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## EMC Test Report

## Application for Grant of Equipment Authorization

Industry Canada RSS-Gen Issue 4 / RSS 210 Issue 8 FCC Part 15, Subpart E

60-E255040
PGR5G4360M
Pace Americas Inc. 310 Providence Mine Road Nevada City, CA 95959
National Technical Systems - Silicon Valley 41039 Boyce Road. Fremont, CA. 94538-2435
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## VALIDATING SIGNATORIES

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## **REVISION HISTORY**

Rev#	Date	Comments	Modified By
-	March 8, 2016	First release	
1	March 15, 2016	Corrected typographical error on page 6, repeated band edge and spurious emissions tests for results on pages 76, 77, 80, 81, 82, 88, 90 and 120	
2	April 28, 2017	Revised to add new data for operation in UNII-1, UNII-2 and UNII-3 bands	David Guidotti
3	May 5, 2017	Revised to correct various tabular data, add notes about spurious emissions in the 5150-5250 and 5725-5850 MHz bands and spurious emissions below 1 GHz	David Bare

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#### SCOPE

An electromagnetic emissions test has been performed on the Pace Americas Inc. model 260-E255040, pursuant to the following rules:

FCC Part 15, Subpart E requirements for UNII Devices

Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in the following reference standards and as outlined in National Technical Systems - Silicon Valley test procedures:

ANSI C63.10-2013 FCC General UNII Test Procedures KDB789033

The intentional radiator above has been tested in a simulated typical installation to demonstrate compliance with the relevant Industry Canada performance and procedural standards.

Final system data was gathered in a mode that tended to maximize emissions by varying orientation of EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization.

Every practical effort was made to perform an impartial test using appropriate test equipment of known calibration. All pertinent factors have been applied to reach the determination of compliance.



## **OBJECTIVE**

The primary objective of the manufacturer is compliance with the regulations outlined in the previous section.

Prior to marketing in the USA, all unlicensed transmitters and transceivers require certification. Receive-only devices operating between 30 MHz and 960 MHz are subject to either certification or a manufacturer's declaration of conformity, with all other receive-only devices exempt from the technical requirements.

Prior to marketing in Canada, Class I transmitters, receivers and transceivers require certification. Class II devices are required to meet the appropriate technical requirements but are exempt from certification requirements.

Certification is a procedure where the manufacturer submits test data and technical information to a certification body and receives a certificate or grant of equipment authorization upon successful completion of the certification body's review of the submitted documents. Once the equipment authorization has been obtained, the label indicating compliance must be attached to all identical units, which are subsequently manufactured.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which may result in increased emissions should be checked to ensure compliance has been maintained (i.e., printed circuit board layout changes, different line filter, different power supply, harnessing or I/O cable changes, etc.).

## STATEMENT OF COMPLIANCE

The tested sample of Pace Americas Inc. model 260-E255040 complied with the requirements of the following regulations:

FCC Part 15, Subpart E requirements for UNII Devices

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

The test results recorded herein are based on a single type test of Pace Americas Inc. model 260-E255040 and therefore apply only to the tested sample. The sample was selected and prepared by Mark Rieger of Pace Americas Inc.

## DEVIATIONS FROM THE STANDARDS

No deviations were made from the published requirements listed in the scope of this report.

## TEST RESULTS SUMMARY

## UNII / LELAN DEVICES

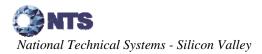
**OPERATION IN THE 5.15 – 5.25 GHZ BAND – INDOOR ACCESS POINTS** 

FCC Rule Part	Description	Measured Value / Comments	Limit / Requirement		
15.407 (a) (1) (i) or (ii)	Output Power	802.11a: 0.162 W           n20: 0.392 W           Output Power         n40: 0.259 W           ac80: 0.037 W           (Max eirp: 0.162 W))		Complies	
15.407 (a) (1) (i), (ii) or (iii)	Power Spectral Density	802.11a: 12.6 mW/MHz n20: 30.7 mW/MHz n40: 10.9 mW/MHz ac80: 1.0 mW/MHz	17 dBm/MHz	Complies	
15.407(b) (1) / Spurious Emissions 15.209 above 1GHz		53.9 dBµV/m @ 5380.9 MHz (-0.1 dB)	Refer to the limits section (p21) for restricted bands, all others -27 dBm/MHz EIRP	Complies	
Note: The original results for radiated spurious emissions for the 5150-5250 MHz band were obtained at power levels that exceed the new powers for these bands thus no spurious emissions tests were performed for this permissive change.					

#### OPERATION IN THE 5.25 – 5.35 GHZ BAND

FCC Rule Part	t Description Measured Value / Limit / Requirement		Result (margin)		
15.407(a) (2)		26dB Bandwidth	> 20MHz for all modes	N/A – limits output power if < 20MHz	N/A
15.407(a) (2)		Output Power	802.11a: 0.068 W n20: 0.095 W n40: 0.160 W ac80: 0.085 W (Max eirp: 0.996 W)	24 dBm (250 mW) EIRP <= 1W	Complies
15.407(a) (2)		Power Spectral Density	802.11a: 5.8 mW/MHz n20: 7.9 mW/MHz n40: 7.1 mW/MHz ac80: 2.4 mW/MHz	11 dBm/MHz	Complies
15.407(b) (2) / 15.209		Spurious Emissions above 1GHz	53.9 dBµV/m @ 5350.6 MHz (-0.1 dB)	Refer to the limits section (p21) for restricted bands, all others -27 dBm/MHz EIRP	Complies

Note: Previous results for emissions below 1 GHz showed that there was no discernible difference in the emissions when changing the EUT frequency. Therefore no additional tests below 1 GHz were performed for this permissive change to add this frequency band.



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#### OPERATION IN THE 5.47 - 5.725 GHZ BAND

FCC Rule Part	Description	Measured Value / Comments		Result (margin)
15.407(a) (2)	26dB Bandwidth	> 20MHz for all modes	N/A – limits output power if < 20MHz	N/A
15.407(a) (2)	Output Power	a: 0.074 W n20: 0.093 W n40: 0.160 W ac80: 0.159 W	24 dBm (250 mW) EIRP <= 1W	Complies
		(Max eirp: 1.005 W)		
15.407(a) (2)	Power Spectral Density	a: 7.6 mW/MHz n20: 7.7 mW/MHz n40: 7.4 mW/MHz ac80: 4.1 mW/MHz	11 dBm/MHz	Complies
15.407(b) (3) / 15.209	Spurious Emissions above 1GHz	53.3 dBµV/m @ 5725.3 MHz (-0.7 dB)	Refer to the limits section (p21) for restricted bands, all others -27 dBm/MHz EIRP	Complies
	ults for emissions below 1 GHz showed that frequency. Therefore no additional tests be			

OPERATION IN THE 5.725 – 5.85 GHZ BAND

FCC Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)	
15.407(e)	6dB Bandwidth	6 dB BW is > 500 kHz	>= 500 kHz	Complies	
15.407(a) (3)	Output Power (multipoint systems)	802.11a: 0.166 W n20: 0.479 W n40: 0.501 W ac80: 0.284 W (Max eirp: 3.445 W)	30 dBm (1 W) 27.6 dBm (575 mW) <sup>1</sup> 27.6 dBm (575 mW) <sup>1</sup> 27.6 dBm (575 mW) <sup>1</sup> EIRP <= 4W	Complies	
15.407(a) (3)	Power Spectral Density	a: 13.8 mW/MHz n20: 39.3 mW/MHz n40: 21.1 mW/MHz ac80: 7.6 mW/MHz	30 dBm / 500 kHz 27.6 dBm / 500 kHz <sup>1</sup> 27.6 dBm / 500 kHz <sup>1</sup> 27.6 dBm / 500 kHz <sup>1</sup>	Complies	
15.407(b) (4) / 15.209	Spurious Emissions above 1GHz	53.8 dBµV/m @ 11569.7 MHz (-0.2 dB	Refer to the limits section (p21) for restricted bands, all others -17 dBm/MHz EIRP bandedge and -27 dBm/MHz EIRP	Complies	
Note 1 – The limit was reduced as the effective antenna gain exceeded 6 dBi Note 2 - The original results for radiated spurious emissions for the 5725-5850 MHz band were obtained at power levels that exceed the new powers for this band thus no spurious emissions tests were performed for this permissive change.					

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.407	RSS-247 6.1	Modulation	OFDM Digital Modulation is used	Digital modulation is required	Complies
15.407(b) (6) / 15.209		Spurious Emissions below 1GHz	33.7 dBµV/m @ 30.27 MHz (-6.3 dB)	Refer to page 22	Complies
15.31 (m)		Channel Selection	Emissions tested at outermost and middle channels in each band	Device was tested on the top, bottom and center channels in each band	N/A
15.407 (c)		Operation in the absence of information to transmit	Operation is discontinued in the absence of information (refer to Operational Description)	Device shall automatically discontinue operation in the absence of information to transmit	Complies
15.407 (g)		Frequency Stability	Frequency stability is better than 10 ppm.	Signal shall remain within the allocated band	Complies
15.407 (h1)		Transmit Power Control	TCP mechanism is discussed in the Operational Description	The U-NII device shall have the capability to operate with a mean EIRP value lower than 24dBm (250mW)	Complies
15.407 (h2)		Dynamic frequency Selection (device with radar detection)	Refer to separate test report, reference R102779	Threshold -62dBm (- 64dBm if eirp > 200mW) Channel Availability Check > 60s Channel closing transmission time < 260ms Channel move time < 10s Non occupancy period > 30minutes	Complies

#### REQUIREMENTS FOR ALL U-NII/LELAN BANDS

#### GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

FCC Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	RF Connector	u.fl connector used	Unique or integral antenna required	Complies
15.407 (b) (6)	AC Conducted Emissions	39.4 dBµV @ 0.474 MHz (-7.0 dB)	Refer to page 21	Complies
15.247 (i) 15.407 (f)	RF Exposure Requirements	Refer to MPE calculations in separate exhibit and User Manual statements.	Refer to OET 65, FCC Part 1 and RSS 102	Complies

#### MEASUREMENT UNCERTAINTIES

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level and were calculated in accordance with UKAS document LAB 34.

Measurement Type	Measurement Unit	Frequency Range	Expanded Uncertainty
RF power, conducted (power meter)	dBm	25 to 7000 MHz	± 0.52 dB
RF power, conducted (Spectrum analyzer)	dBm	25 to 7000 MHz	± 0.7 dB
Conducted emission of transmitter	dBm	25 to 26500 MHz	± 0.7 dB
Conducted emission of receiver	dBm	25 to 26500 MHz	± 0.7 dB
Radiated emission (substitution method)	dBm	25 to 26500 MHz	± 2.5 dB
Radiated emission (field strength)	dDu\//m	25 to 1000 MHz	± 3.6 dB
Radiated emission (neid strength)	dBµV/m	1000 to 40000 MHz	± 6.0 dB
Conducted Emissions (AC Power)	dBµV	0.15 to 30 MHz	± 2.4 dB

## EQUIPMENT UNDER TEST (EUT) DETAILS

## GENERAL

The Pace Americas Inc. model 260-E255040 is an 802.11anac radio module that uses 20, 40 and 80 MHz nominal bandwidths.

The sample was received on January 4, 2016 and tested on January 4, 6, 7, 8, 11, 28 and 29, February 1, 2, 4, 5, 10 and 16, March 2, 4, May 13, 17, 19, 25 and June 1, 2, 6, 17, 2016. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Pace Americas	260-E255040	Wi-Fi module	F56154520246	PGR5G4360M

#### OTHER EUT DETAILS

The following EUT details should be noted: The EUT operates only on 1 chain in legacy mode and only with all 3 chains in MIMO modes. The EUT was tested stand-alone on the interface board that will be used in a final product.

#### ANTENNA SYSTEM

The antenna system consists of three PCB antennas with attached coaxial cables for connection to the module. The Pace N319 5 GHz antennas were used for the testing.

#### ENCLOSURE

The EUT has no enclosure. The PCB measures 7 cm by 7 cm. It is designed to be installed within the enclosure of a host.

#### **MODIFICATIONS**

No modifications were made to the EUT during the time the product was at NTS Silicon Valley.

#### SUPPORT EQUIPMENT

The following equipment was used as support equipment for testing:

Company	Model	Description	Serial Number	FCC ID
Delta	ADP-66DR A	Power Adapter	HUGD5B9005J	-
Pace	-	Interface board	-	-

The following equipment was used as remote support equipment for emissions testing:

Company	Model	Description	Serial Number	FCC ID
Dell	Latitude D610	Laptop	6XYYQ91	-

## EUT INTERFACE PORTS

The I/O cabling configuration during testing was as follows:

Port	Connected To	Cable(s)		
T OIL	Connected 10	Description	Shielded or Unshielded	Length(m)
Antenna port (x3)	Antenna	Coax	Shielded	Varies, Integral to antenna

The module connects to the interface board via PCI-E connector.

The cabling configuration of the support equipment used during testing was as follows:

Port	Connected To	Cable(s)			
	Connected 10	Description	Shielded or Unshielded	Length(m)	
Interface board serial	Remote Laptop	Adapter to Dsub and standard serial	Unshielded Shielded	10	
Interface board Ethernet	Remote Laptop	Cat 5	Unshielded	10	

## EUT OPERATION

During testing, the EUT was configured to transmit continuously on the selected channel, in the selected mode at the maximum power.

# TEST SITE

## GENERAL INFORMATION

Final test measurements were taken at the test sites listed below. Pursuant to section 2.948 of the FCC's Rules and section 3.3 of RSP-100, construction, calibration, and equipment data has been filed with the Commission and with industry Canada.

Site	Designation / Registration Numbers		Location	
	FCC	Canada		
Chamber 7	US0027	2845B-7	41039 Boyce Road Fremont, CA 94538-2435	

ANSI C63.4 recommends that ambient noise at the test site be at least 6 dB below the allowable limits. Ambient levels are below this requirement. The test site(s) contain separate areas for radiated and conducted emissions testing. Considerable engineering effort has been expended to ensure that the facilities conform to all pertinent requirements of ANSI C63.4.

## CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.10. Measurements are made with the EUT connected to the public power network through a nominal, standardized RF impedance, which is provided by a line impedance stabilization network, known as a LISN. A LISN is inserted in series with each current-carrying conductor in the EUT power cord.

## RADIATED EMISSIONS CONSIDERATIONS

The FCC has determined that radiation measurements made in a shielded enclosure are not suitable for determining levels of radiated emissions. Radiated measurements are performed in an open field environment or in a semi-anechoic chamber. The test sites are maintained free of conductive objects within the CISPR defined elliptical area incorporated in ANSI C63.4 guidelines and meet the Normalized Site Attenuation (NSA) requirements of ANSI C63.4.

## **MEASUREMENT INSTRUMENTATION**

#### RECEIVER SYSTEM

An EMI receiver as specified in CISPR 16-1-1 is used for emissions measurements. The receivers used can measure over the frequency range of 9 kHz up to 2000 MHz. These receivers allow both ease of measurement and high accuracy to be achieved. The receivers have Peak, Average, and CISPR (Quasi-peak) detectors built into their design so no external adapters are necessary. The receiver automatically sets the required bandwidth for the CISPR detector used during measurements. If the repetition frequency of the signal being measured is below 20Hz, peak measurements are made in lieu of Quasi-Peak measurements.

For measurements above the frequency range of the receivers, a spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis. Average measurements above 1000MHz are performed on the spectrum analyzer using the linear-average method with a resolution bandwidth of 1 MHz and a video bandwidth of 10 Hz, unless the signal is pulsed in which case the average (or video) bandwidth of the measuring instrument is reduced to onset of pulse desensitization and then increased.

#### INSTRUMENT CONTROL COMPUTER

Software is used to view and convert receiver measurements to the field strength at an antenna or voltage developed at the LISN measurement port, which is then compared directly with the appropriate specification limit. This provides faster, more accurate readings by performing the conversions described under Sample Calculations within the Test Procedures section of this report. Results are printed in a graphic and/or tabular format, as appropriate. A personal computer is used to record all measurements made with the receivers. The software used for radiated and conducted emissions measurements is NTS EMI Test Software (rev 2.10)

## LINE IMPEDANCE STABILIZATION NETWORK (LISN)

Line conducted measurements utilize a fifty microhenry Line Impedance Stabilization Network as the monitoring point. The LISN used also contains a 250 uH CISPR adapter. This network provides for calibrated radio frequency noise measurements by the design of the internal low pass and high pass filters on the EUT and measurement ports, respectively.

#### FILTERS/ATTENUATORS

External filters and precision attenuators are often connected between the receiving antenna or LISN and the receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

#### ANTENNAS

A loop antenna is used below 30 MHz. For the measurement range 30 MHz to 1000 MHz either a combination of a biconical antenna and a log periodic or a bi-log antenna is used. Above 1000 MHz, horn antennas are used. The antenna calibration factors to convert the received voltage to an electric field strength are included with appropriate cable loss and amplifier gain factors to determine an overall site factor, which is then programmed into the test receivers or incorporated into the test software.

#### ANTENNA MAST AND EQUIPMENT TURNTABLE

The antennas used to measure the radiated electric field strength are mounted on a nonconductive antenna mast equipped with a motor-drive to vary the antenna height. Measurements below 30 MHz are made with the loop antenna at a fixed height of 1m above the ground plane.

ANSI C63.10 specifies that the test height above ground for table mounted devices shall be 80 centimeters. Floor mounted equipment shall be placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor as specified in ANSI C63.4. During radiated measurements, the EUT is positioned on a motorized turntable in conformance with this requirement.

#### INSTRUMENT CALIBRATION

All test equipment is regularly checked to ensure that performance is maintained in accordance with the manufacturer's specifications. All antennas are calibrated at regular intervals with respect to tuned half-wave dipoles. An exhibit of this report contains the list of test equipment used and calibration information.

## TEST PROCEDURES

## EUT AND CABLE PLACEMENT

The regulations require that interconnecting cables be connected to the available ports of the unit and that the placement of the unit and the attached cables simulate the worst case orientation that can be expected from a typical installation, so far as practicable. To this end, the position of the unit and associated cabling is varied within the guidelines of ANSI C63.10, and the worst-case orientation is used for final measurements.

## CONDUCTED EMISSIONS

Conducted emissions are measured at the plug end of the power cord supplied with the EUT. Excess power cord length is wrapped in a bundle between 30 and 40 centimeters in length near the center of the cord. Preliminary measurements are made to determine the highest amplitude emission relative to the specification limit for all the modes of operation. Placement of system components and varying of cable positions are performed in each mode. A final peak mode scan is then performed in the position and mode for which the highest emission was noted on all current carrying conductors of the power cord.

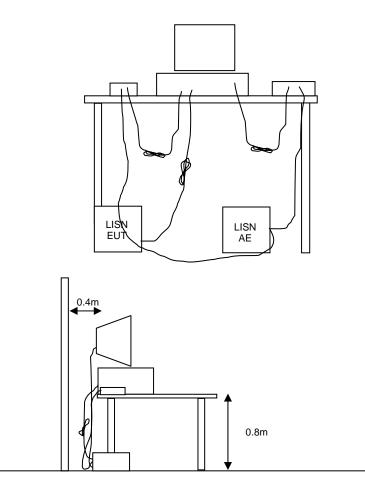


Figure 1 Typical Conducted Emissions Test Configuration



#### RADIATED EMISSIONS

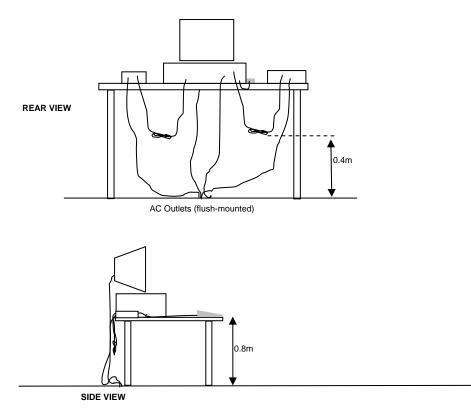
A preliminary scan of the radiated emissions is performed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT). During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied (for measurements above 30 MHz) and cable positions are varied to determine the highest emission relative to the limit. Preliminary scans may be performed in a fully anechoic chamber for the purposes of identifying the frequencies of the highest emissions from the EUT.

A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

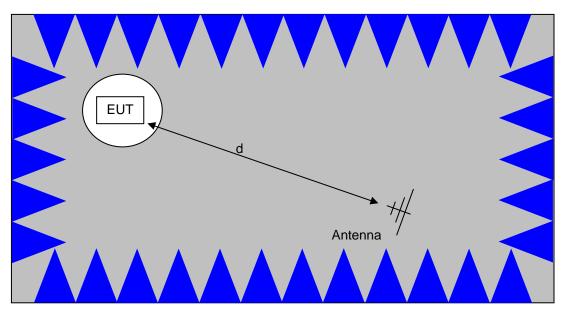
Final maximization is a phase in which the highest amplitude emissions identified in the spectral search are viewed while the EUT azimuth angle is varied from 0 to 360 degrees relative to the receiving antenna. The azimuth, which results in the highest emission is then maintained while varying the antenna height from one to four meters (for measurements above 30 MHz, measurements below 30 MHz are made with the loop antenna at a fixed height of 1m). The result is the identification of the highest amplitude for each of the highest peaks. Each recorded level is corrected in the receiver using appropriate factors for cables, connectors, antennas, and preamplifier gain.

When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.



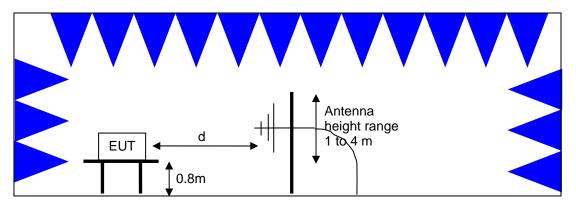


Typical Test Configuration for Radiated Field Strength Measurements



The anechoic materials on the walls and ceiling ensure compliance with the normalized site attenuation requirements of CISPR 16 / CISPR 22 / ANSI C63.4 for an alternate test site at the measurement distances used.

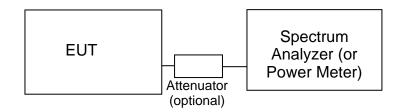
Floor-standing equipment is placed on the floor with insulating supports between the unit and the ground plane.



<u>Test Configuration for Radiated Field Strength Measurements</u> <u>Semi-Anechoic Chamber, Plan and Side Views</u>

#### CONDUCTED EMISSIONS FROM ANTENNA PORT

Direct measurements of power, bandwidth and power spectral density are performed, where possible, with the antenna port of the EUT connected to either the power meter or spectrum analyzer via a suitable attenuator and/or filter. These are used to ensure that the front end of the measurement instrument is not overloaded by the fundamental transmission.



## Test Configuration for Antenna Port Measurements

Measurement bandwidths (video and resolution) are set in accordance with the relevant standards and NTS Silicon Valley's test procedures for the type of radio being tested. When power measurements are made using a resolution bandwidth less than the signal bandwidth the power is calculated by summing the power across the signal bandwidth using either the analyzer channel power function or by capturing the trace data and calculating the power using software. In both cases the summed power is corrected to account for the equivalent noise bandwidth (ENBW) of the resolution bandwidth used.

If power averaging is used (typically for certain digital modulation techniques), the EUT is configured to transmit continuously. Power averaging is performed using either the built-in function of the analyzer or, if the analyzer does not feature power averaging, using external software. In both cases the average power is calculated over a number of sweeps (typically 100). When the EUT cannot be configured to continuously transmit then either the analyzer is configured to perform a gated sweep to ensure that the power is averaged over periods that the device is transmitting or power averaging is disabled and a max-hold feature is used.

If a power meter is used to make output power measurements the sensor head type (peak or average) is stated in the test data table.

## BANDWIDTH MEASUREMENTS

The 6dB, 20dB, 26dB and/or 99% signal bandwidth are measured using the bandwidths recommended by ANSI C63.10 and RSS GEN.

## SPECIFICATION LIMITS AND SAMPLE CALCULATIONS

The limits for conducted emissions are given in units of microvolts, and the limits for radiated emissions are given in units of microvolts per meter at a specified test distance. Data is measured in the logarithmic form of decibels relative to one microvolt, or dB microvolts (dBuV). For radiated emissions, the measured data is converted to the field strength at the antenna in dB microvolts per meter (dBuV/m). The results are then converted to the linear forms of uV and uV/m for comparison to published specifications.

For reference, converting the specification limits from linear to decibel form is accomplished by taking the base ten logarithm, then multiplying by 20. These limits in both linear and logarithmic form are as follows:

## CONDUCTED EMISSIONS SPECIFICATION LIMITS: FCC 15.207; FCC 15.107(a), RSS GEN

The table below shows the limits for the emissions on the AC power line from an intentional radiator and a receiver.

Frequency (MHz)	Average Limit (dBuV)	Quasi Peak Limit (dBuV)
0.150 to 0.500	Linear decrease on logarithmic frequency axis between 56.0 and 46.0	Linear decrease on logarithmic frequency axis between 66.0 and 56.0
0.500 to 5.000	46.0	56.0
5.000 to 30.000	50.0	60.0



Report Date: March 8, 2016

#### GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands<sup>1</sup> (with the exception of transmitters operating under FCC Part 15 Subpart D and RSS 210 Annex 9), the limits for all emissions from a low power device operating under the general rules of RSS 310 (tables 3 and 4), RSS 210 (table 2) and FCC Part 15 Subpart C section 15.209.

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F <sub>KHz</sub> @ 300m	67.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 300m
0.490-1.705	24000/F <sub>KHz</sub> @ 30m	87.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 30m
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

#### RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from receivers as detailed in FCC Part 15.109, RSS 210 Table 2, RSS GEN Table 1 and RSS 310 Table 3. Note that receivers operating outside of the frequency range 30 MHz – 960 MHz are exempt from the requirements of 15.109.

Frequency Range (MHz)	Limit (uV/m @ 3m)	Limit (dBuV/m @ 3m)
30 to 88	100	40
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

<sup>&</sup>lt;sup>1</sup> The restricted bands are detailed in FCC 15.203, RSS 210 Table 1 and RSS 310 Table 2

#### GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands<sup>2</sup>.

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F <sub>KHz</sub> @ 300m	67.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 300m
0.490-1.705	24000/F <sub>KHz</sub> @ 30m	87.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 30m
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

#### RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from receivers as detailed in FCC Part 15.109 and RSS GEN Table 2. Note that receivers operating outside of the frequency range 30 MHz – 960 MHz are exempt from the requirements of 15.109 and receivers that are not stand-alone are exempt from the ISED Canada requirements per RSS-GEN.

Frequency Range (MHz)	Limit (uV/m @ 3m)	Limit (dBuV/m @ 3m)
30 to 88	100	40
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

<sup>&</sup>lt;sup>2</sup> The restricted bands are detailed in FCC 15.205 and RSS-Gen Table 6

FCC 15.407 (a) OUTPUT POWER LIMITS

The table below shows the limits for output power and output power density. For the 5250-5350 and 5470-5725 MHz bands, where the signal bandwidth is less than 20 MHz the maximum output power is reduced to the power spectral density limit plus 10 times the log of the bandwidth (in MHz).

Report Date: March 8, 2016

Operating Frequency (MHz)	Output Power	Power Spectral Density
5150 – 5250	1Watt (30 dBm)	17 dBm/MHz
5250 – 5350 and 5470-5725	250 mW (24 dBm)	11 dBm/MHz
5725 – 5825	1 Watt (30 dBm)	30 dBm/500kHz

For system using antennas with gains exceeding 6dBi, the output power and power spectral density limits are reduced by 1dB for every dB the antenna gain exceeds 6dBi. Fixed point-to-point applications using the 5725 - 5825 MHz band may use antennas with gains of up to 23dBi without this limitation. If the gain exceeds 23dBi then the output power limit of 1 Watt is reduced by 1dB for every dB the gain exceeds 23dBi.

## OUTPUT POWER LIMITS –LELAN DEVICES

The table below shows the limits for output power and output power density defined by RSS 247. Where the signal bandwidth is less than 20 MHz the maximum output power is reduced to the power spectral density limit plus 10 times the log of the bandwidth (in MHz).

Operating Frequency (MHz)	Output Power	Power Spectral Density
5150 – 5250	200mW (23 dBm) eirp	10 dBm/MHz eirp
5250 – 5350 and 5470 - 5725	250 mW (24 dBm)3 1W (30dBm) eirp	11 dBm/MHz
5725 – 5825	1 Watt (30 dBm) 4W eirp	30 dBm/500kHz

Fixed point-to-point applications using the 5725 - 5825 MHz band may use antennas with gains of up to 23dBi without this limitation. If the gain exceeds 23dBi then the output power limit of 1 Watt is reduced by 1dB for every dB the gain exceeds 23dBi.

## SPURIOUS EMISSIONS LIMITS –UNII and LELAN DEVICES

The spurious emissions limits for signals below 1GHz are the FCC/RSS-GEN general limits. For emissions above 1GHz, signals in restricted bands are subject to the FCC/RSS GEN general limits. All other signals have a limit of -27dBm/MHz, which is a field strength of 68.3dBuV/m/MHz at a distance of 3m. For devices operating in the 5725-5850MHz bands under the LELAN/UNII rules, the limit within 10MHz of the allocated band is increased to -17dBm/MHz.

<sup>&</sup>lt;sup>3</sup> If EIRP exceeds 500mW the device must employ TPC

## SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

Receiver readings are compared directly to the conducted emissions specification limit (decibel form) as follows:

 $R_r - S = M$ where:  $R_r =$  Receiver Reading in dBuV S = Specification Limit in dBuV M = Margin to Specification in +/- dB

## SAMPLE CALCULATIONS - RADIATED EMISSIONS

Receiver readings are compared directly to the specification limit (decibel form). The receiver internally corrects for cable loss, preamplifier gain, and antenna factor. The calculations are in the reverse direction of the actual signal flow, thus cable loss is added and the amplifier gain is subtracted. The Antenna Factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements.

A distance factor, when used for electric field measurements above 30MHz, is calculated by using the following formula:

 $F_{d} = 20*LOG_{10} (D_{m}/D_{s})$ where:  $F_{d} = Distance Factor in dB$   $D_{m} = Measurement Distance in meters$   $D_{s} = Specification Distance in meters$ 

For electric field measurements below 30MHz the extrapolation factor is either determined by making measurements at multiple distances or a theoretical value is calculated using the formula:

 $F_d = 40*LOG_{10} (D_m/D_s)$ 

Measurement Distance is the distance at which the measurements were taken and Specification Distance is the distance at which the specification limits are based. The antenna factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements.

The margin of a given emission peak relative to the limit is calculated as follows:

$$\begin{array}{rcl} R_c &=& R_r \,+\, F_d \\ & \text{and} \\ M &=& R_c \,-\, L_S \\ & \text{where:} \\ & & R_r &=& \text{Receiver Reading in dBuV/m} \\ & & F_d \,=& \text{Distance Factor in dB} \\ & & R_c \,=& \text{Corrected Reading in dBuV/m} \\ & & L_S \,=& \text{Specification Limit in dBuV/m} \end{array}$$

M = Margin in dB Relative to Spec

## SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

Where the radiated electric field strength is expressed in terms of the equivalent isotropic radiated power (eirp), or where a field strength measurement of output power is made in lieu of a direct measurement, the following formula is used to convert between eirp and field strength at a distance of d (meters) from the equipment under test:

 $E = \frac{1000000 \sqrt{30 P}}{d}$  microvolts per meter

where P is the eirp (Watts)

For a measurement at 3m the conversion from a logarithmic value for field strength (dBuV/m) to an eirp power (dBm) is -95.3dB.

# Appendix A Test Equipment Calibration Data

Manufacturer Padiated Emissions	<u>Description</u> 1000 - 6,000 MHz, 04, 06-Jan-1	Model	<u>Asset #</u>	<b>Calibrated</b>	<u>Cal Due</u>
EMCO Rohde & Schwarz	Antenna, Horn, 1-18GHz EMI Test Receiver, 20 Hz-7 GHz	3115 ESIB7	868 1538	6/26/2014 12/19/2015	6/26/2016 12/19/2016
Radiated Emissions,	1000 - 18,000 MHz, 07-Jan-16				
EMCO Hewlett Packard	Antenna, Horn, 1-18GHz Microwave Preamplifier, 1- 26.5GHz	3115 8449B	868 870	6/26/2014 2/20/2015	6/26/2016 2/20/2016
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	10/17/2015	10/17/2016
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1156	6/2/2015	6/2/2016
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	1729	7/8/2015	7/8/2016
Radiated Emissions.	1000 - 40,000 MHz, 08-Jan-16				
EMCO Hewlett Packard	Antenna, Horn, 1-18GHz Microwave Preamplifier, 1-	3115 8449B	868 870	6/26/2014 2/20/2015	6/26/2016 2/20/2016
HP / Miteq	26.5GHz SA40 Head (Red)	TTA1840-45-5P- HG-S	1145	7/17/2015	7/17/2016
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	10/17/2015	10/17/2016
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1156	6/2/2015	6/2/2016
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016
A. H. Systems	Purple System Horn, 18- 40GHz	SAS-574, p/n: 2581	2160	8/28/2014	8/28/2017
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	2241	9/16/2015	9/16/2016
Radiated Emissions	30 - 1,000 MHz, 11-Jan-16				
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016
Sunol Sciences Hewlett Packard	Biconilog, 30-3000 MHz 9KHz-1300MHz pre-amp	JB3 8447F	1549 2777	6/2/2015 3/4/2015	6/2/2017 3/5/2016
Radiated Emissions	1000 - 6,000 MHz, 28, 29-Jan-1	6			
EMCO Rohde & Schwarz	Antenna, Horn, 1-18GHz EMI Test Receiver, 20 Hz-7 GHz	3115 ESIB7	868 1756	6/26/2014 6/20/2015	6/26/2016 6/20/2016
Radiated Emissions, EMCO Rohde & Schwarz	<b>1000 - 6,000 MHz, 01-Feb-16</b> Antenna, Horn, 1-18 GHz EMI Test Receiver, 20 Hz-40 GHz	3115 ESIB40 (1088.7490.40)	1561 2493	6/27/2014 1/23/2015	6/27/2016 2/23/2016
		(1000.1400.40)			
Radiated Emissions, EMCO	<b>1000 - 40,000 MHz, 02-Feb-16</b> Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016



National Technical S	systems - Silicon Valley Repo	ort Date: March 8, 20	016	Project number JD100297 Reissue Date: May 5, 2017		
Manufacturer Hewlett Packard	Description Microwave Preamplifier, 1-	<u>Model</u> 8449B	<u>Asset #</u> 870	<u>Calibrated</u> 1/21/2016	<u>Cal Due</u> 1/21/2017	
Tiewiell Fackalu	26.5GHz	0449D	870	1/21/2010	1/21/2017	
HP / Miteq	SA40 Head (Red)	TTA1840-45-5P- HG-S	1145	7/17/2015	7/17/2016	
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	10/17/2015	10/17/2016	
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1156	6/2/2015	6/2/2016	
A. H. Systems	Purple System Horn, 18- 40GHz	SAS-574, p/n: 2581	2160	8/28/2014	8/28/2017	
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2251	9/16/2015	9/16/2016	
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016	
	1000 - 40,000 MHz, 03, 04-Feb					
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016	
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	870	1/21/2016	1/21/2017	
HP / Miteq	SA40 Head (Red)	TTA1840-45-5P- HG-S	1145	7/17/2015	7/17/2016	
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	10/17/2015	10/17/2016	
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1156	6/2/2015	6/2/2016	
A. H. Systems	Purple System Horn, 18- 40GHz	SAS-574, p/n: 2581	2160	8/28/2014	8/28/2017	
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2251	9/16/2015	9/16/2016	
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016	
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	2241	9/16/2015	9/16/2016	
	1000 - 40,000 MHz, 05-Feb-16					
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1156	6/2/2015	6/2/2016	
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016	
EMCO HP / Miteq	Antenna, Horn, 1-18 GHz SA40 Head (Purple)	3115 TTA1840-45-5P-	1561 1772	6/27/2014 12/21/2015	6/27/2016 12/21/2016	
·		HG-S				
A. H. Systems	Spare System Horn, 18- 40GHz	SAS-574, p/n: 2581	2162	7/29/2015	7/29/2017	
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	10/9/2015	10/9/2016	
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	2241	9/16/2015	9/16/2016	
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2251	9/16/2015	9/16/2016	
Hewlett Packard	Spectrum Analyzer (SA40) Purple 9 kHz - 40 GHz,	8564E (84125C)	2415	3/7/2015	3/7/2016	
Radio Antenna Port (	(Power and Spurious Emissior	ns), 10-Feb-16				
Rohde & Schwarz	Signal Analyzer 20 Hz - 26.5 GHz	FSQ26	2327	5/6/2015	5/6/2016	



National Technical S	Systems - Silicon Valley Repo	ort Date: March 8, 20	016	<i>Project number JD100297</i> <i>Reissue Date: May 5, 2017</i>						
Manufacturer Rohde & Schwarz	Description Open Switch and Control Unit, p/s	<u>Model</u> OSP120 with B157	<u>Asset #</u> 3000	<u>Calibrated</u> 6/8/2015	<u>Cal Due</u> 6/8/2016					
Radio Antenna Port	(Power and Spurious Emissior	ns), 16-Feb-16								
Rohde & Schwarz	Signal Analyzer 20 Hz - 26.5 GHz	FSQ26	2327	5/6/2015	5/6/2016					
Rohde & Schwarz	Open Switch and Control Unit, p/s	OSP120 with B157	3000	6/8/2015	6/8/2016					
Radiated Emissions	Radiated Emissions, 1000 - 18,000 MHz, 11-Mar-16									
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	785	10/12/2015	10/12/2016					
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1156	6/2/2015	6/2/2016					
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	7/6/2015	7/6/2016					
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	1682	7/8/2015	7/8/2016					
EMCO	Antenna, Horn, 1-18 GHz	3115	2733	11/18/2014	11/18/2016					
Hewlett Packard	Spectrum Analyzer (SA40) Blue 9 kHz - 40 GHz	8564E (84125C)	3810	3/1/2016	3/12017					
Rohde & Schwarz	<b>, 1000 - 6,000 MHz, 02-Mar-16</b> EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	7/6/2015	7/6/2016					
EMCO Antenna, Horn, 1-18 GHz		3115	2733	11/18/2014	11/18/2016					
Radiated Emissions EMCO Hewlett Packard	, <b>1000 - 18,000 MHz, 04-Mar-16</b> Antenna, Horn, 1-18GHz Microwave Preamplifier, 1- 26.5GHz	3115 8449B	868 870	6/26/2014 1/21/2016	6/26/2016 1/21/2017					
Hewlett Packard	Spectrum Analyzer (SA40)	8564E (84125C)	1148	10/17/2015	10/17/2016					
Micro-Tronics	Red 30 Hz -40 GHz Band Reject Filter, 5150-5350 MHz	BRC50703-02	2251	9/16/2015	9/16/2016					
Radiated Emissions EMCO Rohde & Schwarz	, <b>BE, 1,000 - 6,500 MHz, 13, 17-</b> Antenna, Horn, 1-18 GHz EMI Test Receiver, 20 Hz-40 GHz	<b>May-16</b> 3115 ESIB40 (1088.7490.40)	487 2493	7/29/2014 2/20/2016	7/29/2016 2/20/2017					
	, 1000 - 40,000 MHz, 19, 25-May									
EMCO Hewlett Packard	Antenna, Horn, 1-18GHz High Pass filter, 8.2 GHz	3115 P/N 84300- 80039	868 1152	6/26/2014 7/10/2015	6/26/2016 7/10/2016					
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	1730	7/10/2015	7/10/2016					
HP / Miteq	SA40 Head (Purple)	TTA1840-45-5P- HG-S	1772	12/21/2015	12/21/2016					
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	1780	10/9/2015	10/9/2016					
Hewlett Packard	Spectrum Analyzer (SA40) Purple 9 kHz - 40 GHz,	8564E (84125C)	2415	3/19/2016	3/19/2017					
A. H. Systems	Spare System Horn, 18- 40GHz	SAS-574, p/n: 2581	2162	7/29/2015	7/29/2017					



Radiated Emissions Manufacturer	, 1000 - 40,000 MHz, 25-May-16 Description	Model	Asset #	Calibrated	Cal Due
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300- 80039	1152	7/10/2015	7/10/2016
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	1729	5/11/2016	5/11/2017
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	1730	7/10/2015	7/10/2016
HP / Miteq	SA40 Head (Purple)	TTA1840-45-5P- HG-S	1772	12/21/2015	12/21/2016
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	1780	10/9/2015	10/9/2016
A. H. Systems	Spare System Horn, 18- 40GHz	SAS-574, p/n: 2581	2162	7/29/2015	7/29/2017
Hewlett Packard	Spectrum Analyzer (SA40) Purple 9 kHz - 40 GHz,	8564E (84125C)	2415	3/19/2016	3/19/2017
	, 1000 - 6,000 MHz, 01-Jun-16				
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/19/2015	12/19/2016
Conducted Emission	ns - Antenna Ports, 01, 02-Jun-	16			
Agilent Technologies	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	6/22/2015	6/22/2016
Conducted Emission	ns - Antenna Ports, 06-Jun-16				
Agilent Technologies	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	6/22/2015	6/22/2016
	(Power and PSD), 17-Jun-16				
Agilent Technologies	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	6/22/2015	6/22/2016

Report Date: March 8, 2016



Appendix B Test Data

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# EMC Test Data

Cliente Dess Americas Inc.	
Client: Pace Americas, Inc. Job Number: JD100297	,
Product Wi-Fi Module 5 GHz (260-E255040) T-Log Number: T100356	
System Configuration: Project Manager: Irene Rad	amacher
Contact: Mark Rieger Project Coordinator: -	
Emissions Standard(s): FCC Part 15.407 Class: B	
Immunity Standard(s): - Environment: Radio	

# **EMC** Test Data

For The

# Pace Americas, Inc.

## Product

Wi-Fi Module 5 GHz (260-E255040)

Date of Last Test: 5/17/2017

		EMO	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
Model.		Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

## Power vs. Data Rate

In normal operating modes the card uses power settings stored on EEPROM to set the output power. For a given nominal output power the actual transmit power normally is reduced as the data rate increases, therefore testing was performed at the data rate in the mode with highest power to determine compliance with the requirements.

