

41039 Boyce Road Fremont, CA. 94538

EMC Test Report

Application for FCC Grant of Equipment Authorization Canada Certification

Innovation, Science and Economic Development Canada RSS-Gen Issue 5 / RSS-247 Issue 2 FCC Part 15, Subpart E

Model: NVG5XDBAX

IC CERTIFICATION #: FCC ID:	3439B-NGV5XDBAX PGR-NVG5XDBAX
APPLICANT:	Arris 310 Providence Mine Road Nevada City, CA 95959
TEST SITE(S):	National Technical Systems 41039 Boyce Road. Fremont, CA. 94538-2435
IC SITE REGISTRATION #:	2845B-3; 2845B-4, 2845B-5, 2845B-7
PROJECT NUMBER:	PR101106
REPORT DATE:	November 8, 2019
REISSUE DATE:	March 12, 2020
FINAL TEST DATES:	July 9, 11, 12, 15, 16, 17, 18, 19, 22, 24, 25, 26, 29, 30 and 31, September 20, October 1 and 10, December 20 through 30, 2019 and February 3 and 4, 2020
TOTAL NUMBER OF PAGES:	182



This report and the information contained herein represent the results of testing of only those articles / products identified in this document and selected by the client. The tests were performed to specifications and/or procedures selected by the client. National Technical Systems (NTS) makes no representations expressed or implied that such testing fully demonstrates efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS of the equipment tested, nor does it present any statement whatsoever as to its merchantability or fitness of the test article or similar products, for a particular purpose. This report shall not be reproduced except in full without written approval from NTS.



VALIDATING SIGNATORIES

PROGRAM MGR

David W. Bare Chief Engineer

TECHNICAL REVIEWER:

David W. Bare Chief Engineer

FINAL REPORT PREPARER:

David Guidotti Senior Technical Writer

QUALITY ASSURANCE DELEGATE

Jesse Reel Technical Writer



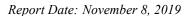
REVISION HISTORY

Rev#	Date	Comments	Modified By
-	November 8, 2019	First release	
1	February 28, 2020	Revised report to add ax mode test data	David Guidotti
2	March 12, 2020	Revised report to correct the gain for single chain legacy mode	David Guidotti



TABLE OF CONTENTS

VALIDATING SIGNATORIES	2
REVISION HISTORY	
TABLE OF CONTENTS	
SCOPE	
OBJECTIVE	
STATEMENT OF COMPLIANCE	
DEVIATIONS FROM THE STANDARDS	6
TEST RESULTS SUMMARY	7
UNII / LELAN DEVICES	7
MEASUREMENT UNCERTAINTIES	
EQUIPMENT UNDER TEST (EUT) DETAILS	12
GENERAL	
OTHER EUT DETAILS	
ANTENNA SYSTEM	
ENCLOSURE	
MODIFICATIONS	
SUPPORT EQUIPMENT	
EUT INTERFACE PORTS EUT OPERATION	
TEST SITE	
GENERAL INFORMATION CONDUCTED EMISSIONS CONSIDERATIONS	14
RADIATED EMISSIONS CONSIDERATIONS	
MEASUREMENT INSTRUMENTATION	
RECEIVER SYSTEM INSTRUMENT CONTROL COMPUTER	
LINE IMPEDANCE STABILIZATION NETWORK (LISN)	
FILTERS/ATTENUATORS	
ANTENNAS	
ANTENNA MAST AND EQUIPMENT TURNTABLE	
INSTRUMENT CALIBRATION	16
TEST PROCEDURES	
EUT AND CABLE PLACEMENT	
CONDUCTED EMISSIONS	
RADIATED EMISSIONS	
CONDUCTED EMISSIONS FROM ANTENNA PORT	
BANDWIDTH MEASUREMENTS	
SPECIFICATION LIMITS AND SAMPLE CALCULATIONS	
CONDUCTED EMISSIONS SPECIFICATION LIMITS: FCC 15.207; FCC 15.107(A), RSS GEN	
GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS	
FCC 15.407 (A) OUTPUT POWER LIMITS OUTPUT POWER LIMITS –LELAN DEVICES	
SPURIOUS EMISSIONS LIMITS –UNII AND LELAN DEVICES	
SAMPLE CALCULATIONS - CONDUCTED EMISSIONS	
SAMPLE CALCULATIONS - RADIATED EMISSIONS	
SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION	
APPENDIX A TEST EQUIPMENT CALIBRATION DATA	
APPENDIX B TEST DATA	
END OF REPORT	182



SCOPE

An electromagnetic emissions test has been performed on the Arris model NVG5XDBAX, pursuant to the following rules:

RSS-Gen Issue 5 "General Requirements for Compliance of Radio Apparatus" RSS 247 Issue 2 "Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSS) and Licence-Exempt Local Area Network (LE-LAN) Devices" 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 test procedures:

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.

National Technical Systems is accredited by the A2LA, certificate number 0214.26, to perform the test(s) listed in this report, except where noted otherwise.

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 Arris model NVG5XDBAX complied with the requirements of the following regulations:

RSS 247 Issue 2 "Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSS) and Licence-Exempt Local Area Network (LE-LAN) Devices" 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 Arris model NVG5XDBAX and therefore apply only to the tested sample. The sample was selected and prepared by Mark Rieger of Arris.

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 – ACCESS POINTS (United States)

FCC Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.407 (a) (1) (ii)	Output Power (n, ac and ax modes use same power)	a: 251.2 mW ac20: 441.8 mW ac40: 470.8 mW ac80: 132.6 mW	30 dBm (1 W) EIRP <= 4W	Complies
		(Max eirp: 0.8 W) a: 18.2 mW/MHz		
15.407 (a) (1) (i), (ii) or (iii)	Power Spectral Density	a. 16.2 mW/MHz ac20: 29.7 mW/MHz ac40: 16.0 mW/MHz ac80: 2.4 mW/MHz ax20: 12.5 mW/MHz ax40: 10.0 mW/MHz ax80: 2.0 mW/MHz	14.9 dBm/MHz (30.9 mW/MHz) (reduced due to antenna gain)	Complies
15.407 (a) (1) (i)	EIRP 30° Above Horizon	Not an outdoor device	21 dBm (125 mW)	N/A
15.407(b) (1) / 15.209	Spurious Emissions above 1GHz	53.8 dBuV/m @ 5129.3 MHz (-0.2 dB)	Refer to the limits section (p23) for restricted bands, all others -27 dBm/MHz EIRP	Complies

OPERATION IN THE 5.15 – 5.25 GHZ BAND (Canada)

RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
RSS-247 6.2.1	Indoor operation only	Refer to user's manual	N/A	Complies
RSS-247 6.2.1.1	99% Bandwidth	a: 17.5 MHz ac20: 18.4 MHz ac40: 36.3 MHz ac80: 75.9 MHz ax20: 19.6 MHz ax40: 38.0 MHz ax80: 77.2 MHz	N/A – limits output power if < 20MHz	N/A
RSS-247 6.2.1.1 EIRP Output Power (n, ac and ax modes use same power)	a: 15.3 dBm ac20: 21.1 dBm ac40: 22.8 dBm ac80: 22.9 dBm	23 dBm (200 mW)	Complies	
RSS-247 6.2.1.1	Power Spectral Density	a: 1.5 dBm/MHz ac20: 1.5 dBm/MHz ac40: 1.8 dBm/MHz ac80: 1.8 dBm/MHz ax20: -0.5 mW/MHz ax40: -0.5 mW/MHz ax80: 0.0 mW/MHz	1.9 dBm/MHz (reduced due to antenna gain)	Complies



Project number PR101106 Reissue Date: March 12, 2020

RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
RSS-247 6.2.1 (2)	Spurious Emissions above 1GHz	53.8 dBuV/m @ 5129.3 MHz (-0.2 dB)	Refer to the limits section (p23) for restricted bands, all others -27 dBm/MHz EIRP 26 dBc in 5.25-5.35 GHz band	Complies



OPERATION IN	THE 5.725 – 5.85	GHZ BAND			
FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.407(e)	RSS-247 6.2.4.1	Minimum 6dB Bandwidth (ax modes > n/ac modes)	a: 16.3 MHz ac20: 17.6 MHz ac40: 36.3 MHz ac80: 75.8 MHz	>= 500 kHz	Complies
15.407(a) (3)	RSS-247 6.2.4.1	Output Power (multipoint systems) (n, ac and ax modes use same power)	a: 24 dBm ac20: 28.2 dBm ac40: 28.3 dBm ac80: 25.7 dBm EIRP = 1.33 W Note 1	30 dBm (1 W) EIRP <= 4W	Complies
15.407(a) (3)	RSS-247 6.2.4.1	Power Spectral Density	a: 12.8dBm ac20: 16.6dBm ac40: 13.9dBm ac80: 8.1dBm ax20: 14.1dBm ax40: 11.4dBm ax80: 7.9dBm	30 dBm / 500 kHz	Complies
15.407(b) (4) / 15.209	RSS-247 6.2.4.2	Spurious Emissions above 1GHz	68.2 dBuV/m @ 6003.6 MHz (-0.1 dB)	Refer to the limits section (p23) for restricted bands, all others > 1 GHz, -27 dBm/MHz more than 75 MHz from the band edge	Complies
-	RSP-100 RSS-Gen 6.7	Occupied Bandwidth	a: 17.47 MHz ac20: 18.50 MHz ac40: 36.74 MHz ac80: 75.87 MHz ax20: 19.7 MHz ax40: 38.0 MHz ax80: 77.3 MHz	Information only	N/A

OPERATION IN THE 5.725 – 5.85 GHZ BAND



Measured Value / FCC RSS Limit / Requirement Description Result Rule Part Rule Part Comments **RSS-247** Systems uses OFDM Digital modulation is 15.403(s) Modulation Complies techniques required 6.1 15.407(b) (6) / **Spurious Emissions** 37.2 dBµV/m @ Refer to page 24 Complies 15.209 below 1GHz 105.71 MHz (-6.3 dB) Device was tested on Emissions tested at RSS-Gen the top, bottom and **Channel Selection** outermost and middle N/A 15.31 (m) 6.9 center channels in channels in each band each band Operation is Device shall Operation in the discontinued in the automatically RSS-247 discontinue operation 15.407 (c) absence of information absence of information Complies 6.4 a) to transmit (Operational Description in the absence of information to transmit page 1) Frequency stability is Signal shall remain better than 25 ppm. within the allocated 15.407 (g) Frequency Stability Complies **Operational Description** band page 1) RSS-247 Device does not operate in either 5470 - 5725 or Transmit Power Control N/A 15.407 (h1) 6.2.2.1 5250 - 5350 MHz bands. 6.2.3.1 Dynamic frequency RSS-247 Device does not operate in either 5470 – 5725 or Selection (device with 15.407 (h2) N/A 6.3 5250 - 5350 MHz bands. radar detection) Warning regarding Tilt angle for EIRP compliance, Indoor **RSS-247** User manual information Refer to manual use for 5150-5250 Complies 6.4 c) MHz band and Radar are primary user of some bands

REQUIREMENTS FOR ALL U-NII/LELAN BANDS



GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

OLNENAL NEW	ENERAL REQUIREMENTS AFFLICABLE TO ALL BANDS					
FCC Rule Part	RSS Rule part	Description	Description Measured Value / L Comments L		Result (margin)	
15.203	-	RF Connector	Antennas connected via U.FL connectors	Unique or integral antenna required	Complies	
15.407 (b) (6)	RSS-Gen Table 4	AC Conducted Emissions	27.4 dBµV @ 0.509 MHz(-18.6 dB)	Refer to page 22	Complies	
15.247 (i) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to MPE calculations in separate exhibit, RSS 102 declaration and User Manual statements.	Refer to OET 65, FCC Part 1 and RSS 102	Complies	
-	RSS-Gen 6.8 User Manual Refer to manual		Refer to manual	Statement for products with detachable antenna	Complies	
-	- RSS-Gen 8.4	User Manual	Refer to manual	Statement for all products	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
Dedicted amigaion (field strength)	dDu\//m	25 to 1000 MHz	± 3.6 dB
Radiated emission (field 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 Arris model NVG5XDBAX is an 802.11 radio module that is designed to be installed in Arris host equipment. Since the EUT would be installed in a host device during operation, the EUT was treated as tabletop equipment during testing to simulate the end-user environment. The electrical rating of the EUT is 3.3 Volts DC supplied from the host device.

The sample was received on July 9, 2019 and tested on July 9, 11, 12, 15, 16, 17, 18, 19, 22, 24, 25, 26, 29, 30 and 31, September 20, October 1 and 10, December 20 through 30, 2019 and February 3 and 4, 2020. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Arris	NVG5XDBAX	Radio Module	M11917QW000T	PGR-NVG5XDBAX

OTHER EUT DETAILS

The following EUT details should be noted: The EUT was installed on a metal carrier along with the Gateway PCB to allow testing. The antennas are mounted to a plastic holder as will be used in the host product. Canadian Certification number IC: 3439B-NVG5XDBAX

ANTENNA SYSTEM

The antenna system consists of 4 Airgain N2420DAR1 and 4 Airgain 5X30AR1 antennas mounted on a plastic carrier. Details of antenna gain are provided in a separate exhibit.

ENCLOSURE

The EUT does not have an enclosure. The PCB measures approximately 9.5 cm wide by 19 cm high.

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
Arris	NBS40B120375M2	Power Supply	None	-
Arris	None	Gateway PCB	0015	-

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

Company	Model	Description	Serial Number	FCC ID
Dell	Precision M6700	Laptop	9WB3CW1	-



EUT INTERFACE PORTS

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

	EUT						
Port	Connected To	Cable(s)					
1 OIL	Connected 10	Description	Shielded or Unshielded	Length(m)			
Antenna (x8)	Antennas	Coax	Shielded	Various			

Additional on Support Equipment

Port	Connected To	Cable(s)				
1 OIT		Description	Shielded or Unshielded	Length(m)		
Gateway PCB Ethernet (x2)	Laptop Ethernet	Cat 6	Unshielded	7.5		
Gateway PCB Power Input	Power Supply	Two wire	Unshielded	1		
Power Supply AC	Mains	Two wire	Unshielded	1		

EUT OPERATION

During emissions testing the EUT was commanded to operate continuously with the noted duty cycle on the desired channel at the selected power level using Mtool software on the Laptop communicating through the Gateway PCB.



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 6.2 of RSS-GEN, NTS has been recognized as an accredited test laboratory by the Commission and Innovation, Science and Economic Development Canada. A description of the facilities employed for testing is maintained by NTS.

Site	Company / Regis	stration Numbers Canada	Location
Chamber 7	US1031	2845B (Wireless test lab #US0027)	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. Results from testing performed in this chamber have been correlated with results from an open area test site. 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 for testing below 1 GHz and 1.5m for testing above 1 GHz. 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.

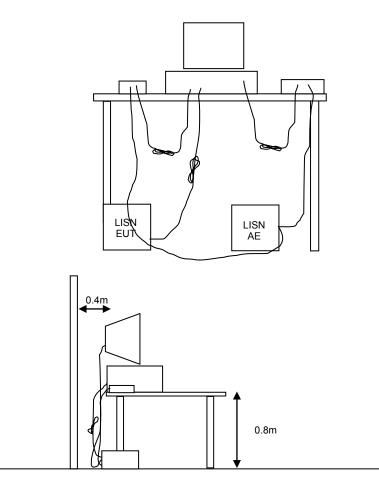


Figure 1 Typical Conducted Emissions Test Configuration



RADIATED EMISSIONS

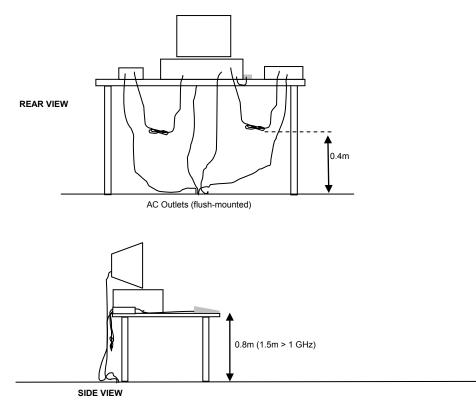
A preliminary scan of the radiated emissions is performed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT). 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.

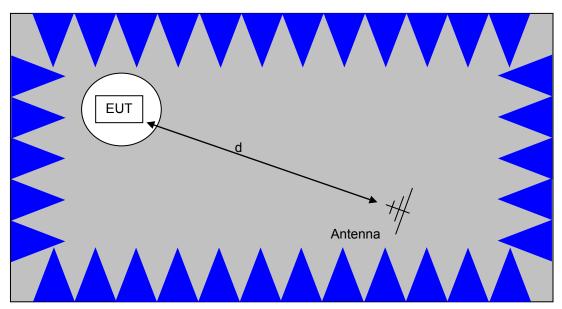
When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.





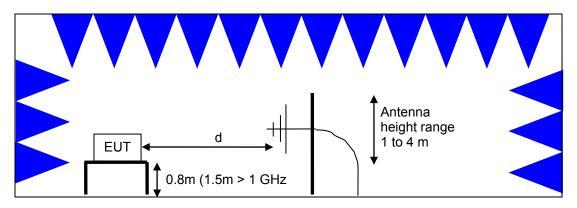
Typical Test Configuration for Radiated Field Strength Measurements





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.

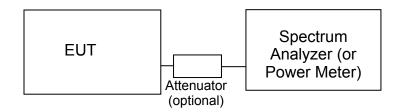


<u>Test Configuration for Radiated Field Strength Measurements</u> <u>Semi-Anechoic Chamber, Plan and Side Views</u>



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



GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands¹.

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F _{KHz} @ 300m	67.6-20*log ₁₀ (F _{KHz}) @ 300m
0.490-1.705	24000/F _{KHz} @ 30m	87.6-20*log ₁₀ (F _{KHz}) @ 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

¹ The restricted bands are detailed in FCC 15.205 and RSS-Gen Table 7



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).

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)2 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 field strength of 68.3dBuV/m/MHz at a distance of 3m. For devices operating in the 5725-5850 MHz bands under the LELAN/UNII rules, the limit within 10MHz of the allocated band is increased to -17dBm/MHz.

² 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:

$$\begin{array}{rcl} R_{c} &=& R_{r} \,+\, F_{d} \\ and \\ M &=& R_{c} \,-\, L_{s} \\ where: \\ R_{r} &=& Receiver Reading in dBuV/m \\ F_{d} &=& Distance Factor in dB \\ R_{c} &=& Corrected Reading in dBuV/m \\ L_{s} &=& Specification Limit in dBuV/m \end{array}$$

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	Description	<u>Model</u>	<u>Asset #</u>	Calibrated	<u>Cal Due</u>
Duty Cycle, 09-Jul-1 Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	5/21/2019	5/21/2020
Conducted Emission EMCO Rohde & Schwarz Rohde & Schwarz	n s - AC Power Ports, 11-Jul LISN, 10 kHz-100 MHz Pulse Limiter EMI Test Receiver, 20 Hz- 7 GHz	- 19 3825/2 ESH3 Z2 ESIB 7	1292 1398 1538	8/16/2018 12/26/2018 2/9/2019	8/16/2019 12/26/2019 2/9/2020
Radiated Emissions EMCO	, 1,000 - 6,000 MHz, 11-Jul- Antenna, Horn, 1-18 GHz (SA40-Red)	19 3115	1142	9/18/2018	9/18/2020
Rohde & Schwarz	EMI Test Receiver, 20 Hz- 7 GHz	ESIB 7	1538	2/9/2019	2/9/2020
Radiated Emissions	, 1,000 - 6,000 MHz, 12-Jul-1	19			
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	9/18/2018	9/18/2020
Rohde & Schwarz	EMI Test Receiver, 20 Hz- 7 GHz	ESIB 7	9482	10/13/2018	10/13/2019
Radiated Emissions	, 1,000 - 6,000 MHz, 15-Jul-1	19			
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	9/18/2018	9/18/2020
Rohde & Schwarz	EMI Test Receiver, 20 Hz- 7 GHz	ESIB 7	9482	10/13/2018	10/13/2019
Radiated Emissions	, 1,000 - 12,000 MHz, 16-Jul	-19			
EMCO Hewlett Packard	Antenna, Horn, 1-18 GHz Microwave Preamplifier, 1- 26.5GHz	3115 8449B	487 785	8/9/2018 9/5/2018	8/9/2020 9/5/2019
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	9/27/2018	9/27/2019
Micro-Tronics	Band Reject Filter, 2400- 2500 MHz 18GHz	BRM50702-02	2238	4/26/2019	4/26/2020
Micro-Tronics	Band Reject Filter, 5150- 5350 MHz	BRC50703-02	2251	7/15/2019	7/15/2020
Radiated Emissions	, 1,000 - 18,000 MHz, 17-Jul	-19			
EMCO Hewlett Packard	Antenna, Horn, 1-18 GHz Microwave Preamplifier, 1- 26.5GHz	3115 8449B	487 785	8/9/2018 9/5/2018	8/9/2020 9/5/2019
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	9/27/2018	9/27/2019
Hewlett Packard	High Pass filter, 8.2 GHz (Purple System)	P/N 84300- 80039	1767	7/15/2019	7/15/2020
Micro-Tronics	Band Reject Filter, 2400- 2500 MHz 18GHz	BRM50702-02	2238	4/26/2019	4/26/2020
Micro-Tronics	Band Reject Filter, 5150- 5350 MHz	BRC50703-02	2251	7/15/2019	7/15/2020



Ivanonai Technicai		Date: November 8, 20	19 Rei	ssue Date: Marc	
Manufacturer Micro-Tronics	Description Band Reject Filter, 5725- 5875 MHz	<u>Model</u> BRC50705-01	<u>Asset #</u> 2738	<u>Calibrated</u> 7/15/2019	<u>Cal Due</u> 7/15/2020
	, 12,000 - 18,000 MHz, 18-Ju				
EMCO	Antenna, Horn, 1-18 GHz	3115	487	8/9/2018	8/9/2020
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	785	9/5/2018	9/5/2019
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	9/27/2018	9/27/2019
Hewlett Packard	High Pass filter, 8.2 GHz (Purple System)	P/N 84300- 80039	1767	7/15/2019	7/15/2020
Radiated Emissions	, 18,000 - 40,000 MHz, 19-Ju	ıl-19			
HP / Miteq	SA40 R Head HF preAmplifier, 18-40 GHz (w/1148)	TTA1840-45-5P- HG-S	1145	9/8/2018	9/8/2019
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	9/27/2018	9/27/2019
A. H. Systems	System Horn, 18-40GHz	SAS-574, p/n: 2581	2161	7/8/2019	7/8/2021
Radiated Emissions	, 1,000 - 40,000 MHz, 22-Jul	-19			
EMCO	Antenna, Horn, 1-18 GHz	3115	487	8/9/2018	8/9/2020
Hewlett Packard	Microwave Preamplifier, 1-	8449B	785	7/18/2019	7/18/2020
HP / Miteq	26.5GHz SA40 R Head HF preAmplifier, 18-40 GHz (w/1148)	TTA1840-45-5P- HG-S	1145	9/8/2018	9/8/2019
Hewlett Packard	Spectrum Analyzer (SA40) Red 30 Hz -40 GHz	8564E (84125C)	1148	9/27/2018	9/27/2019
Hewlett Packard	High Pass filter, 8.2 GHz (Purple System)	P/N 84300- 80039	1767	7/15/2019	7/15/2020
A. H. Systems	System Horn, 18-40GHz	SAS-574, p/n: 2581	2161	7/8/2019	7/8/2021
Micro-Tronics	Band Reject Filter, 2400- 2500 MHz 18GHz	BRM50702-02	2238	4/26/2019	4/26/2020
Micro-Tronics	Band Reject Filter, 5150- 5350 MHz	BRC50703-02	2251	7/15/2019	7/15/2020
Radio Antenna Port Rohde & Schwarz	(Power and Spurious Emise Signal Analyzer 20 Hz - 26.5 GHz	sions), 24-Jul-19 FSQ26	2327	7/4/2019	7/4/2020
Radiated Emissions	, 0.03 - 1,000 MHz, 24-Jul-19)			
National Technical	NTS EMI Software (rev	N/A	0		N/A
Systems Sunol Sciences	2.10) Biconilog, 30-3000 MHz	JB3	1549	3/11/2019	3/11/2021
Micro-Tronics	Band Reject Filter, 5470- 5725 MHz 12GHz	BRC50704-02	1681	3/20/2019	3/20/2020
Micro-Tronics	Band Reject Filter, 2400- 2500 MHz 18GHz	BRM50702-02	2238	4/26/2019	4/26/2020
Micro-Tronics	Band Reject Filter, 5150- 5350 MHz	BRC50703-02	2251	7/15/2019	7/15/2020
Hewlett Packard	9KHz-1300MHz pre-amp	8447F	2777	12/20/2018	12/20/2019
Rohde & Schwarz	EMI Test Receiver, 20 Hz- 7 GHz	ESIB 7	9482	10/13/2018	10/13/2019

Project number PR101106



National Technical		ort Date: November 8, 2	019 Rei	Project number ssue Date: Marc	
Manufacturer Rhode & Schwarz	Description Magnetic Loop Antenna, kHz-30 MHz	9 HFH2-Z2	<u>Asset #</u> WC062457	<u>Calibrated</u> 1/5/2018	<u>Cal Due</u> 1/5/2020
Radio Antenna Port Rohde & Schwarz	: (Power and Spurious E Signal Analyzer 20 Hz - 26.5 GHz	nissions), 25-Jul-19 FSQ26	2327	7/4/2019	7/4/2020
Radio Antenna Port Rohde & Schwarz	: (Power and Spurious Ei Signal Analyzer 20 Hz - 26.5 GHz	nissions), 26-Jul-19 FSQ26	2327	7/4/2019	7/4/2020
Radio Antenna Port Agilent Technologies	(Power and Spurious En PSA, Spectrum Analyze (installed options, 111, 115, 123, 1DS, B7J, HY2	r, E4446A	2139	7/18/2019	7/18/2020
Radio Antenna Port Agilent Technologies	(Power and Spurious En PSA, Spectrum Analyze (installed options, 111, 115, 123, 1DS, B7J, HY2	r, E4446A	2139	7/18/2019	7/18/2020
Radio Antenna Port Agilent Technologies	(Power and Spurious En PSA, Spectrum Analyze (installed options, 111, 115, 123, 1DS, B7J, HY2	r, E4446A	2139	7/18/2019	7/18/2020
Band edge Measurr EMCO Rohde & Schwarz	nent, 20-Sep-19 Horn Antenna EMI test receiver	3115 ESI 40	WC062583 WC068000	7/9/2018 3/15/2019	7/9/2020 3/15/2020
Radiated Emissions Hewlett Packard Hewlett Packard	5, 1,000 - 40,000 MHz, 01- Spectrum Analyzer (Rec Microwave Preamplifier Head, 18-40 GHz (Red)		WC055584 WC055586	9/27/2019 7/25/2019	9/27/2020 7/25/2020
EMCO Hewlett Packard	Horn Antenna Microwave Preamplifier,	3115 1- 8449B	WC062583 WC064416	7/9/2018 7/18/2019	7/9/2020 7/18/2020
Hewlett Packard	26.5GHz High Pass filter, 8.2 GHz	z P/N 84300-	WC064433	4/25/2019	4/25/2020
A. H. Systems Rohde & Schwarz	Antenna, Horn, 18-40GH EMI test receiver	80039 Iz SAS-574 ESI 40	WC064553 WC068000	9/5/2017 3/15/2019	8/8/2020 3/15/2020
National Technical	(Power and Spurious Er NTS UNII Power Softwa		WC022700	N/A	
Systems Rohde & Schwarz	(rev 4.0) Spectrum Analyzer	FSQ26	WC055662	7/4/2019	7/4/2020
Radiated Emissions National Technical Systems	s, 1,000 - 6,000 MHz, 20 tl NTS EMI Software (rev 2.10)	nrough 30-Dec-19 N/A	WC022452	N/A	
National Technical Systems	NTS Capture Analyzer Software (rev 4.0)	N/A	WC022706	N/A	
Agilent Technologies	PSA B	E4446A	WC055670	5/21/2019	5/21/2020



Project number PR101106 Reissue Date: March 12, 2020

	Report	Date: November 8, 2	2019 Rei	ssue Date: Marc	ch 12, 2020
<u>Manufacturer</u> Hewlett Packard	Description Spectrum Analyzer (Spare	<u>Model</u> 8563E	<u>Asset #</u> WC064401	<u>Calibrated</u> 6/12/2019	<u>Cal Due</u> 6/12/2020
EMCO Rohde & Schwarz	SA26) 9 KHz-26.5 GHz, Non-Program Antenna, Horn, 1-18 GHz EMI test receiver	3115 ESI 40	WC064404 WC068000	8/9/2018 3/15/2019	8/9/2020 3/15/2020
Radio Antenna Por Rohde & Schwarz Rohde & Schwarz	t (Power and Spurious Emis Spectrum Analyzer Open Switch and Control Unit, p/s	sions), 3-4-Feb-2 FSQ26 OSP 120 with B157	020 WC055662 WC064756	7/4/2019 7/16/2019	7/4/2020 7/16/2020



Appendix B Test Data

TL-101106-RANA Pages 32 – 181



EMC Test Data

Client:	Arris	PR Number:	PR101106
Product	NVG5XDBAX	T-Log Number:	TL-101106-RANA
System Configuration:	Radio Module	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Emissions Standard(s):	FCC Part 15, RSS-247	Class:	-
Immunity Standard(s):	-	Environment:	Radio

EMC Test Data

For The

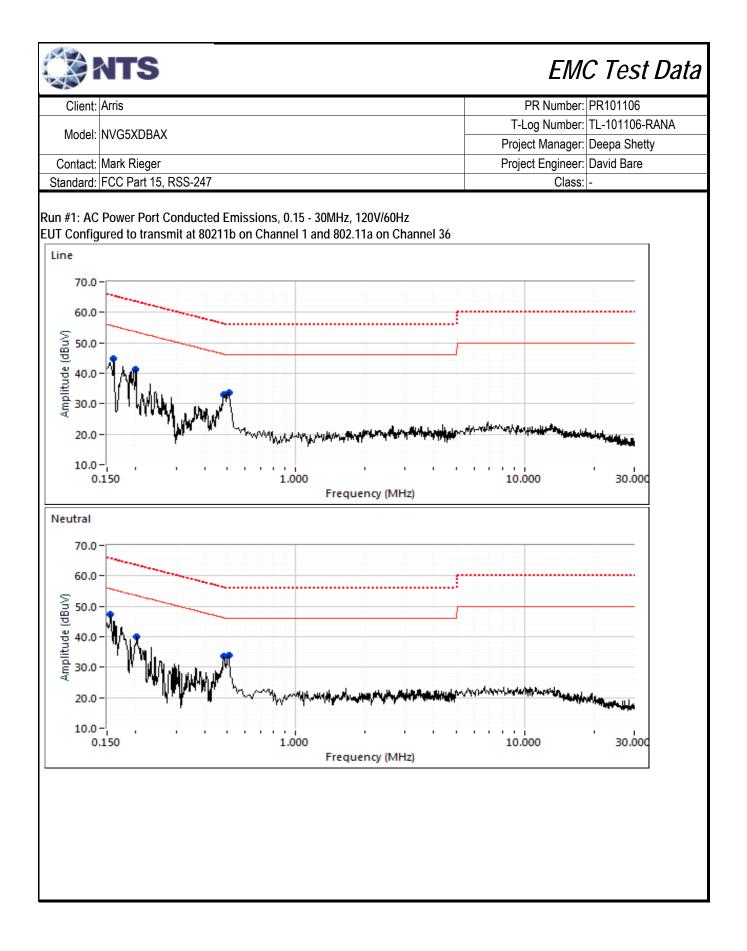
Arris

Product

NVG5XDBAX

Date of Last Test: 3/11/2020

DBAX eger rt 15, RSS-247 Conduc (NTS Silicon Valley, Fremor etails tive: The objective of this test session is to p specification listed above. Fest: 7/11/2019 eer: Rafael Varelas tion: Fremont Chamber #7	-	Proj Proj		
eger rt 15, RSS-247 Conduc <i>(NTS Silicon Valley, Fremor</i> etails tive: The objective of this test session is to p specification listed above. Fest: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	Proj Proj	-Log Number: TL-101106-RA ject Manager: Deepa Shetty ject Engineer: David Bare Class: -	NA
eger rt 15, RSS-247 Conduc <i>(NTS Silicon Valley, Fremor</i> etails tive: The objective of this test session is to p specification listed above. Fest: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	Proj Proj	ject Manager: Deepa Shetty ject Engineer: David Bare Class: -	NA
eger rt 15, RSS-247 Conduc <i>(NTS Silicon Valley, Fremor</i> etails tive: The objective of this test session is to p specification listed above. Fest: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	Proj	ject Engineer: David Bare Class: -	
Conduc (NTS Silicon Valley, Fremor etails tive: The objective of this test session is to p specification listed above. Fest: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	S echoic Chaml	Class: -	
Conduc (NTS Silicon Valley, Fremor etails tive: The objective of this test session is to p specification listed above. Test: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	echoic Chaml	ber)	
(NTS Silicon Valley, Fremoretails tive: The objective of this test session is to p specification listed above. Test: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	echoic Chaml		
(NTS Silicon Valley, Fremoretails tive: The objective of this test session is to p specification listed above. Test: 7/11/2019 eer: Rafael Varelas	nt Facility, Semi-And	echoic Chaml		
tive: The objective of this test session is to p specification listed above. Test: 7/11/2019 eer: Rafael Varelas		tion testing of t	the EUT with respect to the	
tive: The objective of this test session is to p specification listed above. Test: 7/11/2019 eer: Rafael Varelas		tion testing of	the EUT with respect to the	
eer: Rafael Varelas	Config. Use			
	Config Chang			
		ge: 120V/60Hz	2	
cated outside of the semi-anechoic chamber when possible passed through a ferrite clan ions: Temperature: Rel. Humidity:	. Any cables running	g to remote sup		through
	1 : :4	Desult	Manaia	
				(B 6 dB)
vere made to the EUT during testing	rd.			
	lane and 80cm from the LISN. A second L cated outside of the semi-anechoic chamber when possible passed through a ferrite clan ions: Temperature: Rel. Humidity: sults CE, AC Power,120V/60Hz lade During Testing were made to the EUT during testing n The Standard	ament, the EUT and host system were located on a wooden table lane and 80cm from the LISN. A second LISN was used for all cated outside of the semi-anechoic chamber. Any cables running when possible passed through a ferrite clamp upon exiting the claims: Temperature: 22.4 °C Rel. Humidity: 41 % sults Test Performed CE, AC Power, 120V/60Hz 15.207 lade During Testing were made to the EUT during testing	Imment, the EUT and host system were located on a wooden table inside the ser lane and 80cm from the LISN. A second LISN was used for all local support of cated outside of the semi-anechoic chamber. cated outside of the semi-anechoic chamber. Any cables running to remote sup when possible passed through a ferrite clamp upon exiting the chamber. ions: Temperature: 22.4 °C Rel. Humidity: 41 % sults CE, AC Power, 120V/60Hz 15.207 lade During Testing were made to the EUT during testing n The Standard Image: Standard	wment, the EUT and host system were located on a wooden table inside the semi-anechoic chamber, 40 cm filane and 80cm from the LISN. A second LISN was used for all local support equipment. Remote support cated outside of the semi-anechoic chamber. Any cables running to remote support equipment where routed when possible passed through a ferrite clamp upon exiting the chamber. ions: Temperature: 22.4 °C Rel. Humidity: 41 % sults CE, AC Power, 120V/60Hz 15.207 Pass 27.4 dBµV @ 0.509 MHz(-1) were made to the EUT during testing m The Standard



	NTS
--	-----

EMC Test Data

Client:	Arris						PR Number:	PR101106
		N					T-Log Number:	TL-101106-RANA
Model:	NVG5XDBA	X					Project Manager:	
Contact	Mark Riege	r					Project Engineer:	
	FCC Part 1						Class:	
otanuaru.		5,1100-247					01033.	_
Droliminary	u noak roadi	nas canturo	d during pro	scan (noak	roadings v	s. average limit)	
Frequency	Level	AC		207	Detector	Comments)	
MHz	dBμV	Line	Limit	Margin	QP/Ave	Commonto		
0.158	44.9	Line 1	55.4	-10.5	Peak			
0.200	41.3	Line 1	53.6	-12.3	Peak			
0.487	32.9	Line 1	46.2	-13.3	Peak			
0.509	33.6	Line 1	46.0	-12.4	Peak			
0.154	47.5	Neutral	55.7	-8.2	Peak			
0.204	39.9	Neutral	53.5	-13.6	Peak			
0.484	33.6	Neutral	46.2	-12.6	Peak			
0.509	33.8	Neutral	46.0	-12.2	Peak			
		verage read				-		
Frequency		AC		207	Detector	Comments		
MHz	dBµV	Line	Limit	Margin	QP/Ave			
0.509	27.4	Line 1	46.0	-18.6	AVG	AVG (0.10s)		
0.509	26.3	Neutral	46.0	-19.7	AVG	AVG (0.10s)		
0.154	42.7	Neutral	65.8	-23.1	QP	QP (1.00s)		
0.509	32.7	Line 1	56.0	-23.3	QP	QP (1.00s)		
0.509	32.4	Neutral	56.0	-23.6	QP	QP (1.00s)		
0.158	40.4	Line 1	65.6	-25.2	QP	QP (1.00s)		
0.154	28.3	Neutral	55.8	-27.5	AVG	AVG (0.10s)		
0.204	35.3	Neutral	63.4 63.6	-28.1 -28.6	QP QP	QP (1.00s) QP (1.00s)		
0.200	35.0 24.4	Line 1 Neutral	53.4	-20.0	AVG	AVG (0.10s)		
0.204		neutral			AVG	AVG (0.10s) AVG (0.10s)		
0.204			E3 6					
0.204 0.200 0.158	24.4 24.4 25.0	Line 1 Line 1	53.6 55.6	-29.2 -30.6	AVG	AVG (0.10s) AVG (0.10s)		

				DD404400
Client: Arris			PR Number:	
Model: NVG5XDBAX			-	TL-101106-RANA
Contact: Mark Rieger			Project Manager: Project Engineer:	
Standard: FCC Part 15, RSS-247			Class:	
est Specific Details			Spurious Emission	
General Test Configuration The EUT and all local support equipme For radiated emissions testing the mea	asurement antenna was lo	ocated 3 meters fror		e noted.
Ambient Conditions:	Temperature: Rel. Humidity:	19-23 °C 42-45 %		
No modifications Made During Test No modifications were made to the EU	•			
Deviations From The Standard No deviations were made from the req	uirements of the standard	L		

Client:	Arris					PR Number	: PR101106
		V					: TL-101106-RANA
Model:	NVG5XDBA	X				Project Manager	: Deepa Shetty
Contact:	Mark Rieger	r				Project Engineer	: David Bare
Standard:	FCC Part 15	5, RSS-247				Class	: N/A
Summary	of Result	ts					
Run #	Mode	Channel Frequency	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
20MHz Ba	andwith Mod	es	-				
1	g / a	1 & 36	26 / 26	26 / 22	Restricted Band Edge at 5150 MHz	15.209	73.9 dBµV/m @ 5145.9 MHz (-0.1 dB)
2	g / a	1 & 149	26 / 26	26 / 26	Band Edge 5725 MHz	15E	63.5 dBµV/m @ 5649. MHz (-4.8 dB)
-	g/a	11 & 165	26 / 26	26 / 26	Band Edge 5850MHz	15E	62.8 dBµV/m @ 5928. MHz (-5.5 dB)
3	ac20	1 & 36	24 / 24	24 / 22	Restricted Band Edge at 5150 MHz	15.209	53.6 dBµV/m @ 5148. MHz (-0.4 dB)
4	ac20	1 & 149	24 / 24	24 / 24	Band Edge 5725 MHz	15E	63.2 dBµV/m @ 5624. MHz (-5.1 dB)
	ac20	11 & 165	24 / 24	24 / 24	Band Edge 5850MHz	15E	62.3 dBµV/m @ 5954. MHz (-6.0 dB)
40MHz Ba	andwith Mod	es		T			
5	ac40	3 & 38	24 / 24	24 / 15.5	Restricted Band Edge at 5150 MHz	15.209	53.5 dBµV/m @ 5149. MHz (-0.5 dB)
	ac40	3 & 46	24 / 24	24 / 22.5	Restricted Band Edge at 5150 MHz	15.209	53.7 dBµV/m @ 5136. MHz (-0.3 dB)
6	ac40	3 & 151	24 / 24	24 / 24	Band Edge 5725 MHz	15E	66.3 dBµV/m @ 5644. MHz (-2.0 dB)
	ac40	9 & 159	24 / 24	24 / 24	Band Edge 5850MHz	15E	64.3 dBµV/m @ 5932. MHz (-4.0 dB)
80MHz Ba	andwith Mod	es		T			
7	b / ac80	6 & 42	24 / 24	24 / 16.75	Restricted Band Edge at 5150 MHz	15.209	53.5 dBµV/m @ 5141. MHz (-0.5 dB)
8	b / ac80	6 & 155	24 / 24	24 / 21	Band Edge 5725 MHz	15E	67.7 dBµV/m @ 5631. MHz (-0.6 dB)
0	b / ac80	6 & 155	24 / 24	24 / 21	Band Edge 5850MHz	15E	65.2 dBµV/m @ 5931. MHz (-3.1 dB)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5XDBAX	T-Log Number:	TL-101106-RANA
woder.	IN GOADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	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)	Packet	pkt duty
11a	6	99.0%	Yes	5.06	0.0	0.0	10	7974	-1
ac20	6.5	0.98	Yes	5.271	0.1	0.2	190	4324	-1
ac40	13.5	0.97	Yes	5.24	0.1	0.2	191	8811	-1
ac80	29.3	0.96	Yes	1.432	0.2	0.4	698	5159	-1
ac160	58.5	0.96	Yes	1.439	0.2	0.4	695	10443	-1

Sample Notes

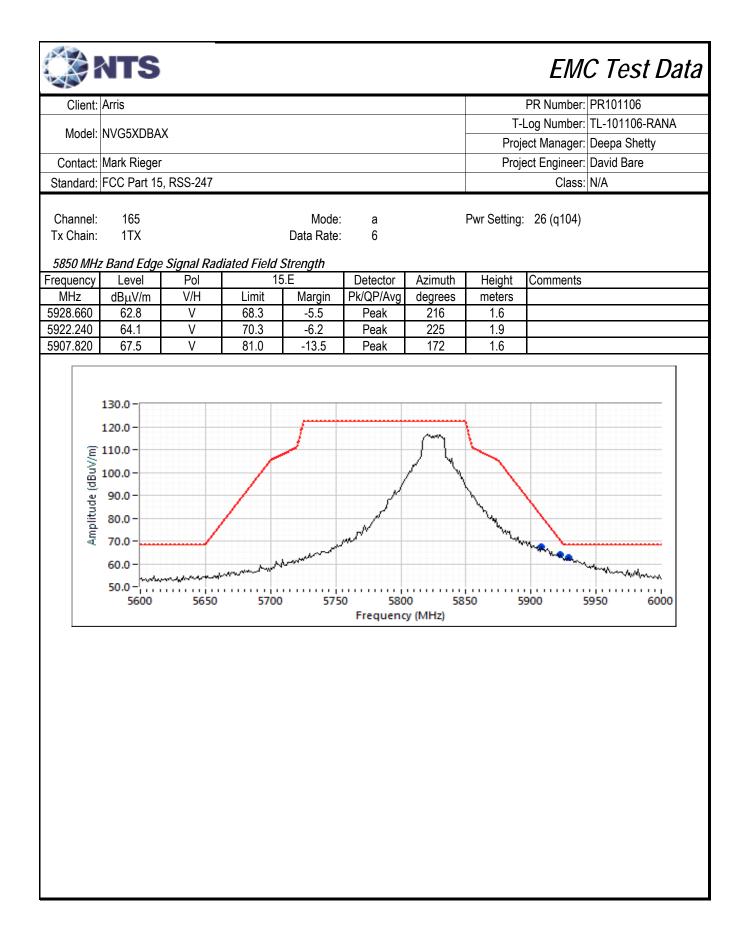
Sample S/N: M11917QW000T Driver:

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 5.	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
Note 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
Note 5.	measurements.
Note 6:	For SISO measurment, evaluation of each chain showed that chain 4 has the highest power measurment. All SISO test
Note o.	measurment were performed with chain 4 active.

