46 dBm)

Cellular Frequency Band	UMTS850 Carrier	Single Carrier Bandwidth	UARFCN Channel Number	UMTS Carrier Center Frequency	Measured Power Level
A"	Lowest Settable for A-Band and to 869 MHz Band Edge	5 MHz	1007	871.5 MHz	+46 dBm
A	Highest Settable for A-Band	5 MHz	1037	877.5 MHz	+46 dBm
B	Lowest Settable for B-Band	5 MHz	1062	882.5 MHz	+46 dBm
B'	Highest Settable for B-Band and to 894 MHz Band Edge	5 MHz	1107	891.5 MHz	+46 dBm

Note: UARFCN = UTRA Absolute Radio Frequency Channel Number

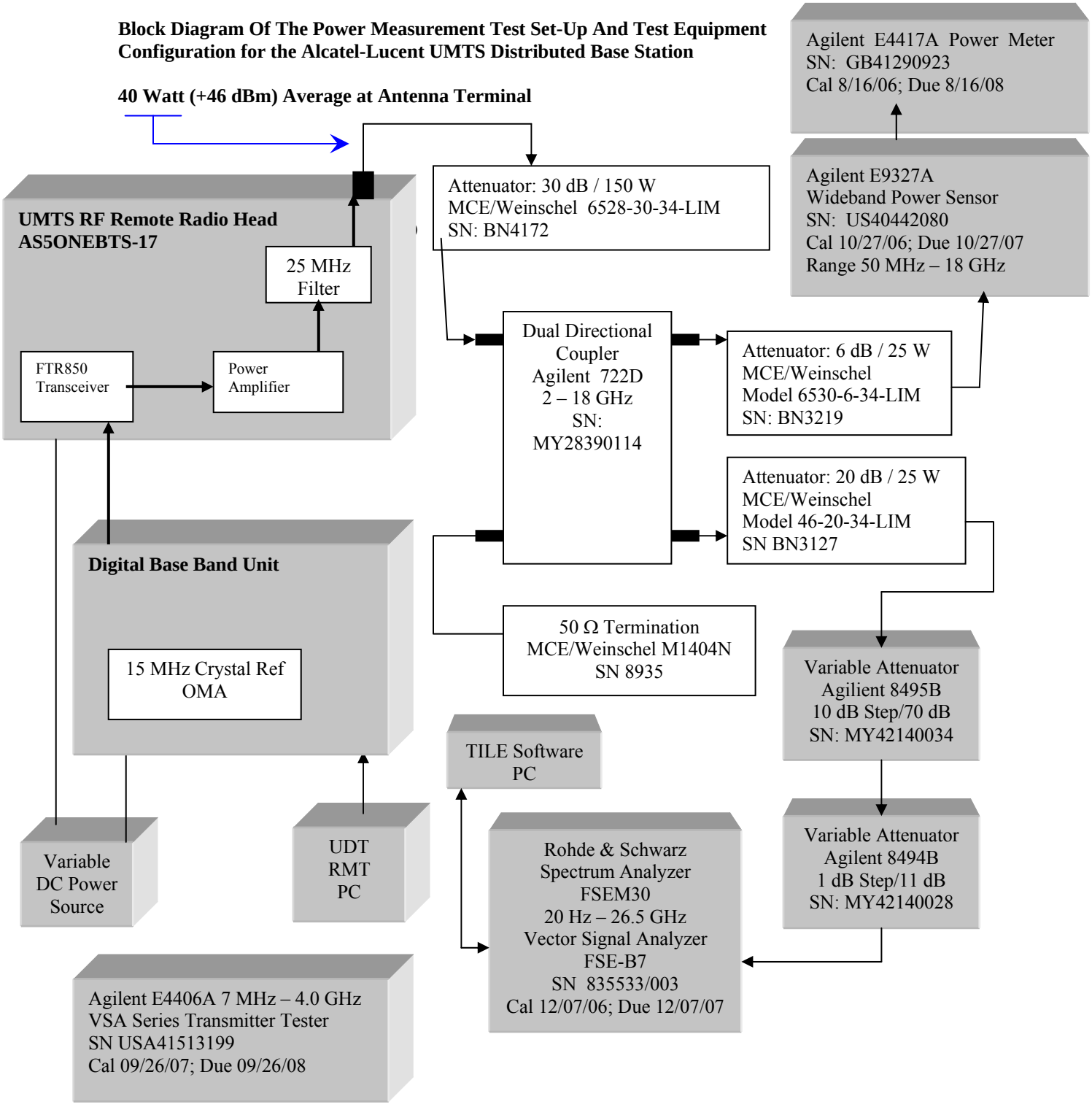
TWO ADJACENT CARRIERS AT 20 Watts (+43 dBm) PER CARRIER

Cellular Frequency Band	Low Carrier Frequency F_1	Measured Power Level F1	High Carrier Frequency F_2	Measured Power Level F2	Total Composite Power $F_1 + F_2$
A-Band	871.5 MHz	+43 dBm	876.5 MHz	+43 dBm	+46 dBm
B-Band	886.5 MHz	+43 dBm	891.5 MHz	+43 dBm	+46 dBm

Results: The 5 MHz UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System is compliant with the manufacturer's rated power level at the transmit antenna terminal for the above listed carrier frequencies.

Block Diagram Of The Power Measurement Test Set-Up And Test Equipment Configuration for the Alcatel-Lucent UMTS Distributed Base Station

40 Watt (+46 dBm) Average at Antenna Terminal



PART 2.1047 MEASUREMENTS REQUIRED: MODULATION CHARACTERISTICS

The modulation accuracy was measured in full for the initial certification. As a Class II Permissive Change, repeat measurement with a single ETSI TS 25.141 test modulation scheme (TM5-44) is sufficient to demonstrate continued compliance.

The modulation accuracy was measured at the Equipment Antenna Terminal (EAC) for each of the four UMTS 850 carriers UARFCN 1007, 1037, 1062, and 1107. ETSI TS 25.141 specifies that the Error Vector Magnitude (EVM) be measured using Test Model 5 modulation, as an alternative to TM; TM5-44 with 44 active channels (16QAM) and the power level set to Pmax = +46 dBm. The Error Vector Magnitude limit is EVM < 12.5% for 16QAM.

TM5-44: with 44 Active Channels, Including 8 HSDPA (High Speed Downlink Packet Access)
ETSI TS 25.141 Rel 7, Table 6.6A : Test Model 5 Active Channels

Type	Number of Channels	Fraction of Power (%)
P-CCPCH+SCH	1	7.9
Primary CPICH	1	7.9
PICH	1	1.3
S-CCPCH containing PCH (SF=256)	1	1.3
DPCH (SF=128)	30	14
HS-SCCH	2	4
HS-PDSCH (16 QAM)	8	63.6

The requirement is that the Error Vector Magnitude (EVM) be less than 12.5% rms. The test equipment used was an Agilent E4406A VSA Series Transmitter Tester (SN US41513199), set for a 25 sweep average and composite modulation.

Modulation Accuracy
RMS Error Vector Magnitude (EVM) Measurement Summary at the Antenna Terminal

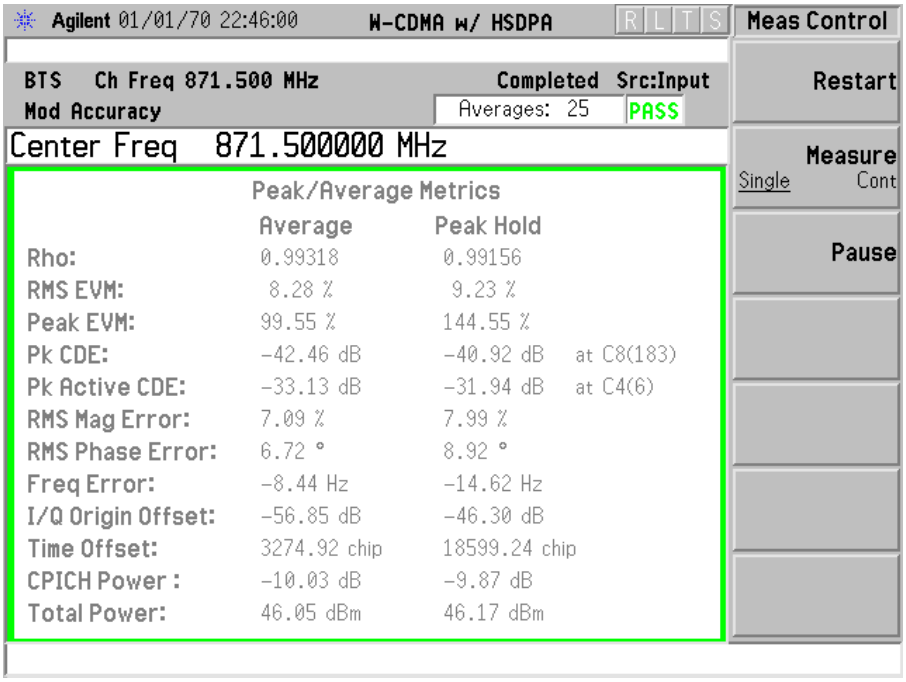
Cellular Frequency Band	UMTS850 Carrier	Single Carrier Bandwidth	UARFCN Channel Number	UMTS Carrier Center Frequency	RMS EVM Average (16 QAM)
A	Lowest Settable for A-Band and to 869 MHz Band Edge	5 MHz	1007	871.5 MHz	**8.28 % rms**
A	Highest Settable for A-Band	5 MHz	1037	877.5 MHz	**6.73 % rms**
B	Lowest Settable for B-Band	5 MHz	1062	882.5 MHz	**6.64 % rms**
B	Highest Settable for B-Band and to 894 MHz Band Edge	5 MHz	1107	891.5 MHz	**8.33 % rms**

Minimum Standard Requirement: The minimum standard requirement is that the RMS Error Vector Magnitude (EVM), at 16 QAM, shall be less than 12.5%.

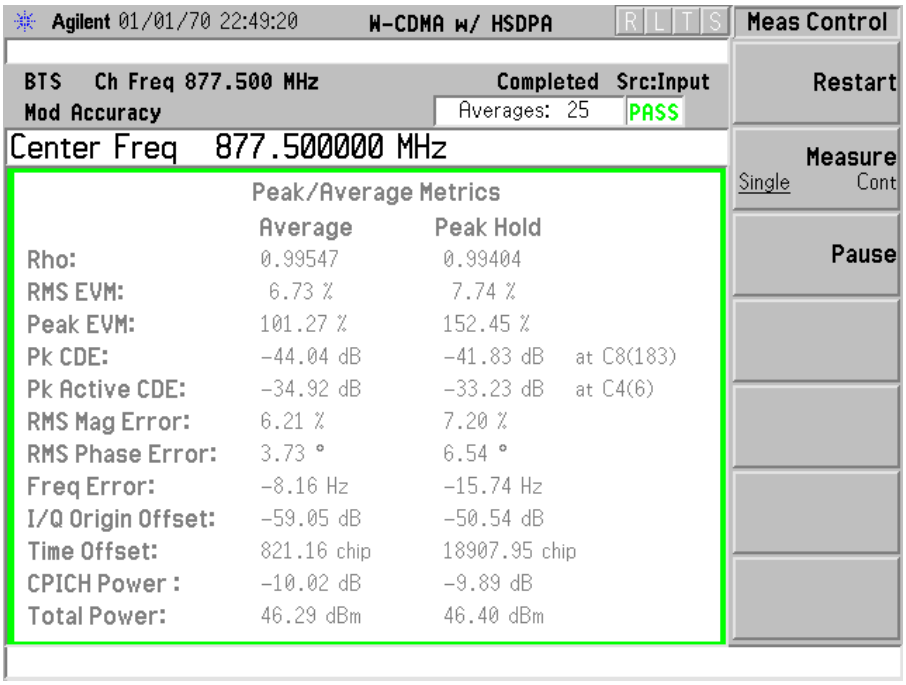
Test Set-up and Configuration: Same as previously used for Part 2.1046 RF Power Measurement, with exception that the FSEM30 Spectrum Analyzer is replaced by:
1) Agilent E4406A VSA Series Transmitter Tester, 7 MHz – 4.0 GHz, SN US41513199

RESULTS: The UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System demonstrated full compliance with the modulation accuracy requirements specified in ETSI TS 25.141. All 4 channels were less than the 12.5% rms limitation, when operated with a single carrier at 40W and Test Modulation TM5-44 (16 QAM). The plots for each channel are included in this exhibit as shown below.