The following power measurements were made using a GATED average power meter and with the device configured in a continuous transmit mode on Chain 1 at the various data rates in each mode to verify the highest power mode:

## Sample Notes

Sample S/N: F56154520246 Driver: 7.14.89.21.571.206

> Date of Test: 1/6/2016 Test Engineer: Mehran Birgani Test Location: Fremont Chamber #7

Mode	Data Rate	Power (dBm)	Power setting
	6	18.6	
	9	18.6	
	12	18.6	
802.11a	18	18.6	20.0
002.11d	24	18.5	20.0
	36	18.5	
	48	18.5	
	54	18.5	

nt: Pace Americas, Inc.			Job Number: JD100297 T-Log Number: T100356
lel: Wi-Fi Module 5 GHz (20	60-E255040)		Project Manager: Irene Radamach
nct: Mark Rieger			Project Coordinator: -
rd: FCC Part 15.407			Class: N/A
Mode	Data Rate	Power (dBm)	Power setting
	6.5	12.0	Setting
	13.0	12.2	
	19.5	12.4	
000 44-4-	26.0	12.6	
802.11n/ac	39.0	12.9	
20MHz	52.0	13.3	
	58.5	13.4	
	65.0	13.5	]
	78.0	13.7	<<-11ac mode only
	13.5	12.6	
	27.0	12.9	
	40.5	13.3	
	54.0	13.6	
802.11n/ac	81.0	14.0	4
40MHz	108.0	14.3	4
	121.5	14.4	
	135.0	14.6	
	162.0 180.0	14.9 <b>15.1</b>	<11ac mode only
	29.3	12.3	<11ac mode only
		12.3	-
	87.8	13.4	- 1
	117.0	13.6	-
802 11ac			-
			1
			1
	292.5	14.9	1
	351.0	15.1	1
	390.0	15.2	
802.11ac 80MHz Power setting - the soft	175.5 234.0 266.3 292.5 351.0 390.0	14.2 14.5 14.7 14.9 15.1	r reference only.

	NTS	EMO	C Test Data	
Client:	Pace Americas, Inc.	Job Number:	JD100297	
Madalı	Wi Ei Madula E CH= (260 E255040)	T-Log Number:	T100356	
woder.	Wi-Fi Module 5 GHz (260-E255040)	Project Manager:	Irene Radamacher	
Contact:	Mark Rieger	Project Coordinator:	-	
Standard:	FCC Part 15.407	Class:	N/A	

# Duty Cycle

Date of Test: 1/4/16 & 1/29/2016 Test Engineer: David Bare & Joseph Cadigal Test Location: Fremont Chamber #7 & EMC Lab #4A

Duty cycle measurements performed on the worse case data rate for power.

Notes: Measurements taken with maximum RBW/VBW settings allowed. Non-beamforming

	Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
ĺ	11a	6 Mb/s	98.0%	Yes	1.302	0	0	10
	n20	VHT8	99.1%	Yes	1.935	0	0	10
	n40	VHT9	98.1%	Yes	0.952	0	0	10
	ac80	VHT9	93.7%	Yes	0.448	0.3	0.6	2232

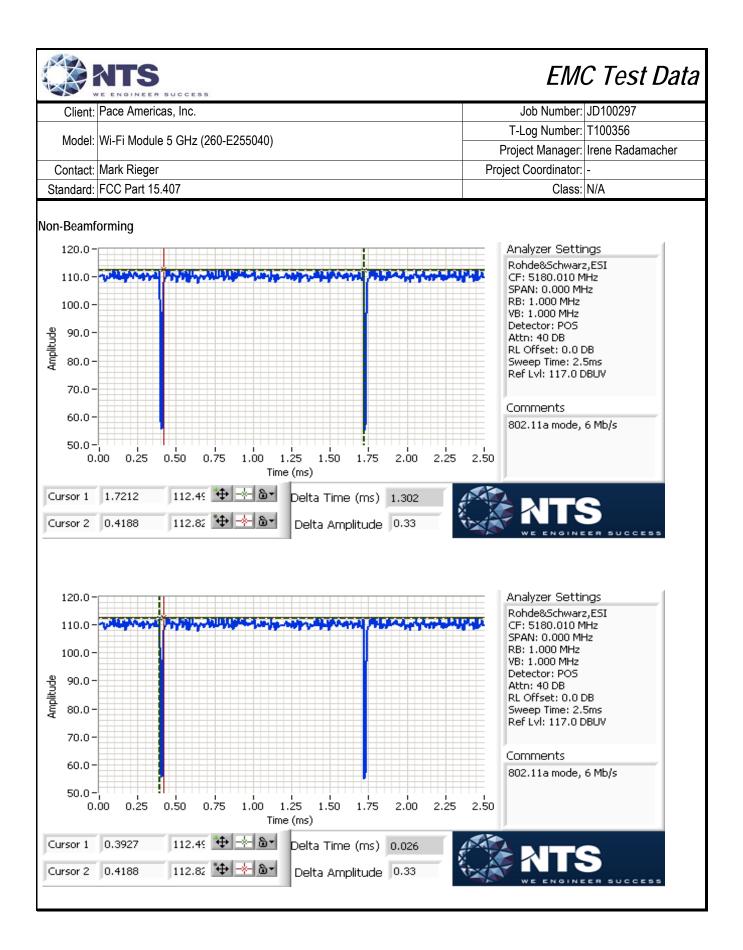
Beamforming

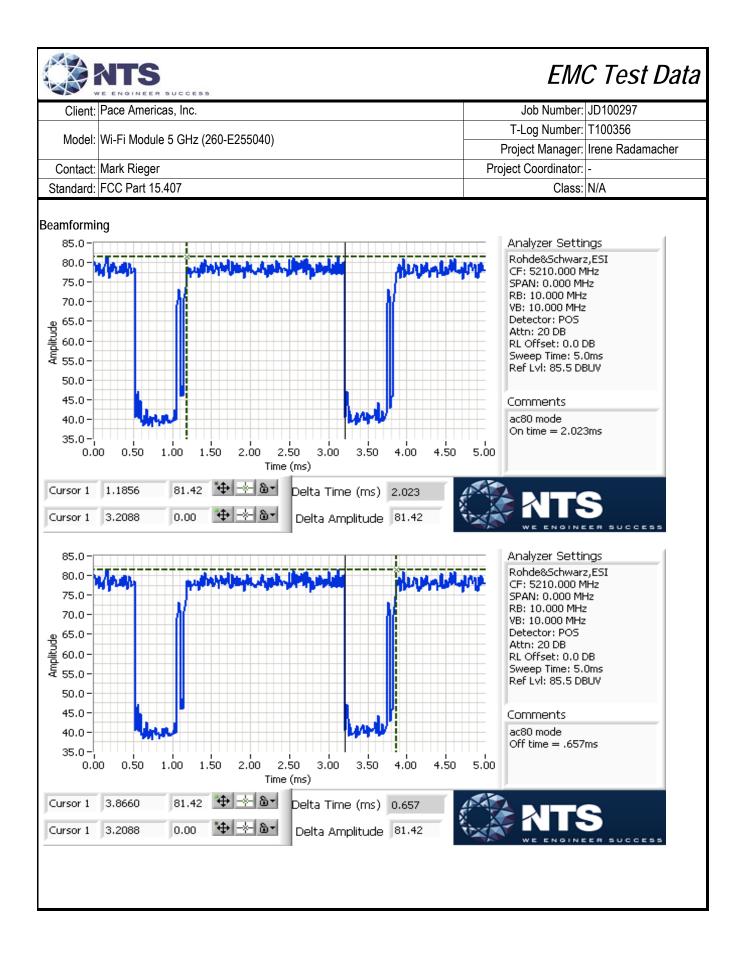
Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	
n20	VHT8	92.6%	No	1.935	0.3	0.7	517	1k
n40	VHT9	95.2%	No	0.952	0.2	0.4	1050	3k
ac80	VHT9	75.5%	Yes	2.023	1.2	2.4	494	1k

\* Correction factor when using RMS/Power averaging - 10\*log(1/x)

\*\* Correction factor when using linear voltage average - 20\*log(1/x)

T = Minimum transmission duration





# EMC Test Data

Client:	Pace Americas, Inc.	Job Number:	JD100297
Model	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
MOUEI.	WI-FI Module 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

# RSS-247 (LELAN) and FCC 15.407(UNII) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions

### Test Specific Details

ITS

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

#### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5250 - 5350MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 67.6 mW n20: 95.3 mW n40: 159.8 mW ac80: 85.4 mW
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 5.8 mW/MHz n20: 7.9 mW/MHz n40: 7.1 mW/MHz ac80: 2.4 mW/MHz
1	Max EIRP 5250 - 5350MHz	TPC required if EIRP≥ 500mW (27dBm)	Pass	EIRP = 996 mW (30 dBm)
1	26dB Bandwidth	15.407 (Information only)	-	> 20MHz for all modes

## General Test Configuration

When measuring the EUT's antenna port, it was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

### Ambient Conditions:

Temperature:	20-25 °C
Rel. Humidity:	38-43 %

## Modifications Made During Testing

No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.

		EM	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
woder.	WI-FI Module 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

# Procedure Comments:

Measurements performed in accordance with FCC KDB 789033 D01

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
11a	6MB/s	0.98	Yes	1.302	0	0	768
11n20	VHT8	0.99	Yes	1.935	0	0	517
11n40	VHT9	0.98	Yes	0.952	0	0	1050
ac80	VHT9	0.94	Yes	0.448	0.28	0.56	2232

# Sample Notes

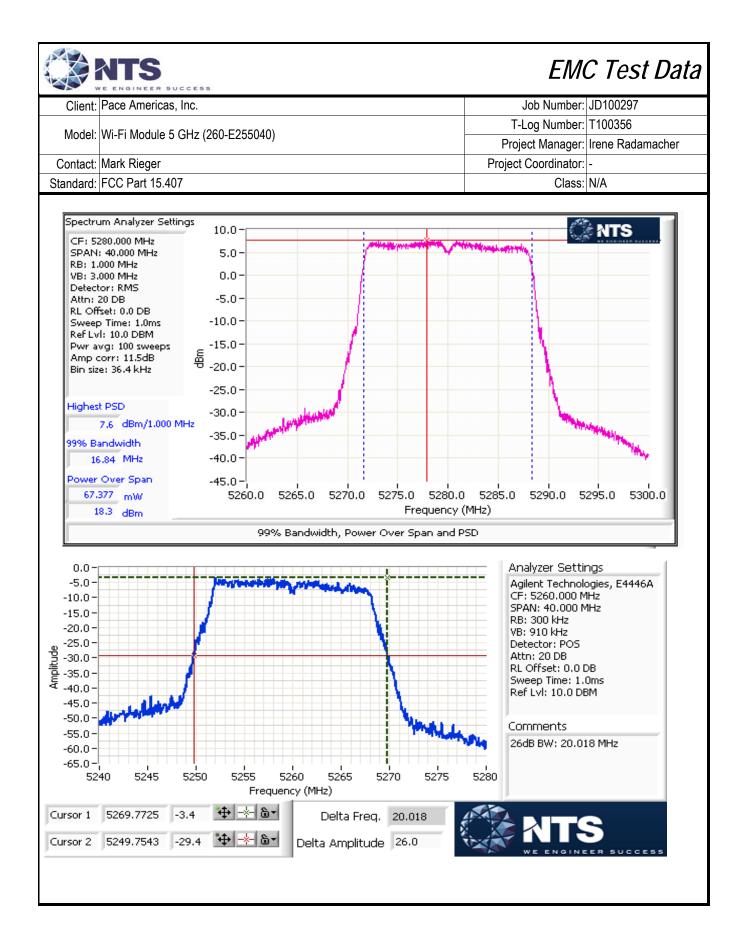
Sample S/N: F56154520246 Driver: 7.14.89.21.571.206

#### Antenna Gain Information

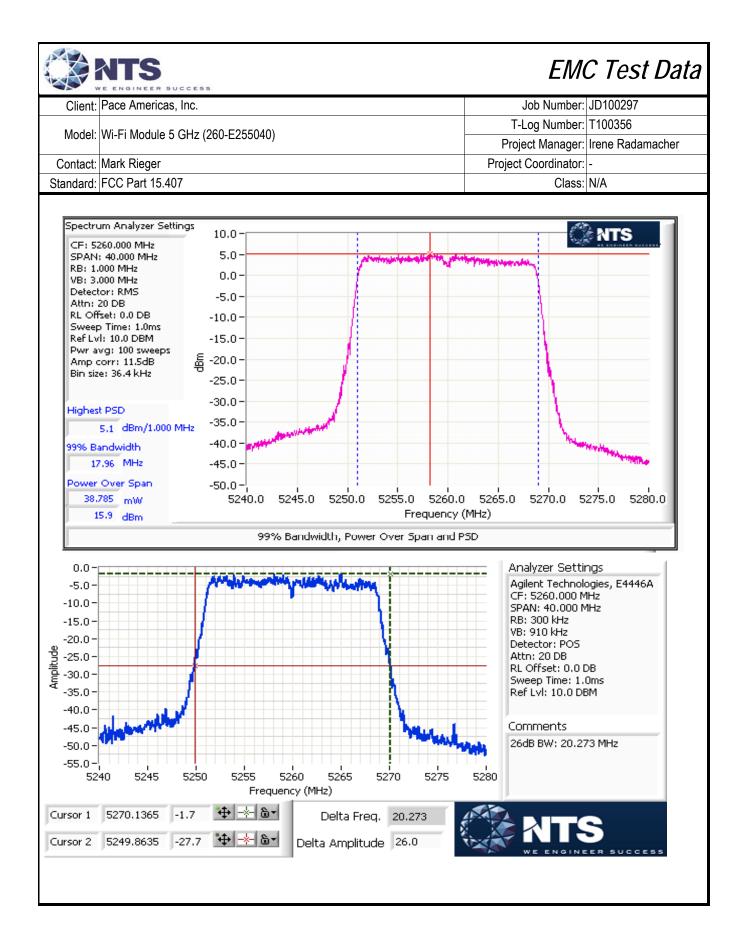
Erog	Antenna Gain (dBi) / Chain				BF	MultiChain	CDD	Sectorized	Dir G	Dir G
Freq	1	2	3	4	DF	Legacy	CDD	/ Xpol	(PWR)	(PSD)
5250-5350	2.8	4.3	2.3		Yes	No	Yes	No	7.9	7.9

	NTS	EMC Test Data							
Client:	Pace Americas, Inc.	Job Number: JD100297							
Madalı		T-Log Number: T100356							
wodel:	Wi-Fi Module 5 GHz (260-E255040)	Project Manager: Irene Radamacher							
Contact:	Mark Rieger	Project Coordinator: -							
Standard:	FCC Part 15.407	Class: N/A							
Run #1: Bai	ndwidth, Output Power and Power Spectral Density - MIMO Systems								
	Date of Test: 6/1/2016 0:00 Config. Used:								
	st Engineer: Rafael Varelas Config Change:								
Te	est Location: Lab 4B EUT Voltage:	120V / 60Hz							
Note 1:	Duty Cycle $\geq$ 98% for a, n20 and n40 modes. Output power measured usin RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\geq$ 2*span/RBV on (transmitted signal was continuous, duty cycle $\geq$ 98%) and power integra C63.10).	V, auto sweep, RMS detector, power averaging tion over the OBW (method SA-1 of ANSI							
Note 2:	Constant Duty Cycle < 98% for ac80 mode. Output power measured using a spectrum analyzer (see plots below).								
Note 3:	Measured using the same analyzer settings used for output power.								
Note 4.	For MIMO systems the total output power and total PSD are calculated from (in linear terms). The antenna gain used to determine the EIRP and limits f mode of the MIMO device. If the signals are non-coherent among the trans limits is the highest gain of the individual chains, and the EIRP is the sum of the signals are coherent then the effective antenna gain is the sum (in linea is the product of the effective gain and total power.	or PSD/Output power depends on the operating mit chains, then the gain used to determine the f the products of gain and power on each chain. If							
	s that support CDD modes Min # of spatial streams: 3 Max # of spatial streams: 3								
Notes:	BF = beamforming mode supported, Multichain Legacy = 802.11 legacy dat CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, S cross polarized.	ectorized / Xpol = antennas are sectorized or							
Notes:	Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PS FCC KDB 662911. Depending on the modes supported, the Array Gain value.	, .							
Notes:	Array gain for power/psd calculated per KDB 662911 D01.								
Notes:	For systems with Beamforming and CDD, delays are optimized for beamfor table of 802.11; Array gains calculated based on beamforming criteria.	ming, rather than being selected from cyclic delay							

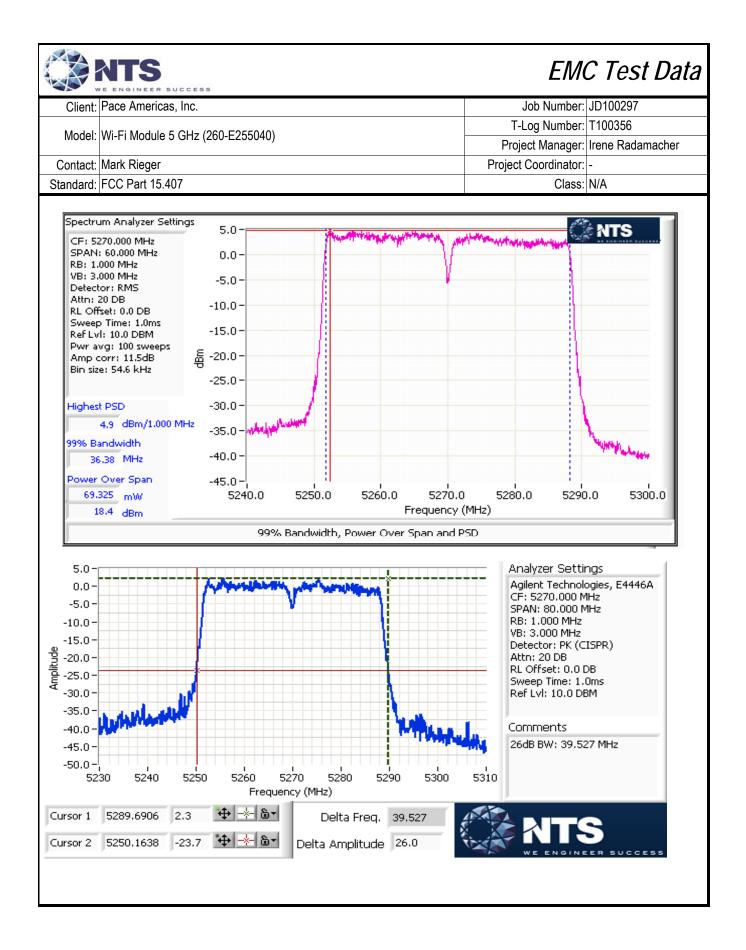
Client	: Pace Americ	cas, Inc.						Job Number:		
Model	: Wi-Fi Modul	e 5 GHz (26	0-E255040)					og Number:		
		•							Irene Radam	nacher
Contact: Mark Rieger Standard: FCC Part 15.407								Coordinator: Class:		
Stanuaru	. FUU Fait 15	0.407						01855.	N/A	
IMO Devi	ice - 5250-53	50 MHz Ban	d - FCC							
Mode:				ith diversity				EIRP (mW):		
requency	Chain	Software	26dB BW	Duty Cycle	Power <sup>1</sup>		Power		Max Power	Resul
(MHz)	1	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	
5000	3	10	20.0	0.0	15.3	22.0	15.0	00.4		Deee
5260	4	16	20.0	98		33.9	15.3	22.1		Pass
	2 1									
5000	3	00 F	00.4		18.3	07.0	40.0	00.4	0.000	-
5280	4	20.5	20.4	98		67.6	18.3	22.1	0.068	Pass
	2									
	1				17.2					
5320	4	18.5	20.2	98	11.2	52.5	17.2	22.1		Pass
	2									
250-230	PSD - FCC									
250-5350 Mode:	PSD - FCC 11a		SISO only w	vith diversity	(worst chain	selected)				
Mode:	: 11a	Software	99% BW	vith diversity Duty Cycle			PSD	FCC Limit	IC Limit	Resul
Mode:	: 11a Chain	Software Setting					PSD dBm/MHz		IC Limit /MHz	Resu
Mode: requency	11a Chain		99% BW	Duty Cycle	PSD <sup>3</sup> dBm/MHz	Total	_			Resu
Mode: requency	11a Chain 1 3		99% BW	Duty Cycle	PSD <sup>3</sup>	Total	_			
Mode: requency (MHz)	11a Chain 1 3	Setting	99% BW	Duty Cycle %	PSD <sup>3</sup> dBm/MHz	Total mW/MHz	dBm/MHz	dBm	/MHz	
Mode: requency (MHz)	11a Chain 1 3 4 2 1	Setting	99% BW	Duty Cycle %	PSD <sup>3</sup> dBm/MHz 5.0	Total mW/MHz	dBm/MHz	dBm	/MHz	
Mode: requency (MHz)	11a Chain 1 3 4 2 1 3	Setting	99% BW	Duty Cycle %	PSD <sup>3</sup> dBm/MHz	Total mW/MHz	dBm/MHz	dBm	/MHz	Pass
Mode: Frequency (MHz) 5260	11a Chain 1 3 4 2 1 3 4	Setting 16	99% BW	Duty Cycle % 98	PSD <sup>3</sup> dBm/MHz 5.0	Total mW/MHz 3.2	dBm/MHz 5.1	<u>dBm</u> 9.1	/MHz 11.0	Pass
Mode: Frequency (MHz) 5260	11a Chain 1 3 4 2 1 3 4 2 1 3 4 2 1	Setting 16	99% BW	Duty Cycle % 98	PSD <sup>3</sup> dBm/MHz 5.0 7.6	Total mW/MHz 3.2	dBm/MHz 5.1	<u>dBm</u> 9.1	/MHz 11.0	Pass
Mode: requency (MHz) 5260	11a Chain 1 3 4 2 1 3 4 2 1 3 4 2	Setting 16	99% BW	Duty Cycle % 98	PSD <sup>3</sup> dBm/MHz 5.0	Total mW/MHz 3.2	dBm/MHz 5.1	<u>dBm</u> 9.1	/MHz 11.0	Resu Pass Pass Pass



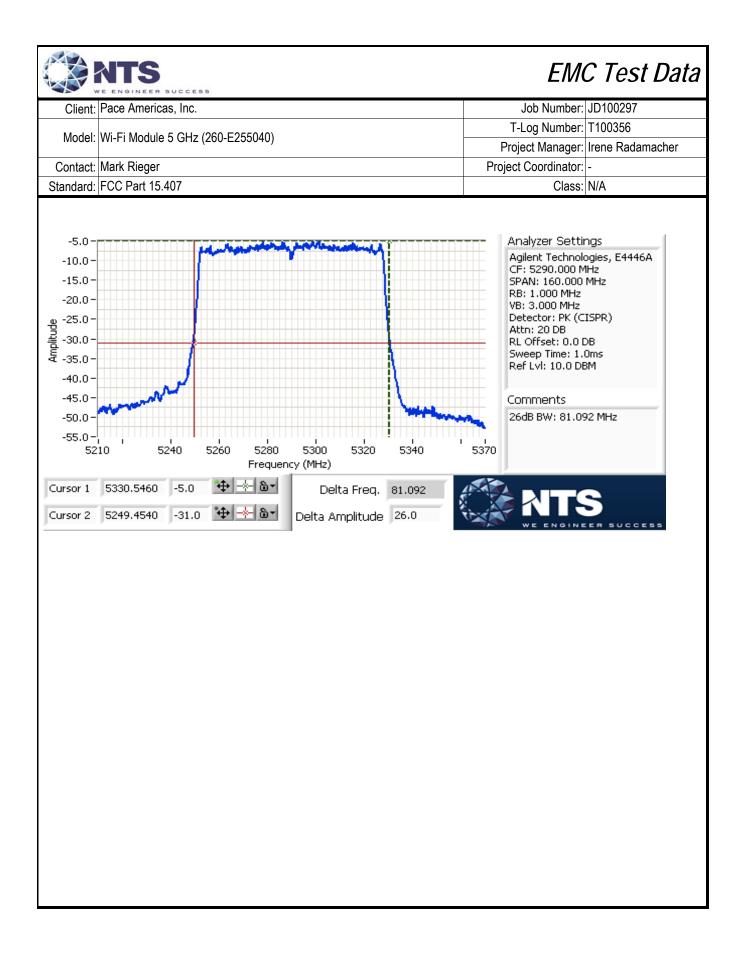
		SUCCESS						EM	C Test	Data	
Client:	Pace Americ	as, Inc.						lob Number:	JD100297		
Model	Wi-Fi Module						T-Log Number: T100356				
wouer.		9 3 9112 (200	J-E200040)				Proje	ect Manager:	Irene Radam	acher	
Contact:	Mark Rieger						Project	Coordinator:	-		
Standard:	FCC Part 15	.407				Class:	N/A				
	MIMO Device - 5250-5350 MHz Band - FCC Mode: n20 Max EIRP (mW): 594										
Frequency	n20	Software	26dB BW	Duty Cycle	Power <sup>1</sup>	Total	Power		594 Max Power		
(MHz)	Chain	Setting	(MHz)	Muly Cycle	Power dBm	mW	dBm	dBm	(W)	Result	
(11112)	1	Cotting	(11112)	/0	14.3	11100	ubili	uDili	(**)		
5260	3	16	20.3	99	15.9	95.3	19.8	22.1		Deee	
920U	4	10	20.3	99		95.5	19.0	ZZ. I		Pass	
	2				14.7						
	1				14.2 15.1						
5300	3 4	15.5	20.5	99	15.1	88.2	19.5	22.1	0.095	Pass	
	2				14.7						
	1				14.4						
5320	3	15.5	20.5	99	15.2	95.3	19.8	22.1		Pass	
0020	4	10.0	20.0		45.4	00.0	10.0			1 400	
	2				15.4				<u> </u>		
5250-5350 F Mode:	SD - FCC/IC n20	;									
Frequency		Software	99% BW	Duty Cycle	PSD <sup>3</sup>	Total	PSD	FCC Limit	IC Limit		
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz		/MHz	Result	
5260	1 3	16		99	3.4 5.1	7.8	8.9	9.1	11.0	Pass	
	4	-			2.0	-		-			
	2 1				3.8 3.1						
	3				4.4	_					
5300	4	15.5		99	7.7	7.2	8.6	9.1	11.0	Pass	
	2				3.8						
	1				3.6						
5320	3	15.5		99	4.3	7.9	9.0	9.1	11.0	Pass	
	4				4.0						
	2				4.6						



		SUCCESS						EM	C Test	Data	
Client:	Pace Americ	cas, Inc.						Job Number:			
Model.	Wi-Fi Modul	e 5 GHz (26(	)-F255040)				T-Log Number: T100356				
		•	, 22000 10)					-	Irene Radam	nacher	
	Mark Rieger			Project	Coordinator:						
Standard:	FCC Part 15	5.407			Class:	N/A					
MIMO Device - 5250-5350 MHz Band - FCC Mode: n40 Max EIRP (mW): 996.0											
Frequency	N40	Software	26dB BW	Duty Cycle	Power <sup>1</sup>	Total	Power	FCC Limit	Max Power		
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result	
(11112)	1	ootting	(11112)	/0	18.4	11177	ubiii	ubiii	(**)		
5070	3	47.5	00 F	00	16.2	450.0	00.0	00.4		D	
5270	4	17.5	39.5	98		159.8	22.0	22.1		Pass	
	2				16.9				0.160		
	1				15.2				0.100		
5310	3	15.5	40.0	98	14.5	94.4	19.7	22.1		Pass	
	4				15.2						
MIMO Devid Mode: Frequency	ce 5250-5350 n40	) PSD - FCC Software	99% BW	Duty Cycle	PSD <sup>3</sup>	Total	PSD	FCC Limit	IC Limit		
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz		/MHz	Result	
5270	1 3 4 2	17.5	. 7	98	4.9 2.7 3.4	7.1	8.5	9.1	11.0	Pass	
5310	1 3 4 2	15.5		98	1.6 1.1 1.8	4.2	6.2	9.1	11.0	Pass	



	Pace Americ							lob Number:	JD100297	
Model: N							T-L	.og Number:	T100356	
	Vi-Fi Module	e 5 GHz (260	)-E255040)				Project Manager: Irene Radam			acher
Contact:	Mark Rieger						Project Coordinator: -			
	-CC Part 15	.407					,	Class:		
MO Device	e - 5250-535	0 MHz Ban	d - FCC							
Mode:	ac80							EIRP (mW):		
equency	Chain	Software	26dB BW	Duty Cycle	Power <sup>2</sup>		Power		Max Power	Resul
(MHz)		Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	
F	1 3				14.9 14.2					
5290	4	16.5	81.1	94	14.2	85.4	19.3	22.1	0.085	Pass
	2				13.7					
(MHz) 5290	1 3	Setting 16.5	(MHz)	% 94	dBm/MHz -0.3 -2.2	mW/MHz 2.4	dBm/MHz 3.8	<u>dBm</u> 9.1	/MHz 11.0	Resul
5250	4	10.0		54	-1.4	2.7	0.0	5.1	11.0	1 435
	- 1									
Spectrur	n Analyzer S	iettings	0.0-	the second				Ő	NTS	
	90.000 MHz 100.000 MHz		5.0-	MAN	$\Lambda$ $\Lambda$	m.	MM MA	MAS	NE ENSINEER BUCCE	•••
RB: 1.0 VB: 3.0	00 MHz				WW .	MPT T	1 V 1	" Y '	*	
Detecto	r: RMS	-1	0.0-							
Attn: 20 RL Offs	0 DB et: 0.0 DB	-1	5.0-			,				
Sweep	Time: 1.0ms 10.0 DBM	-2	0.0-							
Pwr av	g: 100 sweep	zc								
	orr: 11.5dB : 91.0 kHz	2 <sup>1</sup>								
		-3	0.0-	1						
Highest	PSD	-3	5.0-							
-0	.3 dBm/1.00	00 MHz _4	0.0							
9996 Bar			Marine Marine						<b>\.</b>	
75.	73 MHz	-4!	5.0-						TTYN	
-	Over Span	-5	0.0- <sup> </sup>			1	1			
	67 mW		5240.0	5260.0	52	80.0 Erequency (	5300.0	5320.0	5340	0.0
14	.6 dBm					Frequency (	(mm2)			



# EMC Test Data

Client:	Pace Americas, Inc.	Job Number:	JD100297								
Model	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356								
woder.		Project Manager:	Irene Radamacher								
Contact:	Mark Rieger	Project Coordinator:	-								
Standard:	FCC Part 15.407	Class:	N/A								

# RSS-247 (LELAN) and FCC 15.407(UNII) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions

# Test Specific Details

ITS

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

#### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5470 - 5725MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 74.1 mW n20: 92.8 mW n40: 160.3 mW ac80: 158.9 mW
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 7.6 mW/MHz n20: 7.7 mW/MHz n40: 7.4 mW/MHz ac80: 4.1 mW/MHz
1	Max EIRP 5470 - 5725MHz	TPC required if EIRP≥ 500mW (27dBm). EIRP ≥ 200mW (23dBm)	Pass	EIRP = 1005 mW (30 dBm)
1	26dB Bandwidth	15.407 (Information only)	-	> 20MHz for all modes

## General Test Configuration

When measuring the EUT's antenna port, it was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

#### Ambient Conditions:

Temperature:	20-25 °C
Rel. Humidity:	38-43 %

### Modifications Made During Testing

No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.

	NTS	EM	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
	WI-FI MOdule 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-

Standard: FCC Part 15.407

# Procedure Comments:

Measurements performed in accordance with FCC KDB 789033 D01

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
11a	6MB/s	0.98	Yes	1.302	0	0	768
11n20	VHT8	0.99	Yes	1.935	0	0	517
11n40	VHT9	0.98	Yes	0.952	0	0	1050
ac80	VHT9	0.94	Yes	0.448	0.28	0.56	2232

# Sample Notes

Sample S/N: F56154520246 Driver: 7.14.89.21.571.206

### Antenna Gain Information

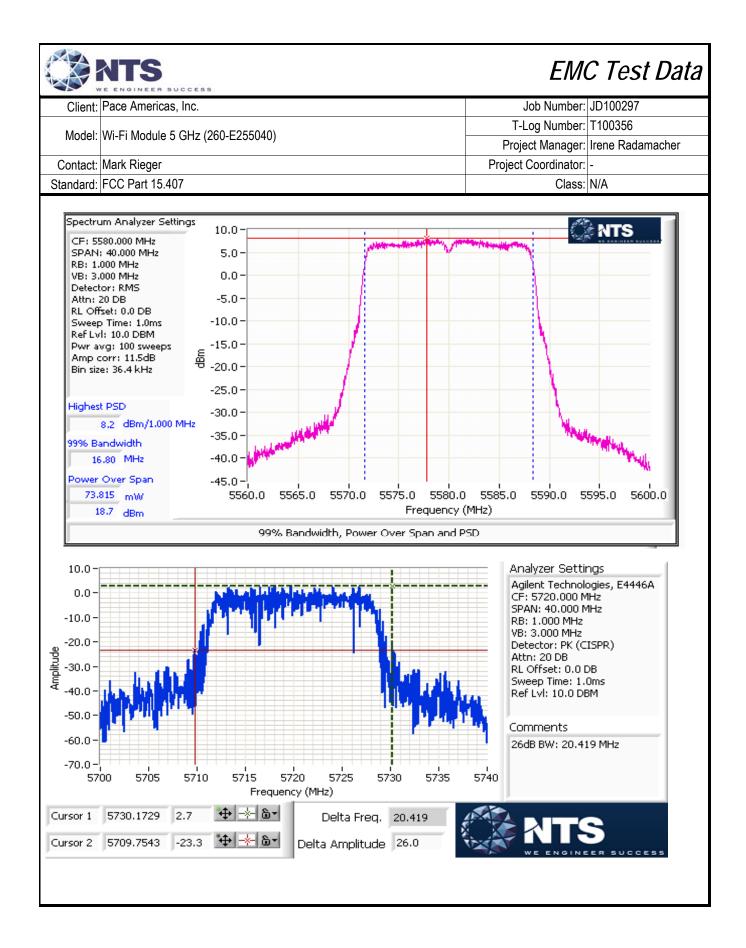
Freg	ŀ	Antenna Gair	n (dBi) / Chaii	n	BF	MultiChain	CDD	Sectorized	Dir G	Dir G
гіеч	1	2	3	4	DF	Legacy		/ Xpol	(PWR)	(PSD)
5470-5725	3.1	3.5	3		Yes	No	Yes	No	8.0	8.0

Class: N/A

	NTS	EM	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madalı		T-Log Number:	T100356
wodel:	Wi-Fi Module 5 GHz (260-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A
Run #1: Bai	ndwidth, Output Power and Power Spectral Density - MIMO Systems		
[ [	Date of Test: 6/2/2016, 6/6/2016 Config. Used:		
	st Engineer: John Caizzi / Yew-Kwong Soo Config Change:		
Te	est Location: Lab 4B EUT Voltage:	120V / 60Hz	
Note 1:	Duty Cycle $\ge$ 98% for a, n20 and n40 modes. Output power measured usin RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\ge$ 2*span/RBV on (transmitted signal was continuous, duty cycle $\ge$ 98%) and power integra C63.10).	W, auto sweep, RMS dete ation over the OBW (meth	ector, power averaging od SA-1 of ANSI
Note 2:	Constant Duty Cycle < 98% for ac80 mode. Output power measured using RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\ge$ 2*span/RBW averaging on and power integration over the OBW. The measurements we 10log(1/x), where x is the duty cycle. (method SA-2 of ANSI C63.10)	/, RMS detector, trace av	erage 100 traces, power
Note 3:	Measured using the same analyzer settings used for output power.		f the individual chains
Note 4:	For MIMO systems the total output power and total PSD are calculated from (in linear terms). The antenna gain used to determine the EIRP and limits f mode of the MIMO device. If the signals on the non-coherent between the the limits is the highest gain of the individual chains and the EIRP is the sur chain. If the signals are coherent then the effective antenna gain is the sun the EIRP is the product of the effective gain and total power.	or PSD/Output power dep transmit chains then the n of the products of gain a	pends on the operating gain used to determine and power on each
	s that support CDD modes Min # of spatial streams: Max # of spatial streams:		
Notes:	BF = beamforming mode supported, Multichain Legacy = 802.11 legacy dat CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, S cross polarized.	ectorized / Xpol = antenn	as are sectorized or
Notes:	Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PS FCC KDB 662911. Depending on the modes supported, the Array Gain value.		
Notes:	Array gain for power/psd calculated per KDB 662911 D01.		
Notes:	For systems with Beamforming and CDD, delays are optimized for beamfor table of 802.11; Array gains calculated based on beamforming criteria.	ming, rather than being s	elected from cyclic delay

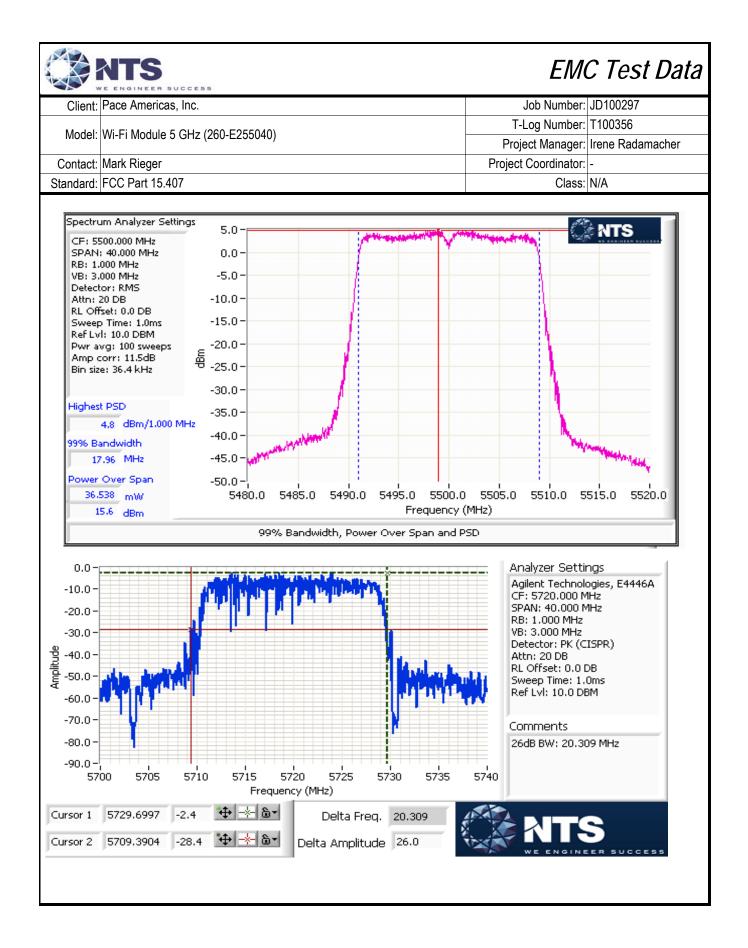
		SUCCESS						EM	C Test	Data
Client:	Pace Americ	cas, Inc.						Job Number:	JD100297	
Madal	\A/;						T-I	_og Number:	T100356	
wodel:	Wi-Fi Modul	e 5 GHZ (20	0-E255040)				Proje	ect Manager:	Irene Radan	nacher
Contact:	Mark Rieger						Project	Coordinator:	-	
Standard:	FCC Part 15	.407						Class:	N/A	
MIMO Devi	ce - 5470-572	25 MHz Ban	d - FCC							
Mode:	11a			vith diversity (	worst chain			EIRP (mW):	464.7	
Frequency	Chain	Software	26dB BW	Duty Cycle	Power <sup>1</sup>	Total	Power	FCC Limit	Max Power	Result
(MHz)	onam	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	rtoount
	1									
5500	3	19.5	21.1	98		70.8	18.5	22.0		Pass
	<u>4</u> 2				10 E					
	1				18.5					
	3									
5580	4	19.5	24.3	98		74.1	18.7	22.0		Pass
	2				18.7				0.074	
	1								0.074	
5700	3	19.5	24	98		72.4	18.6	22.0		Pass
0100	4	10.0	27	00		12.7	10.0	22.0		1 000
	2				18.6					
	1									
5720	3	20.5	20.4	98		70.8	18.5	22.0		Pass
	2				18.5					
	2				10.0					
Portion wit	hin 5725-585	0 MHz band	d (UNII-3)							
	1									
5720	3	20.5		98		17.0	12.3	28.0	0.017	Pass
0120	4	20.0		00		11.0	12.0	20.0	0.017	1 400
	2				12.3					

Client	: Pace Americ	cas, Inc.						Job Number:		
Model	: Wi-Fi Modul	e 5 GHz (26	0-E255040)					og Number:		
									Irene Radan	nacher
	: Mark Rieger : FCC Part 15						Project	Coordinator:		
Standard	FCC Part 15	0.407						Class:	N/A	
	PSD - FCC									
Mode: requency		Software	SISO only v 99% BW	vith diversity			PSD	FOO Limit	IC limit	
(MHz)	Chain	Setting	99% В\V (MHz)	Duty Cycle %	dBm/MHz	mW/MHz	dBm/MHz	FCC Limit dBm	IC limit /MHz	Resu
	1									
5500	3	19.5		98		6.2	7.9	9.0	11.0	Pass
	2				7.9					
	1									
5580	3	19.5		98		6.6	8.2	9.0	11.0	Pass
	2				8.2					
	1									
5700	3	19.5		98		6.2	7.9	9.0	11.0	Pass
	2				7.9					
	1									
5720	4	20.5		98		7.6	8.8	9.0	11.0	Pass
	2				8.8					
ortion wi	thin 5725-585	50 MHz band	d (UNII-3)							
	1									
5720	3	20.5		98		6.8	8.3	28.0	28.0	Pass
	2				8.3					



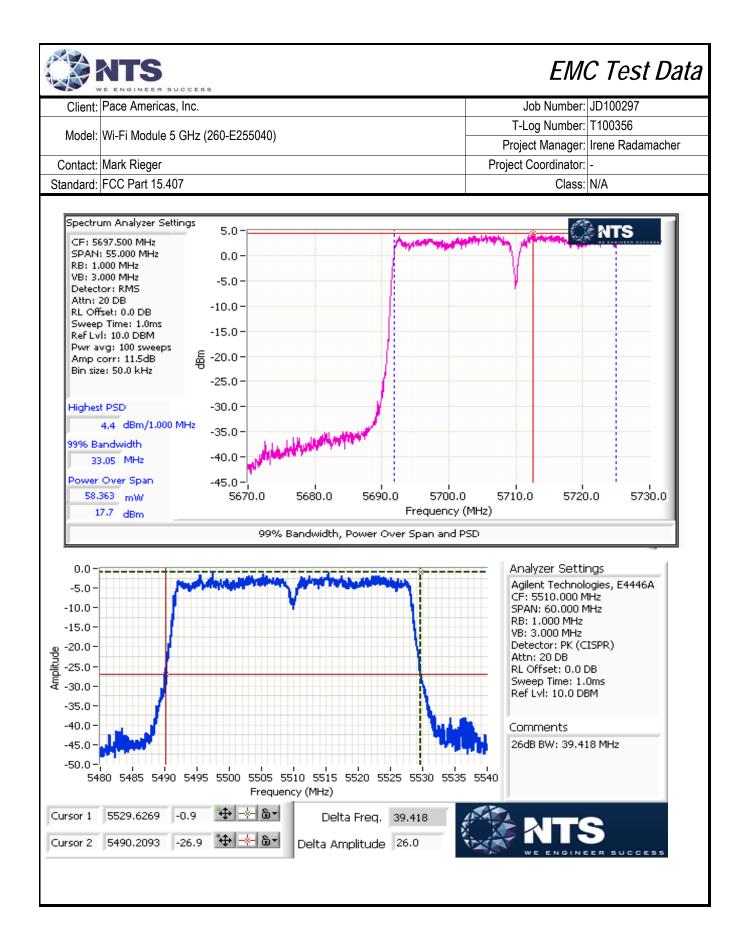
		SUCCESS						EM	C Test	Data
Client:	Pace Americ	as, Inc.						Job Number:		
Model:	Wi-Fi Module	e 5 GHz (260	)-E255040)					_og Number:		
		-					-		Irene Radam	acher
	Mark Rieger						Project	Coordinator:		
Standard:	FCC Part 15	.407						Class:	N/A	
	ce - 5470-572	25 MHz Ban	d - FCC				M		500	
Mode:	n20	Software	26dB BW	Duti Quala	<b>D</b> 1	Total	Max Power	EIRP (mW):	582 Max Power	
Frequency (MHz)	Chain	Setting	2006 БVV (MHz)	Duty Cycle %	Power <sup>1</sup> dBm	mW	dBm	dBm	(W)	Result
(11112)	1	oottiing	(((((((((((((((((((((((((((((((((((((((	70	14.8	11100	QDIII	dDill	(**)	
5500	3	15	21.1	99	14.2	92.8	19.7	22.0		Pass
	2				15.6					
	1				14.9					
5580	3	15	23.8	99	14.2	90.3	19.6	22.0		Pass
	4		_0.0		15.0					
	2				15.2 14.1				0.093	
	3				15.0	07.5	10.1			_
5700	4	15.5	21.3	99		87.5	19.4	22.0		Pass
	2				14.8					
	1				14.1					
5720	3 4	15.5	20.3	99	13.2	69.0	18.4	22.0		Pass
	2				13.5					
Portion wit		0 MHz banc	I (UNII-3)		10.0				<u> </u>	
	1		<b>`</b>		8.4					
5720	3	15.5		99	7.6	18.7	12.7	28.0	0.0187	Pass
0.20	4				7.0			_0.0		
	2				7.8					

