



Measurement of RF Interference from a PASS P3 Product Transceiver

For	Continental Automotive 21440 West Lake Cook Road Deer Park, IL 60010
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REVISION HISTORY

Revision	Date	Description
—	November 11, 2010	Initial release

Measurement of RF Emissions from a PASS P3 Transceiver

1 INTRODUCTION

1.1 Scope of Tests

This document represents the results of the series of radio interference measurements performed on a Continental Automotive Part No. PASS P3, Serial No. FCC WiFi 1, transceiver (hereinafter referred to as the EUT). The EUT is a digital modulation transceiver. The transceiver was designed to transmit and receive in the 2400-2483.5 MHz band using either an internal antenna or an A204 820 22 75 external antenna. The EUT is a wireless local area network (WLAN) that can utilize either the IEEE 802.11b protocol or the IEEE 802.11g protocol. The EUT contains a super-heterodyne type receiver which utilizes a local oscillator at the tuned frequency. The EUT was manufactured and submitted for testing by Continental Automotive located in Deer Park, IL.

1.2 Purpose

The test series was performed to determine if the EUT meets the conducted and radiated RF emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Sections 15.107 and 15.109, for receivers and Subpart C, Sections 15.207 and 15.249 for Intentional Radiators Operating within the 2400-2483.5 MHz band.

The test series was also performed to determine if the EUT meets the conducted and radiated RF emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen, Section 7.2.2 and Section 7.2.3 for receivers and the Industry Canada Radio Standards Specification RSS-Gen Section 7.2.2 and RSS-210 Annex 2, section A2.9 for Transmitters.

Testing was performed in accordance with ANSI C63.4-2003.

1.3 Deviations, Additions and Exclusions

There were no deviations, additions to, or exclusions from the test specification during this test series.

1.4 EMC Laboratory Identification

This series of tests was performed by Elite Electronic Engineering Incorporated of Downers Grove, Illinois. The laboratory is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP Lab Code: 100278-0.

1.5 Laboratory Conditions

The temperature at the time of the test was 22C and the relative humidity was 39%.

2 APPLICABLE DOCUMENTS

The following documents of the exact issue designated form part of this document to the extent specified herein:

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 15, Subparts B and C, dated 1 October 2009
- ANSI C63.4-2003, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- Measurement of Digital Transmission Systems Operating under Section 15.247
March 23, 2005
- Industry Canada RSS-210, Issue 7, June 2007, "Spectrum Management and Telecommunications Radio Standards Specification, Low-power License-exempt radio

communication devices (All Frequency Bands): Category I Equipment”

- Industry Canada RSS-GEN, Issue 2, June 2007, “Spectrum Management and Telecommunications Radio Standards Specification, General Requirements and Information for the Certification of radio communication equipment”

3 EUT SET-UP AND OPERATION

3.1 General Description

The EUT is a PASS P3. A block diagram of the EUT setup is shown as Figure 1 and Figure 2.

3.1.1 Power Input

The EUT was powered by 13.2VDC from an external power supply. Normally, the EUT is powered by the vehicle battery in which the EUT is installed.

3.1.2 Peripheral Equipment

No peripheral equipment was submitted with the EUT.

3.1.3 Interconnect Cables

A 1 meter long wiring harness was submitted with the EUT. The harness included 4 power wires (battery +, Ignition, and 2 battery negative leads).

3.1.4 Grounding

The EUT was ungrounded during the tests.

3.2 Operational Mode

For all tests the EUT and all peripheral equipment were placed on an 80cm high non-conductive stand. The EUT and all peripheral equipment were energized. The EUT could transmit in the frequency range 2412MHz to 2462MHz. The EUT could operate in the following modes using either an internal antenna or an external antenna:

IEEE 802.11 protocol	Data rate Mbps	Payload Length bytes
b	1	64
b	2	64
b	5.5	64
b	11	2048
g	6	2048
g	9	2048
g	12	2048
g	18	2048
g	24	2048
g	36	2048
g	48	2048
g	54	2048

3.3 EUT Modifications

No modifications were required for compliance.

4 TEST FACILITY AND TEST INSTRUMENTATION

4.1 Shielded Enclosure

All tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. With the exception of the floor, the reflective surfaces of the shielded chamber are lined with ferrite tiles on the walls and ceiling. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4-2003 for site attenuation.

4.2 Test Instrumentation

The test instrumentation and auxiliary equipment used during the tests are listed in Table 9-1. All equipment was calibrated per the instruction manuals supplied by the manufacturer.

Conducted emission tests were performed with a spectrum analyzer in conjunction with a quasi-peak adapter. Radiated emissions were performed with a spectrum analyzer. This receiver allows measurements with the bandwidths specified by the FCC and with the quasi-peak and average detector functions. The spectrum analyzer bandwidth was 120kHz for the 30MHz to 1000MHz radiated emissions data, and 1MHz for the 1000MHz to 25000MHz radiated emissions data.

4.3 Calibration Traceability

Test equipment is maintained and calibrated on a regular basis. All calibrations are traceable to the National Institute of Standards and Technology (NIST).

4.4 Measurement Uncertainty

All measurements are an estimate of their true value. The measurement uncertainty characterizes, with a specified confidence level, the spread of values which may be possible for a given measurement system.

The measurement uncertainty for these tests is presented below:

Conducted Emission Measurements		
Combined Standard Uncertainty	1.07	-1.07
Expanded Uncertainty (95% confidence)	2.1	-2.1

Radiated Emission Measurements		
Combined Standard Uncertainty	2.26	-2.18
Expanded Uncertainty (95% confidence)	4.5	-4.4

5 TEST PROCEDURES

5.1 Receiver

5.1.1 Powerline Conducted Emissions

5.1.1.1 Requirements

Since the EUT is normally powered by a vehicle battery, conducted emissions tests are not required.

5.1.2 Radiated Measurements

5.1.2.1 Requirements

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Section 15.101(b), receivers operating above 960MHz are exempt from complying with the technical provisions of part 15.

Per Industry Canada RSS-Gen, Section 7.2.3, all radio frequency emissions from a receiver shall be below the limits shown on the following table:

RADIATION LIMITS FOR A RECEIVER

Frequency MHz	Distance between EUT And Antenna in Meters	Field Strength uV/m	Field Strength dBuV/m
30-88	3	100	40
88-216	3	150	43.5
216-960	3	200	46
Above 960	3	500	54

Note: The tighter limit shall apply at the edge between the two frequency bands.

5.1.2.2 Procedures

Per the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Section 15.101(b), receivers operating above 960MHz are exempt from complying with the technical provisions of part 15.

For Industry Canada, testing was performed on a middle channel. The emissions in the frequency range of 30MHz to 3 times the highest tuneable or local oscillator frequency, whichever is the higher, were measured and plotted.

All tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4-2003 for site attenuation.

The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All powerlines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

Since a quasi-peak detector and an average detector require long integration times, it is not practical to automatically sweep through the quasi-peak and average levels. Therefore, radiated emissions from the EUT were first scanned using a peak detector and automatically plotted. The frequencies where significant emission levels were noted were then remeasured using the quasi-peak detector or average detector.

The broadband measuring antenna was positioned at a 3 meter distance from the EUT. The frequency range from 30MHz to 1GHz was investigated using a peak detector function with the bilog antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The frequency range from 1GHz to 8GHz was investigated using a peak detector function with the double ridged waveguide antenna at several heights, horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The maximum levels for each antenna polarization were plotted.

Final radiated emissions were performed on all significant broadband and narrowband emissions found in the preliminary sweeps using the following methods:

- 1) Measurements from 30MHz to 1GHz were made using a quasi-peak detector and a broadband bilog antenna. Measurements above 1GHz were made using an average detector and a broadband double ridged waveguide antenna.
- 2) To ensure that maximum or worst case, emission levels were measured, the following steps were taken:
 - a) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
 - b) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
 - c) The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.
 - d) For hand-held or body-worn devices, the EUT was rotated through three orthogonal axes to determine which orientation produces the highest emission relative to the limit.

5.1.2.3 Results

The preliminary plots are presented on pages 22 through 29. The plots are presented for a reference only, and are not used to determine compliance. The final radiated levels are presented on pages 30 and 31. As can be seen from the data, all emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 7311.0MHz. The emissions level at this frequency was 11.8dB within the limit. Photographs of the test configuration which yielded the highest or worst case, radiated emission levels are shown on Figure 3.

5.2 Transmitter

5.2.1 Powerline Conducted Emissions

5.2.1.1 Requirements

Since the EUT is normally powered by a vehicle battery, no conducted emissions tests were performed.

5.2.2 6dB Bandwidth

5.2.2.1 Requirements

Per 15.247(a)(2), the minimum 6dB bandwidth shall be at least 500kHz for all systems using digital modulation techniques.

5.2.2.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. The EUT was allowed to transmit continuously. The transmit channel was set separately to low, middle, and high channels. The resolution bandwidth (RBW) was set to 100kHz and the span was set to greater than the RBW.

The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined. The analyzer's display was plotted using a 'screen dump' utility.

5.2.2.3 Results

The plots on pages 32 through 67 show that the minimum 6 dB bandwidth was 10MHz which is greater than minimum allowable 6dB bandwidth requirement of 500kHz for systems using digital modulation techniques. The 99% bandwidth was measured to be 16.8MHz.

5.2.3 Antenna Conducted Peak Output Power

5.2.3.1 Requirements

Per section 15.247(b)(3), for systems using digital modulation the maximum peak output conducted power shall not be greater than 1.0W (30dBm).

5.2.3.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. The EUT was set to transmit separately at the low, middle, and high channels with all different data rates of the IEEE 802.11 b and IEEE 802.11g protocol. Since the 6dB bandwidth of the EUT was greater than the largest available resolution bandwidth (RBW) of the spectrum analyzer, the bandwidth correction method of ANSI C63.10-2009 section 6.10.2.1 was used. The RBW and video bandwidth (VBW) of the spectrum analyzer was set to the maximum available (10MHz). The 'Max-Hold' function was engaged. The maximum peak meter reading was recorded. The peak power output was calculated using the bandwidth correction method. The bandwidth correction factor is $10 \times \log ((6\text{dB BW of emission}) / (\text{analyzer RBW}))$.

5.2.3.3 Results

The results are presented on pages 68 and 69. The maximum peak conducted output power from the transmitter was 0.955W (29.8 dBm) which is below the 1 Watt limit.

5.2.4 Effective Isotropic Radiated Power (EIRP)

5.2.4.1 Requirements

Per section 15.247(b)(3), for systems using digital modulation the maximum peak output conducted power shall not be greater than 1.0W (30dBm). Per section 15.247(b)(4), this limit is based on the use of antennas with directional gains that do not exceed 6dBi. Since the limit allows for a 6dBi antenna gain, the maximum EIRP can be increased by 6dB to 4 Watt (36dBm).

5.2.4.2 Procedures

The EUT was placed on the non-conductive stand and set to transmit. A dipole antenna was placed at a test distance of 3 meters from the EUT. Since the 6dB bandwidth of the EUT was greater than the largest available resolution bandwidth (RBW) of the spectrum analyzer, the bandwidth correction method of ANSI C63.10-2009 section 6.10.2.1 was used. The RBW and video bandwidth (VBW) of the spectrum analyzer was set to the maximum available (10MHz). The EUT was maximized for worst case emissions (or maximum output power) at the measuring antenna. The maximum meter reading was recorded. The EUT was set to transmit separately at the low, middle, and high channels with the highest data rate of the IEEE 802.11 b and IEEE 802.11g protocol.

The equivalent power was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power, a second double ridged waveguide antenna was then set in place of the EUT and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was then corrected to compensate for cable loss and antenna gain for all measurements above 1GHz, as required. The maximum peak meter reading was recorded. The peak power output was calculated using the bandwidth correction method. The bandwidth correction factor is $10 \times \log ((6\text{dB BW of emission}) / (\text{analyzer RBW}))$.

5.2.4.3 Results

The results are presented on pages 70 through 73. The maximum EIRP measured from the transmitter was 26.8dBm or 0.479W which is below the 4 Watt limit

5.2.5 Duty Cycle Factor Measurements

5.2.5.1 Procedures

The duty cycle factor is used to convert peak detected readings to average readings. This factor is computed from the time domain trace of the pulse modulation signal.

With the transmitter set up to transmit for maximum pulse density, the time domain trace is displayed on the spectrum analyzer. This trace is obtained by tuning center frequency to the transmitter frequency and then setting a zero span width with 500usec/div for IEEE 802.11b protocol and 100usec/div for IEEE 802.11g. The amplitude settings are adjusted so that the on/off transitions clear the 4th division from the bottom of the display. The markers are set at the beginning and end of the "on-time". The trace is recorded.

Next the spectrum analyzer center frequency is set to the transmitter frequency with a zero span width and 10msec/div. This shows if the word is longer than 100msec or shorter than 100msec. If the word period is less than 100msec, the display is set to show at least one word. The on-time and off-time are then measured. The on-time is total time signal level exceeds the 4th division. Off-time is time under for the word period. The duty cycle is then computed as the (On-time/ word period) where the word period = (On-time + Off-time).

5.2.5.2 Results

The plots of the duty cycle are shown on data pages 74 through 77. For IEEE 802.11b protocol, the EUT transmits a 1.88msec pulse every 5 msec or 20 each 1.88msec pulses every 100msec. This is a duty cycle correction factor of -8.47dB ($-8.47\text{dB} = 20 \cdot \log((1.88\text{msec} \times 20)/100\text{msec})$). For IEEE 802.11g protocol, the EUT transmits a 318.6usec pulse every 5 msec or 20 each 318.6msec pulses every 100msec. This is a duty cycle correction factor of -23.9dB ($-23.9\text{dB} = 20 \cdot \log((318.6\text{usec} \times 20)/100\text{msec})$).

5.2.6 Antenna Conducted Spurious Emissions

5.2.6.1 Requirements

Per section 15.247(c), the spurious emissions in any 100 kHz BW outside the frequency band must be at least 20dB below the highest 100 kHz BW level measured within the band.

5.2.6.2 Procedures

The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation. The resolution bandwidth (RBW) was set to 100kHz. The peak detector and 'Max-Hold' function were engaged. The emissions in the frequency range from 30MHz to 25GHz were observed and plotted separately with the EUT set to transmit separately at the low, middle, and high channels with the highest data rate of the IEEE 802.11 b and IEEE 802.11g protocol.

5.2.6.3 Results

The results of the antenna conducted emissions levels were plotted. These plots are presented on pages 78 through 113. These plots show that the spurious emissions were at least 20 dB below the level of the fundamental.

5.2.7 Radiated Spurious Emissions Measurements

5.2.7.1 Requirements

Per section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated emissions measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated

emission limits specified in §15.209(a).

Paragraph 15.209(a) has the following radiated emission limits:

Frequency MHz	Field Strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	3
30.0-88.0	100	3
88.0-216.0	150	3
216.0-960.0	200	3
Above 960	500	3

5.2.7.2 Procedures

Radiated measurements were performed in a 32ft. x 20ft. x 14ft. high shielded enclosure. The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All powerlines and signal lines entering the enclosure pass through filters on the enclosure wall. The powerline filters prevent extraneous signals from entering the enclosure on these leads.

Preliminary radiated emissions tests were performed to determine the emission characteristics of the EUT. For the preliminary test, a broadband measuring antenna was positioned at a 3 meter distance from the EUT. The entire frequency range from 30MHz to 25GHz was investigated using a peak detector function.

The final open field emission tests were then manually performed over the frequency range of 30MHz to 25GHz.

- 1) For all harmonics not in the restricted bands, the following procedure was used:
 - a) The field strength of the fundamental was measured using a double ridged waveguide. The waveguide antenna was positioned at a 3 meter distance from the EUT. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
 - b) The field strengths of all of the harmonics not in the restricted band were then measured using a double-ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the EUT. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.
 - c) To ensure that maximum or worst case emission levels at the fundamental and harmonics were measured, the following steps were taken when measuring the fundamental emissions and the spurious emissions:
 - i) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
 - ii) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
 - iii) The measuring antenna was raised and lowered for each antenna polarization to maximize the readings.
 - iv) In instances where it was necessary to use a shortened cable between the measuring antenna and the spectrum analyzer. The measuring antenna was not raised or lowered to ensure maximized readings, instead the EUT was rotated through all axis to ensure the maximum readings were recorded for the EUT.
 - d) All harmonics not in the restricted bands must be at least 20 dB below levels measured at the fundamental. However, attenuation below the general limits specified in §15.209(a) is not required.
- 2) For all emissions in the restricted bands, the following procedure was used:
 - a) The field strengths of all emissions below 1 GHz were measured using a bi-log antenna. The bi-log

antenna was positioned at a 3 meter distance from the EUT. A peak detector with a resolution bandwidth of 100 kHz was used on the spectrum analyzer.

- b) The field strengths of all emissions above 1 GHz were measured using a double-ridged waveguide antenna. The waveguide antenna was positioned at a 3 meter distance from the EUT. A peak detector with a resolution bandwidth of 1 MHz was used on the spectrum analyzer.
- c) To ensure that maximum or worst case emission levels were measured, the following steps were taken when taking all measurements:
 - i) The EUT was rotated so that all of its sides were exposed to the receiving antenna.
 - ii) Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
 - iii) The measuring antenna was raised and lowered for each antenna polarization to maximize the readings.
 - iv) In instances where it was necessary to use a shortened cable between the measuring antenna and the spectrum analyzer. The measuring antenna was not raised or lowered to ensure maximized readings, instead the EUT was rotated through all axis to ensure the maximum readings were recorded for the EUT.
- d) For all radiated emissions measurements below 1 GHz, if the peak reading is below the limits listed in 15.209(a), no further measurements are required. If however, the peak readings exceed the limits listed in 15.209(a), then the emissions are remeasured using a quasi-peak detector.
- e) For all radiated emissions measurements above 1 GHz, the peak readings must comply with the 15.35(b) limits. 15.35(b) states that when average radiated emissions measurements are specified, there also is a limit on the peak level of the radiated emissions. The limit on the peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. Therefore, all peak readings above 1 GHz must be no greater than 20 dB above the limits specified in 15.209(a).
- f) Next, for all radiated emissions measurements above 1GHz, the resolution bandwidth was set to 1MHz. The analyzer was set to linear mode with a 10Hz video bandwidth in order to simulate an average detector. An average reading was taken. If the emission is pulsed, the reading can be adjusted by a "duty cycle correction factor" derived from $20 \cdot \log(\text{on time}/100\text{msec})$. These readings must be no greater than the limits specified in 15.209(a).

5.2.7.3 Results

Preliminary radiated emissions plots with the EUT set to transmit separately at the low, middle, and high channels with the highest data rate of the IEEE 802.11 b and IEEE 802.11g protocol are shown on pages 114 through 177. Final radiated emissions data are presented on data pages 178 through 193. As can be seen from the data, all emissions measured from the EUT were within the specification limits. The emissions level closest to the limit (worst case) occurred at 7311MHz. The emissions level at this frequency was 0.9dB within the limit. Photographs of the test configuration which yielded the highest, or worst case, radiated emission levels are shown on Figure 3 and Figure 4.

5.2.8 Band Edge Compliance

5.2.8.1 Requirements

Per section 15.247(d), the emissions at the band-edges must be at least 20dB below the highest level measured within the band but attenuation below the general limits listed in 15.209(a) is not required. In addition, the radiated emissions which fall in the restricted band beginning at 2483.5 MHz must meet the general limits of 15.209(a).

5.2.8.2 Procedures

5.2.8.2.1 Low Band Edge (external antenna)

- 1) The output of the EUT was connected to the spectrum analyzer through 40dB of attenuation.
- 2) The EUT was set to transmit continuously at the channel closest to the low band-edge.
- 3) To determine the band edge compliance, the following spectrum analyzer settings were used:
 - a. Center frequency = low band-edge frequency.
 - b. Span = Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.
 - c. Resolution bandwidth (RBW) $\geq$ 1% of the span.
 - d. The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
 - e. The marker was set on the peak of the in-band emissions. A display line was placed 20dB down from the peak of the in-band emissions. All emissions which fall outside of the authorized band of operation must be below the 20dB down display line. (All emissions to the left of the center frequency (band-edge) must be below the display line.)
 - f. The analyzer's display was plotted using a 'screen dump' utility.

5.2.8.2.2 Low Band Edge (internal antenna)

- 1) The EUT was setup inside the test chamber on a non-conductive stand.
- 2) A broadband measuring antenna was placed at a test distance of 3 meters from the EUT.
- 3) The EUT was set to transmit continuously at the channel closest to the low band-edge.
- 4) The EUT was maximized for worst case emissions at the measuring antenna. The maximum meter reading was recorded.
- 5) To determine the band edge compliance, the following spectrum analyzer settings were used:
 - a. Center frequency = low band-edge frequency.
 - b. Span = Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.
 - c. Resolution bandwidth (RBW) $\geq$ 1% of the span.
 - d. The 'Max-Hold' function was engaged. The analyzer was allowed to scan until the envelope of the transmitter bandwidth was defined.
 - e. The marker was set on the peak of the in-band emissions. A display line was placed 20dB down from the peak of the in-band emissions. All emissions which fall outside of the authorized band of operation must be below the 20dB down display line. (All emissions to the left of the center frequency (band-edge) must be below the display line.)
 - f. The analyzer's display was plotted using a 'screen dump' utility.

5.2.8.2.3 High Band Edge

- 1) The EUT was set to transmit continuously at the channel closest to the high band-edge.
- 2) A double ridged waveguide was placed 3 meters away from the EUT. The antenna was connected to the input of a spectrum analyzer.
- 3) The center frequency of the analyzer was set to the high band edge (2483.5MHz)
- 4) The resolution bandwidth was set to 1MHz.
- 5) To ensure that the maximum or worst case emission level was measured, the following steps were taken:
 - a. The EUT was rotated so that all of its sides were exposed to the receiving antenna.
 - b. Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
 - c. The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.
- 6) The highest measured peak reading was recorded.

- 7) The highest measured average reading was recorded.

5.2.8.3 Results

Pages 194 through 199 show the band-edge compliance results. As can be seen from these plots, the emissions at the low end band edge are within the 20 dB down limits. The radiated emissions at the high end band edge are within the general limits.

5.2.9 Power Spectral Density

5.2.9.1 Requirement

Per section 15.247(d), the peak power spectral density from the intentional radiator shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.2.9.2 Procedures

- 1) The output of the EUT was connected to the spectrum analyzer through a 40dB pad and the EUT was set to transmit at a mid channel.
- 2) The EUT was then placed in the normal operation mode
- 3) To determine the power spectral density, the following spectrum analyzer settings were used for channel 2:
 - a. Center frequency = transmit frequency
 - b. Span = 1MHz
 - c. Resolution bandwidth (RBW) = 3kHz
 - d. Sweep time = span divided by RBW = $1\text{MHz}/3\text{kHz} = 333$ seconds
 - e. The peak detector and 'Max-Hold' function was engaged.
 - f. The display line represents the 8 dBm limit
 - g. The analyzer's display was plotted using a 'screen dump' utility.

5.2.9.3 Results

Pages 200 through 211 show the power spectral density results. As can be seen from this plot, the peak power density is less than 8dBm in a 3kHz band during any time interval of continuous transmission.

6 CONCLUSIONS

It was determined that the Continental Automotive Product, Part No. PASS P3 digital modulation transceiver, Serial No. FCC WiFi 1, did fully meet the conducted and radiated emission requirements of the FCC "Code of Federal Regulations" Title 47, Part 15, Subpart B, Sections 15.107 and 15.109 for receivers and Subpart C, Sections 15.207 and 15.247 for Intentional Radiators Operating within the 2400-2483.5 MHz band, when tested per ANSI C63.4-2003.

It was also determined that the Continental Automotive Product, Part No. PASS P3 digital modulation transceiver, Serial No. FCC WiFi 1, did fully meet the conducted and radiated RF emission requirements of the Industry Canada Radio Standards Specification, RSS-Gen, Section 7.2.2 and Section 7.2.3 for receivers and the Industry Canada Radio Standards Specification RSS-Gen Section 7.2.2 and RSS-210 Annex 2, section A2.9 for transmitters, when tested per ANSI C63.4-2003.

7 CERTIFICATION

Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the test specifications.

The data presented in this test report pertains to the EUT at the test date. Any electrical or mechanical modification made to the EUT subsequent to the specified test date will serve to invalidate the data and void this



certification.

8 ENDORSEMENT DISCLAIMER

This report must not be used to claim product endorsement by NVLAP or any agency of the US Government.

9 EQUIPMENT LIST

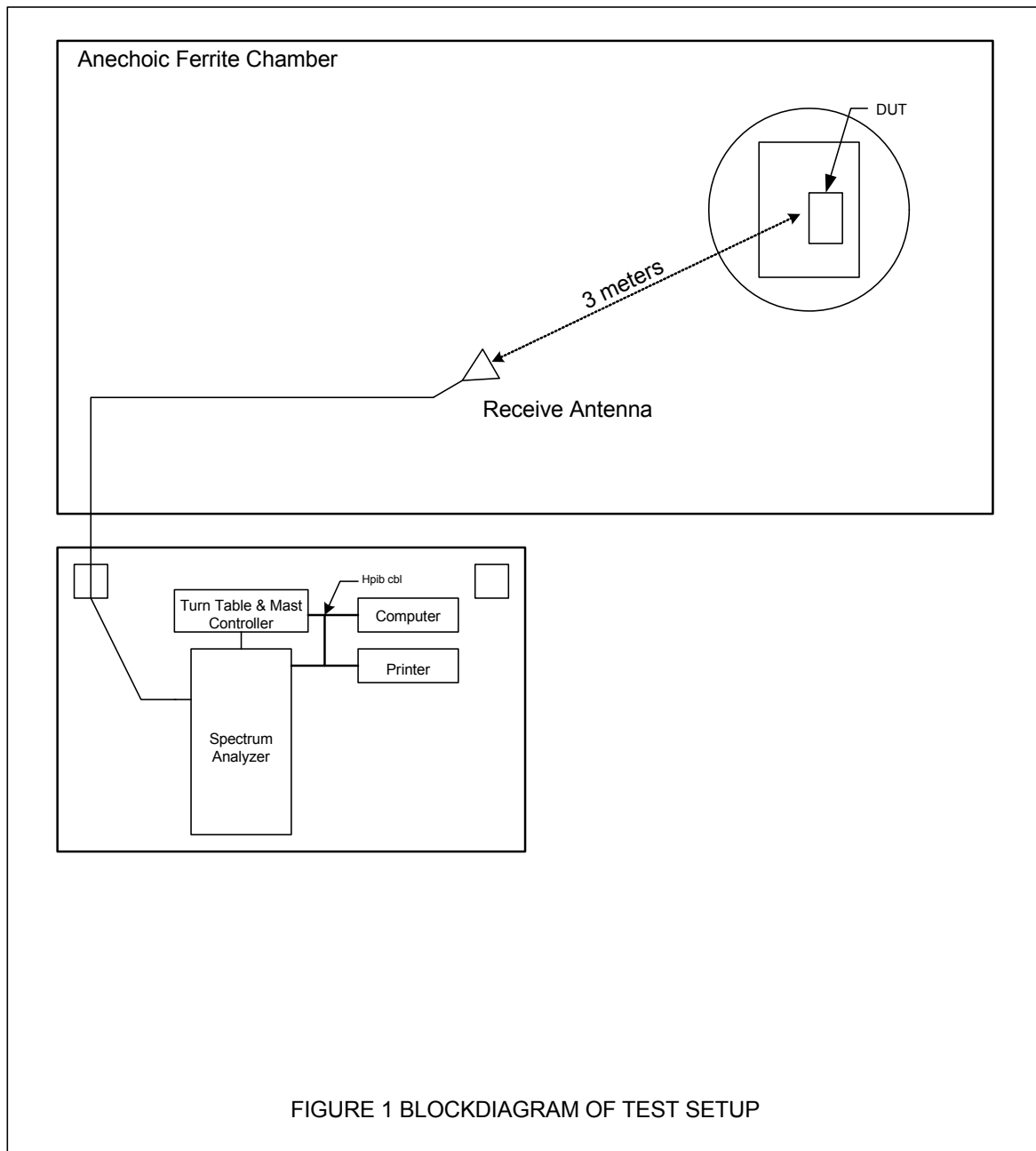
Table 9-1 Equipment List

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Due Date
APW0	PREAMPLIFIER	PLANAR ELECTRONICS	PE2-30-20G20R6G	PL2926/0646	20GHZ-26.5GHZ	8/27/2010	8/27/2011
APW3	PREAMPLIFIER	PLANAR ELECTRONICS	PE2-35-120-5R0-10-12	PL2924	1GHZ-20GHZ	8/27/2010	8/27/2011
NHG0	STANDARD GAIN HORN ANTENNA	NARDA	638	---	18-26.5GHZ	NOTE 1	
NTA2	BILOG ANTENNA	TESEQ	6112D	28040	25-1000MHz	6/7/2010	6/7/2011
NWI0	RIDGED WAVE GUIDE	AEL	H1498	153	2-18GHZ	12/5/2009	12/5/2010
NWI1	RIDGED WAVE GUIDE	AEL	H1498	154	2-18GHZ	12/5/2009	12/5/2010
RBA0	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100145	20HZ-26.5GHZ	3/12/2010	3/12/2011
RBB0	EMI TEST RECEIVER 20HZ TO 40 GHZ	ROHDE & SCHWARZ	ESIB40	100250	20 HZ TO 40GHZ	3/16/2010	3/16/2011
SES1	24VDC POWER SUPPLY	P TRANS	FS-32024-1M	002	18-27VDC	NOTE 1	
T1P0	10dB ATTENUATOR (40GHz)	WEINSCHL	89-10-12	254	DC-40GHz	11/6/2009	11/6/2010
T2D2	20DB, 25W ATTENUATOR	WEINSCHL	46-20-43	AV5815	DC-18GHZ	8/9/2010	8/9/2011
T2S7	20DB 25W ATTENUATOR	WEINSCHL	46-20-34	BU8139	DC-18GHZ	3/3/2010	3/3/2011
XPR0	HIGH PASS FILTER	K&L MICROWAVE	11SH10-4800/X20000	001	4.8-20GHZ	7/19/2010	7/19/2011

I/O: Initial Only

N/A: Not Applicable

Note 1: For the purpose of this test, the equipment was calibrated over the specified frequency range, pulse rate, or modulation prior to the test or monitored by a calibrated instrument.



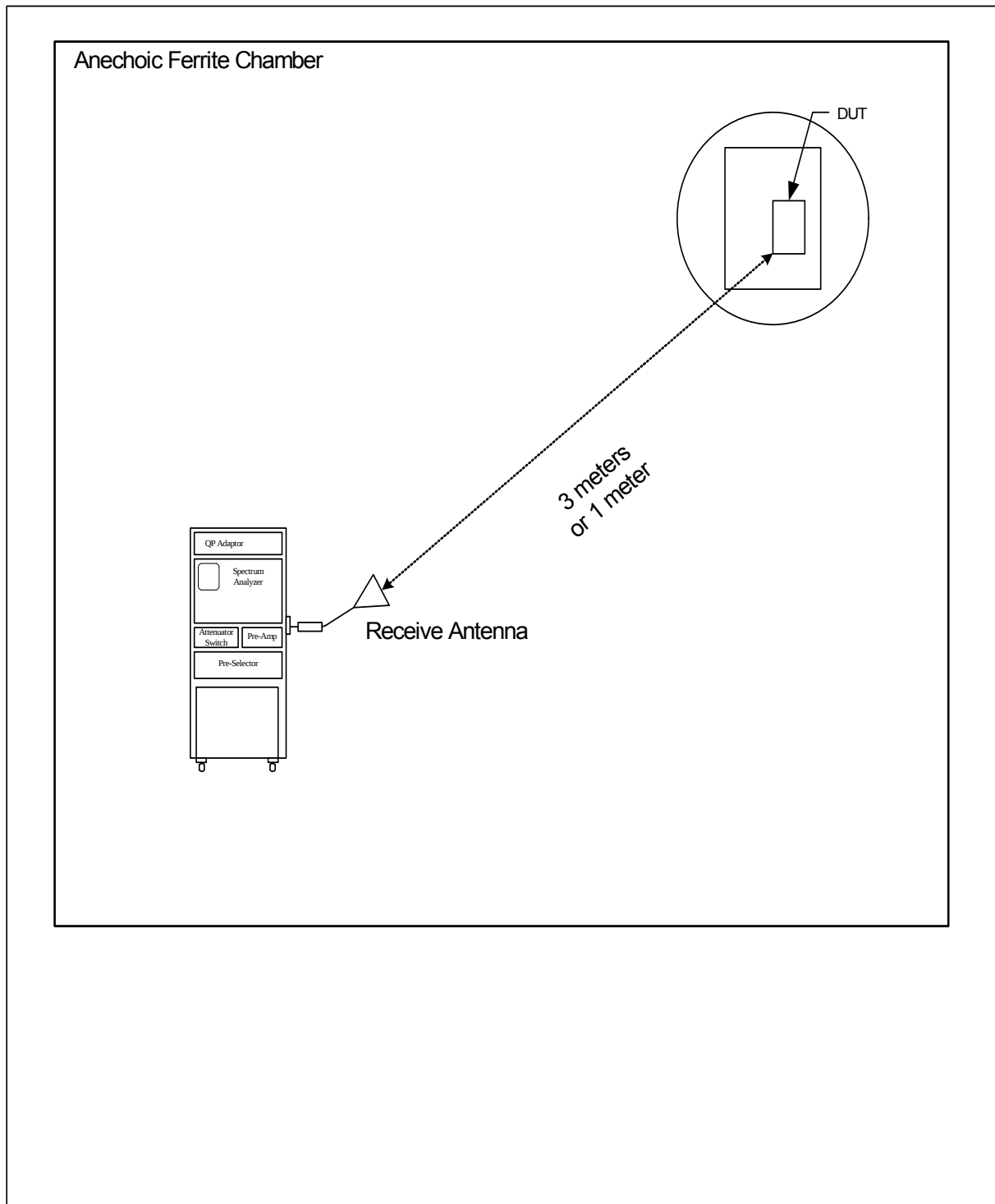


Figure 2: BLOCK DIAGRAM OF TEST SETUP FOR RADIATED EMISSIONS ABOVE 18GHZ

Figure 3

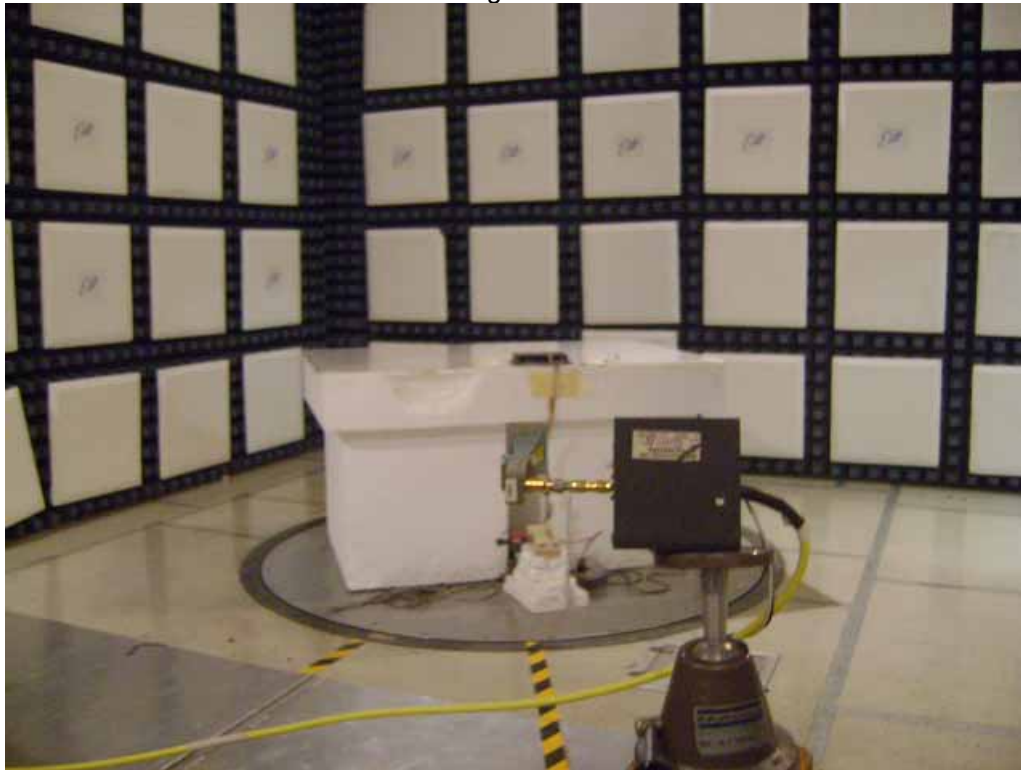


Test Setup for Radiated Emissions – 2GHz to 18GHz, Horizontal Polarization

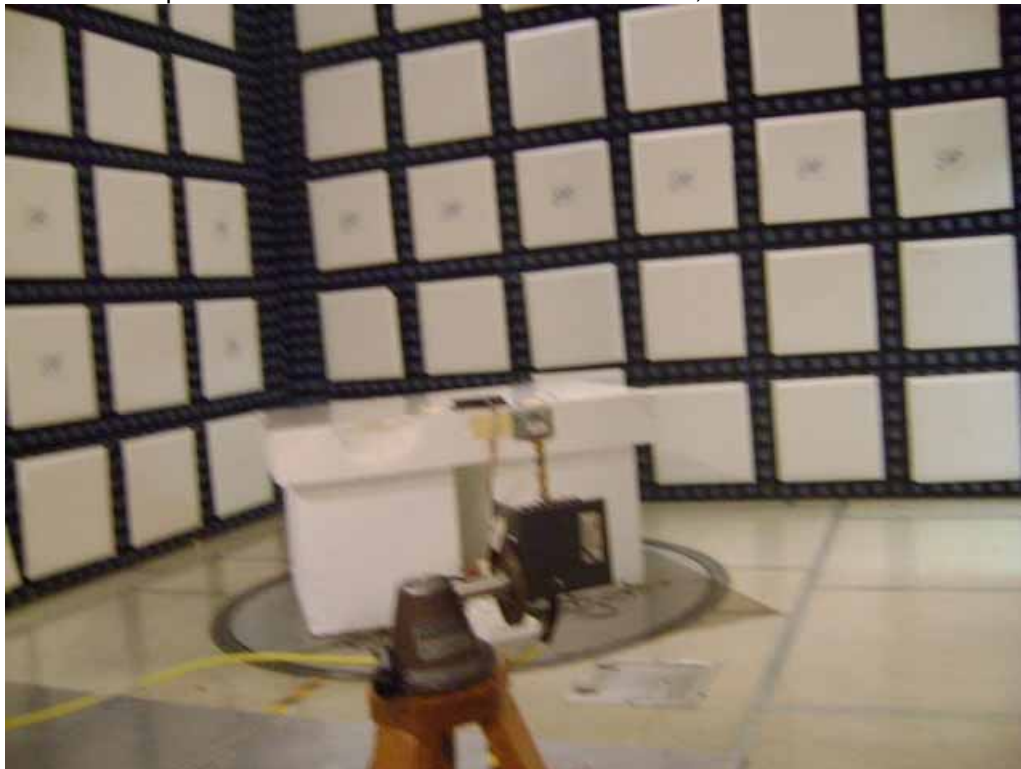


Test Setup for Radiated Emissions – 2GHz to 18GHz, Vertical Polarization

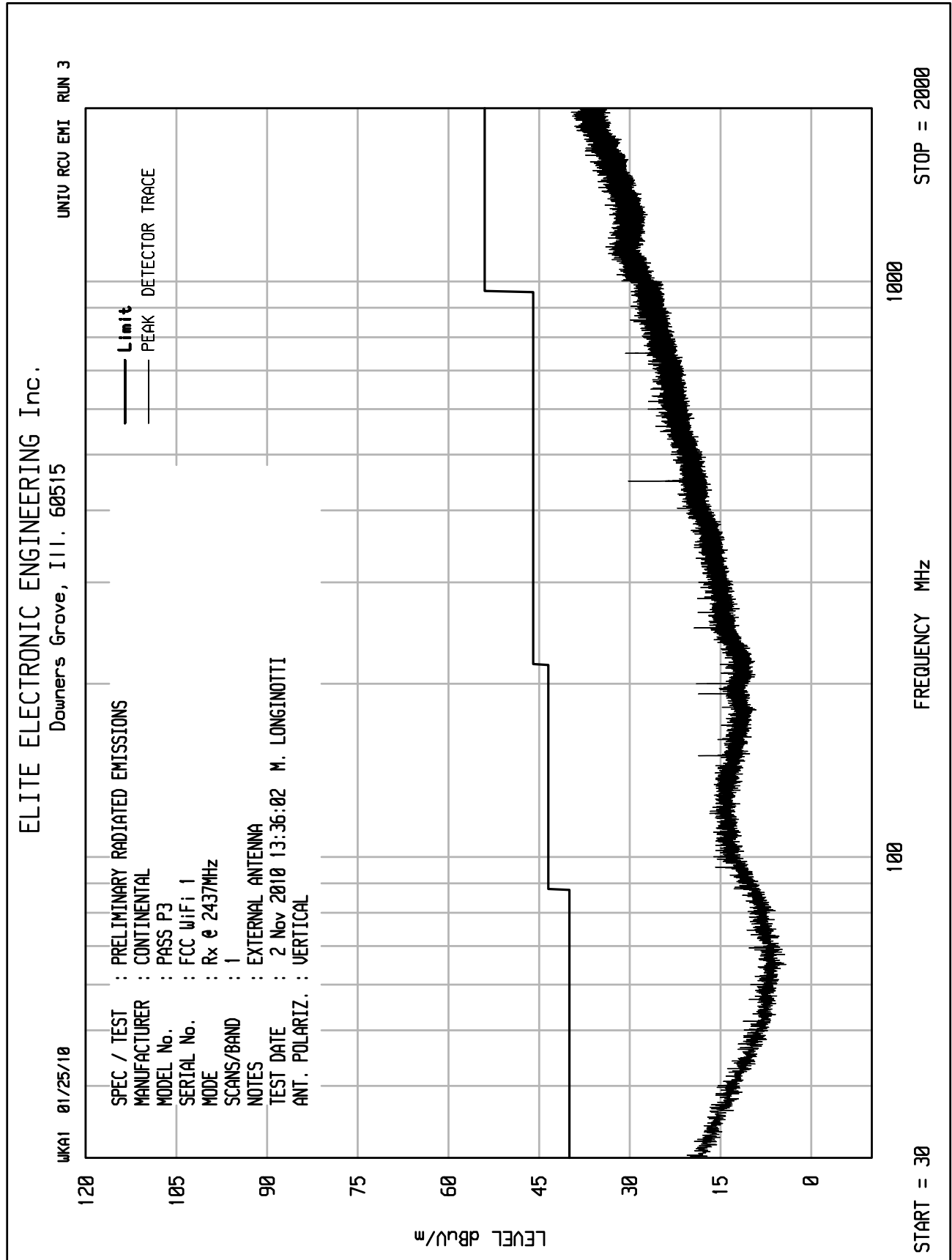
Figure 4

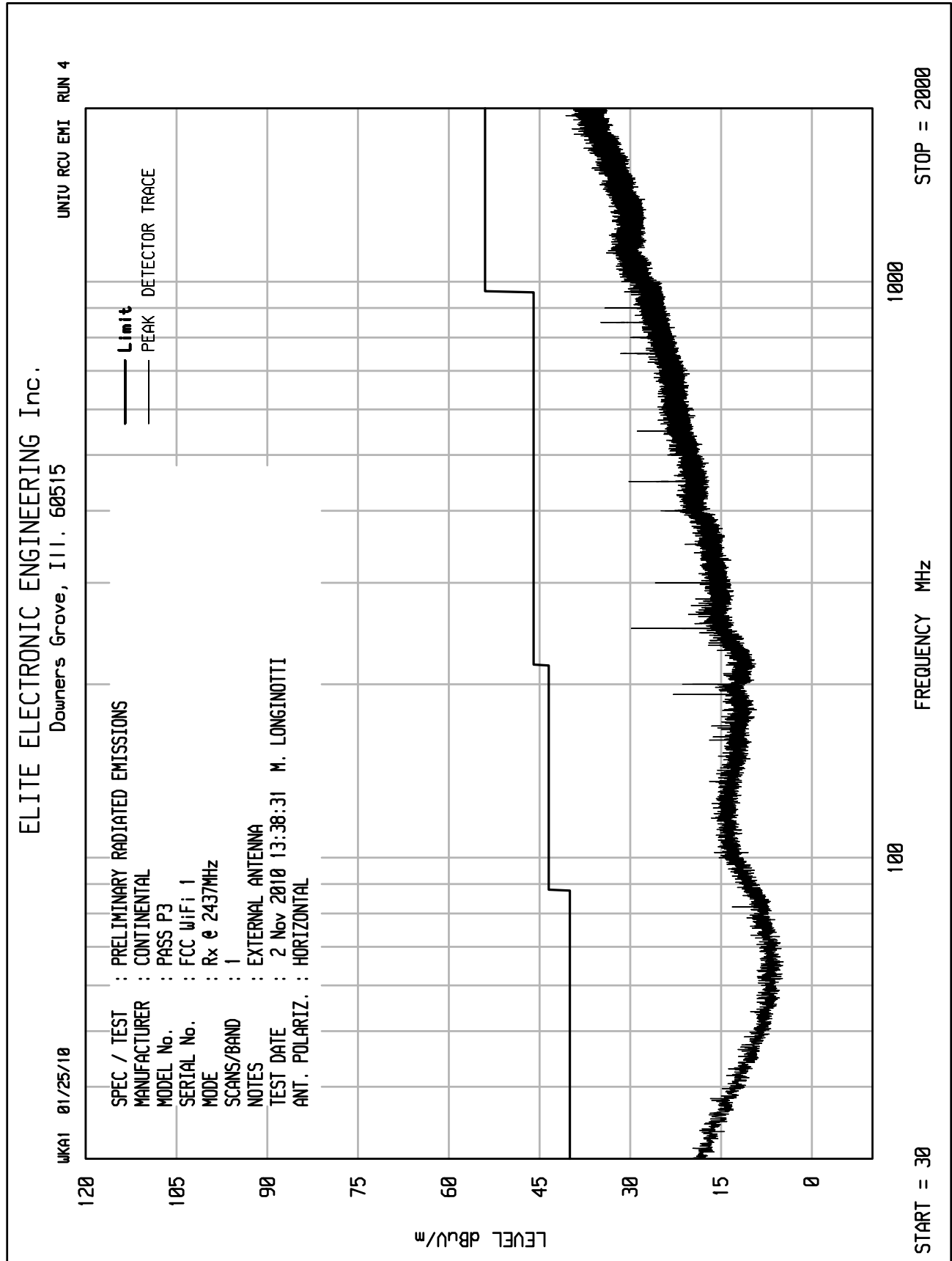


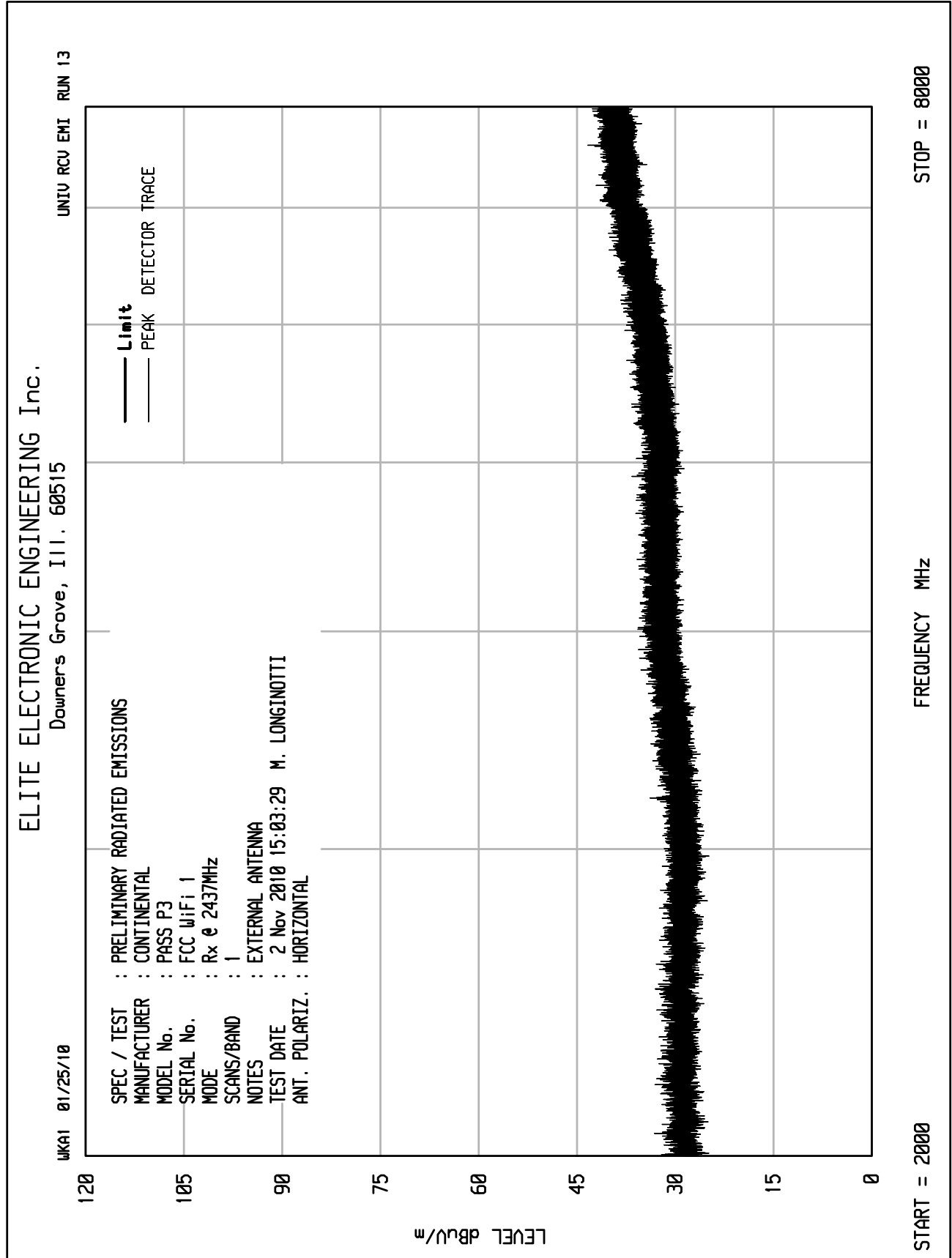
Test Setup for Radiated Emissions – 18GHz to 25GHz, Horizontal Polarization

