Exhibit 11

SECTION 2.1033(c)(14)

The data required by Section 2.1046 through 2.1057, inclusive, measured in accordance with the procedures set out in Section 2.1041.

Response:

The lowest clock frequency in the **FLEXENT® OneBTS® PCS CDMA Modular Cell 4.0 with EDPD** is the 10 MHz rubidium reference oscillator. Conducted spurious measurements were performed over the range of 10 MHz to 20 GHz which is above the tenth harmonic of the transmit frequency range.

The following pages include the data required for the Product Certification authorization of the **PCS UMTS-CDMA EDPD Transceiver System / FCC ID: AS5ONEBTS-10**, measured in accordance with the procedures set out in Section 2.1041 of the Rules.

Each required measurement and its corresponding exhibit number are:

Exhibit 12	Section 2.1046	Measurement of Radio Frequency Power Output
Exhibit 13	Section 2.1047	Measurement of Modulation Characteristics
Exhibit 14	Section 2.1049	Measurement of Occupied Bandwidth
Exhibit 15	Section 2.1051	Measurement of Spurious Emissions at Antenna
Exhibit 16	Section 2.1053	Field Strength of Spurious Radiation
Exhibit 17	Section 2.1055	Measurement of Frequency Stability

Exhibit 12

SECTION 2.1046

MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT

The test arrangements used to measure the radio frequency power output of the **PCS UMTS-CDMA EDPD Transceiver/ AS5ONEBTS-10** is on the following page. Measurements were made respectively at each frequency where Occupied Bandwidth measurements were performed. The use of the **PCS UMTS-CDMA EDPD Transceiver** is for one to six CDMA carriers. This requires that the J4 power level be calibrated for the specific channel of use. The test configuration, Figure 12a, allowed the measurement of output power for each channel investigated for Occupied Bandwidth. These included the upper and lower Block edges and at the center channel for each Block.

The **PCS UMTS-CDMA EDPD Transceiver** system has a maximum power output at the antenna terminals of 20.0 Watts (43.01 dBm) +2 / -4 dB per CDMA carrier, it also has a minimum power output at the antenna terminals of 0.020 Watts (13.01 dBm +2 / -4 dB, across the PCS downlink Band (1930.00-1990.00 MHz). The signal applied to the **PCS UMTS-CDMA EDPD Transceiver** is defined in Table 12.1. The power was reset to a minimum of 20.0 Watts per carrier at each measurement frequency to verify the spectral performance at that power level at each specific frequency of interest. The attenuation range was also verified. The specific Frequencies and channels and set power level was documented on each "Occupied Bandwidth" sheet.

The applied signal, from a **PCS UMTS-CDMA EDPD Transceiver/ AS5ONEBTS-10**, met the recommended characteristics per **"Table 6.5.2-1 Base Station Test Model, Nominal**" from **3GPP2 TSG-C.S0010-C-v1.00, February 2005,** Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations, as defined below in table 12.1.

Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Pilot	1	0.2	-7	Code channel W_0^{128}
Sync	1	0.0471	-13.3	Code channel W_{32}^{64} ;always 1/8 rate
Paging	1	0.1882	-7.3	Code channel W_1^{64} ;full rate only
Traffic	6	0.09412	-10.3	Variable code channel assignments; full rate only

TABLE 12.1 Base Station Test Model, Nominal for Main Path

Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Transmit Diversity Pilot	1	0.2	-7	Code channel W_{16}^{128}
Traffic	6	0.09412	-10.3	Variable code channel assignments; full rate only

TABLE 12.2 Base Station Test Model, Nominal for Transmit Diversity Path

Exhibit 12 RF Power Test Configuration

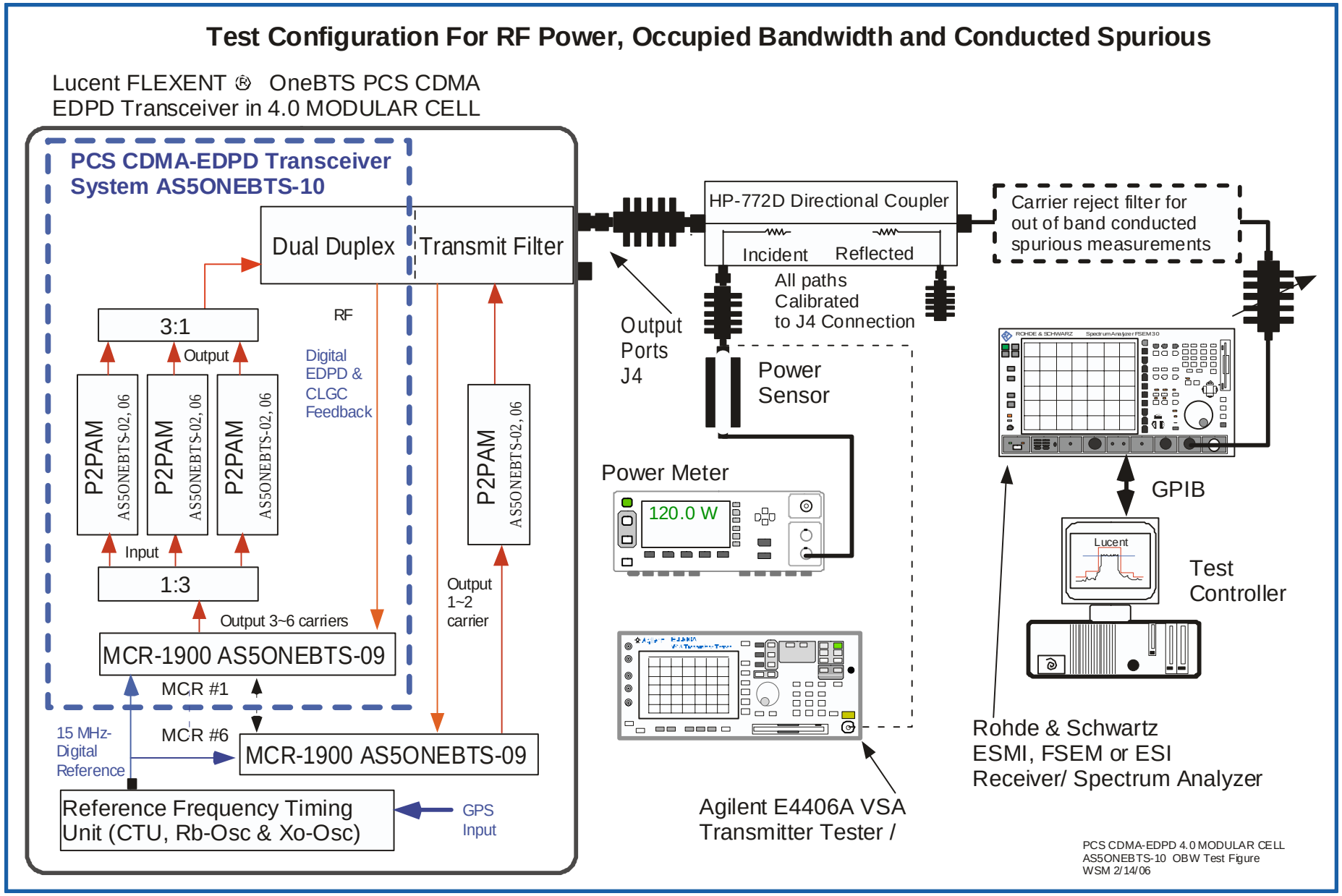


Exhibit 12 *continued*

Equipment used for RF Power, Modulation, Occupied bandwidth, Conducted Spurious and Radiated Spurious Measurements

Equipment	Description	Calibration Reference Number	Version date or Calibration
Power Meter:	Agilent E4419A Power Meter	167433	15 Jun 05
Power Head	Agilent E9300A Power Head	157704UR	16 Dec 05
Power Head	Agilent E9300A Power Head	157451UR	14 Jul 05
Spectrum Analyzer:	Rohde & Schwarz FSEM-30	167438UR	08 Apr 05
EMC Receiver	Rohde & Schwarz ESIB-40 s/n 100101	166736	2005-08-04
Code Domain Analyzer	Agilent E4406 VSA Transmitter Tester	196441UR	13 Jan 05
Computer Controller:	EG Technology, Intel Pentium PC w/ WIN 2000 OS	POR-2,4,6	N/A
EMC Test Software	TILE, Quantum Change,	Version 3.4.G.2	02 May 05
Printer:	HP Model 4500DN Printer	N/A	N/A
Low Pass Filters:	10 MHz-1.93 GHz, Custom manufactured	PCSLPF-2	20 Oct 05
High Pass Filters:	1.99-20 GHz, Custom manufactured |	PCSHPF-2	20 Oct 05
Test Cables:	Low loss test cables custom mfg.	Chamber-1 set	20 Oct 05
Antenna	BiConiLog Antenna, ETS, Model 3142B	S/N 1775	18 Jan 06
Antenna	Double Ridge guide Antenna, ETS, Model 3115	S/N 1775	18 Jan 06
Preamplifier	Amplifier Low Noise, Miteq, 1.7 dB	LNA-1	07 Jan 06
GPS Receiver	Symmetricom 58503B (former Agilent)	KR93200849	N/A
Gray Mule	**The equipment below is maintained and calibrated together** |	**Gray-Lim**	20 Oct 05
Directional Coupler:	772D Dual Directional Coupler |		
Attenuator, Variable	HP 8494B DC-18 GHz digital attenuator |	157171	09 May 05
Attenuator, Variable	HP 8495B DC-18 GHz digital attenuator |	157170	09 May 05
Attenuator, Fixed	Weinschel Corp DC-18 GHz, various values |		
Test Cables:	Low loss test cables custom mfg. |		
Additional Frequency Stability Equipment			
Spectrum Analyzer:	Agilent E4440A PSA	B/C 260054	19 Oct 05
Spectrum Analyzer:	Agilent E4440A PSA	B/C 260053	11 July 05
Frequency Counter:	Agilent HP5335A	B/C 124204	18 Oct 05

Exhibit 12 *continued*

RESULTS:

The **PCS UMTS-CDMA EDPD Transceiver/ AS5ONEBTS-10** was configured in the test setup shown in Figure 12A. For each of the PCS channels tested the **PCS UMTS-CDMA EDPD Transceiver/ AS5ONEBTS-10** delivered a minimum of 20.0 Watts +2/-0 dB when measured at the J4 output connection.
This data is recorded on the Occupied Bandwidth Data Sheets for "Left edge" and "Right Edge" of each frequency Block. Data is presented for all PCS Blocks.

Note: The **PCS UMTS-CDMA EDPD Transceiver/ AS5ONEBTS-10** is a multi channel linear amplifier and its maximum power level is verified at each cell site during setup of the Modular Cell 4.0.

Exhibit 13

SECTION 2.1047 MEASUREMENT OF MODULATION CHARACTERISTICS

The modulation characteristics and accuracy of the **PCS UMTS-CDMA EDPD Transceiver/ AS5ONEBTS-10** output signal is a function of the input signal which is provided by the UMTS-CDMA Multi Carrier Radio (**MCR-1900**), Model BNJ64, which was previously authorized by the Federal Communications Commission under **FCC ID: AS5ONEBTS-09**, granted 22 February 2005 for all PCS Blocks.

13.1 - Modulation Description

The modulation methods used in CDMA drastically differ from those used in a FM analog system. The methods used in evaluating the **EDPD Transceiver's MCR-1900 / AS5ONEBTS-10** are described in the pertinent standards documents which include **TIA/EIA-97-C** "recommended Minimum performance Standards for Base Stations Supporting Dual-Mode Wideband Spread Spectrum Cellular Mobile Stations" and **3GPP2 C.S0010-0**, December 1999, *Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations*,. The modulation quantify criteria are as follows:

13.2 Modulation Requirements – Section 4.2 of TIA/EIA-97-C and 3GPP2 C.S0010-0

Waveform quality is tested by measuring the waveform quality ρ, as defined in 6.4.2.1, and code domain power as defined in 6.4.2.2. The range of values for the transmit waveform quality is from 1.0 for a perfect CDMA waveform to 0.0 for a non-CDMA signal. As an example, a base station with a 0.5 dB degradation in its transmit waveform would have a quality, ρ, of $10^{-(0.5/10)} = 0.89$.

13.3 Minimum Standard *...per Section 4.2.2.3 of 3GPP2 C.S0010-0*

The normalized cross correlation coefficient, ρ, shall be greater than 0.912 (excess power $\leq$ 0.4 dB).

13.4 Results

The **PCS UMTS-CDMA EDPD Transceiver's MCR-1900** was configured in the test setup shown in Figure 13A. The **MCR-1900** was configured with its pilot channel and the modulation quality measured with an Agilent -E4406A VSA Series Transmitter Analyzer. Measurements were performed at the PCS Channels shown in table 13.1.

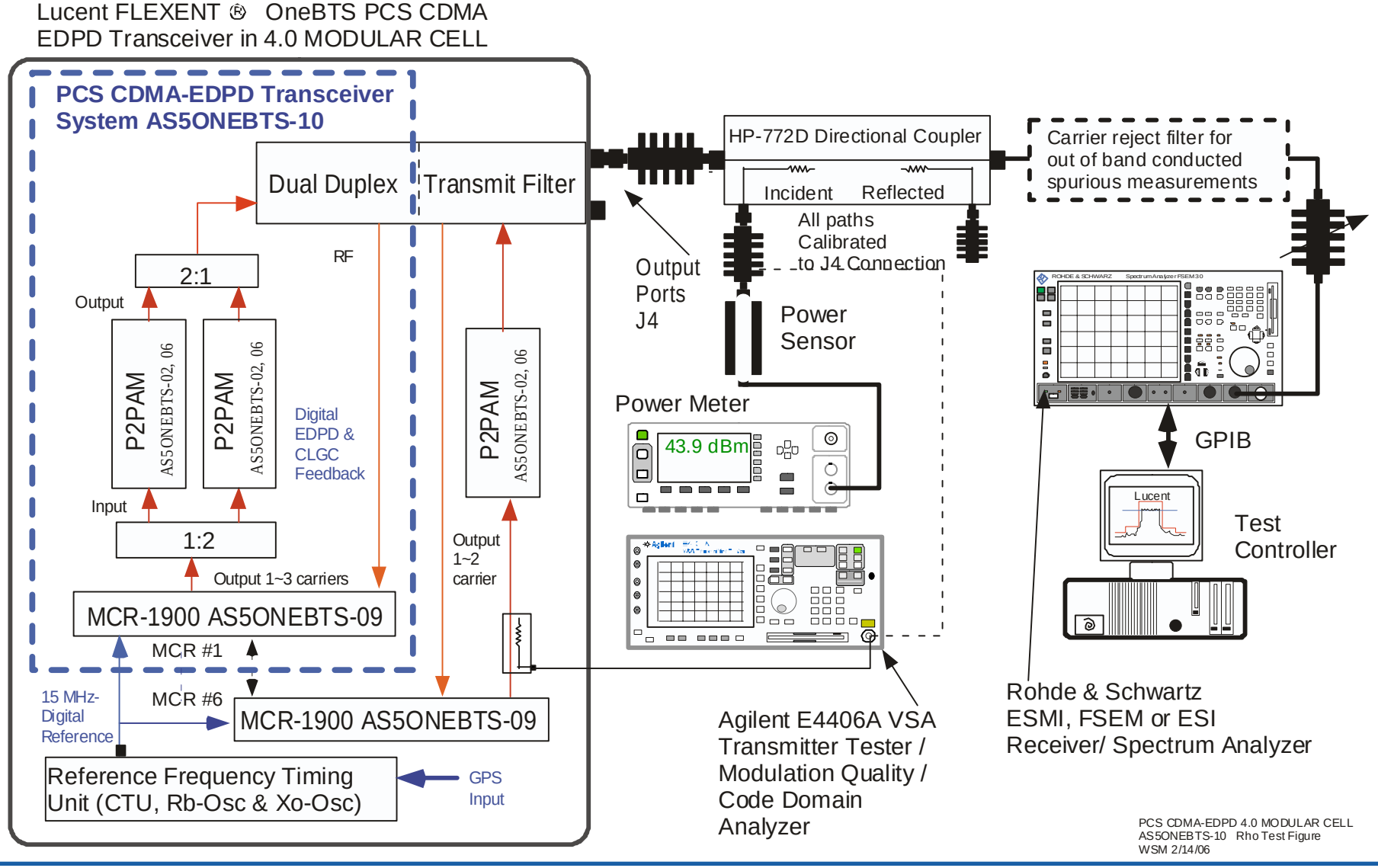
PCS Band	Transmit Channel(s)	Measured Rho	Status
A	25	0.99904	Compliant
D	325	0.99901	Compliant
B	425	0.99901	Compliant
E	725	0.99902	Compliant
F	825	0.99896	Compliant
C	1175	0.99904	Compliant

TABLE 13.1 MCR-1900 Channels for Modulation Characteristics Measurement

13.4.1 Results Summary

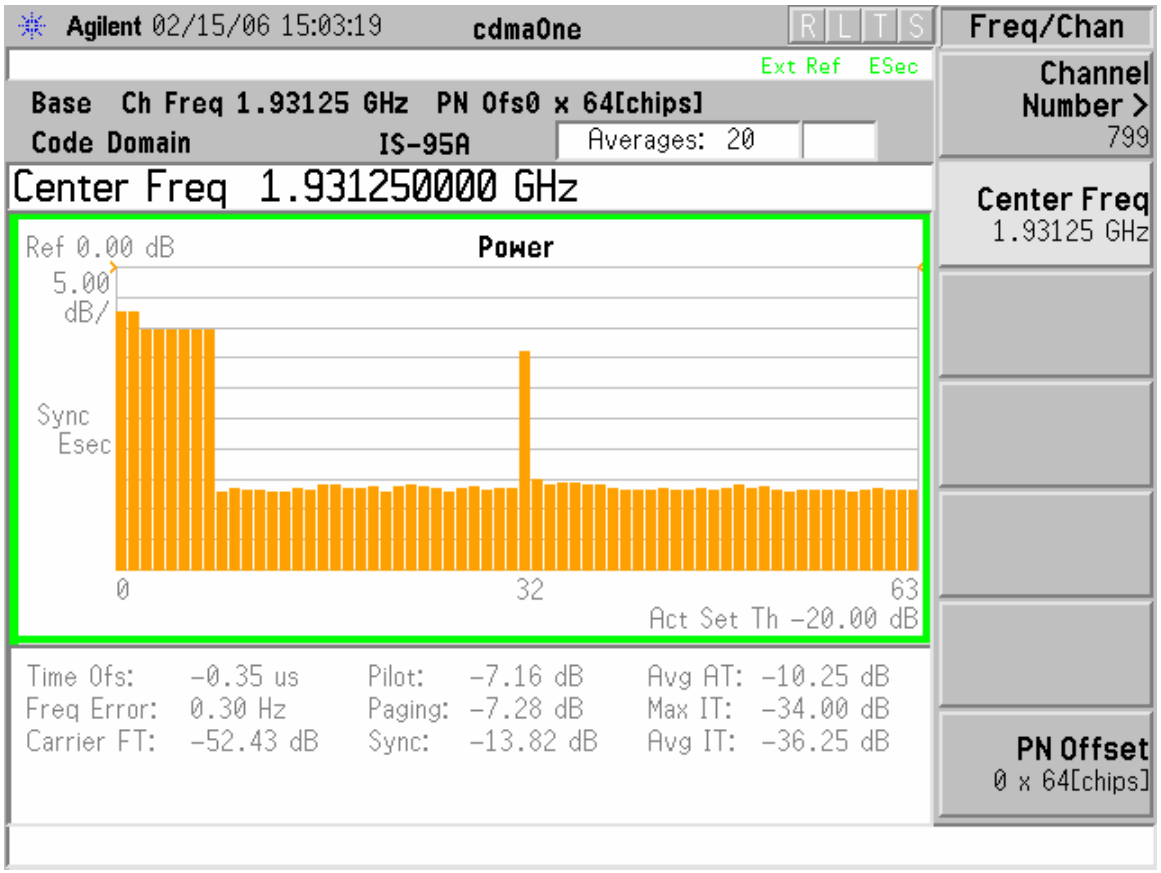
For each of the PCS channels tested, the **PCS UMTS-CDMA EDPD Transceiver's** modulation quality factor, Rho (ρ), was measured to be $\geq$ 0.99896. The **PCS UMTS-CDMA EDPD Transceiver's AS5ONEBTS-10** transmit signal modulation parameters and constellation for PCS channel 25 is shown in Figure 13B below. The data for channel 25 is representative of the data recorded for the remaining channels listed above and was taken utilizing the Agilent -E4406A VSA Series Transmitter Analyzer. It also verified that the frequency offset is less than (+/- 0.05 PPM) of the frequency assignment.