Mode:         n20           Frequency (MHz)         Chain         Software Setting         99% BW (MHz)         Duty Cycle %         PSD <sup>3</sup> dBm/MHz         Total PSD mW/MHz         FCC Limit         IC limit dBm/MHz         R           5500 $\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{5}$ $\frac{3}{6}$ $\frac{4.0}{3.4}$ $\frac{3.4}{7.7}$ $8.9$ $9.0$ $11.0$ $\frac{1}{6}$ $\frac{1}{2}$ $\frac{3}{4}$ $\frac{3.9}{3.2}$ $7.4$ $8.7$ $9.0$ $11.0$ $\frac{1}{6}$ $\frac{3}{3}$ $15$ $999$ $\frac{3.9}{3.2}$ $7.4$ $8.7$ $9.0$ $11.0$ $\frac{1}{6}$ $\frac{1}{2}$ $\frac{3}{15}$ $999$ $\frac{3.2}{4.1}$ $7.4$ $8.7$ $9.0$ $11.0$ $\frac{1}{6}$ $\frac{3}{3}$ $15.5$ $999$ $\frac{3.2}{4.1}$ $7.1$ $8.5$ $9.0$ $11.0$ $\frac{1}{6}$ $\frac{1}{2}$ $3.3$ $15.5$ $999$ $\frac{4.3}{4.3}$ $7.5$ $8.8$ $9.0$ $11.0$ $10.0$ $10.0$ $10.0$ $10.0$ $10.0$ $10.0$ $10.0$	Model:		cas, Inc.						Job Number:	JD100297	
Contact:         Mark Rieger         Project Manager:         Irefe Radamach           Standard:         FCC Part 15.407         Class:         N/A           Ad70-5725 PSD - FCC         Mode:         n20           Frequency         Chain         Software         99% BW         Duty Cycle         PSD <sup>3</sup> Total PSD         FCC Limit         IC limit         R           (MHz)         Chain         Software         99% BW         Muty Cycle         PSD <sup>3</sup> Total PSD         FCC Limit         IC limit         R           5500         1	mouci.	Wi-Fi Modul	o 5 GHz (26)	Ŋ_E255040)					-		
Standard:       FCC Part 15.407       Class:       N/A         4470-5725       PSD - FCC       Mode:       n20         Frequency (MHz)       Chain       Software       99% BW (MHz)       Duty Cycle       PSD <sup>3</sup> Total PSD       FCC Limit       IC limit       R         5500 $\frac{1}{4}$ $\frac{1}{4}$ $\frac{4.0}{4}$ $\frac{3.9}{4}$ $7.7$ $8.9$ $9.0$ $11.0$ $F$ 5500 $\frac{4}{4}$ $\frac{3.9}{4}$ $7.7$ $8.9$ $9.0$ $11.0$ $F$ 5580 $\frac{3}{4}$ $15$ $99$ $\frac{3.9}{3.2}$ $7.4$ $8.7$ $9.0$ $11.0$ $F$ 5580 $\frac{4}{4}$ $3.2$ $7.4$ $8.7$ $9.0$ $11.0$ $F$ 5700 $\frac{3}{4}$ $15.5$ $99$ $\frac{3.2}{4.1}$ $7.1$ $8.5$ $9.0$ $11.0$ $F$ $5720$ $\frac{3}{4}$ $15.5$ $99$ $\frac{3.7}{4.0}$ $7.5$ $8.8$ $9.0$ $11.0$ $F$ $7720$ $\frac{3}{4}$ $15.5$ $99$ $3.0$ $6.4$ $8.4$ $28.0$ $28.0$			-	5-2200040)				-	-		nacher
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								Project			
Mode:         n20           Frequency (MHz)         Chain         Software Setting         99% BW (MHz)         Duty Cycle %         PSD <sup>3</sup> dBm/MHz         Total PSD mW/MHz         FCC Limit         IC limit dBm/MHz         R           5500         1         3         15         99         3.4         7.7         8.9         9.0         11.0         F           5500         4         15         99         3.4         7.7         8.9         9.0         11.0         F           5580         4         15         999         3.2         7.4         8.7         9.0         11.0         F           5580         4         15.5         999         3.2         7.4         8.7         9.0         11.0         F           5700         4         15.5         999         3.2         7.4         8.5         9.0         11.0         F           5720         3         15.5         999         3.7         7.5         8.8         9.0         11.0         F           5720         3         15.5         99         3.7         7.5         8.8         9.0         11.0         F           5720         3         <	Standard:	FCC Part 15	5.40 <i>1</i>						Class:	N/A	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Mode:				1						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Chain						-			Resul
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		3				4.0					Pass
5580 $3$ 15       99 $3.2$ 7.4       8.7       9.0       11.0       F $2$ $4.6$ $4.6$ $3.2$ $4.6$ $3.2$ $4.6$ $3.2$						4.8					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5590		15		00		7 /	07	0.0	11.0	Pass
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5500		15		99	4.6	7.4	0.7	9.0	11.0	Pass
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<b>F700</b>		15 5		00		7 1	0 E	0.0	11.0	Pass
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5700		15.5		35	3.9	7.1	0.5	9.0	11.0	r ass
5720     4     15.5     99     7.5     8.8     9.0     11.0     F       Portion within 5725-5850 MHz band (UNII-3)     1     3.8     3.0     6.4     8.1     28.0     28.0     1	5700	1	45.5			4.3	7 5			44.0	-
Portion within 5725-5850 MHz band (UNII-3)	5720	4	15.5		99		7.5	8.8	9.0	11.0	Pass
5720 <u>3</u> 15.5 00 <u>3.8</u> 6.4 8.1 28.0 28.0 1	Portion wit		50 MHz band	1 (UNII-3)							
		1									
	5720	4	15.5		99		6.4	8.1	28.0	28.0	Pass



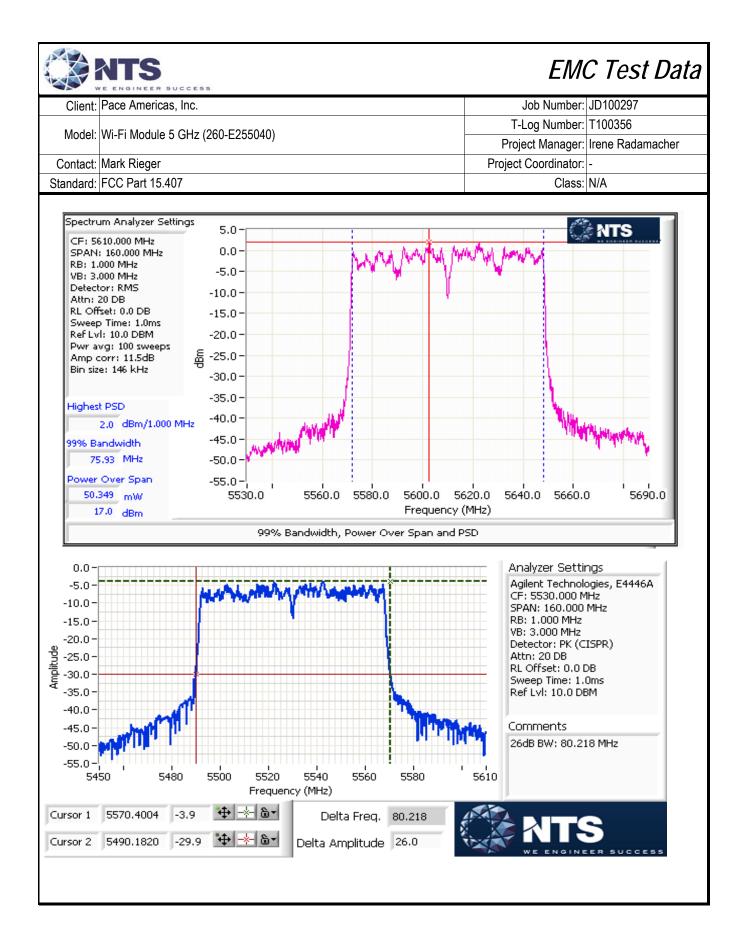
Client: Par Model: Wi- Contact: Ma Standard: FC	-Fi Module ark Rieger	as, Inc. e 5 GHz (260								
Contact: Ma	ark Rieger	e 5 GHz (260						Job Number:	JD100297	
Contact: Ma	ark Rieger		)_E255040)				T-I	_og Number:	T100356	
	-		J-L233040)				Proje	ect Manager:	Irene Radam	acher
Standard: FC							Project	Coordinator:	-	
	C Part 15	.407						Class:	N/A	
MIMO Device - Mode:		25 MHz Ban	d - FCC				May		1005.4	
Frequency	n40	Software	26dB BW	Duty Cycle	Power <sup>1</sup>	Total		EIRP (mW):	Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
(	1		()	70	15.5	11100	QDIII	dDill	(11)	
5510	3	16.5	39.4	98	16.0	122.1	20.9	22.0		Pass
3310	4	10.5	55.4	30		122.1	20.5	22.0		1 033
	2				16.7					
	1 3				16.1 16.8					
5550	4	17.5	39.7	98	10.0	142.3	21.5	22.0		Pass
	2				17.3				0.400	
	1				17.5				0.160	
5670	3	17.5	39.8	98	17.0	155.3	21.9	22.0		Pass
	4	17.0	00.0	00		100.0	21.0	22.0		1 000
	2				16.9					
	1 3				17.7 16.9					
5710	4	18.5	40.2	98	10.9	160.3	22.0	22.0		Pass
	2				17.2					
Portion within		0 MHz band	I (UNII-3)							
	1				7.3					
5710	3	18.5		98	6.8	14.8	11.7	28.0	0.0148	Pass
	4				6.7					
I	2				6.7					

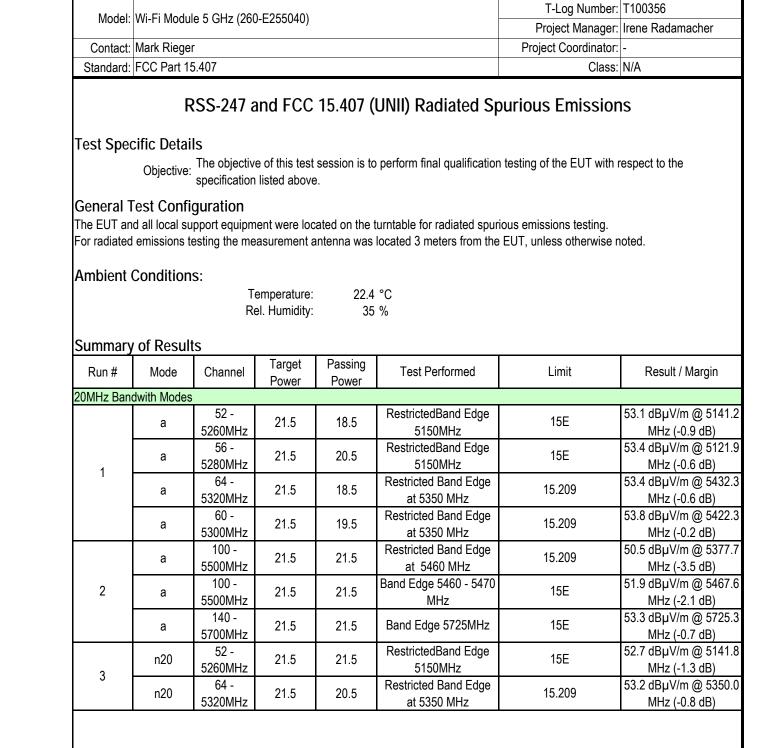
Client:	Pace Americ	cas, Inc.					,	lob Number:	JD100297	
Model	Wi-Fi Modul	o 5 GHz (26)	)-E255040)					.og Number:		
			)-L233040)						Irene Radar	nacher
	Mark Rieger						Project	Coordinator:		
Standard:	FCC Part 15	5.407						Class:	N/A	
Mode:		5 PSD - FCC								
requency	Chain	Software	99% BW	Duty Cycle			PSD	FCC Limit		Result
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	
5510	1 3 4 2	16.5		98	2.0 2.1 3.0	5.2	7.2	9.0	11.0	Pass
5550	1 3 4 2	17.5		98	2.3 3.1 3.7	6.1	7.9	9.0	11.0	Pass
5670	1 3 4 2	17.5		98	3.4	4.3	6.3	9.0	11.0	Pass
5710	1 3 4 2	18.5		98	4.4 3.4 3.9	7.4	8.7	9.0	11.0	Pass
ortion wit	hin 5725-585	50 MHz banc	I (UNII-3)		0.0					
5710	1 3 4 2	18.5		98	3.6 2.8 3.0	6.2	7.9	28.0	28.0	Pass



		SUCCESS						EM	C Test	Data	
Client:	Pace Americ	cas, Inc.						Job Number:	JD100297		
M							T-Log Number: T100356				
Model:	Wi-Fi Modul	e 5 GHz (260	J-E255040)				Project Manager: Irene Radamacher				
Contact:	Mark Rieger							Coordinator:			
	FCC Part 15							Class:			
	ce - 5470-572 ac80		d - FCC				Max	EIRP (mW):	996.6		
Frequency		Software	26dB BW	Duty Cycle	Power <sup>2</sup>	Total	Power		Max Power	Decult	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result	
	1				15.1						
5530	3	16.5	80.2	94	14.2	98.0	19.9	22.0		Pass	
0000	4	10.0	00.2	0-1		00.0	10.0	22.0		1 400	
	2				15.3						
	1				17.3						
5610	3	18.5	80.5	94	16.3	158.9	22.0	22.0	0.159	Pass	
	2				17.3						
	1				16.9						
5000	3	10 F	04 7	<u>.</u>	15.7	407.4	04.4	00.0			
5690	4	18.5	81.7	94		137.4	21.4	22.0		Pass	
	2				16.4						
Portion with	nin 5725-585	60 MHz band	I (UNII-3)								
	1				3.3						
5690	3	18.5		94	2.3	6.1	7.9	28.0	0.0061	Pass	
	4				0.0						
	2				2.8						

Americas, Inc. i Module 5 GHz (2 Rieger Part 15.407 FCC/IC	60-E255040)					lob Number: .og Number:		
Rieger Part 15.407	60-E255040)						1100330	
Part 15.407					Proje		Irene Radan	nacher
					Project	Coordinator:	-	
FCC/IC						Class:	N/A	
ac80		MHz channel						
Chain Software 99% BW Duty Cycle PSD <sup>3</sup> Total PSD Setting (MHz) % dBm/MHz mW/MHz dBm/						FCC Limit		Resul
	(MHZ)	%		mW/MHz	dBm/MHz	dBm/	/MHz	
$\frac{1}{3}$ 16.5		94	-2.6	2.8	4.5	9.0	11.0	Pass
1 3 4 2		94	2.0 -0.4	4.1	6.1	9.0	-	Pass
1 3 4 2		94	1.3 -0.4	3.5	5.4	9.0	11.0	Pass
125-5850 MHz ba 1 3 4 2 18.5	nd (UNII-3)	94	-0.3 -1.4 -1.0	2.6	4.1	28.0	28.0	Pass
	Setting           1         3           3         16.5           2         1           3         18.5           2         1           3         18.5           2         1           3         18.5           2         1           3         18.5           2         1           3         18.5           2         1           3         18.5           1         3           1         18.5	Setting     (MHz)       1     16.5       2     16.5       2     18.5       3     18.5       2     18.5       2     18.5       2     18.5       2     18.5       3     18.5       2     18.5       3     18.5       1     18.5       2     18.5       1     18.5       3     18.5	Main     Setting     (MHz)     %       1     3     16.5     94       2     1     94       1     3     18.5     94       2     1     94     94       1     3     18.5     94       2     1     94     94       2     1     94     94       2     1     94     94       2     18.5     94     94       2     18.5     94     94       2     18.5     94     94	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				





EER SUCCESS

Client: Pace Americas, Inc.

EMC Test Data

Job Number: JD100297

Client:	Pace Amer	icas, Inc.				Job Number: JD100297			
M						T-Log Number: T100356			
Wodel:	VVI-FI MOdu	ile 5 GHz (260	-E255040)			Project Manager: Irene Radama			
Contact:	Mark Riege	er				Project Coordinator:	-		
Standard:	FCC Part 1	5.407				Class:	N/A		
Run #	Mode	Channel	Target Power	Passing Power	Test Performed	Limit	Result / Margin		
	n20	100 - 5500MHz	21.5	19.5	Restricted Band Edge at 5460 MHz	15.209	48.3 dBµV/m @ 545 MHz (-5.7 dB)		
4	n20	100 - 5500MHz	21.5	19.5	Band Edge 5460 - 5470 MHz	15E	63.4 dBµV/m @ 546 MHz (-4.9 dB)		
	n20 140 - 5700MHz 21.5		21.5	19.5	Band Edge 5725MHz	15E	66.2 dBµV/m @ 57 MHz (-2.1 dB)		
MHz Ban	dwith Modes								
5	n40	54 - 5270MHz	21.5	21.5	Restricted Band Edge at 5150 MHz	15.209	50.8 dBµV/m @ 514 MHz (-3.2 dB)		
Ū	n40	62 - 5310MHz	21.5	15.5	Restricted Band Edge at 5350 MHz	15.209	53.9 dBµV/m @ 535 MHz (-0.1 dB)		
	n40	102 - 5510MHz	21.5	16.5	Restricted Band Edge at 5460 MHz	15.209	48.1 dBµV/m @ 545 MHz (-5.9 dB)		
6	n40	102 - 5510MHz	21.5	16.5	Band Edge 5460 - 5470 MHz	15E	66.2 dBµV/m @ 546 MHz (-2.1 dB)		
	n40	110 - 5550MHz	21.5	21.5	Restricted Band Edge at 5460 MHz	15.209	48.7 dBµV/m @ 545 MHz (-5.3 dB)		
	n40	110 - 5550MHz	21.5	21.5	Band Edge 5460 - 5470 MHz	15E	64.1 dBµV/m @ 546 MHz (-4.2 dB)		
	n40	134 - 5670MHz	21.5	21.5	Band Edge 5725MHz	15E	64.3 dBµV/m @ 574 MHz (-4.0 dB)		
)MHz Ban	dwith Modes			•			1		
7	ac80	58 - 5290MHz	21.5	21.5	Restricted Band Edge at 5150 MHz	15.209	52.5 dBµV/m @ 514 MHz (-1.5 dB)		
•	ac80	58 - 5290MHz	21.5	16.5	Restricted Band Edge at 5350 MHz	15.209	53.3 dBµV/m @ 535 MHz (-0.7 dB)		
8	ac80	106 - 5530MHz	21.5	16.5	Restricted Band Edge at 5460 MHz	15.209	52.4 dBµV/m @ 545 MHz (-1.6 dB)		
	ac80	106 - 5530MHz	21.5	16.5	Band Edge 5460 - 5470 MHz	15E	66.8 dBµV/m @ 546 MHz (-1.5 dB)		
	ac80	122 - 5610MHz	21.5	21.5	Restricted Band Edge at 5460 MHz	15.209	50.7 dBµV/m @ 545 MHz (-3.3 dB)		
	ac80	122 - 5610MHz	21.5	21.5	Band Edge 5460 - 5470 MHz	15E	65.9 dBµV/m @ 546 MHz (-2.4 dB)		
	ac80	122 - 5610MHz	21.5	21.5	Band Edge 5725MHz	15E	65.1 dBµV/m @ 574 MHz (-3.2 dB)		



# EMC Test Data

	E ENGINEER SUCCESS		
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
wouer.		Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

# Modifications Made During Testing

No modifications were made to the EUT during testing

## Deviations From The Standard

No deviations were made from the requirements of the standard.

## Procedure Comments:

Measurements performed in accordance with FCC KDB 789033

Peak measurements performed with: RBW=1MHz, VBW=3MHz, peak detector, max hold, auto sweep time Unless otherwise stated/noted, emission has duty cycle ≥ 98% and was measured using RBW=1MHz, VBW=10Hz, peak detector, linear average mode, auto sweep time, max hold 50 traces. (method VB of KDB 789033)

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	
11a	6 Mbps	98.0%	Yes	1.302	0	0	10	
n20	VHT8	92.6%	No	1.935	0.3	0.7	517	1k
n40	VHT9	95.2%	No	0.952	0.2	0.4	1050	3k
ac80	VHT9	75.5%	Yes	2.023	1.2	2.4	494	1k

## Sample Notes

Sample S/N: F56154520246

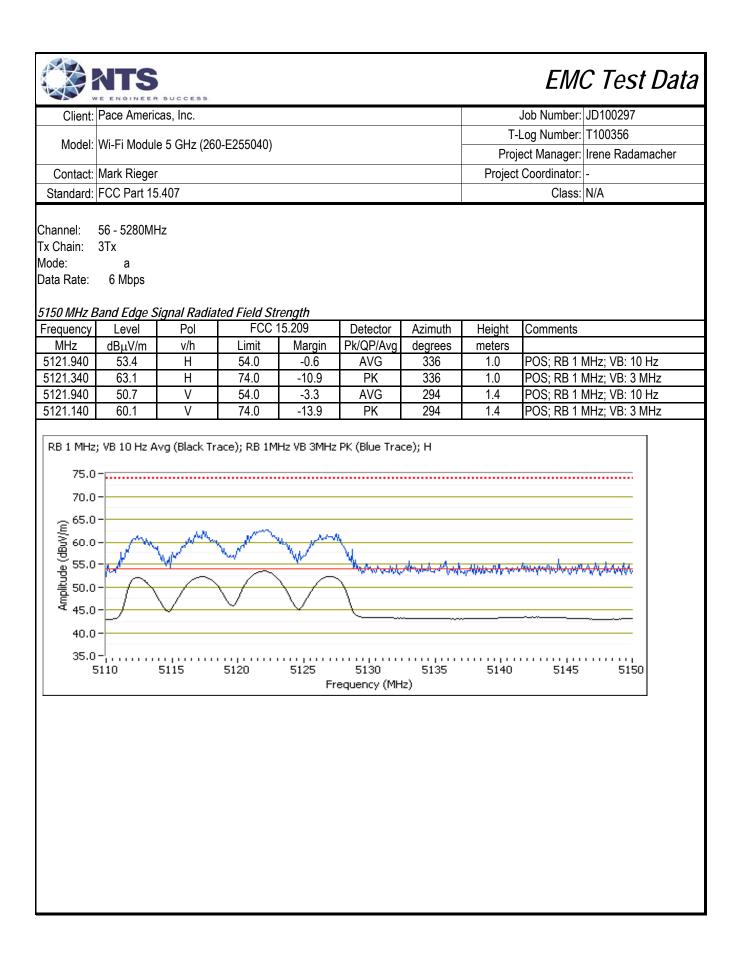
Driver: 7.14.89.21.571.206

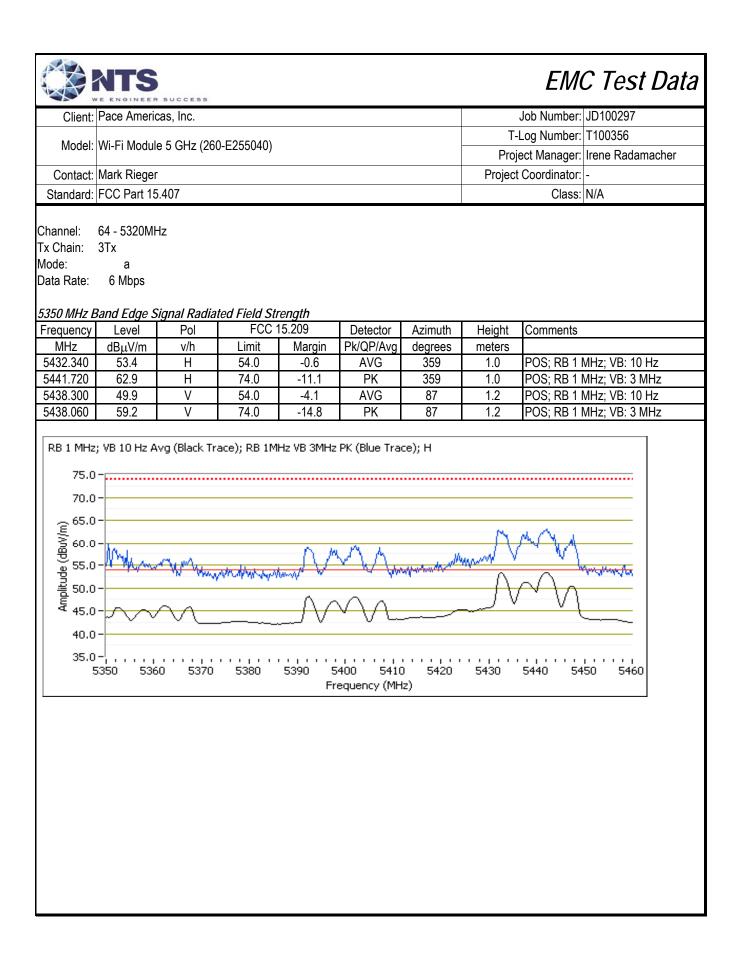
Antenna: Internal 3x3 Beamforming (802.11a mode does not do beamforming)

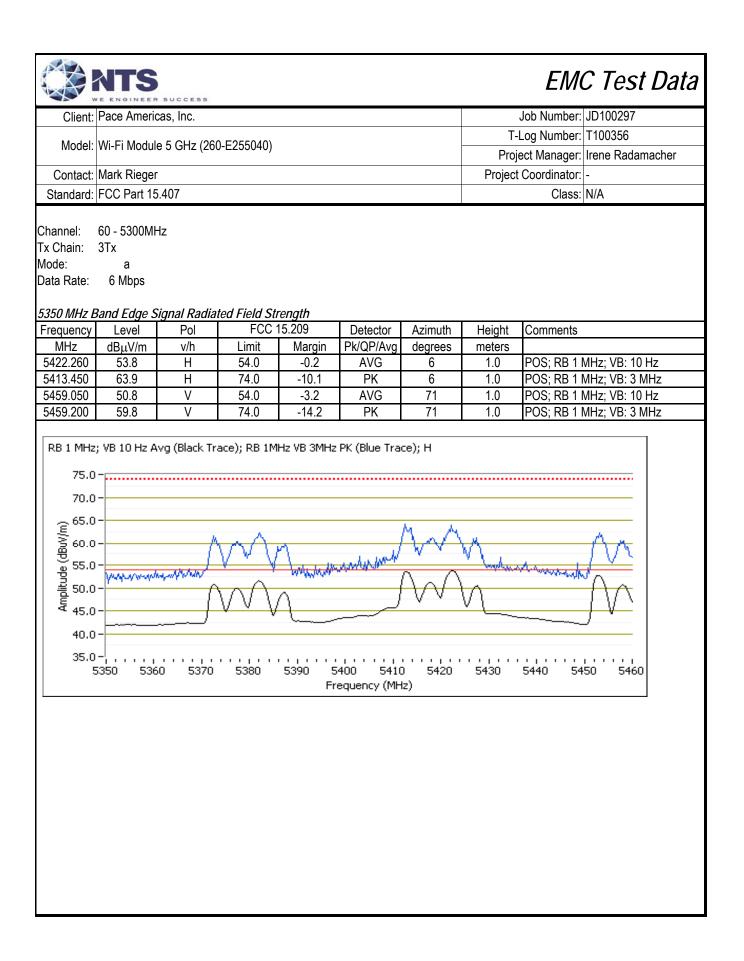
### Measurement Specific Notes:

	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method
Note 1:	required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). Per KDB 789033 2) c) (i), compliance can be
	demonstrated by meeting the average and peak limits of 15.209, as an alternative.
Note 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
Note 2.	sweep, trace average 100 traces (method AD of KDB 789033)
Note 3:	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz,
Note 0.	peak detector, linear averaging, auto sweep, max hold 50*1/DC traces (method VB of KDB 789033)
Note 4:	Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Note 5:	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
NOLE J.	measurements.

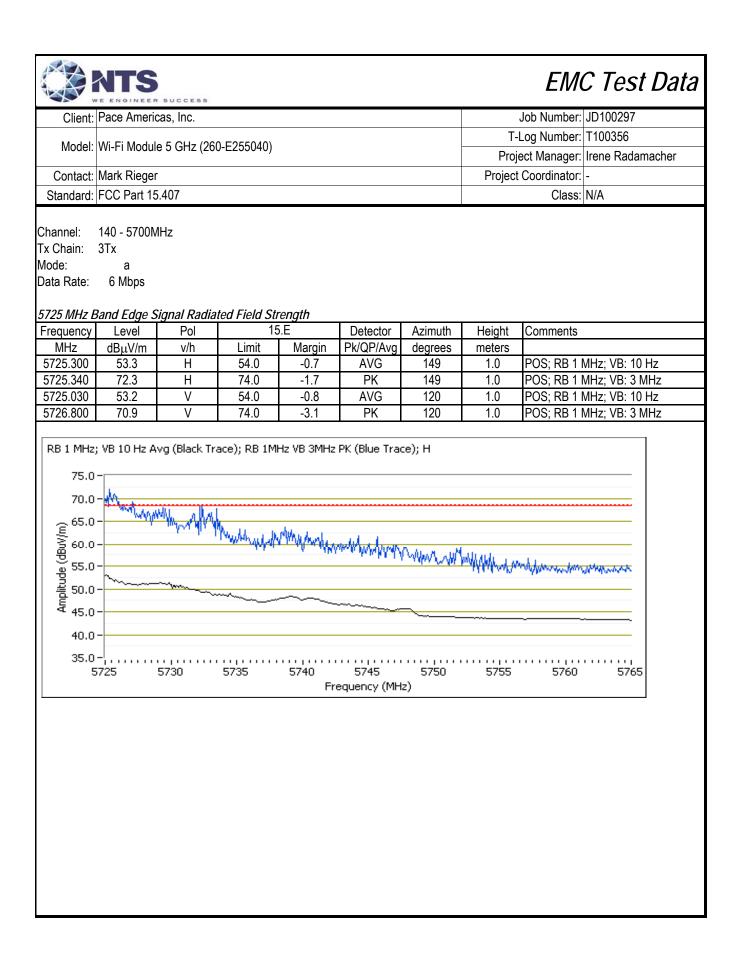
un #1: Radiated Bandedge Measurements, 5250-5350MHz Date of Test: 03/02/16 Test Engineer: Rafael Varelas EUT Voltage: 120V/60Hz Chain: 3Tx ode: a ata Rate: 6 Mbps  150 MHz Band Edge Signal Radiated Field Strength requency Level Pol FCC 15 209 Delector Azimuth Height Comments 15141.220 53.1 H 54.0 -0.9 AVG 334 1.0 POS; RB 1 MHz; VB:10 15141.220 53.1 H 54.0 -5.0 AVG 297 1.3 POS; RB 1 MHz; VB:03 15141.420 49.0 V 54.0 -5.0 AVG 297 1.3 POS; RB 1 MHz; VB:31 15141.420 49.0 V 54.0 -15.3 PK 297 1.3 POS; RB 1 MHz; VB:31 RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1 MHz VB 3MHz PK (Blue Trace); H  75.0  65.0  70.0  65.0  55	Unchil.	Pace Americ	as, Inc.						Job Number:	JD100297
Model:         WH-H Module 3 GH2 (200-E255040)         Project Manager.         Irene Rada           Contact:         Mark Rieger         Project Coordinator.         -           Standard:         FCC Part 15.407         Class:         N/A           un #1:         Radiated Bandedge Measurements, 5250-5350MHz         Class:         N/A           Date of Test:         03/02/16         Test Location:         FT Chamber #4           Test Engineer:         Rafael Varelas         EUT Voltage:         120V/60Hz           Annel:         52 - 5260MHz         Cohen:         3Tx           ode:         a         ata Rate:         6 Mbps           150 MHz         Gagerees         meters         FCC 15.209         Detector         Azimuth         Height         Comments           15141.220         53.11         H 54.0         -0.9         AVG         334         1.0         POS; RB 1 MHz; VB: 01           15141.220         53.11         H 54.0         -5.0         AVG         297         1.3         POS; RB 1 MHz; VB: 01           15141.220         54.0         -5.0         AVG         297         1.3         POS; RB 1 MHz; VB: 01           1514.200         58.7         V         74.0         -15.3			5 011 (00)					T-	Log Number:	T100356
Standard:         FCC Part 15.407         Class:         N/A           un #1:         Radiated Bandedge Measurements, 5250-5350MHz         Date of Test: 03/02/16         Test Location: FT Chamber #4           Test Engineer:         Rafeel Varelas         EUT Voltage: 120V/60Hz           hannel:         52 - 5260MHz         K           chain:         3Tx         ode:           ata Rate:         6 Mbps           150 MHz         Band Edge Signal Radiated Field Strength           requency         Level         Pol           FCC 15.209         Detector         Azimuth           MHz         dBijv/Im         V/h           5141.220         53.1         H         54.0         -0.9           AVG         334         1.0         POS; RB 1 MHz; VB: 10           5141.220         53.1         H         54.0         -5.0           AVG         297         1.3         POS; RB 1 MHz; VB: 31           5141.201         49.0         V         54.0         -5.0           AVG         297         1.3         POS; RB 1 MHz; VB: 31           RB 1 MHz; VB 10 Hz Avg (Black Trace); RB 1MHz VB 3MHz Pk: (Blue Trace); H         75.0           65.0	Model:	WI-FI Module	e 5 GHz (26	0-E255040)						
Interference of Test: 03/02/16         Test Location: FT Chamber #4         Test Location: FT Chamber #4         Test Engineer: Rafael Varelas         EUT Voltage: 120V/60Hz         Xchain: 3Tx         total a a a a a a a a a a a a a a a a a a	Contact:	Mark Rieger						Project	Coordinator:	-
Date of Test: 03/02/16 Test Engineer: Rafael Varelas       Test Location: FT Chamber #4 EUT Voltage: 120V/60Hz         channel:       52 - 5260MHz x Chain:       3Tx Node:         adata Rate:       6 Mbps         ISO MHz Band Edge Signal Radiated Field Strength         Trequency Level Pol FCC 15:209 Detector Azimuth Height Comments         MHz       dBµ.V/m       V/m       Limit       Margin       Pk/OP/Avg       degrees       meters         5141.220       53.1       H       54.0       -0.9       AVG       334       1.0       POS; RB 1 MHz; VB: 00         5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB: 00         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB: 01         OS (B 1 MHz; VB 10 kHz Avg (Black Trace); RB 1 MHz VB 3MHz PK (Blue Trace); H         75.0       70.0	Standard:	FCC Part 15	.407						Class:	N/A
Test Engineer: Rafael Varelas       EUT Voltage: 120V/60Hz         thannel:       52 - 52600MHz         x Chain:       3Tx         lode:       a         tata Rate:       6 Mbps         1150 MHz       Band Edge Signal Radiated Field Strength         requency       Level       Pol         FCC 15.209       Detector       Azimuth       Height         Comments       MHz       dBµV/m       v/h       Limit       Margin       Pk/QP/Avg       degrees       meters         5141.200       53.1       H       54.0       -0.9       AVG       334       1.0       POS; RB 1 MHz; VB: 10         5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB: 10         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB: 31         RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1 MHz VB 3MHz PK (Blue Trace); H         75.0	un #1: Ra	adiated Band	edge Meas	urements, 5	250-5350Mł	Ηz				
x Chain:       3Tx         Mode:       a         ata Rate:       6 Mbps <i>150 MHz Band Edge Signal Radiated Field Strength</i> Trequency       Level       Pol       FCC 15.209       Detector       Azimuth       Height       Comments         MHz       dBjtV/m       V/h       Limit       Margin       Pk/QP/Avg       degrees       meters         5141.220       53.1       H       54.0       -0.9       AVG       334       1.0       POS; RB 1 MHz; VB: 0         5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB: 10         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB: 31         75.0       G6.0				las						
Mode:         a           Data Rate:         6 Mbps           5150 MHz Band Edge Signal Radiated Field Strength           Frequency         Level         Pol         FCC 15.209         Detector         Azimuth         Height         Comments           MHz         dBµLV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5141.220         53.1         H         54.0         -0.9         AVG         334         1.0         POS; RB 1 MHz; VB: 10           5141.20         49.0         V         54.0         -5.0         AVG         297         1.3         POS; RB 1 MHz; VB: 10           5140.380         58.7         V         74.0         -15.3         PK         297         1.3         POS; RB 1 MHz; VB: 31           75.0         -	Channel:	52 - 5260M⊦	lz							
hata Rate: 6 Mbps         i150 MHz Band Edge Signal Radiated Field Strength         Terequency       Level       Pol       FCC 15.209       Detector       Azimuth       Height       Comments         MHz       dBµU/m       v/h       Limit       Margin       Pk/QP/Avg       degrees       meters         5141.200       53.1       H       54.0       -0.9       AVG       334       1.0       POS; RB 1 MHz; VB: 01         5141.200       62.4       H       74.0       -11.6       PK       334       1.0       POS; RB 1 MHz; VB: 01         5141.200       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB: 00         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB: 01         60.0		3Tx								
S150 MHz Band Edge Signal Radiated Field Strength         Frequency       Level       Pol       FCC 15.209       Detector       Azimuth       Height       Comments         MHz       dBµV/m       v/h       Limit       Margin       Pk/QP/Avg       degrees       meters         5141.220       53.1       H       54.0       -0.9       AVG       334       1.0       POS; RB 1 MHz; VB 10         5141.200       62.4       H       74.0       -11.6       PK       334       1.0       POS; RB 1 MHz; VB 31         5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB 10         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB 31         RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1 MHz VB 3MHz PK (Blue Trace); H         75.0										
Frequency         Level         Pol         FCC 15.209         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters         5141.220         53.1         H         54.0         -0.9         AVG         334         1.0         POS; RB 1 MHz; VB: 10           5141.420         49.0         V         54.0         -5.0         AVG         234         1.0         POS; RB 1 MHz; VB: 31           5141.420         49.0         V         54.0         -5.0         AVG         297         1.3         POS; RB 1 MHz; VB: 10           5140.380         58.7         V         74.0         -15.3         PK         297         1.3         POS; RB 1 MHz; VB: 31           RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1MHz VB 3MHz PK (Blue Trace); H         75.0	lata Rate:	6 Mbps								
Frequency         Level         Pol         FCC 15.209         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters         5141.220         53.1         H         54.0         -0.9         AVG         334         1.0         POS; RB 1 MHz; VB: 10           5141.420         49.0         V         54.0         -5.0         AVG         234         1.0         POS; RB 1 MHz; VB: 31           5141.420         49.0         V         54.0         -5.0         AVG         297         1.3         POS; RB 1 MHz; VB: 10           5140.380         58.7         V         74.0         -15.3         PK         297         1.3         POS; RB 1 MHz; VB: 31           RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1MHz VB 3MHz PK (Blue Trace); H         75.0         - <td>150 MHz E</td> <td>Band Edge S</td> <td>ignal Radia</td> <td>ted Field St</td> <td>rength</td> <td></td> <td></td> <td></td> <td></td> <td></td>	150 MHz E	Band Edge S	ignal Radia	ted Field St	rength					
5141.220       53.1       H       54.0       -0.9       AVG       334       1.0       POS; RB 1 MHz; VB 10         5141.060       62.4       H       74.0       -11.6       PK       334       1.0       POS; RB 1 MHz; VB 31         5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB 10         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB 10         RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1MHz VB 3MHz PK (Blue Trace); H       75.0	Frequency		Pol	FCC	15.209		Azimuth	Height	Comments	
5141.060       62.4       H       74.0       -11.6       PK       334       1.0       POS; RB 1 MHz; VB 31         5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB 10         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB 31         RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1 MHz VB 3MHz PK (Blue Trace); H         75.0					9					
5141.420       49.0       V       54.0       -5.0       AVG       297       1.3       POS; RB 1 MHz; VB: 10         5140.380       58.7       V       74.0       -15.3       PK       297       1.3       POS; RB 1 MHz; VB: 31         RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1 MHz VB 3MHz PK (Blue Trace); H         75.0       70.0       60.0 </td <td></td>										
5140.380     58.7     V     74.0     -15.3     PK     297     1.3     POS; RB 1 MHz; VB: 3 MHz; VB										
RB 1 MHz; VB 10 kHz Avg (Black Trace); RB 1MHz VB 3MHz PK (Blue Trace); H 75.0- 70.0- 65.0- 65.0- 55.0- 45.0- 40.0- 35.0- 5110 5115 5120 5125 5130 5135 5140 5145 5150										
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75.0- 70.0- 65.0- 60.0- 55.0- 45.0- 45.0- 40.0- 35.0- 5110 5115 5120 5125 5130 5135 5140 5145 5150										
70.0- 65.0- 60.0- 55.0- 45.0- 40.0- 5110 5115 5120 5125 5130 5135 5140 5145 5150										
65.0- 60.0- 90,0- 55.0- 45.0- 40.0- 35.0- 5110 5115 5120 5125 5130 5135 5140 5145 5150	75.0									
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	, i	5110	5115	5120	5125	5130	5135	5140	5145	5150
Frequency (MHz)					Fr	equency (MH	z)			