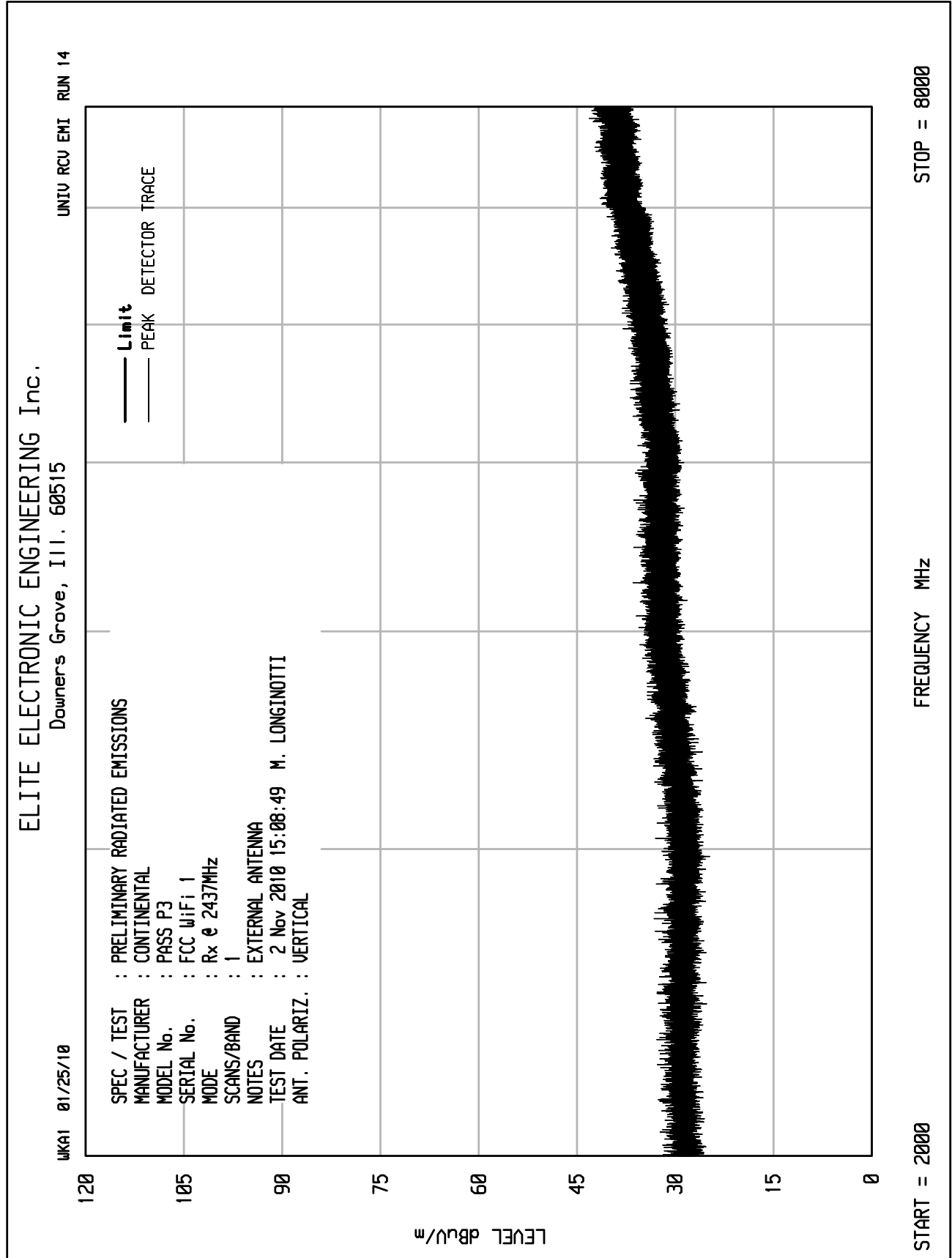


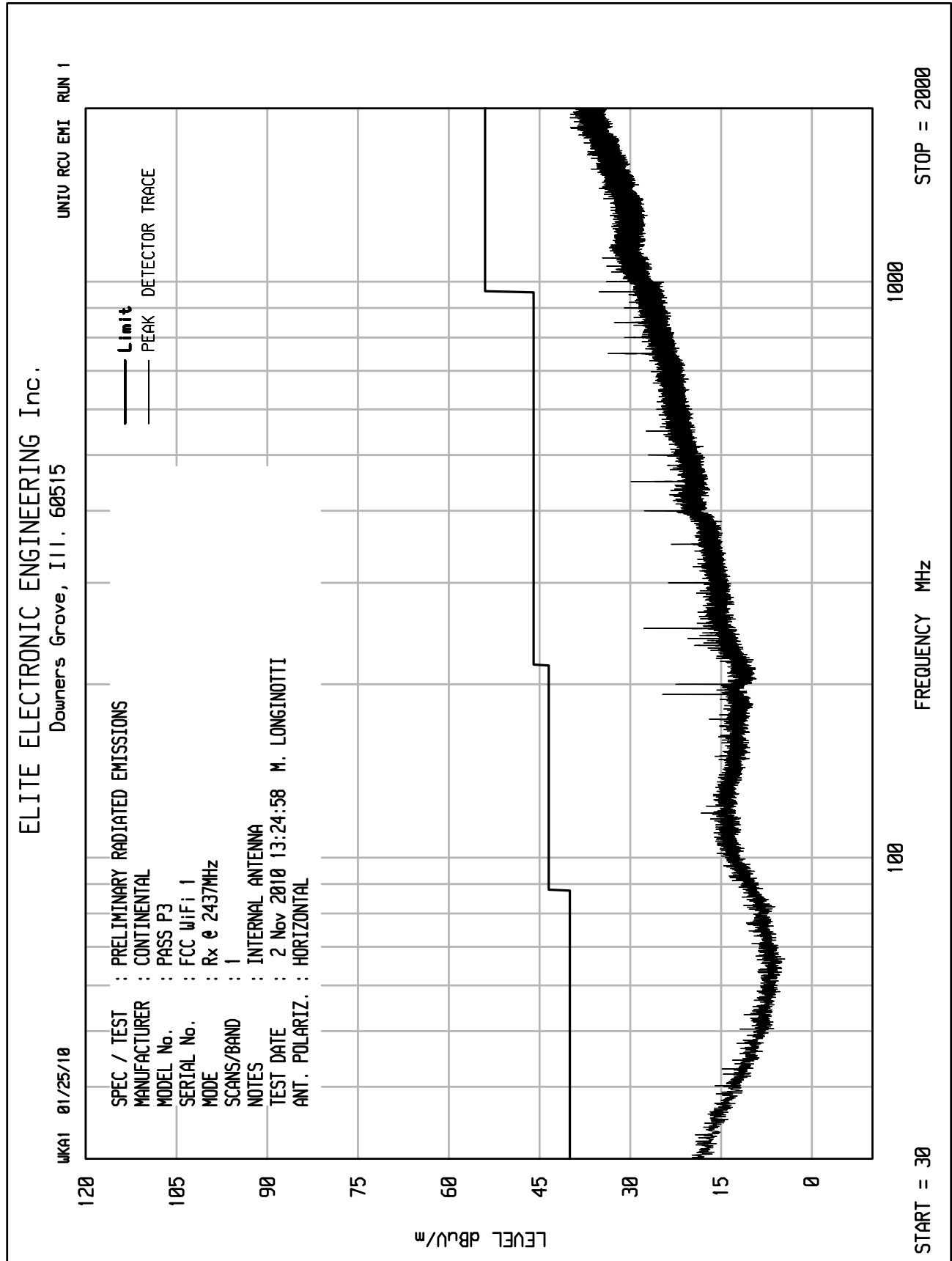
Test Setup for Radiated Emissions – 18GHz to 25GHz, Vertical Polarization

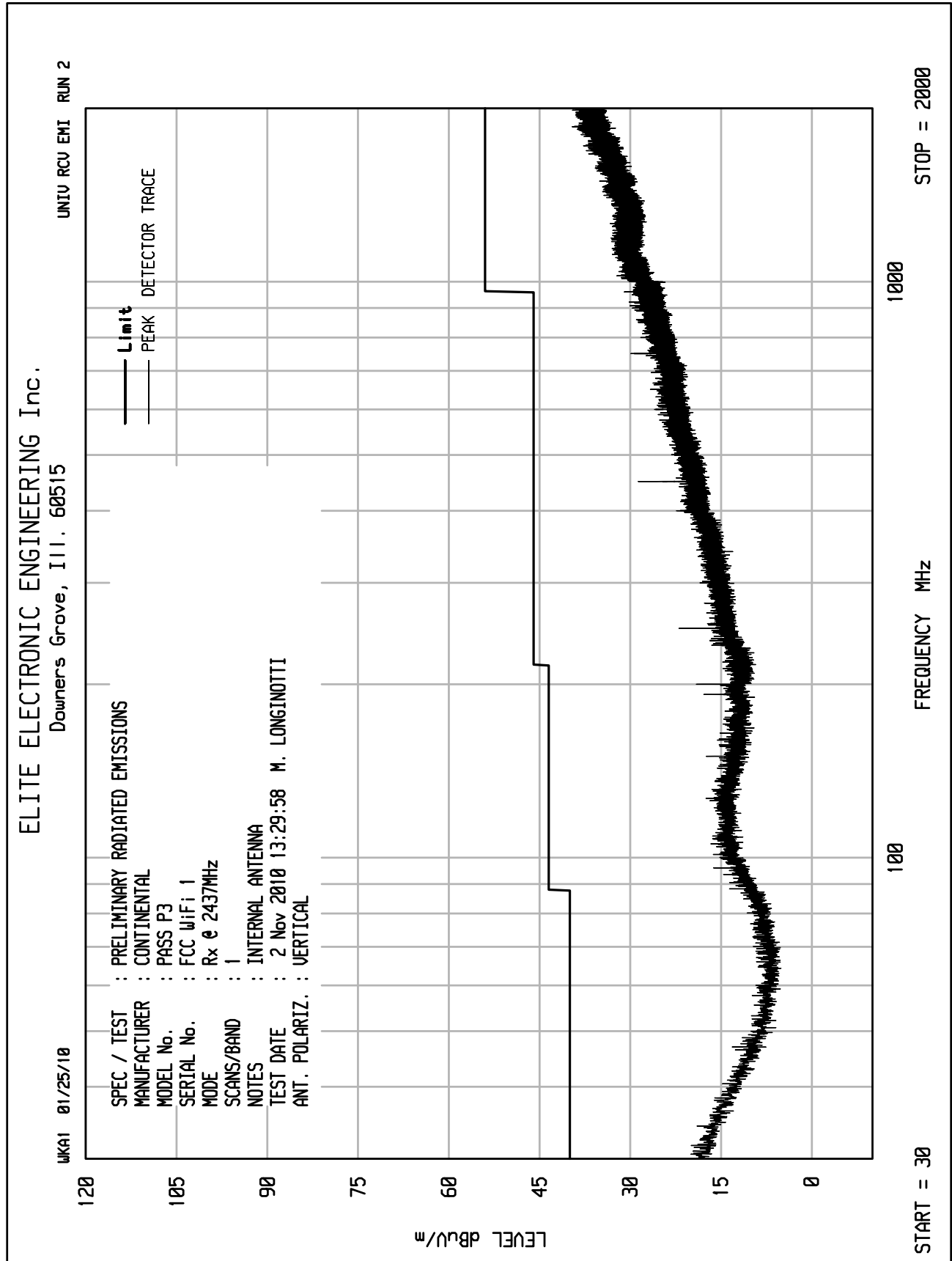


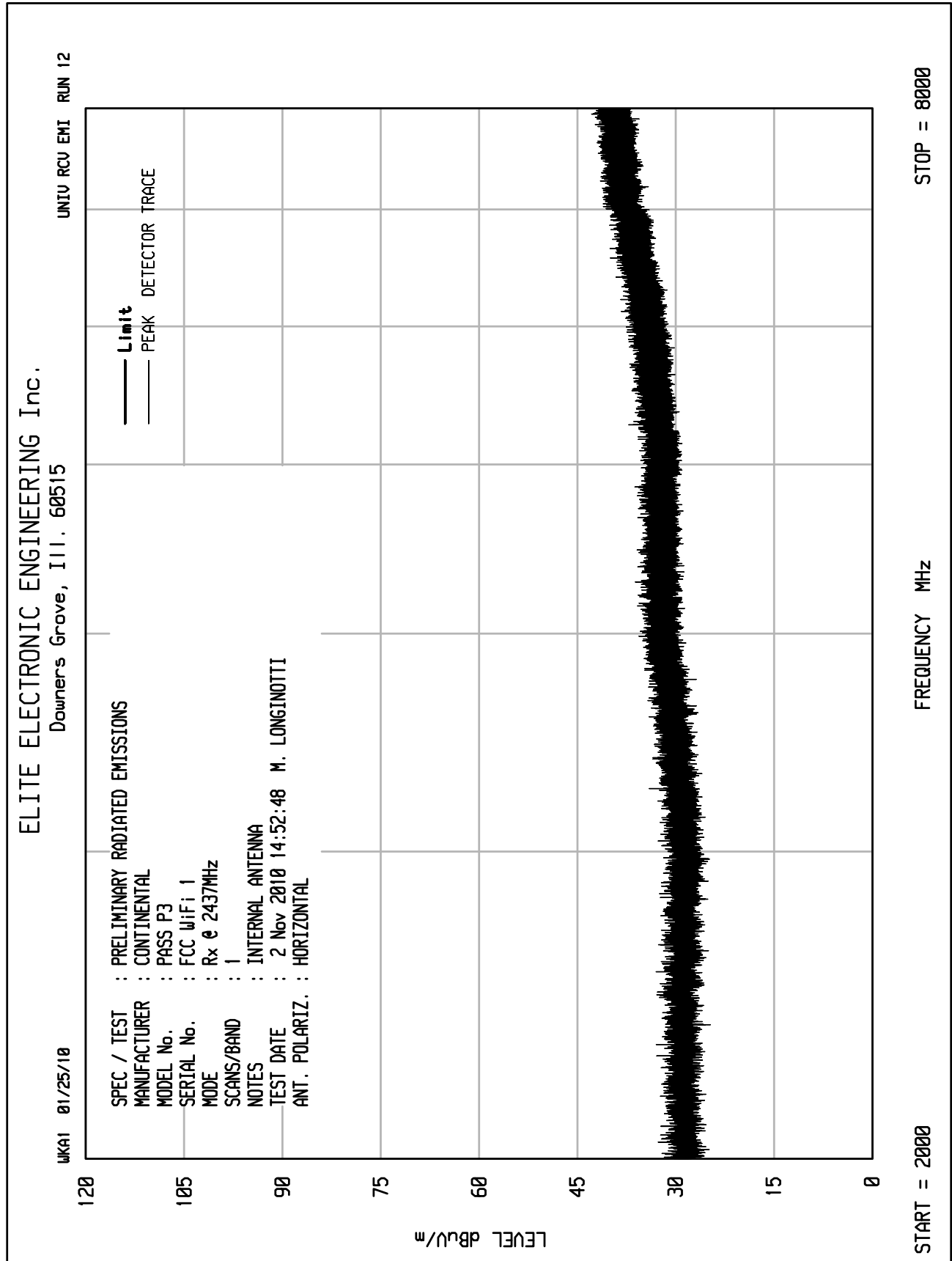


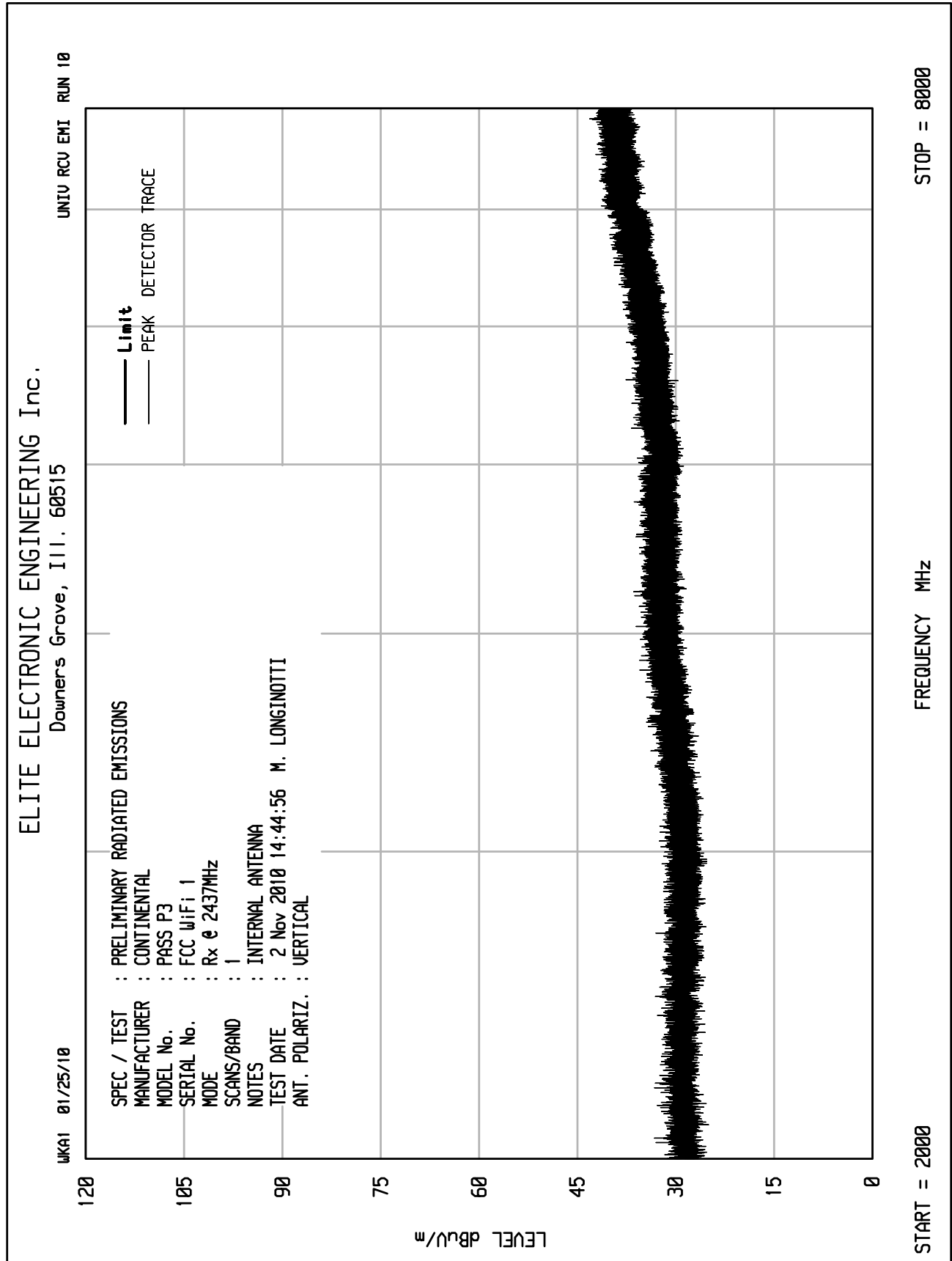














Manufacturer : Continental
Model No. : Pass P3
Serial No. : FCC WiFi 1
Specification : FCC-15.109 Spurious Radiated Emissions
Date : November 2, 2010
Mode : Rx @ 2473MHz
Equipment Used : RBB0, NTA2, NWI0, APW3, SES1
Notes : Test Distance is 3 meters
Notes : External Antenna

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
2437.000	H	35.8	Ambient	3.8	31.3	-39.7	31.2	36.4	500.0	-22.8
2437.000	V	35.8	Ambient	3.8	31.3	-39.7	31.2	36.4	500.0	-22.8
4874.000	H	33.8	Ambient	5.7	34.9	-38.3	36.1	64.0	500.0	-17.9
4874.000	V	33.7	Ambient	5.7	34.9	-38.3	36.0	63.3	500.0	-18.0
7311.000	H	34.8	Ambient	7.7	38.2	-38.4	42.2	129.0	500.0	-11.8
7311.000	V	34.8	Ambient	7.7	38.2	-38.4	42.2	129.0	500.0	-11.8

H – Horizontal

V – Vertical

Total (dBuV/m) = Meter Reading (dBuV) + Cable Factor (dB) + Antenna Factor (dB) + Pre Amp (dB)



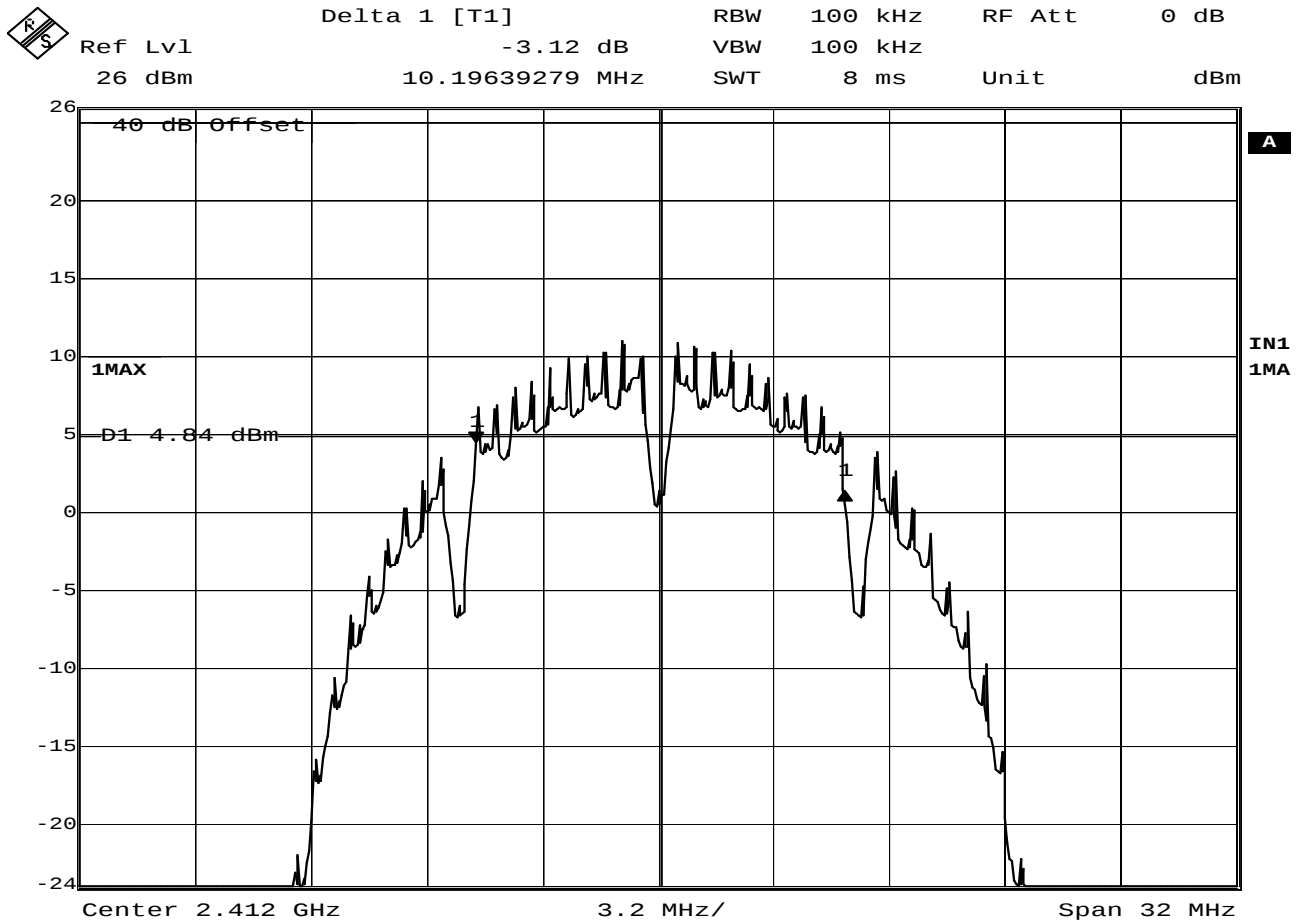
Manufacturer : Continental
Model No. : Pass P3
Serial No. : FCC WiFi 1
Specification : FCC-15.109 Spurious Radiated Emissions
Date : November 2, 2010
Mode : Rx @ 2473MHz
Equipment Used : RBB0, NTA2, NWI0, APW3, SES1
Notes : Test Distance is 3 meters
Notes : Internal Antenna

Freq (MHz)	Ant Pol	Meter Reading (dBuV)	Ambient	CBL Fac (dB)	Ant Fac (dB)	Pre Amp (dB)	Total dBuV/m at 3 M	Total uV/m at 3M	Limit uV/m at 3M	Margin (dB)
2437.000	H	35.8	Ambient	3.8	31.3	-39.7	31.2	36.4	500.0	-22.8
2437.000	V	35.9	Ambient	3.8	31.3	-39.7	31.3	36.8	500.0	-22.7
4874.000	H	33.7	Ambient	5.7	34.9	-38.3	36.0	63.3	500.0	-18.0
4874.000	V	33.8	Ambient	5.7	34.9	-38.3	36.1	64.0	500.0	-17.9
7311.000	H	34.7	Ambient	7.7	38.2	-38.4	42.1	127.5	500.0	-11.9
7311.000	V	34.7	Ambient	7.7	38.2	-38.4	42.1	127.5	500.0	-11.9

H – Horizontal

V – Vertical

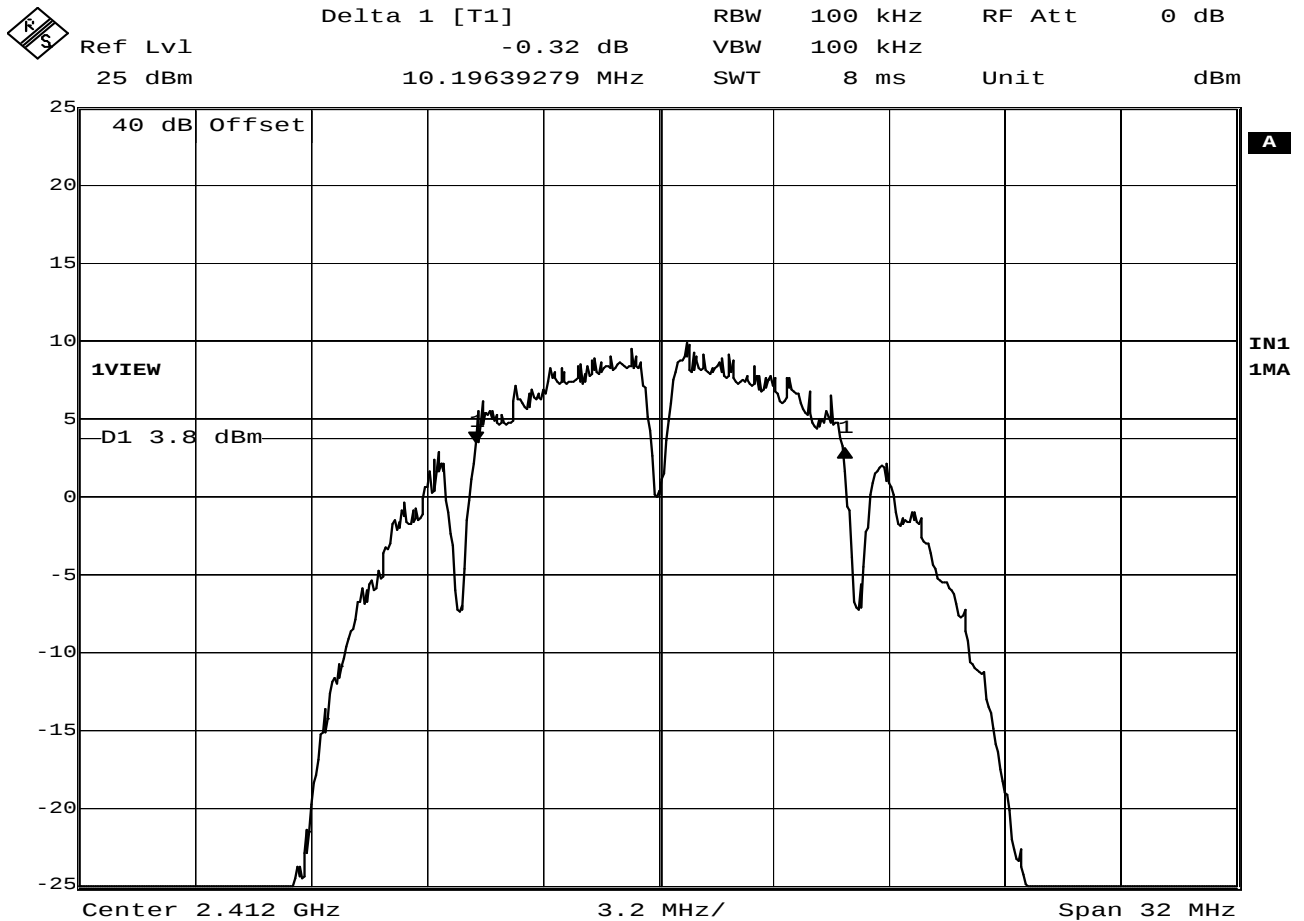
Total (dBuV/m) = Meter Reading (dBuV) + Cable Factor (dB) + Antenna Factor (dB) + Pre Amp (dB)



Date: 27.OCT.2010 12:36:24

FCC 15.247 6dB bandwidth

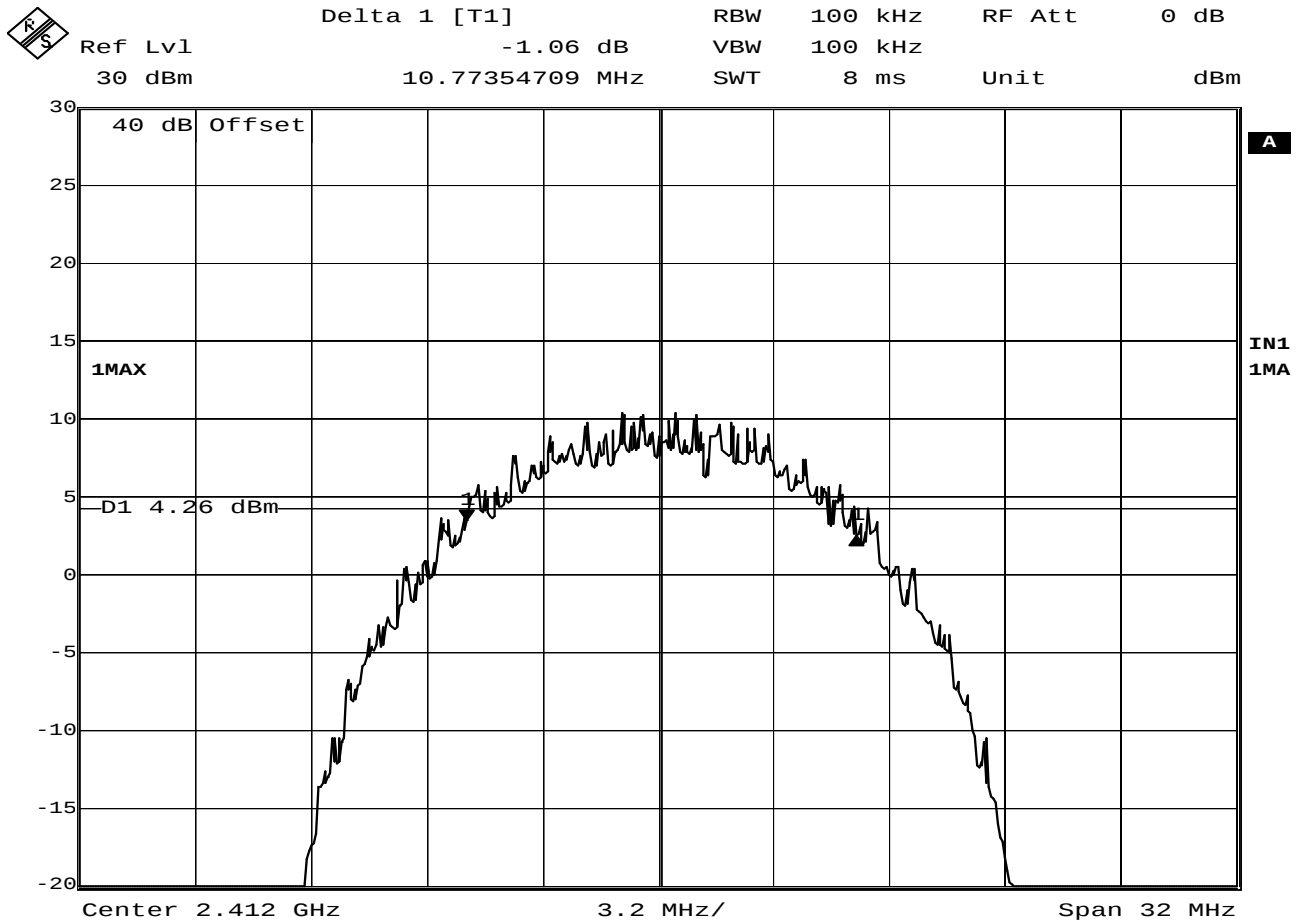
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 1Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.2MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 13:41:08

FCC 15.247 6dB bandwidth

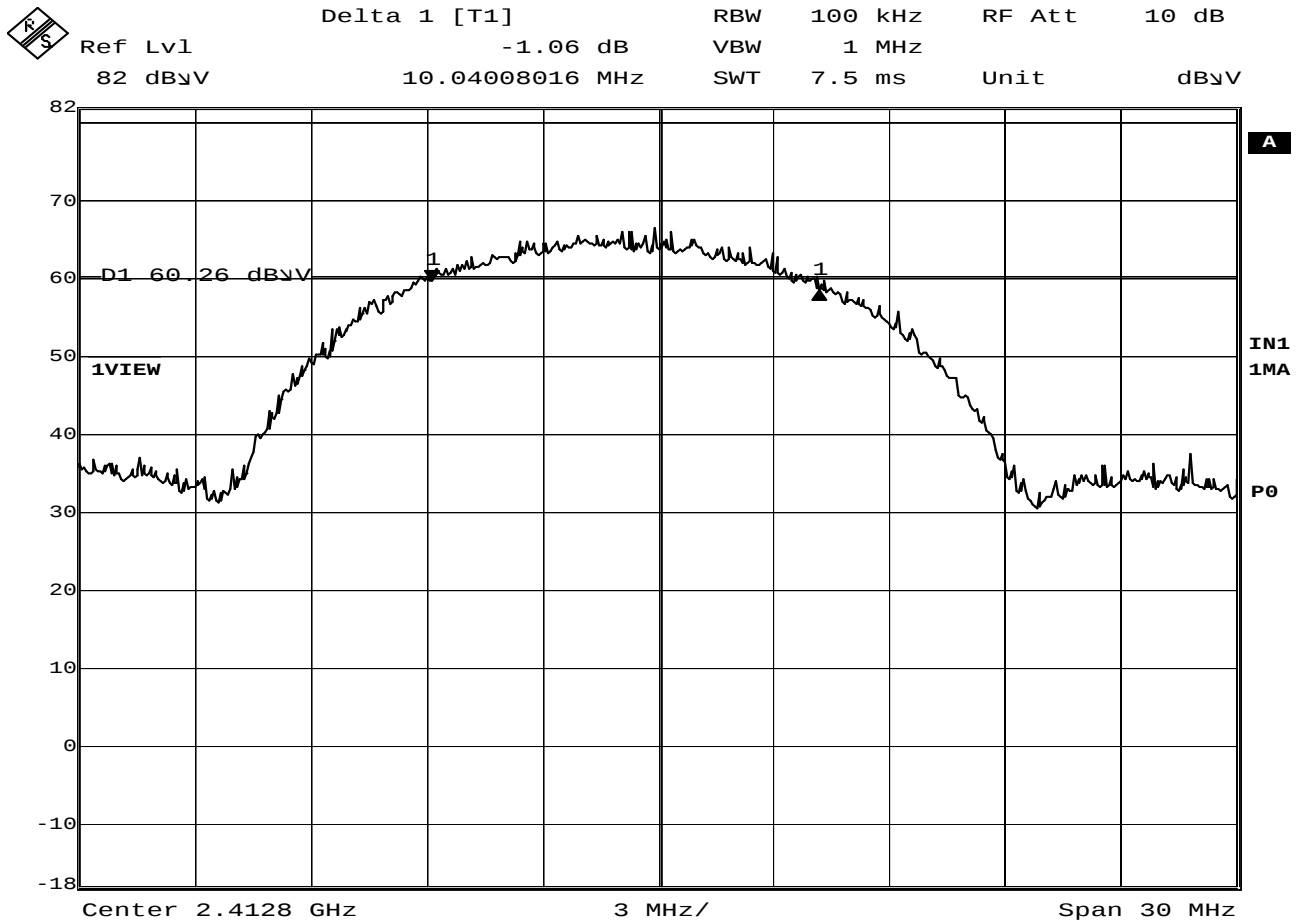
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 2Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.2MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 13:49:23

FCC 15.247 6dB bandwidth

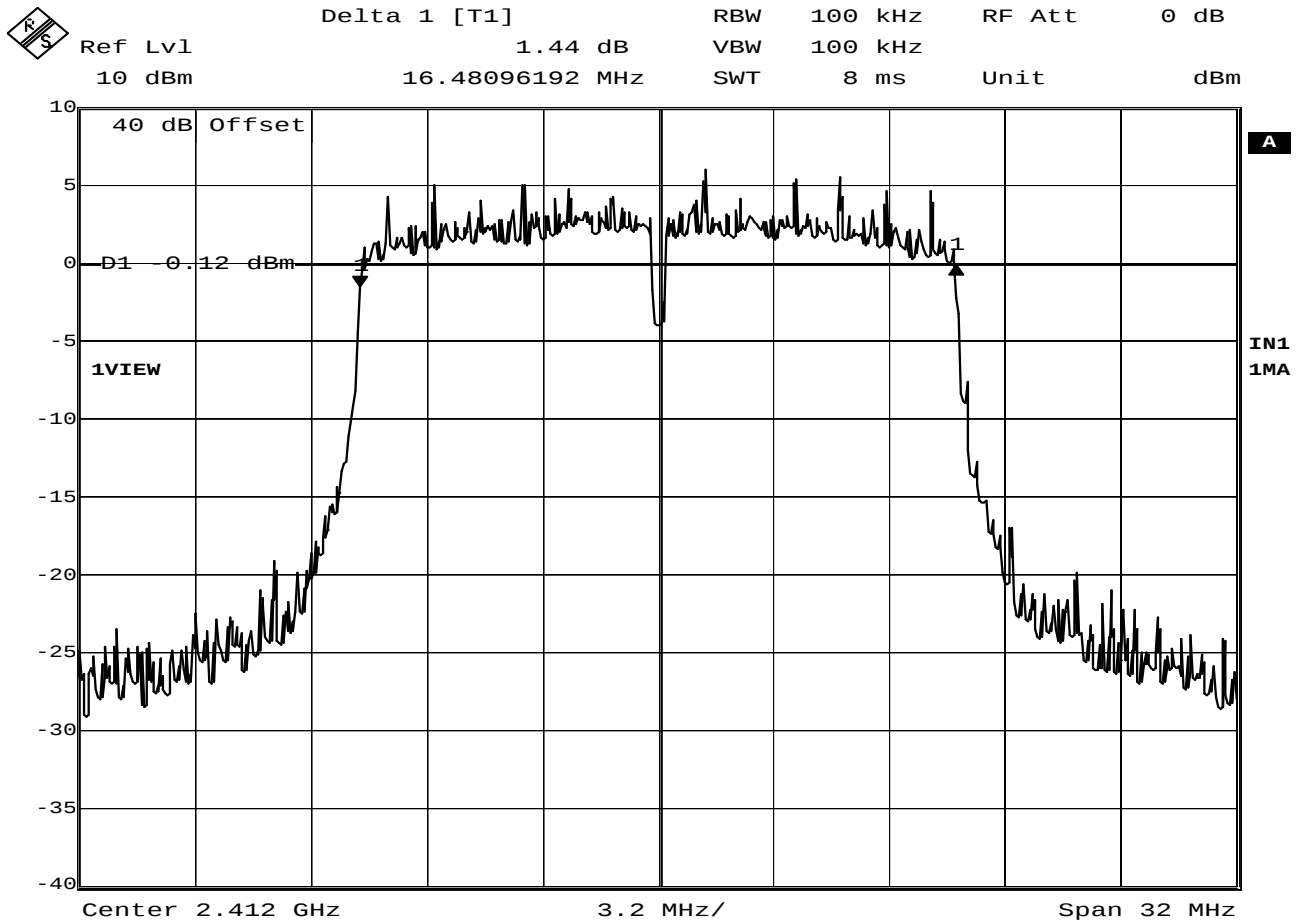
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 5.5Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.77MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 25.OCT.2010 10:56:35

FCC 15.247(a) 6dB Bandwidth

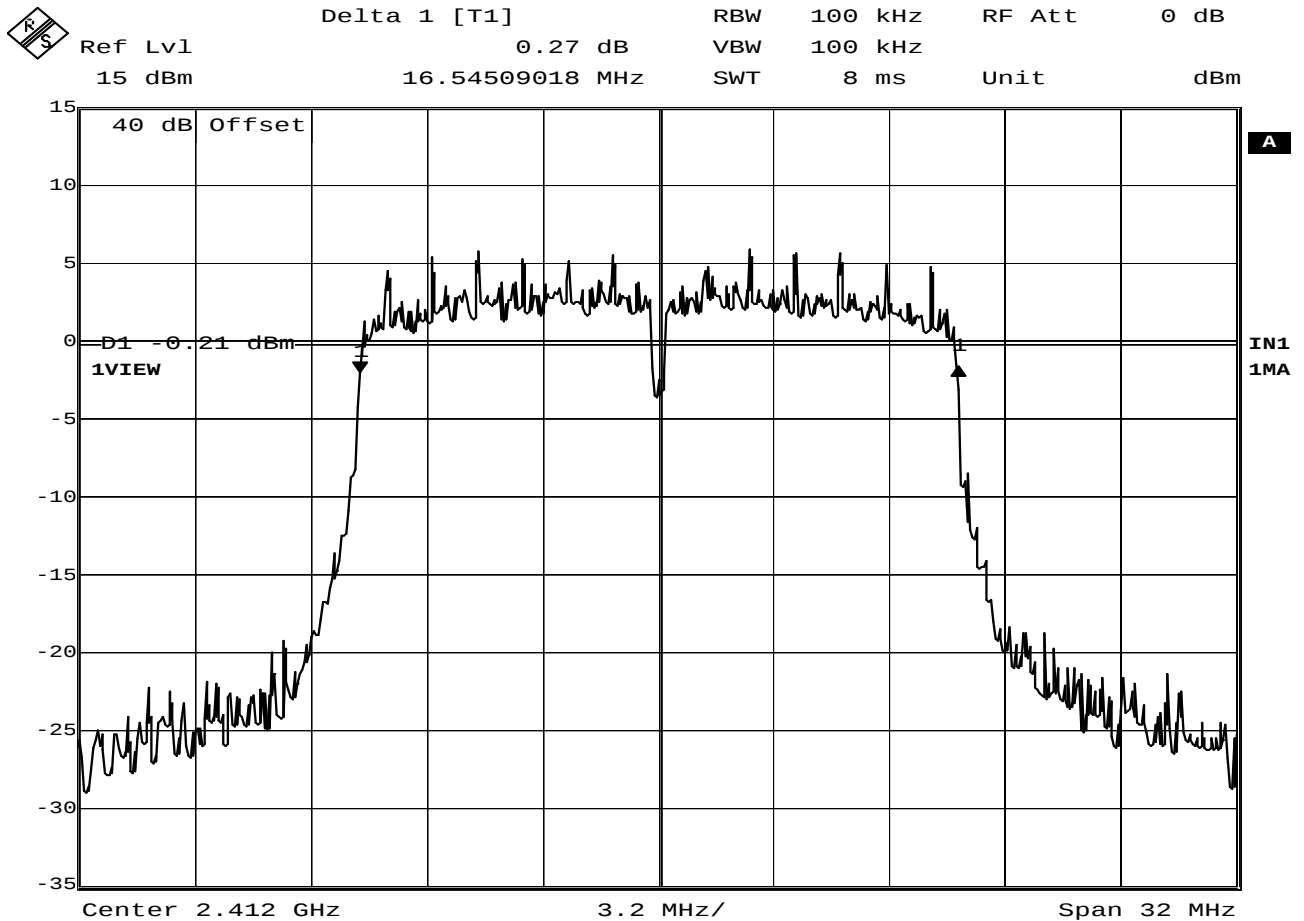
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 11Mbps, 2048 bytes payload
NOTES	: Internal Antenna
TEST DATE	: October 25, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10MHz
EQUIPMENT USED	: RBB0, NWI0