Test Configuration For Modulation Quality and Code Domain

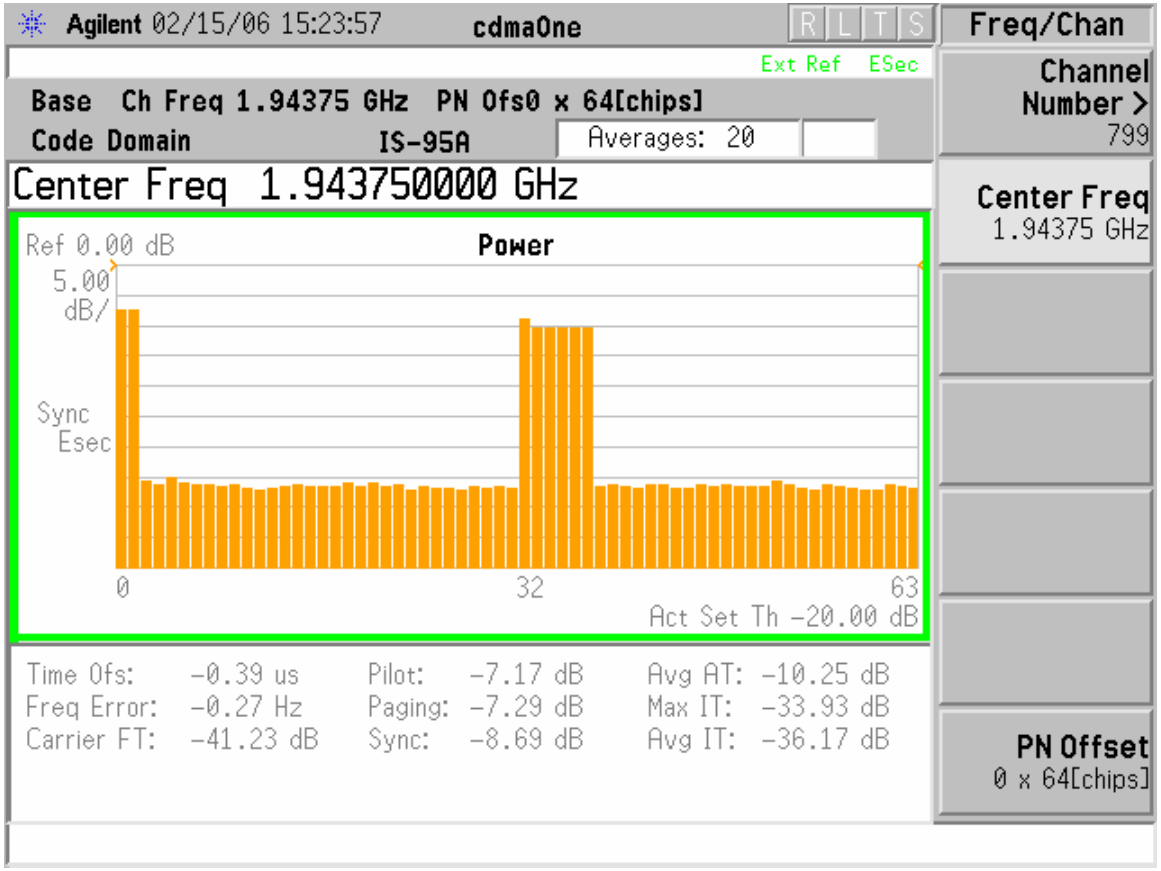


Transmitter Measurements
of
CDMA Transmitter Output
Rho Data and Code Domain
for
Lucent Technologies Inc.
PCS UMTS-CDMA EDPD Transceiver
FCC ID: AS5ONEBTS-10
Installed in
FLEXENT PCS CDMA Modular Cell 4.0

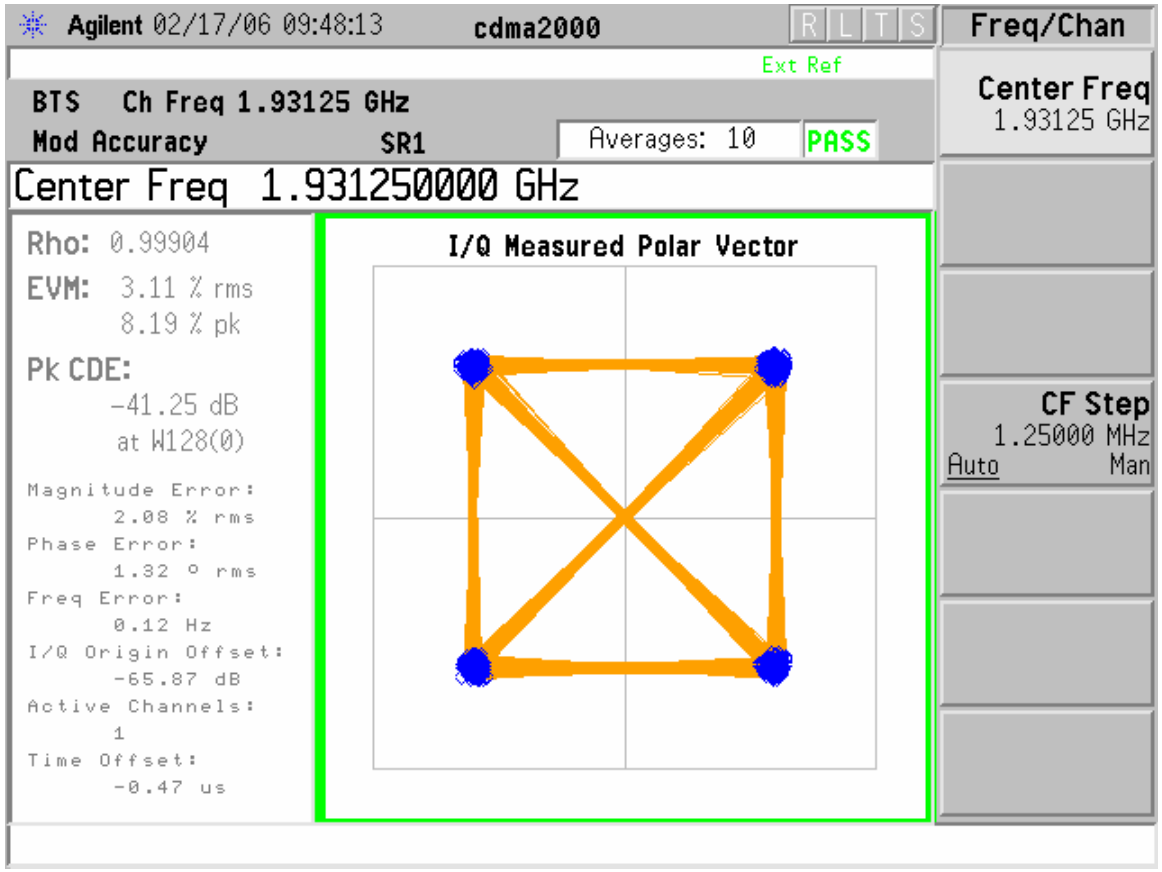
Code Domain 6c A Block, Left side Channel 25~150 Tx Output 3 Amplifiers



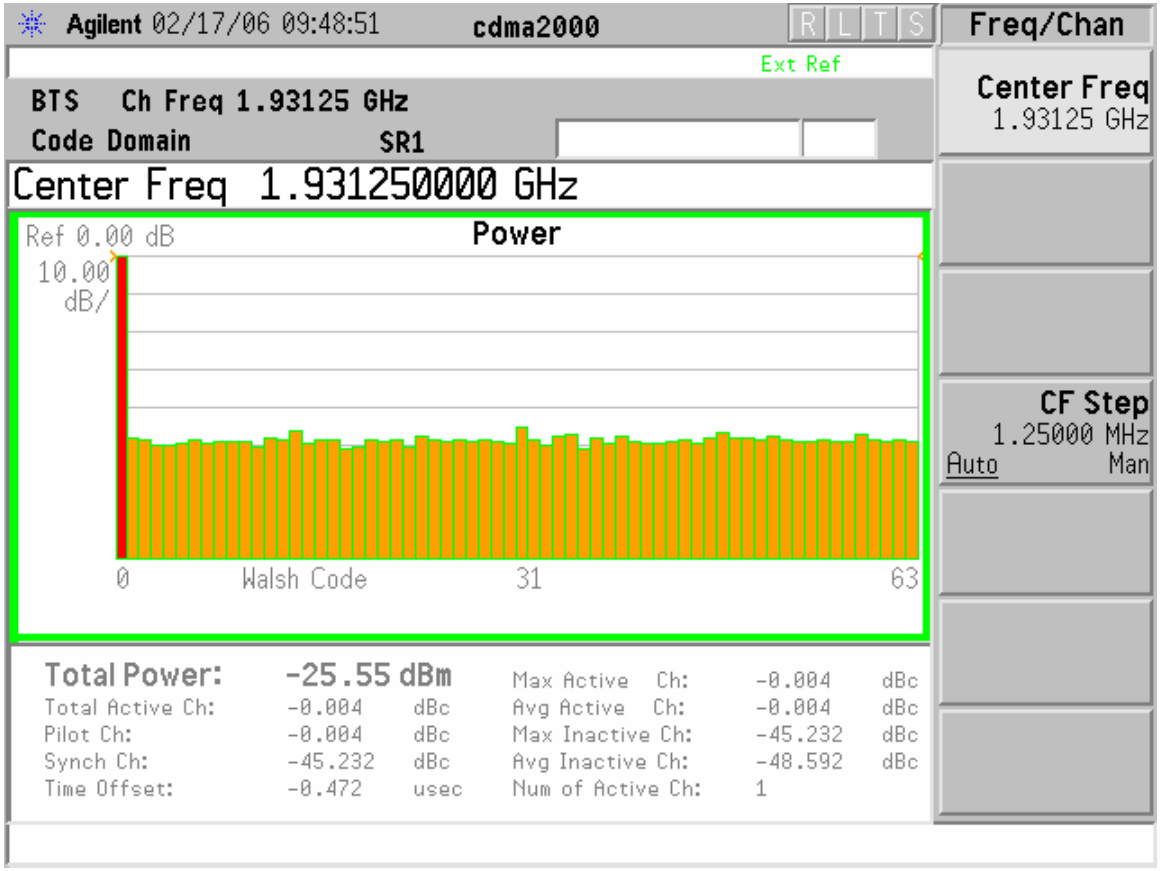
Code Domain 6c A Block, Right side Channel 150~275 Tx Output 3 Amplifiers



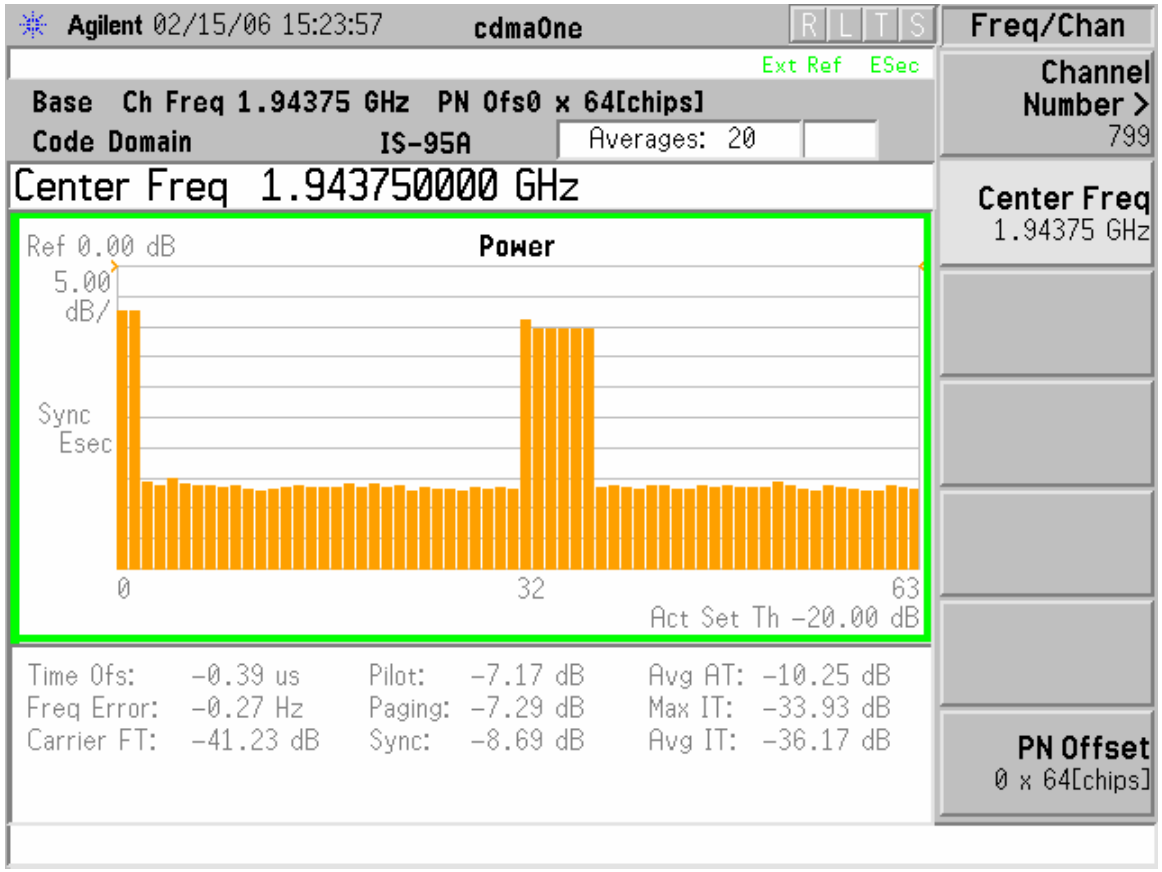
Rho 6c A Block, Left side Channel 25~150 Tx Output 3 Amplifiers



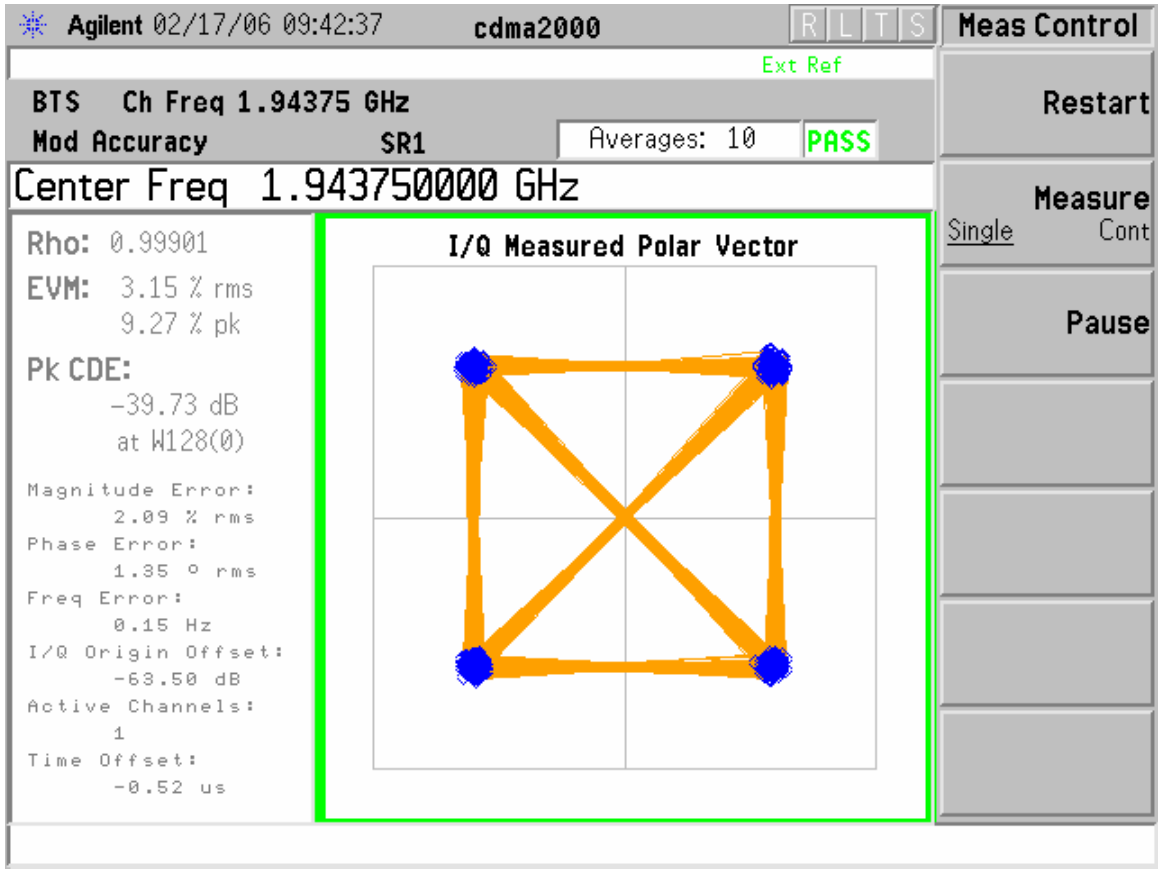
Rho Code Domain 6c A Block, Left side Channel 25~150 Tx Output 3 Amplifiers



Code Domain 6c A Block, Right side Channel 150~275 Tx Output 3 Amplifiers



Rho 6c A Block, Right side Channel 150~275 Tx Output 3 Amplifiers



Rho Code Domain 6c A Block, Right side Channel 150~275 Tx Output 3 Amplifiers

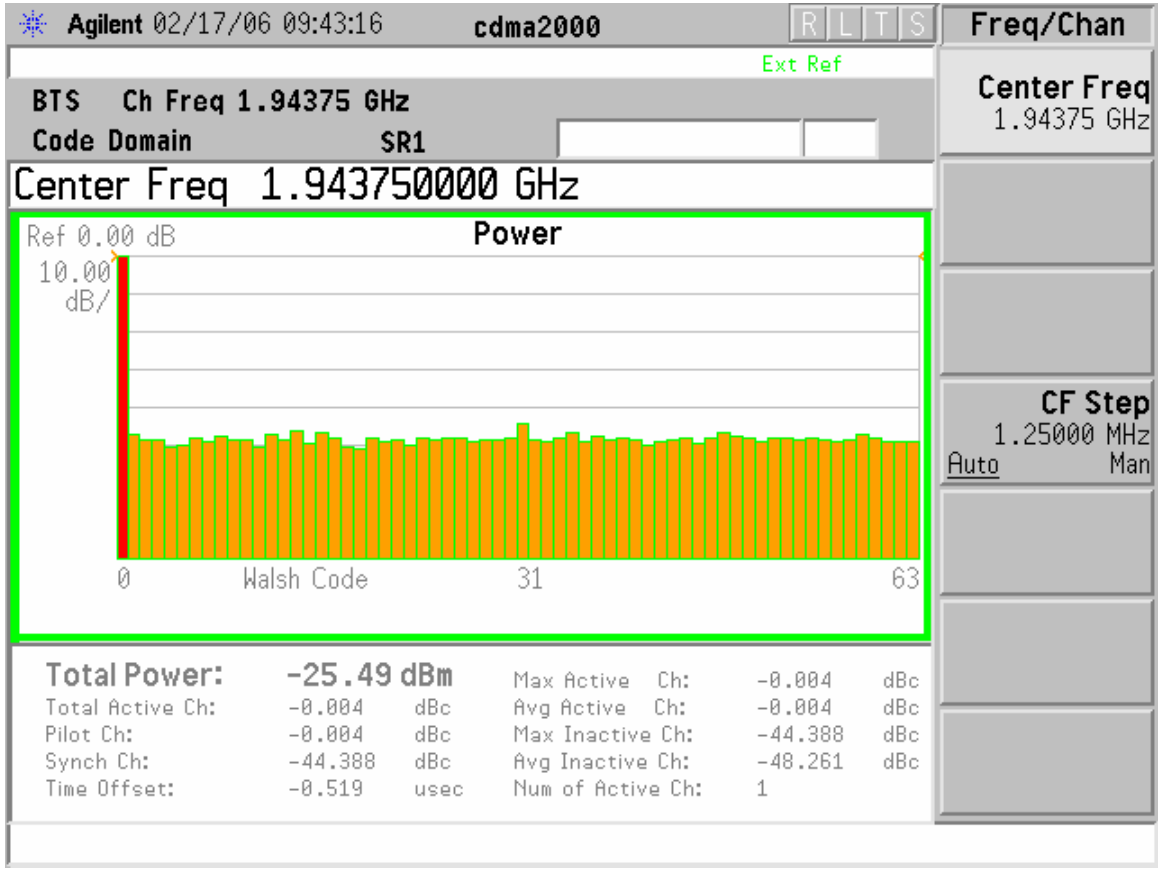


Exhibit 14 MEASUREMENT OF OCCUPIED BANDWIDTH

SECTION 2.1049 Measurement Of Occupied Bandwidth

Occupied bandwidth measurements were performed for all three of the **MCA** configurations of the **PCS UMTS-CDMA EDPD Transceiver**. This documents the typical performance of the **PCS UMTS-CDMA EDPD Transceiver** while operating with one through six CDMA carriers. All power adjustments were performed via the **MCR/ AS5ONEBTS-09.**

The occupied bandwidth of the **PCS UMTS-CDMA EDPD Transceiver/ FCC ID: AS5ONEBTS-10** was measured using a Rohde & Schwarz FSEM-30 Spectrum Analyzer, a PC based instrumentation controller using TILE™ software and calibrated RF attenuation and coupled signal path. The RF power level was measured and adjusted via the test setup in Figure 14A. The set RF output from the transmitter was reduced by calibrated broadband attenuators to amplitudes usable by the spectrum analyzer and power meter. The attenuation factors are reflected in the displayed values of the charts. The typical occupied bandwidth measurement displays the signal adjusted to the -16.2 dBc level corresponding to the corrected RF power level for a 30 kHz resolution bandwidth (RBW). This set-point was performed as follows:

For each test the power calibration was individually verified at the transmitter antenna connection (J4) with a power meter by using the test setup depicted in Figure 14A. The power calibration was performed to calibrate the setting power meter measurement as a reference for both the measured 30 kHz Occupied Bandwidth signal at the –16.2 dBc line and a 3 MHz RBW measurement against the "Top of Mask" limit. The "Top of Mask" limit corresponds to a single carrier 20 Watt signal measured with an RBW of 1.25 MHz. Since at the transmitter J4 output there may be multiple CDMA carriers the measurement is made for an RBW setting of 3 MHz which is greater than the 1.25 MHz signal bandwidth. These measurements were performed prior to each Occupied Bandwidth measurement. The signals measured at RBW's of 3 MHz and 30 kHz were plotted and software used to place the 3 MHz RBW signal at the "Top of Mask" or carrier calibration line for the applicable signal. The carrier as measured with 3 MHz and 30 kHz RBW were used the same attenuation factors. The two measurements are co-plotted on the same graph and a typical example is shown in Figure 14C Typical Power Calibration.

This test procedure above calibrates the carrier power to the "Top of Mask" and accurately places the 30 kHz RBW measured carrier at the –16.2 dBc reference line. This process also documents the carrier power at the specified power level of 20 watts per carrier / 43.01 dBm. All of the plots are presented with a minimum 7.5 MHz span and the center frequency of the specific signals or Block of interest. This allows for ease of comparison of the multi-carrier performance. This data was electronically recorded using the TILE™ software and electronically placed in the Occupied Bandwidth Data Sheets. These sheets contain data for "Left Edge of Block", and "Right Edge of Block" for each PCS frequency Block in the application.

Block Organization and Tests Performed

The FLEXENT PCS Modular Cell 4.0 product line utilizes 5 MHz, 15 MHz, 20 MHz or 60 MHz transmit filters. The 15 MHz Block transmit filters are used for PCS Blocks A, B and C while the 5 MHz PCS Block transmit filters are appropriate for PCS Blocks D, E & F.

The use of EDPD provides the spurious control which allows the use of 20 MHz Wideband and 60 MHz Full PCS Band filters. The 60 MHz PCS Transmit Band filters provide for the least spurious reduction at "edge of block" and "edge of band" and thus represent the most difficult compliance configuration. The filter does not provide for any spurious reduction at block edges inside the band. The testing of EDPD documented herein were performed with the 60 MHz band filter. This configuration is therefore the most difficult for compliance demonstration.

Exhibit 14 *continued*

The demonstration of compliance for all follow-on filter vendors / band configuration will be performed as a Class I change to this certification. All of the narrower-band filters have been previously qualified and documented for non-EDPD transmitter configurations.

All of the **EDPD** Transceiver's filters combinations tests were performed for the three operational configurations of the **EDPD** Transceiver which cover operation of one through six carriers. When a second source manufacturers is to be qualified for a granted block, the tests are performed and the source approved via a Class I change to each of the applicable filings.

In order to adequately evaluate performance the worst case modulation factors of 2G Voice (vs. 3G1X or 3G1X-EV-DO) were used from the governing documents. Thus, the applied signal, from a **PCS UMTS-CDMA EDPD Transceiver/ FCC ID: AS5ONEBTS-10**, met the recommended characteristics per "**Table 6.5.2-1 Base Station Test Model, Nominal**" from **3GPP2 TSG-C.S0010-C-v1.00, February 2005,** Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations, as defined below in table 14.1.

Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Pilot	1	0.2	-7	Code channel W_0^{128}
Sync	1	0.0471	-13.3	Code channel W_{32}^{64} ;always 1/8 rate
Paging	1	0.1882	-7.3	Code channel W_1^{64} ;full rate only
Traffic	6	0.09412	-10.3	Variable code channel assignments; full rate only

TABLE 14.1 Base Station Test Model, Nominal for Main Path

Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Transmit Diversity Pilot	1	0.2	-7	Code channel W_{16}^{128}
Traffic	6	0.09412	-10.3	Variable code channel assignments; full rate only

TABLE 14.2 Base Station Test Model, Nominal for Transmit Diversity Path

The FCC limits contained in **47CFR 24.238 1-Oct-2005** were followed along with the minimum standard presented in **3GPP2 TSG-C.S0010-B-v2.0 March 2004.**

Exhibit 14 *continued*

Measurement Offset

The spectrum analysis output plots shows the peak of the CDMA channel signal 16.19 dB below the Mask reference / "zero dBc line" of the spectrum analyzer for the following reason: For the CDMA system there is no carrier without modulation. Since the CDMA signal is broadband and 1.25 MHz wide, all measurements performed at narrower resolution bandwidths need be adjusted for the reduction in signal energy. The following relationship was used to provide the correct level for an unmodulated carrier vs. the modulated signal.