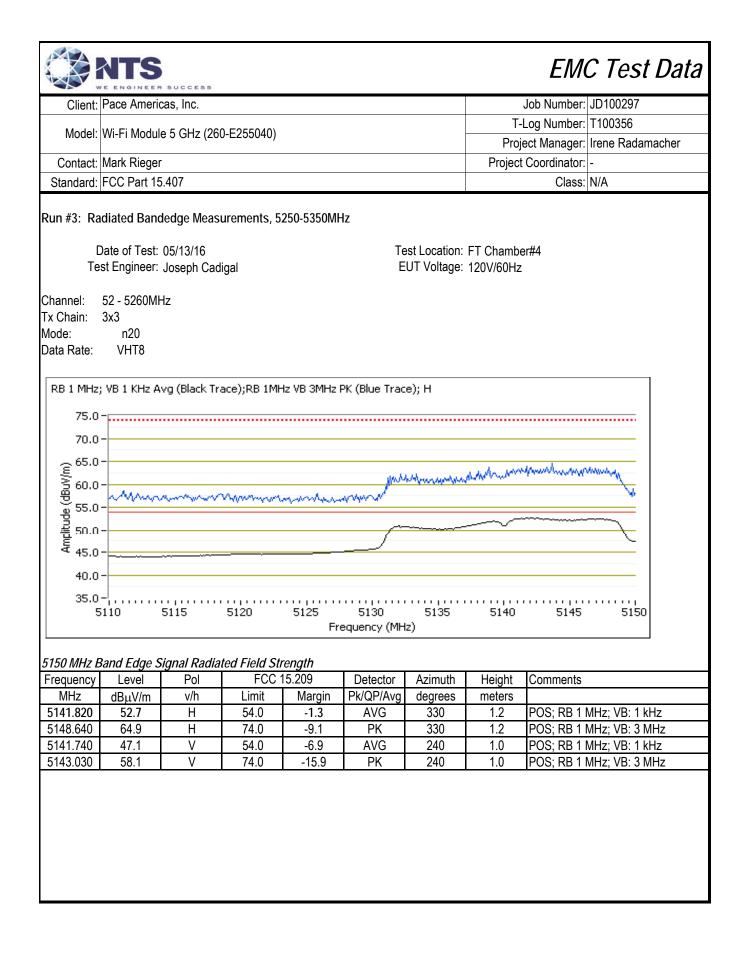


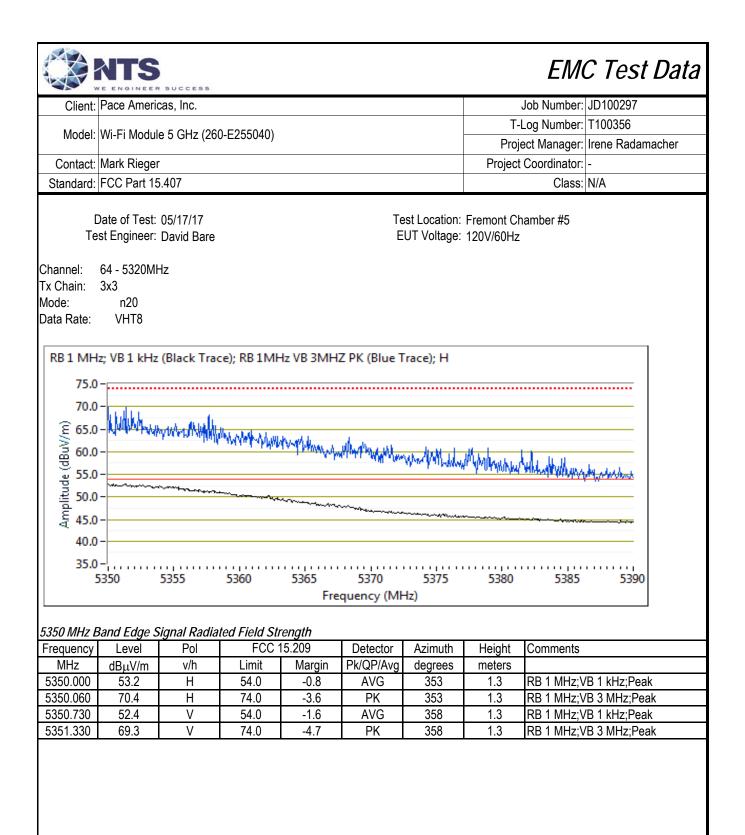


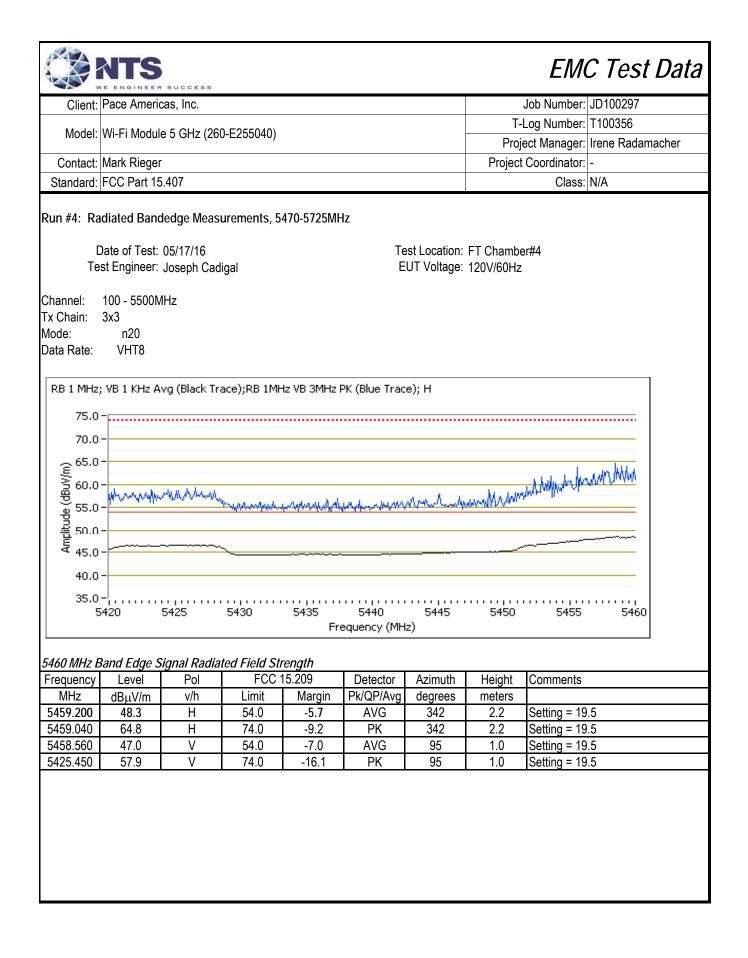


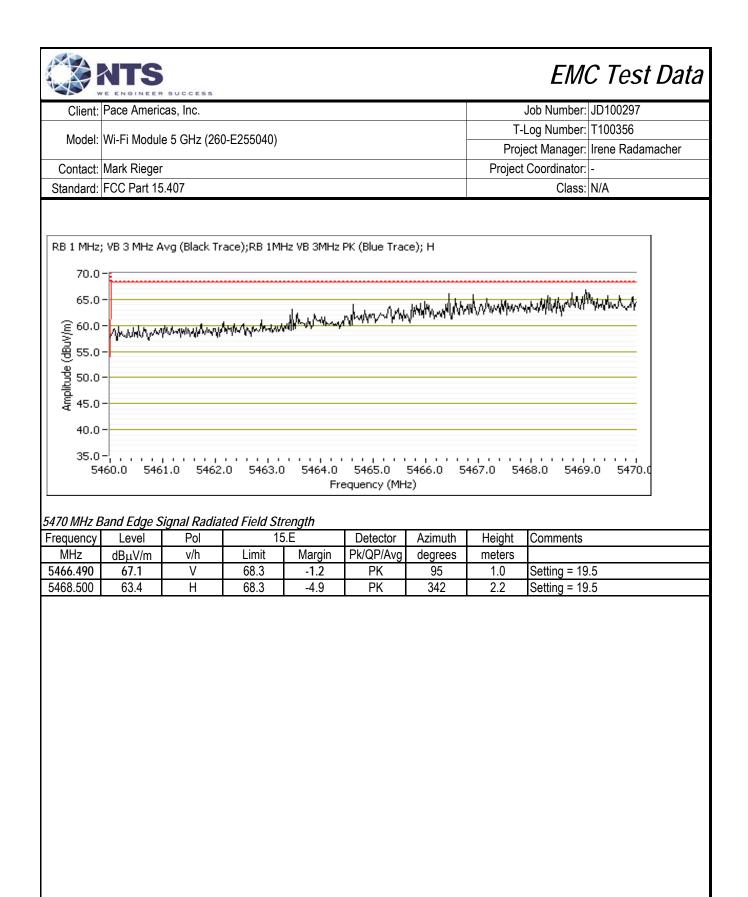
Client:	Pace Americ	as, Inc.					Job Number: JD100297			
							T-Log Number: T100356			
Model:	Wi-Fi Module	e 5 GHz (260	D-E255040)					ect Manager: Irene Radamacher		
Contact.	Mark Rieger							Coordinator: -		
	FCC Part 15	407						Class: N/A		
un #2: Ra	adiated Band	edge Meas	urements, 5	470-5725Mł	Ηz					
[	Date of Test:	03/02/16			Te	est Location:	FT Chambe	er #4		
Te	st Engineer:	Rafael Vare	las		E	UT Voltage:	120V/60Hz			
nannel:	100 - 5500M	Hz								
	3Tx									
ode:	а									
ata Rate:	6 Mbps									
		inn al Dest								
requency	<i>Band Edge S</i> Level	<i>ignal Radia</i> Pol		<i>rength</i> 15.209	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
5377.660	50.5	H	54.0	-3.5	AVG	4	1.0	POS; RB 1 MHz; VB: 10 Hz		
5382.220	60.4	H	74.0	-13.6	PK	4	1.0	POS; RB 1 MHz; VB: 3 MHz		
5377.980	48.6	V	54.0	-5.4	AVG	81	1.2	POS; RB 1 MHz; VB: 10 Hz		
383.990	59.0	V	74.0	-15.0	PK	81	1.2	POS; RB 1 MHz; VB: 3 MHz		
					1	-		, ,		
470 MHz E	Band Edge S	ignal Radia	ted Field St	rength						
requency	Level	Pol	1:	5.E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
5467.560	51.9	Н	54.0	-2.1	AVG	4	1.0	POS; RB 1 MHz; VB: 10 Hz		
5469.200	69.6	Н	74.0	-4.4	PK	4	1.0	POS; RB 1 MHz; VB: 3 MHz		
5467.860	46.8	V	54.0	-7.2	AVG	81	1.2	POS; RB 1 MHz; VB: 10 Hz		
5467.640	61.8	V	74.0	-12.2	PK	81	1.2	POS; RB 1 MHz; VB: 3 MHz		
RB 1 MHz 75.0		vg (Black Tr	ace); RB 1M	IHz VB 3MHz	: PK (Blue Tra	ce); H				
70.0	_									
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َ <sup>65.0</sup>								will all the start and the second start and the second start and the second start and the second start and the		
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40.0						-				



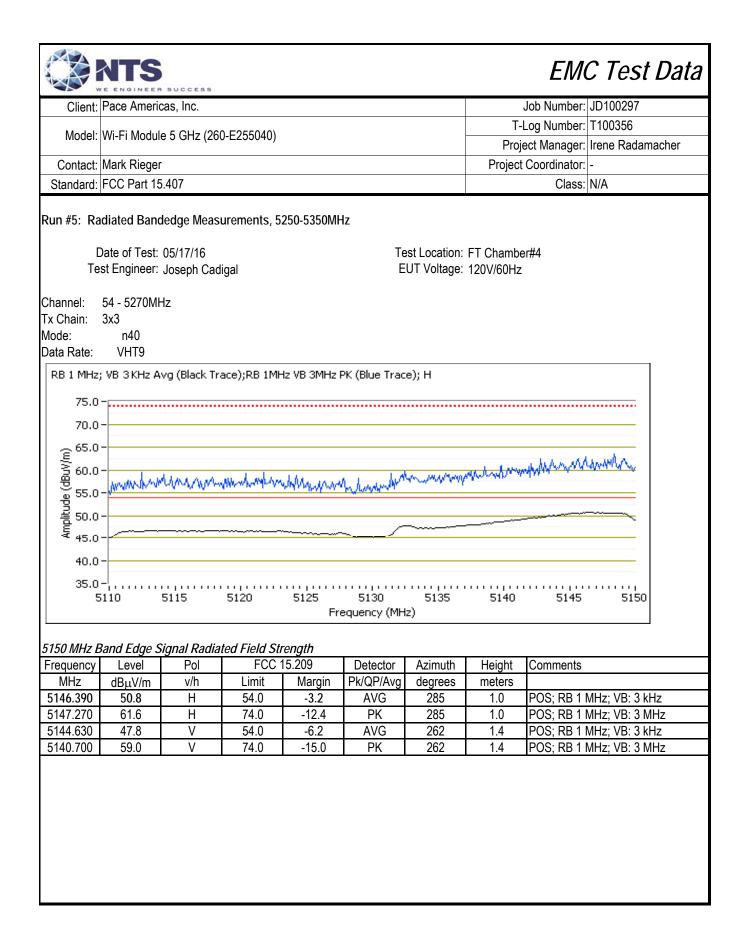




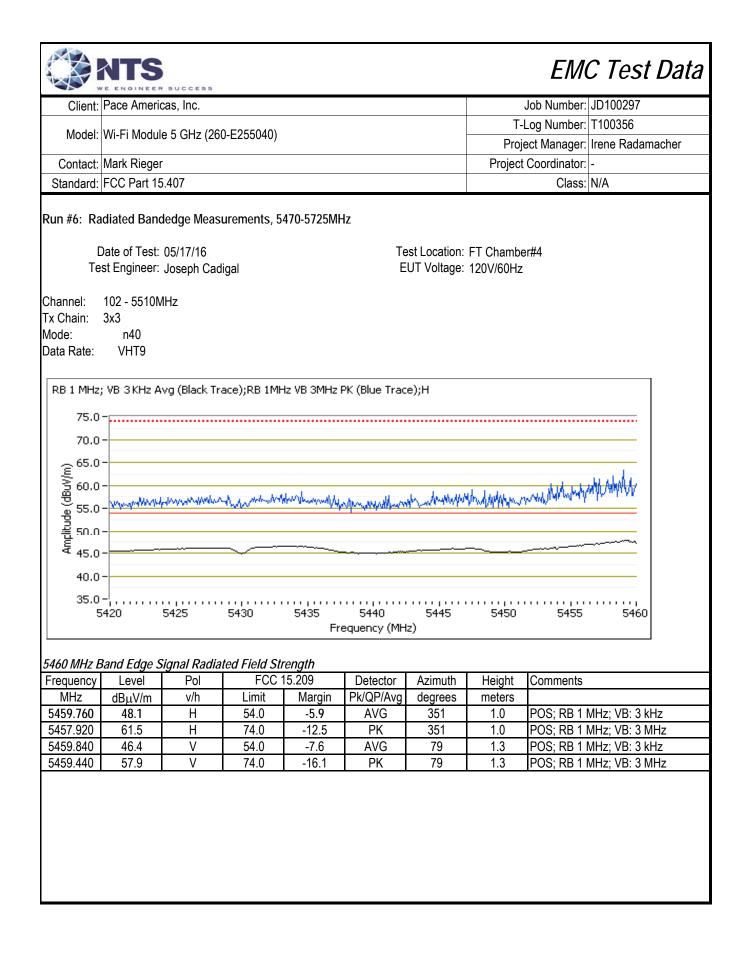


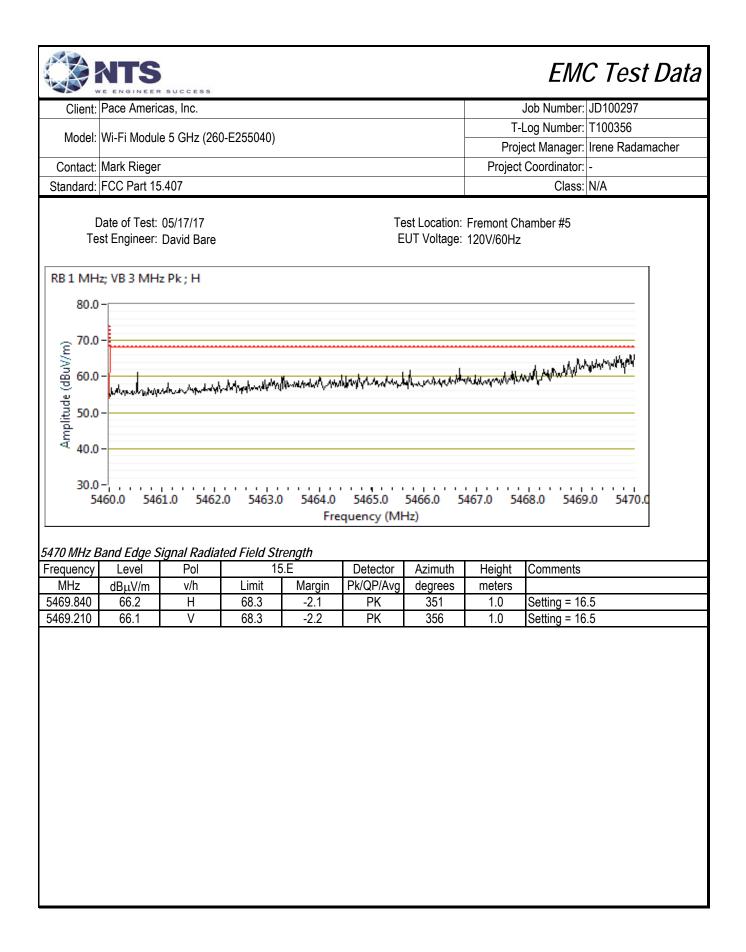


01								EMC Test Da
Client:	Pace Americ	cas, Inc.						Job Number: JD100297
							T-	Log Number: T100356
Model:	Wi-Fi Modul	e 5 GHz (26)	J-E255040)				Proj	ect Manager: Irene Radamacher
Contact:	Mark Rieger	•						Coordinator: -
Standard:	FCC Part 15	5.407						Class: N/A
Channel: Tx Chain: Node: Data Rate:	140 - 5700N 3x3 n20 VHT8	1Hz						
RB 1 MHz	; VB 3 MHz A	wa (Black Tr	ace) BB 1M	Ha VB 3MHa	PK (Blue Trad	-е). Н		
		ing (black fi	aconico in			.0// 11		
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75.0								
2 <sup>70.0</sup>	)					·····		
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45.0 (m/,m)) (m/,m) (m/,m) (m/,m)) (m/,m) (m/,m)) (m/,m) (m/,m)) (m/,m) (m/,m))	) -							
<del>द</del>   45.0	) -							
40.0	) –							
35.0	) -¦ 5725	5730	5735	5740	5745 equency (MH	5750	5755	5760 5765
	Band Edae S	ianal Radia	ted Field St	renath				
5725 MHz I	Band Edge S	<i>ignal Radia</i> Pol		<i>rength</i> 5.E	Detector	Azimuth	Height	Comments
5 <i>725 MHz I</i> Frequency MHz	Level dBµV/m	Pol v/h	1: Limit	5.E Margin	Pk/QP/Avg	degrees	meters	
5 <i>725 MHz E</i> Frequency	Level dBµV/m	Pol	1:	5.E			-	Comments POS; RB 1 MHz; VB: 3 MHz POS; RB 1 MHz; VB: 3 MHz

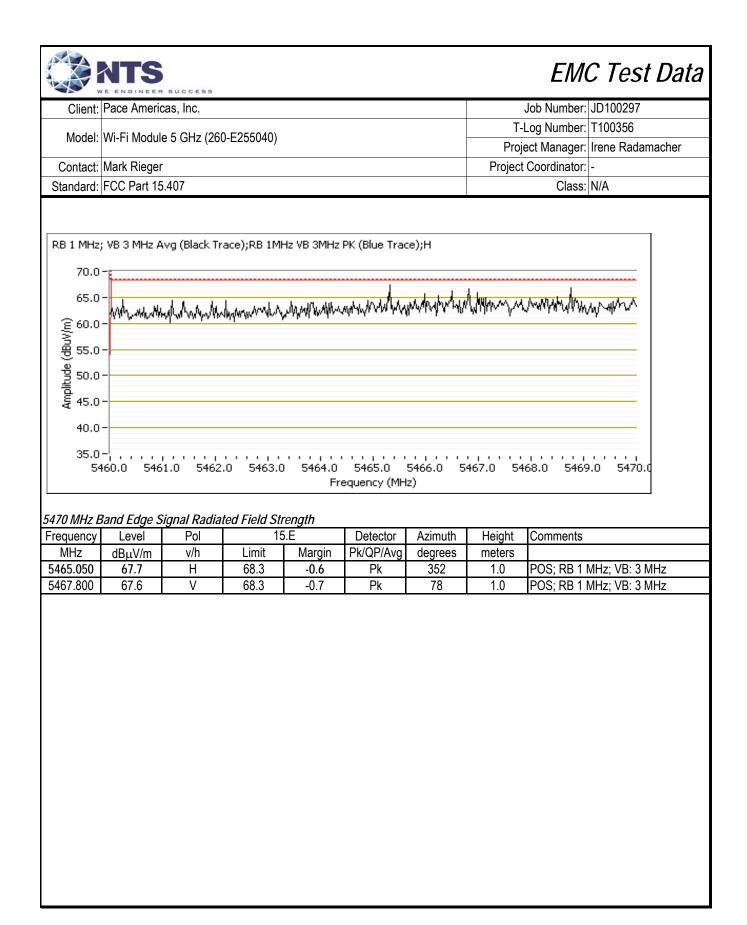


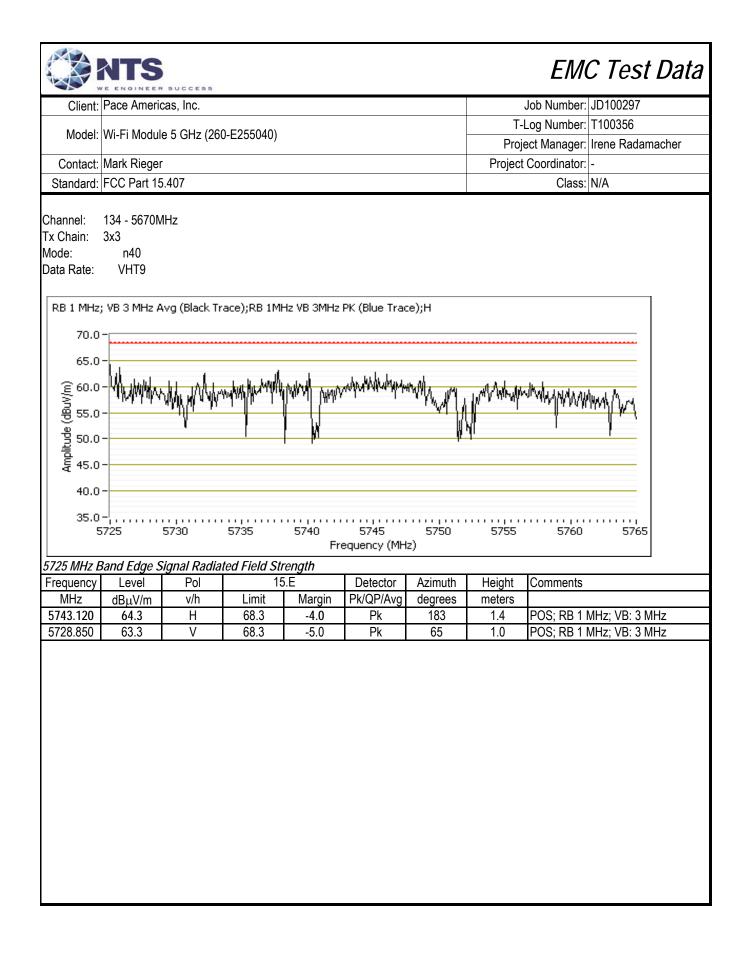
Model: Contact: Standard:	Pace America							EMO	
Contact: I Standard: I		as, Inc.						Job Number:	JD100297
Contact: I Standard: I	Wi-Fi Module	5 GH7 (26)	)_E255040)					Log Number:	
Standard:			,)				Proj	ect Manager:	Irene Radamacher
	Mark Rieger						Project	Coordinator:	
	FCC Part 15.	407						Class:	N/A
x Chain: 3 /ode: )ata Rate:	- - 	/g (Black Tra			PK (Blue Trac		Mudhanay	www.www.www.	
5:	_ s50 s	5355	5360	5365 Fr	5370 equency (MH	5375	5380	5385	5390
	Level	Pol		15.209	Detector	Azimuth	Height	Comments	
requency	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	0	
-requency MHz		V	54.0	-0.1 -1.5	AVG PK	261 261	1.0 1.0	Setting = 15	
Frequency MHz 5350.640	53.9 72.5		74.0			201		Setting = 15	
requency MHz	53.9 72.5 53.2	V H	74.0 54.0	-0.8	AVG	182	1.4	Setting = 15	

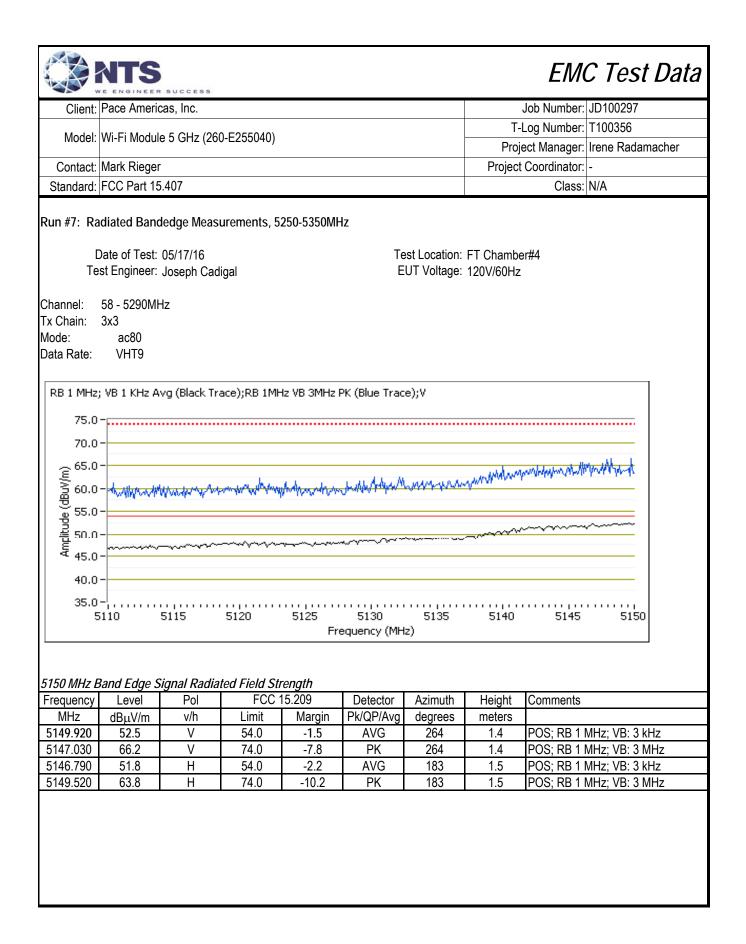




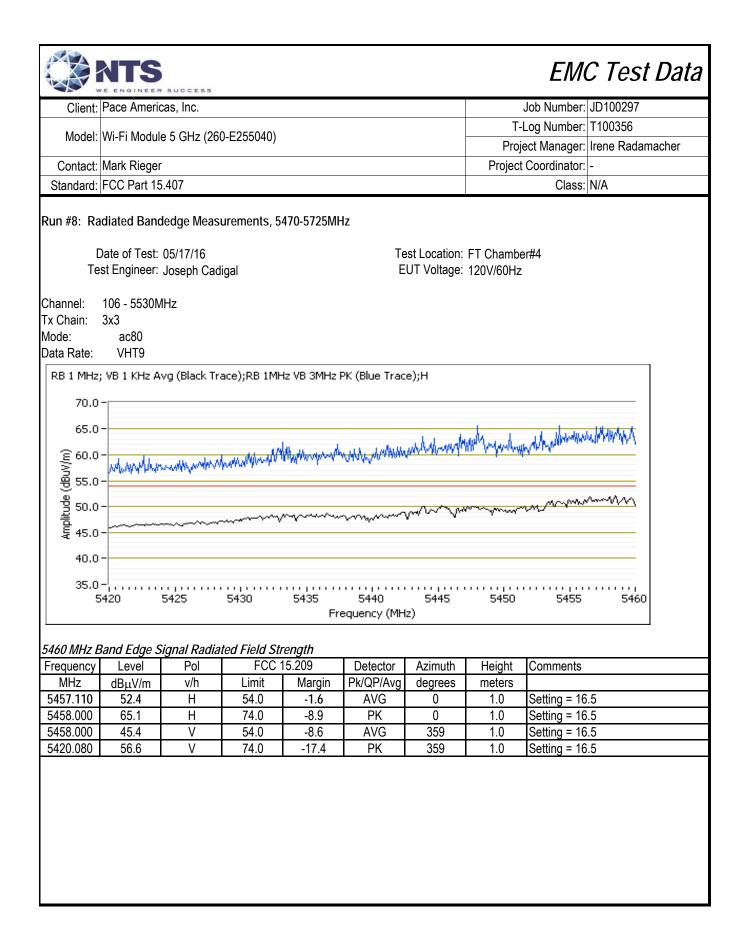
	Pace Americ	as. Inc.						Job Number:	JD100297
							T.	Log Number:	
Model:	Wi-Fi Module	e 5 GHz (260	)-E255040)					-	Irene Radamacher
Contact:	Mark Rieger						Projec	t Coordinator:	-
Standard:	FCC Part 15.	407						Class:	N/A
Channel: x Chain: /lode: Data Rate:	110 - 5550Ml 3x3 n40 VHT9	Hz							
RB 1 MHz	; VB 3 KHz Av	/g (Black Tra	ace);RB 1MH	Iz VB 3MHz I	PK (Blue Trac	e);H			
75.0	I –								
70.0									
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40.0 35.0	1- 1- 5420 5	5425	5430	5435 Fr	5440	5445	5450	5455	5460
40.0 35.0 5 5460 MHz E Frequency	5420 5 Band Edge Si	ignal Radia Pol	ted Field St	5435 Fri rength 15.209	5440	5445	5450 Height	5455 Comments	5460
40.0 35.0 5 5 6 6 7 6 7 6 7 6 7 6 7 7 7 7 7 7 7 7	5420 5 Band Edge Si Level dBμV/m	<i>ignal Radia</i> Pol v/h	ted Field Sta FCC	5435 Frength 15.209 Margin	5440 equency (MH Detector Pk/QP/Avg	z) Azimuth degrees	Height	Comments	5460
40.0 35.0 5460 MHz E Frequency MHz 5457.520	5420 5 Band Edge Si Level dBμV/m 48.7	<i>ignal Radia</i> Pol v/h H	ted Field Sta FCC Limit 54.0	5435 France Fran	5440 equency (MH Detector Pk/QP/Avg AVG	z) Azimuth degrees 352	Height meters 1.0	Comments POS; RB 1	5460 MHz; VB: 3 kHz
40.0 35.0 5 5 6 6 6 6 6 6 7 6 7 6 7 6 7 6 7 8 7 8 7 8	5420 5 Band Edge Si Level dBμV/m	<i>ignal Radia</i> Pol v/h	ted Field Sta FCC	5435 Frength 15.209 Margin	5440 equency (MH Detector Pk/QP/Avg	z) Azimuth degrees	Height	Comments POS; RB 1 POS; RB 1	5460

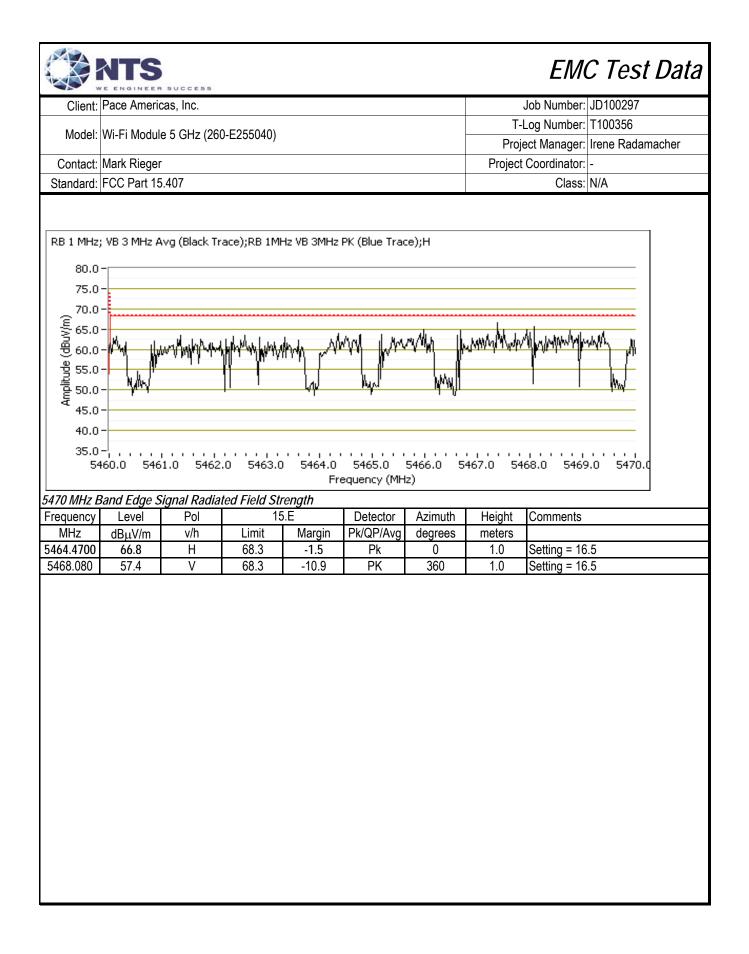




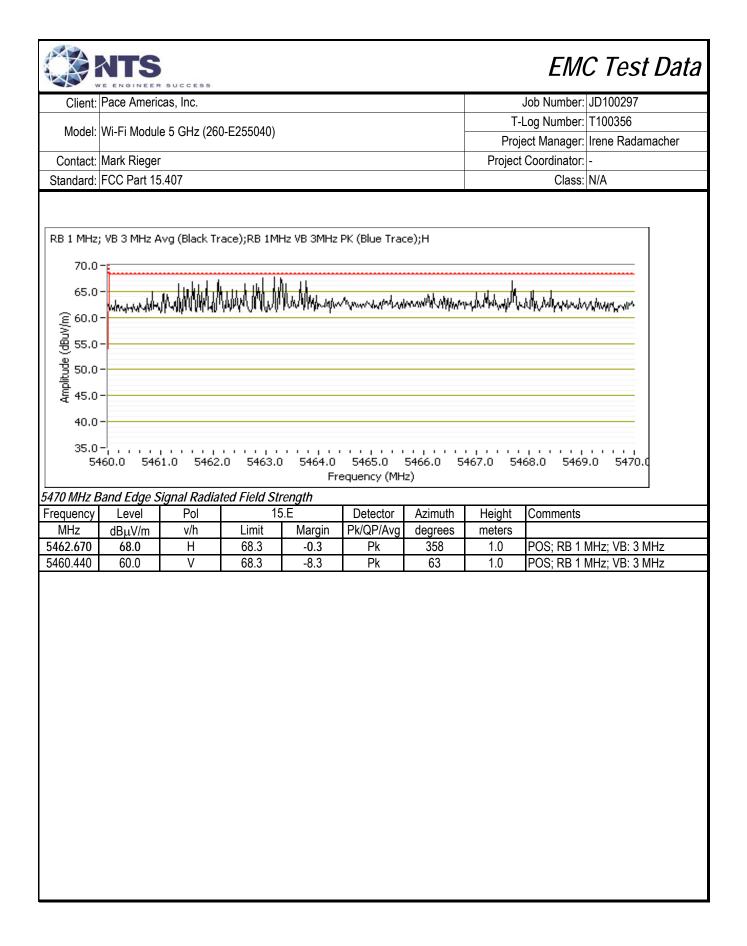


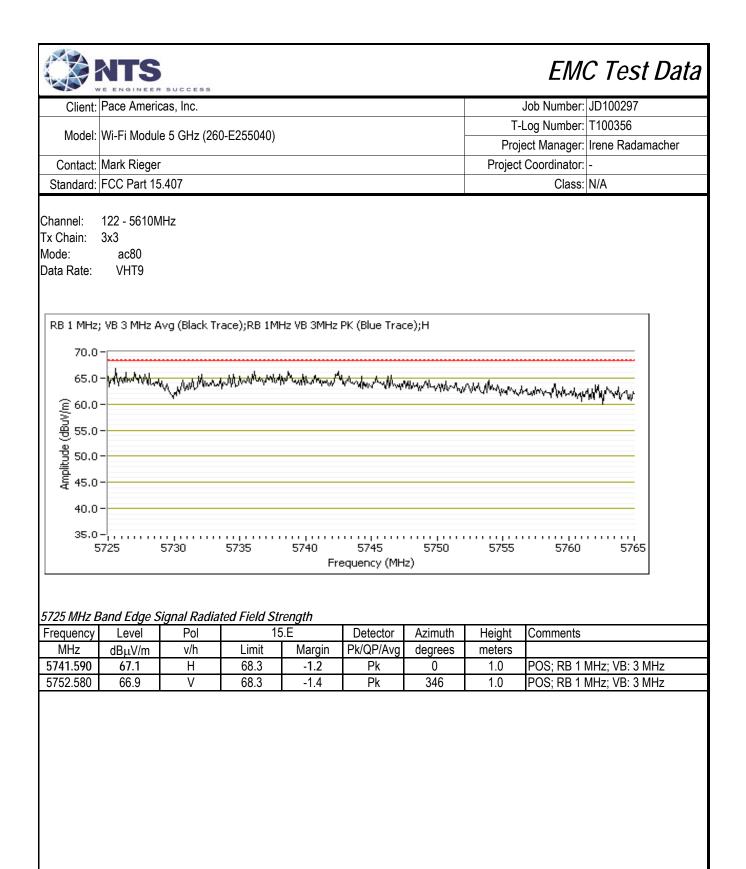
	VE ENGINEER	SUCCESS										
Client:	Pace Americ	as, Inc.						Job Number:	JD100297			
							T-	Log Number:	T100356			
Model:	Wi-Fi Module	e 5 GHz (260	J-E255040)			-		-	Irene Radamacher			
Contact:	Mark Rieger						Project	Coordinator:	-			
Standard:	FCC Part 15	CC Part 15.407 Class: N/A										
Channel: x Chain: lode: Data Rate:	58 - 5290M⊦ 3x3 ac80 VHT9	lz										
RB 1 MHz	; VB 1 KHz Av	vg (Black Tra	ace);RB 1MH	Hz VB 3MHz	PK (Blue Trac	e);V						
80.0	_											
75.0												
70.0	MANNA	Mahandallin	Maria Mar	high after								
70.0	Minina	Mappulation	Margaliy	whether	nation and the second second	Unmahantan	wertuchite.					
70.0	MirininA	Mappulation	Manazanthiya	whether	rationspand	Unpralitication	want wat hilf faith	What where the	Malthating			
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70.0	m	//www.hillion		whether the second	and many here is	UrryMinten	and and help as	vthyhhhhm.d	withuting			
70.0 ( <sup>()</sup> , 65.0 ( <del>)</del> 60.0 ( <del>)</del> 55.0		144444.httl.vn			nullina milana			<b>∿₩₩₩₩₩₩₩</b> ₩₩₩				
70.0 (W/Ange) 60.0 9p, 55.0 55.0 45.0 45.0	-	///glyn.hell.vn ~~~~~~~~						v#####################################				
(W/M 65.0 900 900 900 900 900 900 900 900 900 9	- - -	***	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	*****~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
(W/\ng 65.0 e0.0 e0.0 for 55.0 for 45.0 45.0 40.0	- - -	***	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	5370	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
(W/\ng 65.0 e0.0 e0.0 for 55.0 for 45.0 45.0 40.0	- - -	***	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	5365	*****~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	5375	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
(W/Ng) 65.0 90,00 55.0 90,00 45.0 40.0 35.0			5360	5365 Fr	5370	5375	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
(W/NB) 65.0 (W/NB) 60.0 900 155.0 45.0 45.0 40.0 35.0 35.0 55.0		5355 ignal Radia	5360 ted Field Sti	5365 Fr	5370 equency (MH	5375 z)	5380	5385				
(W/ABP) 65.0 (W/ABP) 60.0 Philidue 55.0 45.0 40.0 35.0 5350 MHz E Frequency	Band Edge S	ignal Radia	5360 ted Field Sti	5365 Fr <i>rength</i> 15.209	5.370 equency (MH	5375 z)		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
(W/AB) 65.0 90,55.0 90,111 55.0 40.0 40.0 35.0 5350 MHz E Frequency MHz	- - - - - - - - - - - - - - - - - - -	ignal Radia V/h	ted Field Sta End Field Sta	5365 Fr <i>rength</i> 15.209 Margin	5370 equency (MH Detector Pk/QP/Avg	5375 z) Azimuth degrees	5380 Height meters	5385 Comments	5390			
(W, 65.0 (W, 65.0 P) 60.0 P) 55.0 45.0 40.0 35.0 5350 MHz E 5350 MHz E Frequency MHz 5351.280	Band Edge S Level dBμV/m 53.3	ignal Radia Pol Vh	ted Field Str FCC Limit 54.0	5365 Fr <i>rength</i> 15.209 Margin -0.7	5370 equency (MH Detector Pk/QP/Avg AVG	5375 z) Azimuth degrees 264	Height 1.4	Satting = 16	.5			
(W, 65.0 (W, 65.0 P) 55.0 45.0 45.0 45.0 40.0 35.0 5350 MHz E 5350 MHz E Frequency MHz 5351.280 5369.560	Band Edge S Level dBμV/m 53.3 70.3	5355 ignal Radia. Pol v/h V V	5360 ted Field Str FCC Limit 54.0 74.0	5365 Fr <i>rength</i> 15.209 Margin -0.7 -3.7	5370 equency (MH Detector Pk/QP/Avg AVG PK	5375 z) Azimuth degrees 264 264	Height 1.4 1.4	Comments Setting = 16 Setting = 16	 5390 5.5			
(U) (U) (U) (D) (D) (D) (D) (D) (D) (D) (D	Band Edge S Level dBμV/m 53.3	ignal Radia Pol Vh	ted Field Str FCC Limit 54.0	5365 Fr <i>rength</i> 15.209 Margin -0.7	5370 equency (MH Detector Pk/QP/Avg AVG	5375 z) Azimuth degrees 264	Height 1.4	Satting = 16	5.5 5.5			





	WE ENGINEER	SUCCESS						EMO	
Client	Pace Americ	as, Inc.						Job Number:	JD100297
Model	: Wi-Fi Module	5 CH7 (26)	1 E255040)				T-	Log Number:	T100356
WOUCH.			5-2200040)				Proj	ect Manager:	Irene Radamacher
	: Mark Rieger						Project	t Coordinator:	
Standard	FCC Part 15	.407						Class:	N/A
'h e e e e lu	122 - 5610M								
Channel: x Chain:	3x3	INZ							
Aode:	ac80								
)ata Rate:	VHT9								
RB 1 MHz	z; VB 1 KHz Av	vg (Black Tra	ace);RB 1MH	Hz VB 3MHz I	PK (Blue Trac	e);H			
75.0	)								
70.0									
<u>ب</u> (195.0	,							Marinen	MAN Amak
子 60.0 男	- Mundah	month	Month	W. M. Marken	manutal	unpur manin	MANAMAN	and the second	
						e e fe			
<u>. ම</u> 55.0	)-								
9 9 11 15 50.0	)								Anna an
90 55.0 90 55.0 11 50.0	)	······							~~~~~
ep 55.0 11 50.0 4 45.0		·····			~~~~		~~~~		for an
40.0	)-						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		#~~~~~
40.0 35.0	)-					5445		5455	5460
40.0 35.0	)-	·····		5435	 5440 equency (MH	5445	5450	5455	5460
40.0 35.0	) - ) - 5420	5425	5430	5435 Fr	5440	5445	5450	5455	5460
40.0 35.0	) - ) - 5420 Band Edge S	5425	5430 ted Field Sta	5435 Fri rength	5440 equency (MH	5445 z)	5450	5455	έσωσος 546Ω
40.0 35.0 5 5 6 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	) - 5420 Band Edge S	5425 <i>ignal Radia</i> Pol	5430 ted Field Sta	5435 Fri rength 15.209	5440 equency (MH	z) Azimuth	5450 Height	5455 Comments	5460
40.0 35.0 <i>1460 MHz 1</i> Frequency MHz	5420 Band Edge S Level dBµV/m	5425	ted Field Sta Limit	5435 Frongth 15.209 Margin	544n equency (MH Detector Pk/QP/Avg	z) Azimuth degrees	Height	Comments	5460
40.0 35.0 <i>1</i> <i>460 MHz I</i> Frequency	5420 Band Edge S Level dBµV/m	5425 <i>ignal Radia</i> Pol	5430 ted Field Sta	5435 Fri rength 15.209	5440 equency (MH	z) Azimuth	5450 Height	Comments POS; RB 1 I	MHz; VB: 3 kHz MHz; VB: 3 MHz
40.0 35.0 <i>460 MHz</i> Frequency MHz 5458.240	5420 Band Edge S Level dBμV/m 50.7	5425 <i>ignal Radia</i> Pol v/h H	5430 ted Field Sta FCC Limit 54.0	5435 France Fran	544n equency (MH Detector Pk/QP/Avg AVG	z) Azimuth degrees 358	Height meters 1.0	Comments POS; RB 1 I POS; RB 1 I POS; RB 1 I	5460 MHz; VB: 3 kHz





WE ENGINEER SUCCESS				Test Da
Client: Pace Americas, Inc.			Job Number: JE	
Model: Wi-Fi Module 5 GHz (260-I	E255040)		T-Log Number: T	
Contact: Mark Rieger			Project Manager: Ire Project Coordinator: -	ene Radamacher
Standard: FCC Part 15.407			Class: N	/Α
RSS-247 ar	nd FCC 15.407 (UN	III) Radiated S	Spurious Emissions	
		form final qualificati	ion testing of the EUT with res	pect to the
General Test Configuration The EUT and all local support equipn For radiated emissions testing the me				oted.
mbient Conditions:	Temperature: Rel. Humidity:	20-23 °C 35-40 %		
Iodifications Made During Test No modifications were made to the E	•			
Peviations From The Standard No deviations were made from the re		l.		