Client:	Arris							PR Number:	PR101106
		DAY					T-	Log Number:	TL-101106-RANA
Model:	NVG5XE	BAX					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rie	ger						ect Engineer:	
		t 15, RSS-247						Class:	N/A
ן דנ Tr Channel: Tx Chain:	Date of Te est Engine est Locati : 36 : 1TX	andedge Meas est: 07/11/19 er: Mehran Bir on: FT Chambe	gani er #7 Mode: Data Rate:	a 6	C Con E	onfig. Used: ıfig Change: UT Voltage: Pwr Setting:	None 120V/60Hz		
		dge Signal Ra		Strength 15.209	Detector	Arimuth	Hoight	Commonto	
requency MHz		Pol n V/H	Limit		Detector Pk/QP/Avg	Azimuth	Height	Comments	
5145.530	dBμV/r 73.9	n V/H V	74.0	Margin -0.1	PK/QP/AVg PK	degrees 208	meters 1.5	RB 1 MHz; \	VB: 3 MHz
5149.760	48.6	V	54.0	-0.1	AVG	208	1.5	RB 1 MHz; V	
5148.440	69.5	H	74.0	-4.5	PK	57	1.8	RB 1 MHz; V	
5149.840	46.1	Н	54.0	-7.9	AVG	57	1.8	RB 1 MHz; V	
					MHz; VB 3 M				
		ali man M							
	75.0 70.0 -	mtranati						\///\/////////////////////////////////	

Client:	Arris							PR Number:	PR101106
Model [.]	NVG5XDBAX							-	TL-101106-RANA
							-	-	Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
C Te	diated Bande Date of Test: 0 st Engineer: N est Location: F)7/11/19 /lehran Birg	ani	725-5850M	Co Con	onfig. Used: fig Change: UT Voltage:	None		
Channel: Tx Chain:	149 1TX z Band Edge	Sianal Rad	iated Field	Mode Data Rate Strenath			Pwr Setting:	26 (q104)	
-requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5649.700	63.5	V	68.3	-4.8	Peak	185	2.5		
5634.470	62.1	V V	68.3	-6.2	Peak	181	2.0		
5715.430	93.1	V	109.6	-16.5	Peak	184	1.5		
(m/>	120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 -	/	- And and a second s	a for	La Martin Martin	"Magadana a			
Amplitud		Roma Marine				· · · · · · · · ·	www.		
Amplitud	60.0	A mart						and and a second second	- march



Model: NVG5XDBAX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare tandard: FCC Part 15, RSS-247 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A n #3: Radiated Arealas Config. Change: None EUT Voltage: 120V/60Hz None Channel: 36 Mode: ac20 Pwr Setting: 22 (q88) X Channel: 36 Mode: ac20 Pwr Setting: 22 (q88) X	Model: NVG5XDBAX Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare tandard: FCC Part 15, RSS-247 Class: N/A n #3: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 36 Mode: ac20 Pwr Setting: 22 (q88) x Chain: 4Tx Data Rate: 6.5 1 1000000000000000000000000000000000000	Project Manager: Deepa Shetty tact: Mark Rieger Project Engineer: David Bare Jard: FCC Part 15, RSS-247 Class: N/A E: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 07/12/19 Config. Used: 1 Class: N/A Test Engineer: Rafael Varelas Config Change: None EUT Voltage: 120V/60Hz Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 Detector Azimuth Height Comments Z dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 3MHz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz									PR Number:	PR101106	
Project Manager: Deepa Shefty Contact: Mark Rieger Project Engineer: David Bare andard: FCC Part 15, RSS-247 Class: N/A #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Class: N/A #3: Radiated Bandedge Measurements, 5150-5250MHz Config. Used: 1 Test Engineer: Rafael Varelas Config. Change: None Test Engineer: Rafael Varelas Config. Change: None EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) cChain: 4Tx Data Rate: 6.5 6.5 150 MHz Band Edge Signal Radiated Field Strength	Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare andard: FCC Part 15, RSS-247 Class: N/A #3: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafeel Varelas Test Engineer: Rafeel Varelas Config Change: None EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) (Chain: 4Tx Data Rate: 6.5 1 1 150 MHz Band Edge Signal Radiated Field Strength 1 1 1 quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 1 48.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 49.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz </td <td>Project Manager: Deepa Shetty tact: Mark Rieger Project Engineer: David Bare Jard: FCC Part 15, RSS-247 Class: N/A E: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 07/12/19 Config. Used: 1 Class: N/A Test Engineer: Rafael Varelas Config Change: None EUT Voltage: 120V/60Hz Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 Detector Azimuth Height Comments Z dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 3MHz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz</td> <td></td> <td></td> <td>\Y</td> <td></td> <td></td> <td></td> <td></td> <td>T-</td> <td>Log Number:</td> <td>TL-101106-RANA</td>	Project Manager: Deepa Shetty tact: Mark Rieger Project Engineer: David Bare Jard: FCC Part 15, RSS-247 Class: N/A E: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 07/12/19 Config. Used: 1 Class: N/A Test Engineer: Rafael Varelas Config Change: None EUT Voltage: 120V/60Hz Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 Detector Azimuth Height Comments Z dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 3MHz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz			\Y					T-	Log Number:	TL-101106-RANA	
Class: N/A Class: N/A Class: N/A #3: Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Config. Used: 1 Config. Used: 1 Config. Used: 1 Config. Used: 1 Test Location: FT Chamber #5 LOT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Config. Used: 1 Test Location: FT Chamber #5 Test Data Rate: 6.5 Test Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz Band Edge Signal Radiated Field Strength	Class: N/A Class: N/A Class: N/A #3: Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Config Change: None Test Location: FT Chamber #5 Data Rate: 6.5 150 MHz Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 18.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1 MHz; VB 200Hz 19.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1 MHz; VB 3 MHz 19.220 69.6 H 74.0 -4.4 PK 106	Idard: FCC Part 15, RSS-247 Class: N/A Class: Offic: Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 Data Rate: 6.5 OMHz Band Edge Signal Radiated Field Strength ency Level Pol FCC 15.209 Detector Azimuth Height Comments Z Avg 203 1.0 RB 1MHz; VB 200Hz 20 State Colspan="2">Context Colspic Colspic PC Clospan="2">Clospan= 2"Clospan="2"Closp		VGJADBA	*^					Proj	ect Manager:	Deepa Shetty	
#3: Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Pur Setting: 22 (q88) 150 MHz Band Edge Signal Radiated Field Strength Pur Setting: 22 (q88) quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters Image: Pk/QP/Avg Pures	 #3: Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Chain: 4Tx Data Rate: 6.5 Hode: ac20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: ac20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 Hode: AC20 Pwr Setting: 22 (q88) Chain: 4Tx Pwr Pwr	E Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 0MHz Band Edge Signal Radiated Field Strength ency Level Pol FCC 15.209 Detector Azimuth Height Comments z dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 320 71.4 V 74.0 -2.6 PK 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 30HHz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz	ontact: M	lark Riege	r					Proje	ect Engineer:	David Bare	
Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) c Chain: 4Tx Data Rate: 6.5 150 MHz Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees 18.200 53.8 V 54.0 -0.2 48.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 200Hz 19.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 3MHz 19.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 75.0	Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) c Chain: 4Tx Data Rate: 6.5 150 MHz Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees 18.200 53.8 V 54.0 -0.2 49.220 52.1 H 54.0 -1.9 Avg 19.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 49.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; YK (Blue Trace) RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 0MHz Band Edge Signal Radiated Field Strength ency Level Pol FCC 15.209 Detector Azimuth Height Comments meters 200 53.8 V 54.0 -0.2 Avg 203 200 53.8 V 54.0 -0.2 220 52.1 H 54.0 -1.9 Avg 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz To.o- 75.0 75.0 75.0 75.0 75.0 75.0 <td col<="" td=""><td>andard: F</td><td>CC Part 1</td><td>5, RSS-247</td><td></td><td></td><td></td><td></td><td></td><td>Class:</td><td>N/A</td></td>	<td>andard: F</td> <td>CC Part 1</td> <td>5, RSS-247</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Class:</td> <td>N/A</td>	andard: F	CC Part 1	5, RSS-247						Class:	N/A
Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 <i>ISO MHz Band Edge Signal Radiated Field Strength</i> quency Level Pol FCC 15.209 Detector Azimuth Height Comments <i>M</i> Hz dBµV/m V/H Limit Margin Pk/QP/Avg degrees 8200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 8.320 71.4 V 74.0 -2.6 9.220 52.1 H 54.0 -1.9 9.220 69.6 H 74.0 -4.4 PK 19.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 75.0	Date of Test: 07/12/19Config. Used: 1Test Engineer: Rafael Varelas Test Location: FT Chamber #5Config Change: None EUT Voltage: 120V/60Hzhannel: 36Mode: ac20Pwr Setting: 22 (q88)Chain: 4TxData Rate: 6.5750 MHz Band Edge Signal Radiated Field StrengthquencyLevelPolFCC 15.209DetectorAlzdBµV/mV/HLimitMarginPk/QP/Avgdegreesmeters82.0053.8V52.1H54.0-0.2Avg2031.0RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; V	Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 0MHz Band Edge Signal Radiated Field Strength ency Level Pol FCC 15.209 Detector Azimuth Height Comments meters 200 53.8 V 54.0 -0.2 Avg 203 200 53.8 V 54.0 -0.2 220 52.1 H 54.0 -1.9 Avg 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 3MHz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz Ton- Ton- Ton-	#2. Dod	inted Dam	dadaa Maaa	wanaanta F	150 525014	1-					
Test Engineer: Rafael Varelas Test Location: FT Chamber #5 Config Change: None EUT Voltage: 120V/60Hz hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 750 MHz Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 88.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 88.200 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 75.0	Test Engineer:Rafael Varelas Test Location:Config Change:None EUT Voltage:120V/60Hzhannel:36Mode:ac20Pwr Setting:22 (q88)Chain:4TxData Rate:6.56.5750 MHz Band Edge Signal Radiated Field StrengthnuencyLevelPolFCC 15.209DetectorAzimuthHeightCommentsMHzdBµV/mV/HLimitMarginPk/QP/Avgdegreesmeters10082.20053.8V54.0-0.2Avg2031.0RB 1MHz; VB 200Hz83.2071.4V74.0-2.6PK2031.0RB 1MHz; VB 3MHz9.22052.1H54.0-1.9Avg1061.5RB 1MHz; VB 200Hz9.22069.6H74.0-4.4PK1061.5RB 1MHz; VB 3MHzRB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	Test Engineer: Rafael Varelas Test Location: FT Chamber #5Config Change: None EUT Voltage: 120V/60Hznnel:36Mode:ac20Pwr Setting:22 (q88)nain:4TxData Rate:6.56.50MHz Band Edge Signal Radiated Field StrengthencyLevelPolFCC 15.209DetectorAzimuthHeightComments2053.8V54.0-0.2Avg2031.0RB 1MHz; VB 200Hz20053.8V54.0-0.2Avg2031.0RB 1MHz; VB 200Hz22052.1H54.0-1.9Avg1061.5RB 1MHz; VB 200Hz22069.6H74.0-4.4PK1061.5RB 1MHz; VB 3MHzRB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VK 3 M				irements, 5	150-52501011		onfia. Used:	1			
hannel: 36 Mode: ac20 Pwr Setting: 22 (q88) Chain: 4Tx Data Rate: 6.5 9 750 MHz Band Edge Signal Radiated Field Strength Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 88.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 83.200 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz V 50.0	hannel: 36 Chain: Mode: ac20 Data Rate: Pwr Setting: 22 (q88) Joan Martine 6.5 Pwr Setting: 22 (q88) Joan Martine Martine Martine Martine Joan Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters Mark M8.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz Mark Mark V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 200Hz Mark Mark Mark Mark Mark Mark	nnel: 36 Mode: ac20 Pwr Setting: 22 (q88) nain: 4Tx Data Rate: 6.5 0 MHz Band Edge Signal Radiated Field Strength ency Level Pol FCC 15.209 Detector Azimuth Height Comments z dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 200Hz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz Tool Tool Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) T5.0 75.0				as							
Chain: 4Tx Data Rate: 6.5 Iso MHz Band Edge Signal Radiated Field Strength Detector Azimuth Height Comments Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 18.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 18.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 19.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 19.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz Too 75.0	Chain: 4Tx Data Rate: 6.5 Iso MHz Band Edge Signal Radiated Field Strength Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters I8.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz I8.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz I9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	hain: 4Tx Data Rate: 6.5 OMHz Band Edge Signal Radiated Field Strength Ency Level Pol FCC 15.209 Detector Azimuth Height Comments z dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters	Test	t Location:	FT Chamber	#5		E	UT Voltage:	120V/60Hz			
Chain: 4Tx Data Rate: 6.5 Iso MHz Band Edge Signal Radiated Field Strength Detector Azimuth Height Comments Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 18.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 18.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 19.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 19.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz T5.0 75.0	Chain: 4Tx Data Rate: 6.5 Iso MHz Band Edge Signal Radiated Field Strength Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters I8.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz I8.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz I9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	nain: 4Tx Data Rate: 6.5 OMHz Band Edge Signal Radiated Field Strength Ency Level Pol FCC 15.209 Detector Azimuth Height Comments z dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters		20			Mada			Dur Catting	00 (~00)		
150 MHz Band Edge Signal Radiated Field Strength Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters	150 MHz Band Edge Signal Radiated Field Strength Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters	OMHz Band Edge Signal Radiated Field Strength ency Level Pol FCC 15.209 Detector Azimuth Height Comments z dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters								Pwr Setting:	22 (q88)		
quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters integration meters integrating meters integration meters integration meters integration meters integration integration integration meters integration integratintegratintegrates integration	Quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters	Pency Level Pol FCC 15.209 Detector Azimuth Height Comments z dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 – 70.0 – 70.0						. 0.0					
Hz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 88.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 88.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 – 70.0 –	Hz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 88.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 88.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 99.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 99.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 99.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	z dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 – 70.0 –											
I8.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz I8.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz I9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz IP.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz IP.20	I8.200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz I8.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz I9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz I9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz	200 53.8 V 54.0 -0.2 Avg 203 1.0 RB 1MHz; VB 200Hz 320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 - 70.0 -					-				Comments		
8.320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz	Image: Non-order Image: Non-order<	320 71.4 V 74.0 -2.6 PK 203 1.0 RB 1MHz; VB 3MHz 220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VB 3 MHz; VB 3 MHz; O									RB 1MHz· \	/B 200Hz	
9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VB 3 MHz; O	9.220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VB 3 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	220 52.1 H 54.0 -1.9 Avg 106 1.5 RB 1MHz; VB 200Hz 220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VB 3 MHz; Or and the second											
9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0	9.220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace)	220 69.6 H 74.0 -4.4 PK 106 1.5 RB 1MHz; VB 3MHz RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 - 70.0 -						-					
RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0	RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	RB 1 MHz; VB 200 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 – 70.0 –		69.6				ě.	106	1.5			
8 60.0		8 60.0 - Contraction of the second of the se				white	and a surface of the	mprovence	unand from	when the way	whenthe	WAWAY	
g 55.0 -	g 55.0 -	H MANAGAMANANAN.	png 55	5.0-	www.www.apon	-							
50.0- 		3 55.0	ild w 50	0.0-		~~~	~~	~~~	$\sim \sim$				
		3 55.0				/ -							
45.0 -													
45.0 -	45.0 -	45.0- 45.0-		5110	5115	5120	512	5 5130) 51	35 5	140 5	145 5150	
			plitu .	5.0-			-					~~~	
		55.0	Δ 5	0.0-		$\sim \sim \sim$	~~~~~	~~~~	$\sim \sim $			·	
		55.0	45	5.0-									
				0.0-									
45.0 -	45.0 -	₫ 50.0- 45.0-	40	5110	5115	5120	512	5 5130) 51	35 5	140 5	145 5150	
45.0 - 40.0 -	45.0- 40.0- 5110 5115 5120 5125 5130 5135 5140 5145 51	<u>a</u> <u>50.0</u> <u>45.0</u> <u>40.0</u> - <u>5110</u> <u>5115</u> <u>5120</u> <u>5125</u> <u>5130</u> <u>5135</u> <u>5140</u> <u>5145</u> <u>5150</u>	40										

	Arris							PR Number:	PR101106
Model: N	NVG5XDBAX							•	TL-101106-RANA
							-	-	Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard: F	FCC Part 15,	RSS-247						Class:	N/A
Da Tes	diated Bande ate of Test: 0 st Engineer: F st Location: F	7/12/19 Rafael Varel	as	725-5850M	Co Con	onfig. Used: fig Change: UT Voltage:	None		
Channel: Tx Chain:	149 4Tx			Mode Data Rate			Pwr Setting:	24 (q96)	
5725 MHz	Band Edge . Level	Signal Rad Pol		<i>Strength</i> 5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	Johnmenta	
5624.850	63.2	V	68.3	-5.1	Peak	222	2.0		
5644.090	62.2	V	68.3	-6.1	Peak	192	2.0		
5721.840	91.8	V	115.1	-23.3	Peak	164	1.5		
Amplitude (dBuV//m) 1	120.0 - 110.0 - 90.0 - 80.0 - 70.0 - 60.0 - 5600				50 580	^{مر} ید. 0 58			M-M-Manana 1950 6000
					Frequenc	y (MHz)			

Olient.	Arris							PR Number:	PR101106
Model	NVG5XDBA	v					T-I	Log Number:	TL-101106-RANA
							-	-	Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Channel: Tx Chain: <i>5850 MH</i> 2		Signal Rag	liated Field .	Mode: Data Rate: Strenath			Pwr Setting:	24 (q96)	
equency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
954.310	62.3	V	68.3	-6.0	Peak	177	1.9		
859.720	80.1	V	109.6	-29.5	Peak	42	1.9		
925.450	61.1	V	68.3	-7.2	Peak	173	1.3		
Amplitu			,	575	Arman 0 580 Frequence	0 58	50 5	900 5	950 6000

Client:	Arris							PR Number:	PR101106
Madal	NVG5XD						T-	Log Number:	TL-101106-RANA
woder.	INVGSAD	DAX					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rie	ger					Proj	ect Engineer:	David Bare
Standard:	FCC Part	15, RSS-247						Class:	N/A
l Te	Date of Te est Engine	andedge Measi st: 07/12/19 er: Rafael Varel on: FT Chambe	as	150-5250M	C Con	onfig. Used: ıfig Change: UT Voltage:	None	:	
Channel: Tx Chain:				Mode Data Rate			Pwr Setting	: 15.5 (q62)	
		lge Signal Rad							
requency	1	Pol		15.209	Detector	Azimuth	Height	Comments	
MHz	dBµV/n	n V/H V	Limit	Margin	Pk/QP/Avg		meters		
5149.600 5148.560	53.7 66.1	V	54.0 74.0	-0.3 -7.9	Avg PK	213 213	1.6 1.6	RB 1MHz; V RB 1MHz; V	
5146.500	50.8	H	54.0	-7.9	Avg	213	1.0	RB 1MHz; V	
5142.240	63.9	H	74.0	-10.1	PK	242	1.0	RB 1MHz; V	
	1 MHz; VE	3 200 Hz; Avg (Black Trace); RB 1 MH:	z; VB 3 MHz;				
RB 1	1 MHz; VE 75.0 -	3 200 Hz; Avg (Black Trace); RB 1 MH:	z; VB 3 MHz;				лофичира.Аррия
RB 1	1 MHz; VE 75.0 -	3 200 Hz; Avg (Black Trace); RB 1 MH:	z; VB 3 MHz;				Mathematika Alipalika
RB 1	1 MHz; VE 75.0 - 70.0 - 65.0 - 60.0 -	3 200 Hz; Avg (Black Trace); RB 1 MH:	z; VB 3 MHz;				Malanada Alfalas
RB 1	1 MHz; VE 75.0 - 70.0 - 65.0 - 60.0 - 55.0 - 50.0 - 45.0 -	8 200 Hz; Avg (ฟฟุณฑาฟฟุณภา	Black Trace); RB 1 MH;	z; VB 3 MHz;				Mathemather Alfertha

Model: I	Arris							PR Number:	PR101106
wouer:		v					T-I	Log Number:	TL-101106-RANA
	INV GOADDA.	~					-	-	Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Channel: Tx Chain: 5150 MHz	46 4Tx Band Edge	Sianal Pad	liated Field S	Mode: Data Rate:			Pwr Setting:	22.5 (q90)	
requency	Level	Pol	FCC 1		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
135.960	53.7	V	54.0	-0.3	Avg	211	1.6	RB 1MHz; V	'B 200Hz
135.970	66.2	V	74.0	-7.8	PK	211	1.6	RB 1MHz; V	
131.240 147.190	51.8 63.2	H H	54.0 74.0	-2.4 -10.8	Avg PK	245 245	1.2 1.2	RB 1MHz; V RB 1MHz; V	
	70.0-								
plitude (dBuV	65.0 - 60.0 - 55.0 - 50.0 -				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~		Multinden und
	45.0 - 40.0 - 5110	5115	5120	5125	5 5130 Frequency	0 513	35 5:	140 5	145 5150

un #6: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 151 Mode: ac40 Pwr Setting: 24 (q96) Tx Chain: 4Tx Data Rate: 13.5 5725 MHz Band Edge Signal Radiated Field Strength requency Level Pol 15.E Detector Azimuth Height Comments MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 664.890 66.3 V 68.3 -2.0 Peak 38 1.3 5631.260 64.8 V 68.3 -3.5 Peak 183 1.6	Client:	Arris							PR Number:	PR101106
Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A un #6: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Radiated Bandedge Measurements, 5725-5850MHz Config. Used: 1 Test Engineer: Rafael Varelas Config. Config. Used: 1 Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 151 Mode: ac40 Pwr Setting: 24 (q96) Tx Chain: 4Tx Data Rate: 13.5 5725 MHz Band Edge Signal Radiated Field Strength requercy Level Pol 15 E Detector Azimuth Height Comments MHz dBj.v/m V/H Limit Margin Pk/QP/Avg degrees meters 663.1 V 68.3 -3.5 Peak 183 1.6 7722.650 94.7 V 116.9 -22.2 Peak 58 1.3 130.0	Model [.]	NVG5XDBAX							-	
Standard: FCC Part 15, RSS-247 Class: N/A un #6: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 07/12/19 Config. Used: 1 Config. Used: 1 Test Engineer: Rafael Varelas Config. Change: None EUT Voltage: 120V/60Hz Channel: 151 Mode: ac40 Tx Chain: 4Tx Data Rate: 13.5 5725 MHz Band Edge Signal Radiated Field Strength Trequency Level Pol 15.E Detector Azimuth Height Comments 5641.800 66.3 V 68.3 -2.0 Peak 38 1.3 5631.260 64.8 V 68.3 -3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3								-	-	
tun #6: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 151 Mode: ac40 Pwr Setting: 24 (q96) Tx Chain: 4Tx Data Rate: 13.5 5725 MHz Band Edge Signal Radiated Field Strength Trequency Level Pol 15.E Detector Azimuth Height Comments MHz dB _µ V/m V/H Limit Margin Pk/QP/Avg degrees meters 5631.260 66.3 V 66.3 - 2.0 Peak 38 1.3 5631.260 64.8 V 66.3 - 3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ $130.0_{120.0_{99}}$ 5600 5650 5700 5750 5800 5850 5900 5950 6000		_						Proje		
Date of Test: 07/12/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 151 Mode: ac40 Pwr Setting: 24 (q96) Tx Chain: 4Tx Data Rate: 13.5 5725 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5631.260 66.3 V 68.3 -3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 130.0 120.0 0 <t< td=""><td>Standard:</td><td>FCC Part 15,</td><td>RSS-247</td><td></td><td></td><td></td><td></td><td></td><td>Class:</td><td>N/A</td></t<>	Standard:	FCC Part 15,	RSS-247						Class:	N/A
Tx Chain: 4Tx Data Rate: 13.5 5725 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5644.890 66.3 V 68.3 -3.5 Peak 38 1.3 5631.260 64.8 V 68.3 -3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 120.0 10.0 90.0 80.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 5650 5700 5750 5800 5850 5900 5950 6000	l Te	Date of Test: 0 est Engineer: F)7/12/19 Rafael Varel	as	5725-5850M	Con Con	fig Change:	None		
Erequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5644.890 66.3 V 68.3 -2.0 Peak 38 1.3 5631.260 64.8 V 68.3 -3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 130.0 - 110.0 - - 120.0 -	Tx Chain:	4Tx			Data Rate			Pwr Setting:	24 (q96)	
MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5644.890 66.3 V 68.3 -2.0 Peak 38 1.3 5631.260 64.8 V 68.3 -3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 130.0 - 120.0 - 110.0 - 100.0 -						Detector	Azimuth	Height	Comments	
5644.890 66.3 V 68.3 -2.0 Peak 38 1.3 5631.260 64.8 V 68.3 -3.5 Peak 183 1.6 5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 130.0										
5722.650 94.7 V 116.9 -22.2 Peak 58 1.3 130.0 120.0 100.0 <td>5644.890</td> <td></td> <td>V</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	5644.890		V							
130.0 - 120.0 - 120.0 - 120.0 - 120.0 - 100.0 - 90.0 - 90.0 - 80.0 - 70.0 - 60.0 - 5600 5650 5700 5750 5800 5850 5900 5950 6000	5631.260									
120.0 - (110.0 - 100.0 - 90.0 - 90.0 - 80.0 - 70.0 - 50.0 - 5650 5700 5750 5800 5850 5900 5950 6000	5722.650	94.7	V	116.9	-22.2	Peak	58	1.3		
Frequency (MHZ)	olitude (dBuV/m)	110.0 - 100.0 - 90.0 -	and the second sec	warne A		·····	Watman	-		

Unorn.	Arris							PR Number:	PR101106
Model	NVG5XDBA	v					T-l	og Number:	TL-101106-RANA
							-	-	Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Channel: ⁻ x Chain: 5850 MH	4Tx	e Signal Rac	liated Field S	Mode: Data Rate: Strenath			Pwr Setting:	24 (q96)	
equency	Level	Pol		ы.Е	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
32.670	64.3	V	68.3	-4.0	Peak	175	1.3		
618.440 399.000	63.0 66.9	V V	68.3 87.5	-5.3 -20.6	Peak Peak	208 231	1.9 1.3		
33.000	00.9	V	07.5	-20.0	r can	201	1.5		
Amplitude	110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 5600	5650	مسیم ^م رس ^{ام} 5700		0 580 Frequenc	0 58			······································

Client:	Arris							PR Number:	PR101106
Model	NVG5XDBA	x						•	TL-101106-RANA
									Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard:	FCC Part 15	, RSS-247						Class:	N/A
un #7: R	adiated Band	edge Meası	urements, 5	150-5250MF	Ηz				
	Date of Test:					onfig. Used:			
	est Engineer: est Location:					nfig Change: UT Voltage:			
			#0		L	or voltage.	120 1/00112		
Channel:				Mode			Pwr Setting:	: 16.75 (q67)	
Tx Chain:	4Tx			Data Rate:	58.5				
	z Band Edge							1	
Frequency		Pol		15.209	Detector	Azimuth	Height	Comments	
MHz 5141.580	dBµV/m 53.9	V/H V	Limit 54.0	Margin -0.1	Pk/QP/Avg Avg	degrees 212	meters 1.6	RB 1MHz; V	/B 1 kHz
5141.180	65.2	V	74.0	-8.8	PK	212	1.6	RB 1 MHz; V	
5147.440	53.4	Н	54.0	-1.0	Avg	237	1.1	RB 1MHz; V	/B 1 kHz
5141.820	64.1	Н	74.0	-9.9	PK	237	1.1	RB 1 MHz; V	VB: 3 MHz
RB					VB 3 MHz; P				
	75.0 -							~~~~	~~~~
	75.0 - 70.0 - 65.0 -							~~~~	~~~~~

Client:	Arris							PR Number:	PR101106
							T-I	Log Number:	TL-101106-RANA
Model:	NVG5XDBAX							-	Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer:	
	FCC Part 15,	RSS-247					,	Class:	
C	idiated Bande Date of Test: 0 st Engineer: F)7/12/19		725-5850MI	C	onfig. Used: fig Change:			
	est Location: F						120V/60Hz		
Channel: Tx Chain:	155 4Tx			Mode Data Rate			Pwr Setting:	21 (q84)	
	z Band Edge			<i>Strength</i> 5.E	Detector	Azimuth	Hoight	Comments	
Frequency MHz	Level dBµV/m	Pol V/H	Limit	o.⊨ Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
5631.260	67.7	V	68.3	-0.6	Peak	63	1.3		
5640.080	67.1	V	68.3	-1.2	Peak	42	1.3		
5650.500	67.8	V	68.7	-0.9	Peak	181	1.3		
requency MHz 5931.060 5921.440 5941.480	Level dBµV/m 65.2 66.3 63.7	Pol V/H V V V	Limit 68.3 70.9 68.3	Margin -3.1 -4.6 -4.6	Detector Pk/QP/Avg Peak Peak Peak	Azimuth degrees 50 205 211	Height meters 1.6 1.0 1.0	Comments	
	130.0 -				when more				

	15			EMO	C Test Da
Client:	Arris			PR Number:	PR101106
Model [.]	NVG5XDBAX			-	TL-101106-RANA
				Project Manager:	
	Mark Rieger			Project Engineer:	
Standard:	FCC Part 15, RSS-247			Class:	N/A
	RSS-247 and I	-CC 15.407 (UNI	I) Radiated	Spurious Emission	IS
est Spec	cific Details				
			orm final qualificat	tion testing of the EUT with r	espect to the
The EUT a	est Configuration and all local support equipment ed emissions testing the measu				e noted.
mbient (Conditions:	Temperature: Rel. Humidity:	21.8 °C 43 %		
	ions Made During Testin cations were made to the EUT d	-			
	s From The Standard	ements of the standard.			

	NTS	;			EM	C Test Data
Client:	Arris				PR Number:	PR101106
Madalı	NVG5XDBA	v			T-Log Number:	TL-101106-RANA
woder.	INVGOADBA	*^		-	Project Manager:	Deepa Shetty
Contact:	Mark Riege	r			Project Engineer:	David Bare
Standard:	FCC Part 1	5, RSS-247			Class:	N/A
Summary	of Resul	ts				
Run #	Mode	Channel Frequency	Power Setting	Test Performed	Limit	Result / Margin
20MHz Ba	andwith Mod	les	ι .			
5	ax20	1 & 36	24 / 21.75	Restricted Band Edge at 5150 MHz	15.209	53.8 dBµV/m @ 5148.0 MHz (-0.2 dB)
0	ax20	1 & 149	24 / 24	Band Edge 5725 MHz	15E	62.8 dBµV/m @ 5622.4 MHz (-5.5 dB)
8	ax20	11 & 165	24 / 24	Band Edge 5850MHz	15E	62.1 dBµV/m @ 5948.7 MHz (-6.2 dB)
40MHz Ba	andwith Mod	les	<u> </u>			
0	ax40	3 & 38	24 / 15.5	Restricted Band Edge at 5150 MHz	15.209	47.3 dBµV/m @ 5147.6 MHz (-6.7 dB)
9	ac40	3 & 46	24 / 22.5	Restricted Band Edge at 5150 MHz	15.209	51.0 dBµV/m @ 5137.8 MHz (-3.0 dB)
40	ax40	3 & 151	24 / 24	Band Edge 5725 MHz	15E	67.1 dBµV/m @ 5654.5 MHz (-4.5 dB)
12	ax40	9 & 159	24 / 24	Band Edge 5850MHz	15E	63.9 dBµV/m @ 5933.5 MHz (-4.4 dB)
80MHz Ba	andwith Mod	les				· · · ·
13	b / ax80	1 & 42	24 / 16.75	Restricted Band Edge at 5150 MHz	15.209	71.6 dBµV/m @ 5143.0 MHz (-2.4 dB)
16	b / ax80	1 & 155	24 / 21	Band Edge 5725 MHz	15E	67.0 dBµV/m @ 5650.5 MHz (-1.7 dB)
16	b / ax80	11 & 155	24 / 21	Band Edge 5850MHz	15E	64.3 dBµV/m @ 5931.9 MHz (-4.0 dB)

Sample Notes

Sample S/N: M11917QW000T



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5XDBAX	T-Log Number:	TL-101106-RANA
wouer.	NV GJADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	Class:	N/A

Procedure Comments:

Measurements performed in accordance with FCC ANSI C63.10

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 voltage average, auto sweep time, max hold 50 traces. (method VB-A of ANSI C63.10)

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	Packet	pkt duty
ax20		99.0%	Yes	4.11	0.0	0.0	10	4324	-1
ax40		99.0%	Yes	4.16	0.0	0.0	10	8811	-1
ax80		96.8%	Yes	1.20	0.1	0.3	833	5159	-1

Measurement Specific Notes:

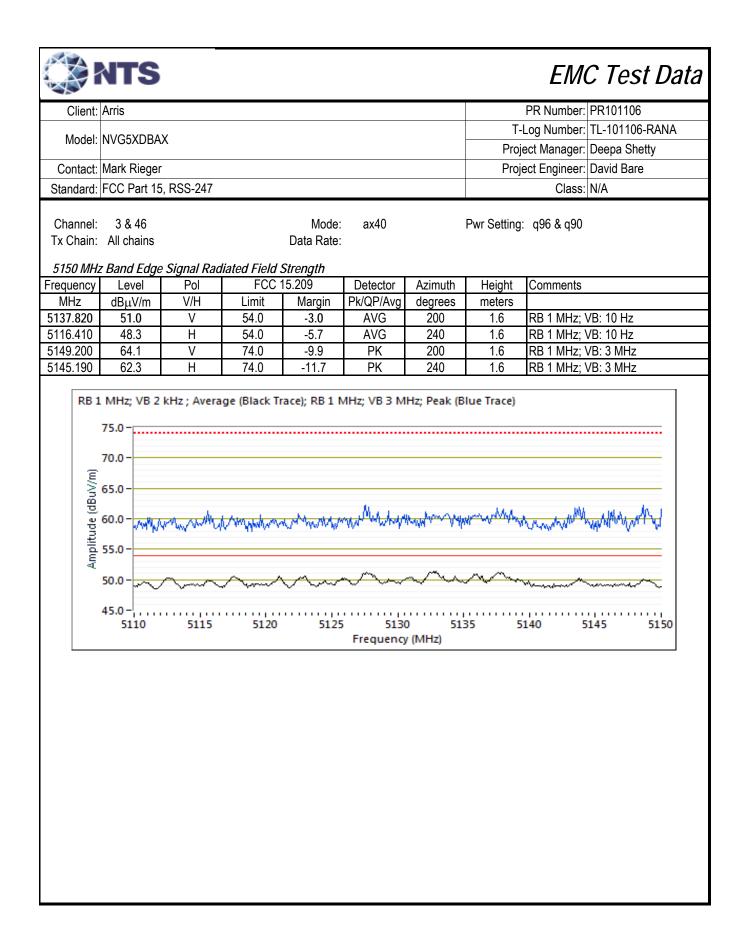
Note 1:	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method
NOLE T.	required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).
Note 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging,
Note 2.	auto sweep, trace average 100 traces (method AD of ANSI C63.10)
Note 3:	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz,
Note 5.	peak detector, linear voltage average, auto sweep,max hold 50*1/DC traces (method VB-A of ANSI C63.10)
Note 4:	Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
Note 4.	sweep, trace average 100*1/DC traces, measurement adjusted by Pwr correction factor (method AD of ANSI C63.10)
Nata E	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
Note 5:	measurements.

Client.	Arris							PR Number:	PR101106
Model	NVG5XDBAX	(T-	Log Number:	TL-101106-RANA
wouer.	NVGJADBA/	\ 					-	2	Deepa Shetty
	Mark Rieger						Proj	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
[Te	ndiated Band Date of Test: Ist Engineer: I est Location: I	12/20/19 Rafael Varel	as	150-5250Mł	Con Con	onfig. Used: ifig Change: UT Voltage:	-	2	
Channel: Tx Chain:	1 & 36 All chains			Mode Data Rate			Pwr Setting	: q96 & q87	
	z Band Edge								
Frequency MHz	Level	Pol	FCC	15.209 Margin	Detector	Azimuth	Height	Comments	
MHZ 5147.970	dBμV/m 53.8	V/H V	54.0	Margin -0.2	Pk/QP/Avg AVG	degrees 233	meters 1.9	RB 1 MHz; \	/B [.] 10 Hz
5147.910	72.5	V	74.0	-0.2	PK	233	1.9	RB 1 MHz; \	
5149.600	53.4	Н	54.0	-0.6	AVG	253	1.8	RB 1 MHz; \	VB: 10 Hz
5149.820	72.0	Н	74.0	-2.0	PK	253	1.8	RB 1 MHz; \	VB: 3 MHz
RB 1	80.0-	kHz; Avera <u>c</u>	je (Black Tra	ace); RB 1 N	MHz; VB 3 MH	Hz; Peak (Bl	ue Trace)		
tude (dBuV/m)	80.0 - 75.0 - 65.0 - 65.0 - 55.0 - 55.0 - 45.0 -	hour from M	nay Marthan Mar	Viimplimill	MayymMW	uniyy yahar yu	ntwhite A thinking	Martin Martin	

Client:	Arris							PR Number:	PR101106
Madal	NVG5XDBAX	/					T-	Log Number:	TL-101106-RANA
wouer.	NVGJADDAA	\							Deepa Shetty
	Mark Rieger						Proj	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
un #8: Ra	diated Bande	edge Measi	urements, 5	725-5850MI	Hz				
[Date of Test: 1	12/20/19			C	onfig. Used:			
	est Engineer: Fest Location: F					ifig Change:		_	
16	est location. r	- i Chambe	(#/		E	UT Voltage:		2	
Channel:				Mode			Pwr Setting	: q96 & q96	
Tx Chain:	All chains			Data Rate	:				
	z Band Edge								
requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz 5622.440	dBμV/m 62.8	V/H V	Limit 68.3	Margin -5.5	Pk/QP/Avg PK	degrees 188	meters 1.5	RB 1 MHz; V	/B: 3 MHz
5611.220	62.0	V	68.3	-6.3	PK	183	2.0	RB 1 MHz; \	
5631.260	62.2	V	68.3	-6.1	PK	58	2.0	RB 1 MHz; \	/B: 3 MHz
Amplitude (dBuV/m)	120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 -			J ,	L				
	60.0-~~	Ramo	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Ψł	hope when a more	w-	Warner and the second	manner
	50.0 5600	5650	5700) 575		0 58	50 5	900 5	950 6000

Client:	Arris							PR Number: PR101106
Model [.]	NVG5XDBA	x						Log Number: TL-101106-RANA
							-	ect Manager: Deepa Shetty
	Mark Rieger						Proj	ect Engineer: David Bare
Standard:	FCC Part 15	, RSS-247						Class: N/A
Tx Chain:	11 & 165 All chains			Mode: Data Rate:			Pwr Setting	: q96 & q96
	z Band Edge	<i>Signal Rad</i> Pol		<i>Strength</i> 5.E	Detector	Azimuth	Hoight	Comments
requency MHz	Level dBµV/m	V/H	Limit	D.⊑ Margin	Detector Pk/QP/Avg	degrees	Height meters	Comments
948.700	овµv/ш 62.1	V/11	68.3	-6.2	PK	210	2.0	RB 1 MHz; VB: 3 MHz
898.200	64.5	V	88.1	-23.6	PK	181	2.0	RB 1 MHz; VB: 3 MHz
930.260	61.1	V	68.3	-7.2	PK	207	2.0	RB 1 MHz; VB: 3 MHz
Amplit	110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 5600) 575	0 580 Frequence	0 58	¹⁰ 1	900 5950 6000

Model: NVG5XDBAX Project Manager: Deepa SI Contact: Mark Rieger Project Engineer: David Ba tandard: FCC Part 15, RSS-247 Class: N/A n #9: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz Channel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 x Chain: All chains Data Rate:	Project Manager: Deepa Shetty pr Project Engineer: David Bare 5, RSS-247 Class: N/A dedge Measurements, 5150-5250MHz Config. Used: 1 Class: : 12/20/19 Config. Used: 1 Config Change: - : M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz : Chamber #7 EUT Voltage: 120V/ 60Hz Data Rate: e Signal Radiated Field Strength Pwr Setting: q96 & q62 VH Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz	Contact: Mark Rieger tandard: FCC Part 15, RSS-247 n #9: Radiated Bandedge Measurer Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7	ements, 5150-5250MI	Co Con		Proje Proje	ect Manager: ect Engineer:	Deepa Shetty David Bare
Project Manager: Deepa SI Contact: Mark Rieger Project Engineer: David Ba andard: FCC Part 15, RSS-247 Class: N/A n#9: Radiated Bandedge Measurements, 5150-5250MHz Class: N/A Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz Channel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 Chain: All chains Data Rate: 1	Project Manager: Deepa Shetty pr Project Engineer: David Bare 5, RSS-247 Class: N/A dedge Measurements, 5150-5250MHz Class: N/A i: 12/20/19 Config. Used: 1 Image: - : 12/20/19 Config Change: - Image: - : Chamber #7 EUT Voltage: 120V/ 60Hz Mode: ax40 Pwr Setting: q96 & q62 Data Rate: Data Rate: e Signal Radiated Field Strength Image: Auge and	Contact: Mark Rieger andard: FCC Part 15, RSS-247 n #9: Radiated Bandedge Measurer Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7	ements, 5150-5250MI	Co Con		Proje	ect Engineer:	David Bare
andard: FCC Part 15, RSS-247 Class: N/A #9: Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz hannel: 3 & 38 Mode: ax40 Chain: All chains Data Rate: 1 150 MHz Band Edge Signal Radiated Field Strength 1 quency Level Pol FCC 15.209 Detector Azimuth Height Comments 17.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 19.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz 18.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 18.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	5, RSS-247 Class: N/A dedge Measurements, 5150-5250MHz Config. Used: 1 : 12/20/19 Config. Used: 1 : M. Birgani Config Change: - : Chamber #7 EUT Voltage: 120V/ 60Hz Mode: ax40 Pwr Setting: q96 & q62 Data Rate: Pol FCC 15.209 Detector V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	 #9: Radiated Bandedge Measurer Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7 	ements, 5150-5250MI	Co Con		1	-	
#9: Radiated Bandedge Measurements, 5150-5250MHz Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz hannel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 Chain: All chains Data Rate: 150 MHz Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dB _μ V/m V/H V/H Limit Margin 17.560 47.3 V 54.0 -6.7 19.560 46.7 H 54.0 -7.3 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 19.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz 18.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 18.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	dedge Measurements, 5150-5250MHz : 12/20/19 Config. Used: 1 : M. Birgani Config Change: - : Chamber #7 EUT Voltage: 120V/ 60Hz Mode: ax40 Pwr Setting: q96 & q62 Data Rate: Data Rate: <i>e Signal Radiated Field Strength</i> V/H Limit Margin V/H Limit Margin V/H 54.0 -6.7 V 54.0 -7.3 V 74.0 -14.0 V 74.0 -14.0 V 74.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz	 #9: Radiated Bandedge Measurer Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7 	ements, 5150-5250MI	Co Con			Class:	N/A
Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz hannel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 chain: All chains Data Rate: 250 MHz Band Edge Signal Radiated Field Strength Data Rate: 1250 MHz Band Edge Signal Radiated Field Strength 1250 MHz Band Edge Signal Radiated Field Strength 17.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 19.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz 18.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz	: 12/20/19 Config. Used: 1 : M. Birgani Config Change: - : Chamber #7 EUT Voltage: 120V/ 60Hz Mode: ax40 Pwr Setting: q96 & q62 Data Rate: <i>e Signal Radiated Field Strength</i> <u>Pol FCC 15.209 Detector Azimuth Height Comments</u> V/H Limit Margin Pk/QP/Avg degrees meters V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7	ements, 5150-5250MI	Co Con				
Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz hannel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 chain: All chains Data Rate: 250 MHz Band Edge Signal Radiated Field Strength Data Rate: 1250 MHz Band Edge Signal Radiated Field Strength 1250 MHz Band Edge Signal Radiated Field Strength 17.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 19.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz 18.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz	: 12/20/19 Config. Used: 1 : M. Birgani Config Change: - : Chamber #7 EUT Voltage: 120V/ 60Hz Mode: ax40 Pwr Setting: q96 & q62 Data Rate: <i>e Signal Radiated Field Strength</i> Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7	ments, 5150-5250Wi	Co Con				
Test Engineer: M. Birgani Test Location: Chamber #7 Config Change: - EUT Voltage: 120V/ 60Hz hannel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 Chain: All chains Data Rate: Point Rate: 150 MHz Band Edge Signal Radiated Field Strength quency Level Point FCC 15.209 Detector Azimuth Height Comments 17.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 19.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz 18.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz	: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz Mode: ax40 Pwr Setting: q96 & q62 Data Rate: <i>e Signal Radiated Field Strength</i> Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Test Location: Chamber #7		Con				
nannel: 3 & 38 Mode: ax40 Pwr Setting: q96 & q62 Chain: All chains Data Rate: Pwr Setting: q96 & q62 50 MHz Band Edge Signal Radiated Field Strength Detector Azimuth Height Comments quency Level Pol FCC 15.209 Detector Azimuth Height Comments //Hz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Mode: ax40 Pwr Setting: q96 & q62 Data Rate: Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters Pol V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 3 MHz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz			-				
Chain: All chains Data Rate: 50 MHz Band Edge Signal Radiated Field Strength juency Level Pol FCC 15.209 Detector Azimuth Height Comments 1Hz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Data Rate: Data Rate: Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	nannel: 3 & 38		E	JT Voltage:	120V/ 60Hz		
Chain: All chains Data Rate: 50 MHz Band Edge Signal Radiated Field Strength juency Level Pol FCC 15.209 Detector Azimuth Height Comments 1Hz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Data Rate: Data Rate: Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz		Mode	· av/0		Dwr Sattina:	a06 & a62	
50 MHz Band Edge Signal Radiated Field Strength quency Level Pol FCC 15.209 Detector Azimuth Height Comments 1Hz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Chain: All chains				i wi oeuing.	490 & 402	
μuency Level Pol FCC 15.209 Detector Azimuth Height Comments 1Hz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	Pol FCC 15.209 Detector Azimuth Height Comments V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz							
Hz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	V/H Limit Margin Pk/QP/Avg degrees meters V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 236 1.9 RB 1 MHz; VB: 3 MHz			Detector	Azimuth	Height	Comments	
7.560 47.3 V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz 9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	V 54.0 -6.7 AVG 232 1.9 RB 1 MHz; VB: 10 Hz H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz					Ŭ		
9.560 46.7 H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz 8.190 60.0 V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz 8.500 60.0 H 74.0 -14.0 PK 236 1.9 RB 1 MHz; VB: 3 MHz	H 54.0 -7.3 AVG 256 1.9 RB 1 MHz; VB: 10 Hz V 74.0 -14.0 PK 232 1.9 RB 1 MHz; VB: 3 MHz H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz						RB 1 MHz; \	VB: 10 Hz
8.500 60.0 H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	H 74.0 -14.0 PK 256 1.9 RB 1 MHz; VB: 3 MHz	9.560 46.7 H			256	1.9		
		8.190 60.0 V	74.0 -14.0	PK	232	1.9		
		8.500 60.0 H	74.0 -14.0	PK	256	1.9	RB 1 MHz; \	VB: 3 MHz
€ 65.0 -			and the state of the set of the	Nede Marcanad	. MA .MA	multure	al and for the state of the	yudawaanaa
	he was a solution where the second second with a second where a second where we share the second where the second where the second second second where the second	3 55.0	ala da deservirales debites	And a feature of	N. ALCONDU	ak to some	196	
± 50.0-	man and the second and the second of the sec	ਛੂੱ 50.0 -						~
	man and a support and a support of the support of t		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		a de la contraction d	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
45.0- 45.0-		45.0 -						
		45.0						
75.0								
§ 65.0 -		5.0-						
1 00 60.0 -		B 60.0 -						Li wa u
B		B white with white	well the water the station	Martin Marina Martina	Marin	monthing	Ander When	y Mummun
	maker and a source and the second and the	bit bit						
Ë FO.0_	man and the second and the second of the sec	a 50.0-						
5 20,0	many way and a farman and a second					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~
		45.0						
45.0		43.0						