10*log (Resolution Bandwidth/ Transmit Bandwidth) = Signal Offset (1)

For the peak of the 1.25 MHz CDMA signal measured with a RBW of 30 kHz the signal offset is:

Signal Offset = 10*log (30 kHz /1.25 MHz) = -16.19 dB

Limits which are specified as appropriate at a given RBW can be measured and evaluated at other RBW's if the limit is adjusted per equation (1)

Require Levels

The minimum standard presented in 3GPP2 TSG-C.S0010-B-v2.0 March 2004 was followed for Suppression Inside the Licensee's Frequency Block(s)

Signals that are within the base station transmit band of 1930.000 to 1990.000 MHz and are within the specific block(s) allocated to the operator's system, the total conducted spurious emissions in any 30 kHz band greater than 885 kHz from the CDMA channel center frequency shall not exceed a level of -45 dBc….

The Limit in 47 CFR 24.238(a)(b) for emissions in the 1 MHz band immediately outside and adjacent to a licensees frequency block is:

Emissions $\leq$1 MHz outside the Block *when measured with a RBW of 1%* of the emissions Bandwidth shall be attenuated by :

-{43+10log (mean power output in watts)} = -13 dBm

The Limit in 47 CFR 24.238(a) for emissions outside a licensees frequency block is:

Emissions >1 MHz outside the Block, *when measured with a RBW of 1 MHz,* shall be attenuated by :

-{43+10log (mean power output in watts)} = -13 dBm.

Measurement at a Resolution Bandwidth of 30 kHz is based on our experience with 47 CFR 24.238 and lacking other guidance.

Exhibit 14 *continued*

Adjusted Levels

The following levels apply when measurements of the above limits are performed with an RBW of 30 kHz. Measurement at a Resolution Bandwidth of 30 kHz is based on our experience with 47 CFR 24.238 and lacking other guidance.

1. On any frequency removed from the carrier center frequency by greater than 885 kHz up to 1.25 MHz - at least 45 decibels below the carrier; and

2. On any frequency removed from the carrier center frequency by greater than 1.25 MHz to 2.25 MHz the level shall not exceed -9.2 dBm/-52.21 dBc when measured in a 30 kHz resolution bandwidth (Note 2 below); and

3. From the edge of the Block to the 10th harmonic of the carrier at least

   -{43+10log (mean power output in watts)} dBm,

   whichever is the lesser attenuation. For 24 Watts the required level is –71.21 dBc / -28.2 dBm as measured with a 30 kHz resolution bandwidth (see Note 3). This is equal to -13 dBm measured with a 1 MHz resolution bandwidth

Note 2: The -9.2 dBm/-52.21 dBc level was computed as follows: The limit is specified as

-{43+10log (mean power output in watts) } dB = -13 dBm

When measured in a resolution bandwidth not less than 1% of the signal bandwidth.
Since the carrier is a 1.25 MHz bandwidth signal, the limit is adjusted to

-13 + 10LOG(30kHz/12.5 kHz) dBm = -9.2 dBm / -52.21 dBc

Note 3: The -28.2 dBm / -71.21 dBc level is computed from -13 dBm measured with a 1 MHz resolution bandwidth
adjusted by :

-13 + 10LOG(30kHz/1.0 MHz) dBm = -28.2 dBm / -71.21 dBc

Exhibit 14 *continued*

Mask Description for Single Carrier

The Mask limits are identical for the left and right side of the PCS Blocks and are as follows:

Figure 14B shows the Mask limit for PCS channel 925 which is the left block edge for Block C and shows limits levels identical for the band edge of the PCS band. The Spectrum Analyzer reference level is set above the Signal Reference to allow for the necessary dynamic range of a three CDMA carrier presentation. The top of a typical 43.01 dBm single carrier CDMA signal viewed at a resolution bandwidth of 30 kHz is shown at the 26.81 dBm/ -16.2 dBc line. This line is based on equation 1, and the ratio of the 1.25 MHz bandwidth and the 30 kHz resolution bandwidth of the spectrum analyzer. The vertical line from a to b (i.e. a-b) is at 885 kHz from the center of channel 925 (i.e. Fc), per 3GPP2 TSG-C.S0010-B-v2.0. The horizontal line b-c is 45 dB below the 43.01 dBm/ 0 dBc reference level. The vertical line c-d is at 1.25 MHz from the center of the channel. The placement of line d-e is derived from evaluation of the signal and 12.5 kHz (1%)resolution bandwidth, using the suggested value in section 24.238 of the rules. The ratio of 30 kHz to 12.5 kHz in equation (1) gives 3.8 dB. Adjusting the tolerance line to reflect this difference puts the -13 dBm limit line at -9.2 dBm or –52.21 dBc below the reference line. The vertical line, e-f is at 2.25 MHz from the center of channel 925. The horizontal line f-g is drawn at –71.21 dBc below the 0 dBc / 43.01 dBm reference because the rules require a 1 MHz resolution bandwidth for measurements 1 MHz or greater outside the PCS band. Again, equation (1) and the ratio of 1 MHz to 1.25 MHz provides this value. The same logic was used in determining the other block and band edge tolerances.

Mask Description for Multiple Carrier

The mask for multiple carriers only adjusts the width of the carrier portion of the mask. For the example given above...with multiple carriers there would be no adjustments made to the "Left Edge of Block" requirements. The specified "Right Edge Limit" is treated as an expansion of the non Block edge corner **bb** to be the required + 885 kHz from the center of the "right most" channel. The "Right Edge of Block" limits were derived consistently.

Measurement

All of the tolerance lines for the output are referenced to the top of the Occupied Bandwidth mask, which is defined as 43.01 dBm/ zero dBc. For all measurements of the **PCS UMTS-CDMA EDPD Transceiver/ FCC ID: AS5ONEBTS-10** Occupied Bandwidth, the output power was measured / adjusted individually to the 20 W level for each carrier and this is the 43.01 dBm value at the 0 dBc reference line.

In order to depict the tolerance lines that are required by Sec 24.238 of the FCC Rules and 3GPP2 C.S0010-0, all measurements were made with a resolution bandwidth of 30 kHz and the limits were adjusted using equation (1). A sample detector was employed using minimum of 25 sweeps averaging per trace.

Exhibit 14 *continued*

PCS - Block	PCS -Channels	Number of carriers	Amplifier Type	# of amplifiers in MCA	Results Conducted Spurious
A	25	1	P2PAM	1	Compliant
A	25, 50	2	P2PAM	1	Compliant
A	25, 50, 75	3	P2PAM	2	Compliant
A	25 - 100	4	P2PAM	2	Compliant
A	25 - 125	5	P2PAM	3	Compliant
A	25 - 150	6	P2PAM	3	Compliant
A	150-275	6	P2PAM	3	Compliant
A	175-275	5	P2PAM	3	Compliant
A	200-275	4	P2PAM	2	Compliant
A	225-275	3	P2PAM	2	Compliant
A	250-275	2	P2PAM	1	Compliant
A	275	1	P2PAM	1	Compliant
D	325, 350	2	P2PAM	1	Compliant
D	350, 375	2	P2PAM	1	Compliant
D	325, 350, 375	3	P2PAM	2	Compliant
B	425	1	P2PAM	1	Compliant
B	425, 450	2	P2PAM	1	Compliant
B	425, 450, 475	3	P2PAM	2	Compliant
B	425 - 500	4	P2PAM	2	Compliant
B	525 - 525	5	P2PAM	3	Compliant
B	525 - 555	6	P2PAM	3	Compliant
B	550-675	6	P2PAM	3	Compliant
B	575-675	5	P2PAM	3	Compliant
B	600-675	4	P2PAM	2	Compliant
B	625-675	3	P2PAM	2	Compliant
B	650-675	2	P2PAM	1	Compliant
B	675	1	P2PAM	1	Compliant
E	725, 750	2	P2PAM	1	Compliant
E	750,775	2	P2PAM	1	Compliant
E	725,750,775	3	P2PAM	2	Compliant
F	825, 850	2	P2PAM	1	Compliant
F	850, 875	2	P2PAM	1	Compliant
F	825, 850, 875	3	P2PAM	2	Compliant
C	925	1	P2PAM	1	Compliant
C	925, 950	2	P2PAM	1	Compliant
C	925, 950, 975	3	P2PAM	2	Compliant
C	925 - 1000	4	P2PAM	2	Compliant
C	925 - 1025	5	P2PAM	3	Compliant
C	925 - 1050	6	P2PAM	3	Compliant
C	1050-1175	6	P2PAM	3	Compliant
C	1075-1175	5	P2PAM	3	Compliant
C	1100-1175	4	P2PAM	2	Compliant
C	1125-1175	3	P2PAM	2	Compliant
C	1150-1175	2	P2PAM	1	Compliant
C	1175	1	P2PAM	1	Compliant

TABLE 14.2 PCS Occupied Bandwidth Compliance Tabulation

Note: The Single P2PAM/MCA supports transmit configurations of 1 & 2 carriers. The dual amplifier P2PAM/MCA supports transmit configurations of 1 to 4 carriers. The three amplifier P2PAM/MCA supports transmit configurations of 1 through 6 carriers..

Exhibit 14 *continued*

Presented Results

The Block designation, PCS channels, frequencies and Measured RF Power are tabulated on each plot. The transmitter output signals are plotted for each frequency/ channel of interest. Plots are provided for Left Edge and Right Edge of each PCS Block evaluated. These frequencies were chosen to show the occupied bandwidth in the channels in each of the PCS Blocks in which this product can be operated, in compliance with Section 24.229 and 24.238 (c) of the Commission code. There are no SAT or Wide band data signals associated with CDMA. The signal used to show the occupied bandwidth is defined in table 14.1. This is the signal recommended in 3GPP2 C.S0010-0 The power output level was adjusted to provide the documented value on each chart.

RESULTS: The following exhibits illustrate the spectrums investigated and document compliance.

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W. Steve Majkowski NCE

Figure 14A Test Setup for Antenna Port Measurement of Transmit Power, Occupied Bandwidth and Conducted Spurious Emissions

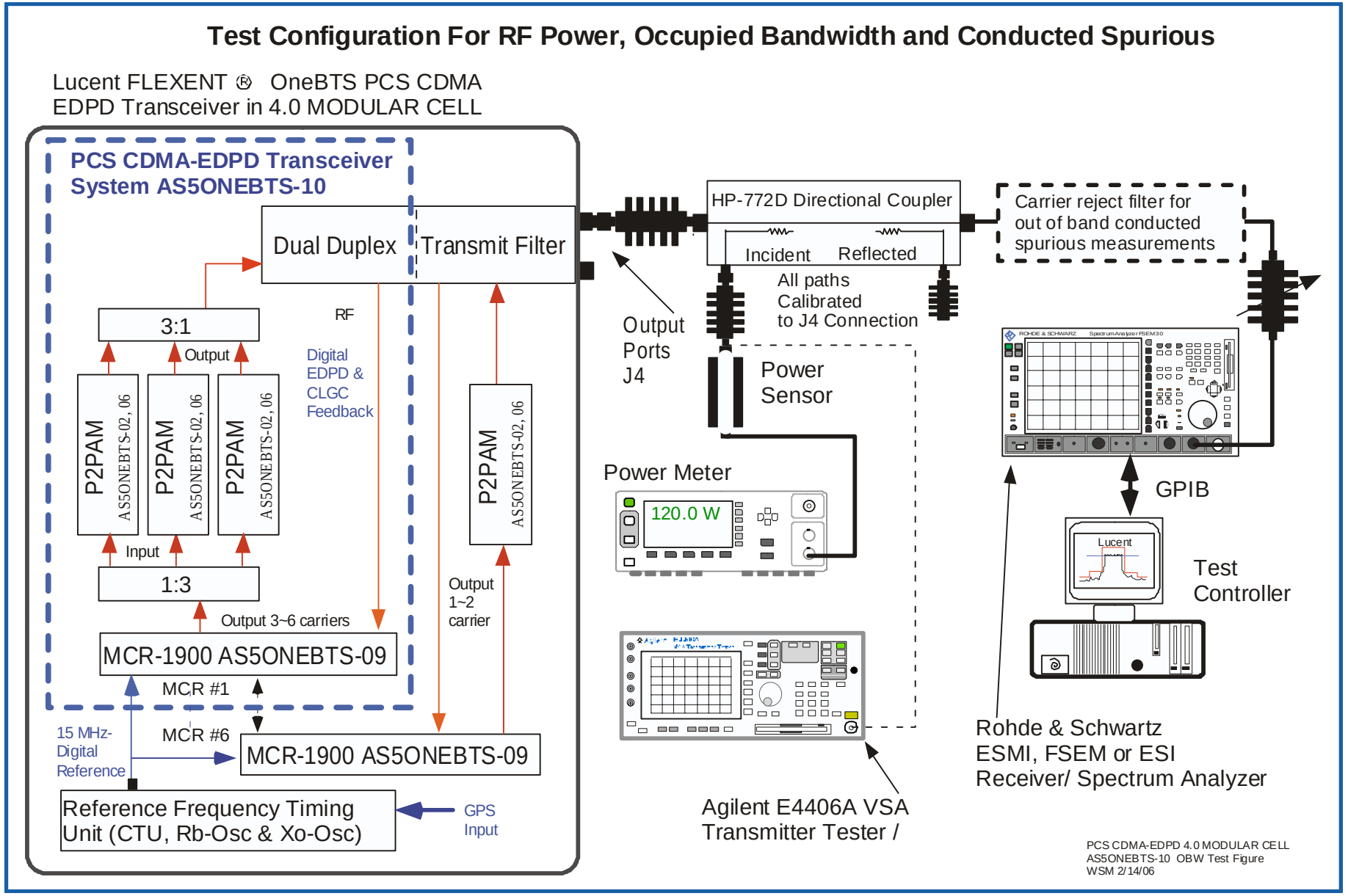


Figure 14B Typical Occupied Bandwidth Mask

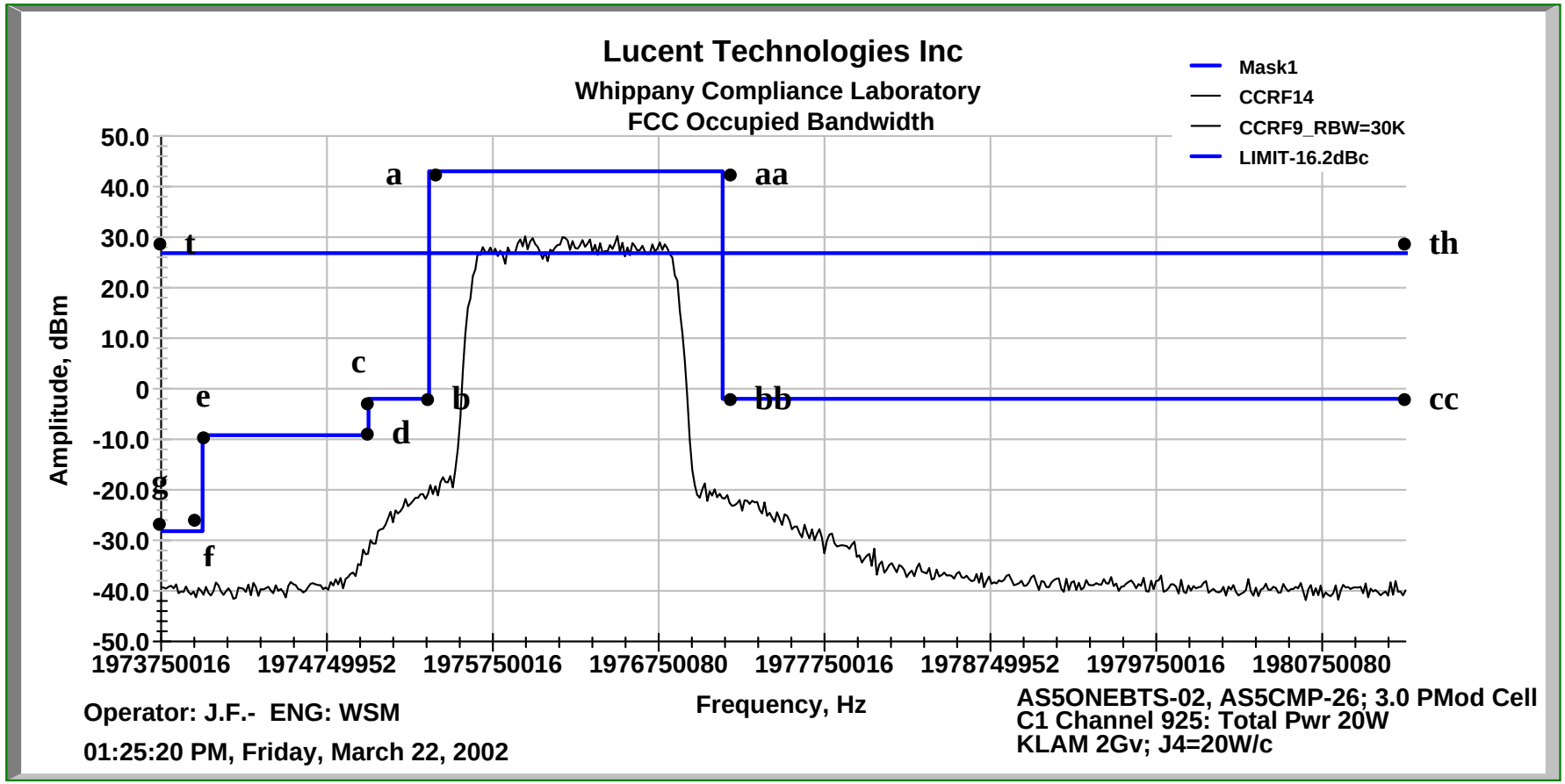
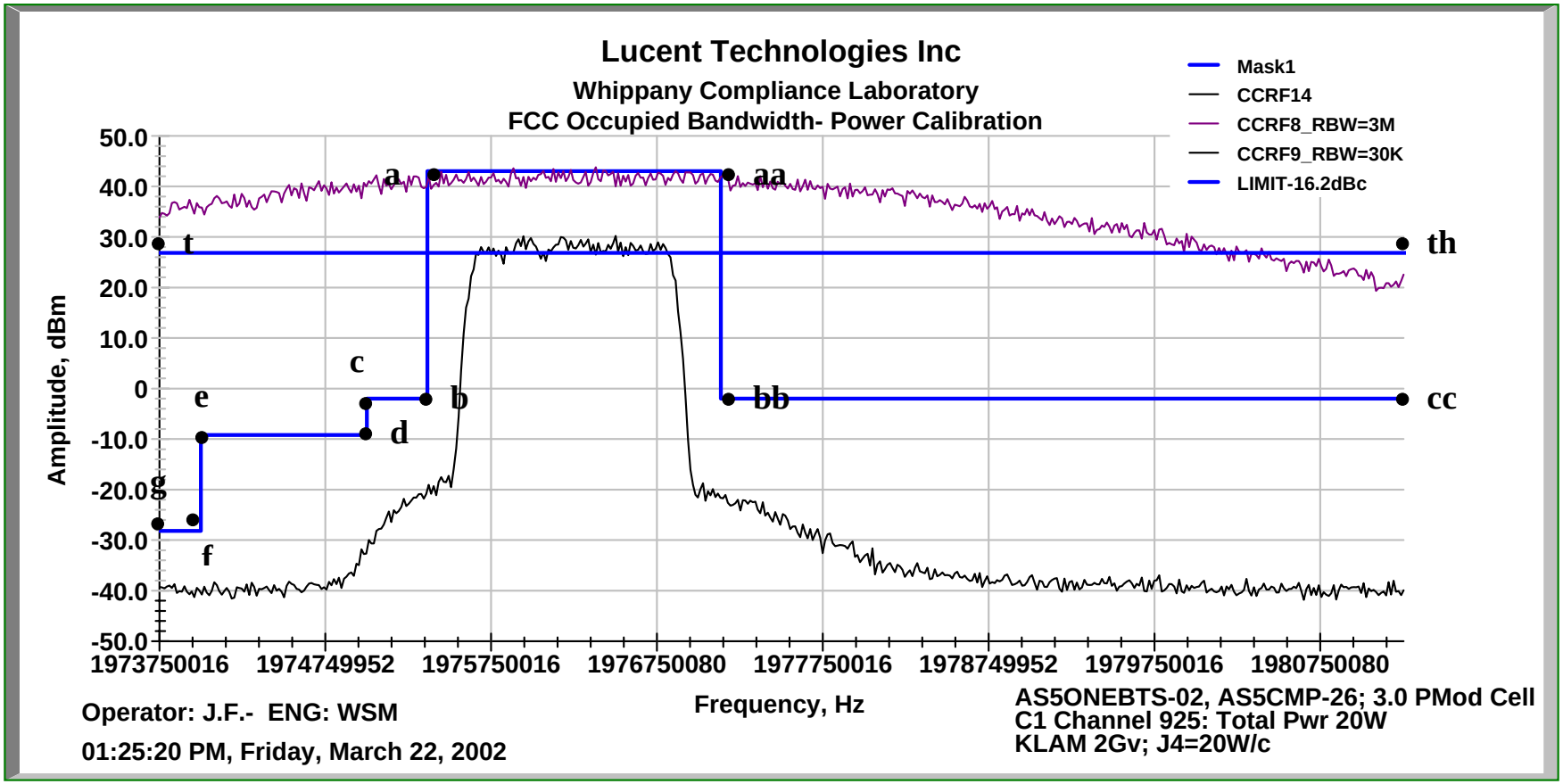
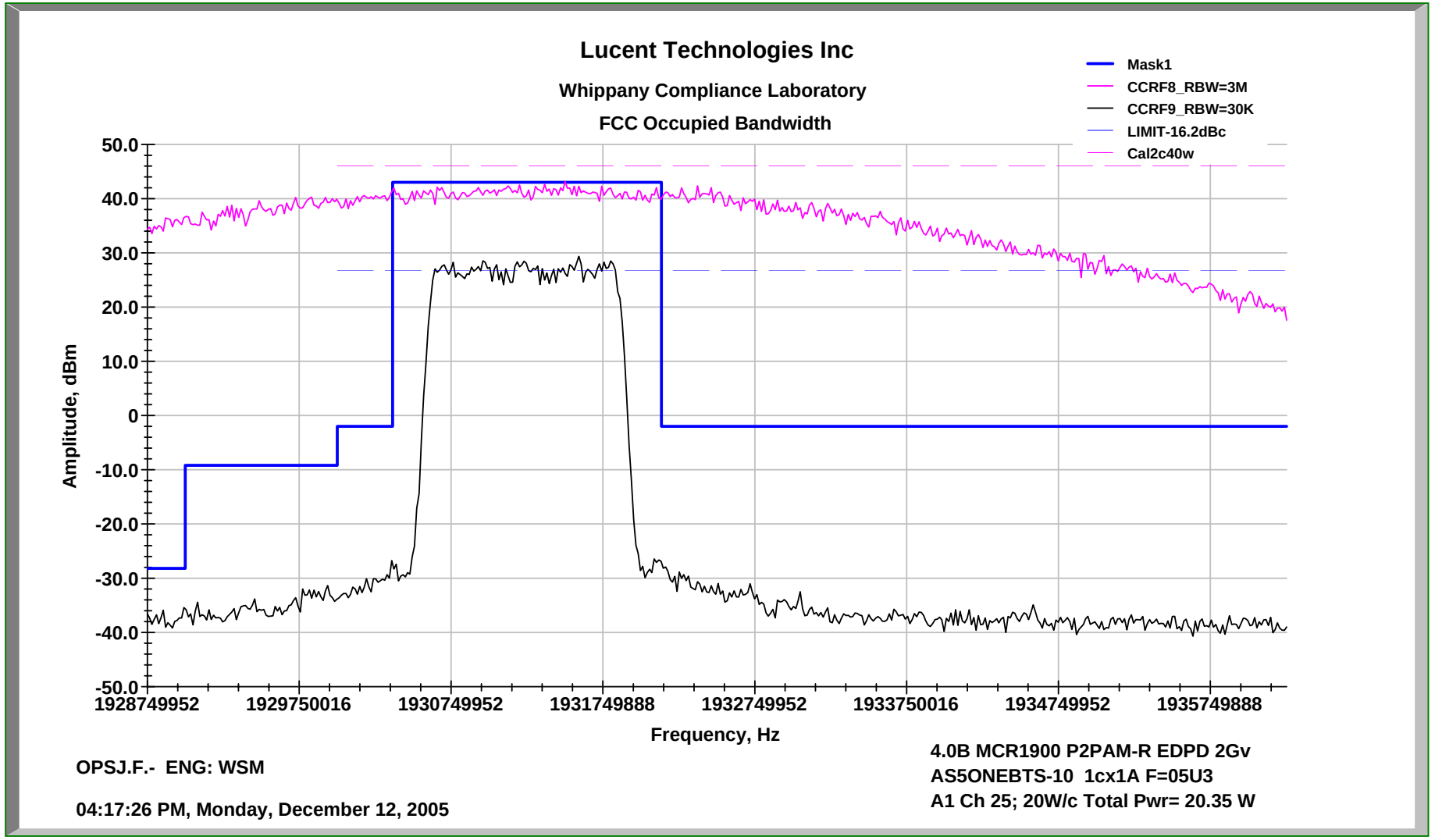