Date: 27.OCT.2010 14:39:49

FCC 15.247 6dB bandwidth

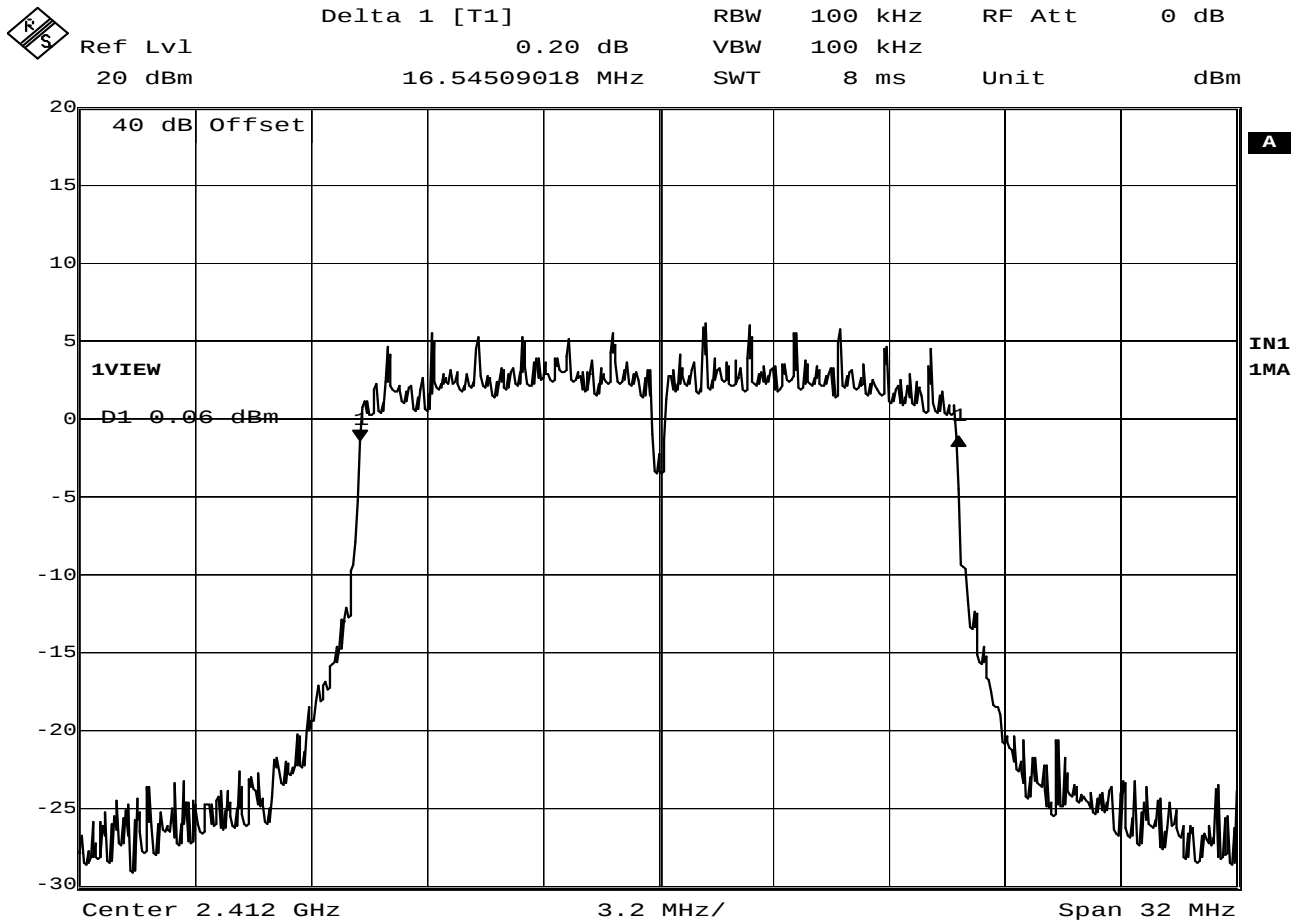
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 6Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.48MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:43:37

FCC 15.247 6dB bandwidth

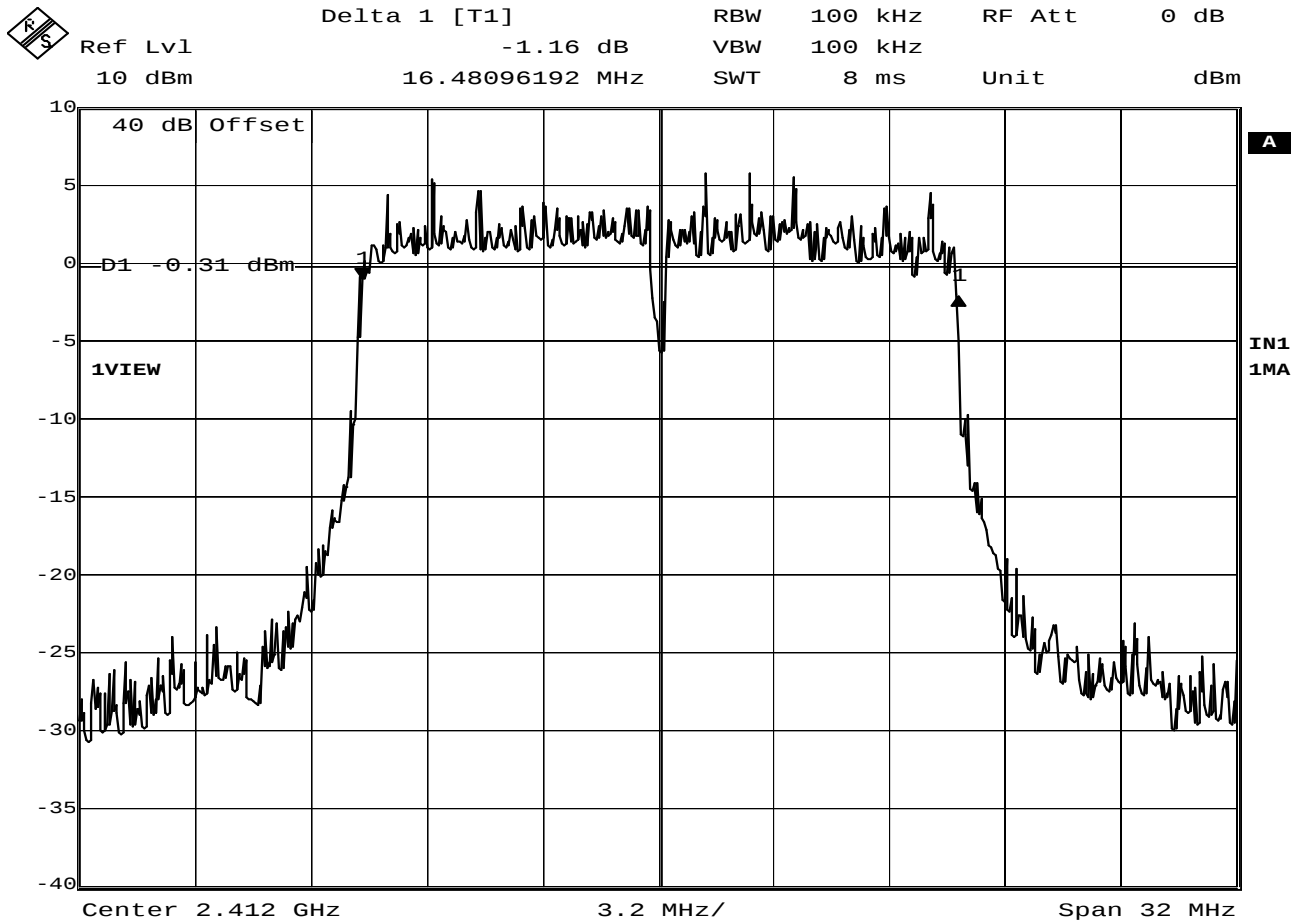
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 g, 9Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 27, 2010
TEST PARAMETERS : 6dB bandwidth
NOTES : 6dB bandwidth = 16.54MHz
EQUIPMENT USED : RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:46:55

FCC 15.247 6dB bandwidth

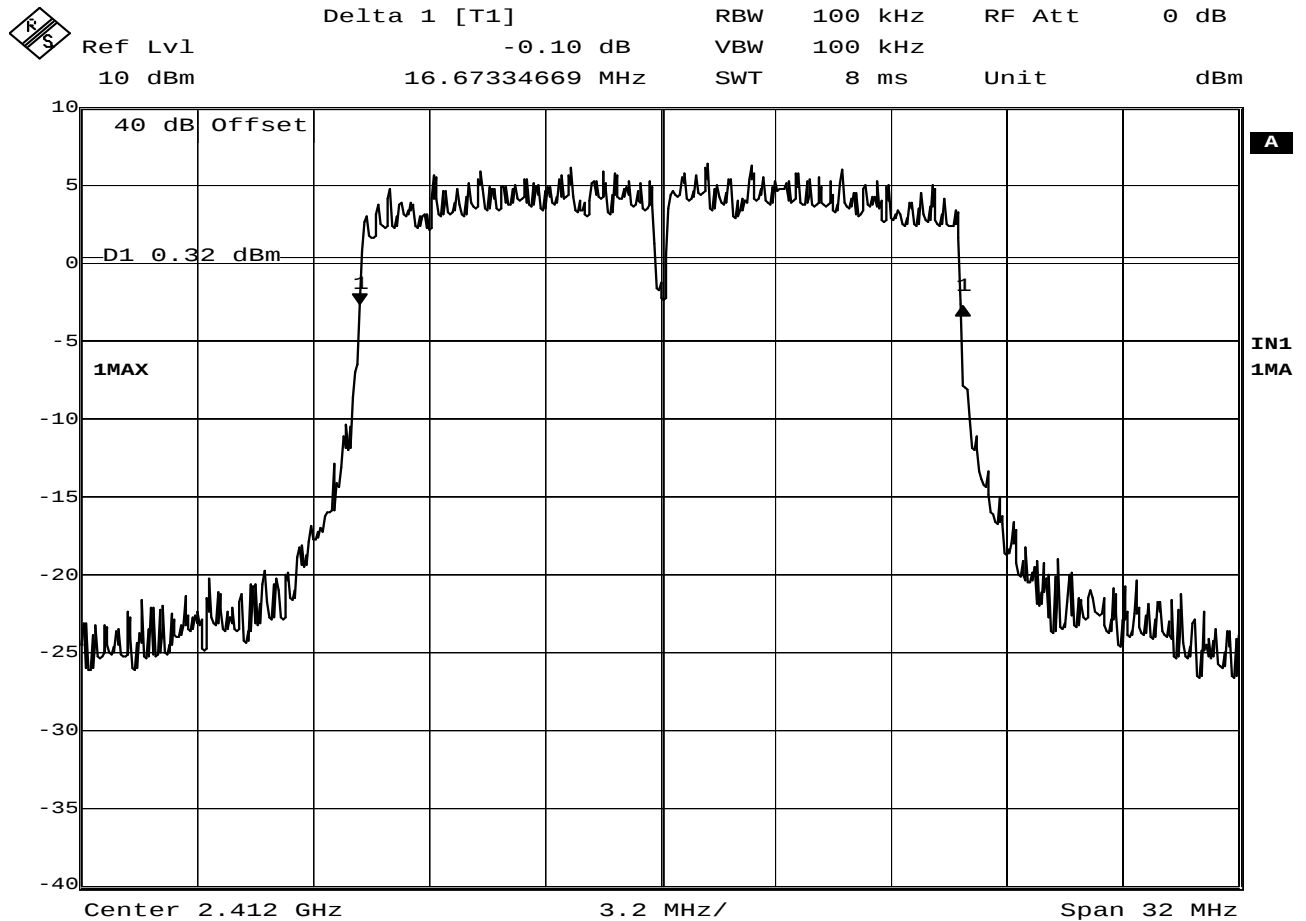
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 12Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.54MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:52:25

FCC 15.247 6dB bandwidth

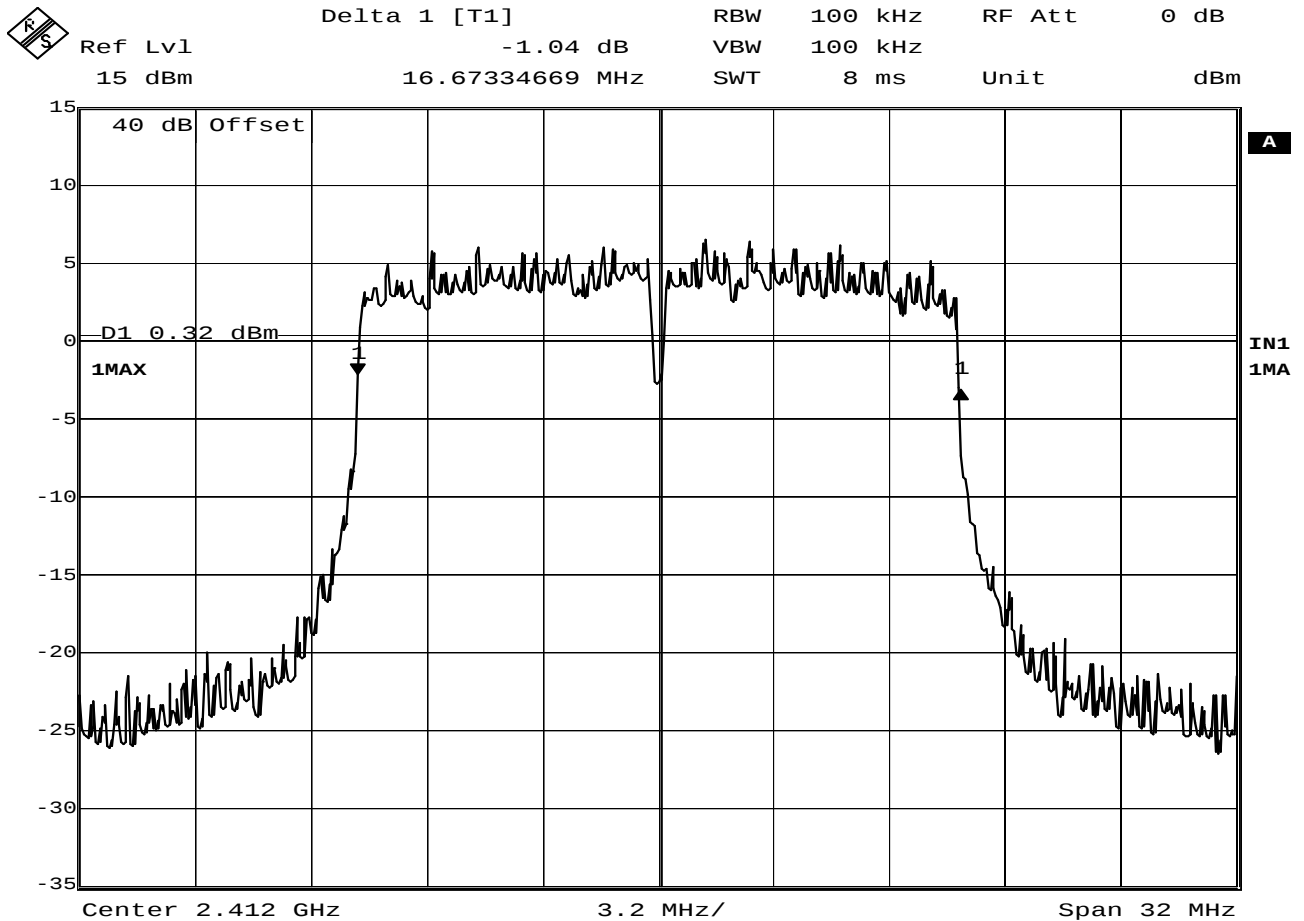
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 18Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.48MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 15:06:50

FCC 15.247 6dB bandwidth

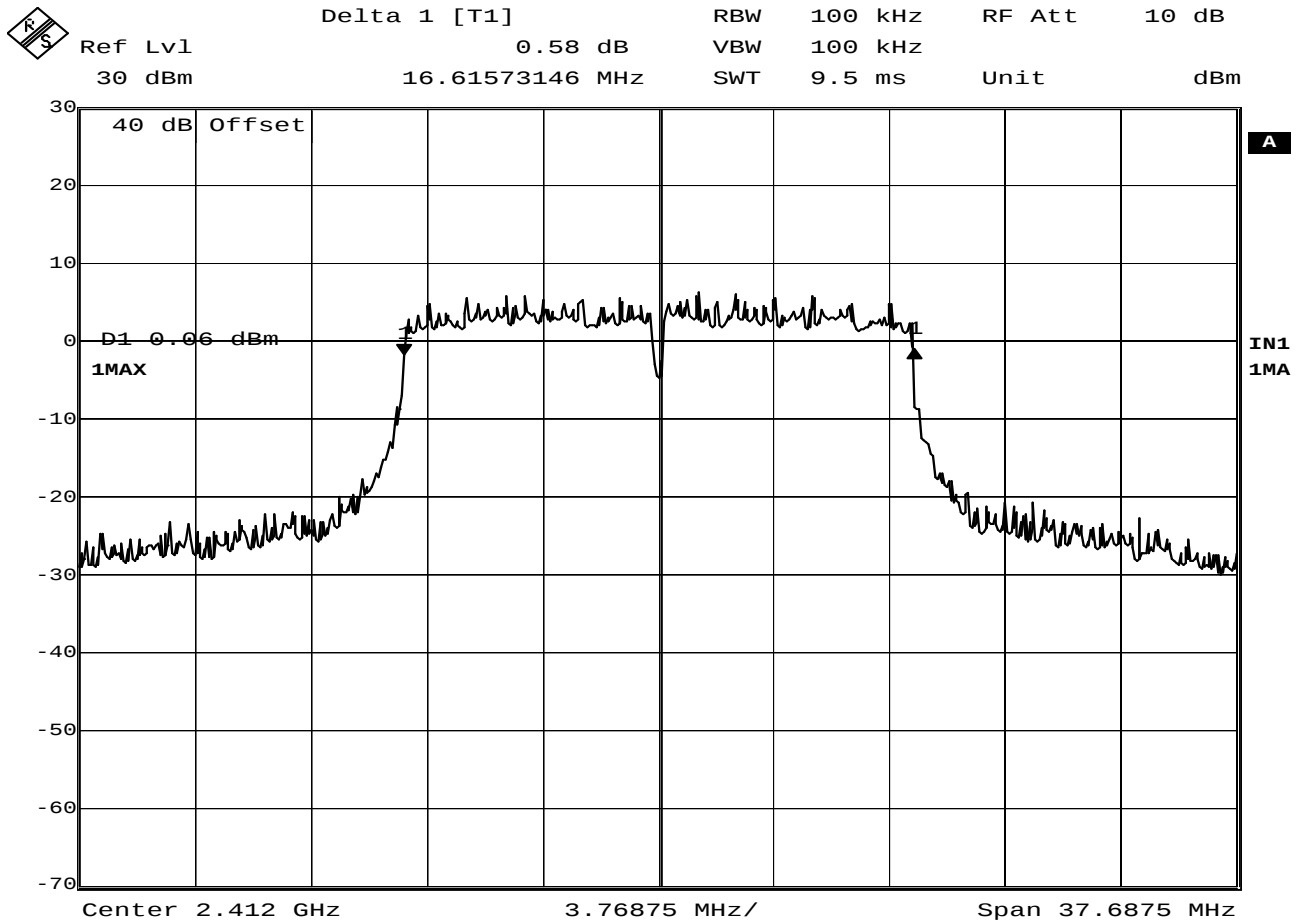
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 24Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.67MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 15:18:43

FCC 15.247 6dB bandwidth

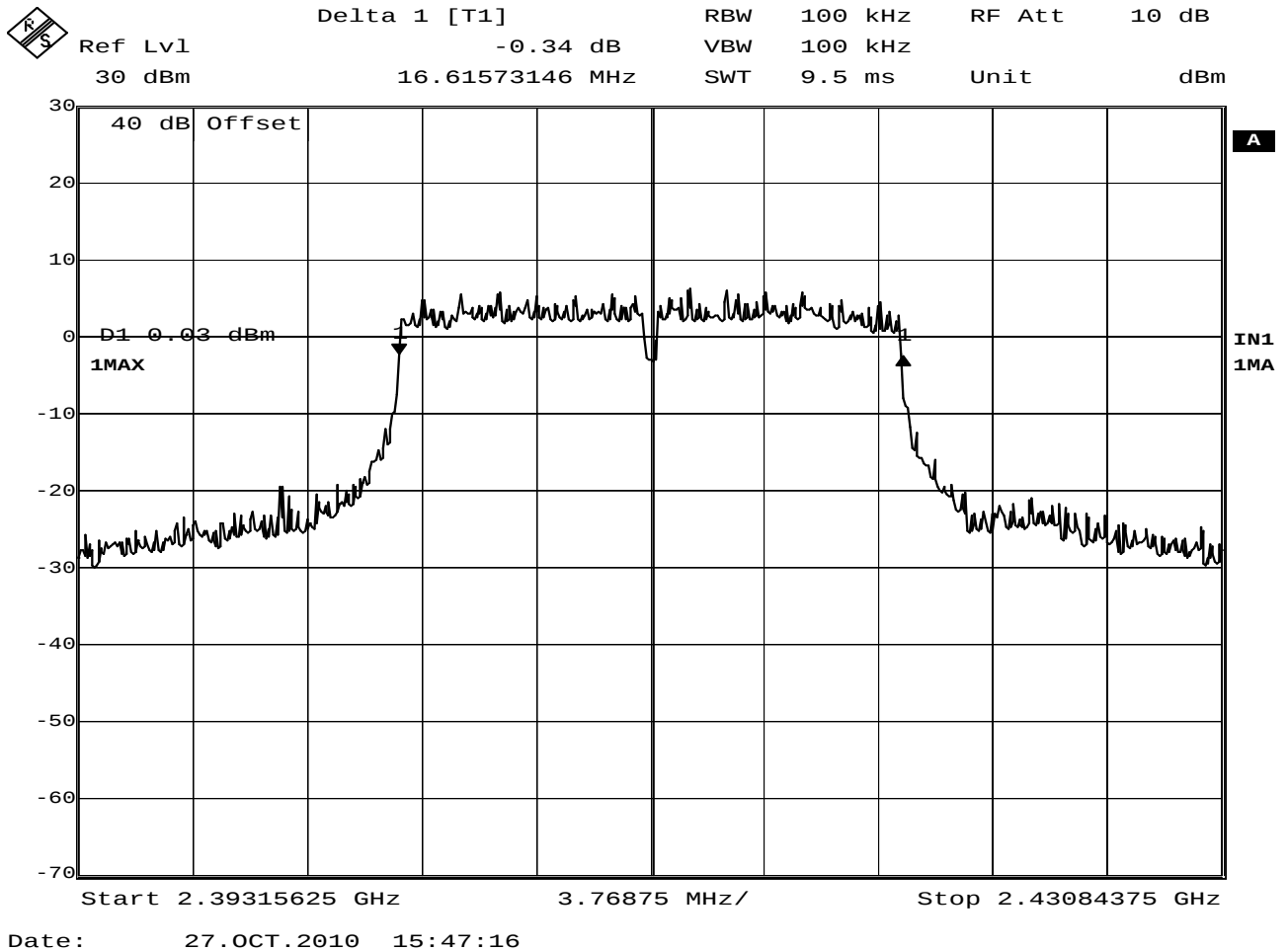
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 36Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.67MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 15:43:47

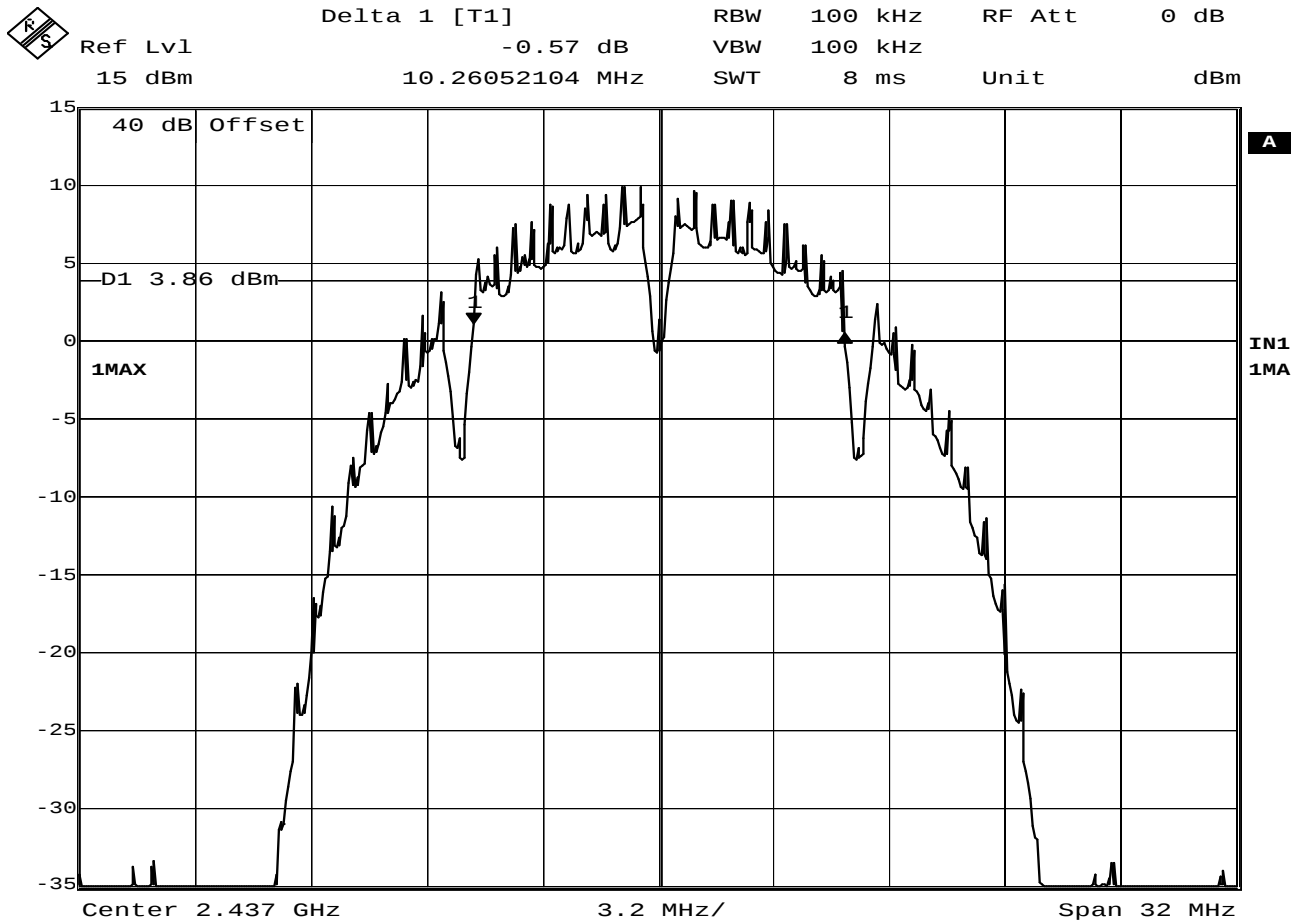
FCC 15.247 6dB bandwidth

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 48Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.6MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



FCC 15.247 6dB bandwidth

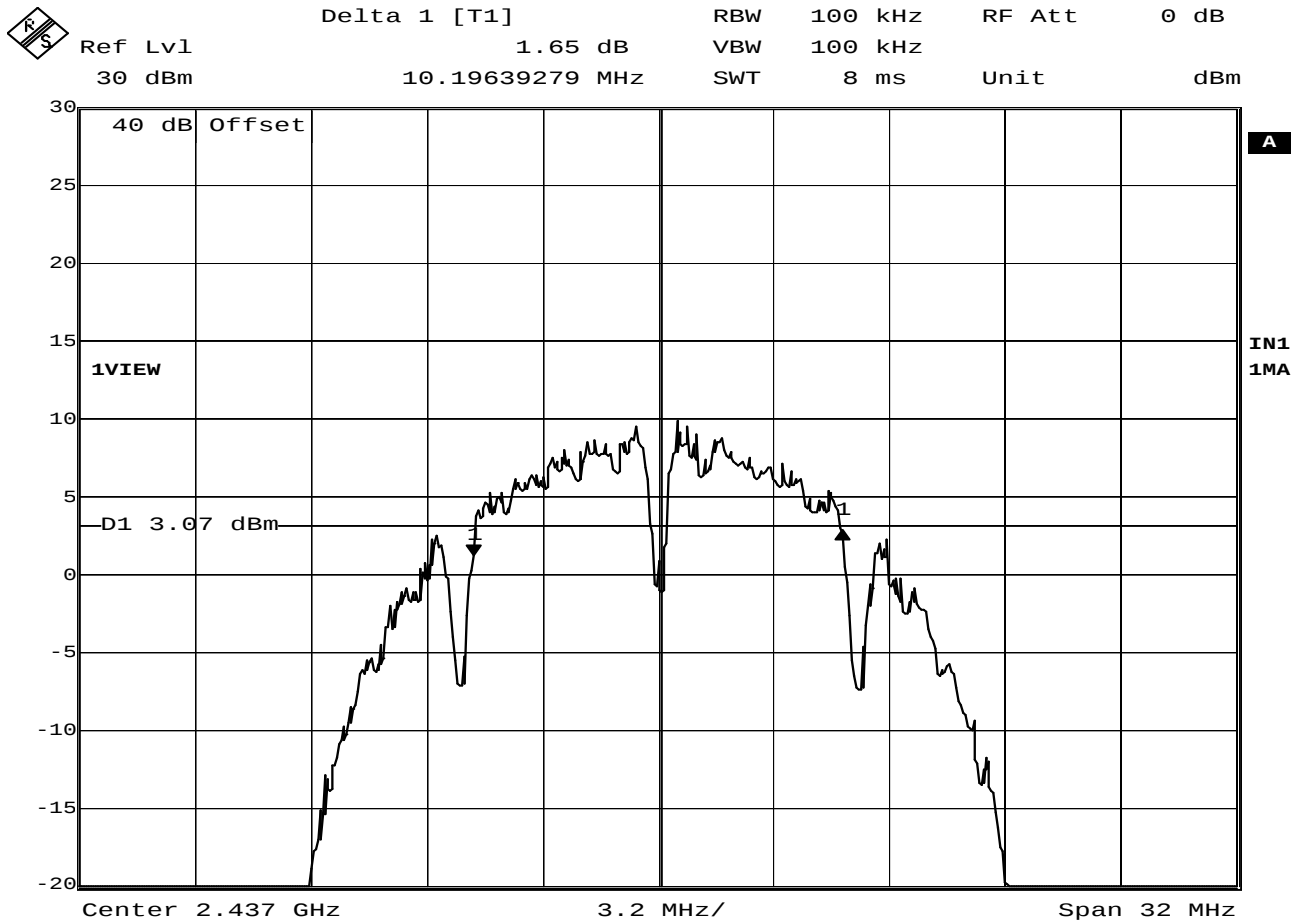
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.6MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 13:53:58

FCC 15.247 6dB bandwidth

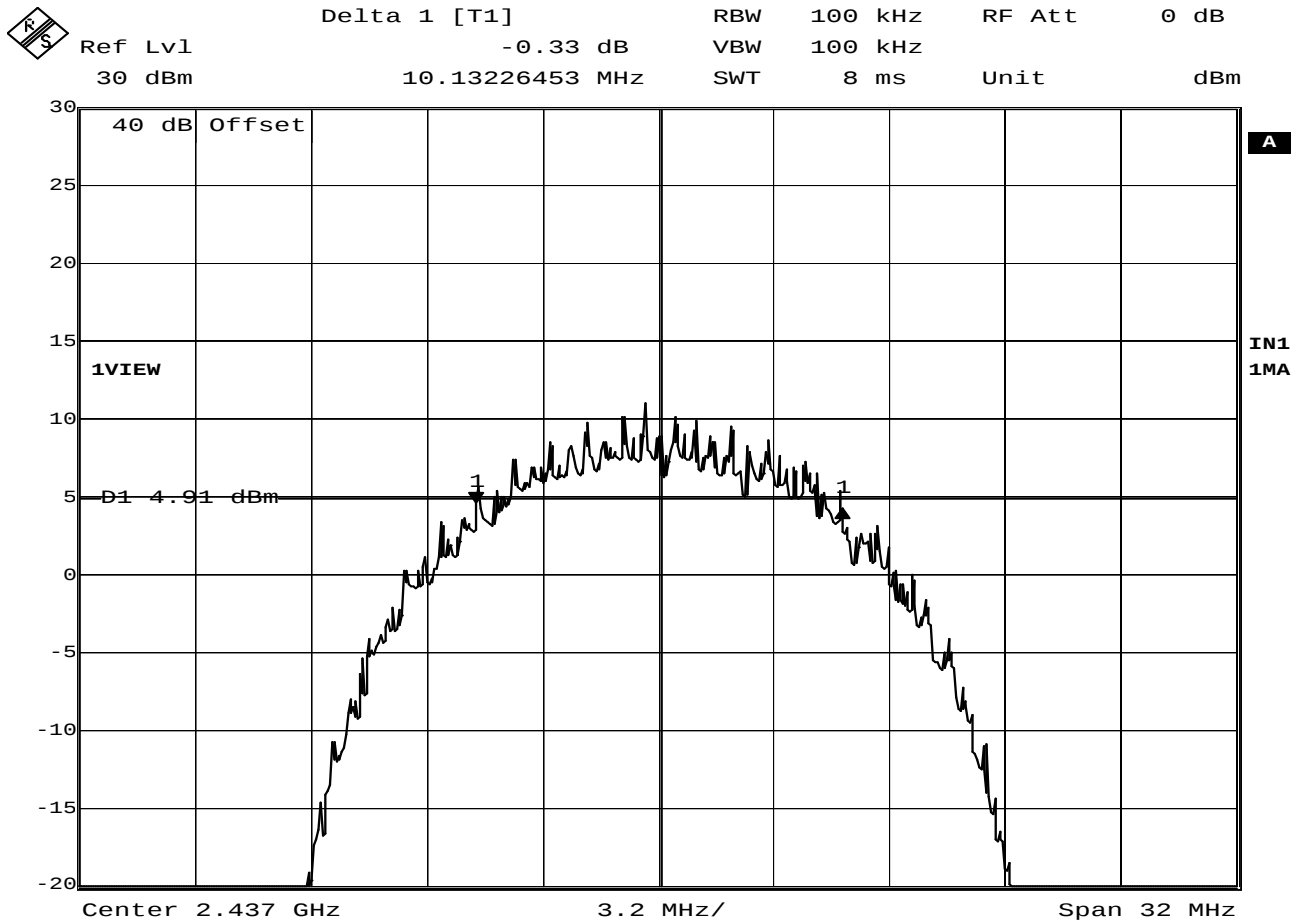
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 1Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.26MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 13:58:17

FCC 15.247 6dB bandwidth

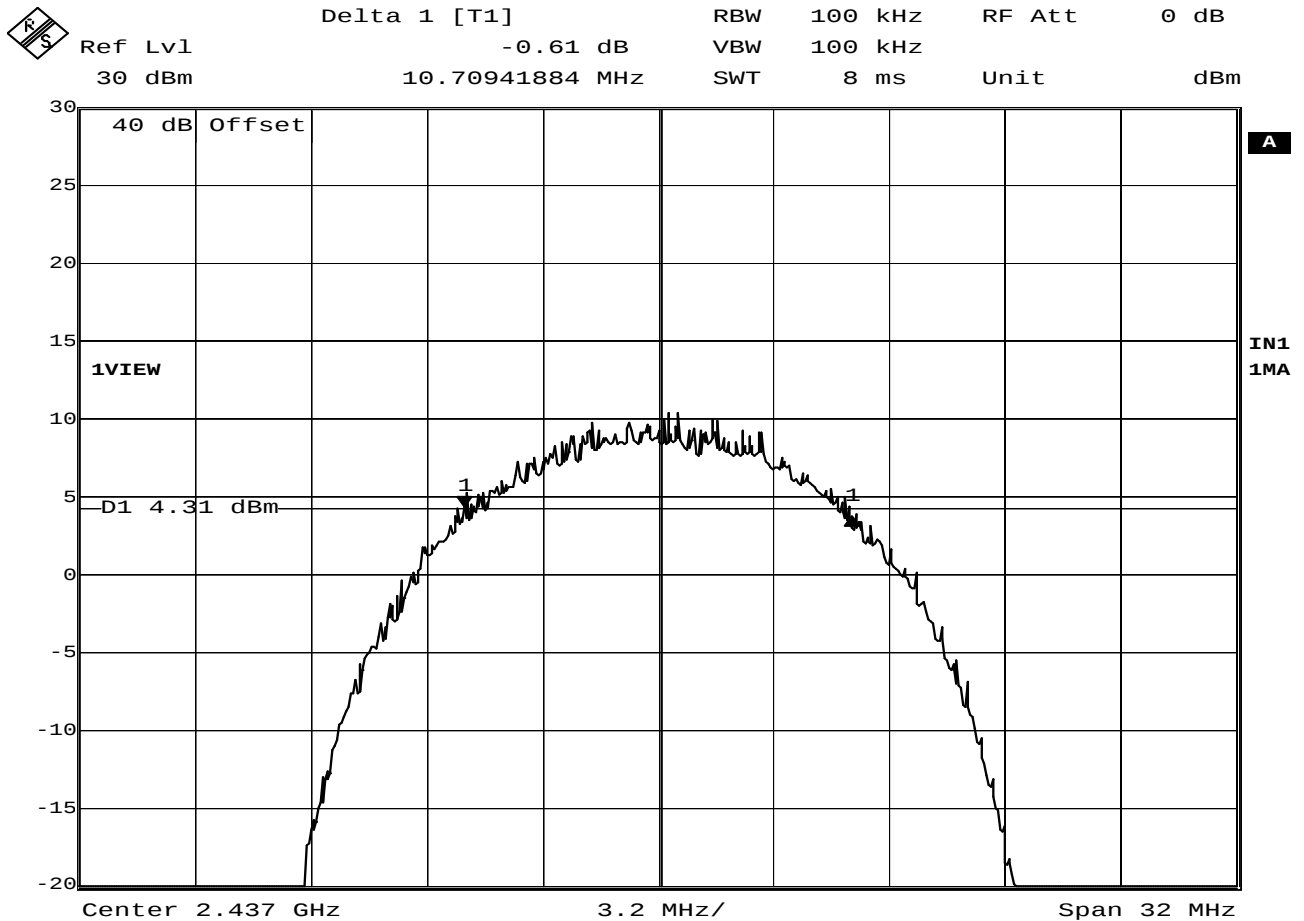
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 2Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.2MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:02:39

FCC 15.247 6dB bandwidth

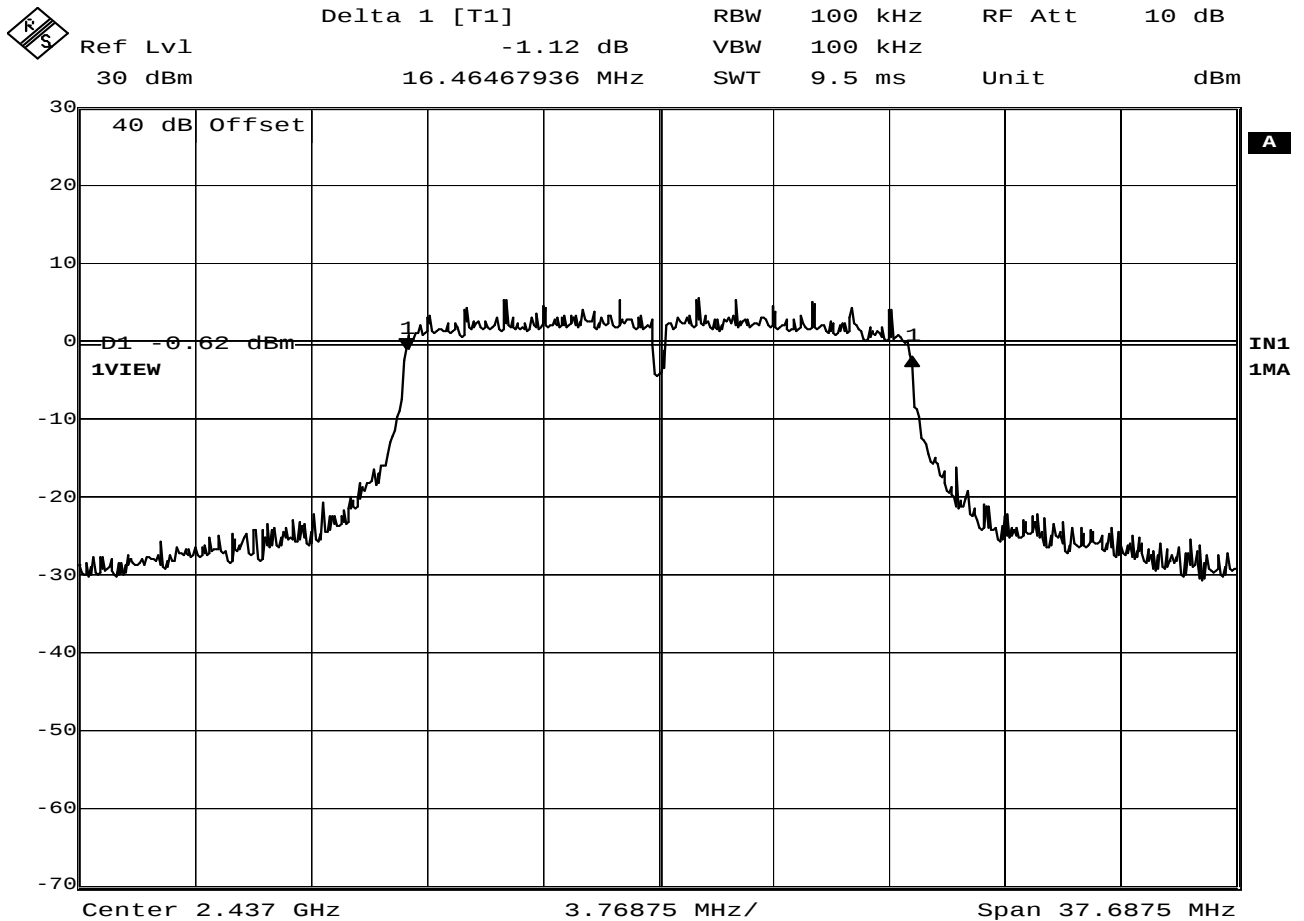
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 5.5Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.1MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:08:36

FCC 15.247 6dB bandwidth

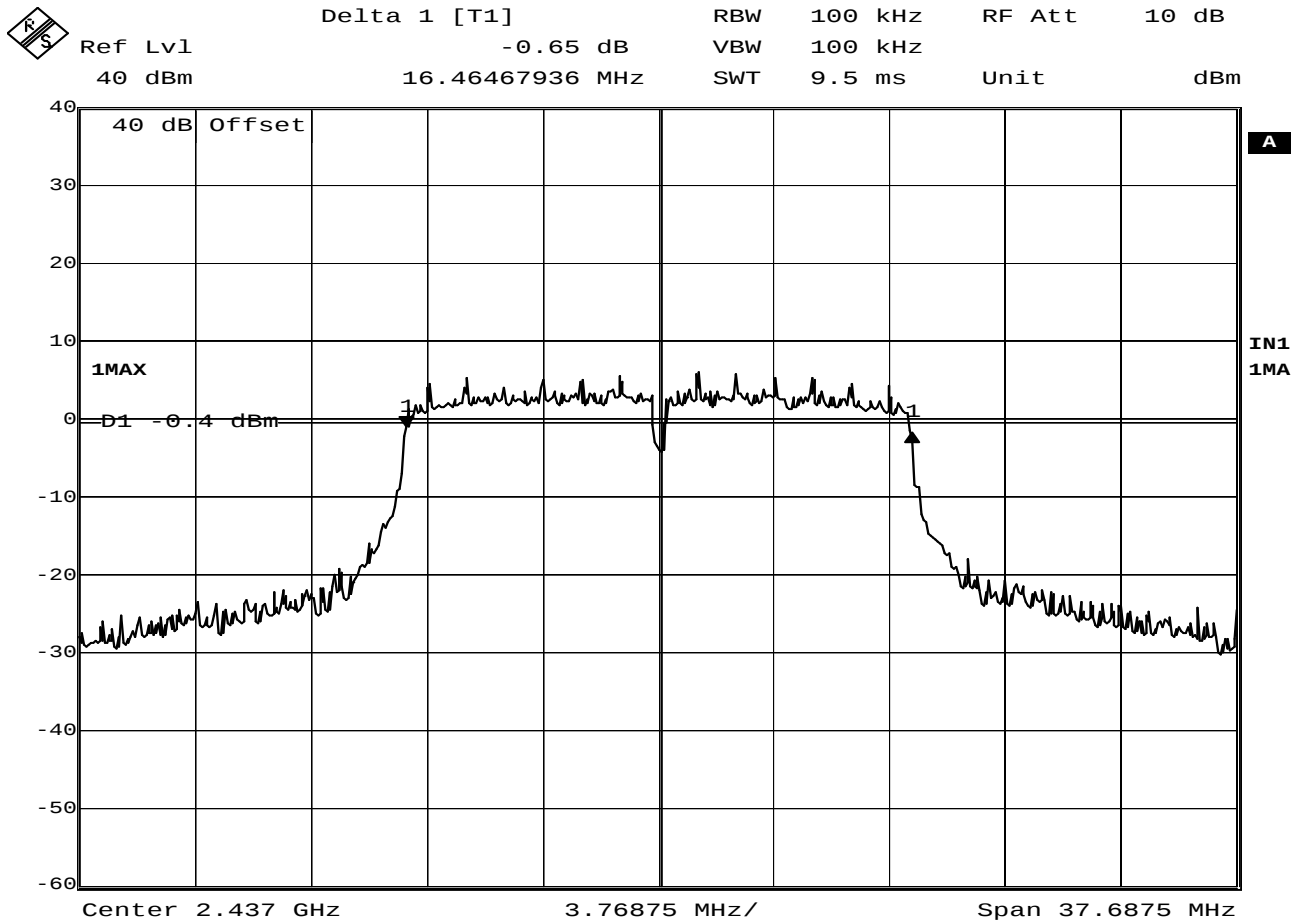
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.7MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 15:51:36