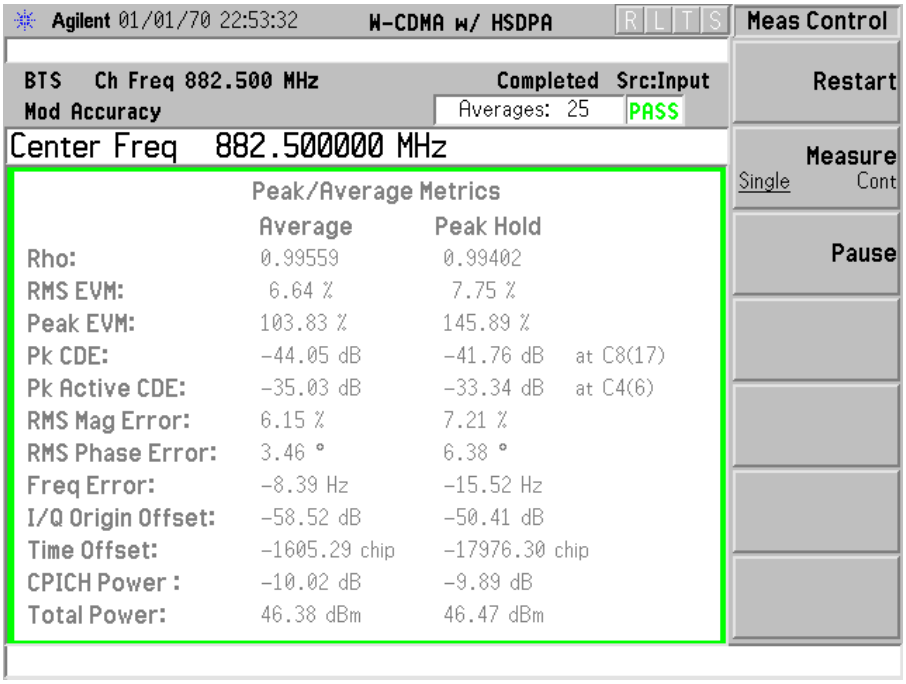
Modulation Characteristics: UARFCN Channel Number 1007 @ 871.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier



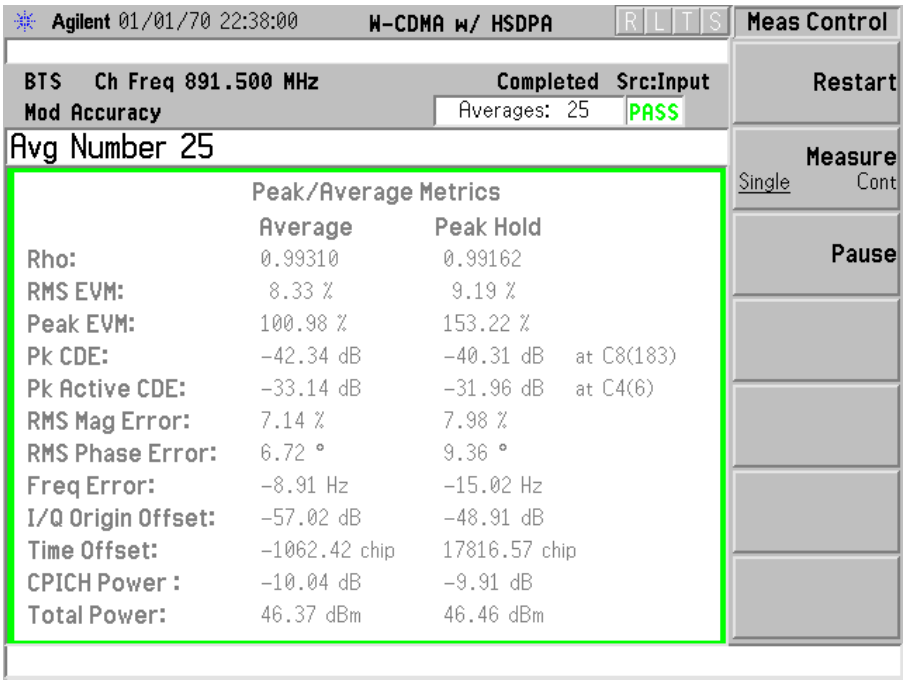
Modulation Characteristics: UARFCN Channel Number 1037 @ 877.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier



Modulation Characteristics: UARFCN Channel Number 1062 @ 882.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier



Modulation Characteristics: UARFCN Channel Number 1107 @ 891.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier



PART 2.1049 MEASUREMENTS REQUIRED: OCCUPIED BANDWIDTH

The occupied bandwidth was measured at the Equipment Antenna Terminal (EAC) for each of the four, UMTS 850, 5 MHz single carriers. The power level was set to 40 Watts (+46 dBm). Two ETSI Test Modulation schemes were utilized:

1) TM1-64 with up to 68 active channels, consisting of 64 Voice + 4 Control active channels, and
2) TM5-44 with up to 44 active channels, consisting of 30 Voice + 8 HSDPA + 6 Control active channels, where HSDPA = High Speed Downlink Packet Access.

The modulation scheme for TM5-44 is the same as in PART 2.1047 MEASUREMENTS REQUIRED: MODULATION CHARACTERISTICS. The modulation scheme for TM1-64 is:

TM1– 64: with 68 Active Channels
ETSI TS 25.141 Rel 7, Table 6.1 : Test Model 1 Active Channels

Type	Number of Channels	Fraction of Power (%)
P-CCPCH+SCH	1	7.9
Primary CPICH	1	7.9
PICH	1	1.3
S-CCPCH containing PCH (SF=256)	1	1.3
DPCH (SF=128)	64	14

The occupied bandwidth was measured by two methods:

1. The carrier 99% power bandwidth, which is also the necessary bandwidth, using an Agilent E4406A VSA Series Transmitter Tester (SN US41513199). For this occupied bandwidth measurement , the VSA uses a **pre-programmed 30 kHz Res BW**, for compliance with ETSI TS 25.141.
2. Emission mask limitation using a Rohde & Schwarz: Spectrum Analyzer FSEM30 (SN 835533/003), to demonstrate compliance with the ETSI TS 25.141 emission mask requirements and with Part 22.917.

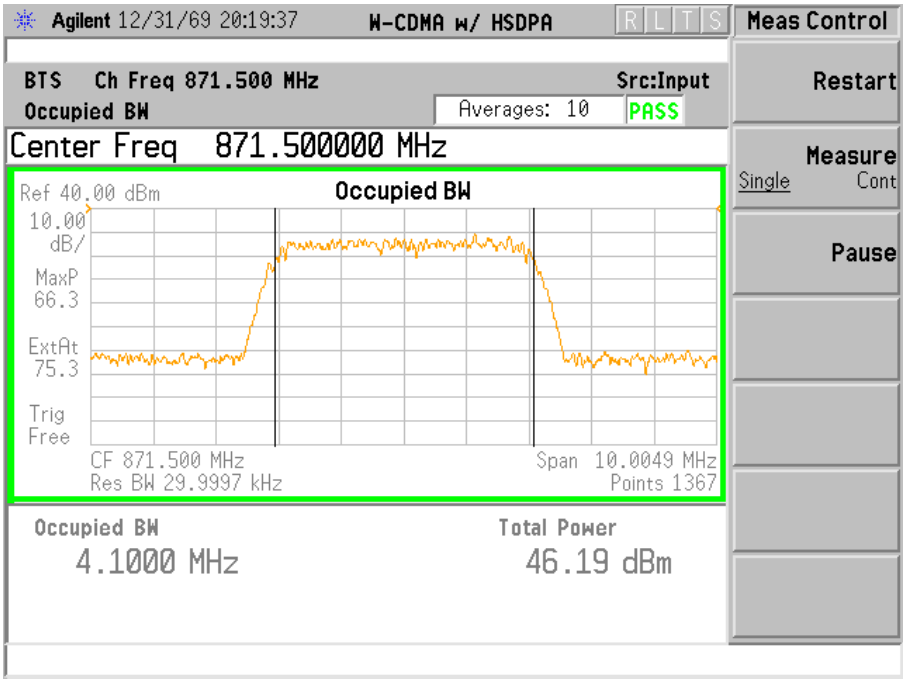
Method 1: The carrier 99% power bandwidth was measured at the Equipment Antenna Terminal (EAC) with the 5 MHz single carrier set to +46 dBm and modulated first with TM1-64 and then with TM5-44. The necessary bandwidth measurement results show that the carrier is within the manufacturer's rated 5 MHz bandwidth for all four carriers measured, and for both modulation schemes, as tabulated below. For brevity, the data plots that are attached show the TM1-64 measurements. The TM5-44 plots are nearly identical, and tabulating the measured values below is sufficient.

Cellular Frequency Band	UMTS850 Carrier	UARFCN Channel Number	UMTS Carrier Center Frequency	99% Bandwidth TM1-64	99% Bandwidth TM5-44
A	Lowest Settable for A-Band and to 869 MHz Band Edge	1007	871.5 MHz	**4.1000 MHz**	**4.1007 MHz**
A	Highest Settable for A-Band	1037	877.5 MHz	**4.1067 MHz**	**4.1003 MHz**
B	Lowest Settable for B-Band	1062	882.5 MHz	**4.1030MHz**	**4.1021 MHz**
B	Highest Settable for B-Band and to 894 MHz Band Edge	1107	891.5 MHz	**4.1049 MHz**	**4.1038 MHz**

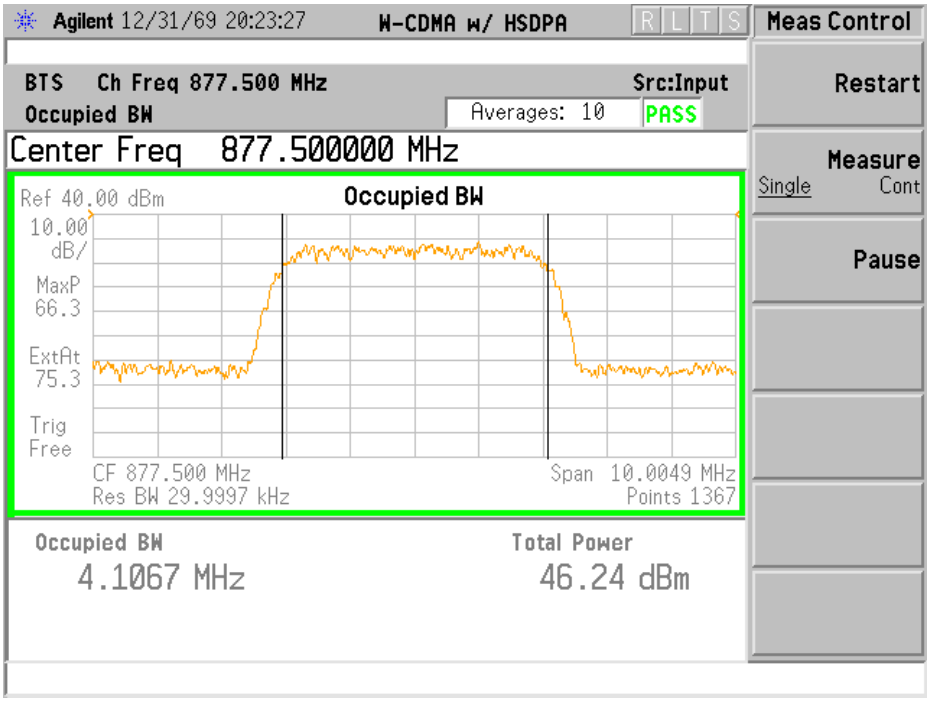
Results: For each UMTS 850 MHz channel, and for each test modulation scheme, the carrier does not exceed 5.0 MHz. The necessary bandwidth and emission designator is confirmed at **4M10F9W**. The average and range of the 99% power bandwidth/necessary bandwidth measurements are:

Average	4.1027
Max	4.1067
Min	4.1000

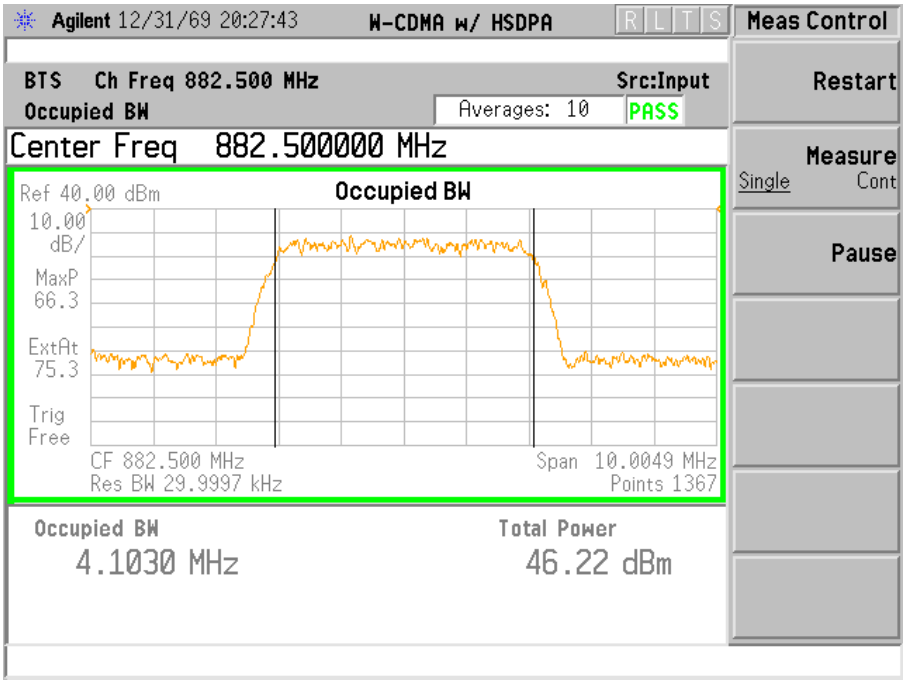
Carrier 99% Bandwidth Characteristics: UARFCN Channel Number 1007 @ 871.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Modulation



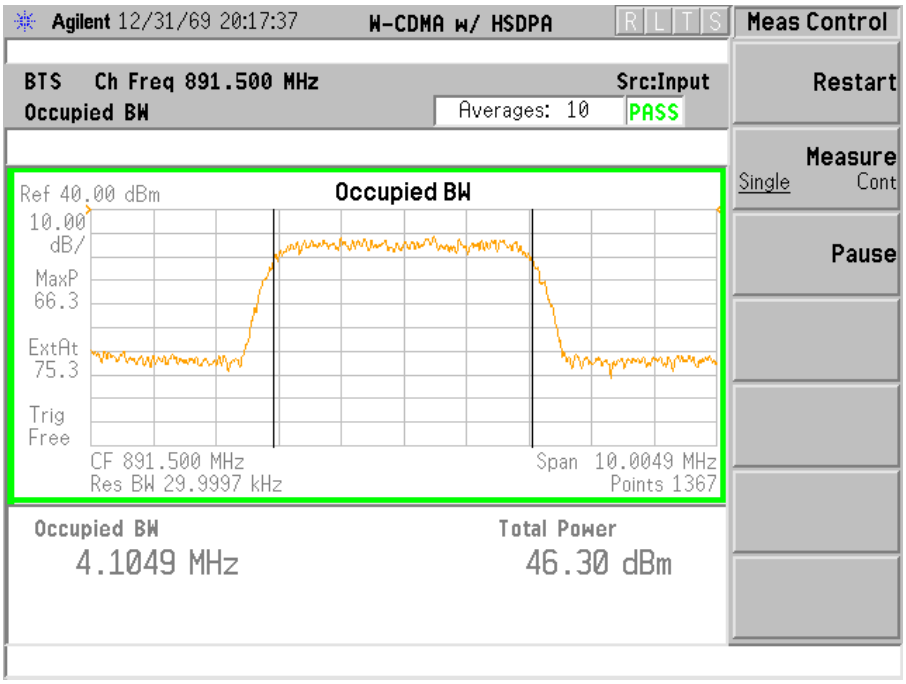
Carrier 99% Bandwidth Characteristics: UARFCN Channel Number 1037 @ 877.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Modulation



Carrier 99% Bandwidth Characteristics: UARFCN Channel Number 1062 @ 882.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Modulation



Carrier 99% Bandwidth Characteristics: UARFCN Channel Number 1107 @ 891.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Modulation



PART 2.1049 MEASUREMENTS REQUIRED: OCCUPIED BANDWIDTH (CONTINUED)

Method 2. Emission mask limitation using a Rohde & Schwarz: Spectrum Analyzer FSEM30 (SN 835533/003) with Total Integrated Laboratory Environment (TILE) test software.

The **9341 RRH 40W 850 MHz** system is designed both for compliance with and as a guideline to the European Telecommunications Standards Institute (ETSI) 3rd Generation Partnership Project (3GPP) Technical Specifications TS 25.104 and TS 25.141. The UMTS carrier and system are designed and developed for compliance with the *ETSI TS 25.141 V7.4.0 (2006-06) standard: "Universal Mobile Telecommunications System (UMTS); Base Station Conformance Testing (FDD) (3GPP TS 25.141 version 7.4.0 Release 7)"* standard. In accordance with FCC Rule **Part 2.947** *Measurement Procedure*, the Commission will accept data which have been measured in accordance with the following standards or measurement procedures: (1) Those originating with the OET, and (2) Those acceptable to the Commission and published by national engineering societies such as the Electronic Industries Association, the Institute of Electrical and Electronic Engineers, Inc., and the American National Standards Institute. ETSI qualifies for this category. The UMTS carriers and system are designed both based on the guideline of and in compliance with the ETSI TS 25.141 standard. As such, the 5 MHz carrier emission bandwidth is defined by a 5 MHz wide emission mask , which is based on a 30 kHz Resolution Bandwidth of the measuring instrumentation.

Measurement of the occupied bandwidth emission characteristics was performed at the Equipment Antenna Terminal (EAC) with the 5 MHz single carrier set to +46 dBm for each of the 4 carriers, and for both the TM1-64 and TM5-44 modulation schemes. The same 4 UARFCN channels as used previously, were repeated. The emission mask used to demonstrate compliance was as specified in ETSI TS 25.141 for P ≥ +43 dBm. The mask attenuation values were based on a 30 kHz resolution bandwidth, which made the modulated 5 MHz carrier to be offset from +46 dBm by –22.2 dB, in accordance with the equation:

Carrier Offset = 10 log (30 kHz/5 MHz) = -22.2 dB

This series of measurements were performed using the EMC software:

Total Integrated Laboratory Environment (TILE)
By Quantum Change/EMC Systems, Inc.

The TILE software incorporated all cable and test fixture losses into the final displayed measurement plot. The data/measurement plots for the 4 channels with TM1-64 modulation are attached below. The same test results were demonstrated for the TM5-44 test modulation; and are not attached to avoid repetition.

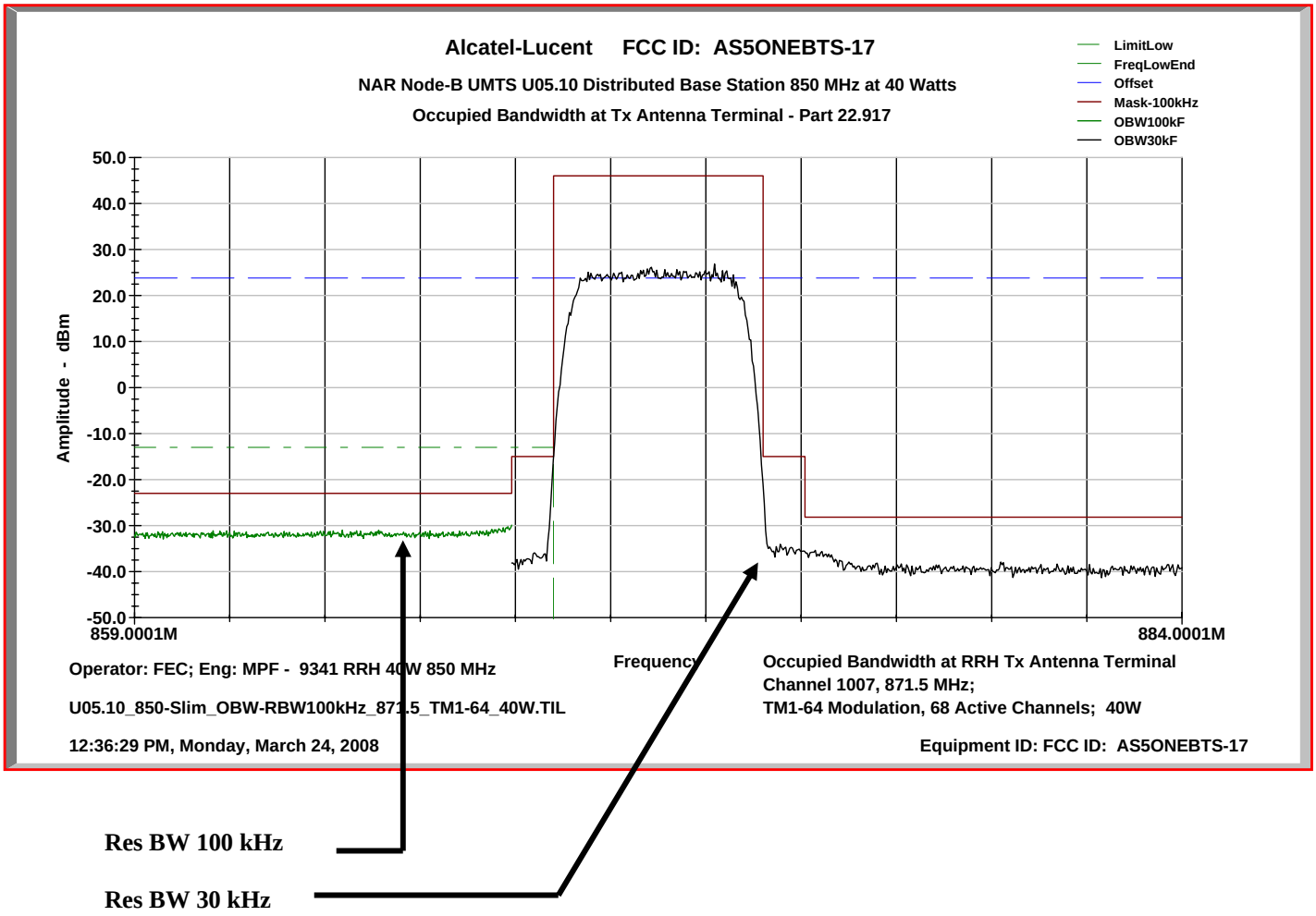
Test Set-up and Configuration: Same as previously used for Part 2.1046 RF Power Measurement.