Figure 14C Typical Power Calibration

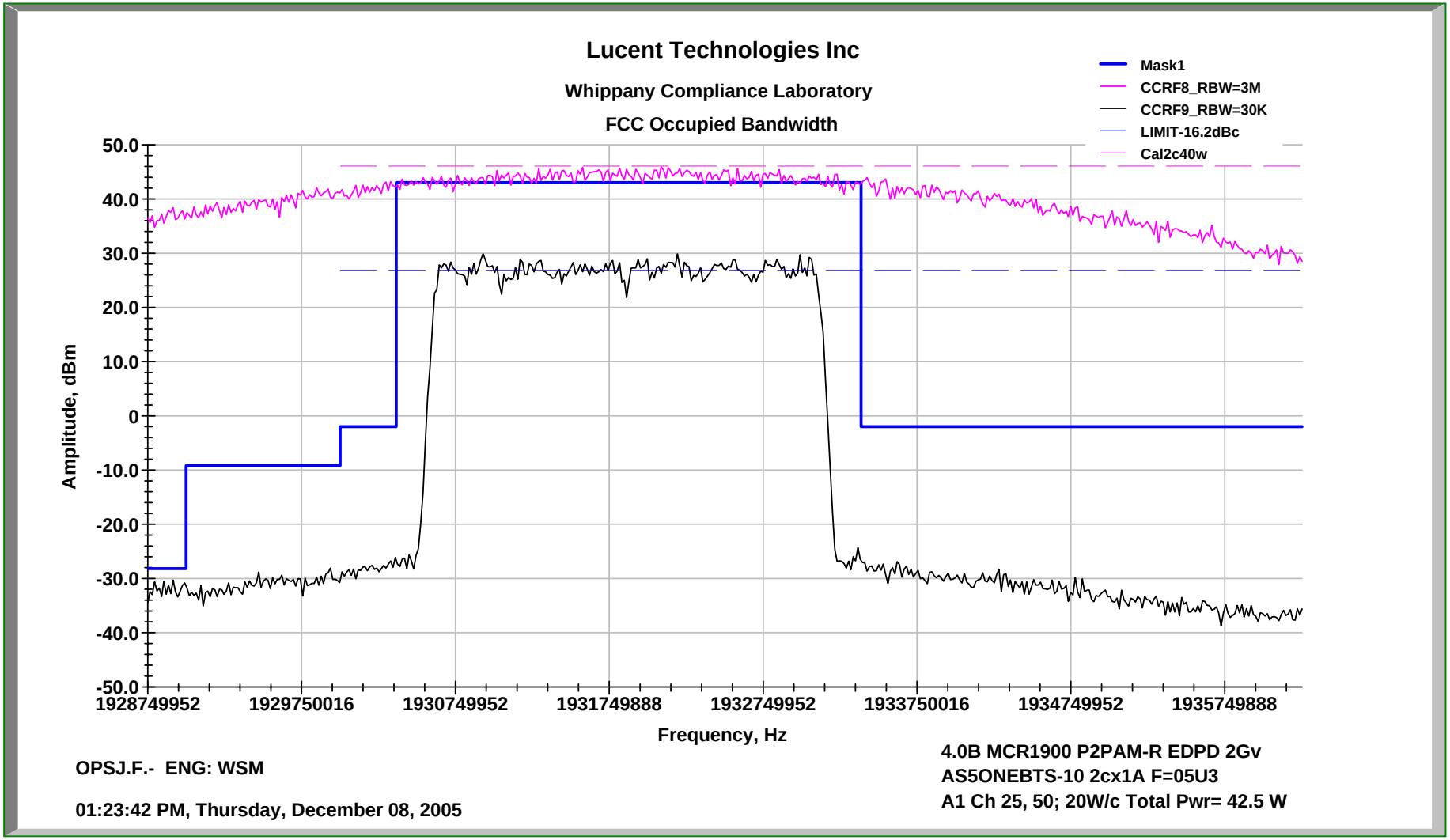


Transmitter Measurements
of
CDMA Occupied Bandwidth
for
Lucent Technologies Inc.
PCS UMTS-CDMA EDPD Transceiver
FCC ID: AS5ONEBTS-10
Installed in
FLEXENT PCS CDMA Modular Cell 4.0

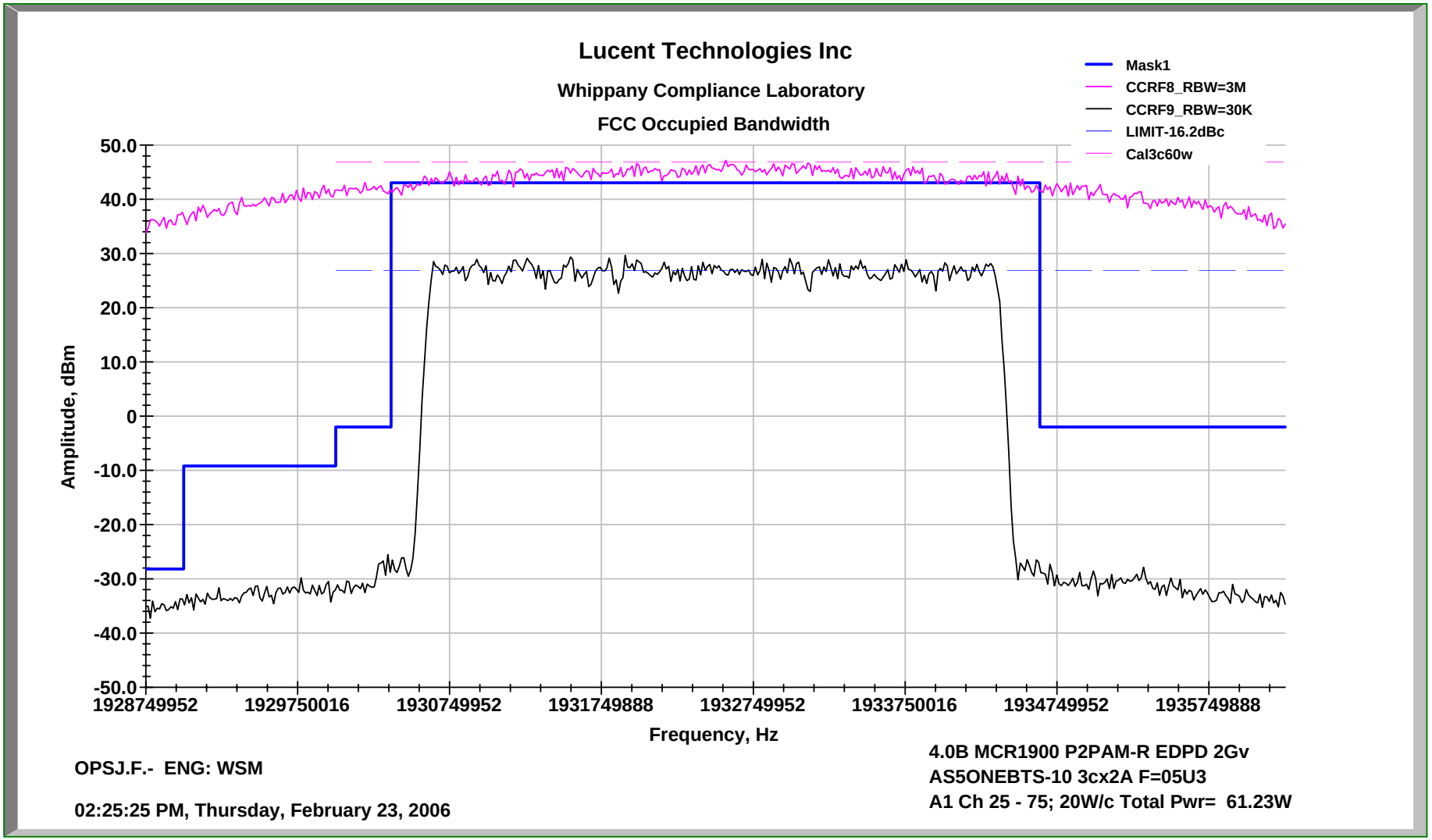
Occupied Bandwidth 1c 2G Voice A Block, Left side Channel 25 Tx Output 1 Amplifier



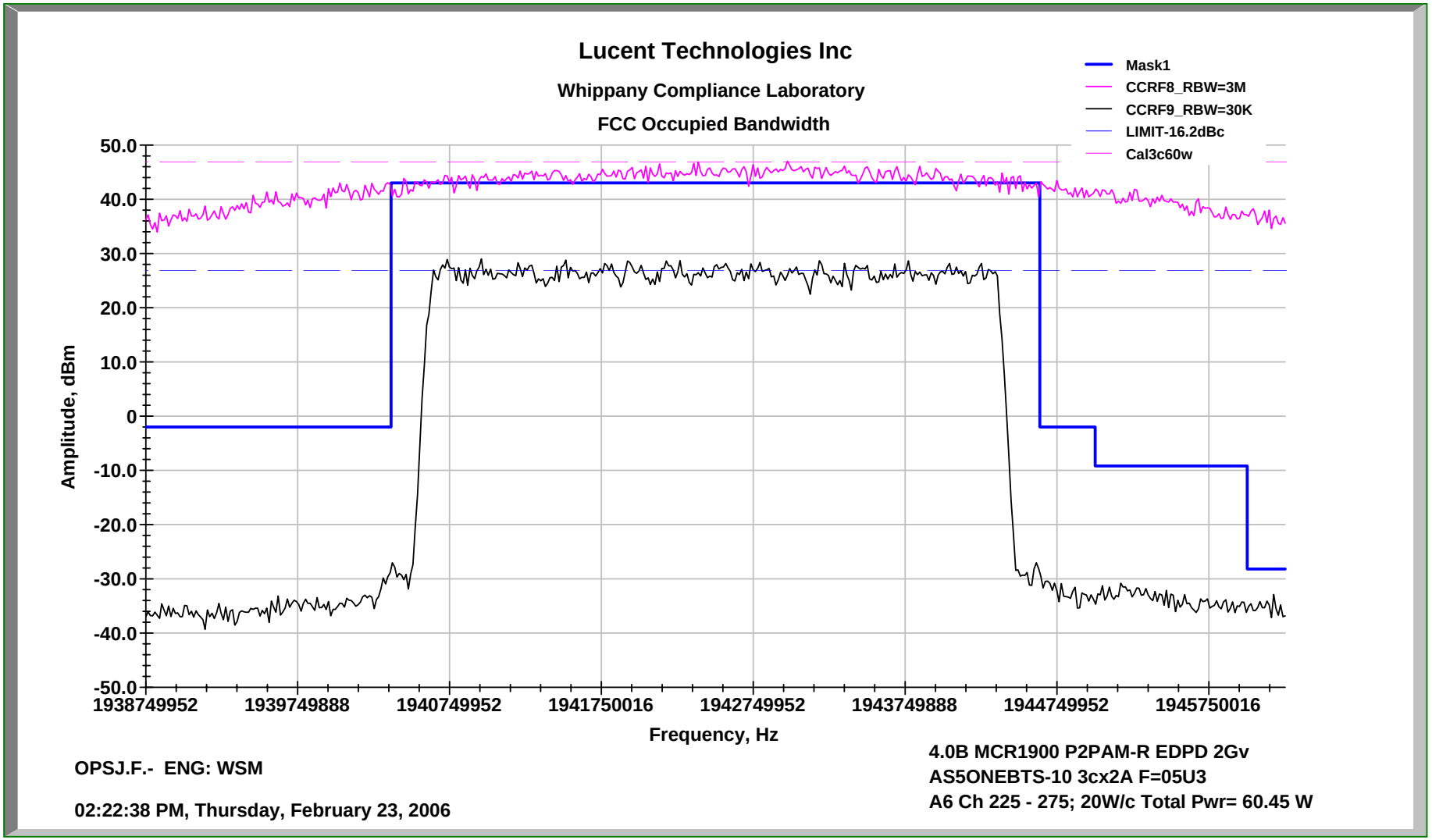
Occupied Bandwidth 2c 2G Voice; A Block, Left side Channels 25, 5; Tx Output 1 Amplifier



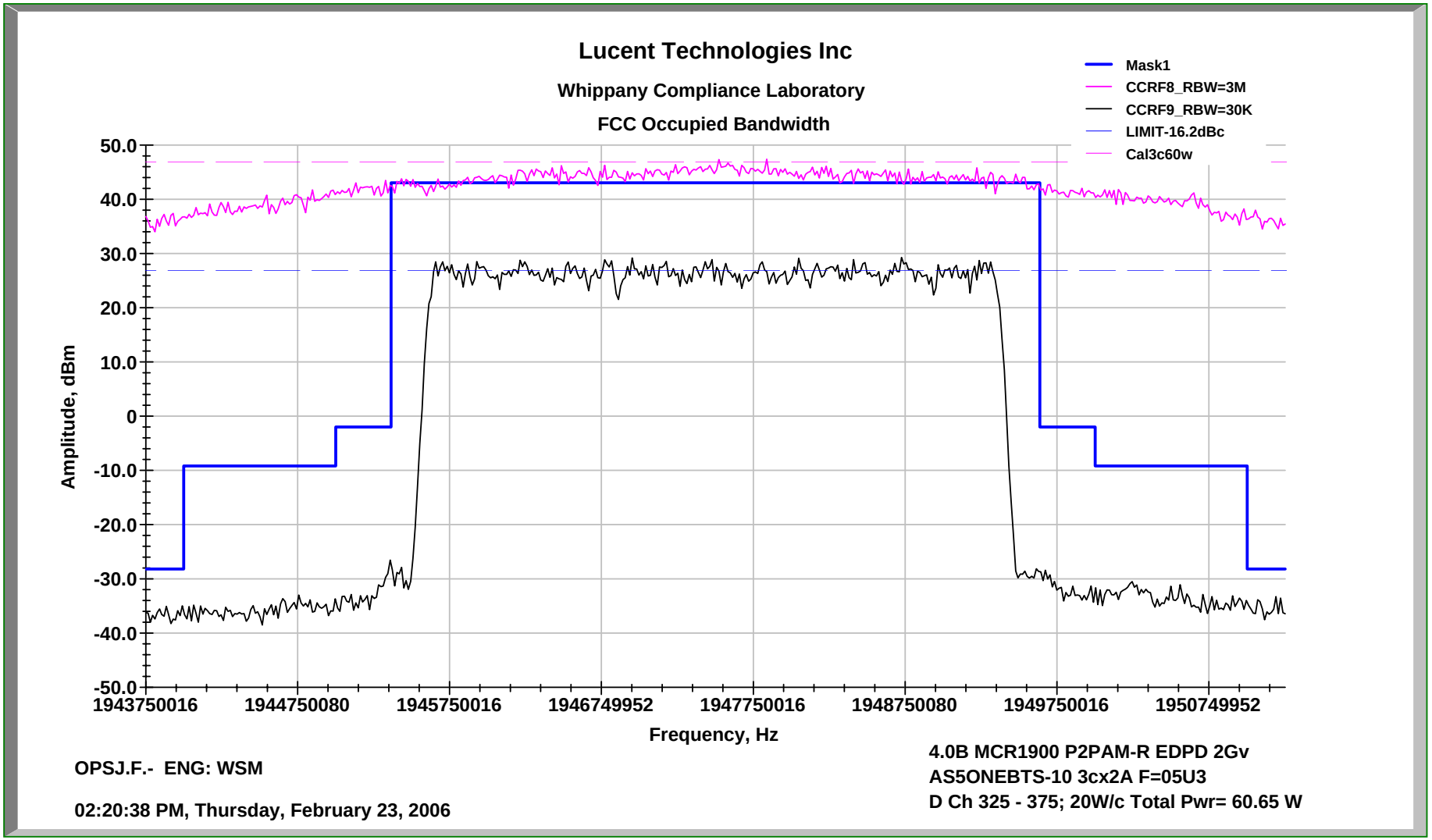
Occupied Bandwidth 3c 2G Voice; A Block, Left side, Channels 25 ~ 75, Tx Output 2 Amplifiers



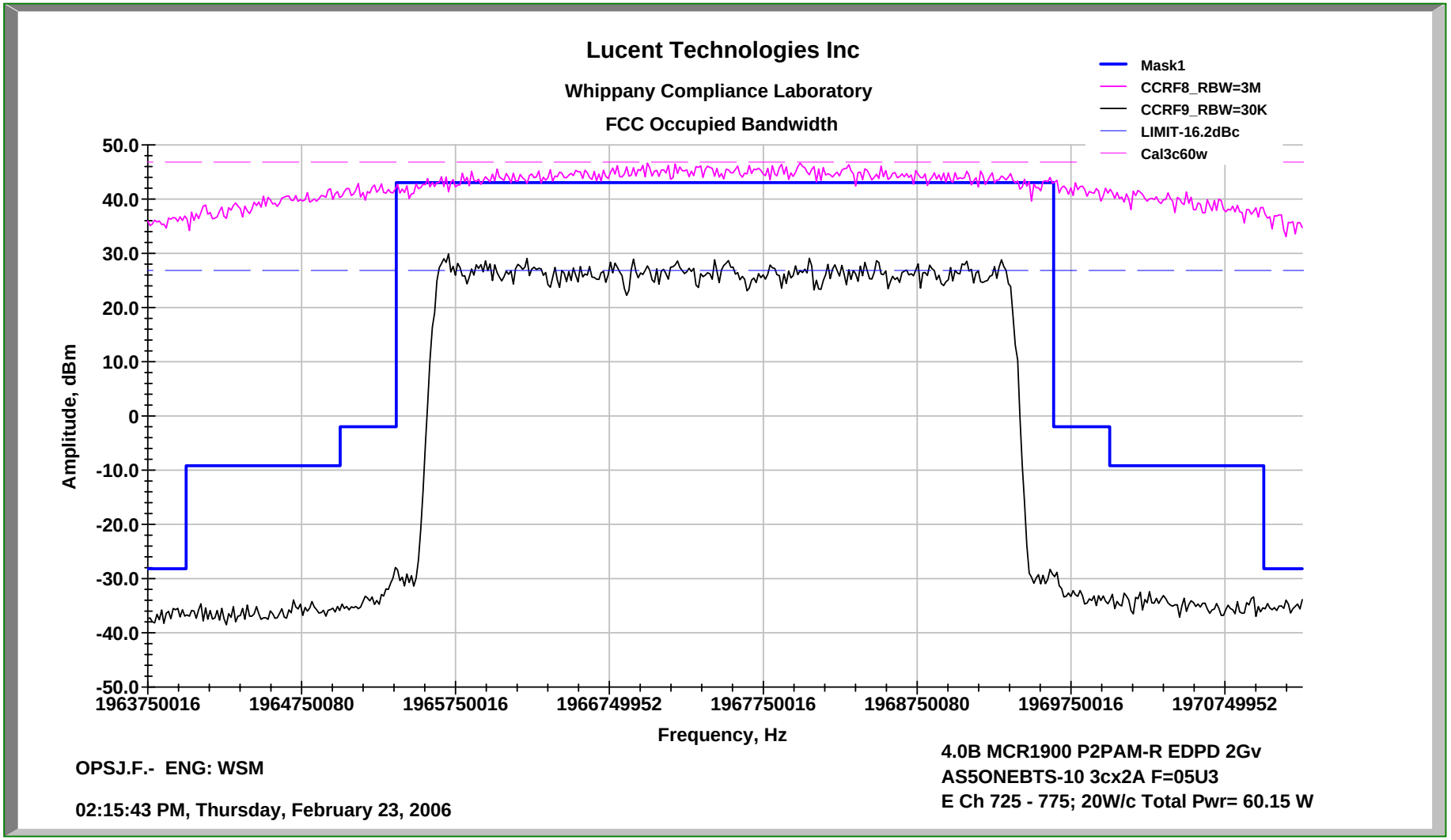
Occupied Bandwidth 3c 2G Voice; A Block, Right side, Channels 225 ~ 275, Tx Output 2 Amplifiers



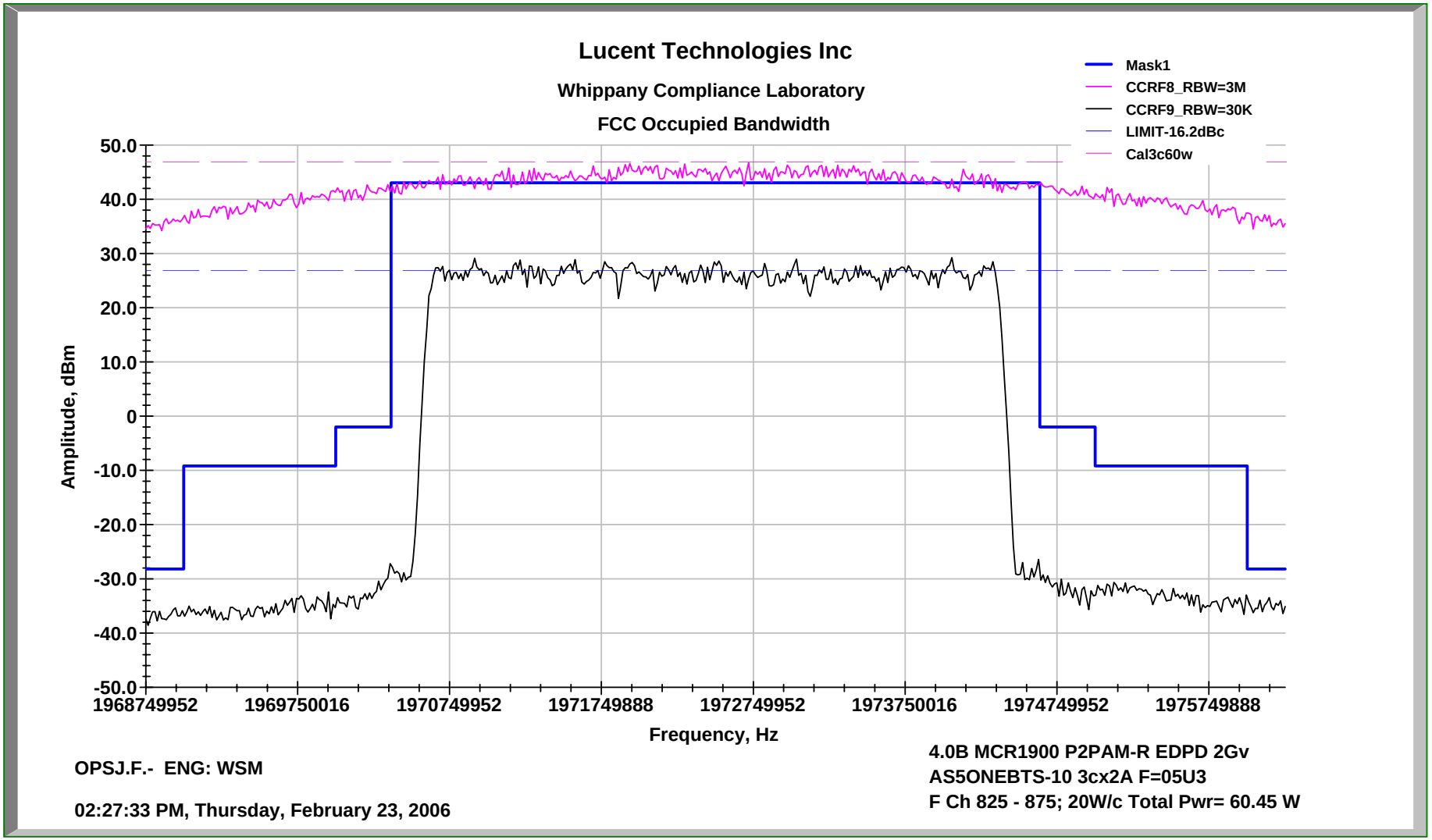
Occupied Bandwidth 3c 2G Voice; D Block, Channels 325 ~ 375, Tx Output 2 Amplifiers