FCC 15.247 6dB bandwidth

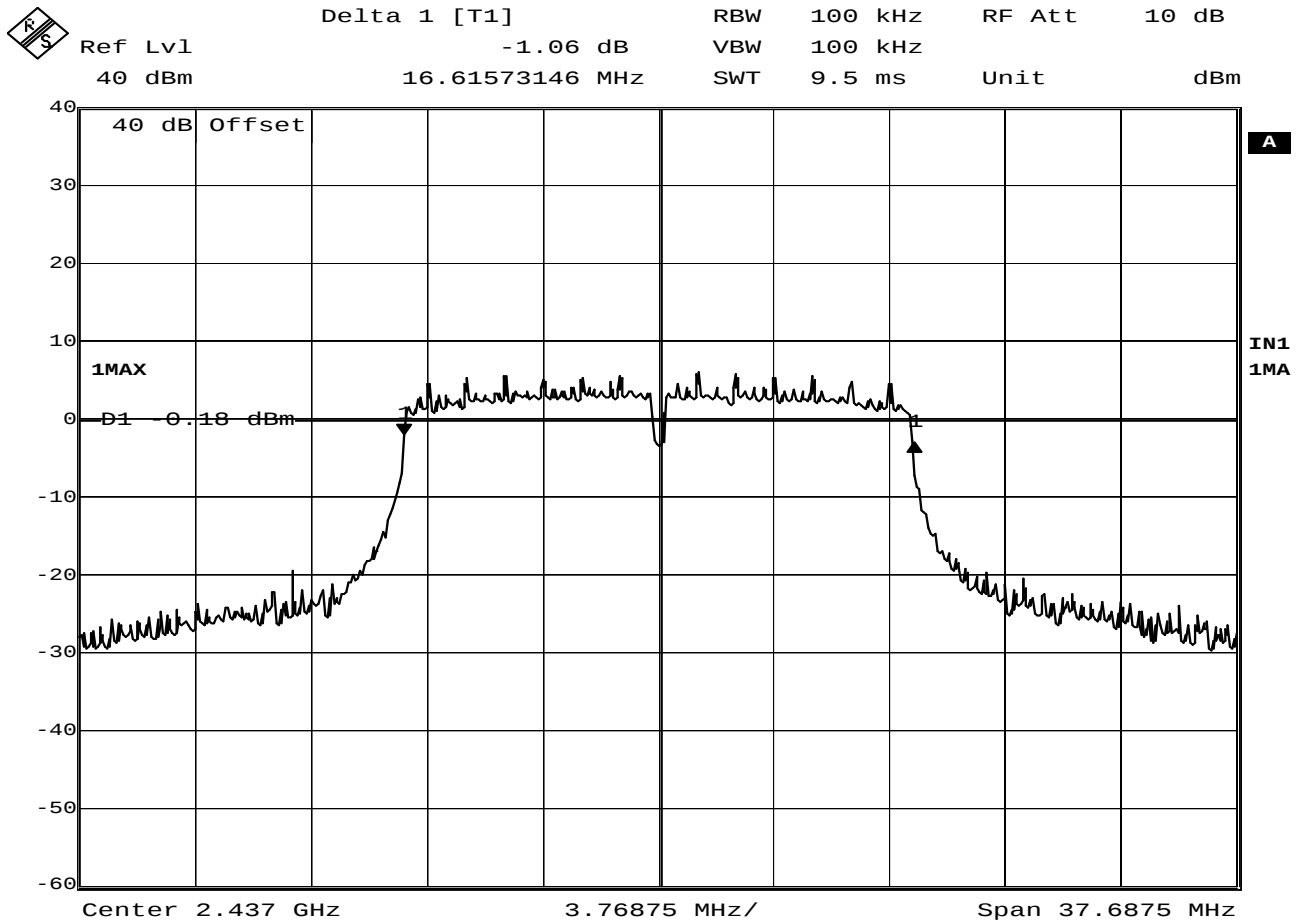
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 6Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.46MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 15:58:31

FCC 15.247 6dB bandwidth

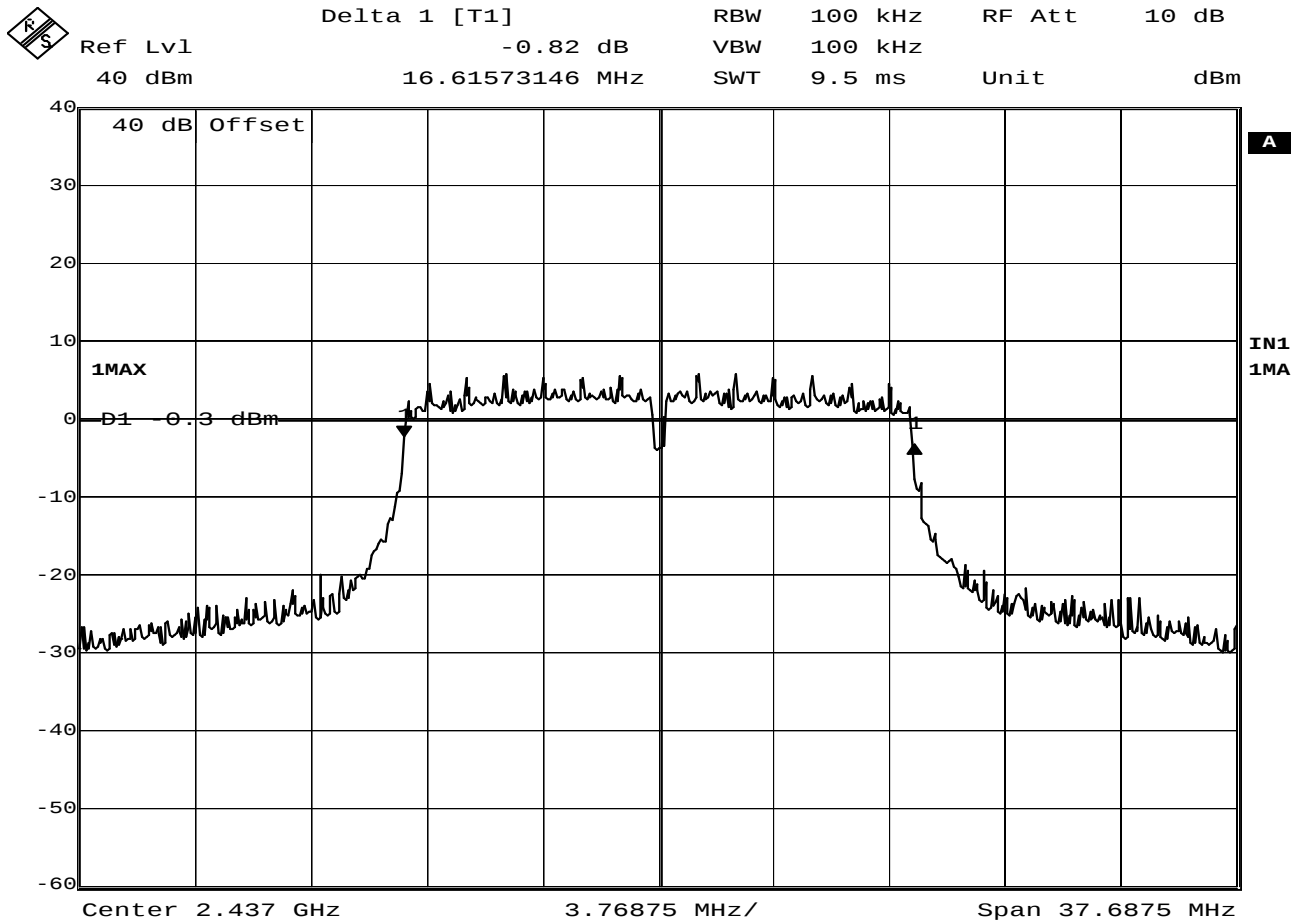
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 9Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.46MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 16:17:55

FCC 15.247 6dB bandwidth

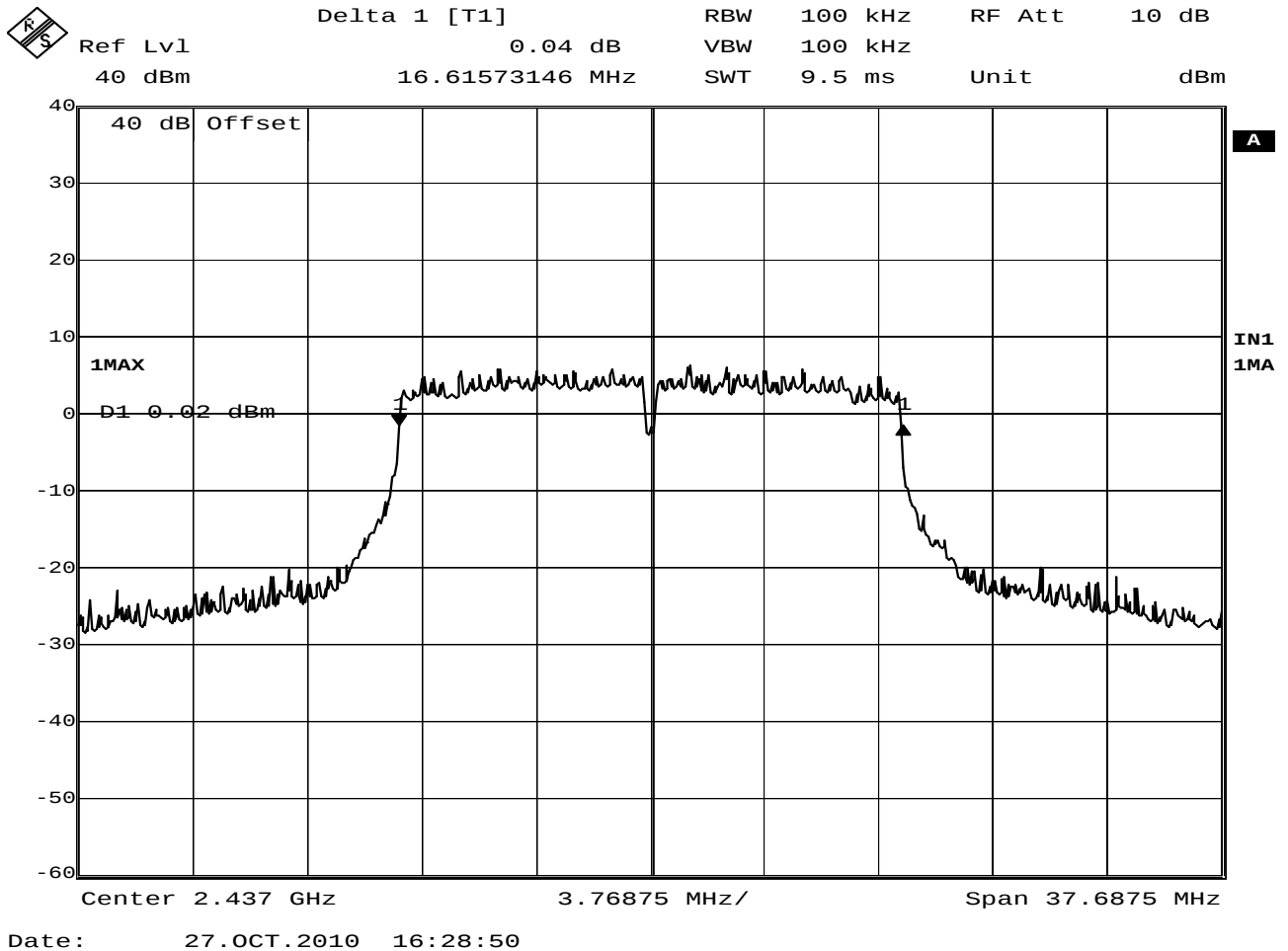
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 12Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.46MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



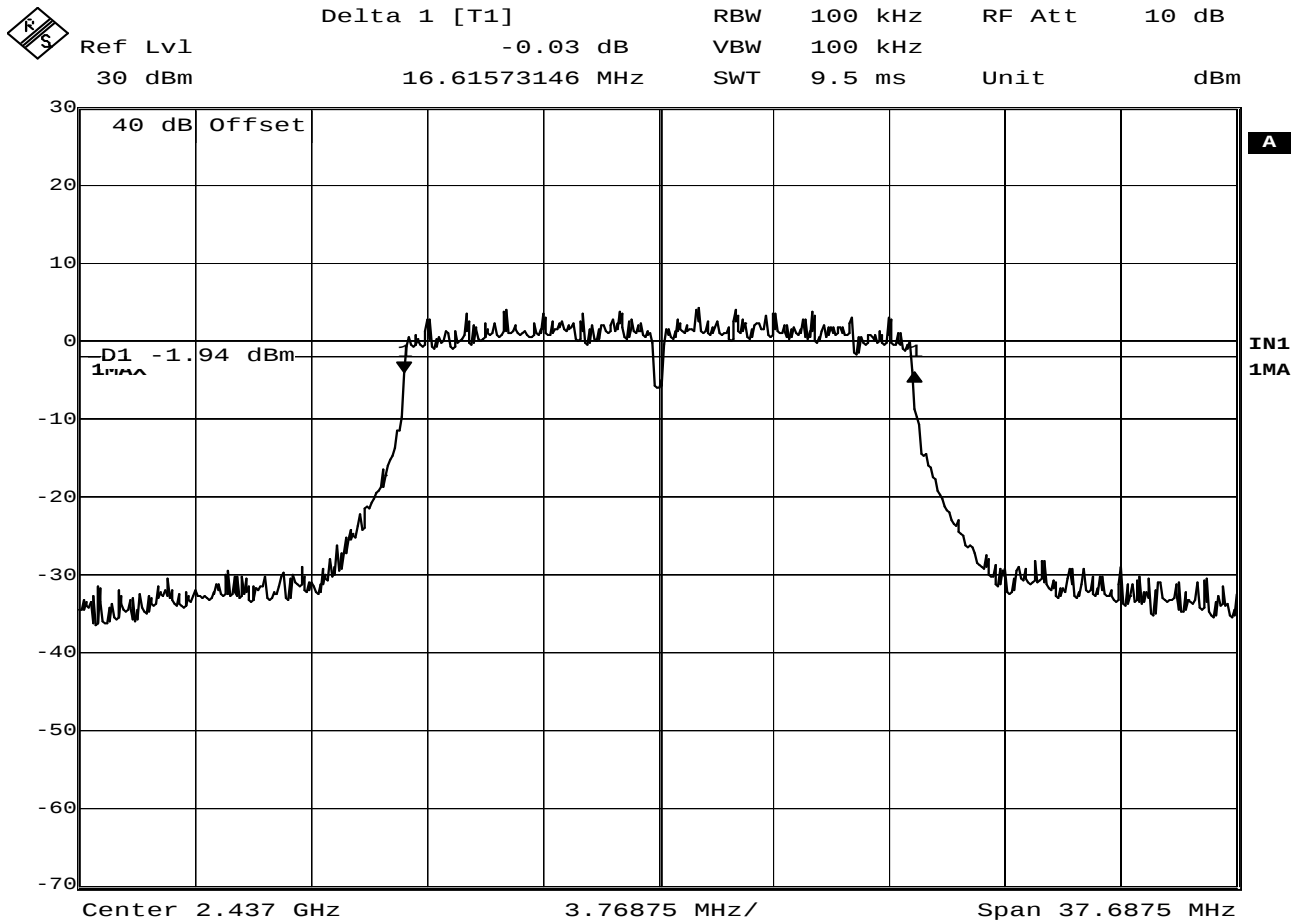
Date: 27.OCT.2010 16:21:12

FCC 15.247 6dB bandwidth

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 18Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.62MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7

**FCC 15.247 6dB bandwidth**

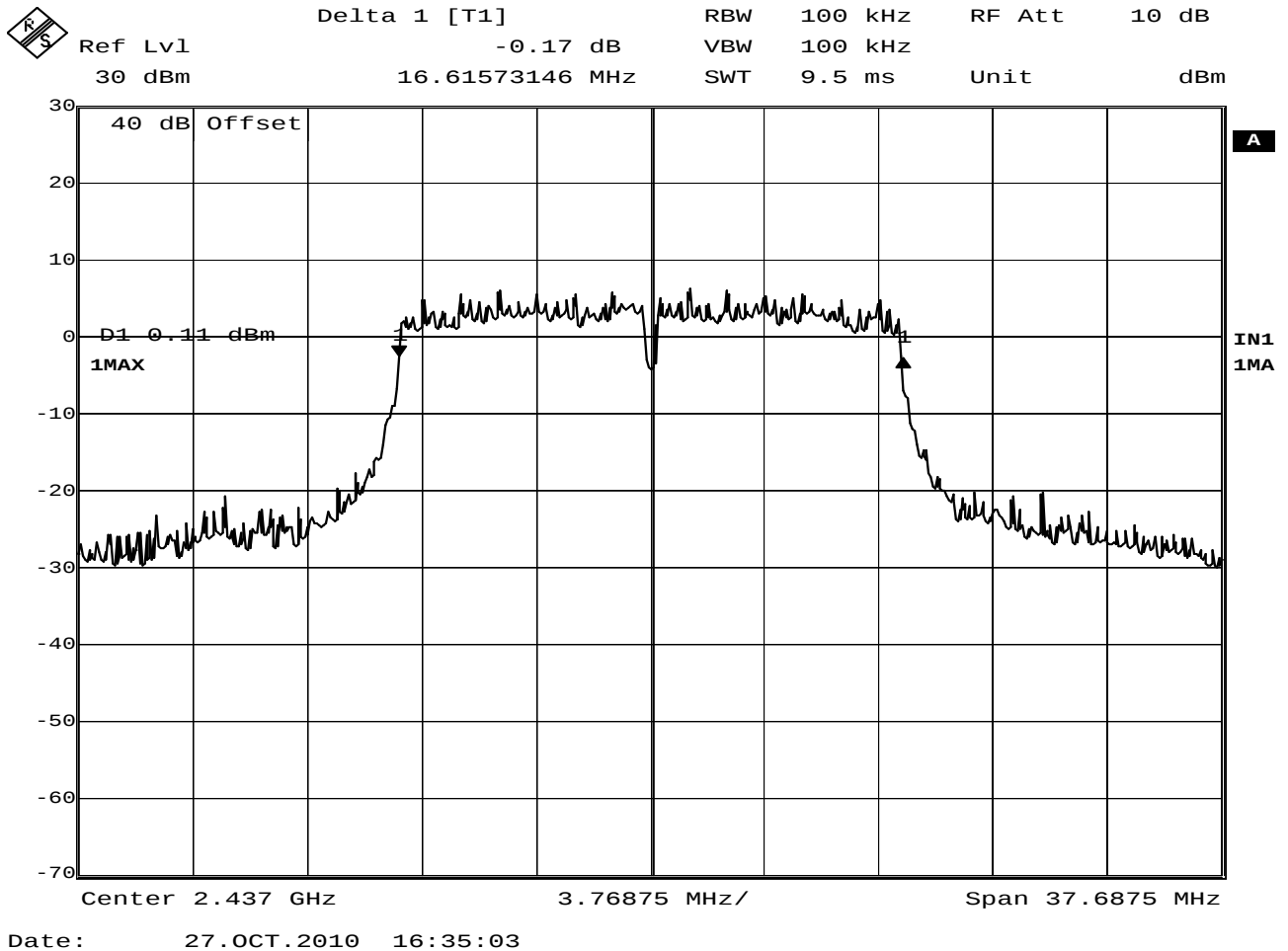
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 24Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.62MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



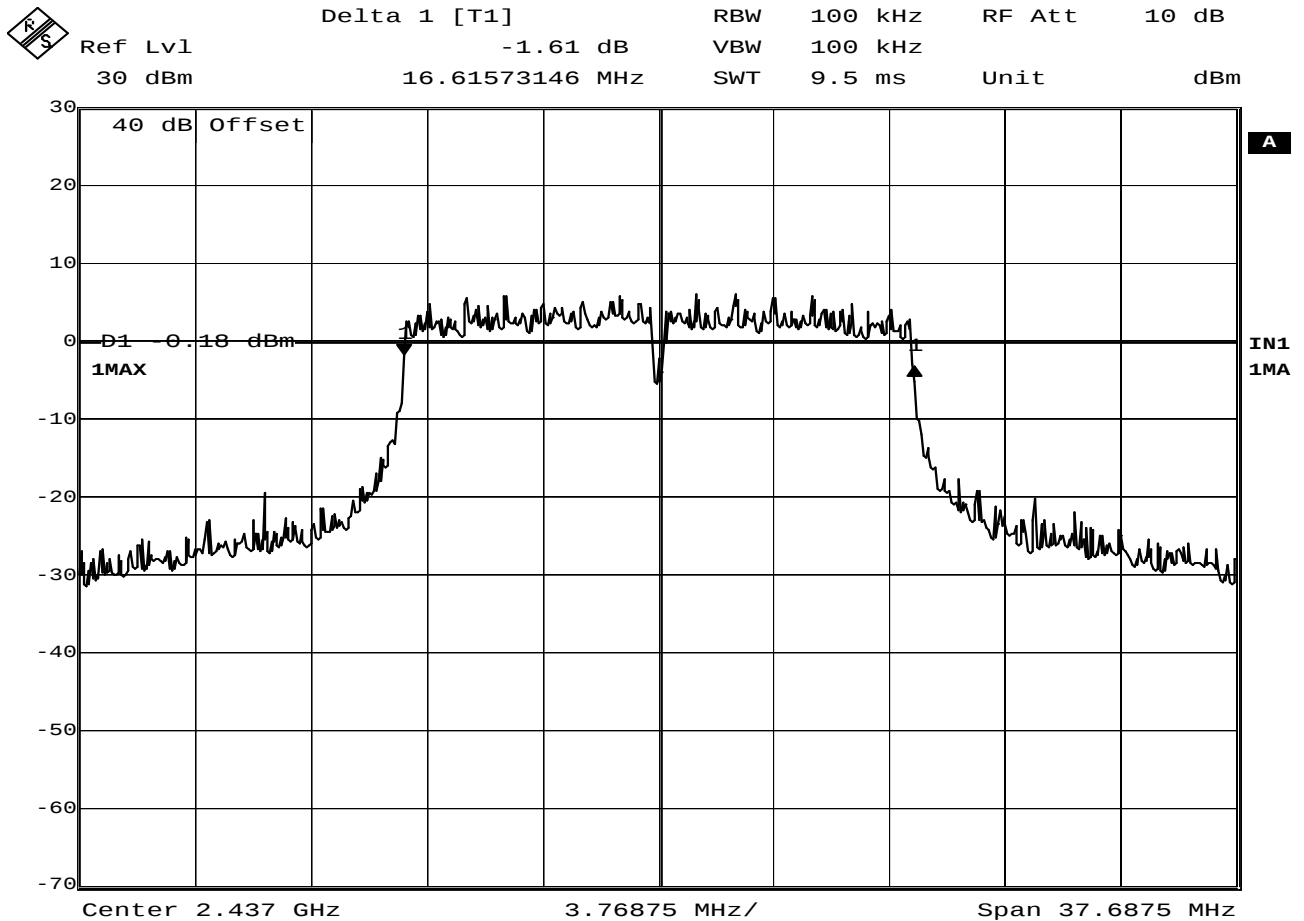
Date: 27.OCT.2010 16:31:51

FCC 15.247 6dB bandwidth

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 36Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.62MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7

**FCC 15.247 6dB bandwidth**

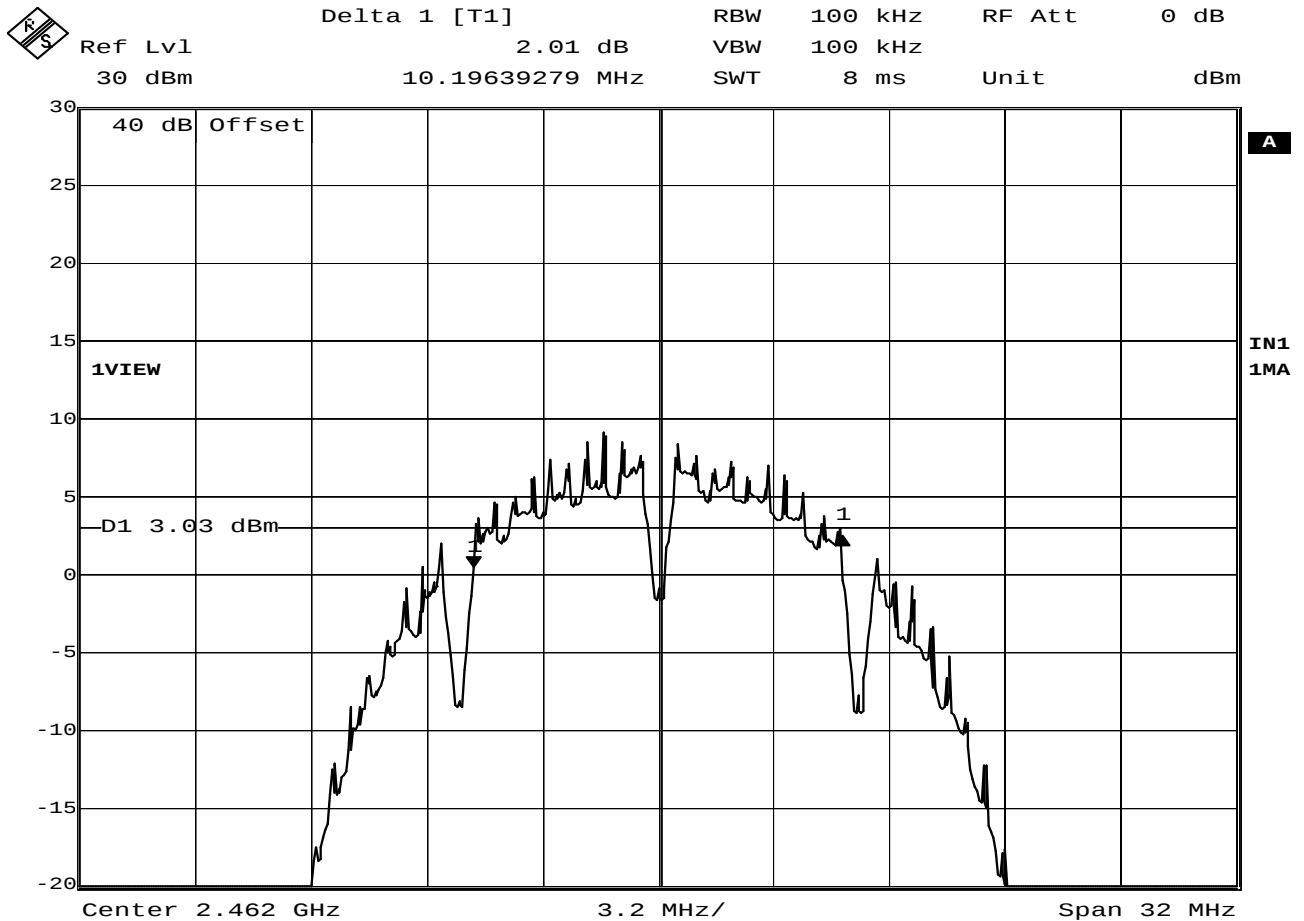
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 48Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.62MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 16:38:24

FCC 15.247 6dB bandwidth

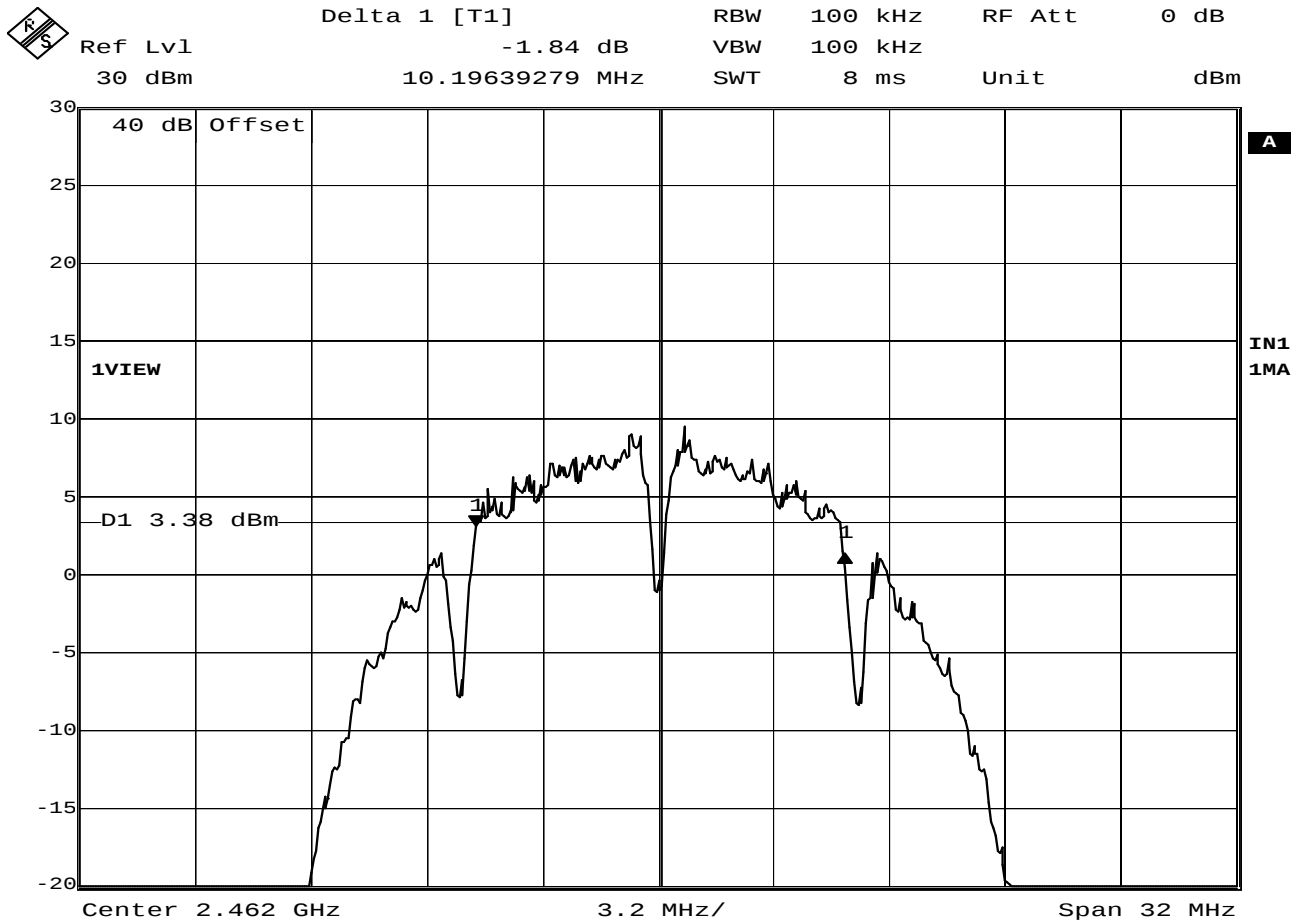
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.62MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:13:18

FCC 15.247 6dB bandwidth

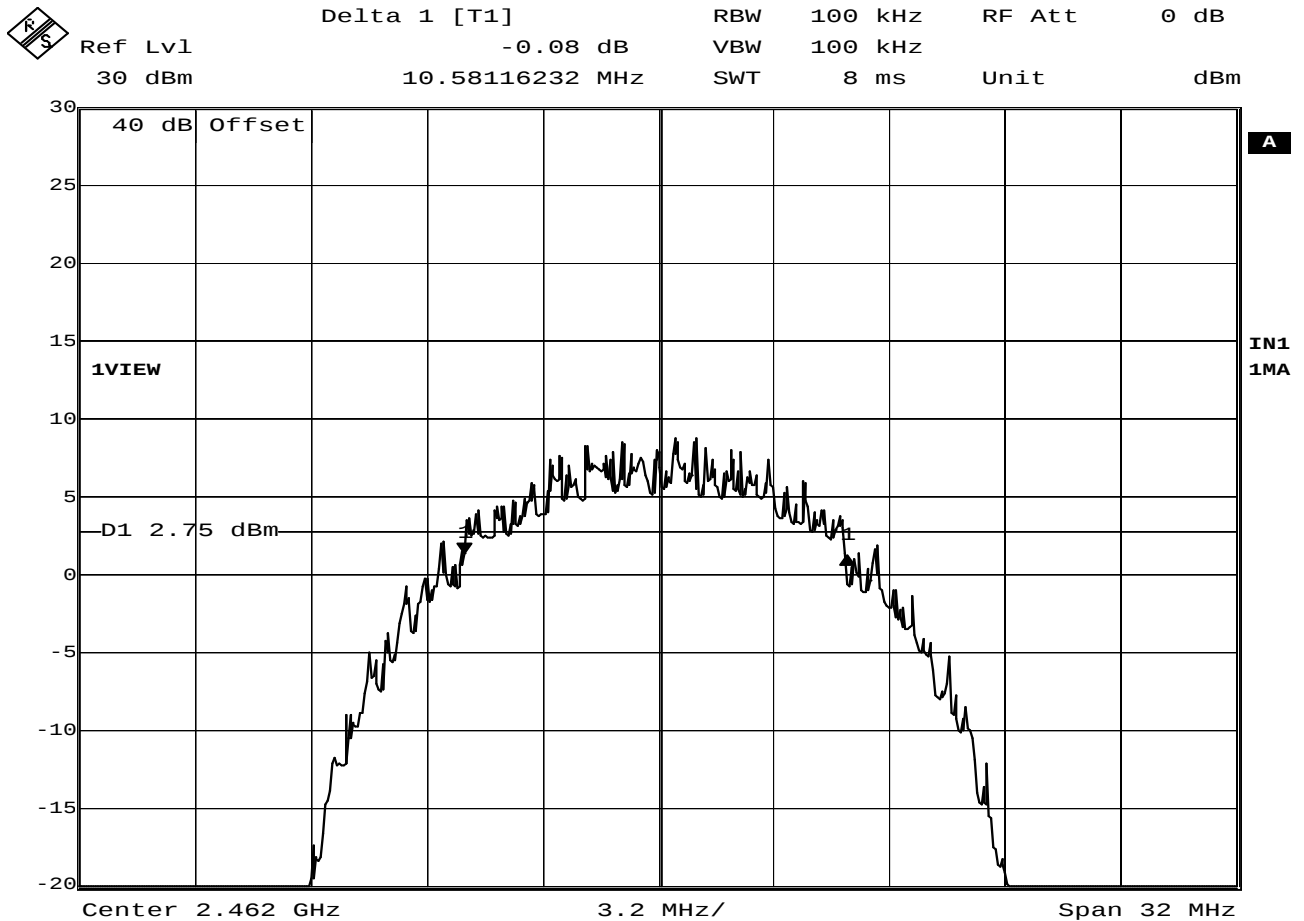
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 b, 1Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.2MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:22:12

FCC 15.247 6dB bandwidth

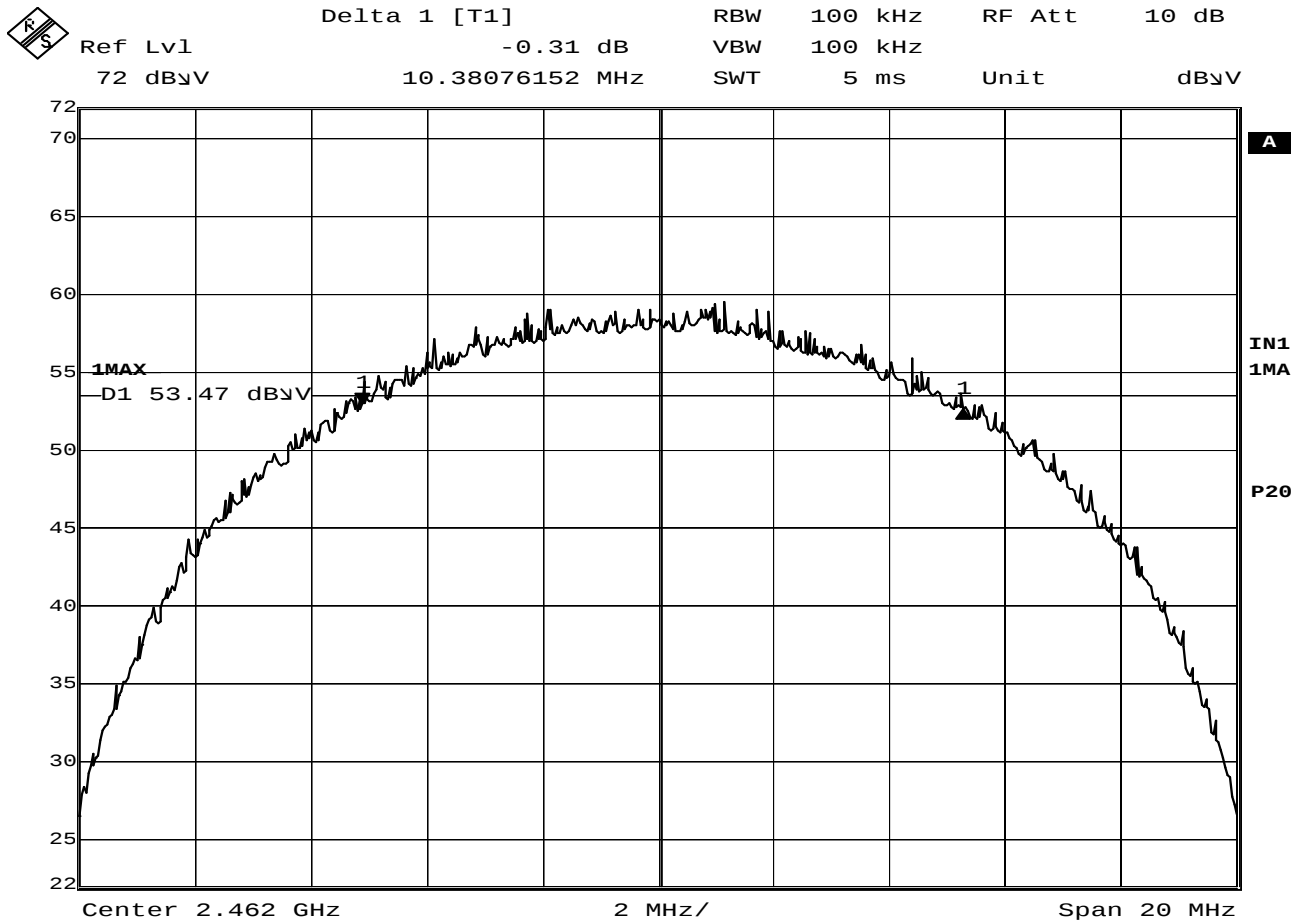
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 b, 2Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.2MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 14:27:47

FCC 15.247 6dB bandwidth

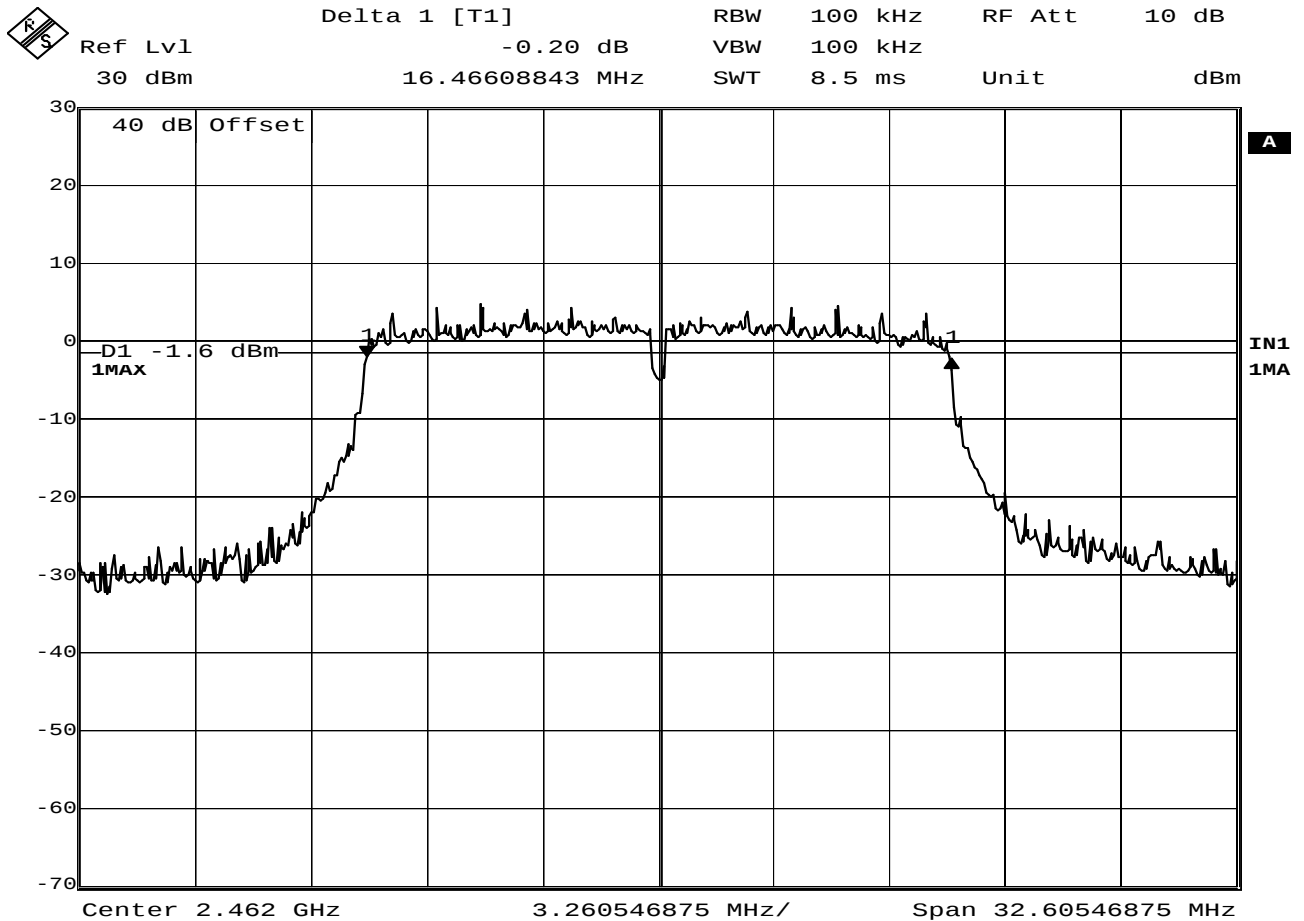
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 b, 5.5Mbps, 64bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 10.58MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 25.OCT.2010 14:04:56

FCC 15.247 6dB Bandwidth

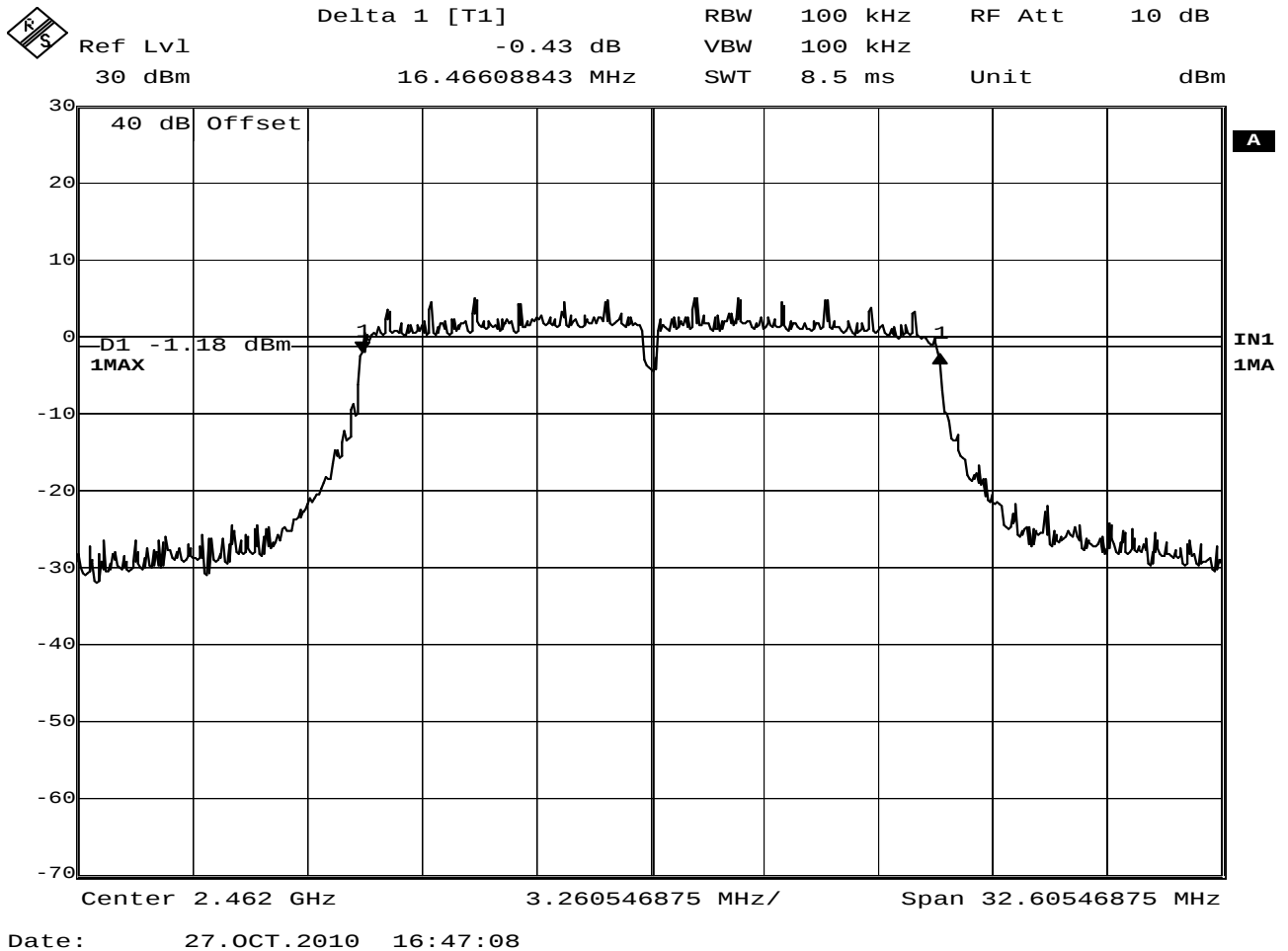
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 b, 11Mbps, 2048 bytes payload
NOTES	: Internal Antenna
TEST DATE	: October 25, 2010
TEST PARAMETERS	: 6dB Bandwidth
NOTES	: 6dB bandwidth = 10.38MHz
EQUIPMENT USED	: RBB0, NWI0