RESULTS: The UARFCN 1007, 1037, 1062, & 1107 channels all demonstrate compliance with the emission mask specified by ETSI TS 25.141 for both TM1-64 and TM5-44 test modulations. When measured with the ETSI required 30 kHz Res BW, each occupied bandwidth (OBW) plot showed that the carrier (fundamental) was contained within the required 5 MHz bandwidth emission mask and did not exceed the mask limitation at any point. Compliance with ETSI TS 25.141 was demonstrated; in each test, the carriers do not exceed the mask limitation.

Part 22.917 requires that the in-band Res BW be 1% of the fundamental emission bandwidth, which is 50 kHz for the 5 MHz carrier, but a narrower Res BW is permitted to improve measurement accuracy. In accordance with Part 2.947 *Measurement Procedure*, the ETSI TS 25.141 specified Res BW of 30 kHz was used for in-band measurements. Out-of-band measurements require a Res BW of 100 kHz. The OBW plots for the upper and lower end carriers 871.5 MHz and 891.5 MHz show the Res BW changing from 30 kHz to 100 kHz at 1 MHz, and beyond, from the Cellular Frequency Spectrum end frequencies. Compliance is demonstrated for both the 30 kHz and 100 kHz Res BW segments of the data plot.

ATTACHMENTS: The data plots are attached below for the TM1-64 test modulation scheme. Since TM5-44 showed nearly identical results, those data plots should not be necessary to display.

Occupied Bandwidth Characteristics: UARFCN Channel Number 1007 @ 871.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.

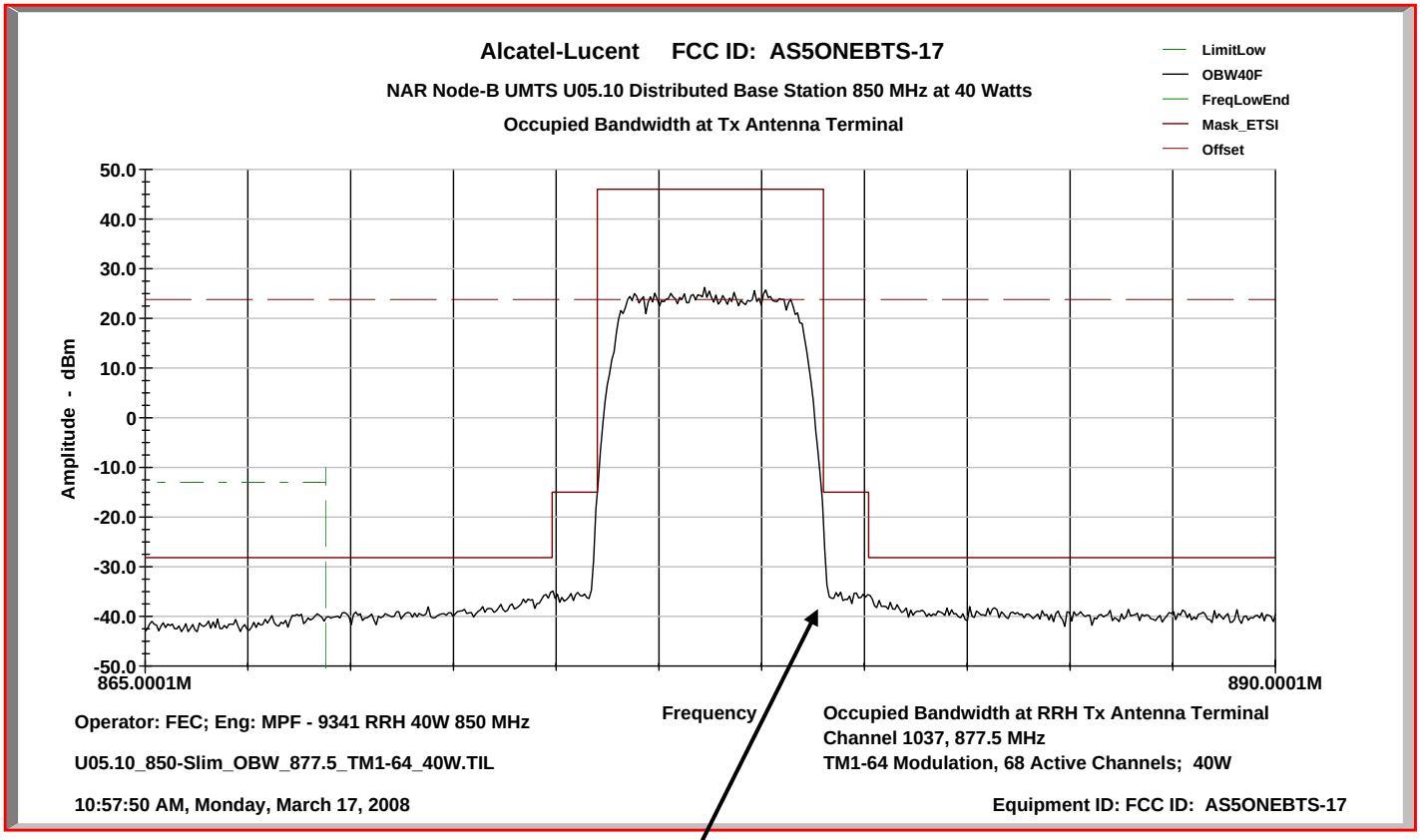


Res BW 100 kHz

Res BW 30 kHz

The ETSI TS 25.141 Emission Mask is designed based on a 30 kHz Res BW in-band.

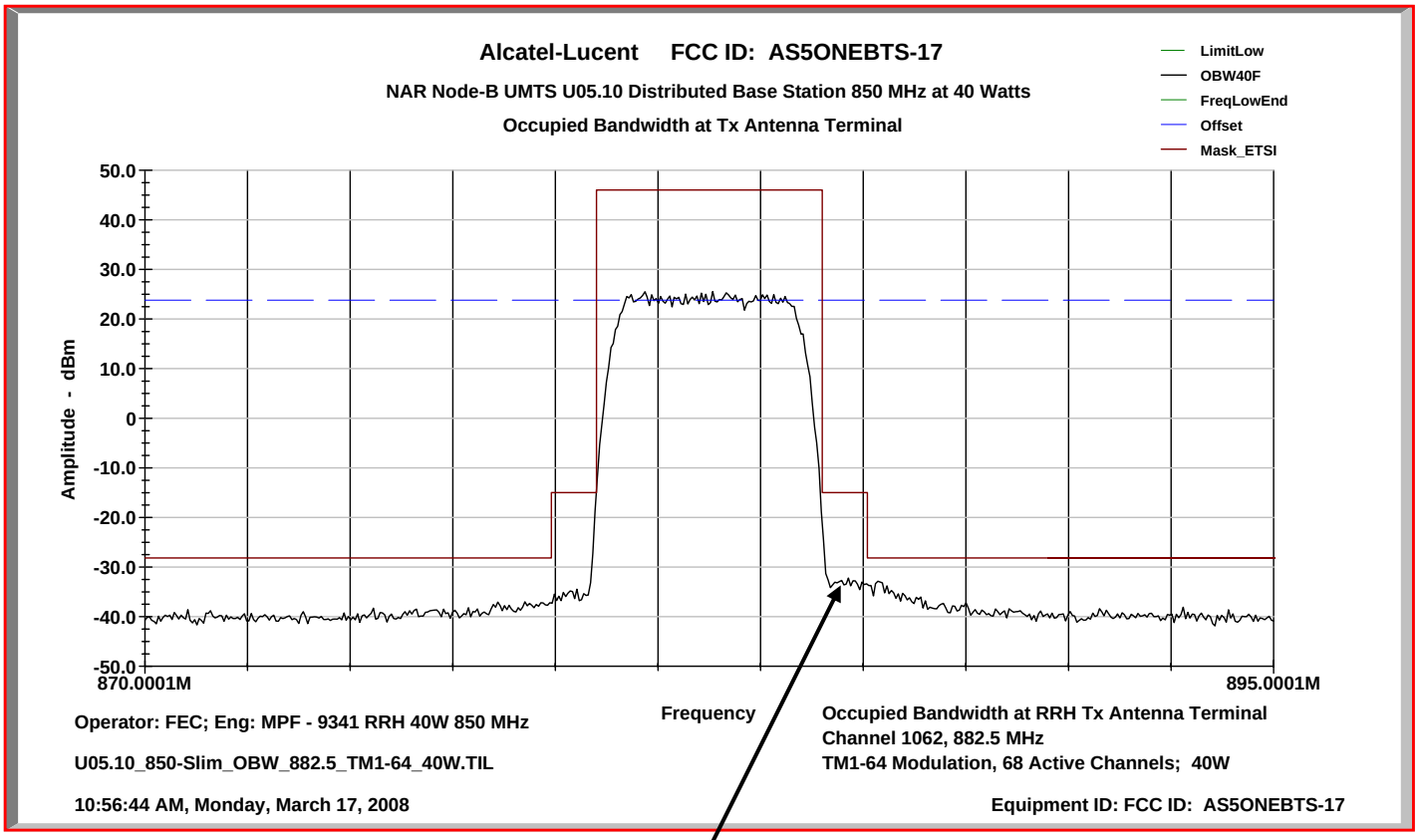
Occupied Bandwidth Characteristics: UARFCN Channel Number 1037 @ 877.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.



ETSI TS 25.141 Res BW 30 kHz

The ETSI TS 25.141 Emission Mask is designed based on a 30 kHz Res BW in-band.