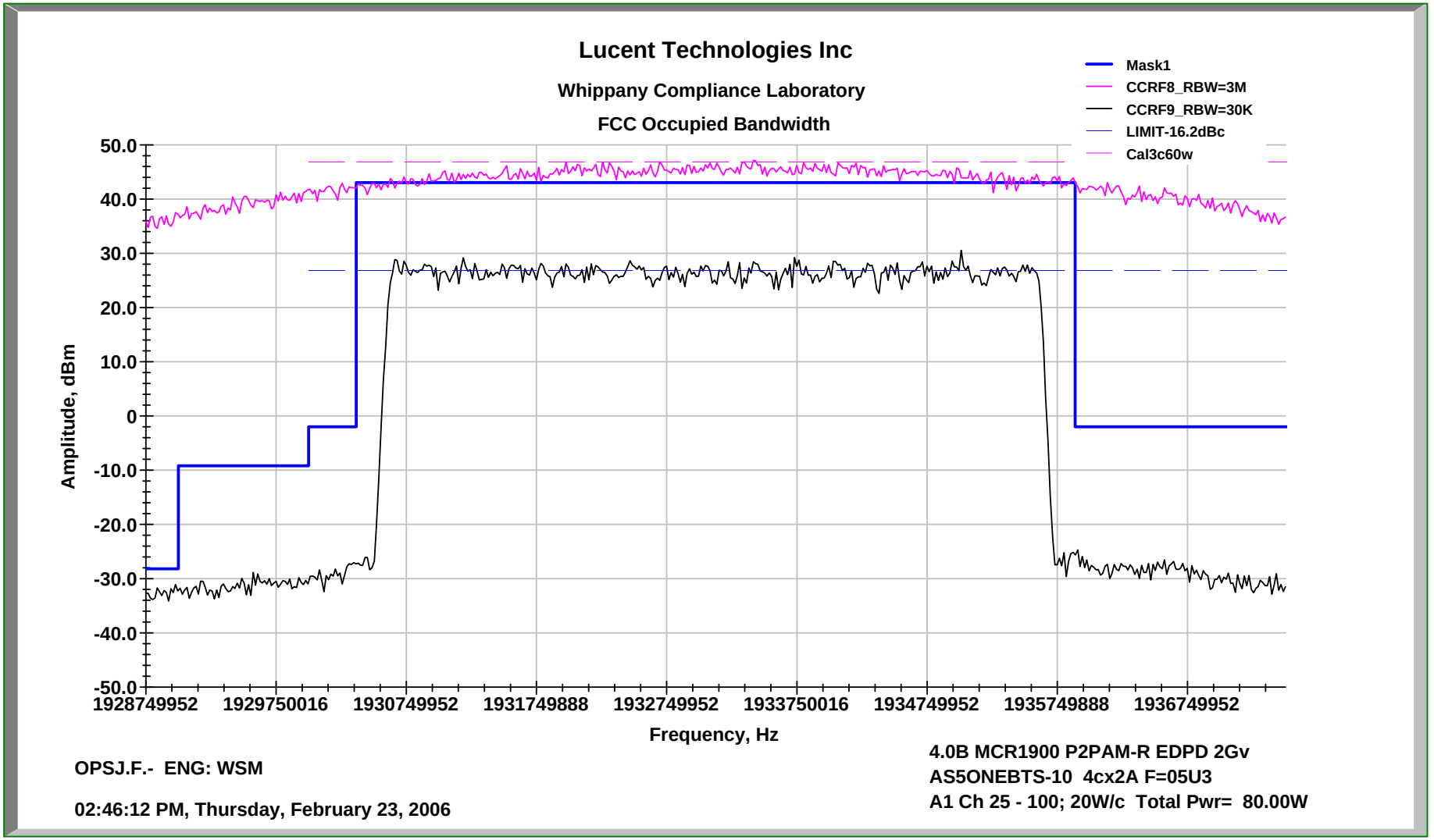
Occupied Bandwidth 3c 2G Voice; E Block, Channels 725 ~775, Tx Output 2 Amplifiers



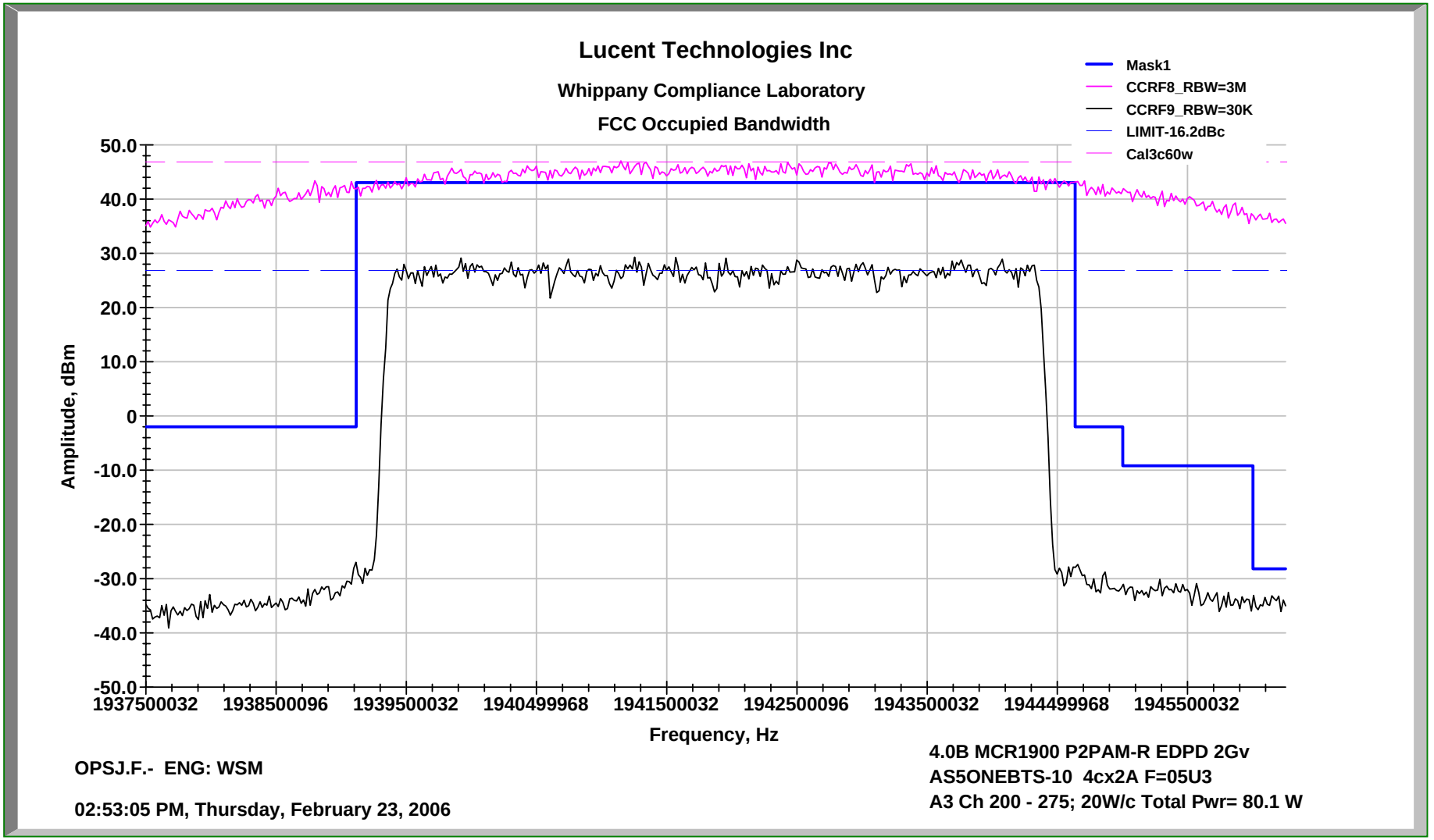
Occupied Bandwidth 3c 2G Voice; F Block, Channels 825 ~ 875, Tx Output 2 Amplifiers



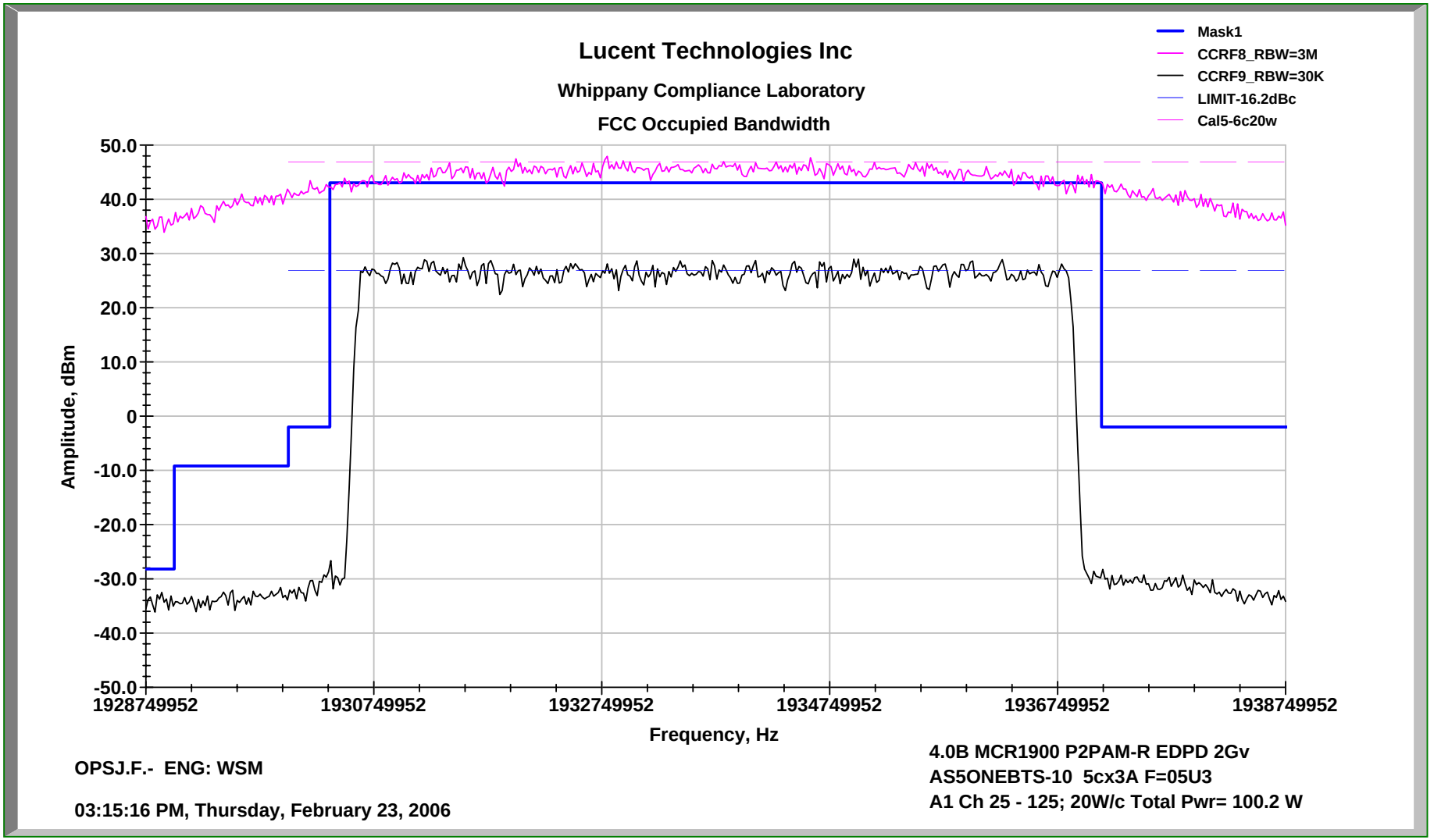
Occupied Bandwidth 4c 2G Voice; A Block, Left side Channels 25 ~100 Tx Output 2 Amplifiers



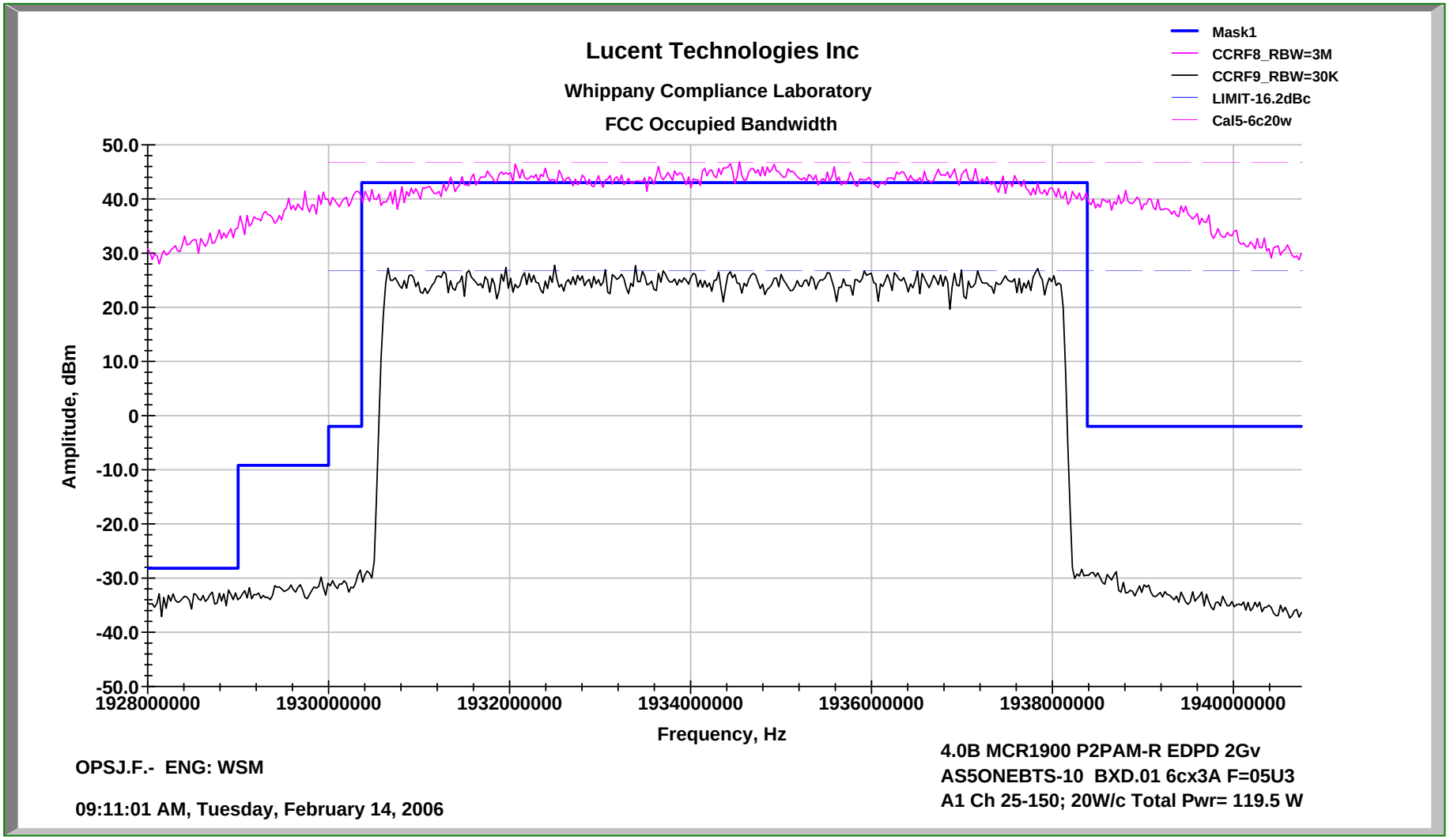
Occupied Bandwidth 4c 2G Voice; A Block, Right side Channels 200 ~275 Tx Output 2 Amplifiers



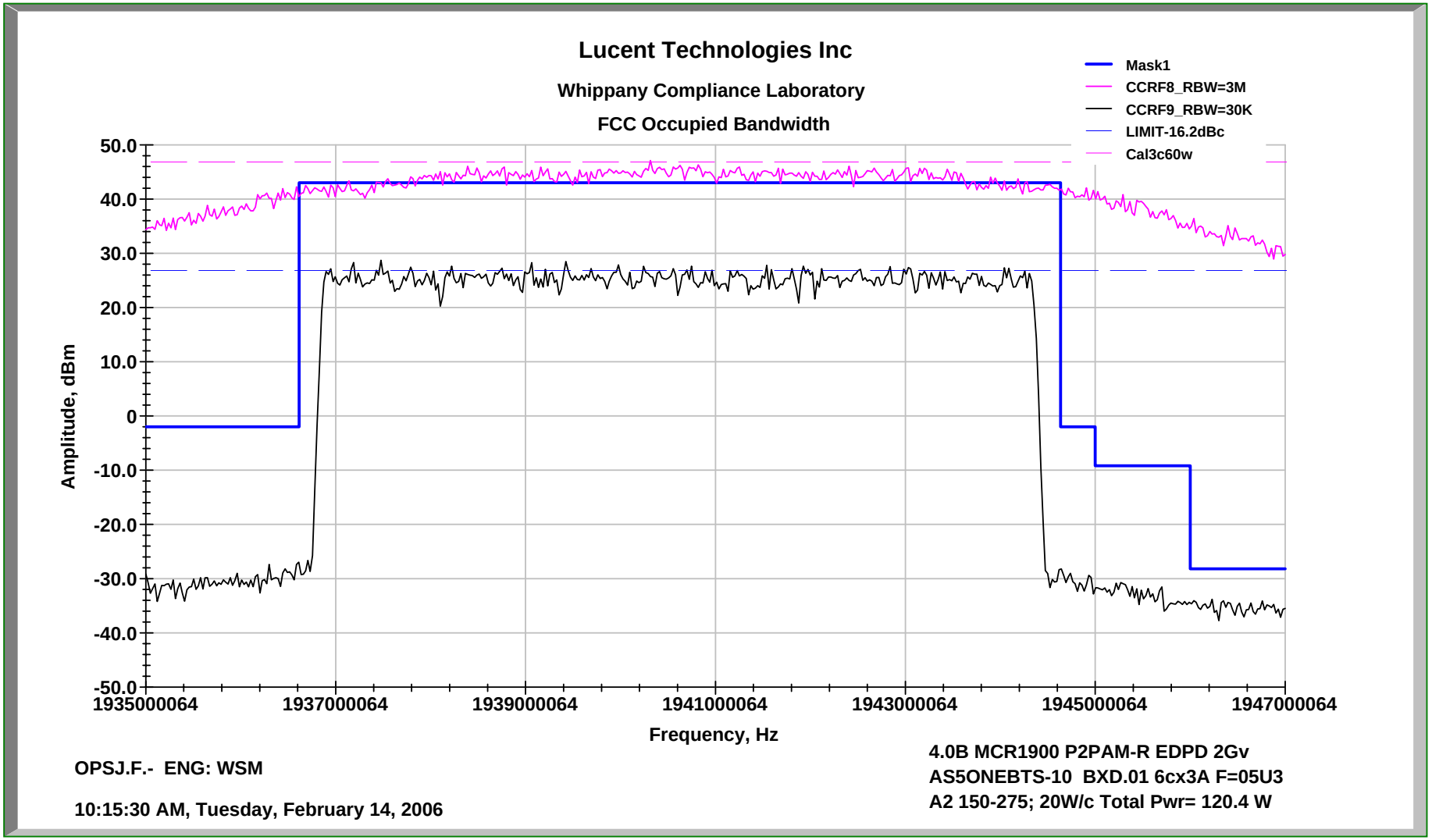
Occupied Bandwidth 5c 2G Voice; A Block, Left side Channels 25, ~ 125 Tx Output 3 Amplifiers



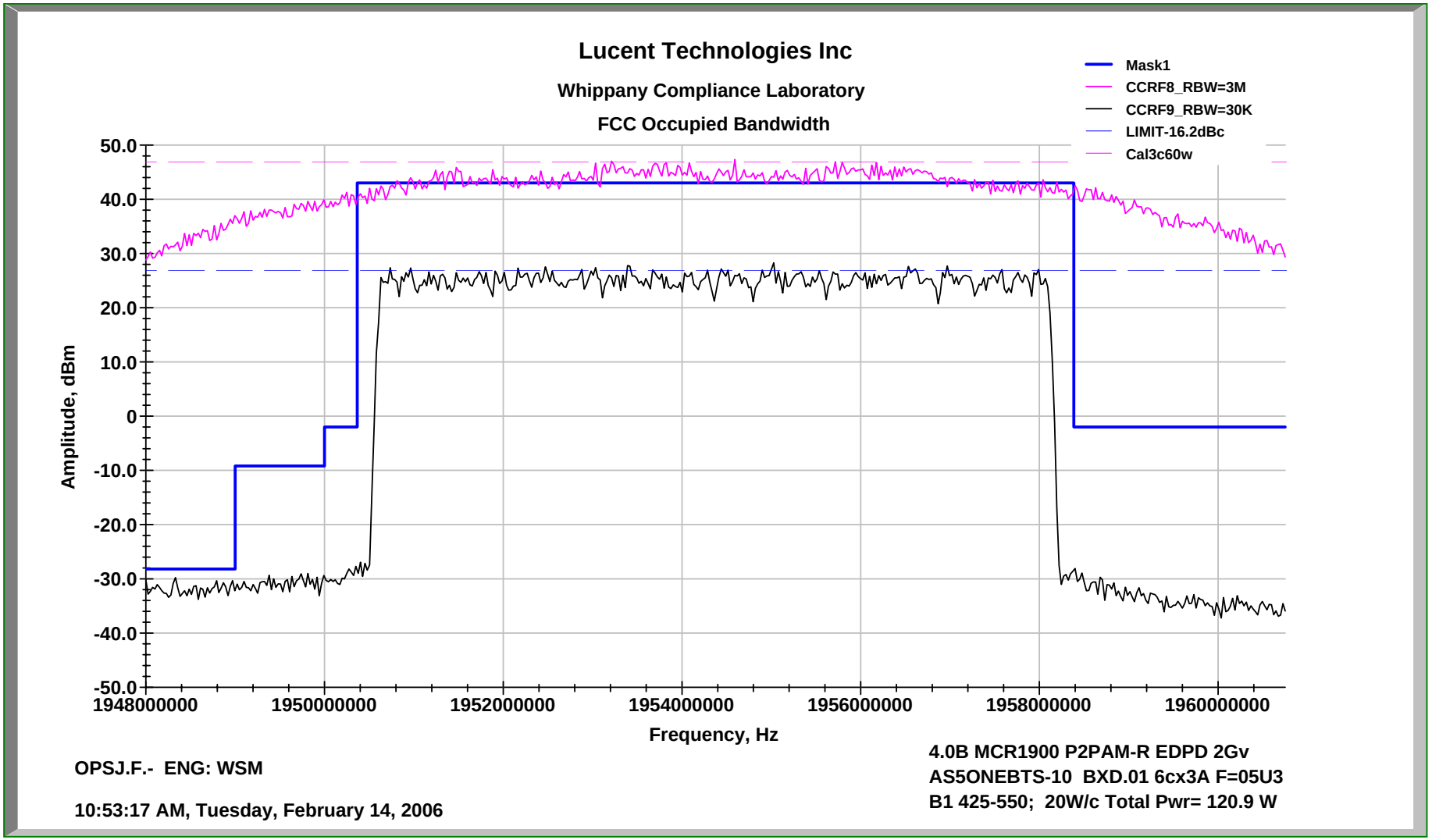
Occupied Bandwidth 6c 2G Voice; A Block, Left side Channels 25, ~150 Tx Output 3 Amplifiers