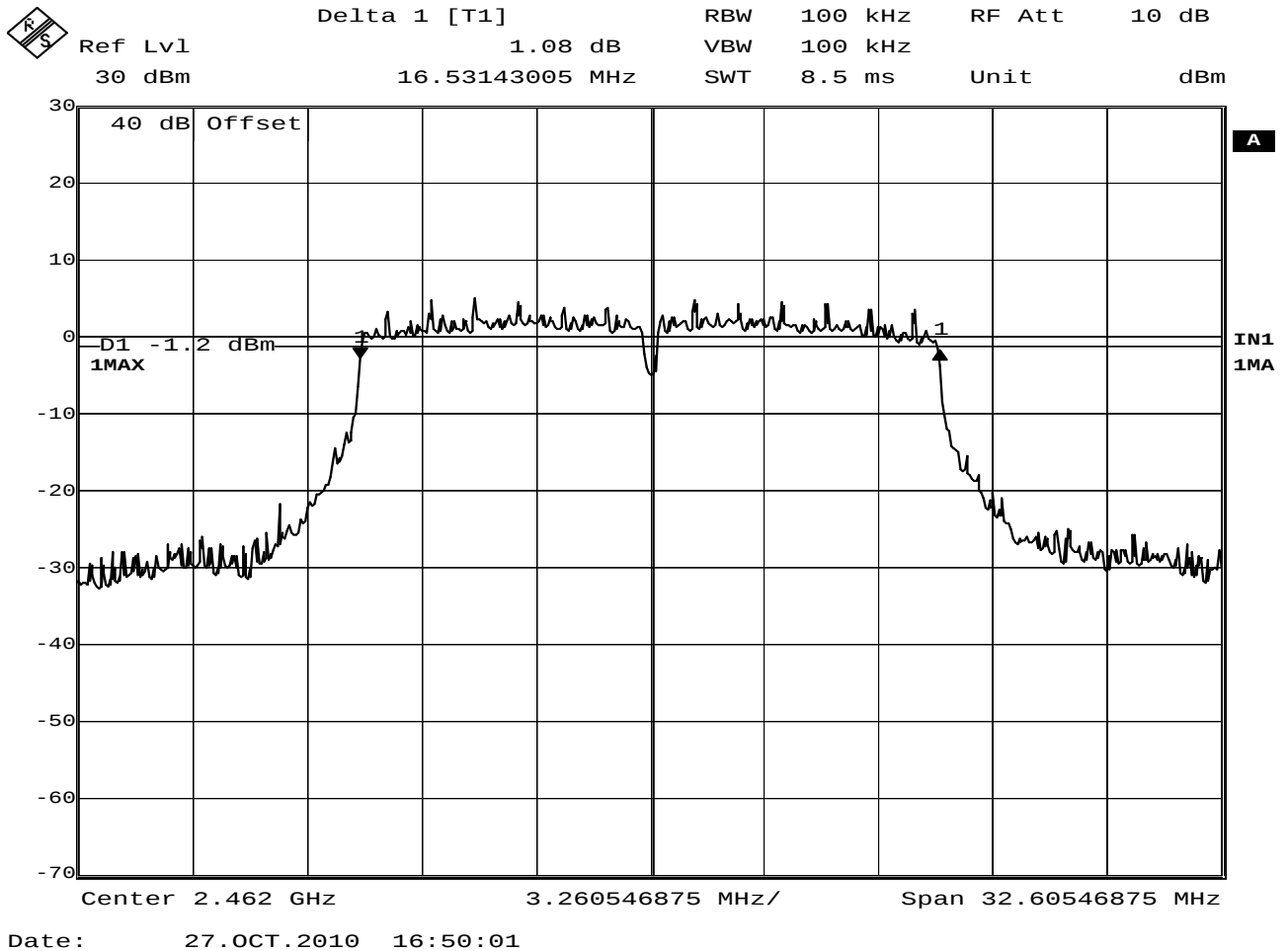
Date: 27.OCT.2010 16:44:02

FCC 15.247 6dB bandwidth

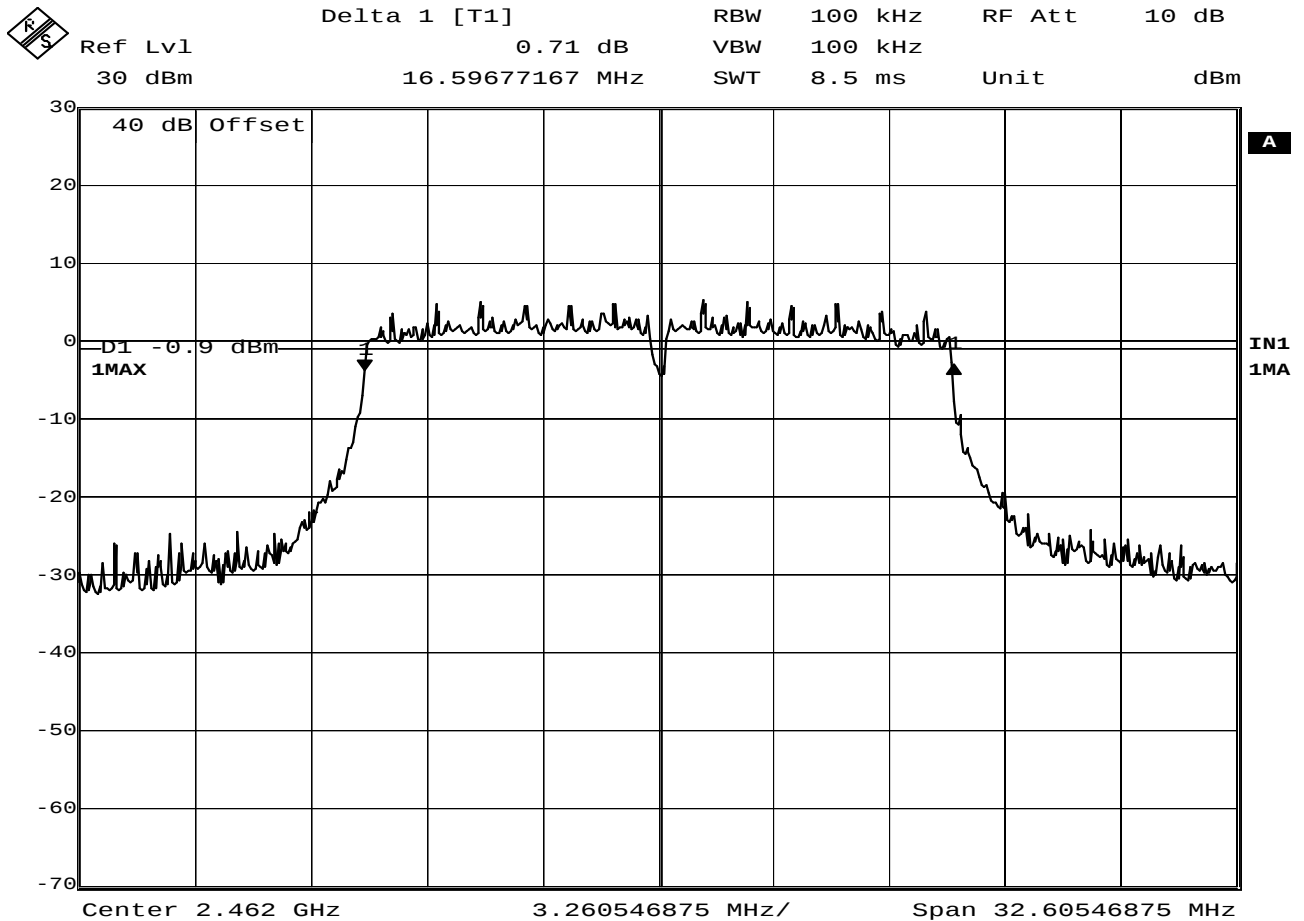
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 6Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.47MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7

**FCC 15.247 6dB bandwidth**

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 9Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.47MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7

**FCC 15.247 6dB bandwidth**

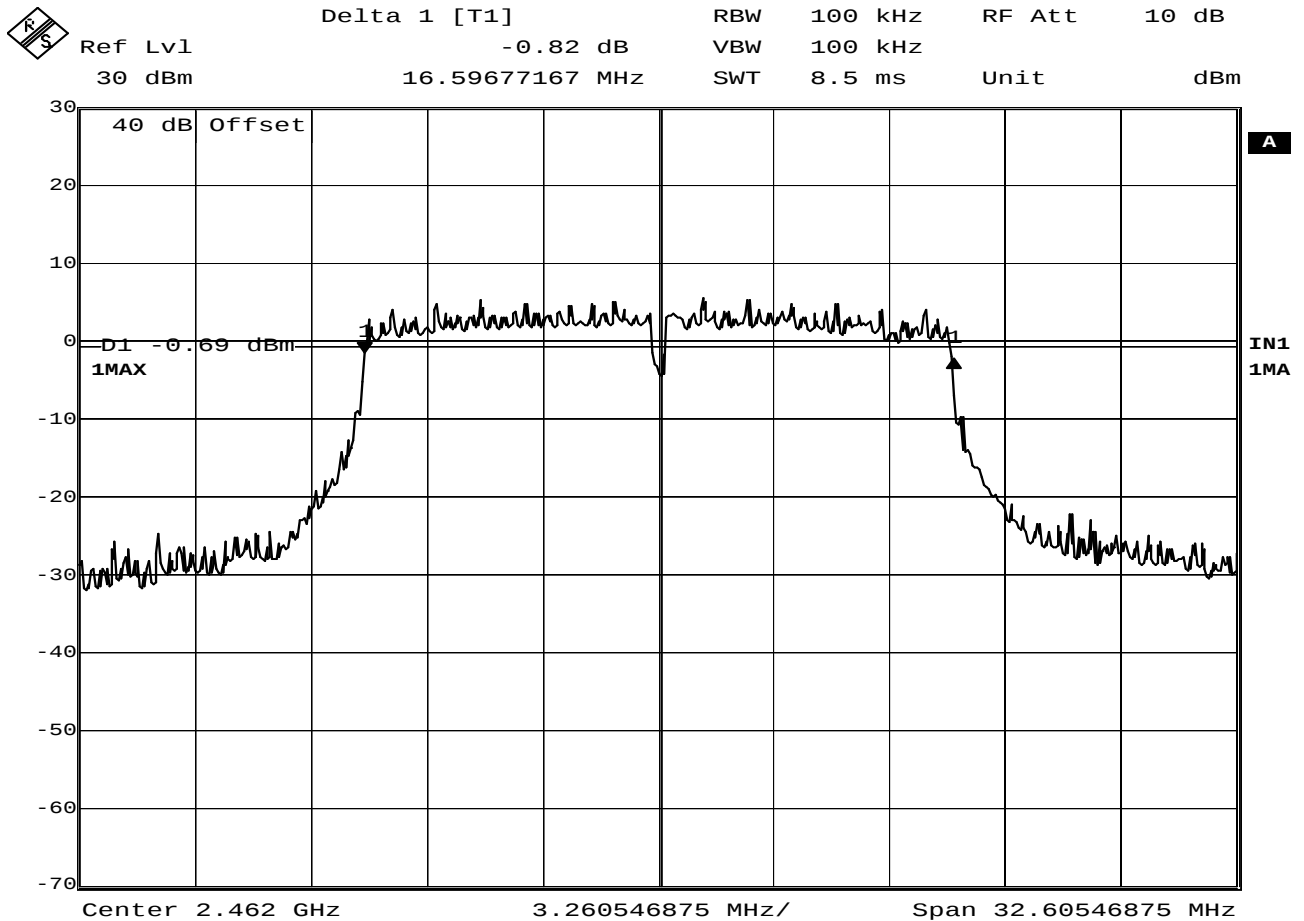
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 12Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.53MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 16:52:29

FCC 15.247 6dB bandwidth

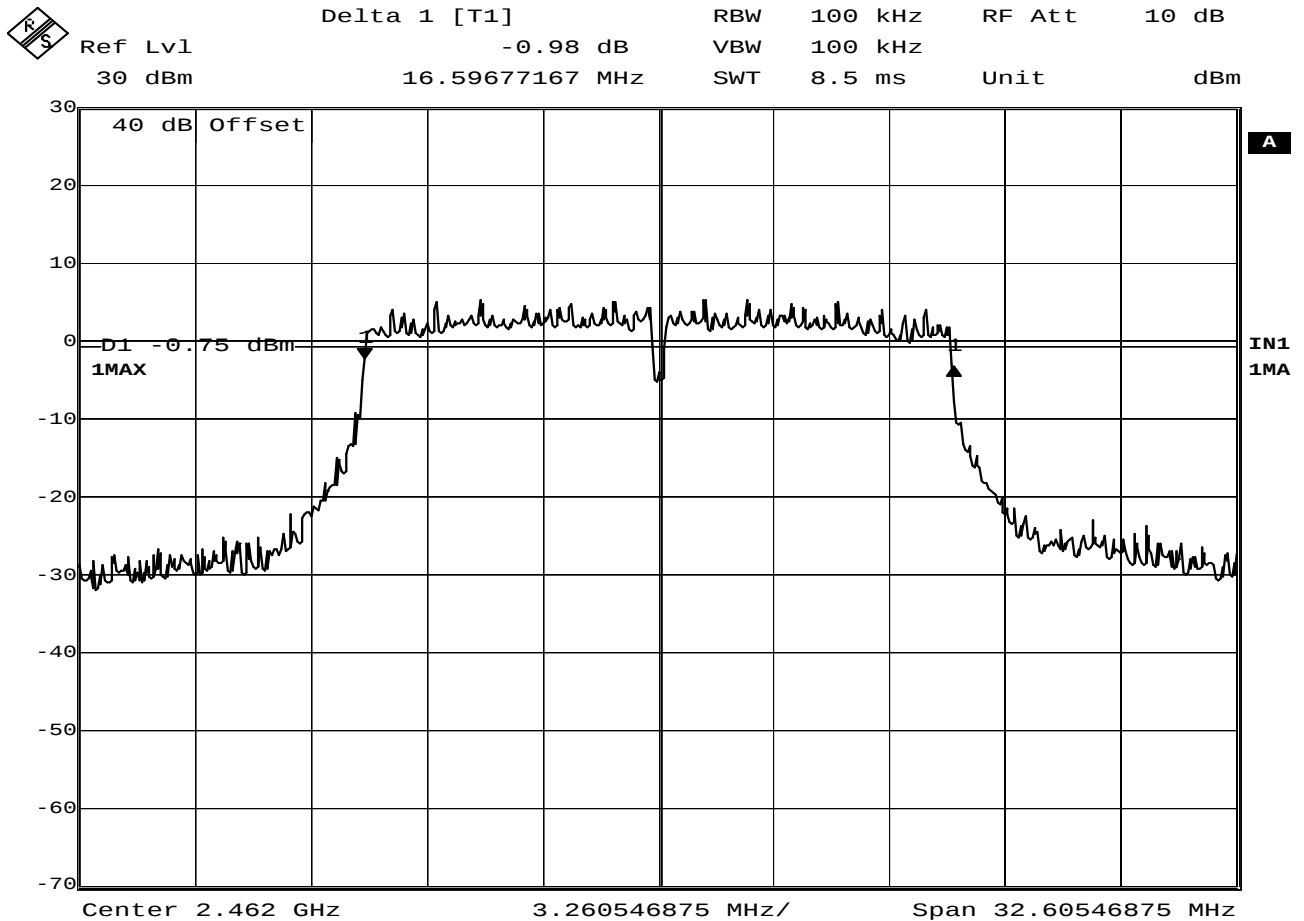
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 18Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.59MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 17:03:13

FCC 15.247 6dB bandwidth

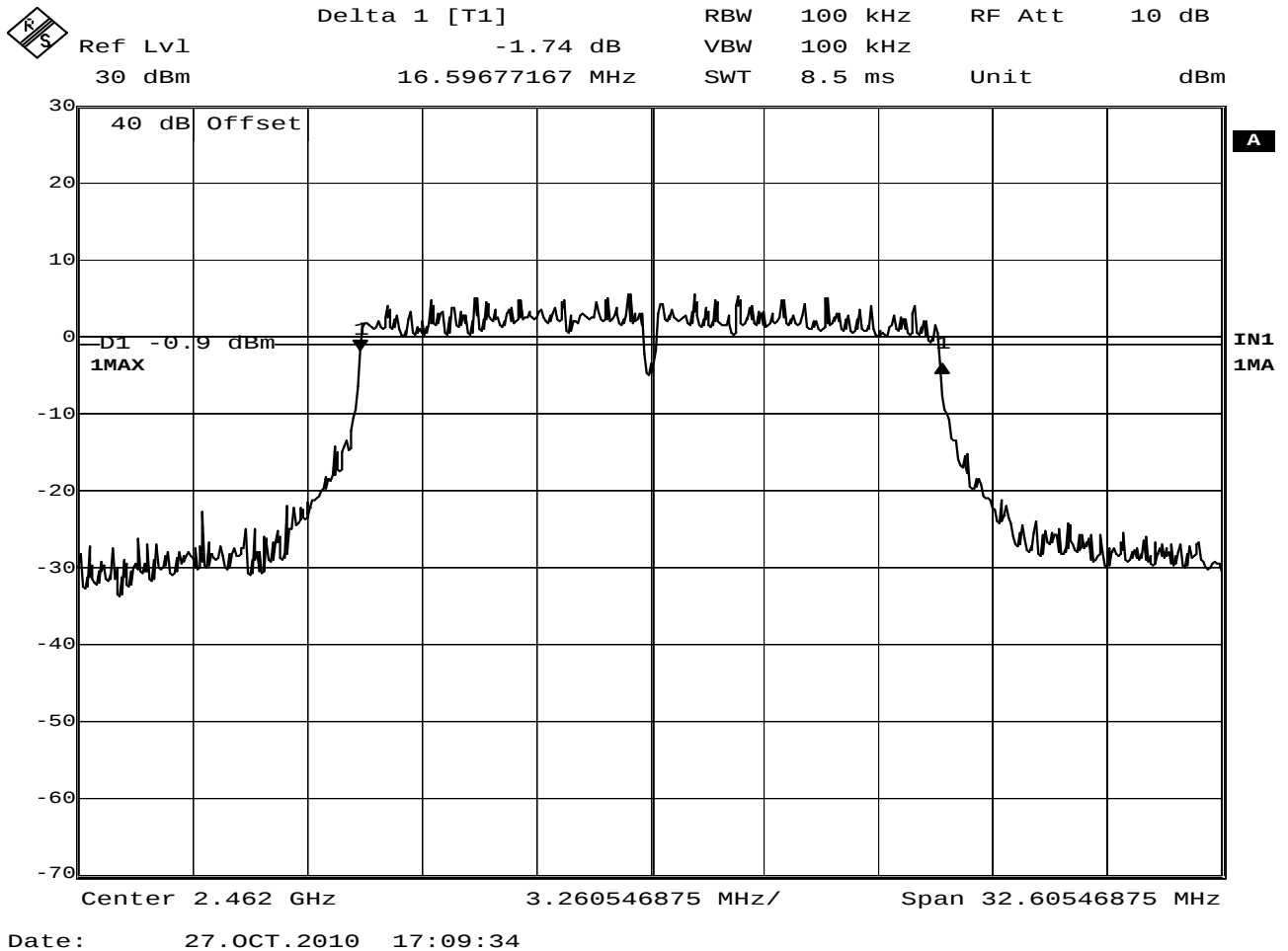
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 24Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.59MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



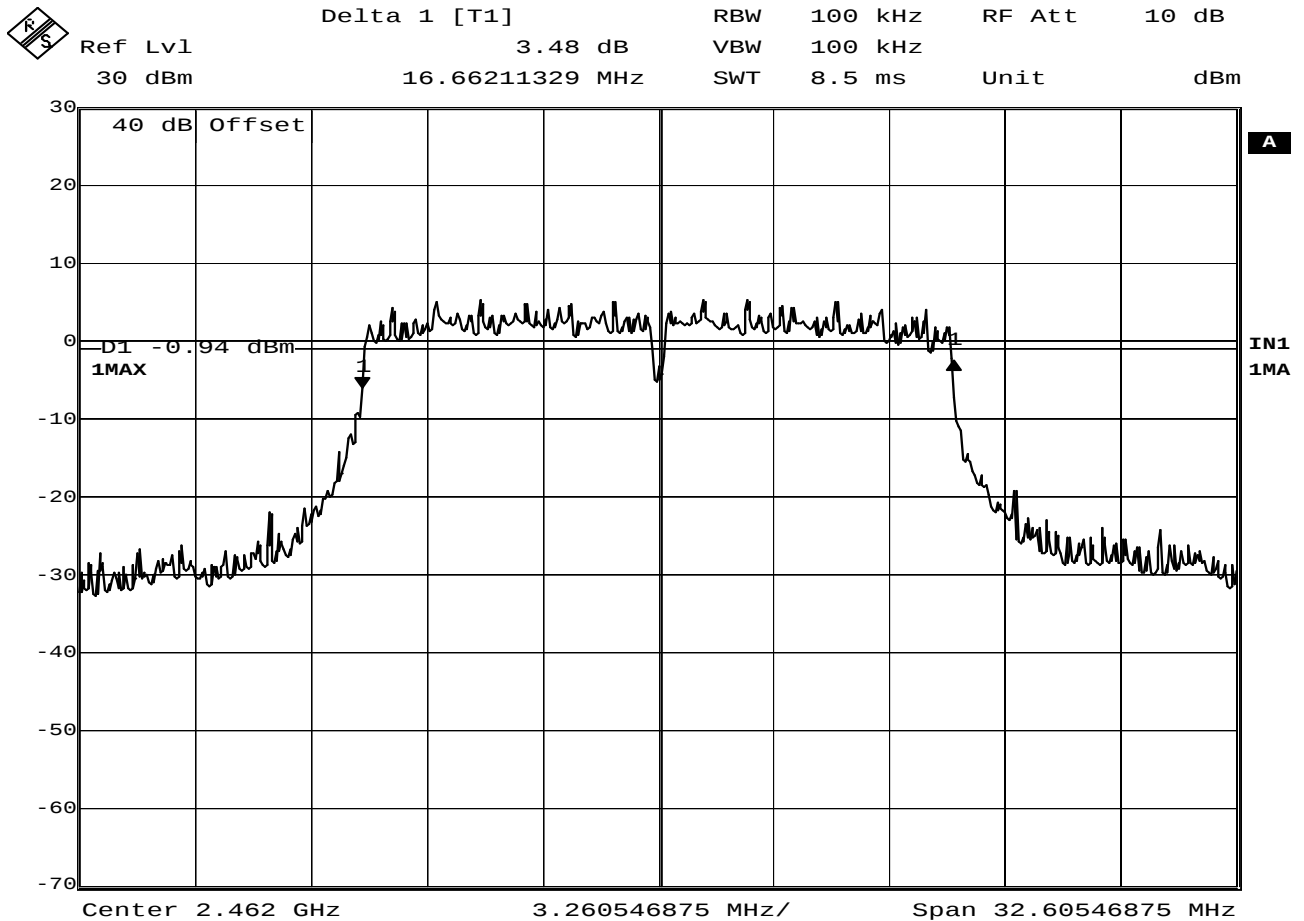
Date: 27.OCT.2010 17:06:10

FCC 15.247 6dB bandwidth

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 36Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.6MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7

**FCC 15.247 6dB bandwidth**

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 48Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.6MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



Date: 27.OCT.2010 17:13:19

FCC 15.247 6dB bandwidth

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 27, 2010
TEST PARAMETERS	: 6dB bandwidth
NOTES	: 6dB bandwidth = 16.66MHz
EQUIPMENT USED	: RBB0, T2D2, T2S7



MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : See Below
NOTES : Antenna Conducted Peak Output Power
TEST DATE : October 27, 2010
TEST PARAMETERS : Peak Output Power
NOTES : 802.11b Protocol
EQUIPMENT USED : RBB0, T2D2, T2S7

Transmit Frequency MHz	Data Rate Mbps	Payload Length bytes	6dB bandwidth MHz	Bandwidth Correction Factor dB	Peak Output Power in 10MHz RBW dBm	Corrected Peak Output Power dBm
2412.0	1.0	64.0	10.2	0.1	26.2	26.3
2412.0	2.0	64.0	10.2	0.1	25.7	25.8
2412.0	5.5	64.0	10.8	0.3	25.8	26.1
2412.0	11.0	2048.0	10.0	0.0	25.7	25.7
2437.0	1.0	64.0	10.3	0.1	25.3	25.4
2437.0	2.0	64.0	10.2	0.1	25.4	25.5
2437.0	5.5	64.0	10.1	0.0	25.6	25.6
2437.0	11.0	2048.0	10.7	0.3	25.7	26.0
2462.0	1.0	64.0	10.2	0.1	24.5	24.6
2462.0	2.0	64.0	10.2	0.1	24.8	24.9
2462.0	5.5	64.0	10.6	0.2	24.8	25.0
2462.0	11.0	2048.0	10.4	0.2	24.6	24.8

Bandwidth Correction Factor = $10 \times \log((6 \text{ dB BW of emission})/(\text{analyzer RBW}))$

Corrected Peak Output Power = Peak Output Power in 10MHz RBW + Bandwidth Correction Factor



MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : See Below
NOTES : Antenna Conducted Peak Output Power
TEST DATE : October 27, 2010
TEST PARAMETERS : Peak Output Power
NOTES : 802.11g Protocol
EQUIPMENT USED : RBB0, T2D2, T2S7

Transmit Frequency MHz	Data Rate Mbps	Payload Length bytes	6dB bandwidth MHz	Bandwidth Correction Factor dB	Peak Output Power in 10MHz RBW dBm	Corrected Peak Output Power dBm
2412.0	6.0	2048.0	16.5	2.2	27.1	29.3
2412.0	9.0	2048.0	16.5	2.2	27.0	29.2
2412.0	12.0	2048.0	16.5	2.2	27.4	29.6
2412.0	18.0	2048.0	16.5	2.2	27.1	29.3
2412.0	24.0	2048.0	16.7	2.2	27.2	29.4
2412.0	36.0	2048.0	16.7	2.2	27.4	29.6
2412.0	48.0	2048.0	16.6	2.2	27.4	29.6
2412.0	54.0	2048.0	16.6	2.2	27.3	29.5
2437.0	6.0	2048.0	16.4	2.1	27.3	29.4
2437.0	9.0	2048.0	16.5	2.2	27.4	29.6
2437.0	12.0	2048.0	16.5	2.2	27.5	29.7
2437.0	18.0	2048.0	16.6	2.2	27.2	29.4
2437.0	24.0	2048.0	16.6	2.2	27.6	29.8
2437.0	36.0	2048.0	16.6	2.2	27.4	29.6
2437.0	48.0	2048.0	16.6	2.2	27.3	29.5
2437.0	54.0	2048.0	16.6	2.2	27.4	29.6
2462.0	6.0	2048.0	16.5	2.2	26.8	29.0
2462.0	9.0	2048.0	16.5	2.2	27.3	29.5
2462.0	12.0	2048.0	16.5	2.2	27.0	29.2
2462.0	18.0	2048.0	16.6	2.2	26.7	28.9
2462.0	24.0	2048.0	16.6	2.2	26.5	28.7
2462.0	36.0	2048.0	16.6	2.2	26.1	28.3
2462.0	48.0	2048.0	16.6	2.2	26.7	28.9
2462.0	54.0	2048.0	16.7	2.2	26.3	28.5

Bandwidth Correction Factor = $10 \times \log((6 \text{ dB BW of emission})/(\text{analyzer RBW}))$

Corrected Peak Output Power = Peak Output Power in 10MHz RBW + Bandwidth Correction Factor



MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : See Below
NOTES : FCC-15.247 Effective Isotropic Radiated Power (EIRP)
TEST DATE : October 28, 2010
TEST PARAMETERS : EIRP
NOTES : 802.11b Protocol, External Antenna
EQUIPMENT USED : RBB0, NWI0

Frequency MHz	Ant Pol	Meter Rdg dBuV	Matched Signal Generator dBm	Antenna Gain dB	Cable Factor dB	EIRP in 10MHz RBW dBm	BW Correction Factor dB	Corrected EIRP dBm	Limit dBm	Margin dBm
Tx @ 2412MHz, 802.11b , 11Mbps, external antenna										
2412.0	H	87.5	17.0	8.7	3.0	22.6	0.0	22.6	36.0	-13.4
2412.0	V	80.1	11.0	8.7	3.0	16.6	0.0	16.6	36.0	-19.4
Tx @ 2437MHz, 802.11b , 11Mbps, external antenna										
2437.0	H	89.1	18.6	8.7	3.1	24.3	0.3	26.6	36.0	-9.4
2437.0	V	82.1	12.7	8.7	3.1	18.4	0.3	18.7	36.0	-17.3
Tx @ 2462MHz, 802.11b , 11Mbps, external antenna										
2462.0	H	83.5	13.4	8.7	3.1	19.1	0.2	19.3	36.0	-16.7
2462.0	V	79.4	10.8	8.7	3.1	16.5	0.2	16.7	36.0	-19.3



MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : See Below
NOTES : FCC-15.247 Effective Isotropic Radiated Power (EIRP)
TEST DATE : October 28, 2010
TEST PARAMETERS : EIRP
NOTES : 802.11g Protocol, External Antenna
EQUIPMENT USED : RBB0, NWI0

Frequency MHz	Ant Pol	Meter Rdg dBuV	Matched Signal Generator dBm	Antenna Gain dB	Cable Factor dB	EIRP in 10MHz RBW dBm	BW Correction Factor dB	Corrected EIRP dBm	Limit dBm	Margin dBm
Tx @ 2412MHz, 802.11b , 54Mbps, external antenna										
2412.0	H	88.3	17.8	8.7	3.0	23.4	2.2	25.6	36.0	-10.4
2412.0	V	82.9	13.3	8.7	3.0	18.9	2.2	21.1	36.0	-14.9
Tx @ 2437MHz, 802.11b , 54Mbps, external antenna										
2437.0	H	90.1	18.9	8.7	3.1	24.6	2.2	26.8	36.0	-9.2
2437.0	V	82.7	13.1	8.7	3.1	18.8	2.2	21.0	36.0	-15.0
Tx @ 2462MHz, 802.11b , 54Mbps, external antenna										
2462.0	H	88.1	18.0	8.7	3.1	23.7	2.2	25.9	36.0	-10.1
2462.0	V	83.2	13.9	8.7	3.1	19.6	2.2	21.8	36.0	-14.2



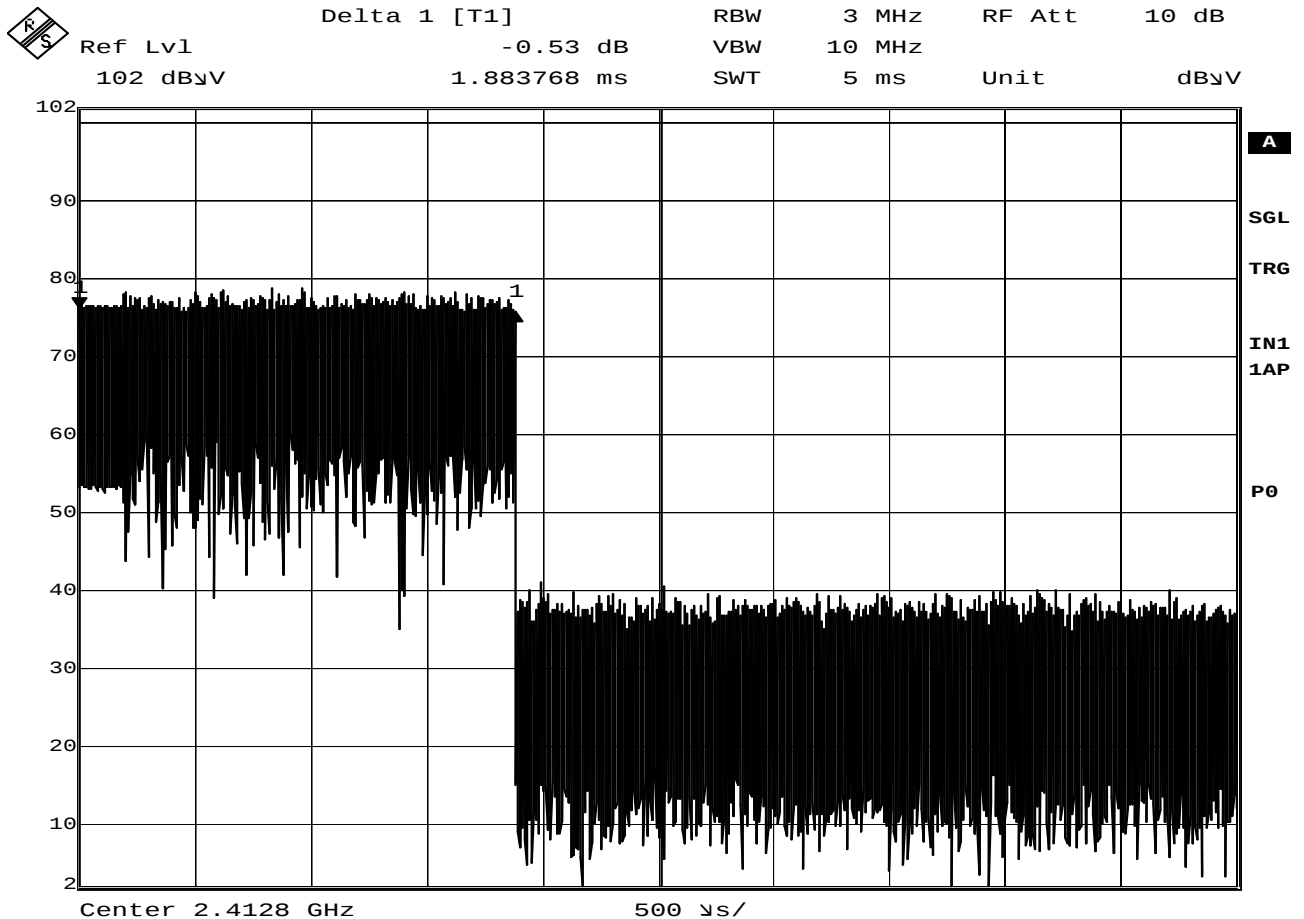
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : See Below
NOTES : FCC-15.247 Effective Isotropic Radiated Power (EIRP)
TEST DATE : October 28, 2010
TEST PARAMETERS : EIRP
NOTES : 802.11b Protocol, Internal Antenna
EQUIPMENT USED : RBB0, NWI0

Frequency MHz	Ant Pol	Meter Rdg dBuV	Matched Signal Generator dBm	Antenna Gain dB	Cable Factor dB	EIRP in 10MHz RBW dBm	BW Correction Factor dB	Corrected EIRP dBm	Limit dBm	Margin dBm
Tx @ 2412MHz, 802.11b , 11Mbps, internal antenna										
2412.8	H	84.1	13.6	8.7	3.0	19.2	0.0	19.2	36.0	-16.8
2412.8	V	81.7	12.4	8.7	3.0	18.0	0.0	18.0	36.0	-18.0
Tx @ 2437MHz, 802.11b , 11Mbps, internal antenna										
2437.0	H	81.4	10.9	8.7	3.1	16.6	0.3	16.9	36.0	-19.1
2437.0	V	82.1	12.7	8.7	3.1	18.4	0.3	18.7	36.0	-17.3
Tx @ 2462MHz, 802.11b , 11Mbps, internal antenna										
2462.0	H	83.5	13.4	8.7	3.1	19.1	0.2	19.3	36.0	-16.7
2462.0	V	79.4	10.8	8.7	3.1	16.5	0.2	16.7	36.0	-19.3



MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : See Below
NOTES : FCC-15.247 Effective Isotropic Radiated Power (EIRP)
TEST DATE : October 28, 2010
TEST PARAMETERS : EIRP
NOTES : 802.11g Protocol, External Antenna
EQUIPMENT USED : RBB0, NWI0

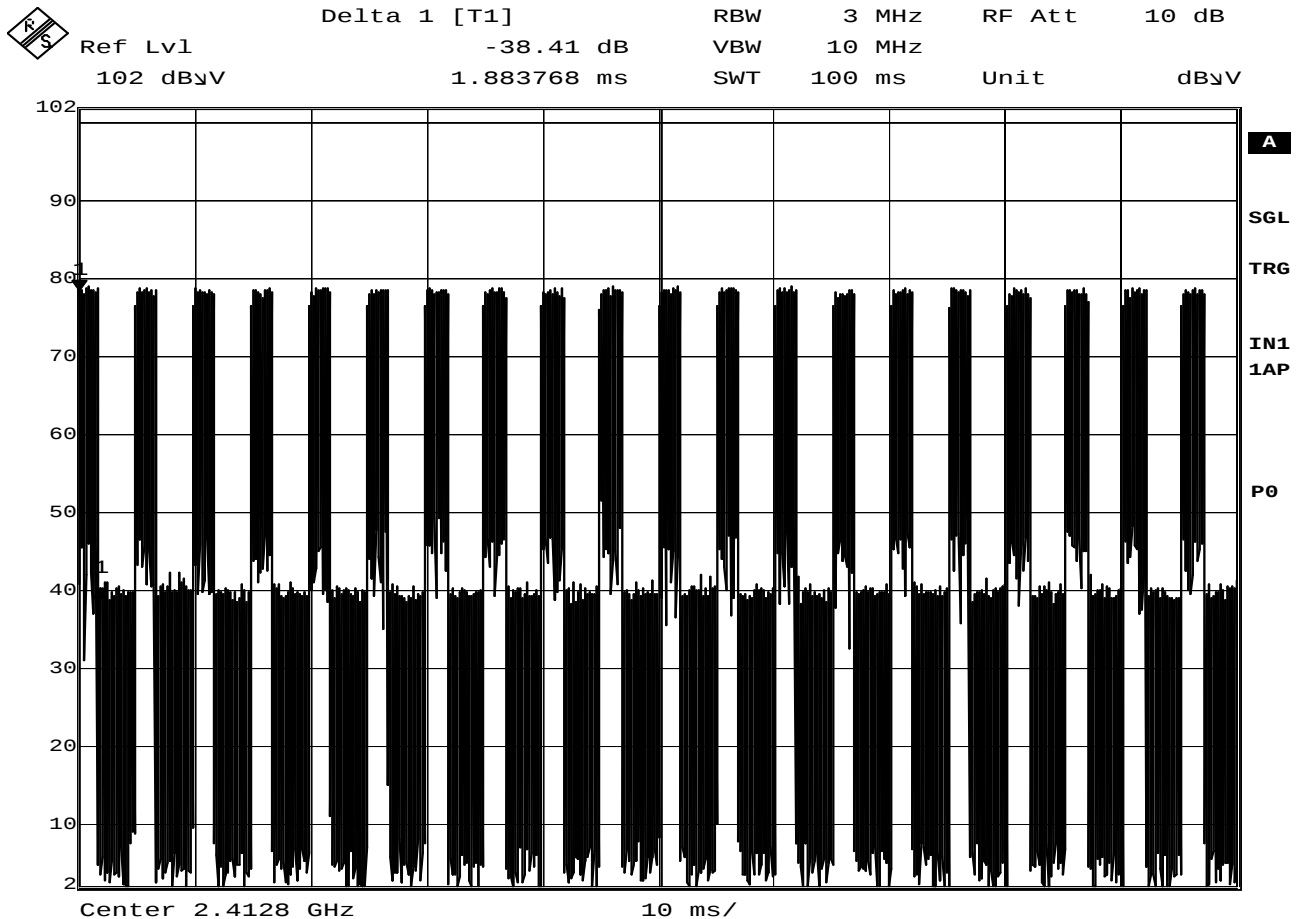
Frequency MHz	Ant Pol	Meter Rdg dBuV	Matched Signal Generator dBm	Antenna Gain dB	Cable Factor dB	EIRP in 10MHz RBW dBm	BW Correction Factor dB	Corrected EIRP dBm	Limit dBm	Margin dBm
Tx @ 2412MHz, 802.11b , 54Mbps, internal antenna										
2412.0	H	85.2	14.7	8.7	3.0	20.3	2.2	22.5	36.0	-13.5
2412.0	V	82.7	13.1	8.7	3.0	18.7	2.2	20.9	36.0	-15.1
Tx @ 2437MHz, 802.11b , 54Mbps, internal antenna										
2437.0	H	85.0	13.8	8.7	3.1	19.5	2.2	21.7	36.0	-14.3
2437.0	V	83.2	13.4	8.7	3.1	19.1	2.2	21.3	36.0	-14.7
Tx @ 2462MHz, 802.11b , 54Mbps, internal antenna										
2462.0	H	84.7	14.6	8.7	3.1	20.3	2.2	22.5	36.0	-13.5
2462.0	V	81.5	12.6	8.7	3.1	18.3	2.2	20.5	36.0	-15.5



Date: 25.OCT.2010 11:06:55

FCC 15.247 Duty Cycle Correction Factor

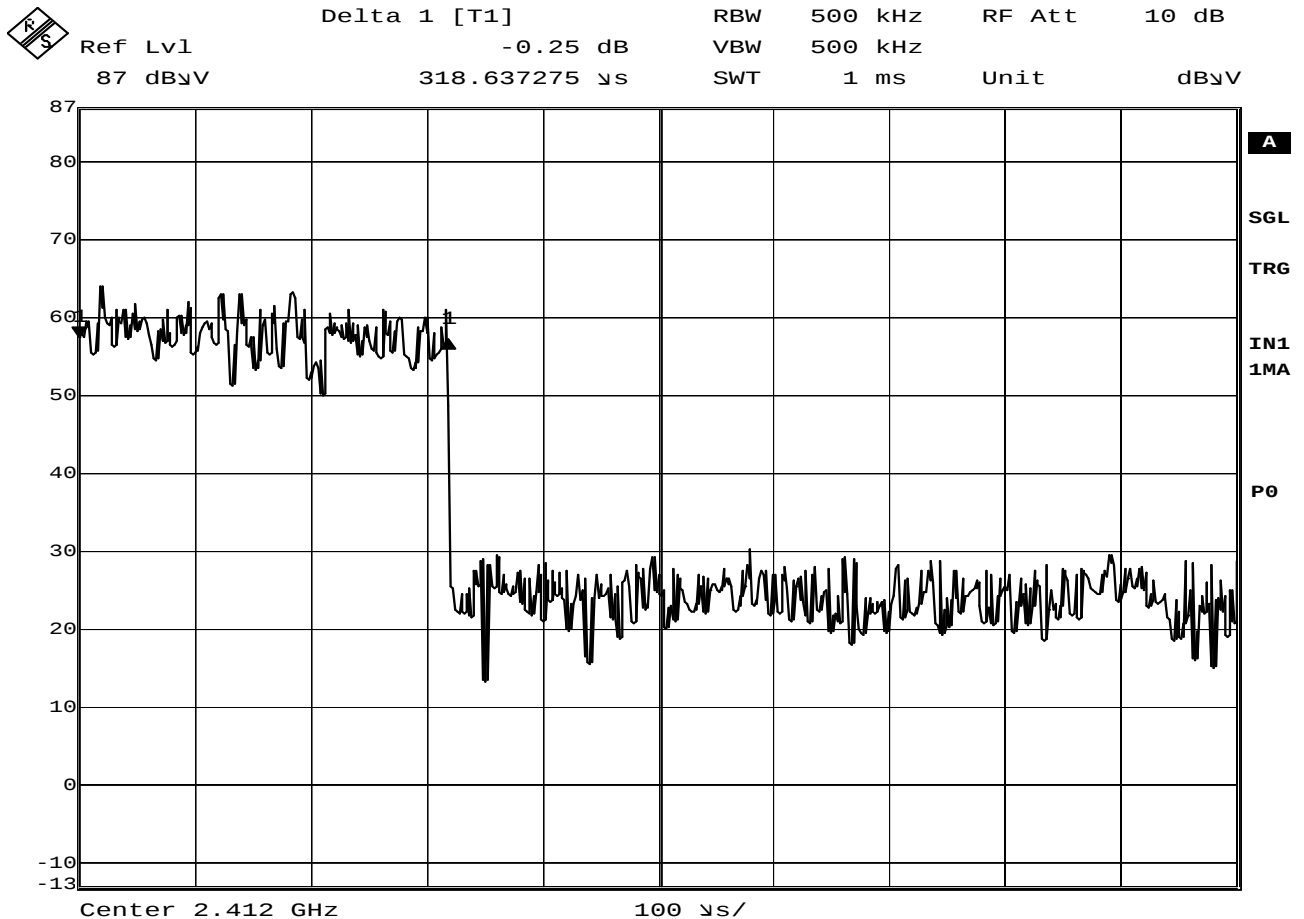
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b
NOTES	: Internal Antenna
TEST DATE	: October 25, 2010
TEST PARAMETERS	: Duty Cycle Correction Factor
NOTES	: Pulse on time = 1.88msec
EQUIPMENT USED	: RBB0, NWI0



