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EMC Test Report

Application for FCC Grant of Equipment Authorization Canada Certification Class II Permissive Change/Reassessment

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

Model: NVG5X8AX

ISED 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:	May 26, 2020
REISSUE DATE:	July 9, 2020
FINAL TEST DATES:	February 3 and 4, March 24 and April 6, 2020
TOTAL NUMBER OF PAGES:	209



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Project number PR101106 Reissue Date: July 9, 2020

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REVISION HISTORY

Rev#	Date	Comments	Modified By
-	May 26, 2020	First release	
1	July 9, 2020	Revised report correcting typographical errors in the individual	David Guidotti
		chain antenna gains and adding units of dBi for directional gains.	



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SCOPE

An electromagnetic emissions test has been performed on the Arris model NVG5X8AX, 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:

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ANSI C63.10-2013
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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 NVG5X8AX 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 NVG5X8AX and therefore apply only to the tested sample. The sample was selected and prepared by Wilson Wang 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 5.25 – 5.35 GHZ BAND

Note: The device is restricted to indoor use only, therefore the spectral density of spurious emissions in the 5.15 - 5.25 GHz band were limited to the power spectral limits for intentional signals detailed in FCC 15.407(b)(2) and RSS 247 6.2.2 (2) i) b

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.407(a) (2)		26dB Bandwidth		N/A – limits output power if < 20MHz	N/A
	RSS-247 6.2.2 (1)	99% Bandwidth		N/A – limits EIRP if < 20MHz	N/A
15.407(a) (2)	RSS-247 6.2.1 (2)	Output Power	802.11a: 0.095 W ac20: 0.097 W ac40: 0.178 W ac80: 0.137 W ac160: 0.088 W (Max eirp: 0.658 W)	24 dBm (250 mW) EIRP <= 1W	Complies
15.407(a) (2)	RSS-247 6.2.2 (1)	Power Spectral Density	802.11a: 8.5 dBm/MHz ax20: 8.6 dBm/MHz ac40: 8.0 dBm/MHz ax80: 4.3 dBm/MHz ac160: 2.0 dBm/MHz	8.7 dBm/MHz	Complies
15.407(b) (2) / 15.209	RSS-247 6.2.2 (2)	Spurious Emissions above 1GHz	53.8 dBµV/m @ 5350.8 MHz	Refer to the limits section (p21) for restricted bands, all others -27 dBm/MHz EIRP	Complies
-	RSS-247 6.2.2 (3)	EIRP Above Horizon	Indoor device. Device's power table can be updated should ISED require a power reduction	Reduction in EIRP only if requested by ISED	Complies

OPERATION IN THE 5.47 – 5.725 GHZ BAND

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.407(a) (2)		26dB Bandwidth		N/A – limits output power if < 20MHz	N/A
	RSS-247 6.2.3 (1)	99% Bandwidth		N/A – limits EIRP if < 20MHz	N/A
15.407(a) (2)	RSS-210 A9.2(2)	Output Power ¹	802.11a: 0.091 W ac20: 0.097 W ac40: 0.181 W ac80: 0.195 W ac160: 0.134 W (Max eirp: 0.355 W)	24 dBm (250 mW) EIRP <= 1W	Complies
15.407(a) (2)	RSS-247 6.2.3 (1)	Power Spectral Density ¹	802.11a: 8.3 dBm/MHz ac20: 8.4 dBm/MHz ac40: 8.1 dBm/MHz ax80: 7.2 dBm/MHz ac160: 1.1 dBm/MHz	8.4 dBm/MHz	Complies



Project number PR101106 Reissue Date: July 9, 2020

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.407(b) (3) / 15.209	RSS-247 6.2.3 (2)	Spurious Emissions above 1GHz	53.9 dBµV/m @ 5459.5 MHz	Refer to the limits section (p21) for restricted bands, all others -27 dBm/MHz EIRP	Complies
	RSS-247 6.2.3	Non-operation in 5600 – 5650 MHz sub band	Device cannot operate in t band –refer to Operational		Complies
Note 1: 160 MHz operation not possible in Canada					

REQUIREMENTS FOR ALL U-NII/LELAN BANDS

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.407	RSS-247 6.1	Modulation	No changes from original filing, OFDM modulation used.		
15.407(b) (6) / 15.209	RSS-247 6.2.1 (2)	Spurious Emissions below 1GHz	No char	nge from original filing	
15.31 (m)	RSS-247 6.4 (1) RSS-Gen 6.9	Channel Selection	Emissions tested at outermost and middle channels in each band	Device was tested on the top, bottom and center channels in each band	N/A
15.407 (c)	RSS-247 6.4 (2)	Operation in the absence of information to transmit	No char	nge from original filing	
15.407 (g)		Frequency Stability	Frequency stability is better than 10 ppm.	Signal shall remain within the allocated band	Complies
15.407 (h1)	RSS-247 6.2.2 (1) 6.2.3 (1)	Transmit Power Control	TCP mechanism is discussed in the Operational Description	The U-NII device shall have the capability to operate with a mean EIRP value lower than 24dBm (250mW)	Complies
15.407 (h2)	RSS-247 6.3	Dynamic frequency Selection (device with radar detection)	Refer to separate test report, reference FR- 101106.03-NADFS Rev 0	Threshold -62dBm (- 64dBm if eirp > 200mW) Channel Availability Check > 60s Channel closing transmission time < 260ms Channel move time < 10s Non occupancy period > 30minutes	Complies



GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

	-				
FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	No char	ge from original filing	
15.407 (b) (6)	RSS-Gen Table 4	AC Conducted Emissions	No char	ge from original filing	
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.		Complies
-	RSS-Gen 6.8	User Manual	No change from original filing		
-	RSS-Gen 8.4	User Manual	No change from original filing		
-	RSP-100 RSS-Gen 6.7	Occupied Bandwidth	802.11a: 16.8 MHz ax20: 19.7 MHz ax40: 38.0 MHz ax80: 77.3 MHz	Information only	N/A

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
Redicted omission (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 NVG5X8AX 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 enduser 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 February 3 and 4, March 24 and April 6, 2020. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Arris	NVG5X8AX	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:

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

Additional on Support Equipment

Port	Connected To	Cable(s)				
		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. Testing was performed using the lowest data rate as this was found to produce the highest power during preliminary testing.



PROPOSED MODIFICATION DETAILS

GENERAL

This section details the modifications to the Arris model NVG5X8AX being proposed. All performance and construction deviations from the characteristics originally reported to the FCC are addressed

SOFTWARE

New firmware to enable operation in 5250-5350 MHz and 5470-5725 MHz bands will be installed.



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 / Registration Numbers		Lagation	
Site	FCC	Canada	Location	
Chamber 3		2845B	41020 Davas Baad	
Chamber 4	US1031	(Wireless Test	41039 Boyce Road	
Chamber 5	031031	Lab #US0027)	Fremont, CA 94538-2435	
Chamber 7		Lau #030027)	CA 74550-2455	

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.

RADIATED EMISSIONS

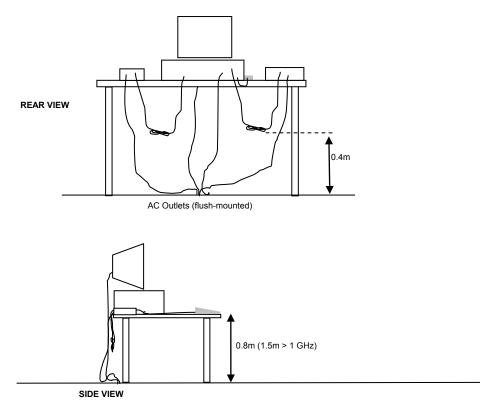
A preliminary scan of the radiated emissions is performed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT).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

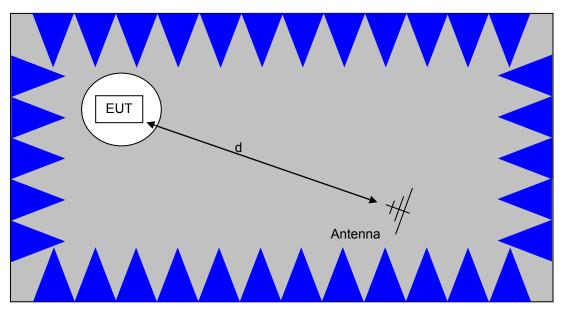
When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.





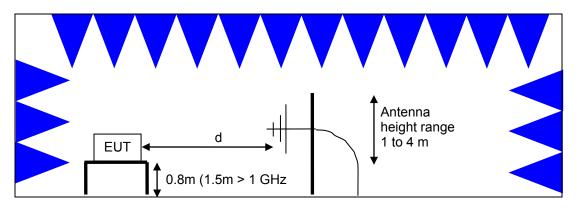
Typical Test Configuration for Radiated Field Strength Measurements





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.

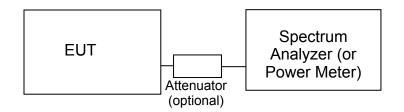


<u>Test Configuration for Radiated Field Strength Measurements</u> <u>Semi-Anechoic Chamber, Plan and Side Views</u>



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; 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
5725–5850	1 Watt (30 dBm)	30 dBm/500kHz
5925–6425 and 6525–6875	1Watt (30 dBm)	17 dBm/MHz
6425–6525 and 6875–7125	250 mW (24 dBm)	11 dBm/MHz

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 – 5850 MHz band may use antennas of any gain without this limitation.

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 – 5850	1 Watt (30 dBm) 4W eirp	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 - 5850 MHz band may use antennas with any gain without this limitation.

² If EIRP exceeds 500mW the device must employ TPC



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 band under the LELAN/UNII rules, the limit within 5 MHz of the allocated band slopes from 27 dBm/MHz to 15.6 dBm/MHz, from 5 MHz to 25 MHz from the allocated band slopes from 15.6 dBm/MHz to 10 dBm/MHz, from 25 MHz to 75 MHz from the allocated band slopes from 10 dBm/MHz to -27 dBm/MHz and for more than 75 MHz from the allocated band is -27dBm/MHz.

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:

$$R_{c} = R_{r} + F_{d}$$
and
$$M = R_{c} - L_{s}$$
where:
$$R_{r} = \text{Receiver Reading in dBuV/m}$$

$$F_{d} = \text{Distance Factor in dB}$$

$$R_{c} = \text{Corrected Reading in dBuV/m}$$

$$L_{s} = \text{Specification Limit in dBuV/m}$$

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	Model	<u>Asset #</u>	Calibrated	Cal Due
EMCO	, 1,000 - 6,000 MHz, 12-Jul- Antenna, Horn, 1-18 GHz	3115	1142	9/18/2018	9/18/2020
Rohde & Schwarz	(SA40-Red) EMI Test Receiver, 20 Hz- 7 GHz	ESIB 7	9482	10/13/2018	10/13/2019
	, 1,000 - 6,000 MHz, 15-Jul-1				
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	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
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	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
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
Micro-Tronics	Band Reject Filter, 5725- 5875 MHz	BRC50705-01	2738	7/15/2019	7/15/2020
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- 26.5GHz	8449B	785	7/18/2019	7/18/2020
HP / Miteq	SA40 R Head HF	TTA1840-45-5P-	1145	9/8/2018	9/8/2019
	preAmplifier, 18-40 GHz (w/1148)	HG-S			
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-	BRM50702-02	2238	4/26/2019	4/26/2020



National Technical		oort Date: May 26, 20	20	Project number Reissue Date: J	
Micro-Tronics	2500 MHz 18GHz Band Reject Filter, 5150- 5350 MHz	BRC50703-02	2251	7/15/2019	7/15/2020
Radio Antenna Port Rohde & Schwarz	(Power and Spurious Emis Signal Analyzer 20 Hz - 26.5 GHz	sions), 24-Jul-19 FSQ26	2327	7/4/2019	7/4/2020
Radio Antenna Port Rohde & Schwarz	(Power and Spurious Emis Signal Analyzer 20 Hz - 26.5 GHz	sions), 25-Jul-19 FSQ26	2327	7/4/2019	7/4/2020
Radio Antenna Port Rohde & Schwarz	(Power and Spurious Emis Signal Analyzer 20 Hz - 26.5 GHz	sions), 26-Jul-19 FSQ26	2327	7/4/2019	7/4/2020
Radio Antenna Port Agilent Technologies	(Power and Spurious Emis PSA, Spectrum Analyzer	sions), 29-Jul-19 E4446A	2139	7/18/2019	7/18/2020
Radio Antenna Port Agilent Technologies	(Power and Spurious Emis PSA, Spectrum Analyzer	sions), 30-Jul-19 E4446A	2139	7/18/2019	7/18/2020
Radio Antenna Port Agilent Technologies	(Power and Spurious Emis PSA, Spectrum Analyzer	sions), 31-Jul-19 E4446A	2139	7/18/2019	7/18/2020
Band edge Measure <u>Manufacturer</u> EMCO Rohde & Schwarz	ment, 20-Sep-19 through 25 Description Horn Antenna EMI test receiver	5-Sep-2019 Model 3115 ESI 40	<u>Asset #</u> WC062583 WC068000	<u>Calibrated</u> 7/9/2018 3/15/2019	<u>Cal Due</u> 7/9/2020 3/15/2020
Radiated Emissions <u>Manufacturer</u> Hewlett Packard Hewlett Packard EMCO	, 1,000 - 40,000 MHz, 27-Sej <u>Description</u> Spectrum Analyzer (Red) Microwave Preamplifier Head, 18-40 GHz (Red) Horn Antenna	p-19 through 01-Oc <u>Model</u> 8564E (84125C) 84125C Head 3115	ct-19 <u>Asset #</u> WC055584 WC055586 WC062583	<u>Calibrated</u> 9/27/2019 7/25/2019 7/9/2018	<u>Cal Due</u> 9/27/2020 7/25/2020 7/9/2020
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz High Pass filter, 8.2 GHz	8449B P/N 84300-	WC064416 WC064433	7/18/2019 4/25/2019	7/18/2020
A. H. Systems Rohde & Schwarz	Antenna, Horn, 18-40GHz EMI test receiver	80039 SAS-574 ESI 40	WC064553 WC068000	9/5/2017 3/15/2019	8/8/2020 3/15/2020
Band edge Measure Manufacturer EMCO Rohde & Schwarz	ment, 3-Feb-20 through 11- <u>Description</u> Horn Antenna EMI test receiver	Mar-20 <u>Model</u> 3115 ESI 40	<u>Asset #</u> WC062583 WC068000	<u>Calibrated</u> 7/9/2018 3/15/2019	<u>Cal Due</u> 7/9/2020 3/15/2020
Radio Antenna Port <u>Manufacturer</u> Rohde & Schwarz Rohde & Schwarz	(Power and Spurious Emis <u>Description</u> Spectrum Analyzer Open Switch and Control Unit	sions), Feb 3-4 of 2 Model FSQ26 OSP 120 with B157	2020 and 11- <u>Asset #</u> WC055662 WC064756	Mar-20 <u>Calibrated</u> 7/4/2019 7/16/2019	<u>Cal Due</u> 7/4/2020 7/16/2020



Radio Antenna Port (Power and Spurious Emissions), 24-Mar-20

Manufacturer Rohde & Schwarz Rohde & Schwarz	Description Spectrum Analyzer Open Switch and Control Unit	Model FSQ26 OSP 120 with B157	<u>Asset #</u> WC055662 WC064756	<u>Calibrated</u> 7/4/2019 7/16/2019	<u>Cal Due</u> 7/4/2020 7/16/2020
Bandedge Measurm	ent, 24-Mar-20				
<u>Manufacturer</u> EMCO Rohde & Schwarz	Description Horn Antenna EMI Test Receiver, 20 Hz- 7 GHz	<u>Model</u> 3115 ESIB7	<u>Asset #</u> WC062583 WC064455	<u>Calibrated</u> 7/9/2018 2/11/2020	<u>Cal Due</u> 7/9/2020 2/11/2021
Radio Antenna Port	(Power and Spurious Emis	sions), 26-Mar-20			
<u>Manufacturer</u> Rohde & Schwarz Rohde & Schwarz	Description Spectrum Analyzer Open Switch and Control Unit	Model FSQ26 OSP 120 with B157	<u>Asset #</u> WC055662 WC064756	<u>Calibrated</u> 7/4/2019 7/16/2019	<u>Cal Due</u> 7/4/2020 7/16/2020



Appendix B Test Data

TL101106-RANA Pages 30 -208



EMC Test Data

Client:	Arris	PR Number:	PR101106
Product	NVG5X8AX	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

NVG5X8AX

Date of Last Test: 4/6/2020

Client: Arris			PR Number: PR101106
			T-Log Number: TL-101106-RANA
Model: NVG5X8AX			Project Manager: Deepa Shetty
Contact: Mark Rieger	Project Engineer: David Bare		
Standard: FCC Part 15, RSS-247			Class: N/A
RSS-247 an	d FCC 15.407 (UN	NII) Radiated S	Spurious Emissions
Fest Specific Details			
•		erform final qualificat	ion testing of the EUT with respect to the
mbient Conditions:	Temperature: Rel. Humidity:	22-25 °C 39-43 %	
General Test Configuration The EUT and all local support equipm For radiated emissions testing the me	ent were located on the to	urntable for radiated	•
Addifications Made During Tes No modifications were made to the EL	•		
	5 5		
Deviations From The Standard No deviations were made from the rec		d.	
Deviations From The Standard		d.	
Deviations From The Standard		d.	
Deviations From The Standard		d.	
eviations From The Standard		d.	
Deviations From The Standard		d.	
eviations From The Standard		d.	
Deviations From The Standard		d.	
eviations From The Standard		d.	
eviations From The Standard		d.	
eviations From The Standard		d.	
eviations From The Standard		d.	
eviations From The Standard		d.	
eviations From The Standard		d.	

Client:	Arris					PR Number:	PR101106
						T-Log Number:	TL-101106-RANA
Model:	NVG5X8AX					Project Manager:	
Contact:	Mark Rieger					Project Engineer:	
	FCC Part 15					Class:	
	of Result						
			Power	Measured			
Run #	Mode	Channel	Setting	Power	Test Performed	Limit	Result / Margin
Scans on	"center" chai	nnel in all five	ŭ		ine the worst case mode.		
	g/a	6 & 60	26 / 26	26 / 26	Radiated Emissions,	FCC 15.209 / 15 E	48.1 dBµV/m @ 4883
	y/a	0000	20720	20720	1 - 40 GHz	100 10.2007 10 E	MHz (-5.9 dB)
	ac20	6 & 60	24 / 18	24 / 18	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	49.5 dBµV/m @ 4880
					Radiated Emissions,		MHz (-4.5 dB) 48.8 dBµV/m @ 2390
1	ac40	6 & 62	24 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	MHz (-5.2 dB)
	b / ac80 b / ac160		26 / 18	22.25 / 18	Radiated Emissions,	FCC 15.209 / 15 E	52.8 dBµV/m @ 4873
			20/10	22.23/10	1 - 40 GHz	FUU 15.2097 15 E	MHz (-1.2 dB)
			26 / 18	22.25 / 18	Radiated Emissions,	FCC 15.209 / 15 E	52.6 dBµV/m @ 4873
N.4					1 - 40 GHz		MHz (-1.4 dB)
Measuren	nents on low	and high cha	anneis in wo	rst-case OFD	M mode. Radiated Emissions,		51.0 dBµV/m @ 4812
	ac20	1 & 52	24 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	MHz (-3.0 dB)
2					Radiated Emissions,		53.3 dBµV/m @ 4925
	ac20	11 & 64	24 / 18	23.5 / 18	1 - 40 GHz	FCC 15.209 / 15 E	MHz (-0.7 dB)
Scans on	"center" char	nnel in all fou	ir OFDM mo	des to determ	nine the worst case mode	. Channels 114 and 122 i	
	g/a	6 & 116	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	48.3 dBµV/m @
	y/a	υατισ	24/10	24 / 10	1 - 40 GHz	100 13.2097 13 L	18600.0 MHz (-5.7 dl
	ac20	6 & 116	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	49.1 dBµV/m @ 4883
					1 - 40 GHz Radiated Emissions,		MHz (-4.9 dB) 49.6 dBµV/m @
3	ac40	6 & 110	24 / 18	4 / 18 24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	22199.9 MHz (-4.4 dł
					Radiated Emissions,		52.9 dBµV/m @ 4873
	b / ac80	b / ac80 6 & 122	26 / 18	18 22.25 / 18	1 - 40 GHz	FCC 15.209 / 15 E	MHz (-1.1 dB)
	h / aa160	C 9 111	06/10	00.05/40	Radiated Emissions,		52.5 dBµV/m @ 4874
	b / ac160	6 & 114	26 / 18	22.25 / 18	1 - 40 GHz	FCC 15.209 / 15 E	MHz (-1.5 dB)
80MHz - ι	use if worse o	case from 3 b	out must do l	nighest 20 MF	Iz channel also		
	b / ac80	1 & 106	26 / 18	18 / 18	Radiated Emissions,	FCC 15.209 / 15 E	53.6 dBµV/m @ 4824
4	57 8000	1 0 100	20710	10710	1 - 40 GHz		MHz (-0.4 dB)
	b / ac80	11 & 138	26 / 18	16 / 18	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	53.8 dBµV/m @ 4924 MHz (-0.2 dB)
					1 - 40 GHZ		IVII 12 (-U.2 UD)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5X8AX	T-Log Number:	TL-101106-RANA
MOUEI.	NV GJADAA	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)		
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	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

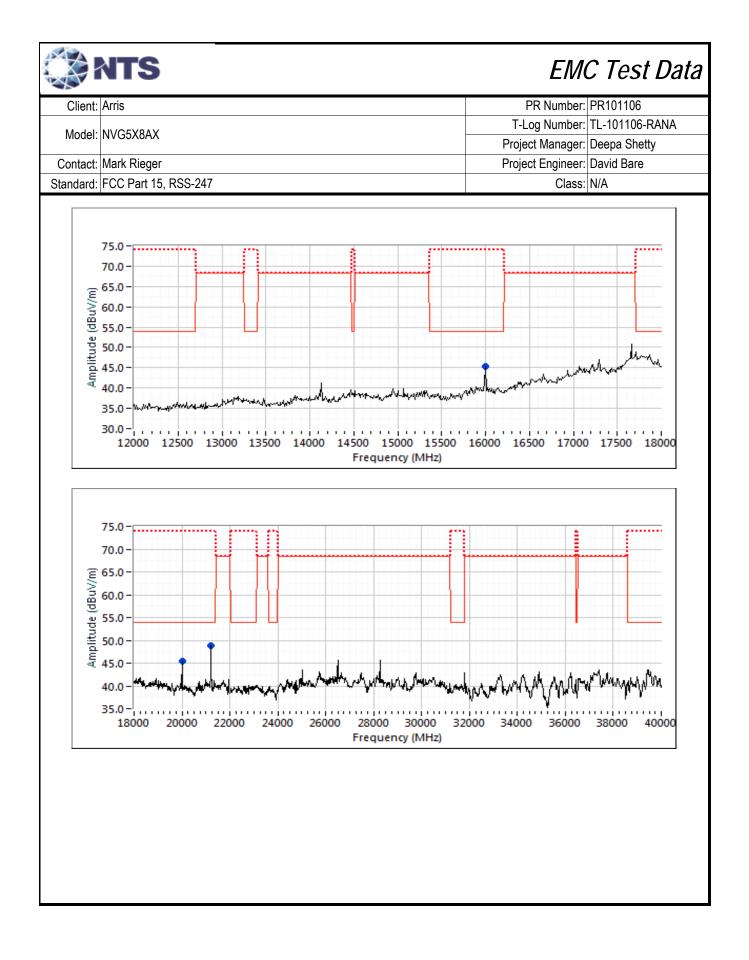
Sample S/N:

Driver:

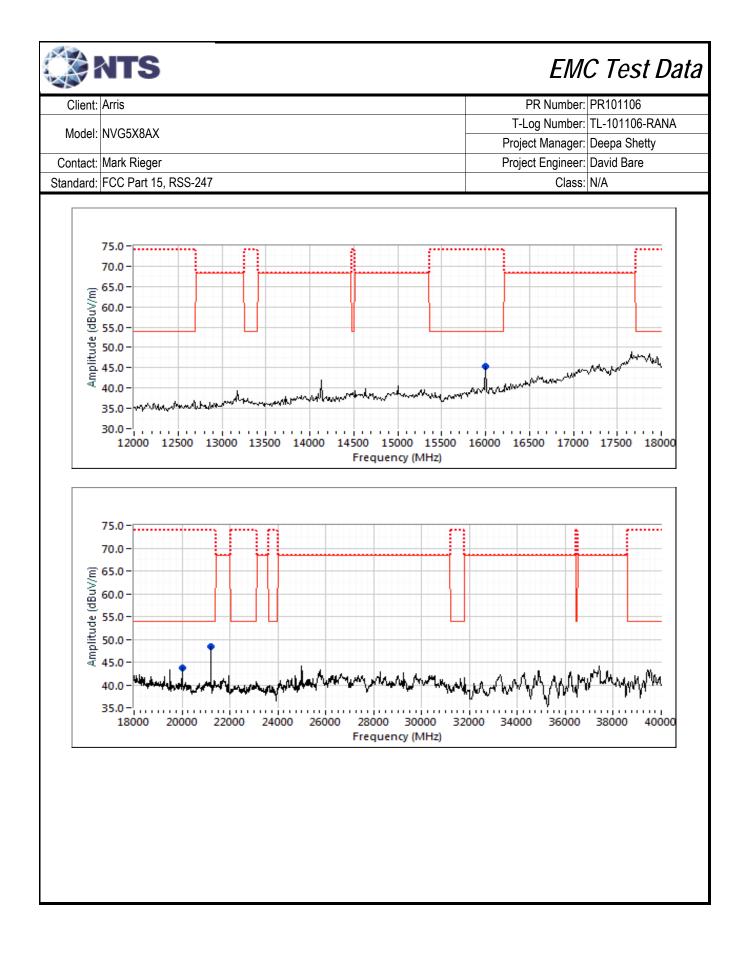
Measurement Specific Notes:

nousuro	
	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,
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
NOLE 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Note 5:	Not releated to radio.
Note 6:	For SISO measurment, evaluation of each chain showed that chain 4 has the highest power measurment. All SISO test
Note 6.	measurment were performed with chain 4 active.
	.5GHz using 10+6dB pads and 5GHz notch filter (RB 100kHz VB 100kHz)
Scan 3.5	-6GHz using 10dB pad and 2.4GHz notch filter (RB 100kHz VB 100kHz)
Scan 6-1	2GHz using 5GHz and 2.4GHz notch filters (RB 300kHz VB 100kHz)

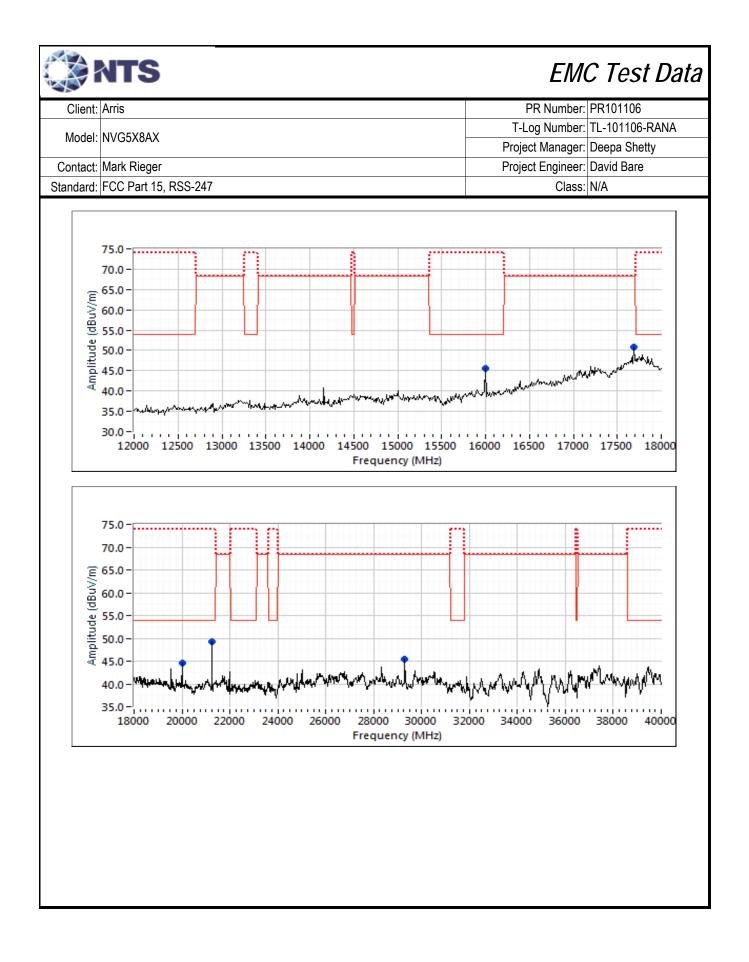
Client:	Arris							PR Number:	PR101106	
					T-	Log Number:	TL-101106-I	RANA		
Model:	NVG5X8AX							ect Manager:		
Contact:	Mark Rieger				-	ect Engineer:		-7		
	FCC Part 15	RSS-247					,	Class:		
E Te Te	diated Spurio Date of Test: est Engineer: est Location: enter Chann	07/17/19 Mehran Birg FT Chambe	ani	40,000 MHz	Cor	n the 5250-5 onfig. Used: fig Change: UT Voltage:	1 None			
Channel: Tx Chain:	6 & 60 1TX	ei		Mode Data Rate	0		Pwr Setting:	: 26 (q104)		
requency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters			
4883.380	48.1	V	54.0	-5.9	AVG	157	1.5	RB 1 MHz;∖		
4884.220	62.6	V	74.0	-11.4	PK	157	1.5	RB 1 MHz;V		
6000.180	45.3	Н	54.0	-8.7	AVG	321	1.5	RB 1 MHz;∖		Note 5
6000.170	52.1	H	74.0	-21.9	PK	321	1.5	RB 1 MHz;V		Note 5
20000.250	41.0	H	54.0	-13.0	AVG	327	1.5	RB 1 MHz;V		
20000.610	50.2	H	74.0	-23.8	PK	327	1.5	RB 1 MHz;V		
21199.900	45.6	<u>Н</u> Н	54.0	-8.4	AVG	143	1.5	RB 1 MHz;V		
21200.220 5358.330	53.7 67.5	H V	74.0	-20.3	PK PK	143 209	1.5 2.0	RB 1 MHz;V	ndedge test o	lata
ote 1:					209 was used					ata
ote 2: Amplitude (dBuV/m)	For emission required is a 110.0 - 100.0 - 75.0 - 50.0 -	ns outside of peak measu	the restricte urement (RB	d bands the =1MHz, VB≥	limit is -27dBr ≥3MHz, peak	n/MHz eirp (detector).	68.3dBuV/m	n). The meas		~1