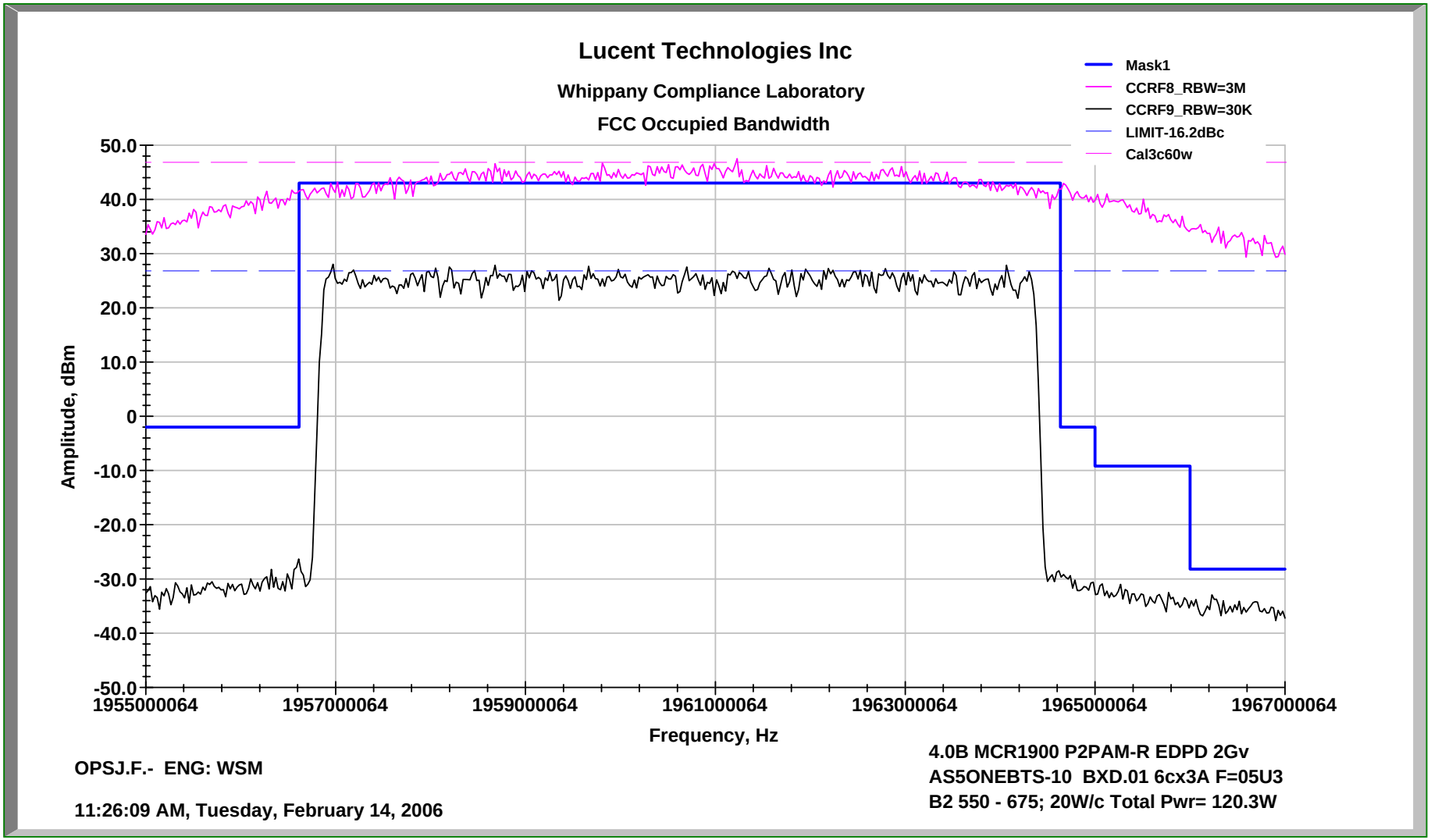
Occupied Bandwidth 6c 2G Voice; A Block, Right side Channels 150~275 Tx Output 3 Amplifiers



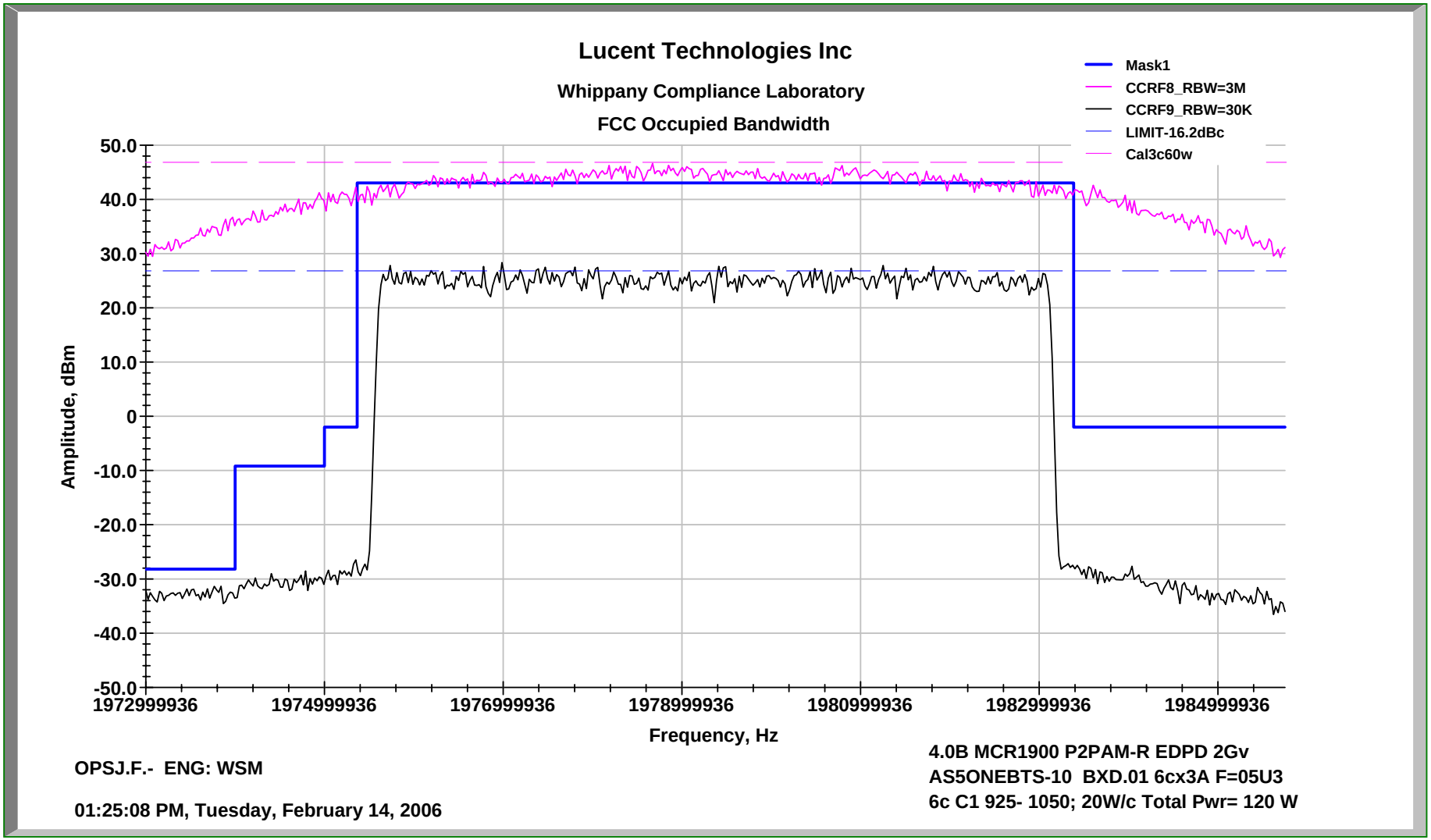
Occupied Bandwidth 6c 2G Voice; B Block, Left side Channels 425 ~550 Tx Output 3 Amplifiers



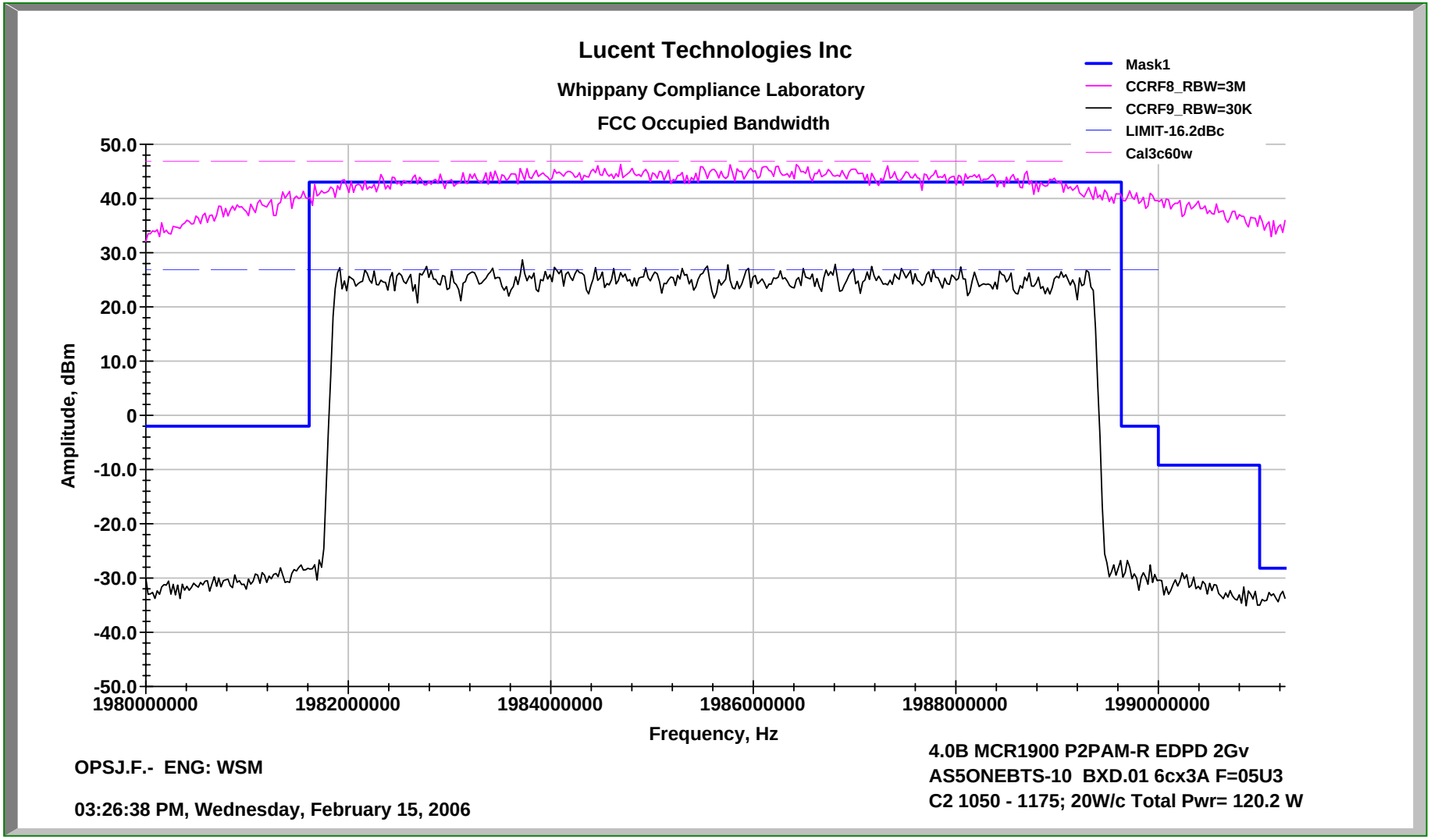
Occupied Bandwidth 6c 2G Voice; B Block, Right side; Channels 550 ~675 Tx Output 3 Amplifiers



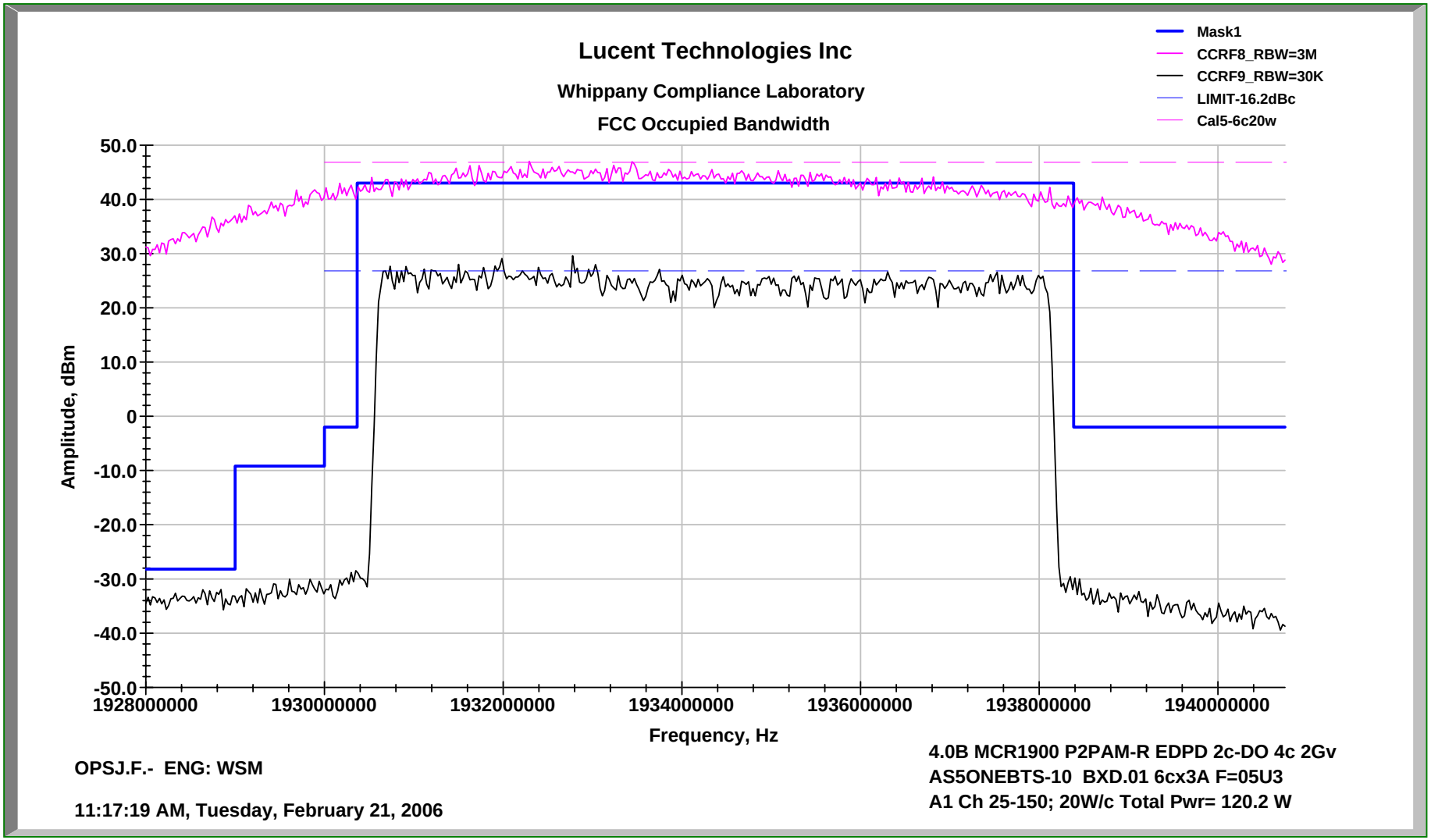
Occupied Bandwidth 6c 2G Voice; C Block, Left side; Channels 925 ~1050 Tx Output 3 Amplifiers



Occupied Bandwidth 6c 2G Voice; C Block, Right side; Channels 1050 ~1175 Tx Output 3 Amplifiers



Occupied Bandwidth 6c with 2c/3G-1XEV-DO + 4c/2GV A Block, Left side; Ch 25 ~150 Tx Output 3 Amps



Occupied Bandwidth 6c with 2c/3G-1XEV-DO + 4c/2GV C Block, Right side; Ch 1050 ~1175 Tx Output 3 Amps

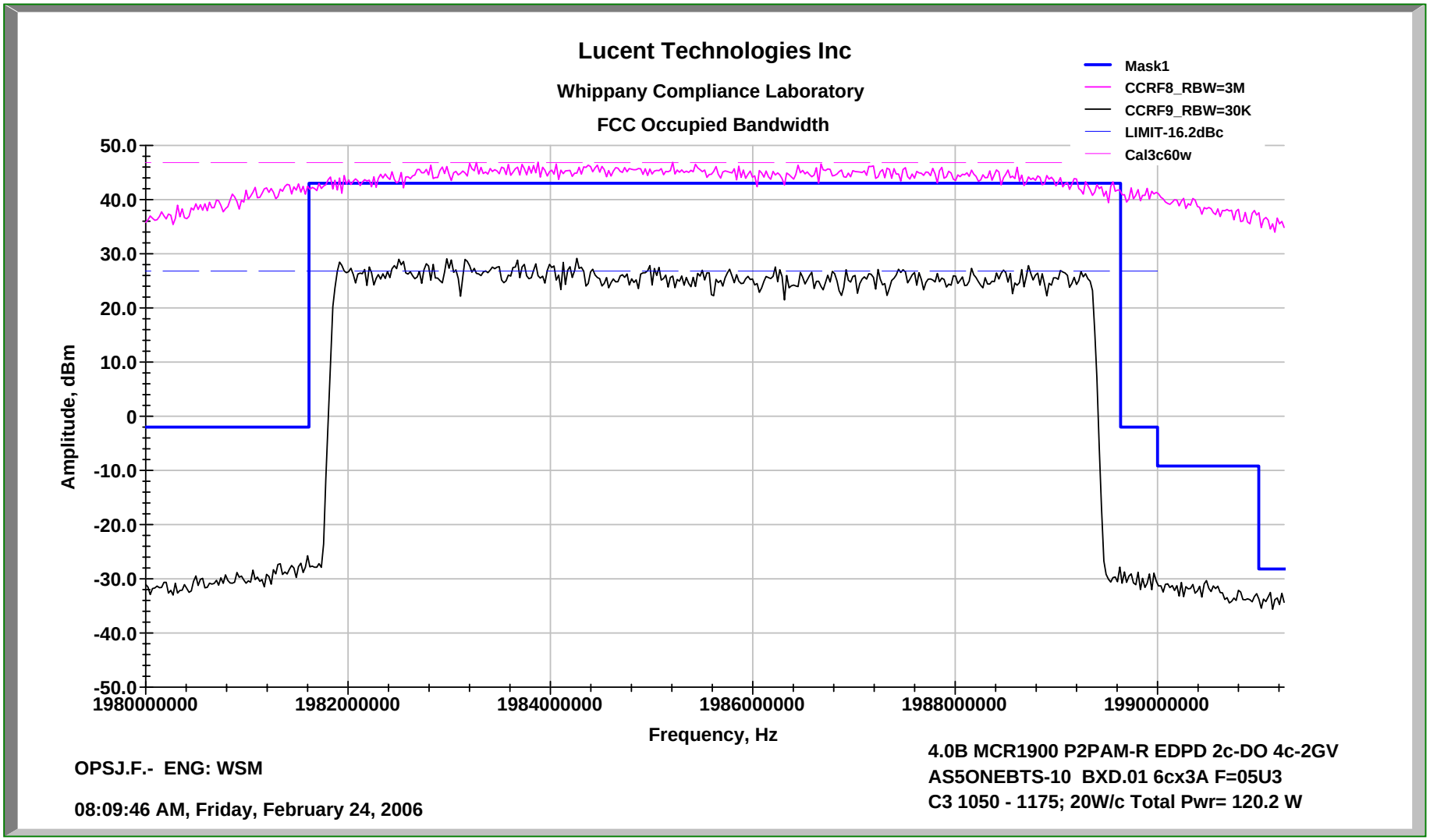


Exhibit 15: SPURIOUS EMISSIONS AT ANTENNA TERMINALs

Section 2.1051 Spurious Emissions at Antenna Terminals

Spurious Emissions at the antenna terminals were investigated over the frequency range of 10 MHz to 20 GHz which is beyond the 10th harmonic of the carrier frequency. The RF output from the transmitter was reduced, to an amplitude usable by the spectrum analyzer, by use of a broadband attenuator. The complete RF test path was calibrated over the 10 MHz-20 GHz range. The RF power level was measured and monitored prior to and during the test via the test setup in Figure 15A. The spurious measurements were made using an automated test system. The test system consists of a Rohde & Schwarz FSEM30 Spectrum Analyzer (or ESIB Test Receiver), a PC based computer test controller, calibrated test hardware and a TILE ™ software program to acquire the test data. This system allows measurement and presentation of the data in an accurate and compact form for FCC review. The volume of collected data is greater than 2 $x10^5$ data points over the frequency range of 10 MHz to 20 GHz.

The required emission limitation specified in Section 24.238 of the Code was applied to these tests. Based upon the criterion given in Section 24.238 of the Code and as developed in Exhibit 14, the required emission limit is -13 dBm when measured with a resolution bandwidth of 1 MHz. The measurements of the spurious signals were therefore made using a resolution bandwidth of 1 MHz. All spurious and harmonics of the CDMA Carrier was also shown to be lower than –13 dBm limit.

The carrier signal shown on these plots was measured at a resolution Bandwidths of 3 MHz. This was done so that the carrier plot correctly and accurately depicts the carrier output power in relation to the spurious signals and the defined limit.

In order to adequately evaluate performance the worst case modulation factors of 2G Voice (vs. 3G1X or 3G1X-EV-DO) were used from the governing documents. Thus, the applied signal, from a **PCS UMTS-CDMA EDPD Transceiver/ FCC ID: AS5ONEBTS-10**, met the recommended characteristics per **"Table 6.5.2-1 Base Station Test Model, Nominal**" from **3GPP2 TSG-C.S0010-C-v1.00, February 2005,** Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations, as defined below in table 15.1.

Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Pilot	1	0.2	-7	Code channel W_0^{128}
Sync	1	0.0471	-13.3	Code channel W_{32}^{64} ;always 1/8 rate
Paging	1	0.1882	-7.3	Code channel W_1^{64} ;full rate only
Traffic	6	0.09412	-10.3	Variable code channel assignments; full rate only

TABLE 15.1 Base Station Test Model, Nominal for Main Path

Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Transmit Diversity Pilot	1	0.2	-7	Code channel W_{16}^{128}
Traffic	6	0.09412	-10.3	Variable code channel assignments; full rate only

TABLE 15.2 Base Station Test Model, Nominal for Transmit Diversity Path

The FCC limits contained in **47CFR 24.238 1-Oct-2005** were followed along with the minimum standard presented in **3GPP2 TSG-C.S0010-B-v2.0 March 2004.**

Test Results Summary:

Conducted Spurious measurements were performed for the single, dual and three amplifier **PCS UMTS-CDMA EDPD Transceiver** configurations supporting operation of one to six carriers. At each PCS Block Edge measurements were performed for the maximum number of carriers configurable or the worst case transmit spurious configuration. The measurements were incorporated as part of the test profile for Occupied bandwidth. Thus *every PCS Channel* was evaluated for Conducted Spurious emissions at the antenna connection.