$\frac{1}{3} + \frac{1}{3} + \frac{1}$	damacher ult / Margin
Contact:         Mark Rieger         Project Manager:         Irene Ra           Standard:         FCC Part 15.407         Class:         N/A           Summary of Results         Class:         N/A           Summary of Results         Power         Passing Power         Test Performed         Limit         Res           Run #         Mode         Channel         Target Power         Passing Power         Test Performed         Limit         Res           3         60 - 5300MHz         21.5         21.5         1.40 GHz         FCC 15.209 / 15 E         53.3 dB MH           3         60 - 5300MHz         21.5         19.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.0 MH           3         ac40         54 - 5270MHz         21.5         19.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         52.8 dB MH           ac80         58 - 5200MHz         21.5         17.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         52.5 dB MH           4         ac20         52 - 5260MHz         21.5         16.0         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.1 dB MH           4         ac20         52 - 5260MHz         21.5         18.5         Ra	ult / Margin
Standard:         FCC Part 15.407         Class:         N/A           Summary of Results         Results         Test Performed         Limit         Res           Run #         Mode         Channel         Target Power         Passing Power         Test Performed         Limit         Res           Scans on "center" channel in all four OFDM modes to determine the worst case mode.         FCC 15.209 / 15 E         53.3 dB MH           3               60 - 5300MHz             21.5             19.5             Radiated Emissions, 1 - 40 GHz             FCC 15.209 / 15 E             53.0 dB MH               3              ac40             54 - 5270MHz             21.5             19.5             Radiated Emissions, 1 - 40 GHz             FCC 15.209 / 15 E             52.8 dB MH               ac80              54 - 5270MHz             21.5             17.5             Radiated Emissions, 1 - 40 GHz             FCC 15.209 / 15 E             52.6 dB MH               4              ac20             52 - 5260MHz             21.5             17.5             Radiated Emissions, 1 - 40 GHz             FCC 15.209 / 15 E             53.5 dB MH               4              ac20             52 - 5260MHz             21.5             18.5             16.0             Radia	<b>C</b>
Summary of Results           Run #         Mode         Channel         Target Power         Passing Power         Test Performed         Limit         Res           icans on "center" channel in all four OFDM modes to determine the worst case mode.         Image: Colspan="2">FCC 15.209 / 15 E         53.3 dB MH           3         a         60 - 5300MHz         21.5         21.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.3 dB MH           3         ac20         60 - 5300MHz         21.5         19.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.0 dB MH           ac40         54 - 5270MHz         21.5         19.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         52.8 dB MH           ac80         58 - 5290MHz         21.5         17.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         52.5 dB MH           4         ac20         52 - 5260MHz         21.5         16.0         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.5 dB MH           4         ac20         52 - 5260MHz         21.5         18.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.5 dB MH           4         ac20         52 - 5260MHz         21.5         21.5 <td>, , , , , , , , , , , , , , , , , , ,</td>	, , , , , , , , , , , , , , , , , , ,
Run #         Mode         Channel         Target Power         Passing Power         Test Performed         Limit         Res           Scans on "center" channel in all four OFDM modes to determine the worst case mode.         Image: Construction of the state	, , , , , , , , , , , , , , , , , , ,
Run #         Mode         Channel         Target Power         Passing Power         Test Performed         Limit         Res           icans on "center" channel in all four OFDM modes to determine the worst case mode.         Image: Construction of the second consemode consemode.           4	, , , , , , , , , , , , , , , , , , ,
Rdin #         Mode         Channel         Power         Power         Person         Test Performed         Limit         Res           iscans on "center" channel in all four OFDM modes to determine the worst case mode.	, , , , , , , , , , , , , , , , , , ,
$3 \begin{array}{ c c c c c c c c c c c c c c c c c c c$	N//m 0 5454
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	
$3 \begin{array}{ c c c c c c c c c c c c c c c c c c c$	µV/m @ 5454  z (-0.7 dB)
$\frac{1}{3} = \frac{1}{3} = \frac{1}$	µV/m @ 5418   <u>z (-1.0 dB)</u>
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	µV/m @ 5359 <u>z (-1.2 dB)</u>
$4 \begin{array}{c ccccccccccccccccccccccccccccccccccc$	µV/m @ 5372 <u>z (-1.5 dB)</u>
$4 \frac{\begin{vmatrix} ac20 & 5260MHz \\ ac20 & content \\ \hline bcans on \\ \hline content \\ \hline conte$	
ac20         64 - 5320MHz         21.5         18.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.1 dB MH           Scans on "center" channel in all four OFDM modes to determine the worst case mode.         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         53.1 dB MH           a         116 - 5580MHz         21.5         21.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         50.5 dB MH           n20         116 - 5580MHz         21.5         21.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         50.5 dB MH           5         16 - 5580MHz         21.5         21.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         50.5 dB MH	µV/m @ 5426 <u> z (-0.5 dB)</u>
a         116 - 5580MHz         21.5         21.5         Radiated Emissions, 1 - 40 GHz         FCC 15.209 / 15 E         50.5 dB MH           n20         116 - 5580MHz         21.5         21.5         1 - 40 GHz         FCC 15.209 / 15 E         50.5 dB MH           5         116 - 5580MHz         21.5         21.5         1 - 40 GHz         FCC 15.209 / 15 E         50.5 dB MH	µV/m @ 5433   <u>z (-0.9 dB)</u>
a         5580MHz         21.5         21.5         1 - 40 GHz         FCC 15.209 / 15 E         MH           n20         116 - 5580MHz         21.5         21.5         1 - 40 GHz         FCC 15.209 / 15 E         MH           5         5580MHz         21.5         21.5         1 - 40 GHz         FCC 15.209 / 15 E         52.5 dB	
5 <u>1 - 40 GHz</u> <u>5580MHz</u> <u>21.5</u> <u>1 - 40 GHz</u> <u>FCC 15.2097 15 E</u> <u>MH</u>	z (-3.5 dB)
	µV/m @ 5113 <u> z (-1.5 dB)</u>
n40 5550MHz 21.5 21.5 1 - 40 GHz FCC 15.2097 15 E MH	µV/m @ 5323 <u>z (-6.7 dB)</u>
acoo 5530MHz 21.5 21.5 1 - 40 GHz FCC 15.2097 15 E MH	µV/m @ 5322 <u>z (-5.6 dB)</u>
Aleasurements on low and high channels in worst-case OFDM mode.	N// 0 5000
6 5500MHz 21.5 21.5 1 - 40 GHz FCC 15.2097 15 E MH	µV/m @ 5039 <u>z (-2.5 dB)</u>
n20 144- 21.5 18.0 Radiated Emissions, ECC 15.209 / 15.E 67.7 dB	µV/m @ 5885  z (-0.6 dB)



## EMC Test Data

N N	E ENGINEER SUCCESS		
Client:	Pace Americas, Inc.	Job Number:	JD100297
Model	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
MOUEI.		Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

## Procedure Comments:

Measurements performed in accordance with FCC KDB 789033

Peak measurements performed with: RBW=1MHz, VBW=3MHz, peak detector, max hold, auto sweep time Unless otherwise stated/noted, emission has duty cycle ≥ 98% and was measured using RBW=1MHz, VBW=10Hz, peak detector, linear average mode, auto sweep time, max hold 50 traces. (method VB of KDB 789033)

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	
11a	6 Mb/s	98.0%	Yes	1.302	0	0	10	
n20	VHT8	92.6%	No	1.935	0.3	0.7	517	1k
n40	VHT9	95.2%	No	0.952	0.2	0.4	1050	3k
ac80	VHT9	75.5%	Yes	2.023	1.2	2.4	494	1k

## Sample Notes

Sample S/N: F56154520246

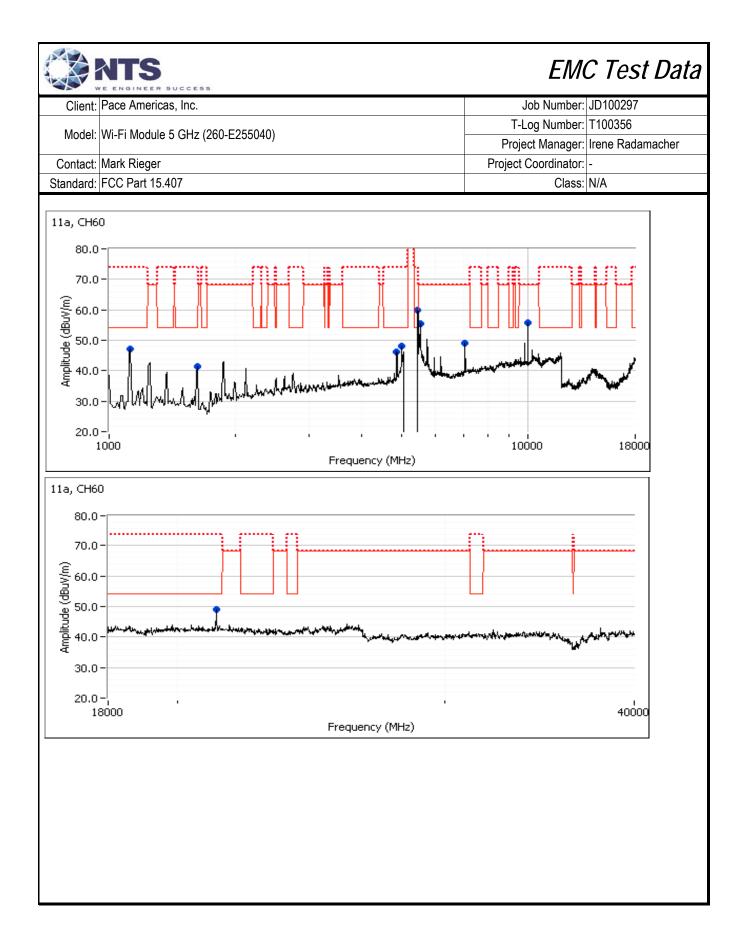
Driver: 7.14.89.21.571.206

Antenna: Internal 3x3 Beamforming (802.11a mode does not do beamforming)

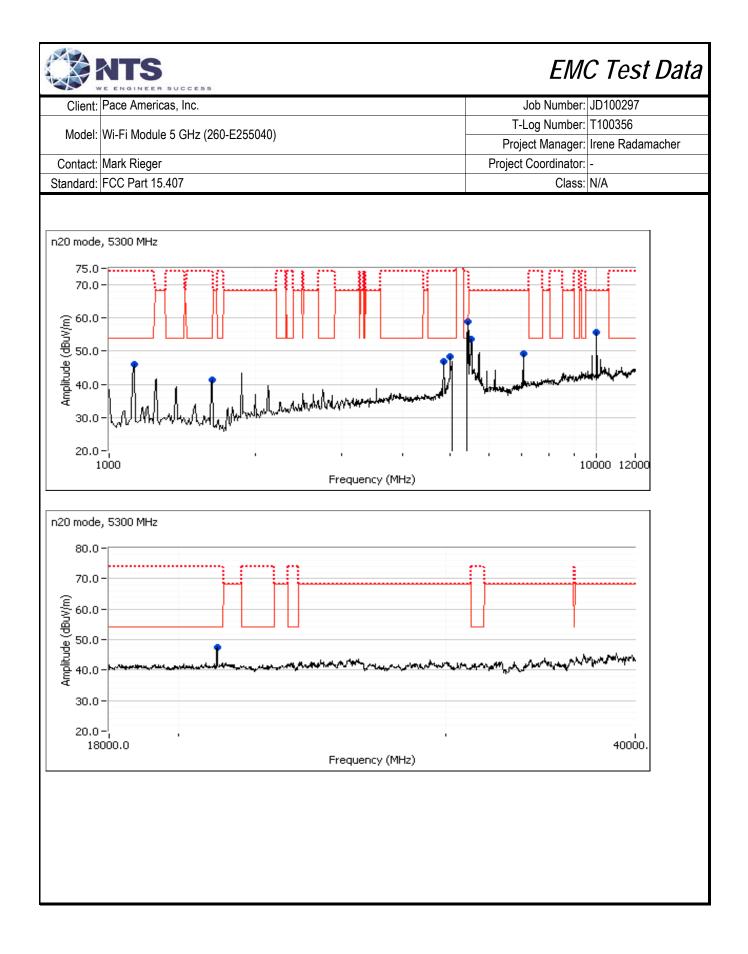
## Measurement Specific Notes:

Note 1:	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). Per KDB 789033 2) c) (i), compliance can be demonstrated by meeting the average and peak limits of 15.209, as an alternative.
Note 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto sweep, trace average 100 traces (method AD of KDB 789033)
Note 3:	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz, peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033)
Note 4:	Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)

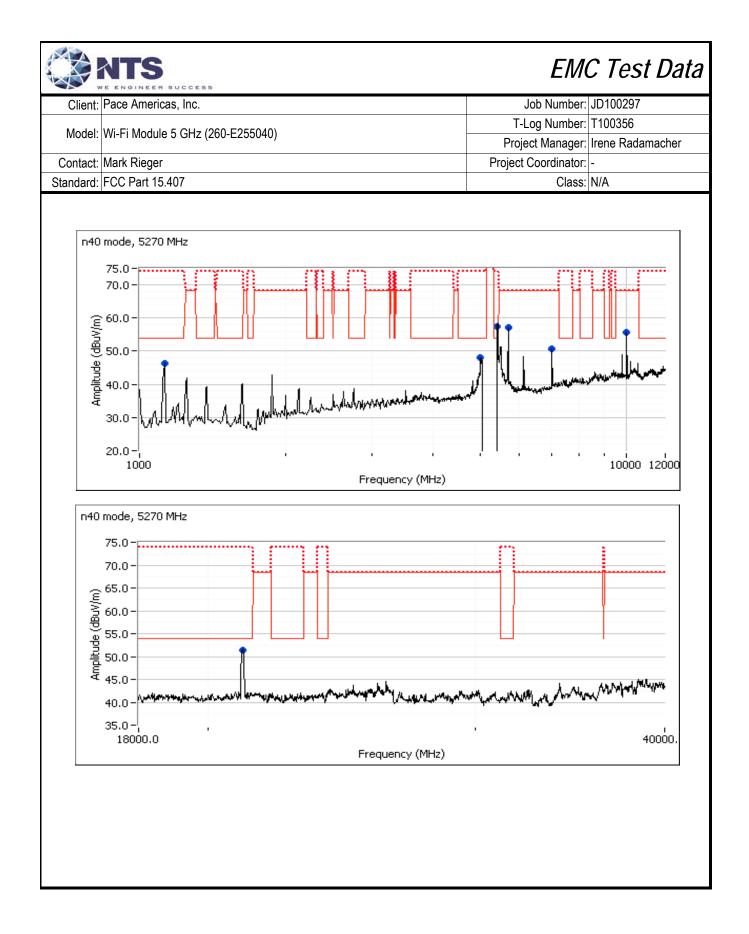
		SUCCESS						EM	C Test Data
Client:	Pace Americ	as, Inc.						Job Number:	JD100297
Model	Wi-Fi Module	5 647 (26)	) E255040)				T-	Log Number:	T100356
WOUGI.		5 01 2 (200					Proj	ect Manager:	Irene Radamacher
Contact:	Mark Rieger						Project	Coordinator:	-
Standard:	FCC Part 15.	.407						Class:	N/A
D Tes	liated Spuric bate of Test: ; st Engineer:   st Location:	3/4/2016 0:0 Rafael Varel	)0 las	10,000 MHz	Con	n the 5250-5 onfig. Used: ifig Change: UT Voltage:	1 None		
Run #3a: Ce	enter Channe	el							
Channel:	60		Mode:	а					
Tx Chain:	3x3		Data Rate:	6 Mb/s					
Frequency	Level	Pol	15.209	) / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5454.080	53.3	Н	54.0	-0.7	AVG	173	1.0	POS; RB 1	MHz; VB: 10 Hz
5453.690	62.3	Н	74.0	-11.7	PK	173	1.0	POS; RB 1	MHz; VB: 3 MHz
1125.040	46.8	Н	54.0	-7.2	AVG	115	1.3	RB 1 MHz;\	/B 10 Hz;Peak
1125.050	49.0	Н	74.0	-25.0	PK	115	1.3	RB 1 MHz;\	/B 3 MHz;Peak
1625.060	40.6	V	54.0	-13.4	AVG	138	1.7	RB 1 MHz;\	/B 10 Hz;Peak
1625.110	43.7	V	74.0	-30.3	PK	138	1.7	RB 1 MHz;\	/B 3 MHz;Peak
7066.410	53.6	Н	68.3	-14.7	PK	149	1.5		/B 3 MHz;Peak
4999.960	46.8	V	54.0	-7.2	AVG	259	1.8		/B 10 Hz;Peak
4999.850	51.6	V	74.0	-22.4	PK	259	1.8		/B 3 MHz;Peak
4858.240	46.7	Н	54.0	-7.3	AVG	323	1.0		/B 10 Hz;Peak
4857.240	56.6	Н	74.0	-17.4	PK	323	1.0		/B 3 MHz;Peak
21203.970	42.7	V	54.0	-11.3	AVG	331	1.8		/B 10 Hz;Peak
21194.970	56.6	V	74.0	-17.4	PK	331	1.8		/B 3 MHz;Peak
9999.990	59.1	V	68.3	-9.2	PK	324	2.1		/B 3 MHz;Peak
5542.180	64.3	Н	68.3	-4.0	PK	334	1.0	RB 1 MHz;\	/B 3 MHz;Peak
Note 1:	For emission	s in restricte	d bands, the	limit of 15.2	209 was used	which requir	es average	and peak me	asurements.
									surement method
					≥3MHz, peak	• •		/	
	•	•	•	·	<i>.</i> .	·			



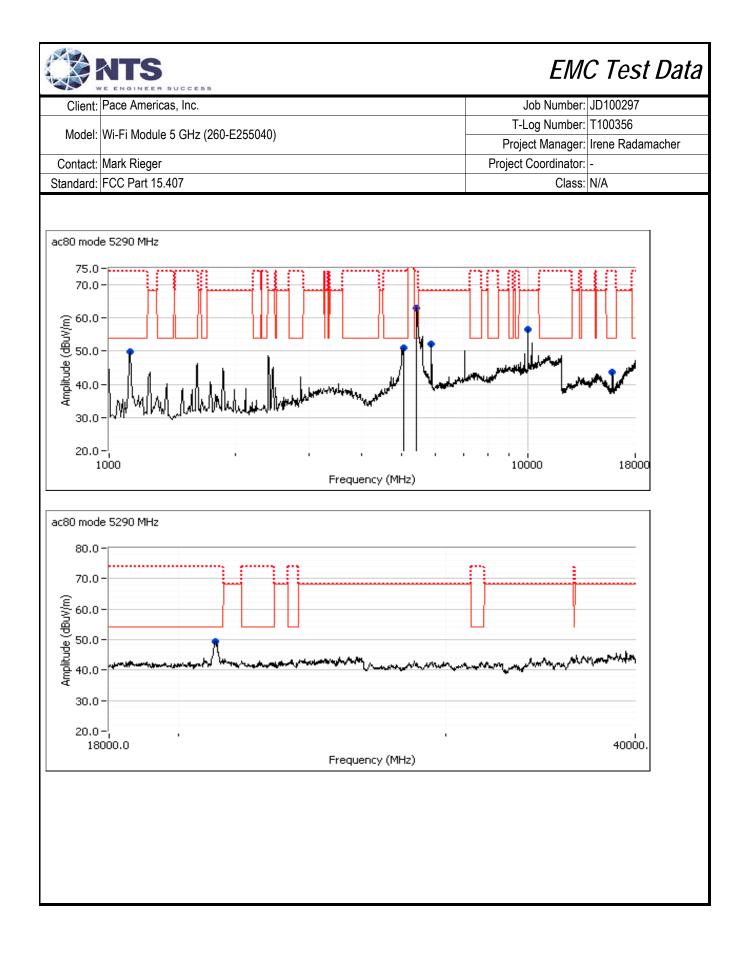
		SUCCESS							C Test Data
Client:	Pace Americ	as, Inc.						Job Number:	JD100297
Madalı	Wi Fi Madula						T-	Log Number:	T100356
woder:	Wi-Fi Module	9 5 GHZ (200	J-E255040)				Project Manager: Irene Radamacher		
Contact:	Mark Rieger						Project	Coordinator:	-
Standard:	FCC Part 15	.407						Class:	N/A
hannel:	enter Chanr 60 3x3		Mode: Data Rate:	11n20 VHT8					
-roguopov	Loval	Del	15.209	/ 150	Detector	Artinouth	Hoight	Commonto	
-requency	Level	Pol			Detector	Azimuth	Height	Comments	
MHz 5418.580	dBμV/m 53.0	v/h H	Limit 54.0	Margin -1.0	Pk/QP/Avg AVG	degrees 185	meters 1.4		/B 1 kHz;Peak
5411.840	64.3	H	74.0	-9.7	PK	185	1.4		B 3 MHz;Peak
5453.700	53.0	H	54.0	-1.0	AVG	357	1.4		B 1 kHz;Peak
5453.500	63.3	H	74.0	-10.7	PK	357	1.2		B 3 MHz;Peak
4854.420	45.8	H	54.0	-8.2	AVG	346	1.0		B 1 kHz;Peak
4854.200	56.1	H	74.0	-17.9	PK	346	1.0		B 3 MHz;Peak
9999.780	58.5	V	68.3	-9.8	PK	322	2.0		B 3 MHz;Peak
4999.980	46.6	V	54.0	-7.4	AVG	259	1.9		B 1 kHz;Peak
4999.860	52.5	V	74.0	-21.5	PK	259	1.9	,	'B 3 MHz;Peak
5535.150	62.8	Н	68.3	-5.5	PK	152	1.0	RB 1 MHz;V	B 3 MHz;Peak
7066.620	53.1	Н	68.3	-15.2	PK	145	1.7	RB 1 MHz;V	'B 3 MHz;Peak
1625.080	39.5	V	54.0	-14.5	AVG	172	1.3	RB 1 MHz;V	'B 1 kHz;Peak
1625.160	42.4	V	74.0	-31.6	PK	172	1.3		'B 3 MHz;Peak
1125.050	46.7	Н	54.0	-7.3	AVG	116	1.3		'B 1 kHz;Peak
1125.080	48.4	Н	74.0	-25.6	PK	116	1.3		'B 3 MHz;Peak
21202.540	39.0	V	54.0	-15.0	AVG	281	1.0		'B 1 kHz;Peak
21188.140	51.0	V	74.0	-23.0	PK	281	1.0	RB 1 MHz;V	'B 3 MHz;Peak
lote 1:	For omission	o in rootrioto	d handa tha	limit of 15 0	00 waa waad	which requir		and needs may	auromanta
					209 was used		<u> </u>		urement method
lote 2:					:3MHz, peak	• •	00.3000 0/11	i). The meas	
				- 11VII 12, V D=	-01011 12, peak				

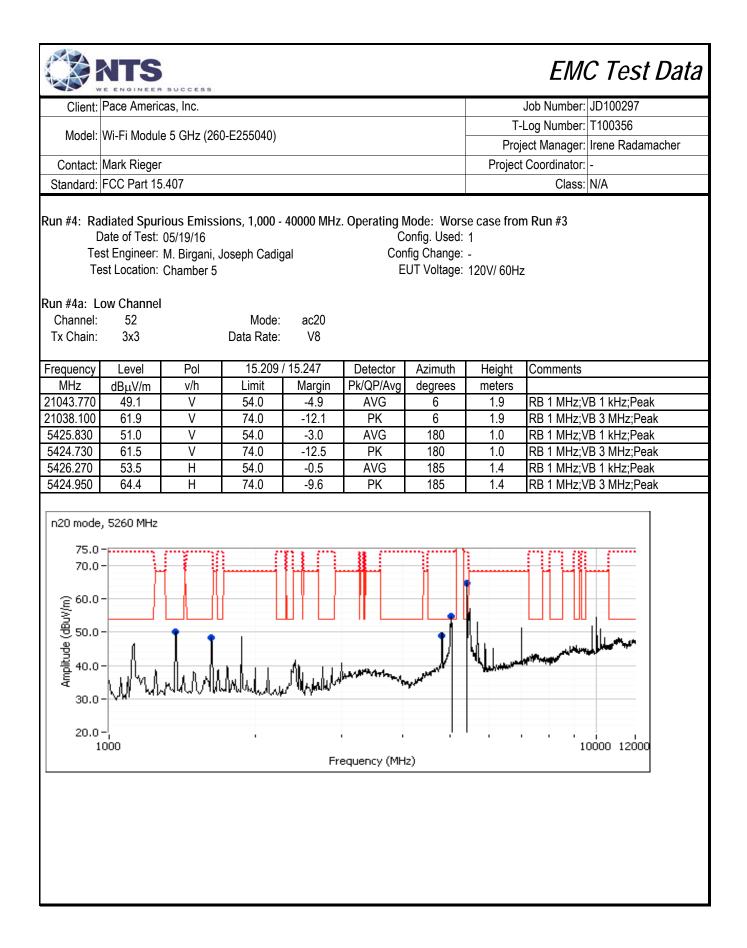


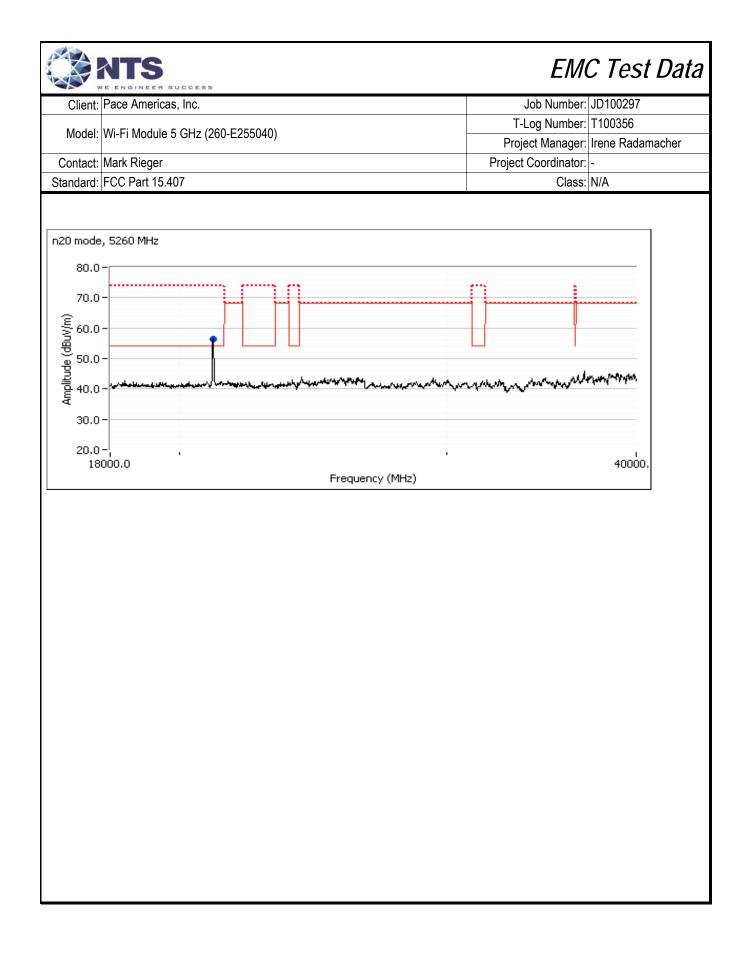
		SUCCESS						EMC Test Data				
Client:	t: Pace Americas, Inc.							Job Number: JD100297				
				T-Log Number: T100356								
Model:	Wi-Fi Module	5 GHz (260	D-E255040)	Project Manager: Irene Radamacher								
Contact:	Mark Rieger						Project Coordinator: -					
	FCC Part 15.	107					Class: N/A					
Stanuaru.	T CC F alt TJ.	407	Class: N/A									
Run #3c: C Channel: Tx Chain:		el	Mode: Data Rate:	11ac40 VHT9								
Frequency	Level	Pol	15.209	) / 15E	Detector	Azimuth	Height	Comments				
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters					
5444.010	52.7	Н	54.0	-1.3	AVG	168	1.2	RB 1 MHz;VB 3 kHz;Peak				
5442.700	63.3	Н	74.0	-10.7	PK	168	1.2	RB 1 MHz;VB 3 MHz;Peak				
5359.620	52.8	Н	54.0	-1.2	AVG	169	1.8	POS; RB 1 MHz; VB: 3 kHz				
5433.680	51.3	Н	54.0	-2.7	AVG	172	1.3	POS; RB 1 MHz; VB: 3 kHz				
4999.980	47.2	V	54.0	-6.8	AVG	252	2.0	RB 1 MHz;VB 3 kHz;Peak				
5709.150	60.0	Н	68.3	-8.3	PK	332	2.2	RB 1 MHz;VB 3 MHz;Peak				
9999.840	59.7	V	68.3	-8.6	PK	329	2.1	RB 1 MHz;VB 3 MHz;Peak				
5358.980	65.1	Н	74.0	-8.9	PK	169	1.8	POS; RB 1 MHz; VB: 3 MHz				
1125.040	44.1	V	54.0	-9.9	AVG	327	2.5	RB 1 MHz;VB 3 kHz;Peak				
5434.130	61.1	Н	74.0	-12.9	PK	172	1.3	POS; RB 1 MHz; VB: 3 MHz				
7026.570	54.5	Н	68.3	-13.8	PK	149	1.6	RB 1 MHz;VB 3 MHz;Peak				
21088.000	39.4	V	54.0	-14.6	AVG	287	1.9	RB 1 MHz;VB 3 kHz;Peak				
5000.040	52.5	V	74.0	-21.5	PK	252	2.0	RB 1 MHz;VB 3 MHz;Peak				
21087.110	52.3	V	74.0	-21.7	PK	287	1.9	RB 1 MHz;VB 3 MHz;Peak				
1125.060	47.6	V	74.0	-26.4	PK	327	2.5	RB 1 MHz;VB 3 MHz;Peak				
Note 1: Note 2:		s outside of	the restricted	d bands the	limit is -27dBr	n/MHz eirp (		and peak measurements. n). The measurement method				



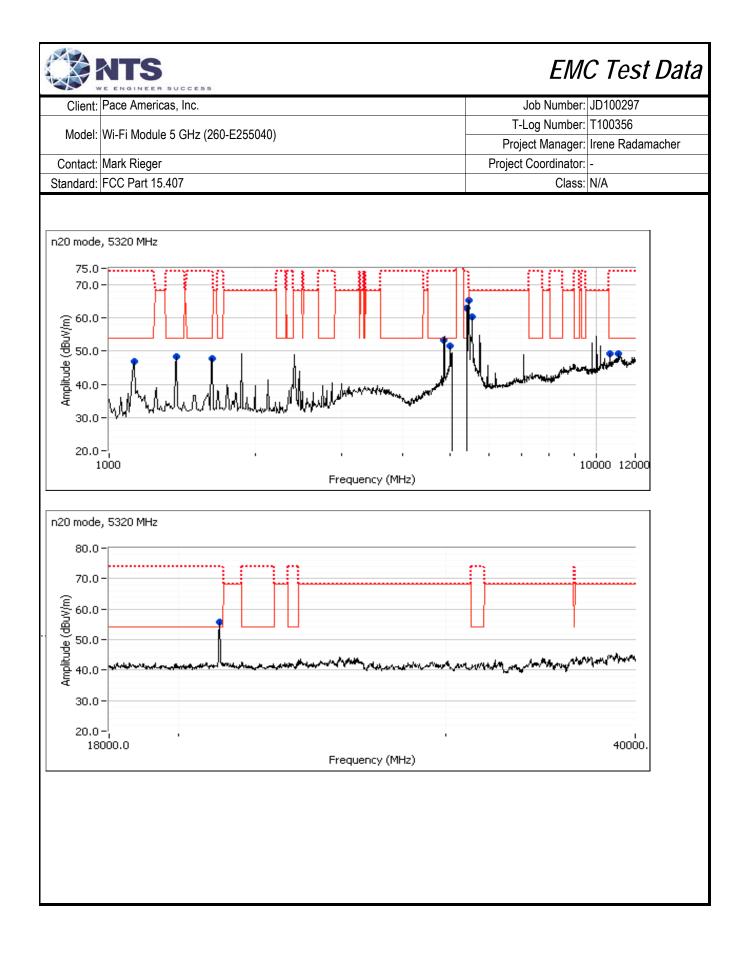
Client:	Pace Americ	success						Job Number:	C Test Data
Oliciti.	1 400 / 111011				Log Number:				
Model:	Wi-Fi Modul	e 5 GHz (26	0-E255040)			-		3	
Orinteat	Mark Diagon			Project Manager: Irene Radamacher					
	Mark Rieger			Project Coordinator: -					
Standard:	FCC Part 15	5.407		Class:	N/A				
	Center Chan	nel							
Channel:	58		Mode:	ac80					
Tx Chain:	3x3		Data Rate:	VHT9					
Frequency	Level	Pol	15.209	) / 15⊑	Detector	Azimuth	Height	Comments	
Frequency MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
5372.370	<u>αβμν/m</u> 52.5	H	54.0	-1.5	AVG	348	1.3	RB 1 MHz·W	/B 3 kHz;Peak
5365.880	67.2	H	74.0	-6.8	PK	348	1.3	,	/B 3 MHz;Peak
5412.010	71.2	H	74.0	-0.0	PK	0	1.0		/B 3 MHz;Peak
5411.340	50.8	H	54.0	-3.2	Avg	0	1.0		/B 3 kHz;Peak
5877.780	50.8	H	68.3	-17.5	Avg	134	1.3	,	/B 3 kHz;Peak
5877.770	53.9	H	68.3	-14.4	PK	134	1.3	,	/B 3 MHz;Peak
1124.980	49.0	V	54.0	-5.0	Avg	211	2.5		/B 3 kHz;Peak
1124.920	50.3	V	74.0	-23.7	PK	211	2.5		/B 3 MHz;Peak
5028.940	47.2	Н	54.0	-6.8	Avg	330	1.0		/B 3 kHz;Peak
5027.180	57.3	Н	74.0	-16.7	PK	330	1.0		/B 3 MHz;Peak
15880.650	48.6	V	54.0	-5.4	Avg	272	1.9		/B 3 kHz;Peak
15881.520	58.3	V	74.0	-15.7	PK	272	1.9	RB 1 MHz;V	'B 3 MHz;Peak
21167.480	48.6	V	74.0	-25.4	PK	300	1.0	RB 1 MHz;V	'B 3 MHz;Peak
21167.050	37.8	V	54.0	-16.2	AVG	309	1.0	RB 1 MHz;V	/B 3 kHz;Peak
					209 was used				
Note 2:	For emissior	ns outside of	the restricted	d bands the	limit is -27dBr	n/MHz eirp (	68.3dBuV/m	<ol> <li>The meas</li> </ol>	urement method
	required is a	peak measi	urement (RB:	=1MHz, VB≥	≥3MHz, peak	detector).			