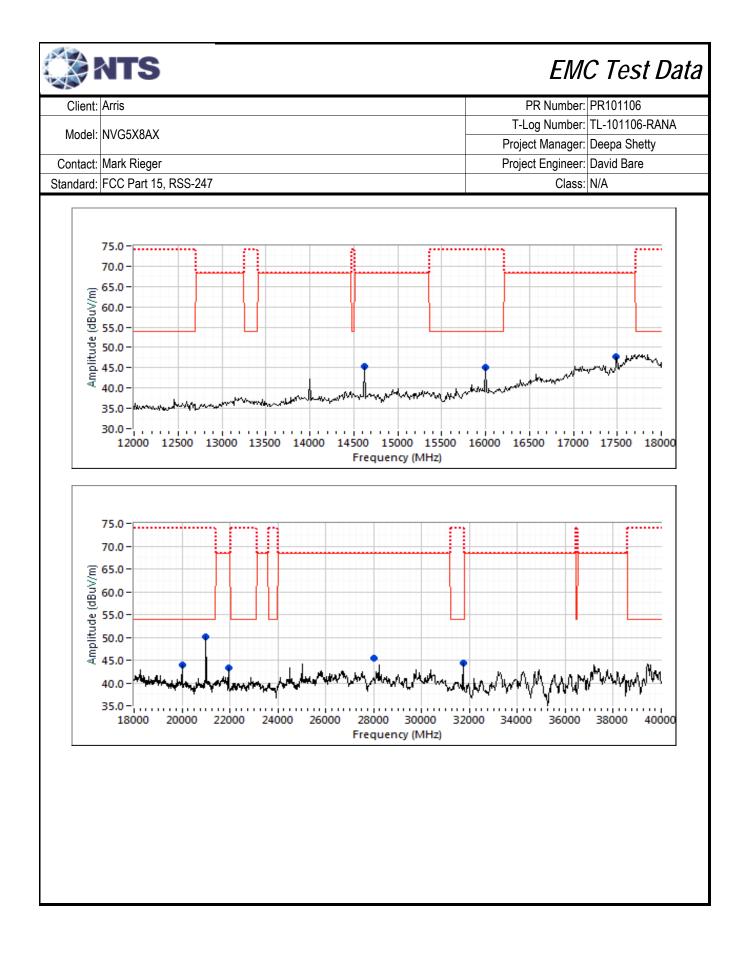
Model:NVG5X8AXT-Log Number:TL-101106-RAMProject Manager:Deepa ShettyContact:Mark RiegerProject Engineer:David BareStandard:FCC Part 15, RSS-247Class:N/ARun #1b: Center ChannelChannel:6 & 60Mode:ac20Tx Chain:4TXData Rate:6.5 MbpsFrequencyLevelPol15.209 / 15EDetectorAzimuthHeightCommentsMHzdB μ V/mV/HLimitMarginPk/QP/AVGdegreesmeters4880.31049.5V54.0-4.5AVG252.0Note 3; RB 1 MHz;VB 30 Hz4880.34064.3V74.0-9.7PK252.0RB 1 MHz;VB 30 Hz16000.23043.9H54.0-10.1AVG3201.5RB 1 MHz;VB 10 Hz	Client:	Arris							PR Number:	PR101106	
Model: IV/G5X8AX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare David Bare Standard: FCC Part 15, RSS-247 Class: N/A Run #1b: Center Channel Class: N/A Channel: 6.8.60 Mode: ac20 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4TX Data Rate: 6.5 Mbps Frequency Level Pol 15.209 / 15E Detector Azimuth Height Comments MHz dBjuV/m V/H Limit Margin Pk/OP/AVG degrees meters Note 3; RB 1 MHz;VB 300 H 4880.340 64.3 V 74.0 -9.7 PK 25 2.0 RB 1 MHz;VB 300 H 16000.230 43.9 H 54.0 -10.1 AVG 320 1.5 RB 1 MHz;VB 30 Hz 21200.060 51.4 H 74.0 -22.6 PK 146 1.5 Note 3; RB 1 MHz;VB 30 Hz 20000.530 49.3 H 74.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>T-</td> <td>Log Number:</td> <td>TL-101106-</td> <td>RANA</td>								T-	Log Number:	TL-101106-	RANA
Contact: Mark Rieger Project Engineer David Bare Standard: FCC Part 15, RSS-247 Class: N/A Run #1b: Center Channel Class: N/A Channel: 6 & 60 Mode: ac20 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4TX Data Rate: 6.5 Mbps Pwr Setting: 24 (q96) & 18 (q72) Frequency Level Pol 15.209 / 15E Detector Azimuth Height Comments MHz dBju/m V/H Limit Margin Pk/QP/AVC degrees meters 4880.310 49.5 V 54.0 -4.5 AVG 25 2.0 Note 3; RB 1 MHz;VB 300 H 16000.200 51.7 H 74.0 -9.7 PK 250 1.5 RB 1 MHz;VB 3 MHz 21199.910 45.5 H 54.0 -16.2 AVG 146 1.5 Note 3; RB 1 MHz;VB 3 0H L 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 RB 1 MHz;VB 3 MHz	Model:	NVG5X8AX						Proi	ect Manager:	Deepa She	ttv
Standard: FCC Part 15, RSS-247 Class: N/A Run #1b: Center Channel Channel: 6.8.60 Mode: ac20 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4TX Data Rate: 6.5 Mbps Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4TX Data Rate: 6.5 Mbps Pwr Setting: 24 (q96) & 18 (q72) Frequency Level Pol 15.209 / 15E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/AVG degrees meters 4880.340 64.3 V 74.0 -9.7 PK 25 2.0 Note 3; RB 1 MHz; VB 30Hz 2109.020 51.7 H 74.0 -22.3 PK 320 1.5 RB 1 MHz; VB 30Hz 2120.0060 51.4 H 74.0 -22.6 PK 146 1.5 Note 3; RB 1 MHz; VB 30Hz 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5	Contact:	Mark Rieger							-	-	,
Run #1b: Center Channel Mode: ac20 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4TX Data Rate: 6.5 Mbps Frequency Level Pol 15.209 / 15E Detector Azimuth Height Comments MHz dBµ//m V/H Limit Margin Pk/QP/AVG degrees meters 4880.340 64.3 V 54.0 -4.5 AVG 25 2.0 Nota 3; RB 1 MHz;VB 300 F 16000.230 43.9 H 54.0 -10.1 AVG 320 1.5 RB 1 MHz;VB 30Hz 1200.060 51.7 H 74.0 -22.3 PK 320 1.5 RB 1 MHz;VB 30Hz 1200.060 51.4 H 74.0 -22.6 PK 146 1.5 Nota 3; RB 1 MHz;VB 30Hz 1200.060 51.4 H 74.0 -24.7 PK 325 1.5 Nota 3; RB 1 MHz;VB 3 MHz 1200.060 54.2 H 68.3 -14.1 PK 286 2.0		•	RSS-247					1.0	-		
Chanel: 6 & 60 Tx Chain: 4TX Bolt Control Con	Januara.	1001 41(10,							01000.	14/7 4	
Tx Chain: 4TX Data Rate: 6.5 Mbps Frequency Level Pol 15.209 / 15E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/AVG degrees meters 4880.310 49.5 V 54.0 -4.5 AVG 25 2.0 Note 3; RB 1 MHz;VB 300 H 4880.340 64.3 V 74.0 -9.7 PK 25 2.0 Note 3; RB 1 MHz;VB 300 H 16000.250 51.7 H 74.0 -22.3 PK 320 1.5 RB 1 MHz;VB 30 Hz 21199.910 45.5 H 54.0 -8.5 AVG 146 1.5 Note 3; RB 1 MHz;VB 300 Hz 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz;VB 30 Hz 20000.250 38.8 H 74.0 -24.7 PK 325 1.5 RB 1 MHz;VB 30 Hz 20000.530 49.3 H 74	ın #1b: C	enter Chann	el								
Tx Chain: 4TX Data Rate: 6.5 Mbps Frequency Level Pol 15.209 / 15E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/AVG degrees meters 4880.310 49.5 V 54.0 -4.5 AVG 25 2.0 Note 3; RB 1 MHz; VB 300 H 4880.340 64.3 V 74.0 -9.7 PK 25 2.0 Note 3; RB 1 MHz; VB 300 H 16000.250 51.7 H 74.0 -22.3 PK 320 1.5 RB 1 MHz; VB 3 MHz 21199.910 45.5 H 54.0 -8.5 AVG 146 1.5 Note 3; RB 1 MHz; VB 300 H 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz; VB 30 Hz 20000.250 38.8 H 74.0 -24.7 PK 325 1.5 RB 1 MHz; VB 30 Hz 20000.530 49.3 H <	Channel:	6 & 60			Mode:	ac20		Pwr Settina	24 (a96) & 1	8 (a72)	
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4880.340 64.3 V 74.0 -9.7 PK 25 2.0 RB 1 MHz;VB 3 MHz 16000.230 43.9 H 54.0 -10.1 AVG 320 1.5 RB 1 MHz;VB 3 MHz 16000.250 51.7 H 74.0 -22.3 PK 320 1.5 RB 1 MHz;VB 3 MHz 21199.910 45.5 H 54.0 -8.5 AVG 146 1.5 Note 3; RB 1 MHz;VB 300 H 21200.060 51.4 H 74.0 -22.6 PK 146 1.5 Note 3; RB 1 MHz;VB 300 H 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz;VB 3 MHz 20000.530 49.3 H 74.0 -24.7 PK 326 1.5 Note 3; RB 1 MHz;VB 3 MHz 9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz;VB 3 MHz Iote 1: For emissions outside of the restricted bands, the limit of 15.209 was used which requires average and peak measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measur							0				
16000.230 43.9 H 54.0 -10.1 AVG 320 1.5 RB 1 MHz;/VB 10 Hz 16000.250 51.7 H 74.0 -22.3 PK 320 1.5 RB 1 MHz;/VB 3 MHz 21199.910 45.5 H 54.0 -8.5 AVG 146 1.5 Note 3; RB 1 MHz;/VB 300 Hz 21000.060 51.4 H 74.0 -22.6 PK 146 1.5 RB 1 MHz;/VB 300 Hz 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz;/VB 300 Hz 20000.530 49.3 H 74.0 -24.7 PK 325 1.5 Note 3; RB 1 MHz;/VB 3 MHz 9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz;/VB 3 MHz Iote 1: For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz, peak detector). 10.0 - - - - - - - - - - - - -										-)0 Hz
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21199.910 45.5 H 54.0 -8.5 AVG 146 1.5 Note 3; RB 1 MHz; VB 300 + 21200.060 51.4 H 74.0 -22.6 PK 146 1.5 RB 1 MHz; VB 3 MHz 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz; VB 3 MHz 20000.530 49.3 H 74.0 -24.7 PK 325 1.5 RB 1 MHz; VB 3 MHz 20000.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz; VB 3 MHz 9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz; VB 3 MHz lote 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method lote 2: For emissions outside of the restricted bands the limit of 120 90.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0											Note 5 Note 5
21200.060 51.4 H 74.0 -22.6 PK 146 1.5 RB 1 MHz; VB 3 MHz 20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz; VB 3 MHz 20000.530 49.3 H 74.0 -24.7 PK 325 1.5 RB 1 MHz; VB 3 MHz 20000.530 49.3 H 74.0 -24.7 PK 325 1.5 RB 1 MHz; VB 3 MHz 9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz; VB 3 MHz Jote 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).											
20000.250 38.8 H 54.0 -15.2 AVG 325 1.5 Note 3; RB 1 MHz; VB 300 H 20000.530 49.3 H 74.0 -24.7 PK 325 1.5 RB 1 MHz; VB 3 MHz 9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz; VB 3 MHz lote 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). 110.0 100.0 50.0 50.0 50.0 50.0 50.0 50.0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120											10 112
20000.530 49.3 H 74.0 -24.7 PK 325 1.5 RB 1 MHz;VB 3 MHz 9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz;VB 3 MHz lote 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements. lote 2: For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).)0 Hz
9700.000 54.2 H 68.3 -14.1 PK 286 2.0 RB 1 MHz;VB 3 MHz lote 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).											70 T 12
lote 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements. For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). 110.0 - 100.0 - 100.0 - 75.0 - 75.0 - 50.0 - 35.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120											
Note 2: For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).		- · ·									
vote 2: required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).											thad
110.0 10								00.3000 0/11	i). The meas		liiluu
100.0 - 100.0 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 120		required is a	peak meast		- 11VII 12, VDE	JIMI IZ, PEAK					
100.0 - 100.0 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 120											
100.0 - (W/Ngp) apprilde 75.0 - 50.0 - 35.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120		110.0-									
75.0 - 50.0 - 50.					1						
50.0 - 35.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120		100.0 -									
50.0 - 35.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120	(E										
50.0 - 35.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120	/Ng										
50.0 - 35.0 - 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 120	Ē	75.0	· · · · ·						979	,	
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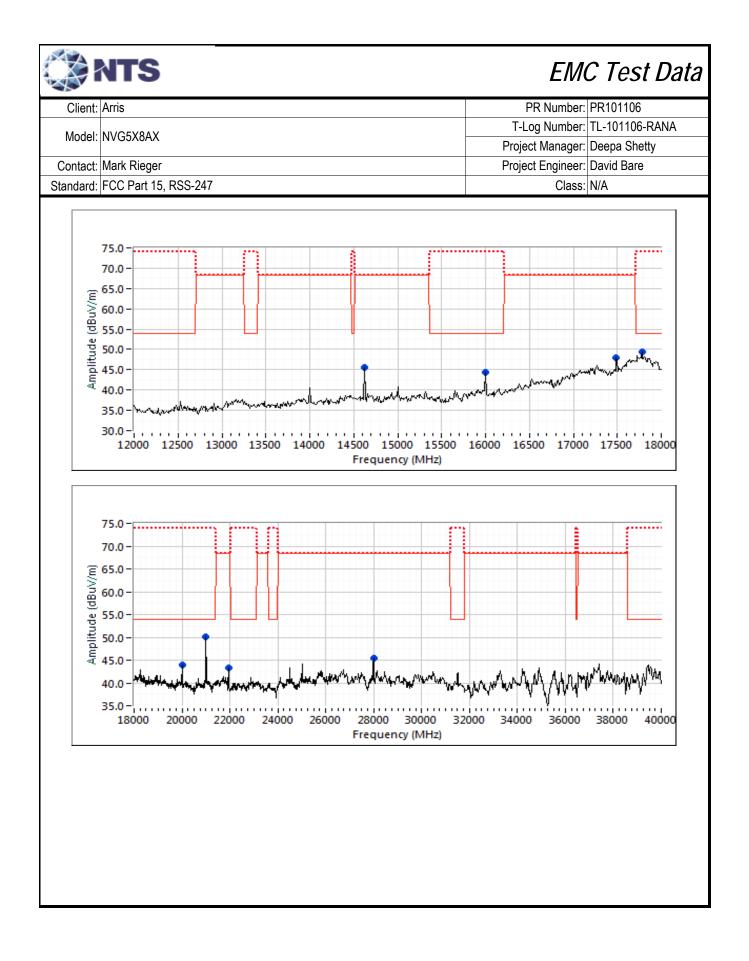
Cilent.	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-	RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa She	ttv
Contact.	Mark Rieger						-	ect Engineer:		,
	FCC Part 15	RSS-247						Class:		
otanadia.	10010110	, 1100 2 11						01000.		
un #1c: (Center Chann	nel								
Channel:	6 & 62			Mode	ac40		Dur Catting	. 04 (~06) 9 1	9 (~70)	
Tx Chain:					13.5Mbps		Pwr Setting	: 24 (q96) & 1	o (q72)	
	417				13.510005					
requency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters			
389.970	48.8	V	54.0	-5.2	AVG	105	1.6	Note 3; RB		
389.860	67.4	V	74.0	-6.6	PK	105	1.6	RB 1 MHz;V		
1239.920	48.6	H	54.0	-5.4	AVG	147	1.5	Note 3; RB	,	kHz
1239.860	53.2	<u>H</u>	74.0	-20.8	PK	147	1.5	RB 1 MHz;V		NULL
<u>6000.000</u>	45.6	<u>H</u>	54.0	-8.4	AVG	265	1.5 1.5	RB 1 MHz;V		Note
690.000	51.7 56.9	<u>н</u> Н	74.0 68.3	-22.3 -11.4	PK PK	<u>265</u> 6	1.5	RB 1 MHz;V RB 1 MHz;V		Note
710.000	54.4	H	68.3	-11.4	PK	278	1.5	RB 1 MHz;V		
290.000	51.8	V	68.3	-13.9	PK	153	1.5	RB 1 MHz;V		
000.260		H	54.0	-14.6	AVG	327	1.5	Note 3; RB		kHz
000.100		H	74.0	-24.0	PK	327	1.5	RB 1 MHz;V		KI IZ
889.630	47.3	V	54.0	-6.7	AVG	334	2.0	Note 3; RB		00 Hz
889.970	61.2	V	74.0	-12.8	PK	334	2.0	RB 1 MHz;V		
354.170	51.8	V	-	-	PK	193	1.5	Refer to Bar		data
Note 1:					209 was used					
Note 2:					limit is -27dBr		00.30BUV/II	i). The meas	urement me	thod
	required is a	peak measi	urement (RB	= IIVIHZ, VB≤	≥3MHz, peak o	detector).				
	110.0-									
	100.0-				1					
2										
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- l B										
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mplitu	50.0			•						
Amplitude (dBuV/m)	50.0-	and the state of the state	Martine .	مرجا ليبدر سجا دسينا			المرسم معاجم ويعام	A State of the sta	and a second and a	
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Amplitu			N			f., j				



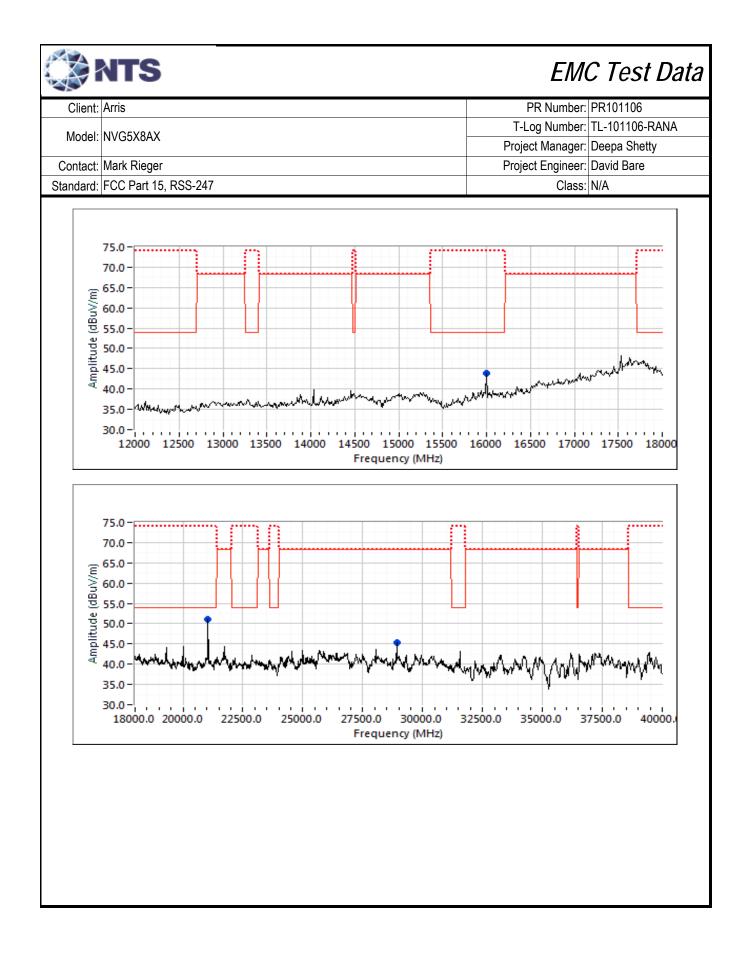
	NTS	_						EMO	C Test	' Data
Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-	RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shet	ty
Contact:	Mark Rieger						-	ect Engineer:		
	FCC Part 15						,	Class:		
Channel:	Center Chanr 6 & 58 1TX & 4TX	nel			b & ac80 1 Mbps & M0		Pwr Setting:	: 22.25 (q89)	& 18 (q72)	
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters			
4873.780	52.8	V	54.0	-1.2	AVG	148	1.6	RB 1 MHz;V	'B 10 Hz	
4873.980	59.0	V	74.0	-15.0	PK	148	1.6	RB 1 MHz;V		
17630.000	55.6	V	68.3	-12.7	PK	48	1.5	RB 1 MHz;V	'B 3 MHz	
14620.000	53.1	Н	68.3	-15.2	PK	137	1.5	RB 1 MHz;V	'B 3 MHz	
16000.000	44.8	Н	54.0	-9.2	AVG	318	1.5	RB 1 MHz;V	′B 10 Hz	Note 5
16000.220	51.2	Н	74.0	-22.8	PK	318	1.5	RB 1 MHz;V		Note 5
9710.000	54.1	Н	68.3	-14.2	PK	255	1.5	RB 1 MHz;V	'B 3 MHz	
10000.000	53.1	Н	68.3	-15.2	PK	29	1.5	RB 1 MHz;V	'B 3 MHz	
21159.900	43.7	Н	54.0	-10.7	AVG	145	1.5	Note 3; RB 2	1 MHz;VB 1	kHz
21159.790	51.6	Н	74.0	-22.4	PK	145	1.5	RB 1 MHz;V	'B 3 MHz	
31739.800	42.8	Н	54.0	-11.2	AVG	165	1.5	Note 3; RB 7	1 MHz;VB 1	kHz
31739.590	50.5	Н	74.0	-23.5	PK	165	1.5	RB 1 MHz;V		
20010.750	36.0	Н	54.0	-18.0	AVG	325	1.5	Note 3; RB 2		kHz
20010.480	46.8	Н	74.0	-27.2	PK	325	1.5	RB 1 MHz;V	'B 3 MHz	
Note 1:	For emission	s in restricte	d hands the	limit of 15.2	09 was used	which requir		and neak me	asuraments	
NOLE 1.					limit is -27dBn					hod
Note 2:					:3MHz, peak o		00.3000 0/11	i). The meas		
	110.0 -				4					
Amplitude (dBuV/m)	75.0 - 50.0 -				 					
	35.0- 1000			00 5000	6000 Frequency	7000 8	000 900			12000



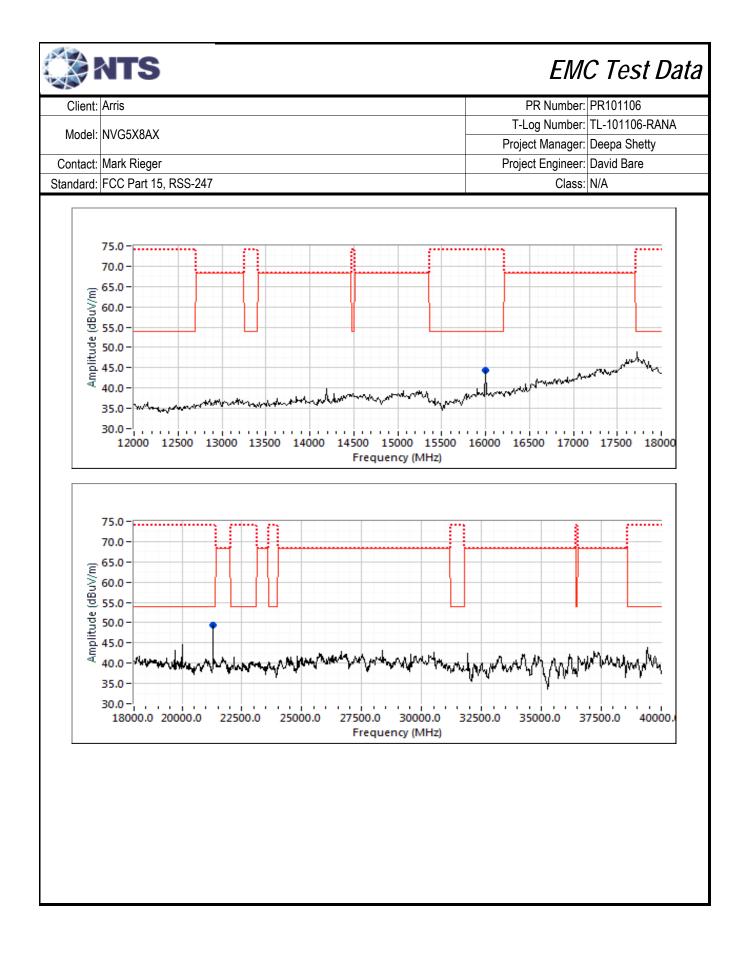
	NTS							EMC Test Data
Client:	Arris							PR Number: PR101106
Madali							T-	Log Number: TL-101106-RANA
wodel:	NVG5X8AX						Proj	ect Manager: Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer: David Bare
	FCC Part 15						,	Class: N/A
Channel:	enter Chanr 6 & 50 1TX & 4TX	nel			b & ac160 1 Mbps & M0		Pwr Setting	: 24 (q96) & 18 (q72)
Frequency	Level	Pol	15.209	/ 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4873.780	и <u></u> 52.6	V/11 V	54.0	-1.4	AVG	201	1.5	RB 1 MHz;VB 10 Hz
20999.910	49.3	H	54.0	-4.7	AVG	160	1.5	Note 3; RB 1 MHz;VB 1 kHz
17781.430	45.2	V	54.0	-8.8	AVG	173	1.0	Note 3; RB 1 MHz;VB 1 kHz
16000.000	44.4	H	54.0	-9.6	AVG	310	1.5	RB 1 MHz;VB 10 Hz Note 5
9710.000	54.4	Н	68.3	-13.9	PK	271	1.5	RB 1 MHz;VB 3 MHz
17490.000	54.2	V	68.3	-14.1	PK	138	1.5	RB 1 MHz;VB 3 MHz
20000.220	38.5	Н	54.0	-15.5	AVG	13	1.5	Note 3; RB 1 MHz;VB 1 kHz
4873.980	58.3	V	74.0	-15.7	PK	201	1.5	RB 1 MHz;VB 3 MHz
14620.000	51.9	Н	68.3	-16.4	PK	130	1.5	RB 1 MHz;VB 3 MHz
28007.500	51.3	Н	68.3	-17.0	PK	161	2.0	RB 1 MHz;VB 3 MHz
17780.290	56.6	V	74.0	-17.4	PK	173	1.0	RB 1 MHz;VB 3 MHz
21938.330	49.6	Н	68.3	-18.7	PK	117	2.0	RB 1 MHz;VB 3 MHz
20999.940	54.2	Н	74.0	-19.8	PK	160	1.5	RB 1 MHz;VB 3 MHz
16000.220	51.2	Н	74.0	-22.8	PK	310	1.5	RB 1 MHz;VB 3 MHz Note 5
20000.120	48.6	Н	74.0	-25.4	PK	13	1.5	RB 1 MHz;VB 3 MHz
5375.000	60.4	V	-	-	PK	212	2.0	Refer to Bandedge test data
	For emission	ns outside of peak measu	the restricted irement (RB	d bands the =1MHz, VB≥	limit is -27dBn :3MHz, peak c	n/MHz eirp (letector).	68.3dBuV/m	and peak measurements. n). The measurement method
	1000	2000	3000 40	00 5000	6000 Frequency		900 900	00 10000 11000 12000



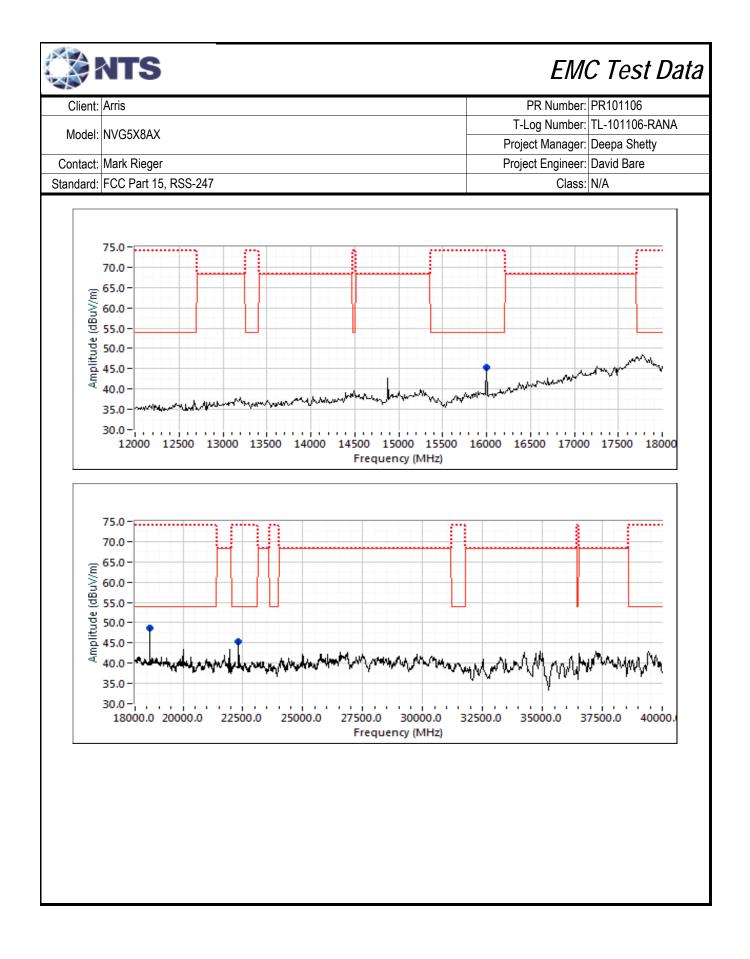
	NTS	_						EMC Test Data
Client:	Arris							PR Number: PR101106
							T-	Log Number: TL-101106-RANA
Wodel:	NVG5X8AX						Proje	ect Manager: Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer: David Bare
Standard:	FCC Part 15	, RSS-247						Class: N/A
I Te Te	idiated Spur Date of Test: st Engineer: est Location: ow Channel	07/22/19 Rafael Vare FT Chambe	as	40000 MHz	Con	Node: Wors onfig. Used: fig Change: UT Voltage:	1	n Run #1
Channel: Tx Chain:	1 & 52 4TX			Mode Data Rate	ac20 6.5 Mbps		Pwr Setting:	: 24 (q96) & 18 (q72)
Frequency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4812.420	51.0	V	54.0	-3.0	AVG	319	2.0	Note 3; RB 1 MHz;VB 300 Hz
4808.850	65.7	V	74.0	-8.3	PK	319	2.0	RB 1 MHz;VB 3 MHz
9700.970	54.5	Н	68.3	-13.8	PK	280	1.3	RB 1 MHz;VB 3 MHz
16000.000	47.1	H	54.0	-6.9	AVG	300	1.0	RB 1 MHz;VB 10 Hz Note 5
16000.410	58.1	H	74.0	-15.9	PK	300	1.0	RB 1 MHz;VB 3 MHz Note 5
21039.900	51.0	<u>Н</u> Н	54.0	-3.0	AVG	173	1.2	Note 3; RB 1 MHz;VB 300 Hz
21039.960 28943.960	55.0 50.9	H	74.0 68.3	-19.0 -17.4	PK PK	173 160	<u>1.2</u> 2.0	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz
2379.170	53.6	V	54.0	-17.4	Peak	97	1.5	Refer to bandedge test data
Amplitude (dBuV/m)	110.0 - 100.0 - 75.0 - 50.0 - 35.0 - 1000	2000	3000 40	00 5000		7000 8		



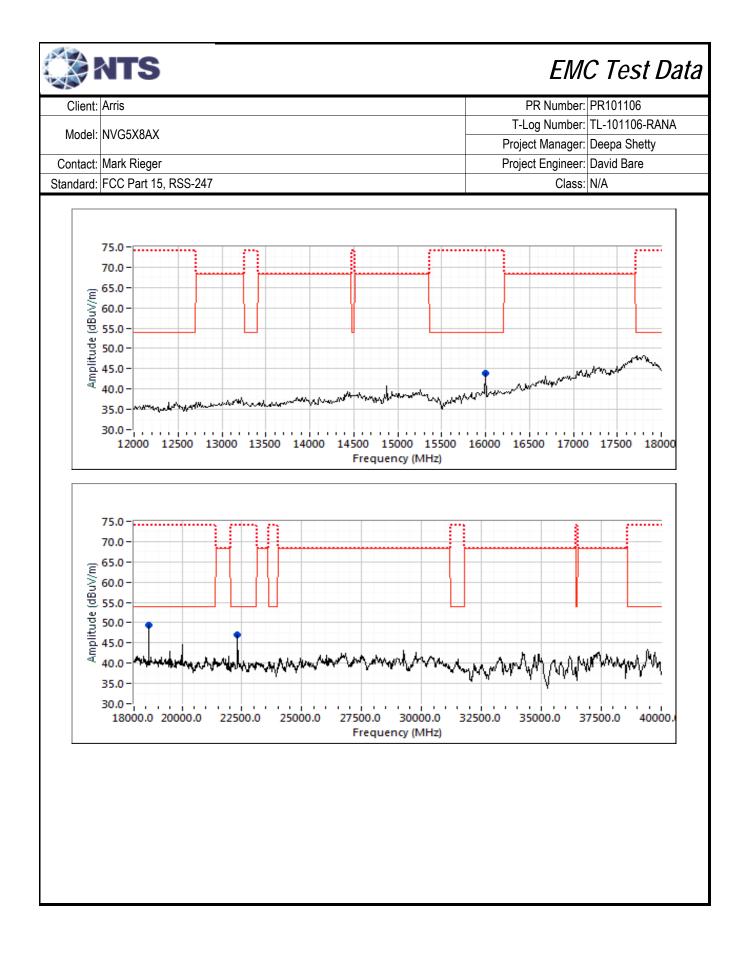
	NTS							EMC Test Data
Client:	Arris							PR Number: PR101106
							T-	Log Number: TL-101106-RANA
Model:	NVG5X8AX							ect Manager: Deepa Shetty
Contact [.]	Mark Rieger							ect Engineer: David Bare
	FCC Part 15						1.10	Class: N/A
Stanuaru.	TOOP and TO	, 1100-247						Class. IV/A
Run #2b: Hi	ah Channel							
	•							
Channel:	11 & 64			Mode:			Pwr Setting	: 23.5 (q94) & 18 (q72)
Tx Chain:	4TX			Data Rate:	6.5 Mbps			
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4925.290	53.3	Н	54.0	-0.7	AVG	279	1.7	Note 3; RB 1 MHz;VB 300 Hz
4925.460	67.5	Н	74.0	-6.5	PK	279	1.7	RB 1 MHz;VB 3 MHz
5382.380	50.2	V	54.0	-3.8	AVG	209	2.1	Note 3; RB 1 MHz;VB 300 Hz
5379.710	62.1	V	74.0	-11.9	PK	209	2.1	RB 1 MHz;VB 3 MHz
9704.030	54.4	Н	68.3	-13.9	PK	277	2.0	RB 1 MHz;VB 3 MHz
16000.110	47.1	Н	54.0	-6.9	AVG	300	1.0	RB 1 MHz;VB 10 Hz Note 5
15999.950	58.5	Н	74.0	-15.5	PK	300	1.0	RB 1 MHz;VB 3 MHz Note 5
21279.800	49.5	Н	54.0	-4.7	AVG	164	1.1	Note 3; RB 1 MHz;VB 300 Hz
21279.800	53.3	Н	74.0	-20.7	PK	164	1.1	RB 1 MHz;VB 3 MHz
2487.500	61.8	V	54.0	7.8	Peak	121	1.5	Refer to bandedge test data
	110.0 - 100.0 - 75.0 - 50.0 - 35.0 - 1000	2000	3000 40	00 5000	6000 Frequence	7000 8		



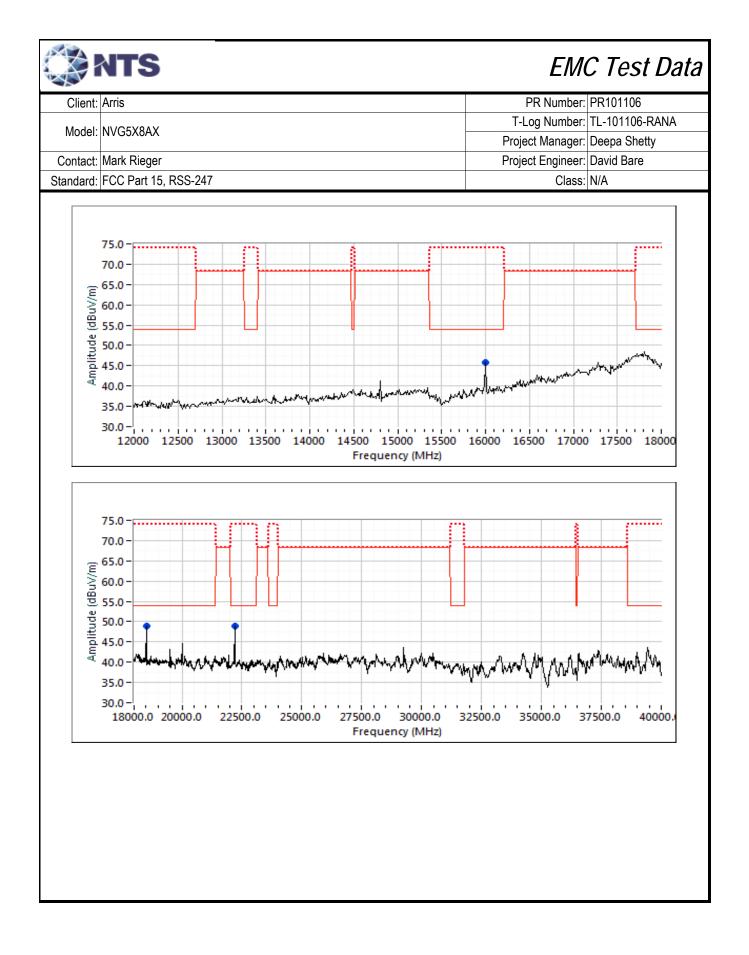
Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TI -101106-	RANA
Model:	NVG5X8AX							ect Manager:		
Caratast	Mark Diagon						-	-		ly
	Mark Rieger	500.047					Ploj	ect Engineer:		
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
l Te Te	diated Spurio Date of Test: est Engineer: est Location: enter Channe	7/22-23/201 R. Varelas & FT Chambe	9 k M. Birgani	40,000 MHz	C Cor	n the 5470-5 onfig. Used: ıfig Change: UT Voltage:	1 -			
Channel:				Mode:	0		Pwr Setting	: 24 (q96) & 1	8 (q72)	
Tx Chain:	1Tx			Data Rate:	6					
requency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters	o on internet		
8599.990		Н	54.0	-5.7	AVG	51	1.2	RB 1 MHz;V	′B 10 Hz	
4883.020	47.0	V	54.0	-7.0	AVG	146	2.0	RB 1 MHz;V		
2319.900	42.9	Н	54.0	-11.1	AVG	159	1.2	RB 1 MHz;V		
4884.020	62.0	V	74.0	-12.0	PK	146	2.0	RB 1 MHz;V		
9705.490	54.9	Н	68.3	-13.4	PK	278	1.4	RB 1 MHz;V		
0000.070	54.6	Н	68.3	-13.7	PK	0	1.1	RB 1 MHz;V		
6000.180	38.9	Н	54.0	-15.1	AVG	257	1.4	RB 1 MHz;V		Note 5
8599.940	53.5	Н	74.0	-20.5	PK	51	1.2	RB 1 MHz;V	'B 3 MHz	
2320.100	50.6	Н	74.0	-23.4	PK	159	1.2	RB 1 MHz;V	'B 3 MHz	
6000.470	48.7	Н	74.0	-25.3	PK	257	1.4	RB 1 MHz;∖	′B 3 MHz	Note 5
Note 1:	For omission	o in rootricto	d banda tha	limit of 15 C	209 was used	which requir		and neal ma	ouromonto	
Note 2:	For emission	is outside of	the restricte	d bands the	limit is -27dBr ≥3MHz, peak	m/MHz eirp (-			hod
	110.0-				11					_
	100.0-									
-										
dBu										
Amplitude (dBuV/m)	75.0						<u></u>	10		
itrie									7	
du										
4	50.0-		L. Weren					••		
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						and the state of t				