Date: 25.OCT.2010 11:09:49

FCC 15.247 Duty Cycle Correction Factor

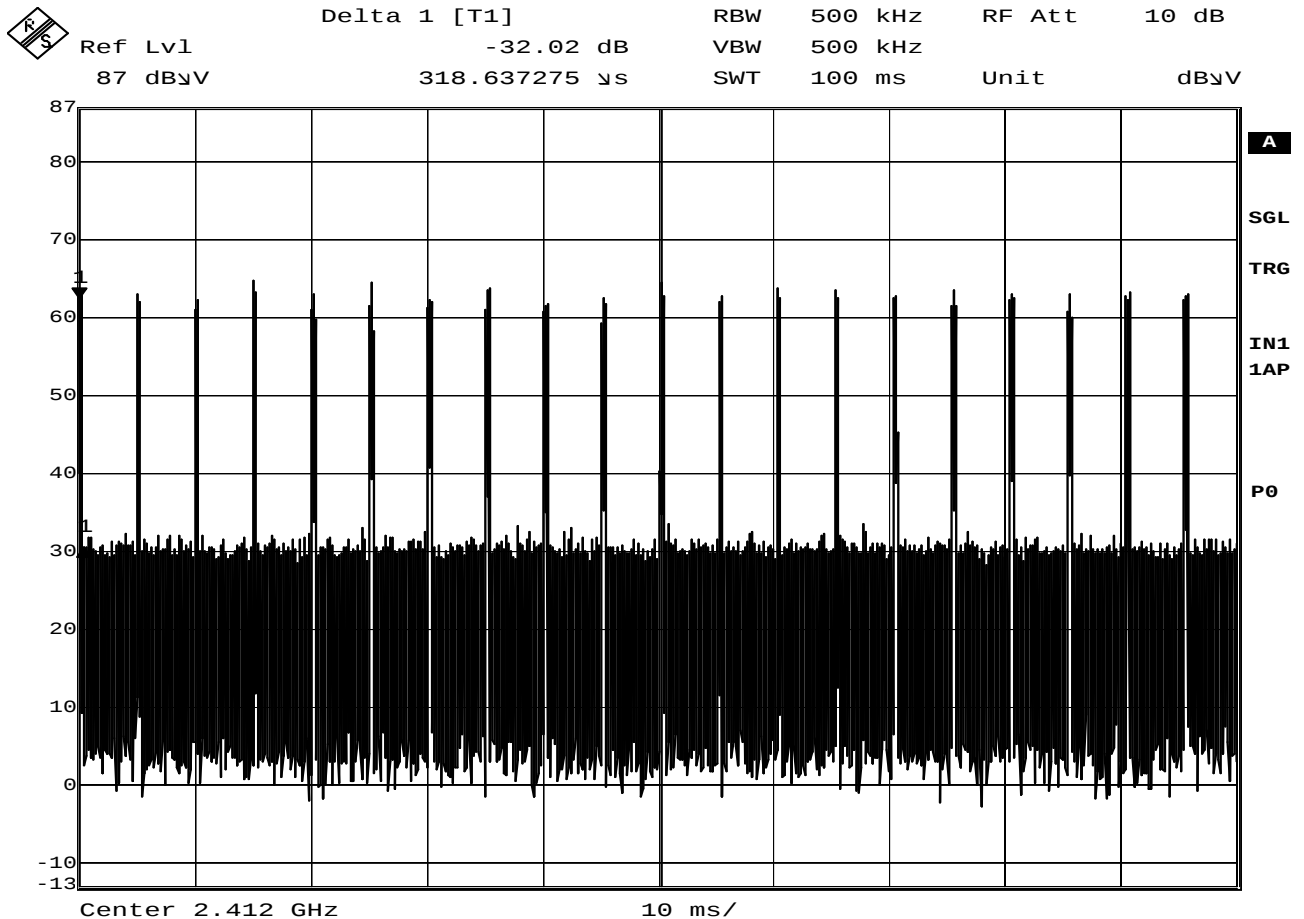
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b
NOTES	: Internal Antenna
TEST DATE	: October 25, 2010
TEST PARAMETERS	: Duty Cycle Correction Factor
NOTES	: Pulse on time = 1.88msec
	: Number of pulses in 100msec = 20
	: Duty Cycle Correction Factor = $20 \times \log((1.8838\text{msec} \times 20)/100) = -8.47\text{dB}$
EQUIPMENT USED	: RBB0, NWI0



Date: 26.OCT.2010 10:56:35

FCC 15.247 Duty Cycle Correction Factor

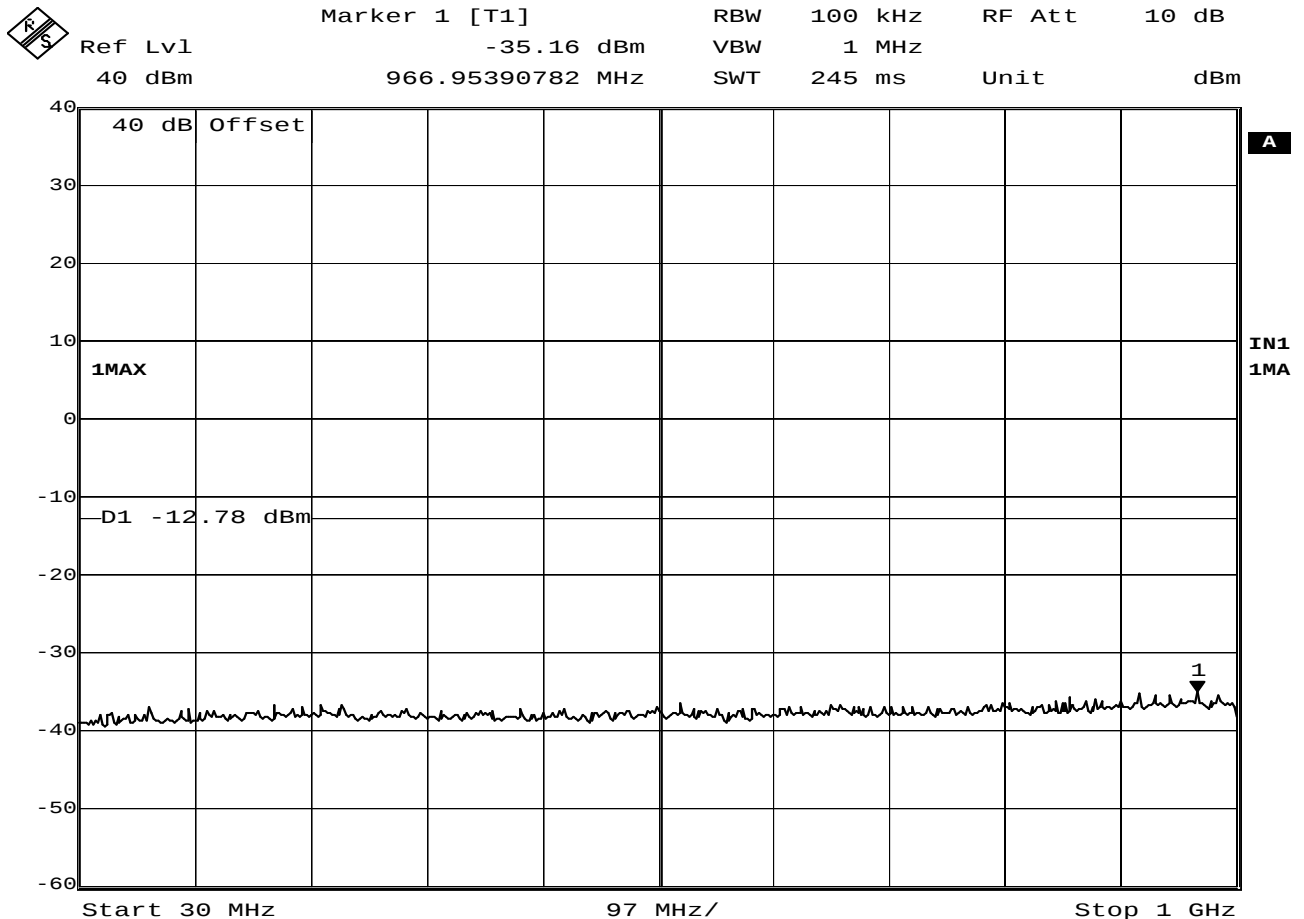
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g
NOTES	: Internal Antenna
TEST DATE	: October 26, 2010
TEST PARAMETERS	: Duty Cycle Correction Factor
NOTES	: Pulse on time = 318.6usec
EQUIPMENT USED	: RBB0, NWI0



Date: 26.OCT.2010 10:58:30

FCC 15.247 Duty Cycle Correction Factor

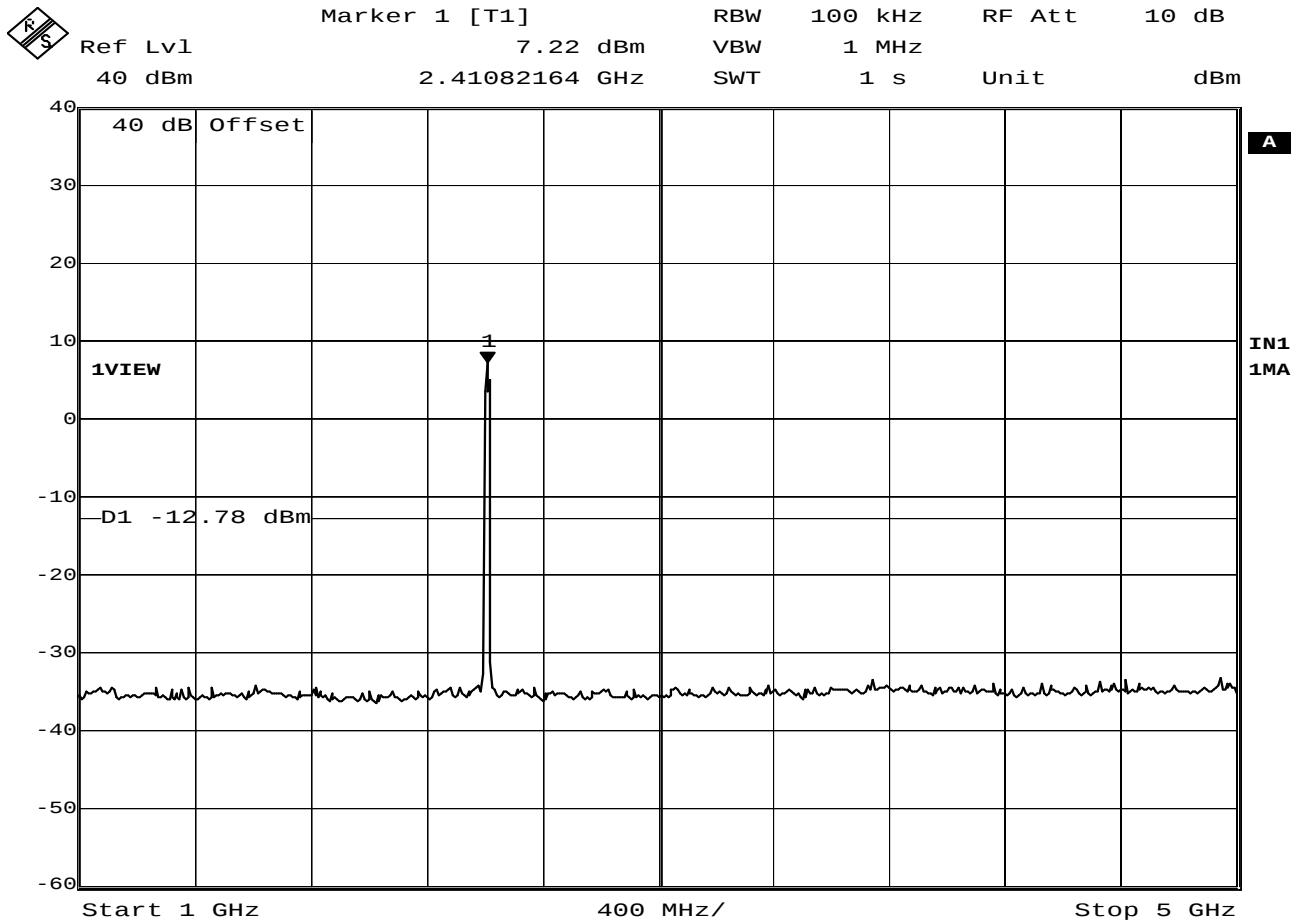
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g
NOTES	: Internal Antenna
TEST DATE	: October 26, 2010
TEST PARAMETERS	: Duty Cycle Correction Factor
NOTES	: Number of pulses in 100msec = 20.
	: Duty Cycle Correction Factor = $20 \times \log((318.6\mu\text{sec} \times 20)/100\text{msec})$
	: Duty Cycle Correction Factor = -23.9dB
EQUIPMENT USED	: RBB0, NWI0



Date: 29.OCT.2010 08:16:11

FCC 15.247(c) Antenna Conducted Emissions

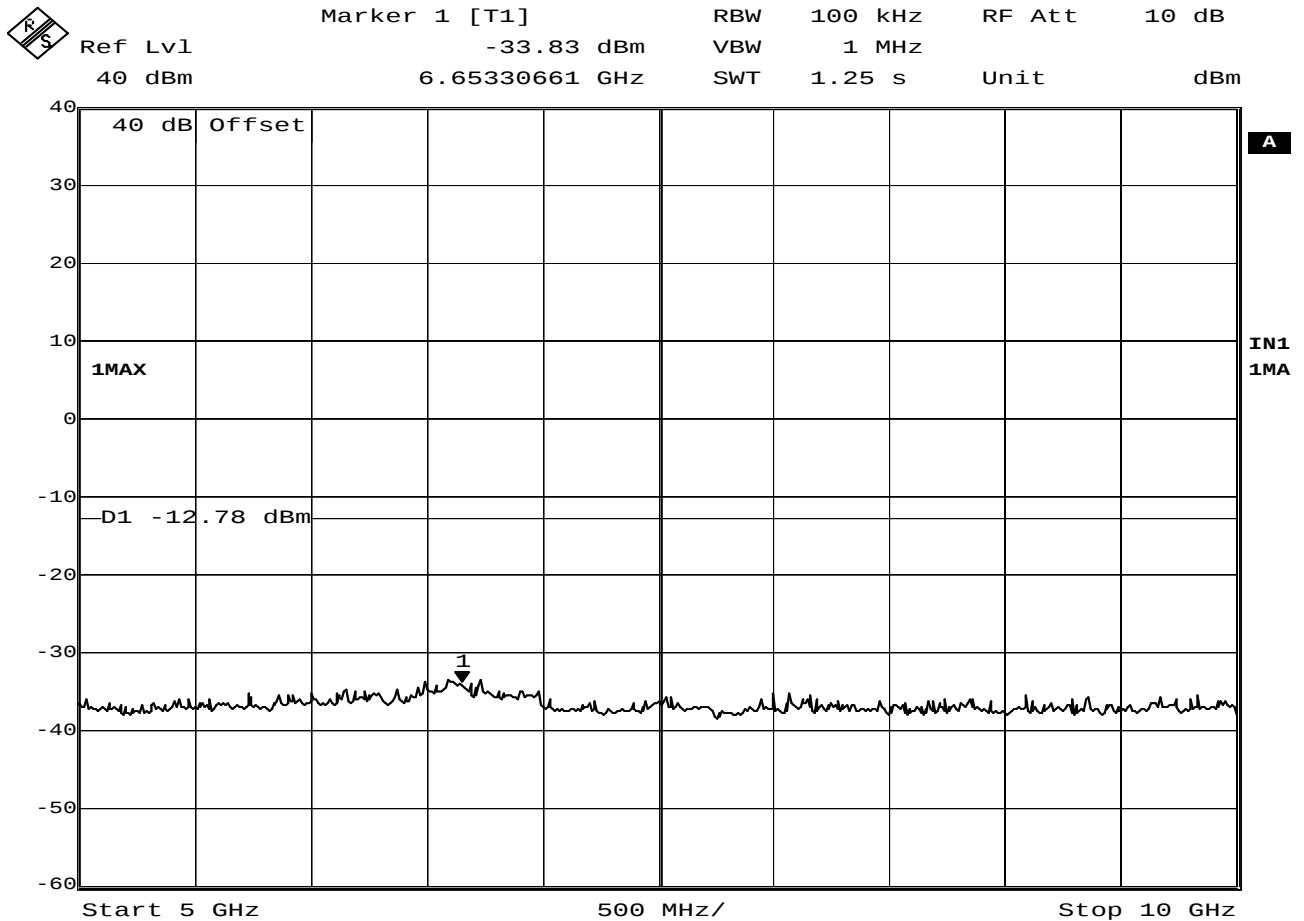
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:06:21

FCC 15.247(c) Antenna Conducted Emissions

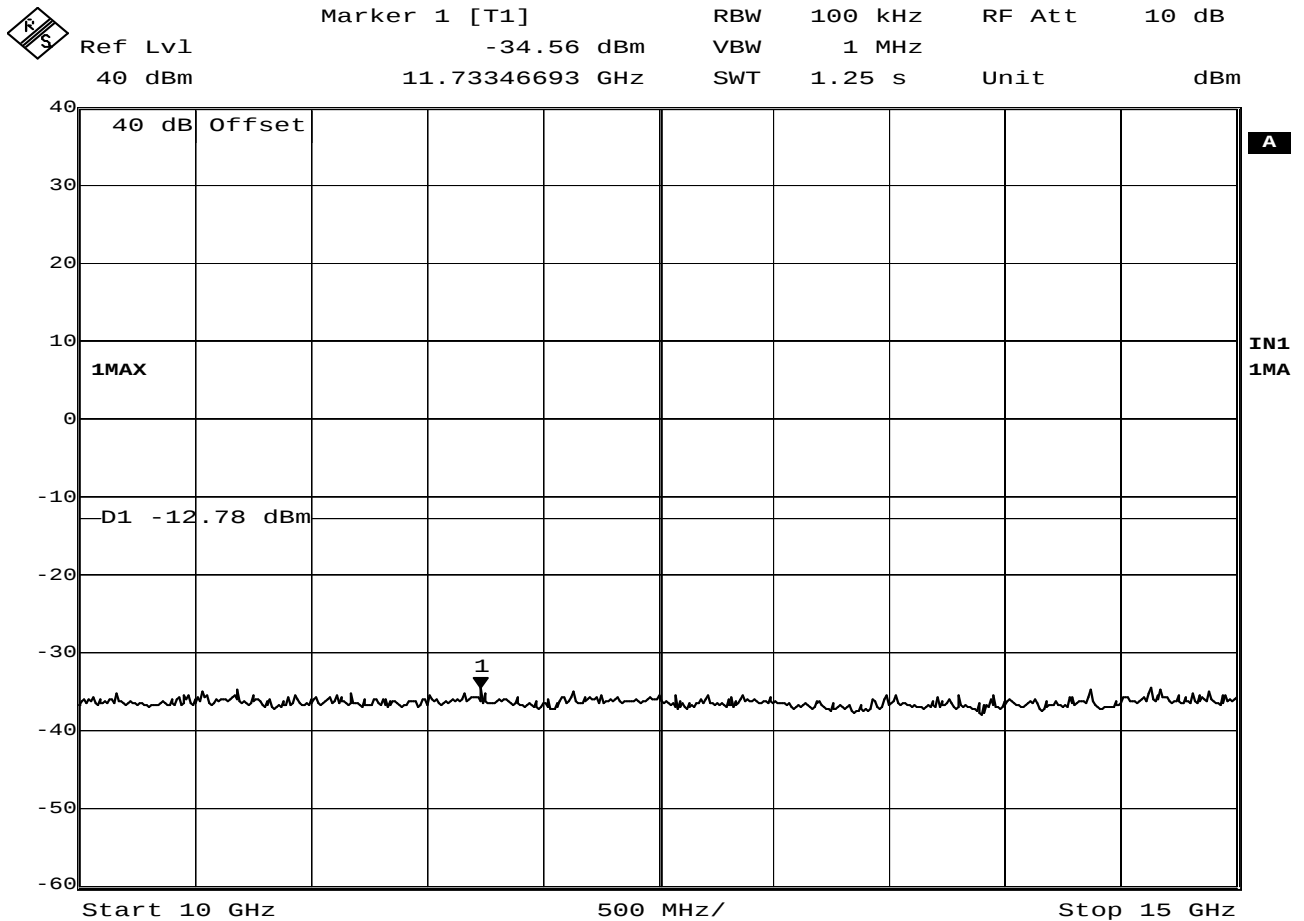
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:12:10

FCC 15.247(c) Antenna Conducted Emissions

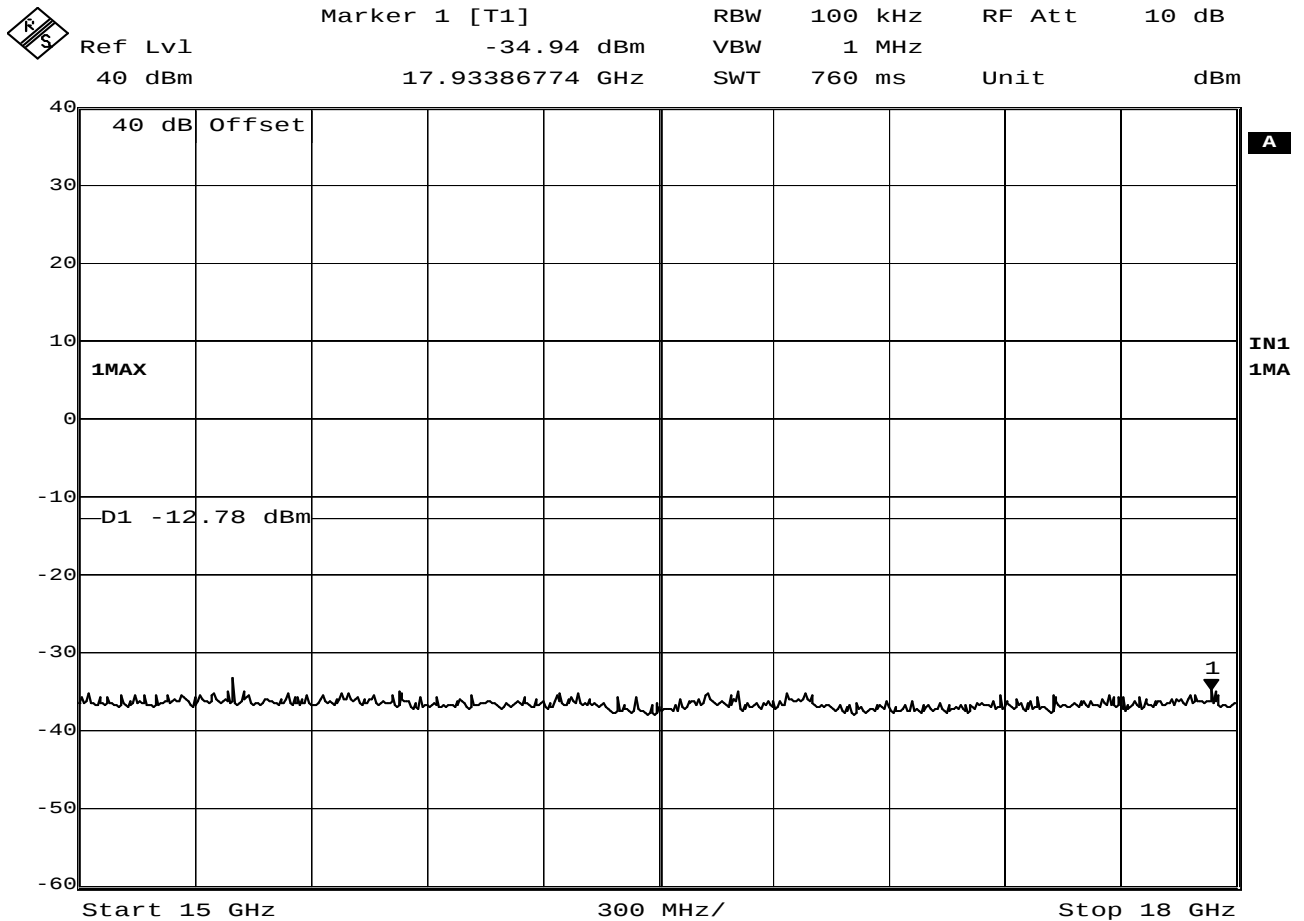
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:14:00

FCC 15.247(c) Antenna Conducted Emissions

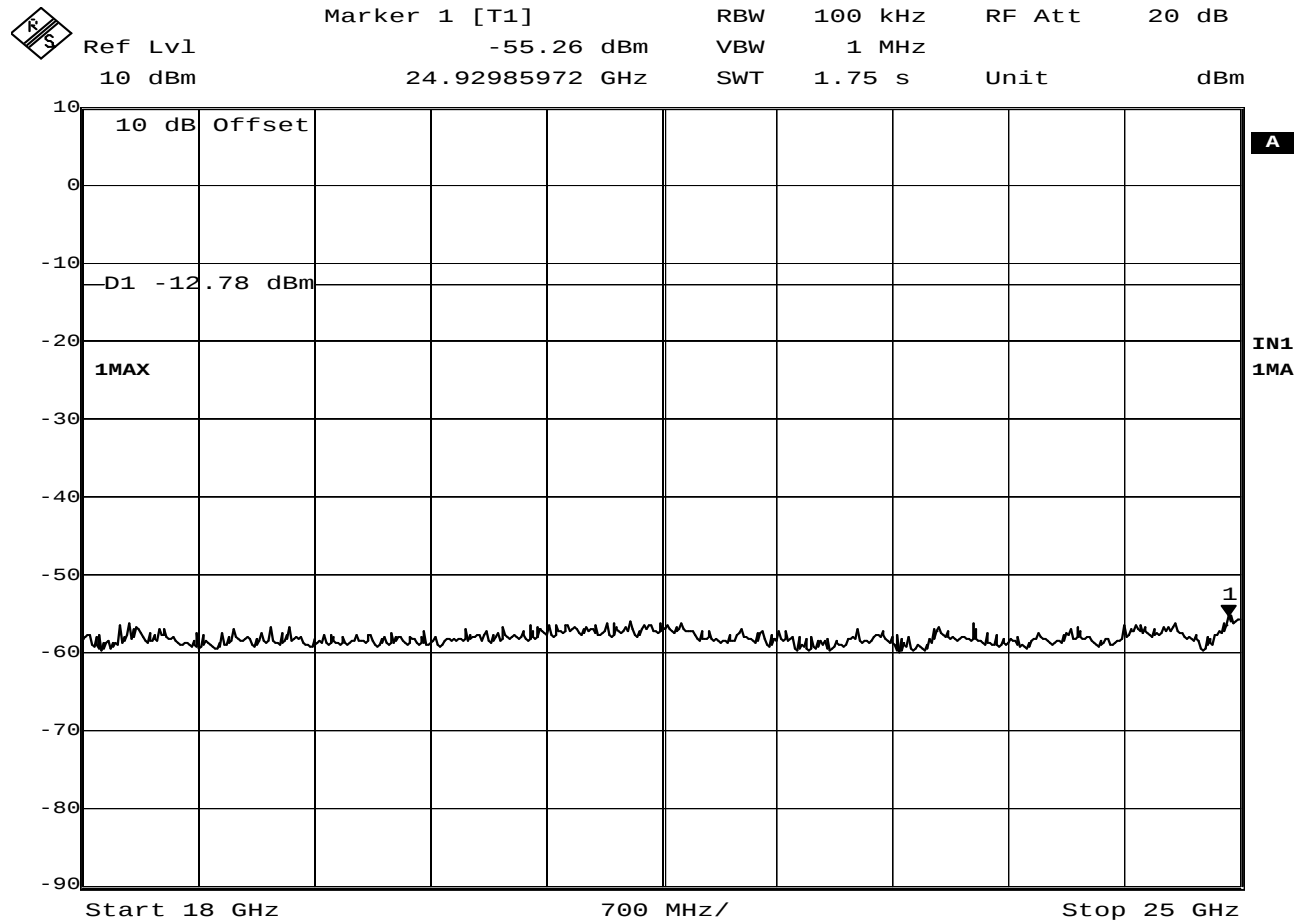
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:15:07

FCC 15.247(c) Antenna Conducted Emissions

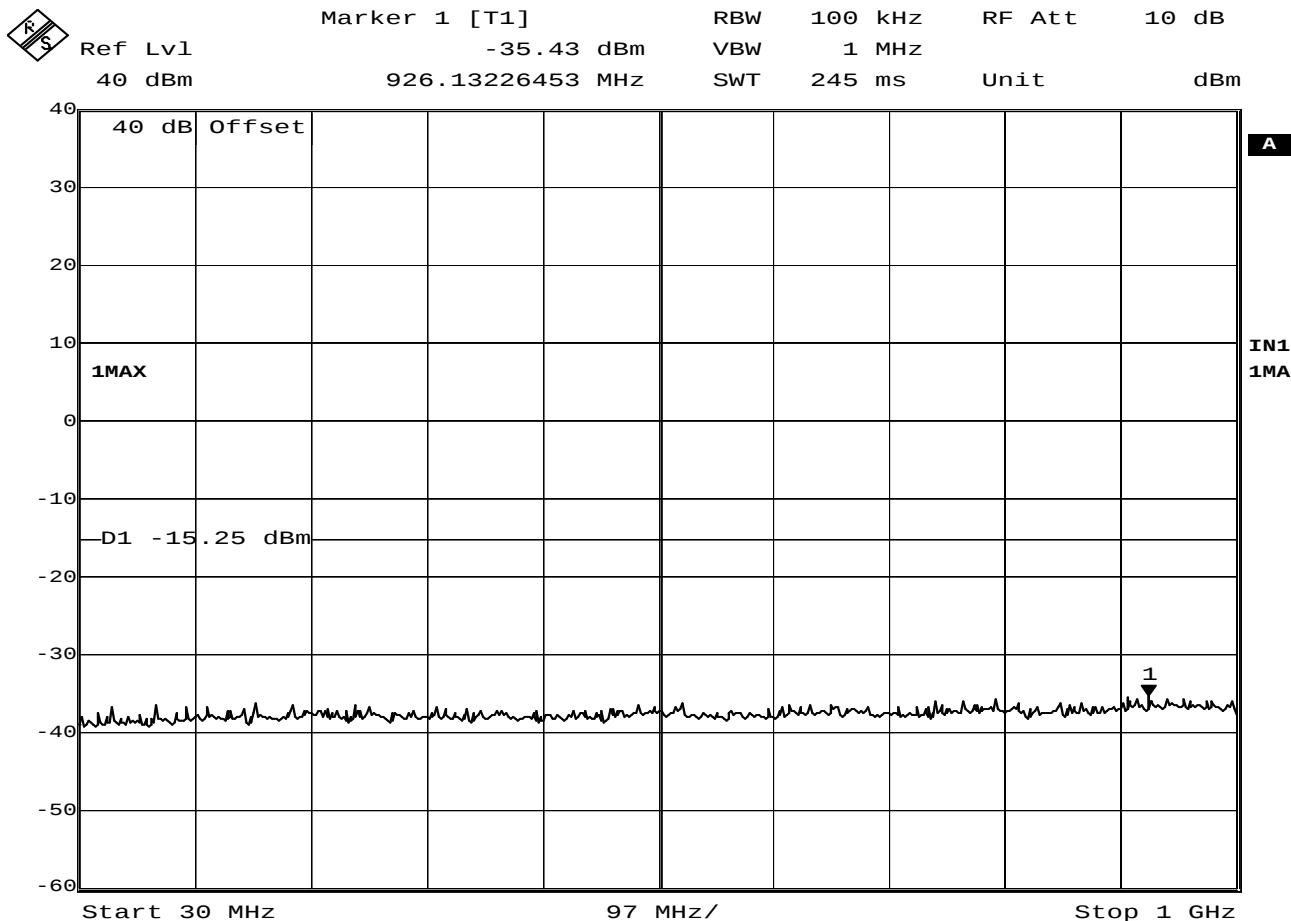
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 13:02:44

FCC 15.247(c) Antenna Conducted Emissions

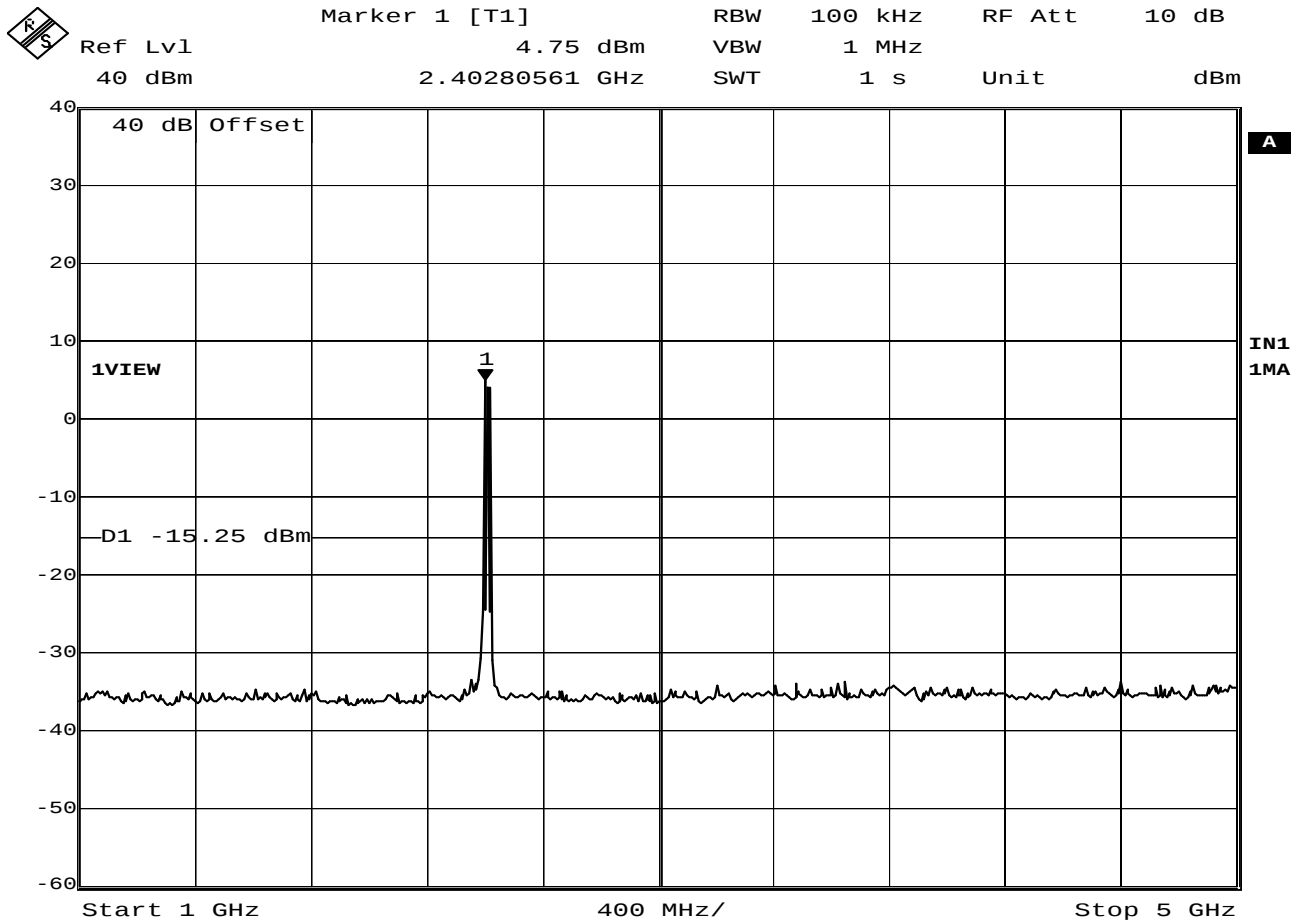
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 b, 11 Mbps, 2048 bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the +8.0dBm limit
EQUIPMENT USED : RBA0, T1P0



Date: 29.OCT.2010 08:56:08

FCC 15.247(c) Antenna Conducted Emissions

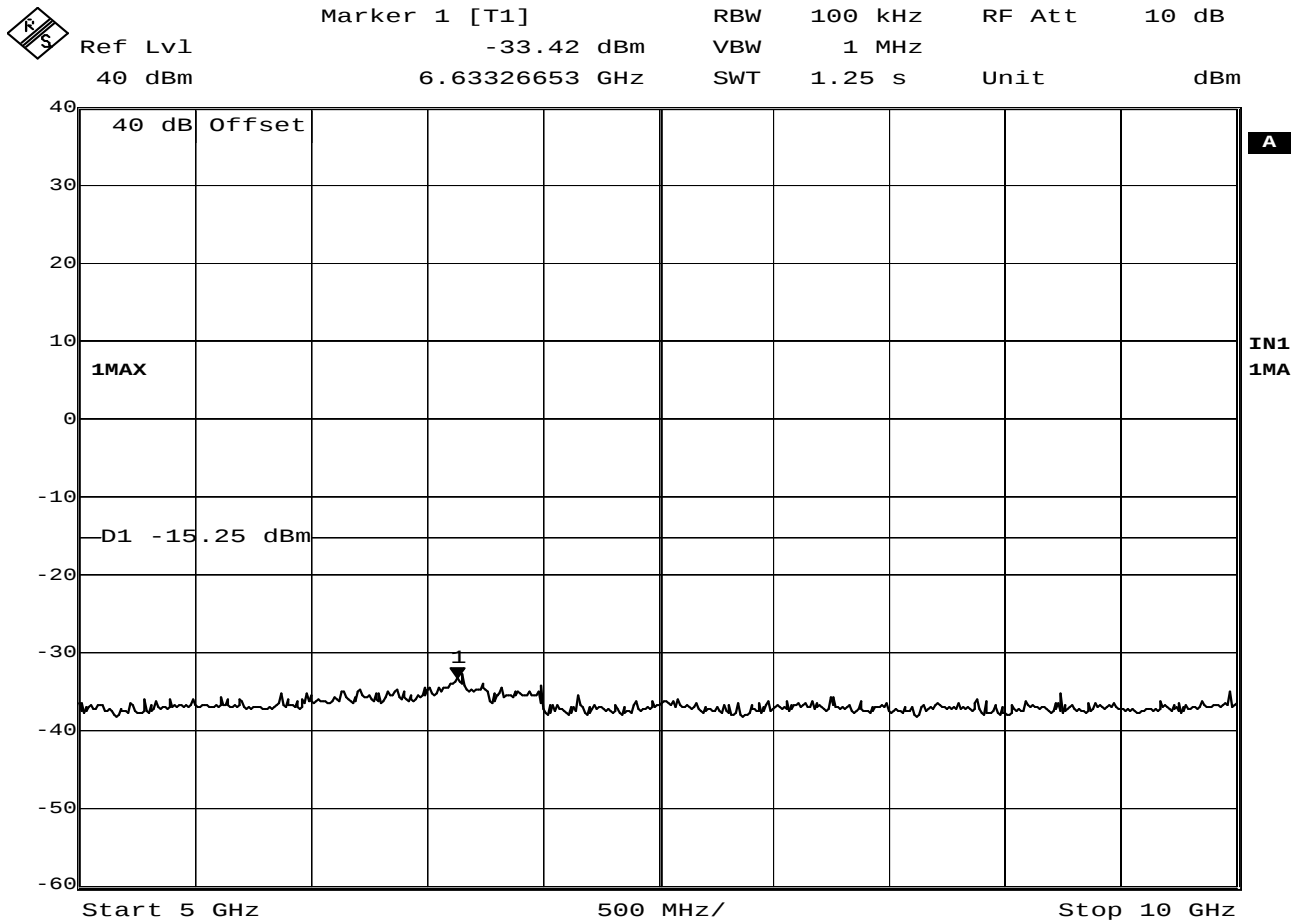
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:54:17

FCC 15.247(c) Antenna Conducted Emissions

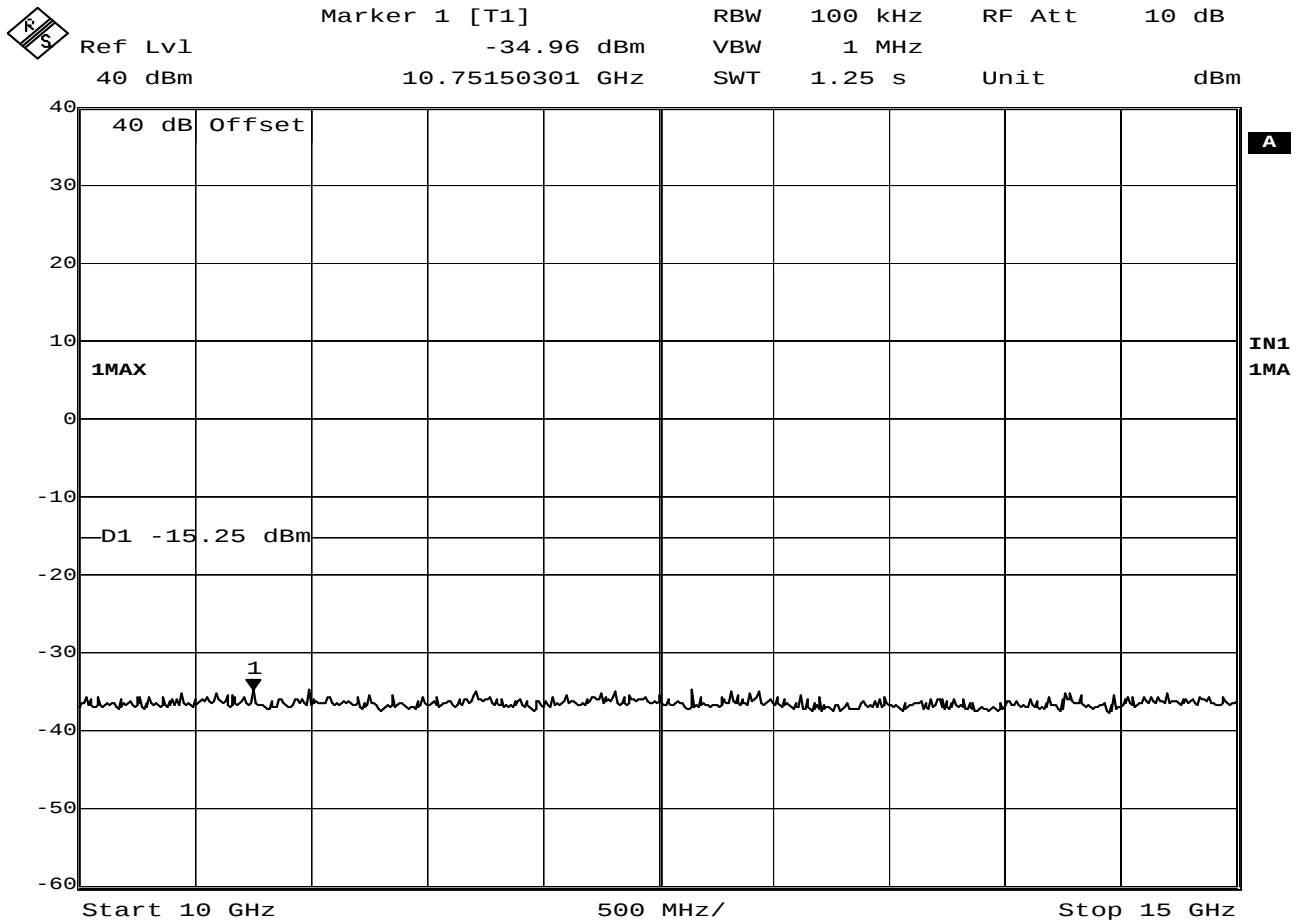
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:57:32

FCC 15.247(c) Antenna Conducted Emissions

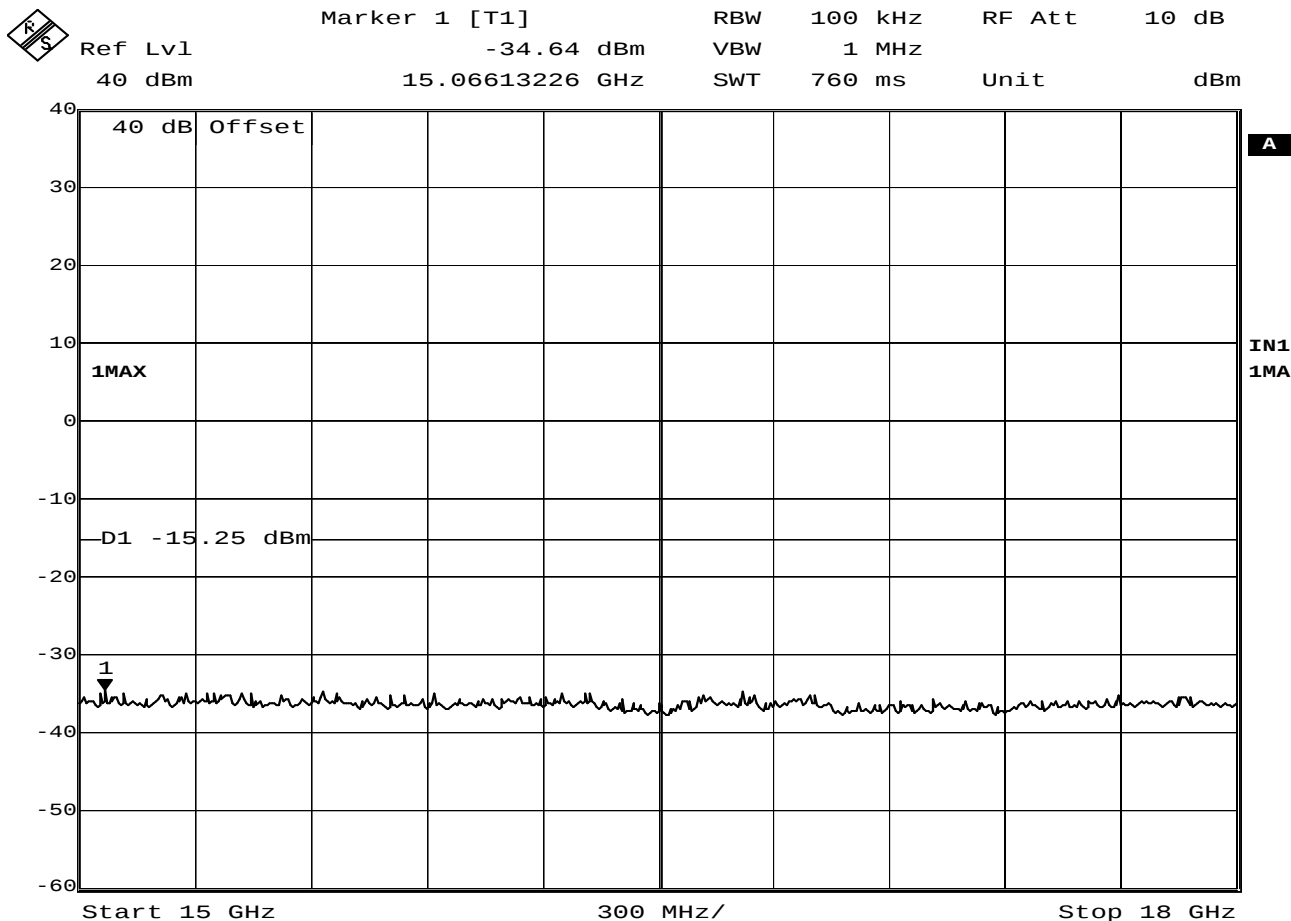
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:59:02