Date of Test: 12/20/19Config. Used: 1Test Engineer: M. BirganiConfig Change: -Test Location: Chamber #7EUT Voltage: 120V/ 60HzChannel: 3 & 151Mode: ax40Pwr Setting: q96 & q96Tx Chain: All chainsData Rate:5725 MHz Band Edge Signal Radiated Field StrengthFrequencyLevelPol15.EDetectorAzimuthMHzdBµV/mV/HLimitMarginPk/QP/Avg5654.51067.1V63.5H68.3-4.8PK782.0RB 1 MHz; VB: 3 MHz	Contact: Mark Rieger Standard: FCC Part 15, RSS-247 Pun #12: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7	Project Manager: Project Engineer: Class:	Deepa Shetty David Bare
Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A un #12: Radiated Bandedge Measurements, 5725-5850MHz Config. Used: 1 Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config. Config. Used: 1 Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz Channel: Standard: Poil Date ata 5725 MHz Band Edge Signal Radiated Field Strength Trequency Level Pol Test Engineer: N/H Limit Margin Pk/QP/Avg degrees meters 5654.510 67.1 V 71.6 4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5624.510 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 10.0.0 90.0 90.0 90.0 90.0	Contact: Mark Rieger Standard: FCC Part 15, RSS-247 un #12: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7 EUT Voltage: 120V/	Project Engineer: Class:	David Bare
Standard: FCC Part 15, RSS-247 Class: N/A Date of Test: 12/20/19 Config. Used: 1 Test Engineer: Main and the second	Standard: FCC Part 15, RSS-247 un #12: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7 EUT Voltage: 120V/	Class:	
Run #12: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Config. Used: 1 Config. Used: 1 Test Engineer: M. Birgani Test Engineer: M. Birgani Config. Change: - EUT Voltage: 120V/ 60Hz Channel: 3 & 151 Mode: ax40 Pwr Setting: q96 & q96 Tx Chain: All chains Data Rate: 525 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5620.840 63.5 H 68.3 -7.0 PK 363.5 H 68.3 -7.0 90.0 61.3 V 68.3 -7.0 PK 38.3 1.5 RB 1 MHz; VB: 3 MHz 560 560 560 570 570 580 580	Run #12: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/		N/A
Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7 Channel: 3 & 151 Tx Chain: All chains 525 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5620.840 63.5 H 68.3 -4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 5945.490 60.0 100.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 5600 5650 5700 5750 5800 5850 5900 5950 6000	Date of Test: 12/20/19Config. Used: 1Test Engineer: M. BirganiConfig Change: -Test Location: Chamber #7EUT Voltage: 120V/	/ 60Hz	
Tx Chain: All chains Data Rate: 5725 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5654.510 67.1 V 71.6 -4.5 PK 192 2.0 RB 1 MHz; VB: 3 MHz 5620.840 63.5 H 68.3 -4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 5945.090 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 100.0 -	Channel: 3 & 151 Mode: ax40 Pwr S		
Frequency Level Pol 15.Ε Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5654.510 67.1 V 71.6 -4.5 PK 192 2.0 RB 1 MHz; VB: 3 MHz 5620.840 63.5 H 68.3 -4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 120.0 - <td< td=""><td></td><td>etting: q96 & q96</td><td></td></td<>		etting: q96 & q96	
MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5654.510 67.1 V 71.6 -4.5 PK 192 2.0 RB 1 MHz; VB: 3 MHz 5620.840 63.5 H 68.3 -4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 100.0 - </td <td></td> <td></td> <td></td>			
5654.510 67.1 V 71.6 -4.5 PK 192 2.0 RB 1 MHz; VB: 3 MHz 5620.840 63.5 H 68.3 -4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 100.0 100.0 - <td< td=""><td></td><td></td><td></td></td<>			
5620.840 63.5 H 68.3 -4.8 PK 78 2.0 RB 1 MHz; VB: 3 MHz 5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz 125.0 120.0 -			\/R·3 MH→
5945.490 61.3 V 68.3 -7.0 PK 353 1.5 RB 1 MHz; VB: 3 MHz			
125.0 120.0 100.0 90.0 90.0 90.0 70.0 55.0 5650 5700 5750 5800 5850 5900 5950 6000			
Frequency (MHZ)	120.0 - 110.0 - 100.0 - 90.0 - 90.0 - 70.0 - 60.0 - 55.0 - 5600 5650 5700 5750 5800 5850		A-40000
	Frequency (MHZ)		

Model: N Contact: Ma andard: F(PR Number:	
ontact: M	VGUNDAN	,						•	TL-101106-RANA
							-		Deepa Shetty David Bare
		RSS-247					PiOj	ect Engineer: Class:	
								01000.	
hannel: Chain:	159			Mode: Data Rate:			Pwr Setting	:	
		<i>Signal Rad</i> Pol	iated Field	S <i>trength</i> 5.E	Detector	Azimuth	Hoight	Comments	
quency /Hz	Level dBµV/m	V/H	Limit	.∟ Margin	Pk/QP/Avg	degrees	Height meters	Comments	
3.470	63.9	V	68.3	-4.4	PK	191	2.0	RB 1 MHz; \	VB: 3 MHz
35.270	62.9	V	68.3	-5.4	PK	190	1.5	RB 1 MHz; \	VB: 3 MHz
8.620	66.9	V	80.4	-13.5	PK	195	2.0	RB 1 MHz; \	VB: 3 MHz
tur ₹ 7	80.0 - 70.0 - 60.0 - 55.0 - 5600				0 580 Frequenc	0 58			

Client:	Arris							PR Number:	PR101106
									TL-101106-RANA
Model:	NVG5XDBA	X						-	Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
C Te	Radiated Ban Date of Test: est Engineer: est Location:	12/20/19 M. Birgani		5150-5250N	C Cor	onfig. Used: ifig Change: UT Voltage:			
Channel: Tx Chain:	1 & 42 All chains			Mode: Data Rate:	b & ax80		Pwr Setting:	q96 & q67	
	z Band Edge							1 -	
Frequency	Level	Pol		15.209 Margin	Detector	Azimuth	Height	Comments	
MHz 5142.990	dBμV/m 71.6	V/H V	Limit 74.0	Margin -2.4	Pk/QP/Avg PK	degrees 231	meters 1.9	RB 1 MHz; \	/B· 3 MHz
5142.990	50.8	V	54.0	-2.4	AVG	231	1.9	RB 1 MHz;	
5149.680	50.2	Ĥ	54.0	-3.8	AVG	226	1.8	RB 1 MHz; \	
5144.870	67.4	Н	74.0	-6.6	PK	226	1.8	RB 1 MHz; V	
Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 60.0 - 55.0 - 50.0 - 45.0 -	, hunderen 	nul m	Mrm mitting	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	und Marith	mmmmmmm ~		Mund Mundan

un #16: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/ 60Hz Channel: 1 & 155 Mode: b & ax80 Pwr Setting: q96 & q84 Tx Chain: All chains Data Rate: 5725 MHz Band Edge Signal Radiated Field Strength requency Level Pol 15.E Detector Azimuth Height Comments MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 6650.500 67.0 V 68.7 -1.7 PK 226 2.0 RB 1 MHz; VB: 3 MHz 6640.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz	Client:	Arris							PR Number:	PR101106	
Project Manager Deepa Shefty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A un #16: Radiated Bandedge Measurements, 5725-5850MHz Config. Used: 1 Date of Test: 12/20/19 Config Change: - Test Engineer: M. Birgani Config Change: - Test Location: Chains Data Rate: 5725 MAR Band Edge Signal Radiated Field Strength requency Level Pol 15.E 725 MHz Band Edge Signal Radiated Field Strength requency Level Pol 15.E 725 MHz Band Edge Signal Radiated Field Strength requency Level Pol 15.E 700 0 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 79955910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 70.0 0.0 - - <	Madalı							T-	Log Number:	TL-101106-RANA	
Standard: FCC Part 15, RSS-247 Class: N/A Class: N/A Date of Test: 12/20/19 Config Change: - Test Engineer: M. Birgani Config Change: - Test Location: Chamber #7 EUT Voltage: 120V/60Hz Channel: 1 & 155 Mode: b & ax80 Pwr Setting: q96 & q84 Trest Location: Chamber #7 EUT Voltage: 120V/60Hz Channel: 1 & 155 Mode: b & ax80 Pwr Setting: q96 & q84 Tx Chain: All chains Date All Date All Solution: All chains Date Rate: 5505.00 67.0 V Regression Solution: All chains Date Cor Azimuth Height Comments MHz Detector Azimuth Comments MHz OBS 7: 1.7 PK 206 2.0 RB 1 MHz; VB: 3 MHz <td co<="" td=""><td>Model:</td><td>NVG3XDBA/</td><td>λ.</td><td></td><td></td><td></td><td></td><td>Proj</td><td>ject Manager:</td><td>Deepa Shetty</td></td>	<td>Model:</td> <td>NVG3XDBA/</td> <td>λ.</td> <td></td> <td></td> <td></td> <td></td> <td>Proj</td> <td>ject Manager:</td> <td>Deepa Shetty</td>	Model:	NVG3XDBA/	λ.					Proj	ject Manager:	Deepa Shetty
tun #16: Radiated Bandedge Measurements, 5725-5850MHz Date of Test: 12/20/19 Test Engineer: M. Birgani Test Location: Chamber #7 Channel: 1 & 155 Mode: b & ax80 Pwr Setting: q96 & q84 Tx Chain: All chains Data Rate: <u>5725 MHz Band Edge Signal Radiated Field Strength</u> <u>Frequency Level Pol 15.E Detector Azimuth Height Comments</u> MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters <u>5605.000 67.0 V 68.7 -1.7 PK 226 2.0 RB 1 MHz; VB: 3 MHz</u> <u>5640.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz</u> <u>5595.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz</u> <u>5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz</u> <u>560.000 5550 5700 5750 5800 5850 5900 5950 6000</u>	Contact:	Mark Rieger						Proj	ect Engineer:	David Bare	
Test Engineer: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz Channel: 1 & 155 Mode: b & ax80 Pwr Setting: q96 & q84 Tx Chain: All chains Data Rate: 525 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5650.500 67.0 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 90.0 - - - - - - 90.0 - - - - - - - 90.0 - - - - - - - - 90.0 - <td>Standard:</td> <td>FCC Part 15</td> <td>, RSS-247</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Class:</td> <td>N/A</td>	Standard:	FCC Part 15	, RSS-247						Class:	N/A	
Tx Chain: All chains Data Rate: 5725 MHz Band Edge Signal Radiated Field Strength Trequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5650.500 67.0 V 68.7 -1.7 PK 226 2.0 RB 1 MHz; VB: 3 MHz 5640.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 10.0 - - - - - - - - 90.0 - - - - - - - - - 90.0 - - - - - - - - - 90.0 -	C Te	Date of Test: est Engineer:	12/20/19 M. Birgani		5725-5850N	C Cor	nfig Change:	-	Z		
Erequency Level Pol 15.Ε Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5650.500 67.0 V 68.7 -1.7 PK 226 2.0 RB 1 MHz; VB: 3 MHz 5640.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 120.0 - <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Pwr Setting</td><td>: q96 & q84</td><td></td></td<>								Pwr Setting	: q96 & q84		
МHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5650.500 67.0 V 68.7 -1.7 PK 226 2.0 RB 1 MHz; VB: 3 MHz 5660.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 100.0 - </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td>						_					
5650.500 67.0 V 68.7 -1.7 PK 226 2.0 RB 1 MHz; VB: 3 MHz 5640.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 100.0 -<									Comments		
5640.880 65.4 V 68.3 -2.9 PK 206 2.0 RB 1 MHz; VB: 3 MHz 5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 125.0 120.0 100.0 <t< td=""><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td>RB 1 MH7· \</td><td>/B: 3 MHz</td></t<>					1				RB 1 MH 7 · \	/B: 3 MHz	
5955.910 62.0 V 68.3 -6.3 PK 48 2.0 RB 1 MHz; VB: 3 MHz 125.0 120.0 100.0 <t< td=""><td></td><td></td><td></td><td></td><td>1.7</td><td>1 11</td><td></td><td>2.0</td><td></td><td></td></t<>					1.7	1 11		2.0			
120.0 - 110.0 - 100.0 - 90.0 - 90.0 - 90.0 - 55.0 - 5600 5650 5700 5750 5800 5850 5900 5950 6000					-2.9	PK	206	2.0		/B: 3 MHz	
5600 5650 5700 5750 5800 5850 5900 5950 6000	5640.880 5955.910	65.4 62.0	V	68.3					RB 1 MHz; \		
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 -	V	68.3 68.3	-6.3	РК	48	2.0	RB 1 MHz; ^v RB 1 MHz; ^v	/B: 3 MHz	
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 -	V	68.3 68.3	-6.3	PK	48	2.0	RB 1 MHz; Y RB 1 MHz; Y	/B: 3 MHz	
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 -	V	68.3 68.3	-6.3	РК	48 ~^ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.0	RB 1 MHz; Y RB 1 MHz; Y	/B: 3 MHz	
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 -	V	68.3 68.3	-6.3	РК	48 ~^ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.0	RB 1 MHz; Y RB 1 MHz; Y	/B: 3 MHz	
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 -	V	68.3 68.3	-6.3	РК	48 ~^ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.0	RB 1 MHz; Y RB 1 MHz; Y	/B: 3 MHz	
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 -	V	68.3 68.3	-6.3	РК	48 ~^ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.0	RB 1 MHz; Y RB 1 MHz; Y	/B: 3 MHz	
	5640.880 5955.910	65.4 62.0 125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 -	V	68.3 68.3	-6.3	РК	48 ~^ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.0	RB 1 MHz; Y RB 1 MHz; Y	/B: 3 MHz	

	NTS							EM	C Test Data
Client:	Arris							PR Number:	PR101106
Madal		~					T-	Log Number:	TL-101106-RANA
wodel:	NVG5XDBA	A					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Tx Chain:	11 & 155 All chains	o; 15		Mode: Data Rate:			Pwr Setting	: q96 & q84	
	z Band Edge			<i>Strength</i> 5.E	Detector	Animuth	Hoight	Commonto	
requency MHz	Level dBµV/m	Pol V/H	Limit	o.⊨ Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
931.860	64.3	V/11 V	68.3	-4.0	PK	<u>34</u>	2.0	RB 1 MHz; Y	VB: 3 MHz
947.090	62.4	V	68.3	-5.9	PK	185	2.0	RB 1 MHz;	
Amplitude (dBuV/m)	80.0 - 70.0 -	www.	and the second	handrann		-water and	hardhand	an martin	Robertown
	5600	5650	5700		0 580 Frequenc	0 58	50 5		950 6000

Client:	Arris							PR Number:	PR101106	
							T-		TL-101106-RA	ANA
Model:	NVG5XDB	4X						-	Deepa Shetty	
Contact:	Mark Riege	er					-	ect Engineer:		
	-	5, RSS-247					-,	Class:		
General 1 The EUT		. The objectiv specification	n listed above pment were le	ocated on the	e turntable fo	or radiated sp	ourious emis	-		
	Conditior ions Mad	ns: e During T	Re	emperature: el. Humidity:	22-23 45-50					
No deviat Procedur Measurer Peak mea Unless ot	ions were m e Comme nents perfor asurements herwise stat	med in accord	requirements dance with F0 th: RBW=1M ission has du	CC KDB 789 Hz, VBW=3N ty cycle ≥ 98	033 MHz, peak d % and was	measured us	ing RBW=1	•	0Hz, peak dete	ector,
	Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)		
	ac20	6.5	0.98	Yes	5.271	0.1	0.2	190	4324	-1
	u020	13.5	0.97	Yes	5.24	0.1	0.2	191 698	8811 5159	-1
	ac40 ac80	29.3	0.96	Yes	1.432		0.4			-1

NTS					EM	C Test Data
: Arris					PR Number:	PR101106
	NV.				T-Log Number:	TL-101106-RANA
INVG3XDBA	4X				Project Manager:	Deepa Shetty
: Mark Riege	r				Project Engineer:	David Bare
: FCC Part 1	5, RSS-247				Class:	N/A
y of Resul	ts					
Mode	Channel Frequency	NBF Setting	BF Setting	Test Performed	Limit	Result / Margin
andwith Mod	-		T			
ac20	36 5180MHz	24 / 22	24 / 21	Restricted Band Edge at 5150 MHz	15.209	72.4 dBµV/m @ 5149. MHz (-1.6 dB)
ac20	149 5745MHz	24 / 24	24 / 24	Band Edge 5725 MHz	15E	62.5 dBµV/m @ 5617. MHz (-5.8 dB)
ac20	165 5825MHz	24 / 24	24 / 24	Band Edge 5850MHz	15E	62.6 dBµV/m @ 5934 MHz (-5.7 dB)
andwith Mod	le					Y
ac40	38 5190MHz	24 / 15.5	24 / 15.5	Restricted Band Edge at 5150 MHz	15.209	49.4 dBµV/m @ 5149. MHz (-4.6 dB)
ac40	151 5755MHz	24 / 24	24 / 24	Band Edge 5725 MHz	15E	64.1 dBµV/m @ 5628. MHz (-4.2 dB)
ac40	159 5795MHz	24 / 24	24 / 24	Band Edge 5850MHz	15E	63.7 dBµV/m @ 5927. MHz (-4.6 dB)
andwith Mod	e					
ac80	42 5210MHz	24 / 16.75	24 / 16.75	Restricted Band Edge at 5150 MHz	15.209	48.6 dBµV/m @ 5145. MHz (-5.4 dB)
ac80	155 5775MHz	24 / 21	24 / 21	Band Edge 5725 MHz	15E	64.7 dBµV/m @ 5643. MHz (-3.6 dB)
ac80	155 5775MHz	24 / 21	24 / 21	Band Edge 5850MHz	15E	64.1 dBµV/m @ 5922 MHz (-6.2 dB)
ac80 ment Spec For emissio required is a	155 5775MHz 155 5775MHz cific Notes ns outside of a peak measu	24 / 21 : the restricte urement (RB	24 / 21 d bands the I =1MHz, VB≥	Band Edge 5850MHz imit is -27dBm/MHz eirp (68 3MHz, peak detector). Per	15E 3.3dBuV/m). The meas KDB 789033 2) c) (i), c	64.7 dBµV/m @ MHz (-3.6 d 64.1 dBµV/m @ MHz (-6.2 d urement method
	Arris Arris NVG5XDBA Mark Riege FCC Part 1 Mode Andwith Mod Ac20 Ac20 Ac20 Ac20 Ac20 Ac20 Ac40 Ac40 Ac40 Ac40 Ac40 Ac40 Ac60 Ac60 Ac60 Ac60 Ac60 Ac60 Ac60 Ac6	NVG5XDBAX Mark Rieger FCC Part 15, RSS-247 of Results Mode Channel Frequency andwith Mode ac20 Channel Frequency andwith Mode ac40 Channel Frequency andwith Mode ac40 Channel Frequency ac40 Channel Frequency ac40 Channel Frequency	Arris Arris NVG5XDBAX Mark Rieger FCC Part 15, RSS-247 Node Channel Frequency Andwith Mode Channel Channel Frequency Andwith Mode Channel Channel Setting Andwith Mode Channel Channel Channel Setting Andwith Mode Channel Channel Channel Channel Setting Andwith Mode Channel Channel Channel Setting Andwith Mode Channel Channel Channel Channel Setting Andwith Mode Channel Channel Channel Setting Andwith Mode Channel Channel Setting Andwith Mode Channel Channel Channel Channel Setting Channel Setting Andwith Mode Channel Channel Setting Andwith Mode Channel Channel Channel Setting Andwith Mode Channel Channel Setting Andwith Mode Channel Channel Setting Andwith Mode Channel Channel Channel Channel Setting Andwith Mode Channel Channel Channel Setting Andwith Mode Channel Channel Channel Channel Setting Andwith Channel Andwith Channel Channe	Arris NVG5XDBAX Mark Rieger FCC Part 15, RSS-247 y of Results Mode Channel Frequency NBF Setting BF Setting andwith Mode ac20 36 5180MHz 24 / 22 24 / 21 ac20 149 5745MHz 24 / 24 24 / 24 ac20 165 5825MHz 24 / 24 24 / 24 ac20 165 5825MHz 24 / 24 24 / 24 ac40 151 5190MHz 24 / 24 24 / 24 ac40 151 5755MHz 24 / 15.5 24 / 15.5 ac40 151 5775MHz 24 / 24 24 / 24 ac40 159 5795MHz 24 / 24 24 / 24 ac40 159 5775MHz 24 / 24 24 / 24 ac40 159 5775MHz 24 / 24 24 / 24 ac80 155 5775MHz 24 / 21 24 / 21 ac80 155 5775MHz	Arris NVG5XDBAX Mark Rieger FCC Part 15, RSS-247 Y of Results Prequency Mode Channel Frequency BF Setting adwith Mode Test Performed ac20 36 5180MHz 24 / 22 24 / 24 24 / 24 Band Edge 5725 MHz ac20 149 5745MHz 24 / 24 24 / 24 Band Edge 5725 MHz ac20 165 5745MHz 24 / 24 24 / 24 Band Edge 5850MHz ac20 165 5755MHz 24 / 15.5 Restricted Band Edge at 5150 MHz ac40 5190MHz 24 / 24 24 / 24 Band Edge 5725 MHz ac40 151 24 / 24 24 / 24 Band Edge 5725 MHz ac40 151 24 / 24 24 / 24 Band Edge 5850MHz ac40 159 5795MHz 24 / 24 24 / 24 Band Edge 5850MHz ac80 155	Arris PR Number: NVG5XDBAX T-Log Number: Mark Rieger Project Manager: FCC Part 15, RSS-247 Class: Mode Channel Frequency NBF Setting BF Setting Test Performed Limit andwith Mode ac20 36 24 / 22 24 / 21 Restricted Band Edge at 5150 MHz 15.209 ac20 149 24 / 24 24 / 24 Band Edge 5725 MHz 15E ac20 165 24 / 24 24 / 24 Band Edge 5850MHz 15E ac40 151 24 / 24 24 / 24 Band Edge 5725 MHz 15E ac40 151 24 / 24 24 / 24 Band Edge 5725 MHz 15E ac40 151 24 / 24 24 / 24 Band Edge 5725 MHz 15E ac40 151 24 / 24 24 / 24 Band Edge 5725 MHz 15E ac40 159 24 / 24 24 / 24 Band Edge 5725 MHz 15E ac40 159 24 / 24 24 / 24 Band Edge 5725 MHz <td< td=""></td<>

		sweep, trace average 100 traces (method AD of KDB 789033)
	Nata 2	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz,
	Note 3:	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)
ſ	Note 5:	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
	note 5.	measurements.

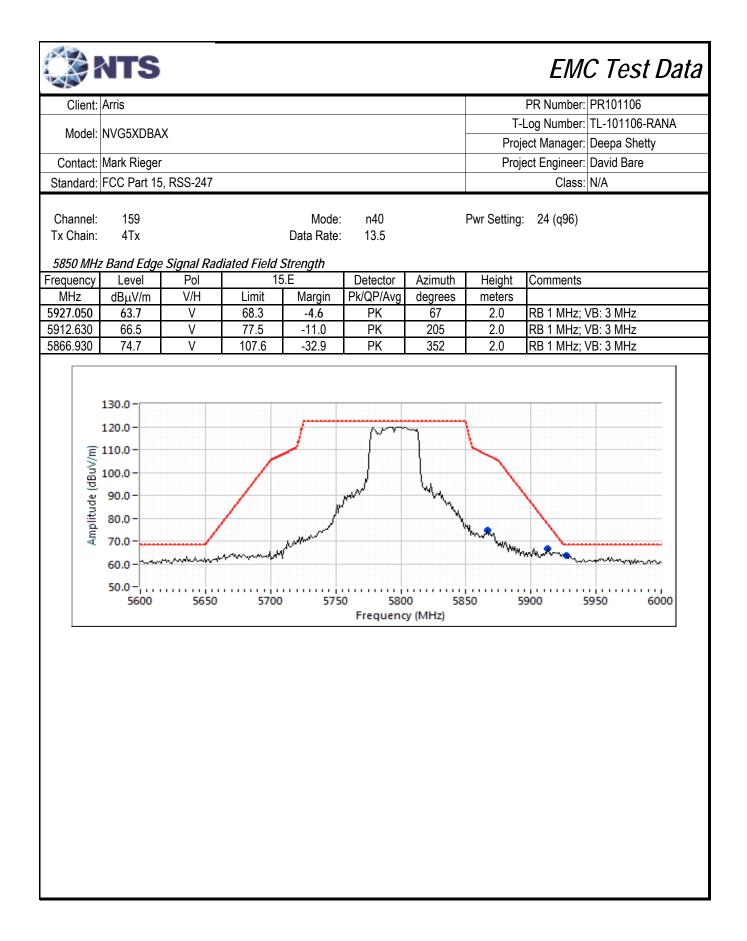
	Arris							PR Number:	PR101106
Model:	NVG5XDBA>	(•	TL-101106-RANA
							-	-	Deepa Shetty
	Mark Rieger	DOD 017					Proj	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
2un #5: Ra	adiated Band	edge Meası	urements, 5	150-5250MF	Ηz				
	Date of Test: (onfig. Used:			
	est Engineer: I	-				fig Change: UT Voltage:		7	
					L	or voltage.	120 07 00112	<u>_</u>	
Channel:				Mode			Pwr Setting	: 21 (q84)	
Tx Chain:	All chains			Data Rate:	6.5 mbps				
	z Band Edge				_			-	
Frequency		Pol		15.209	Detector	Azimuth	Height	Comments	
MHz 5149.240	dBμV/m 72.4	V/H V	Limit 74.0	Margin -1.6	Pk/QP/Avg PK	degrees 21	meters 2.1	RB 1 MHz; '	/B· 3 MH-
5149.930	52.1	V	54.0	-1.0	AVG	21	2.1	RB 1 MHz; '	
5148.930	70.4	Ĥ	74.0	-3.6	PK	73	1.1	RB 1 MHz; '	
5149.570	49.7	Н	54.0	-4.3	AVG	73	1.1	RB 1 MHz; '	
_	75.0 -	-	Mahanan	walan	n-h-shendheth-type	ter tetre marine	normal dans A	M	hadrotheythadhr
Amplitude (dBuV/m	70.0 - 65.0 - with dt 60.0 - 55.0 - 50.0 -				~~~ <u>~</u> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
Amplitude (dBuV/m	55.0-				~~- <u>-</u>				

Client: Arris							PR Number:	PR101106
						T-l	og Number:	TL-101106-RANA
Model: NVG5X	DBAX					Proje	ect Manager:	Deepa Shetty
Contact: Mark R	eger					Proje	ect Engineer:	David Bare
Standard: FCC Pa	rt 15, RSS-247						Class:	N/A
Test Engin	est: 09/19/19 eer: M. Birgani tion: Chamber 7	urements, 5	725-5850MI Mode Data Rate	Con Con El : n20	-			
5725 MUz Pand	Edao Sianal Dao	liatod Eiold	Strongth					
5725 MHz Band Frequency Leve			5.E	Detector	Azimuth	Height	Comments	
MHz dBµV		Limit	Margin	Pk/QP/Avg	degrees	meters		
5617.640 62.5	5 V	68.3	-5.8	PK	227	1.5	RB 1 MHz; \	/B: 3 MHz
5676.950 67.2		88.2	-21.0	PK	181	1.5	RB 1 MHz; \	
5721.840 91.7	7 V	115.1	-23.4	PK	221	2.0	RB 1 MHz; \	/B: 3 MHz
120.0 - [110.0 - [100.0 - 90.0 - 90.0 - Wb 100.0 - ₩ 90.0 - 0.0 - 0.0 - 0.0 -			J	50 580		50 5		950 6000

ononit.	Arris							PR Number: PR101106
Model.	NVG5XDBA	x					T-	Log Number: TL-101106-RANA
							-	ect Manager: Deepa Shetty
	Mark Rieger						Proj	ect Engineer: David Bare
tandard:	FCC Part 15	, RSS-247						Class: N/A
Channel: x Chain: 5850 MH		Sional Rad	liated Field .	Mode: Data Rate: Strenath			Pwr Setting	: 24 (q96)
equency	Level	Pol		5.E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
034.270	62.6	V	68.3	-5.7	PK	188	2.0	RB 1 MHz; VB: 3 MHz
340.480 387.780	96.2 67.0	V V	122.3 95.8	-26.1 -28.8	PK PK	218 184	2.0 1.5	RB 1 MHz; VB: 3 MHz RB 1 MHz; VB: 3 MHz
Amplitude (dBu	110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 5600	5650	5700			0 58		900 5950 6000

Client	Arris							PR Number:	PR101106
		v					T-	Log Number:	TL-101106-RANA
Model	NVG5XDBA	X					Proj	ect Manager:	Deepa Shetty
Contact	Mark Riege	r					Proje	ect Engineer:	David Bare
Standard	FCC Part 1	5, RSS-247						Class:	N/A
un #0. D	adiated Dam	dadaa Maaay	iromonto E		1-				
	Date of Test:	dedge Measu 09/20/19	liements, o	100-02001016		onfig. Used:	1		
	est Engineer:					fig Change:			
Т	est Location:	Chamber 7			E	UT Voltage:	120V/ 60Hz	1	
Channel:	38			Mode:	n40		Dwr Sotting	15.5 (q62)	
Tx Chain:				Data Rate:			rwi Setting.	15.5 (qoz)	
			1.1						
5150 MH requency		<i>e Signal Radi</i> Pol		Strength 15.209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5149.570	49.4	V	54.0	-4.6	AVG	351	1.0	RB 1 MHz; \	/B: 200 Hz
5148.020	69.0	V	74.0	-5.0	PK	351	1.0	RB 1 MHz; \	
5149.990	47.3	Н	54.0	-6.7	AVG	82	1.0	RB 1 MHz; \	/B: 200 Hz
5147.210	66.6	Н	74.0	-7.4	PK	82	1.0	RB 1 MHz; \	/B: 3 MHz
mplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 60.0 - 55.0 -	huadhada	hurman	woodhaad	Anthenenation	handada		mondal	MW MM M
Amplitude (dBuV/m)	70.0 - 65.0 - 60.0 - 55.0 - 50.0 -		den den mener	woodhaad	And the way of the other of	toonideetti		man	Mar Mar
Amplitude (dBuV/m)	70.0 - 65.0 - 60.0 - 55.0 -		hurm	www.www.wd	Antherson	than the second s		Mr. Mill	My Mar

Client	Arris							PR Number:	PR101106
				T-Log Number:		TL-101106-RANA			
Model	NVG5XDBAX							-	Deepa Shetty
Contact: Mark Rieger								ect Engineer:	
	FCC Part 15,	RSS-247	Class: N/A						
Te T Channel: Tx Chain:	4Tx z Band Edge	09/20/19 M. Birgani Chamber 7	iated Field	Mode Data Rate	Con Con E : n40	Azimuth degrees 196 31 223 357			/B: 3 MHz /B: 3 MHz
	130.0-			J.	<u>م</u> مر		L		



Client:	Arris		PR Number: PR101106							
Model: NVG5XDBAX								T-Log Number: TL-101106-RANA		
							Project Manager: Deepa Shetty			
Contact: Mark Rieger							Project Engineer: David Bare			
Standard: FCC Part 15, RSS-247								Class: N/A		
n #13∙ R	adiated Ban	dedge Mea	surements	5150-5250N	/Hz					
	Date of Test:			0100 02000		onfig. Used:	1			
Test Engineer: M. Birgani Config Change:										
Te	est Location:	Chamber 7			E	UT Voltage:	120V/ 60Hz	Z		
Channel:	42			Mode	: ac80		Pwr Settina	: 16.75 (q67)		
x Chain:				Data Rate				(4)		
5150 MU	z Band Edge	Signal Dad	iatod Fiold	Stronath						
equency	Level	Pol		15.209	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters			
45.270	48.6	V	54.0	-5.4	AVG	206	1.7	RB 1 MHz; V		
45.680	46.0	Н	54.0	-8.0	AVG	90	1.3	RB 1 MHz; V		
49.220 49.340	60.4 57.2	V H	74.0 74.0	-13.6 -16.8	PK PK	206 90	1.7 1.3	RB 1 MHz; RB 1 MHz;		
Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 60.0 - 55.0 - 45.0 - 45.0 - 40.0 - 5110	<u></u>				D 51			145 5150	

Client:	Arris							PR Number:	PR101106
							T-	Log Number:	TL-101106-RANA
Model:	NVG5XDBA	X					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer:	
	FCC Part 15							Class:	
l Te		09/20/19 M. Birgani	surements,	5725-5850M Mode: Data Rate:	Con Con E : ac80	-			
5725 MH	z Band Edge	Signal Rad	iated Field	Strenath					
requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5643.290	64.7	V	68.3	-3.6	PK	34	2.0	RB 1 MHz; \	/B: 3 MHz
5664.130	69.3	V	78.8	-9.5	PK	194	2.0	RB 1 MHz; \	
5720.240	81.6	V	111.4	-29.8	PK	196	2.0	RB 1 MHz; \	/B: 3 MHz
	Level dBµV/m 64.1 62.0 75.3	Pol V/H V V V	Limit 70.3 68.3 109.8	5.E Margin -6.2 -6.3 -34.5	Detector Pk/QP/Avg PK PK PK	Azimuth degrees 214 38 182	Height meters 2.0 2.0 1.5	Comments RB 1 MHz; V RB 1 MHz; V RB 1 MHz; V	/B: 3 MHz
5934.270 5858.920 (m/\/m)	75.3 130.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 -	V	109.8	-34.5	РК		1.5	RB 1 MHz; V	
	5000	5050	5,00		Frequenc				

Client:	Arrio							PR Number:	DD101106	
Client	Ams						T_	Log Number:		ΩΔΝΔ
Model:	NVG5XDB	AX						ect Manager:		
Contact	Mark Riege	<u>ا</u> ر					-	ect Engineer:		, y
	FCC Part 1							Class:		
est Spe	ا cific Deta	RSS-247 a	and FCC	15.407 (l	JNII) Ra	diated Sp	ourious	Emission	S	
·	Objective	. The objectiv	e of this test listed above	session is to	perform fina	al qualification	n testing of t	he EUT with r	espect to the)
The EUT		iguration support equi s testing the i						-	e noted.	
mbient	Conditior	IS:		emperature: el. Humidity:	18-20 40-42					
		e During T e made to the	•	esting						
		he Standa	rd	of the stand	ard					
	is From T ions were m	ade from the	requirements		uru.					
No deviat rocedur Measurer Peak mea Unless ot	ions were m re Comme nents perfor asurements herwise stat	ade from the	dance with F(h: RBW=1M ssion has du	CC KDB 7890 Hz, VBW=3N ty cycle ≥ 98)33 /Hz, peak d % and was	measured us	ing RBW=1M	•)Hz, peak de	tector,
No deviat r ocedur Measurer Peak mea Unless ot	ions were m re Comme nents perfor asurements herwise stat	ade from the ents: med in accord performed wit ed/noted, emi	dance with F(h: RBW=1M ssion has du	CC KDB 7890 Hz, VBW=3N ty cycle ≥ 98)33 /Hz, peak d % and was	measured us	ing RBW=1M	•)Hz, peak de Packet	tector,
No deviat rocedur Measurer Peak mea Unless ot	ions were m re Comme nents perfor asurements herwise stat grage mode,	ade from the ents: med in accord performed wit ed/noted, emi auto sweep ti Data Rate MCS0	dance with F(h: RBW=1M ssion has du me, max hold Duty Cycle	CC KDB 7890 Hz, VBW=3M ty cycle ≥ 98 d 50 traces. (Constant	033 /IHz, peak d % and was method VB	measured us of KDB 7890 Pwr Cor Factor* 0.2	ing RBW=11 33) Lin Volt Cor	MHz, VBW=10 Min VBW for FS (Hz) 682		
No deviat rocedur Measurer Peak mea Unless ot	ions were m re Comme nents perfor asurements herwise stat erage mode, Mode	ade from the ents: med in accord performed wit ed/noted, emi auto sweep ti Data Rate	dance with F(h: RBW=1M ssion has du me, max hold Duty Cycle (x)	CC KDB 7890 Hz, VBW=3M ty cycle ≥ 98 d 50 traces. (Constant DC?	033 /IHz, peak d % and was method VB T (ms)	measured us of KDB 7890 Pwr Cor Factor*	ing RBW=1N 33) Lin Volt Cor Factor**	MHz, VBW=10 Min VBW for FS (Hz)		

Client:	Arris				PR Number:	PR101106
Madal		v			T-Log Number:	TL-101106-RANA
Model:	NVG5XDBA	X			Project Manager:	Deepa Shetty
Contact:	Mark Rieger				Project Engineer:	David Bare
Standard:	FCC Part 15	5, RSS-247			Class:	N/A
Summary	of Result					
Run #	Mode	Channel Frequency	Power Setting	Test Performed	Limit	Result / Margin
20MHz B	andwith Mode	e				
5	ax20	1 & 36	24 / 21	Restricted Band Edge at 5150 MHz	15.209	72.9 dBµV/m @ 5148 MHz (-1.1 dB)
8	ax20	1 & 149	24 / 24	Band Edge 5725 MHz	15E	63.0 dBµV/m @ 5639 MHz (-5.3 dB)
0	ax20	11 & 165	24 / 24	Band Edge 5850MHz	15E	61.3 dBµV/m @ 5950 MHz (-7.0 dB)
40MHz B	andwith Mode	e				
9	ax40	3 & 38	24 / 15.5	Restricted Band Edge at 5150 MHz	15.209	49.1 dBµV/m @ 5149. MHz (-4.9 dB)
10	ax40	3 & 151	24 / 24	Band Edge 5725 MHz	15E	66.6 dBµV/m @ 5624 MHz (-1.7 dB)
12	ax40	9 & 159	24 / 24	Band Edge 5850MHz	15E	64.1 dBµV/m @ 5927 MHz (-4.2 dB)
80MHz B	andwith Mode	e				
13	ax20 / ax80	1 & 42	24 / 16.75	Restricted Band Edge at 5150 MHz	15.209	51.6 dBµV/m @ 5147 MHz (-2.4 dB)
16	ax20 / ax80	1 & 155	24 / 21	Band Edge 5725 MHz	15E	66.3 dBµV/m @ 5648 MHz (-2.0 dB)
10	ax20 / ax80	1 & 155	24 / 21	Band Edge 5850MHz	15E	63.3 dBµV/m @ 5939 MHz (-5.0 dB)

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)
Nata 2	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz,
Note 3:	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
Note 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Noto E	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
Note 5:	measurements.

Client:	Arris							PR Number:	PR101106
Madal	NVG5XDBAX	/					T۰	Log Number:	TL-101106-RANA
woder.	NVG3ADBA/	`					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	RSS-247						Class:	N/A
] Te	adiated Band Date of Test: est Engineer: est Location: 1 & 36	12/26/19 M. Birgani		150-5250MI Mode	C Con E	onfig. Used: ifig Change: UT Voltage:	- 120V/ 60H	z : 24 (q96) & 2	21 (684)
Tx Chain:					: 8.6Mbps / ch		r wi Setting	. 24 (490 <i>)</i> & 2	1 (404)
		o							
<i>5150 MH2</i> requency	z Band Edge Level	<i>Signal Rad</i> Pol		Strength 15.209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg		meters	Comments	
5148.790	72.9	V	74.0	-1.1	PK	16	2.2	RB 1 MHz; \	VB: 3 MHz
5149.600	52.1	Н	54.0	-1.9	AVG	103	2.3		1 MHz; VB: 1 kHz
	= 4 =		F 4 0	-2.5	AVG	16	2.2	Noto 3. DB	1 MHz; VB: 1 kHz
	51.5	V	54.0						
RB 1	71.2	Н	74.0	-2.8	PK MHz; VB 3 MF	103	2.3	RB 1 MHz; V	
Amplitude (dBuV/m)	71.2 MHz; VB 1 1 80.0 - 75.0 -	H (Hz; Averag	74.0 ie (Black Tra	-2.8	PK //Hz; VB 3 MF	103 Iz; Peak (Bl	2.3 ue Trace)	RB 1 MHz; \	

Client:	Arris							PR Number:	PR101106
Model	NVG5XDBAX							-	TL-101106-RANA
MOUEI.	NVGJADDAA								Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15,	RSS-247						Class:	N/A
I Te	adiated Bande Date of Test: 1 est Engineer: N est Location: F	2/26/19 /l. Birgani		5725-5850M	Co Con	onfig. Used: fig Change: UT Voltage:	-	2	
Channel: Tx Chain:		Sianal Rad	liated Field		e: ax20 e: 8.6mbps / ch		Pwr Setting	: 24 (q96)	
requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5639.280	63.0	V	68.3	-5.3	PK	182	2.2	RB 1 MHz; V	
5660.920	64.2	V	76.4	-12.2	PK	189	1.9	RB 1 MHz; V	
5701.800	76.2	Н	105.8	-29.6	PK	80	2.2	RB 1 MHz; V	/B: 3 MHz
(m/	120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 - 5600	5650		Art		Wumum 0 585		900 5	
					Frequency	/ (MHz)			

Client:	Arris							PR Number: PR101106
Model [.]	NVG5XDBA	х						Log Number: TL-101106-RANA
							-	ect Manager: Deepa Shetty
	Mark Rieger						Proj	ect Engineer: David Bare
Standard:	FCC Part 15	, RSS-247						Class: N/A
Channel: Tx Chain: <i>5850 MH</i>		e Signal Rag	liated Field .		: ax20 : 8.6mbps / ch		Pwr Setting	: 24 (q96)
requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
950.300	61.3	V	68.3	-7.0	PK	180	1.9	RB 1 MHz; VB: 3 MHz
5923.850	61.3	V V	69.2	-7.9	PK	202 204	1.9	RB 1 MHz; VB: 3 MHz
859.720 872.540	79.5 74.2	V	109.6 106.0	-30.1 -31.8	PK PK	204 216	2.5 1.6	RB 1 MHz; VB: 3 MHz RB 1 MHz; VB: 3 MHz
Amplitude (dBuV/m)	90.0 - 80.0 - 70.0 - 60.0 - 55.0 - 5600	5650	5700	mann	Manual 5800 Frequency	585		900 5950 6000

Client	Arris							PR Number: PR101106
Model	NVG5XDBAX							Log Number: TL-101106-RANA
								ect Manager: Deepa Shetty
	Mark Rieger FCC Part 15,	DCC 247					Proj	ect Engineer: David Bare Class: N/A
Standard	FUC Part 15,	KSS-241						Class: N/A
	adiated Bande		urements, 5	150-5250MH				
	Date of Test: 1 est Engineer: N					onfig. Used: ifig Change:		
	est Location: F		anber #7			UT Voltage:		2
<u>.</u>					40	-		
Channel: Tx Chain:				Mode: Data Rate:	: ax40 : 17.2Mbps / d		Pwr Setting	: 24 (q96) & 15.5 (q62)
	117				. 17.20000070			
	z Band Edge			<i>Strength</i> 15.209	Detector	۸ – نوم سر ۱۰	11	Commente
requency MHz	Level dBµV/m	Pol V/H	Limit	Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
5149.860	49.1	V	54.0	-4.9	AVG	204	1.5	Note 3: RB 1 MHz; VB: 500 Hz
5146.580	68.6	V	74.0	-5.4	PK	204	1.5	RB 1 MHz; VB: 3 MHz
Bu//n	70.0 - 55.0 - <mark>Addwr</mark> 50.0 -	lydd mwedd yr	limm	randra Maria	n fan werken de fan de fan General de fan	ter and south the	alt valene al faline	HANNING MANUMAN
nplitude (c	55.0-							

									C Test Dat
Client:	Arris						-	PR Number:	
Model:	NVG5XDBAX	ζ.						•	TL-101106-RANA
									Deepa Shetty
	Mark Rieger						Proj	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
Run #12: R	adiated Band	dedge Meas	surements.	5725-5850	ИНг				
	Date of Test: 1		,			onfig. Used:	1		
	st Engineer: N					fig Change:			
Te	est Location: F	Fremont Cha	anber #7		E	UT Voltage:	120V/ 60Hz	Z	
Channel:	3 & 151			Mode	ax40		Pwr Settina	: 24 (q96)	
Tx Chain:					: 17.2mbps / c			- · (4••)	
	- Dond Edge	Cianal Dad	inted Field		•				
5725 MH2 requency	z <i>Band Edge</i> . Level	Signal Radi Pol		<i>Strengtn</i> 5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	Johnmenta	
5624.050	66.6	V	68.3	-1.7	PK	187	1.9	RB 1 MHz; \	/B: 3 MHz
5640.080	65.6	V	68.3	-2.7	PK	187	1.9	RB 1 MHz; \	
5671.340	71.7	V	84.1	-12.4	PK	22	1.6	RB 1 MHz; \	
5710.620	86.2	V	108.3	-22.1	PK	180	1.6	RB 1 MHz; \	/B: 3 MHz
- 15			Å	and	www.	Marin Marina	Munan		
	60.0 - 55.0 - 5600	5650	570		50 580 Frequenc	0 58			5950 6000

Model:	Arris							PR Number:	PR101106
Model.		/					T-	Log Number:	TL-101106-RANA
	NVGJADDA	`					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Channel: x Chain:	9 & 159 4Tx z Band Edge	Signal Rad	liated Field		ax40 17.2mbps / c		Pwr Setting:	: 24 (q96)	
equency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
27.860	64.1	V	68.3	-4.2	PK	188	1.9	RB 1 MHz; \	
19.840	65.5	V	72.1	-6.6	PK	188	1.6	RB 1 MHz; V	
99.000 63.730	67.6 74.6	V V	87.5 108.5	-19.9 -33.9	PK PK	61 187	1.9 1.0	RB 1 MHz; RB 1 MHz;	
0.100	74.0	v	100.0	00.0		107	1.0	RD T WHZ,	D. 0 10112
Amplitude (dB	00.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 - 5600	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m		5800 Frequency	585			

									C Test Da
Client:	Arris							PR Number:	
Model:	NVG5XDBAX	X						-	TL-101106-RANA
Contrat	Mark Diagon						-	-	Deepa Shetty
	Mark Rieger FCC Part 15	DCC 2/7					Pioj	ect Engineer: Class:	
Stanuaru.	T CO Part 15	1100-247						01855.	IN/A
	Radiated Ban		surements,	5150-5250N					
	Date of Test:					onfig. Used:			
	est Engineer: est Location:		anber #7			ifig Change: UT Voltage:		7	
					L	er ronago.	.2007 00112	-	
Channel:					: ax20 & ax80		Pwr Setting	: 24 (q96) & 1	l6.75 (q67)
Tx Chain:	4Tx			Data Rate	: 36mbps / ch	ain			
	z Band Edge						1		
requency	Level	Pol		15.209	Detector	Azimuth	Height	Comments	
MHz 5147.600	dBµV/m 51.6	V/H V	Limit 54.0	Margin -2.4	Pk/QP/Avg AVG	degrees 206	meters 1.5	Note 3 [.] RB	1 MHz; VB: 300 Hz
5141.700	67.7	V	74.0	-6.3	PK	206	1.5	RB 1 MHz; '	
[dBu//	70.0 - 65.0 - //////// 60.0 - 55.0 - 50.0 -	nev, marnish	hadroon saydoo arred	and the second	Almanada	,	. m. Ander	Antonia	for montestlythe
plitude	55.0-								
Amplitude	55.0 - 50.0 -						~~~~~~~		
Amplitude	55.0 - 50.0 - 45.0 -								

								PR Number:	
							T-	Log Number:	TL-101106-RANA
	NVG5XDBA>	<						-	Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer:	
	FCC Part 15,	RSS-247						Class:	
otariaara.	1 0 0 1 alt 10,	1.00 2.11						01000.	
un #16: R	adiated Ban	dedge Meas	surements,	5725-5850N	IHz				
	Date of Test:	•				onfig. Used:	1		
	st Engineer: I	-				fig Change:			
Te	est Location: I	Fremont Cha	anber #7		E	UT Voltage:	120V/ 60Hz	2	
				M . 1			D O U	04 (.00) 0.0	1 (0 4)
Channel:	1 & 155				ax20 & ax80		Pwr Setting	: 24 (q96) & 2	21 (q84)
Tx Chain:	4Tx			Data Rate:	36mbps / ch	ain			
5725 MHz	z Band Edge	Signal Rad	iated Field	Strength					
requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5648.100	66.3	V	68.3	-2.0	PK	206	1.9	RB 1 MHz; \	
5642.480	65.9	V V	68.3	-2.4	PK	31	1.6	RB 1 MHz;	
5692.990	76.1	V	100.1	-24.0	PK	188	1.6	RB 1 MHz; \	VB: 3 MHZ
5850 MH2	z Band Edge	Signal Rad	iated Field	Strenath					
-requency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5939.880	63.3	V	68.3	-5.0	PK	202	2.5	RB 1 MHz; \	/B: 3 MHz
5943.890	62.5	V	68.3	-5.8	PK	259	1.9	RB 1 MHz; \	
5915.830	64.7	V	75.1	-10.4	PK	206	1.9	RB 1 MHz; \	/B: 3 MHz
Amplitude (dBuV/m)	125.0 - 120.0 - 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 55.0 - 5600	-44		WERN HAN		0 58			4 4 5 5 5 5 5 5 5 5 5 5
					Frequenc	y (MHz)			

				C Test Da
Client: Arris			PR Number:	
Model: NVG5XDBAX			-	TL-101106-RANA
Contact: Mark Piegor			Project Manager: Project Engineer:	
Contact: Mark Rieger Standard: FCC Part 15, RSS-247			Class:	
RSS-247 a	and FCC 15.407 (UN	III) Radiated S	Spurious Emission	S
Objective: The objective specification	e of this test session is to pe listed above.	rform final qualificati	ion testing of the EUT with r	espect to the
General Test Configuration The EUT and all local support equip For radiated emissions testing the r	oment were located on the tu			e noted.
mbient Conditions:	Temperature: Rel. Humidity:	22-25 °C 39-43 %		
lodifications Made During To No modifications were made to the				
eviations From The Standar No deviations were made from the		l.		