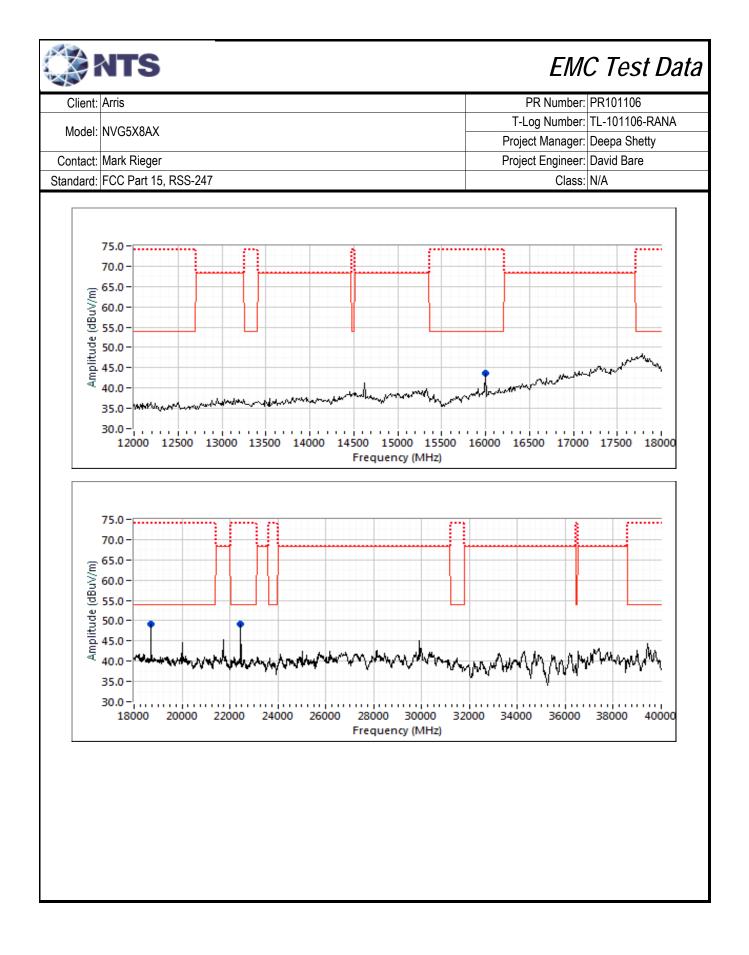
Client:	Arris							PR Number: PR101106
							T-	Log Number: TL-101106-RANA
Model:	NVG5X8AX							ect Manager: Deepa Shetty
Contact:	Mark Rieger							ect Engineer: David Bare
	FCC Part 15	RSS-247						Class: N/A
Run #3b: C Channel: Tx Chain:	Center Chanr 6 & 116 4Tx	nel		Mode: Data Rate:			Pwr Setting	: 24 (q96) & 18 (q72)
Frequency	Level	Pol	15 20	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
4883.810	49.1	V	54.0	-4.9	AVG	153	2.0	Note 3; RB 1 MHz;VB 300 Hz
8599.870	48.7	Ĥ	54.0	-5.3	AVG	43	1.1	Note 3; RB 1 MHz;VB 300 Hz
2319.900	46.0	Н	54.0	-8.0	AVG	183	1.8	Note 3; RB 1 MHz;VB 300 Hz
884.150	63.7	V	74.0	-10.3	PK	153	2.0	RB 1 MHz;VB 3 MHz
	00.1			40.4	AVG	271	1.6	RB 1 MHz;VB 10 Hz No
	41.9	V	54.0	-12.1		211		
6000.210 710.000	41.9 54.7	Н	68.3	-13.6	PK	295	1.6	RB 1 MHz;VB 3 MHz
6000.210 9710.000 8599.890	41.9 54.7 53.5	H H	68.3 74.0	-13.6 -20.5	PK PK	295 43	1.6 1.1	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz
6000.210 9710.000 8599.890 2319.890	41.9 54.7 53.5 52.3	H H H	68.3 74.0 74.0	-13.6 -20.5 -21.7	PK PK PK	295 43 183	1.6 1.1 1.8	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz
6000.210 9710.000 8599.890 2319.890	41.9 54.7 53.5	H H	68.3 74.0	-13.6 -20.5	PK PK	295 43	1.6 1.1	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz
16000.210 9710.000 18599.890 22319.890 15999.800 lote 1: lote 2:	41.9 54.7 53.5 52.3 50.5 For emission For emission	H H V s in restricte s outside of	68.3 74.0 74.0 74.0 d bands, the the restricte	-13.6 -20.5 -21.7 -23.5 e limit of 15.2 d bands the	PK PK PK PK 09 was used	295 43 183 271 which requir n/MHz eirp (1.6 1.1 1.8 1.6 es average	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz



Client:	Arris							PR Number:	PR101106	
M. 1.1							T-	Log Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shet	ty
Contact:	Mark Rieger							ect Engineer:		,
	FCC Part 15	RSS-247						Class:		
otandara.		1100 241						01000.	1.1/7	
un #3c: 0	Center Chann	el								
Channel:	6 &110			Mode	11ac40		Pwr Setting	: 24 (q96) & 1	8 (a72)	
Tx Chain:				Data Rate:			i wi oetting	. 24 (430) a	10 (q12)	
								-		
requency	Level	Pol		9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters			<u></u>
2199.920		H	54.0	-4.4	AVG	56	1.4		1 MHz;VB 30	
8499.940		H	54.0	-5.5	AVG	55	1.1		1 MHz;VB 30	
4894.490	48.2 48.2	V H	54.0 54.0	-5.8 -5.8	AVG AVG	150 66	1.6 2.2	1	1 MHz;VB 30	
5429.700 4894.020	48.2 63.6	H V	54.0 74.0	-5.8 -10.4	PK	150	1.6	RB 1 MHz;\	1 MHz;VB 30	UHZ
6000.190	42.4	V	54.0	-10.4	AVG	271	1.6	RB 1 MHz;\		Note {
9700.000	54.9	H	68.3	-13.4	PK	293	1.6	RB 1 MHz;\		NOLE
5429.430	59.7	H	74.0	-14.3	PK	66	2.2	RB 1 MHz;\		
2200.040		H	74.0	-20.3	PK	56	1.4	RB 1 MHz;V		
8499.910		Н	74.0	-20.5	PK	55	1.1	RB 1 MHz;\		
5999.770		V	74.0	-23.2	PK	271	1.6	RB 1 MHz;\		Note 5
NUL 4	F	- !t.:'t.	ماله مرمام المر		00					
Note 1:					209 was used limit is -27dBr					hod
Note 2:					3MHz, peak ₀		00.3000 0/11	n). The meas		nou
		peak measu		- 11VII 12, VD2	-oivii 12, peak (
	110.0-									
	100.0 -									
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Amplit	50.0-			1	A.			•		
Amplitude (dBuV/m)	2010					And the state of t	at a particular	atom and services	we way to a second s	
Amplit										_
Amplit										i 1 -
Amplit	35.0 - 1000			00 5000	6000	7000 8	000 900			2000
Amplit	35.0 -					7000 8				

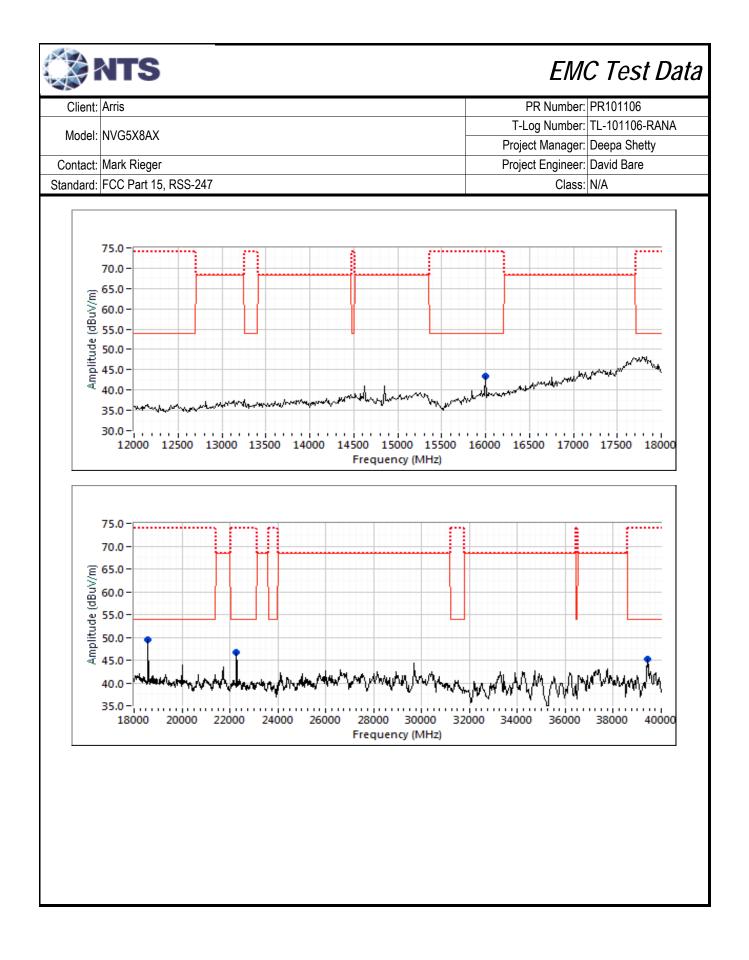


	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-I	RANA
Model:	NVG5X8AX						Proi	ect Manager:	Deepa Shet	tv
Contact.	Mark Rieger							ect Engineer:	-	-7
	FCC Part 15,	DCC 2/7					110	Class:		
Stanuaru.	1 00 T att 13,	1100-247						01833.	N/A	
≀un #3d: L	Low Channel									
Channel:	6 & 122			Mode:	b & ac80		Dwr Sotting	: 22.25 (q89)	2 18 (a72)	
	1Tx & 4Tx			Data Rate:			rwi Setting	. zz.z5 (qo9)	α 10 (q12)	
TX Onam.					1 & 25.5					
requency		Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	U U	meters			
4873.890	52.9	V	54.0	-1.1	AVG	148	1.6	RB 1 MHz;V		
5434.680	52.0	V	54.0	-2.0	AVG	191	1.6		1 MHz;VB 1 I	
8699.910		Н	54.0	-5.2	AVG	38	1.6		1 MHz;VB 1 I	
2439.870		H	54.0	-5.9	AVG	164	1.9		1 MHz;VB 1 I	
6000.190 5434.650	42.5 62.0	V V	54.0 74.0	-11.5 -12.0	AVG PK	272 191	1.6 1.6	RB 1 MHz;V RB 1 MHz;V		Note 5
9700.000	62.0 54.7	H	68.3	-12.0	PK	257	1.6	RB 1 MHz;V		
1873.980	60.1	V	74.0	-13.9	PK	148	1.6	RB 1 MHz;V		
8699.930		H	74.0	-20.5	PK	38	1.6	RB 1 MHz;V		
2439.930		H	74.0	-21.2	PK	164	1.9	RB 1 MHz;V		
6000.290		V	74.0	-23.7	PK	272	1.6	RB 1 MHz;V		Note 5
Note 1:	For emissions	s in restricte	d bands, the	limit of 15.2	09 was used	which requir	es average	and peak me	asurements.	
					limit is -27dBr					hod
Note 2:	required is a							,		
			1	,	<i>(</i>]	/				
	110.0-									_
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(dBu//m)	75.0					,	ļ, ļ		,	
ude (dBuV/m)	75.0-		·							
plitude (dBuV/m)	75.0		` - #{		1	{``}		```		
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Amplitude (dBuV/m)	75.0 -					[]			-	
Amplitude (dBu//m)								louine		-
Amplitude (dBuV/m)	50.0 - 35.0 -							, weden her here		· · · · · · · · · · · · · · · · · · ·
Amplitude (dBuV/m)	50.0-	2000 ' :	3000 40		6000	7000 8		,		2000
Amplitude (dBuV/m)	50.0 - 35.0 -	2000	3000 40		6000 Frequence	7000 8				2000

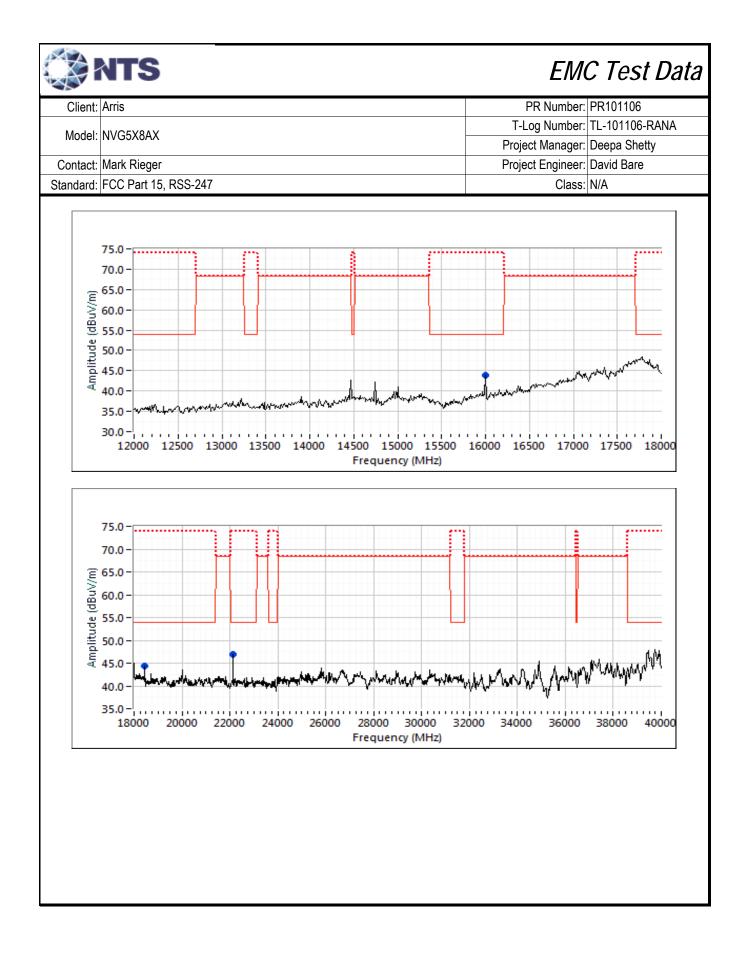


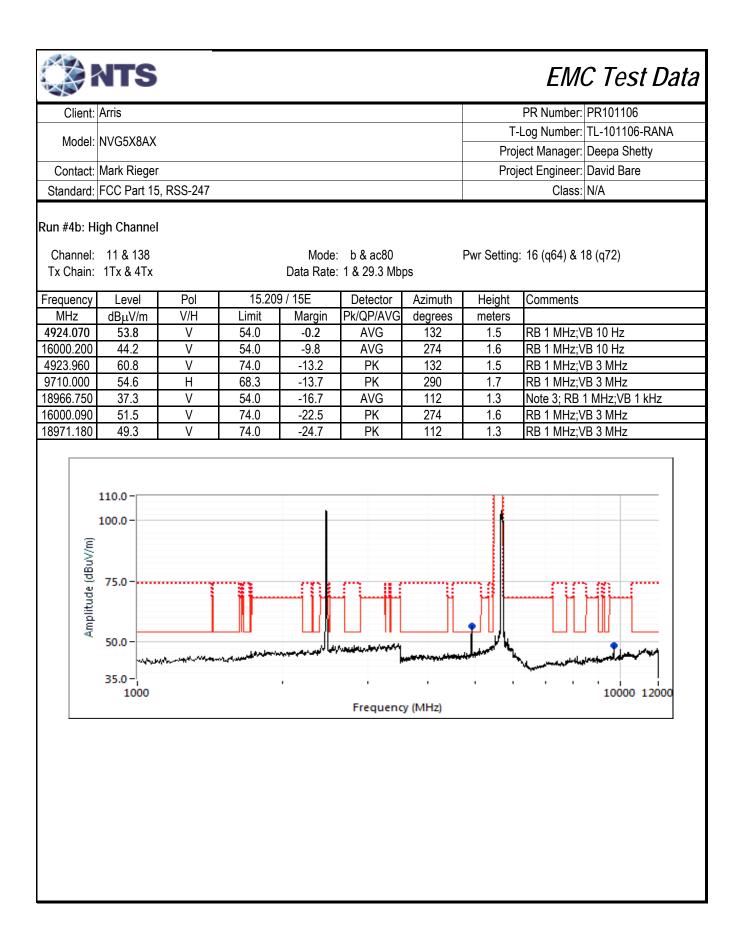
Client:	Arris							PR Number: PR101106
							T-	Log Number: TL-101106-RANA
Model:	NVG5X8AX						Proj	ect Manager: Deepa Shetty
Contact:	Mark Rieger						•	ect Engineer: David Bare
	FCC Part 15,	RSS-247						Class: N/A
otandara.	1 00 1 art 10,	100 2 11						
un #3e: L	ow Channel							
<u>.</u>	0.0.444				4 0 4 0 0			
Channel:					1 & ac160		Pwr Setting	: 22.25 (q89) & 18 (q72)
I x Chain:	1Tx & 4Tx			Data Rate:	: 1 & 58.5 Mbp	DS		
requency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
874.010	52.5	V	54.0	-1.5	AVG	147	1.6	RB 1 MHz;VB 10 Hz
566.600	48.3	Н	54.0	-5.7	AVG	42	1.3	Note 3; RB 1 MHz;VB 1 kHz
279.880	45.8	Н	54.0	-8.2	AVG	169	1.9	Note 3; RB 1 MHz;VB 1 kHz
000.160	41.0	Н	54.0	-13.0	AVG	269	1.4	RB 1 MHz;VB 10 Hz Note
/00.000	54.5	Н	68.3	-13.8	PK	277	1.6	RB 1 MHz;VB 3 MHz
270.000	54.5	V	68.3	-13.8	PK	233	1.6	RB 1 MHz;VB 3 MHz
438.730	39.9	V	54.0	-14.1	AVG	274	1.0	Note 3; RB 1 MHz;VB 1 kHz
373.750	59.0	V	74.0	-15.0	PK	147	1.6	RB 1 MHz;VB 3 MHz
566.540	53.3	H	74.0	-20.7	PK	42	1.3	RB 1 MHz;VB 3 MHz
437.400	52.6	V H	74.0	-21.4	PK	274	1.0 1.9	RB 1 MHz;VB 3 MHz
279.830	52.1 49.6	п Н	74.0 74.0	-21.9 -24.4	PK PK	169 269	1.9	RB 1 MHz;VB 3 MHz RB 1 MHz;VB 3 MHz Note
441.670	60.7	V	-	-24.4	PK	77	1.4	Refer to bandedge test data
11.070								· · ·
Note 1:								and peak measurements.
Note 2:							68.3dBuV/m	n). The measurement method
1010 2.	required is a	peak meası	urement (RB	=1MHz, VB≥	≥3MHz, peak o	detector).		
	110.0-				11			
	100.0-							
	100.0				n			
Amplitude (dBuV/m)								
1Bu/								
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itud		1	1	1 11		i h	4 14	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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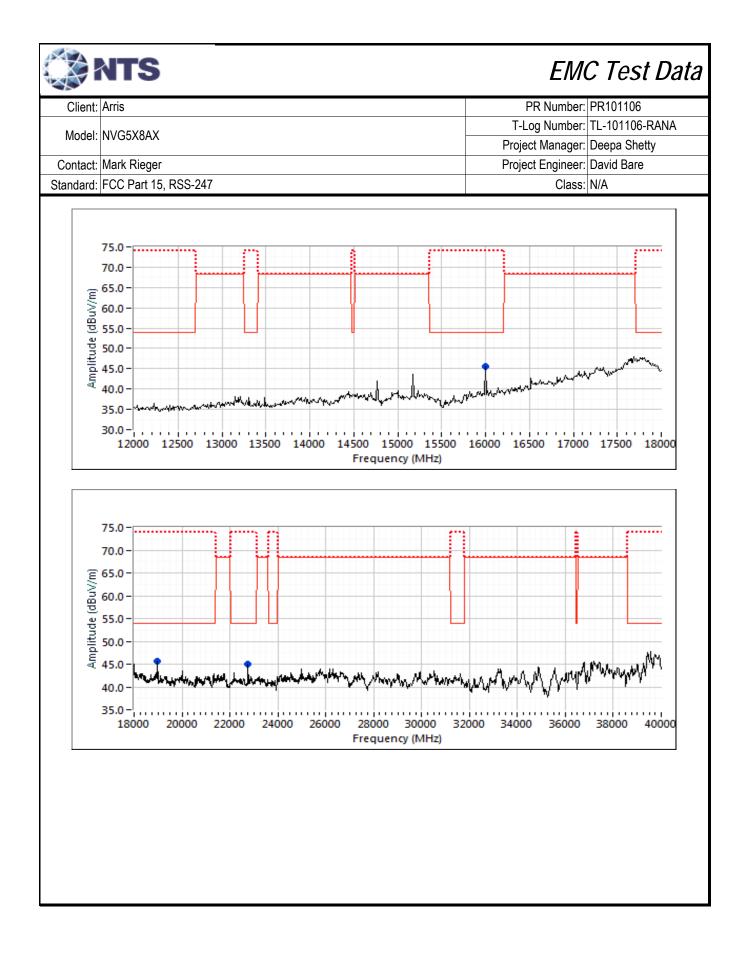
FR-101106.04-NARF NIIDFS Rev 1



	NTS	_						EM	C Test	t Data
Client:	Arris							PR Number:	PR101106	
							T-I	_og Number:	TL-101106-	RANA
Model:	NVG5X8AX						Proje	ect Manager:	Deepa She	tty
Contact:	Mark Rieger						-	ect Engineer:		,
	FCC Part 15						-,-	Class:		
E Te Te	idiated Spur Date of Test: st Engineer: est Location: ow Channel	7/22-23/201 R. Varelas & FT Chambe	9 & M. Birgani	40000 MHz	Con	<i>l</i> ode: Wors onfig. Used: fig Change: UT Voltage:	1 -	n Run #3		
Channel: Tx Chain:	1 & 106 1Tx & 4Tx				b & ac80 1 & 29.3 Mbr		Pwr Setting:	18 (q72) & 1	8 (q72)	
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters			
4824.060	53.6	V	54.0	-0.4	AVG	133	1.5	RB 1 MHz;V	′B 10 Hz	
5357.160	48.7	V	54.0	-5.3	AVG	190	1.9	Note 3; RB		kHz
5356.690	61.4	V	74.0	-12.6	PK	190	1.9	RB 1 MHz;V		
9710.000	54.7	Н	68.3	-13.6	PK	276	2.2	RB 1 MHz;V		
4823.940	60.2	V	74.0	-13.8	PK	133	1.5	RB 1 MHz;V		
16000.120	38.9	Н	54.0	-15.1	AVG	252	1.4	RB 1 MHz;V		Note 5
6230.000	52.1	V	68.3	-16.2	PK	183	1.3	RB 1 MHz;V		
15999.680	49.4 44.4	H V	74.0	-24.6	PK	252	1.4	RB 1 MHz;V		Note 5
18439.170 18441.430	44.4 57.4	V	54.0 74.0	-9.6 -16.6	AVG PK	113 113	1.0 1.0	Note 3; RB RB 1 MHz:V		КПΖ
22122.500	46.9	V	54.0	-7.1	AVG	113	1.3	Note 3; RB	-	kH7
22122.500	58.9	V	74.0	-15.1	PK	17	1.3	RB 1 MHz;V	-	
5454.170	54.7	V	-	-	PK	359	2.5	Refer to bar		lata
	110.0 - 100.0 - 75.0 - 50.0 - 35.0 - 1000	1			Frequence				10000	12000







NTS			EMC Test Dat
Client: Arris			PR Number: PR101106
Model: NVG5X8AX			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
RSS-247 a	and FCC 15.407 (UN	VII) Radiated	Spurious Emissions
Test Specific Details			
Objective. The objectiv	re of this test session is to pe n listed above.	erform final qualificat	tion testing of the EUT with respect to the
Date of Test: 9/27-30/201	9	Config. Use	id: 1
Test Engineer: M. Birgani		Config Chang	
Test Location: Chamber 7		EUT Voltag	le: 120V/ 60Hz
General Test Configuration The EUT and all local support equip For radiated emissions testing the r			
Ambient Conditions:	Temperature:	24-26 °C	
	Rel. Humidity:	41-45 %	
Modifications Made During T No modifications were made to the	•		
Deviations From The Standar No deviations were made from the		d.	

	NTS					EM	C Test Data
Client:	Arris					PR Number	PR101106
							: TL-101106-RANA
Model:	NVG5X8AX					Project Manager	
Contact	Mark Rieger					Project Engineer	
	FCC Part 15					Class	
Standard.	FUC Fail 15	, ROO-241				CidSS	. IN/A
Summary	of Result	s		ſ			
Run #	Mode	Channel	NBF Setting	BF Setting	Test Performed	Limit	Result / Margin
Scans on	"center" char	nnel in all fou	Ir OFDM mo	des to detern	nine the worst case mode		
	ac20	6 & 60	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	45.5 dBµV/m @
					1 - 40 GHz Radiated Emissions,		16000.1 MHz (-8.5 dB) 62.8 dBµV/m @
	ac40	6 & 62	24 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	17685.6 MHz (-5.5 dB)
3					Radiated Emissions,		51.8 dBµV/m @
	ac20 / ac80	6 & 58	24 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	21160.0 MHz (-2.2 dB)
	ac20 /	6 & 50	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	51.7 dBµV/m @
	ac160				1 - 40 GHz	FCC 15.2097 15 E	20999.9 MHz (-2.3 dB)
Measuren	nents on low	and high cha	annels in wo	rst-case OFD			
	ac20	1 & 52	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	52.8 dBµV/m @
4					1 - 40 GHz Radiated Emissions,		21039.9 MHz (-1.2 dB) 45.7 dBµV/m @
	ac20	11 & 64	24 / 18	23.5 / 18	1 - 40 GHz	FCC 15.209 / 15 E	21279.9 MHz (-8.3 dB)
Scans on	"center" char	nnel in all fou	ır OFDM mo	des to detern	nine the worst case mode		21210.0 WH2 (0.0 db)
				1	Radiated Emissions,		51.5 dBµV/m @
	ac20	6 & 116	24 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	18600.0 MHz (-2.5 dB)
	ac40	6 & 110	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	51.4 dBµV/m @
5	00-10	0 4 110	24710	24710	1 - 40 GHz	100 10.2007 10 2	22199.7 MHz (-2.6 dB)
· ·	ac20 / ac80	6 & 122	26 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	48.7 dBµV/m @
	ac20 /				1 - 40 GHz Radiated Emissions,		18699.9 MHz (-5.3 dB) 51.3 dBµV/m @
	ac207 ac160	6 & 114	26 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	18566.6 MHz (-2.7 dB)
Measuren		and high cha	annels in wo	rst-case OFD			10000.0 Will2 (-2.1 dD)
					Radiated Emissions,		45.5 dBµV/m @
6	ac20	1 & 100	24 / 18	24 / 18	1 - 40 GHz	FCC 15.209 / 15 E	16000.1 MHz (-8.5 dB)
U	ac20	11 & 144	24 / 18	24 / 18	Radiated Emissions,	FCC 15.209 / 15 E	51.8 dBµV/m @
	0020		24710	24710	1 - 40 GHz	100 10.2007 10 2	22879.9 MHz (-2.2 dB)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Model	NVG5X8AX	T-Log Number:	TL-101106-RANA
wouer.		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)

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:

incasurc	ment 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
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,
NOLE J.	peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033)
Note 4:	Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
NOLE 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Note 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
NULE Z.	required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector).

-1 -1 -1

	NTS							EM	C Test Data
Client:	Arris							PR Number:	PR101106
							T-	Log Number:	TL-101106-RANA
Model:	NVG5X8AX							-	Deepa Shetty
Contact [.]	Mark Rieger						-	ect Engineer:	
	FCC Part 15							Class:	
Run #1, Rad	diated Spuri	ous Emissio	ons, 1,000 - 4	40,000 MHz	. Operation i	n the 5250-5	5350 MHz B		
Run #1a: Ce	enter Chann	el							
Channel: Tx Chain:	6 & 60 4TX			Mode: Data Rate:	ac20 6.5 Mbps		Pwr Setting	: 24 (q96) & 1	l8 (q72)
Frequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters		
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;\	/B 300 Hz;Peak
19999.770	44.2	Н	54.0	-9.8	AVG	321	1.4		/B 300 Hz;Peak
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5	RB 1 MHz;\	/B 3 MHz;Peak
21199.760	57.3	Н	74.0	-16.7	PK	165	1.4	RB 1 MHz;\	/B 3 MHz;Peak
16000.090	55.6	Н	74.0	-18.4	PK	261	1.6	RB 1 MHz;\	/B 3 MHz;Peak
20000.220	54.4	Н	74.0	-19.6	PK	321	1.4	RB 1 MHz;\	/B 3 MHz;Peak
Channel: Tx Chain:	6 & 62 4TX			Mode: Data Rate:	ac40 13.5Mbps		Pwr Setting	: 24 (q96) & 1	18 (q72)
Frequency	Level	Pol	15.209	9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
17685.600	62.8	Н	68.3	-5.5	PK	77	1.4	RB 1 MHz;\	/B 3 MHz;Peak
21239.900	46.6	Н	54.0	-7.4	AVG	0	1.2		/B 300 Hz;Peak
20000.250	46.4	Н	54.0	-7.6	AVG	2	1.4		/B 300 Hz;Peak
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6	RB 1 MHz;\	/B 300 Hz;Peak
29289.850	54.9	V	68.3	-13.4	PK	155	1.2	RB 1 MHz;∖	/B 3 MHz;Peak
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5		/B 3 MHz;Peak
16000.090	55.6	Н	74.0	-18.4	PK	261	1.6		/B 3 MHz;Peak
20000.320	55.2	Н	74.0	-18.8	PK	2	1.4	,	/B 3 MHz;Peak
21239.740	54.5	Н	74.0	-19.5	PK	0	1.2	RB 1 MHz;∖	/B 3 MHz;Peak

	NTS							EMO	C Test Data
Client:	Arris							PR Number:	PR101106
Model	NVG5X8AX						T-I	Log Number:	TL-101106-RANA
	NV GJAUAA						Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Run #1c: C	enter Chanr	nel							
Channel: Tx Chain:	6 & 58 1TX & 4TX				b & ac80 1 Mbps & M0		Pwr Setting:	22.25 (q89)	& 18 (q72)
F	Laval	Dal	15.000		Detector	A _:	11-1-64	0	
Frequency	Level	Pol	15.209 Limit			Azimuth	Height	Comments	
MHz 21159.960	dBµV/m 51.8	V/H H	Limit 54.0	Margin -2.2	Pk/QP/AVG AVG	degrees 155	meters 1.3	DB 1 M⊔⇒\\/	B 1 kHz Dook
14620.000	51.8 62.4	H	54.0 68.3	-2.2 -5.9	AVG PK	135	1.3		B 1 kHz;Peak B 3 MHz;Peak
31739.950	62.4 46.5	п Н	54.0	-5.9 -7.5	AVG	157	1.3		B 1 kHz;Peak
15999.990	46.2	H	54.0 54.0	-7.8	AVG	261	1.5		B 1 kHz;Peak
17630.000	54.8	V	68.3	-13.5	PK	48	1.5		B 3 MHz;Peak
9706.480	54.5	۰ H	68.3	-13.8	PK	268	1.5		B 3 MHz;Peak
10000.220	54.0	H	68.3	-14.3	PK	145	1.6		B 3 MHz;Peak
20008.350	38.6	H	54.0	-15.4	AVG	0	1.0		B 1 kHz;Peak
21159.870	56.9	H	74.0	-17.1	PK	155	1.3		B 3 MHz;Peak
31739.610	55.8	H	74.0	-18.2	PK	150	1.3		B 3 MHz;Peak
16000.330	55.7	Н	74.0	-18.3	PK	261	1.6		B 3 MHz;Peak
20014.130	51.4	Н	74.0	-22.6	PK	0	1.0		B 3 MHz;Peak

	NTS							EMO	C Test Data
Client:	Arris							PR Number:	PR101106
Madal	NVG5X8AX						T-	Log Number:	TL-101106-RANA
	NV GJAUAA						Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
	Center Chani	nel							
Channel: Tx Chain:	6 & 50 1TX & 4TX				b & ac160 1 Mbps & M(Pwr Setting	: 24 (q96) & 1	8 (q72)
Frequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
20999.910	51.7	Н	54.0	-2.3	AVG	120	1.0	RB 1 MHz;V	/B 1 kHz;Peak
14620.000	62.4	Н	68.3	-5.9	PK	137	1.5	RB 1 MHz;V	'B 3 MHz;Peak
15999.990	46.2	Н	54.0	-7.8	AVG	261	1.6	RB 1 MHz;V	/B 1 kHz;Peak
20000.250	45.3	Н	54.0	-8.7	AVG	28	1.3	RB 1 MHz;V	/B 1 kHz;Peak
17781.430	45.2	V	54.0	-8.8	AVG	10	1.3	RB 1 MHz;V	/B 1 kHz;Peak
9708.730	55.2	Н	68.3	-13.1	PK	220	1.7		'B 3 MHz;Peak
17780.290	59.3	V	74.0	-14.7	PK	10	1.3		/B 3 MHz;Peak
20999.940	57.7	Н	74.0	-16.3	PK	120	1.0		/B 3 MHz;Peak
20000.320	55.8	Н	74.0	-18.2	PK	28	1.3		/B 3 MHz;Peak
16000.330	55.7	Н	74.0	-18.3	PK	261	1.6		'B 3 MHz;Peak
17490.000	49.2	V	68.3	-19.1	PK	110	1.3	RB 1 MHz;V	'B 3 MHz;Peak
Note 1:	For emission	ns in restricte	d bands the	limit of 15.2	09 was used	which requir	es average	and neak me	asurements
Note 2:									urement method
NOLE Z.	required is a	peak measu	urement (RB:	=1MHz, VB≥	3MHz, peak o	detector).			