FCC 15.247(c) Antenna Conducted Emissions

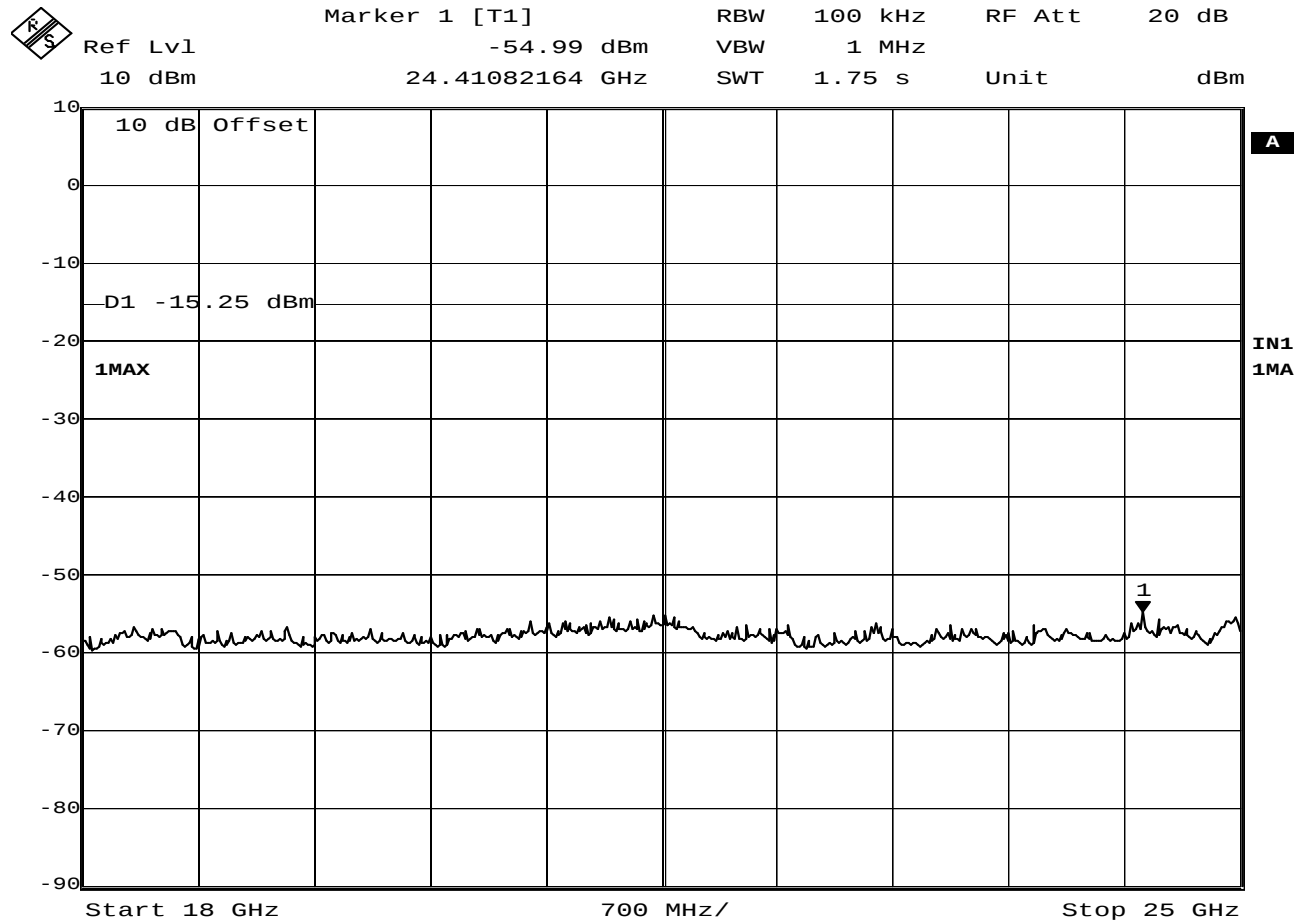
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:00:34

FCC 15.247(c) Antenna Conducted Emissions

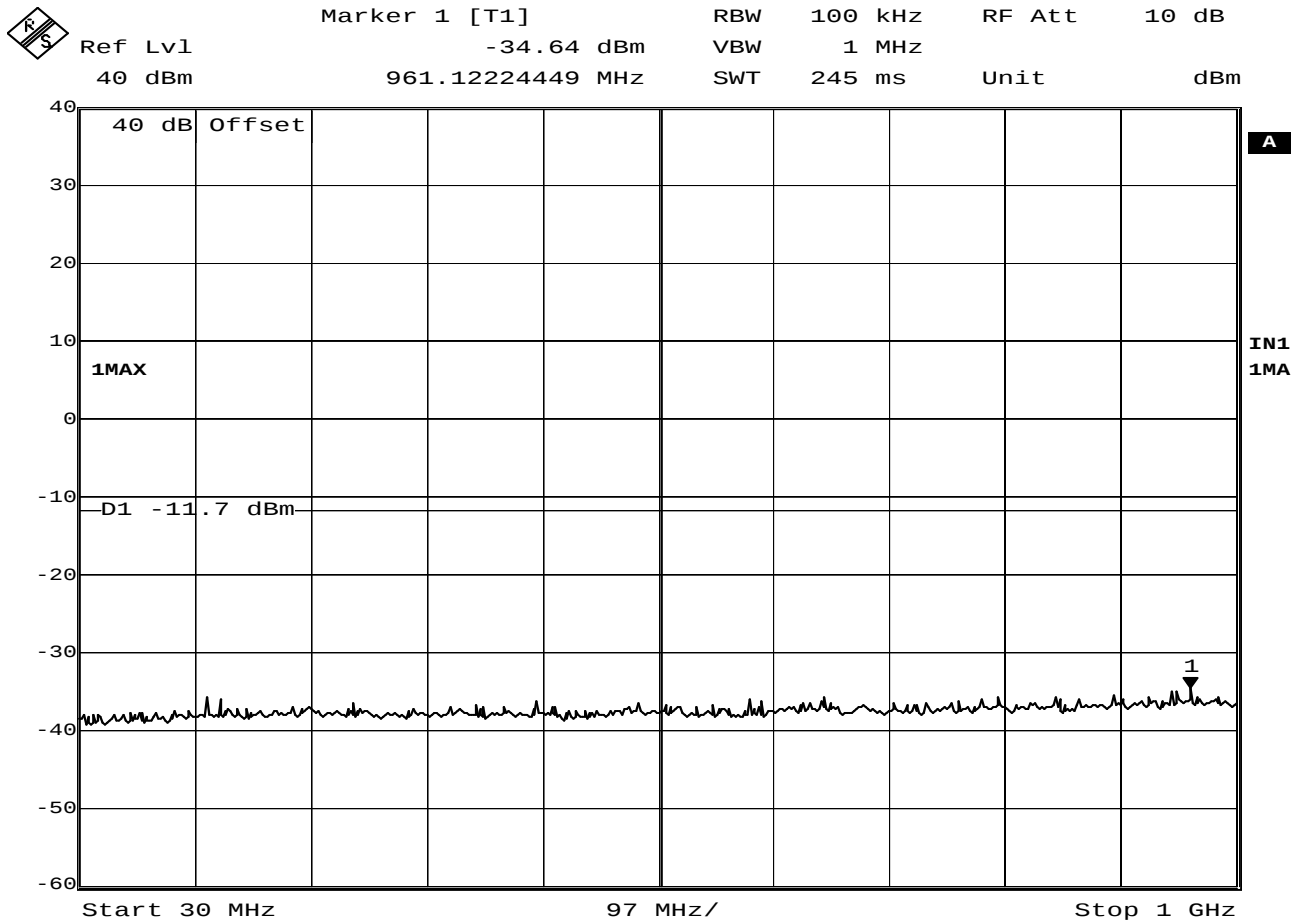
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2412MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 13:12:51

FCC 15.247(c) Antenna Conducted Emissions

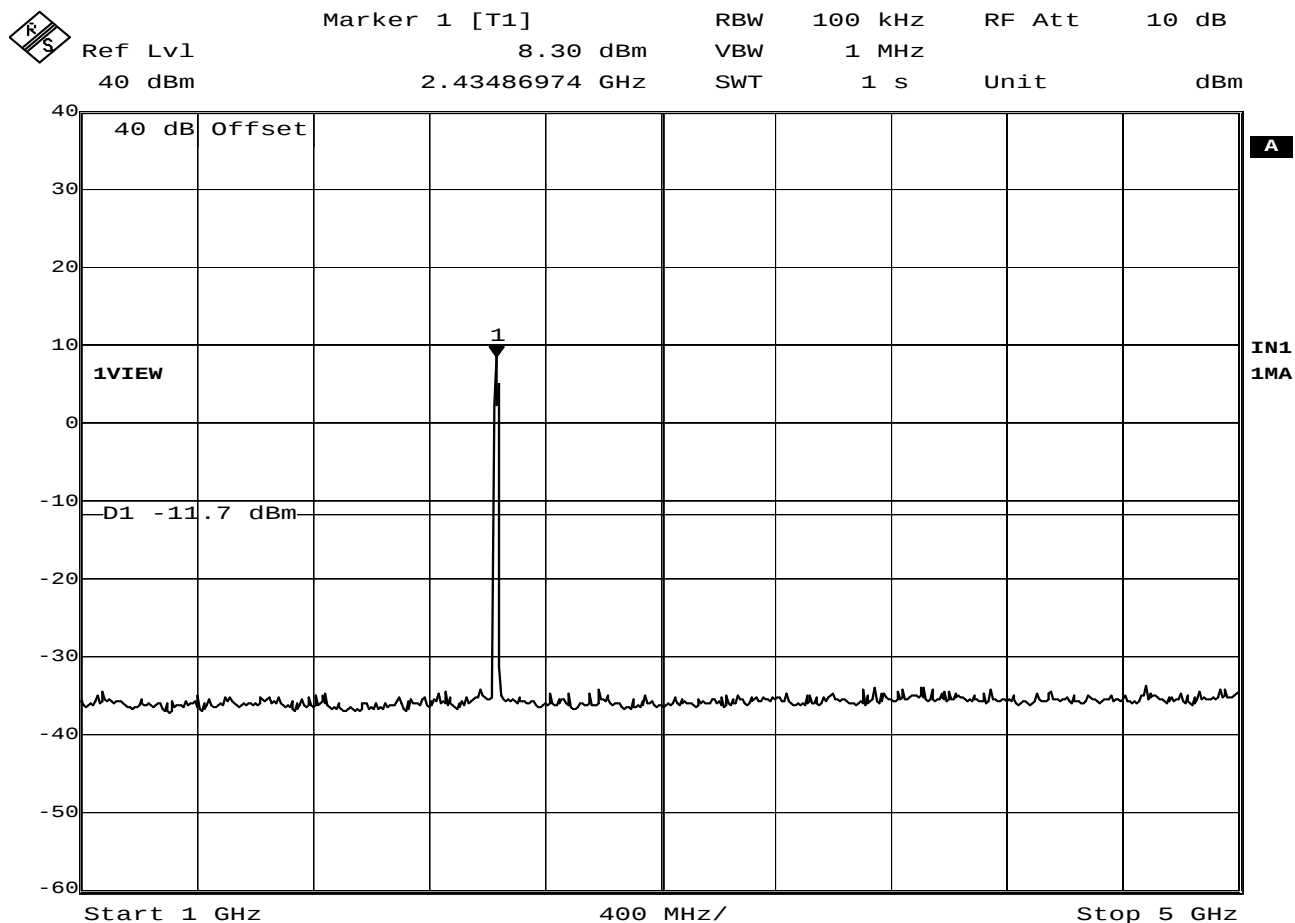
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2412MHz, 802.11 g, 54 Mbps, 2048 bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the +8.0dBm limit
EQUIPMENT USED : RBA0, T1P0



Date: 29.OCT.2010 08:21:02

FCC 15.247(c) Antenna Conducted Emissions

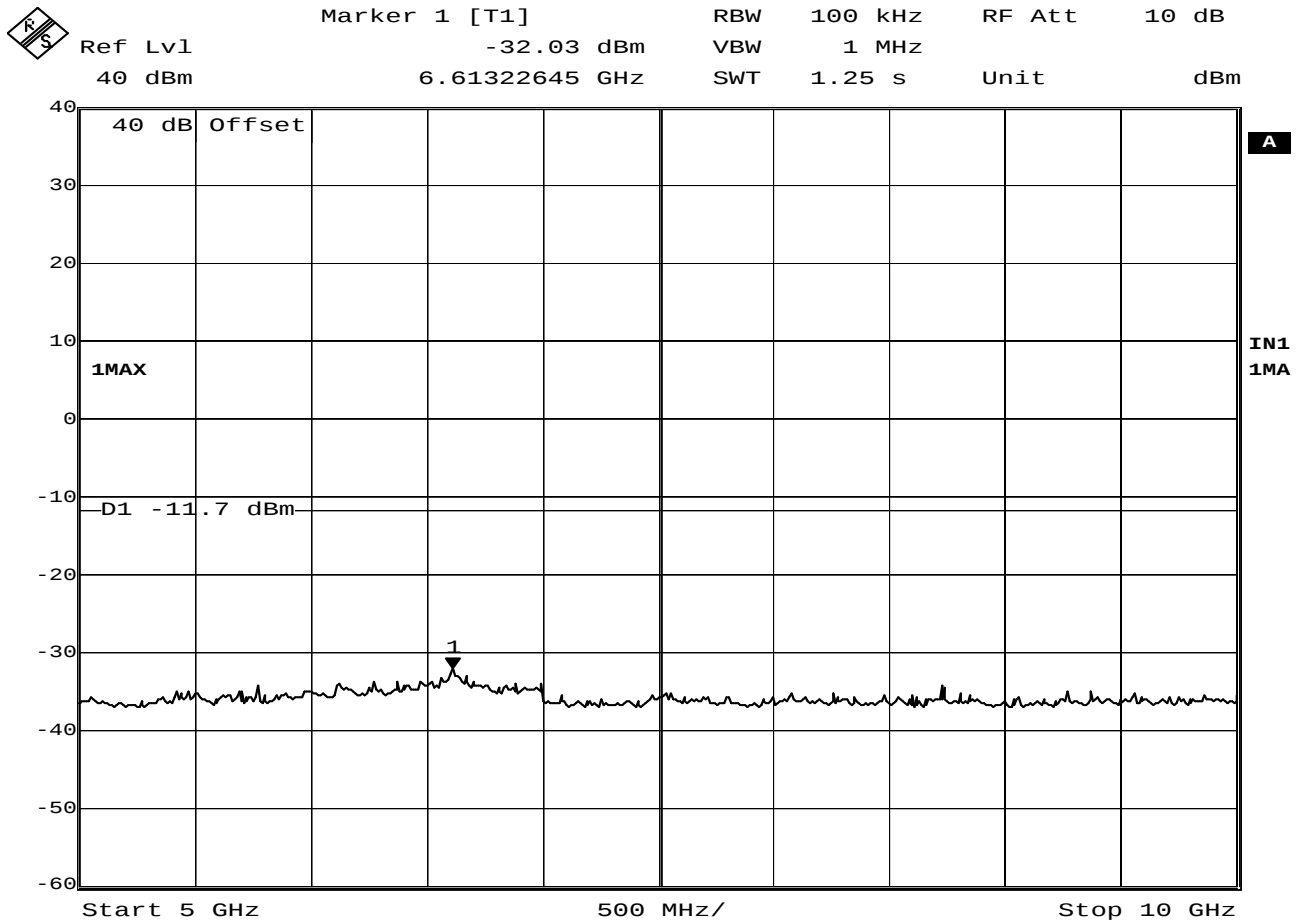
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:19:03

FCC 15.247(c) Antenna Conducted Emissions

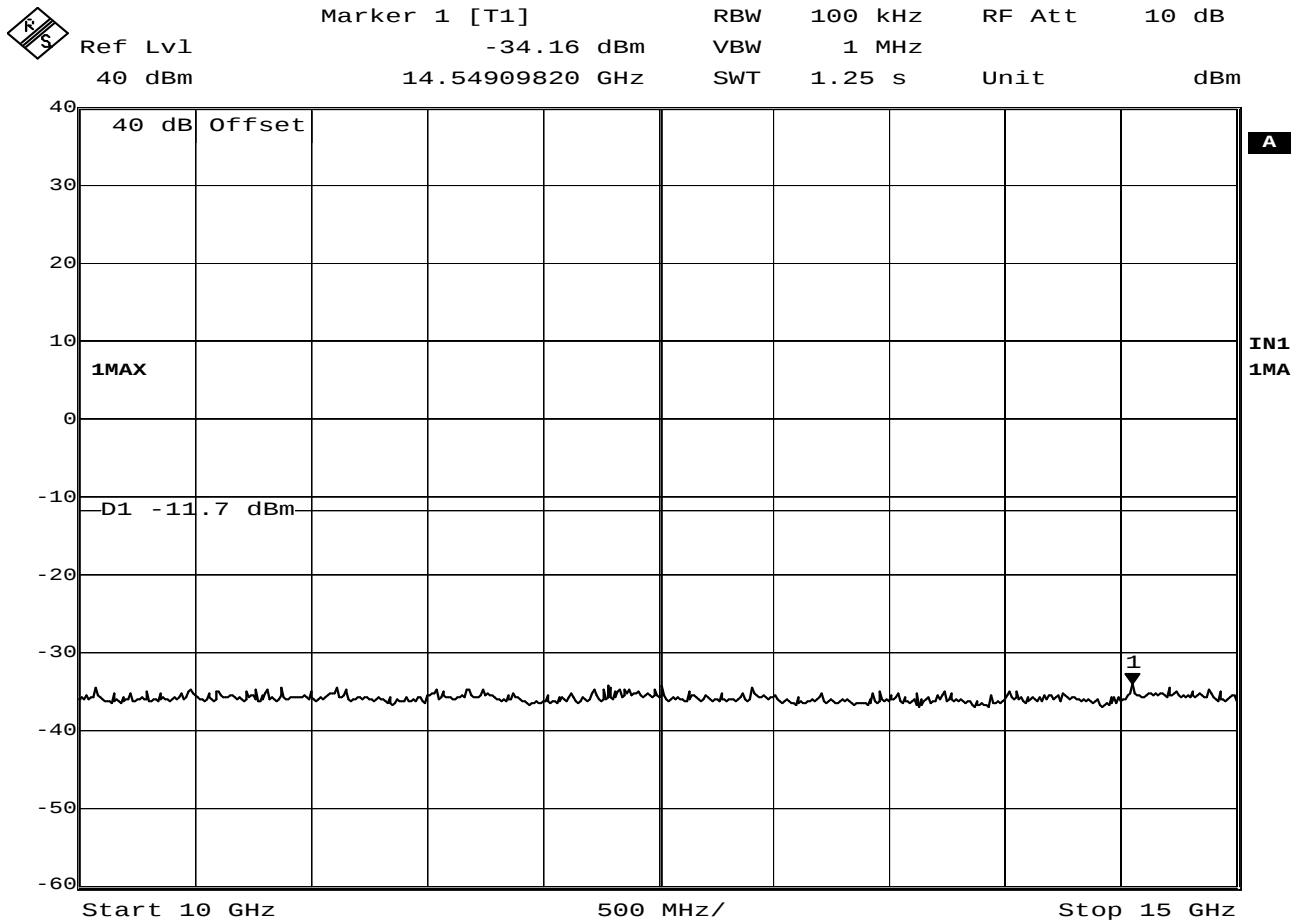
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:30:13

FCC 15.247(c) Antenna Conducted Emissions

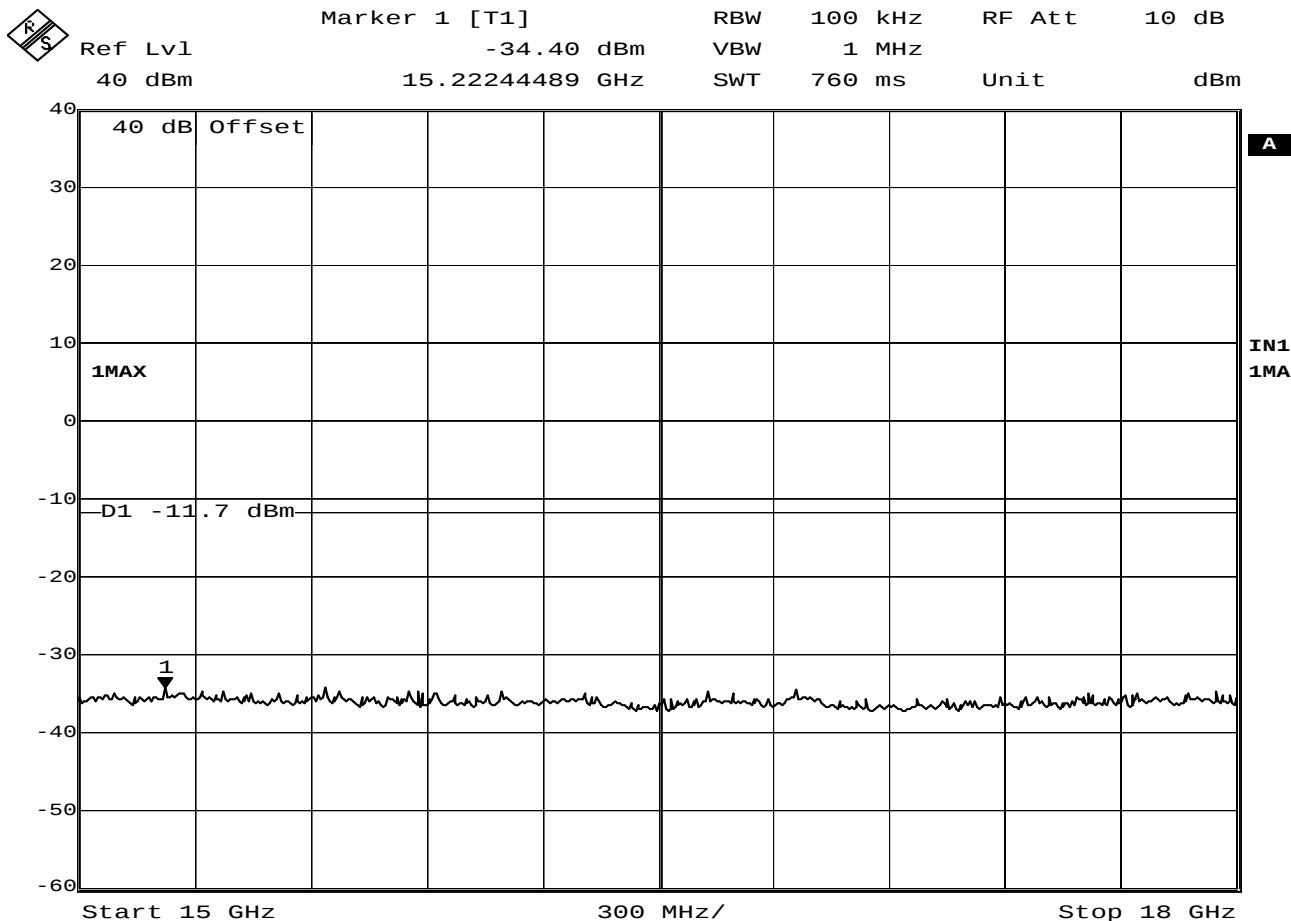
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:35:22

FCC 15.247(c) Antenna Conducted Emissions

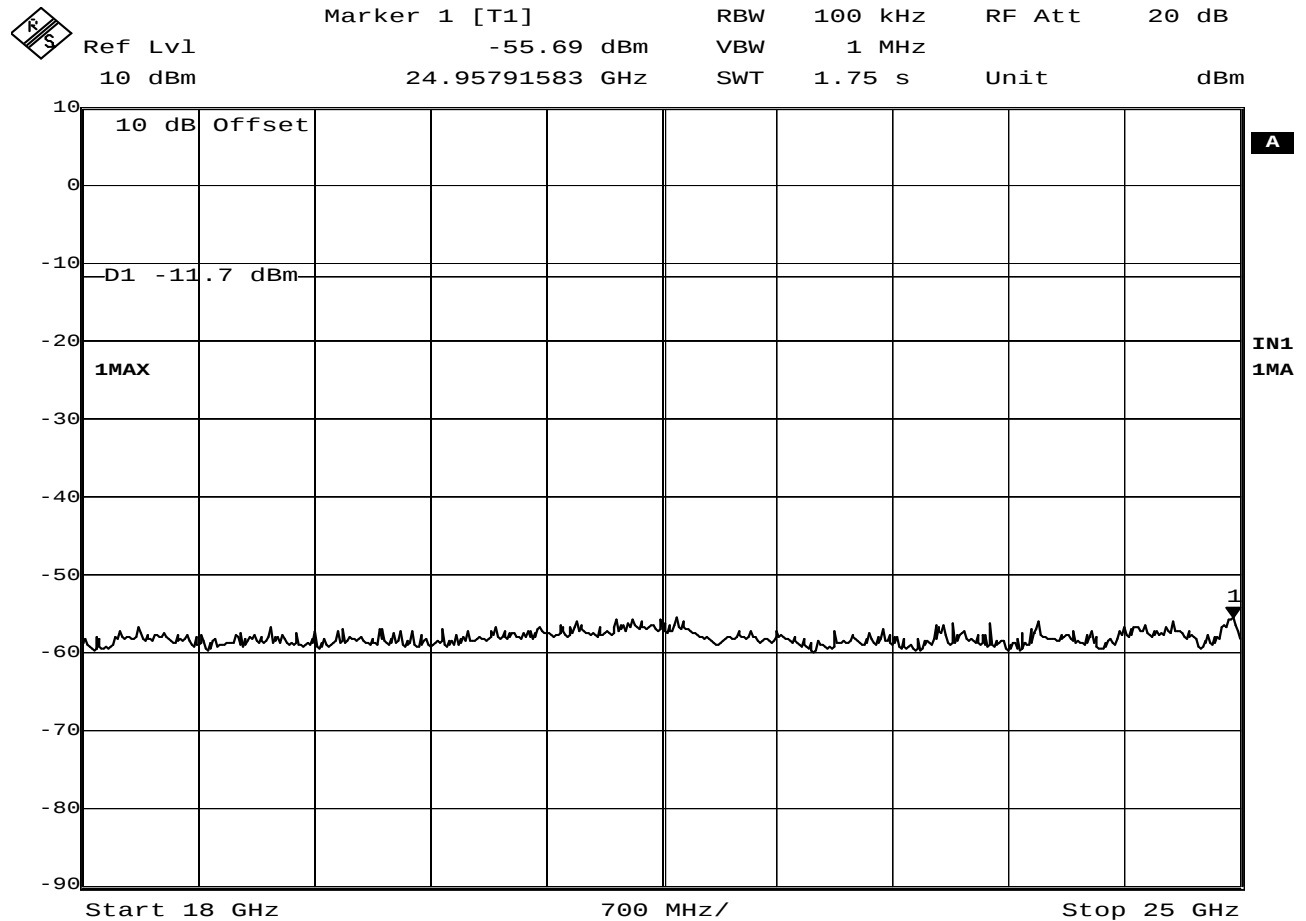
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:38:03

FCC 15.247(c) Antenna Conducted Emissions

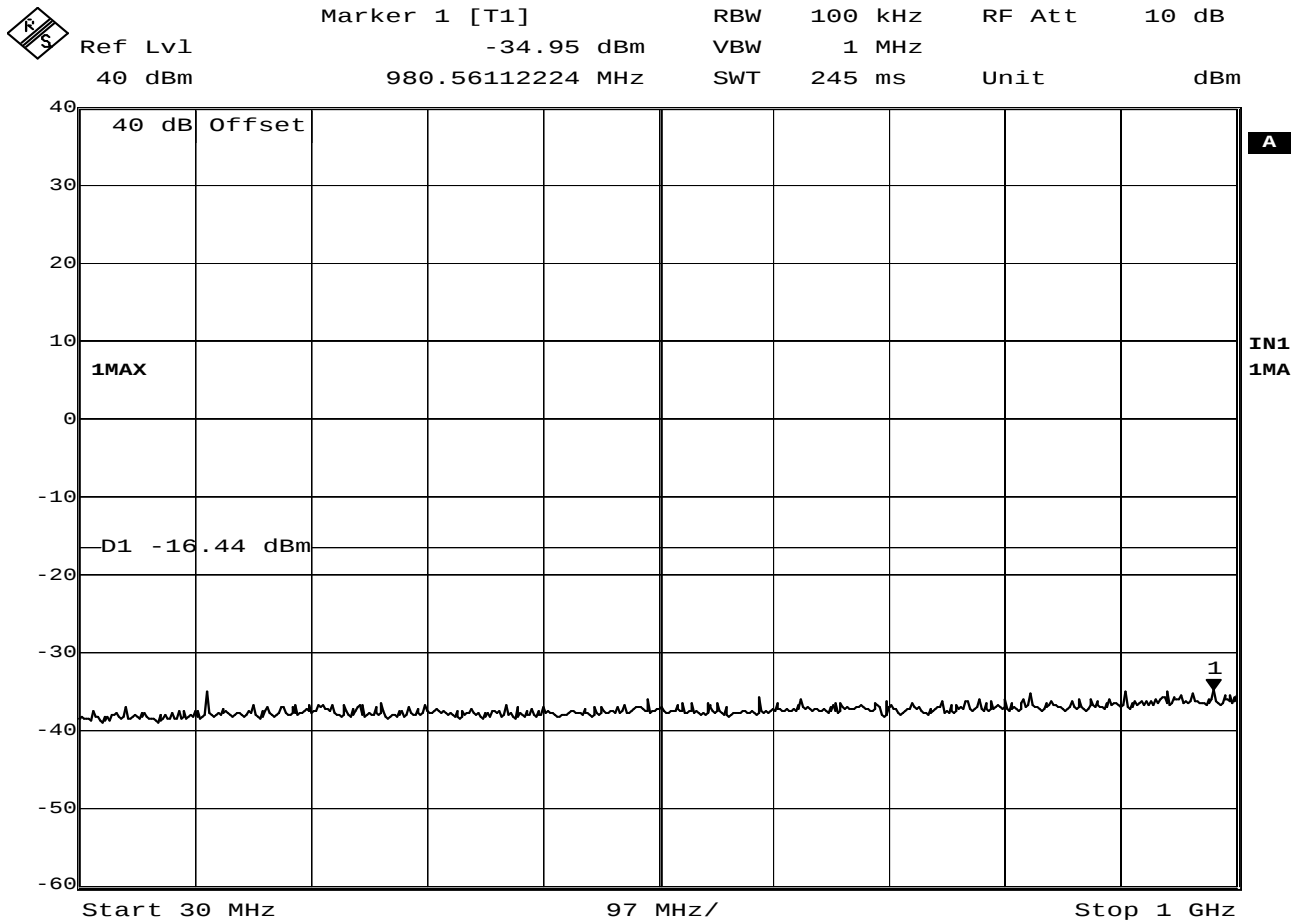
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 13:05:50

FCC 15.247(c) Antenna Conducted Emissions

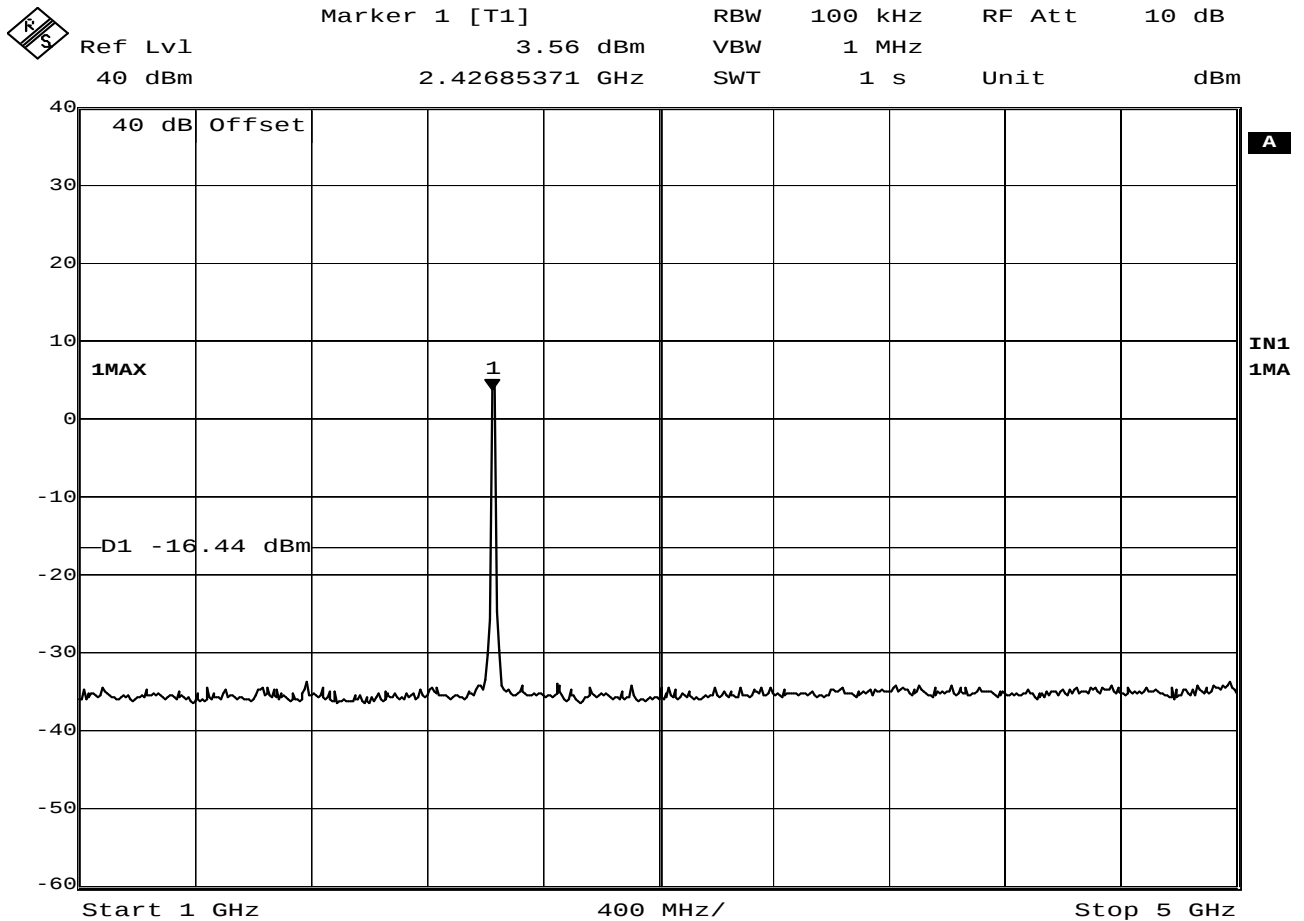
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 b, 11 Mbps, 2048 bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the +8.0dBm limit
EQUIPMENT USED : RBA0, T1P0



Date: 29.OCT.2010 09:07:24

FCC 15.247(c) Antenna Conducted Emissions

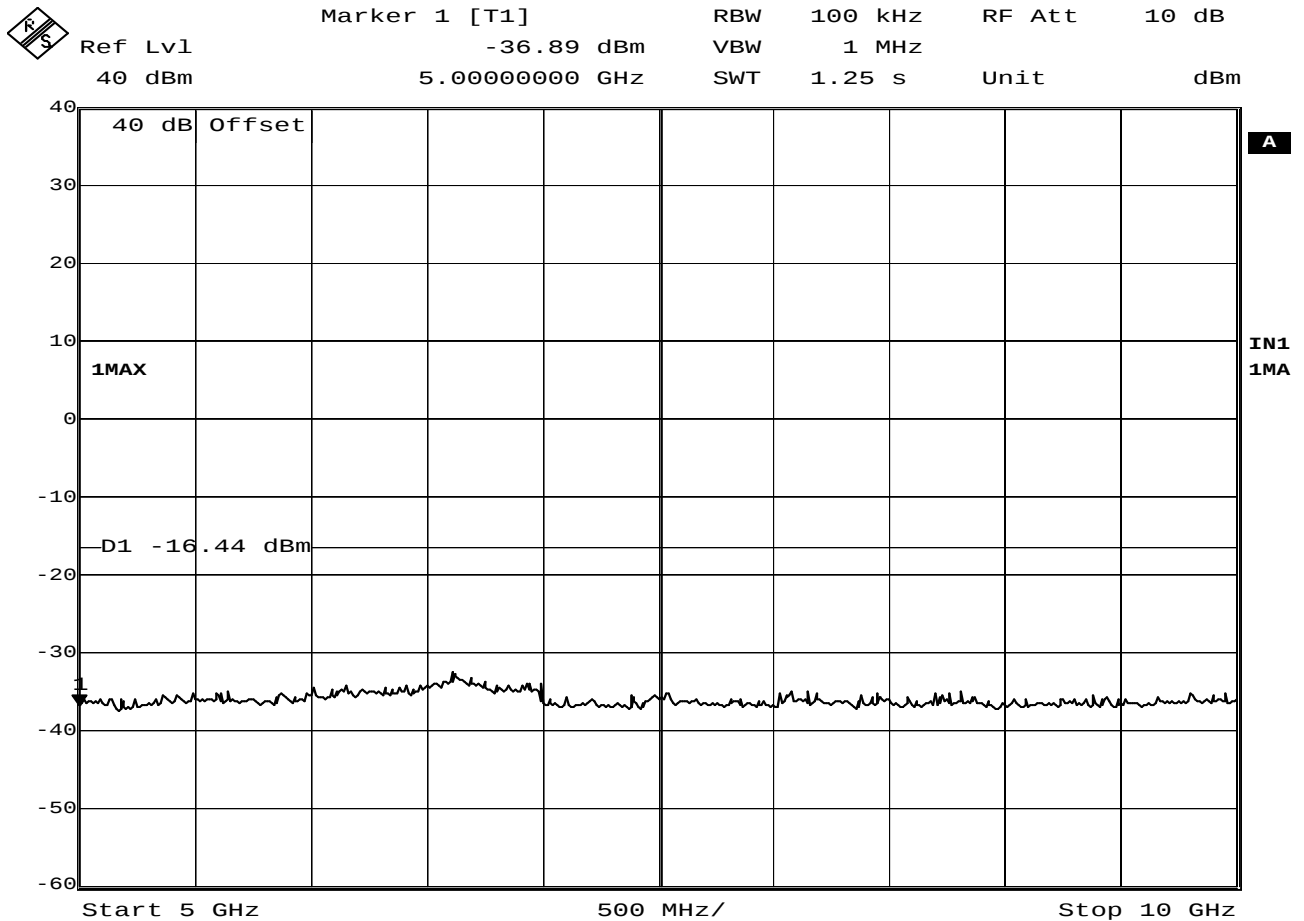
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:05:11

FCC 15.247(c) Antenna Conducted Emissions

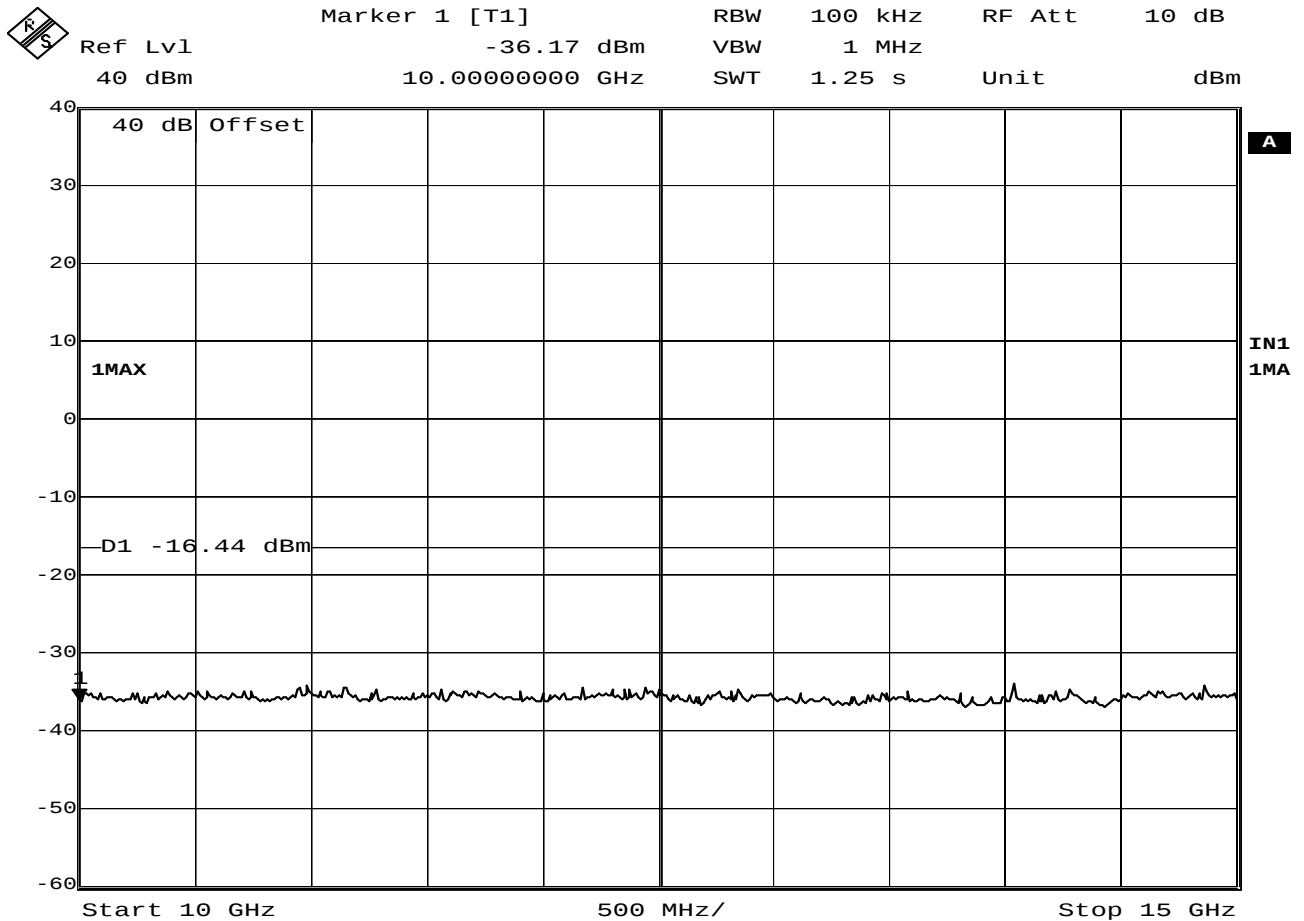
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2437MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:14:08

FCC 15.247(c) Antenna Conducted Emissions

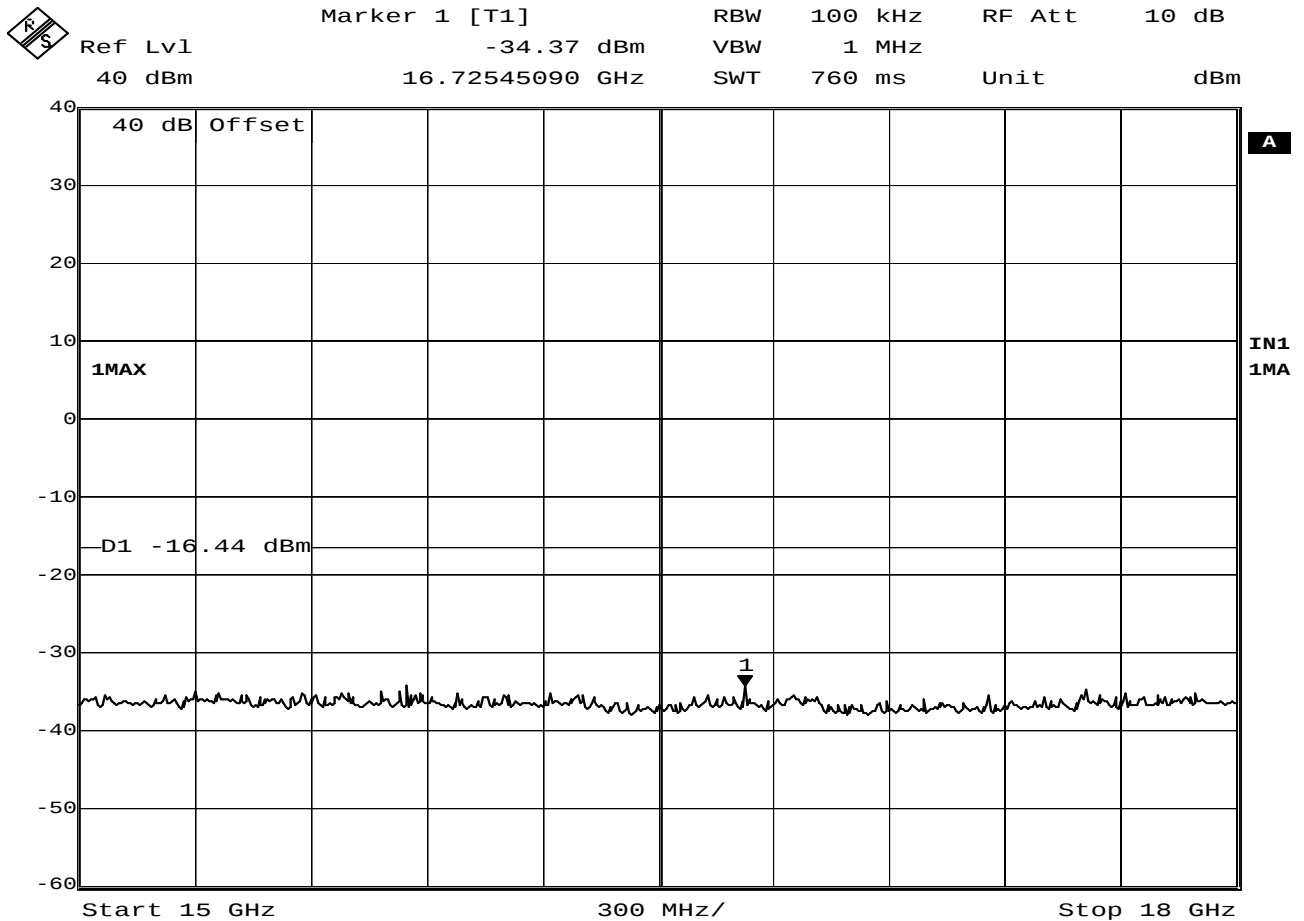
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:20:40