The attached spectral plots are representative of the Conducted Spurious compliance performance of the **PCS UMTS-CDMA EDPD Transceiver.** Because of the volume of data, compliance for all of the representative transmit configurations are documented in Table 15.2. This Table lists PCS Blocks/ Channels tested the amplifier configuration and the status of the performance. The performance data, charts and tables all show that there are no "Out of Block" harmonics or spurious emissions above the applicable limit of –13 dBm. The attached table and data plots document the results.

Exhibit 15: *continued*

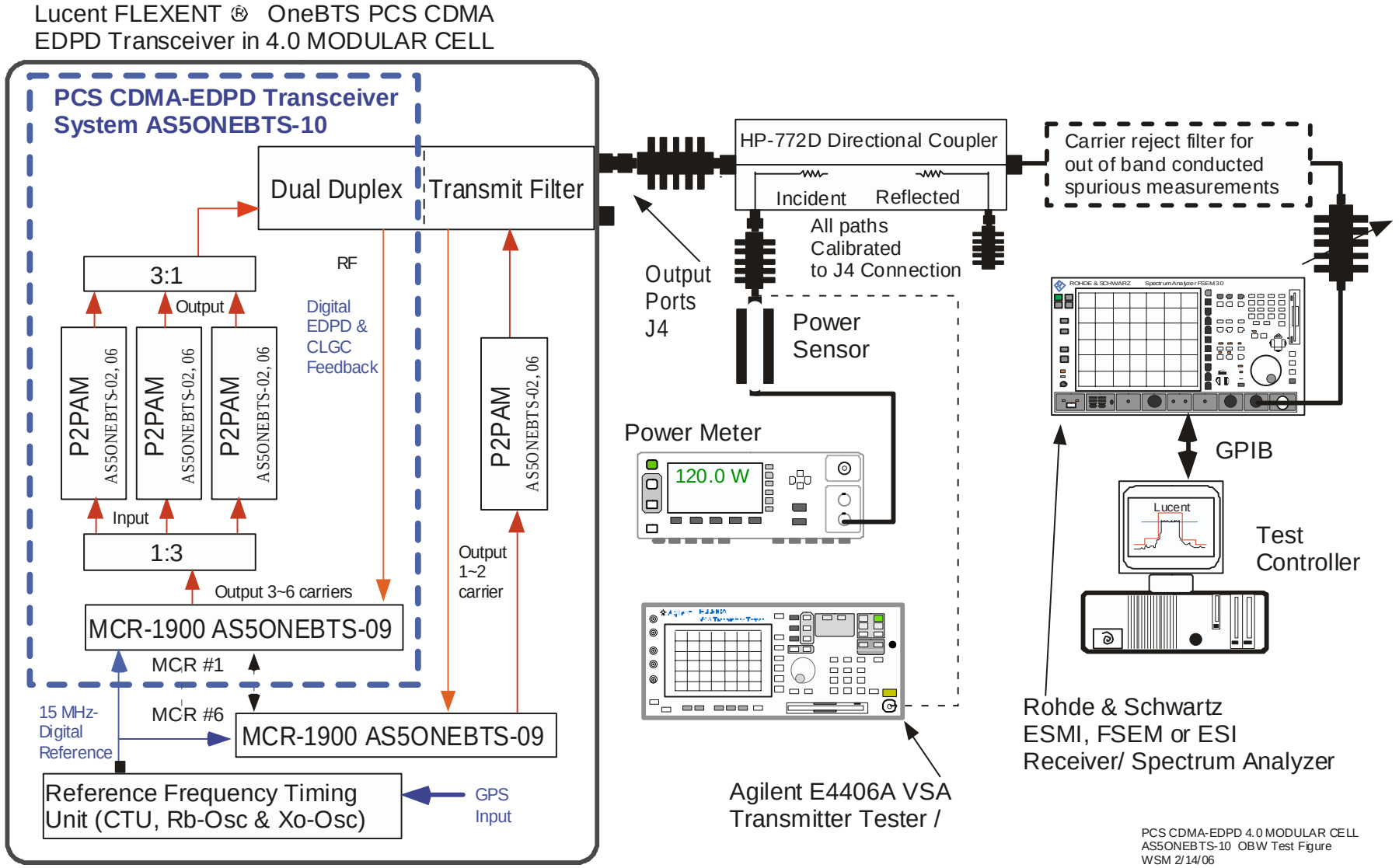
PCS - Block	PCS -Channels	Number of carriers	Amplifier Type	# of amplifiers in MCA	Results Conducted Spurious
A	25	1	P2PAM	1	Compliant
A	25, 50	2	P2PAM	1	Compliant
A	25, 50, 75	3	P2PAM	2	Compliant
A	25 - 100	4	P2PAM	2	Compliant
A	25 - 125	5	P2PAM	3	Compliant
A	25 - 150	6	P2PAM	3	Compliant
A	150-275	6	P2PAM	3	Compliant
A	175-275	5	P2PAM	3	Compliant
A	200-275	4	P2PAM	2	Compliant
A	225-275	3	P2PAM	2	Compliant
A	250-275	2	P2PAM	1	Compliant
A	275	1	P2PAM	1	Compliant
D	325, 350	2	P2PAM	1	Compliant
D	350, 375	2	P2PAM	1	Compliant
D	325, 350, 375	3	P2PAM	2	Compliant
B	425	1	P2PAM	1	Compliant
B	425, 450	2	P2PAM	1	Compliant
B	425, 450, 475	3	P2PAM	2	Compliant
B	425 - 500	4	P2PAM	2	Compliant
B	525 - 525	5	P2PAM	3	Compliant
B	525 - 555	6	P2PAM	3	Compliant
B	550-675	6	P2PAM	3	Compliant
B	575-675	5	P2PAM	3	Compliant
B	600-675	4	P2PAM	2	Compliant
B	625-675	3	P2PAM	2	Compliant
B	650-675	2	P2PAM	1	Compliant
B	675	1	P2PAM	1	Compliant
E	725, 750	2	P2PAM	1	Compliant
E	750,775	2	P2PAM	1	Compliant
E	725,750,775	3	P2PAM	2	Compliant
F	825, 850	2	P2PAM	1	Compliant
F	850, 875	2	P2PAM	1	Compliant
F	825, 850, 875	3	P2PAM	2	Compliant
C	925	1	P2PAM	1	Compliant
C	925, 950	2	P2PAM	1	Compliant
C	925, 950, 975	3	P2PAM	2	Compliant
C	925 - 1000	4	P2PAM	2	Compliant
C	925 - 1025	5	P2PAM	3	Compliant
C	925 - 1050	6	P2PAM	3	Compliant
C	1050-1175	6	P2PAM	3	Compliant
C	1075-1175	5	P2PAM	3	Compliant
C	1100-1175	4	P2PAM	2	Compliant
C	1125-1175	3	P2PAM	2	Compliant
C	1150-1175	2	P2PAM	1	Compliant
C	1175	1	P2PAM	1	Compliant

TABLE 15.2 PCS Conducted Spurious Compliance Tabulation

Conducted Spurious tests on the Receiver antenna terminal additionally documented compliance with the 2 nW requirement of 47CFR Part 15 section 15.111**.**

Exhibit 15 *continued*

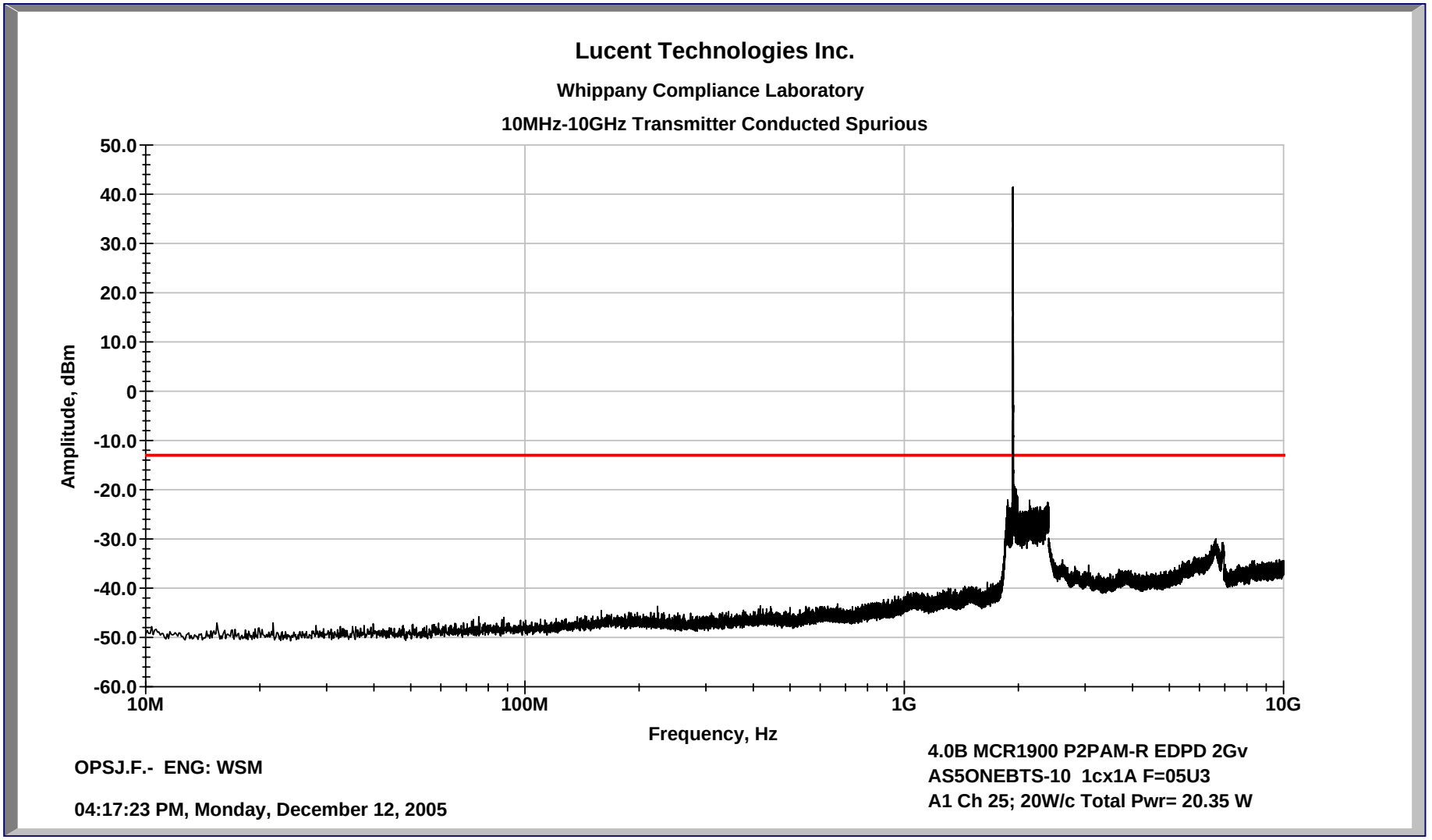
Test Configuration For RF Power, Occupied Bandwidth and Conducted Spurious



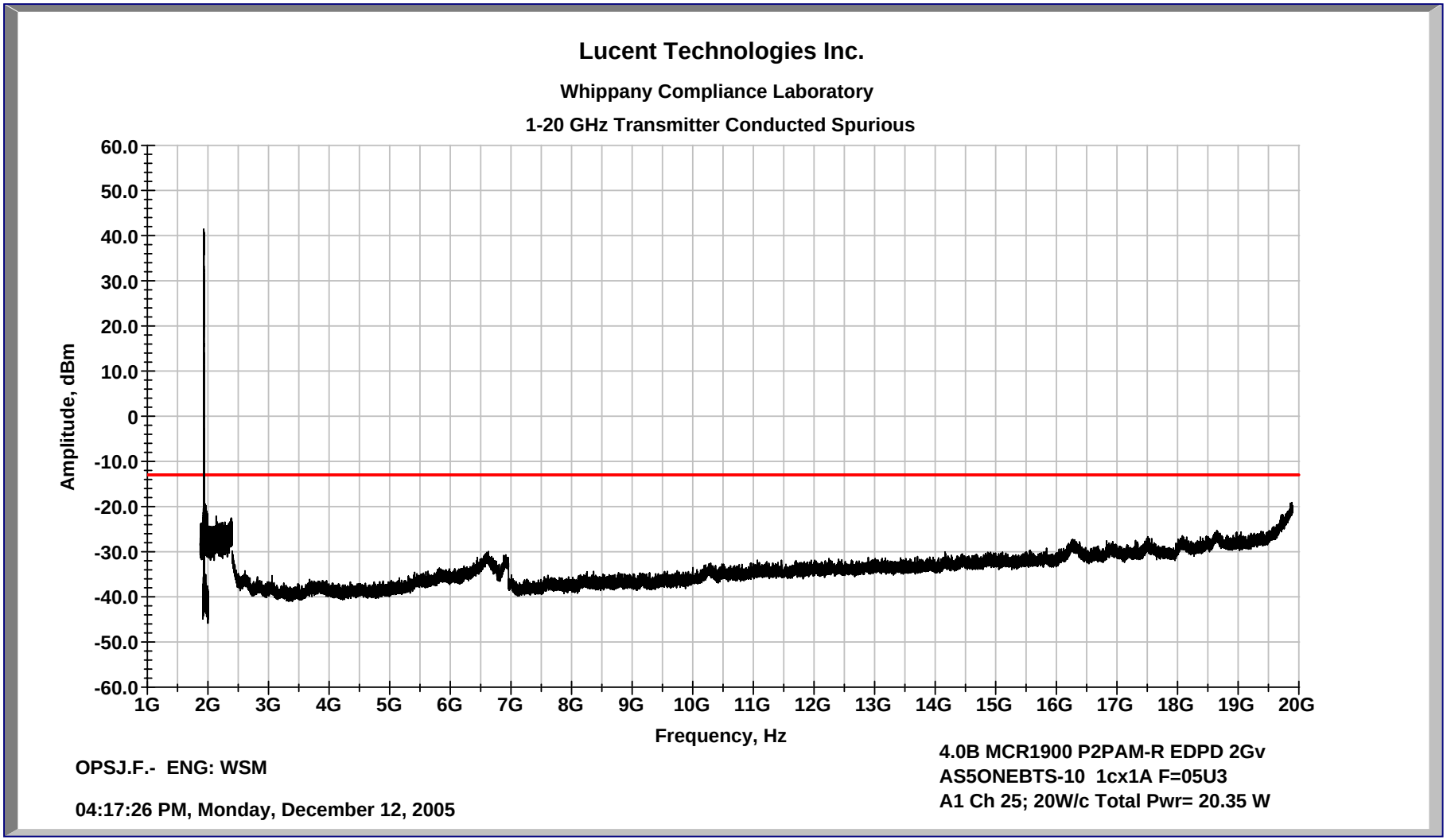
Transmitter Measurements
of
CDMA Conducted Spurious
for
Lucent Technologies Inc.

PCS UMTS-CDMA EDPD Transceiver
FCC ID: AS5ONEBTS-10
Installed in
FLEXENT PCS CDMA Modular Cell 4.0

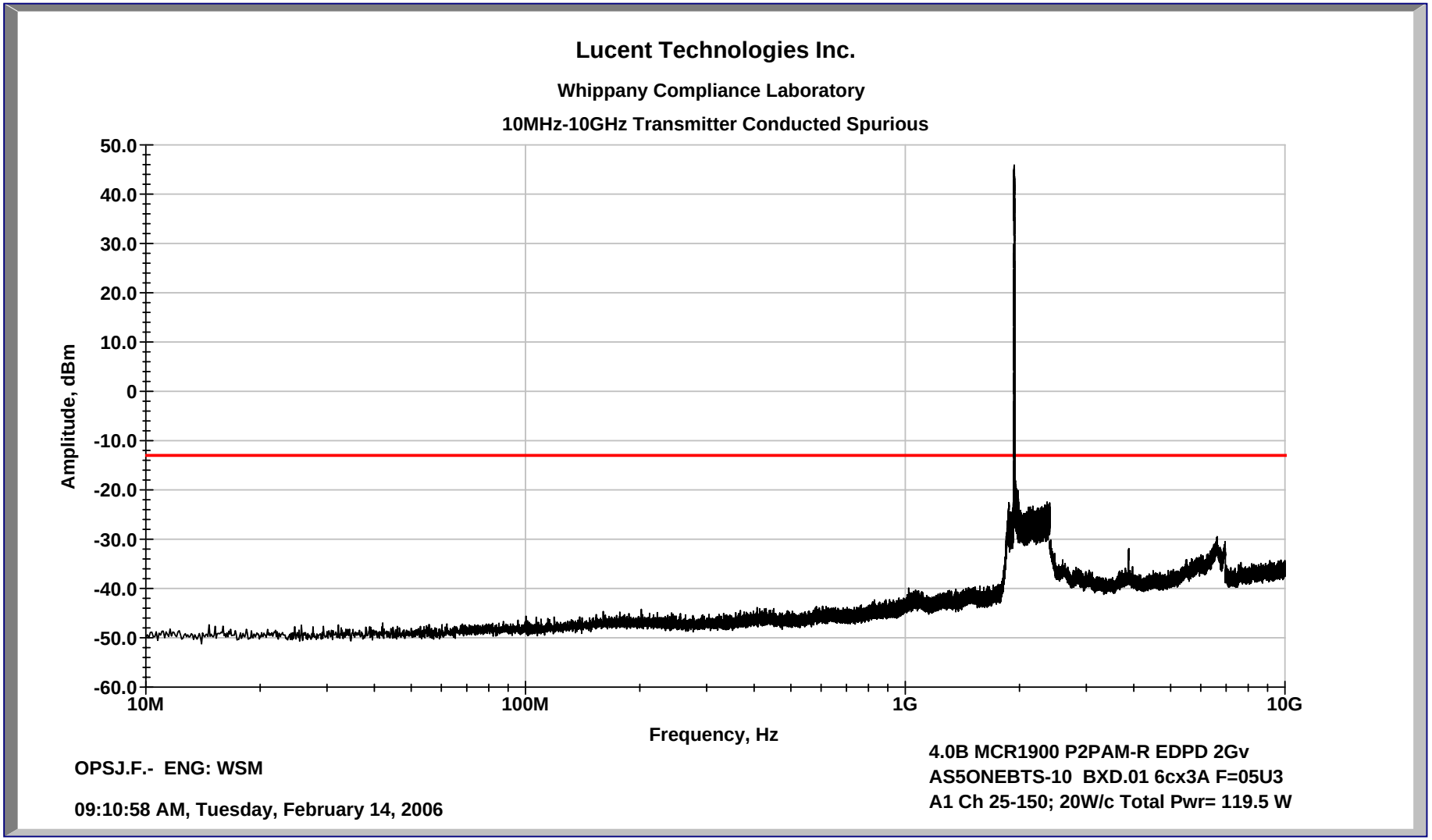
Conducted Spurious 10m-10GHz 1c A Block, Left side Channel 25 Tx Output 1 Amplifier



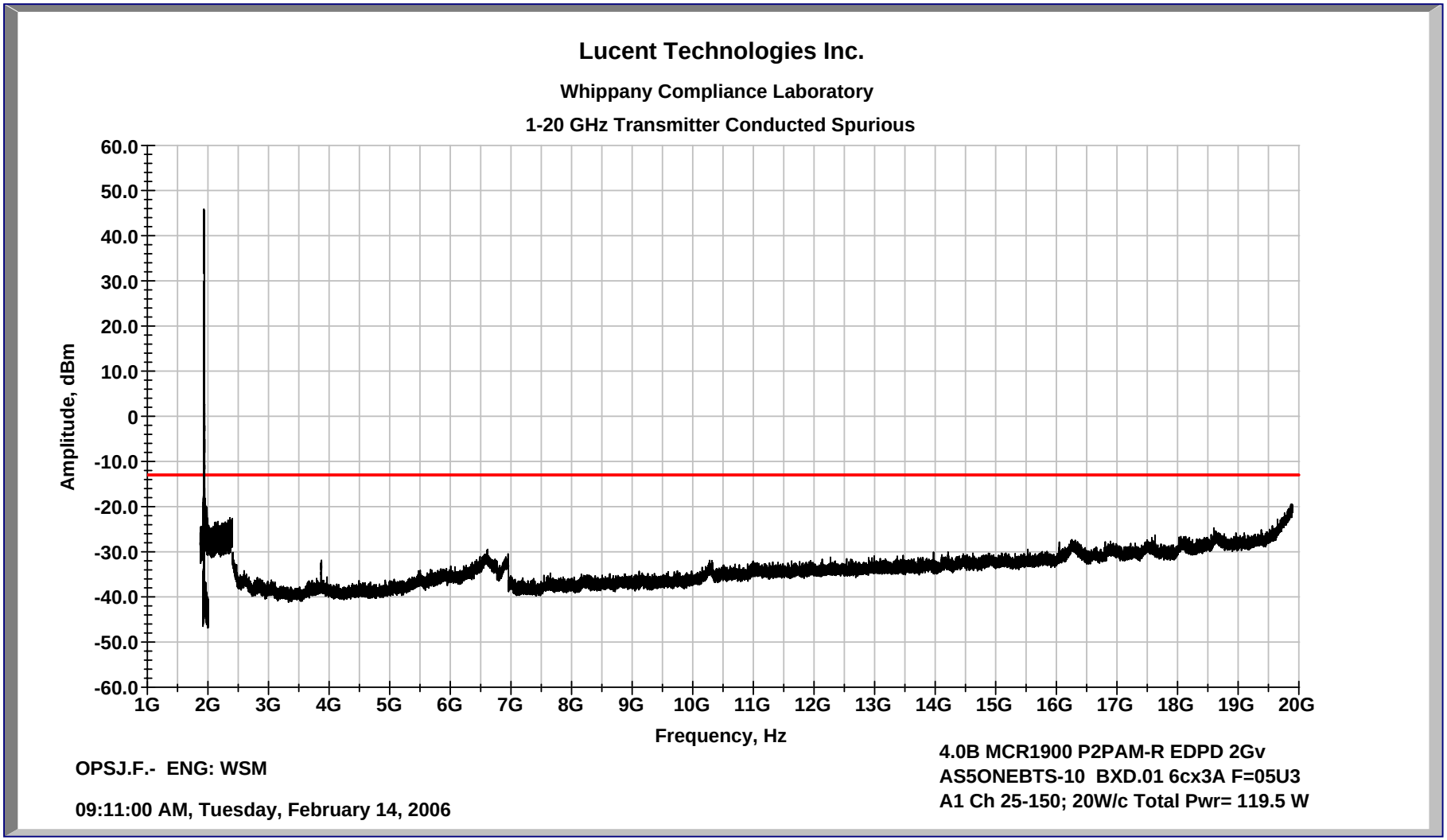
Conducted Spurious 1-20 GHz 1c A Block, Left side Channel 25 Tx Output 1 Amplifier