	NTS							EMC Test Data
Client:	Arris							PR Number: PR101106
Madalı							T-	Log Number: TL-101106-RANA
wodel:	NVG5X8AX						Proj	ect Manager: Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer: David Bare
Standard:	FCC Part 15	, RSS-247						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:	1 & 52 4TX			Mode: Data Rate:	ac20 6.5 Mbps		Pwr Setting:	: 24 (q96) & 18 (q72)
Frequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
21039.930	52.8	Н	54.0	-1.2	AVG	148	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
28942.000	55.0	Н	68.3	-13.3	PK	85	1.0	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
21040.100	57.7	Н	74.0	-16.3	PK	148	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:	11 & 64 4TX				6.5 Mbps		-	: 23.5 (q94) & 18 (q72)
Frequency	Level	Pol) / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters	
21279.880	45.7	Н	54.0	-8.3	AVG	343	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	H	68.3	-13.8	PK	268	1.5 1.6	RB 1 MHz;VB 3 MHz;Peak
16000.090 21280.140	55.6 54.3	H H	74.0 74.0	-18.4 -19.7	PK PK	261 343	1.0	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak

Client	Arric							PR Number:	
o norma	Arris						т		
Model:	NVG5X8AX							2	TL-101106-RANA
							-	2	Deepa Shetty
	Mark Rieger						Proj	ect Engineer:	
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Run #3, Ra	diated Spuri	ous Emissio	ons, 1,000 -	40,000 MHz	. Operation ir	n the 5470-5	5725 MHz B	and	
Run #5a: C	enter Chann	el							
Channel:	6 & 116			Mode:	ac20		Pwr Setting	: 24 (q96) & 1	8 (q72)
Tx Chain:	4Tx			Data Rate:			5		- (1)
Frequency	Level	Pol	15.20	9 / 15E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	degrees	meters		
18599.980	51.5	Н	54.0	-2.5	AVG	26	1.3		B 300 Hz;Peak
	10.0	Н	54.0	-7.4	AVG	46	1.3		B 300 Hz;Peak
	46.6								
16000.130	45.5	Н	54.0	-8.5	AVG	261	1.6		B 300 Hz;Peak
16000.130 9706.480	45.5 54.5	H H	54.0 68.3	-8.5 -13.8	PK	268	1.5	RB 1 MHz;V	B 3 MHz;Peak
16000.130 9706.480 18599.980	45.5 54.5 57.0	H H H	54.0 68.3 74.0	-8.5 -13.8 -17.0	PK PK	268 26	1.5 1.3	RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak
18599.980 16000.090 22319.890	45.5 54.5	H H H H	54.0 68.3	-8.5 -13.8	PK	268	1.5	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890	45.5 54.5 57.0 55.6 54.9	H H H H	54.0 68.3 74.0 74.0	-8.5 -13.8 -17.0 -18.4	РК РК РК 11ас40	268 26 261 46	1.5 1.3 1.6 1.3	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 Run #3b: C Channel: Tx Chain:	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx	H H H H	54.0 68.3 74.0 74.0 74.0	-8.5 -13.8 -17.0 -18.4 -19.1	РК РК РК 11ас40 13.5	268 26 261 46	1.5 1.3 1.6 1.3 Pwr Setting	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 Run #3b: C Channel: Tx Chain:	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110	H H H H	54.0 68.3 74.0 74.0 74.0	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate:	РК РК РК 11ас40	268 26 261 46	1.5 1.3 1.6 1.3	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 Run #3b: C Channel: Tx Chain: Frequency MHz 22199.650	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx Level dBμV/m 51.4	H H H H H Nel <u>Pol</u> V/H H	54.0 68.3 74.0 74.0 74.0 15.20 Limit 54.0	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate: 9 / 15E Margin -2.6	PK PK PK 11ac40 13.5 Detector	268 261 46 Azimuth degrees 54	1.5 1.3 1.6 1.3 Pwr Setting Height meters 1.3	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V : 24 (q96) & 1 Comments RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak 8 (q72) B 300 Hz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 Run #3b: C Channel: Tx Chain: Frequency MHz 22199.650	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx Level dBμV/m	H H H H H Nel Pol V/H H H	54.0 68.3 74.0 74.0 74.0 15.20 Limit	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate: 9 / 15E Margin	PK PK PK 11ac40 13.5 Detector Pk/QP/AVG	268 26 46 Azimuth degrees 54 25	1.5 1.3 1.6 1.3 Pwr Setting Height meters	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V : 24 (q96) & 1 Comments RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak 8 (q72)
16000.130 9706.480 18599.980 16000.090 22319.890 22319.890 Channel: Tx Chain: Frequency MHz 22199.650 18499.920 16000.130	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx Level dBμV/m 51.4 50.9 45.5	H H H H H Nel <u>Pol</u> V/H H H H	54.0 68.3 74.0 74.0 74.0 74.0 54.0 54.0 54.0 54.0	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate: 9 / 15E Margin -2.6	PK PK PK 11ac40 13.5 Detector Pk/QP/AVG AVG AVG AVG	268 26 261 46 Azimuth degrees 54 25 261	1.5 1.3 1.6 1.3 Pwr Setting Height meters 1.3 1.4 1.6	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V 24 (q96) & 1 Comments RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak 8 (q72) B 300 Hz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 22319.890 Channel: Tx Chain: Frequency MHz 22199.650 18499.920 16000.130 9706.480	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx Level dBμV/m 51.4 50.9 45.5 54.5	H H H H H Nel Pol V/H H H H H	54.0 68.3 74.0 74.0 74.0 74.0 54.0 54.0 54.0 68.3	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate: 9 / 15E Margin -2.6 -3.1 -8.5 -13.8	PK PK PK 11ac40 13.5 Detector Pk/QP/AVG AVG AVG AVG PK	268 26 261 46 Azimuth degrees 54 25 261 268	1.5 1.3 1.6 1.3 Pwr Setting Height meters 1.3 1.4 1.6 1.5	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V : 24 (q96) & 1 Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak 8 (q72) B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 Run #3b: C Channel: Tx Chain: Frequency MHz 22199.650 18499.920 16000.130 9706.480 22199.870	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx Level dBμV/m 51.4 50.9 45.5 54.5 57.7	H H H H H N Pol V/H H H H H H	54.0 68.3 74.0 74.0 74.0 74.0 15.20 Limit 54.0 54.0 68.3 74.0	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate: 9 / 15E Margin -2.6 -3.1 -8.5 -13.8 -16.3	PK PK PK PK 11ac40 13.5 Detector Pk/QP/AVG AVG AVG AVG PK PK	268 26 261 46 Azimuth degrees 54 25 261 268 54	1.5 1.3 1.6 1.3 Pwr Setting Height meters 1.3 1.4 1.6 1.5 1.3	RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V : 24 (q96) & 1 Comments RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak 8 (q72) B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak B 3 MHz;Peak B 3 MHz;Peak
16000.130 9706.480 18599.980 16000.090 22319.890 Run #3b: C Channel: Tx Chain: Frequency MHz 22199.650 18499.920 16000.130 9706.480	45.5 54.5 57.0 55.6 54.9 Center Chanr 6 &110 4Tx Level dBμV/m 51.4 50.9 45.5 54.5	H H H H H Nel Pol V/H H H H H	54.0 68.3 74.0 74.0 74.0 74.0 54.0 54.0 54.0 68.3	-8.5 -13.8 -17.0 -18.4 -19.1 Mode: Data Rate: 9 / 15E Margin -2.6 -3.1 -8.5 -13.8	PK PK PK 11ac40 13.5 Detector Pk/QP/AVG AVG AVG AVG PK	268 26 261 46 Azimuth degrees 54 25 261 268	1.5 1.3 1.6 1.3 Pwr Setting Height meters 1.3 1.4 1.6 1.5	RB 1 MHz;V Comments RB 1 MHz;V RB 1 MHz;V	B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak B 3 MHz;Peak 8 (q72) B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak B 300 Hz;Peak

Contact: N Standard: F Run #3d: Lo	NVG5X8AX Mark Rieger FCC Part 15,	RSS-247						
Contact: N Standard: F Run #3d: Lo Channel: Tx Chain:	Mark Rieger FCC Part 15, ww Channel	RSS-247					т	PR Number: PR101106
Standard: F Run #3d: Lo Channel: Tx Chain:	CC Part 15,	RSS-247						Log Number: TL-101106-RANA
Standard: F Run #3d: Lo Channel: Tx Chain:	CC Part 15,	RSS-247					-	ect Manager: Deepa Shetty
Run #3d: Lo Channel: Tx Chain:	w Channel	RSS-247					Proj	ect Engineer: David Bare
Channel: Tx Chain:								Class: N/A
Tx Chain:	6 & 122							
					b & ac80		Pwr Setting	: 22.25 (q89) & 18 (q72)
Frequency	1Tx & 4Tx			Data Rate:	1 & 29.3			
riequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	U	meters	
18699.920	48.7	Н	54.0	-5.3	AVG	38	1.4	RB 1 MHz;VB 1 kHz;Peak
22439.730	48.5	Н	54.0	-5.5	AVG	61	1.3	RB 1 MHz;VB 1 kHz;Peak
15999.990	46.2	Н	54.0	-7.8	AVG	261	1.6	RB 1 MHz;VB 1 kHz;Peak
9706.480	54.5	Н	68.3	-13.8	PK	268	1.5	RB 1 MHz;VB 3 MHz;Peak
16000.330	55.7	Н	74.0	-18.3	PK	261	1.6	RB 1 MHz;VB 3 MHz;Peak
22439.950 18700.050	55.1 54.0	<u>Н</u> Н	74.0 74.0	-18.9 -20.0	PK PK	61 38	1.3 1.4	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak
Channel:	6 & 114			Mode:	1 & ac160		Pwr Setting	: 22.25 (a89) & 18 (a72)
Channel: Tx Chain:				Data Rate:	1 & ac160 1 & 58.5 Mb		Pwr Setting	: 22.25 (q89) & 18 (q72)
Tx Chain: Frequency	1Tx & 4Tx Level	Pol		Data Rate:) / 15E	1 & 58.5 Mb Detector	ps Azimuth	Height	: 22.25 (q89) & 18 (q72) Comments
Tx Chain: Frequency MHz	1Tx & 4Tx Level dBµV/m	V/H	Limit	Data Rate: 9 / 15E Margin	1 & 58.5 Mb Detector Pk/QP/AVG	ps Azimuth degrees	Height meters	Comments
Tx Chain: Frequency MHz 18566.600	1Tx & 4Tx Level dBμV/m 51.3	V/H H	Limit 54.0	Data Rate: 0 / 15E Margin -2.7	1 & 58.5 Mb Detector Pk/QP/AVG AVG	ps Azimuth degrees 110	Height meters 1.4	Comments RB 1 MHz;VB 1 kHz;Peak
Tx Chain: Frequency MHz 18566.600 22279.880	1Tx & 4Tx Level dBμV/m 51.3 50.2	V/H H H	Limit 54.0 54.0	Data Rate: 0 / 15E Margin -2.7 -3.8	1 & 58.5 Mb Detector Pk/QP/AVG AVG AVG	Azimuth degrees 110 122	Height meters 1.4 1.5	Comments RB 1 MHz;VB 1 kHz;Peak RB 1 MHz;VB 1 kHz;Peak
Tx Chain: Frequency MHz 18566.600 22279.880 6270.000	1Tx & 4Tx Level dBμV/m 51.3 50.2 62.8	V/H H H V	Limit 54.0 54.0 68.3	Data Rate: 0 / 15E Margin -2.7 -3.8 -5.5	1 & 58.5 Mb Detector Pk/QP/AVG AVG AVG PK	Azimuth degrees 110 122 360	Height meters 1.4 1.5 2.1	Comments RB 1 MHz;VB 1 kHz;Peak RB 1 MHz;VB 1 kHz;Peak POS; RB 1 MHz; VB: 3 MHz
Tx Chain: Frequency MHz 18566.600 22279.880 6270.000 15999.990	1Tx & 4Tx Level dBμV/m 51.3 50.2 62.8 46.2	V/H H H V H	Limit 54.0 54.0 68.3 54.0	Data Rate: 0 / 15E Margin -2.7 -3.8 -5.5 -7.8	1 & 58.5 Mb Detector Pk/QP/AVG AVG AVG PK AVG	Azimuth degrees 110 122 360 261	Height meters 1.4 1.5 2.1 1.6	Comments RB 1 MHz;VB 1 kHz;Peak RB 1 MHz;VB 1 kHz;Peak POS; RB 1 MHz; VB: 3 MHz RB 1 MHz;VB 1 kHz;Peak
Tx Chain: Frequency MHz 18566.600 22279.880 6270.000 15999.990 18566.540	Level dBμV/m 51.3 50.2 62.8 46.2 62.2	V/H H V H H	Limit 54.0 54.0 68.3 54.0 74.0	Data Rate: 0 / 15E Margin -2.7 -3.8 -5.5 -7.8 -11.8	1 & 58.5 Mb Detector Pk/QP/AVG AVG AVG PK AVG PK	Azimuth degrees 110 122 360 261 110	Height meters 1.4 1.5 2.1 1.6 1.4	Comments RB 1 MHz;VB 1 kHz;Peak RB 1 MHz;VB 1 kHz;Peak POS; RB 1 MHz; VB: 3 MHz RB 1 MHz;VB 1 kHz;Peak RB 1 MHz;VB 3 MHz;Peak
Tx Chain: Frequency MHz 18566.600 22279.880	1Tx & 4Tx Level dBμV/m 51.3 50.2 62.8 46.2	V/H H H V H	Limit 54.0 54.0 68.3 54.0	Data Rate: 0 / 15E Margin -2.7 -3.8 -5.5 -7.8	1 & 58.5 Mb Detector Pk/QP/AVG AVG AVG PK AVG	Azimuth degrees 110 122 360 261	Height meters 1.4 1.5 2.1 1.6	Comments RB 1 MHz;VB 1 kHz;Peak RB 1 MHz;VB 1 kHz;Peak POS; RB 1 MHz; VB: 3 MHz RB 1 MHz;VB 1 kHz;Peak

	NTS							EMC Test Data
Client:	Arris							PR Number: PR101106
M. 1.1							T-	Log Number: TL-101106-RANA
Model:	NVG5X8AX							ect Manager: Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer: David Bare
	FCC Part 15						-,	Class: N/A
Run #4: Ra Run #4a: L			ons, 1,000 -	40000 MHz	. Operating N	Node: Wors	se case fron	n Run #3
Channel: Tx Chain:	1 & 100 4Tx			Mode: Data Rate:			Pwr Setting:	: 24 (q96) & 18 (q72)
Frequency	Level	Pol	15.209) / 15E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG		meters	
16000.130	45.5	H	54.0	-8.5	AVG	261	1.6	RB 1 MHz;VB 300 Hz;Peak
18333.330	43.4	Н	54.0	-10.6	AVG	137	1.6	RB 1 MHz;VB 300 Hz;Peak
21999.760	55.5	Н	68.3	-12.8	PK	162	1.6	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
18333.190	51.0	Н	74.0	-23.0	PK	137	1.6	RB 1 MHz;VB 3 MHz;Peak
Run #4b: Hi Channel: Tx Chain:	11 & 144 4Tx			Mode: Data Rate:			Pwr Setting:	: 24 (q96) & 18 (q72)
Frequency	Level	Pol	15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/AVG	ŭ	meters	
22879.900	51.8	Н	54.0	-2.2	AVG	144	1.5	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
19066.310	44.5	H	54.0	-9.5	AVG	132	1.6	RB 1 MHz;VB 300 Hz;Peak
22879.800 16000.090	56.6 55.6	H H	74.0	-17.4	PK PK	144 261	1.5 1.6	RB 1 MHz;VB 3 MHz;Peak
19066.440	55.6 52.1	н Н	74.0 74.0	-18.4 -21.9	PK PK	132	1.6	RB 1 MHz;VB 3 MHz;Peak RB 1 MHz;VB 3 MHz;Peak

					C Test Da
Client:	Arris			PR Number:	
Model:	NVG5X8AX			-	TL-101106-RANA
Contact:	Mark Rieger			Project Manager: Project Engineer:	
	FCC Part 15, RSS-247			Class:	
est Spec	cific Details	·		Spurious Emission	
	Objective: specification listed	above.	iorm inai qualificat	tion testing of the EUT with r	espect to the
The EUT	est Configuration and all local support equipment v ed emissions testing the measur				noted.
Ambient	Conditions:	Temperature: Rel. Humidity:	19-23 °C 42-45 %		
	ions Made During Testing cations were made to the EUT d	-			
	s From The Standard ions were made from the require	ments of the standard.			

Client:	Arris					PR Number:	PR101106
Model [.]	NVG5X8A>	(0	TL-101106-RANA
						Project Manager:	
	Mark Riege					Project Engineer:	
Standard:	FCC Part 1	5, RSS-247				Class:	N/A
Summary	y of Resul	ts					
Run #	Mode	Channel Frequency	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
20MHz B	andwith Mod	les					
2	g/a	11 & 64	26 / 26	26 / 20	Restricted Band Edge at 5350 MHz	15.209	73.7 dBµV/m @ 5351. MHz (-0.3 dB)
Z	g/a	11 & 60	26 / 26	26 / 26	Restricted Band Edge at 5350 MHz	15.209	52.0 dBµV/m @ 5350. MHz (-2.0 dB)
	g/a	1 & 100	26 / 26	26 / 26	Restricted Band Edge at 5460 MHz	15.209	73.6 dBµV/m @ 5459. MHz (-0.4 dB)
	g/a	1 & 100	26 / 26	26 / 13	Band Edge 5460 - 5470 MHz	15E	66.9 dBµV/m @ 5465. MHz (-1.4 dB)
3	g/a	1 & 104	26 / 26	26 / 23	Band Edge 5460 - 5470 MHz	15E	67.1 dBµV/m @ 5469 MHz (-1.2 dB)
5	g / a	11 & 140	26 / 26	26 / 12	Band Edge 5725MHz	15E	66.9 dBµV/m @ 5465. MHz (-1.4 dB)
	g/a	11 & 136	26 / 18	26 / 18	Band Edge 5725MHz	15E	66.1 dBµV/m @ 5758. MHz (-2.2 dB)
	g/a	11 & 132	26 / 26	26 / 25	Band Edge 5725MHz	15E	64.5 dBµV/m @ 5763. MHz (-3.8 dB)
4	ac20	11 & 64	24 / 18	24 / 18	Restricted Band Edge at 5350 MHz	15.209	52.2 dBµV/m @ 5372 MHz (-1.8 dB)
	ac20	1 & 100	24 / 18	24 / 18	Restricted Band Edge at 5460 MHz	15.209	51.2 dBµV/m @ 5448. MHz (-2.8 dB)
5	ac20	1 & 100	24 / 18	24 / 18	Band Edge 5460 - 5470 MHz	15E	64.2 dBµV/m @ 5469 MHz (-4.1 dB)
	ac20	11 & 140	24 / 18	24 / 18	Band Edge 5725MHz	15E	66.8 dBµV/m @ 5725. MHz (-1.5 dB)
40MHz B	andwith Moo	les			Dostricted Band Edge		E2 0 dBu//m @ E250
6	ac40	9 & 62	24 / 18	24 / 16.75	Restricted Band Edge at 5350 MHz	15.209	53.8 dBµV/m @ 5350 MHz (-0.2 dB)
	ac40	3 & 102	24 / 18	24 / 18	Restricted Band Edge at 5460 MHz	15.209	52.4 dBµV/m @ 5458 MHz (-1.6 dB)
7	ac40	3 & 102	24 / 18	24 / 18	Band Edge 5460 - 5470 MHz	15E	66.7 dBµV/m @ 5463 MHz (-1.6 dB)
	ac40	9 & 134	24 / 18	24 / 18	Band Edge 5725MHz	15E	64.2 dBµV/m @ 5728 MHz (-4.1 dB)

	NTS					EM	C Test Data
Client:	Arris					PR Number:	PR101106
Madalı						T-Log Number:	TL-101106-RANA
wodel:	NVG5X8AX					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	Measured Power	Test Performed	Limit	Result / Margin

Run #	Mode	Frequency	Setting	Power	Test Performed	Limit	Result / Margin
80MHz Ba	andwith Mod	es					
8	b / ac80	6 & 58	26 / 18	26 / 16.5	Restricted Band Edge at 5350 MHz	15.209	53.3 dBµV/m @ 5350.8 MHz (-0.7 dB)
9	b / ac80	1 & 106	26 / 18	26 / 18	Restricted Band Edge at 5460 MHz	15.209	52.6 dBµV/m @ 5459.0 MHz (-1.4 dB)
9	b / ac80	1 & 106	26 / 18	26 / 18	Band Edge 5460 - 5470 MHz	15E	66.5 dBµV/m @ 5463.6 MHz (-1.8 dB)
160MHz E	Bandwith Mo	des					
10	b / ac160	6 & 50	26 / 18	26 / 17.25	Restricted Band Edge at 5150 MHz	15.209	53.8 dBµV/m @ 5142.2 MHz (-0.2 dB)
10	b / ac160	6 & 50	26 / 18	26 / 17.25	Restricted Band Edge at 5350 MHz	15.209	53.3 dBµV/m @ 5373.7 MHz (-0.7 dB)
11	b / ac160	6 & 114	26 / 18	26 / 17	Restricted Band Edge at 5460 MHz	15.209	53.5 dBµV/m @ 5459.0 MHz (-0.5 dB)
	b / ac160	6 & 114	26 / 18	26 / 17	Band Edge 5460 - 5470 MHz	15E	66.5 dBµV/m @ 5463.2 MHz (-1.8 dB)

Sample Notes

Sample S/N: M11917QW000T



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5X8AX	T-Log Number:	TL-101106-RANA
wouer.		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
11a	6	99.0%	Yes	5.06	0.0	0.0	10	7974
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
ac160	58.5	0.96	Yes	1.439	0.2	0.4	695	10443

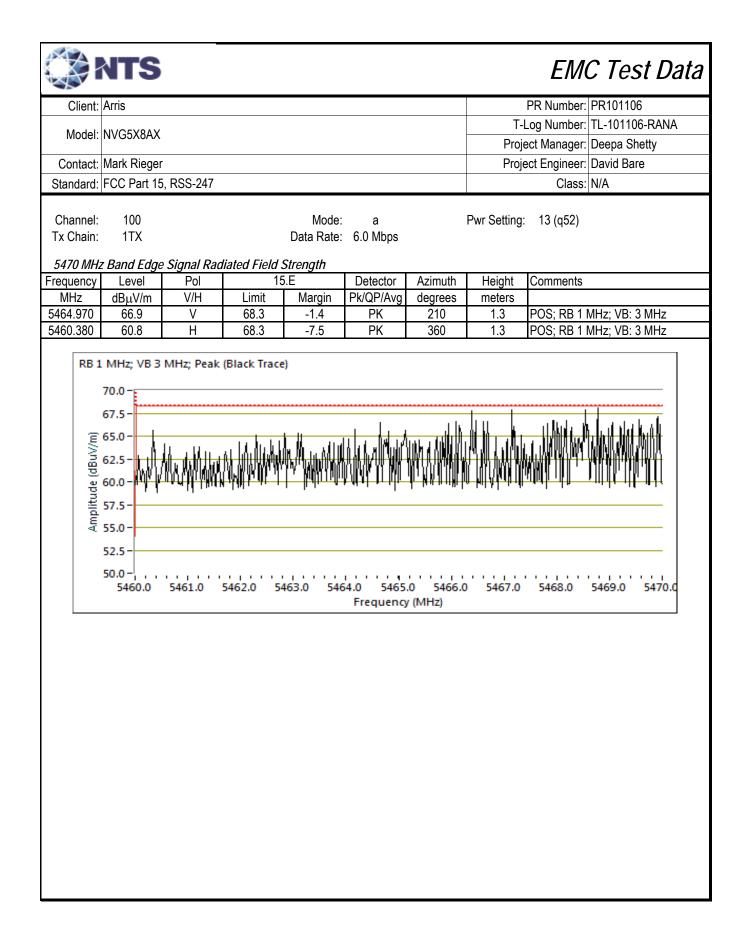
Measurement Specific Notes:

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

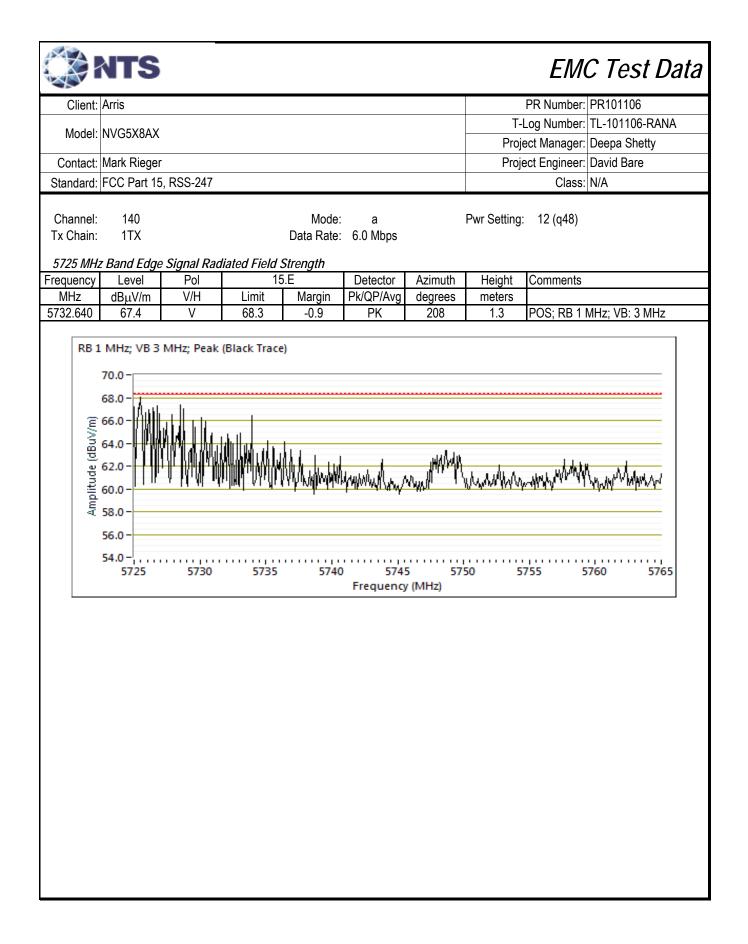
	NTS							EM	C Test Data
Client:	Arris							PR Number:	PR101106
Madal	NVG5X8AX						T-l	og Number:	TL-101106-RANA
MOUEI.	NVGJAOAA						Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
ם Te Te	idiated Band Date of Test: st Engineer: est Location:	07/12/19 Rafael Varel	as	250-5350MH	C Cor	onfig. Used: ıfig Change: UT Voltage:	None 120V/60Hz		
Channel: Tx Chain:	Tx1				a 6.0 Mbps		Pwr Setting:	20 (q80)	
	z Band Edge					A 1 /1			
Frequency	Level	Pol		15.209	Detector	Azimuth	Height	Comments	
MHz 5350.020	dBµV/m 50.0	V/H V	Limit 54.0	Margin -4.0	Pk/QP/Avg AVG	degrees 79	meters 1.4		MHz; VB: 10 Hz
5350.020	73.7	V	74.0	-4.0	PK	79	1.4		MHZ; VB: 3 MHZ
5350.000	48.2	Ĥ	54.0	-5.8	AVG	178	1.3	,	MHz; VB: 10 Hz
5351.840	67.0	Н	74.0	-7.0	PK	178	1.3		MHz; VB: 3 MHz
plitude (dBuV	75.0 - 70.0 - 65.0 - 60.0 - 55.0 - 50.0 - 45.0 - 45.0 - 40.0 -								1
	5350	5355	5360	5365	5 5370 Frequency	0 53	75 53	380 5	385 5390

Client: Arris PR Number: PR101106 Model: NVG5X8AX T-Log Number: TL-101106-RANA Project Manager: Deepa Shetty Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 60 Mode: a Pwr Setting: 26 (q104) Tx Chain: Tx1 Data Rate: 6.0 Mbps Status Status	Model: N Contact: M Standard: F(Channel: Tx Chain: 5350 MHz E	IVG5X8AX 1ark Rieger	RSS-247					T-I	
Model: IV/G5X8AX Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 60 Mode: a Pwr Setting: 26 (q104) Tx Chain: Tx1 Data Rate: 6.0 Mbps 5350 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MH2 dBµL//m V/H Limit Margin PK/QP/Avg degrees meters 5350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.000 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 75.0	Contact: M Standard: F(Channel: Tx Chain: 5350 MHz E	lark Rieger	RSS-247						Log Number: TL-101106-RANA
Contact: Mark Rieger Deepa Shetty Standard: FCC Part 15, RSS-247 Class: N/A Channel: 60 Mode: a Pwr Setting: 26 (q104) Tx Chain: Tx1 Data Rate: 6.0 Mbps 5350 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 3 MHz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 66.0	Contact: M Standard: F(Channel: Tx Chain: 5350 MHz E	lark Rieger	RSS-247						
Standard: FCC Part 15, RSS-247 Class: N/A Channel: 60 Mode: a Pwr Setting: 26 (q104) Tx Chain: Tx1 Data Rate: 6.0 Mbps 5350 5350 MHz Band Edge Signal Radiated Field Strength Trequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.460 71.5 V 74.0 -2.5 PK 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 70.0	Standard: F(Channel: Tx Chain: 5350 MHz E	-	RSS-247					Proje	ect Manager: Deepa Shetty
Channel: 60 Tx Chain: Mode: a Pwr Setting: 26 (q104) 5350 MHz Band Edge Signal Radiated Field Strength	Channel: Tx Chain: <i>5350 MHz E</i>	CC Part 15	RSS-247					Proje	ect Engineer: David Bare
Tx Chain: Tx1 Data Rate: 6.0 Mbps 5350 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments S350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz S350.000 48.2 H 54.0 -2.5 PK 204 1.0 POS; RB 1 MHz; VB: 3 MHz S350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 10 Hz S350.200 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 3 MHz S352.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz V 65.0	Tx Chain: <i>5350 MHz E</i>		, 100 247						Class: N/A
Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 3 MHz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 550.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 3 MHz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 60.0		Tx1	Signal Dag	liatod Eiold (Data Rate:			Pwr Setting:	26 (q104)
MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.460 71.5 V 74.0 -2.5 PK 204 1.0 POS; RB 1 MHz; VB: 3 MHz 5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 10 Hz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 5350.330 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 65.0	roguonov					Detector	Azimuth	Height	Comments
5350.000 52.0 V 54.0 -2.0 AVG 204 1.0 POS; RB 1 MHz; VB: 10 Hz 5350.460 71.5 V 74.0 -2.5 PK 204 1.0 POS; RB 1 MHz; VB: 3 MHz 5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 10 Hz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 65.0 -									
5350.460 71.5 V 74.0 -2.5 PK 204 1.0 POS; RB 1 MHz; VB: 3 MHz 5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 10 Hz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz F8 1 MHz; VB 10 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VB (Blue Trace) 75.0							-		POS; RB 1 MHz: VB: 10 Hz
5350.000 48.2 H 54.0 -5.8 AVG 112 1.0 POS; RB 1 MHz; VB: 10 Hz 5353.230 62.6 H 74.0 -11.4 PK 112 1.0 POS; RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 10 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VB 3 MHz; VB (Blue Trace) 75.0									
RB 1 MHz; VB 10 Hz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 70.0 (w) 65.0 60.0 90 55.0 45.0 45.0 5350 5355 5360 5365 5370 5375 5380 5385	350.000	48.2	Н	54.0	-5.8	AVG	112	1.0	POS; RB 1 MHz; VB: 10 Hz
75.0 70.0 65.0 45.0 45.0 5350 5355 5360 5365 5370 5375 5380 5385 5390	353.230	62.6	Н	74.0	-11.4	PK	112	1.0	POS; RB 1 MHz; VB: 3 MHz
riequency (WITZ)	45	5.0 - 0.0 - 5.0 - 0.0 -				5370) 537		·····

									C Test Dat
Client: Arris								PR Number:	
Model: NVG	5X8AX							-	TL-101106-RANA
							-		Deepa Shetty
Contact: Mark							Proje	ect Engineer:	
Standard: FCC	Part 15,	RSS-247						Class:	N/A
Run #3: Radiate	d Bande	edae Measi	urements, 5	470-5725MI	47				
	of Test: 0					onfig. Used:	1		
		Aehran Birg				ifig Change:			
Test Lo	cation: F	T Chamber	r #5		E	UT Voltage:	120V/60Hz		
Channel: 1	00			Mode	: a		Pwr Setting:	26 (g104)	
	TX				. 6.0 Mbps			(¶·♥·/	
EACO MUL Dem	d [d	Cianal Da	liated Field		·				
5460 MHz Bank Frequency Le	<i>d Edge :</i> evel	S <i>ignal Rad</i> Pol		<i>Strength</i> 15.209	Detector	Azimuth	Height	Comments	
	uV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments	
	3.6	V	74.0	-0.4	PK	210	1.3	POS; RB 1 I	MHz; VB: 3 MHz
	1.6	V	54.0	-2.4	AVG	210	1.3		MHz; VB: 10 Hz
	0.5	Н	54.0	-3.5	AVG	46	1.3	POS; RB 1 I	MHz; VB: 10 Hz
5458.800 6	9.6	Н	74.0	-4.4	PK	46	1.3	POS; RB 1 I	MHz; VB: 3 MHz
70.0 (m/ Page 65.0 aphiltune b 60.0 50.0 50.0	- marada								
45.0	420	5425	5430	543!	5 544(Frequency	0 544	45 54	450 5	455 5460



Model: NVG5X8AX T-Log Number: TL-101106-RANA Project Manager: Deepa Shetty Deepa Shetty David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode: a Pwr Setting: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 3469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 3463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 90 62.5 - - - - - - - - - - - - - - - - - - <	Model: NVG5X8AX T-Log Number: TL-101106-RANA Project Manager: Deepa Shetty Devid Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode:: a Pwr Setting:: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµ/m V/H Limit Margin PK/QP/Avg degrees meters 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 65.0 - - - - - - - - - - - - - - - - - - -	Client:	Arris							PR Number:	PR101106
Model: NVG5X8AX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode:: a Pwr Setting: 23 (q92) Tx Chain: TTX Data Rate: 6.0 Mbps 5470 MHz Band Edge Signal Radiated Field Strength requency Level Pol 15.E Detector Azimuth Height Comments MHz dBµ/m V/H Limit Margin PK/QP/Avg degrees meters 5469.860 67.1 V 68.3 -6.7 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5469.860 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 65.0	Model: INV05X8AX Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode: a Pwr Setting: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 5469.800 67.1 V 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz VB Standard -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 60.0 -51.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz								Т-		
Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode: a Pwr Setting: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 MHz Bare 5470 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 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5469.860 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 65.0 -	Contact: Mark Rieger Project Engineer. David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode: a Pwr Setting: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0	Model:	NVG5X8AX								
Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode: a Pwr Setting: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 3469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 3469.860 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 62.5	Standard: FCC Part 15, RSS-247 Class: N/A Channel: 104 Mode: a Pwr Setting: 23 (q92) Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 65.0 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 9 62.5 - <td>Contact:</td> <td>Mark Rieger</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Contact:	Mark Rieger								
Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 5463.650 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0	Tx Chain: 1TX Data Rate: 6.0 Mbps 5470 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 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 65.0 -		-	, RSS-247						-	
requency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0 - <td>Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 70.0 -</td> <td>Tx Chain:</td> <td>1TX</td> <td>21 1 2</td> <td></td> <td>Data Rate:</td> <td></td> <td></td> <td>Pwr Setting</td> <td>: 23 (q92)</td> <td></td>	Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz 70.0 -	Tx Chain:	1TX	21 1 2		Data Rate:			Pwr Setting	: 23 (q92)	
MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0 -	MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0 -						Detector	Arimuth	Unight	Commonto	
5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 - <td>5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 - 65.0 -</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>Comments</td> <td></td>	5469.860 67.1 V 68.3 -1.2 PK 208 1.3 POS; RB 1 MHz; VB 3 MHz 5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 - 65.0 -					-				Comments	
3463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0	5463.650 61.6 H 68.3 -6.7 PK 360 1.3 POS; RB 1 MHz; VB: 3 MHz 70.0									POS: RB 1 I	MHz; VB: 3 MHz
70.0 67.5 62.5 60.0 57.5 55.0 52.5 50.0 5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0	70.0 67.5 62.5 60.0 57.5 55.0 52.5 50.0 5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0										
	Frequency (MHz)		70.0-	MHz; Peak	(Black Trace		lant ny hydrod n				



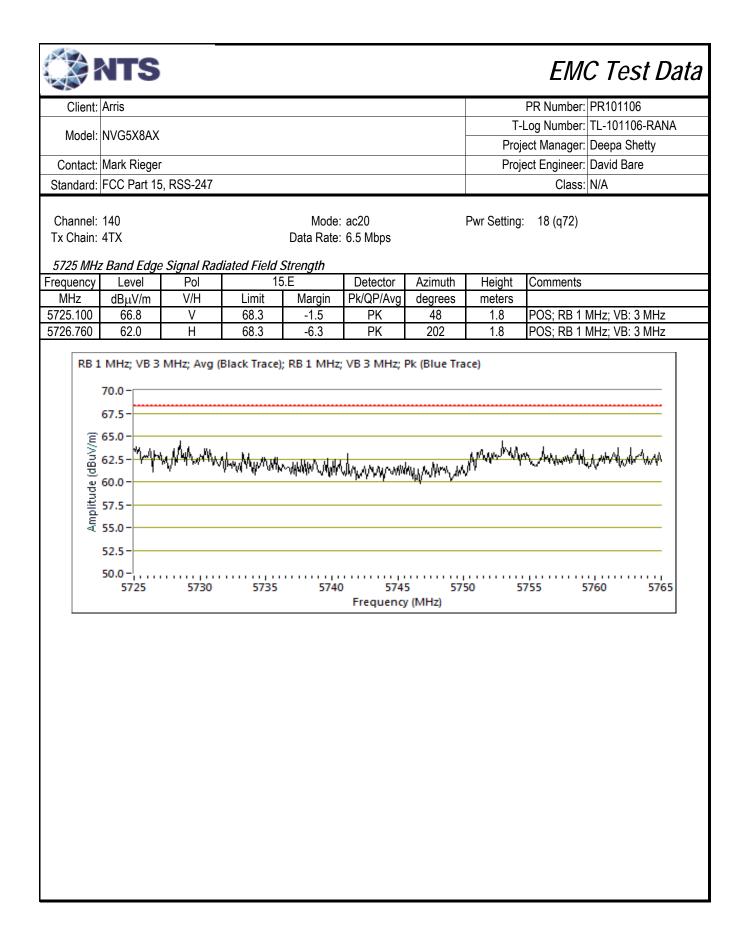
	NTS	_						EMO	C Test Data
Client:	Arris							PR Number:	PR101106
Madal	NVG5X8AX						T-	Log Number:	TL-101106-RANA
wouer.	NVGJADAA						Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
Channel: Tx Chain: 5725 MH2	136 1TX z Band Edge	Signal Rad	iated Field S		a 6.0 Mbps		Pwr Setting:	18 (q72)	
Frequency	Level	Pol	15		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5758.750	66.1	V	68.3	-2.2	PK	208	1.3	RB 1 MHz; \	VB: 3 MHz
	65.0 - 62.5 - 60.0 - 57.5 - 55.0 - 52.5 - 50.0 - 57.25	5730	5735		MWMM 574 Frequency	5 57			760 5765