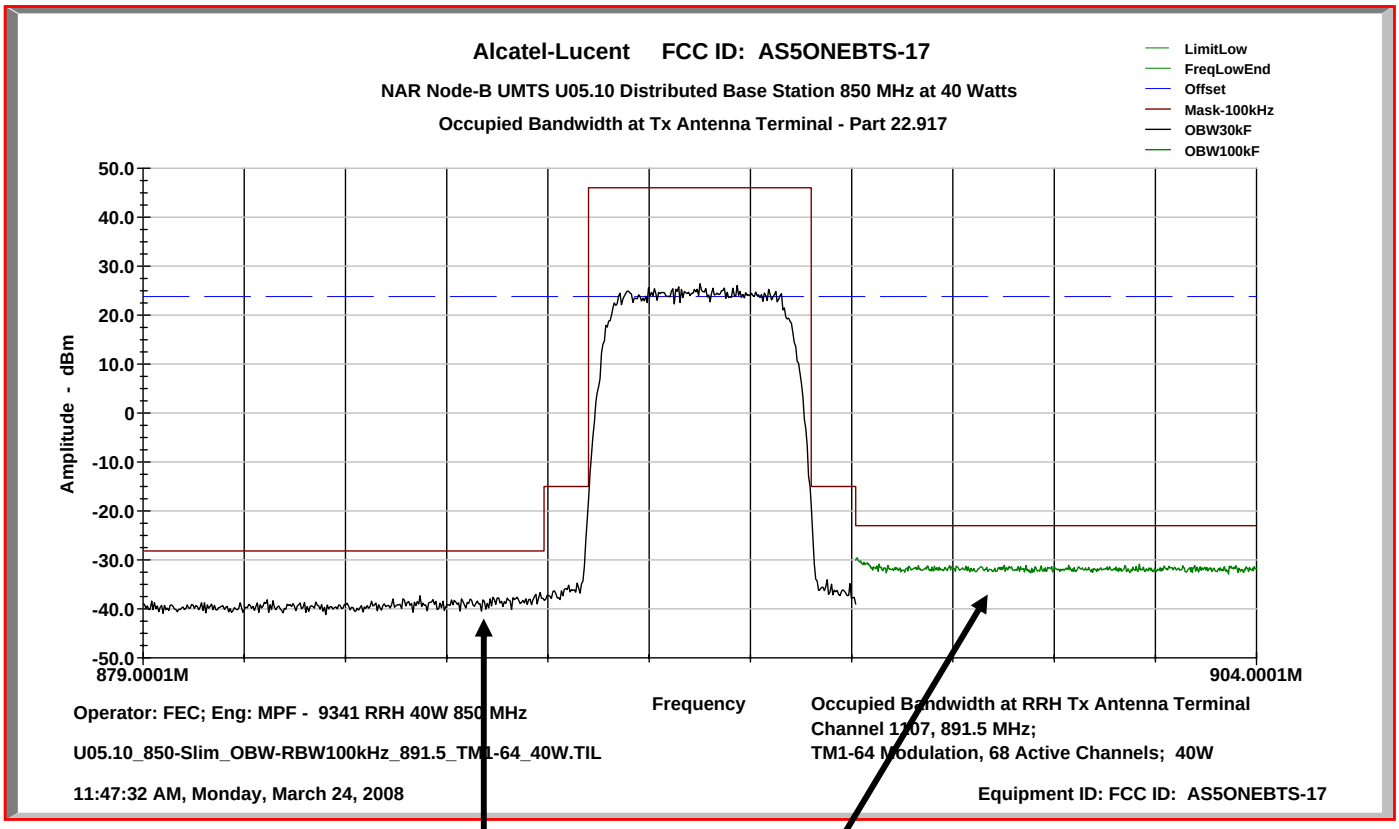
Occupied Bandwidth Characteristics: UARFCN Channel Number 1062 @ 882.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.



ETSI TS 25.141 Res BW 30 kHz

The ETSI TS 25.141 Emission Mask is designed based on a 30 kHz Res BW in-band.

Occupied Bandwidth Characteristics: UARFCN Channel Number 1107 @ 891.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.



Res BW 30 kHz

Res BW 100 kHz

The ETSI TS 25.141 Emission Mask is designed based on a 30 kHz Res BW in-band.

SPECIAL TEST FOR INTERMODULATION PRODUCTS AT THE ANTENNA TERMINAL: OPERATION WITH 2 CARRIERS AT 20 Watts PER CARRIER:

This is a special test submitted to the FCC when a multi-carrier amplifier is included in the FCC filing. ETSI TS 25.141 Rel 7, Section 6.6 *Transmit Intermodulation* also specifies this requirement for W-CDMA. This test is a measure of the linearity of the RF path components and of their ability to suppress the generation of unwanted intermodulation products, when 2 carrier signals are transmitted. Focus is on the third and fifth order intermodulation products that fall either within or immediately adjacent to the authorized passband.

All tests were performed with 2 adjacent carriers at 20 W each, consistent with the system design for a total bandwidth of 10 MHz capability, and modulated by TM1-16 test modulation (20 active channels). The total composite power remains at 40W (+46 dBm). The measurement spectrum will be sufficient to include the 3rd and 5th order IMD products. The FCC limitation is -13 dBm when measured at 30 kHz RBW. Since A"+A-Band is 11 MHz wide and B-B' Band is 14 MHz wide, two channel pairs are sufficient to demonstrate compliance in each band edge:

Pair #1, A-Band: Ch 1007, 871.5 MHz + Ch 1032, 876.5 MHz
Pair #2, B-Band: Ch 1082, 886.5 MHz + Ch 1107, 891.5 MHz

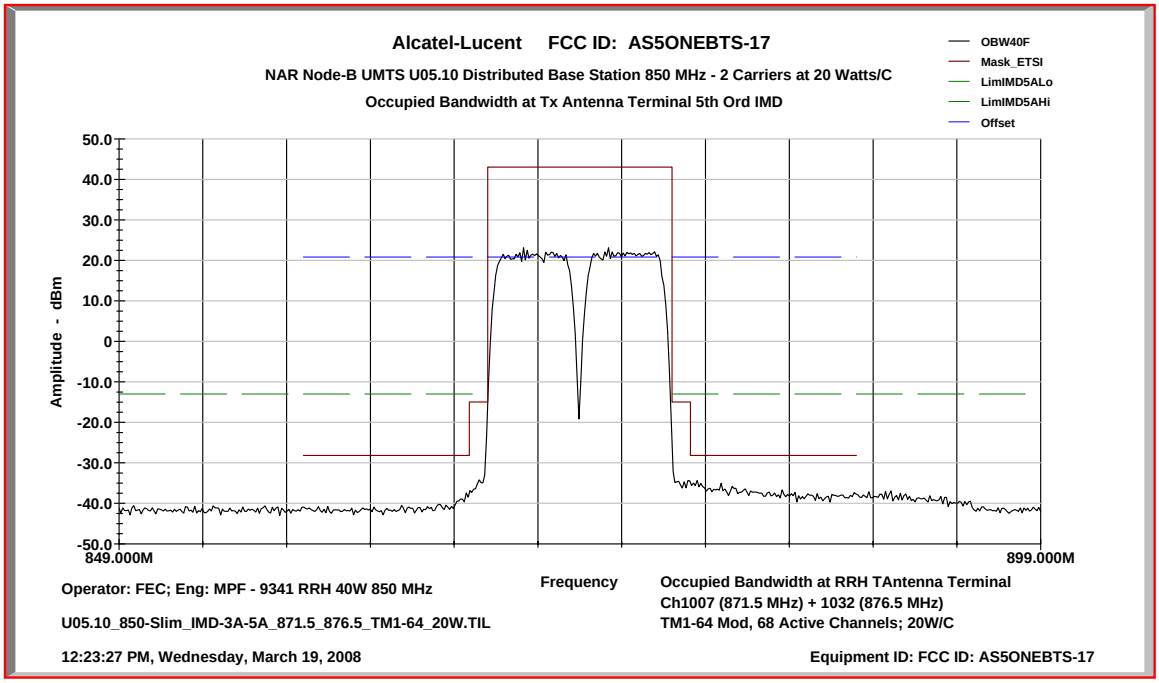
The following test parameters apply:

1. Focus is on the 3rd and 5th order intermodulation products that are generated within and adjacent to the FCC authorized passband spectrum.
2. The 3rd order IMD products of interest are: $2F_1 - F_2$ and $2F_2 - F_1$, where F_1 is the lower frequency and F_2 the higher frequency.
3. The 5th order IMD products of interest are: $3F_1 - 2F_2$ and $3F_2 - 2F_1$
4. The FCC limit = -13 dBm
5. The measurement instrumentation Resolution Bandwidth (RBW) = 30 kHz
6. The frequency span is sufficient to cover the 5th order IMD products.
7. The complete conducted emissions spectrum 10 MHz – 10 GHz is included
8. Measurements were performed using the Total Integrated Laboratory Environment (TILE) EMC automated test software, by Quantum Change/EMC Systems, Inc.

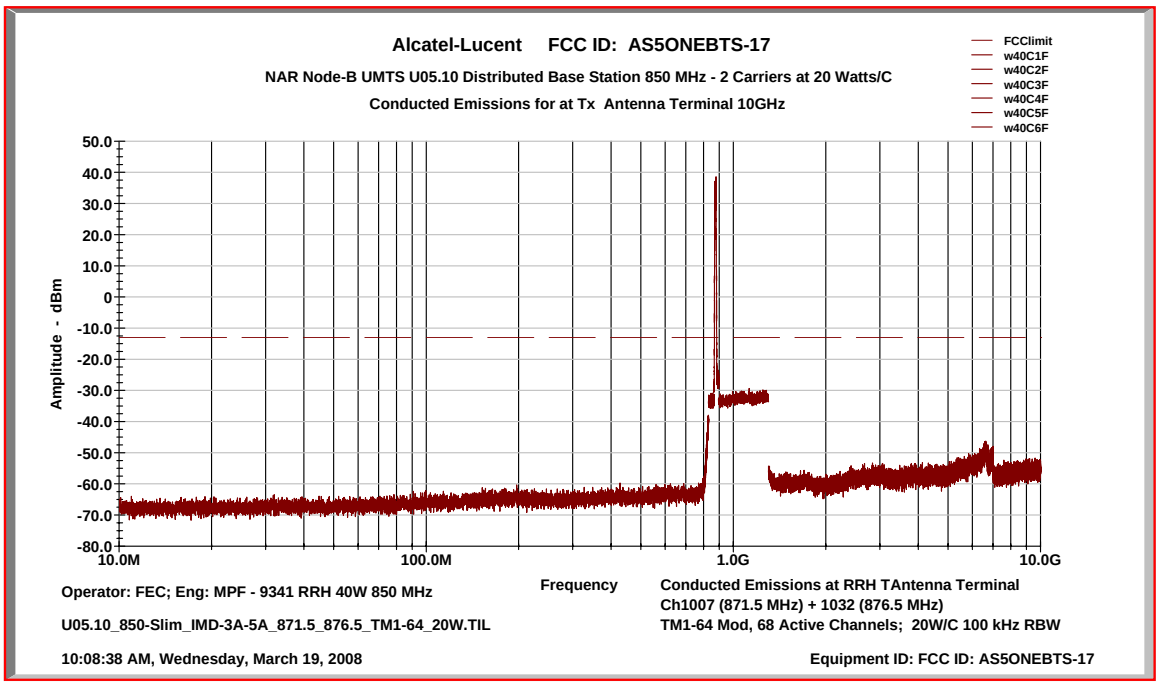
Results:

The data plots are attached . No intermodulation products were observed and the carriers do not exceed the required ETSI TS 25.141 emission mask.