FCC 15.247(c) Antenna Conducted Emissions

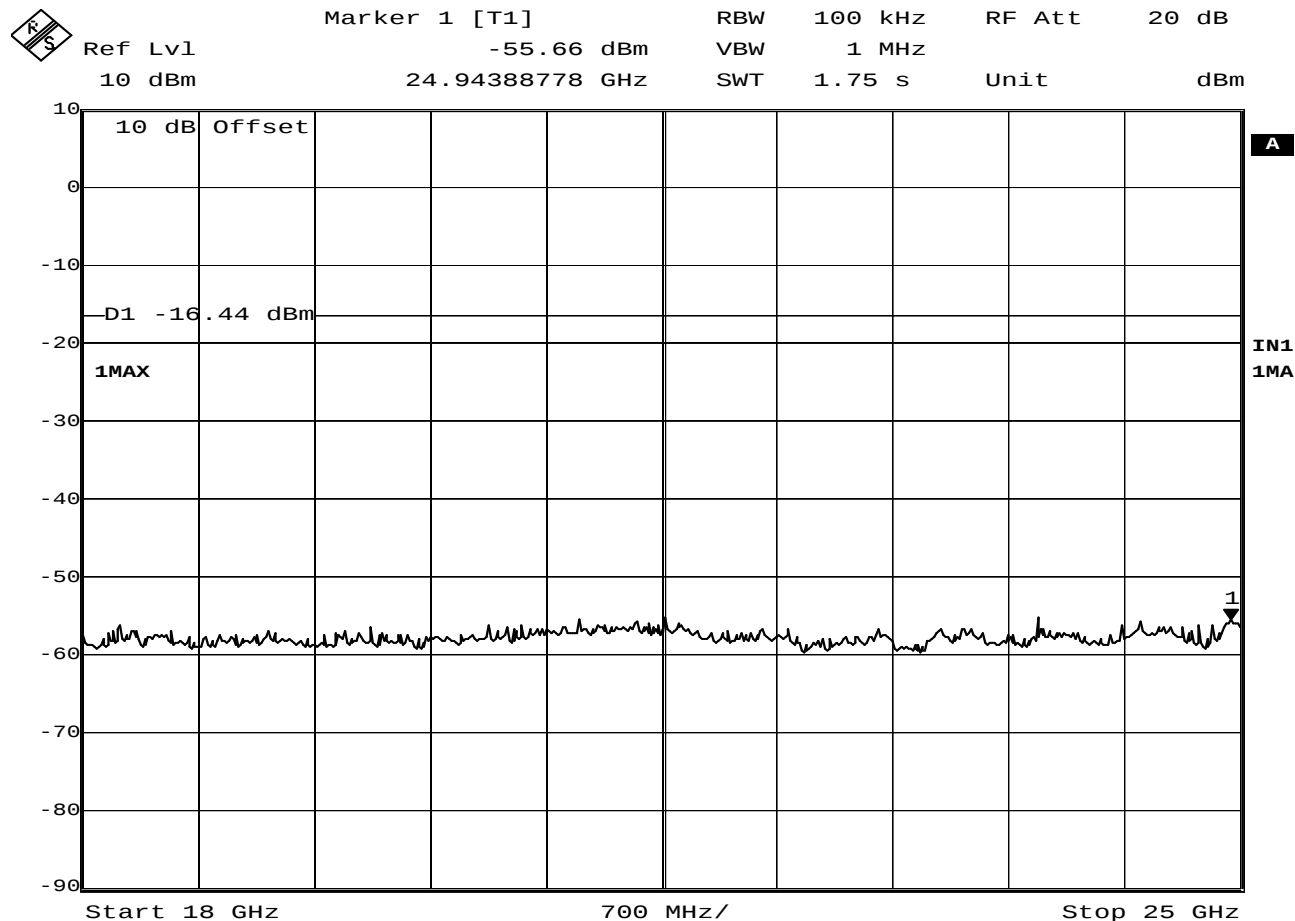
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:21:49

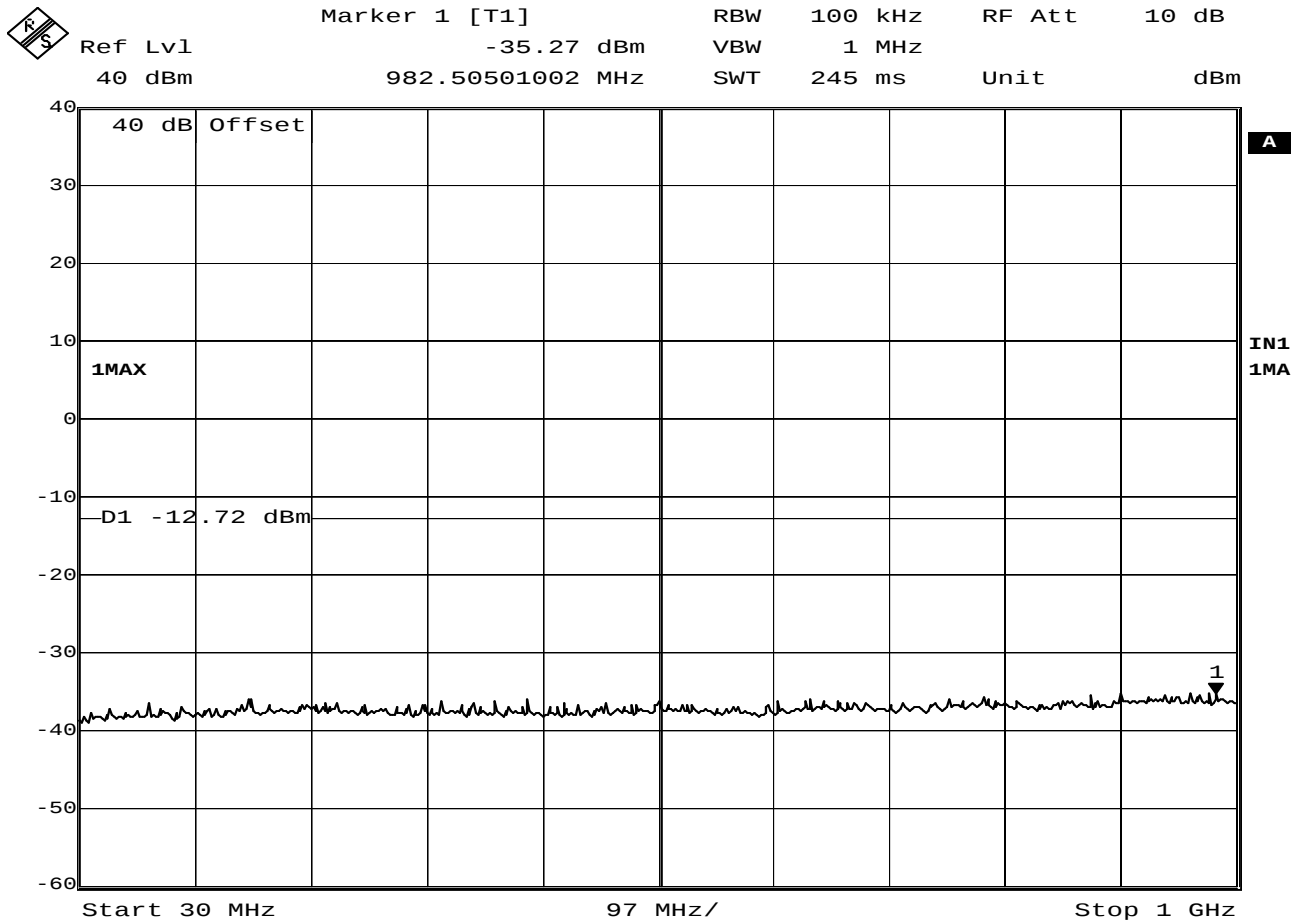
FCC 15.247(c) Antenna Conducted Emissions

MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 13:15:00
FCC 15.247(c) Antenna Conducted Emissions

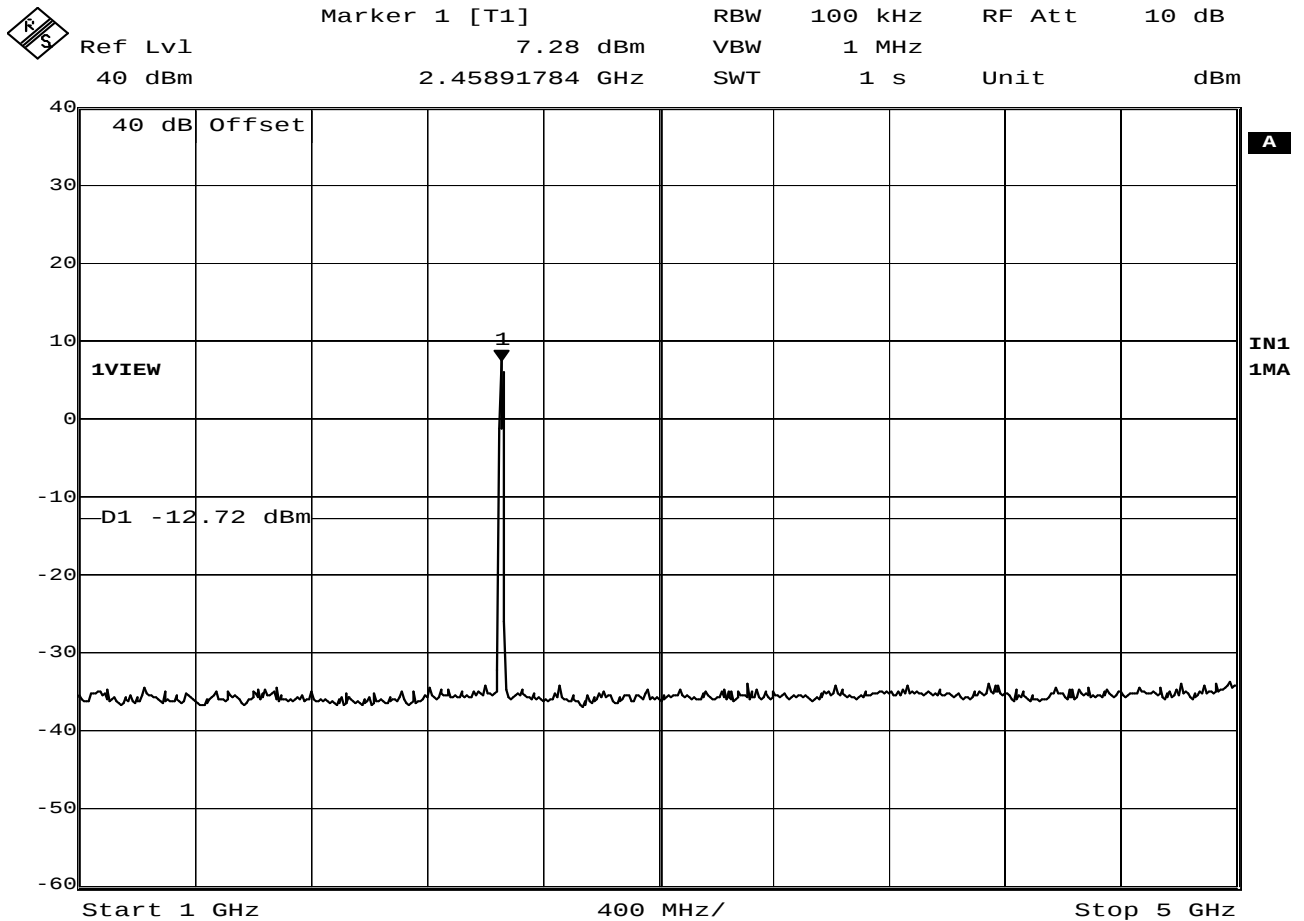
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2437MHz, 802.11 g, 54 Mbps, 2048 bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the +8.0dBm limit
EQUIPMENT USED : RBA0, T1P0



Date: 29.OCT.2010 08:46:01

FCC 15.247(c) Antenna Conducted Emissions

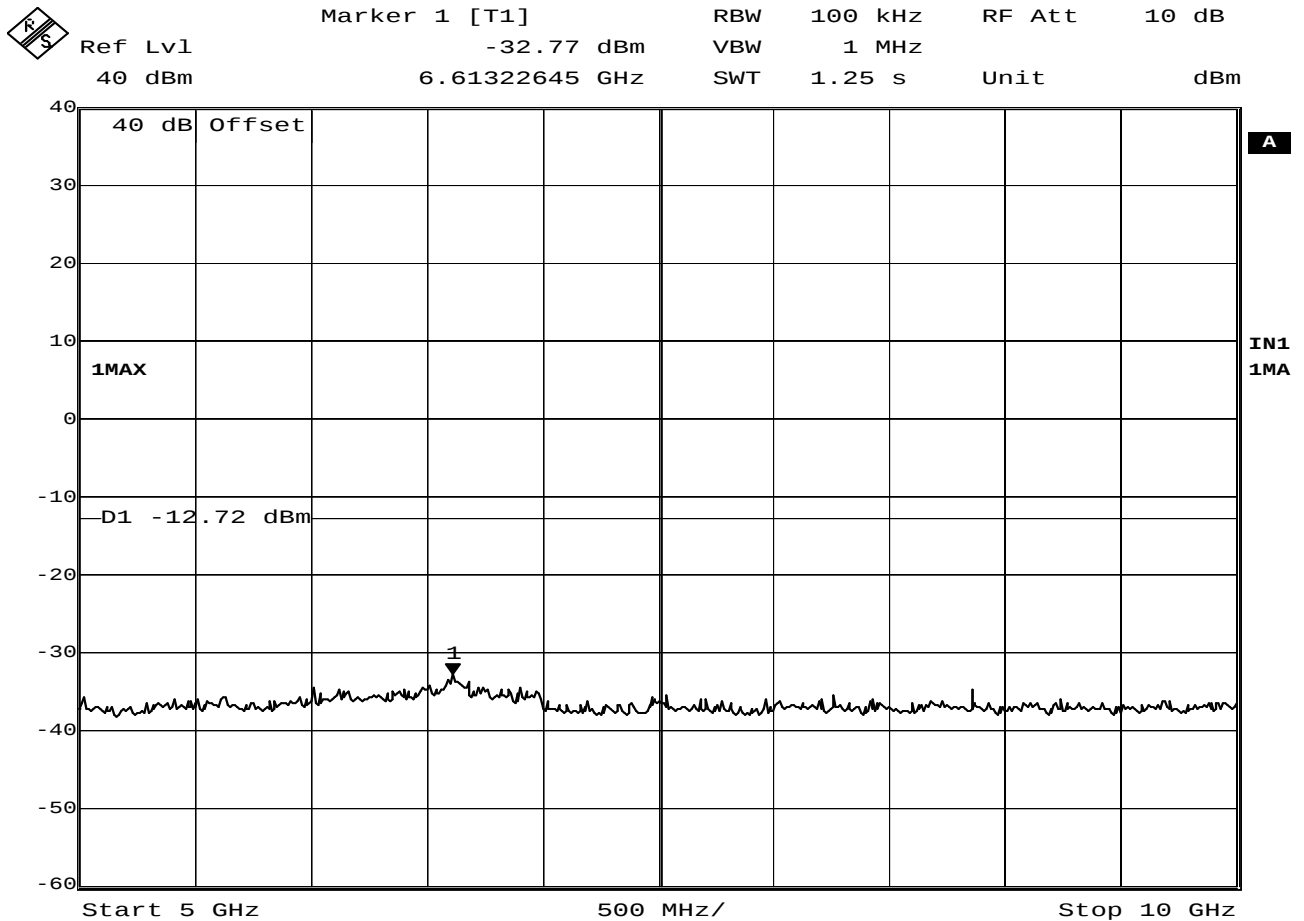
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2462MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:43:04

FCC 15.247(c) Antenna Conducted Emissions

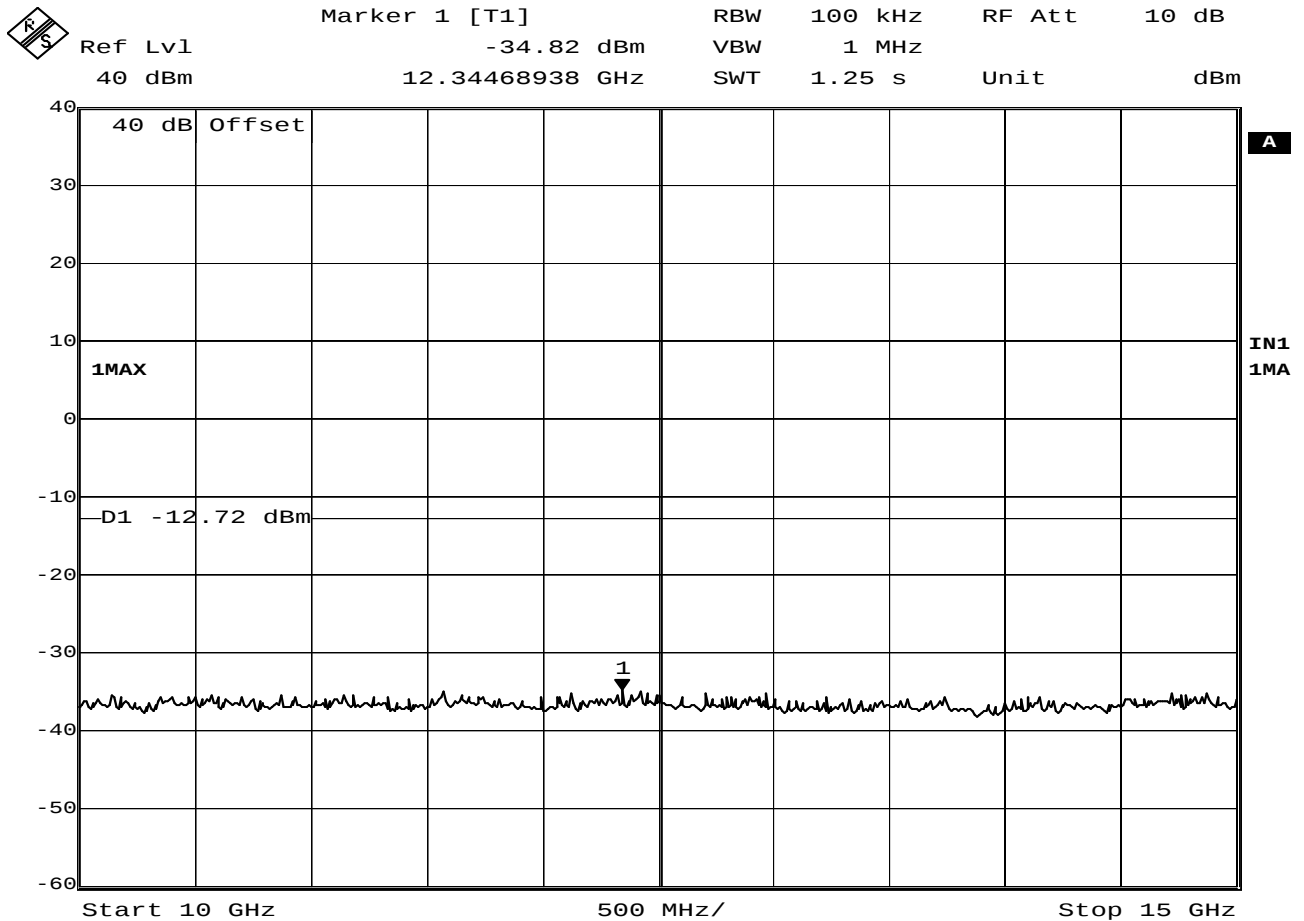
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:47:32

FCC 15.247(c) Antenna Conducted Emissions

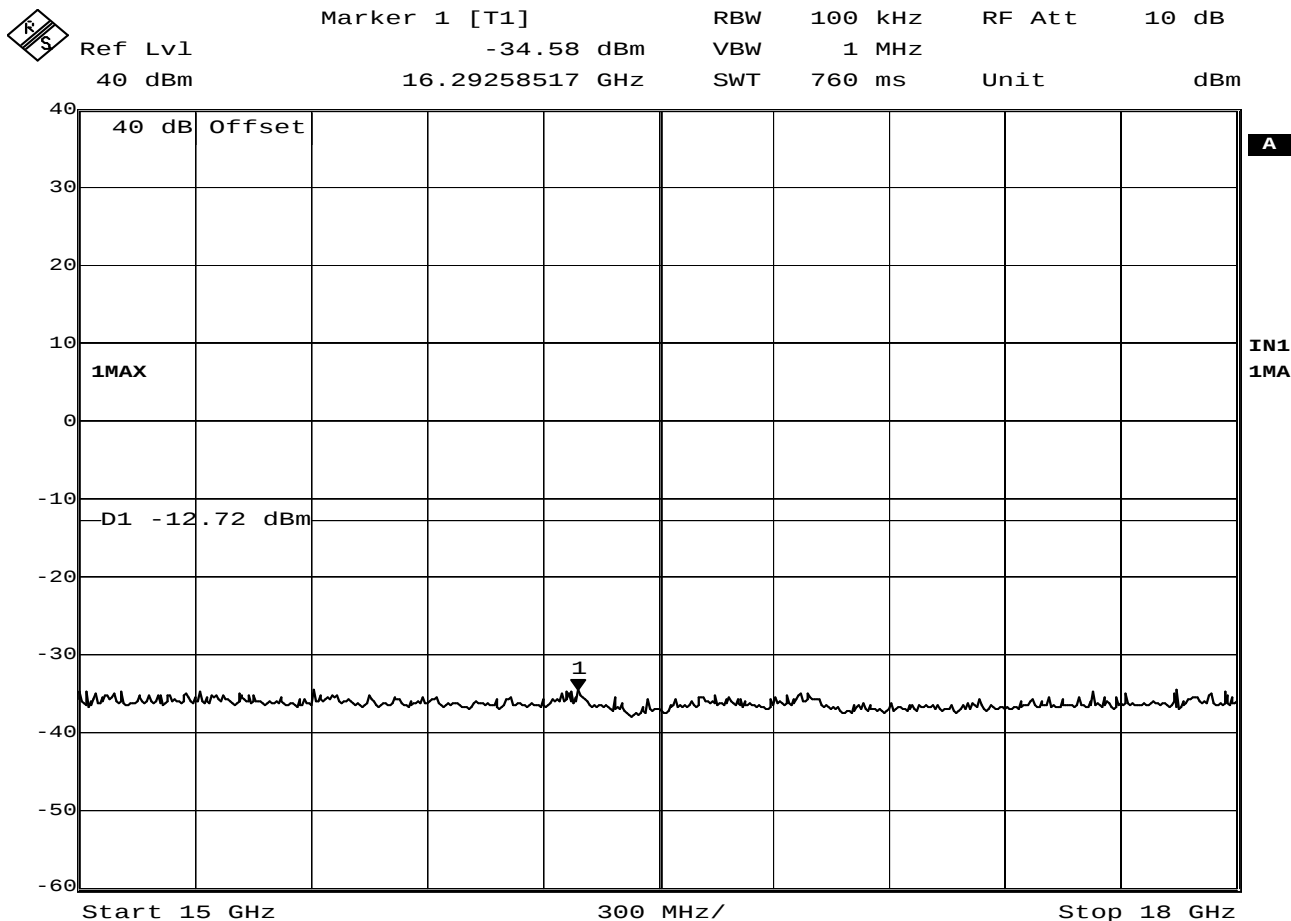
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2462MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:48:50

FCC 15.247(c) Antenna Conducted Emissions

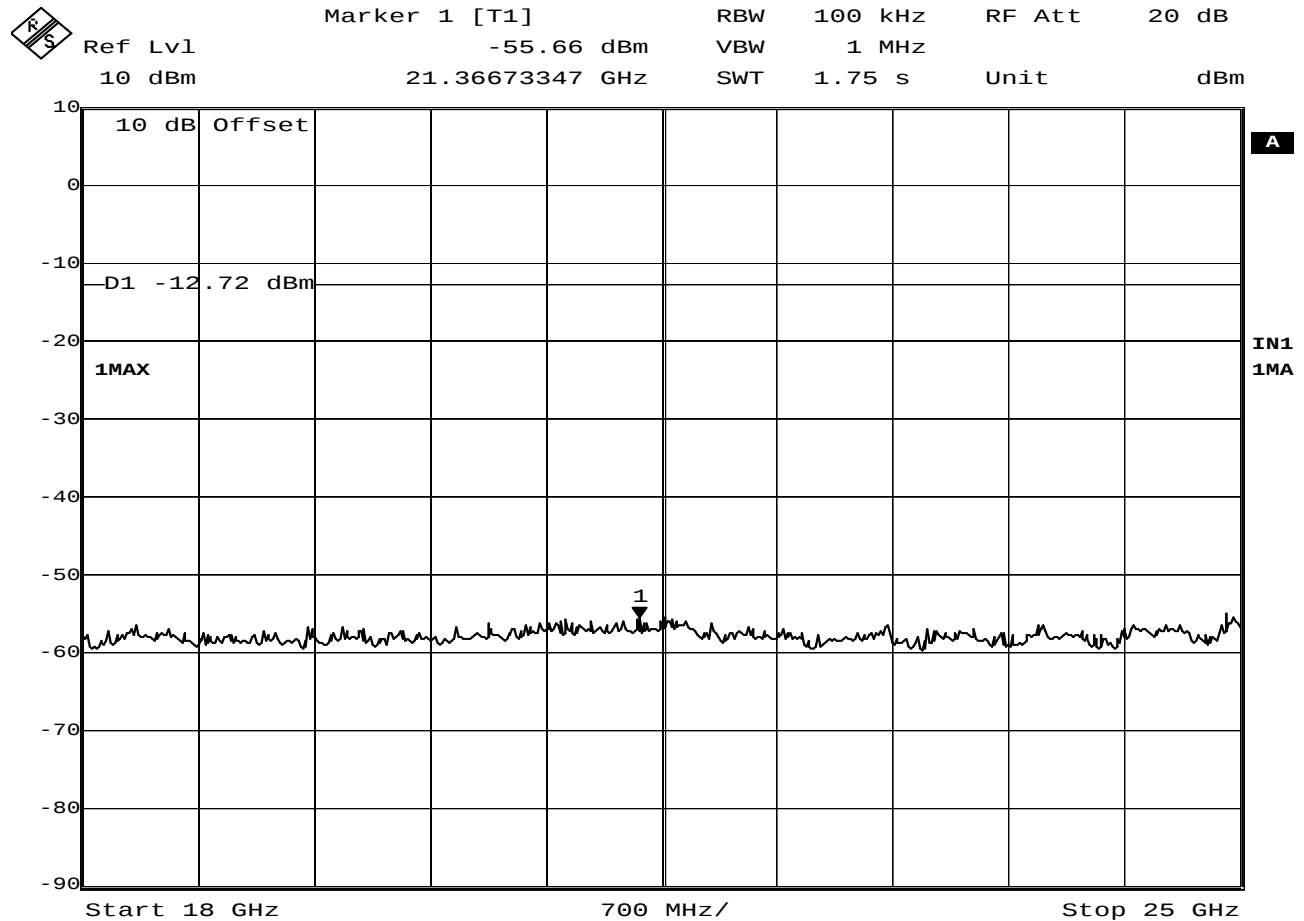
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2462MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 08:50:51

FCC 15.247(c) Antenna Conducted Emissions

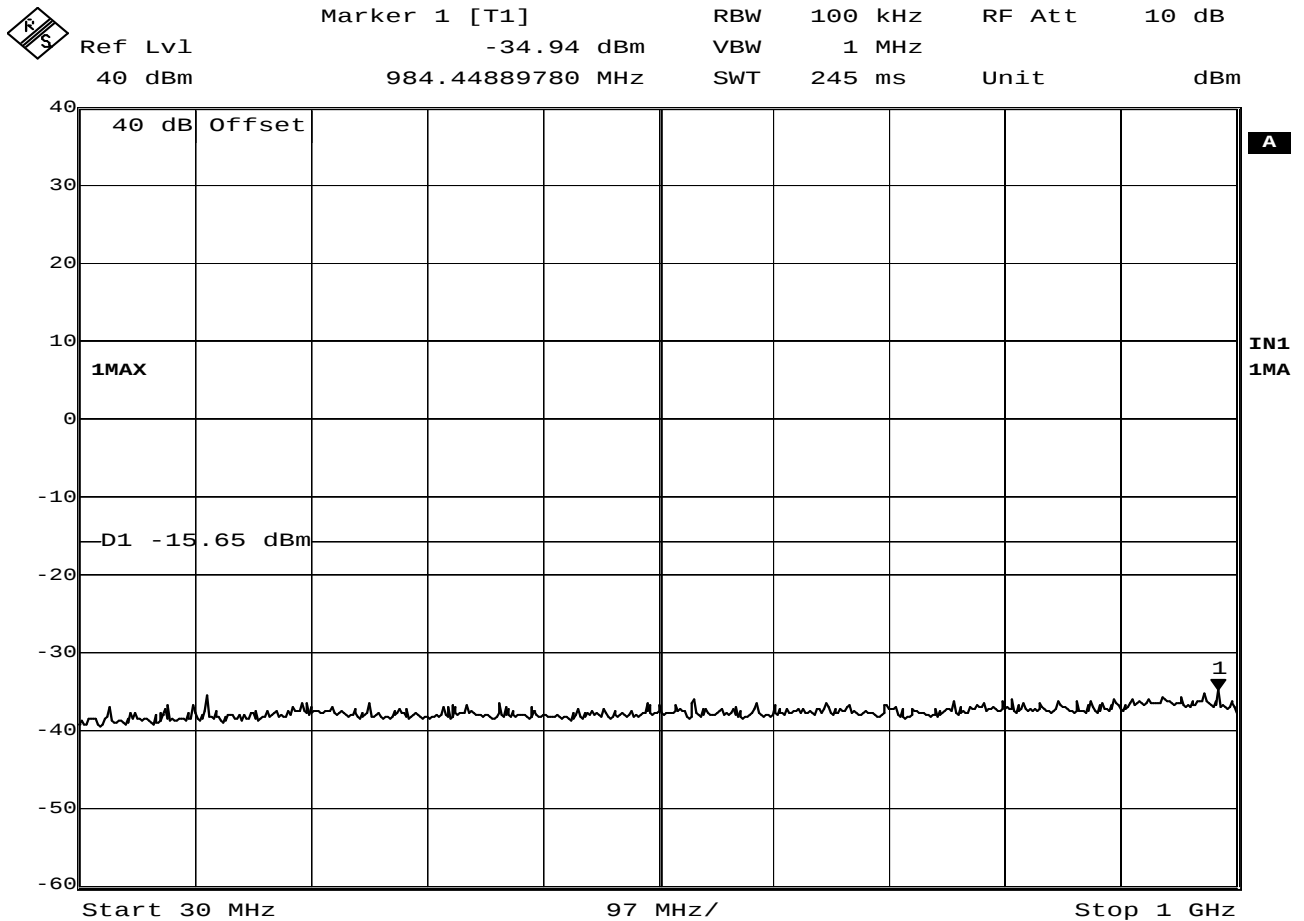
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 b, 11Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 13:09:45

FCC 15.247(c) Antenna Conducted Emissions

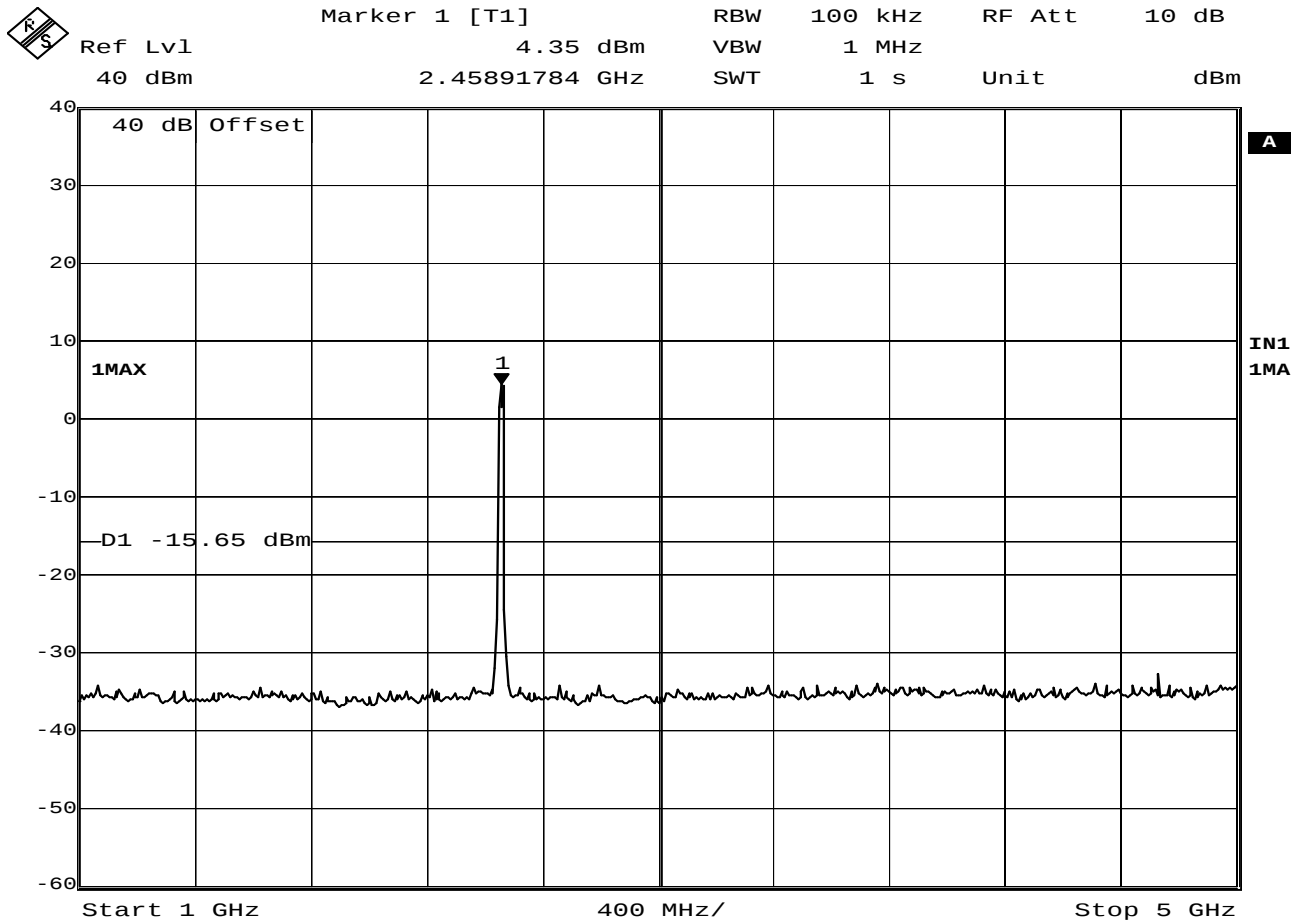
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2462MHz, 802.11 b, 11 Mbps, 2048 bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the +8.0dBm limit
EQUIPMENT USED : RBA0, T1P0



Date: 29.OCT.2010 09:27:48

FCC 15.247(c) Antenna Conducted Emissions

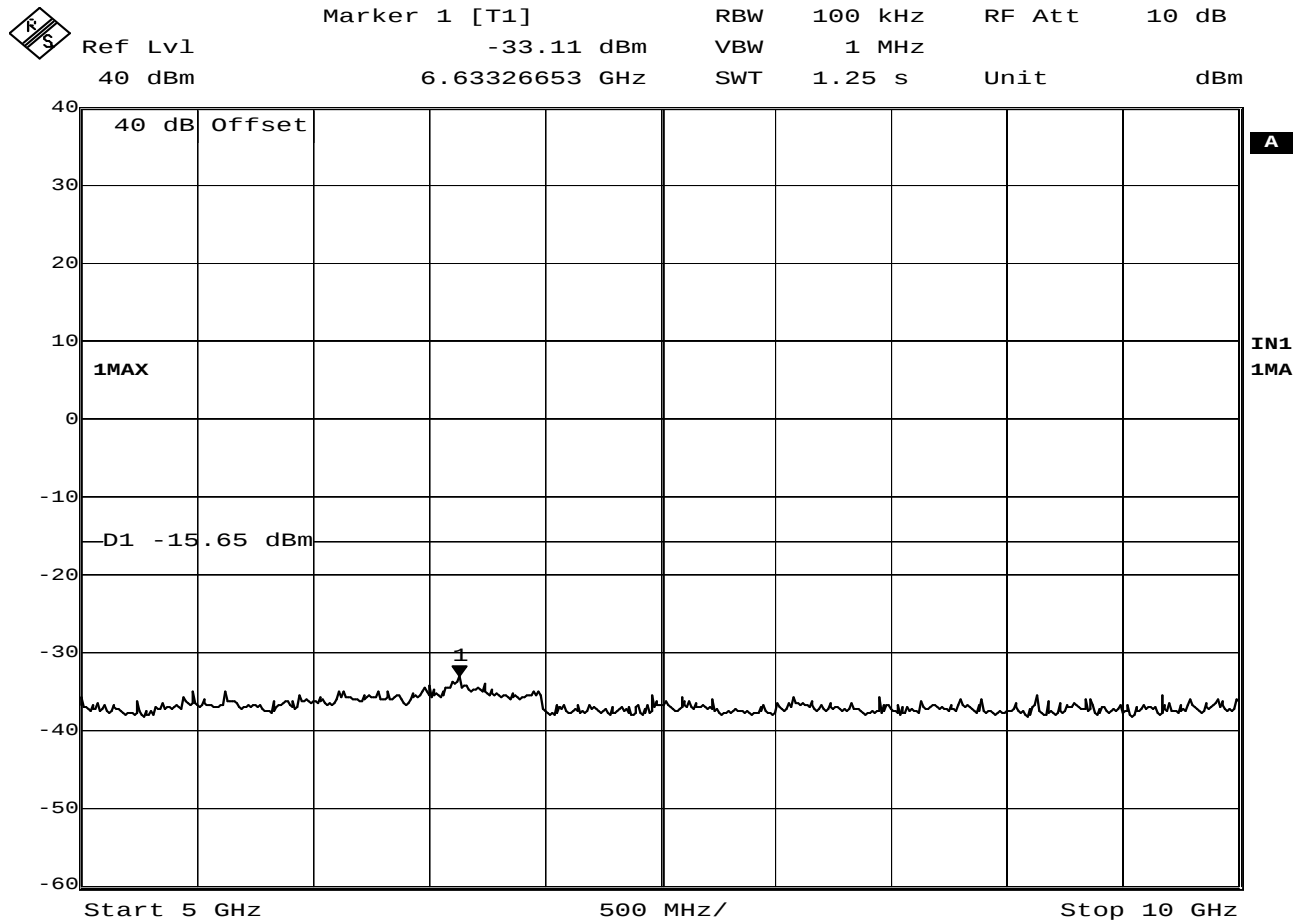
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:26:27

FCC 15.247(c) Antenna Conducted Emissions

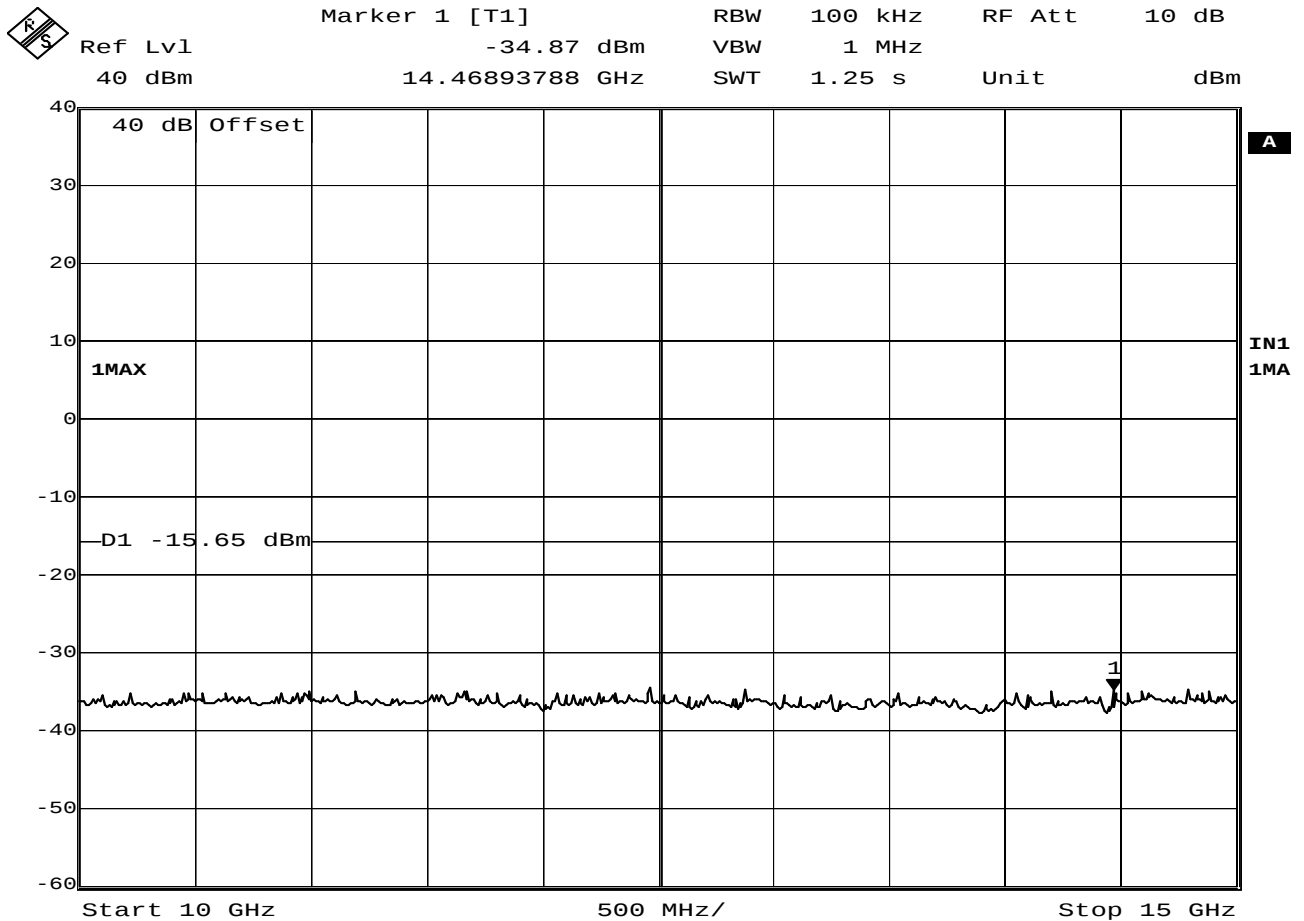
MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:29:09

FCC 15.247(c) Antenna Conducted Emissions

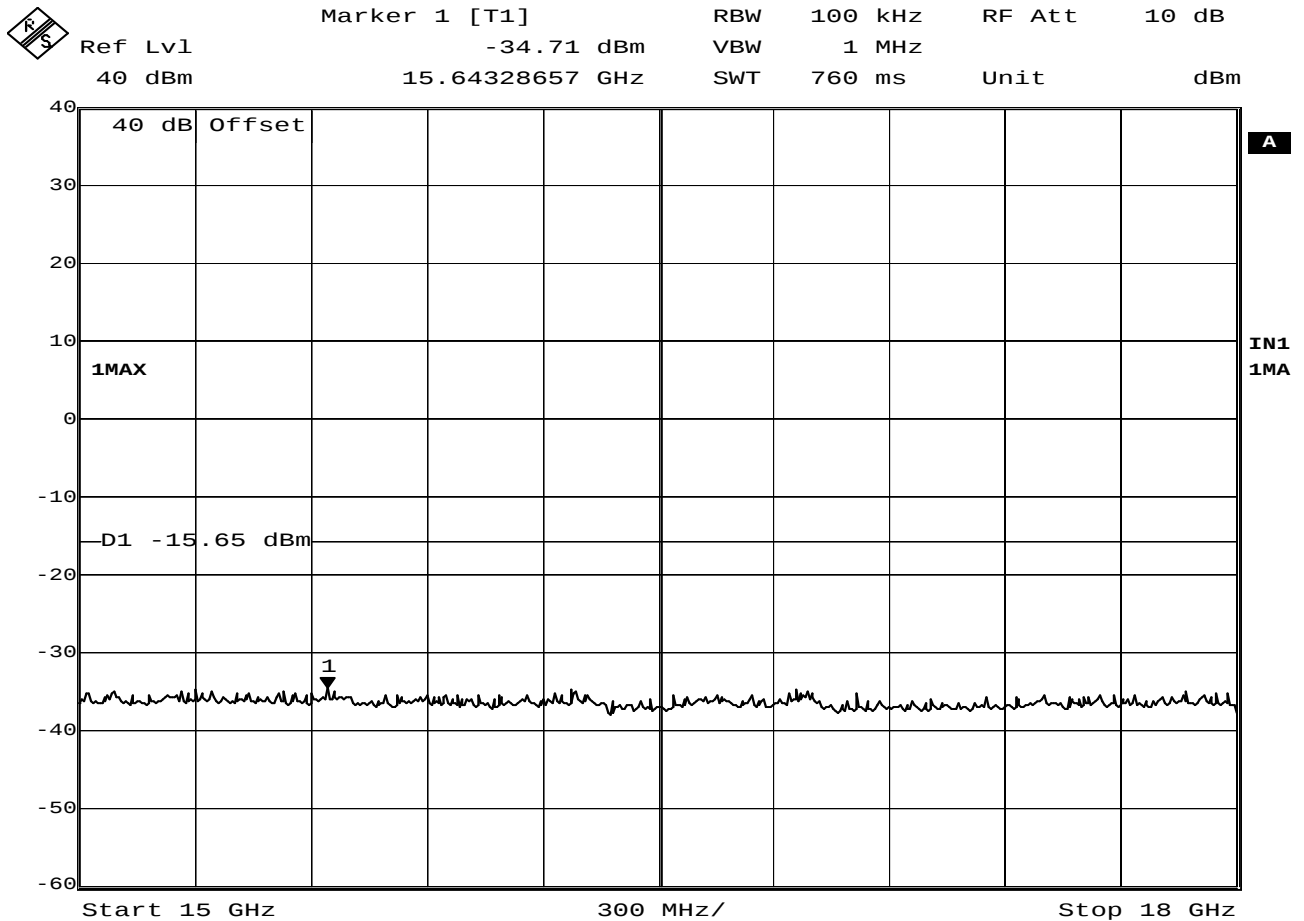
MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2462MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:30:47

FCC 15.247(c) Antenna Conducted Emissions

MANUFACTURER	: Continental Automotive
MODEL NUMBER	: Pass P3
SERIAL NUMBER	: FCC WiFi 1
TEST MODE	: Tx @ 2462MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES	: Antenna Conducted
TEST DATE	: October 29, 2010
TEST PARAMETERS	: Antenna Conducted Emissions
NOTES	: Display Line D1 Represents the level that is 20dB below the highest level in the band when measured with a 100kHz bandwidth.
EQUIPMENT USED	: RBA0, T2D2, T2S7



Date: 29.OCT.2010 09:32:50

FCC 15.247(c) Antenna Conducted Emissions

MANUFACTURER : Continental Automotive
MODEL NUMBER : Pass P3
SERIAL NUMBER : FCC WiFi 1
TEST MODE : Tx @ 2462MHz, 802.11 g, 54Mbps, 2048bytes payload
NOTES : Antenna Conducted
TEST DATE : October 29, 2010
TEST PARAMETERS : Antenna Conducted Emissions
NOTES : Display Line D1 Represents the level that is 20dB below the highest level in the
band when measured with a 100kHz bandwidth.
EQUIPMENT USED : RBA0, T2D2, T2S7