Model: NVG5X8AX Project Manager: I Contact: Mark Rieger Project Engineer: I Standard: FCC Part 15, RSS-247 Class: I Channel: 132 Mode: a Pwr Setting: 25 (a100) Tx Chain: 1TX Data Rate: 6.0 Mbps 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	TL-101106-RANA Deepa Shetty David Bare
Model: NVG5X8AX Project Manager: I Contact: Mark Rieger Project Engineer: I Standard: FCC Part 15, RSS-247 Class: I Channel: 132 Mode: a Pwr Setting: 25 (a100) Tx Chain: 1TX Data Rate: 6.0 Mbps 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 5763.320 64.5 V 68.3 -3.8 PK 208 1.3 POS; RB 1 M MHz VB 3 MHz; Peak (Black Trace) 70.0 - -	Deepa Shetty David Bare N/A
Contact: Mark Rieger Project Manager: Project Engineer: Class: Standard: FCC Part 15, RSS-247 Class: n Channel: 132 Mode: a Pwr Setting: 25 (a100) Tx Chain: 1TX Data Rate: 6.0 Mbps 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 5763.320 64.5 V 68.3 -3.8 PK 208 1.3 POS; RB 1 M RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0	David Bare N/A
Standard: FCC Part 15, RSS-247 Class: I Channel: 132 Mode: a Pwr Setting: 25 (a100) Tx Chain: 1TX Data Rate: 6.0 Mbps 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 5763.320 64.5 V 68.3 -3.8 PK 208 1.3 POS; RB 1 M 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 65.0 60.0 65.0 60.0 60.0 65.0 60.0 <td< td=""><td>N/A</td></td<>	N/A
Channel: 132 Mode: a Pwr Setting: 25 (a100) Tx Chain: 1TX Data Rate: 6.0 Mbps 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 5763.320 64.5 V 68.3 -3.8 PK 208 1.3 POS; RB 1 M RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 -	
Tx Chain: 1TX Data Rate: 6.0 Mbps 5725 MHz Band Edge Signal Radiated Field Strength Energy Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5763.320 64.5 V 68.3 3.8 PK 208 1.3 POS; RB 1 M RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0	MHz; VB: 3 MHz
Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 5763.320 64.5 V 68.3 -3.8 PK 208 1.3 POS; RB 1 M 70.0 -	MHz; VB: 3 MHz
MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5763.320 64.5 V 68.3 -3.8 PK 208 1.3 POS; RB 1 M RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 -<	MHz; VB: 3 MHz
RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 - 67.5 - (m) 65.0 - 62.5 - (m) 70.0 - 60.0 - 57.5 - (m) 70.0 - 57.5 - (m) 70.0 - 57.5 - (m) 70.0 - (m) 70	MHz; VB: 3 MHz
70.0 - 67.5 - (m 65.0 - M ^M /M ^M	
50.0 – 5725 5730 5735 5740 5745 5750 5755 57 Frequency (MHz)	
RB 1 MHz; VB 3 MHz; Peak (Black Trace) - Setting of q100) 5765

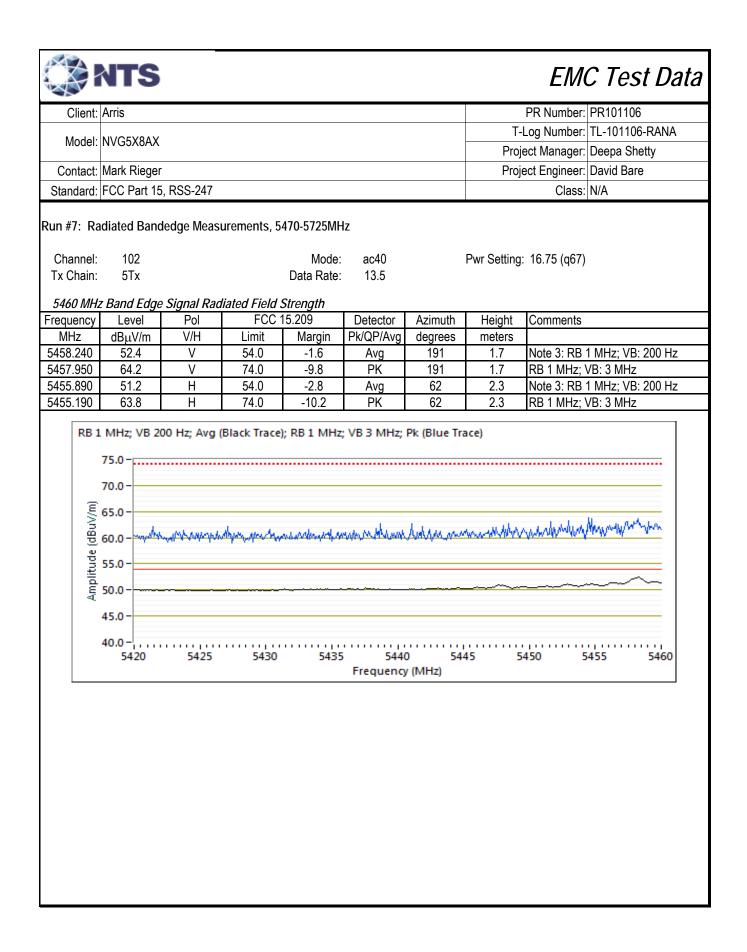
								EMC Test Da
Client: Arris	6							PR Number: PR101106
Model: NVG	5X8AX						T-I	Log Number: TL-101106-RANA
							-	ect Manager: Deepa Shetty
Contact: Mark	k Rieger						Proje	ect Engineer: David Bare
Standard: FCC	Part 15	, RSS-247						Class: N/A
Run #4: Radiate		edge Measi 07/12/19	urements, 5	250-5350IVIF		onfig. Used:	1	
		Mehran Birg	ani			fig Change:		
		FT Chambe					120V/60Hz	
. .								
	64 4 T Y			Mode:			Pwr Setting:	18 (q72)
Tx Chain:	4TX			Data Rate:	6.5 Mbps			
5350 MHz Bai	nd Edge	Signal Rao						
	evel	Pol		15.209	Detector	Azimuth	Height	Comments
	βμV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
	52.2	V V	54.0	-1.8	AVG	66	1.8	Note 3: RB 1 MHz; VB: 200 Hz
	63.4 51.5	H	74.0 54.0	-10.6 -2.5	PK AVG	<u> 66 </u> 74	1.8 1.8	RB 1 MHz; VB: 3 MHz Note 3: RB 1 MHz; VB: 200 Hz
	62.8	H	74.0	-2.5	PK	74	1.8	POS; RB 1 MHz; VB: 3 MHz
70.0 (∭ 65.0 9 60.0 ⊌ Wblittnde 55.0 50.0)- ,- ,- ,-				, mananan , Marina ang	~~	\sim	
45.0	5350	5355	5360	5365	5 5370) 537 / (MHz)	75 53	380 5385 5390

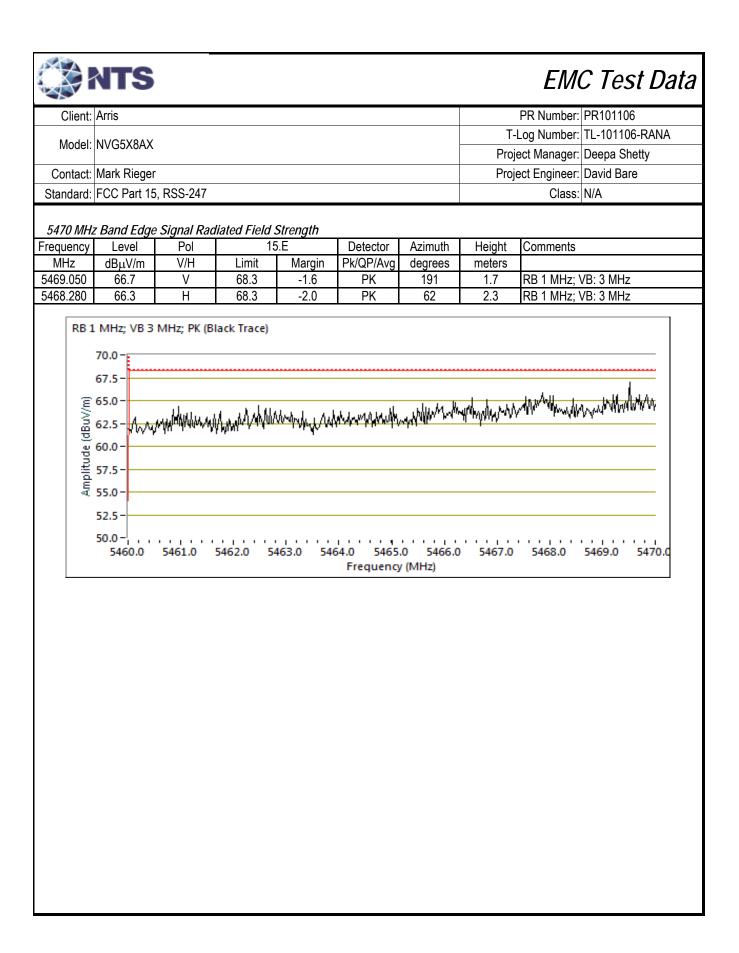
	NTS								C Test Data	
Client:	Arris							PR Number:		
Model	NVG5X8AX						T-I	Log Number:	TL-101106-RANA	
MOUEI.	NVOJNOAN						Proje	ect Manager:	Deepa Shetty	
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
[Te	adiated Band Date of Test: est Engineer: est Location:	07/12/19 Mehran Birg	jani	470-5725Mł	C Cor	onfig. Used: ıfig Change: UT Voltage:				
Channel: Tx Chain:				Mode: Data Rate:	: ac20 : 6.5 Mbps		Pwr Setting:	18 (q72)		
	z Band Edge									
Frequency	Level	Pol		15.209	Detector	Azimuth	Height	Comments		
MHz 5448.780	dBμV/m 51.2	V/H V	Limit 54.0	Margin	Pk/QP/Avg	degrees	meters	Noto 2: DD	1 MHz; VB: 200 Hz	
5448.780 5451.420	51.2 64.0	V	54.0 74.0	-2.8 -10.0	AVG PK	<u>26</u> 26	1.8 1.8		,	
5446.020										
5437.040 62.8 H 74.0 -11.2 PK 79 1.8 RB 1 MHz; VB: 200 Hz										
75.0 - 70.0 - (W) 65.0 - 60.0 - ^^W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W/W										
55.0 50.0 45.0 5420 5425 5430 5435 5440 5445 5450 5455 5460 Frequency (MHz)										

Client: Arris PR Number: PR101106 Model: NVG5X8AX T-Log Number: TL-101106-RAN/ Project Manager: Deepa Shetty Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare andard: FCC Part 15, RSS-247 Class: N/A 470 MHz Band Edge Signal Radiated Field Strength
Model: NVG5X8AX Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare andard: FCC Part 15, RSS-247 Class: N/A 470 MHz Band Edge Signal Radiated Field Strength Class: N/A quency Level Pol 15.E Detector Azimuth Height Comments WHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 69.800 64.2 V 68.3 -4.1 PK 26 1.8 RB 1 MHz; VB: 3 MHz 69.800 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz 65.0 -
Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare andard: FCC Part 15, RSS-247 Class: N/A 470 MHz Band Edge Signal Radiated Field Strength
Andard: FCC Part 15, RSS-247 Class: N/A 470 MHz Band Edge Signal Radiated Field Strength
A70 MHz Band Edge Signal Radiated Field Strength quency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 99.800 64.2 V 68.3 -4.1 PK 26 1.8 RB 1 MHz; VB: 3 MHz 99.800 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; PK (Black Trace) 70.0 -
quency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 98.800 64.2 V 68.3 -4.1 PK 26 1.8 RB 1 MHz; VB: 3 MHz 99.800 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz V 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz VB: 3 MHz RB 1 MHz; VB 3 MHz; PK (Black Trace) 70.0 -
Juency Level Pol 15.E Detector Azimuth Height Comments /Hz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 98.800 64.2 V 68.3 -4.1 PK 26 1.8 RB 1 MHz; VB: 3 MHz 99.800 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz 99.800 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz 70.0 -
9.800 64.2 V 68.3 -4.1 PK 26 1.8 RB 1 MHz; VB: 3 MHz 9.800 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; PK (Black Trace) 70.0 - 67.5 - 65.0 - 62.5 - M 1 MHz; VB 3 MHz; PK (Black Trace) 70.0 - 67.5 - 57.5 - 55.0 - 52.5 -
9.880 62.2 H 68.3 -6.1 PK 79 1.8 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; PK (Black Trace) 70.0 - 67.5 - 65.0 - 65.0 - 65.0 - 65.0 - 65.0 - 65.0 - 65.0 - 65.0 - 62.5 - 55.0 - 55.0 - 52.5 - 70.0 -
RB 1 MHz; VB 3 MHz; PK (Black Trace) 70.0 67.5 65.0 65.0 000 62.5 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 0000 000
50.0 ⁻ ,,5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0 Frequency (MHz)



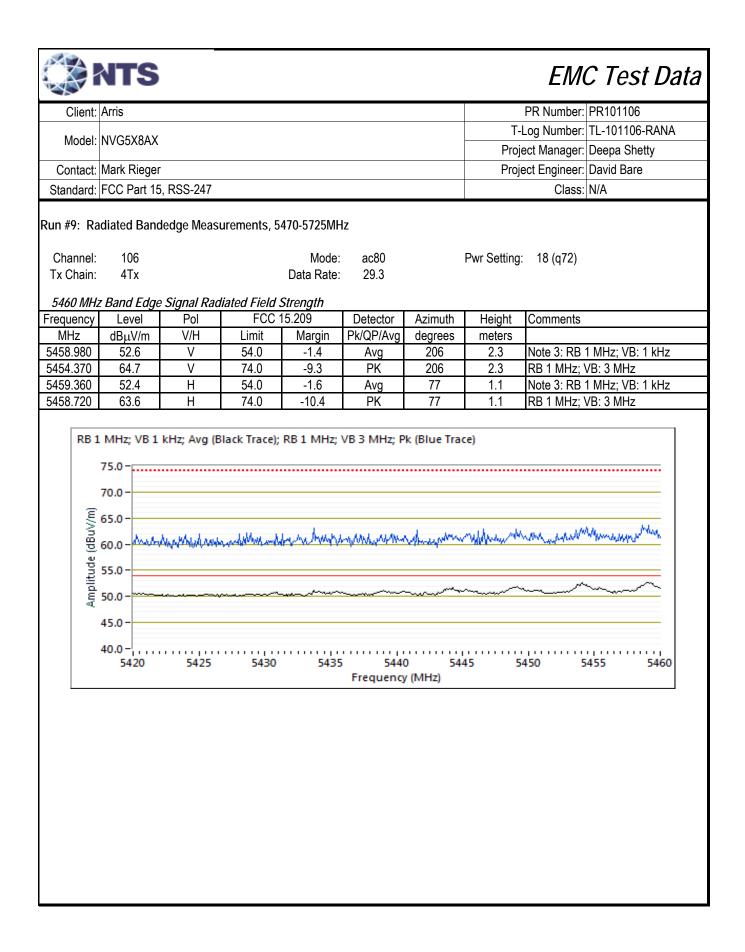
	Arris							PR Number:	PR101106
							T·	-Log Number:	TL-101106-RANA
Model:	NVG5X8AX						Proj	ject Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15,	RSS-247						Class:	N/A
l Te	adiated Bando Date of Test: (est Engineer: F est Location: F)7/15/19 Rafael Varel	as	250-5350Mł	Co Con	onfig. Used: fig Change: UT Voltage:	None	<u>.</u>	
Channel: Tx Chain:				Mode Data Rate			Pwr Setting	: 16.75 (q67)	
	z Band Edge						1	1-	
requency		Pol		15.209	Detector	Azimuth	Height	Comments	
MHz 5350.800	dBµV/m 53.8	V/H V	Limit 54.0	Margin -0.2	Pk/QP/Avg	degrees 23	meters 1.9	Note 2. DD	1 MHz; VB: 200 Hz
5350.600 5350.660	65.9	V	<u> </u>	-0.2	Avg PK	23	1.9	RB 1 MHz; \	
5350.140	52.7	H	54.0	-0.1	Avg	73	1.3		1 MHz; VB: 200 Hz
354.290	66.7	H	74.0	-7.3	PK	73	1.3	RB 1 MHz; \	
RB 1	1 MHz; VB 20 75.0 -	0 Hz; Avg (Black Trace); RB 1 MH2	z; VB 3 MHz;	Pk (Blue Tra	ace)		
	75.0 -				2; VB 3 MHz; ^₩.4₩.4/.₩μ/~μ			warden bere get	horad for the second
	75.0 -								horndy my mor





Client:	Arris							PR Number: PR101106
							T-	Log Number: TL-101106-RANA
Model:	NVG5X8AX							ect Manager: Deepa Shetty
Contact:	Mark Rieger						-	ect Engineer: David Bare
	FCC Part 15							Class: N/A
Channel: Tx Chain:		Signal Dad	istad Field	Mode: Data Rate:			Pwr Setting:	: 18 (q72)
requency	z <i>Band Edge</i> Level	Pol		5 <i>irengin</i> 5.E	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	Commenta
728.490	64.2	V	68.3	-4.1	PK	190	2.0	RB 1 MHz; VB: 3 MHz
758.430	63.3	Н	68.3	-5.0	PK	254	1.1	RB 1 MHz; VB: 3 MHz
olitude (dBuV/m)	65.0 - 62.5	arundur	Martin Martin and	hyphonethyraph	ntry Han Happy	nd Mul	uhanna)	mudulmaterlanapalle
Amplitude (dBuV/m)	60.0 - 57.5 - 55.0 - 52.5 -							ΥΥΥΥΥΥΥΥΥΥΥΥΥ ΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥ
Amplitude (dBuV/m)	52.5 - 50.0 -					5 575		

In #8: Radiated Bandedge Measurements, 5250-5350MHz Date of Test: 07/15/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 58 Mode: ac80 Pwr Setting: 16.5 (q66) Tx Chain: 4Tx Data Rate: 29.3 5350 MHz Band Edge Signal Radiated Field Strength requency Level Pol FCC 15.209 Detector Azimuth MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 350.780 53.3 V 54.0 -0.7 Avg 17 1.9 Note 3: RB 1 MHz; VB: 1 358.060 65.9 V 74.0 -8.1 PK 17 1.9 RB 1 MHz; VB: 3 MHz 353.570 63.5 H 74.0 -10.5 PK 79 2.2 RB 1 MHz; VB: 3 MHz 75.0	Client:	Arris							PR Number:	PR101106
Model: NVG5X8AX Project Manager: Deepa Shett Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A un #8: Radiated Bandedge Measurements, 5250-5350MHz Class: N/A un #8: Radiated Bandedge Measurements, 5250-5350MHz Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 58 Mode: ac80 Pwr Setting: 16.5 (q66) Tx Chain: 4Tx Data Rate: 29.3 5350 MHz MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 3350.780 53.3 V 54.0 -0.7 Avg 17 1.9 Note 3: RB 1 MHz; VB: 1 3353.450 51.2 H 54.0 -2.8 Avg 79 2.2 Note 3: RB 1 MHz; VB: 3 MHz; 3535.700 63.5 H 74.0 -10.5 PK 79 2.2								T-	Log Number:	TL-101106-RANA
Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A un #8: Radiated Bandedge Measurements, 5250-5350MHz Config. Used: 1 Class: N/A un #8: Radiated Bandedge Measurements, 5250-5350MHz Config. Used: 1 Config. Used: 1 Config. Used: 1 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None EUT Voltage: 120V/60Hz Channel: 58 Mode: ac80 Pwr Setting: 16.5 (q66) Tx Chain: 4Tx Data Rate: 29.3 State Rate: 29.3 5350 MHz Band Edge Signal Radiated Field Strength FCC 15.209 Detector Azimuth Height Comments MHz dB _µ V/m V/H Limit Margin Pk/QP/Avg degrees meters 5350.780 53.3 V 54.0 -0.7 Avg 17 1.9 Note 3: RB 1 MHz; VB: 1 5350.780 53.3 V 54.0 -0.7 Avg 17 1.9 Rb 1 MHz; VB: 3 MHz 5353.570 63.5 H 74.0 -8.1 PK <t< td=""><td>Model:</td><td>NVG5X8AX</td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td></t<>	Model:	NVG5X8AX							-	
Standard: FCC Part 15, RSS-247 Class: N/A un #8: Radiated Bandedge Measurements, 5250-5350MHz Date of Test: 07/15/19 Config. Used: 1 1 Test Engineer: Rafael Varelas Config Change: None 1 Test Engineer: Rafael Varelas Config Change: None 1 Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz 1 Channel: 58 Mode: ac80 Pwr Setting: 16.5 (q66) Tx Chain: 4Tx Data Rate: 29.3 5350 MHz Band Edge Signal Radiated Field Strength requency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dB _µ U/m V/H Limit Margin Pk/QP/Avg degrees meters 3350.780 53.3 V 54.0 -0.7 Avg 17 1.9 Note 3: RB 1 MHz; VB : 1 3353.450 51.2 H 54.0 -2.8 Avg 79 2.2 Note 3: RB 1 MHz; VB : 3 MHz 3353.570 63.5 H	Contact:	Mark Rieger						-	-	•
un #8: Radiated Bandedge Measurements, 5250-5350MHz Date of Test: 07/15/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 58 Mode: ac80 Pwr Setting: 16.5 (q66) Tx Chain: 4Tx Data Rate: 29.3 5350 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth MHz dBµtV/m V/H Limit Margin PK/QP/Avg degrees meters 5350.780 53.3 V 54.0 -0.7 Avg 17 1.9 Note 3: RB 1 MHz; VB: 1 5358.060 65.9 V 74.0 -8.1 PK 17 1.9 RB 1 MHz; VB: 3 MHz 5353.570 63.5 H 74.0 -10.5 PK 79 2.2 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0			RSS-247					,	-	
3353.570 63.5 H 74.0 -10.5 PK 79 2.2 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 - -	[Te Te Channel: Tx Chain: <u>5350 MHz</u> MHz 3350.780	Date of Test: (ast Engineer: I est Location: I 58 4Tx z Band Edge Level dBµV/m 53.3	07/15/19 Rafael Varela FT Chamber <u>Signal Rada</u> Pol V/H V	as #5 <u>iated Field</u> FCC Limit 54.0	Mode Data Rate <u>Strength</u> 15.209 Margin -0.7	C Cor E : ac80 : 29.3 Detector Pk/QP/Avg Avg	fig Change: UT Voltage: Azimuth degrees 17	None 120V/60Hz Pwr Setting Height meters 1.9	: 16.5 (q66) Comments Note 3: RB	
RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace)	5353.450	51.2	Н	54.0	-2.8	Avg	79	2.2	Note 3: RB	1 MHz; VB: 1 kHz
75.0 -	353.570	63.5	Н	74.0	-10.5	PK	79	2.2	RB 1 MHz; \	/B: 3 MHz
Image: 65.0 - Image: 65.0 - Image: 65.0 - Image: 66.0 - Image: 6	Amplitude (dBuV/m)		w	hunderengt for such	~~~~~		Mwhydw ~~~~	~~~	hthmus 	
Fraguanay (MHz)		40.0	5355	5360	536	5 5370	0 537	75 5	380 5	385 5390

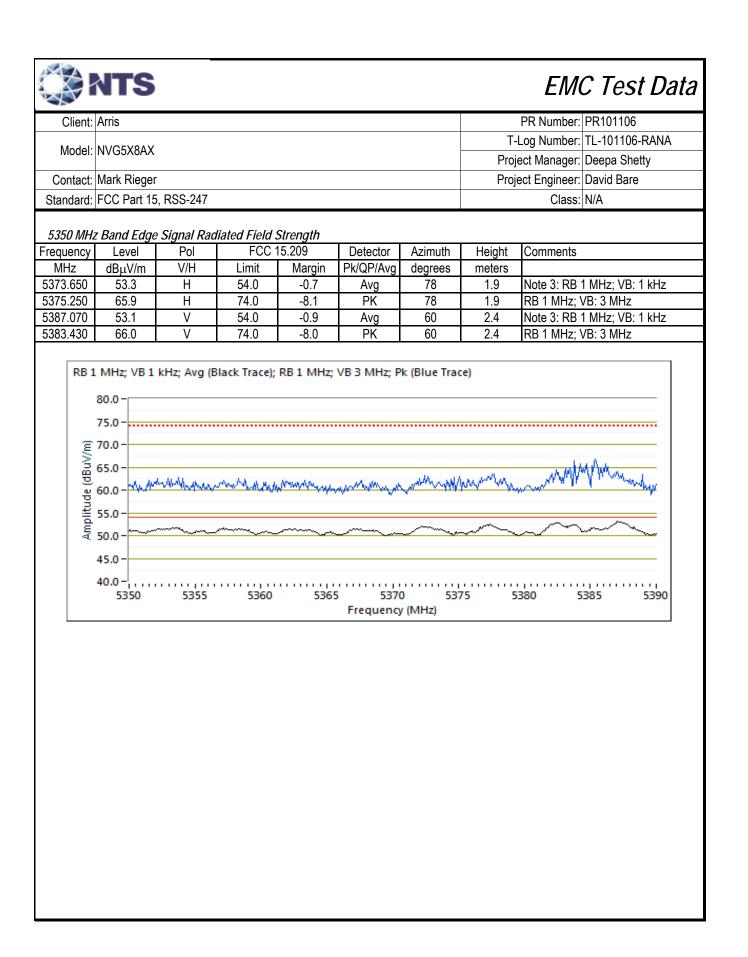


	NTS							EM	C Test Data
Client:	Arris						·	PR Number:	PR101106
Madal	NVG5X8AX						T-	Log Number:	TL-101106-RANA
WOUEI.	NVGJAJAAA					ļ	Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247					 I	Class:	
Frequency MHz	dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters								
	<i>z Band Edge</i> Level	ě –			Detector	Azimuth	Height	Comments	
5464.610 5469.140	64.1	V H	68.3 68.3	-1.8 -4.2	PK PK	206 77	2.3 1.1	RB 1 MHZ; \ RB 1 MHZ; \	
	1 MHz; VB 3 70.0 - 67.5 - 65.0 - 62.5 - 60.0 - 57.5 - 55.0 -		ack Trace)	ut when the		W.~+~~4.44	ututut	YWWW-M	MMM MMMMMMMM

50.0 – 5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0 Frequency (MHz)

52.5-

Client: Arris PR Number: PR101106 Model: NVG5X8AX TL-101106-RANA Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Run #10: Radiated Bandedge Measurements, 5150-5350MHz Config. Used: 1 Test Engineer: Test Engineer: Rafeel Varelas Config. Used: 1 Test Engineer: Rafeel Varelas Config. Change: None Test UV/60Hz The Stanger <	N V	TS							EM	C Test Dat
Model: IN/G5X8AX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare David Bare Standard: FCC Part 15, RSS-247 Class: N/A Run #10: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 07/15/19 Config: Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 50 Mode: ac160 Pwr Setting: 17.25 (q69) Tx Chain: 4Tx Data Rate: 58.5 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµ//m V/H Limit Margin Pk/QP/Avg degrees meters 5142.160 53.8 H 54.0 -0.2 Avg 233 1.1 Note 3: RB 1 MHz; VB 3 MHz 5144.260 66.4 V 74.0 -7.6 PK 205 1.6 Note 3: RB 1 MHz; VB 3 MHz 5136.450 66.4	Client: Arri	is							PR Number:	PR101106
Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A tun #10: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 07/15/19 Config. Used: 1 Test Engineer: Rafeel Varelas Config Change: None Test Engineer: Rafeel Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 50 Mode: ac160 Pwr Setting: 17.25 (q69) Tx Chain: 4Tx Data Rate: 58.5 5 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5142.180 53.8 H 54.0 -0.2 Avg 233 1.1 Rb 1 MHz; VB 1 MHz; VB 1 MHz Sign 4.0 0.5 <	Madal: NV/							T-	Log Number:	TL-101106-RANA
Standard: FCC Part 15, RSS-247 Class: N/A Run #10: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 07/15/19 Config. Used: 1 Config. Used: 1 Test Engineer: Rafael Varelas Test Location: FT Chamber #5 Config. Change: None EUT Voltage: 120V/60Hz Channel: 50 Mode: ac160 Pwr Setting: 17.25 (q69) Tx Chain: 4Tx Data Rate: 58.5 5150 MHz Band Edge Signal Radiated Field Strength		GOVOAN						Proje	ect Manager:	Deepa Shetty
Run #10: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 07/15/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 50 Mode: ac160 Pwr Setting: 17.25 (q69) Tx Chain: 4Tx Data Rate: 58.5 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBjiV/m VH Limit Margin Pk/QP/Avg degrees meters 5142.180 53.8 H 54.0 -0.2 Avg 233 1.1 Note 3: RB 1 MHz; VB: 1 kHz 5142.180 53.8 H 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 65.0<	Contact: Ma	rk Rieger						Proje	ect Engineer:	David Bare
Date of Test: 07/15/19 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: None Test Location: FT Chamber #5 EUT Voltage: 120V/60Hz Channel: 50 Mode: ac160 Pwr Setting: 17.25 (q69) Tx Chain: 4Tx Data Rate: 58.5 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol Frequency Level Pol Frequency Level Pol 5142.180 53.8 H 5142.180 53.8 H 5142.180 53.5 V 5144.260 66.4 H 74.0 -7.6 PK 205 1.6 Note 3: RB 1 MHz; VB: 3 MHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 9 50.0 -0.5 Avg 70.0 -7.6 PK 205 1.6 70.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 9 50.0 -7.6 PK 205 <td< td=""><td>Standard: FC</td><td>C Part 15</td><td>RSS-247</td><td></td><td></td><td></td><td></td><td></td><td>Class:</td><td>N/A</td></td<>	Standard: FC	C Part 15	RSS-247						Class:	N/A
Tx Chain: 4Tx Data Rate: 58.5 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5142.180 53.8 H 54.0 -0.2 Avg 233 1.1 Note 3: RB 1 MHz; VB: 1 kHz 5142.200 66.4 H 74.0 -7.6 PK 233 1.1 Rb 1 MHz; VB: 3 MHz 5141.500 53.5 V 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz Fc quency 65.0	Date Test E	e of Test: Engineer:	07/15/19 Rafael Vare	las	5150-5350M	Con Con	ifig Change:	None		
Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5142.180 53.8 H 54.0 -0.2 Avg 233 1.1 Note 3: RB 1 MHz; VB: 1 kHz 5142.180 53.8 H 74.0 -7.6 PK 233 1.1 RB 1 MHz; VB: 3 MHz 5141.500 53.5 V 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 65.0 -								Pwr Setting:	17.25 (q69)	
MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5142.180 53.8 H 54.0 -0.2 Avg 233 1.1 Note 3: RB 1 MHz; VB: 1 kHz 5144.260 66.4 H 74.0 -7.6 PK 233 1.1 RB 1 MHz; VB: 3 MHz 5141.500 53.5 V 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 65.0 - </td <td></td>										
5142.180 53.8 H 54.0 -0.2 Avg 233 1.1 Note 3: RB 1 MHz; VB: 1 kHz 5144.260 66.4 H 74.0 -7.6 PK 233 1.1 RB 1 MHz; VB: 3 MHz 5141.500 53.5 V 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz 65.0									Comments	
5144.260 66.4 H 74.0 -7.6 PK 233 1.1 RB 1 MHz; VB: 3 MHz 5141.500 53.5 V 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; VK (Blue Trace) 75.0								1	Nata 2: DD :	1 MIL \/D: 4 L.L
5141.500 53.5 V 54.0 -0.5 Avg 205 1.6 Note 3: RB 1 MHz; VB: 1 kHz 5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; VB 3 MHz; Pk (Blue Trace) 75.0										
5136.450 66.4 V 74.0 -7.6 PK 205 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0 70.0 <td></td>										
RB 1 MHz; VB 1 kHz; Avg (Black Trace); RB 1 MHz; VB 3 MHz; Pk (Blue Trace) 75.0- 70.0- 65.0- 60.0- 55.0- 55.0- 45.0-										
5110 5115 5120 5125 5130 5135 5140 5145 5150 Frequency (MHz)	70.0 (m 65.0 (m 60.0 55.0 50.0 50.0	0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	۲۰۰۰۰ 5115	5120	۳ // ۳۰۱۱/۲۰۰۰ ۲۰۰۰ ۲۱2!	м		4/444 35 5		

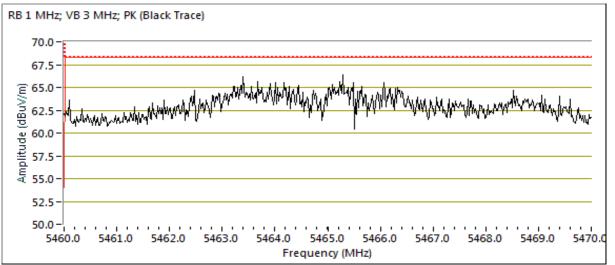


Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-RANA	
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shetty	
Contact:	Mark Rieger						-	ect Engineer:		
	FCC Part 15	. RSS-247						Class:		
ן דנ Tt Channel: Tx Chain:	4Tx <u>z Band Edge</u>	07/15/19 Rafael Varel FT Chambe	as #5 liated Field	Mode Data Rate	C Cor E : ac160	onfig. Used: fig Change: UT Voltage: <u>Azimuth</u> degrees	None			
5458.980	53.5	V/П V	54.0	-0.5	Avg	201	2.1	Note 3: BB	1 MHz; VB: 1 kHz	
5458.280	66.6	V	74.0	-7.4	PK	201	2.1	RB 1 MHz; \		
5460.000										
5454.950										
Amplitude (dBuV/m)	70.0 - 65.0 - 60.0	~~~~		utuu Muluu 	5 5440 Frequency	, MM	~~~		455 5460	
	5420									

	NTS							EM	C Test Data
Client:	Arris							PR Number:	PR101106
Model:	NVG5X8AX							•	TL-101106-RANA Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15,	, RSS-247						Class:	N/A
5470 MH.	z Band Edge	Signal Rac	liated Field .	Strength					
Frequency	Level	Pol	15	5.E	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5463.170	66.5	V	68.3	-1.8	PK	201	2.1	RB 1 MHz; \	VB: 3 MHz
5468.120	65.2	Н	68.3	-3.1	PK	60	1.5	RB 1 MHz; V	VB: 3 MHz
	1 MHz; VB 3 1	MHz; PK (B	lack Trace)						

5

	5	5						
Frequency	Level	Pol	15	δ.Ε	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
5463.170	66.5	V	68.3	-1.8	PK	201	2.1	RB 1 MHz; VB: 3 MHz
5468.120	65.2	Н	68.3	-3.1	PK	60	1.5	RB 1 MHz; VB: 3 MHz



NTS			EMO	C Test Data
Client: Arris			PR Number:	
Model: NVG5X8AX			T-Log Number: Project Manager:	TL-101106-RANA Deepa Shetty
Contact: Mark Rieger			Project Engineer:	
Standard: FCC Part 15, RSS-247			Class:	N/A
RSS-247 and F	CC 15.407 (UN	II) Radiated S	Spurious Emissior	IS
Test Specific Details Objective: The objective of this specification listed al		form final qualificat	ion testing of the EUT with r	respect to the
General Test Configuration The EUT and all local support equipment we For radiated emissions testing the measure				e noted.
Ambient Conditions:	Temperature: Rel. Humidity:	24-26 °C 41-45 %		
Modifications Made During Testing No modifications were made to the EUT due	ring testing			
Deviations From The Standard No deviations were made from the requirem	nents of the standard.			
Date of Test: 9/23-25/2019		Config. Use		
Test Engineer: M. Birgani Test Location: Chamber 7		Config Chang EUT Voltag	e: - e: 120V/ 60Hz	