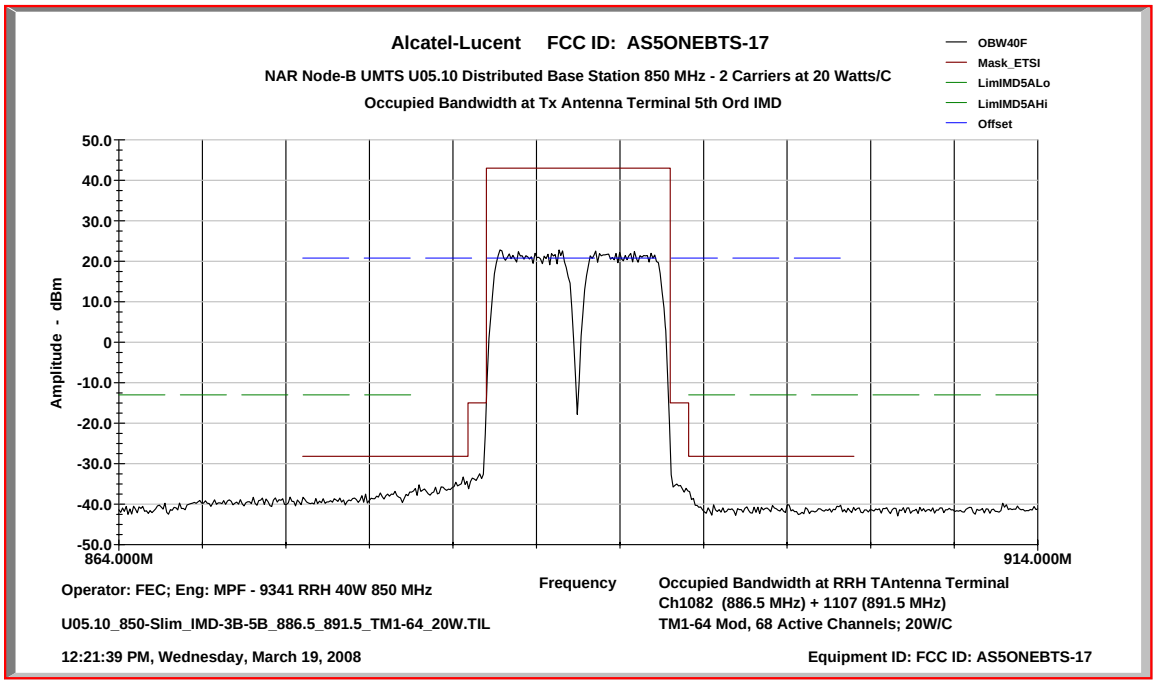
Pair #1, A-Band: Ch 1007, 871.5 MHz + Ch 1032, 876.5 MHz
Measurement Spectrum 849 – 899 MHz



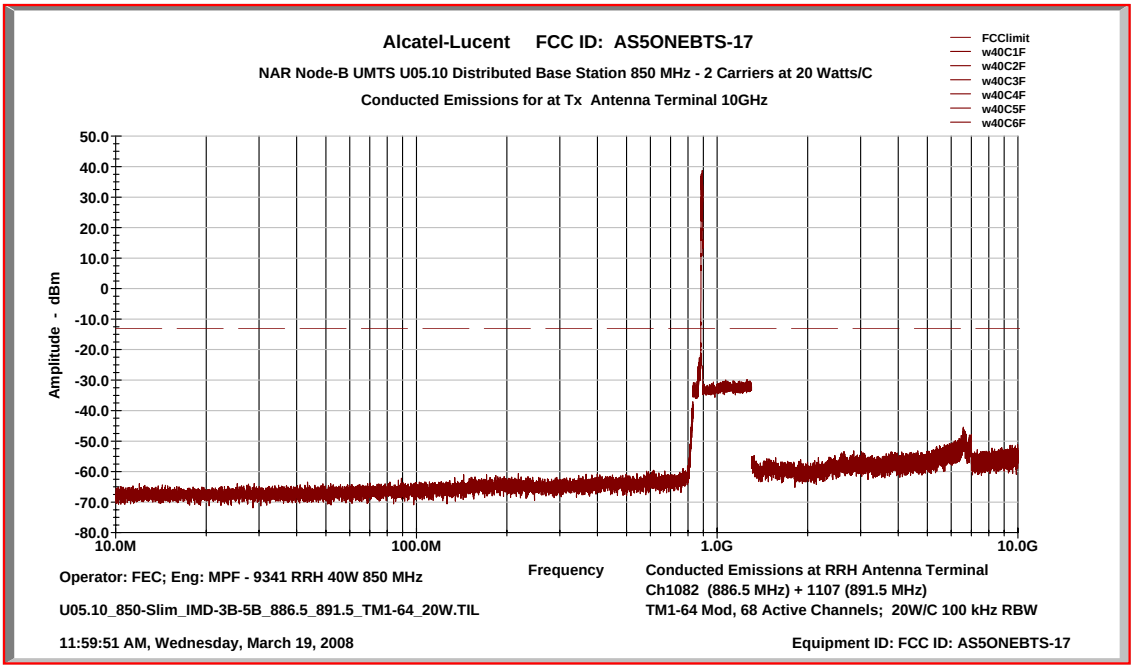
Pair #1, A-Band: Ch 1007, 871.5 MHz + Ch 1032, 876.5 MHz
Measurement Spectrum 10 MHz – 10 GHz at Res BW 100 kHz



Pair #2, B-Band: Ch 1082, 886.5 MHz + Ch 1107, 891.5 MHz
Measurement Spectrum 864 – 914 MHz



Pair #2, B-Band: Ch 1082, 886.5 MHz + Ch 1107, 891.5 MHz
Measurement Spectrum 10 MHz – 10 GHz at Res BW 100 kHz



PART 2.1051 MEASUREMENTS REQUIRED: SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS.

This test procedure is an extension of the occupied bandwidth measurement at the Equipment Antenna Connector (EAC) terminal, using the same carrier frequencies, power level setting procedure and modulated carrier offset procedure. In accordance with Part 2.1057(a), the required frequency spectrum to be investigated extends from the lowest RF signal generated to the 10^{th} harmonic of the carrier at the EAC terminal. The emission limits at the antenna terminal are specified in Part 22.917 (a) … the power of any emission shall be attenuated below the transmitter power (*P*) by at least 43 + 10 log (*P*) dBc. The power *P* is the average carrier power measured at the EAC (antenna) terminal in Watts. Setting the power level at EAC to 40 Watts average, produces an emission attenuation below the carrier of 59.0 dBc. Part 22.917 (b) specifies the required Resolution Bandwidth (RBW) to be 100 kHz or greater. In accordance with Part 2.1051, "the magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified"; i.e., these are not reportable. Hence, the measurement equipment must be adjusted and configured to provide an instrumentation noise floor that is at least 20 dB or more below the 43 + 10 log (*P*) dBc limit, which equates to 79.0 dBc. The pertinent test parameters are:

1.	Frequency Spectrum:	10 MHz to 10 GHz
2.	Resolution Bandwidth:	100 kHz or greater (Part 22.917)
3.	Emission Limitation:	43 + 10 log (*P*) dBc = 43 + 10 log (40 Watts) = 59.0 dBc
4.	Instrumentation Noise Floor:	at least 20 dB greater than "43 + 10 log (*P*) dBc" = 79.0 dBc

Minimum Standard Requirement:

The emission limits at the antenna terminal are specified in Part 22.917 (a) … the power of any emission shall be attenuated below the transmitter power (*P*) by at least 43 + 10 log (*P*) dBc (i.e., attenuation below the unmodulated carrier). The power *P* is the average carrier power measured at the J4 antenna terminal in Watts. The measurement equipment must be adjusted and configured to provide an instrumentation noise floor that is 20 dB or more below the 43 + 10 log (*P*) dBc limit. In summary:

1. Carrier Power Level = 46.0 dBm
2. Emission Limitation = 46.0 dBm – 59.0 dBc = -13.0 dBm
3. Reportable Emission Limit = -13.0 dBm – 20 dBc = - 33.0 dBm
4. Emission power levels less than – 33.0 dBm are not reportable; i.e., at $\geq$ 79.0 dBc

Test Set-up and Configuration: Same as previously used for Part 2.1046 RF Power Measurement.

Method of Measurement:

In order to suppress the instrumentation noise floor sufficient to detect and measure spurious signals that have power levels as low as 20 dB below the required limit, or as low as –33.0 dBm (i.e., 79 dBc), an EMC software package was employed to drive the spectrum analyzer, collect and compile the acquired data, perform mathematical corrections to the data by incorporating (i.e., programming) pre-measured path losses into the software, and then generate a graphical display as shown in this exhibit. The software package is: *TILE/IC (Total Integrated Laboratory Environment/Instrument Control System)*; purchased and licensed from Quantum Change/EMC Systems, Inc. The instrumentation noise floor is suppressed by the software's ability to split the spectrum being measured into many small segments, perform the mathematical corrections to each segment, and then sequentially compile all the segments into a continuous graphical display.

Part 22.917 requires that emissions over the required spectrum 10 MHz to 10 GHz be measured using an instrumentation resolution bandwidth of 100 kHz or greater. The TILE/IC software was able to sufficiently suppress the normally high noise floor by measuring the spectrum in a sequential series of short segments using a peak detector, in combination with an appropriate low-pass filter and then with an appropriate high-pass filter, installed at the input terminal of the spectrum analyzer, to prevent the carrier from over driving the spectrum analyzer. The spectrum portion 894 MHz – 1.3 GHz, in close proximity to the carrier, was measured without filters.

The specific EMC test filters used were manufactured by TRILITHIC, Inc., Indianapolis, IN:

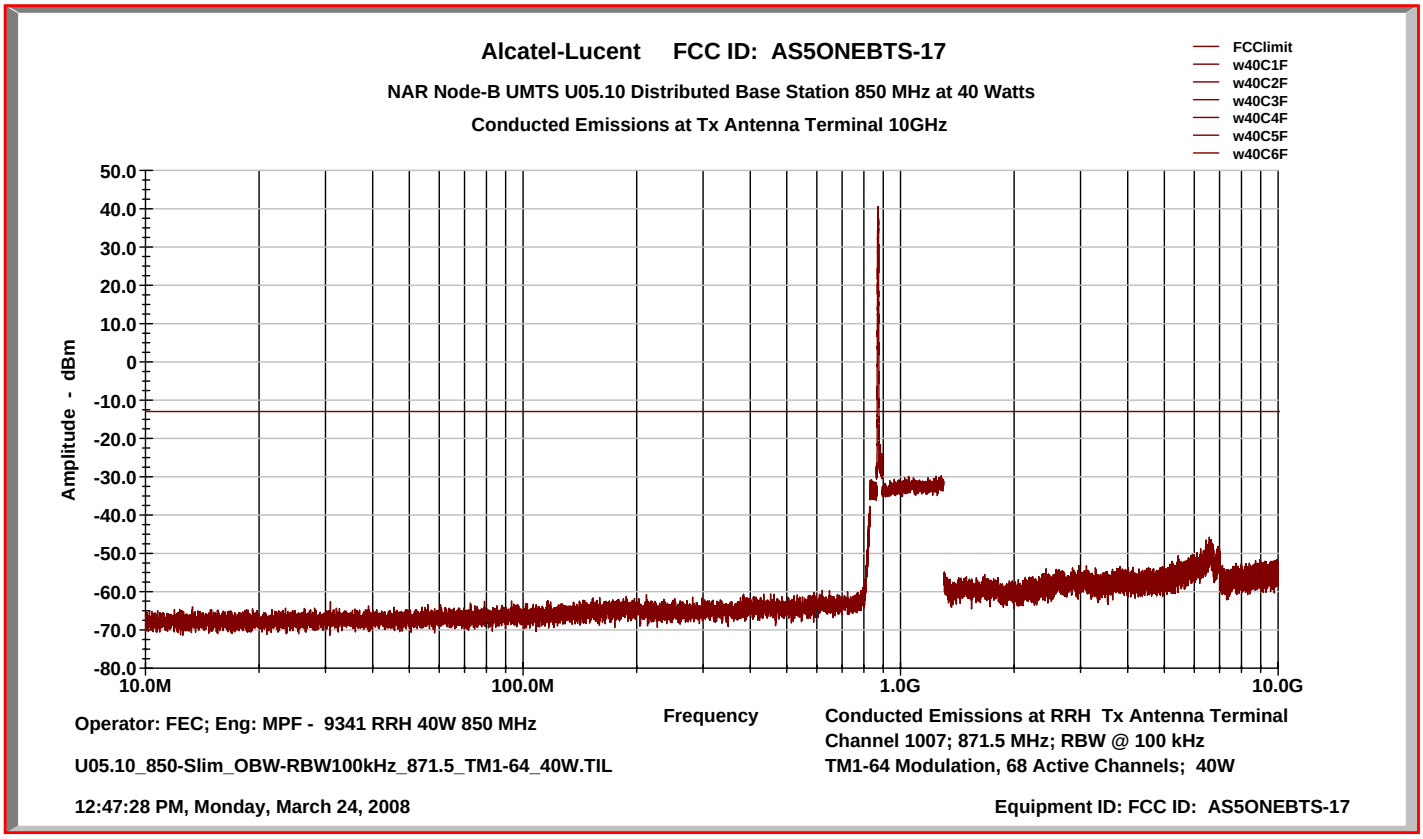
1. Low Pass Filter: Model 10LC800-3-AA; Product No. 23042
2. High Pass Filter: Model 4HC1400/8000-1-KK; Product No. 23042

The UARFCN 1007, 1037, 1062 & 1087 channels, tabulated below, all demonstrate compliance with the conducted emission limitation requirements specified by Part 22.917.