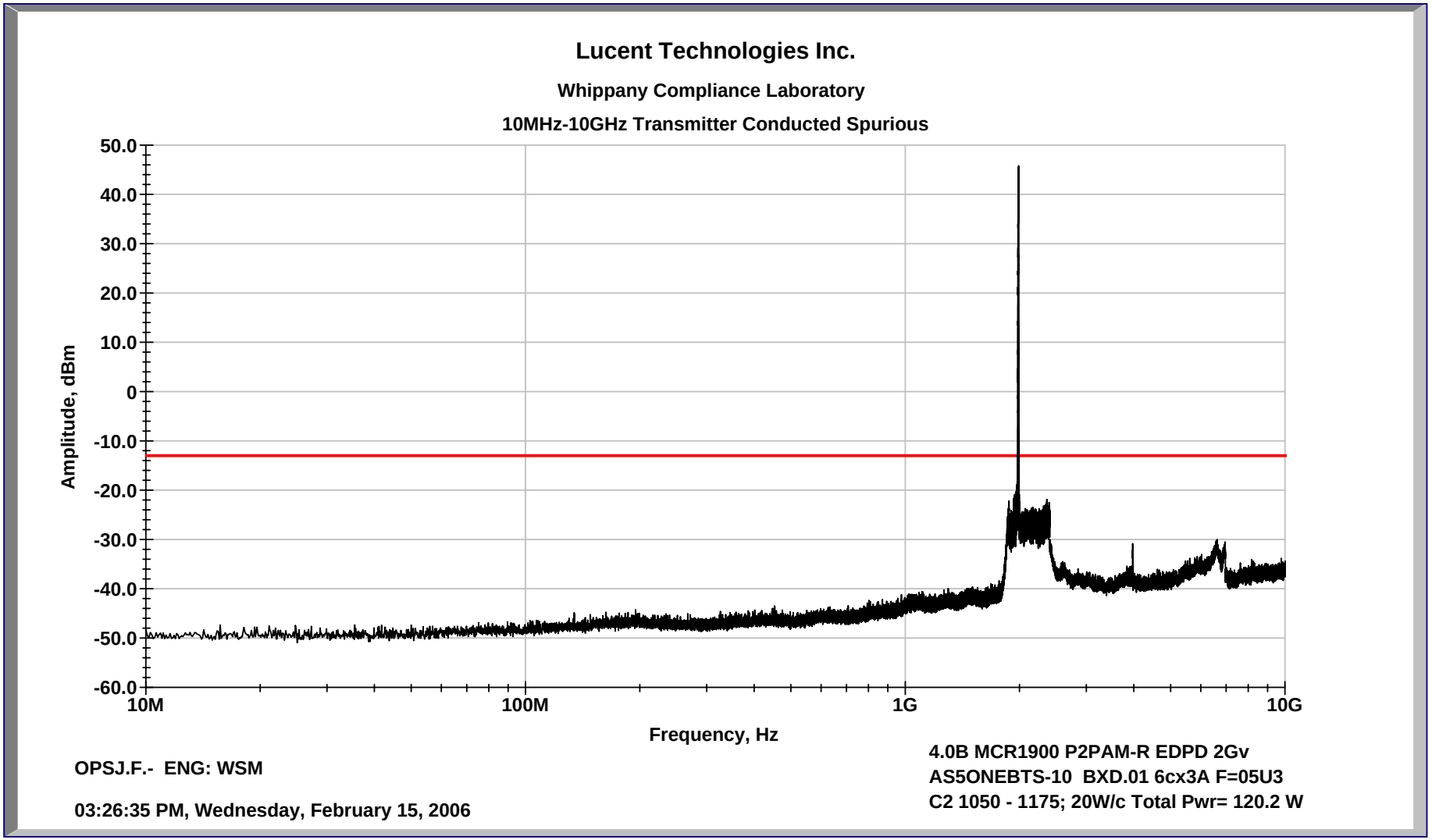
Conducted Spurious 10m-10GHz 6c A Block, Left side Channel 25~150 Tx Output 3 Amplifiers



Conducted Spurious 1-20 GHz 6c A Block, Left side Channel 25~150 Tx Output 3 Amplifiers



Conducted Spurious 10m-10GHz 6c C Block, Right side Channel 1050~1175 Tx Output 3 Amplifiers



Conducted Spurious 1-20 GHz 6c C Block, Right side Channel 1050~1175 Tx Output 3 Amplifiers

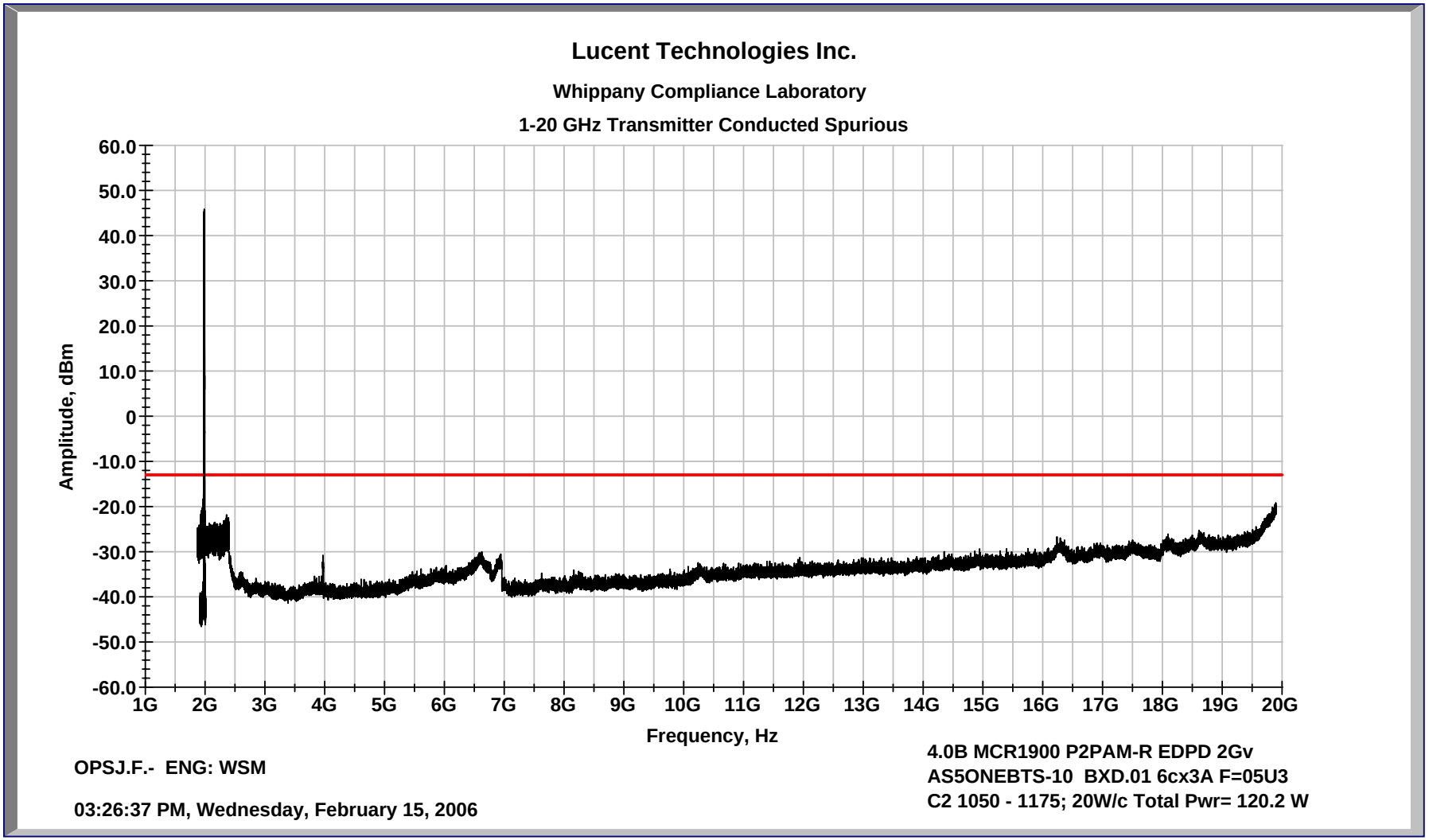


Exhibit 16 FIELD STRENGTH OF SPURIOUS RADIATION

SECTION 2.1053 Field Strength Of Spurious Radiation

Field strength measurements of radiated spurious emissions were evaluated in a 3m anechoic pre-compliance chamber and verified as required at the ten meter Open Area Test Site OATS maintained by Lucent Technologies Bell Laboratories 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 **6 MCR1900s** were configured with **18 P2PAMs** and all other associated equipment in a **PCS Indoor FLEXENT ® OneBTS Modular Cell 4.0 frames** operating in all PCS blocks as six **PCS UMTS-CDMA EDPD Transceivers/ FCC ID: AS5ONEBTS-10**. The spectrum from 10 MHz to the tenth harmonic of the carrier (20 GHz) 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 24.238 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 = 20 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 and broadband antennas. Over the out of band spectrum investigated from 10 MHz to beyond the tenth harmonic of the carrier (20GHz), no reportable spurious emissions were detected. This demonstrates that the **PCS UMTS-CDMA EDPD Transceiver/ FCC ID: AS5ONEBTS-10**, the subject of this application, complies with Sections 2.1053, 24.238 and 2.1057 of the Rules.

Although not required for certification, additional testing to 47CFR Part 15 documented compliance with the Class B requirements for radiated emissions. Conducted Spurious tests on the receiver antenna terminal documented compliance with the 2 nW requirement of 47CFR Part 15.

Exhibit 17 MEASUREMENT OF FREQUENCY STABILITY

SECTION 2.1055 Measurement of Frequency Stability

The frequency stability test data for the **PCS UMTS-CDMA EDPD Transceiver/ FCC ID: AS5ONEBTS-10** is dependent entirely upon the **MCR-1900/ AS5ONEBTS-09** as measured, installed and tested, per Figure 17A, in a **FLEXENT ® OneBTS PCS Outdoor Modular Cell 4.0**. The **PCS Outdoor Modular Cell 4.0** was subjected to the FCC specified temperature range of -30 deg F to +50 deg F while operating at full rated power. Software and hardware controls internal to the **Modular Cell 4.0** will disable the transmitter should either the internal temperatures exceed the maximum range or the frequency stability of the transmitter be compromised.

The frequency stabilization and accuracy of the **PCS UMTS-CDMA EDPD Transceivers** CDMA signal amplified by the **P2PAM** and measured at the **PCS Outdoor Modular Cell 4.0** J4 connector is a function of the input signal from the **MCR-1900** (**FCC ID: AS5ONEBTS-09**). The Common Timing Unit (**CTU**) provides the time and frequency reference used by the **MCR-1900** (**FCC ID: AS5ONEBTS-09**). The **CTU** is a highly accurate time and frequency unit which relies upon a signal lock of GPS satellite signals to provide the primary discipline of system timing. In the event of loss of GPS lock the Rubidum Reference Oscillator (**OMU-RB**) or the Crystal Oscillator Module (**OMU-XO**) can provides up to eight hours of flywheel operation. The system provides for automatic timing synchronization upon reacquisition of GPS lock. The system is powered by an AC-DC power converter with battery backup to provide immunity to power fluctuations and failures.

RESULTS:

The measured data below is the FCC Frequency Stability Test Results for the MCR-1900, as used in the PCS Outdoor Modular Cell 4.0**.** The data was recorded at the PCS Modular Cell 4.0 transmitter output (J4 connector) as required by Sec 2.1055 of the FCC Rules.

This system complies with the frequency stability requirements necessary for **FLEXENT ® OneBTS** system compliance with FCC Rules for frequency stability. The **MCR1900** equipped **PCS UMTS-CDMA EDPD Transceiver** is compliant with **FCC Part 2 and 24 rules** when powered by and installed in a Lucent Technologies Inc. **FLEXENT ® OneBTS PCS Modular Cell 4.0**.

The frequency stability for the integrated **CTU, MCR** and **OM** was measured as installed and tested, per Figure 17A, in a **FLEXENT®** Modular Cell. The entire Modular Cell was subjected to the FCC specified environments while operating at full rated power. Both carrier center frequency and reference oscillator deviations were measured. Voltage variance was applied to the DC input of the Modular Cell.

The data provided below documents that the maximum frequency deviation measured for the RF carrier frequency (1957.5 MHz) at the transmit antenna port was +0.00062 ppm (1.21 Hz). The specification for FCC compliance is +/- 0.05 ppm (+/- 97.87 Hz). The maximum frequency deviation measured for the OMU-RB output (15MHz) was +0.00004 ppm (7 x10^{-4} Hz). The specification for FCC compliance is +/- 0.05 ppm (+/-0.75 Hz).

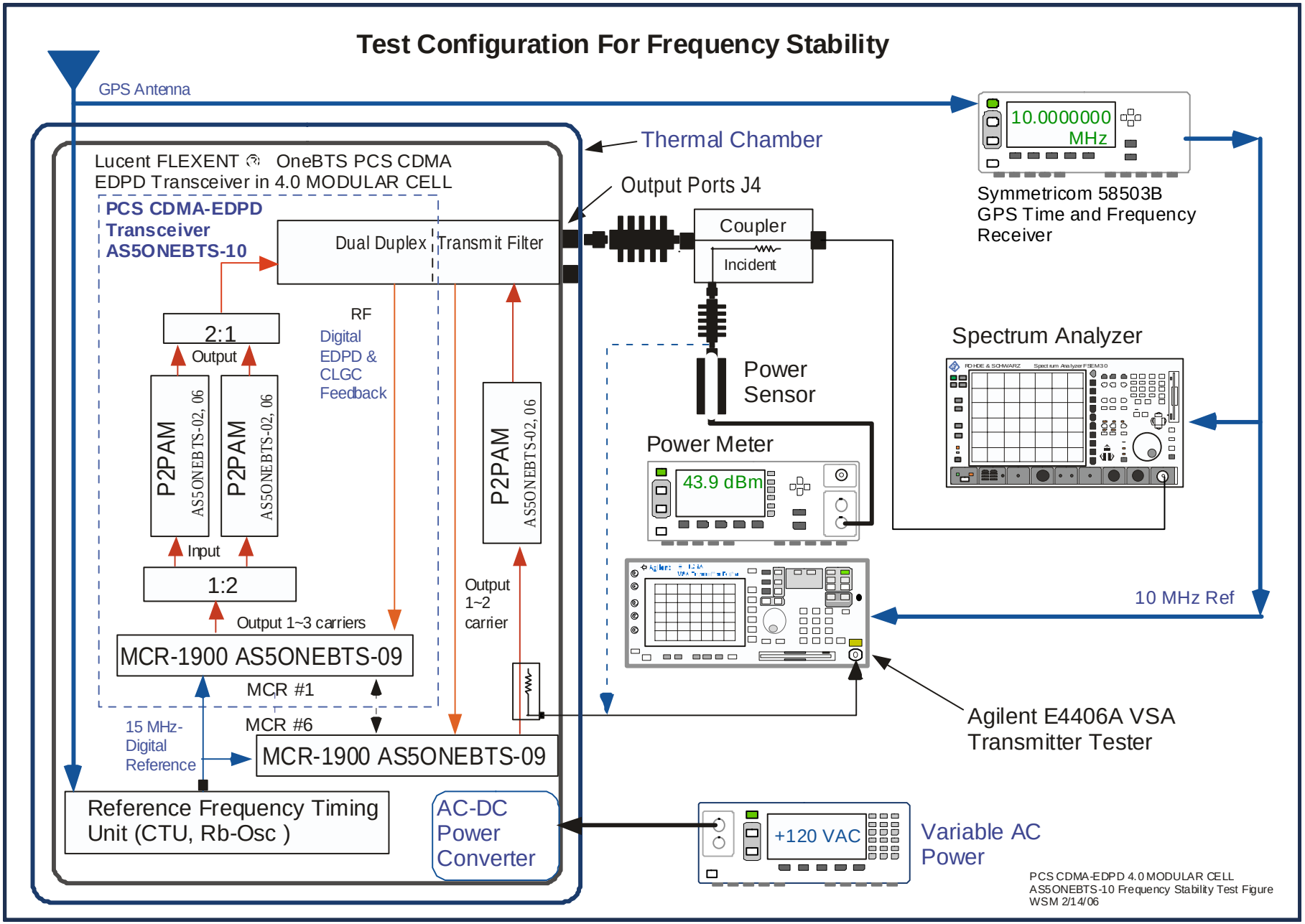

Test Configuration For Frequency Stability
GPS Antenna
Thermal Chamber
Output Ports J4
Lucent FLEXENT OneBTS PCS CDMA
EDPD Transceiver in 4.0 MODULAR CELL
PCS CDMA-EDPD
Transceiver
AS5ONEBTS-10
Dual Duplex Transmit Filter
Coupler
Incident
10.0000000
MHz
Symmetricom 58503B
GPS Time and Frequency
Receiver
2:1
Output
RF
Digital
EDPD &
CLGC
Feedback
P2PAM
AS5ONEBTS-02, 06
P2PAM
AS5ONEBTS-02, 06
P2PAM
AS5ONEBTS-02, 06
Input
1:2
Output 1~3 carriers
Output
1~2
carrier
MCR-1900 AS5ONEBTS-09
MCR #1
MCR #6
15 MHz-
Digital
Reference
MCR-1900 AS5ONEBTS-09
Reference Frequency Timing
Unit (CTU, Rb-Osc)
AC-DC
Power
Converter
Power
Sensor
Power Meter
43.9 dBm
Spectrum Analyzer
10 MHz Ref
Agilent E4406A VSA
Transmitter Tester
+120 VAC
Variable AC
Power
PCS CDMA-EDPD 4.0 MODULAR CELL
AS5ONEBTS-10 Frequency Stability Test Figure
WSM 2/14/06

Exhibit 17: Measurement of Frequency Stability of FLEXENT™ PCS Modular Cell

PCS Block Tested: ***B1, PCS Channel 550, 1957.5MHz***

Baseline Measurement at +20°C

Reference and Transmit Frequency Deviation From GPS at +20°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-7	0.53
0.5	3	-0.23
1.0	-7	-0.59
1.5	3	-0.42
2.0	-7	0.21
2.5	3	0.33
3.0	3	-0.35
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +20°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	0.63
0.5	-2	0.82
1.0	-3	-0.75
1.5	-1	0.16
2.0	-2	0.61
2.5	-3	-0.36
3.0	-2	0.21
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +20°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	0.27
0.5	-3	0.02
1.0	-3	0.85
1.5	-2	-026
2.0	-2	0.86
2.5	-2	-0.55
3.0	-3	-0.46
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –30°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	-0.52
0.5	-3	-0.41
1.0	-3	0.32
1.5	-2	1.07
2.0	-2	-0.21
2.5	-3	-0.16
3.0	-3	0.15
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –30°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-1.05
0.5	-3	-0.61
1.0	-2	0.12
1.5	-2	-0.14
2.0	-3	0.86
2.5	-2	0.25
3.0	-3	0.50
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –30°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	0.36
0.5	-3	0.04
1.0	-2	-0.78
1.5	-3	-0.17
2.0	-3	0.26
2.5	-2	0.58
3.0	-2	-0.35
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –20°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-0.16
0.5	-2	0.09
1.0	-3	-0.10
1.5	-2	-0.39
2.0	-3	-0.17
2.5	-2	0.56
3.0	-3	0.43
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –20°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	0.18
0.5	-2	-0.16
1.0	-3	0.27
1.5	-3	-0.76
2.0	-2	0.24
2.5	-3	-0.13
3.0	-2	0.37
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –20°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	0.63
0.5	-2	0.38
1.0	-2	-1.06
1.5	-3	0.41
2.0	-2	-0.22
2.5	-3	0.28
3.0	-3	0.52
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –10°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-0.43
0.5	-2	0.01
1.0	-3	-1.05
1.5	-3	-0.66
2.0	-3	0.41
2.5	-3	0.27
3.0	-3	-0.09
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –10°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-1.15
0.5	-3	-0.49
1.0	-3	0.14
1.5	-3	0.44
2.0	-3	-0.01
2.5	-3	-1.06
3.0	-3	0.27
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at –10°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	0.28
0.5	-2	-0.42
1.0	-2	0.66
1.5	-3	-0.17
2.0	-3	0.38
2.5	-3	-0.23
3.0	-3	-0.47
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 0°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-0.24
0.5	-3	-0.68
1.0	-3	-0.06
1.5	-3	-0.51
2.0	-2	1.01
2.5	-2	0.51
3.0	-3	-0.13
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 0°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	1.19
0.5	-3	-0.01
1.0	-2	-0.32
1.5	-3	0.48
2.0	-2	-0.19
2.5	-3	0.36
3.0	-3	-0.14
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 0°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	0.12
0.5	-3	-0.31
1.0	-3	0.09
1.5	-2	-0.87
2.0	-3	-0.63
2.5	-3	-0.22
3.0	-2	0.17
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at+10°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-7	-1.09
0.5	-0	1.08
1.0	-7	-0.67
1.5	3	-0.54
2.0	-7	0.24
2.5	-7	0.76
3.0	3	-0.16
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +10°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-0.25
0.5	-3	0.70
1.0	-2	-0.04
1.5	-2	1.01
2.0	-3	-0.02
2.5	-3	0.97
3.0	-2	0.54
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +10°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	0.41
0.5	-2	0.18
1.0	-3	-0.54
1.5	-3	-0.82
2.0	-2	0.11
2.5	-2	-0.44
3.0	-3	-1.07
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at+20°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-0.56
0.5	-3	-0.05
1.0	-2	0.21
1.5	-2	-0.59
2.0	-3	0.05
2.5	-2	-0.43
3.0	-3	0.36
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +20°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	0.12
0.5	-2	-0.67
1.0	-3	-0.33
1.5	-2	0.53
2.0	-3	-0.44
2.5	-3	-0.18
3.0	-2	0.49
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +20°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	-0.12
0.5	-3	1.03
1.0	-3	-0.23
1.5	-3	0.16
2.0	-3	-0.54
2.5	-2	0.21
3.0	-3	-0.35
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at+30°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	1.00
0.5	-2	-0.13
1.0	-2	-0.54
1.5	-2	-0.48
2.0	-2	0.04
2.5	-2	0.52
3.0	-3	-0.26
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +30°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	-0.43
0.5	-3	-0.51
1.0	-3	0.59
1.5	-2	-0.76
2.0	-3	-0.54
2.5	-3	-0.11
3.0	-2	0.22
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +30°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	1.02
0.5	-2	0.56
1.0	-2	-0.22
1.5	-3	0.58
2.0	-3	0.92
2.5	-2	-0.02
3.0	--3	-0.34
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at+40°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	1.10
0.5	-2	0.37
1.0	-3	-0.41
1.5	-3	0.19
2.0	-2	-0.22
2.5	-2	0.82
3.0	-3	-0.02
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +40°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	0.43
0.5	-3	-0.28
1.0	-3	-0.33
1.5	-3	1.01
2.0	-2	-0.36
2.5	-3	-1.02
3.0	-2	0.26
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +40°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	1.00
0.5	-2	-0.05
1.0	-3	-0.20
1.5	-3	0.29
2.0	-3	-0.80
2.5	-2	-0.19
3.0	-2	0.51
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at+50°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	0.88
0.5	-2	-0.11
1.0	-3	-0.01
1.5	-3	-0.72
2.0	-2	0.14
2.5	-3	1.12
3.0	-2	-0.19
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +50°C at 85% of Nominal Voltage, 20.4VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	-0.17
0.5	-2	0.22
1.0	-2	-0.380
1.5	-2	1.01
2.0	-3	-0.26
2.5	-3	0.58
3.0	-2	-0.54
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +50°C at 115% of Nominal Voltage, 27.6VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-2	1.21
0.5	-3	-0.79
1.0	-3	-0.20
1.5	-2	1.01
2.0	-3	-0.26
2.5	-3	-0.47
3.0	-3	0.68
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS

Return to +20C

Reference and Transmit Frequency Deviation From GPS at +20°C at 100% of Nominal Voltage, 24VDC		
Time (minutes)	15 MHz Deviation from GPS ($x10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	-3	1.17
0.5	-3	0.55
1.0	-3	-0.05
1.5	-2	-0.72
2.0	-2	1.04
2.5	-3	0.28
3.0	-3	-0.56
FCC SPECIFICATION	±15.0 MHz(±0.05 ppm) ±0.05ppm = ±0.75Hz	±1957.5 MHz (±0.05ppm) ±0.05ppm = ±97.87Hz
FCC RESULT	PASS	PASS