Client:	Arris					PR Number:	PR101106
Cilent.							TL-101106-RANA
Model:	NVG5X8AX					Project Manager:	
Contact	Mark Rieger	•				Project Engineer:	•
Standard:	FCC Part 15), RSS-247				Class:	N/A
Summary	of Result	S					
Run #	Mode	Channel	NBF	BF Setting	Test Performed	Limit	Result / Margin
Run #	Mode	Frequency	Setting	ыг зешид	restrenomed		Result / Margin
20MHz Ba	andwith Mode	e					
6	ac20	64 5320MHz	24 / 18	24 / 18	Restricted Band Edge at 5350 MHz	15.209	49.5 dBµV/m @ 5369. MHz (-4.5 dB)
	ac20	100	24 / 18	24 / 9	Restricted Band Edge	15.209	53.7 dBµV/m @ 5403.
	0.020	5500MHz	,		at 5460 MHz		MHz (-0.3 dB)
7	ac20	100 5500MHz	24 / 18	24 / 9	Band Edge 5460 - 5470 MHz	15E	67.9 dBµV/m @ 5465. MHz (-0.4 dB)
		5500M⊓Z 140			3400 - 3470 MITZ		62.8 dBµV/m @ 5763.
	ac20	5700MHz	24 / 18	24 / 18	Band Edge 5725MHz	15E	MHz (-5.5 dB)
40MHz Ba	andwith Mode						
10	aa40	62	24 / 16.75	24 / 15.5	Restricted Band Edge	15.209	53.5 dBµV/m @ 5350.
10	ac40	5310MHz	24/10.75	24/15.5	at 5350 MHz	15.209	MHz (-0.5 dB)
	ac40	102 5510MHz	24 / 18	24 / 17	Restricted Band Edge at 5460 MHz	15.209	50.1 dBµV/m @ 5459. MHz (-3.9 dB)
11	ac40	102 5510MHz	24 / 18	24 / 17	Band Edge 5460 - 5470 MHz	15E	67.6 dBµV/m @ 5468. MHz (-0.7 dB)
	ac40	134	24 / 18	24 / 18	Band Edge 5725MHz	15E	63.1 dBµV/m @ 5764.
80MH7 B2	andwith Mode	5670MHz					MHz (-5.2 dB)
		58			Restricted Band Edge		49.6 dBµV/m @ 5352.
14	ac80	5290MHz	26 / 16.5	26 / 16.5	at 5350 MHz	15.209	MHz (-4.4 dB)
	aa ⁹⁰	106	06/10	06 / 17	Restricted Band Edge	15 200	53.2 dBµV/m @ 5459
15	ac80	5530MHz	26 / 18	26 / 17	at 5460 MHz	15.209	MHz (-0.8 dB)
15	ac80	106	26 / 18	26 / 17	Band Edge 5460 - 5470	15E	67.4 dBµV/m @ 5461.
4000411		5530MHz	207 10	20711	MHz	102	MHz (-0.9 dB)
160MHz E	Bandwith Mo				Destricted Dand Edge		E2 2 dDu\//m @ 5440
	ac160	50 5250MH-7	26 / 18	26 / 17	Restricted Band Edge at 5150 MHz	15.209	53.2 dBµV/m @ 5146 MHz (-0.8 dB)
17		5250MHz 50			Restricted Band Edge		53.6 dBµV/m @ 5355
	ac160	5250MHz	26 / 18	26 / 17	at 5350 MHz	15.209	MHz (-0.4 dB)
		114			Restricted Band Edge	45.000	49.1 dBµV/m @ 5437
10	ac160	5570MHz	26 / 18	26 / 15	at 5460 MHz	15.209	MHz (-4.9 dB)
18	ac160	114 5570MHz	26 / 18	26 / 15	Band Edge 5460 - 5470 MHz	15E	67.9 dBµV/m @ 5463 MHz (-0.4 dB)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5X8AX	T-Log Number:	TL-101106-RANA
wouer.		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)

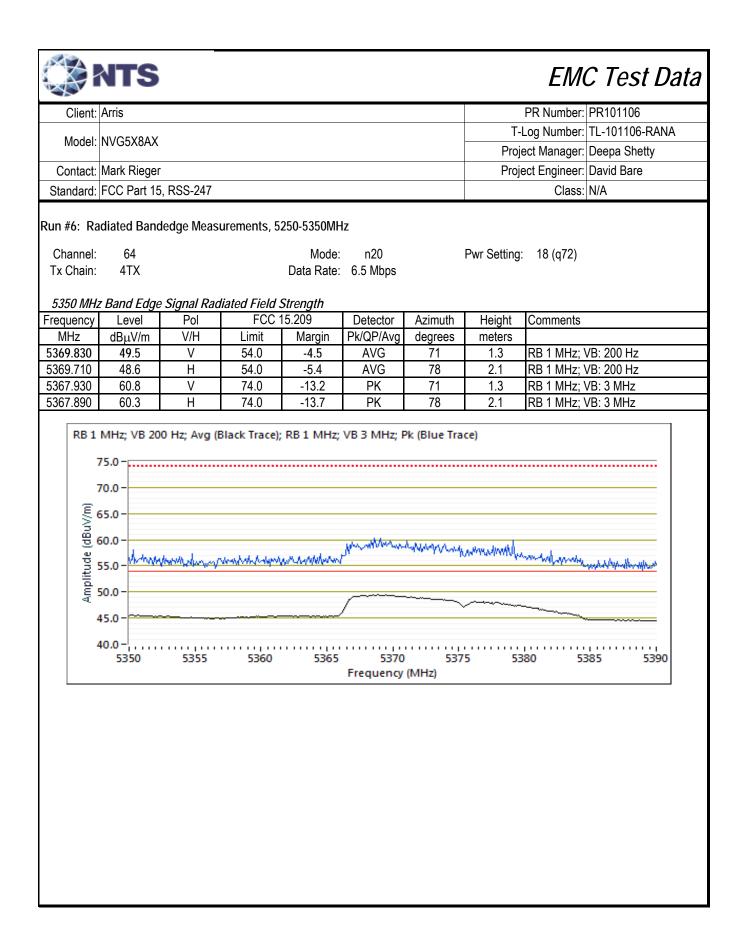
Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	Packet
ac20	6.5	0.98	Yes	5.271	0.1	0.2	190	4324
ac40	13.5	0.97	Yes	5.24	0.1	0.2	191	8811
ac80	29.3	0.96	Yes	1.432	0.2	0.4	698	5159
ac160	58.5	0.96	Yes	1.439	0.2	0.4	695	10443

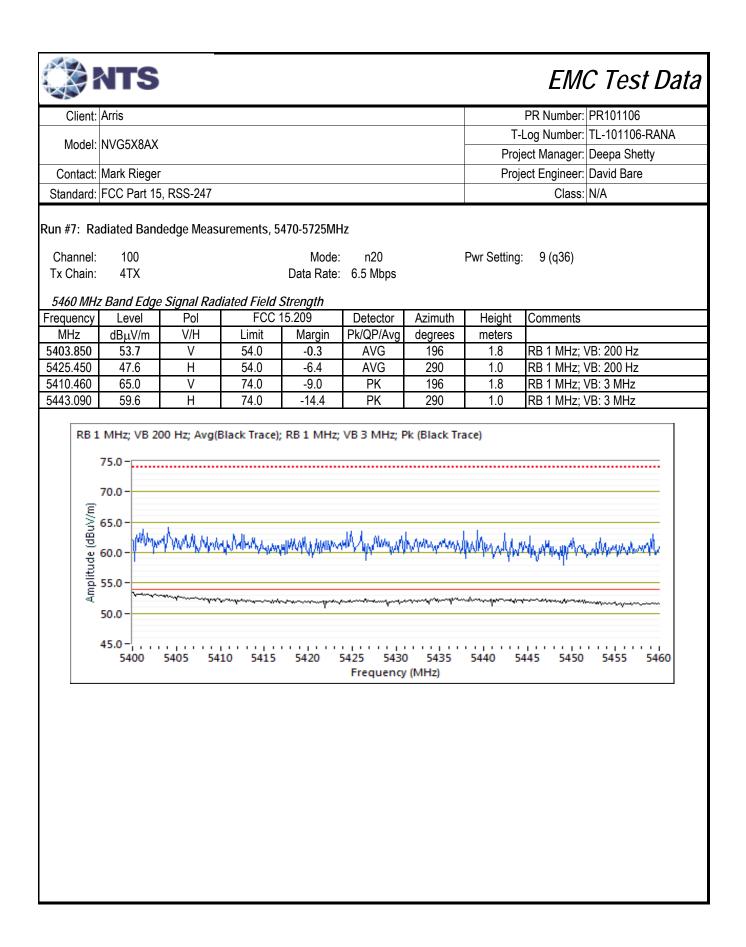
Sample Notes

Sample S/N: M11917QW000T

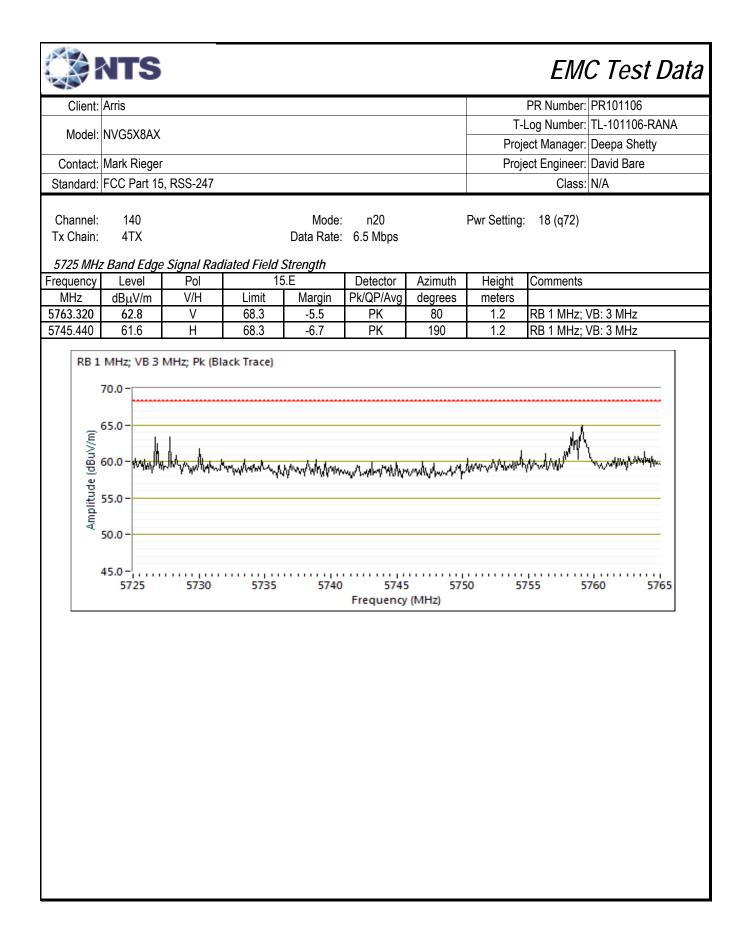
Measurement Specific Notes:

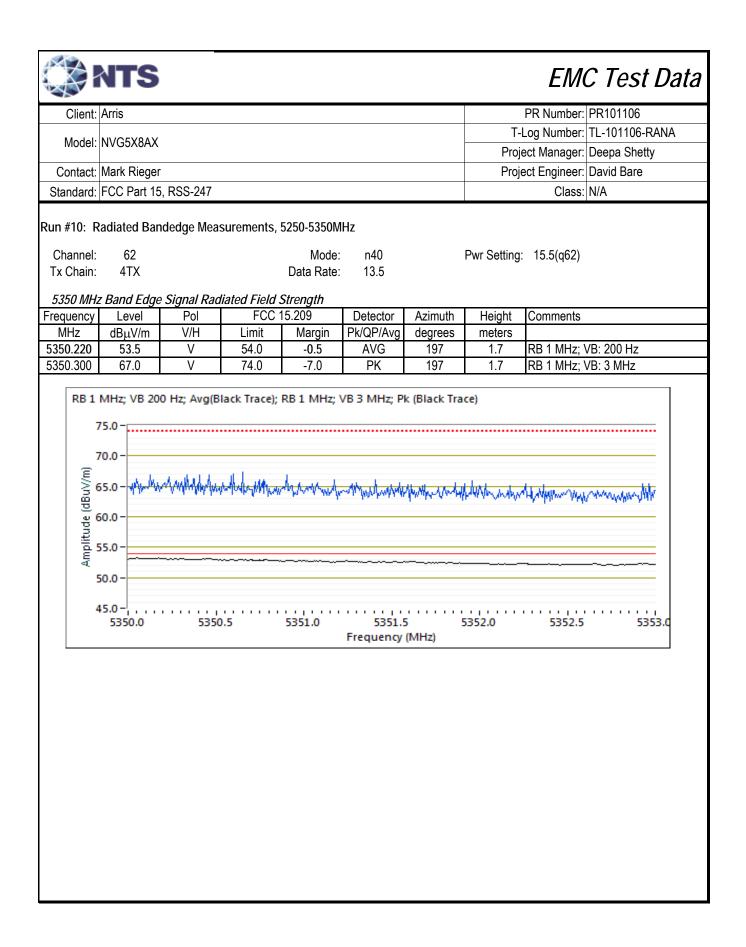
Note 1: required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). Per KDB 789033 2) c) (i), compliance can be demonstrated by meeting the average and peak limits of 15.209, as an alternative. Note 2: Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, au sweep, trace average 100 traces (method AD of KDB 789033) Note 3: Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz, peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033)		For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method
Note 2: Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, au sweep, trace average 100 traces (method AD of KDB 789033) Note 3: Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033) Note 4: Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>3MHz, RMS, Power averaging, au sweep, trace average 100*1/DC traces, measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, au 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 1:	
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, peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033) Note 4: Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto sweep, trace average 100*1/DC traces, measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)		demonstrated by meeting the average and peak limits of 15.209, as an alternative.
Note 3: Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz, peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033) Note 4: Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>3000000000000000000000000000000000000	Noto 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
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, au sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)	NOLE Z.	
Note 4: Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, au sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)	Noto 2:	Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz,
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.	peak detector, linear averaging, auto sweep, max hold 50*1/DC traces (method VB of KDB 789033)
Note 5: Sweep, trace average 100°1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)	Note 1:	Emission has a duty cycle < 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
Note 5.	NOLE 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Inclust.	Noto 5:	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
	NOLE 5.	measurements.

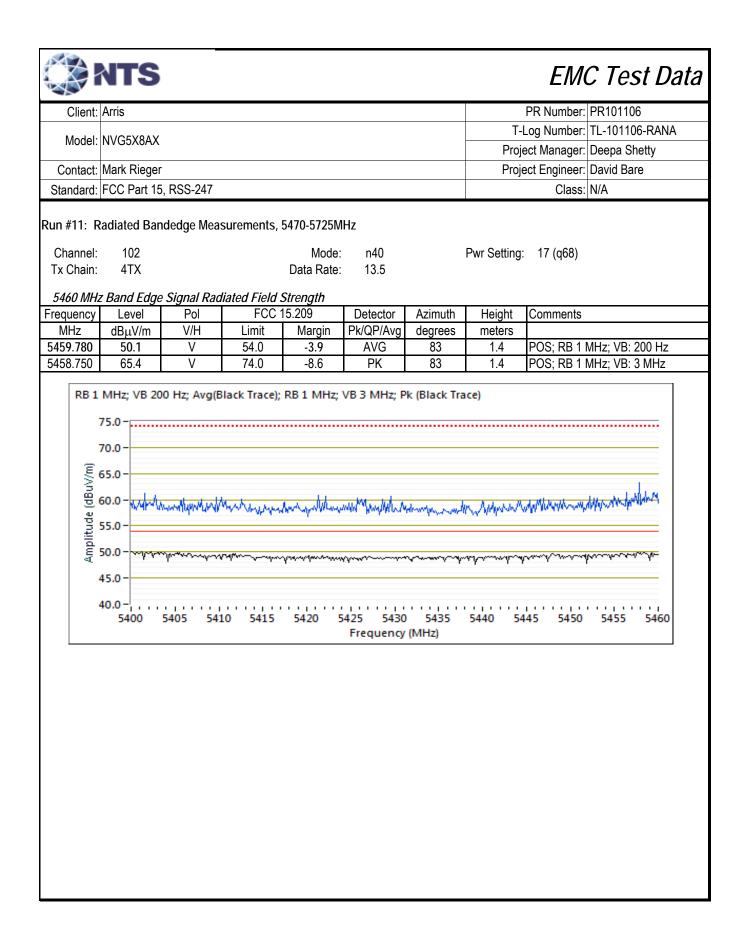


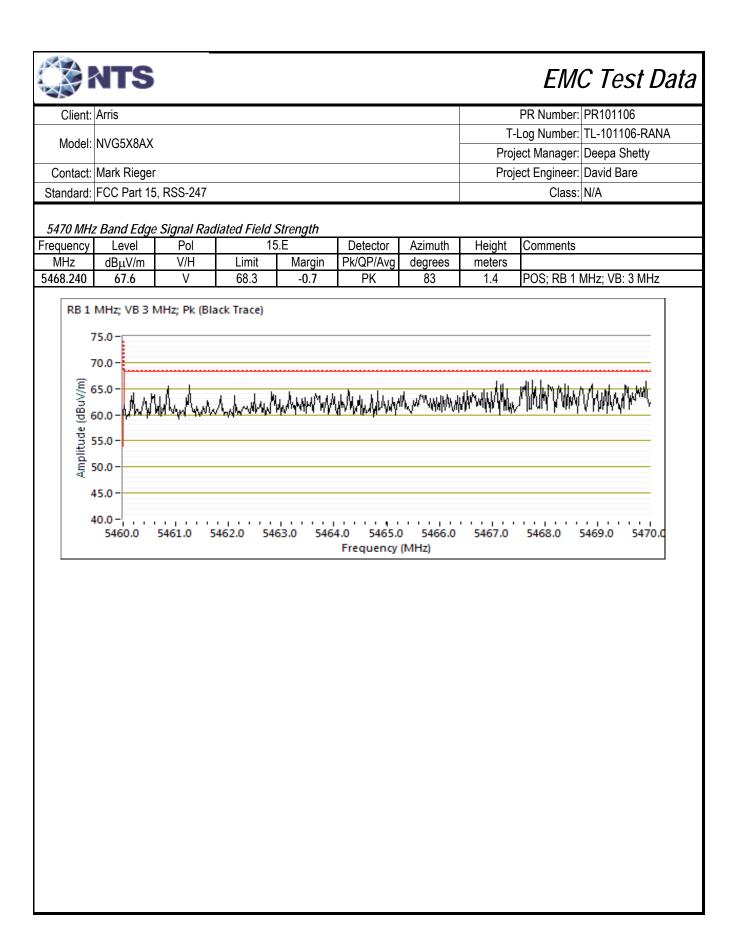


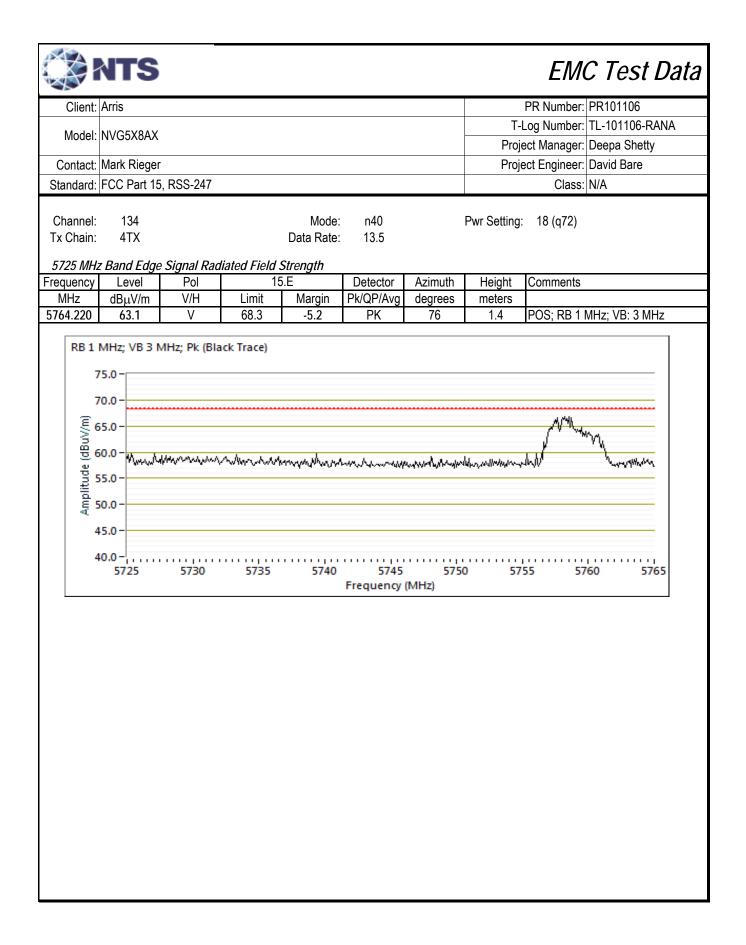
Client:	Arris							PR Number:	PR101106
Madal	NVG5X8AX						Ţ.	Log Number:	TL-101106-RANA
woder.	NVGOXOAX						Proj	ect Manager:	Deepa Shetty
	Mark Rieger						Proj	ect Engineer:	
andard:	FCC Part 15	, RSS-247						Class:	N/A
オフロ M山 ・	r Band Edge	Signal Dag	liatod Fiold	Strongth					
quency	Level	Pol		5.E	Detector	Azimuth	Height	Comments	
ИНz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
65.050	67.9	V	68.3	-0.4	PK	196	1.8	RB 1 MHz; \	
68.420	60.0	Н	68.3	-8.3	PK	290	1.0	RB 1 MHz; V	VB: 3 MHz
7	0.0 - 5.0 - 0.0 - 5.0 -		ack Trace) Инцифици	upuh hadaad	whole	hudqurana.wa	ndfrank w	white a share the	walt
Amplitude (dBuV/m) 0 0 2 2	15.0 - 10.0 - 15.0 -			apay and any	wybyładyw Milayn od	hudana wa	hoffingent sie	white the standing of the stan	oyodyddiwytyd
Amplitude (dBu//m) 9 0 0 L	15.0 - 10.0 - 15.0 - 10.0 - 15.0 -	licanon (hayb	unultansaya						
Amplitude (dBu//m) 9 0 0 L	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			хүхли <mark>ин</mark> жици 5469.0 5470.0
Amplitude (dBu//m)	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya			5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m) 9 9 2 2	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			
Amplitude (dBu//m)	15.0 - 10.0 - 15.0 - 15.0 - 15.0 -	lucion de la companya	unultansaya		4.0 5465.0	5466.0			

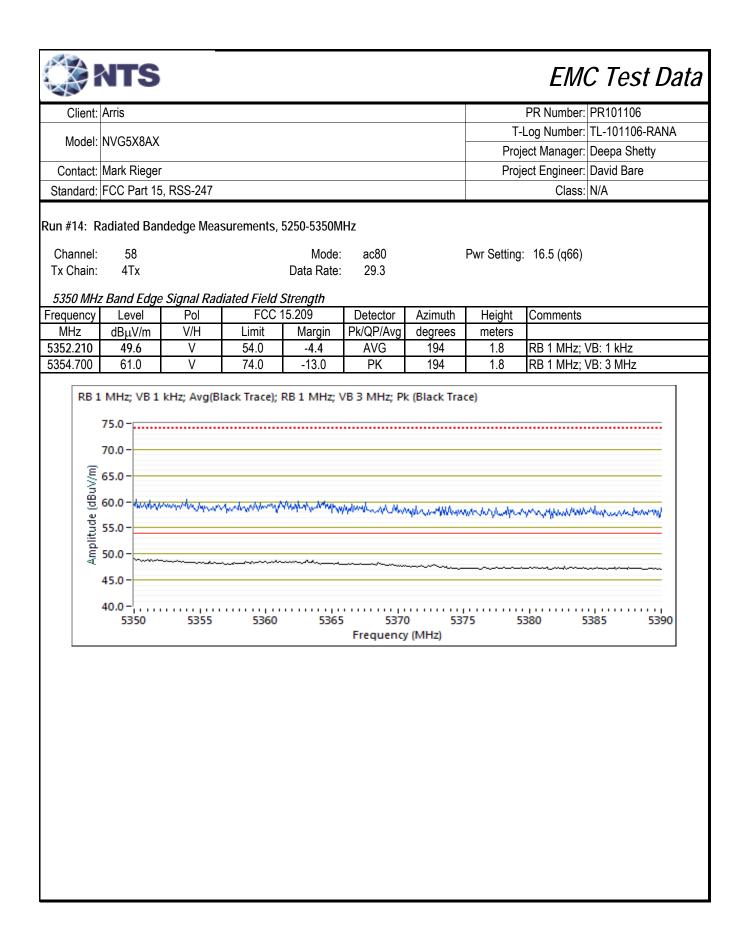


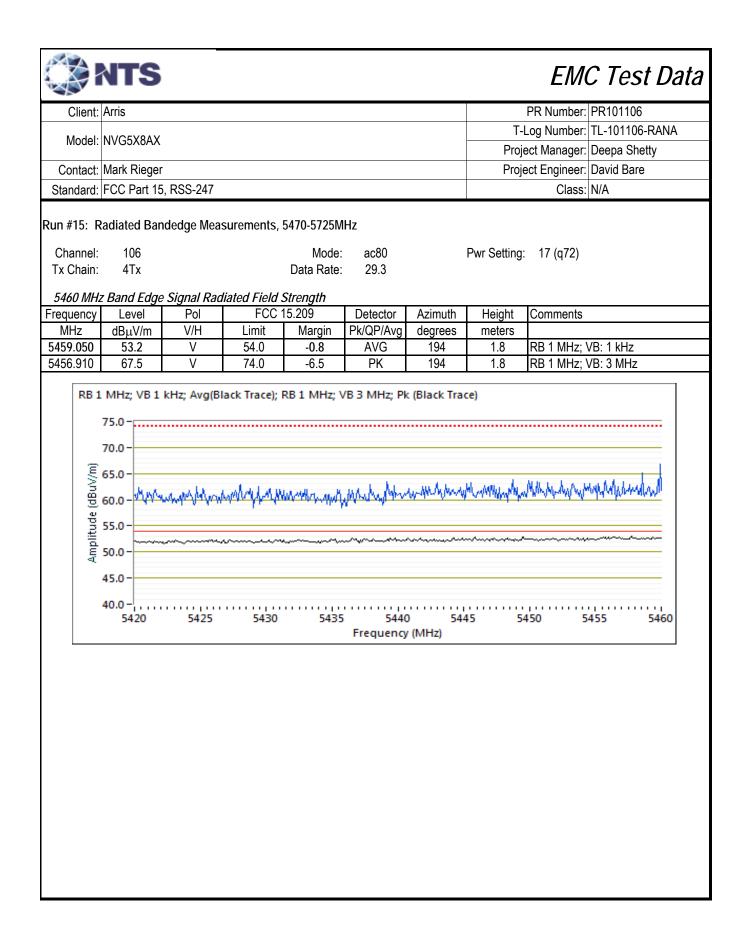


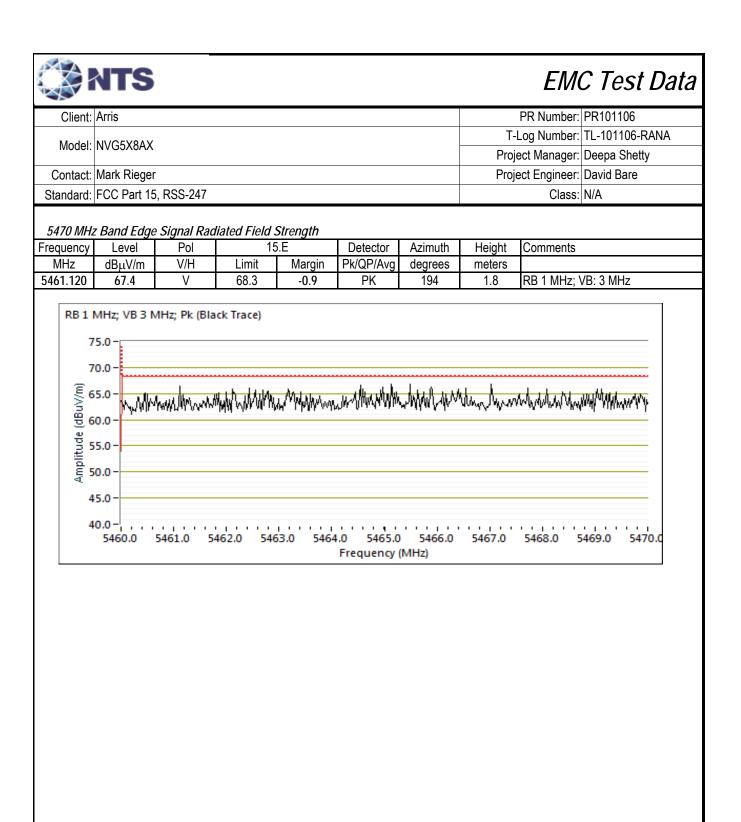




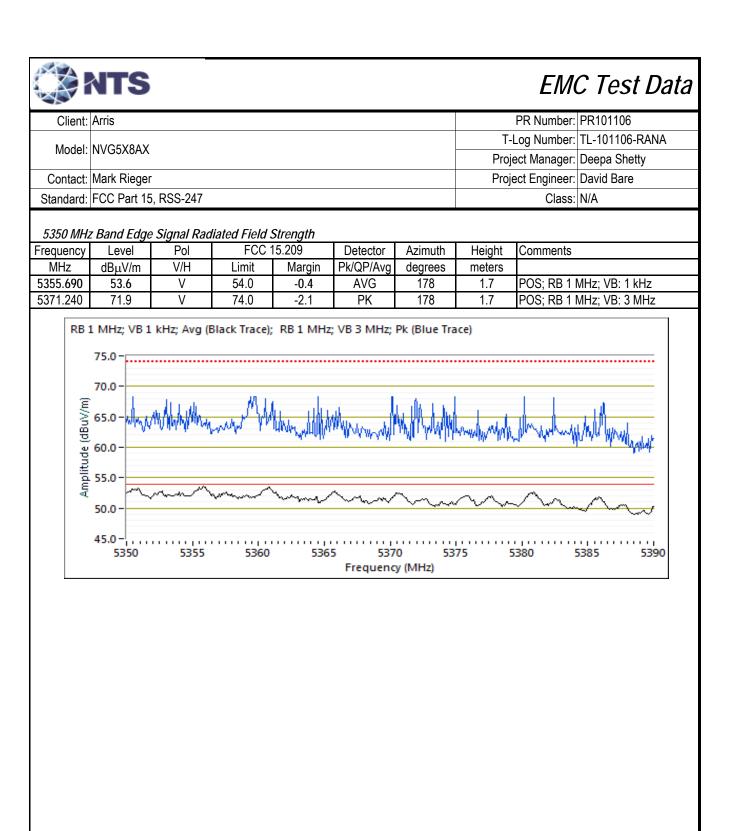




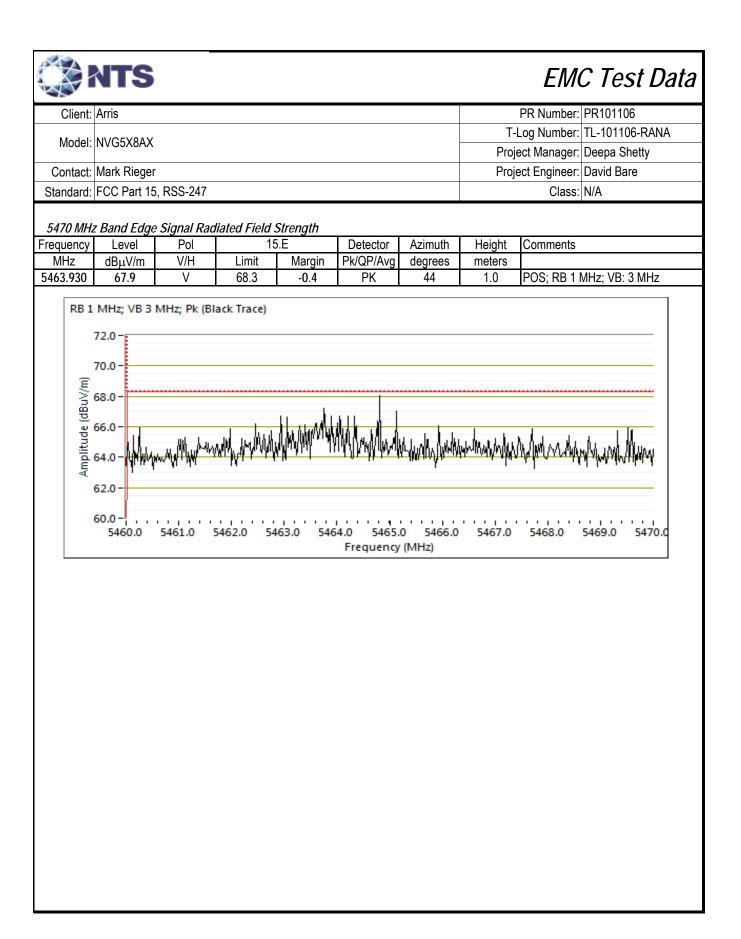




Client:	Arris							PR Number:	PR101106
Model.	NVG5X8AX							0	TL-101106-RANA
									Deepa Shetty
	Mark Rieger	D00 047					Proje	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
un #17: R	adiated Band	dedge Meas	surements,	5150-5350M	IHz				
	Date of Test: 1					onfig. Used:			
	st Engineer: I est Location: (fig Change: UT Voltage:	- 120V/ 60Hz		
Channel: Tx Chain:	50 4Tx			Mode: Data Rate:			Pwr Setting:	17 (q68)	
					00.0				
	z Band Edge	<i>Signal Radi</i> Pol		Strength 15.209	Detector	Azimuth	Height	Comments	
Frequency MHz	Level dBµV/m	V/H	Limit	Margin	Pk/QP/Avg		meters	Comments	
5146.150	53.2	V	54.0	-0.8	AVG	206	1.6		MHz; VB: 1 kHz
5128.040	71.0	V	74.0	-3.0	PK	206	1.6	POS; RB 1	MHz; VB: 3 MHz
7	MHz; VB 1 k 75.0 -			RB 1 MHz; '	VB 3 MHz; P	k (Blue Trac	e)		



Client:	Arris							PR Number:	PR101106
Madalı	NVG5X8AX						T-l	og Number:	TL-101106-RANA
Model.	INVGOAAA								Deepa Shetty
	Mark Rieger						Proje	ect Engineer:	
Standard:	FCC Part 15,	RSS-247						Class:	N/A
I	Radiated Band Date of Test: 1	0/22/19	urements,	5470-5725N	C	onfig. Used:			
	est Engineer: N est Location: C					ifig Change: UT Voltage:	- 120V/ 60Hz		
Channel: Tx Chain:				Mode: Data Rate:			Pwr Setting:	15 (q60)	
	z Band Edge								
Frequency MHz	Level dBµV/m	Pol V/H		15.209 Margin	Detector	Azimuth	Height	Comments	
5437.480	dBμV/m 49.1	V/H V	Limit 54.0	Margin -4.9	Pk/QP/Avg AVG	degrees 44	meters 1.0	POS: RB 1 I	MHz; VB: 1 kHz
5446.690	62.7	V	74.0	-11.3	PK	44	1.0		MHz; VB: 3 MHz
litude [dBuV/m]	65.0 - 60.0 - 55.0 -		~~		Mmmm.		white w	~~~~	MARANA MARA



	NTS			EMO	C Test Data
Client:	Arris			PR Number:	PR101106
Madalı				T-Log Number:	TL-101106-RANA
Model:	NVG5X8AX			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 (UNI	I) Radiated S	purious Emissior	S
Test Spec	ific Details				
	Objective: The objective of this te specification listed abo		orm final qualificatio	n testing of the EUT with r	espect to the
The EUT a	est Configuration and all local support equipment we ed emissions testing the measurem				e noted.
Ambient (Conditions:	Temperature: Rel. Humidity:	18-19 °C 48-51 %		
	ons 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.			
Sample N	otes				
•	Sample S/N: M11917QW000T				