Client:	Arris					PR Number:	PR101106
						T-Log Number:	TL-101106-RANA
Model:	NVG5XDBA	X				Project Manager:	
Contact:	Mark Rieger	ſ				Project Engineer:	David Bare
Standard:	FCC Part 15	5, RSS-247				Class:	N/A
ummary	of Result	S	_				
Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
Scans on	"center" cha	nnel in all fou	ir OFDM mo	des to determ	nine the worst case mode		
	g/a	6 & 40	26 / 26	26 / 26	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	52.6 dBµV/m @ 5149 MHz (-1.4 dB)
1	ac20	6 & 40	24 / 24	24 / 23	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.8 dBµV/m @ 5148 MHz (-0.2 dB)
I	ac40	6 & 46	24 / 24	24 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	52.8 dBµV/m @ 5353 MHz (-1.2 dB)
	b/ac80	6 & 42	24 / 24	22.25 / 23	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.8 dBµV/m @ 5350 MHz (-0.2 dB)
Measurer	nents on low	and high cha	annels in wo	rst-case OFD			· · · · · · · · · · · · · · · · · · ·
2	ac20	1 & 36	24 / 22	24 / 22	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.2 dBµV/m @ 4813 MHz (-0.8 dB)
Z	ac20	11 & 48	24 / 24	23 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.4 dBµV/m @ 4924 MHz (-0.6 dB)
Scans on	"center" cha	nnel in all fou	r OFDM mo	des to determ	nine the worst case mode	•	· · · · · · · · · · · · · · · · · · ·
	g/a	6 & 157	26 / 26	26 / 26	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	65.2 dBµV/m @ 17350.3 MHz (-3.1 dB
2	ac20	6 & 157	24 / 24	24 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	50.7 dBµV/m @ 4878 MHz (-3.3 dB)
3	ac40	6 & 159	24 / 24	24 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	50.6 dBµV/m @ 2483 MHz (-3.4 dB)
	b / ac80	6 & 155	24 / 24	22 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	68.2 dBµV/m @ 6003 MHz (-0.1 dB)
Measurer	nents on low	and high cha	annels in wo	rst-case OFD			· · · ·
4	b / ac20	1 & 149	26 / 24	18.25 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.5 dBµV/m @ 4824 MHz (-0.5 dB)
4	b / ac20	11 & 165	26 / 24	16.25 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.4 dBµV/m @ 4924 MHz (-0.6 dB)
Measurer	nents on low	and high cha	annels in g m	node.			•
5	g / ac40	1 & 38	26 / 24	26 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	52.7 dBµV/m @ 4815 MHz (-1.3 dB)
5	g/a	11 & 48	26 / 26	26 / 25	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.8 dBµV/m @ 4924 MHz (-0.2 dB)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	T-Log Nu	T-Log Number:	TL-101106-RANA
woder.	IN GOADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	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)	Packet	pkt duty
11b	1	99.2%	Yes	12.422	0.0	0.0	10	1285	-1
11a/g	6	99.0%	Yes	5.06	0.0	0.0	10	7974	-1
ac20	6.5	97.6%	Yes	5.271	0.1	0.2	190	4324	-1
ac40	13.5	97.3%	Yes	5.24	0.1	0.2	191	8811	-1
ac80	29.3	96.0%	Yes	1.432	0.2	0.4	698	5159	-1
ac160	58.5	95.6%	Yes	1.439	0.2	0.4	695	10443	-1

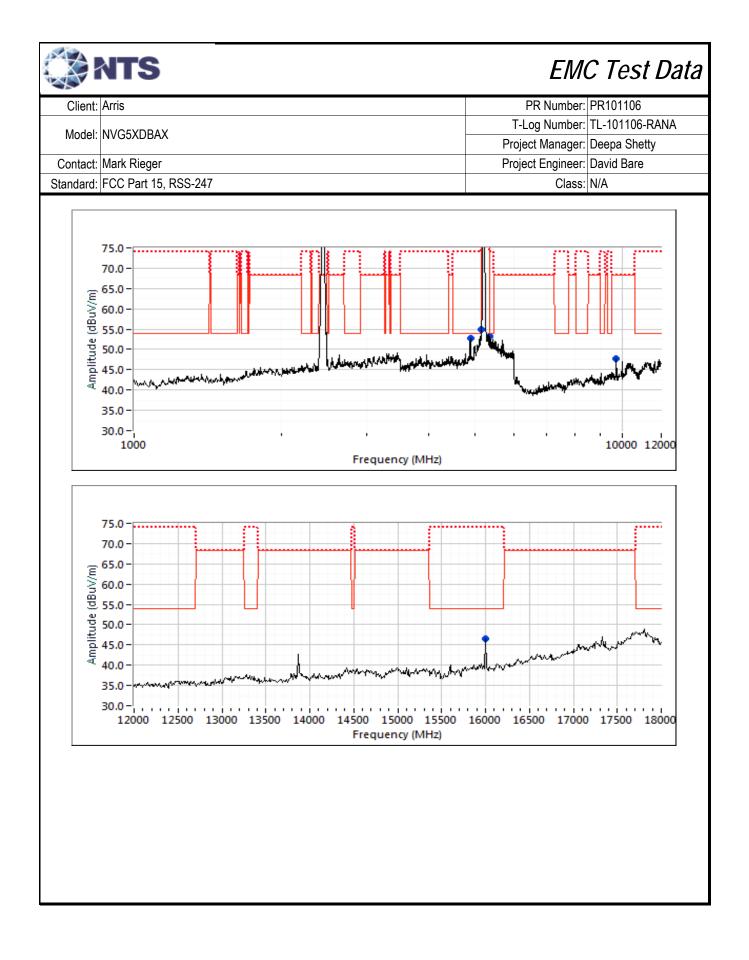
Sample Notes

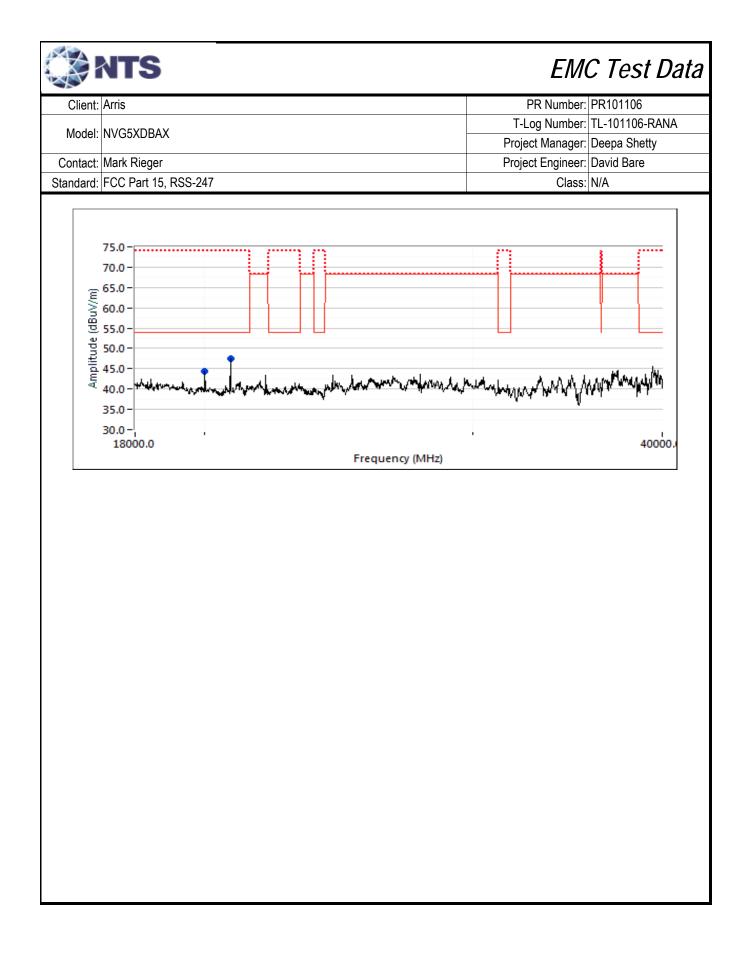
Sample S/N: M11917QW000T Driver:

Measurement Specific Notes:

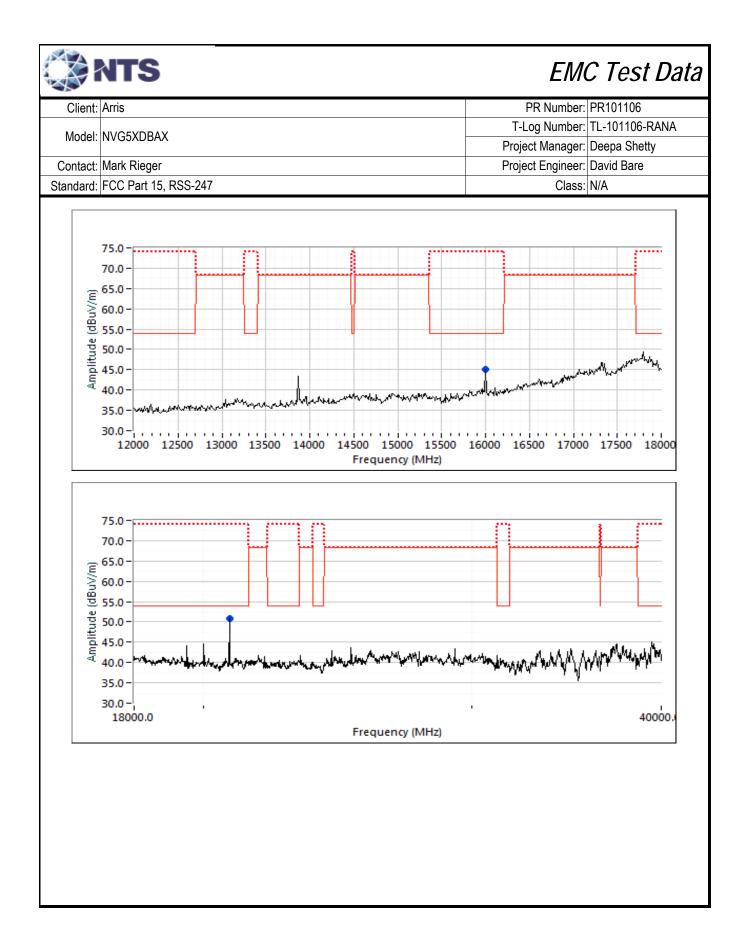
wicu3u10	
	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method
Note 1:	required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). Per KDB 789033 2) c) (i), compliance can be
	demonstrated by meeting the average and peak limits of 15.209, as an alternative.
Note 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
NULE 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,
Note 5.	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
Note 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Note 5:	For SISO measurment, evaluation of each chain showed that chain 4 has the highest power measurment. All SISO test
Note 5.	measurment were performed with chain 4 active.

	NTS							EM	C Test Data
Client:	Arris							PR Number:	PR101106
							T-Log Number: TL-101106-RAN/		
Model:	NVG5XDBA	X					Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer:	
	FCC Part 15					Class:			
I Te Te	Date of Test: st Engineer: est Location:	07/16/19 Rafael Varel FT Chambe	as	40,000 MHz	Con	n the 5150-5 onfig. Used: fig Change: UT Voltage:	1 None	and	
Run #1a: C	enter Chann	el							
Channel: Tx Chain:	6 & 40 1Tx			Mode: Data Rate:	g & a 6.0 Mbps		Pwr Setting:	26 (q104)	
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
5149.900	52.6	V	54.0	-1.4	AVG	205	1.6		/B 10 Hz;Peak
5135.000	53.8	V	74.0	-20.2	PK	205	1.6		/B 3 MHz;Peak
5355.530	49.3	V	54.0	-4.7	AVG	210	1.6		/B 10 Hz;Peak
5350.000	53.1	V	74.0	-20.9	PK	210	1.6		/B 3 MHz;Peak
4879.320	48.5	V	54.0	-5.5	AVG	127	1.6		/B 10 Hz;Peak
4872.350	52.1	V	74.0	-21.9	PK	127	1.6		/B 3 MHz;Peak
9710.000	53.9	H	68.3	-14.4	PK	269	2.0		/B 3 MHz;Peak
16000.200 16000.170	46.6 52.1	н	54.0 74.0	-7.4 -21.9	AVG PK	263 263	1.5 1.5	RB 1 MHz;\	1 MHz;VB 300 Hz
20000.320	42.1	H	54.0	-21.9	AVG	203 17	1.4		/B 10 Hz;Peak
20000.320	49.7	H	74.0	-24.3	PK	17	1.4		/B 3 MHz;Peak
20799.940	47.2	H	54.0	-6.8	AVG	45	1.1		/B 10 Hz;Peak
20799.960	52.9	H	74.0	-21.1	PK	45	1.1		/B 3 MHz;Peak
					11				
Note 1:					209 was used				
Note 2:							68.3dBuV/m	i). The meas	urement method
	required is a	peak measu	urement (RB	=1MHz, VB≥	≥3MHz, peak	detector).			

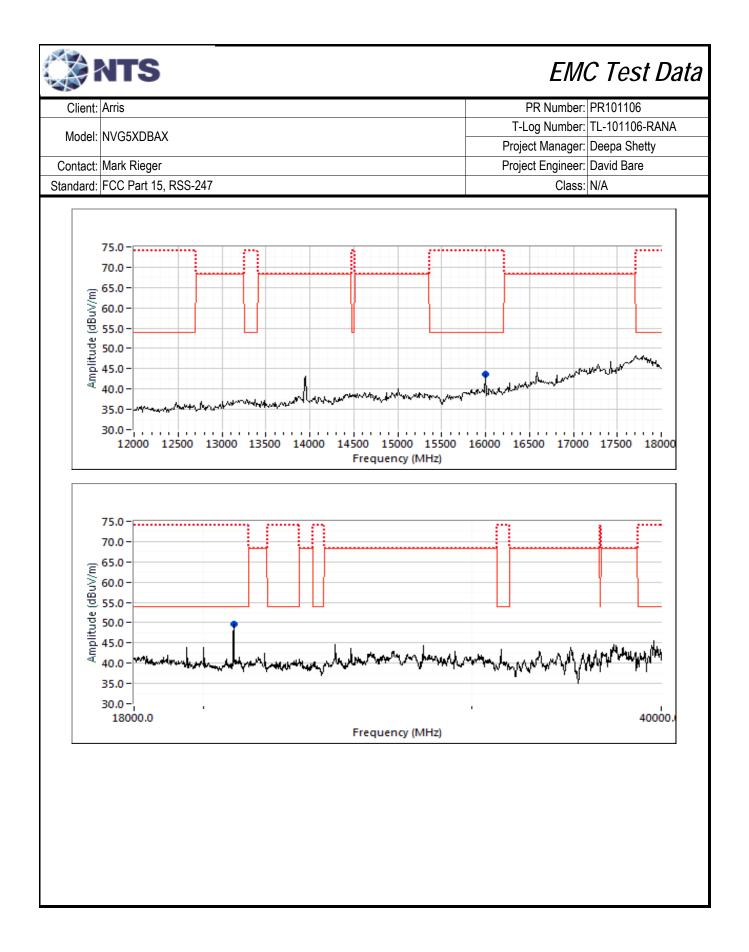




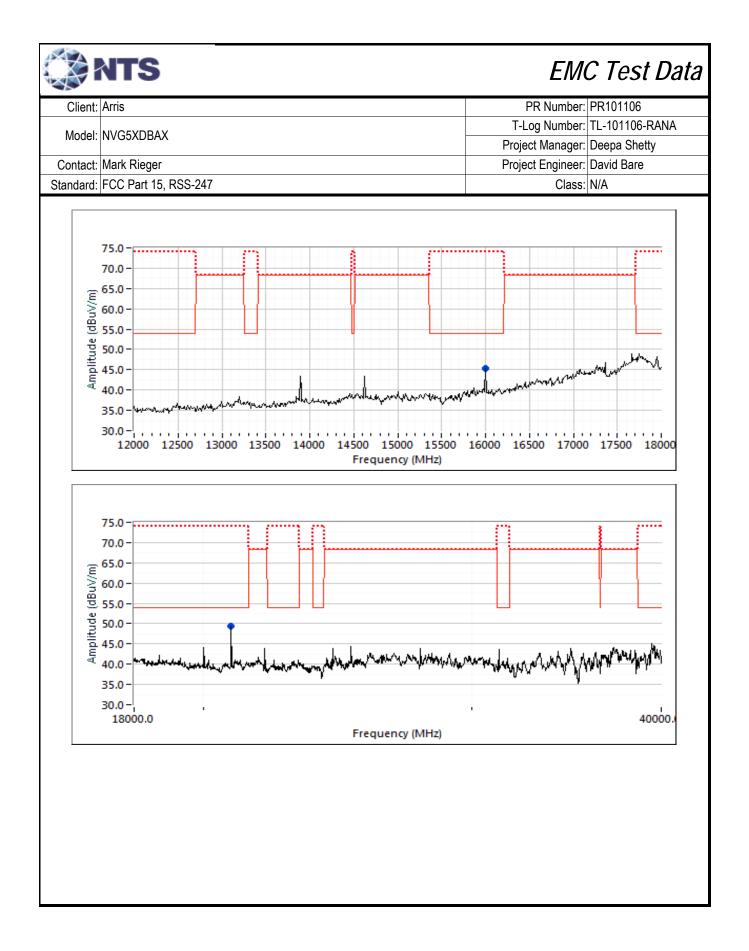
Client:	Arris							PR Number:	PR101106
		,					T-	Log Number:	TL-101106-RANA
Model:	NVG5XDBA	K					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger							ect Engineer:	
	FCC Part 15	RSS-247					,	Class:	
Run #1b: C	Center Chanr	el							
Channel:	6 & 40			Mode:	ac20		Pwr Setting	: 24 (q96) & 2	3 (a92)
Tx Chain:					6.5 Mbps		i wi oetting	. 24 (430) & 2	.5 (q52)
					·				
Frequency	Level	Pol		9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
5148.750	53.8	V	54.0	-0.2	AVG	208	1.6		B 300 Hz;Peak
5149.170 5357.750	65.4 51.0	V V	74.0	-8.6	PK AVG	208 185	1.6 1.7	,	B 3 MHz;Peak B 300 Hz;Peak
5357.750	63.1	V	54.0 74.0	-3.0 -10.9	PK	185	1.7	,	B 300 Hz;Peak
4883.670	49.0	V	54.0	-10.9	AVG	105	1.7		B 300 Hz;Peak
4883.740	63.3	V	74.0	-10.7	PK	117	1.7		B 3 MHz;Peak
9710.000	54.1	Ĥ	68.3	-14.2	PK	228	2.0		B 3 MHz;Peak
16000.200	45.3	H	54.0	-8.7	AVG	319	1.5		1 MHz;VB 300 Hz
16000.170	51.2	Н	74.0	-22.8	PK	319	1.5	RB 1 MHz;V	
20799.950	49.1	Н	54.0	-4.9	AVG	178	1.2		B 300 Hz;Peak
20799.900	54.0	Н	74.0	-20.0	PK	178	1.2		B 3 MHz;Peak
		o io vootviete	al hanala tha	limit of 15 0	00	ubiob no eu in			
Note 1:					09 was used				urement method
Note 2:					:3MHz, peak o		00.500007/11	i). The meas	
		peak mease		1101112, VD=	.om 12, pour (
	75.0 -			- (T) I-	m #6				(3) (*****
	70.0-								
	65.0-		_						
×	65.0 - 60.0 - 55.0 - 50.0 - 45.0 - 40.0 -								
a Bu	55.0-								
це С	55.0	I					17 🔪 👘		
itio	50.0-			الما ابن	interesting the	الأباريم فعاليهم ال	1 14		•
d d	45.0	www	with the second of the second of the second se				L.	A DESCRIPTION OF THE OWNER	
<	40.0	y	· · ·						
	35.0-								
	30.0-								
	1000								10000 12000
1					Frequency	(MHz)			



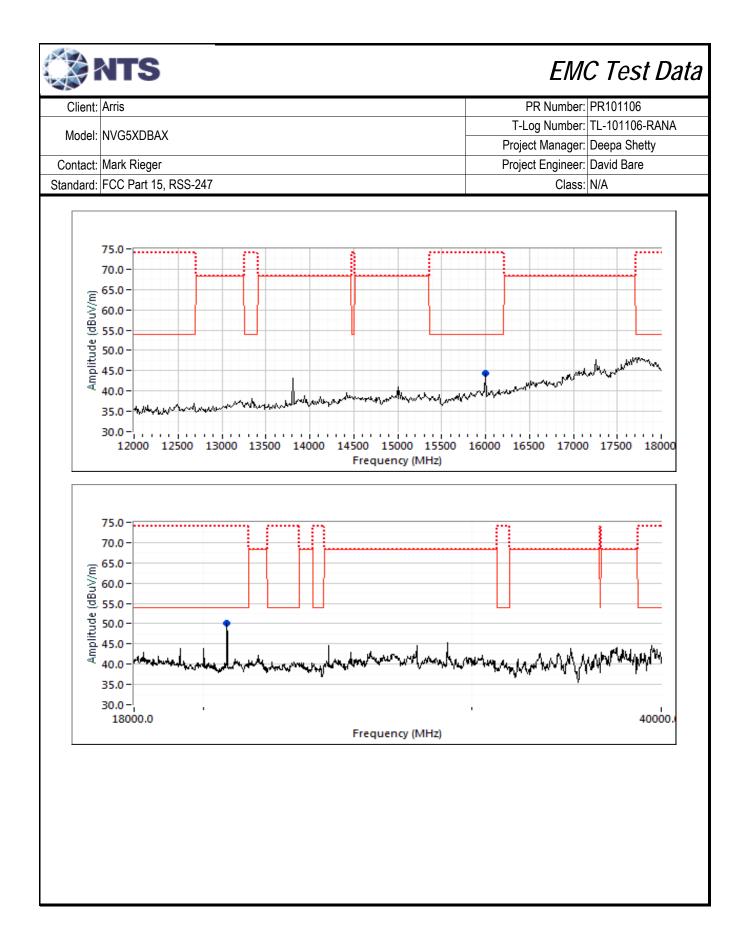
Client:	Arris							PR Number:	PR101106
		_					T-	Log Number:	TL-101106-RANA
Model:	NVG5XDBA	X					Project Manager: Deepa Shetty		
Contact:	Mark Rieger					ect Engineer:			
	FCC Part 15	RSS-2/17			Class: N/A				
Stanuaru.	1001 att 10	, 1100-247						01033.	N/73
Run #1c: C	enter Chann	el							
	0.0.40				10			04 (00)	
Channel:	6 & 46			Mode Data Data			Pwr Setting	: 24 (q96)	
Tx Chain:	4Tx			Data Rate	: 6.5, 13.5 Mb	ps			
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
5353.650	52.8	V	54.0	-1.2	AVG	352	1.9		1 MHz;VB 300 Hz
5351.500	64.4	V	74.0	-9.6	PK	352	1.9	RB 1 MHz;V	
2390.000	50.7	Н	54.0	-3.3	AVG	110	1.5		1 MHz;VB 300 Hz
2390.000	68.3	Н	74.0	-5.7	PK	110	1.5	RB 1 MHz;V	
2484.000	49.9	Н	54.0	-4.1	AVG	103	1.5		1 MHz;VB 300 Hz
2484.640	69.1	H	74.0	-4.9	PK	103	1.5	RB 1 MHz;V	
5128.200	51.8	V	54.0	-2.2	AVG	89	1.6		1 MHz;VB 300 Hz
5146.800	70.0	V V	74.0	-4.0	PK	89 312	1.6	RB 1 MHz;V	
4898.920 4897.710	47.6 61.2	V	54.0 74.0	-6.4 -12.8	AVG PK	312	2.0 2.0	RB 1 MHz;V	1 MHz;VB 300 Hz
9710.000	54.1	H	68.3	-12.0	PK	282	1.5	RB 1 MHz;V	
16000.200	44.7	H	54.0	-9.3	AVG	231	1.5		1 MHz;VB 300 Hz
16000.170	51.0	H	74.0	-23.0	PK	231	1.5	RB 1 MHz;V	
20919.910	49.3	H	54.0	-4.7	AVG	158	1.4		B 300 Hz;Peak
20919.790	54.1	Н	74.0	-19.9	PK	158	1.4		B 3 MHz;Peak
Note 1:					209 was used				
Note 2:						• •	68.3dBuV/n	n). The meas	urement method
	required is a	peak measu	irement (RB:	=1MHz, VB2	≥3MHz, peak o	detector).			
	75.0								
	75.0	1	<u> </u>	- (11)	(1) #1		···· 1 11:	- mm	
	70.0-	1		┉┊╏┝╇╍	╡┊╍╍╋╋┥	Ĥ			i-ilii
- E	65.0-								
	60.0-				<u> </u>		1		
<u>g</u>	55.0-								
de	65.0 - 60.0 - 55.0 - 50.0 - 45.0 - 40.0 -		-				1/ 2		
ļita	45.0			wanted W	LAND LAND AND AND AND AND AND AND AND AND AND	فيوده وبينا وجعلي			المعاقر مار 📍
d my	45.0 - 19.0 -	U. P. MARCHARM	and the second second	1440- 4 4			٩,	فيغلوهم يعاديه ويلاه	and the second second
	40.0								
	35.0 -								
	30.0-								
	1000								10000 12000
					Frequency				I



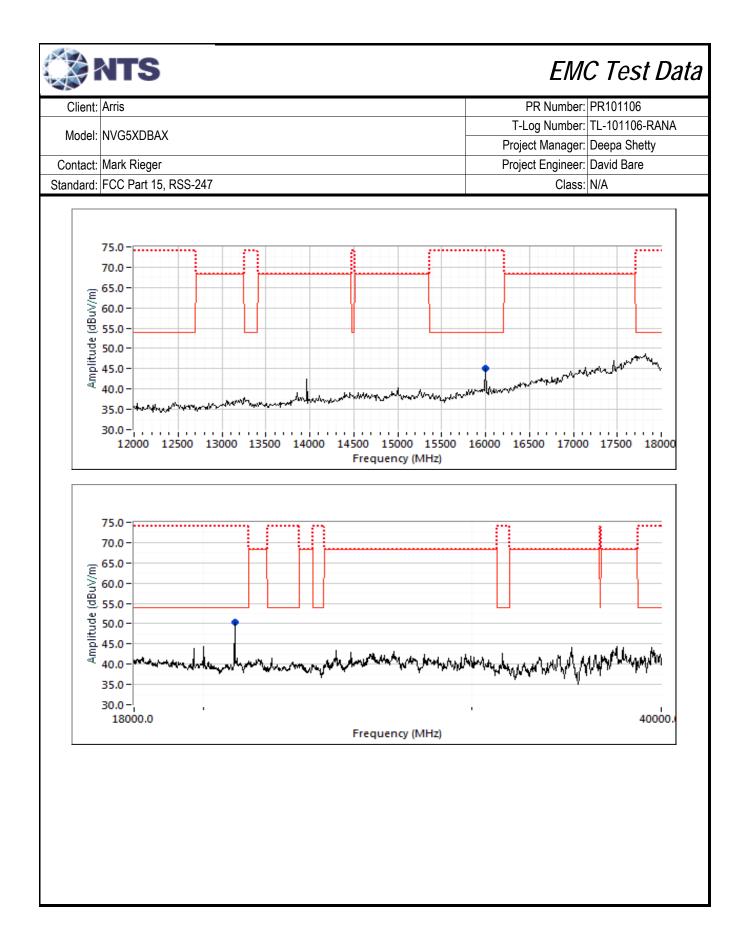
	NTS							EMC Test Data			
Client:	Arris							PR Number: PR101106			
Madal		V					T-	Log Number: TL-101106-RANA			
Wodel:	NVG5XDBA	X					Project Manager: Deepa Shetty				
Contact:	Mark Rieger						-	ect Engineer: David Bare			
	FCC Part 15						,	Class: N/A			
Run #1d:(Center Chanr	nel									
Channel: Tx Chain:	6 & 42 1Tx & 4Tx				b & ac80 1 & 29.3 Mb		Pwr Setting	: 22.25 (q89) & 23 (q92)			
Frequency	Level	Pol	15 200	9/15E	Detector	Azimuth	Height	Comments			
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters				
5350.080	53.8	VIII	54.0	-0.2	AVG	351	1.8	Note 3; RB 1 MHz;VB 1 kHz			
5355.600	69.2	V	74.0	-0.2	PK	351	1.8	RB 1 MHz;VB 3 MHz			
4874.060	53.6	V	54.0	-0.4	AVG	124	2.0	RB 1 MHz;VB 10 Hz			
4873.840	60.5	V	74.0	-13.5	PK	124	2.0	RB 1 MHz;VB 3 MHz			
5137.500	71.6	V	54.0	17.6	Peak	203	1.5	Refer to Bandedge test data			
9710.000	54.7	H	68.3	-13.6	PK	272	1.5	RB 1 MHz;VB 3 MHz			
6000.190		Н	54.0	-11.4	AVG	262	1.5	RB 1 MHz;VB 10 Hz			
6000.120	51.6 H 74.0		-22.4	PK	262	1.5	RB 1 MHz;VB 3 MHz				
0839.920	49.7	Н	54.0	-4.3	AVG	164	1.2	RB 1 MHz;VB 1 kHz;Peak			
20839.880	54.4	Н	74.0	-19.6	PK	164	1.2	RB 1 MHz;VB 3 MHz;Peak			
ote 1: ote 2:	For emission	is outside of	the restricte	d bands the		m/MHz eirp (and peak measurements. n). The measurement method			
Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 60.0 - 55.0 - 50.0 - 45.0 - 45.0 - 40.0 - 35.0 - 30.0 - 1000		, Mailer and Andrea	uddan a							
	1000				Frequency	/ (MHz)		10000 12000			



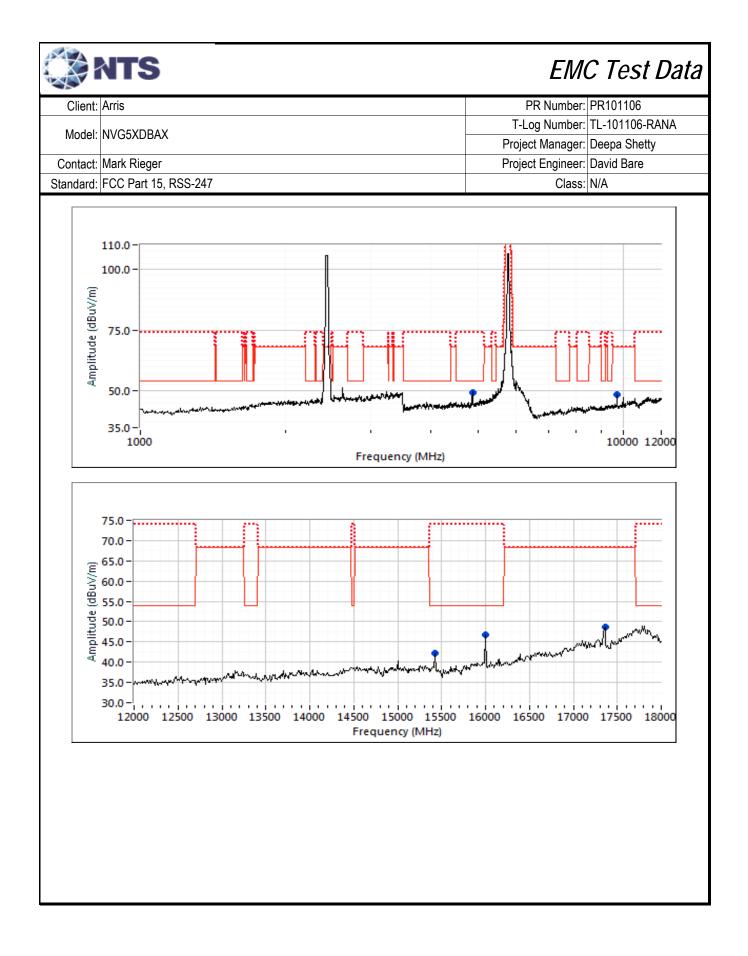
Client:	Arris							PR Number: PR101106		
Onorit.	7 4110						T-	Log Number: TL-101106-RANA		
Model:	NVG5XDBA>	<					Project Manager: Deepa Shetty			
Contact	Mark Rieger						Project Engineer: David Bare			
	FCC Part 15,	DSS 247					Class: N/A			
Stanuaru.	TOO Fait 15,	1100-247						Class. IN/A		
L Te Te	diated Spuri Date of Test: (st Engineer: 1 est Location: (ow Channel	07/16/19 M. Birgani		40000 MHz	Con	<i>l</i> lode: Wors onfig. Used: fig Change: UT Voltage:	1 -			
Channel: Tx Chain:	1 & 36 4TX			Mode: Data Rate:	: ac20 : 6.5 Mbps		Pwr Setting	: 24 (q96) & 22 (q88)		
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters			
4813.810	53.2	V	54.0	-0.8	AVG	331	1.6	Note 3; RB 1 MHz;VB 300 Hz		
4813.640	68.3	V	74.0	-5.7	PK	331	1.6	RB 1 MHz;VB 3 MHz		
9709.620	54.9	Н	68.3	-13.4	PK	275	1.5	RB 1 MHz;VB 3 MHz		
2874.880	42.3	Н	54.0	-11.7	AVG	206	1.0	RB 1 MHz;VB 10 Hz		
2874.980	54.4	Н	74.0	-19.6	PK	206	1.0	RB 1 MHz;VB 3 MHz		
16000.230	44.7	Н	54.0	-9.3	AVG	265	1.5	Note 3; RB 1 MHz;VB 300 Hz		
16000.000	52.7	Н	74.0	-21.3	PK	265	1.5	RB 1 MHz;VB 3 MHz		
20719.890	50.0	Н	54.0	-4.0	AVG	161	1.3	RB 1 MHz;VB 300 Hz;Peak		
20720.030	54.2	Н	74.0	-19.8	PK	161	1.3	RB 1 MHz;VB 3 MHz;Peak		
lote 1:	For emission	s in restricte	d bands, the	limit of 15.2	209 was used	which requir	es average	and peak measurements.		
								n). The measurement method		
Note 2:					≥3MHz, peak	• •		,		
	110.0 - 100.0 - 75.0 - 50.0 - 35.0 - 1000	مريد ميلوم مريم	and a start way of the			مریکھیل <u>اور موجود ہو</u>				

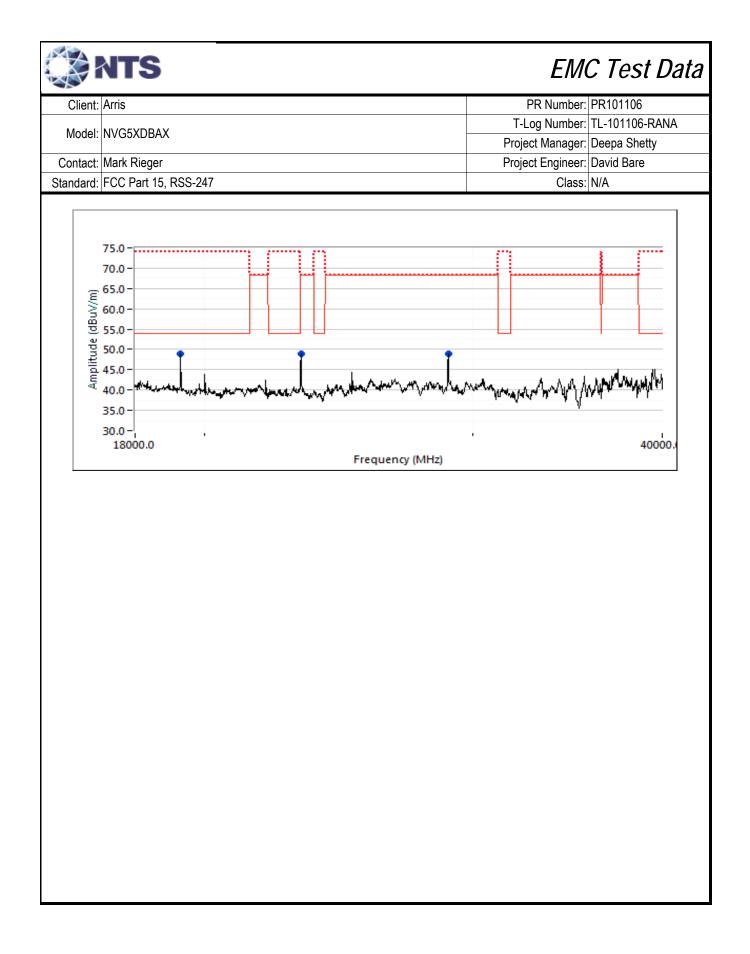


	ATS							
								EMC Test Data
Client:	Arris							PR Number: PR101106
Model	NVG5XDBAX	,					T-I	Log Number: TL-101106-RANA
WOUEI.	NVGJADDAA						Proje	ect Manager: Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer: David Bare
Standard:	FCC Part 15,	RSS-247						Class: N/A
Qun #2h· H	ligh Channel							
	•			M				
Channel: Tx Chain:				Mode:	ac20 6.5 Mbps		Pwr Setting:	23 (q92) & 24 (q96)
TX Ghain.	417			Dala Rale.				
requency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4924.010	53.4	V	54.0	-0.6	AVG	137	2.0	Note 3; RB 1 MHz;VB 300 Hz
4923.010	66.6	V	74.0	-7.4	PK	137	2.0	RB 1 MHz;VB 3 MHz
9710.000	54.9	Н	68.3	-13.4	PK	286	1.5	RB 1 MHz;VB 3 MHz
0000.000		Н	68.3	-14.2	PK	146	1.5	RB 1 MHz;VB 3 MHz
6000.230		Н	54.0	-9.2	AVG	321	1.5	Note 3; RB 1 MHz;VB 300 Hz
6000.000		Н	74.0	-21.7	PK	321	1.5	RB 1 MHz;VB 3 MHz
20959.920		Н	54.0	-3.8	AVG	153	1.4	RB 1 MHz;VB 300 Hz;Peak
20959.960	54.4	Н	74.0	-19.6	PK	153	1.4	RB 1 MHz;VB 3 MHz;Peak
lote 1:	For emissions	s in restricte	d bands, the	limit of 15.2	09 was used	which reauir	es average	and peak measurements.
								n). The measurement method
lote 2:	required is a							,
			•					
	110.0							
	110.0-			-				
	110.0 -							
Ē	100.0 -							
(m/Vu	100.0 -							
(dBuV/m)	100.0 -							
de (dBuV/m)	100.0 -				/" I I			
litude (dBu//m)	100.0 -				{`` } #f			
mplitude (dBuV/m)	100.0 -						•	
Amplitude (dBuV/m)	100.0 -						-	
Amplitude (dBuV/m)	75.0 -						J.	
Amplitude (dBuV/m)	100.0 - 75.0 - 50.0 -	,						
Amplitude (dBuV/m)	75.0 -	un of the second						
Amplitude (dBuV/m)	100.0 - 75.0 - 50.0 - 35.0 -				Frequence	у (MHz)		

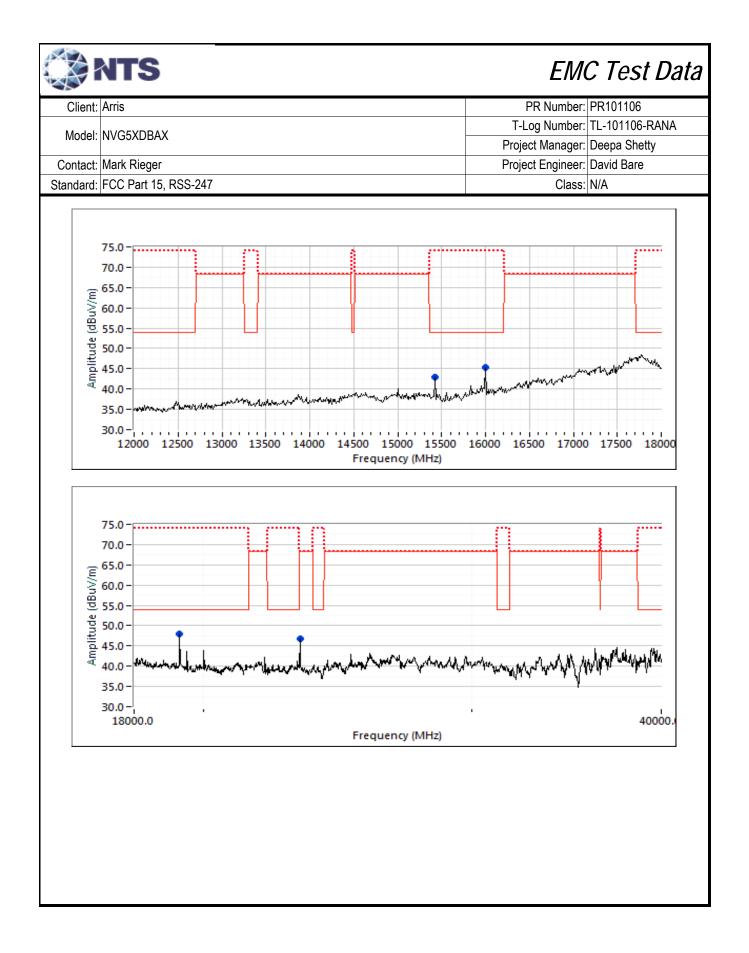


	NTS							EM	C Test Da
Client:	Arris							PR Number:	PR101106
M. 1.1							T-Log Number: TL-10110		TL-101106-RANA
Model:	NVG5XDBA	X					Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer:	
	FCC Part 15	RSS-247						Class:	
otandara		,						0.0.001	
C Te Te	Date of Test: st Engineer: est Location:	7/16 & 7/17/ M. Birgani / Chamber #5	2019 R. Varelas	40,000 MHz	Con	n the 5725-5 onfig. Used: fig Change: UT Voltage:	1 -		
Run #3a: Ce	enter Chann	el							
Channel:	6 & 157			Mode	: g/a		Pwr Setting:	26 (q104) &	26 (q104)
Tx Chain:	1TX				6.0 Mbps		5		· · · /
Frequency	Louis!	Del	15 00	0/155	Detector	A Tipe th	Llo ^t erbt	Comment	
Frequency MHz	Level dBµV/m	Pol V/H	Limit	9 / 15E Margin	Detector Pk/QP/AVG	Azimuth	Height meters	Comments	
17350.330	авµv/m 65.2	H	68.3	Margin -3.1	PK/QP/AVG PK	degrees 157	1.0		/B 3 MHz;Peak
4880.870	45.3	V	54.0	-3.1	AVG	325	2.0	RB 1 MHz;V	
4883.670	60.8	V	74.0	-13.2	PK	325	2.0	RB 1 MHz;V	
9710.000	54.7	H	68.3	-13.6	PK	294	1.5	RB 1 MHz;V	
15426.640	46.7	H	54.0	-7.3	AVG	149	1.0		/B 10 Hz;Peak
15426.220	59.0	H	74.0	-15.0	PK	149	1.0		/B 3 MHz;Peak
16000.240	47.8	Н	54.0	-6.2	AVG	300	1.0		/B 10 Hz;Peak
15999.690	59.4	Н	74.0	-14.6	PK	300	1.0		/B 3 MHz;Peak
19283.290	48.6	Н	54.0	-5.4	AVG	138	1.5		/B 300 Hz;Peak
19283.180	54.1	Н	74.0	-19.9	PK	138	1.5	RB 1 MHz;V	/B 3 MHz;Peak
23138.790	59.4	V	68.3	-8.9	PK	123	1.6	RB 1 MHz;∖	/B 3 MHz;Peak
28924.740	58.7	Н	68.3	-9.6	PK	139	1.9	RB 1 MHz;V	/B 3 MHz;Peak
lata 1.	For omission	o in rootricto	d handa the	limit of 15 (00 waa uaad	which requir		and neal ma	aguramanta
Note 1:					209 was used				urement method
Note 2:					≥3MHz, peak		00.Jubuv/II	i). The meas	
	required is a	peak measi		- HVII IZ, VD2	-Sivil IZ, peak (

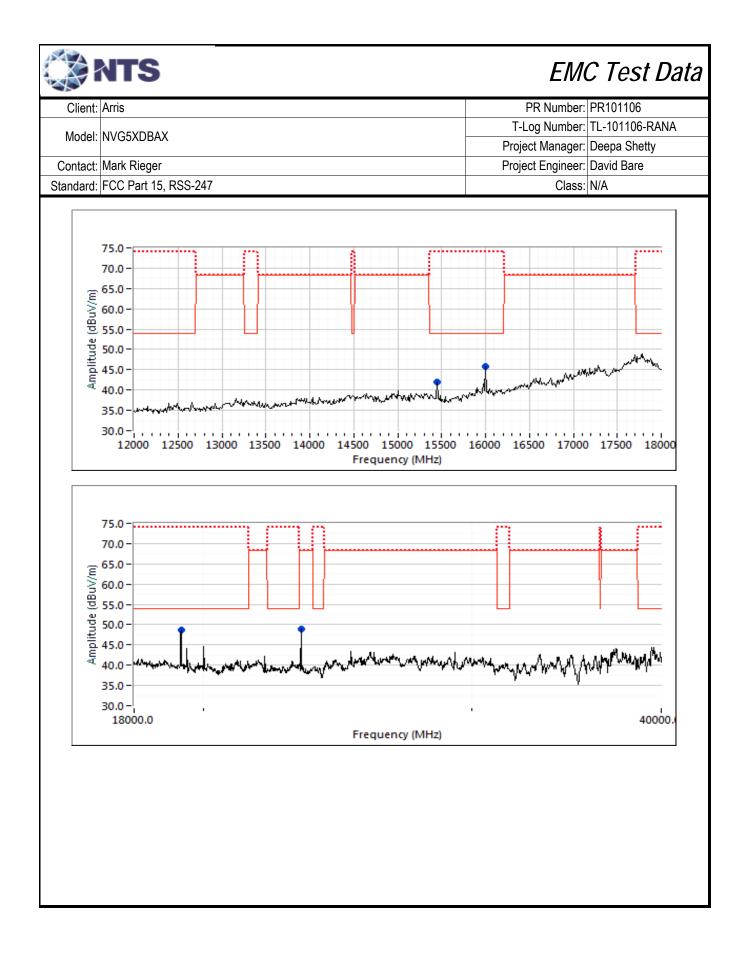




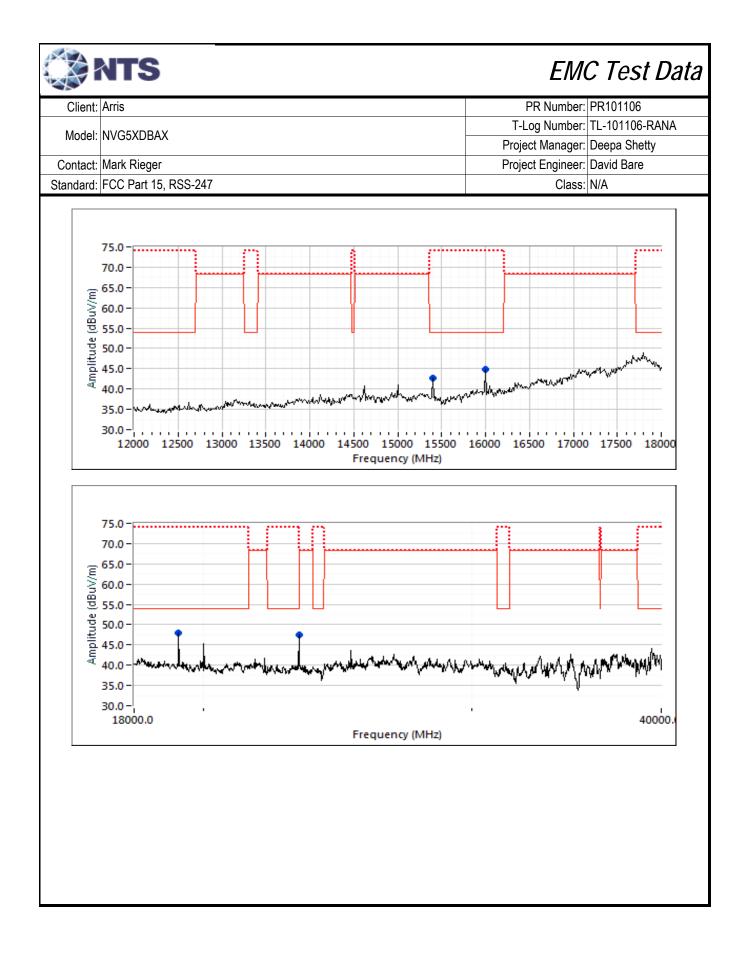
	: Arris							PR Number: PR101106
Madal		/					T-	Log Number: TL-101106-RANA
woder	NVG5XDBA	•					Proj	ect Manager: Deepa Shetty
Contact	Mark Rieger						Proj	ect Engineer: David Bare
Standard	FCC Part 15,	RSS-247						Class: N/A
Run #3b: (Center Chann	el						
Channel:	6 & 157			Mode:	ac20		Pwr Settina	: 24 (q96) & 24 (q96)
Tx Chain:					6.5 Mbps		in coung	
			45.000		· · ·			
Frequency		Pol) / 15E Margin		Azimuth	Height	Comments
MHz 4878.730	dBµV/m 50.7	V/H V	Limit 54.0	Margin -3.3	Pk/QP/AVG AVG	degrees 154	meters 2.0	Note 3; RB 1 MHz;VB 300 Hz
4878.130	64.6	V	54.0 74.0	-3.3 -9.4	PK	154	2.0	RB 1 MHz;VB 3 MHz;Peak
9710.000	55.1	H	68.3	-13.2	PK	274	2.0	RB 1 MHz;VB 3 MHz;Peak
10000.000		H	68.3	-14.0	PK	347	2.0	RB 1 MHz;VB 3 MHz;Peak
16000.130		H	54.0	-6.2	AVG	202	1.0	RB 1 MHz;VB 300 Hz;Peak
16000.180		H	74.0	-14.8	PK	202	1.0	RB 1 MHz;VB 3 MHz;Peak
15426.620		Н	54.0	-7.0	AVG	147	1.0	RB 1 MHz;VB 300 Hz;Peak
15426.730	58.3	Н	74.0	-15.7	PK	147	1.0	RB 1 MHz;VB 3 MHz;Peak
19283.310	46.0	Н	54.0	-8.0	AVG	48	1.1	RB 1 MHz;VB 300 Hz;Peak
19283.440	52.6	Н	74.0	-21.4	PK	48	1.1	RB 1 MHz;VB 3 MHz;Peak
23139.910	50.1	Н	68.3	-18.2	PK	305	1.3	RB 1 MHz;VB 3 MHz;Peak
Note 1:	For emission	s in restricte	d hands the	limit of 15.2	09 was used	which requir	es averane	and peak measurements.
								n). The measurement method
Note 2:					3MHz, peak	• •		,
	1 1			,		/		
	110.0-							
	110.0 -			1				
	110.0 -			l				
(E)	100.0 -							
(m//m)	100.0 -							
[dBuV/m]	100.0 -				r"" III f			
ude [dBu//m]	100.0 -	1		{]]}	{`` } #{			
plitude [dBuV/m]	100.0 -							
Amplitude (dBuV/m)	100.0 -							
Amplitude (dBuV/m)	100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 -	1					Lund In	
Amplitude (dBuV/m)	100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 40.0 -						J. J. J.	
Amplitude (dBuV/m)	100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 40.0 - 30.0 -	1					I.	
Amplitude (dBuV/m)	100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 40.0 -				Frequence	, маниция и маниция и у маниция и м	L.	