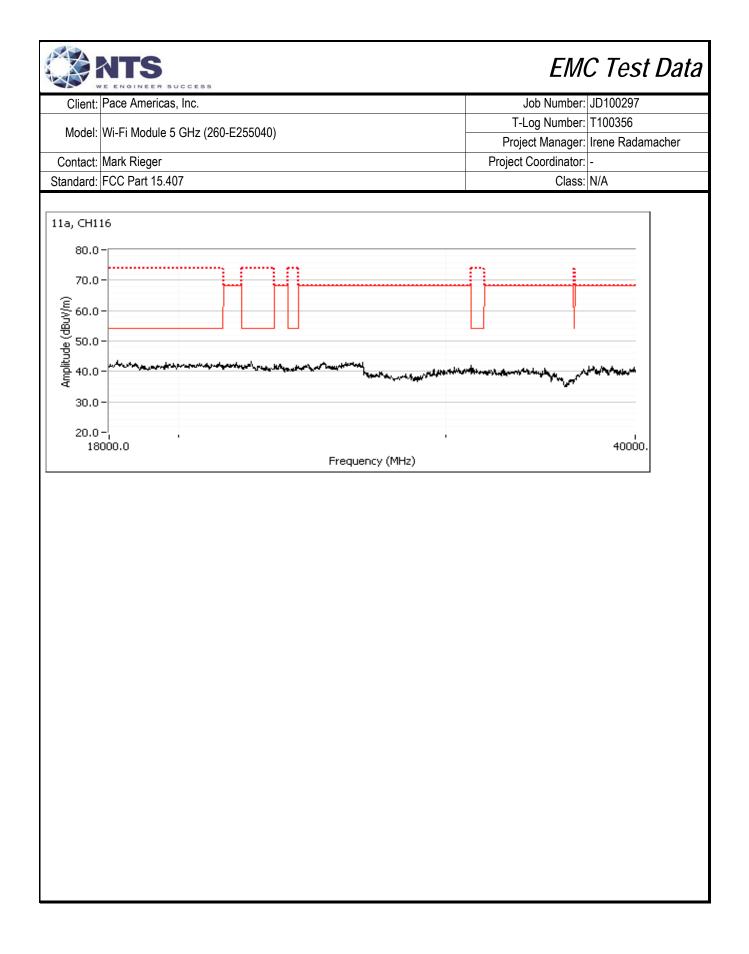




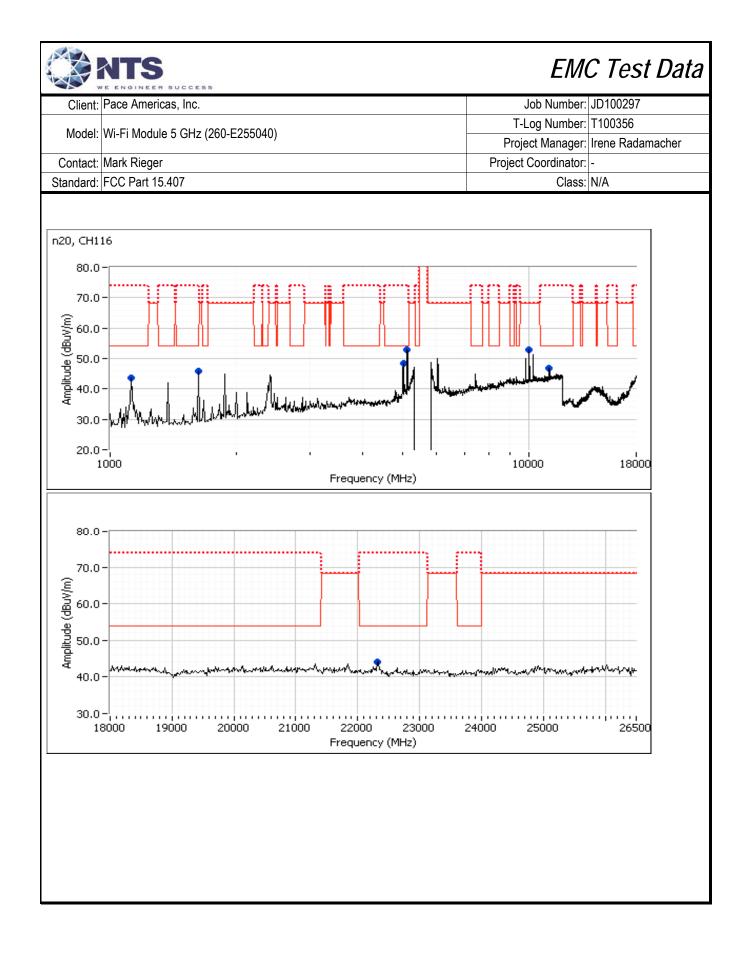
		SUCCESS						EM	C Test Data
Client:	Pace Americ	as, Inc.			Job Number:	JD100297			
				T-	Log Number:	T100356			
Model:	Wi-Fi Module	e 5 GHz (260	)-E255040)			Irene Radamacher			
Contact:	Mark Rieger			-	Coordinator:				
	FCC Part 15			Class:					
Otanuaru.	1001 01110	.+01		01000.	14/7 4				
Run #4b: H Channel: Tx Chain:	igh Channel 64 3x3		Mode: Data Rate:	ac20 V8					
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
11083.020	42.5	V	54.0	-11.5	AVG	93	1.6	RB 1 MHz;V	/B 1 kHz;Peak
11082.230	54.0	V	74.0	-20.0	PK	93	1.6		/B 3 MHz;Peak
1625.050	44.4	V	54.0	-9.6	AVG	138	2.5	RB 1 MHz;V	/B 1 kHz;Peak
1624.990	47.7	V	74.0	-26.3	PK	138	2.5	RB 1 MHz;V	/B 3 MHz;Peak
5481.760	66.5	Н	68.3	-1.8	PK	173	1.9		/B 3 MHz;Peak
1375.010	41.4	V	54.0	-12.6	AVG	165	1.9	RB 1 MHz;V	/B 1 kHz;Peak
1375.110	47.0	V	74.0	-27.0	PK	165	1.9		/B 3 MHz;Peak
4999.930	47.0	V	54.0	-7.0	AVG	242	2.2	RB 1 MHz;V	/B 1 kHz;Peak
4999.870	53.6	V	74.0	-20.4	PK	242	2.2	RB 1 MHz;V	/B 3 MHz;Peak
1125.060	44.1	V	54.0	-9.9	AVG	327	1.6	RB 1 MHz;V	/B 1 kHz;Peak
1124.960	48.5	V	74.0	-25.5	PK	327	1.6	RB 1 MHz;V	/B 3 MHz;Peak
4868.170	48.0	Н	54.0	-6.0	AVG	348	1.6	RB 1 MHz;V	/B 1 kHz;Peak
4869.120	57.3	Н	74.0	-16.7	PK	348	1.6	RB 1 MHz;V	/B 3 MHz;Peak
10642.600	44.4	V	54.0	-9.6	AVG	353	2.2	RB 1 MHz;V	/B 1 kHz;Peak
10642.660	55.5	V	74.0	-18.5	PK	353	2.2	RB 1 MHz;∖	/B 3 MHz;Peak
5433.610	53.1	Н	54.0	-0.9	AVG	169	1.8	RB 1 MHz;∖	/B 1 kHz;Peak
5431.920	65.2	Н	74.0	-8.8	PK	169	1.8	RB 1 MHz;∖	/B 3 MHz;Peak
21111.100	36.5	V	54.0	-17.5	AVG	296	1.9	RB 1 MHz;V	/B 1 kHz;Peak
21113.200	49.7	V	74.0	-24.3	PK	296	1.9		/B 3 MHz;Peak
5561.020	52.8	Н	54.0	-1.2	AVG	155	1.6		/B 1 kHz;Peak
5563.270	62.2	Н	74.0	-11.8	PK	155	1.6	RB 1 MHz;∖	/B 3 MHz;Peak



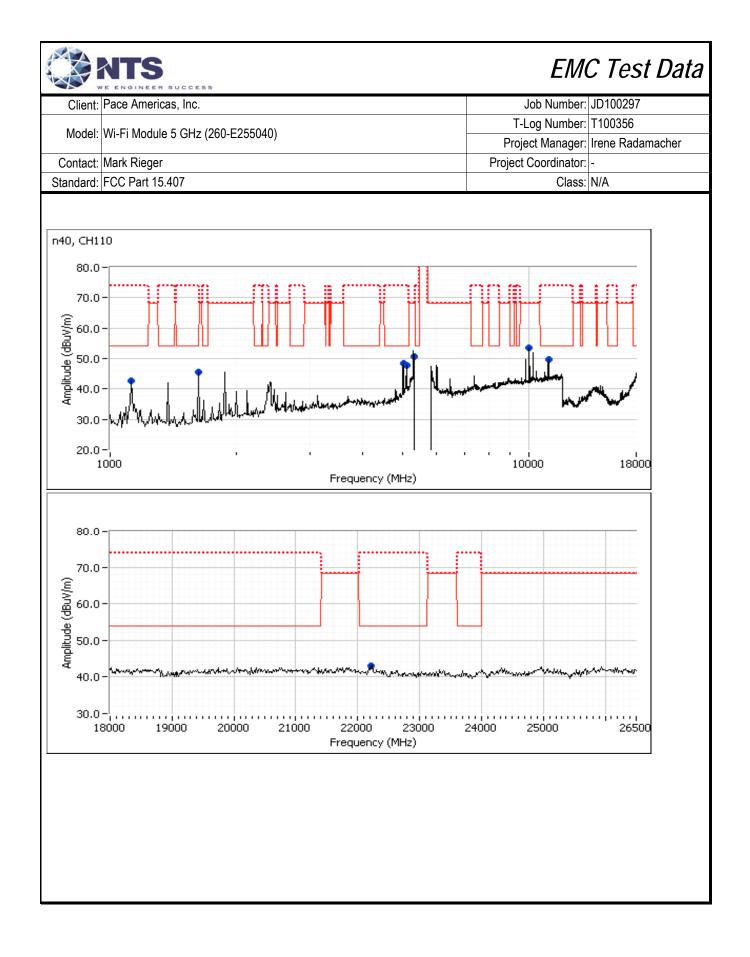
		SUCCESS						EIVIO	C Test Da
Client:	Pace Americ	as, Inc.		Job Number:	JD100297				
		E 011 (00		T-	Log Number:	T100356			
Model:	Wi-Fi Module	e 5 GHz (26	Project Manager: Irene Radamacher						
Contact:	Mark Rieger		Project Coordinator: -						
	FCC Part 15.	407	,	Class:					
Γ	diated Spuric Date of Test: ( est Engineer:	05/25/16		10,000 MHz		n the 5470-5 onfig. Used: ıfig Change:	1	and	
Te	est Location:	FT Chambe	r #7		E	UT Voltage:	120V/ 60Hz	Z	
ın #5a: C	Center Chann	el							
nannel:	116		Mode:	11a					
	3x3		Data Rate:	6 Mb/s					
requency	Level	Pol	15.209	/ 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
114.210	50.5	Н	54.0	-3.5	AVG	300	1.3		B 10 Hz;Peak
13.750	59.2	Н	74.0	-14.8	PK	300	1.3		B 3 MHz;Peak
159.930	42.6	V	54.0	-11.4	AVG	349	1.0		B 10 Hz;Peak
160.330	54.7	V	74.0	-19.3	PK	349	1.0		B 3 MHz;Peak
25.000	46.1	H	54.0	-7.9	Peak	166	1.5	Not related	
375.000	47.4 50.0	V V	54.0	-6.6	Peak	66 260	2.0	Not related	
000.000 310.000	50.0 55.3	V	54.0 68.3	-4.0 -13.0	Peak Peak	269 352	2.0 2.0	Not related Not related	
10.000	55.5	V	00.3	-15.0	Γτακ	JJZ	2.0	Νυιττίαιου	υπαυίο
te 1:	For emission	s in restricte	ed bands the	limit of 15 2	209 was used	which requir	es average	and peak me	asurements
									urement method
te 2:					≥3MHz, peak	• •			
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Amplitude (dBuV/m) 20.0 40.0 40.0		4 11	11/1	11 1					
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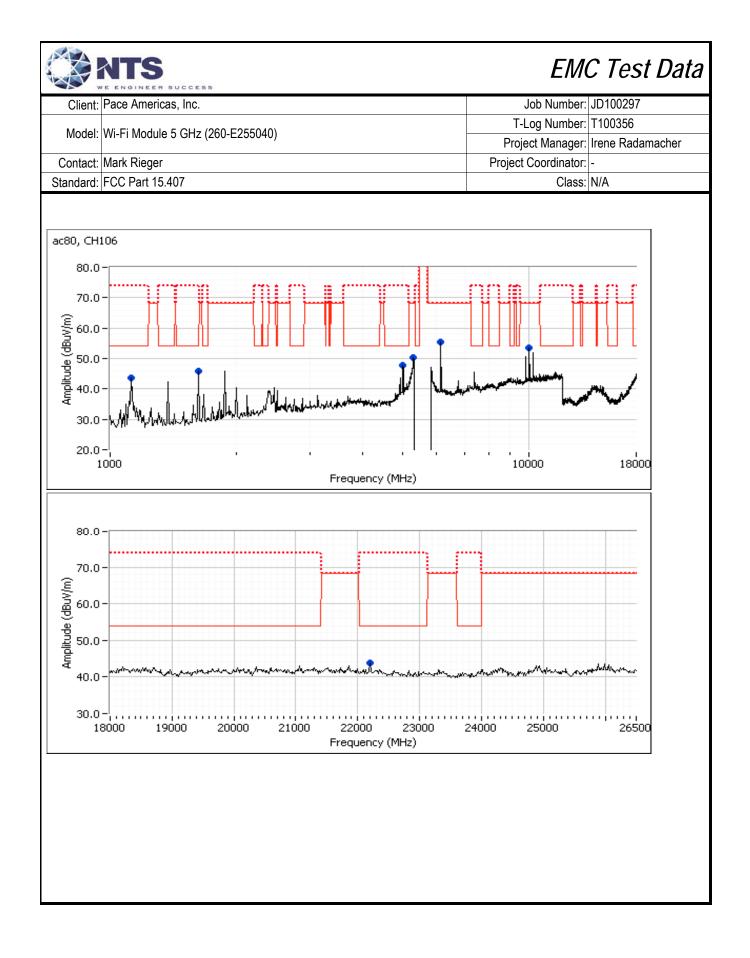
Client:         Pace Americas, Inc.         Job Number:         JD100297           Modet:         Wi-Fi Module 5 GHz (260-E255040)         T-Log Number:         Truce Radam           Contact:         Mark Rieger         Project Manager:         Irene Radam           Standard:         FCC Part 15 407         Class:         N/A           Run #5b:         Center Channel         Class:         N/A           Channel:         116         Mode:         11n20           Tx Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15209 / 15E         Detector         Azimuth         Height         Comments           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peal           5113.070         52.5         H         54.0         -1.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Pea           112.660         61.9         H         74.0         -22.5         PK         202         1.5         RB 1 MHz;VB 3 MHz;Pea           112.600         38.7         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Pea </th <th></th> <th></th> <th>SUCCESS</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>EMO</th> <th>C Test Data</th>			SUCCESS						EMO	C Test Data
Model:         Wi-Fi Module 5 GHz (260-E255040)         Project Manager:         Irene Radam           Contact:         Mark Rieger         Project Coordinator:         -           Standard:         FCC Part 15.407         Class:         N/A           Run #5b:         Center Channel         Class:         N/A           Standard:         FCC Part 15.407         Class:         N/A           Run #5b:         Center Channel         Class:         N/A           Channel:         116         Mode:         11n20           x Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters         5113.070         52.5         H         54.0         -15.         AVG         244         1.9         RB 1 MHz;VB 3 MHz;Pea           1126.050         61.9         H         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 3 MHz;Pea           1624.990         44.5         V         54.0         -15.3         AVG         202	Client:	Pace Americ	cas, Inc.						Job Number:	JD100297
Contact:         Mark Rieger         Project Manager:         Irene Kadam           Contact:         Mark Rieger         Project Coordinator:         -           Standard:         FCC Part 15.407         Class:         N/A           Run #5b:         Center Channel         Class:         N/A           Stannel:         116         Mode:         11n20           x Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµ.V/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 3 MHz;Peak           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1625.060         48.6         V         74.0         -22.5         PK         202 <td< td=""><td>Madalu</td><td></td><td></td><td></td><td></td><td></td><td></td><td>T-</td><td>Log Number:</td><td>T100356</td></td<>	Madalu							T-	Log Number:	T100356
Standard:         FCC Part 15.407         Class:         N/A           Run #5b:         Center Channel         Channel:         116         Mode:         11n20           Channel:         116         Mode:         11n20         X         X         X           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 1 kHz;Peak           4999.720         46.4         V         54.0         -7.6         AVG         244         1.9         RB 1 MHz;VB 3 MHz;Pea           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Pea           1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Pea	Model:		e 5 GHZ (200	J-E255040)				Proje	ect Manager:	Irene Radamacher
Run #5b: Center Channel           Channel:         116         Mode:         11n20           Tx Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 3 MHz;Peak           4999.720         51.5         V         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 3 MHz;Peak           4999.720         51.5         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1624.990         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 1 kHz;Peak           1125.080         38.7         V         54.0         -11.3         AVG         2.0 <td>Contact:</td> <td>Mark Rieger</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Project</td> <td>Coordinator:</td> <td>-</td>	Contact:	Mark Rieger						Project	Coordinator:	-
Channel:         116         Mode:         11n20           'x Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peal           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 3 MHz;Peal           4999.70         46.4         V         54.0         -7.6         AVG         244         1.9         RB 1 MHz;VB 3 MHz;Peal           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Peal           1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Peal           11169.400         57.0         V         68.3         -11.3         PK         40         2.0         RB 1 MHz;VB 3 MHz;Peal <td>Standard:</td> <td>FCC Part 15</td> <td>.407</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Class:</td> <td>N/A</td>	Standard:	FCC Part 15	.407						Class:	N/A
fx Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 1 kHz;Peak           4999.720         51.5         V         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 3 MHz;Peak           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Peak           125.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         74.0	un #5b: Co	enter Chanr	nel							
Tx Chain:         3x3         Data Rate:         VHT8           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 1 kHz;Peak           4999.720         51.5         V         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 3 MHz;Peak           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Peak           125.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         74.0	nannel.	116		Mode <sup>.</sup>	11n20					
Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 1 kHz;Peak           4999.720         51.5         V         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 3 MHz;Peak           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 1 kHz;Peak           1625.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Pea           1125.070         44.5         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Pea           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Pea<										
MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 3 MHz;Peak           4999.970         46.4         V         54.0         -7.6         AVG         2444         1.9         RB 1 MHz;VB 3 MHz;Peak           4999.720         51.5         V         74.0         -22.5         PK         2444         1.9         RB 1 MHz;VB 3 MHz;Peak           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1625.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Peak           11160.330         42.8         H         54.0         -11.2         AVG         2.0         RB 1 MHz;VB 3 MHz;Peak <td></td> <td>ono -</td> <td></td> <td>Data Fato.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		ono -		Data Fato.						
5113.070         52.5         H         54.0         -1.5         AVG         354         1.9         RB 1 MHz;VB 1 kHz;Peak           5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 1 kHz;Peak           4999.970         46.4         V         54.0         -7.6         AVG         244         1.9         RB 1 MHz;VB 1 kHz;Peak           4999.720         51.5         V         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 1 kHz;Peak           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1625.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         74.0         -19.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Peak           11160.330         42.8         H         54.0         -11.2         AVG         20         1.0 </td <td>requency</td> <td>Level</td> <td>Pol</td> <td>15.209</td> <td>) / 15E</td> <td>Detector</td> <td>Azimuth</td> <td>Height</td> <td>Comments</td> <td></td>	requency	Level	Pol	15.209	) / 15E	Detector	Azimuth	Height	Comments	
5112.650         61.9         H         74.0         -12.1         PK         354         1.9         RB 1 MHz;VB 3 MHz;Pea           4999.970         46.4         V         54.0         -7.6         AVG         244         1.9         RB 1 MHz;VB 3 MHz;Pea           4999.720         51.5         V         74.0         -22.5         PK         244         1.9         RB 1 MHz;VB 3 MHz;Pea           1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 3 MHz;Pea           1625.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Pea           1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Pea           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Pea           11160.330         42.8         H         54.0         -11.2         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Pea           2233.820         42.3         V         54.0         -11.7         AVG         64         2.0				Limit	Margin	Pk/QP/Avg	degrees	meters		
4999.970       46.4       V       54.0       -7.6       AVG       244       1.9       RB 1 MHz;VB 1 kHz;Peak         4999.720       51.5       V       74.0       -22.5       PK       244       1.9       RB 1 MHz;VB 1 kHz;Peak         1624.990       44.5       V       54.0       -9.5       AVG       202       1.5       RB 1 MHz;VB 3 MHz;Peak         1625.060       48.6       V       74.0       -25.4       PK       202       1.5       RB 1 MHz;VB 3 MHz;Peak         1125.080       38.7       V       54.0       -15.3       AVG       203       1.8       RB 1 MHz;VB 3 MHz;Peak         1125.070       44.5       V       74.0       -29.5       PK       203       1.8       RB 1 MHz;VB 3 MHz;Peak         1125.070       44.5       V       74.0       -29.5       PK       203       1.8       RB 1 MHz;VB 3 MHz;Peak         1125.070       44.5       V       74.0       -19.1       PK       40       2.0       RB 1 MHz;VB 3 MHz;Peak         1160.330       42.8       H       54.0       -11.2       AVG       20       1.0       RB 1 MHz;VB 3 MHz;Peak         22323.820       42.3       V       54.0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
4999.720       51.5       V       74.0       -22.5       PK       244       1.9       RB 1 MHz;VB 3 MHz;Pea         1624.990       44.5       V       54.0       -9.5       AVG       202       1.5       RB 1 MHz;VB 3 MHz;Pea         1625.060       48.6       V       74.0       -25.4       PK       202       1.5       RB 1 MHz;VB 3 MHz;Pea         1125.080       38.7       V       54.0       -15.3       AVG       203       1.8       RB 1 MHz;VB 3 MHz;Pea         1125.070       44.5       V       74.0       -29.5       PK       203       1.8       RB 1 MHz;VB 3 MHz;Pea         1125.070       44.5       V       74.0       -29.5       PK       203       1.8       RB 1 MHz;VB 3 MHz;Pea         1125.070       44.5       V       74.0       -29.5       PK       203       1.8       RB 1 MHz;VB 3 MHz;Pea         1160.330       42.8       H       54.0       -11.2       AVG       20       1.0       RB 1 MHz;VB 3 MHz;Pea         11169.400       54.9       H       74.0       -19.1       PK       20       1.0       RB 1 MHz;VB 3 MHz;Pea         22323.820       42.3       V       54.0       -11.7<										
1624.990         44.5         V         54.0         -9.5         AVG         202         1.5         RB 1 MHz;VB 1 kHz;Peak           1625.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Peak           1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Peak           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Peak           9999.610         57.0         V         68.3         -11.3         PK         40         2.0         RB 1 MHz;VB 3 MHz;Peak           11160.330         42.8         H         54.0         -11.2         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           22323.820         42.3         V         54.0         -11.7         AVG         64         2.0         RB 1 MHz;VB 3 MHz;Peak           22330.480         55.2         V         74.0         -18.8         PK         64         2.0<										•
1625.060         48.6         V         74.0         -25.4         PK         202         1.5         RB 1 MHz;VB 3 MHz;Pea           1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 3 MHz;Pea           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Pea           9999.610         57.0         V         68.3         -11.3         PK         40         2.0         RB 1 MHz;VB 3 MHz;Pea           1160.330         42.8         H         54.0         -11.2         AVG         20         1.0         RB 1 MHz;VB 1 kHz;Pea           11169.400         54.9         H         74.0         -19.1         PK         20         1.0         RB 1 MHz;VB 3 MHz;Pea           22323.820         42.3         V         54.0         -11.7         AVG         64         2.0         RB 1 MHz;VB 3 MHz;Pea           22330.480         55.2         V         74.0         -18.8         PK         64         2.0         RB 1 MHz;VB 3 MHz;Pea           Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5         the device indicated										
1125.080         38.7         V         54.0         -15.3         AVG         203         1.8         RB 1 MHz;VB 1 kHz;Peak           1125.070         44.5         V         74.0         -29.5         PK         203         1.8         RB 1 MHz;VB 3 MHz;Peak           9999.610         57.0         V         68.3         -11.3         PK         40         2.0         RB 1 MHz;VB 3 MHz;Peak           1160.330         42.8         H         54.0         -11.2         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11169.400         54.9         H         74.0         -19.1         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           22323.820         42.3         V         54.0         -11.7         AVG         64         2.0         RB 1 MHz;VB 1 kHz;Peak           22330.480         55.2         V         74.0         -18.8         PK         64         2.0         RB 1 MHz;VB 3 MHz;Peak           Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5         the device indicated there were no significant emissions in this frequency range           Note:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measureme										
1125.07044.5V74.0-29.5PK2031.8RB 1 MHz;VB 3 MHz;Pea9999.61057.0V68.3-11.3PK402.0RB 1 MHz;VB 3 MHz;Pea1160.33042.8H54.0-11.2AVG201.0RB 1 MHz;VB 1 kHz;Peak1169.40054.9H74.0-19.1PK201.0RB 1 MHz;VB 3 MHz;Peak22323.82042.3V54.0-11.7AVG642.0RB 1 MHz;VB 1 kHz;Peak22330.48055.2V74.0-18.8PK642.0RB 1 MHz;VB 3 MHz;PeakNote:Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5the device indicated there were no significant emissions in this frequency rangeote 1:For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.ote 2:For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement meth										
9999.61057.0V68.3-11.3PK402.0RB 1 MHz;VB 3 MHz;Pea1160.33042.8H54.0-11.2AVG201.0RB 1 MHz;VB 1 kHz;Peak1169.40054.9H74.0-19.1PK201.0RB 1 MHz;VB 3 MHz;Peak22323.82042.3V54.0-11.7AVG642.0RB 1 MHz;VB 1 kHz;Peak22330.48055.2V74.0-18.8PK642.0RB 1 MHz;VB 3 MHz;PeakNote:Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5the device indicated there were no significant emissions in this frequency rangeote 1:For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.ote 2:For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement meth										•
1160.33042.8H54.0-11.2AVG201.0RB 1 MHz;VB 1 kHz;Peak1169.40054.9H74.0-19.1PK201.0RB 1 MHz;VB 3 MHz;Peak22323.82042.3V54.0-11.7AVG642.0RB 1 MHz;VB 1 kHz;Peak22330.48055.2V74.0-18.8PK642.0RB 1 MHz;VB 3 MHz;PeakNote:Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5the device indicated there were no significant emissions in this frequency rangeote 1:For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.ote 2:										
1169.400       54.9       H       74.0       -19.1       PK       20       1.0       RB 1 MHz;VB 3 MHz;Pea         22323.820       42.3       V       54.0       -11.7       AVG       64       2.0       RB 1 MHz;VB 1 kHz;Peak         22330.480       55.2       V       74.0       -18.8       PK       64       2.0       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5         the device indicated there were no significant emissions in this frequency range         ote 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         ote 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement meth										
22323.820       42.3       V       54.0       -11.7       AVG       64       2.0       RB 1 MHz;VB 1 kHz;Peak         22330.480       55.2       V       74.0       -18.8       PK       64       2.0       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5 the device indicated there were no significant emissions in this frequency range         ote 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         ote 2:										•
22330.480       55.2       V       74.0       -18.8       PK       64       2.0       RB 1 MHz;VB 3 MHz;Pea         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5 the device indicated there were no significant emissions in this frequency range         lote 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Interview 2:										
Note:       Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-5 the device indicated there were no significant emissions in this frequency range         Iote 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Iote 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement mether									,	,
Note:       the device indicated there were no significant emissions in this frequency range         Iote 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Iote 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement mether			-				• •			,,
In the device indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in this frequency range         Intervice indicated there were no significant emissions in the intervice indicated there were no significant emissions in the intervice indicated there were no significant emissions in the intervice indicated there were no significant emissions in the intervice indicated there were no significant emissions in the intervice indicated there were no significant emissions in the intervice indicated there were no significant emissions in the intervice indicated there were emissions in there were emissions emissions in there were	Nista	Scans made	between 26	.5 - 40 GHz v	with the mea	surement and	enna moved	around the	card and its a	antennas 20-50cm fror
For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement meth	Note:	the device in	dicated there	e were no sig	nificant emi	ssions in this	frequency ra	inge		
	ote 1:	For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.								
required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).	to 2.	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method								
		required is a	peak measu	urement (RB=	=1MHz, VB≥	3MHz, peak	detector).			



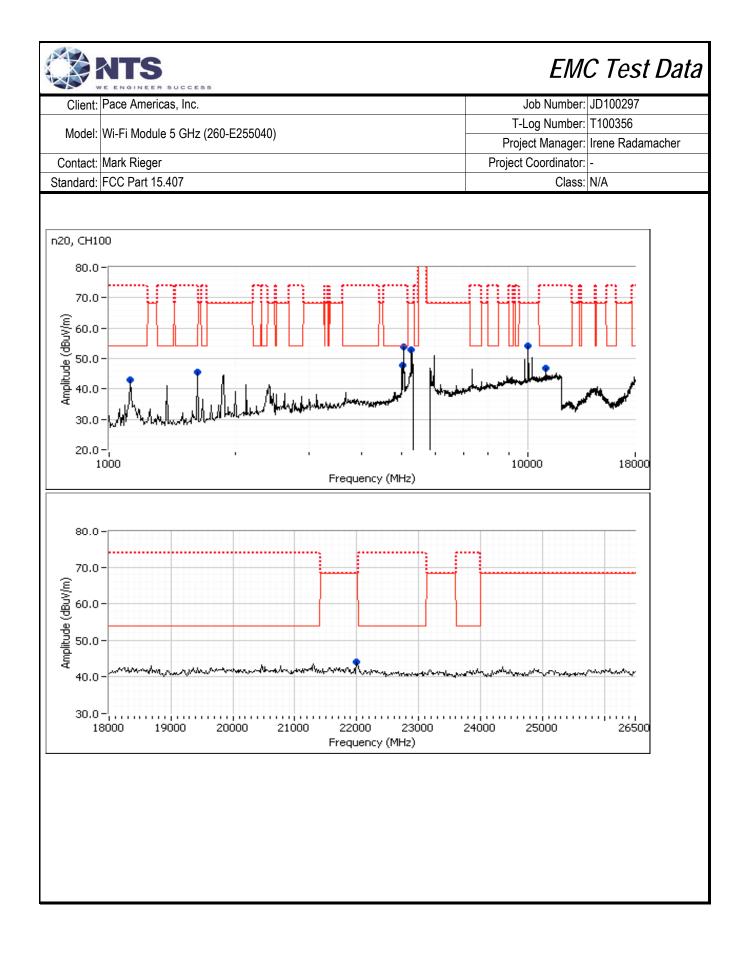
T-Log Number: T100356           Project Manager: Irene Radamache           Project Manager: Irene Radamache           Project Cordinator: -           Class: N/A           Run #5c: Center Channel           Channel: 110         Mode:: 11n40           Trequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBjµ//m         v/h         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBjµ//m         v/h         Comments           MHz         Detector         Azimuth         Height         Comments           MHz         dBjµ//m         v/h         Comments           MHz         Detector         Azimuth         Height         Comments           MHz         dBjµ//m         <	Model:         Wi-Fi Module 5 GHz (260-E255040)         T-Log Number: Project Manager:         T100356           Contact:         Mark Rieger         Project Coordinator:         -           Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Class:         N/A           Channel:         110         Mode:         11n40           Crass:         N/A         Standard:         Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµ/V/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         V         54.0         -9.3         AVG         202         1.4	Client:	Pace Americ	as, Inc.						Job Number: JD100297
Model:         WI-FI Module 5 GH2 (2b0-E255040)         Project Manager:         Irene Radamache           Contact:         Mark Rieger         Project Manager:         -           Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Class:         N/A           Channel:         110         Mode:         11n40           Yx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/OP/Avg         degrees         meters           5323.910         61.6         H         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -14.1         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         34.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         20	Model:         Wi-F1 Module 5 GHZ (260-E25040)         Project Manager:         Irene Radamacher           Contact:         Mark Rieger         Project Coordinator:         -           Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Standard:         FCC Part 15.407         Class:         N/A           Channel:         110         Mode:         11n40         Standard:         FcC Part 15.407         Class:         N/A           Channel:         110         Mode:         11n40         Standard:         FcC Part 15.407         Class:         N/A           Standard:         FcC Part 15.407         Data Rate:         VHT9         VHT9         Standard:         Fcc Part 15.407         Standard:         Fcc Part 15.407         Standard:         Fcc Part 15.407         Standard:         Fcc Part 15.407         Standard:         Fcc Part 16.40         Fcc Part 16.40 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Contact:         Mark Rieger         Project Coordinator:           Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Class:         N/A           Channel:         110         Mode:         11n40           Cr Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         34.4         T         T         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V	Contact:         Mark Rieger         Project Coordinator:           Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Class:         N/A           Channel:         110         Mode:         11n40           Cx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -14.1         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           125.000         44.7         H         74.0	Model:	Wi-Fi Module	e 5 GHz (26	0-E255040)					-
Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Channel:         110         Mode:         11n40           Tx Chain:         3x3         Data Rate:         VHT9         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBjuV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           1099.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak	Standard:         FCC Part 15.407         Class:         N/A           Run #5c:         Center Channel         Channel:         110         Mode:         11n40           Channel:         110         Data Rate:         VHT9         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBjuV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak	Contact	Mark Rieger							•
Run #5c:         Center Channel           Channel:         110         Mode:         11n40           Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK	Run #5c:         Center Channel           Channel:         110         Mode:         11n40           Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.050         44.7         H         74.0         -25.4         PK								Fillect	
Channel:         110         Mode:         11n40           Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dB <sub>µ</sub> V/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak <td>Channel:         110         Mode:         11n40           Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.560         52.4         H         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak</td> <td>Standard.</td> <td>FUC Part 15</td> <td>.407</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Class. N/A</td>	Channel:         110         Mode:         11n40           Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.560         52.4         H         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak	Standard.	FUC Part 15	.407						Class. N/A
Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15:209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0	Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0	Run #5c: C	enter Chanr	nel						
Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5007.540         47.3         H         54.0	Tx Chain:         3x3         Data Rate:         VHT9           Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0	Channel:	110		Mode:	11n40				
Frequency         Level         Pol         15.209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1114.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak<	Frequency         Level         Pol         15:209 / 15E         Detector         Azimuth         Height         Comments           MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           1109.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak<									
MHz         dBµV/m         v/h         Limit         Margin         Pk/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;V	MHz         dBµV/m         v/h         Limit         Margin         PK/QP/Avg         degrees         meters           5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         101         RB 1 MHz;VB 3 MHz;Peak					-				
5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 kHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 KHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4 </td <td>5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0<td>Frequency</td><td>Level</td><td>Pol</td><td>15.209</td><td>) / 15E</td><td>Detector</td><td>Azimuth</td><td>Height</td><td>Comments</td></td>	5323.910         61.6         H         68.3         -6.7         PK         351         1.9         RB 1 MHz;VB 3 MHz;Peak           9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0 <td>Frequency</td> <td>Level</td> <td>Pol</td> <td>15.209</td> <td>) / 15E</td> <td>Detector</td> <td>Azimuth</td> <td>Height</td> <td>Comments</td>	Frequency	Level	Pol	15.209	) / 15E	Detector	Azimuth	Height	Comments
9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4<	9999.950         57.8         V         68.3         -10.5         PK         39         2.5         RB 1 MHz;VB 3 MHz;Peak           11099.970         41.6         H         54.0         -12.4         AVG         20         1.0         RB 1 MHz;VB 3 MHz;Peak           11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4<	MHz			Limit	Margin	Pk/QP/Avg	degrees	meters	
11099.970       41.6       H       54.0       -12.4       AVG       20       1.0       RB 1 MHz;VB 3 kHz;Peak         11104.430       52.8       H       74.0       -21.2       PK       20       1.0       RB 1 MHz;VB 3 MHz;Peak         1125.010       39.9       H       54.0       -14.1       AVG       131       2.0       RB 1 MHz;VB 3 KHz;Peak         1125.000       44.7       H       74.0       -29.3       PK       131       2.0       RB 1 MHz;VB 3 KHz;Peak         1625.060       44.7       V       54.0       -9.3       AVG       202       1.4       RB 1 MHz;VB 3 MHz;Peak         1625.030       48.6       V       74.0       -25.4       PK       202       1.4       RB 1 MHz;VB 3 MHz;Peak         5087.540       47.3       H       54.0       -6.7       AVG       191       1.0       RB 1 MHz;VB 3 MHz;Peak         5087.560       52.4       H       74.0       -21.6       PK       191       1.0       RB 1 MHz;VB 3 MHz;Peak         5000.010       43.0       V       54.0       -11.0       AVG       210       1.4       RB 1 MHz;VB 3 MHz;Peak         2203.710       39.5       V       54.0	11099.970       41.6       H       54.0       -12.4       AVG       20       1.0       RB 1 MHz;VB 3 kHz;Peak         11104.430       52.8       H       74.0       -21.2       PK       20       1.0       RB 1 MHz;VB 3 kHz;Peak         1125.010       39.9       H       54.0       -14.1       AVG       131       2.0       RB 1 MHz;VB 3 kHz;Peak         1125.000       44.7       H       74.0       -29.3       PK       131       2.0       RB 1 MHz;VB 3 kHz;Peak         1625.060       44.7       V       54.0       -9.3       AVG       202       1.4       RB 1 MHz;VB 3 kHz;Peak         1625.030       48.6       V       74.0       -25.4       PK       202       1.4       RB 1 MHz;VB 3 kHz;Peak         5087.540       47.3       H       54.0       -6.7       AVG       191       1.0       RB 1 MHz;VB 3 kHz;Peak         5087.560       52.4       H       74.0       -21.6       PK       191       1.0       RB 1 MHz;VB 3 kHz;Peak         5000.010       43.0       V       54.0       -11.0       AVG       210       1.4       RB 1 MHz;VB 3 MHz;Peak         2203.710       39.5       V       54.0									
11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           22203.710         39.5         V         54.0         -14.5         AVG         64         1.9	11104.430         52.8         H         74.0         -21.2         PK         20         1.0         RB 1 MHz;VB 3 MHz;Peak           1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 KHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 KHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 KHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 KHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 KHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           2203.710         39.5         V         54.0         -14.5         AVG         64         1.9<									
1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 kHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 kHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 kHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           2203.710         39.5         V         54.0         -14.5         AVG         64         1.9         RB 1 MHz;VB 3 MHz;Peak           22217.710         54.0         V         74.0         -20.0         PK         64         1.9<	1125.010         39.9         H         54.0         -14.1         AVG         131         2.0         RB 1 MHz;VB 3 kHz;Peak           1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 kHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 kHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 kHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           2203.710         39.5         V         54.0         -14.5         AVG         64         1.9         RB 1 MHz;VB 3 MHz;Peak           22217.710         54.0         V         74.0         -20.0         PK         64         1.9<									
1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           5000.110         48.6         V         74.0         -25.4         PK         210         1.4         RB 1 MHz;VB 3 MHz;Peak           22203.710         39.5         V         54.0         -14.5         AVG         64         1.9         RB 1 MHz;VB 3 MHz;Peak           22217.710         54.0         V         74.0         -20.0         PK         64         1.9<	1125.000         44.7         H         74.0         -29.3         PK         131         2.0         RB 1 MHz;VB 3 MHz;Peak           1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 MHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           5000.110         48.6         V         74.0         -25.4         PK         210         1.4         RB 1 MHz;VB 3 MHz;Peak           22203.710         39.5         V         54.0         -14.5         AVG         64         1.9         RB 1 MHz;VB 3 MHz;Peak           22217.710         54.0         V         74.0         -20.0         PK         64         1.9<									
1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 kHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 MHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 kHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 MHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 MHz;Peak           5000.110         48.6         V         74.0         -25.4         PK         210         1.4         RB 1 MHz;VB 3 MHz;Peak           22203.710         39.5         V         54.0         -14.5         AVG         64         1.9         RB 1 MHz;VB 3 MHz;Peak           22217.710         54.0         V         74.0         -20.0         PK         64         1.9         RB 1 MHz;VB 3 MHz;Peak           Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm         the devi	1625.060         44.7         V         54.0         -9.3         AVG         202         1.4         RB 1 MHz;VB 3 kHz;Peak           1625.030         48.6         V         74.0         -25.4         PK         202         1.4         RB 1 MHz;VB 3 kHz;Peak           5087.540         47.3         H         54.0         -6.7         AVG         191         1.0         RB 1 MHz;VB 3 kHz;Peak           5087.560         52.4         H         74.0         -21.6         PK         191         1.0         RB 1 MHz;VB 3 kHz;Peak           5000.010         43.0         V         54.0         -11.0         AVG         210         1.4         RB 1 MHz;VB 3 kHz;Peak           5000.110         48.6         V         74.0         -25.4         PK         210         1.4         RB 1 MHz;VB 3 kHz;Peak           22203.710         39.5         V         54.0         -14.5         AVG         64         1.9         RB 1 MHz;VB 3 MHz;Peak           22217.710         54.0         V         74.0         -20.0         PK         64         1.9         RB 1 MHz;VB 3 MHz;Peak           Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm fr         the d									
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5000.01043.0V54.0-11.0AVG2101.4RB 1 MHz;VB 3 kHz;Peak5000.11048.6V74.0-25.4PK2101.4RB 1 MHz;VB 3 MHz;Peak22203.71039.5V54.0-14.5AVG641.9RB 1 MHz;VB 3 kHz;Peak22217.71054.0V74.0-20.0PK641.9RB 1 MHz;VB 3 MHz;PeakNote:Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cmthe device indicated there were no significant emissions in this frequency rangeNote 1:For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.Note 2:For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	5000.01043.0V54.0-11.0AVG2101.4RB 1 MHz;VB 3 kHz;Peak5000.11048.6V74.0-25.4PK2101.4RB 1 MHz;VB 3 MHz;Peak22203.71039.5V54.0-14.5AVG641.9RB 1 MHz;VB 3 kHz;Peak22217.71054.0V74.0-20.0PK641.9RB 1 MHz;VB 3 MHz;PeakNote:Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm fr the device indicated there were no significant emissions in this frequency rangeNote 1:For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method									
5000.110       48.6       V       74.0       -25.4       PK       210       1.4       RB 1 MHz;VB 3 MHz;Peak         22203.710       39.5       V       54.0       -14.5       AVG       64       1.9       RB 1 MHz;VB 3 kHz;Peak         22217.710       54.0       V       74.0       -20.0       PK       64       1.9       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm         the device indicated there were no significant emissions in this frequency range         Note 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:         For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	5000.110       48.6       V       74.0       -25.4       PK       210       1.4       RB 1 MHz;VB 3 MHz;Peak         22203.710       39.5       V       54.0       -14.5       AVG       64       1.9       RB 1 MHz;VB 3 kHz;Peak         22217.710       54.0       V       74.0       -20.0       PK       64       1.9       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm fr         the device indicated there were no significant emissions in this frequency range         Note 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:									
22203.710       39.5       V       54.0       -14.5       AVG       64       1.9       RB 1 MHz;VB 3 kHz;Peak         22217.710       54.0       V       74.0       -20.0       PK       64       1.9       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm the device indicated there were no significant emissions in this frequency range         Note 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:	22203.710       39.5       V       54.0       -14.5       AVG       64       1.9       RB 1 MHz;VB 3 kHz;Peak         22217.710       54.0       V       74.0       -20.0       PK       64       1.9       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm fr         the device indicated there were no significant emissions in this frequency range         Note 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:									
22217.710       54.0       V       74.0       -20.0       PK       64       1.9       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm the device indicated there were no significant emissions in this frequency range         Note 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	22217.710       54.0       V       74.0       -20.0       PK       64       1.9       RB 1 MHz;VB 3 MHz;Peak         Note:         Scans made between 26.5 - 40 GHz with the measurement antenna moved around the card and its antennas 20-50cm fr the device indicated there were no significant emissions in this frequency range         Note 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method									
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Note 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	Note:       the device indicated there were no significant emissions in this frequency range         Note 1:       For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.         Note 2:       For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method		Soono modo	hotwoon 26		with the mee	ouromont ont	anna mayad	around the	aard and its antannas 20 50am fr
Note 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.           Note 2:         For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	Note 1:         For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.           Note 2:         For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	Note:								card and its antennas 20-50cm in
Note 2: For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method								-	and peak measurements
									<u> </u>	
$\Gamma$		Note 2:						• •	00.30000/11	I). The measurement method
			required is a	peak meas		- 1 IVII IZ, V D2	-Sivil IZ, peak			



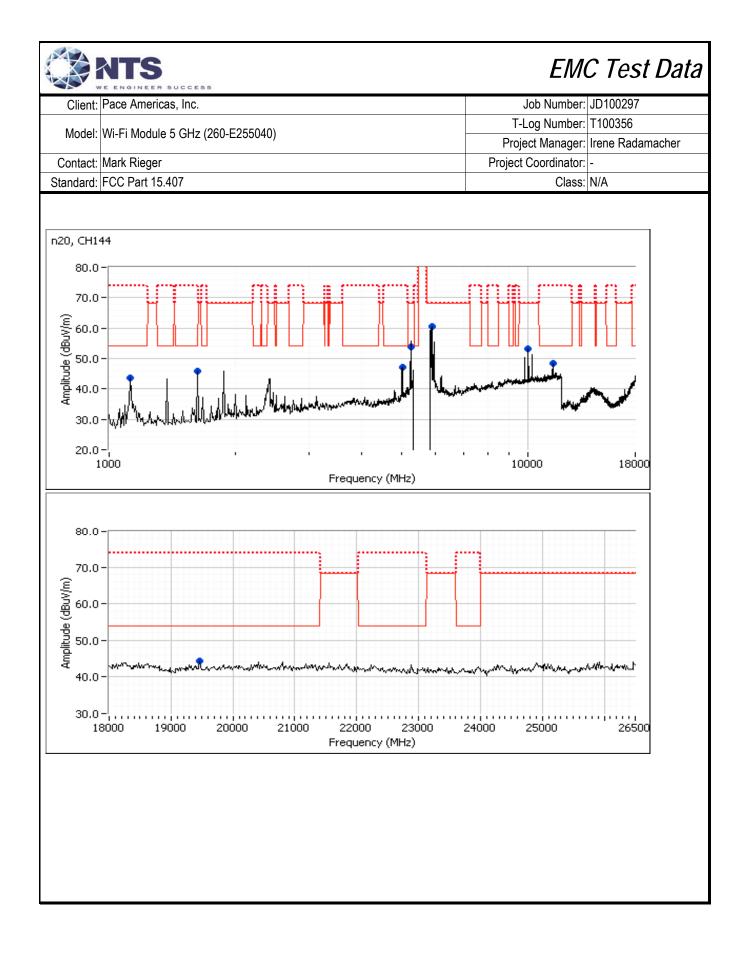
Client:	Pace Americ	cas, Inc.						Job Number: JD100297		
N4. 1.1			T-Log Number: T100356			Log Number: T100356				
Wodel:	: Wi-Fi Module 5 GHz (260-E255040)							Project Manager: Irene Radamacher		
Contact:	: Mark Rieger							Coordinator: -		
	FCC Part 15						.,	Class: N/A		
0.0.100101										
Run #5d:(	Center Chani	nel								
Channel:	106		Mode:	ac80						
Tx Chain:	3x3		Data Rate:	VHT9						
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
5322.130	62.7	Н	68.3	-5.6	PK	343	1.7	RB 1 MHz;VB 3 MHz;Peak		
1125.150	42.7	V	54.0	-11.3	Avg	337	1.5	RB 1 MHz;VB 3 kHz;Peak		
1124.920	45.7	V	74.0	-28.3	PK	337	1.5	RB 1 MHz;VB 3 MHz;Peak		
4999.990	41.3	V	54.0	-12.7	Avg	227	1.0	RB 1 MHz;VB 3 kHz;Peak		
5000.060	48.1	V	74.0	-25.9	PK	227	1.0	RB 1 MHz;VB 3 MHz;Peak		
6144.520	58.2	Н	68.3	-10.1	PK	202	2.0	RB 1 MHz;VB 3 MHz;Peak		
1625.010	45.3	V	54.0	-8.7	Avg	202	1.4	RB 1 MHz;VB 3 kHz;Peak		
1625.030	48.4	V	74.0	-25.6	PK	202	1.4	RB 1 MHz;VB 3 MHz;Peak		
9999.850	57.5	V	68.3	-10.8	PK	39	2.4	RB 1 MHz;VB 3 MHz;Peak		
22130.890	37.3	V	54.0	-16.7	Avg	36	1.0	RB 1 MHz;VB 3 kHz;Peak		
22169.830	47.9	V	74.0	-26.1	PK	36	1.0	RB 1 MHz;VB 3 MHz;Peak		
Note: Note 1:	the device in For emission	ndicated ther	e were no sig d bands, the	nificant emi limit of 15.2	ssions in this 209 was used	frequency ra which requir	inge es average	card and its antennas 20-50cm fro and peak measurements.		
Note 2:	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method									
	required is a	i peak measi	urement (RB	=1MHz, VB≥	≥3MHz, peak (	detector).				