Client:	Arris				PR Number:	PR101106
					T-Log Number:	TL-101106-RANA
Model:	NVG5X8AX				Project Manager:	Deepa Shetty
Contact:	Mark Rieger				Project Engineer:	David Bare
	FCC Part 15				Class:	
		,				
ummary	of Result	s				
Run #	Mode	Channel	Power	Test Performed	Limit	Result / Margin
Rull #	MODE	Frequency	Setting	restrenomed	LIIIII	Result / Margin
20MHz Ba	andwith Mode	es				
4	ax20	11 & 64	24 / 18	Restricted Band Edge	15.209	51.3 dBµV/m @ 5350
Ŧ	UNZU		27/10	at 5350 MHz	10.200	MHz (-2.7 dB)
	ax20	1 & 100	24 / 18	Restricted Band Edge	15.209	49.5 dBµV/m @ 5438
				at 5460 MHz		MHz (-4.5 dB)
5	ax20	1 & 100	24 / 18	Band Edge	15E	64.8 dBµV/m @ 546
				5460 - 5470 MHz		MHz (-3.5 dB)
	ax20	11 & 140	24 / 18	Band Edge 5725MHz	15E	66.3 dBµV/m @ 5728
	andwith Mode	20				MHz (-2.0 dB)
				Restricted Band Edge		53.2 dBµV/m @ 535
6	ax40	9 & 62	24 / 16.75	at 5350 MHz	15.209	MHz (-0.8 dB)
				Restricted Band Edge		52.9 dBµV/m @ 5458
	ax40	3 & 102	24 / 18	at 5460 MHz	15.209	MHz (-1.1 dB)
-	10			Band Edge	455	67.2 dBµV/m @ 546
7	ax40	3 & 102	24 / 18	5460 - 5470 MHz	15E	MHz (-1.1 dB)
	ev 10	0 9 4 2 4	04/49	Bond Edge 5725MHz	15E	65.7 dBµV/m @ 574
	ax40	9 & 134	24 / 18	Band Edge 5725MHz	IDE	MHz (-2.6 dB)
80MHz Ba	andwith Mode	es				
8	ax20 / ax80	6 & 58	24 / 16.5	Restricted Band Edge	15.209	50.8 dBµV/m @ 535
-	, and 0			at 5350 MHz		MHz (-3.2 dB)
	ax20 / ax80	1 & 106	24 / 18	Restricted Band Edge	15.209	51.5 dBµV/m @ 545
9				at 5460 MHz		MHz (-2.5 dB)
	ax20 / ax80	1 & 106	24 / 18	Band Edge 5460 - 5470 MHz	15E	64.0 dBµV/m @ 5463
160MHz F	Bandwith Mod	les		0400 - 0470 IVIEZ		MHz (-4.3 dB)
	ax20 /			Restricted Band Edge		51.3 dBµV/m @ 514
<i>,</i> -	ax160	6 & 50	24 / 17.25	at 5150 MHz	15.209	MHz (-2.7 dB)
10	ax100			Restricted Band Edge	45.000	51.0 dBµV/m @ 5378
	ax160	6 & 50	24 / 17.25	at 5350 MHz	15.209	MHz (-3.0 dB)
	ax20 /	0 0 4 4 4	04/47	Restricted Band Edge	15 000	46.4 dBµV/m @ 545
11	ax160	6 & 114	24 / 17	at 5460 MHz	15.209	MHz (-7.6 dB)
11	ax20 /	6 9 4 4 4	04/17	Band Edge	155	59.3 dBµV/m @ 5466
	ax160	6 & 114	24 / 17	5460 - 5470 MHz	15E	MHz (-9.0 dB)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5X8AX	T-Log Number:	TL-101106-RANA
wouer.	IN SJADAA	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)

Mo	ode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)	Packet
ac	:20	6.5	97.6%	Yes	5.27	0.1	0.2	190	4324
ac	:40	13.5	97.3%	Yes	5.24	0.1	0.2	191	8811
ac	:80	29.3	96.0%	Yes	1.43	0.2	0.4	698	5159
ac	160	58.5	95.6%	Yes	1.44	0.2	0.4	695	10443

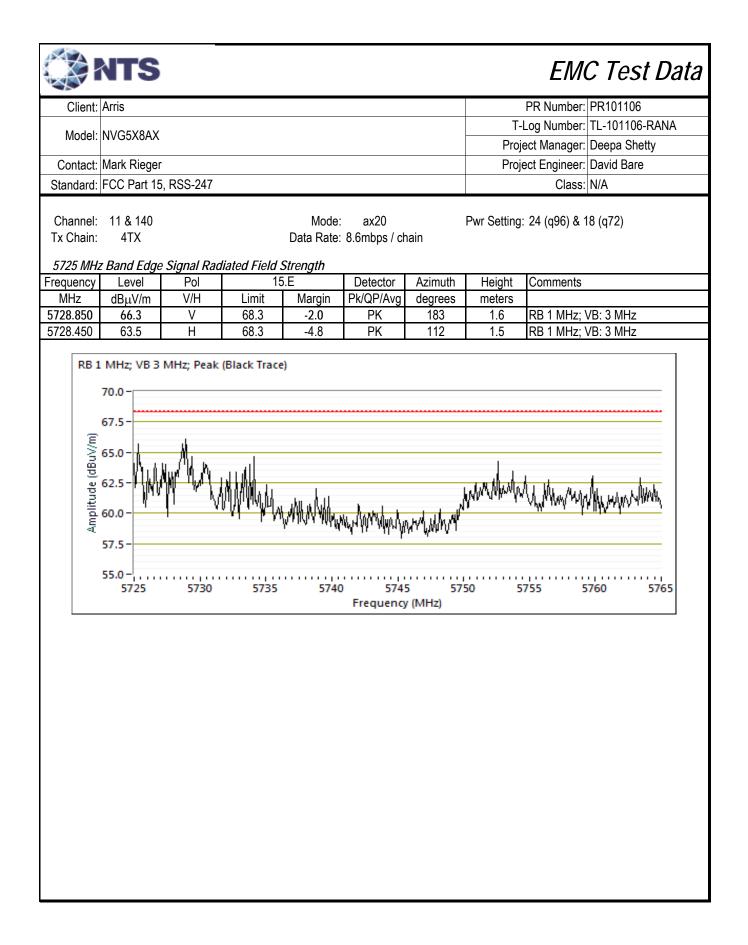
Measurement Specific Notes:

Note 1:	For emissions outside of the restricted bands the limit is -27dBm/MHz eirp (68.3dBuV/m). The measurement method required is a peak measurement (RB=1MHz, VB≥3MHz, peak detector). Per KDB 789033 2) c) (i), compliance can be
	demonstrated by meeting the average and peak limits of 15.209, as an alternative.
Note 2:	Emission has a duty cycle ≥ 98%, average measurement performed: RBW=1MHz, VBW=3MHz, RMS, Power averaging, auto
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
NOLE 4.	sweep, trace average 100*1/DC traces, measurement corrected by Pwr correction factor (method AD of KDB 789033)
Note 5:	Plots of the average and peak bandedge do not account for any duty cycle correction. Refer to the tabular results for final
NOLE 5.	measurements.
Note 6:	For SISO measurment, evaluation of each chain showed that chain 4 has the highest power measurment. All SISO test
NOLE O.	measurment were performed with chain 4 active.

	Arris							PR Number: PR101106
Model	NVG5X8AX						T-	Log Number: TL-101106-RANA
Model.	NV GJADAA						Proj	ect Manager: Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer: David Bare
Standard:	FCC Part 15,	RSS-247						Class: N/A
	distad Dande	daa Maaa	wanaanta C					
	idiated Bande Date of Test: 0		irements, 5.	200-0300101		onfig. Used:	1	
	st Engineer: N					fig Change:		
Te	est Location: F	remont Cha	amber #7		E	UT Voltage:	120V/60Hz	
Channel:	11 & 64			Mada	· av20		Dur Satting	$\cdot 24$ (a06) 8 18 (a72)
Tx Chain:	4TX			Mode Data Rate	:: ax20 :: 8.6mbps / ch		rwi setting	: 24 (q96) & 18 (q72)
		o						
5350 MHz requency	z <i>Band Edge</i> . Level	Pol		Strength 15.209	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments
5350.720	51.3	V	54.0	-2.7	AVG	197	1.7	RB 1 MHz; VB: 10 Hz
5368.440	50.2	Н	54.0	-3.8	AVG	82	1.8	RB 1 MHz; VB: 10 Hz
5366.670	67.7	V	74.0	-6.3	PK	197	1.7	RB 1 MHz; VB: 3 MHz
5368.200	62.6	Н	74.0	-11.4	PK	82	1.8	RB 1 MHz; VB: 3 MHz
	70.0 - 65.0 -	sshu . i		konterence (ale	many	Nh my A	d white the	Made and
Amplitude (dBu	50.0-			······	$\sim\sim\sim$	~~~	\sim	~~~~

Oliciti	Arris								PR Number:	PR101106
Madal		/0 A V/						T-	Log Number:	TL-101106-RANA
Model	NVG5	(8AX						Proj	ect Manager:	Deepa Shetty
Contact	Mark F	lieger						Proj	ect Engineer:	David Bare
tandard	FCC P	art 15, I	RSS-247						Class:	N/A
				irements, 5	470-5725MI		f	4		
	Date of		2/03/20 1. Birgani				onfig. Used: fig Change:			
	-		remont Cha	amber #7			UT Voltage:			
						_				
hannel:					Mode			Pwr Setting	: 24 (q96) & 1	8 (q72)
Chain:	4T.	X			Data Rate	: 8.6mbps / ch	nain			
160 MH	z Band	Edge S	Signal Rad	iated Field	Strength					
quency	Lev	el	Pol		15.209	Detector	Azimuth	Height	Comments	
ИНz	dBµ∖		V/H	Limit	Margin	Pk/QP/Avg	0	meters		
8.600	49.		V	54.0	-4.5	AVG	193	1.5	RB 1 MHz; V	
0.360	48. 61.		H V	54.0 74.0	-5.7 -12.1	AVG PK	58 193	1.5 1.5	RB 1 MHz; RB 1 MHz;	
5.310	61.		H	74.0	-12.1	PK	58	1.5	RB 1 MHz; \	
tude (dBu//m)	70.0 - 65.0 - 60.0 - 55.0 -	uhurul	untertaint	www.	www.	www.	www.wrame	Murryman	- Marthan Marriage	human
	55.0-						~			
Ampli						$\sim\sim\sim\sim$	$\sim\sim$	$\sim\sim$	$\sim\sim\sim$	
Ampli	50.0-	~~~~~								

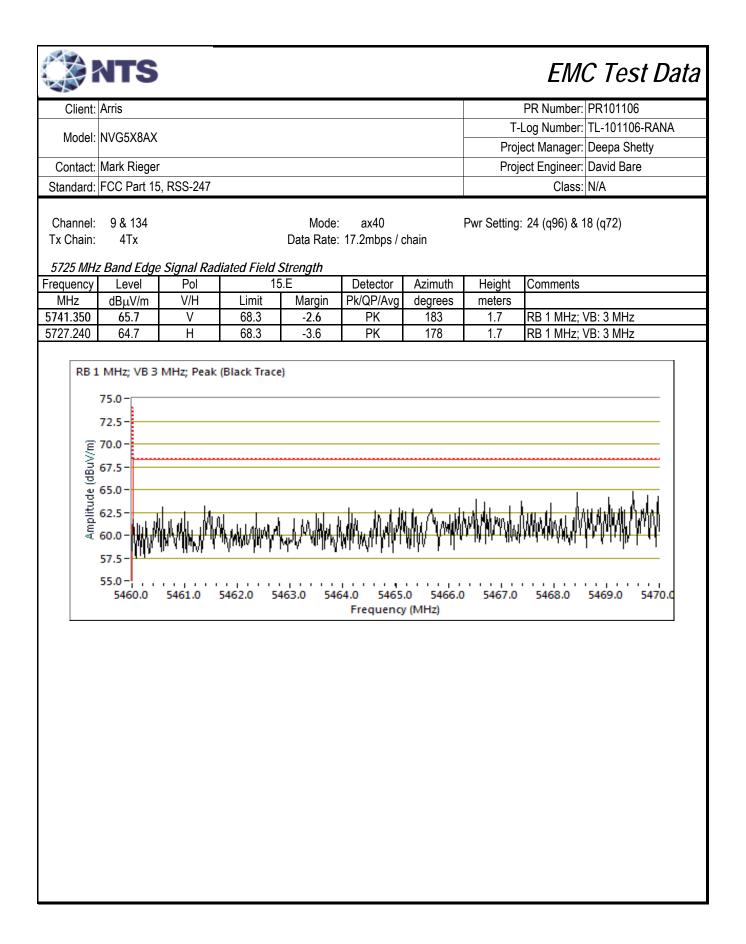
MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 5466.450 64.8 V 68.3 -3.5 PK 193 1.5 POS; RB 1 MHz; VB: 3 MHz	Client:	Arris							PR Number:	PR101106
Project Manager: Deepa Shetty Contact: Mark Rieger David Bare Standard: FCC Part 15, RSS-247 Class: N/A 5470 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters	Model:							T-	Log Number:	TL-101106-RANA
Standard: FCC Part 15, RSS-247 Class: N/A 5470 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 5466.450 64.8 V 68.3 -3.5 PK 193 1.5 POS; RB 1 MHz; VB: 3 MHz 5469.540 62.0 H 68.3 -6.3 PK 58 1.5 POS; RB 1 MHz; VB: 3 MHz 565.0 65.0 65.0 65.0 65.0 65.0 66.0 65.0 66.0 5460.0 <t< th=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td>-</td><td></td></t<>								-	-	
5470 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 5466.450 64.8 V 68.3 -3.5 PK 193 1.5 POS; RB 1 MHz; VB: 3 MHz 5469.540 62.0 H 68.3 -6.3 PK 58 1.5 POS; RB 1 MHz; VB: 3 MHz 70.0								Proj		
Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5466.450 64.8 V 68.3 -3.5 PK 193 1.5 POS; RB 1 MHz; VB: 3 MHz 5469.540 62.0 H 68.3 -6.3 PK 58 1.5 POS; RB 1 MHz; VB: 3 MHz 66.0 - - - - - - - 99 62.5 - - - - - - 60.0 - - - - - - - 99 60.0 - <td< th=""><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></td<>	Standard:	FCC Part 15	, RSS-247						Class:	N/A
Frequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5466.450 64.8 V 68.3 -3.5 PK 193 1.5 POS; RB 1 MHz; VB: 3 MHz 5469.540 62.0 H 68.3 -6.3 PK 58 1.5 POS; RB 1 MHz; VB: 3 MHz 66.0 - - - - - - - 99 62.5 - - - - - - 60.0 - - - - - - - 99 60.0 - <td< th=""><td>5470 MU-</td><td>Rand Edgo</td><td>Signal Dad</td><td>liatod Fiold</td><td>Stronath</td><td></td><td></td><td></td><td></td><td></td></td<>	5470 MU-	Rand Edgo	Signal Dad	liatod Fiold	Stronath					
MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 5466.450 64.8 V 68.3 -3.5 PK 193 1.5 POS; RB 1 MHz; VB: 3 MHz 5469.540 62.0 H 68.3 -6.3 PK 58 1.5 POS; RB 1 MHz; VB: 3 MHz 70.0 -						Detector	Azimuth	Height	Comments	
5469.540 62.0 H 68.3 -6.3 PK 58 1.5 POS; RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 70.0 67.5 65.0 62.5 62.5 62.5 62.5 60.0 67.5 65.0 60.0										
RB 1 MHz; VB 3 MHz; Peak (Black Trace)	5466.450	64.8		68.3	-3.5	PK		1.5		
70.0 67.5 65.0 62.5 57.5 55.0 5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0	5469.540	62.0	Н	68.3	-6.3	PK	58	1.5	POS; RB 1	MHz; VB: 3 MHz
5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0		67.5 -	WWW.	where where the		hard wall we have	y and the st	YUNN WA		profiliant profile
	Amplitude (dBu//m)	67.5 - 65.0 - 62.5 - 60.0 -	WWW.	h happh for	ANA WANA	hand wall work of	yy allowed	YNNN AND	uluu wany	quality all the particular



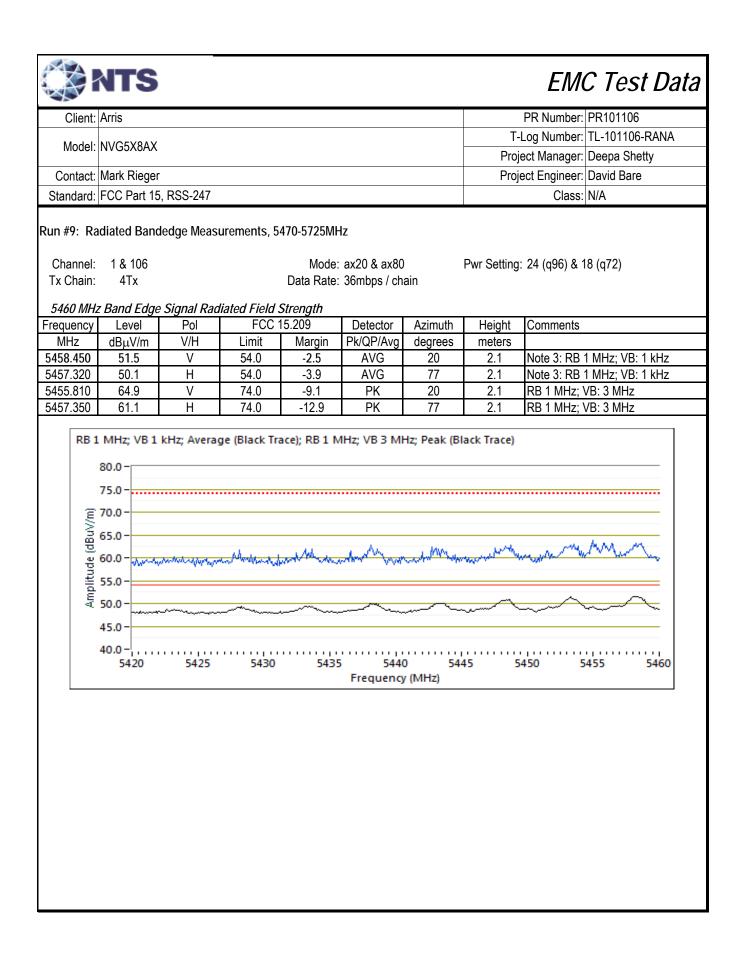
	Arris							PR Number:	PR101106
							T-	Log Number:	TL-101106-RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
	FCC Part 15,	RSS-247						Class:	N/A
l Te To Channel:)2/03/20 V. Birgani		Mode	Con Con E : ax40		None 120V/60Hz	: 24 (q96) & 1	6.75 (q67)
Tx Chain:	4TX			Data Rate	: 17.2mbps / c	chain			
5350 MH	z Band Edge	Signal Rad	iated Field	Strenath					
requency		Pol		15.209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5350.400	53.2	V	54.0	-0.8	AVG	90	1.8	RB 1 MHz; \	
5350.900	52.3	H	54.0	-1.7	AVG	194	1.7	RB 1 MHz; \	
5350.400 5350.900	68.0 66.8	V H	74.0 74.0	-6.0 -7.2	PK PK	90 194	1.8 1.7	RB 1 MHz; \ RB 1 MHz; \	
	70.0-	My My www.	Mangel	Aprophysical	Productional Andreador	www.	water a planta	Munuum	Nermonitoria
olitude (dBuV/m)	60.0 - 55.0 -	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							
Amplitude (dBuV/m)	50.0-		~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~	~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Amplitude (dBuV/m)	60.0 - 55.0 - 50.0 - 45.0 -		~~~~	~~~~	~	~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······

Cilent.	Arris							PR Number:	PR101106
NA							T-	Log Number:	TL-101106-RANA
Wodel:	NVG5X8AX						Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
D Te	adiated Band Date of Test: est Engineer: est Location:	02/03/20 M. Birgani		470-5725MI	C Cor	onfig. Used: fig Change: UT Voltage:	None		
Channel:	3 & 102			Mode	: ax40		Pwr Setting	: 24 (q96) & 1	8 (q72)
Tx Chain:					: 17.2mbps / d		3	(1)	
5460 MH-	z Band Edge	Signal Pad	iatod Fiold	Stronath					
requency	Level	Pol		15.209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
5458.800	52.9	V	54.0	-1.1	AVG	183	1.7	RB 1 MHz; V	
5459.280	51.4	Н	54.0	-2.6	AVG	110	1.7	RB 1 MHz; V	
5452.870 5450.140	65.6 64.5	V H	74.0 74.0	-8.4 -9.5	PK PK	183 110	1.7 1.7	RB 1 MHz; V RB 1 MHz; V	
plitude (dBu//m)	70.0 - 65.0 - 60.0 - ^M owdf 55.0 -	- Mahrida Mada	www.	Here the start of	turne abala	-yerw th opade	wyony41944	hter who are and	maynus
	50.0	~~~ <u>~</u> ~~~~	*****	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	*****		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
Am									

•	Arris							PR Number:	PR101106
Model: N	NVG5X8AX						T-	Log Number:	TL-101106-RANA
MOUEI. IN	NUGJAOAA						Proj	ect Manager:	Deepa Shetty
Contact: N	Mark Rieger						Proje	ect Engineer:	David Bare
Standard: F	FCC Part 15	5, RSS-247						Class:	N/A
requency MHz	Level	e <i>Signal Rad</i> Pol V/H		5.E	Detector Pk/QP/Avg	Azimuth dearees	Height meters	Comments	
	dBµV/m	-		Margin	Pk/QP/Avg	degrees	meters		
466.490 6464.450	67.2 65.3	V H	68.3 68.3	-1.1 -3.0	PK PK	183 110	1.7 1.7	RB 1 MHz; RB 1 MHz;	
	70.0 - 57.5 - 55.0 - 52.5 - 4444 50.0 -	awayah ya ka	Varwyth Mar	hur hyd fryn	(Hilippetrick)(Hilippetrick)	dhallanada	hinner	Mannada	mymmymmymm

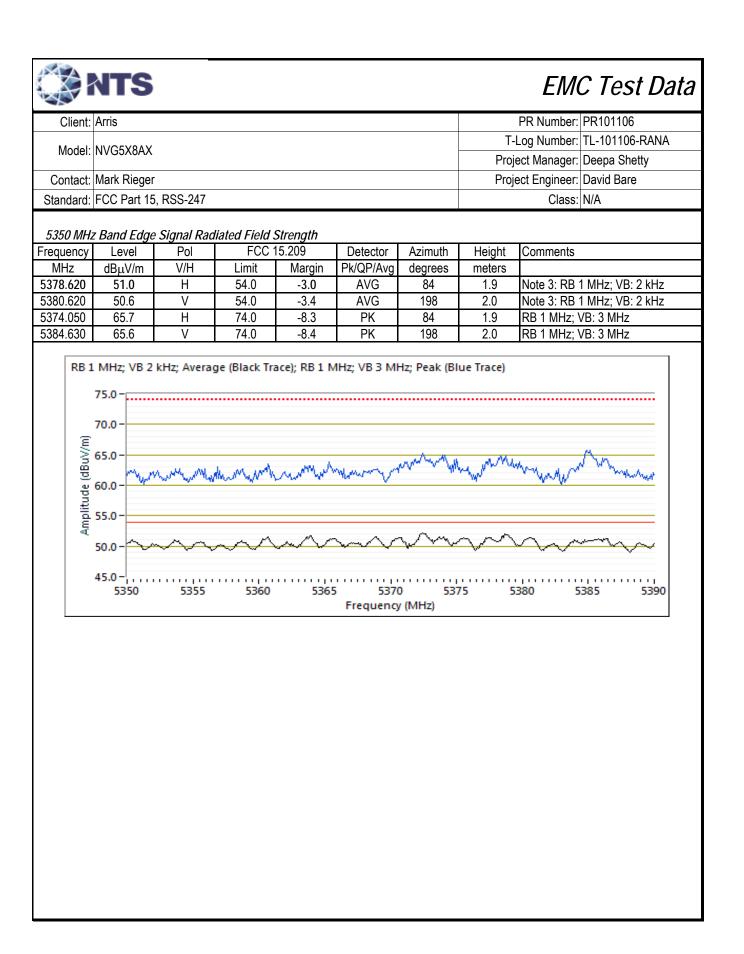


	Arris							PR Number:	PR101106
							T-	Log Number:	TL-101106-RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15,	RSS-247						Class:	N/A
l Te	adiated Bande Date of Test: (est Engineer: Mest Location: F)2/04/20 M. Birgani		250-5350M	Co Con	onfig. Used: fig Change: UT Voltage:	None		
Channel: Tx Chain:	4Tx		intend Finded	Data Rate	: ax20 & ax80 : 36mbps / ch		Pwr Setting	: 24 (q96) & 1	l6.5 (q66)
5350 MH	z Band Edge Level	S <i>ignal Rad</i> Pol		5 <i>trength</i> 15.209	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg		meters		
5351.040	50.8	V	54.0	-3.2	AVG	191	1.8	Note 3: RB	1 MHz; VB: 1 kHz
5350.720	70.3	V	74.0	-3.7	PK	191	1.8	RB 1 MHz; V	
5358.260	69.5	Н	74.0	-4.5	PK	84	2.0	RB 1 MHz; V	
5352.650	49.1	Н	54.0	-4.9	AVG	84	2.0	Note 3: RB	1 MHz; VB: 1 kHz
(m//v	70.0 - 65.0 - 60.0 -	l.	yaawyak	4nd ¹¹⁴ ndwang	at the second	Artonometer	whenwh	in many day	Arthonologi
Amplitude (dBu	50.0	5355	5360	536	5 537(·····			385 5390



Initial Title <	Client:	Arris							PR Number:	PR101106
Model: INVG5X8AX Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 1 & 106 Mode: ax20 & ax80 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4Tx Data Rate: 36mbps / chain Standard: FCC Part 15, RSS-247 Standard: FCC Part 15, RSS-247 Data Rate: 36mbps / chain Standard: FCC Part 16, RSS-247 Channel: 1 & 106 Mode: ax20 & ax80 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4Tx Data Rate: 36mbps / chain Standard: FCC Part 16, RSS-247 Standard: HZ Band Edge Signal Radiated Field Strength Feequency Level Pol 15.E Detector Azimuth Height Comments MHZ dBµ/V/m V/H Limit Margin PK/QP/Arg degrees meters 463.50 63.9 H 68.3 -4.4 PK 77										
Contact Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Channel: 1 & 106 Mode: ax20 & ax80 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4Tx Data Rate: 36mbps / chain Data Rate: 36mbps / chain 5470 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 463.650 64.0 V 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz 467.580 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz 65.0 -	Model:	NVG5X8AX							-	
Standard: FCC Part 15, RSS-247 Class: N/A Channel: 1 & 106 Mode: ax20 & ax80 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4Tx Data Rate: 36mbps / chain Pwr Setting: 24 (q96) & 18 (q72) 5470 MHz Band Edge Signal Radiated Field Strength Erequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 463.650 64.0 V 68.3 -4.3 PK 20 2.1 RB 1 MHz; VB: 3 MHz 467.580 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz 65.0	Contact:	Mark Rieger						-		
Channel: 1 & 106 Mode: ax20 & ax80 Pwr Setting: 24 (q96) & 18 (q72) Tx Chain: 4Tx Data Rate: 36mbps / chain 5470 MHz Band Edge Signal Radiated Field Strength Fequency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 463.650 64.0 V 68.3 -4.3 PK 20 2.1 RB 1 MHz; VB: 3 MHz 467.580 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz Signal Radiated Field Strength 65.0 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz Signal Radiated Field Strength 65.0		-							-	
requency Level Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters	Tx Chain:	4Tx			Data Rate:			Pwr Setting:	: 24 (q96) & 1	l8 (q72)
MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 463.650 64.0 V 68.3 -4.3 PK 20 2.1 RB 1 MHz; VB: 3 MHz 467.580 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 80.0 - <t< th=""><td></td><td></td><td></td><td></td><td></td><td>Detector</td><td>Azimuth</td><td>Height</td><td>Comments</td><td></td></t<>						Detector	Azimuth	Height	Comments	
463.650 64.0 V 68.3 -4.3 PK 20 2.1 RB 1 MHz; VB 3 MHz 467.580 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 80.0 - <									Comments	
467.580 63.9 H 68.3 -4.4 PK 77 2.1 RB 1 MHz; VB: 3 MHz; RB 1 MHz; VB 3 MHz; Peak (Black Trace) 80.0 - <									RB 1 MHz; \	VB: 3 MHz
80.0 - 75.0 - 70.0 - 65.0 - 65.0 - 65.0 - 55.0 - 55.0 - 45.0 - 45.0 - 45.0 - 5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0										
		F	d _{er ve} dhermanne	Herrich of Malerica Star	www.	han an the state of the state o	http://www.coc.com	undatta manattik ^{ha} k	han-John Man	how the second the second s

									C Test Da
Client:	Arris							PR Number:	PR101106
Model	NVG5X8AX						T-	Log Number:	TL-101106-RANA
MOUEI.	NVOJAAA						Proj	ect Manager:	Deepa Shetty
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247						Class:	N/A
[Te	Radiated Ban Date of Test: est Engineer: est Location:	02/04/20 M. Birgani		5150-5350N	C Cor	onfig. Used: fig Change: UT Voltage:	None		
Channel: Tx Chain:	4Tx			Data Rate	: ax20 & ax16 : 72Mbps / ch		Pwr Setting	: 24 (q96) & 1	7.25 (q69)
	z Band Edge								
Frequency		Pol		15.209	Detector	Azimuth	Height	Comments	
MHz 5149.040	dBμV/m 51.3	V/H V	Limit 54.0	Margin -2.7	Pk/QP/Avg AVG	degrees 198	meters 2.0	Note 2. DP	1 MHz; VB: 2 kHz
5149.040	49.0	H	54.0 54.0	-2.7	AVG	94	2.0		1 MHz; VB: 2 kHz
5138.300	66.2	V	74.0	-3.0	PK	198	2.0	RB 1 MHz;	
5145.830	64.6	Ĥ	74.0	-9.4	PK	94	2.0	RB 1 MHz; V	
Amplitude (dBuV/m)	60.0 -	Martin Martin	y Martin	www.www.	downwerten werden w In der werden w		~~~~	Manual Manua	
	45.0	$\sim \sim$	\sim	\sim	$\sim \sim$	\bigvee	~/	~~~	
		5115	5120	512	5 5130) 51	35 5	140 5	145 5150



Client:	Arris							PR Number:	PR101106
							T-		TL-101106-RANA
Model:	NVG5X8AX							-	Deepa Shetty
Contact:	Mark Rieger	•					Proj	ect Engineer:	David Bare
Standard:	FCC Part 15	5, RSS-247						Class:	N/A
C Te:	Date of Test: est Engineer: est Location:				C Con	onfig. Used: fig Change: UT Voltage:	None		
Tx Chain:					: 72Mbps / ch		i wi oeung	. 17 (400)	
		e Signal Rad						1-	
requency		Pol V/H		15.209 Margin	Detector	Azimuth	Height	Comments	
MHz 5451.420	dBµV/m 46.4	V/H V	Limit 54.0	Margin -7.6	Pk/QP/Avg AVG	degrees 20	meters 2.1	RB 1 MHz; \	/B: 3 MHz
5450.540	58.8	V	74.0	-15.2	PK	20	2.1	RB 1 MHz; \	
Amplitude (dBuV/	70.0 - 65.0 - 60.0 - 55.0 - 50.0 -	maantaha	undowen	www.whorho	an a	MahaMaah	nguntunghi	hannana	haanaddarnada
	45.0								
		5425	5430	543	5 5440) 544	45 5	450 5	455 5460

MHz dBμV/m V/H Limit Margin Pk/QP/Avg degrees meters 66.610 59.3 V 68.3 -9.0 PK 20 2.1 RB 1 MHz; VB: 3 MHz									C Test Da
Model: NVGSX8AX Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare tandard: FCC Part 15, RSS-247 Class: N/A	Client: Arris								
Contact: Mark Rieger Project Engineer: David Bare tandard: FCC Part 15, RSS-247 Class: N/A	Model: NVG5X8AX							-	
tandard: FCC Part 15, RSS-247 Class: N/A 470 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 66.610 59.3 V 68.3 -9.0 PK 20 2.1 RB 1 MHz; VB: 3 MHz 64.890 48.5 H 68.3 -19.8 PK 263 2.1 RB 1 MHz; VB: 3 MHz 75.0 - 70.0 - - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
470 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 66.610 59.3 V 68.3 -9.0 PK 20 2.1 RB 1 MHz; VB: 3 MHz 64.890 48.5 H 68.3 -19.8 PK 263 2.1 RB 1 MHz; VB: 3 MHz 75.0	-						Proj	-	
Instruction Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 66.610 59.3 V 68.3 -9.0 PK 20 2.1 RB 1 MHz; VB: 3 MHz 64.890 48.5 H 68.3 -19.8 PK 263 2.1 RB 1 MHz; VB: 3 MHz 75.0 -	tandard: FCC Part 1	0, RSS-247						Class:	N/A
Instruction Pol 15.E Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 66.610 59.3 V 68.3 -9.0 PK 20 2.1 RB 1 MHz; VB: 3 MHz 64.890 48.5 H 68.3 -19.8 PK 263 2.1 RB 1 MHz; VB: 3 MHz 75.0 -	470 MHz Band Edae	Signal Rad	liated Field .	Strenath					
66.610 59.3 V 68.3 -9.0 PK 20 2.1 RB 1 MHz; VB 3 MHz 64.890 48.5 H 68.3 -19.8 PK 263 2.1 RB 1 MHz; VB 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 75.0 - - - - - 70.0 - - - - - - 66.00 - - - - - - - 75.0 - - - - - - - - 65.0 - - - - - - - - 99 60.0 - <td></td> <td></td> <td></td> <td></td> <td>Detector</td> <td>Azimuth</td> <td>Height</td> <td>Comments</td> <td></td>					Detector	Azimuth	Height	Comments	
64.890 48.5 H 68.3 -19.8 PK 263 2.1 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 3 MHz; Peak (Black Trace) 75.0 -	MHz dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
RB 1 MHz; VB 3 MHz; Peak (Black Trace) 75.0- 70.0- 65.0- 65.0- 900 65.0- 901 65.0- 901 65.0- 901 901 901 901 902 903 904 905	66.610 59.3	V	68.3	-9.0	PK	20	2.1	RB 1 MHz; '	VB: 3 MHz
75.0 - 70.0 - 65.0 - 65.0 - 65.0 - 55.0 - 50.0 - 50.0 - 5460.0 5461.0 5462.0 5463.0 5464.0 5465.0 5466.0 5467.0 5468.0 5469.0 5470.0	64.890 48.5	Н	68.3	-19.8	PK	263	2.1	RB 1 MHz; '	VB: 3 MHz
	(ш, 70.0 - (ш,)/лар) 65.0 -								

	NTS			EMO	C Test Data
Client:	Arris			PR Number:	PR101106
Model:	NVG5X8AX			T-Log Number:	TL-101106-RANA
				Project Manager:	
	Mark Rieger			Project Engineer:	
Standard:	FCC Part 15, RSS-247			Class:	N/A
	RSS-247 and FC	C 15.407 (UNI	I) Radiated Sp	ourious Emission	IS
Test Spec	cific Details				
			orm final qualificatior	n testing of the EUT with r	espect to the
The EUT	est Configuration and all local support equipment we ed emissions testing the measurem				e noted.
Ambient	Conditions:	Temperature: Rel. Humidity:	18-20 °C 38-40 %		
	ions Made During Testing cations were made to the EUT during	ng testing			
	s From The Standard	ents of the standard.			
C	Date of Test: 2/5-2/7 & 3/11/2020		Config. Used:	1	
	st Engineer: M. Birgani & David Ba	ire	Config Change:		
Te	est Location: Fremont Chamber #7		EUT Voltage:	120V/ 60Hz	