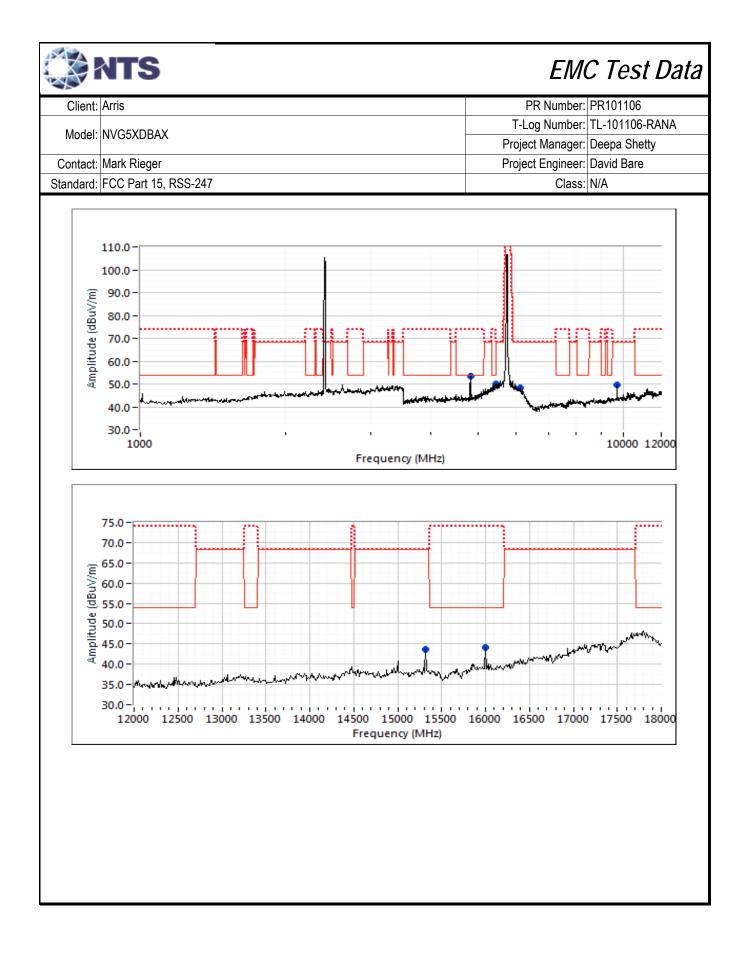
	NTS							EMO	C Test Data
Client:	Arris							PR Number:	PR101106
Madalı		v					T-	Log Number:	TL-101106-RANA
Model:	NVG5XDBA	A					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
	FCC Part 15						,	Class:	
Run #3c: C Channel: Tx Chain:	enter Chanr 6 & 159 4Tx	nel		Mode: Data Rate:	ac40 13.5 Mbps		Pwr Setting	: 24 (q96) & 2	14 (q96)
	Laval	Dal	15 000		Detector	۸ – نمور ب د ام	Llaight	Commonto	
Frequency	Level	Pol V/H) / 15E Margin		Azimuth	Height	Comments	
MHz 2483.610	dBµV/m 50.6	V/H H	Limit 54.0	Margin -3.4	Pk/QP/AVG AVG	degrees 106	meters 1.6		B 10 Hz;Peak AVG 100
2483.610	50.6 68.7	H	54.0 74.0	-3.4 -5.3	PK	106	1.6		B 10 HZ;Peak AVG 100 B 3 MHz;Peak
2389.990	48.9	H	54.0	-5.1	AVG	99	1.5		B 10 Hz;Peak AVG 100
2389.740	68.2	Н	74.0	-5.8	PK	99	1.5		B 3 MHz;Peak
4890.020	49.2	V	54.0	-4.8	AVG	153	1.7		B 300 Hz;Peak
4890.330	63.8	V	74.0	-10.2	PK	153	1.7		B 3 MHz;Peak
9706.000	55.8	Ĥ	68.3	-12.5	PK	281	1.3		B 3 MHz;Peak
9999.880	54.5	Н	68.3	-13.8	PK	127	1.0		B 3 MHz;Peak
16000.180	47.7	Н	54.0	-6.3	AVG	321	1.0		B 300 Hz;Peak
16000.250	59.3	Н	74.0	-14.7	PK	321	1.0		B 3 MHz;Peak
15453.270	46.8	Н	54.0	-7.2	AVG	151	1.0		B 300 Hz;Peak
15452.980	58.5	Н	74.0	-15.5	PK	151	1.0		B 3 MHz;Peak
19316.600	47.9	Н	54.0	-6.1	AVG	138	1.4		B 300 Hz;Peak
19316.540	53.3	Н	74.0	-20.7	PK	138	1.4	RB 1 MHz;V	'B 3 MHz;Peak
23179.660	52.7	Н	68.3	-15.6	PK	156	2.0	RB 1 MHz;V	'B 3 MHz;Peak
Note 1: Note 2:	For emission	is outside of	the restricted	d bands the	209 was used limit is -27dBn 23MHz, peak c	n/MHz eirp (v		asurements. urement method
Amplitude (dBuV/m)	110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 40.0 - 30.0 - 1000	~~~~~	************************		Frequency	y (MHz)			10000 12000

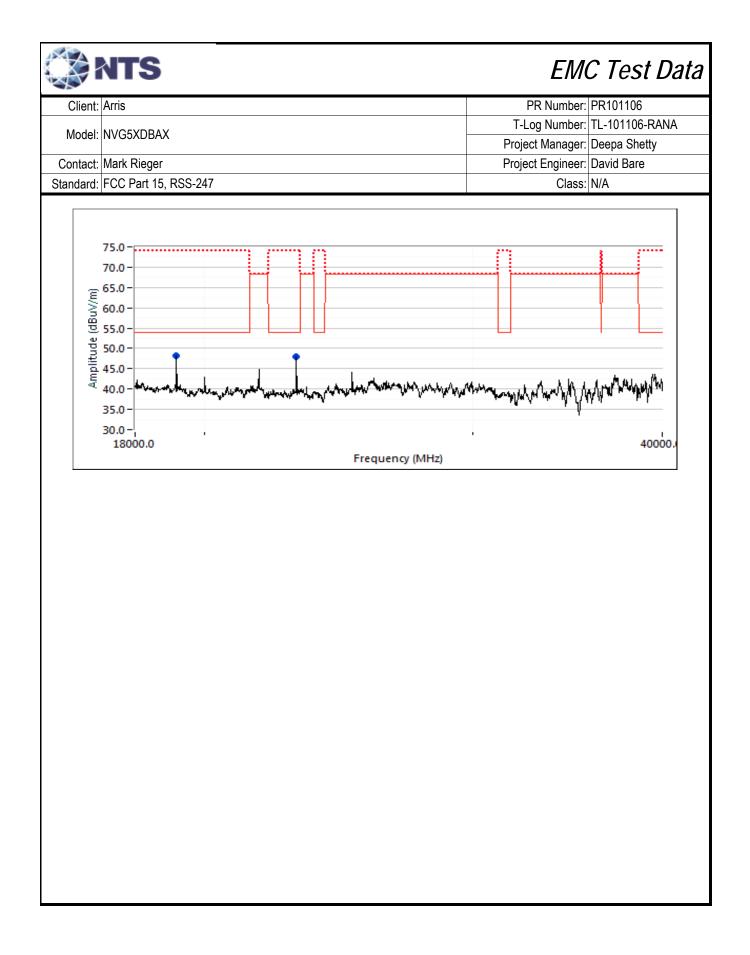


0110110	Arris							PR Number:	PR101106
		,					T-	Log Number:	TL-101106-RANA
Model:	NVG5XDBAX	K					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger							ect Engineer:	
	FCC Part 15	RSS-247					,	Class:	
Run #3d: (Center Chann	el							
Channel:	6 & 155			Modo:	b & ac80		Dwr Sotting	· 22 (288) 8 2	(206)
	1Tx & 4Tx				1 & 29.3 Mb		Pwr Setting	: 22 (q88) & 2	4 (q90)
TX Onain.					1 & 25.5 100	93			
Frequency		Pol		9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	0	meters		
6003.640	68.2	V	68.3	-0.1	PK	24	1.7		B 3 MHz;Peak
9711.830 4874.010	54.0 53.9	V V	68.3 54.0	-14.3 -0.1	PK AVG	251 197	<u>1.0</u> 1.6		B 3 MHz;Peak
4874.010	60.3	V	54.0 74.0	-0.1	PK	197 197	1.6		'B 10 Hz;Peak 'B 3 MHz;Peak
15399.890		H	54.0	-13.7	AVG	324	1.4		B 1 kHz;Peak
15400.200		H	74.0	-15.5	PK	324	1.4		B 3 MHz;Peak
16000.230		H	54.0	-6.0	AVG	326	1.9		B 1 kHz;Peak
16000.030		H	74.0	-14.7	PK	326	1.0		B 3 MHz;Peak
19249.950		Н	54.0	-5.7	AVG	134	1.6		'B 1 kHz;Peak
19250.020	53.6	Н	74.0	-20.4	PK	134	1.6		B 3 MHz;Peak
23099.930	52.6	Н	74.0	-21.4	PK	134	1.8	RB 1 MHz;V	'B 3 MHz;Peak
Note 1:	For emission	s in restricte	d hands the	limit of 15.2	09 was used	which requir	as averane	and neak me	asuraments
									urement method
	For emission	s outside of							
Note 2:					:3MHz, peak				
Note 2:									
Note 2:								·	
Note 2:									
Note 2:	required is a								
	110.0 - 100.0 -								
	110.0 - 100.0 -								
	110.0 - 100.0 -								
	110.0 - 100.0 -								
	110.0 - 100.0 -								
	required is a 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 -								
Note 2:	110.0 - 100.0 -								
	required is a 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 -								
	required is a 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 40.0 -								
	required is a 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 -								10000 12000
	required is a 110.0 - 100.0 - 90.0 - 80.0 - 70.0 - 60.0 - 50.0 - 40.0 - 30.0 -					detector).			10000 12000

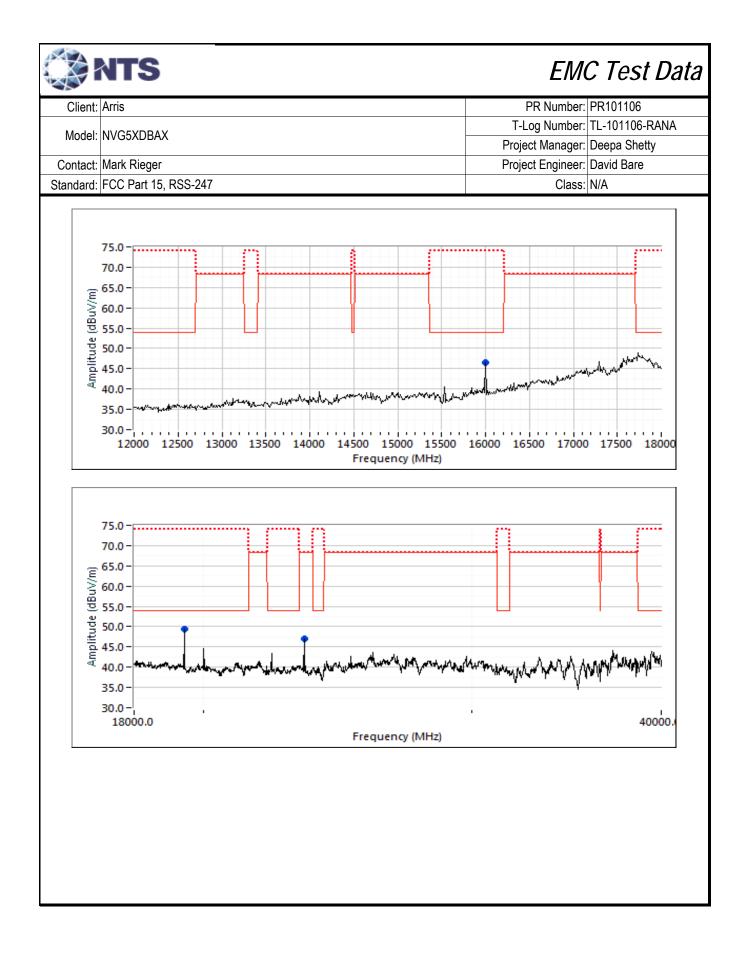


Client:	Arris							PR Number: PR101106
		_					T-	Log Number: TL-101106-RA
Model:	NVG5XDBA)	<						ect Manager: Deepa Shetty
Contact	Mark Rieger							ect Engineer: David Bare
	FCC Part 15,	DCC 2/17					110,0	Class: N/A
Stanuaru.	FUU Fait 15,	N33-241						Class. IN/A
C Te Te	diated Spuri Date of Test: (st Engineer:) est Location: (ow Channel	07/17/19 Rafael Vare	las	40000 MHz	Con	Node: Wors onfig. Used: fig Change: UT Voltage:	1 -	n Run #7
				N4. 1.				
Channel:	1 & 149				: b&ac20 : 1 8 6 5 Mbp		Pwr Setting:	18.25 (q73) & 24 (q96)
i x Unain:	1Tx & 4Tx			Data Rate	: 1 & 6.5 Mbps	5		
Frequency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4824.100	53.5	V	54.0	-0.5	AVG	162	1.7	RB 1 MHz;VB 10 Hz;Peak
4824.190	59.9	V	74.0	-14.1	PK	162	1.7	RB 1 MHz;VB 3 MHz;Peak
5445.730	50.1	V	54.0	-3.9	AVG	17	1.6	RB 1 MHz;VB 300 Hz;Peak
5446.030	62.6	V	74.0	-11.4	PK	17	1.6	RB 1 MHz;VB 3 MHz;Peak
6003.520	58.6	Н	68.3	-9.7	PK	80	1.0	RB 1 MHz;VB 3 MHz;Peak
9709.890	55.0	Н	68.3	-13.3	PK	273	1.5	RB 1 MHz;VB 3 MHz;Peak
15320.300	58.3	Н	68.3	-10.0	PK	138	1.0	RB 1 MHz;VB 3 MHz;Peak
16000.110	47.6	H	54.0	-6.4	AVG	300	1.0	RB 1 MHz;VB 300 Hz;Peak
16000.290 19149.890	58.8 46.2	H	74.0 54.0	-15.2 -7.8	PK AVG	300 46	1.0 1.2	RB 1 MHz;VB 3 MHz;Peak
19149.890	40.2 52.7	H	54.0 74.0	-7.0	PK	46	1.2	RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 3 MHz;Peak
22979.730	52.5	H	74.0	-21.5	PK	118	1.2	RB 1 MHz;VB 3 MHz;Peak
22919.130	JZ.J	11	74.0	-21.5	FN	110	1.4	IND T WITZ, VD J WITZ, FEAK
								and peak measurements.
Note 2:							68.3dBuV/m	n). The measurement metho
	required is a	peak meası	urement (RB	=1MHz, VB≥	≥3MHz, peak o	detector).		

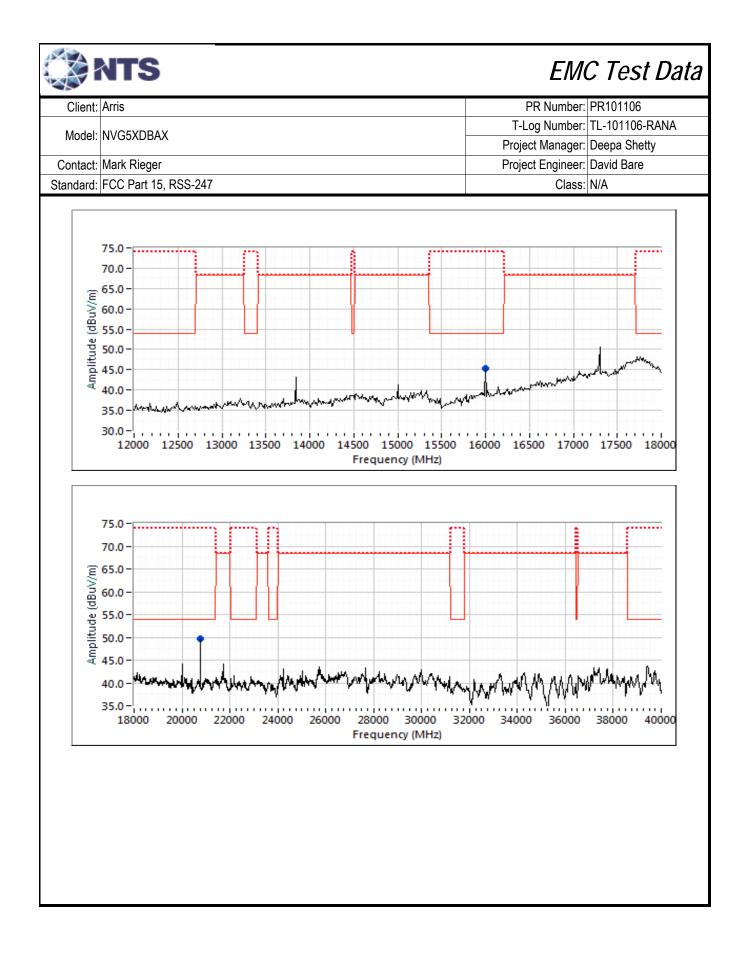




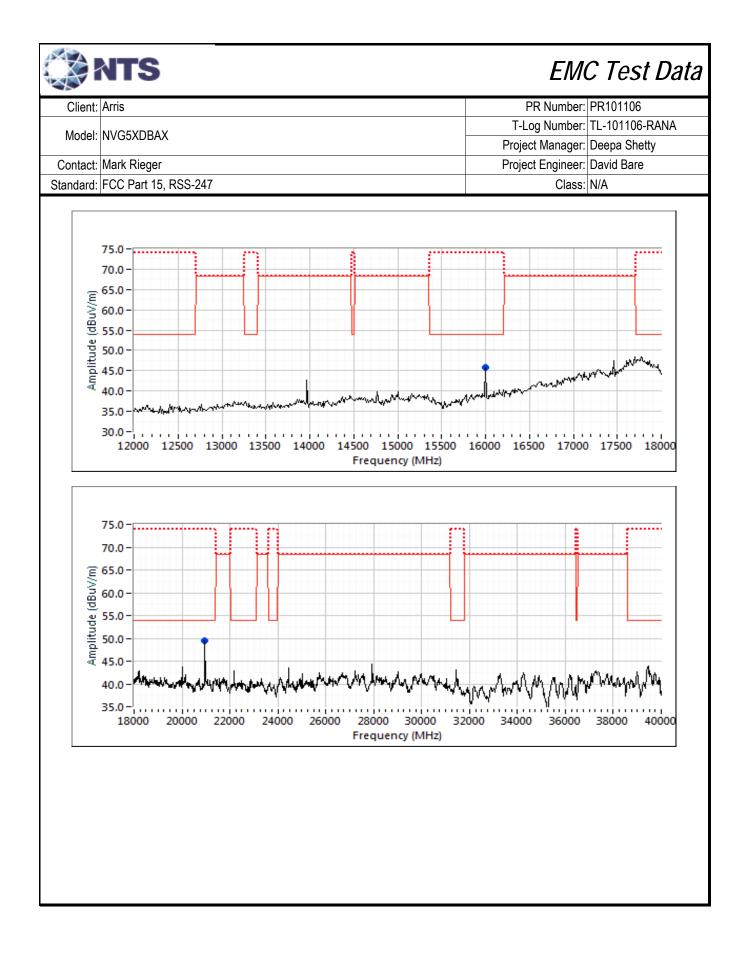
	: Arris							PR Number: PR101106
NA							T-	Log Number: TL-101106-RANA
Model	NVG5XDBA	K					Proj	ect Manager: Deepa Shetty
Contact	: Mark Rieger							ect Engineer: David Bare
	FCC Part 15							Class: N/A
Channel:	ligh Channel : 11 & 165 : 1Tx & 4Tx				: b & ac20 : 1 & 6.5 Mbps		Pwr Setting	: 16.25 (q65) & 24 (q96)
Frequency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4924.040	53.4	V	54.0	-0.6	AVG	128	1.4	RB 1 MHz;VB 10 Hz;Peak
4923.980	59.9	V	74.0	-14.1	PK	128	1.4	RB 1 MHz;VB 3 MHz;Peak
6002.180	60.4	Н	68.3	-7.9	PK	81	1.0	RB 1 MHz;VB 3 MHz;Peak
9712.680	53.6	Н	68.3	-14.7	PK	333	1.0	RB 1 MHz;VB 3 MHz;Peak
5392.400	49.1	V	54.0	-4.9	AVG	17	2.1	RB 1 MHz;VB 300 Hz;Peak
5394.400	61.9	V	74.0	-12.1	PK	17	2.1	RB 1 MHz;VB 3 MHz;Peak
16000.300		Н	54.0	-5.7	AVG	266	1.0	RB 1 MHz;VB 300 Hz;Peak
15999.910		Н	74.0	-14.9	PK	266	1.0	RB 1 MHz;VB 3 MHz;Peak
19416.520		Н	54.0	-5.7	AVG	130	1.4	RB 1 MHz;VB 300 Hz;Peak
19416.730		Н	74.0	-21.0	PK	130	1.4	RB 1 MHz;VB 3 MHz;Peak
23300.170	52.1	Н	68.3	-16.2	PK	156	1.9	RB 1 MHz;VB 3 MHz;Peak
Vote 1: Note 2: (m//\mgn (m//\mgn (m/))))))))))))))))))))))))))))))))))))	For emission required is a 110.0 - 100.0 -	is outside of	the restricte	d bands the		n/MHz eirp (and peak measurements. n). The measurement method
Amplitu	40.0 -							



Client: Arris	S							PR Number: PR101106
Madalı NIV (T-	Log Number: TL-101106-RANA
Model: NVC	JOVDBAY						Proj	ect Manager: Deepa Shetty
Contact: Mar	k Rieger						Proje	ect Engineer: David Bare
Standard: FCC	C Part 15, F	RSS-247						Class: N/A
un #E. Dadiat	ad Spurio	uc Emicci	onc 1000	40 000 MU	-			
un #5: Radiat Date	of Test: 07		0115, 1,000 -			onfig. Used:	1	
	ngineer: M		R. Varelas			fig Change:		
Test L	ocation: C	hamber #5			E	UT Voltage:	120V/ 60Hz	2
un #5a: Low (Channol							
	& 38				g & ac40		Pwr Setting:	: 26 (q104) & 24 (q96)
Tx Chain: 1T	x & 41x			Data Rate:	6 & 13.5 Mb	os		
	_evel	Pol		9 / 15E	Detector	Azimuth	Height	Comments
	BμV/m	V/H	Limit	Margin	Pk/QP/AVG	2	meters	
	52.7	V	54.0	-1.3	AVG	143	1.7	RB 1 MHz;VB 10 Hz
	49.7 66.7	H V	54.0 74.0	-4.3 -7.3	AVG PK	156 143	1.3 1.7	Note 3; RB 1 MHz;VB 300 Hz
	55.1	H	68.3	-13.2	PK	286	1.7	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz
	39.1	H	54.0	-14.9	AVG	258	1.4	RB 1 MHz;VB 10 Hz
	54.3	H	74.0	-19.7	PK	156	1.3	RB 1 MHz;VB 3 MHz
	49.0	Н	74.0	-25.0	PK	258	1.4	RB 1 MHz;VB 3 MHz
104.170	53.0	V	54.0	-1.0	Peak	198	1.6	Refer to BE test data
	.0 - .0 - .0 -	2000	3000 40		6000 Frequence	7000 8		0 10000 11000 12000



Client:	Arris							PR Number: PR101106		
							T-	Log Number: TL-101106-RANA		
Model:	NVG5XDBA	X						ect Manager: Deepa Shetty		
Contact.	Mark Rieger							ect Engineer: David Bare		
	FCC Part 15						1.0	Class: N/A		
	ligh Channe 11 & 48 1Tx			Mode: Data Rate:	g & a 6.0 Mbps		Pwr Setting	: 26 (q104) & 25 (q100)		
	· · · · · · · · · · · · · · · · · · ·									
Frequency	Level	Pol		9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters			
4924.010	53.8	V	54.0	-0.2	AVG	320	1.6	RB 1 MHz;VB 10 Hz;Peak		
5353.650	51.2	V V	54.0	-2.8 -7.1	AVG PK	77	1.5 1.6	RB 1 MHz;VB 10 Hz;Peak		
4925.070 20959.930	66.9 46.9	V H	74.0 54.0	-7.1	AVG	320 41	1.6	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 10 Hz		
16000.240	40.9	V	54.0 54.0	-7.1	AVG	272	1.5	RB 1 MHz;VB 10 Hz		
5358.280	63.2	V	74.0	-10.4	PK	77	1.5	RB 1 MHz;VB 3 MHz;Peak		
9705.620	55.2	Ĥ	68.3	-13.1	PK	273	1.4	RB 1 MHz;VB 3 MHz;Peak		
20959.930	52.8	H	74.0	-21.2	PK	41	1.3	RB 1 MHz;VB 3 MHz		
6000.350	51.4	V	74.0	-22.6	PK	272	1.6	RB 1 MHz;VB 3 MHz		
	110.0 - 100.0 - 75.0 -]-#[Menderson and a second		



	NTS			EMC Test Data
Client:	Arris			PR Number: PR101106
				T-Log Number: TL-101106-RANA
Model:	NVG5XDBAX			Project Manager: Deepa Shetty
Contact:	Mark Rieger			Project Engineer: David Bare
Standard:	FCC Part 15, RSS-247			Class: N/A
	RSS-247 and FC	C 15.407 (UN	II) Radiated	Spurious Emissions
Test Spec	Cific Details Objective: The objective of this te specification listed abo		form final qualificat	tion testing of the EUT with respect to the
Te	Date of Test: 9/25-27/2019 st Engineer: M. Birgani est Location: Chamber 7	Config. Use Config Chang EUT Voltac		
The EUT	est Configuration and all local support equipment wer ed emissions testing the measurem		ntable for radiated	
Ambient	Conditions:	Temperature: Rel. Humidity:	24-26 °C 41-45 %	
	ions Made During Testing cations were made to the EUT durin	ng testing		
	s From The Standard ons were made from the requireme	ents of the standard.		

e 🔁	NTS					FM	C Test Data			
Client		,				PR Number:				
Client	Ams						TL-101106-RANA			
Model	NVG5XDBA	λX				Project Manager:				
Contact	Mark Riege	r				Project Manager: Project Engineer:				
	FCC Part 1					Class:				
Stanuaru	FUC Fail 1	J, NJJ-241				01855.	IN/A			
Summar	y of Resul	ts								
Run #	Mode	Channel	NBF Setting	BF Setting	Test Performed	Limit	Result / Margin			
Scans on "center" channel in all four OFDM modes to determine the worst case mode.										
	ac20	6 & 40	24 / 23	24 / 23	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.4 dBµV/m @ 5138.1 MHz (-0.6 dB)			
1	ac40	6 & 46	24 / 24	24 / 18	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.8 dBµV/m @ 5129.3 MHz (-0.2 dB)			
	ac80	6 & 42	24 / 24	24 / 22	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.6 dBµV/m @ 5350.5 MHz (-0.4 dB)			
Measure	ments on low	and high cha	annels in wo	rst-case OFD			WI 12 (-0.4 UD)			
	ac40	3 & 46	24 / 22	24 / 22	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	52.7 dBµV/m @ 20719.9 MHz (-1.3 dB)			
2	ac20	9 & 48	24 / 24	23 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	52.2 dBµV/m @ 20959.9 MHz (-1.8 dB)			
Scans on	center" cha	innel in all fou	ur OFDM mo	des to detern	nine the worst case mode		20000.0 Miliz (1.0 dB)			
	ac20	6 & 157	24 / 24	24 / 24	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	50.9 dBµV/m @ 19283.2 MHz (-3.1 dB)			
3	ac40	6 & 159	24 / 24	24 / 24	Radiated Emissions,	FCC 15.209 / 15 E	50.9 dBµV/m @			
	ac80	6 & 155	24 / 24	22 / 24	Radiated Emissions,	FCC 15.209 / 15 E	50.3 dBµV/m @			
Measure	ments on low	and high cha	annels in wo	rst-case OFD			10240.0 Miliz (0.7 db)			
	ac20	1 & 149	24 / 24	24 / 24	Radiated Emissions,	FCC 15.209 / 15 E	48.3 dBµV/m @ 19150.0 MHz (-5.7 dB)			
4	ac20	11 & 165	24 / 24	22 / 24	Radiated Emissions,	FCC 15.209 / 15 E	51.1 dBµV/m @ 19416.6 MHz (-2.9 dB)			
	ac80 ments on low ac20	6 & 155 and high cha 1 & 149	24 / 24 annels in wo 24 / 24	22 / 24 rst-case OFD 24 / 24	1 - 40 GHz Radiated Emissions, 1 - 40 GHz M mode. Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E FCC 15.209 / 15 E	19316.6 MHz (-3. 50.3 dBµV/m 19249.8 MHz (-3. 48.3 dBµV/m 19150.0 MHz (-5. 51.1 dBµV/m			



١

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)

Mod	e	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	
ac20)	6.5	0.98	Yes	5.271	0.1	0.2	190	4324
ac40)	13.5	0.97	Yes	5.24	0.1	0.2	191	8811
ac80)	29.3	0.96	Yes	1.432	0.2	0.4	698	5159
ac16	0	58.5	0.96	Yes	1.439	0.2	0.4	695	10443

Sample Notes

Sample S/N: M11917QW000T

Measurement Specific Notes:

mououro	
	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 5.	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
Note 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
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
NOLE Z.	required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).

-1 -1 -1

	Arris							PR Number: PR101106
Madal		v					T-	Log Number: TL-101106-RANA
Model	NVG5XDBA	λ					Proj	ect Manager: Deepa Shetty
Contact:	Mark Rieger	•					Proj	ect Engineer: David Bare
	FCC Part 15						,	Class: N/A
	diated Spuri enter Chann		ons, 1,000 - ·	40,000 MHz	. Operation i	n the 5150-5	5250 MHz B	and
Channel:	6 & 40			Mode:	ac20		Pwr Setting	: 24 (q96) & 23 (q92)
Tx Chain:						(4) (4)		
requency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
5138.100	53.4	V	54.0	-0.6	AVG	198	1.4	AVG; RB 1 MHz; VB: 300 Hz
5358.920	49.7	V	54.0	-4.3	AVG	185	1.8	AVG; RB 1 MHz; VB: 300 Hz
20799.830	49.1	Н	54.0	-4.9	AVG	160	1.1	RB 1 MHz;VB 300 Hz
5143.930	69.1	V	74.0	-4.9	PK	198	1.4	POS; RB 1 MHz; VB: 3 MHz
6000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;VB 300 Hz;Peak
5358.820	62.6	V	74.0	-11.4	PK	185	1.8	POS; RB 1 MHz; VB: 3 MHz
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5	RB 1 MHz;VB 3 MHz;Peak
6000.090	55.6	H H	74.0 74.0	-18.4 -18.8	PK PK PK	260 261 160	1.6 1.1	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz
16000.090 20800.020	55.6 55.2 Center Chani 6 & 46	H H	74.0	-18.4 -18.8 Mode:	PK PK	261 160	1.6 1.1	RB 1 MHz;VB 3 MHz;Peak
20800.090 20800.020 2080 .020 2080 .02000 .020 2080 .020 2080 .020 2080 .020 2080 .020 2080 .020 2080 .020	55.6 55.2 Center Chani 6 & 46 4Tx	H H nel	74.0 74.0	-18.4 -18.8 Mode: Data Rate:	РК РК ас40 6.5, 13.5 Мb	261 160	1.6 1.1 Pwr Setting	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72)
6000.090 0800.020 un #1b: (Channel: Tx Chain: requency	55.6 55.2 Center Chani 6 & 46 4Tx Level	H H nel Pol	74.0 74.0 15.209	-18.4 -18.8 Mode: Data Rate: 9 / 15E	PK PK ac40 6.5, 13.5 Mb Detector	261 160 ops Azimuth	1.6 1.1 Pwr Setting Height	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz
6000.090 20800.020 un #1b: (Channel: Tx Chain: Frequency MHz	55.6 55.2 Center Chani 6 & 46 4Tx Level dBµV/m	H H nel	74.0 74.0 15.209	-18.4 -18.8 Mode: Data Rate: 9 / 15E	РК РК ас40 6.5, 13.5 Мb	261 160 ops Azimuth	1.6 1.1 Pwr Setting	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72) Comments
6000.090 0800.020 un #1b: (Channel: Tx Chain: requency MHz 5129.300	55.6 55.2 Center Chani 6 & 46 4Tx Level	H H nel Pol V/H	74.0 74.0 15.209 Limit	-18.4 -18.8 Mode: Data Rate: 9 / 15E Margin	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg	261 160 ops Azimuth degrees	1.6 1.1 Pwr Setting Height meters	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72)
6000.090 0800.020 un #1b: (Channel: Tx Chain: requency MHz 5129.300 5353.400	55.6 55.2 Center Chanr 6 & 46 4Tx Level dBμV/m 53.8	H H nel Pol V/H V	74.0 74.0 15.209 Limit 54.0	-18.4 -18.8 Mode: Data Rate: 9 / 15E Margin -0.2	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg AVG	261 160 ops Azimuth degrees 190	1.6 1.1 Pwr Setting Height meters 2.0	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72) Comments AVG; RB 1 MHz; VB: 300 Hz
6000.090 0800.020 un #1b: (Channel: Tx Chain: requency MHz 5129.300 5353.400 0919.920	55.6 55.2 Center Chani 6 & 46 4Tx Level dBμV/m 53.8 50.5	H H nel V/H V V	74.0 74.0 15.209 Limit 54.0 54.0	-18.4 -18.8 Mode: Data Rate: 9 / 15E Margin -0.2 -3.5	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg AVG AVG	261 160 ops Azimuth degrees 190 190	1.6 1.1 Pwr Setting Height meters 2.0 2.0	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72) Comments AVG; RB 1 MHz; VB: 300 Hz AVG; RB 1 MHz; VB: 300 Hz
6000.090 0800.020 un #1b: (Channel: Tx Chain: requency MHz 5129.300 5353.400 0919.920 5126.990 6000.130	55.6 55.2 Center Chani 6 & 46 4Tx Level dBμV/m 53.8 50.5 48.6 67.5	H H Nel V/H V V H V H V H	74.0 74.0 15.209 Limit 54.0 54.0 54.0	-18.4 -18.8 Mode: Data Rate: 0 / 15E Margin -0.2 -3.5 -5.4	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg AVG AVG AVG	261 160 pps Azimuth degrees 190 190 51	1.6 1.1 Pwr Setting Height meters 2.0 2.0 1.1	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz Comments AVG; RB 1 MHz; VB: 300 Hz AVG; RB 1 MHz; VB: 300 Hz RB 1 MHz;VB 300 Hz POS; RB 1 MHz; VB: 300 Hz RB 1 MHz;VB 300 Hz POS; RB 1 MHz;VB: 300 Hz RB 1 MHz;VB 300 Hz POS; RB 1 MHz;VB 300 Hz;Peak
6000.090 0800.020 un #1b: (Channel: Tx Chain: Tx Chain: 5129.300 5353.400 0919.920 5126.990 6000.130 5353.770	55.6 55.2 Center Chann 6 & 46 4Tx Level dBμV/m 53.8 50.5 48.6 67.5 45.5 63.4	H H Nel V/H V V H V H V V	74.0 74.0 15.209 Limit 54.0 54.0 54.0 74.0 54.0 74.0 74.0	-18.4 -18.8 Mode: Data Rate: 9 / 15E Margin -0.2 -3.5 -5.4 -6.5 -8.5 -10.6	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg AVG AVG AVG PK AVG PK	261 160 Azimuth degrees 190 190 51 190 261 190	1.6 1.1 Pwr Setting Height meters 2.0 2.0 1.1 2.0 1.6 2.0	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72) Comments AVG; RB 1 MHz; VB: 300 Hz AVG; RB 1 MHz; VB: 300 Hz RB 1 MHz;VB 300 Hz POS; RB 1 MHz; VB: 3 MHz RB 1 MHz;VB 300 Hz POS; RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak
6000.090 20800.020 cun #1b: (Channel: Tx Chain: Tx Chain: Trequency MHz 5129.300 5353.400 20919.920 5126.990 6000.130 5353.770 9706.480	55.6 55.2 Center Chann 6 & 46 4Tx Level dBμV/m 53.8 50.5 48.6 67.5 45.5 63.4 54.5	H H Nel V/H V V H V H V H V H	74.0 74.0 15.209 Limit 54.0 54.0 54.0 74.0 54.0 74.0 68.3	-18.4 -18.8 Mode: Data Rate: Data Rate: 0 / 15E Margin -0.2 -3.5 -5.4 -6.5 -5.4 -6.5 -8.5 -10.6 -13.8	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg AVG AVG AVG PK PK PK PK	261 160 Azimuth degrees 190 190 51 190 261 190 268	1.6 1.1 Pwr Setting Height meters 2.0 2.0 1.1 2.0 1.6 2.0 1.5	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72) Comments AVG; RB 1 MHz; VB: 300 Hz AVG; RB 1 MHz; VB: 300 Hz POS; RB 1 MHz; VB: 300 Hz POS; RB 1 MHz; VB: 30 Hz; Peak POS; RB 1 MHz; VB: 3 MHz RB 1 MHz;VB 300 Hz; Peak
6000.090 20800.020 2080000000000	55.6 55.2 Center Chann 6 & 46 4Tx Level dBμV/m 53.8 50.5 48.6 67.5 45.5 63.4 54.5 55.6	H H Nel V/H V V H V H V V	74.0 74.0 15.209 Limit 54.0 54.0 54.0 74.0 54.0 74.0 74.0	-18.4 -18.8 Mode: Data Rate: 9 / 15E Margin -0.2 -3.5 -5.4 -6.5 -8.5 -10.6	PK PK 6.5, 13.5 Mb Detector Pk/QP/Avg AVG AVG AVG PK AVG PK	261 160 Azimuth degrees 190 190 51 190 261 190	1.6 1.1 Pwr Setting Height meters 2.0 2.0 1.1 2.0 1.6 2.0	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz : 24 (q96) & 18 (q72) Comments AVG; RB 1 MHz; VB: 300 Hz AVG; RB 1 MHz; VB: 300 Hz RB 1 MHz;VB 300 Hz POS; RB 1 MHz; VB: 3 MHz RB 1 MHz;VB 300 Hz POS; RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak

Client:	Arris							PR Number: PR101106
							T-	Log Number: TL-101106-RANA
Model:	NVG5XDBA	X						ect Manager: Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer: David Bare
	FCC Part 15							Class: N/A
Channel:		nel			b & ac80 1 & 29.3 Mbj		Pwr Setting	: 22.25 (q89) & 22 (q88)
Tx Chain:	1Tx & 4Tx			OS				
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	U	meters	
5350.470	53.6	V	54.0	-0.4	AVG	186	1.7	AVG; RB 1 MHz; VB: 1 kHz
20839.850	51.9	H	54.0	-2.1	AVG	161	1.4	RB 1 MHz;VB 1 kHz
5351.540	69.5	V	74.0	-4.5	PK	186	1.7	POS; RB 1 MHz; VB: 3 MHz
15999.990	46.2	H	54.0	-7.8	AVG	261	1.6	RB 1 MHz;VB 1 kHz;Peak
9706.480 20839.810	54.5	H H	68.3 74.0	-13.8 -18.1	PK PK	268 161	1.5 1.4	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz
<u>20839.810</u> 16000.330	55.9 55.7	H H	74.0	-18.1	PK PK	261	1.4	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz;Peak
Note 2:	required is a	peak measu	<u>irement (RB</u>	<u>=1MHz, VB≥</u>	<u>3MHz, peak (</u>	detector).		