Client:	Pace Americ	as, Inc.						Job Number:	JD100297
M		5 OLL (00)					T-	Log Number:	T100356
Model:	Wi-Fi Module	e 5 GHz (260	J-E255040)				Proj	ect Manager:	Irene Radamacher
Contact:	Mark Rieger							Coordinator:	
	FCC Part 15	407					.,	Class:	
l Te To	adiated Spuri Date of Test: est Engineer:   est Location:   ow Channel	05/25/16 Rafael Vare	las	40000 MHz	Con	<i>f</i> lode: Wors onfig. Used: fig Change: UT Voltage:	1 -		
Channel:	100		Mode:	11n20					
Tx Chain:	3x3		Data Rate:	VHT8					
		Dal	15 000	15017	Detector	٨ ــــــــــــــــــــــــــــــــــــ	Unio-Li	Comment	
Frequency MHz	Level	Pol v/h	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
5039.930	dBμV/m 51.5	H	54.0	-2.5	AVG	199	2.0	RB 1 MHz·\	/B 1 kHz;Peak
5039.930	62.0	H	74.0	-12.0	PK	199	2.0		/B 3 MHz;Peak
10997.380	42.7	V	54.0	-11.3	AVG	264	2.0		/B 1 kHz;Peak
0994.520	54.5	V	74.0	-19.5	PK	264	2.0		/B 3 MHz;Peak
5268.380	58.0	H	68.3	-10.3	PK	344	1.9		/B 3 MHz;Peak
21991.110	39.6	V	54.0	-14.4	AVG	355	1.0		/B 1 kHz;Peak
21997.980	53.9	V	74.0	-20.1	PK	355	1.0	RB 1 MHz;V	/B 3 MHz;Peak
1125.000	43.0	$\checkmark$	54.0	-11.0	Peak	329	1.5	Not related	to radio
1625.000	45.5	V	54.0	-8.5	Peak	169	1.5	Not related	
4999.980	47.9	V	54.0	-6.1	Peak	252	2.0	Not related	
10010.000	54.2	V	68.3	-14.1	Peak	32	2.5	Not related	to radio
Note:	Scans made the device in	between 26 dicated ther	i.5 - 40 GHz e were no sig	with the mea	asurement ant issions in this	enna moved frequency ra	around the	card and its a	antennas 20-50cm fi



Client <sup>.</sup>	Pace America	success as Inc						Job Number: JD100297
Olient.		30, 110.						Log Number: T100356
Model:	: Wi-Fi Module 5 GHz (260-E255040)							ect Manager: Irene Radamacher
Contact:	t: Mark Rieger							: Coordinator: -
	FCC Part 15.4	407					110,000	Class: N/A
	igh Channel							
	-		N4. 1.	44.00				
Channel: Tx Chain:	144 3x3		Mode: Data Rate:	11n20 VHT8				
Frequency	Level	Pol	15.209/	15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5249.690	63.2	Н	68.3	-5.1	PK	358	1.5	RB 1 MHz;VB 3 MHz;Peak
5885.480	67.7	H	68.3	-0.6	PK	199	1.3	RB 1 MHz;VB 3 MHz;Peak
11439.230	44.3	V	54.0	-9.7	AVG	26	1.1	RB 1 MHz;VB 1 kHz;Peak
11439.370	56.2	V V	74.0	-17.8	PK	26	1.1	RB 1 MHz;VB 3 MHz;Peak
19460.060 19455.510	36.0	 V	54.0	-18.0	AVG PK	196	2.0	RB 1 MHz;VB 1 kHz;Peak
19455.510	47.6 <i>43.6</i>	 	74.0 <i>54.0</i>	-26.4 - <i>10.4</i>	Pr Peak	196 <i>352</i>	2.0 2.0	RB 1 MHz;VB 3 MHz;Peak Not related to radio
1625.000	4 <i>3.0</i> 46.0	 	54.0 54.0	-10.4 -8.0	Peak	352 156	2.0	Not related to radio
5008.330	47.0	 V	54.0	-7.0	Peak	32	2.0	Not related to radio
10010.000	53.2	V	68.3	-15.1	Peak	34	2.5	Not related to radio
Note:					issions in this f			card and its antennas 20-50cm fro



	NTS	EMO	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Model	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
wouer.	WI-FI Module 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
<b>^</b> · · ·	Mark Dianan		

Contact: Mark Rieger Standard: FCC Part 15.407

Project Coordinator: -Class: N/A

# RSS-247 (LELAN) and FCC 15.407(UNII) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions

## Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

#### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2), (3) RSS-247 6.2		a: 162 mW n20: 392 mW n40: 259 mW ac80: 37 mW
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 12.6 mW/MHz n20: 30.7 mW/MHz n40: 10.9 mW/MHz ac80: 1.0 mW/MHz
2	99% Bandwidth	RSS-247 (Information only)		a: 17.0 MHz n20: 17.9 MHz n40: 36.9 MHz ac80: 76.1 MHz

## General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

### Ambient Conditions:

Temperature:	22.1 °C
Rel. Humidity:	34 %

## Modifications Made During Testing

No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.

NTS	
WE ENGINEER SUCCE	

# EMC Test Data

	E ENGINEER SUCCESS		
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
		Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

# Procedure Comments:

Measurements performed in accordance with FCC KDB 789033 D01

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
11a	6 Mb/s	0.98	Yes	1.302	0	0	10
n20	VHT8	92.6%	No	1.935	0.3	0.7	517
n40	VHT9	95.2%	No	0.952	0.2	0.4	1050
ac80	VHT9	75.5%	Yes	2.023	1.2	2.4	494

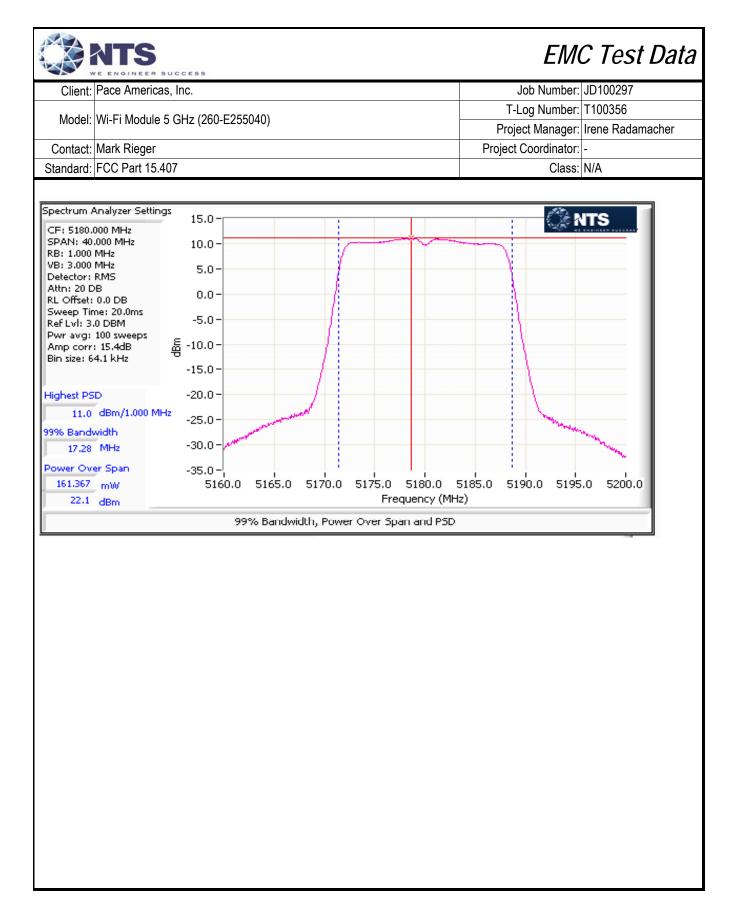
# Sample Notes

Sample S/N: F56154520246 Driver: 7.14.89.21.571.206

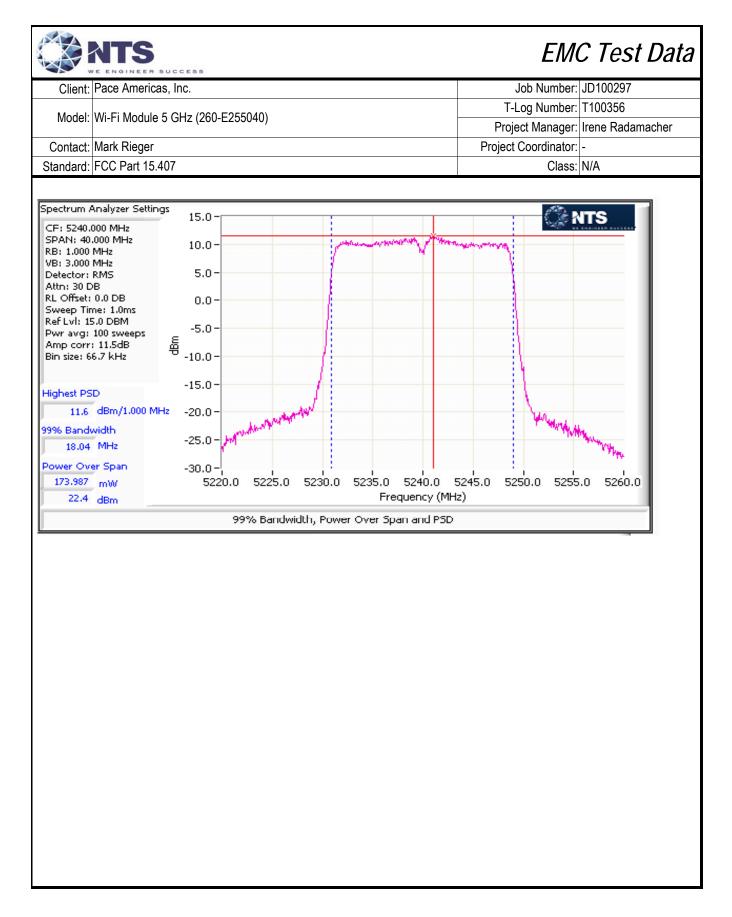
	NTS	EMO	C Test Data				
Client:	Pace Americas, Inc.	Job Number:	JD100297				
Ma dali		T-Log Number:	T100356				
Wodel:	Wi-Fi Module 5 GHz (260-E255040)	Project Manager:	Irene Radamacher				
Contact:	Mark Rieger	Project Coordinator:	-				
Standard:	FCC Part 15.407	Class:	N/A				
	ndwidth, Output Power and Power Spectral Density - MIMO Systems						
Te	Date of Test: 2/10 and 6/17/2016Config. Used:st Engineer: John Caizzi / R. Varelas / D. BareConfig Change:est Location: Lab 4BEUT Voltage:	None					
Note 1:	Duty Cycle $\geq$ 98% for a, n20 and n40 modes. Output power measured usin RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\geq$ 2*span/RBV on (transmitted signal was continuous, duty cycle $\geq$ 98%) and power integrated signal was continuous.	N, auto sweep, RMS dete	ector, power averaging				
Note 2:	Constant Duty Cycle < 98% for ac80 mode. Output power measured using RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\ge$ 2*span/RBW averaging on and power integration over the OBW. The measurements we 10log(1/x), where x is the duty cycle. (method SA-2 of ANSI C63.10)	/, RMS detector, trace av	erage 100 traces, power				
Note 3:	Measured using the same analyzer settings used for output power.						
Note 4:	PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.						
Note 5:	99% Bandwidth measured in accordance with C63.10 - RB between 1-5 % times OBW.	of OBW and VB $\geq$ 3*RB, \$	Span between 1.5 and 5				
Note 6:	For MIMO systems the total output power and total PSD are calculated from (in linear terms). The antenna gain used to determine the EIRP and limits f mode of the MIMO device. If the signals on the non-coherent between the the limits is the highest gain of the individual chains and the EIRP is the sur chain. If the signals are coherent then the effective antenna gain is the sun the EIRP is the product of the effective gain and total power.	or PSD/Output power dep transmit chains then the n of the products of gain a	pends on the operating gain used to determine and power on each				

Freq       1       2       3       4       BF       Legacy       CDD       / Xpol       (PWR)       (PS         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n mode only       No       7.9       7         For devices that support CDD modes         Min # of spatial streams:       3         Max # of spatial streams:       3         BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio         CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17		NTS						EMO	C Test	' Data
Model:       Wi-Fri Module 5 GHz (260-E255040)       Project Manager       Irrene Radamachel         Contact:       Mark Rieger       Project Coordinator:       -         Standard:       FCC Part 15.407       Class:       N/A         Antenna Gain Information       Freq       Antenna Gain (dBi) / Chain       BF       MultiChain       Legacy       CDD       Sectorized       Dir G       Dir         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n       mode only       No       7.9       7         For devices that support CDD modes       Min # of spatial streams:       3       Max # of spatial streams:       3         Motes:       DF = beamforming mode supported, MultiChain Legacy = 802.11 legacy data rates supported for multichain transmissio       CDD cross polarized.       Sectorized / Xpol = antennas are sectorized o cross polarized.       Tor generate.         Notes:       BF = beamforming mode supported, MultiChain Legacy = 802.11 legacy data rates supported for multichain transmissio       CDD cross polarized.       Tor generate.         Notes:       Of (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based       FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSD value.         Notes:       Array gain for power/psd calculated pr KDB 66291	Client:	Pace Americas, Inc.						Job Number:	JD100297	
Model:       Wi-Fri Module 5 GHz (260-E255040)       Project Manager:       Irrene Radamachel         Contact:       Mark Rieger       Project Coordinator:       -         Standard:       FCC Part 15.407       Class:       N/A         Antenna Gain Information       Freq       Antenna Gain (dBi) / Chain       BF       MultiChain       CDD       Sectorized       Dir G       Dir         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n mode only       No       7.9       7         For devices that support CDD modes Min # of spatial streams: 3 Max # of spatial streams: 3         Motes:       CDD       Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized o cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSD value.         Notes:       For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17    <							T-L	og Number:	T100356	
Contact:       Mark Rieger       Project Coordinator:       -         Standard:       FCC Part 15 407       Class:       N/A         Antenna Gain Information       CDD       Sectorized       Dir G       Dir G         Freq       Antenna Gain (dBi) / Chain       BF       MultiChain       Legacy       / Xpol       (PWR)       (PS         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n mode only       No       7.9       7         For devices that support CDD modes         Min # of spatial streams:       3         Max # of spatial streams:       3         Max # of spatial streams:       3         Motes:       CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based         Notes:       FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSE value.         Notes:       For systems with Beamforming and CDD, choose one of the following options:         Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr	Model:	Wi-Fi Module 5 GHz (260	)-E255040)					0		nacher
Standard: FCC Part 15.407         Class: N/A         Antenna Gain Information         Freq       Antenna Gain (dBi) / Chain       BF       MultiChain       CDD       Sectorized       Dir G       Dir G         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n       No       7.9       7         For devices that support CDD modes Min # of spatial streams: 3 Max # of spatial streams: 3         ME = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized o cross polarized.       Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based         Notes:       Array gain for power/psd calculated per KDB 662911 D01.       For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         ECC UNII-1 Limits         Pwr       PSD         Outdoor AP       30       17	Contact:	Mark Rieger						-	-	
Antenna Gain (dBi) / Chain         Freq       Antenna Gain (dBi) / Chain       BF       MultiChain       CDD       Sectorized       Dir G       Dir G         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n       No       7.9       7         For devices that support CDD modes Min # of spatial streams: 3 Max # of spatial streams: 3         BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized o cross polarized.       Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based Notes:         Notes:       For Systems with Beamforming and CDD, choose one of the following options: Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits         PWr       PSD         Outdoor AP       30		-					,		N/A	
Freq       Antenna Gain (dBi) / Chain       BF       MultiChain       CDD       Sectorized       Dir G       (PWR)       (PS         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n       No       7.9       7         For devices that support CDD modes         Min # of spatial streams:       3         Max # of spatial streams:       3         BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio         CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized o cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSE value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:         Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits         Pwr       PSD         Outdoor AP       30										
Freq       1       2       3       4       Br       Legacy       CDD       / Xpol       (PWR)       (PS         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n mode only       No       7.9       7         For devices that support CDD modes         Min # of spatial streams:       3         Max # of spatial streams:       3         BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio         CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based         Notes:       FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSI value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits         Pwr       PSD         Outdoor AP       30       17	Antenna G	ain Information								
1       2       3       4       Legacy       / Xpol       (PWR)       (PS         5150-5250       2.5       4.1       2.6       Yes       No       Yes, n mode only       No       7.9       7         For devices that support CDD modes Min # of spatial streams: 3 Max # of spatial streams: 3         BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Notes:       Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSD value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options: Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17	Fred	Antenna Gair	ı (dBi) / Chai	n	BE	MultiChain	CDD	Sectorized	Dir G	Dir G
S150-5250       2.3       4.1       2.6       Yes       NO       mode only       NO       7.9       7         For devices that support CDD modes       Min # of spatial streams:       3       3       3       Max # of spatial streams:       3         BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio       CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based         Notes:       FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSE value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17	печ	1 2	3	4	Ы	Legacy		/ Xpol	(PWR)	(PSD)
Min # of spatial streams:       3         Max # of spatial streams:       3         Notes:       BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissio         CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based         Notes:       FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSI value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17	5150-5250	2.5 4.1	2.6		Yes	No		No	7.9	7.9
Notes:       CDD = Cyclic Delay Diversity (or Cyclic Shift Diversity) modes supported, Sectorized / Xpol = antennas are sectorized or cross polarized.         Dir G (PWR) = total gain (Gant + Array Gain) for power calculations; GA (PSD) = total gain for PSD calculations based FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSE value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17		Min # of spatial streams: Max # of spatial streams:	3 3							
Notes:       FCC KDB 662911. Depending on the modes supported, the Array Gain value for power could be different from the PSE value.         Notes:       Array gain for power/psd calculated per KDB 662911 D01.         For systems with Beamforming and CDD, choose one of the following options:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17	Notes:	CDD = Cyclic Delay Dive								
For systems with Beamforming and CDD, choose one of the following options:         Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gai calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17	Notes:	FCC KDB 662911. Depe	•	• • •		•	· -			
Notes:       Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gain calculated based on beamforming criteria.         FCC UNII-1 Limits       Pwr       PSD         Outdoor AP       30       17	Notes:									
FCC UNII-1 Limits Pwr PSD Outdoor AP 30 17	Notes:	Option 1: Delays are opt	imized for be	eamforming,				delay table o	ıf 802.11; Arı	ay gains
Outdoor AP 30 17										
X Indoor AP 30 17	Х	Indoor AP	30	17						
Station (e.g. Client) 24 11		Station (e.g. Client)								
Outdoor AP (>30° Elv.) 21 -			21	-						

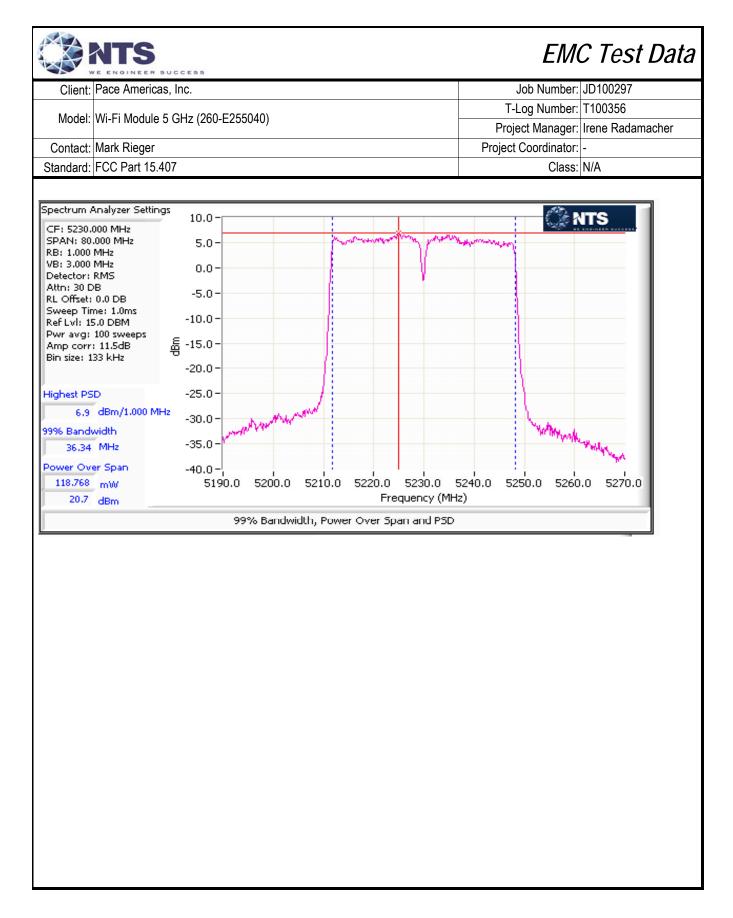
		SUCCESS						EM	C Test	Data
Client:	Pace Americ	cas, Inc.						lob Number:	JD100297	
Model <sup>.</sup>	Wi-Fi Modul	e 5 GHz (26	0-E255040)					.og Number:		
			0-22000+0)						Irene Radam	nacher
	Mark Rieger						Project	Coordinator:		
Standard:	FCC Part 15	6.407						Class:	N/A	
MIMO Devid Mode:	ce - 5150-52! 11a	50 MHz Ban		vith diversity (	(worst chain s	selected)	Max	EIRP (mW):	416.9182	
Frequency		Software	26dB BW	Duty Cycle			Power	FCC Limit		Desult
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5180	1 3 4 2	21		98	22.1	162.2	22.1	30.0		Pass
5200	1 3 4 2	18.5		98	19.3	85.1	19.3	30.0	0.162	Pass
5240	1 3 4 2	19		98	20.3	107.2	20.3	30.0		Pass
5150-5250 I Mode:	PSD - FCC 11a		SISO only w	vith diversity (	(worst chain s					
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD <sup>3</sup> dBm/MHz		Limit /MHz	Result
5180	1 3 4 2	21	(	98	11.0	12.6	11.0		7.0	Pass
5200	1 3 4 2	18.5		98	8.4	6.9	8.4	17	7.0	Pass
5240	1 3 4 2	19		98	9.4	8.7	9.4	17	7.0	Pass



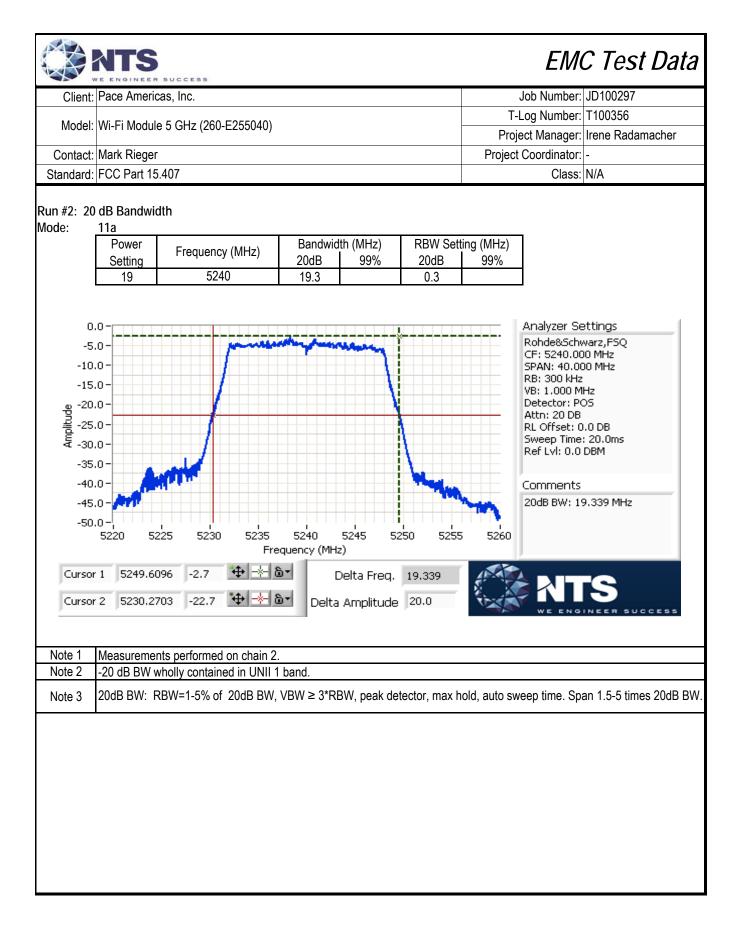
	ATS							FM	C Test	Data		
Client:	Pace Americ	cas, Inc.						Job Number:		Dutu		
							T-L	og Number:	T100356			
Model:	Wi-Fi Modul	e 5 GHz (260	J-E255040)				Project Manager: Irene Radamacher					
Contact:	Mark Rieger	•					Project	Coordinator:	-			
Standard:	FCC Part 15	5.407						Class:	N/A			
	ce - 5150-52	50 MHz Ban	d - FCC						0000 405			
Mode:		Software	26dB BW	Dut. Quala	<b>D</b> 1	Tatal	Max Power	EIRP (mW):	2399.405 Max Power			
Frequency (MHz)	Chain	Software	260B BVV (MHz)	Duty Cycle %	Power <sup>1</sup> dBm	mW	dBm	FCC Limit dBm	(W)	Result		
	1	Octaing		70	17.5	TITVV	UDIII	UDIII	(**)			
F400	3	40 F		00	19.1	000.0	02.0	00.4		Dees		
5180	4	18.5		99		200.6	23.0	28.1		Pass		
	2				18.0							
	1				20.5							
5200	3	22		99	22.1	391.9	25.9	28.1	0.392	Pass		
	4				20.7							
	<u> </u>				20.7							
5240	3	22		99	20.3	383.3	25.8	28.1		Pass		
	2				20.1							
5150-5250   Mode:												
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD <sup>3</sup>	FCC	Limit	Result		
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Robult		
5180	1	18.5		99	6.3 8.2	16.0	12.0	15	5.1	Pass		
	4				7.1		-					
	1 3				9.3 11.0							
5200	4	22		99		30.4	14.8	15	5.1	Pass		
	2				9.7 9.1							
5240	3	22		99	9.1 11.6	30.7	14.9	10	5.1	Pass		
5240	4	22		99	9.1	30.7	14.9	i.	). I	F 855		

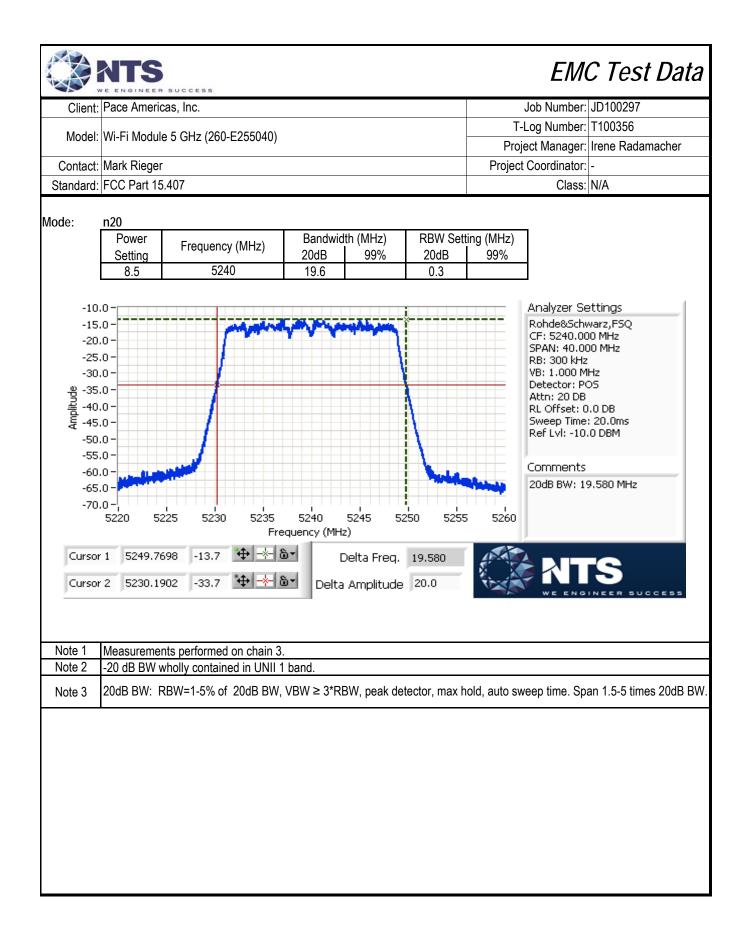


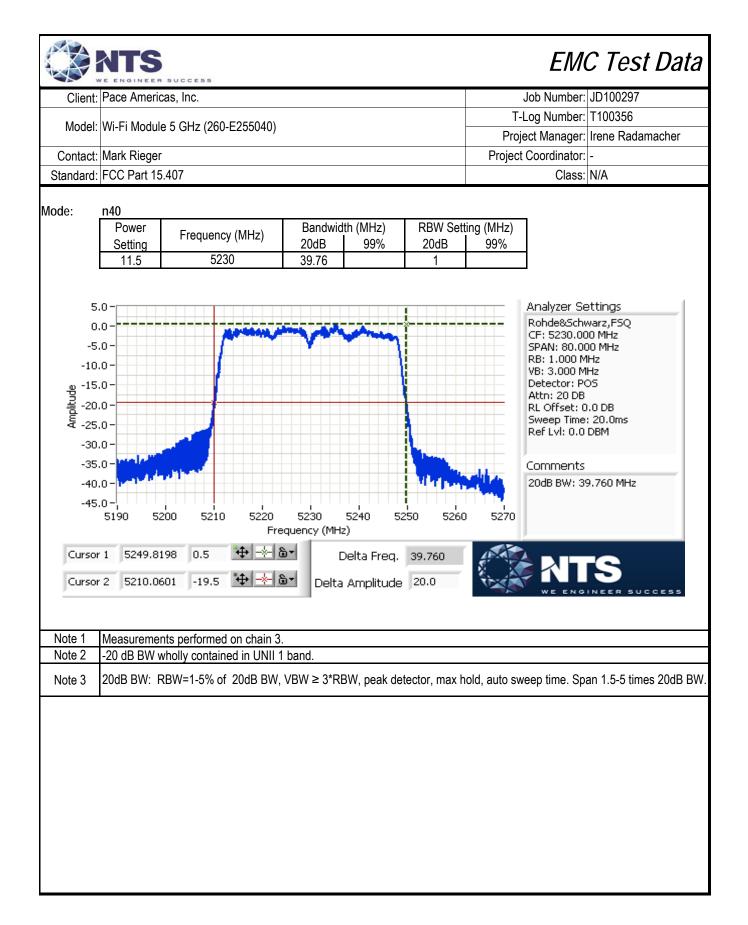
		SUCCESS						EM	C Test	Data
Client:	Pace Americ	cas, Inc.					J	lob Number:	JD100297	
Model <sup>.</sup>	Wi-Fi Modul	e 5 GHz (26(	)-E255040)					.og Number:		
							-		Irene Radam	acher
	Mark Rieger						Project	Coordinator:		
Standard:	FCC Part 15	0.407						Class:	N/A	
MIMO Devic Mode:	e - 5150-52! n40	50 MHz Ban	d - FCC					EIRP (mW):	1588.1747	
Frequency	Chain	Software	26dB BW	Duty Cycle	Power	Total F	Power <sup>1</sup>	FCC Limit	Max Power	Result
(MHz)		Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	litooun
5190	1 3 4	11.5		98	10.2 11.7	37.6	15.8	28.1		Pass
	2				10.9				0.259	
-	1				18.8				0.200	
5230	3	19.5		98	20.7	259.4	24.1	28.1		Pass
ľ	2				18.2					
Mode: requency (MHz)	n40 Chain 1	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz -3.4	Total mW/MHz	PSD <sup>3</sup> dBm/MHz		Limit /MHz	Result
5190	1 3 4	11.5	((((12))	98	-3.4 -1.4	1.9	2.8		5.1	Pass
	2				-1.4					
	1 3	19.5		98	5.0 6.9	10.9	10.4	15	5.1	Pass

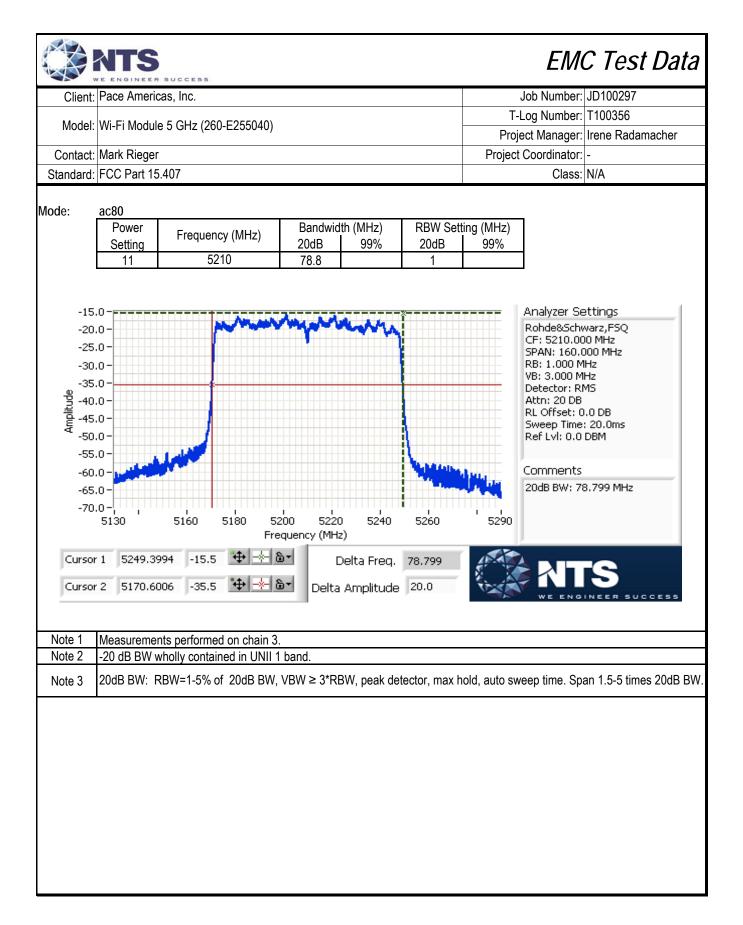


		SUCCESS						EM	C Test	Data
Client:	Pace Americ	cas, Inc.					· ·	lob Number:	JD100297	
Model.	Wi-Fi Module	a 5 GHz (26(	)_E255040)					og Number:		
MOUEI.			J-E200040)				Proje	ct Manager:	Irene Radam	acher
Contact:	Mark Rieger						Project	Coordinator:	-	
Standard:	FCC Part 15	.407						Class:	N/A	
11MO Devi Mode:	ce - 5150-525 ac80	50 MHz Ban	d - FCC				Max	EIRP (mW):	228.36899	
requency	Chain	Software	26dB BW	Duty Cycle	Power	Total F	Power <sup>2</sup>	FCC Limit	Max Power	Result
(MHz)	Onain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5210	1 3 4	11		94	10.1 11.3	37.3	15.7	28.1	0.037	Pass
	2				10.6					
Mode: Frequency (MHz)	PSD - FCC ac80 Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz -6.5	Total mW/MHz	PSD <sup>3</sup> dBm/MHz		Limit /MHz	Resul
5210	3 4 2	11		94	-0.3 -4.1 -4.6	1.0	0.0	15	5.1	Pass
CF: 5210. SPAN: 16 RB: 1.000 VB: 3.000 Detector: Attn: 20 D RL Offset: Sweep Tii Ref Lvl: 0 Pwr avg: Amp corr Bin size: 8 Highest PS -4.1 99% Band 75.80	0.000 MHz MHz MHz RMS DB 0.0 DB me: 20.0ms 0 DBM 100 sweeps : 15.4dB 20.1 kHz 5D dBm/1.000 N	-5.0 -10.0 -15.0 -20.0 -25.0 -30.0 -35.0 -40.0		5160.0 5	180.0 520	6.0 5220.	0 5240.0	5260.0	<b>ITS</b>	









# EMC Test Data

ſ	Client:	Pace Americas, Inc.	Job Number:	JD100297
	Model	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
	Model:	WI-FI MOdule 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
	Contact:	Mark Rieger	Project Coordinator:	-
ſ	Standard:	FCC Part 15.407	Class:	N/A

# RSS-247 (LELAN) and FCC 15.407(UNII) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions

## Test Specific Details

ITS

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

#### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5725 - 5850MHz	15.407(a) (1), (2), (3) RSS-247 6.2		a: 166 mW n20: 479 mW n40: 501 mW ac80: 284 mW
1	PSD, 5725 - 5850MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 13.8 mW/MHz n20: 39.3 mW/MHz n40: 21.1 mW/MHz ac80: 7.6 mW/MHz
1	99% Bandwidth	RSS-GEN (Information only)	N/A	a: 17.4 MHz n20: 18.2 MHz n40: 36.7 MHz ac80: 75.8 MHz

### General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

### Ambient Conditions:

Temperature:	20-25 °C
Rel. Humidity:	38-43 %

## Modifications Made During Testing

No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.