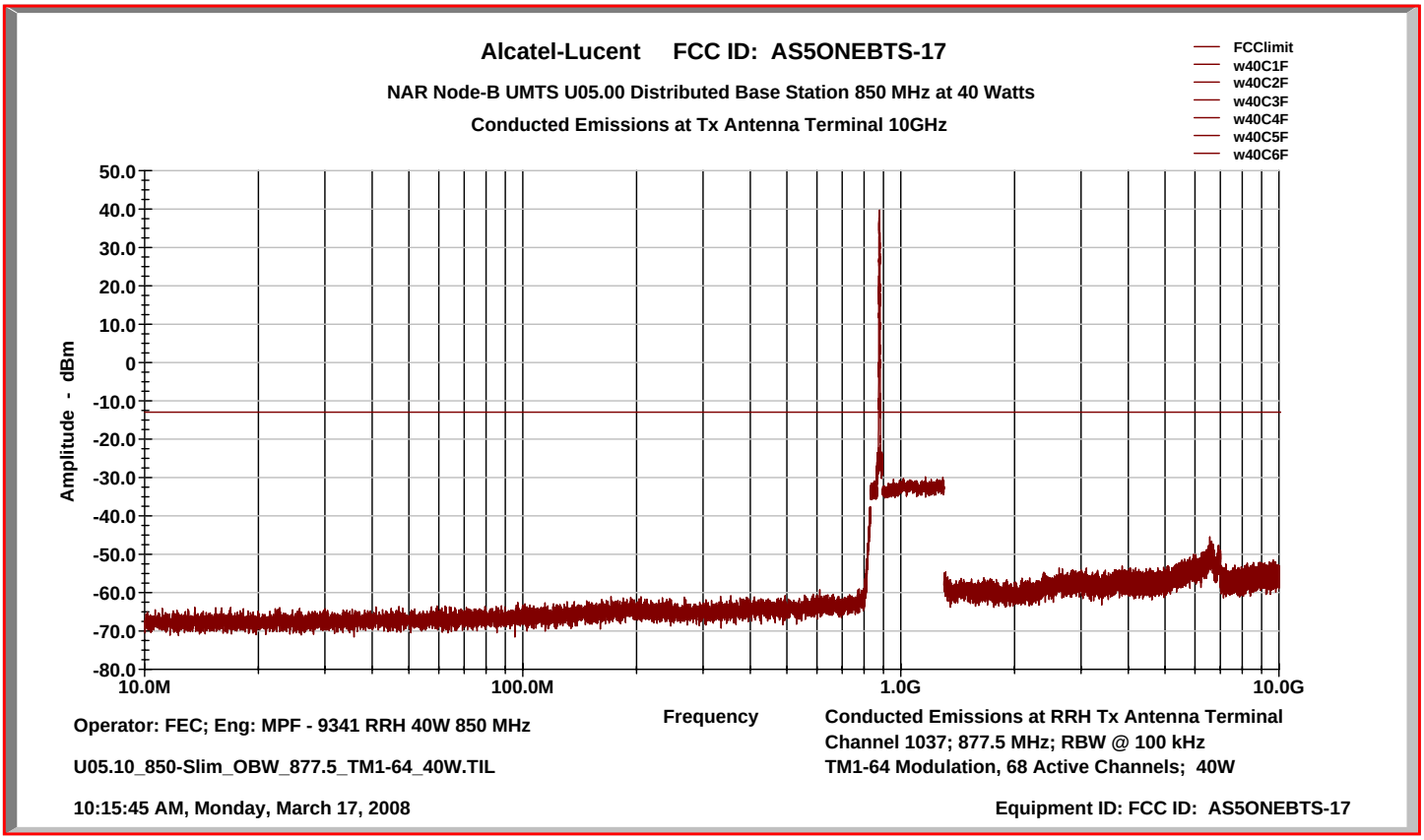
Cellular Frequency Band	UMTS850 Carrier	Single Carrier Bandwidth	UARFCN Channel Number	UMTS Carrier Center Frequency	Measured Carrier Power at Antenna Terminal
A"	Lowest Settable for A-Band and to 869 MHz Band Edge	5 MHz	1007	871.5 MHz	+46 dBm
A	Highest Settable for A-Band	5 MHz	1037	877.5 MHz	+46 dBm
B	Lowest Settable for B-Band	5 MHz	1062	882.5 MHz	+46 dBm
B'	Highest Settable for B-Band and to 894 MHz Band Edge	5 MHz	1107	891.5 MHz	+46 dBm

Results: For each UMTS carrier, there were no reportable emissions. Data plots for each carrier, with TM1-64 test modulation, are attached to this exhibit. The same results were achieved for the TM5-44 modulated carriers; the data plots need not be displayed.

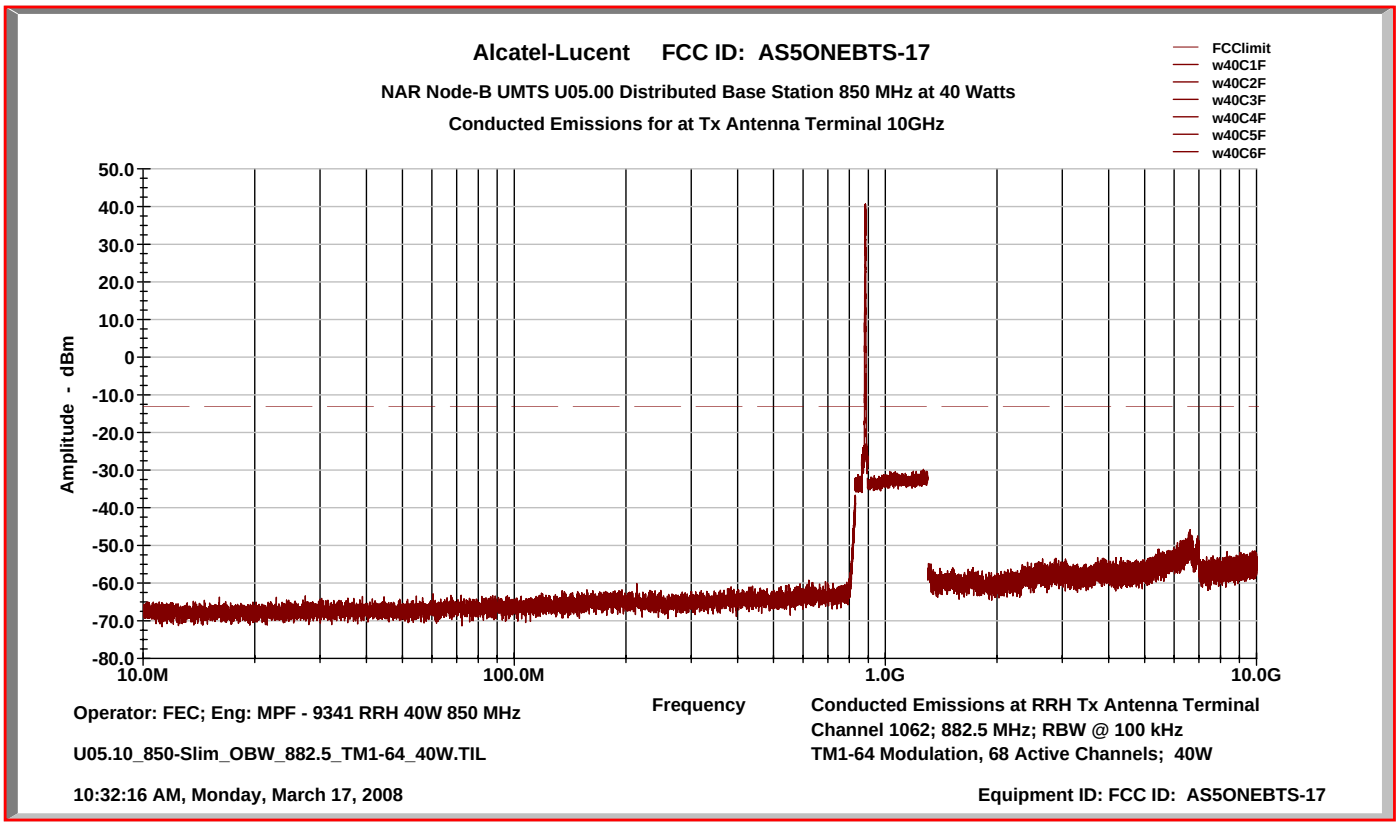
Conducted Emissions Characteristics: UARFCN Channel Number 1007 @ 871.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation
Res Bw 100 kHz



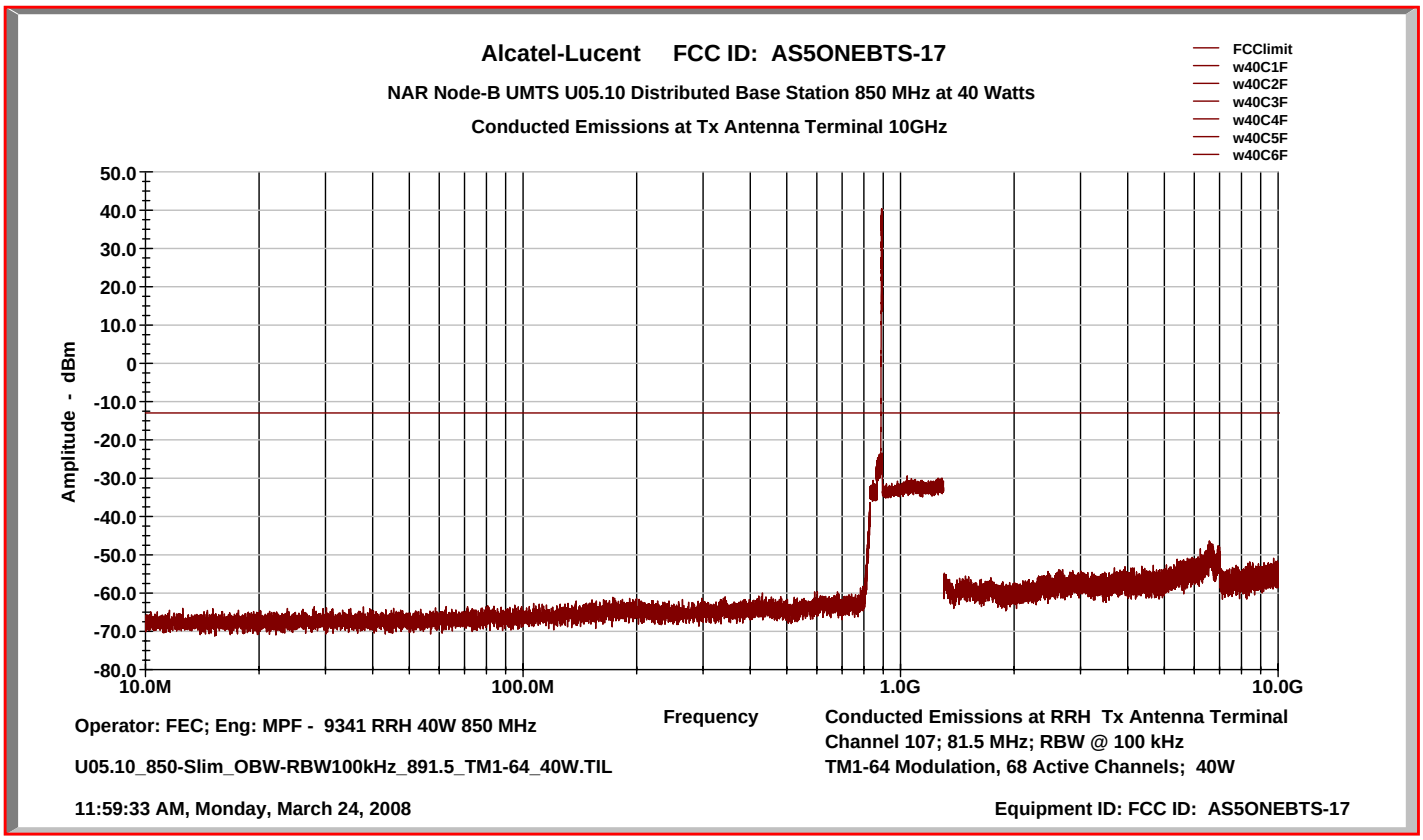
Conducted Emissions Characteristics: UARFCN Channel Number 1037 @ 877.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.
Res BW 100 kHz