	NTS							EMC Test Data
Client:	Arris							PR Number: PR101106
		v					T-	Log Number: TL-101106-RANA
IVIODEI:	NVG5XDBA	X					Proje	ect Manager: Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer: David Bare
	FCC Part 15							Class: N/A
			ons, 1,000 -	40000 MHz	. Operating N	Node: Wors	se case fron	n Run #1
Run #2a: L	ow Channel							
Channel: Tx Chain:	3 & 46 4TX			Mode: Data Rate:		Pwr Setting:	: 24 (q96) & 22 (q88)	
Frequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
20719.920	52.7	H	54.0	-1.3	AVG	160	1.4	RB 1 MHz;VB 300 Hz;Peak
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;VB 300 Hz;Peak
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5	RB 1 MHz;VB 3 MHz;Peak
20719.850	57.6	Н	74.0	-16.4	PK	160	1.4	RB 1 MHz;VB 3 MHz;Peak
16000.090	55.6	Н	74.0	-18.4	PK	261	1.6	RB 1 MHz;VB 3 MHz;Peak
Channel: Tx Chain:	9 & 48 4TX			Mode: Data Rate:			Pwr Setting:	: 23 (q92) & 24 (q96)
Frequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
20959.880	52.2	Н	54.0	-1.8	AVG	159	1.3	RB 1 MHz;VB 300 Hz;Peak
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;VB 300 Hz;Peak
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5	RB 1 MHz;VB 3 MHz;Peak
10000.220	54.0	Н	68.3	-14.3	PK	145	1.6	RB 1 MHz;VB 3 MHz;Peak
20960.020 16000.090	58.2 55.6	H H	74.0 74.0	-15.8 -18.4	PK PK	159 261	1.3 1.6	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak

010110	Arris							PR Number: PR101106		
Madal		v					T-	Log Number: TL-101106-RANA		
woder.	NVG5XDBA	^					Project Manager: Deepa Shetty			
Contact:	Mark Rieger	,					Project Engineer: David Bare			
	FCC Part 15						Class: N/A			
	diated Spuri enter Chann		ons, 1,000 - ·	40,000 MHz	. Operation ii	n the 5725-5	5850 MHz B	and		
Channel:	6 & 157			Mode:	ac20		Pwr Setting	: 24 (q96) & 24 (q96)		
Tx Chain:					6.5 Mbps		r wr Oetting	. 24 (430) & 24 (430)		
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters			
19283.240	50.9	Н	54.0	-3.1	AVG	138	1.4	RB 1 MHz;VB 300 Hz;Peak		
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;VB 300 Hz;Peak		
15426.630	45.3	Н	54.0	-8.7	AVG	129	1.6	RB 1 MHz;VB 300 Hz;Peak		
23139.710	55.1	Н	68.3	-13.2	PK	136	1.3	RB 1 MHz;VB 3 MHz;Peak		
						268	1.5			
	54.5	H	68.3	-13.8	PK			RB 1 MHz;VB 3 MHz;Peak		
10000.220	54.0	Н	68.3	-14.3	PK	145	1.6	RB 1 MHz;VB 3 MHz;Peak		
9706.480 10000.220 19283.240	54.0 56.7	H H	68.3 74.0	-14.3 -17.3	PK PK	145 138	1.6 1.4	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak		
0000.220 9283.240 5426.440	54.0 56.7	Н	68.3	-14.3	PK	145	1.6	RB 1 MHz;VB 3 MHz;Peak		
10000.220 19283.240 15426.440 16000.090	54.0 56.7 55.8 55.6 Center Chann 6 & 159	H H H H	68.3 74.0 74.0	-14.3 -17.3 -18.2 -18.4 Mode:	РК РК РК РК	145 138 129 261	1.6 1.4 1.6 1.6	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency	54.0 56.7 55.8 55.6 Center Chann 6 & 159 4Tx Level	H H H nel	68.3 74.0 74.0 74.0 74.0	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate:	PK PK PK Ac40 13.5 Mbps Detector	145 138 129 261 Azimuth	1.6 1.4 1.6 1.6 Pwr Setting Height	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency MHz	54.0 56.7 55.8 55.6 Center Chanr 6 & 159 4Tx Level dBμV/m	H H H nel Pol V/H	68.3 74.0 74.0 74.0 15.209 Limit	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: 0 / 15E Margin	PK PK PK PK 13.5 Mbps Detector Pk/QP/AVG	145 138 129 261 Azimuth degrees	1.6 1.4 1.6 1.6 Pwr Setting Height meters	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak : 24 (q96) & 24 (q96) Comments		
0000.220 9283.240 5426.440 6000.090 Run #3b: (Channel: Tx Chain: Frequency MHz 19316.610	54.0 56.7 55.8 55.6 Center Chanr 6 & 159 4Tx Level dBμV/m 50.9	H H H nel Pol V/H H	68.3 74.0 74.0 74.0 15.209 Limit 54.0	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: D/ 15E Margin -3.1	PK PK PK PK 13.5 Mbps Detector Pk/QP/AVG AVG	145 138 129 261 Azimuth degrees 136	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak : 24 (q96) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak		
0000.220 9283.240 5426.440 6000.090 un #3b: (Channel: Tx Chain: Trequency MHz 9316.610 6000.130	54.0 56.7 55.8 55.6 Center Chanr 6 & 159 4Tx Level dBμV/m 50.9 45.5	H H H nel Pol V/H H H	68.3 74.0 74.0 74.0 15.209 Limit 54.0 54.0	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: D/ 15E Margin -3.1 -8.5	PK PK PK 13.5 Mbps Detector Pk/QP/AVG AVG AVG	145 138 129 261 Azimuth degrees 136 261	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak : 24 (q96) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 300 Hz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency MHz 19316.610 16000.130 15453.250	54.0 56.7 55.8 55.6 Center Chanr 6 & 159 4Tx Level dBμV/m 50.9 45.5 44.8	H H H H N H H H	68.3 74.0 74.0 74.0 15.209 Limit 54.0 54.0 54.0	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: 0 / 15E Margin -3.1 -8.5 -9.2	PK PK PK 3.5 Mbps Detector Pk/QP/AVG AVG AVG AVG	145 138 129 261 Azimuth degrees 136 261 129	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6 1.6	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak : 24 (q96) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 300 Hz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency MHz 19316.610 16000.130 15453.250 23179.970	54.0 56.7 55.8 55.6 Center Chann 6 & 159 4Tx Level dBμV/m 50.9 45.5 44.8 56.4	H H H H Nel V/H H H H H	68.3 74.0 74.0 74.0 74.0 15.209 Limit 54.0 54.0 54.0 68.3	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: D/ 15E Margin -3.1 -8.5 -9.2 -11.9	PK PK PK PK 13.5 Mbps Detector Pk/QP/AVG AVG AVG AVG PK	145 138 129 261 Azimuth degrees 136 261 129 104	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6 1.6 1.4	RB 1 MHz;VB 3 MHz;PeakRB 1 MHz;VB 3 MHz;PeakRB 1 MHz;VB 3 MHz;PeakRB 1 MHz;VB 3 MHz;Peak: 24 (q96) & 24 (q96)CommentsRB 1 MHz;VB 300 Hz;PeakRB 1 MHz;VB 300 Hz;Peak		
10000.220 19283.240 15426.440 16000.090 200.090 200.090 200.090 200.090 200.090 201.0000 201.00000 201.00000 201.00000 201.00000 201.0000000000	54.0 56.7 55.8 55.6 Center Chann 6 & 159 4Tx Level dBμV/m 50.9 45.5 44.8 56.4 54.5	H H H H nel Pol V/H H H H H H	68.3 74.0 74.0 74.0 15.209 Limit 54.0 54.0 54.0 68.3 68.3	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: 0 / 15E Margin -3.1 -8.5 -9.2 -11.9 -13.8	PK PK PK PK 13.5 Mbps Detector Pk/QP/AVG AVG AVG AVG PK PK	145 138 129 261 Azimuth degrees 136 261 129 104 268	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6 1.6 1.4 1.5	RB 1 MHz;VB 3 MHz;Peak Comments RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency MHz 19316.610 16000.130 15453.250 23179.970 9706.480 10000.220	54.0 56.7 55.8 55.6 Center Chann 6 & 159 4Tx Level dBμV/m 50.9 45.5 44.8 56.4 54.5 54.0	H H H H nel Pol V/H H H H H H H	68.3 74.0 74.0 74.0 15.209 Limit 54.0 54.0 54.0 68.3 68.3 68.3	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: D/15E Margin -3.1 -3.1 -8.5 -9.2 -11.9 -13.8 -14.3	PK PK PK PK 3.5 Mbps Detector Pk/QP/AVG AVG AVG AVG PK PK PK PK	145 138 129 261 Azimuth degrees 136 261 129 104 268 145	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6 1.6 1.4 1.5 1.6	RB 1 MHz;VB 3 MHz;Peak Comments RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 3 MHz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency MHz 19316.610 16000.130 15453.250 23179.970 9706.480 10000.220 19316.530	54.0 56.7 55.8 55.6 Center Chanr 6 & 159 4Tx Level dBμV/m 50.9 45.5 44.8 56.4 54.5 54.0 56.3	H H H H H N V/H H H H H H H H	68.3 74.0 74.0 74.0 74.0 54.0 54.0 54.0 54.0 68.3 68.3 68.3 74.0	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: Dat	PK PK PK PK 3.5 Mbps Detector Pk/QP/AVG AVG AVG AVG AVG PK PK PK PK	145 138 129 261 Azimuth degrees 136 261 129 104 268 145 136	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6 1.6 1.4 1.5 1.6 1.4 1.5 1.6 1.4	RB 1 MHz;VB 3 MHz;Peak Comments RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak		
10000.220 19283.240 15426.440 16000.090 Run #3b: (Channel: Tx Chain: Frequency MHz 19316.610 16000.130 15453.250 23179.970 9706.480 10000.220	54.0 56.7 55.8 55.6 Center Chann 6 & 159 4Tx Level dBμV/m 50.9 45.5 44.8 56.4 54.5 54.0	H H H H nel Pol V/H H H H H H H	68.3 74.0 74.0 74.0 15.209 Limit 54.0 54.0 54.0 68.3 68.3 68.3	-14.3 -17.3 -18.2 -18.4 Mode: Data Rate: Data Rate: D/15E Margin -3.1 -3.1 -8.5 -9.2 -11.9 -13.8 -14.3	PK PK PK PK 3.5 Mbps Detector Pk/QP/AVG AVG AVG AVG PK PK PK PK	145 138 129 261 Azimuth degrees 136 261 129 104 268 145	1.6 1.4 1.6 1.6 Pwr Setting Height meters 1.4 1.6 1.6 1.4 1.5 1.6	RB 1 MHz;VB 3 MHz;Peak Comments RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 3 MHz;Peak		

Client:	Arris							PR Number:	PR101106
							T-	Log Number:	TL-101106-RANA
Model:	NVG5XDBA	X						2	Deepa Shetty
Contact:	Mark Rieger							ect Engineer:	
	FCC Part 15	RSS-247		1.0,0	Class:				
	Center Chann							0.0001	
		IEI		Mada	h 0 00		D 0 - #in	00 (-00) 8 0	
Channel: Tx Chain:	6 & 155 1Tx & 4Tx				b & ac80 1 & 29.3 Mbj		Pwr Setting:	22 (q88) & 2	4 (496)
requency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters		
9249.810	50.3	Н	54.0	-3.7	AVG	136	1.6	RB 1 MHz;V	'B 1 kHz;Peak
6000.880	64.0	V	68.3	-4.3	PK	360	2.1		MHz; VB: 3 MHz
3099.850	49.0	Н	54.0	-5.0	AVG	126	1.6	RB 1 MHz;V	'B 1 kHz;Peak
5399.920	46.9	Н	54.0	-7.1	AVG	146	1.6		′B 1 kHz;Peak
5999.990	46.2	Н	54.0	-7.8	AVG	261	1.6		′B 1 kHz;Peak
706.480	54.5	Н	68.3	-13.8	PK	268	1.5		'B 3 MHz;Peak
5399.680	58.1	Н	74.0	-15.9	PK	146	1.6		'B 3 MHz;Peak
6000.330	55.7	Н	74.0	-18.3	PK	261	1.6		B 3 MHz;Peak
3099.770 9249.900	55.5 55.4	H H	74.0 74.0	-18.5 -18.6	PK PK	126 136	1.6 1.6		' <u>B 3 MHz;Peak</u> 'B 3 MHz;Peak

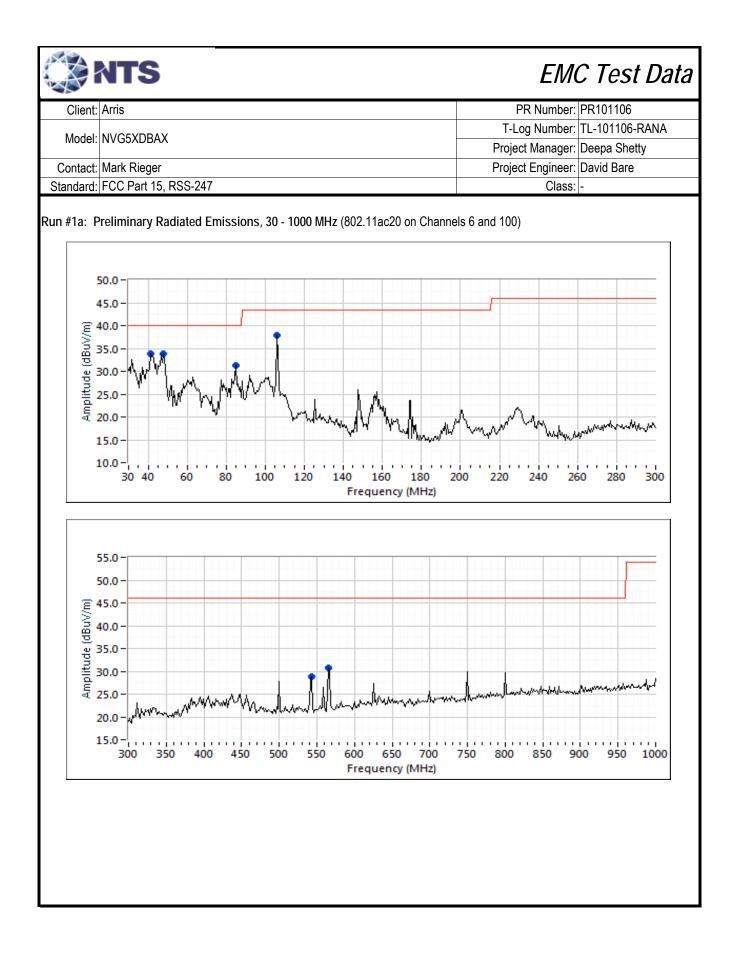
Client	Arris							PR Number: PR101106	
							T-	Log Number: TL-101106-RANA	
Model	NVG5XDBA	Х					Project Manager: Deepa Shetty		
Contact	Mark Rieger	,					Project Engineer: David Bare		
							FIUJ	-	
Standard	FCC Part 15	, KSS-241						Class: N/A	
Run #4: R	adiated Spur	ious Emissi	ons, 1,000 -	40000 MHz	. Operating N	Mode: Wors	se case fror	m Run #3	
Run #4a: I	ow Channel								
Channel	1 & 149			Mode:	b & ac20		Pwr Setting	: 18.25 (q73) & 24 (q96)	
	1Tx & 4Tx				1 & 6.5 Mbp		r m ootang		
Frequency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
19149.960		Н	54.0	-5.7	AVG	51	1.2	RB 1 MHz;VB 300 Hz;Peak	
5443.830	47.5	V	54.0	-6.5	AVG	25	2.1	AVG; RB 1 MHz; VB: 300 Hz	
6007.680	61.7	Н	68.3	-6.6	PK	246	2.1	POS; RB 1 MHz; VB: 3 MHz	
22979.900	46.0	Н	54.0	-8.0	AVG	64	1.2	RB 1 MHz;VB 300 Hz;Peak	
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;VB 300 Hz;Peak	
15320.300	59.2	Н	68.3	-9.1	PK	152	1.6	RB 1 MHz;VB 3 MHz;Peak	
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5	RB 1 MHz;VB 3 MHz;Peak	
5444.010	59.8	V	74.0	-14.2	PK	25	2.1	POS; RB 1 MHz; VB: 3 MHz	
16000.090	55.6	Н	74.0	-18.4	PK	261	1.6	RB 1 MHz;VB 3 MHz;Peak	
	54.8	Н	74.0	-19.2	PK	51	1.2	RB 1 MHz;VB 3 MHz;Peak	
19149.650	54.0	11	•			01		, ,	
19149.650 22979.750		H	74.0	-19.4	PK	64	1.2	RB 1 MHz;VB 3 MHz;Peak	
22979.750 Run #4b: H Channel:		Н		-19.4 Mode:		64	1.2		
22979.750 Run #4b: H Channel: Tx Chain: Frequency	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level	H	74.0	-19.4 Mode: Data Rate: 9 / 15E	PK b & ac20 1 & 6.5 Mbp Detector	64 s Azimuth	1.2 Pwr Setting Height	RB 1 MHz;VB 3 MHz;Peak	
22979.750 run #4b: H Channel: Tx Chain: requency MHz	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBµV/m	H Pol V/H	74.0 15.20 Limit	-19.4 Mode: Data Rate: 9 / 15E Margin	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG	64 s Azimuth degrees	1.2 Pwr Setting Height meters	RB 1 MHz;VB 3 MHz;Peak : 16.25 (q65) & 24 (q96) Comments	
22979.750 200 #4b: F Channel: Tx Chain: Frequency MHz 19416.620	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1	H Pol V/H H	74.0 15.20 Limit 54.0	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG	64 s Azimuth degrees 137	1.2 Pwr Setting Height meters 1.4	RB 1 MHz;VB 3 MHz;Peak : 16.25 (q65) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak	
22979.750 Run #4b: H Channel: Tx Chain: Frequency MHz 19416.620 5393.910	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1 48.1	H Pol V/H H V	74.0 15.20 Limit 54.0 54.0	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9 -5.9	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG AVG	64 s Azimuth degrees 137 28	1.2 Pwr Setting Height meters 1.4 1.6	RB 1 MHz;VB 3 MHz;Peak : 16.25 (q65) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz; VB: 300 Hz	
22979.750 2007 2007 2007 2007 2007 2007 2007 200	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1 48.1 45.5	H Pol V/H H V H	74.0 15.209 Limit 54.0 54.0 54.0 54.0	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9 -5.9 -8.5	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG AVG AVG	64 s Azimuth degrees 137 28 261	1.2 Pwr Setting Height neters 1.4 1.6 1.6	RB 1 MHz;VB 3 MHz;Peak : 16.25 (q65) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz; VB 300 Hz;Peak RB 1 MHz;VB 300 Hz;Peak	
22979.750 200 #4b: F Channel: Tx Chain: Frequency MHz 19416.620 5393.910 16000.130 5393.630	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1 48.1 45.5 61.6	H Pol V/H H V H V	74.0 15.20 Limit 54.0 54.0 54.0 74.0	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9 -5.9 -8.5 -12.4	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG AVG AVG PK	64 s Azimuth degrees 137 28 261 28	1.2Pwr SettingHeightmeters1.41.61.61.6	RB 1 MHz;VB 3 MHz;Peak : 16.25 (q65) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz; VB: 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak	
22979.750 2007 2007 2007 2007 2007 2007 2007 200	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1 48.1 45.5 61.6 55.5	H Pol V/H H V H V H	74.0 15.20 Limit 54.0 54.0 54.0 74.0 68.3	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9 -5.9 -8.5 -12.4 -12.8	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG AVG AVG PK PK	64 s Azimuth degrees 137 28 261 28 28 135	1.2 Pwr Setting Height meters 1.4 1.6 1.6 1.6 1.4	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak Comments RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz; VB: 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak	
22979.750 22979.750 2007 200 2007 2007	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1 48.1 45.5 61.6 55.5 54.5	H Pol V/H H V H V H H H	74.0 15.20 Limit 54.0 54.0 54.0 74.0 68.3 68.3	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9 -5.9 -5.9 -8.5 -12.4 -12.8 -13.8	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG AVG AVG AVG PK PK PK	64 s Azimuth degrees 137 28 261 28 135 268	1.2 Pwr Setting Height meters 1.4 1.6 1.6 1.6 1.6 1.4 1.5	RB 1 MHz;VB 3 MHz;Peak : 16.25 (q65) & 24 (q96) Comments RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz; VB: 300 Hz;Peak POS; RB 1 MHz; VB: 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak	
22979.750 Run #4b: H Channel: Tx Chain: Frequency	54.6 ligh Channel 11 & 165 1Tx & 4Tx Level dBμV/m 51.1 48.1 45.5 61.6 55.5 54.5 56.5	H Pol V/H H V H V H	74.0 15.20 Limit 54.0 54.0 54.0 74.0 68.3	-19.4 Mode: Data Rate: 9 / 15E Margin -2.9 -5.9 -8.5 -12.4 -12.8	PK b & ac20 1 & 6.5 Mbp Detector Pk/QP/AVG AVG AVG AVG PK PK	64 s Azimuth degrees 137 28 261 28 28 135	1.2 Pwr Setting Height meters 1.4 1.6 1.6 1.6 1.4	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak Comments RB 1 MHz;VB 300 Hz;Peak POS; RB 1 MHz; VB 300 Hz;Peak POS; RB 1 MHz;VB 300 Hz;Peak	

Client: Arris Model: NVG5XDBAX Contact: Mark Rieger Standard: FCC Part 15, RSS-247 Radiated Emissions (NTS Silicon Valley, Fremont Facility, Semi-Anech Test Specific Details Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated equipment was located outside the semi-anechoic chamber. Any cables running to radiated	on testing of the EUT with respect to the
Contact: Mark Rieger Standard: FCC Part 15, RSS-247 Radiated Emissions (NTS Silicon Valley, Fremont Facility, Semi-Anech General Test Configuration The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Test Engineer: M. Birgani Config. Used: 1 Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	Project Manager: Deepa Shetty Project Engineer: David Bare Class: - hoic Chamber) on testing of the EUT with respect to the
Standard: FCC Part 15, RSS-247 Radiated Emissions (NTS Silicon Valley, Fremont Facility, Semi-Anech Test Specific Details Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Test Engineer: M. Birgani Config. Used: 1 Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	Class: -
Radiated Emissions (NTS Silicon Valley, Fremont Facility, Semi-Anech Test Specific Details Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	<i>hoic Chamber)</i> on testing of the EUT with respect to the
(NTS Silicon Valley, Fremont Facility, Semi-Anech Test Specific Details Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Test Engineer: M. Birgani Test Location: Fremont Chamber #5 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	on testing of the EUT with respect to the
(NTS Silicon Valley, Fremont Facility, Semi-Anech Test Specific Details Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	on testing of the EUT with respect to the
Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	1
Objective: The objective of this test session is to perform final qualification specification listed above. Date of Test: 7/24/2019 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	1
Test Engineer: M. Birgani Config Change: - Test Location: Fremont Chamber #5 Host EUT Voltage: 1 General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	
General Test Configuration The EUT and any local support equipment were located on the turntable for radiated	
metal conduit and when possible passed through a ferrite clamp upon exiting the cha Radiated emissions tests above 1 GHz to FCC Part 15 were performed with floor abs methods of ANSI C63.4 and CISPR 16-1-4. The test distance and extrapolation factor (if applicable) are detailed under each run of Note, preliminary testing indicates that the emissions were maximized by orientation antenna. Maximized testing indicated that the emissions were maximized by orientation antenna, and manipulation of the EUT's interface cables.	sorbers in place in accordance with the test description. of the EUT and elevation of the measuremer
Ambient Conditions: Temperature: 22-25 °C	
Rel. Humidity: 39-43 %	
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.	



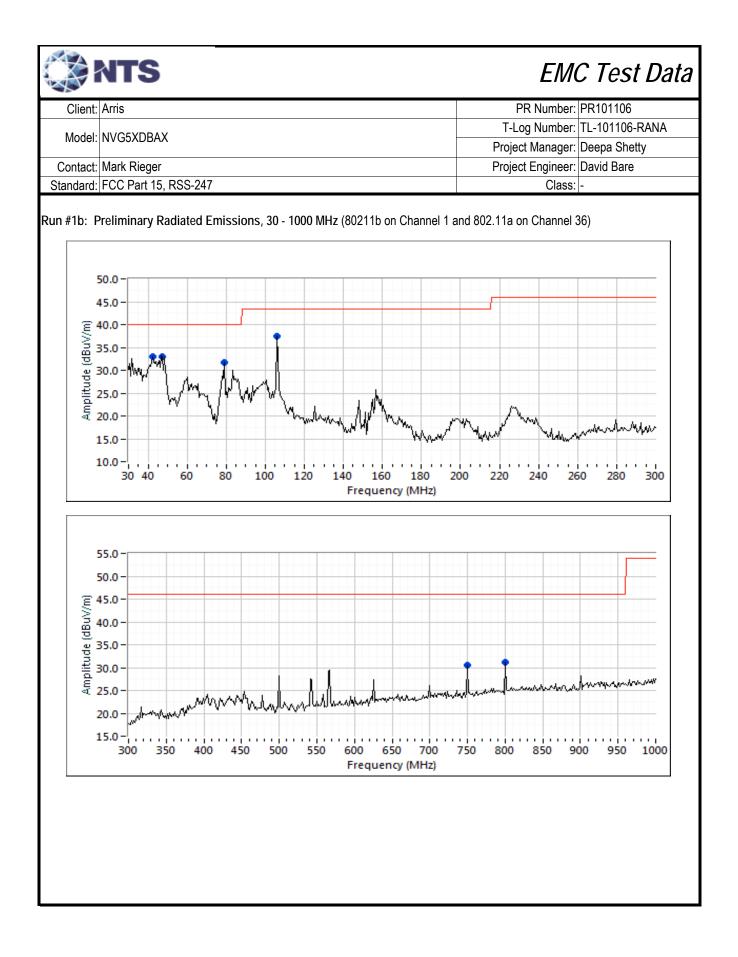
Client:	Arris				PR Number:	PR101106				
Model	NVG5XDBA	×		T-	Log Number:	TL-101106-RANA				
wouer.	INV GOADDA.	^	Proj	ect Manager:	Deepa Shetty					
Contact:	Mark Rieger		Proj	ect Engineer:	David Bare					
Standard:	FCC Part 15	, RSS-247			Class:	-				
Summary	Summary of Results									
Summary	UI RESUIL	3								
Ru	n #	Test Performed	Limit	Result	Margin					
1	а			PASS		//m @ 105.66 MHz				
	α	Radiated Spurious Emissions	15.209	FA00	(Margin: -6	,				
1	h	30 - 1000 MHz, WiFi	10.200	PASS		//m @ 105.71 MHz				
	~			1 700	(Margin: -6					
	,	Radiated Emissions	15.209	PASS		//m @ 105.71 MHz				
	-	30 - 1000 MHz, Maximized	10.200	1 700	(Margin: -6	/				
	3	30 kHz - 30 MHz	15.209	PASS	All signals were more than 40dB					
,	,		10.200	1 400	below the	limit.				

	Т	est Parameters for Preli	minary Scan(s)	
	Frequency Range	Prescan Distance	Limit Distance	Extrapolation Factor
	(MHz)	(meters)	(meters)	(dB, applied to data)
	30 - 1000	3	3	0.0
	0.009 - 0.490 MHz	3	300	-80.0
ſ	0.490 - 30 MHz	3	30	-40.0





Oliverte	Amia								DD101100
Client:	Ams							PR Number:	
Model:	NVG5XDBA	х						-	TL-101106-RANA
								-	Deepa Shetty
	Mark Rieger						Proj	Project Engineer: David Bar	
Standard:	FCC Part 15	, RSS-247						Class:	-
	reliminary R ry peak read				z (802.11ac2)	0 on Channe	ls 6 and 10	D)	
requency	Level	Pol	15.		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
105.664	37.8	V	43.5	-5.7	Peak	181	2.5		
47.645	33.8	V	40.0	-6.2	Peak	197	1.0		
42.821	33.8	V	40.0	-6.2	Peak	57	1.0		
83.693	31.2	V	40.0	-8.8	Peak	294	1.0		
564.128	30.8	V	46.0	-15.2	Peak	184	1.0		
540.387	28.9	V	46.0	-17.1	Peak	178	1.0		
Prelimina	ry quasi-pea	ak reading	ıs (no manip	oulation of E	EUT interface	e cables)			
requency	Level	Pol	15.	209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
105.664	36.8	V	43.5	-6.7	QP	179	2.5	QP (1.00s)	
47.645	27.0	V	40.0	-13.0	QP	197	1.0	QP (1.00s)	
42.821	24.6	V	40.0	-15.4	QP	60	1.0	QP (1.00s)	
564.128	28.5	V	46.0	-17.5	QP	184	1.0	QP (1.00s)	
83.693	21.6	V	40.0	-18.4	QP	298	1.0	QP (1.00s)	
540.387	25.5	V	46.0	-20.5	QP	178	1.0	QP (1.00s)	





Client:	Arris							PR Number:	
Madal	NVG5XDBA	v					T-	Log Number:	TL-101106-RANA
	INV GOADBA	^					Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247	,					Class:	-
Prelimina Frequency MHz 105.710 45.903 43.169 78.702	ry peak read Level dBµV/m 37.4 33.0 32.9 31.6	dings capi Pol V/H V V V V V	tured during 15. Limit 43.5 40.0 40.0 40.0	pre-scan 209 Margin -6.1 -7.0 -7.1 -8.4	Detector Pk/QP/Avg Peak Peak Peak Peak	Azimuth degrees 204 225 278 291	Height meters 2.0 1.5 1.0 1.0	Comments	36)
800.730	31.2	Н	46.0	-14.8	Peak	94	2.0		
750.023	30.6	Н	46.0	-15.4	Peak	64	1.5		
	dBμV/m 37.2 25.6 24.2 29.3 20.8 21.7 eximized Rea	•		Margin -6.3 -14.4 -15.8 -16.7 -19.2 -24.3	Pk/QP/Avg QP QP QP QP QP QP	degrees 208 280 229 69 294 96	meters 2.0 1.0 1.5 1.5 1.0 2.0	QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s) QP (1.00s)	
Frequency	Level	Pol		209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
105.710	37.2	V	43.5	-6.3	QP	208	2.0	QP (1.00s)	
	25.6	V	40.0	-14.4	QP	280	1.0	QP (1.00s)	
43.169	24.2	V	40.0	-15.8	QP	229	1.5	QP (1.00s)	
43.169 45.903	Z4.Z					69	1.5	QP (1.00s)	
	24.2	Н	46.0	-16.7	QP	09	1.0	Gen (1.0000)	
45.903		H V	46.0 40.0	-16.7 -19.2	QP QP	294	1.0	QP (1.00s)	

Client:	Arrie				PR Number:	
Client:	Ams					TL-101106-RANA
Model:	NVG5XDBA	λX			ect Manager:	
Contact:	Mark Riege	r	Project Engineer: David Bare			
	FCC Part 1			Class:		
		Antenna F	N) and FCC 15.40 Port Measuremen vidth and Spurious I	its	5	
est Spec	cific Detai Objective:	The objective of this test essentian is to	perform final qualification	n testing of th	ne EUT with re	espect to the
onoral T	Fact Canfi	auration				
When me analyzer o allow for t	or power me	conducted emissions from the EUT's a ter via a suitable attenuator to prevent attenuators and cables used.	overloading the measure 22-24 °C	•		•
When me analyzer o allow for t mbient o ummary	asuring the operation of power methe external a Condition of Resul	conducted emissions from the EUT's a ter via a suitable attenuator to prevent attenuators and cables used. IS: Temperature: Rel. Humidity: ts	overloading the measure 22-24 °C	•		
When me analyzer o allow for t mbient o ummary	asuring the operation of power methe external at the external	conducted emissions from the EUT's a ter via a suitable attenuator to prevent attenuators and cables used. IS: Temperature: Rel. Humidity:	overloading the measure 22-24 °C	ment system	n. All measure	ements are corrected
When me analyzer o allow for t mbient o ummary Ru	asuring the operation of power methe external a Condition of Resul	conducted emissions from the EUT's a ter via a suitable attenuator to prevent attenuators and cables used. IS: Temperature: Rel. Humidity: ts	overloading the measure 22-24 °C 40-43 %	ment system	Result / Marg a: 251.2 mW ac20: 441.8 ac40: 470.8 ac80: 132.6	gin mW mW mW
When me analyzer o allow for t mbient o ummary Ru	asuring the operation of power methe external a condition of Resul	ter via a suitable attenuator to prevent attenuators and cables used. (S: Temperature: Rel. Humidity: ts Test Performed	overloading the measure 22-24 °C 40-43 % Limit 15.407(a) (1), (2), (3)	Pass / Fail	Result / Marg a: 251.2 mW ac20: 441.8 ac40: 470.8	gin mW mW mW MHz w/MHz w/MHz
When me analyzer o allow for t mbient <u>ummary</u> Ru	asuring the operation of power methe external a condition of Resuled in #	ter via a suitable attenuator to prevent attenuators and cables used. IS: Temperature: Rel. Humidity: ts Power, 5150 - 5250MHz	overloading the measure 22-24 °C 40-43 % Limit 15.407(a) (1), (2), (3) RSS-247 6.2 15.407(a) (1), (2), (3)	Pass / Fail Pass	Result / Març a: 251.2 mW ac20: 441.8 ac40: 470.8 ac80: 132.6 a: 18.2 mW/f ac20: 29.7 m ac40: 16.0 m	gin mW mW MHz W/MHz W/MHz W/MHz W/MHz W/MHz IHz

Deviations From The Standard

No deviations were made from the requirements of the standard.

	NTS
--	-----

Client:	Arris	PR Number:	PR101106
Model	NVG5XDBAX	T-Log Number:	TL-101106-RANA
wouer.	NV GJADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	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)	Packet	pkt duty
11a	6	99.0%	Yes	5.06	0.0	0.0	10	7974	-1
ac20	6.5	97.6%	Yes	5.271	0.1	0.2	190	4324	-1
ac40	13.5	97.3%	Yes	5.24	0.1	0.2	191	8811	-1
ac80	29.3	96.0%	Yes	1.432	0.2	0.4	698	5159	-1
ac160	58.5	95.6%	Yes	1.439	0.2	0.4	695	10443	-1

Sample Notes

Sample S/N: M11917QW000T

Antenna Gain Information

_	ŀ	Antenna Gair	n (dBi) / Chai	n		MultiChain		Sectorized	Dir G	Dir G
Freq	1	2	3	4	BF	Legacy	CDD	/ Xpol	(PWR)	(PSD)
5150-5250	4.1	4.9	4.9	4.9	Yes	Yes	Yes	Yes	2.3	8.1

For devices that support CDD modes

Min # of spatial streams:	1	Chain 1 = Blue antenna cable	Chain 3 = Grey antenna cable
Max # of spatial streams:	4	Chain 2 = White antenna cable	Chain 4 = Black antenna cable

	BF = beamforming mode supported, Multichain Legacy = 802.11 legacy data rates supported for multichain transmissions,
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 on
Notes:	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 the following options:
	Option 1: Delays are optimized for beamforming, rather than being selected from cyclic delay table of 802.11; Array gains
Notes:	calculated based on beamforming criteria.
notes.	Option 2: Antennas are paired for beamforming, and the pairs are configured to use the cyclic delay diversity of 802.11; the
	array gain associated with beamforming with 2 antennas (3dB), and the array gain associated with CDD with two antennas
	(3dB for PSD and 0 dB for power)

	NTS	EMC Test Data
Client:	Arris	PR Number: PR101106
Madal	NVG5XDBAX	T-Log Number: TL-101106-RANA
wouer.		Project Manager: Deepa Shetty
	Mark Rieger	Project Engineer: David Bare
Standard:	FCC Part 15, RSS-247	Class: N/A
[Te	ndwidth, Output Power and Power Spectral Density - MIMO Systems Date of Test: 7/26/2019 0:00 Config. Used: st Engineer: R. Varelas Config Change: est Location: Fremont EMC Lab #3 EUT Voltage:	None
Note 1A:	Duty Cycle \ge 98%. Output power measured using a spectrum analyzer (se OBW, # of points in sweep \ge 2*span/RBW, auto sweep, RMS detector, power continuous, duty cycle \ge 98%) and power integration over the OBW (method	wer averaging on (transmitted signal was d SA-1 of ANSI C63.10).
Note 1B:	Constant Duty Cycle < 98%. Output power measured using a spectrum and Span > OBW, # of points in sweep $\ge 2^*$ span/RBW, RMS detector, trace ave number to get true average), power averaging on and power integration ove by adding YY dB. This is based on $10\log(1/x)$, where x is the duty cycle. (r	erage 100 traces (at least 100 traces, increase the er the OBW. Tthe measurements were adjusted
Note 2:	Measured using the same analyzer settings used for output power.	
Note 3:	For RSS-247 the limit for the 5150 - 5250 MHz band accounts for the anten 10dBm/MHz. The limits are also corrected for instances where the highest r PSD (calculated from the measured power divided by the measured 99% bathe measured value exceeds the average by more than 3dB.	measured value of the PSD exceeds the average
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
FCC UNII-1		
X	Outdoor AP 30 17 Indoor AP 30 17	
	Station (e.g. Client) 24 11	
	Outdoor AP (>30° Elv.) 21 -	

Contact:	NVG5XDBA							PR Number:	PR101106	
Contact:	INVG5XDB4								TL-101106-F	RANA
		λX						-	Deepa Shett	
Standard:	Mark Riege	r					Proje	ect Engineer:	David Bare	
	FCC Part 1	5, RSS-247						Class:	N/A	
/IMO Devi Mode:		50 MHz Ban	d - FCC ntenna Gain:	4.8 dBi	Ant 1		Moy	EIRP (mW):	758.6	
Frequency		Software	26dB BW	Duty Cycle	Power ¹	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5180	1 3 4 2	22		99	20.5	112.2	20.5	30.0		Pass
5200	1 3 4 2	26		99	24.0	251.2	24.0	30.0	0.251	Pass
5240	1 3 4	26		99	24.0	251.2	24.0	30.0		Pass
	2				24.0					
		50 MHz Ban		4.8 dBi			May	FIRP (mW):	60.3	
Mode:	11a		d - ISED itenna Gain: 99% BW	T T	Ant 1	Total		EIRP (mW): ISED Limit		
Mode:	11a	Ar	ntenna Gain:	4.8 dBi Duty Cycle %		Total dBm	Max Power dBm (eirp)		60.3 Max Power (W)	Resul
Mode: requency	11a	Ar Software	ntenna Gain: 99% BW	Duty Cycle	Ant 1 Power ¹		Power	ISED Limit	Max Power	Result
Mode: Frequency (MHz)	11a Chain 1 3 4	Ar Software Setting	ntenna Gain: 99% BW (MHz)	Duty Cycle %	Ant 1 Power ¹ dBm	dBm	Power dBm (eirp)	ISED Limit dBm (eirp)	Max Power	Result Pass Pass

	NTS							EM	C Test	t Data
Client:	Arris						I	PR Number:	PR101106	
Model [.]	NVG5XDBA	x						og Number:		
								ct Manager:		tty
	Mark Rieger						Proje	ct Engineer:		
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
5150-5250 F Mode:	PSD - FCC 11a									
Frequency	Chain	Software	99% BW	Duty Cycle		Total			Limit	Result
(MHz)	A	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	1 toodit
5180	3 4 2	22		99	9.0	7.9	9.0	14	l.9	Pass
5200	1 3 4 2	26		99	12.5	17.8	12.5	14	l.9	Pass
5240	1 3 4 2	26		99	12.6	18.2	12.6	14	1.9	Pass
5150-5250 F Mode:	PSD - ISED 11a									
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz		Limit /MHz	Result
5180	1 3 4 2	14		99	1.6	1.4	1.5	1	.9	Pass
5200	1 3 4 2	14		99	1.3	1.3	1.1	1	.9	Pass
5240	1 3 4 2	14		99	1.4	1.4	1.5	1	.9	Pass

lient: Arris			PR Number: PR101106
odel: NVG5XDBAX			T-Log Number: TL-101106-RAN
			Project Manager: Deepa Shetty
ntact: Mark Rieger			Project Engineer: David Bare
dard: FCC Part 15, RS	SS-247		Class: N/A
pectrum Analyzer Settir	ngs		
CF: 5200.000 MHz	15.0-		
5PAN: 40.000 MHz	10.0-		
RB: 1.000 MHz VB: 3.000 MHz	1010		
Detector: RMS	5.0-	1	}
Attn: 30 DB RL Offset: 22.0 DB			
Sweep Time: 20.0ms Ref Lvl: 30.0 DBM	0.0-		
Pwr avg: 100 sweeps	5		
Amp corr: 0.0dB Bin size: 64.1 kHz	튡 -5.0-		
	-10.0 -		
lighest PSD	10.0		
12.5 dBm/1.000 N	4Hz -15.0-	arman	
9% Bandwidth			and the second sec
17.47 MHz	-20.0-		
ower Over Span	-25.0-		
251.679 mW		5185.0 5190.0 5195.0 52	200.0 5205.0 5210.0 5215.0 5220.0
24.0 dBm		Freque	ncy (MHz)
	99%	Bandwidth, Power Over Span a	and PSD

Client:	Arris							PR Number:	PR101106	
Madalı		V					T-L	_og Number:	TL-101106-F	RANA
Model:	NVG5XDBA	X					Proje	ect Manager:	Deepa Shett	у
	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
/IMO Devid Mode:	ce - 5150-52 ac20	50 MHz Ban	d - FCC				Мах	EIRP (mW):	750.3	
Frequency		Software	26dB BW	Duty Cycle	Power ¹	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				20.1					
5180	3	22		98.0	20.6	441.8	26.5	30.0		Pass
	4				20.3 20.7					
	1				19.7					
5200	3	22		98.0	20.5	430.2	26.3	30.0	0.442	Pass
5200	4	22		90.0	20.3	430.Z	20.3	30.0	0.442	Pass
	2				20.7					
	1				19.7					
5240	3	22		98.0	20.2	417.6	26.2	30.0		Pass
5240		22		98.0		417.6	26.2	30.0		Pass
1IMO Devid Mode:	3 4 2	50 MHz Ban			20.2 20.2 20.6		Max	EIRP (mW):	33.9	Pass
IIMO Devid Mode: Frequency	3 4 2 ce - 5150-52	50 MHz Ban Software	99% BW	Duty Cycle	20.2 20.2 20.6 Power ¹	Total	Max	EIRP (mW): ISED Limit	Max Power	
/IMO Devid Mode:	3 4 2 ce - 5150-52 ac20 Chain	50 MHz Ban			20.2 20.2 20.6 Power ¹ dBm		Max	EIRP (mW): ISED Limit		
IIMO Devia Mode: Frequency (MHz)	3 4 2 ce - 5150-52 ac20	50 MHz Ban Software Setting	99% BW (MHz)	Duty Cycle %	20.2 20.2 20.6 Power ¹	Total dBm	Max Power dBm (eirp)	EIRP (mW): ISED Limit dBm (eirp)	Max Power	Resul
IIMO Devid Mode: Frequency	3 4 2 ce - 5150-52 ac20 Chain 1 3 4	50 MHz Ban Software	99% BW	Duty Cycle	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8	Total	Max	EIRP (mW): ISED Limit	Max Power	
/IMO Devia Mode: Frequency (MHz)	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2	50 MHz Ban Software Setting	99% BW (MHz)	Duty Cycle %	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9	Total dBm	Max Power dBm (eirp)	EIRP (mW): ISED Limit dBm (eirp)	Max Power	Result
IIMO Devia Mode: Frequency (MHz)	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2 1	50 MHz Ban Software Setting	99% BW (MHz)	Duty Cycle %	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9 6.7	Total dBm	Max Power dBm (eirp)	EIRP (mW): ISED Limit dBm (eirp)	Max Power	Resul
IIMO Devia Mode: Frequency (MHz)	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2 1 3	50 MHz Ban Software Setting	99% BW (MHz)	Duty Cycle %	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3	Total dBm	Max Power dBm (eirp)	EIRP (mW): ISED Limit dBm (eirp)	Max Power	Resul
/IMO Devic Mode: Frequency (MHz) 5180	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2 1 3 4	50 MHz Ban Software Setting 6.5	99% BW (MHz) 18.4	Duty Cycle % 98.0	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7	Total dBm 13.0	Max Power dBm (eirp) 15.3	EIRP (mW): ISED Limit dBm (eirp) 22.6	Max Power (W)	Resul
IIMO Devic <u>Mode:</u> Frequency (MHz) 5180	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2 1 3	50 MHz Ban Software Setting 6.5	99% BW (MHz) 18.4	Duty Cycle % 98.0	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.7	Total dBm 13.0	Max Power dBm (eirp) 15.3	EIRP (mW): ISED Limit dBm (eirp) 22.6	Max Power (W)	Resul Pass
/IMO Devic Mode: Frequency (MHz) 5180 5200	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3	50 MHz Ban Software Setting 6.5 6.5	99% BW (MHz) 18.4 18.4	Duty Cycle % 98.0 98.0	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7	Total dBm 13.0 12.9	Max Power dBm (eirp) 15.3 15.2	EIRP (mW): ISED Limit dBm (eirp) 22.6 22.6	Max Power (W)	Result Pass Pass
IIMO Devic <u>Mode:</u> Frequency (MHz) 5180	3 4 2 ce - 5150-52 ac20 Chain 1 3 4 2 1 3 4 2 1 3 4 2 1	50 MHz Ban Software Setting 6.5	99% BW (MHz) 18.4	Duty Cycle % 98.0	20.2 20.2 20.6 Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.7 6.8	Total dBm 13.0	Max Power dBm (eirp) 15.3	EIRP (mW): ISED Limit dBm (eirp) 22.6	Max Power (W)	Result Pass

	NTS							EM	C Test	
Client:	Arris							PR Number:	PR101106	
Model	NVG5XDBA	v					T-L	og Number:	TL-101106-F	RANA
MOUEI.	NVGJADBA	~					Proje	ect Manager:	Deepa Shett	y
Contact:	Mark Rieger	-					Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
	ce - 5150-52 ac20 w/ BF	50 MHz Ban	d - FCC				Max	EIRP (mW):	2777.6	
requency		Software	26dB BW	Duty Cycle	Power ¹	Total	Power		Max Power	_
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
()	1			,,	19.6				. ,	
5180	3	21		98.0	18.4	362.7	25.6	27.9		Pass
0100	4	21			20.1	002.1	20.0	21.0		1 400
	2				20.0 19.7					
	3				20.5					
5200	4	22		98.0	20.3	430.2	26.3	27.9	0.430	Pass
	2				20.7					
	1				19.7					
5240	3	22		98.0	20.2	417.6	26.2	27.9		Pass
	4				20.2					
					20.6					
	ce - 5150-52 ac20 w/ BF	50 MHz Ban	d - ISED	I I	20.6		Max	EIRP (mW):	128.8	
Mode:	ac20 w/ BF	50 MHz Ban Software	d - ISED 99% BW	Duty Cycle		Total	Max Power	EIRP (mW): ISED Limit	128.8 Max Power	
				Duty Cycle	20.6 Power ¹ dBm	Total dBm		ISED Limit		Result
Mode: requency	ac20 w/ BF Chain 1	Software	99% BW		Power ¹ dBm 6.8		Power	ISED Limit	Max Power	Result
Mode: requency	ac20 w/ BF Chain 1 3	Software	99% BW		Power ¹ dBm 6.8 7.5		Power	ISED Limit	Max Power	Result
Mode: requency (MHz)	ac20 w/ BF Chain 1 3 4	Software Setting	99% BW (MHz)	%	Power ¹ dBm 6.8 7.5 6.8	dBm	Power dBm (eirp)	ISED Limit dBm (eirp)	Max Power	
Mode: requency (MHz)	ac20 w/ BF Chain 1 3 4 2	Software Setting	99% BW (MHz)	%	Power ¹ dBm 6.8 7.5 6.8 6.9	dBm	Power dBm (eirp)	ISED Limit dBm (eirp)	Max Power	
Mode: Frequency (MHz) 5180	ac20 w/ BF Chain 1 3 4 2 1	Software Setting 6.5	99% BW (MHz) 19.7	98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7	dBm 13.0	Power dBm (eirp) 21.1	ISED Limit dBm (eirp) 22.9	Max Power (W)	Pass
Mode: requency (MHz)	ac20 w/ BF Chain 1 3 4 2	Software Setting	99% BW (MHz)	%	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3	dBm	Power dBm (eirp)	ISED Limit dBm (eirp)	Max Power	
Mode: Frequency (MHz) 5180	ac20 w/ BF Chain 1 3 4 2 1 3	Software Setting 6.5	99% BW (MHz) 19.7	98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7	dBm 13.0	Power dBm (eirp) 21.1	ISED Limit dBm (eirp) 22.9	Max Power (W)	Pass
Mode: Frequency (MHz) 5180	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 2 1	Software Setting 6.5	99% BW (MHz) 19.7	98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.7 6.8	dBm 13.0	Power dBm (eirp) 21.1	ISED Limit dBm (eirp) 22.9	Max Power (W)	Pass
Mode: Frequency (MHz) 5180 5200	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 3	Software Setting 6.5 6.5	99% BW (MHz) 19.7 18.4	98 98 98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.7 6.8 7.2	dBm 13.0 12.9	Power dBm (eirp) 21.1 21.0	ISED Limit dBm (eirp) 22.9 22.6	Max Power (W)	Pass Pass
Mode: Frequency (MHz) 5180	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 6.5	99% BW (MHz) 19.7	98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.8 7.2 6.6	dBm 13.0	Power dBm (eirp) 21.1	ISED Limit dBm (eirp) 22.9	Max Power (W)	Pass
Mode: Frequency (MHz) 5180 5200	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 3	Software Setting 6.5 6.5	99% BW (MHz) 19.7 18.4	98 98 98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.7 6.8 7.2	dBm 13.0 12.9	Power dBm (eirp) 21.1 21.0	ISED Limit dBm (eirp) 22.9 22.6	Max Power (W)	Pass Pass
Mode: Frequency (MHz) 5180 5200	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 6.5 6.5	99% BW (MHz) 19.7 18.4	98 98 98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.8 7.2 6.6	dBm 13.0 12.9	Power dBm (eirp) 21.1 21.0	ISED Limit dBm (eirp) 22.9 22.6	Max Power (W)	Pass Pass
Mode: Frequency (MHz) 5180 5200	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 6.5 6.5	99% BW (MHz) 19.7 18.4	98 98 98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.8 7.2 6.6	dBm 13.0 12.9	Power dBm (eirp) 21.1 21.0	ISED Limit dBm (eirp) 22.9 22.6	Max Power (W)	Pass Pass
Mode: Frequency (MHz) 5180 5200	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 6.5 6.5	99% BW (MHz) 19.7 18.4	98 98 98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.8 7.2 6.6	dBm 13.0 12.9	Power dBm (eirp) 21.1 21.0	ISED Limit dBm (eirp) 22.9 22.6	Max Power (W)	Pass Pass
Mode: requency (MHz) 5180 5200	ac20 w/ BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 6.5 6.5	99% BW (MHz) 19.7 18.4	98 98 98	Power ¹ dBm 6.8 7.5 6.8 6.9 6.7 7.3 6.7 6.7 6.8 7.2 6.6	dBm 13.0 12.9	Power dBm (eirp) 21.1 21.0	ISED Limit dBm (eirp) 22.9 22.6	Max Power (W)	Pass Pass