	NTS	EM	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
woder.	WI-FI Module 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

# Procedure Comments:

Measurements performed in accordance with FCC KDB 789033 D01

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
11a	6 Mb/s	0.98	Yes	1.302	0	0	10
n20	VHT8	92.6%	No	1.935	0.3	0.7	517
n40	VHT9	95.2%	No	0.952	0.2	0.4	1050
ac80	VHT9	75.5%	Yes	2.023	1.2	2.4	494

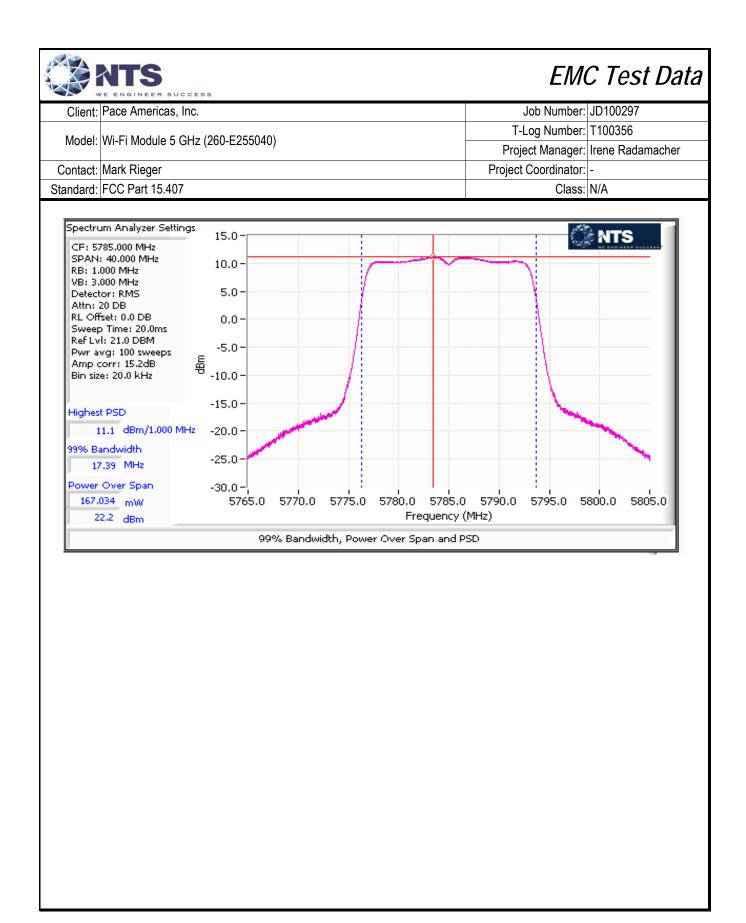
## Sample Notes

Sample S/N: F56154520246 Driver: 7.14.89.21.571.206

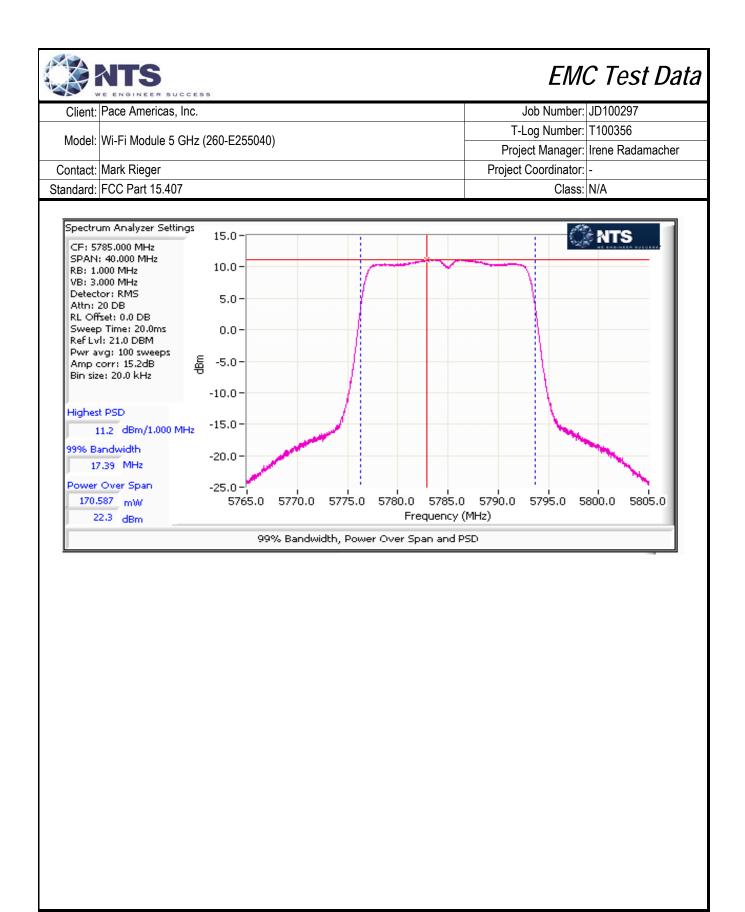
	NTS	EMC Test Data
Client:	Pace Americas, Inc.	Job Number: JD100297
Model:	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number: T100356
wouer.		Project Manager: Irene Radamacher
Contact:	Mark Rieger	Project Coordinator: -
Standard:	FCC Part 15.407	Class: N/A
l Te	ndwidth, Output Power and Power Spectral Density - MIMO Systems Date of Test: 6/6/2016 9:00 Config. Used: st Engineer: Yew-Kwong Soo Config Change: est Location: FT Lab #4B EUT Voltage:	None
Note 1:	Duty Cycle $\geq$ 98% for a, n20 and n40 modes. Output power measured usin RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\geq$ 2*span/RBV on (transmitted signal was continuous, duty cycle $\geq$ 98%) and power integra C63.10).	<i>N</i> , auto sweep, RMS detector, power averaging ation over the OBW (method SA-1 of ANSI
Note 2:	Constant Duty Cycle < 98% for ac80 mode. Output power measured using RBW=1MHz, VB=3 MHz, Span > OBW, # of points in sweep $\ge$ 2*span/RBW averaging on and power integration over the OBW. The measurements we 10log(1/x), where x is the duty cycle. (method SA-2 of ANSI C63.10)	V, RMS detector, trace average 100 traces, power
Note 3:	Measured using the same analyzer settings used for output power.	
Note 4:	99% Bandwidth measured in accordance with C63.10 - RB between 1-5 % times OBW.	
Note 5:	For MIMO systems the total output power and total PSD are calculated from (in linear terms). The antenna gain used to determine the EIRP and limits f mode of the MIMO device. If the signals on the non-coherent between the the limits is the highest gain of the individual chains and the EIRP is the sur chain. If the signals are coherent then the effective antenna gain is the sun the EIRP is the product of the effective gain and total power.	or PSD/Output power depends on the operating transmit chains then the gain used to determine n of the products of gain and power on each

		SUCCESS						ЕМС	C Test	<sup>•</sup> Data		
Client:	Pace Americ	cas, Inc.					Job Number: JD100297					
Model:	Wi-Fi Modul	e 5 GHz (26(	)-E255040)				T-Log Number: T100356					
		•	0 22000+0)					ect Manager:		nacher		
	Mark Rieger						Projec	t Coordinator:				
Standard:	FCC Part 15	5.407						Class:	N/A			
Antonna Cr	ain Informati	ion										
			n (dBi) / Chair	1	55	MultiChain	Sectorized Dir G Dir					
Freq	1	2	3	4	BF	Legacy	CDD	/ Xpol	(PWR)	(PSD)		
5150-5250	2.5	4.1	2.6		Yes	No	Yes	No				
5250-5350	2.8	4.3	2.3		Yes	No	Yes	No				
5470-5725	3.1	3.5	3		Yes	No	Yes	No				
5725-5825	3.6	3.7	3.5		Yes	No	Yes	No	8.4	8.4		
Notes: Notes:	CDD = Cycli cross polariz Dir G (PWR) FCC KDB 66	ic Delay Dive zed. ) = total gain	ersity (or Cycli (Gant + Array	c Shift Diver	rsity) modes	11 legacy data s supported, Se ations; GA (PS Array Gain valu	D) = total	Xpol = antenna	as are secto calculations	rized or based on		
Notes:	value. Arrav gain fo	or power/psd	calculated pe	er KDB 6629	)11 D01.							
Notes:	For systems	with Beamfo		DD, delays a	are optimize	ed for beamforn g criteria.	ning, rathe	r than being se	elected from	cyclic delay		

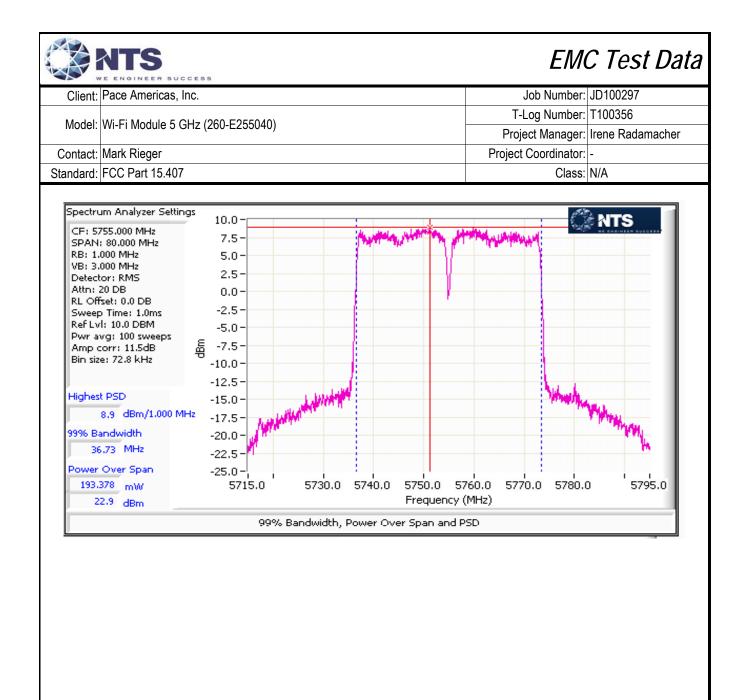
<b>EMC</b> Test Data											
Client:	Pace Americ	cas, Inc.	·	·	J	Job Number:	JD100297				
Model	Wi-Fi Module		0 2255010)		T-Log Number: T100356						
MOUEI.			J-E200040)		Project Manager: Irene Radamacher						
	Mark Rieger				Project (	Coordinator:					
Standard:	FCC Part 15	.407				Class:	N/A				
MIMO Device - 5725-5850 MHz Band - FCC/IC Mode: 11a SISO only with diversity (worst chain selected) Max EIRP (mW): 389.1											
Frequency	Chain	Software	99% BW	Duty Cycle	Power <sup>1</sup>		Power	Limit	Max Power	Result	
(MHz)		Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Resuit	
5745	1 3 4 2	23	17.0	98	21.8	151.4	21.8	30.0		Pass	
5785	1 3 4 2	23	17.4	98	22.2	166.0	22.2	30.0	0.166	Pass	
5825	1 3 4 2	23	17.0	98	21.4	138.0	21.4	30.0		Pass	
Mode:	5725-5850 PSD - FCC/IC										
Frequency	Chain	Software	99% BW	Duty Cycle			PSD	FCC Limit		Result	
(MHz)	1	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/5	i00kHz		
5745	3 4 2	23		98	11.4	13.8	11.4	30.0	30.0	Pass	
5785	1 3 4 2	23		98	11.1	12.9	11.1	30.0	30.0	Pass	
5825	1 3 4 2	23		98	10.9	12.3	10.9	30.0	30.0	Pass	
Note:	It is clear fro	m the above	99% bandw	idth that the 6	3 dB bandwid	Ith is >> 500	kHz.				

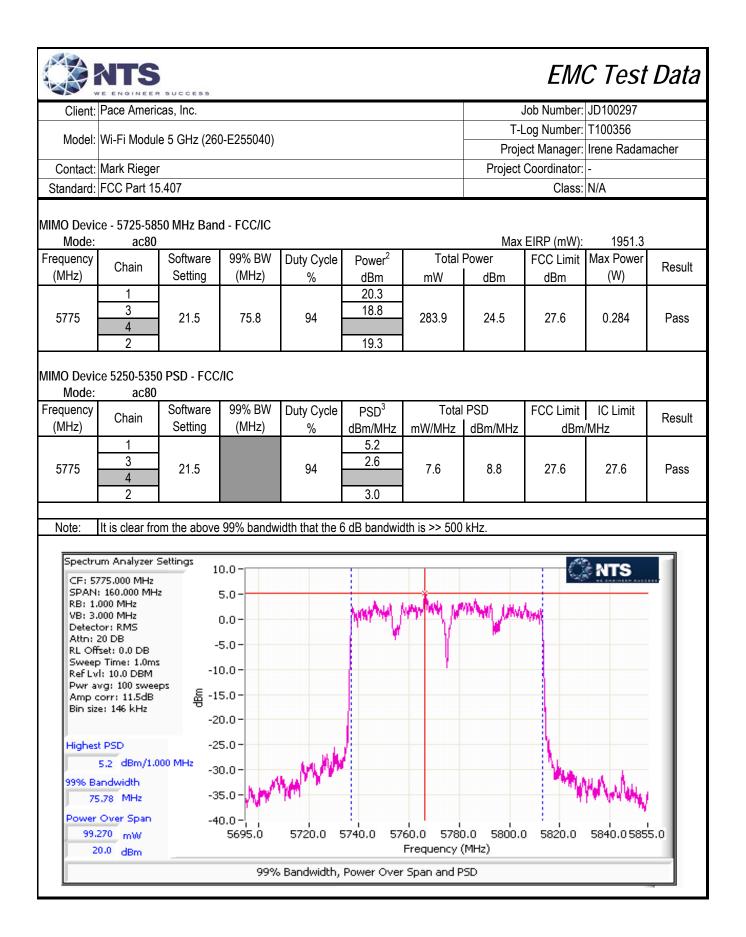


	Pace Americas, Inc.							Job Number:		JD100297	
Model	Wi-Fi Module 5 GHz (260-E255040)							T-Log Number:		T100356	
MOUEI.								Project Manager: Irene Radamacher			
	: Mark Rieger							Project Coordinator: -			
Standard:	FCC Part 15	5.407		Class: N/A							
Mode:	ce - 5725-58 n20				_ 1	<b>T</b> .(1)		EIRP (mW):	3298.5		
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle	Power <sup>1</sup>		Power		Max Power (W)	Result	
(11112)	1	Setting	(1011 12)	%	dBm 22.6	mW	dBm	dBm	(VV)		
5745	3 4 2	23	18.1	99	21.6	477.9	26.8	27.6		Pass	
5785	1 3 4 2	23	17.5	99	21.7 22.1 22.3	479.9	26.8	27.6	0.480	Pass	
5825	1 3 4 2	23	18.2	99	22.2 21.3 21.2	432.7	26.4	27.6		Pass	
Mode: requency	PSD - FCC/IC n20 Chain	Software	99% BW (MHz)	Duty Cycle			PSD	FCC Limit		Resul	
Mode:	n20	-	99% BW (MHz)	Duty Cycle % 99	PSD <sup>3</sup> dBm/MHz 11.6 10.9 11.0	Total mW/MHz 39.3	PSD dBm/MHz 15.9		IC Limit /MHz 27.6	Resul	
Mode: requency (MHz)	n20 Chain 1 3 4	Software Setting		%	dBm/MHz 11.6 10.9	mW/MHz	dBm/MHz	dBm	/MHz		



<b>EMC</b> Test Data												
Client:	Pace Americ	as. Inc.		,	lob Number:	JD100297						
								T-Log Number: T100356				
Model:	Wi-Fi Modul	e 5 GHz (260	)-E255040)	Project Manager: Irene Radamacher								
Contact:	t: Mark Rieger							Project Coordinator: -				
Standard:	1: FCC Part 15.407							Class: N/A				
MIMO Device - 5725-5850 MHz Band - FCC/IC												
Mode:								Max EIRP (mW):         3444.9           Power         FCC Limit         Max Power				
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle	Power <sup>1</sup>	Total				Result		
	1	Setting	(IVITZ)	%	dBm 22.9	mW	dBm	dBm	(W)			
5755	3 4	23	36.6	98	21.8	501.2	27.0	27.6		Pass		
5795	2 1 3 4 2	23	36.7	98	21.9 22.8 21.9 21.8	496.8	27.0	27.6	0.501 -	Pass		
MIMO Devid Mode: Frequency (MHz)	ce 5250-5350 n40 Chain	) PSD - FCC Software Setting	/IC 99% BW (MHz)	Duty Cycle %	PSD <sup>3</sup> dBm/MHz	Total mW/MHz	PSD dBm/MHz	FCC Limit	IC Limit /MHz	Result		
5755	1 3 4 2	23	(	98	8.9 8.1 8.4	21.1	13.2	27.6	27.6	Pass		
5795	1 3 4 2	23		98	9.0 7.9 8.1	20.6	13.1	27.6	27.6	Pass		
Note:	It is clear fro	m the above	99% bandw	idth that the 6	δ dB bandwid	1th is >> 500	kHz.					





		R SUCCESS			EA	IC Test Data
Client	: Pace Ameri	cas, Inc.			Job Numb	er: JD100297
Model	: Wi-Fi Modu	lo 5 GHz (26)	)_E255040)		T-Log Numb	er: T100356
		·	J-E233040)			er: Irene Radamacher
	: Mark Riege				Project Coordinat	
Standard	: FCC Part 1	5.407			Clas	ss: N/A
	F	RSS-247 a	and FCC	15.407 (UNII) Radiated S	purious Emissi	ons
Test Spe	cific Detai	ls				
•	Objective:	The objectiv	e of this test i listed above	ession is to perform final qualificatio	n testing of the EUT wi	th respect to the
	Date of Test:	6/1/2016 18	:00	Config. Used	: 1	
	est Engineer:			Config Change		
I	est Location:	Fremont Ch	amber #7	EUT Voltage	120V/60Hz	
General	Test Confi	guration				
		•	ent were loc	ted on the turntable for radiated spu	rious emissions testing	
For radiate	d emissions t	esting the me	asurement a	tenna was located 3 meters from the	e EUT, unless otherwis	e noted.
Ambiant	Condition	<b>.</b> .				
Ampient	Condition		emperature:	22.8 °C		
			el. Humidity:	35 %		
			<b>,</b>			
Summar	y of Resul	ts		I	T	1
Run #	Mode	Channel	Power	Test Performed	Limit	Result / Margin
20MHz Bar	ndwith Modes	;	Setting			
	а	149 -	23.0	Bandedge at 5725MHz	15.407(4)(i)	66.2 dBµV/m @ 5627.3
1	ŭ	5745MHz	20.0		10.407(4)(1)	MHz (-2.1 dB)
	а	165 - 5825MHz	23.0	Bandedge at 5850MHz	15.407(4)(i)	67.4 dBµV/m @ 5987.2 MHz (-0.9 dB)
2	n20	149 - 5745MHz	23.0	Bandedge at 5725MHz	15.407(4)(i)	66.2 dBµV/m @ 5617.9 MHz (-2.1 dB)
		165 -		Bandedge at 5850MHz	15.407(4)(i)	67.4 dBµV/m @ 5981.6
Z	n20	5825MHz	23.0	Danacage at 0000minz		MHz (-0.9 dB)
	n20 ndwith Modes	5825MHz	23.0			MHz (-0.9 dB)
		5825MHz 151 - 5755MHz	23.0 23.0	Bandedge at 5725MHz		MHz (-0.9 dB) 66.3 dBµV/m @ 5638.7 MHz (-2.0 dB)
40MHz Bar	ndwith Modes	5825MHz 151 - 5755MHz 159 -			15.407(4)(i)	MHz (-0.9 dB) 66.3 dBµV/m @ 5638.7 MHz (-2.0 dB) 65.9 dBµV/m @ 5943.0
40MHz Bar 3	ndwith Modes n40	5825MHz 151 - 5755MHz 159 - 5795MHz	23.0	Bandedge at 5725MHz	15.407(4)(i)	MHz (-0.9 dB) 66.3 dBµV/m @ 5638.7 MHz (-2.0 dB)
40MHz Bar 3	ndwith Modes n40 n40	5825MHz 151 - 5755MHz 159 - 5795MHz	23.0	Bandedge at 5725MHz	15.407(4)(i) 15.407(4)(i)	MHz (-0.9 dB) 66.3 dBµV/m @ 5638.7 MHz (-2.0 dB) 65.9 dBµV/m @ 5943.0



# EMC Test Data

44	LE ENGINEER SUCCESS		
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
wouer.	WI-FI Module 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

## Modifications Made During Testing

No modifications were made to the EUT during testing

## Deviations From The Standard

No deviations were made from the requirements of the standard.

## Procedure Comments:

Measurements performed in accordance with FCC KDB 789033

Peak measurements performed with: RBW=1MHz, VBW=3MHz, peak detector, max hold, auto sweep time Unless otherwise stated/noted, emission has duty cycle ≥ 98% and was measured using RBW=1MHz, VBW=10Hz, peak detector, linear average mode, auto sweep time, max hold 50 traces. (method VB of KDB 789033)

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	
11a	6 Mbps	98.0%	Yes	1.302	0	0	10	
n20	VHT8	92.6%	No	1.935	0.3	0.7	517	1k
n40	VHT9	95.2%	No	0.952	0.2	0.4	1050	3k
ac80	VHT9	75.5%	Yes	2.023	1.2	2.4	494	1k

## Sample Notes

Sample S/N: F56154520246

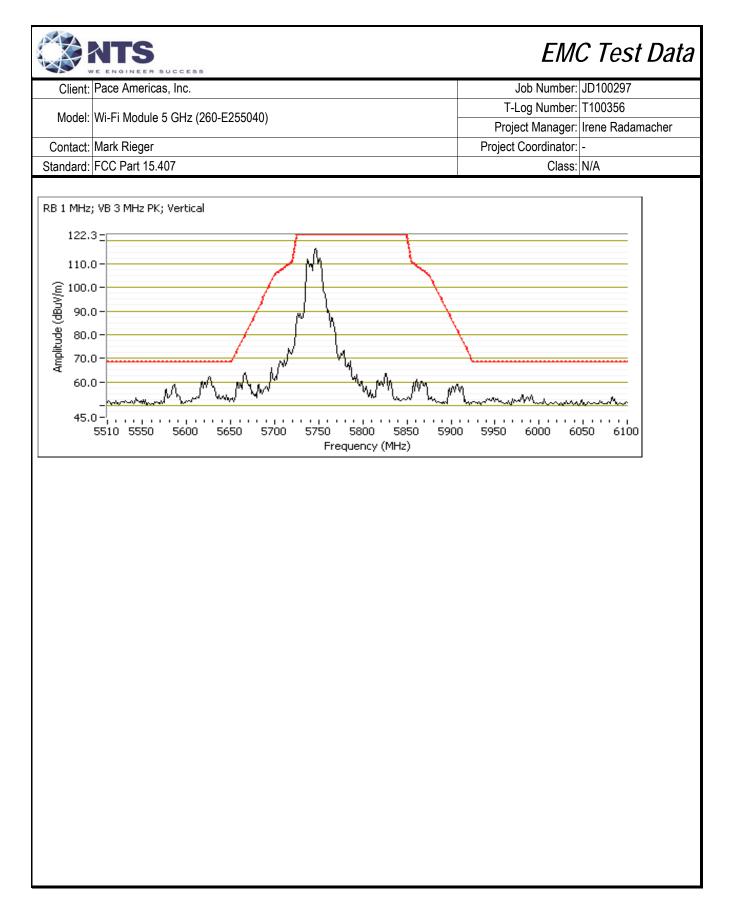
Driver: 7.14.89.21.571.206

Antenna: Internal 3x3 Beamforming (802.11a mode does not do beamforming)

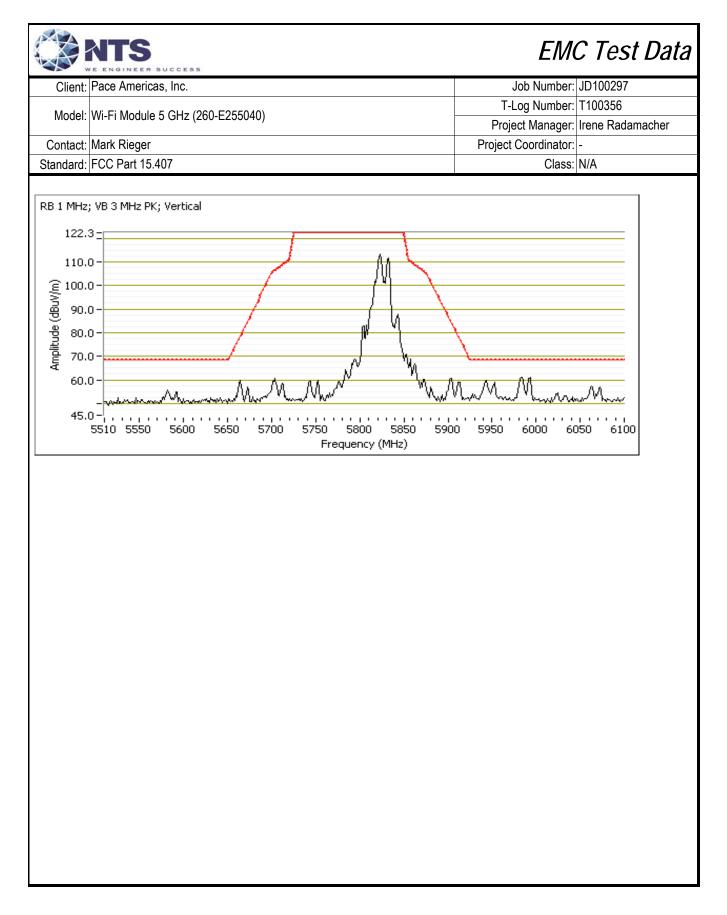
#### Measurement Specific Notes:

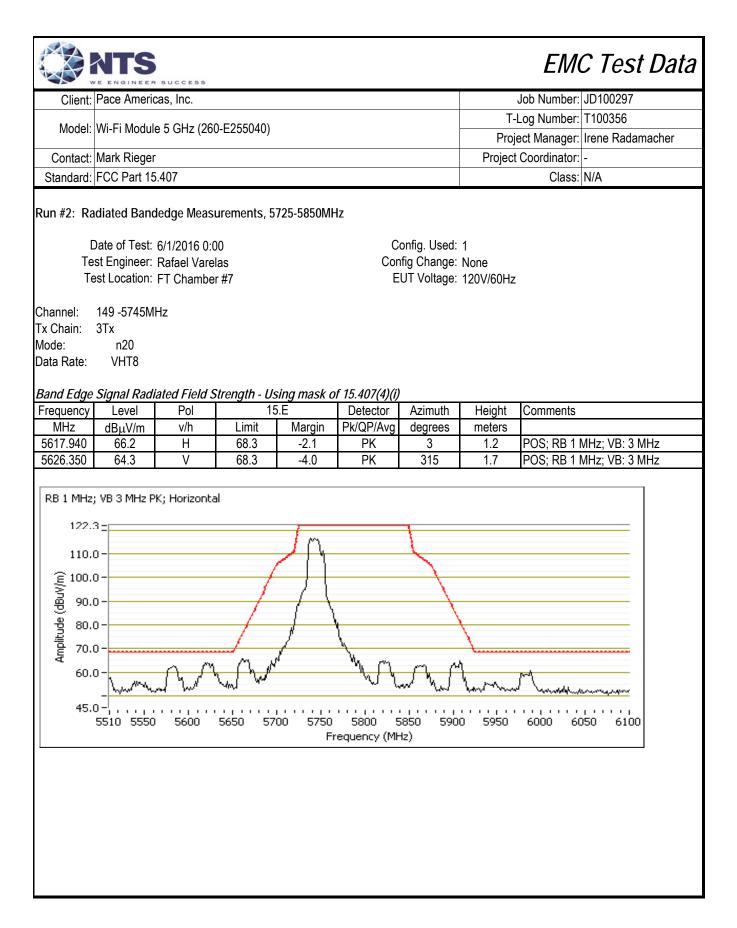
	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method
Note 1:	required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). Per KDB 789033 2) c) (i), compliance can be
	demonstrated by meeting the average and peak limits of 15.209, as an alternative.
Note 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
NOLE Z.	sweep, trace average 100 traces (method AD of KDB 789033)
Note 3:	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz,
NOLE J.	peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033)
Note 4:	Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
NOLE 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Note 5:	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
NOLE D.	measurements.

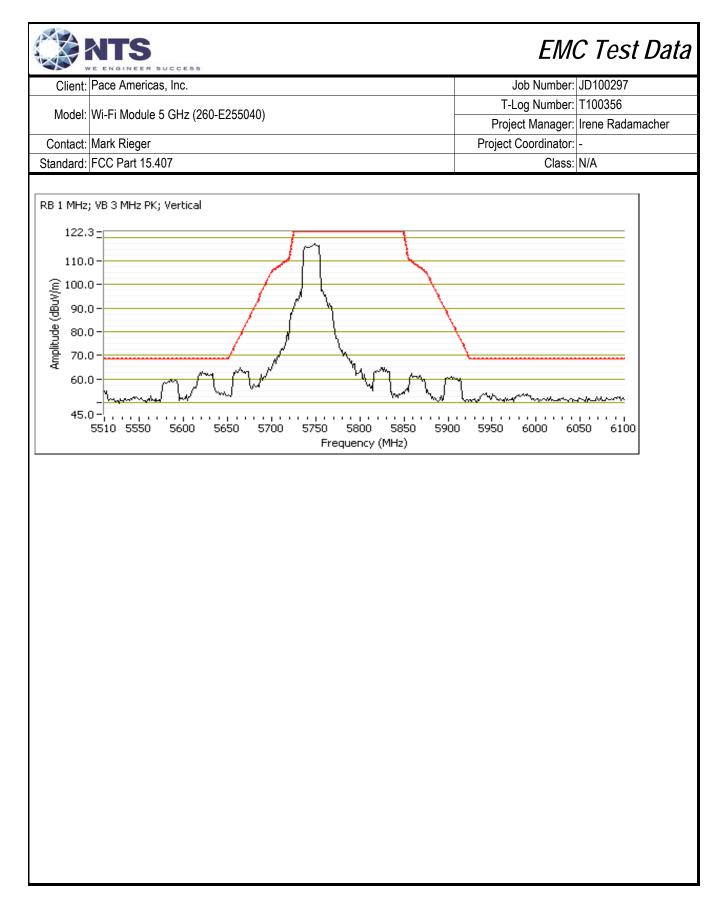
		SUCCESS						EM	C Test Data	
Client:	Pace Americ	cas, Inc.						Job Number:	JD100297	
Madal	Wi Ei Madul						T-l	_og Number:	T100356	
woder.	Wi-Fi Module		J-E200040)		Proje	ect Manager:	Irene Radamacher			
Contact:	Mark Rieger			Project	Coordinator:	-				
Standard: FCC Part 15.407 Class: N/A										
Run #1: Radiated Bandedge Measurements, 5725-5850MHz         Date of Test: 6/1/2016 0:00       Config. Used: 1         Test Engineer: Rafael Varelas       Config Change: none         Test Location: Chamber #7       EUT Voltage: 120V / 60Hz         Channel:       149 - 5745MHz         Tx Chain:       3Tx         Mode:       a         Data Rate:       6 Mbps										
Band Edge Signal Radiated Field Strength - Using mask of 15.407(4)(i)         Frequency       Level       Pol       15.E       Detector       Azimuth       Height       Comments         MHz       dBµV/m       v/h       Limit       Margin       Pk/QP/Avg       degrees       meters										
5627.250 5626.050	66.2 63.7	H V	68.3 68.3	-2.1 -4.6	PK PK	360 318	1.1 1.5		MHz; VB: 3 MHz MHz; VB: 3 MHz	
122. 110. (w/\ngp 90. 80. 80. 70. 60.	0 - 0 - 0 - 0 - 0 - 0 -	M	M	00 5750	5800 5 equency (MH	850 590	0 5950	M		



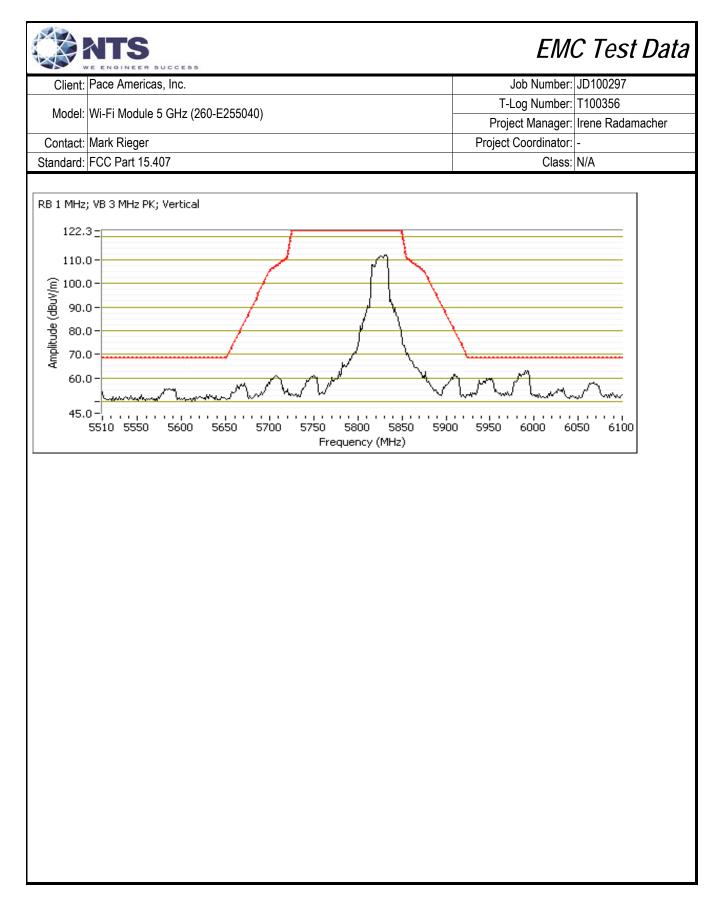
		SUCCESS						EM	C Test Data
Client:	Pace Americ	as, Inc.						Job Number:	JD100297
Madalı							T-Log Number: T100356		T100356
Model	Wi-Fi Modul	e 5 GHZ (20	U-E255040)		Proje	ect Manager:	Irene Radamacher		
Contact:	Mark Rieger			Project	Coordinator:	-			
Standard: FCC Part 15.407 Class: N/A									
Channel: Tx Chain: Aode: Data Rate:	165 - 5825M 3Tx a 6 Mbps								
	Signal Radi		Strength - Us	<i>sing mask ol</i> 5.E			Hoight	Commonto	
Frequency MHz	Level dBµV/m	Pol v/h	Limit	.∟ Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
5987.220	овµv/ш 67.4	H	68.3	-0.9	PK	0	1.0	POS: RB 11	MHz; VB: 3 MHz
5983.170	63.5	V	68.3	-4.8	PK	111	1.0		MHz; VB: 3 MHz
110. (@/\ngp) 90. 90. 90. 80. 70. 60. 45.	0 - 0 - 0 - 0 -			00 5750	M 5800 S equency (Mt	5850 590		M	M )50'''6100

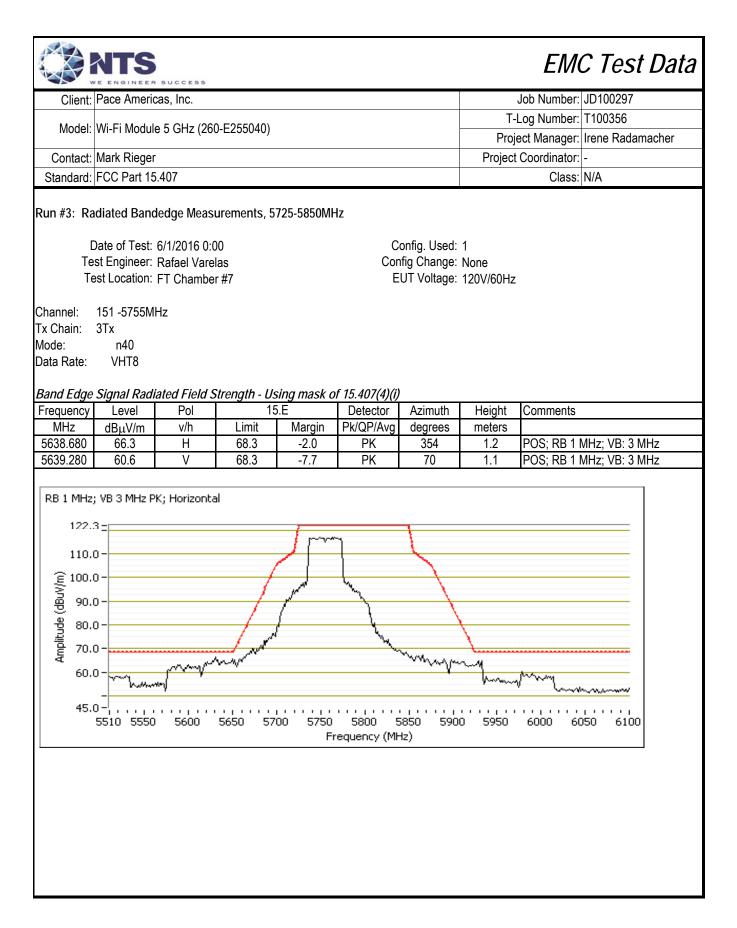


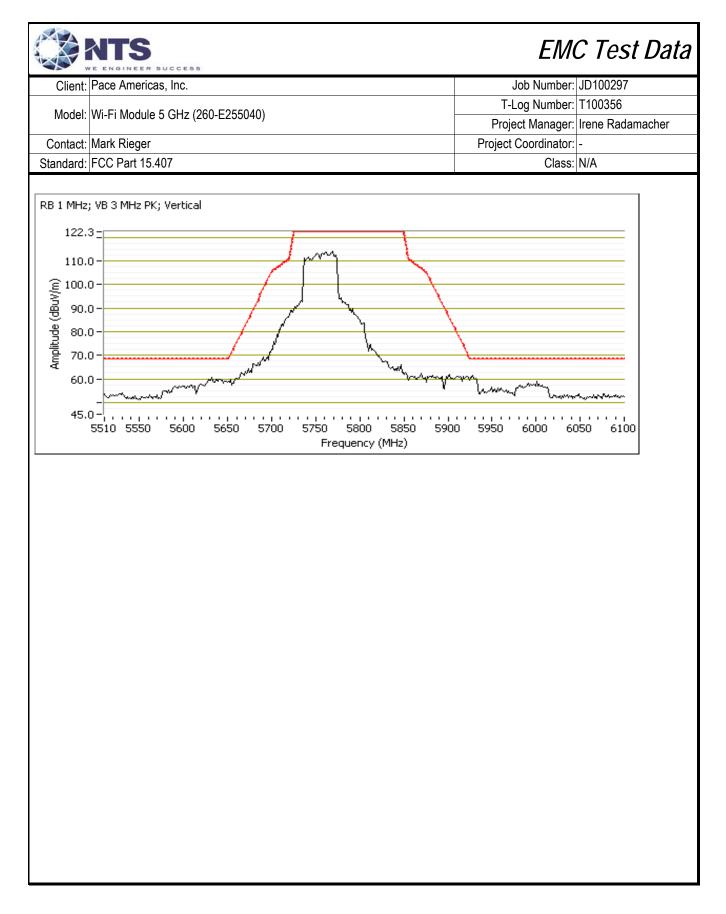


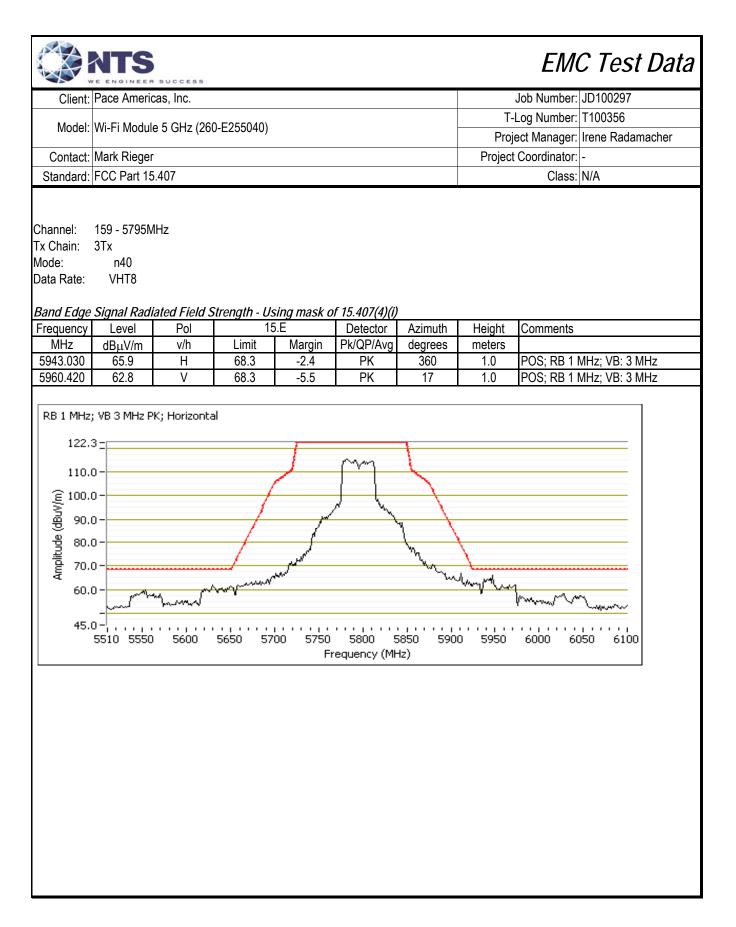


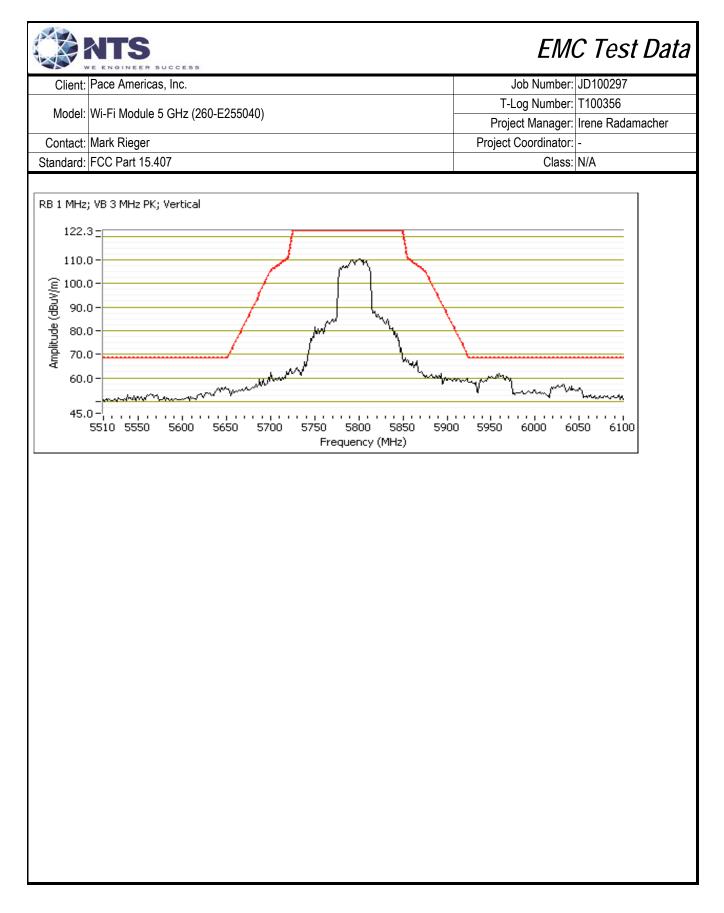
		SUCCESS						EMO	C Test Data
Client:	Pace Americ	cas, Inc.						JD100297	
Madalı						T-	Log Number:	T100356	
IVIODEI:	Wi-Fi Modul	e 5 GHZ (260	J-E255040)			Project Manager: Irene Radar		Irene Radamacher	
Contact:	Mark Rieger						Project	Coordinator:	-
Standard:	FCC Part 15	.407		Class:	N/A				
Mode: Data Rate:	165 - 5825M 3Tx n20 VHT8 <i>Signal Padi</i>		tronath - 11c	sing mask o	f 15.407(4)(i)				
Frequency	Level	Pol	<u>15 15 15 15 15 15 15 15 15 15 15 15 15 1</u>	b.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
5981.560	67.4	Н	68.3	-0.9	PK	2	1.0		MHz; VB: 3 MHz
5990.880	63.2	V	68.3	-5.1	PK	112	1.0	POS; RB 1 N	MHz; VB: 3 MHz
110. (j) 100. (j) 100		Friend	5650 57	00 5750	5800 Strequency (MH	5850 590(	↓ ↓ ⊃ ` 5950 `		50' 6100











	NTS He engineer buccebb	EMO	C Test Data
Client:	Pace Americas, Inc.	Job Number:	JD100297
Madal	Wi-Fi Module 5 GHz (260-E255040)	T-Log Number:	T100356
woder.	WI-FI Module 5 GHz (200-E255040)	Project Manager:	Irene Radamacher
Contact:	Mark Rieger	Project Coordinator:	-
Standard:	FCC Part 15.407	Class:	N/A

## Run #4: Radiated Bandedge Measurements, 5725-5850MHz

Date of Test: 6/1/2016 0:00 Test Engineer: Rafael Varelas Test Location: FT Chamber #7 Config. Used: 1 Config Change: None EUT Voltage: 120V/60Hz

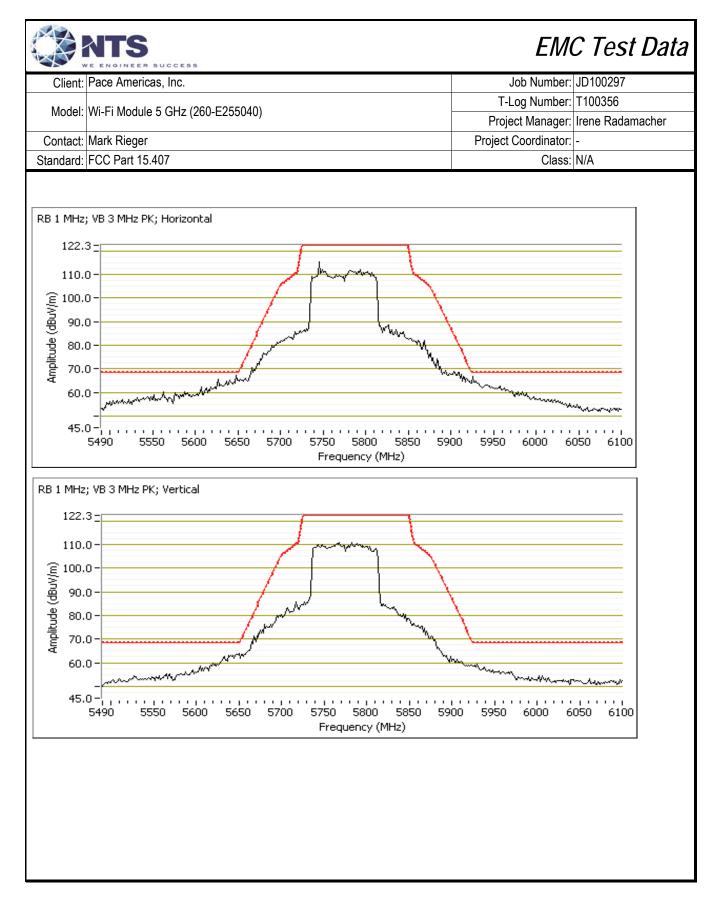
Channel: 155 - 5775MHz Tx Chain: 3Tx Mode: ac80 Data Rate: VHT9

#### Band Edge Signal Radiated Field Strength - Using mask of 15.407(4)(i) - At the low side of the band

Frequency	Level	Pol	15	j.E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5645.090	67.3	Н	68.3	-1.0	PK	349	1.1	POS; RB 1 MHz; VB: 3 MHz
5647.110	64.5	V	68.3	-3.8	PK	321	1.4	POS; RB 1 MHz; VB: 3 MHz

#### Band Edge Signal Radiated Field Strength - Using mask of 15.407(4)(i) - At the high side of the band

Frequency	Level	Pol	15	i.E	Detector	Azimuth	Height	Comments			
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
5928.110	66.7	Н	68.3	-1.6	PK	360	1.0	POS; RB 1 MHz; VB: 3 MHz			
5928.310	60.3	V	68.3	-8.0	PK	321	1.4	POS; RB 1 MHz; VB: 3 MHz			





End of Report

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