Conducted Emissions Characteristics: UARFCN Channel Number 1062 @ 882.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.
Res BW 100 kHz



Conducted Emissions Characteristics: UARFCN Channel Number 1107 @ 891.50 MHz
Tx Antenna Terminal at +46 dBm per single 5 MHz carrier with TM1-64 Test Modulation.
Res BW 100 kHz



PART 2.1053 MEASUREMENTS REQUIRED: FIELD STRENGTH OF SPURIOUS RADIATION

This test requires a single carrier at maximum rated power (40 Watts), transmitting into a non-radiating dummy load. The equipment under test (EUT) is configured for 1 sector at 1 carrier per sector (1S1C). As required, the frequency range investigated was from 10 MHz to 10 GHz (10^{th} harmonic of the carrier) as in the previous conducted spurious emissions test procedure. Four tests were performed with each of the previously cited carrier frequencies set to the TM1-64 test modulation. The corresponding carrier center frequencies are as cited in the previous occupied bandwidth tests, with each carrier adjusted to provide 40 Watts (46.0 dBm) at the Equipment Antenna Connector (EAC) transmit antenna terminal.

In compliance with the guidelines of ANSI C63.4-2003, the equipment under test (EUT) was configured as recommended for *floor standing equipment*. The EUT was installed and operated as in the *normal mode of operation* with external alarm and T1 cables connected to the EUT and routed as prescribed in ANSI C63.4-2003. Field strength measurements of radiated spurious emissions were evaluated in a 3m semi-anechoic pre-compliance chamber and verified as required at the ten meter Open Area Test Site (OATS) maintained by Alcatel-Lucent FCC Compliance Laboratory in Whippany, New Jersey. A complete description and full measurement data for the site have been placed on file with the Commission.

The spectrum from 10 MHz to the tenth harmonic of the carrier was searched for spurious radiation. Measurements were made using both horizontally and vertically polarized broadband antennas. Per FCC regulations, the comparison of out of band spurious emissions directly to the limit is appropriately made using the substitution method. However, when the emissions are more than 20 dB below the specification limit, the use of field strength measurements for compliance determination is acceptable and those emissions are considered not reportable (Section 2.1053 and the FCC Interpretive database for 2.1053). For this case the evaluation of acceptable radiated field strength is as follows.

The calculated emission levels were found by:

$$\text{Pmeas (dBm)} + \text{Cable Loss(dB)} + \text{Antenna Factor(dB)} + 107\ (\text{dB}\mu\text{V/dBm}) - \text{Amplifier Gain (dB)} = \text{Field Strength (dB}\mu\text{V/m)}$$

Section 22.917 and 2.1053 contains the requirements for the levels of spurious radiation as a function of the EIRP of the unmodulated carrier. The reference level for the unmodulated carrier is calculated as the field produced by an isotropic radiator excited by the transmitter output power according to the following relation taken from Reference Data for Radio Engineers, page 27-7, 6th edition, IT&T Corp.

$$E = (120\pi P)^{1/2} = [(30*P)^{1/2}] / R$$

$$20 \log (E*10^{6}) - (43 + 10 \log P) = 71.77 \text{ dB } \mu\text{V/meter}$$

Where: E = Field Intensity in Volts/ meter R = Distance in meters = 10 m
P = Transmitted Power in watts = 40 W/ Carrier

Results:

For this particular test, the field strength of any spurious radiation is required to be less than 71.8 dBμV/meter. Emissions equal to or less than 51.8 dBμV/meter are not reportable and may be verified using field strength measurements. Over the out-of-band spectrum investigated from 30 MHz to tenth harmonic of the carrier, no reportable spurious emissions were detected. This demonstrates that the UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System (850 MHz)), the subject of this application for Class II Permissive Change authorization, complies with Sections 2.1053, 22.917 and 2.1057 of the Rules.

PART 2.1055 MEASUREMENTS REQUIRED: FREQUENCY STABILITY

As a Class II Permissive Change, the frequency stability measurement does not need to be repeated. However, the previous measurement remains valid and is included for document completeness. The frequency stability was initially measured both at the Equipment Antenna Terminal (EAC) of the RF Remote Radio Head (RRH) and at the reference frequency output terminal of the digital Base Band Unit (BBU) for a single carrier set to 881.5 MHz, which corresponds to mid cellular frequency band.. Frequency stability measurements were previously performed by N. Hussain, Alcatel-Lucent, Swindon, United Kingdom, under the direction of M. P. Farina, and in adherence to the previously cited ISO/TL9000 test plan. The complete test report is attached, which shows the test results, test equipment configuration and photographs of the test set-up.

The procedure required by the FCC is specified in CFR 47, Part 2, Subpart J – Equipment Authorization Procedures, Section 2.1055 – Measurements Required: Frequency Stability, Effective: October 01, 2006. The requirements for base station/land station equipment, are summarized as:

Section 2.1055(a)(1): The frequency stability shall be measured with variation of ambient temperature from –30 °C to +50 °C

Section 2.1055(b): Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10 °C through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. (*Note: The term "keying" does not apply to base station/land station equipment. "Heating element" applies to "heat cartridges" if used* .) Only the portion or portions of the transmitter containing the frequency determining and stabilizing circuitry need be subjected to the temperature variation test.

Section 2.1055(d)(1): The frequency stability shall be measured with variation of primary supply voltage from 85% to 115% of the nominal value.

Frequency Stability Limitation:

The frequency stability is the measurement of the carrier center frequency deviation from its assigned value as a function of (1) temperature variation from – 30°C to + 50°C, in +10°C increments, and (2) variation of supply voltage, at the equipment frame power input terminals, from 85% to 115% of the nominal value. This is a lengthy procedure and is performed one time with a single UMTS 850 carrier set to 881.5 MHz. The required tolerance limit for UMTS 850 base station/land station equipment is specified in ETSI TS 25.141 as ± 0.05 ppm.

Exception:

The FCC requires testing over the temperature range -30C to +50C, in 10C increments. This would apply to equipment installed and operated in an outdoor, non-controlled environment. Equipment installed in an indoor, controlled environment should be compliant with Telcordia, GR-63-CORE, Issue 3, March 2006 - *NEBS™ Requirements: Physical Protection*. Equipment installed and operated in an indoor, controlled environment are required to demonstrate frequency stability compliance over the temperature range -5C to +50C. This would apply to the Indoor BBU, which is the subject of this certification.

Results:

The UMTS **9341 RRH 40W 850 MHz** Distributed Base Station Transceiver System (850 MHz), subject of this application for certification under FCC ID: AS5ONEBTS-17, demonstrated full compliance with the requirements of FCC Rule Part 2.1055. The frequency stability for all measurements were well within the required ± 0.05 ppm. The full Test Report is on file with the Commission under the initial FCC ID: AS5ONEBTS-17. The measurement results are summarized below.

Frequency stability testing for 850 RRH with BBU.

TEST FREQUENCY: 881.5MHz (Middle channel)
P_out max: 40W(46dBm)

Note:
Test Model 4 used to check RF Output frequency, Trace on Max hold and part per million calculated. On 15 MHz reading deviation from 15MHz noted and PPM calculated.

RF Remote Radio Head (RRH)

Stabilized temperature (°C)		TEST: TRANSMITTED FREQUENCY ERROR Spec: F_tx ± 50ppb = 881.5MHz ± 44.1Hz					
		Supply voltage: @85% of nominal (i.e. 24V–15%= +20.4V)		Supply voltage: @100% of nominal (i.e. +24.0V)		Supply voltage: @115% of nominal (i.e. 24V+15%= +27.6V)	
Indoor BBU	Outdoor RRH	Measured Tx Freq Error (Hz)	Deviation (ppm)	Measured Tx Freq Error (Hz)	Deviation (ppm)	Measured Tx Freq Error (Hz)	Deviation (ppm)
–5 C	–30 C	-9.14	-0.011	-7.6	-0.0086	-9.8	-0.011
–5 C	–20 C	-10.2	-0.012	-8.9	-0.009	-10.7	-0.0122
–5 C	–10 C	-8.62	-0.009	-10.23	-0.012	-9.43	-0.011
0 C	0 C	-9.11	-0.011	-8.04	-0.009	-9.83	-0.011
+10 C	+10 C	-8.65	-0.009	-11.07	-0.013	-7.71	-0.0086
+20C	+20 C	-8.23	-0.009	-9.41	-0.011	-10.73	-0.0122
+30 C	+30 C	-9.1	-0.011	-9.56	-0.011	-10.1	-0.012
+40 C	+40 C	-8.42	-0.009	-8.62	-0.009	-8.75	-0.009
+50 C	+50 C	-10.6	-0.012	-11.53	-0.013	-10.97	-0.0124

Digital Base Band Unit (BBU)

Stabilized temperature (°C)								TEST: STABILITY OF 15MHz REFERENCE FREQUENCY Spec: 15MHz ± 50ppb = 15MHz ± 0.75Hz					
								Supply voltage: @85% of nominal (i.e. 24V–15%= +20.4V)		Supply voltage: @100% of nominal (i.e. +24.0V)		Supply voltage: @115% of nominal (i.e. 24V+15%= +27.6V)	
Indoor BBU	Outdoor RRH							Measured Ref freq stability (Hz)	Deviation (ppm)	Measured Ref freq stability (Hz)	Deviation (ppm)	Measured Ref freq stability (Hz)	Deviation (ppm)
–5 C	–30 C							-0.08	-0.005	-0.09	-0.006	-0.08	-0.005
–5 C	–20 C							0.08	-0.005	-0.09	-0.006	0.09	-0.006
–5 C	–10 C							-0.09	-0.006	-0.08	-0.005	-0.09	-0.006
0 C	0 C							-0.08	-0.005	-0.08	-0.005	-0.09	-0.006
+10 C	+10 C							-0.09	-0.006	-0.09	-0.006	-0.091	-0.006
+20C	+20 C							-0.09	-0.006	-0.09	-0.006	-0.09	-0.006
+30 C	+30 C							-0.091	-0.006	-0.091	-0.006	-0.09	-0.006
+40 C	+40 C							-0.09	-0.006	-0.09	-0.006	-0.09	-0.006
+50 C	+50 C							-0.089	-0.006	-0.089	-0.006	-0.089	-0.006