Client:	Arris						F	PR Number:	PR101106	6
Model	NVG5XDBA	v					T-L	og Number:	TL-10110	6-RANA
MOUEI.	NVGJADBA	~						ct Manager:		
	Mark Rieger						Projec	ct Engineer:		е
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
5150-5250 F Mode:	PSD - FCC ac20									
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC	Limit	Result
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/	/MHz	Result
	1				8.3					
5180	3	22		98	8.9	29.7	14.7	14	.9	Pass
	4				8.6 9.0					
	1				9.0 7.9					
5000	3				8.7	00.0	44.0		•	_
5200	4	22		98	8.6	28.8	14.6	14	.9	Pass
	2				9.0					
					~ ~					
	1				8.0					
5240	3	22		98	8.4	27.9	14.5	14	.9	Pass
5240		22		98		27.9	14.5	14	.9	Pass
150-5250 F Mode:	3 4 2 PSD - ISED ac20	22 Software	99% BW		8.4 8.4 8.9			14 		
150-5250 F	3 4 2 PSD - ISED		99% BW (MHz)	98 Duty Cycle %	8.4 8.4 8.9		14.5 PSD ¹ dBm/MHz		Limit	Pass
150-5250 F Mode: Frequency	3 4 2 PSD - ISED ac20 Chain 1 3 4 2	Software		Duty Cycle	8.4 8.9 PSD dBm/MHz -4.9 -4.2 -4.9 -4.8	Total	PSD ¹	ISED	Limit /MHz	
150-5250 F Mode: Frequency (MHz)	3 4 2 PSD - ISED ac20 Chain 1 3 4	Software Setting		Duty Cycle %	8.4 8.9 PSD dBm/MHz -4.9 -4.2 -4.9	Total mW/MHz	PSD ¹ dBm/MHz	ISED dBm/	Limit /MHz 9	Resul

Client: Arris					PR N	umber: PR1011	06
lodel: NVG5XDBAX					T-Log N	umber: TL-1011	106-RANA
					Project Ma	anager: Deepa S	Shetty
ntact: Mark Rieger					Project En	igineer: David B	are
idard: FCC Part 15, RS	S-247					Class: N/A	
ipectrum Analyzer Settin	ngs 10.0						
CF: 5180.000 MHz	10.0-			*		— 🌅 N	TS
SPAN: 40.000 MHz RB: 1.000 MHz	5.0-		1			-	- 1
VB: 3.000 MHz Detector: RMS	0.0-						- 1
Attn: 30 DB RL Offset: 22.0 DB	-5.0-		li				_
Sweep Time: 20.0ms	-10.0 -						
Ref Lvl: 30.0 DBM Pwr avg: 100 sweeps							
Amp corr: 0.0dB Bin size: 64.1 kHz	튪 -15.0 -	1					
	-20.0-						_
Highest PSD	-25.0-						_
9.0 dBm/1.000 M	-30.0 -						
1996 Bandwidth		and Britanna				market .	
18.50 MHz	-35.0-	The second s				and a stand and a stand	Putton
Power Over Span	-40.0-						
117.172 mW	5160.0	5165.0 517		5180.0 quency (MH	5185.0 5190 ->)	0.0 5195.0	5200.0
20.7 dBm					<i>c)</i>		_
	99	% Bandwidth, F	ower Over Sp	an and PSD			

	Arris						F	R Number:	PR101106	6
							T-Le	og Number:	TL-10110	6-RANA
Model:	NVG5XDBA	Х					Proje	t Manager:	Deepa Sh	etty
Contact:	Mark Rieger	•					Projec	t Engineer:	David Bar	e
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
150-5250 I Mode:	PSD - FCC n20		n20 mode te	ested to demo	onstrate PSD	is almost th	e same as foi	ac20 mode)	
requency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC	Limit	Resul
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Resul
	1				8.1					
5180	3	22		98	8.7 8.4	28.2	14.5	14	1.9	Pass
	4				8.7					
	1				7.9					
5200	3	22		98	8.5	27.9	14.5	14	10	Pass
5200	4	22		90	8.4	21.9	14.5	14	1.9	r doo
	2				8.9					
	1 3				7.9					
					83					
5240		22		98	8.3 8.2	26.9	14.3	14	1.9	Pass
5240	4	22		98	8.3 8.2 8.7	26.9	14.3	14	1.9	Pass
50-5250 I Mode:	4	22 Software Setting	99% BW (MHz)	98 Duty Cycle %	8.2		14.3 PSD ¹ dBm/MHz	ISED	I.9 Limit /MHz	Pass
50-5250 I Mode: requency	4 2 PSD - ISED n20 Chain 1 3 4 2	Software		Duty Cycle	8.2 8.7 PSD dBm/MHz -4.9 -4.4 -5.1 -4.6	Total	PSD ¹	ISED dBm	Limit	Resu
150-5250 I Mode: requency (MHz)	4 2 PSD - ISED n20 Chain 1 3 4	Software Setting		Duty Cycle %	8.2 8.7 PSD dBm/MHz -4.9 -4.4 -5.1	Total mW/MHz	PSD ¹ dBm/MHz	ISED dBm, 1	Limit /MHz	

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Model [.]	I: NVG5XDBAX						T-Log Number: TL-101106-RANA			
						Project Manager: Deepa Shetty				
	act: Mark Rieger						Project Engineer: David Bare			
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
MIMO Devic Mode:	e - 5150-52! ac40	50 MHz Ban	d - FCC				Мах	EIRP (mW):	799.5	
Frequency	Software 26dB BW Duty Cycle Power Tota					Total I	Power ¹ ECC Limit Max Power			
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5190	1		,,,	13.8		<u>d</u> Biii				
	3	3 15.5		97	14.3	106.7	20.3	30.0	0.471 -	Pass
	4	10.0			14.3					
	2				14.1					
-	1				20.6	470.8	26.7	30.0		Pass
5230	3 4	22.5		97	20.5 20.6					
	2				20.6					
Mode: Frequency (MHz)	ac40 Chain	Software Setting	99% BW (MHz)	Duty Cycle %	Power ¹ dBm		Power	EIRP (mW): ISED Limit dBm (eirp)	Max Power	Result
	4				abiii	dBm	dBm (eirp)	ubili (elip)	(W)	
5190	1 3 4 2	11.0	36.3	97	9.9 10.3 10.1 10.3 10.1	dBm 16.3	<u>авт (eirp)</u> 18.6	23.0	0.043	Pass

	NTS	_						EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madal		V					T-L	og Number:	TL-101106-F	ANA
Model:	NVG5XDBA	X					Proje	ect Manager:	Deepa Shett	ý
Contact:	Mark Rieger						Proje	ct Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
MIMO Devic Mode [.]	:e - 5150-52! ac40 w/BF	50 MHz Ban	d - FCC				Мах	EIRP (mW):	1202.2	
Frequency		Software	26dB BW	Duty Cycle	Power	Total F	Power ¹	FCC Limit	Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
. ,	1		. ,	,,	13.8					
5190	3	15.5		97	14.3	106.7	20.3	27.9		Pass
0100	4	10.0		57	14.3	100.7	20.0	21.5		1 000
	2				14.1				0.186	
-	1				16.7					
5230	3 4	18.0		97	15.1 17.2	186.2	22.7	27.9		Pass
_	2				16.9					
Mode: Frequency (MHz)	ac40 w/BF Chain	Software Setting	99% BW (MHz)	Duty Cycle %	Power ¹ dBm	Total dBm	Max Power dBm (eirp)		Max Power	Result
()	1	<u> </u>	()	70	Q D I I I	UDIII			(VV)	rtoodit
5190 - -	1 3 4 2	9.0	38.0	97	8.9 7.2 8.7 9.1	14.7	22.8	23.0	(W) 0.030	Pass

Client: Arr Model: NV Contact: Ma Standard: FC 5150-5250 PSE Mode: Frequency (MHz) 5190	VG5XDBA ark Rieger CC Part 15 D - FCC ac40 Chain 1 3		99% BW (MHz)	Duty Cycle	PSD		T-Lo Projec	PR Number: PR101106 og Number: TL-101106 ot Manager: Deepa Sho ot Engineer: David Bare Class: N/A	6-RANA etty
Contact: Ma Standard: FC 5150-5250 PSE Mode: Frequency (MHz)	ark Rieger CC Part 15 D - FCC ac40 Chain 1 3	, RSS-247 Software			PSD		Projec	ct Manager: Deepa Sho ct Engineer: David Bar	etty
Standard: FC 5150-5250 PSE Mode: Frequency (MHz)	CC Part 15 D - FCC ac40 Chain 1 3	, RSS-247 Software			PSD		-	t Engineer: David Bar	
Standard: FC 5150-5250 PSE Mode: Frequency (MHz)	CC Part 15 D - FCC ac40 Chain 1 3	, RSS-247 Software			PSD		Projec		3
5150-5250 PSE Mode: Frequency (MHz)	D - FCC ac40 Chain 1 3	Software			PSD			Class: N/A	
Mode: Frequency (MHz)	ac40 Chain 1 3				PSD				
Frequency (MHz)	Chain 1 3				PSD				
(MHZ)	1 3	Setting	(MHz)			Total	PSD ¹	FCC Limit	Decult
5190	3			%	dBm/MHz	mW/MHz	dBm/MHz	dBm/MHz	Result
5190					-0.8				
		15.5		97	-0.4	3.7	5.7	14.9	Pass
	4				-0.4 -0.5				
	1				5.8				
5230	3	22.5		97	5.9	16.0	12.0	14.9	Pass
0200	4	22.5		51	5.9 5.9	10.0	12.0	14.5	1 033
5150-5250 PSE Mode:	D - ISED ac40						4		
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle		Total		ISED Limit	Result
	1	Setting		%	dBm/MHz -4.7	mW/MHz	dBm/MHz	dBm/MHz	
5190	3	11.0		97	-4.3	1.5	1.8	1.9	Daga
5190	4	11.0		97	-4.5	C.1	1.0	1.9	Pass
	2				-4.2				
	1 3				-4.6 -4.1				
5230	4	11.0		97	-4.8	1.5	1.8	1.9	Pass
	2				-4.0				

	10.0- 5.0- 0.0-	Project N	Number: TL-101106-RAN/ Manager: Deepa Shetty Engineer: David Bare Class: N/A
ontact: Mark Rieger Indard: FCC Part 15, RSS-24 Spectrum Analyzer Settings CF: 5230.000 MHz SPAN: 80.000 MHz RB: 1.000 MHz RB: 1.000 MHz VB: 3.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	10.0-	Project N	Manager: Deepa Shetty Engineer: David Bare
ndard: FCC Part 15, RSS-24 Spectrum Analyzer Settings CF: 5230.000 MHz SPAN: 80.000 MHz RB: 1.000 MHz VB: 3.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	10.0-		Engineer: David Bare
ndard: FCC Part 15, RSS-24 Spectrum Analyzer Settings CF: 5230.000 MHz SPAN: 80.000 MHz RB: 1.000 MHz VB: 3.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	10.0-		
Spectrum Analyzer Settings CF: 5230.000 MHz SPAN: 80.000 MHz RB: 1.000 MHz VB: 3.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	10.0-		
CF: 5230.000 MHz SPAN: 80.000 MHz RB: 1.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	5.0-		
SPAN: 80.000 MHz RB: 1.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	5.0-		
RB: 1.000 MHz VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	() ()		NTS
VB: 3.000 MHz Detector: RMS Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	0.0-		
Attn: 20 DB RL Offset: 22.0 DB Sweep Time: 20.0ms	0.0		
Sweep Time: 20.0ms	-5.0-		
	-10.0-		
Ref Lvl: 30.0 DBM			
Pwr avg: 100 sweeps Amp corr: 0.0dB	-15.0-		
Bin size: 128 kHz	-15.0 -		
	-25.0-		
Highert DSD	-30.0 -		
5.9 dBm/1.000 MHz			
99% Bandwidth	-35.0-		Martine .
36.74 MHz	-40.0 -		may have a feat at second
	-45.0-		
116.011 mW	5190.0 5200.0 5210.0		250.0 5260.0 5270.0
20.6 dBm		Frequency (MHz)	
	99% Bandwidth, Power	Over Span and PSD	

- V	NTS							EMC Tes	st Dat
Client:	Arris						F	R Number: PR10110	6
Model.	NVG5XDBA	x						og Number: TL-10110	
								t Manager: Deepa Sh	
	Mark Rieger						Projec	t Engineer: David Bar	e
Standard:	FCC Part 15	o, RSS-247						Class: N/A	
150-5250 F Mode:	PSD - FCC n40		n40 mode t	ested to demo	onstrate PSD) is almost th	e same as for	ac40 mode	
requency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC Limit	Resul
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/MHz	
	1 3				-0.9 -0.6				
5190	4	15.5		97	-0.7	3.6	5.6	14.9	Pass
	2				-0.4				
	1				5.6				
5230	3	22.5		97	5.6 5.8	15.6	11.9	14.9	Pass
					0.0				
	2 PSD - ISED				6.1				
150-5250 F Mode: requency (MHz)	2	Software Setting	99% BW (MHz)	Duty Cycle	6.1 PSD dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz	ISED Limit dBm/MHz	Resul
Mode: requency	2 PSD - ISED n40 Chain 1				PSD dBm/MHz -4.6				Resul
Mode: requency	2 PSD - ISED n40 Chain 1 3				PSD dBm/MHz -4.6 -4.2				
Mode: requency (MHz)	2 PSD - ISED n40 Chain 1 3 4	Setting		%	PSD dBm/MHz -4.6 -4.2 -4.7	mW/MHz	dBm/MHz	dBm/MHz	Resul
Mode: Frequency (MHz)	2 PSD - ISED n40 Chain 1 3 4 2 1	Setting		%	PSD dBm/MHz -4.6 -4.2 -4.7 -4.1 -4.9	mW/MHz	dBm/MHz	dBm/MHz	
Mode: requency (MHz)	2 PSD - ISED n40 Chain 1 3 4 2	Setting		%	PSD dBm/MHz -4.6 -4.2 -4.7 -4.1	mW/MHz	dBm/MHz	dBm/MHz	

Client:	Arris							PR Number:	PR101106	
M		V					T-l	_og Number:	TL-101106-F	RANA
Wodel:	NVG5XDBA	Х					Proje	ect Manager:	Deepa Shetty	y
Contact:	Mark Rieger	•					Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
/IMO Devid Mode:	ce - 5150-52 ac80	50 MHz Ban	d - FCC				Мах	EIRP (mW):	225.2	
requency		Software	26dB BW	Duty Cycle	Power	Total	Power ¹		Max Power	Desul
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Resul
	1				14.8					
5210	3 4	16.75		96	15.2 14.9	132.6	21.2	30.0	0.133	Pass
	2				14.9					
/IMO Devid Mode:	ce - 5150-52 ac80		-		_ 1			EIRP (mW):	141.3	
-		Software	99% BW	Duty Cycle	Power ¹	lotal	Power	ISED Limit	Max Power	Resu
	Chain	Sotting	(МН-)	0/	dDm	dDm	dDma (airm)	dDm (airm)	(\\\)	
Frequency (MHz)		Setting	(MHz)	%	dBm 12.8	dBm	dBm (eirp)	dBm (eirp)	(W)	
(MHz)	Chain 1 3				dBm 12.8 13.2					Doop
	1 3 4	Setting 14.5	(MHz) 75.9	% 96	12.8 13.2 12.8	dBm 19.2	dBm (eirp) 21.5	dBm (eirp) 23.0	(W) 0.083	Pass
(MHz)	1 3				12.8 13.2					Pass
(MHz) 5210 /IMO Devid Mode:	1 3 4	14.5	75.9	96 Duty Cycle	12.8 13.2 12.8 13.1 Power	19.2 Total	21.5 Max Power ¹	23.0 EIRP (mW): FCC Limit	0.083 856.1 Max Power	
(MHz) 5210 /IIMO Devic <u>Mode:</u> Frequency	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1	14.5 50 MHz Ban Software	75.9 d - FCC 26dB BW	96	12.8 13.2 12.8 13.1	19.2	21.5 Max	23.0 EIRP (mW):	0.083	
(MHz) 5210 MIMO Devic <u>Mode:</u> Frequency (MHz)	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3	14.5 50 MHz Ban Software Setting	75.9 d - FCC 26dB BW	96 Duty Cycle %	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2	19.2 Total mW	21.5 Max Power ¹ dBm	23.0 EIRP (mW): FCC Limit dBm	0.083 856.1 Max Power (W)	Resu
(MHz) 5210 /IIMO Devic Mode: Frequency	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4	14.5 50 MHz Ban Software	75.9 d - FCC 26dB BW	96 Duty Cycle	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2 14.9	19.2 Total	21.5 Max Power ¹	23.0 EIRP (mW): FCC Limit	0.083 856.1 Max Power	Resul
(MHz) 5210 //IMO Devic Mode: Frequency (MHz) 5210	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4 2	14.5 50 MHz Ban Software Setting 16.75	75.9 d - FCC 26dB BW (MHz)	96 Duty Cycle %	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2	19.2 Total mW	21.5 Max Power ¹ dBm	23.0 EIRP (mW): FCC Limit dBm	0.083 856.1 Max Power (W)	Resul
(MHz) 5210 MIMO Devia Mode: Frequency (MHz) 5210 MIMO Devia	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4 2 ce - 5150-52	14.5 50 MHz Ban Software Setting 16.75	75.9 d - FCC 26dB BW (MHz)	96 Duty Cycle %	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2 14.9	19.2 Total mW	21.5 Max Power ¹ dBm 21.2	23.0 EIRP (mW): FCC Limit dBm 27.9	0.083 856.1 Max Power (W) 0.133	Resu
(MHz) 5210 MIMO Devia Mode: Frequency (MHz) 5210 MIMO Devia	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4 2 ce - 5150-52 ac80 w/ BF	14.5 50 MHz Ban Software Setting 16.75	75.9 d - FCC 26dB BW (MHz)	96 Duty Cycle % 96	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2 14.9 15.2	19.2 Total mW 132.6	21.5 Max Power ¹ dBm 21.2	23.0 EIRP (mW): FCC Limit dBm 27.9 EIRP (mW):	0.083 856.1 Max Power (W)	Resul
(MHz) 5210 MIMO Devic Mode: Frequency (MHz) 5210 MIMO Devic Mode:	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4 2 ce - 5150-52	14.5 50 MHz Ban Software Setting 16.75 50 MHz Ban	75.9 d - FCC 26dB BW (MHz) d - ISED	96 Duty Cycle %	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2 14.9	19.2 Total mW 132.6	21.5 Max Power ¹ dBm 21.2 Max	23.0 EIRP (mW): FCC Limit dBm 27.9 EIRP (mW):	0.083 856.1 Max Power (W) 0.133 195.0	Resul
(MHz) 5210 VIIMO Devic Mode: Frequency (MHz) 5210 VIIMO Devic Mode: Frequency	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1	14.5 50 MHz Ban Software Setting 16.75 50 MHz Ban Software	75.9 d - FCC 26dB BW (MHz) d - ISED 99% BW	96 Duty Cycle % 96 Duty Cycle	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2 14.9 15.2 14.9 15.2 Power ¹ dBm 9.0	19.2 Total mW 132.6 Total	21.5 Max Power ¹ dBm 21.2 Max Power	23.0 EIRP (mW): FCC Limit dBm 27.9 EIRP (mW): ISED Limit	0.083 856.1 Max Power (W) 0.133 195.0 Max Power	Resul
(MHz) 5210 //IMO Devic Mode: Frequency (MHz) 5210 //IMO Devic Mode: Frequency	1 3 4 2 ce - 5150-52 ac80 w/ BF Chain 1 3 4 2 ce - 5150-52 ac80 w/ BF Chain	14.5 50 MHz Ban Software Setting 16.75 50 MHz Ban Software	75.9 d - FCC 26dB BW (MHz) d - ISED 99% BW	96 Duty Cycle % 96 Duty Cycle	12.8 13.2 12.8 13.1 Power dBm 14.8 15.2 14.9 15.2 Power ¹ dBm	19.2 Total mW 132.6 Total	21.5 Max Power ¹ dBm 21.2 Max Power	23.0 EIRP (mW): FCC Limit dBm 27.9 EIRP (mW): ISED Limit	0.083 856.1 Max Power (W) 0.133 195.0 Max Power	Pass Resul Pass Resul

Mode: ac80 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % PSD dBm/MHz Total PSD ¹ FCC Limit dBm/MHz Result dBm/MHz 5210 1 3 16.75 96 -2.7 -2.4 3.8 14.9 Pass 5210 4 16.75 96 -2.7 -2.4 2.4 3.8 14.9 Pass 5150-5250 PSD - ISED Mode: ac80 -2.2 -2.2 14.9 SED Limit Image: Software 99% BW Duty Cycle PSD Total PSD ¹ ISED Limit Image: Software Image: Software Software 99% BW Duty Cycle PSD Total PSD ¹ ISED Limit Image: Software Image: Software Software Software Software PSD Total PSD ¹ ISED Limit Image: Software		NTS							EMC Tes	t Data
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Client:	Arris						F	PR Number: PR101106	;
$\begin{array}{ c c c c c c c } \hline Project Manager: Deepa Shetty \\ \hline Contact: Mark Rieger & Project Engineer: David Bare \\ \hline Standard: FCC Part 15, RSS-247 & Class: N/A \\ \hline Standard: FCC Part 15, RSS-247 & Class: N/A \\ \hline Standard: FCC Part 15, RSS-247 & Class: N/A \\ \hline Standard: FCC Part 15, RSS-247 & Class: N/A \\ \hline Standard: FCC Part 15, RSS-247 & Class: N/A \\ \hline Standard: FCC Part 15, RSS-247 & Class: N/A \\ \hline Standard: Frequency (MHz) & Chain & Software & 99\% BW & Duty Cycle & PSD & Total PSD^1 & FCC Limit & Result \\ \hline Standard: Setting & 16.75 & 96 & \hline -2.2 & 2.4 & 3.8 & 14.9 & Pass \\ \hline Standard: Frequency & Chain & Software & 99\% BW & Duty Cycle & PSD & Total PSD^1 & ISED Limit & Result \\ \hline Standard: Setting & 99\% BW & Duty Cycle & PSD & Total PSD^1 & ISED Limit & Result \\ \hline Standard: MHz & MHz & MW/MHz & dBm/MHz & MHz & Result \\ \hline Standard: MHz & MHz & MW/MHz & dBm/MHz & Result \\ \hline Standard: Setting & 99\% BW & Duty Cycle & PSD & Total PSD^1 & ISED Limit & Result \\ \hline Standard: MHz & MHz & MW/MHz & dBm/MHz & MHz & Result \\ \hline Standard: MHz & MHz & MW/MHz & MHz & MHz & Result \\ \hline Standard: MHz & MHz & MHz & MHz & MHz & MHz & MHz \\ \hline Standard: MHz & Result \\ \hline Standard: MHz & MHz \\ \hline Standard: MHz & M$	Model:	NVG5XDBA	х						-	
Standard: FCC Part 15, RSS-247Class: N/AStandard: FCC Part 15, RSS-247Class: N/ASito-5250 PSD - FCC Mode: ac80Frequency (MHz)Chain SettingSoftware (MHz)99% BW (MHz)Duty Cycle %PSD dBm/MHz mW/MHzTotal PSD1 mW/MHzFCC Limit dBm/MHzResult dBm/MHz5210 1 4 16.7596 -2.7 -2.4 -2.2 2.4 3.8 14.9Pass5150-5250 PSD - ISED Mode: $a c80$ Software Setting99% BW (MHz)Duty Cycle %PSD dBm/MHzTotal PSD1 mW/MHzISED Limit dBm/MHzResult5150-5250 PSD - ISED Mode: $a c80$ -2.8 -2.2 -2.4 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td>								-		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		-						Proje		Э
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Standard.	FUC Fail 13), ROO-241						Class. IN/A	
(MHz) Chain Setting (MHz) % dBm/MHz mW/MHz dBm/MHz dBm/Mz pass 5150-5250 PSD - ISED Mode: ac80 ac80 Software 99% BW Duty Cycle PSD Total PSD ¹ ISED Limit Result Mde: ac80 (MHz) % dBm/MHz mW/MHz dBm/MHz dBm/MHz Result Mde: ac80 Software 99% BW Duty Cycle PSD Total PSD ¹ ISED Limit dBm/MHz Result 5210 3 14.5 96 -4.										
(MHz) Setting (MHz) % dBm/MHz mW/MHz dBm/MHz dBm/Mz mBus dBm/Mz dBm/Mz dBm/Mz dBm/Mz dBm/Mz dBm/Mz dBm/Mz dBm/MHz dBm/Mz dBm/Mz </td <td></td> <td>Chain</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Result</td>		Chain								Result
5210 3 16.75 96 -2.4 2.4 3.8 14.9 Pass 5150-5250 PSD - ISED -2.2 -2.2 2.4 3.8 14.9 Pass 5150-5250 PSD - ISED -2.2 -2.2 -2.2 14.9 Pass 5150-5250 PSD - ISED -2.2 -2.2 -2.2 14.9 Pass 5150-5250 PSD - ISED Mode: ac80 ac80 Duty Cycle PSD Total PSD ¹ ISED Limit Result 6/(MHz) Chain Software 99% BW Duty Cycle PSD Total PSD ¹ ISED Limit Result 6/(MHz) 0 0 -4.8 1.5 1.8 1.9 Pass 5210 3 14.5 96 -4.4 1.5 1.8 1.9 Pass	(MHz)		Setting	(MHz)	%		mW/MHz	dBm/MHz	dBm/MHz	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										
2 -2.2 -2.2 5150-5250 PSD - ISED Mode: ac80 ac80 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % PSD dBm/MHz Total PSD ¹ ISED Limit dBm/MHz Result 5210 3 14.5 96 -4.8 1.5 1.8 1.9 Pass	5210		16.75		96		2.4	3.8	14.9	Pass
$\begin{array}{c c c c c c c c c c c c c c c c c c c $										
$(MHz) \qquad \begin{array}{c c c c c c c c c } \hline CHain & Setting & (MHz) & \% & dBm/MHz & mW/MHz & dBm/MHz & dBm/MHz \\ \hline \\ & & & \\ \hline \\ 5210 & \hline \\ \hline \\ \hline \\ 4 & \end{array} \qquad \begin{array}{c c c c c c c c c c c c c c c c c c c $	Mode:									1
$5210 \frac{1}{3} \\ 4 14.5 96 \frac{-4.8}{-4.3} \\ 1.5 1.8 1.9 Pass$		Chain								Result
5210 3 14.5 96 -4.4 1.5 1.8 1.9 Pass	(MHZ)	1	Setting	(MHZ)	%		mW/MHz	dBm/MHz	dBm/MHz	
5210 <u>4</u> 14.5 <u>90</u> <u>-4.3</u> 1.5 1.6 1.9 Pass										
	5210		14.5		96		1.5	1.8	1.9	Pass
						-4.5				

Client: Arris				PR Number:	PR101106
lodel: NVG5XDBAX				T-Log Number:	TL-101106-RANA
				Project Manager:	
ntact: Mark Rieger				Project Engineer:	David Bare
dard: FCC Part 15, RS	S-247			Class:	N/A
pectrum Analyzer Settin	^{igs} 0.0-			<i>(</i> **	ATS
CF: 5210.000 MHz SPAN: 150.000 MHz	-5.0-	an and a marine a	and hourself	materia and	
RB: 1.000 MHz					
VB: 3.000 MHz Detector: RMS	-10.0 -				
Attn: 10 DB	-15.0 -				
RL Offset: 22.3 DB Sweep Time: 1.0ms	-20.0 -				
Ref Lvl: 20.0 DBM Pwr avg: 100 sweeps	25.0 -				
Amp corr: 0.0dB	-25.0- 특 -30.0-				
Bin size: 250 kHz	0 -30.0 -				
	-35.0-				
Highest PSD	-40.0-				
-2.2 dBm/1.000 M	Hz -45.0 -			1	
996 Bandwidth				- K.	
75.87 MHz	-50.0-	market l		- Abrillion	Anno Marshan
ower Over Span	-55.0-				1.1
33.403 mW 15.2 dBm	5135.0 5150.0)0.0 5225. equency (MHz)	0 5250.0	5285.0
1215 GBm					_
	99% Bar	ndwidth, Power Over Sp	an and PSD		

Po Test Specific Details Objective: The objective of specification lise General Test Configuration When measuring the conducted emisses analyzer or power meter via a suitable allow for the external attenuators and Ambient Conditions:	Antenna ower, PSD, Band of this test session is sted above. sions from the EUT's e attenuator to preven	antenna port, the antenna nt overloading the measure	Pro Pro 07(UNII) nts Emission on testing of port of the	IS the EUT with respect to the EUT was connected to the spectrur
Contact: Mark Rieger Standard: FCC Part 15, RSS-247 F PC Sest Specific Details Objective: The objective of specification lis Seneral Test Configuration When measuring the conducted emisse analyzer or power meter via a suitable allow for the external attenuators and Ambient Conditions:	Antenna ower, PSD, Band of this test session is sted above. sions from the EUT's e attenuator to preven cables used. Temperatur	Port Measuremer dwidth and Spurious to perform final qualification antenna port, the antenna nt overloading the measure	Pro Pro 07(UNII) nts Emission on testing of port of the	iject Manager: Deepa Shetty ject Engineer: David Bare Class: N/A
Standard: FCC Part 15, RSS-247 F PC est Specific Details Objective: The objective of specification lis General Test Configuration When measuring the conducted emiss analyzer or power meter via a suitable allow for the external attenuators and mbient Conditions:	Antenna ower, PSD, Band of this test session is sted above. sions from the EUT's e attenuator to preven cables used. Temperatur	Port Measuremer dwidth and Spurious to perform final qualification antenna port, the antenna nt overloading the measure	Pro 07(UNII) nts Emission on testing of port of the	ject Engineer: David Bare Class: N/A
Po est Specific Details Objective: The objective of specification lis General Test Configuration When measuring the conducted emiss analyzer or power meter via a suitable allow for the external attenuators and mbient Conditions:	Antenna ower, PSD, Band of this test session is sted above. sions from the EUT's e attenuator to preven cables used. Temperatur	Port Measuremer dwidth and Spurious to perform final qualification antenna port, the antenna nt overloading the measure	nts Emission on testing of port of the	IS the EUT with respect to the EUT was connected to the spectrur
Por est Specific Details Objective: The objective of specification lise General Test Configuration When measuring the conducted emisses analyzer or power meter via a suitable allow for the external attenuators and smbient Conditions:	Antenna ower, PSD, Band of this test session is sted above. sions from the EUT's e attenuator to preven cables used. Temperatur	Port Measuremer dwidth and Spurious to perform final qualification antenna port, the antenna nt overloading the measure	nts Emission on testing of port of the	IS the EUT with respect to the EUT was connected to the spectrur
Objective: The objective of specification lise of the objective of specification lise of the objective of specification lise of the objective of the objective of specification lise of the objective of the objective of specification lise of the objective of the objective of specification lise of the objective of specification lise of the objective of the objective of specification lise of the objective of specification lise of the objective of specification lise of the objective of the objective of the objective of specification lise of the objective of the obje	sted above. sions from the EUT's e attenuator to prever cables used. Temperatur	antenna port, the antenna nt overloading the measure	port of the	EUT was connected to the spectru
When measuring the conducted emiss analyzer or power meter via a suitable allow for the external attenuators and mbient Conditions:	e attenuator to preven cables used. Temperatur	nt overloading the measure	•	•
		ty: 34-35 %		
Summary of Results Run # Test	t Performed	Limit	Pass / Fa	il Result / Margin
	150 - 5250MHz	15.407(a) (1), (2), (3)	Pass	ax20: 12.5 mW/MHz ax40: 10.0 mW/MHz ax80: 2.0 mW/MHz
1 PSD, 51	150 - 5250MHz	RSS-247 6.2	Pass	ax20: -0.5 mW/MHz ax40: -0.5 mW/MHz ax80: 0.0 mW/MHz
1 99%	6 Bandwidth	RSS-247 (Information only)	N/A	ax20: 19.6 MHz ax40: 38.0 MHz ax80: 77.2 MHz
Iodifications Made During Tes No modifications were made to the EL	•			



EMC Test Data

Client:	Arris	PR Number:	PR101106
Model: NVG5XDBA	NVG5YDBAY	T-Log Number:	TL-101106-RANA
woder.	IN GOADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	Class:	N/A

Procedure Comments:

Measurements performed in accordance with ANSI C63.10

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	Packet
ax20		99.0%	Yes	4.11	0.0	0.0	10	4324
ax40		99.0%	Yes	4.16	0.0	0.0	10	8811
ax80		96.8%	Yes	1.20	0.1	0.3	833	5159

Sample Notes

Sample S/N: M11917QW000T

Date of Test: 02/03/20		Config. Used: 1			
Test Engineer: M. Birgani		Config C	hange: None		
Test Location: Fremont EMC Lab #3		EUT V	oltage: 3.3Vdc		
Antenna chain information:	Chain 1: Chain 3:	Blue Gray	Chain 2: Chain 4:	White Black	

🎲 NTS		NTS
-------	--	-----

EMC Test Data

Client:	Arris	PR Number:	PR101106
Model	NVG5XDBAX	T-Log Number:	TL-101106-RANA
MOUEI.	IN GJADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	Class:	N/A

Run #1: Bandwidth, Output Power and Power Spectral Density - MIMO Systems

Note 2:	Measured u	sing the sam	e analyzer se	ettings used	for output po	ower.				
	For RSS-24	7 the limit for	the 5150 - 5	250 MHz ba	nd accounts	for the anten	na gain as t	he maximum	eirp allowed	is
						e the highest n				
Note 3:						asured 99% ba				-
		ed value exce	•		•		, .	·	,	
	99% Bandw	idth measure	d in accorda	nce with C63	3.10 - RB be	tween 1-5 % c	of OBW and	I VB ≥ 3*RB, S	Span betwee	n 1.5 and
Note 4:	times OBW.									
	For MIMO s	ystems the to	otal output po	ower and tota	al PSD are c	alculated from	n the sum of	the powers o	f the individu	al chains
	(in linear ter	ms). The an	tenna gain u	sed to deterr	nine the EIF	RP and limits for	or PSD/Out	put power dep	ends on the	operating
Nata C.	mode of the	MIMO devic	e. If the sign	als on the no	on-coherent	between the t	ransmit cha	ins then the g	gain used to	determine
Note 5:	the limits is	the highest g	ain of the ind	lividual chair	is and the E	IRP is the sum	n of the proc	ducts of gain a	and power or	n each
	chain. If the	signals are	coherent the	n the effectiv	e antenna g	ain is the sum	ı (in linear te	erms) of the ga	ains for each	chain and
		the product o			-		,	, 0		
				U	•					
Antenna G	ain Informati	ion								
Freq	ŀ	Antenna Gair	ı (dBi) / Chaiı	n	BF	MultiChain	CDD	Sectorized	Dir G	Dir G
печ	1	2	3	4	Ы	Legacy	CDD	/ Xpol	(PWR)	(PSD)
	4.1 s that suppo Min # of spa		4.9 es	4.9	Yes	Yes	Yes	Yes	2.3	8.1
		rt CDD mod tial streams:		4.9	Yes	Yes	Yes	Yes	2.3	8.1
or device	s that suppo Min # of spa Max # of spa BF = beamfo	rt CDD mod tial streams: tial streams: orming mode	es supported, l	Multichain Le	egacy = 802	11 legacy dat	a rates sup	ported for mul	tichain trans	missions,
or devices	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive	es supported, l	Multichain Le	egacy = 802	<u> </u>	a rates sup	ported for mul	tichain trans	missions,
or device:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.	es supported, l rsity (or Cycl	Multichain Le	egacy = 802. rsity) modes	11 legacy dat supported, Se	a rates supp ectorized /)	ported for multicontent for multicontent for multicontent for multicontent for multicontent for the second se	tichain trans as are sector	missions, rized or
For device:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain	es supported, I rsity (or Cycl (Gant + Arra	Multichain Le ic Shift Dive y Gain) for p	egacy = 802. rsity) modes	11 legacy dat supported, Se ations; GA (PS	a rates sup ectorized / > SD) = total (ported for mul (pol = antenna gain for PSD c	tichain trans as are sector calculations l	missions, rized or pased on
or device:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 6	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain	es supported, I rsity (or Cycl (Gant + Arra	Multichain Le ic Shift Dive y Gain) for p	egacy = 802. rsity) modes	11 legacy dat supported, Se	a rates sup ectorized / > SD) = total (ported for mul (pol = antenna gain for PSD c	tichain trans as are sector calculations l	missions, rized or pased on
For devices Notes: Notes:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 66 value.	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe	es supported, I rsity (or Cycl (Gant + Arra ending on the	Multichain Le ic Shift Dive y Gain) for p modes sup	egacy = 802. rsity) modes power calcula ported, the A	11 legacy dat supported, Se ations; GA (PS	a rates sup ectorized / > SD) = total (ported for mul (pol = antenna gain for PSD c	tichain trans as are sector calculations l	missions, rized or pased on
For device:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR) FCC KDB 60 value. Array gain fo	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd	es supported, I rsity (or Cycl (Gant + Arra ending on the calculated p	Multichain Le ic Shift Dive y Gain) for p modes sup er KDB 6629	egacy = 802. rsity) modes power calcula ported, the A	11 legacy dat supported, Se ations; GA (PS Array Gain valu	a rates supp ectorized / > SD) = total ue for powe	ported for mul (pol = antenna gain for PSD c	tichain trans as are sector calculations l	missions, rized or pased on
For devices Notes: Notes:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 60 value. Array gain fe For systems	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd s with Beamfo	es supported, I rsity (or Cycl (Gant + Arra ending on the calculated p orming and C	Multichain Le ic Shift Dive y Gain) for p modes sup er KDB 6629 DD, choose	egacy = 802 rsity) modes power calcula ported, the A 211 D01. one the follo	11 legacy dat supported, Se ations; GA (PS Array Gain valu	a rates sup ectorized / > SD) = total ue for powe	ported for mul (pol = antenna gain for PSD c r could be diff	tichain trans as are sector calculations t erent from th	missions, rized or based on he PSD
For devices Notes: Notes:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 6i value. Array gain fo For systems Option 1: D	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd s with Beamfor elays are opt	es supported, I rsity (or Cycl (Gant + Arra ending on the calculated p orming and C imized for be	Multichain Le ic Shift Dive y Gain) for p modes sup er KDB 6629 DD, choose amforming,	egacy = 802 rsity) modes power calcula ported, the A 211 D01. one the follo	11 legacy dat supported, Se ations; GA (PS Array Gain valu	a rates sup ectorized / > SD) = total ue for powe	ported for mul (pol = antenna gain for PSD c r could be diff	tichain trans as are sector calculations t erent from th	missions, rized or based on he PSD
For devices Notes: Notes: Notes:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 66 value. Array gain fe For systems Option 1: D calculated b	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd s with Beamfor elays are opt ased on beam	es supported, I rsity (or Cycl (Gant + Arra ending on the calculated p prming and C cimized for be mforming crit	Multichain Le ic Shift Dive y Gain) for p modes sup er KDB 6629 DD, choose eamforming, eria.	egacy = 802. rsity) modes power calcula ported, the A 211 D01. one the follo rather than	11 legacy data supported, Se ations; GA (PS Array Gain valu owing options: being selected	a rates sup ectorized / > SD) = total (ue for powe	ported for mul (pol = antenna gain for PSD c r could be diff	tichain trans as are sector calculations f erent from th f 802.11; Arr	missions, rized or based on he PSD
For devices Notes: Notes:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 66 value. Array gain fc For systems Option 1: D calculated b Option 2: A	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd with Beamfor elays are opt ased on bea ntennas are	es supported, I rsity (or Cycl (Gant + Arra ending on the calculated p prming and C imized for be mforming crit paired for be	Multichain Le ic Shift Dive y Gain) for p modes sup er KDB 6629 DD, choose amforming, eria. amforming, a	egacy = 802. rsity) modes power calcula ported, the A <u>211 D01.</u> one the follo rather than and the pairs	11 legacy dat supported, Se ations; GA (PS Array Gain valu owing options: being selected s are configure	a rates supp ectorized / > SD) = total ue for powe d from cyclic ed to use the	ported for muli (pol = antenna gain for PSD c r could be diff c delay table o e cyclic delay	tichain trans as are sector calculations t erent from th f 802.11; Arr diversity of 8	missions, rized or based on he PSD ray gains 302.11; the
For devices Notes: Notes: Notes:	s that suppo Min # of spa Max # of spa BF = beamfe CDD = Cycli cross polariz Dir G (PWR FCC KDB 60 value. Array gain fe For systems Option 1: D calculated b Option 2: A array gain a	rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd with Beamfor elays are opt ased on bea ntennas are	es supported, I rsity (or Cycl (Gant + Arra ending on the calculated p orming and C imized for be mforming crit paired for be h beamformi	Multichain Le ic Shift Dive y Gain) for p modes sup er KDB 6629 DD, choose amforming, eria. amforming, a	egacy = 802. rsity) modes power calcula ported, the A <u>211 D01.</u> one the follo rather than and the pairs	11 legacy data supported, Se ations; GA (PS Array Gain valu owing options: being selected	a rates supp ectorized / > SD) = total ue for powe d from cyclic ed to use the	ported for muli (pol = antenna gain for PSD c r could be diff c delay table o e cyclic delay	tichain trans as are sector calculations t erent from th f 802.11; Arr diversity of 8	missions, rized or based on he PSD ray gains 302.11; the

Client:	Arris							R Number: PR10110	
Model:	NVG5XDBA	X						g Number: TL-10110	
Contact:	Mark Riege	r					-	t Manager: Deepa Sh t Engineer: David Bar	-
	FCC Part 1						110,00	Class: N/A	0
001001	Destable		D	DOD					
	Power Limi Outdo	ts por AP	Pwr 30	PSD 17					
Х		or AP	30	17					
		e.g. Client)	24	11					
	Outdoor AF	P (>30° Elv.)	21	-					
150-5250 I	PSD - FCC				Mode:	ax20			
requency	Chain	Software	99% BW	Duty Cycle		Total	PSD ¹	FCC Limit	Resul
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/MHz	1.000
	1 3	-			6.2 6.6				
5180	4	21.75		99	6.1	16.6	12.2	14.9	Pass
	2				5.8				
	1				6.4				
5200	3	22		99	6.9	17.8	12.5	14.9	Pass
0200	4				6.5	11.0	12.0	11.0	1 400
	2				6.1 6.2				
	3				6.7				
5240	4	22		99	6.5	17.2	12.4	14.9	Pass
	2				5.9				
150-5250 I	PSD - IC				Mode:	ax20			
Frequency	Chain	Software	99% BW	Duty Cycle			PSD ¹	IC Limit	Resu
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/MHz	
	1 3	-			-6.4 -6.0				
5180	4	6.5	19.6	99	-0.0	0.9	-0.5	1.9	Pass
	2				-7.0				
	1				-6.9				
5200	3	6.5	19.6	99	-6.2	0.8	-1.0	1.9	Pass
	4				-7.3	2.0			
	2				-7.2 -7.1		<u>├</u>		_
	3	•	10.5		-6.3	• •			_
5240	4	6.5	19.6	99	-7.1	0.8	-1.0	1.9	Pass
	2	1		1	-7.2				1

	NTS							EM	C Test	[•] Data
Client: Model:	Arris NVG5XDBA	х					T-L	-	PR101106 TL-101106- Deepa Shet	
	Mark Rieger						Proje		David Bare	
Standard:	FCC Part 15	o, RSS-247						Class:	N/A	
MIMO Devi	ce - 5150-52	50 MHz Ban	d - FCC		Mode:	ax40				
Frequency (MHz)	Chain	Software Setting	26dB BW (MHz)	Duty Cycle %	PSD ² dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz		Limit /MHz	Result
5190	1 3 4 2	15.5		99	-2.9 -2.4 -2.7 -3.2	2.1	3.2	14	1.9	Pass
5230	1 3 4 2	22.5		99	4.4 4.0 4.0 3.3	9.9	10.0	14	1.9	Pass
MIMO Devi	ce - 5150-52	50 MHz Ban	d - ISED		Mode:	ax40				
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD ² dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz		Limit /MHz	Result
5190	1 3 4 2	11	37.9	99	-6.1 -6.3 -6.9 -6.8	0.9	-0.5	1	.9	Pass
5230	1 3 4 2	11	38.0	99	-6.0 -5.9 -6.5 -6.8	0.9	-0.5	1	.9	Pass

	NTS							EMC Tes	st Data
Client:	Arris						F	R Number: PR10110	6
Madal	NVG5XDBA	v					T-Lo	og Number: TL-10110	6-RANA
wouer.	NVGJADDA	^					-	ct Manager: Deepa Sh	-
	Mark Rieger						Projec	ct Engineer: David Ba	re
Standard:	FCC Part 15	, RSS-247						Class: N/A	
MIMO Devid	ce - 5150-525	50 MHz Ban	d - FCC		Mode:	ax80			
Frequency	Chain	Software	26dB BW	Duty Cycle	PSD ²	Total	PSD ¹	FCC Limit	Desult
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/MHz	Result
5210	1 3 4 2	16.75		96.8	-3.8 -3.8 -4.0 -4.7	1.6	2.0	14.9	Pass
MIMO Devic	ce - 5150-525	50 MHz Ban	d - ISED		Mode:	ax80			
Frequency	Chain	Software	99% BW	Duty Cycle		Total		ISED Limit	Result
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/MHz	rtooun
5210	1 3 4 2	14.5	77.2	96.8	-5.6 -5.8 -6.1 -6.5	1.0	0.0	1.9	Pass

NTS			EM	C Test Data
Client: Arris			PR Number:	PR101106
Model: NVG5XDBAX			T-Log Number:	TL-101106-RANA
			Project Manager:	
Contact: Mark Rieger			Project Engineer:	
Standard: FCC Part 15, RSS-247			Class:	N/A
	S-247 (LELAN) Antenna Port r, PSD, Bandwidtl	t Measurement	ts	
Test Specific Details Objective: The objective of this specification listed a		form final qualification	testing of the EUT with i	respect to the
General Test Configuration When measuring the conducted emissions analyzer or power meter via a suitable atter allow for the external attenuators and cable	nuator to prevent over			•
Ambient Conditions:	Temperature: Rel. Humidity:	20-22 °C 42-45 %		
Modifications Made During Testing No modifications were made to the EUT du				
Deviations From The Standard No deviations were made from the requirer	nents of the standard.			
Date of Test: 7/29-31/19; 10/10/1	Q	Config. Used:	1	
Test Engineer: R. Varelas; M. Birga		Config Change:		
Test Location: Lab #3		Host EUT Voltage:		
Sample Notes Sample S/N: M11917QW000T Driver:				

	NTS	EMC Test Dat
Client:	Arris	PR Number: PR101106
Madal	NVCEXDBAX	T-Log Number: TL-101106-RANA
woder.	NVG5XDBAX	Project Manager: Deepa Shetty
Contact:	Mark Rieger	Project Engineer: David Bare
Standard:	FCC Part 15, RSS-247	Class: N/A

C... mmony of Docult

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
				a: 251.2 mW
1	Power, 5725 - 5850MHz	15.407(a) (1), (2), (3)	Pass	ac20: 657.9 mW
	,	RSS-247 6.2		ac40: 683.1 mW
				ac80: 369.5 mW
				a: 19.1 mW/MHz
1	PSD, 5725 - 5850MHz	15.407(a) (1), (2), (3)	Pass	ac20: 46.1 mW/MHz
•	1 00, 0720 00000012	RSS-247 6.2	1 033	ac40: 24.7 mW/MHz
				ac80: 6.5 mW/MHz
				a: 16.3 MHz
1	Minimum 6dB Bandwidth	15.407(e)	Pass	ac20: 17.6 MHz
I		RSS-247 6.2.4.1	F 055	ac40: 36.3 MHz
				ac80: 75.8 MHz
				a: 17.2 MHz
2	00% Dandwidth	RSS-GEN	N1/A	ac20: 18.1 MHz
Z	99% Bandwidth	(Information only)	N/A	ac40: 36.5 MHz
				ac80: 75.9 MHz
3	Antenna Conducted - Out of Band	15.407(b)		All emissions below the
3	Spurious	-27dBm/MHz		-27dBm/MHz limit

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)	Packet	pkt duty
11a	6	99.0%	Yes	5.06	0.0	0.0	10	7974	-1
ac20	6.5	97.6%	Yes	5.271	0.1	0.2	190	4324	-1
ac40	13.5	97.3%	Yes	5.24	0.1	0.2	191	8811	-1
ac80	29.3	96.0%	Yes	1.432	0.2	0.4	698	5159	-1

	ATS							EMO	C Test	[•] Data
Client	Arris							PR Number:	PR101106	
Madal		V					T-	Log Number:	TL-101106-	RANA
Model	NVG5XDBA	X				-	Proj	ect Manager:	Deepa Shet	ty
Contact	Mark Riege	r					Proj	ect Engineer:	David Bare	
Standard	FCC Part 1	5, RSS-247						Class:	N/A	
Run #1: Ba	Indwidth, Ou	Itput Power	and Power S	Spectral De	nsity - MIM() Systems				
Note 1:	OBW, # of p	oints in swee	ep ≥ 2*span/l	RBW, auto	sweep, RMS	n analyzer (see 6 detector, pow OBW (methoo	ver averagir	ng on (transmi		
Note 1:	Constant D Span > OB number to g by adding Y	uty Cycle < 98 N, # of points jet true avera Y dB. This is	8%. Output p in sweep ≥ 2 ge), power a s based on 10	oower meas 2*span/RBW veraging on Dlog(1/x), wh	ured using a V, RMS dete and power i nere x is the	spectrum ana ctor, trace ave ntegration ove duty cycle. (m	llyzer (see rage 100 tr r the OBW	plots below). F aces (at least . Tthe measu	100 traces, i rements wer	increase the
Note 2:		sing the sam								
Note 3:	times OBW					tween 1-5 % c				
Note 4:	the limits is chain. If the	the highest g	ain of the ind	ividual chair the effectiv	ns and the E ve antenna g	between the t IRP is the sum ain is the sum	n of the pro	ducts of gain a	and power or	n each
Antenna G	ain Informat									
Freq		Antenna Gair	ι <i>γ</i>		BF	MultiChain	CDD	Sectorized	Dir G	Dir G
	1	2	3	4		Legacy		/ Xpol	(PWR)	(PSD)
5725-5825	4.5	5.8	5.7	5.5	Yes	Yes	Yes	Yes	2.9	8.8
For device	Min # of spa Max # of spa	ort CDD mod atial streams: atial streams:	1 4		Chain 2 = \	Blue antenna c Vhite antenna	cable	Chain 3 = G Chain 4 = Bl	ack antenna	cable
						.11 legacy dat supported, Se				
Notes:		zed.								
Notes: Notes:	cross polari Dir G (PWR FCC KDB 6) = total gain	•	• • •		ations; GA (PS Array Gain valı	,	-		
	cross polari Dir G (PWR FCC KDB 6 value. Array gain f) = total gain 62911. Depe or power/psd	calculated p	modes sup	ported, the <i>i</i> 911 D01.	•	ue for powe	-		

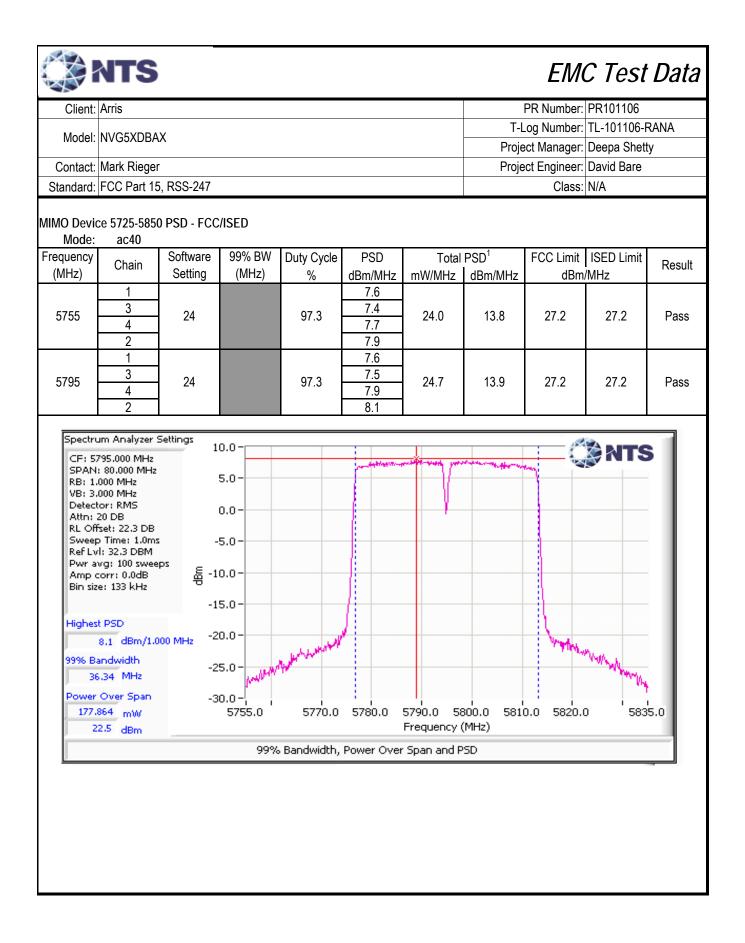
	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Model	NVG5XDBA	v					T-L	og Number:	TL-101106-F	RANA
wouer.	NVGJADDA	^							Deepa Shett	y
Contact:	Mark Rieger						Proje	ct Engineer:		
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
MIMO Devic Mode:					Ant 1		Мох		691.9	
Frequency	11a	Software	itenna Gain: 99% BW	4.4 dBi Duty Cycle	Power	Total F		EIRP (mW): Limit	Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5745	3	26.0	16.9	99.0	24.0	251.2	24.0	30.0		Pass
5785	3	26.0	17.0	99.0	23.8	239.9	23.8	30.0	0.251	Pass
5825	3	26.0	17.2	99.0	23.3	213.8	23.3	30.0		Pass
5725-5850 F Mode:	PSD - FCC/IS 11a	SED		1					<u> </u>	
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz		ISED Limit 00kHz	Result
5745	3	26.0		99.0	12.8	19.1	12.8	27.2	27.2	Pass
5785	3	26.0		99.0	12.4	17.4	12.4	27.2	27.2	Pass
5825	3	26.0		99.0	12.2	16.6	12.2	27.2	27.2	Pass

lient: Arris				PR Numbe	er: PR101106
				T-Log Numbe	r: TL-101106-RAN
odel: NVG5XDBAX				Project Manage	r: Deepa Shetty
ntact: Mark Rieger				Project Enginee	er: David Bare
dard: FCC Part 15, RS	S-247			Clas	s: N/A
pectrum Analyzer Settir CF: 5745.000 MHz	15.0 -			t de la companya de l	🛸 NTS
5PAN: 40.000 MHz	10.0-	many	manufa and manufa	- Aller and a	
RB: 1.000 MHz /B: 3.000 MHz	10.0				
Detector: RMS	5.0-				
Attn: 20 DB					
RL Offset: 22.3 DB Sweep Time: 1.0ms	0.0-				
Ref Lvl: 32.3 DBM Pwr avg: 100 sweeps	-5.0-				
Amp corr: 0.0dB	چ ب	1		- N	
Bin size: 66.7 kHz	▫ -10.0 -	l l		1	
	-15.0 -				
lighest PSD		water and		14	e d
12.8 dBm/1.000 M	Hz -20.0 -	Mar 1			nest prover the service
996 Bandwidth	-25.0-				. washing
16.91 MHz	-23.0				
ower Over Span	-30.0 -				
250.894 mW	5725.0 573			0.0 5755.0	5760.0 5765.0
24.0 dBm		F	requency (MHz)		
	99% Bai	ndwidth, Power Over S	ipan and PSD		

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madalı		v					T-L	og Number:	TL-101106-F	RANA
woder:	NVG5XDBA	X					Proje	ect Manager:	Deepa Shett	y
Contact:	Mark Rieger	ſ					Proje	ct Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
MIMO Devid Mode:	ce - 5725-58 ac20	50 MHz Ban	d - FCC/ISE	D			Мах	EIRP (mW):	1282.8	
Frequency		Software	99% BW	Duty Cycle	Power	Total F			Max Power	D
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				21.8					
5745	3	24	18.1	97.6	22.1	653.9	28.2	30.0		Pass
	4				21.9 22.3					
	1				22.3					
5785	3	24	18.1	97.6	22.0	657.9	28.2	30.0	0.658	Deee
5765	4	24	10.1	97.0	22.0	057.9	20.Z	30.0	0.000	Pass
	2				22.4					
	1 3				21.4 21.5					
5825	4	24	18.1	97.6	21.5	618.9	27.9	30.0		Pass
	2				22.3					
5725-5850 F Mode:	PSD - FCC/IS ac20	SED								
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC Limit	ISED Limit	Deput
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz		/MHz	Result
	1				10.2					
5745	3	24		97.6	10.7	46.1	16.6	27.2	27.2	Pass
	4				10.3 10.8					
	1				10.0					
5785	3	24		97.6	10.5	46.0	16.6	27.2	27.2	Pass
5705	4	24		57.0	10.4	40.0	10.0	21.2	21.2	1 033
	2				10.7					
	1 3				9.9 10.1					
5825	4	24		97.6	10.1	44.6	16.5	27.2	27.2	Pass
	2				10.9					

Client: Arris			PR Number: PR101106
lodel: NVG5XDBAX			T-Log Number: TL-101106-RA
			Project Manager: Deepa Shetty
ntact: Mark Rieger			Project Engineer: David Bare
ndard: FCC Part 15, RS	S-247		Class: N/A
ipectrum Analyzer Settin			4.
CF: 5785.000 MHz	15.0-		🔅 🔿 🕅 🕄
SPAN: 40.000 MHz RB: 1.000 MHz	10.0-	man and the second	and the state of
VB: 3.000 MHz		Ĭ Ĭ	
Detector: RMS Attn: 20 DB	5.0-		
RL Offset: 22.3 DB Sweep Time: 1.0ms	0.0-		
Ref Lvl: 32.3 DBM	-5.0-		
Pwr avg: 100 sweeps Amp corr: 0.0dB	E (
Bin size: 66.7 kHz	[¬] -10.0-		
	-15.0-		
Highest PSD	2000		What when the stand
10.7 dBm/1.000 M 19% Bandwidth	140		www.
18.10 MHz	-25.0		
Power Over Span	-30.0 -		
174.123 mW	5765.0 5770.0 5775.0	5780.0 5785.0	5790.0 5795.0 5800.0 5805.0
22,4 dBm		Frequency (MI	Hz)
	99% Bandwidth, Pow	er Over Span and PSD	1

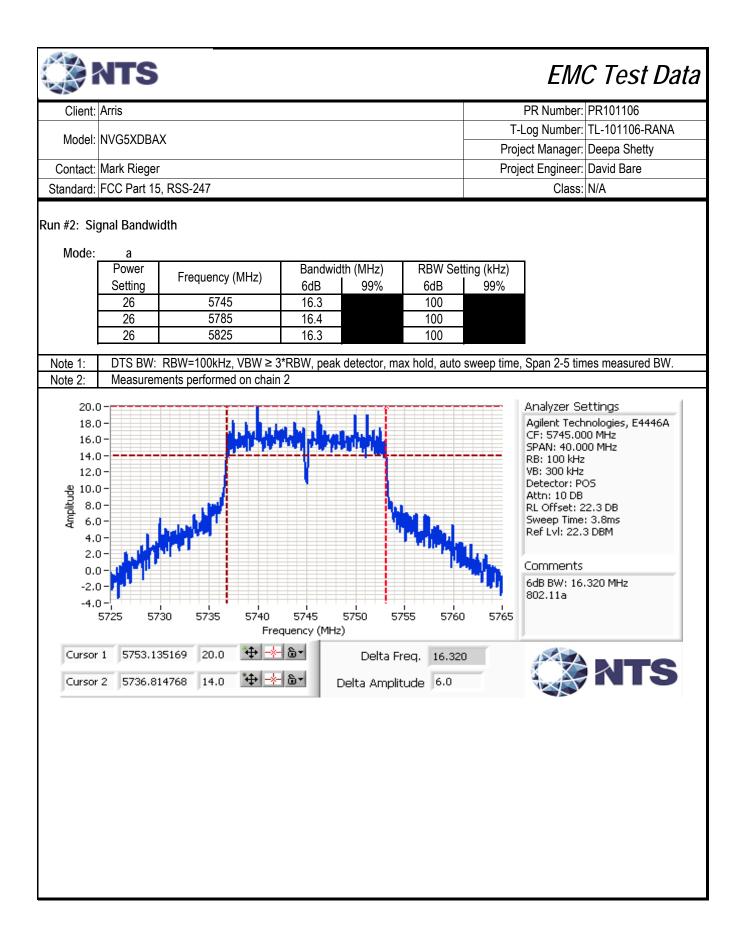
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		NTS							EM	C Test	Data
Model: NVGSXDBAX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare David Bare Standard: FCC Part 15, RSS-247 Class: N/A MIMO Device - 5725-5850 MHz Band - FCC/ISED Max EIRP (mW): 3562.3 Frequency Chain Software 99% BW Duty Cycle Power Total Power ¹ FCC Limit Max Power f 5745 1 22 19.6 97.6 20.0 2469.6 26.7 27.2 0.470 5785 1 22 19.7 97.6 20.7 20.4 27.2 0.470 5825 1 22 19.6 97.6 20.7 20.4 27.2 0.470 5825 1 22 19.6 97.6 20.7 20.5 27.2 0.470 5825 4 22 19.6 97.6 20.7 20.5 27.2 0.470 5825 4 22 19.6 97.6 20.7 20.	Client:	Arris							PR Number:	PR101106	
Contact: Mark Rieger Depa Shetty Standard: FCC Part 15, RSS-247 Project Engineer: David Bare MIMO Device - 5725-5850 MHz Band - FCC/ISED Max EIRP (mW): 3562.3 Frequency Chain Software 99% BW Duty Cycle Power Total Power ¹ FCC Limit Max Power I 5745 3 22 19.6 97.6 20.0 21.0 20.0 26.7 27.2 0.470 5785 3 22 19.7 97.6 20.7 20.7 20.4 0.470 0.470 5825 3 22 19.6 97.6 20.7 20.7 20.5 27.2 0.470 5825 3 22 19.6 97.6 20.7 20.2 1 0.470 0.470 5825 3 22 19.6 97.6 20.7 20.5 27.2 0.470 5825 4 22 19.6 97.6 20.7 20.5 27.2 0.470 </td <td>Model:</td> <td></td> <td>Y</td> <td></td> <td></td> <td></td> <td></td> <td>T-</td> <td>Log Number:</td> <td>TL-101106-F</td> <td>RANA</td>	Model:		Y					T-	Log Number:	TL-101106-F	RANA
Standard: FCC Part 15, RSS-247 Class: N/A MMO Device - 5725-5850 MHz Band - FCC/ISED MiMO Device - 5725-5850 MHz Band - FCC/ISED Max EIRP (mW): 3562.3 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % Power dBm Total Power ¹ mW FCC Limit dBm Max Power dBm Max Power dBm									-		y
MIMO Device - 5725-5850 MHz Band - FCC/ISED Mode: ac20 w/ BF Max EIRP (mW): Setting 3562.3 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % Power dBm Total Power ¹ mW FCC Limit dBm Max Power (W) Max Power f 5745 1 2 19.6 97.6 20.5 20.7 20.7 20.7 20.4 20.7 20.7 20.4 20.7 20.4 20.7 20.7 20.4 20.7 20.4 20.7 20.4 20.7 20.4 20.7 20.4 20.7 20.4 20.7 20.4 20.7 20.7 20.7 20.5 20.7 20.7 20.5 20.5 27.2 0.470 0.470 20.7 20.5 20.5 27.2 0.470 20.7 20.5 20.5 27.2 0.470 20.7 20.5 20.5 27.2 0.470 20.7 20.5 20.5 27.2 0.470 20.7 20.5 20.5 27.2 0.470 20.7 20.5 20.5 27.2 <th< td=""><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td>Proj</td><td>-</td><td></td><td></td></th<>		-						Proj	-		
Mode: ac20 w/ BF Max EIRP (mW): 3562.3 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % Power dBm Total Power ¹ mW FCC Limit dBm Max Power (W) FCC Limit Max Power Max Power ¹ dBm FCC Limit Max Power ¹ mW Max Power ¹ dBm FCC Limit Max Power ¹ dBm Max Power ¹ dBm FCC Limit Max Power ¹ mW Max Power ¹ dBm FCC Limit Max Power ¹ 20.0 Max Power ¹ dBm FCC Limit Max Power ¹ 20.0 Max Power ¹ dBm FCC Limit Max Power ¹ 20.0 Max Power ¹ dBm Power ¹ 20.0 Power ¹ 20.0 <t< td=""><td>Standard:</td><td>FCC Part 15</td><td>5, RSS-247</td><td></td><td></td><td></td><td></td><td></td><td>Class:</td><td>N/A</td><td></td></t<>	Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			50 MHz Ban	d - FCC/ISE	D			Мах	(FIRP (mW)	3562 3	
(MHz) Chain Setting (MHz) % dBm mW dBm dBm (W) r 5745 3 22 19.6 97.6 20.0 469.6 26.7 27.2 1 <			Software	99% BW	Duty Cycle	Power	Total				D
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Chain	Setting							(W)	Result
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5745		22	19.6	97.6		469.6	26.7	27.2		Pass
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5785		22	19.7	97.6		435.6	26.4	27.2	0 470	Pass
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0/00			10.7	01.0		400.0	20.4	21.2	0.470	1 000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										-	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $											
MIMO Device - 5725-5850 MHz Band - FCC/ISED Max EIRP (mW): 1331.9 Mode: ac40 Max EIRP (mW): 1331.9 Frequency (MHz) Chain Software 99% BW Duty Cycle Power Total Power ¹ FCC Limit Max Power (W) I 5755 3 24 36.5 97.3 22.1 682.9 28.3 30.0 0.683 1 0 0 22.0 0 0 0.683 0	5825		22	19.6	97.6		442.8	26.5	27.2		Pass
Mode:ac40Max EIRP (mW):1331.9Frequency (MHz)ChainSoftware Setting99% BW (MHz)Duty Cycle %Power dBmTotal Power ¹ mWFCC Limit dBmMax Power (W)132436.597.322.1 22.0682.928.330.0682.92122.022.50.6830.6830.683		2				20.5					
(MHz) Critain Setting (MHz) % dBm mW dBm dBm (W) mW 5755 1 3 24 36.5 97.3 22.0 682.9 28.3 30.0			50 MHz Ban	d - FCC/ISE	D				EIRP (mW):	1331.9	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Chain									Result
5755 3 24 36.5 97.3 22.0 682.9 28.3 30.0 2 2 22.5 22.0 0.683 0.683	(MHz)		Setting	(MHz)	%		mW	dBm	dBm	(W)	rtooutt
5755 4 24 30.5 97.5 22.2 662.9 26.5 30.0 2 22.5 22.0 0.683 0.683											
2 22.5 0.683 1 22.0	5755		24	36.5	97.3		682.9	28.3	30.0		Pass
1 22.0 0.003										0.000	
		1				22.0				0.683	
	5795	3	24	36.3	97.3	22.0	683.1	28.3	30.0		Pass
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
2 22.5		L 2				22.0					



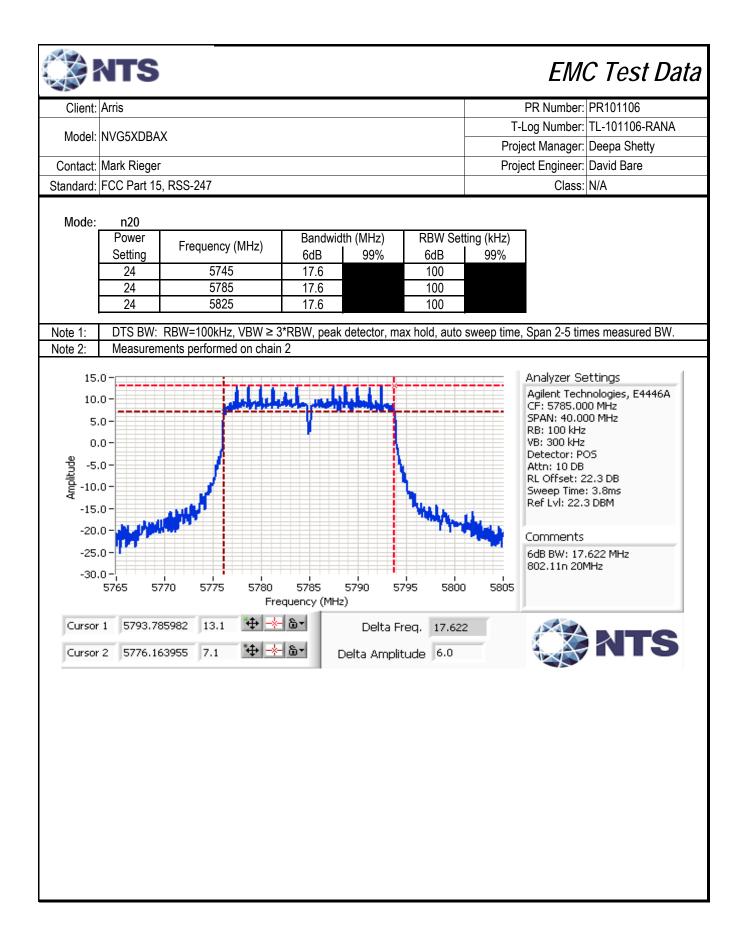
	NTS							EIVI	C Test	Data	
Client:	Arris							PR Number:	PR101106		
Model:	NVG5XDBA	Y					T-	Log Number:	TL-101106-F	RANA	
MOUEI.	NV OJADDA						Proj	ect Manager:	Deepa Shett	у	
Contact:	Mark Rieger	-					Proj	ect Engineer:	ct Engineer: David Bare		
Standard:	FCC Part 15	5, RSS-247						Class:	N/A		
(MHz)	Chain 1	Setting	(MHz)	%	dBm 20.4	mW	dBm	dBm	(W)	Result	
5755	1 3 4	22	38.0	97.3	20.4 19.5 20.7	437.7	26.4	27.2		Pass	
	2				20.4 20.5				0.438		
5795	3	22	38.0	97.3	19.4	428.0	26.3	27.2		Pass	
		4 22 38.0 97.3 20.6 428.0	20.1								

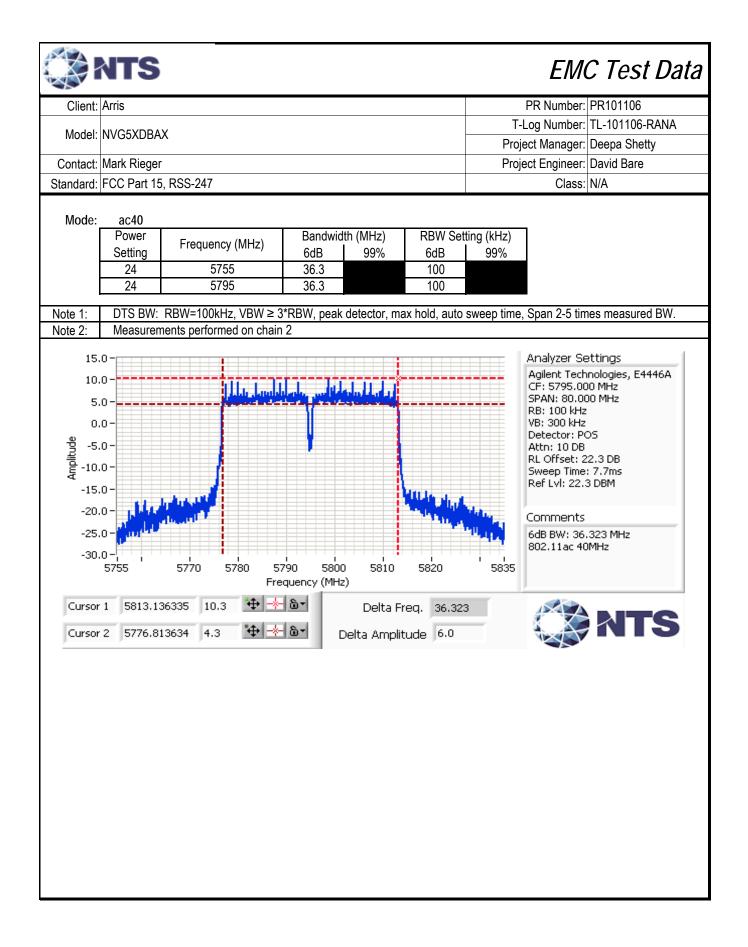
Client:	Arris							PR Number:	PR101106	
		.,					T-L	og Number:	TL-101106-F	RANA
Model:	NVG5XDBA	Х						-	Deepa Shett	
Contact:	Mark Rieger						Proje	ct Engineer:	David Bare	<u>.</u>
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
	ce - 5725-58	50 MHz Ban	d - FCC/ISE	D					700 5	
Mode:	ac80	Software	99% BW	Duty Cycle	Power	Tatal	Max Power ¹	EIRP (mW):	720.5 Max Power	
requency (MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Resul
(1	cotting	(11112)	70	19.2	11177	dDill	ubiii	(**)	
5775	3	21	75.6	96.0	19.5	369.5	25.7	30.0	0.370	Pass
5115	4	21	75.0	90.0	19.5	309.5	23.1	30.0	0.370	r ass
	2				19.7					
IIMO Devi Mode: requency	ce 5725-5850 ac80 Chain) PSD - FCC Software	99% BW	Duty Cycle	PSD	Total	PSD ¹		ISED Limit	Resu
(MHz)	Unain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	i vesui
5775	1 3 4 2	21		96.0	1.7 1.9 1.9 2.1	6.5	8.1	27.2	27.2	Pass
Spectre	um Analyzer 9	Settings							F.a.	
CF: 5 SPAN RB: 1 VB: 3 Detect Attn: RL Off Sweeg Ref Lv Pwr a Amp o Bin siz	775.000 MHz : 150.000 MHz .000 MHz tor: RMS 10 DB fset: 22.3 DB p Time: 1.0ms rl: 22.3 DB vg: 100 sweet corr: 0.0dB re: 250 kHz	2 -1 -1 -1 -1 -2 -2 -3 -3 00 MHz -4 -4	5.0 - 5.0 -	5725.0	5750.0	5775.0	5800.		NTS 5.0 585	.0
						Frequency				
93.	.9.7 dBm									

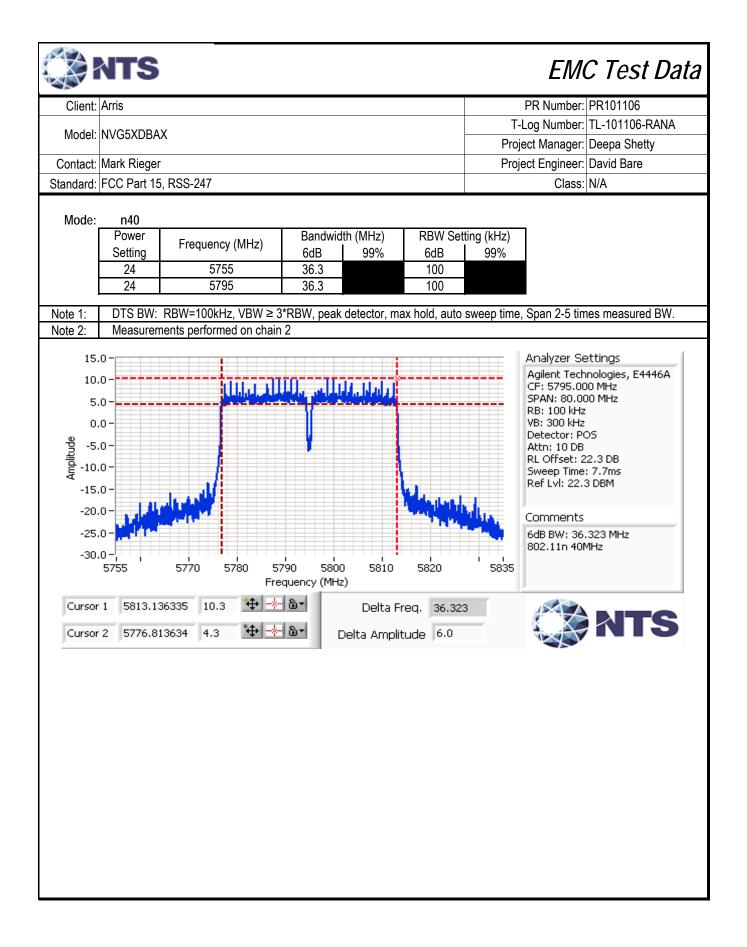
	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madal		V					T-I	Log Number:	TL-101106-F	ANA
Model:	NVG5XDBA	Χ					Proje	ect Manager:	Deepa Shett	/
Contact:	Mark Rieger	•						ect Engineer:		
	FCC Part 15						-	Class:		
	ce - 5725-58 ac80 w/ BF	50 MHz Ban	d - FCC/ISE	D			Мах	EIRP (mW):	2802.9	
Frequency		Software	99% BW	Duty Cycle	Power	Total F	Power ¹		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5775	1 3 4 2	21	75.9	96.0	19.2 19.5 19.5 19.7	369.5	25.7	27.2	0.370	Pass

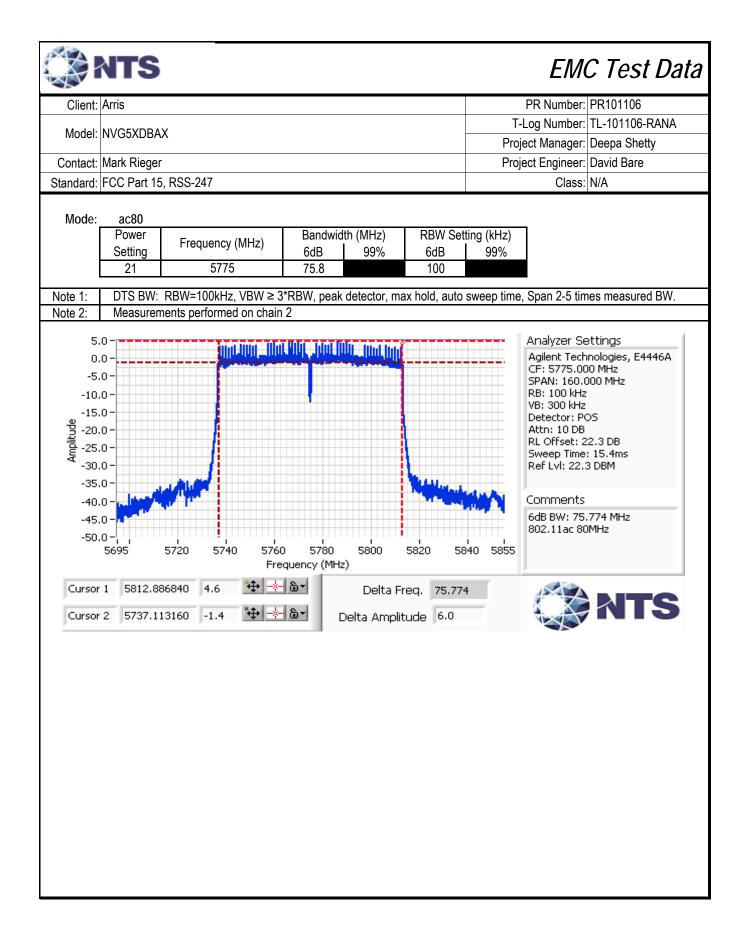


Nodel: NVG5 ntact: Mark F ndard: FCC F Node: ac2 Pow Sett					Projec	t Manager:	TL-101106-RANA Deepa Shetty
ntact: Mark F ndard: FCC F Node: ac2 Pow	Rieger					2	
ndard: FCC F Node: ac2 Pov					Projec	t Engineer	
Node: ac2 Pow	Part 15, RSS-247					-	David Bare
Pov						Class:	N/A
Pov	20						
Sett		Bandwid	th (MHz)	RBW Setting	g (kHz)		
	ling	6dB	99%	6dB	99%		
24		17.6 17.6		100 100			
24		17.6		100			
J	SBW: RBW=100kHz, VBW ≥		detector ma		oon timo C	Snan 9 5 tim	as measured D\M
	asurements performed on cha			A HOIU, AULU SW	eep unie, c	2-0 um	es ineasuleu DVV.
15.0-					— I A	Analyzer Se	ittinas
10.0 - 5.0 - 0.0 - -5.0 - -15.0 - -15.0 - -25.0 - -25.0 - -25.0 - -30.0 - 5765	5770 5775 5780	5785 requency (MHz	5790 57 2)	95 5800		E: 5785.00 PAN: 40.00 RB: 100 kHz B: 300 kHz Detector: PC Attn: 10 DB RL Offset: 2 Sweep Time: Ref Lvl: 22.3 Comments GB BW: 17. 302.11ac 20	10 MHz 25 2.3 DB 3.8ms 3 DBM 622 MHz
			Delta Fri Delta Amplit				NTS









	NTS				EMC	C Test Data
Client:	Arris				PR Number:	PR101106
Model:	NVG5XDBA	Х			-	TL-101106-RANA
				-	-	Deepa Shetty
	Mark Rieger			Proje	ect Engineer:	
Standard:	FCC Part 15	d, RSS-247			Class:	N/A
		RSS-247 (LELA	N) and FCC 15.40)7(UNII)		
		•	Port Measuremen	• •		
		Power, PSD, Bandw	vidth and Spurious I	Emissions	5	
Test Spec	cific Detai	IS The objective of this test session is to	perform final qualification	n testing of th	he ELIT with r	aspect to the
	Objective:	specification listed above.		in testing of ti		espect to the
	est Config	-				
	-	conducted emissions from the EUT's a		•		-
	•	er via a suitable attenuator to prevent attenuators and cables used.	overloading the measure	ment system	1. All measure	ements are corrected to
Ambient	Condition	S: Temperature:	20-21 °C			
		Rel. Humidity:	34-36 %			
Summary						
Summary Ru	n #	.s Test Performed	Limit	Pass / Fail	Result / Marg	ain
					ax20: 14.1 d	
1	1	PSD, 5725 - 5850MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	ax40: 11.4 d	
					ax80: 7.9 dB	
	1	99% Bandwidth	RSS-GEN	N/A	ax20: 19.7 N ax40: 38.0 N	
	I	55% Banawaan	(Information only)	11/7	ax80: 77.3 N	
2	2	Minimum 6dB Bandwidth	15.247(a)	PASS	18.8 MHz	
Marticard						
		e During Testing made to the EUT during testing				
Deviation	s From Th	ne Standard				
No deviati	ons were ma	ade from the requirements of the stand	dard.			

🎲 NTS

EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5XDBAX	T-Log Number:	TL-101106-RANA
Model:	NVGJADBAA	Project Manager:	Deepa Shetty
Contact:	Mark Rieger	Project Engineer:	David Bare
Standard:	FCC Part 15, RSS-247	Class:	N/A

Procedure Comments:

Measurements performed in accordance with ANSI C63.10

Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	Packet
ax20	8	99.0%	Yes	4.11	0.0	0.0	10	4324
ax40	16	99.0%	Yes	4.16	0.0	0.0	10	8811
ax80	34	96.8%	Yes	1.20	0.1	0.3	833	5159

Sample Notes

Sample S/N: M11917QW000T

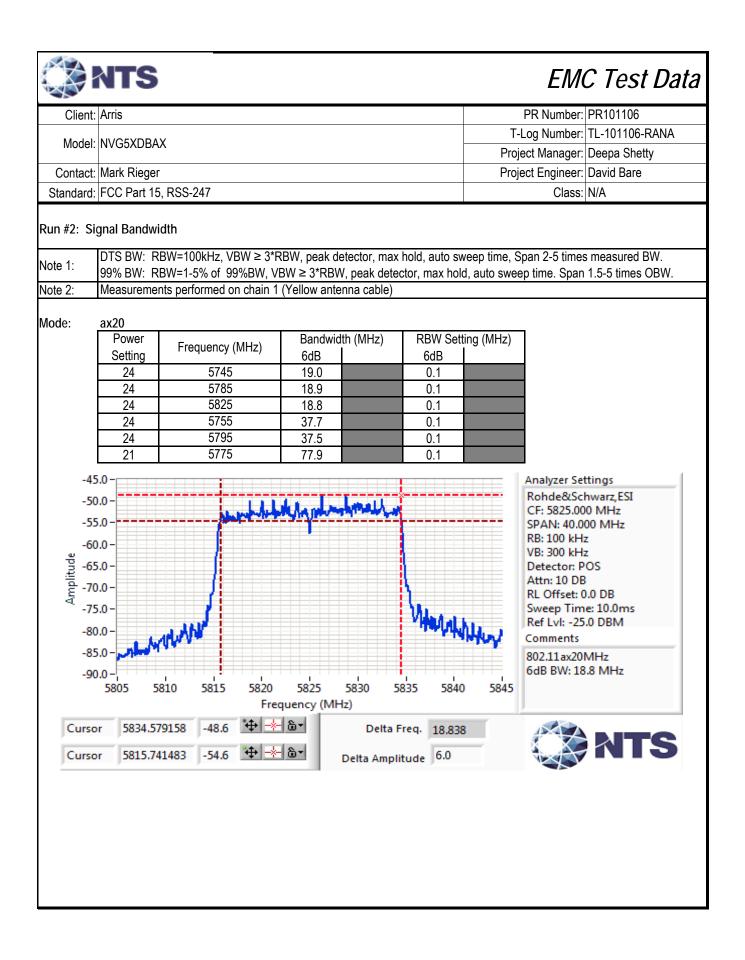
Date of Test: 02/04/20 Test Engineer: M. Birgani Test Location: Fremont EMC Lab #3		Config	g. Used: 1 Change: None Voltage: 3.3Vdc	
Antenna chain information:	Chain 1:	Blue	Chain 2:	White
	Chain 3:	Gray	Chain 4:	Black

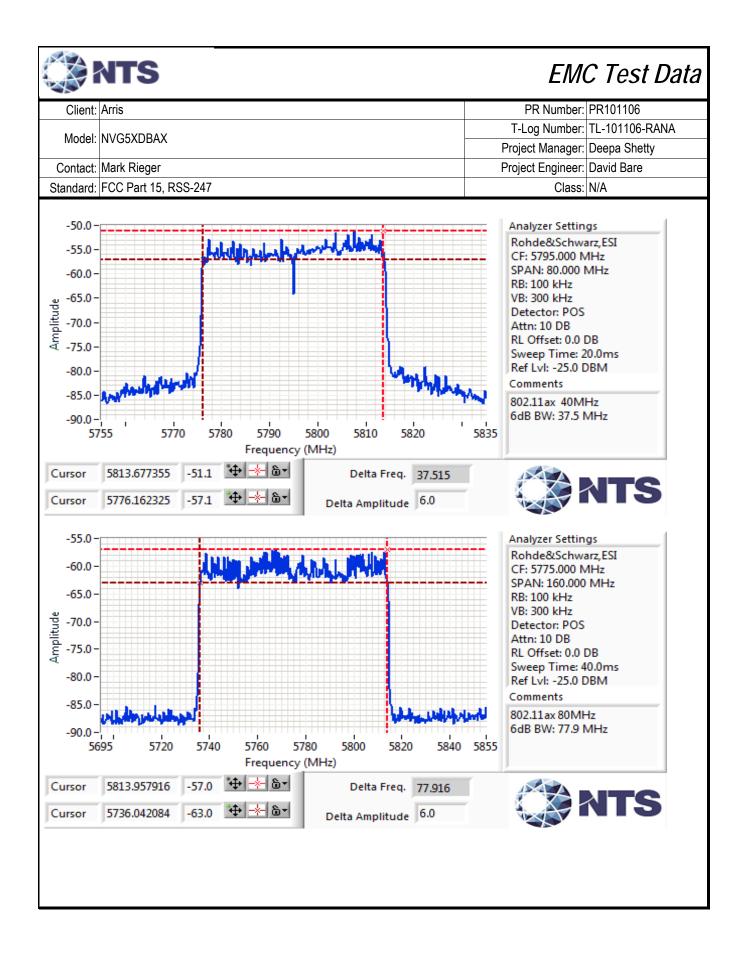
Sample Notes

Sample S/N: M11917QW000T

	NTS							EMO	C Test	' Data
Client:	Arris							PR Number:	PR101106	
Madal		v					T-	Log Number:	TL-101106-I	RANA
Model:	NVG5XDBA	X					Proj	ect Manager:	Deepa Shet	ty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
Run #1: Bai	ndwidth, Ou	tput Power a	and Power S	Spectral Der	nsity - MIMC) Systems				
	Measured us									
	times OBW.							I VB ≥ 3*RB, \$		
Note 4:	(in linear terr mode of the the limits is t	ns). The an MIMO device he highest ga signals are o	tenna gain us e. If the sign ain of the ind coherent the	sed to deterr als on the no lividual chain n the effectiv	nine the EIR on-coherent is and the E re antenna g	P and limits for between the t RP is the sun	or PSD/Out transmit cha n of the proc	f the powers o put power dep ins then the ducts of gain a erms) of the g	ends on the gain used to and power or	operating determine n each
Antenna Ga	ain Informati									
Freq	Antenna Gain (dBi) / Chain BF MultiChain CDD Sectorized Dir G Dir G 1 2 3 4 BF Legacy CDD / Xpol (PWR) (PSD)									
5725-5825	4.5	5.8	5.7	5.5	Yes	Yes	Yes	Yes	2.9	8.8
		tial streams: tial streams: prming mode	supported, I					ported for mul		
	CDD = Cycli cross polariz		rsity (or Cycl	ic Shift Diver	rsity) modes	supported, S	ectorized /)	Kpol = antenna	as are sector	ized or
	FCC KDB 66 value.	52911. Depe	ending on the	modes sup	ported, the A	•		gain for PSD (r could be diff		
Notes:	Array gain fo					wing options:				
	Option 1: De	elays are opt ased on bear	imized for be mforming crit	eamforming, eria.	rather than l and the pairs	peing selected	d from cyclic ed to use th	c delay table c e cyclic delay		

Client:	Arris							PR Number:	PR101106		
							PR Number: PR101106 T-Log Number: TL-101106-RANA				
Model:	I: NVG5XDBAX							Project Manager: Deepa Shetty			
Contact:	: Mark Rieger						Project Engineer: David Bare				
Standard:	dard: FCC Part 15, RSS-247							Class: N/A			
/IMO Devid	ce 5725-5850) PSD - FCC	/ISED		Mode:	ax20					
requency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ²	FCC Limit	IC Limit	Decult	
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Result	
5745	1 3 4	24	19.7	99	8.4 8.4 8.0	25.9	14.1	27.2	27.2	Pass	
5785	2 1 3 4 2	24	19.7	99	7.6 8.2 8.5 7.9 7.7	25.7	14.1	27.2	27.2	Pass	
5825	1 3 4 2	24	19.7	99	8.0 8.2 7.5 7.7	24.4	13.9	27.2	27.2	Pass	
/IMO Devid	ce 5725-5850) PSD - FCC			Mode:	ax40					
requency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ² dBm/MHz	FCC Limit IC Limit dBm/MHz		Result	
5755	1 3 4 2	24	38.0	99	5.7 5.4 5.4 4.9	13.7	11.4	27.2	27.2	Pass	
5795	1 3 4 2	24	38.0	99	5.7 5.3 5.2 4.8	13.4	11.3	27.2	27.2	Pass	
/IMO Devic	ce 5725-5850) PSD - FCC	/ISED		Mode:	ax80					
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ² dBm/MHz	FCC Limit dBm	IC Limit /MHz	Result	
5775	1 3 4 2	21	77.3	96.8	2.1 2.0 1.6 1.2	6.2	7.9	27.2	27.2	Pass	







Report Date: November 8, 2019

End of Report

This page is intentionally blank and marks the last page of this test report.