Client:	Arris					PR Number:	PR101106
						T-Log Number:	TL-101106-RANA
Model:	NVG5X8AX					Project Manager:	
Contact	Mark Rieger					Project Engineer:	
	FCC Part 15					Class:	
Stanuaru.	FUU Fait 15	, NOO-241				Cidos.	N/A
ummary	of Result	s					
Dun #	Mada	Channel	Power		Test Performed	Limit	Booult / Margin
Run #	Mode	Frequency	Setting		rest Penonned	LITTIL	Result / Margin
20MHz Ba	andwith Mode	;			• •		
6	ax20	11 & 64	24 / 18		Restricted Band Edge at 5350 MHz	15.209	50.0 dBµV/m @ 5350 MHz (-4.0 dB)
					Restricted Band Edge		46.0 dBµV/m @ 5448
	ax20	1 & 100	24 / 9		at 5460 MHz	15.209	MHz (-8.0 dB)
7		4 0 400	04.10		Band Edge	455	58.7 dBµV/m @ 5468
7	ax20	1 & 100	24 / 9		5460 - 5470 MHz	15E	MHz (-9.6 dB)
	ax20	11 & 140	24 / 18		Band Edge 5725MHz	15E	67.2 dBµV/m @ 5757
			24/10		Ballu Euge 572510112	IJE	MHz (-1.1 dB)
40MHz Ba	andwith Mode)					
10	ax40	9 & 62	24 / 15.5		Restricted Band Edge	15.209	51.6 dBµV/m @ 5352
					at 5350 MHz		MHz (-2.4 dB)
	ax40	3 & 102	24 / 17	24 / 14	Restricted Band Edge	15.209	53.9 dBµV/m @ 5459
					at 5460 MHz Band Edge		MHz (-0.1 dB) 67.8 dBµV/m @ 5467
11	ax40	3 & 102	24 / 17	24 / 14	5460 - 5470 MHz	15E	MHz (-0.5 dB)
					1		67.8 dBµV/m @ 5727
	ax40	9 & 134	24 / 18		Band Edge 5725MHz	15E	MHz (-0.5 dB)
80MHz Ba	andwith Mode	;			ĮĮ		()
			04 / 4C E		Restricted Band Edge	15 200	51.4 dBµV/m @ 5351
14	ax20 / ax80	6 & 58	24 / 16.5		at 5350 MHz	15.209	MHz (-2.6 dB)
	ax20 / ax80	1 & 106	24 / 17		Restricted Band Edge	15.209	50.6 dBµV/m @ 5459
15	ax20 / ax00	1 & 100	24/1/		at 5460 MHz	13.203	MHz (-3.4 dB)
10	ax20 / ax80	1 & 106	24 / 17		Band Edge 5460 - 5470	15E	67.9 dBµV/m @ 5469
4001411			217.17		MHz	102	MHz (-0.4 dB)
160MHz E	Bandwith Mod	e			Destricted Dead Edge		
	ax20 /	6 & 50	24 / 17	24 / 14	Restricted Band Edge at 5150 MHz	15.209	50.9 dBµV/m @ 5145
17	ax160 ax20 /				Restricted Band Edge		MHz (-3.1 dB) 53.4 dBµV/m @ 5388
	ax207 ax160	6 & 50	24 / 17	24 / 14	at 5350 MHz	15.209	MHz (-0.6 dB)
	ax100 ax20 /				Restricted Band Edge		66.3 dBµV/m @ 5456
10	ax160	6 & 114	24 / 15		at 5460 MHz	15.209	MHz (-7.7 dB)
18	ax20 /		o		Band Edge 5460 - 5470	455	67.7 dBµV/m @ 5465
	ax160	6 & 114	24 / 15		MHz	15E	MHz (-0.6 dB)



EMC Test Data

Client:	Arris	PR Number:	PR101106
Model	NVG5X8AX	T-Log Number:	TL-101106-RANA
MOUEI.		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)

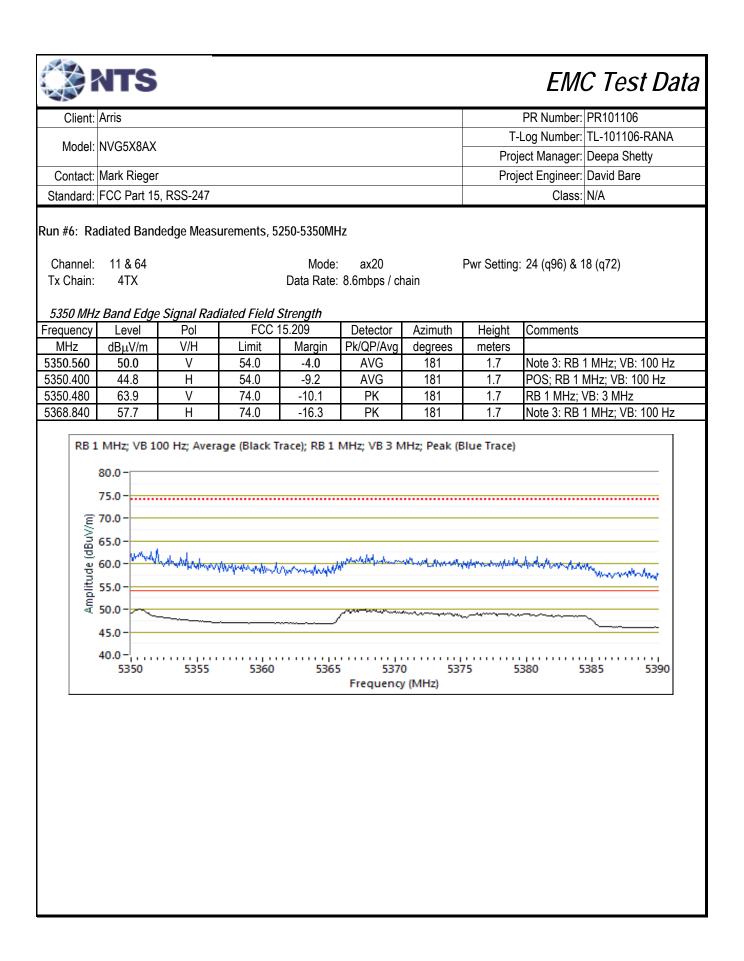
Mode	Data Rate	Duty Cycle (x)	Constant DC?	T (ms)	Pwr Cor Factor*	Lin Volt Cor Factor**	Min VBW for FS (Hz)
ax20	MCS0	94.2%	Yes	11.80	0.3	0.5	85
ax40	MCS0	84.9%	Yes	4.37	0.7	1.4	229
ax80	MCS0	88.5%	Yes	16.32	0.5	1.1	61
ax160	MCS 0	94.0%	Yes	5.05	0.3	0.5	198

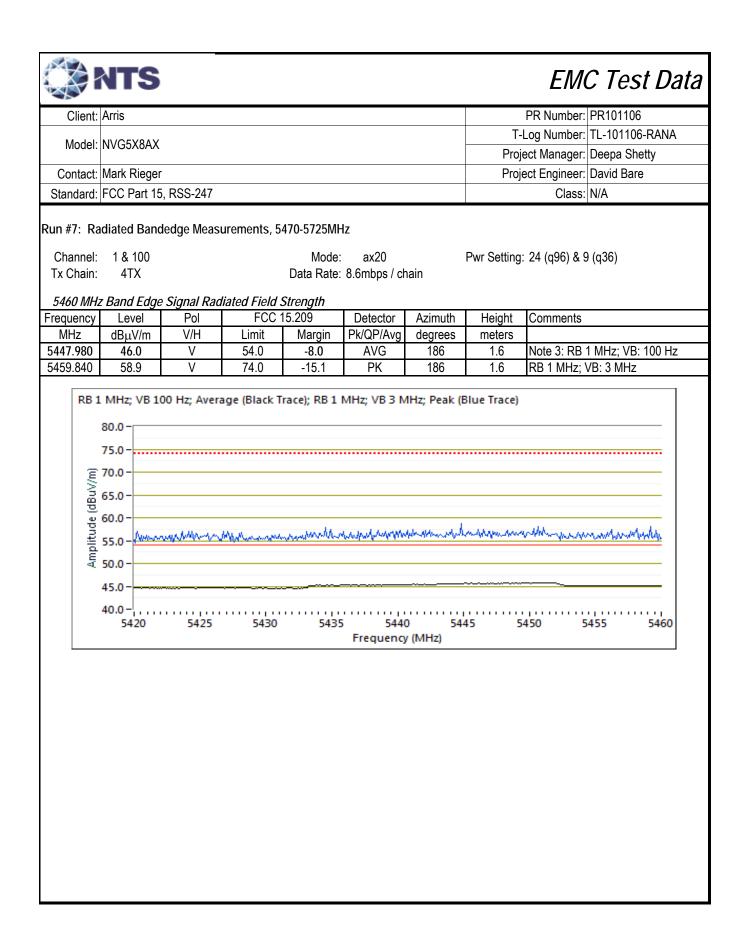
Sample Notes

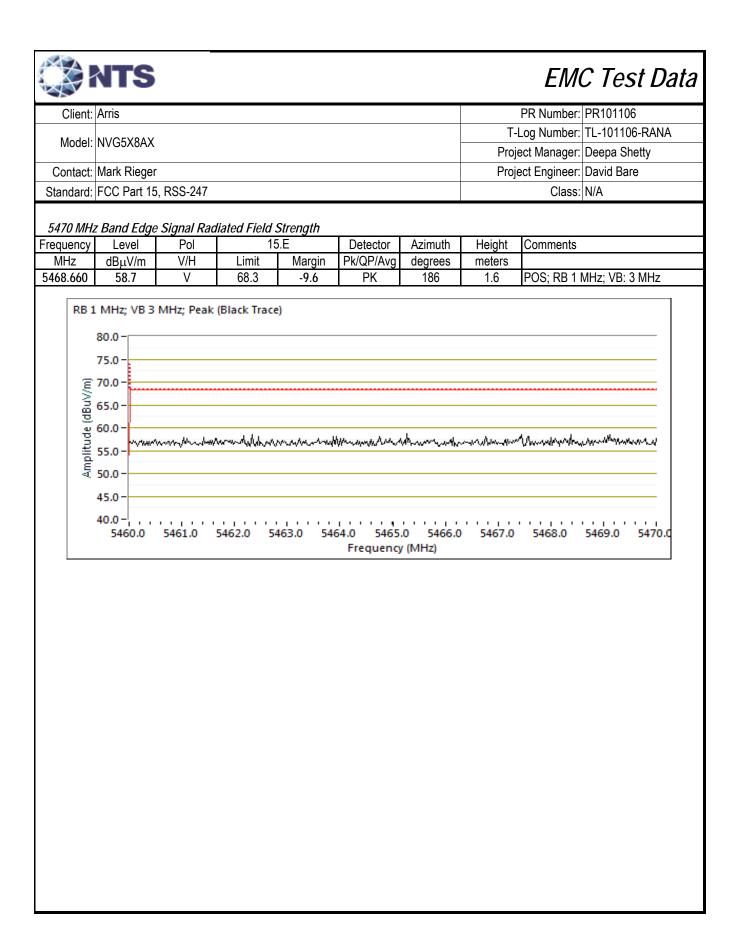
Sample S/N: M11917QW000T

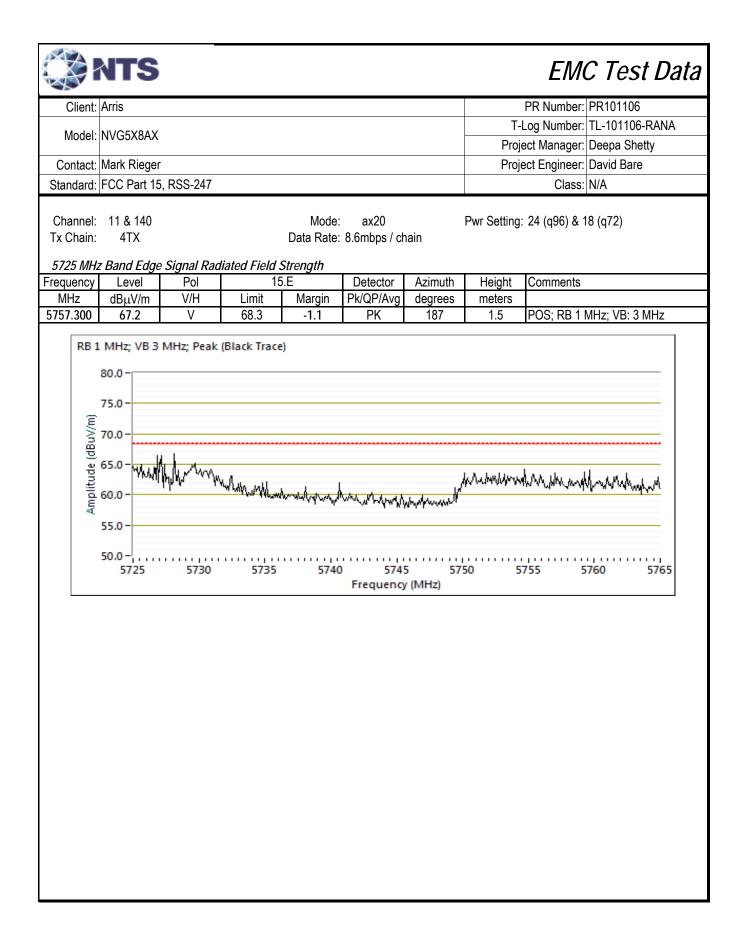
Measurement Specific Notes:

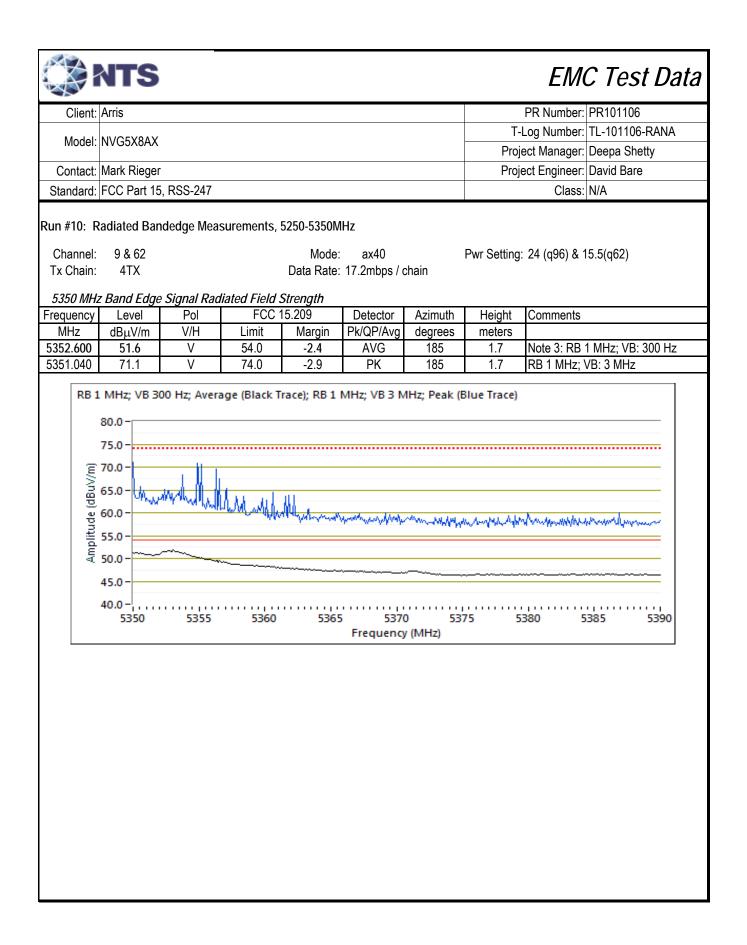
Note 2: sweep, trace average 100 traces (method AD of KDB 789033) Note 3: Emission has constant duty cycle < 98%, average measurement performed: RBW=1MHz, VBW>1/T but not less than 10Hz, peak detector, linear averaging, auto sweep,max hold 50*1/DC traces (method VB of KDB 789033)	For emissions outside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

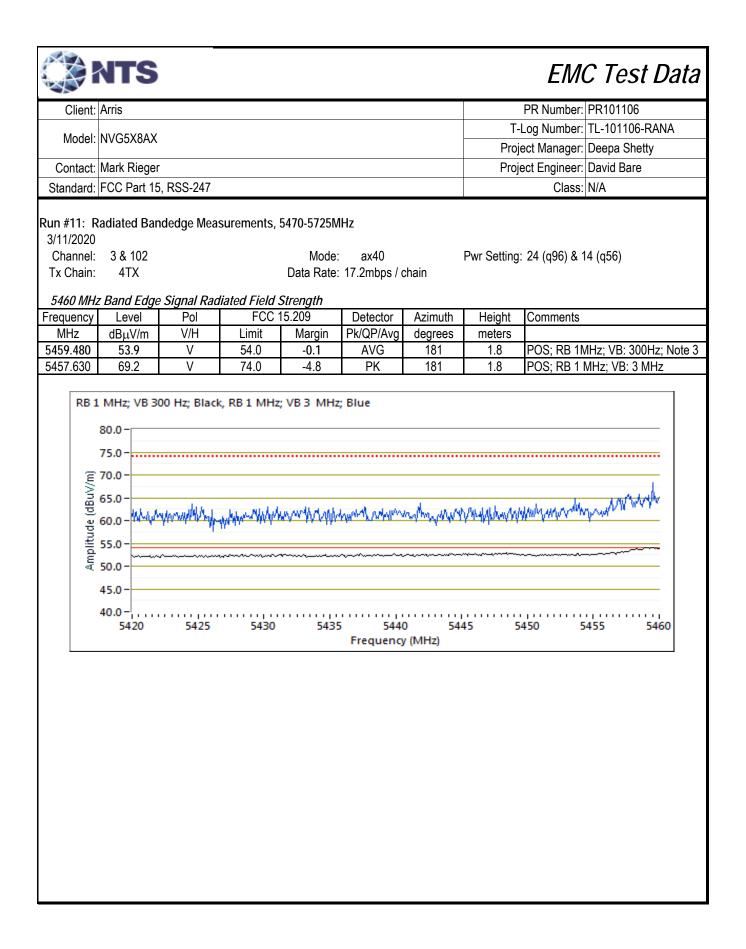


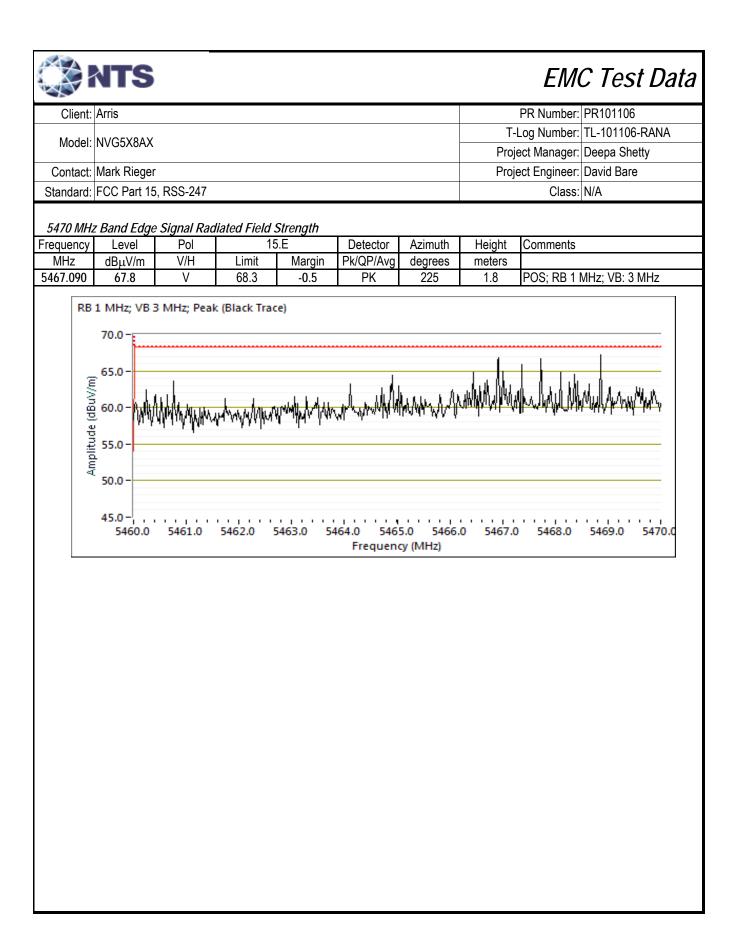


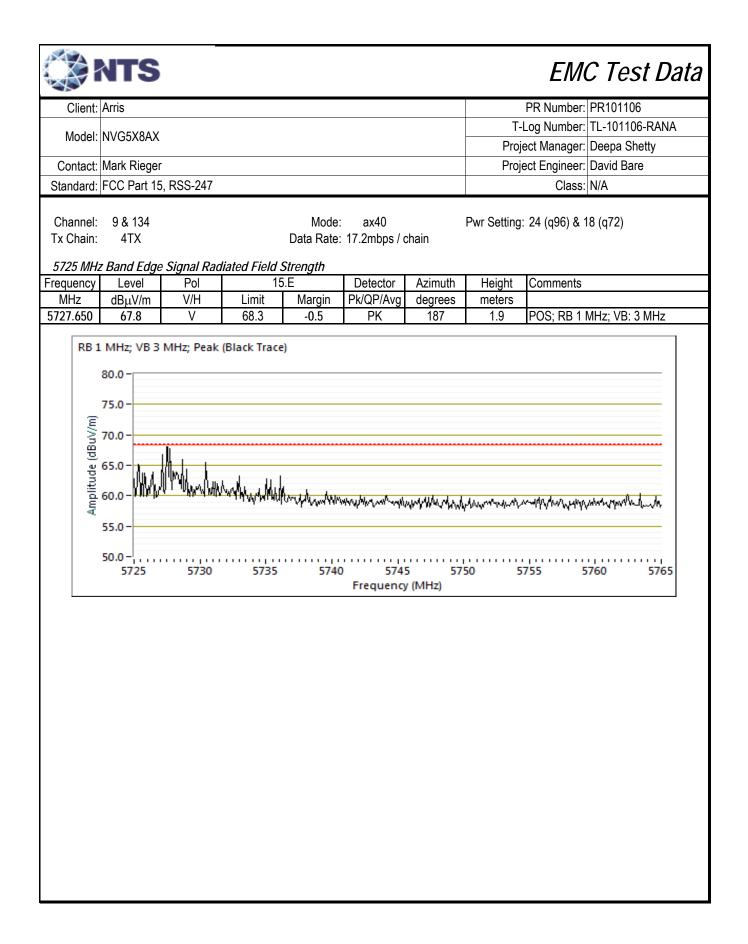


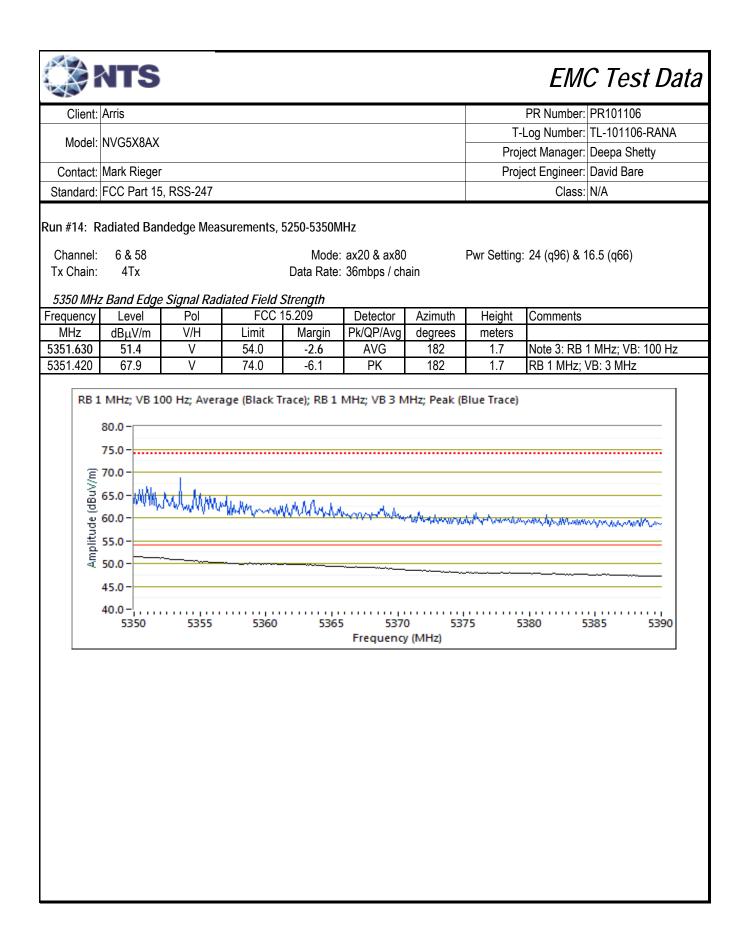


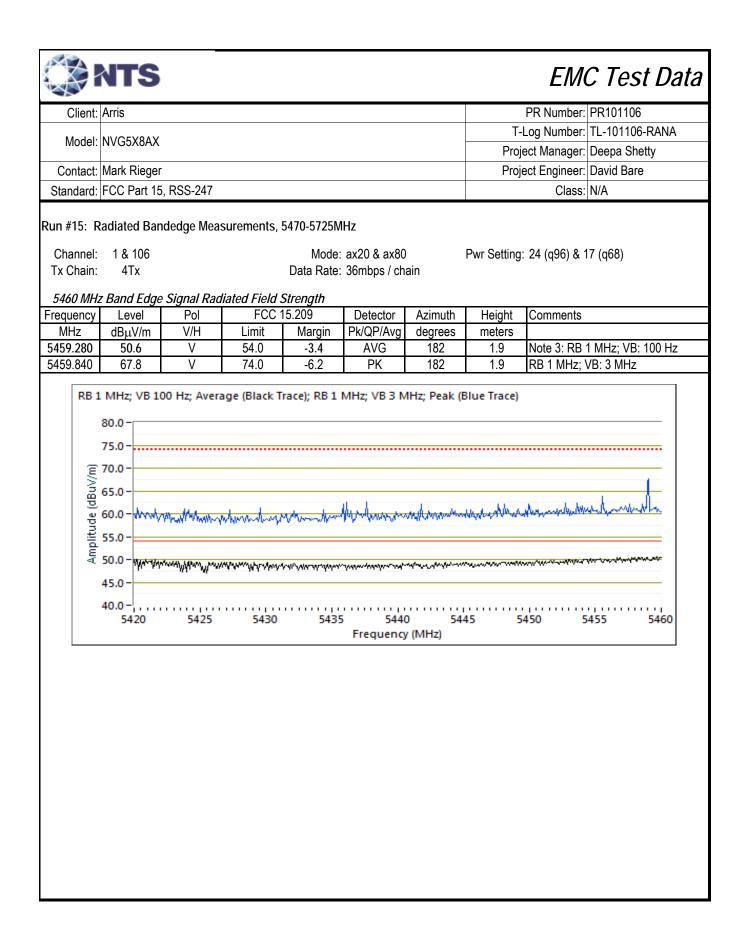


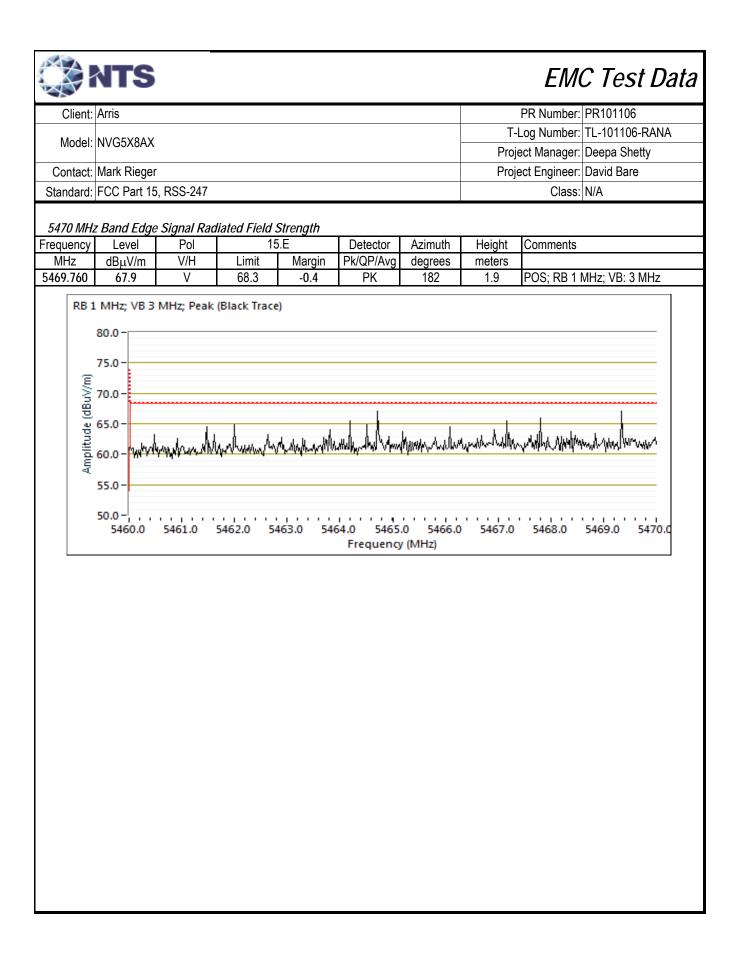




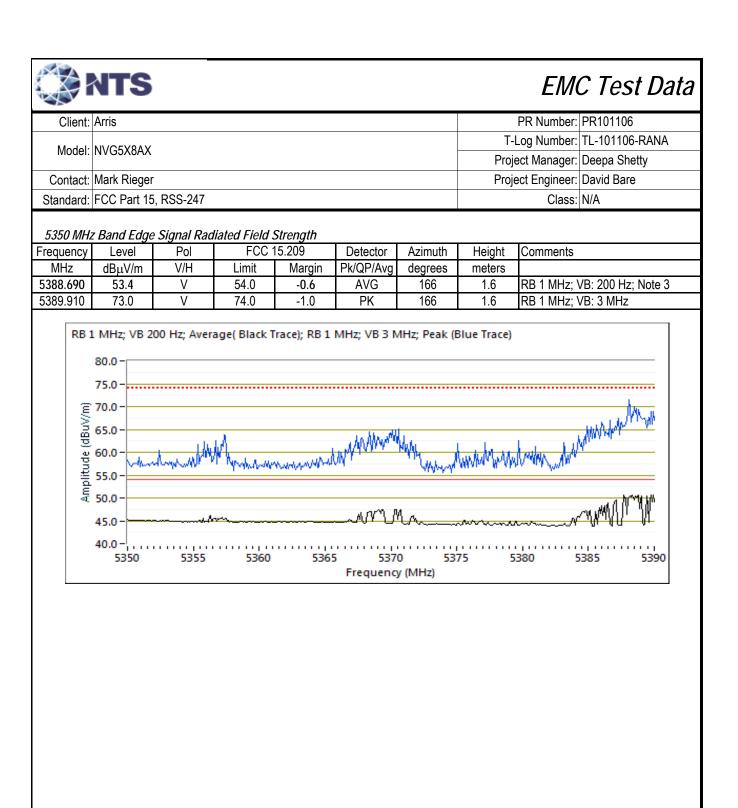




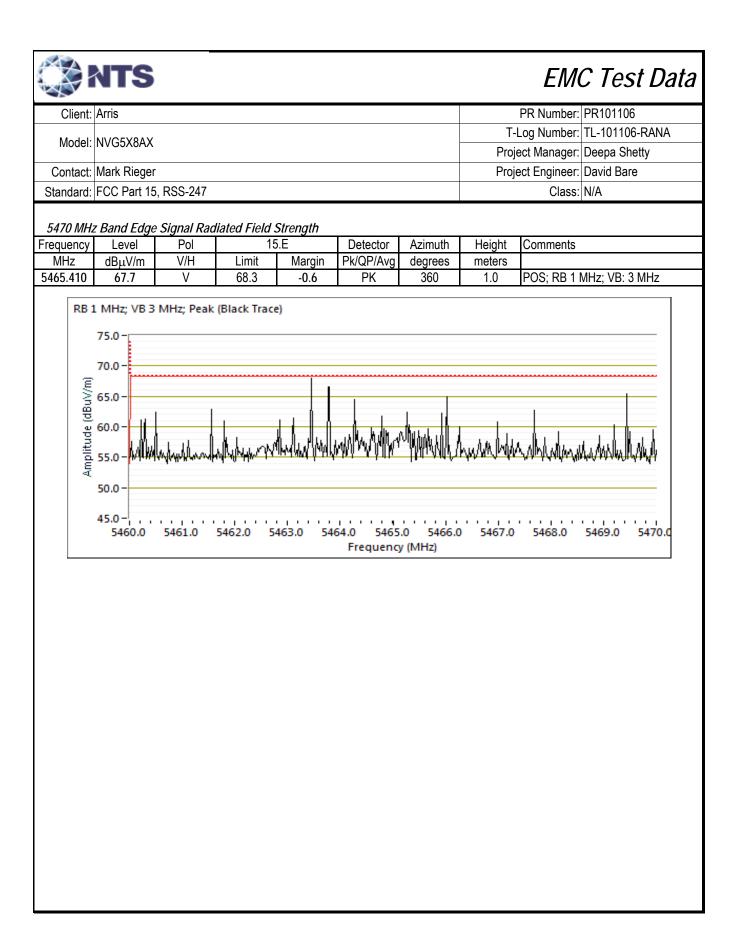




Model: NVG5X8AX T-Log Number: TL-101106-RANA Project Manager: Deepa Shetty Contact: Mark Rieger David Bare Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - - - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz - - Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) 5150 MHz Band Edge Signal Radiated Field Strength	Model: IVVG5X8AX TL-101106-RANA Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: Standard: FCC Part 15, RSS-247 Class: Run #17: Radiated Bandedge Measurements, 5150-5350MHz David Bare Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M.Kirgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4 Tx Data Rate: 72mbps / chain Stanuth Height Comments 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBuV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 T.0.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 30 Hz FB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 5	Model: NVG5X8AX TL-101106-RANA Project Manager: Depa Shetty Contact: Mark Rieger Project Engineer: Standard: FCC Part 15, RSS-247 Class: Run #17: Radiated Bandedge Measurements, 5150-5350MHz David Bare Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M.A EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4 Tx Data Rate: 72mbps / chain Stanuth S150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBuV/m V/H Limit Margin Pk/OP/vgd degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 <th>Client:</th> <th>Arris</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>PR Number:</th> <th>PR101106</th>	Client:	Arris							PR Number:	PR101106
Project Manager: Deepa Shetty Contact: Mark Rieger Project Manager: Deepa Shetty Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config. Config. Used: 1 Test Engineer: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain Test Engineers 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµU/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 30 Hz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50	Project Manager: Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config. Config. Used: 1 Config. Used: 1 Test Location: Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 5140 517 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 5140 517 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain 5140 514 5140 514 5140 514 5140 514 514 514 514 514 514 514 514 514 514 5145 5150	Project Manager: [Deepa Shetty Contact: Mark Rieger Project Engineer: David Bare Standard: FCC Part 15, RSS-247 Class: IV/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config. Config. Used: 1 Config. Used: 1 Test Location: Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain Stanuth Height 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) S0.0 - - - - - - -								T-		
Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4 Tx Data Rate: 72mbps / chain Frequency 5150 MHz Band Edge Signal Radiated Field Strength MHz Object Signal Radiated Field Strength Frequency Frequency Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB 200 Hz; Note 3 80.0 55.0 50.0 - <t< td=""><td>Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: Test Engineer: N/A Test Engineer: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain FCC 15.209 5150 MHz Band Edge Signal Radiated Field Strength Frequency Evel Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 80.0 -</td></t<> <td>Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: Test Engineer: Mirgani Config Change: - EUT Voltage: 120V/ 60Hz Test Engineer: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain FCC 15.209 Detector Azimuth Height Comments Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 S146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 50.0 45.0 45.0</td> <td>Model:</td> <td>NVG5X8AX</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Proje</td> <td>ect Manager:</td> <td>Deepa Shetty</td>	Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: Test Engineer: N/A Test Engineer: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain FCC 15.209 5150 MHz Band Edge Signal Radiated Field Strength Frequency Evel Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 80.0 -	Standard: FCC Part 15, RSS-247 Class: N/A Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: Test Engineer: Mirgani Config Change: - EUT Voltage: 120V/ 60Hz Test Engineer: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain FCC 15.209 Detector Azimuth Height Comments Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 S146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 50.0 45.0 45.0	Model:	NVG5X8AX						Proje	ect Manager:	Deepa Shetty
Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Test Engineer: M. Birgani Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz 0.0 - <td>Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain <i>5150 MHz Band Edge Signal Radiated Field Strength</i> Frequency Level Pol MHz dBµV/m V/H Limit MHz 05.9 V 54.0 -3.1 S146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 S146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 0.0 0.</td> <td>Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config Change: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol MHz 05.0 V 5145.120 50.9 V 5146.170 70.3 V 74.0 75.0 G6.0 G6.0 G6.0 6 & 50 Trace; RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 75.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Proje</td> <td></td> <td></td>	Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain <i>5150 MHz Band Edge Signal Radiated Field Strength</i> Frequency Level Pol MHz dBµV/m V/H Limit MHz 05.9 V 54.0 -3.1 S146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 S146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 0.0 0.	Run #17: Radiated Bandedge Measurements, 5150-5350MHz Date of Test: 03/11/20 Config Change: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol MHz 05.0 V 5145.120 50.9 V 5146.170 70.3 V 74.0 75.0 G6.0 G6.0 G6.0 6 & 50 Trace; RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 75.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0 G6.0		-						Proje		
Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config. Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain Test Location: Chamber 4 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15 209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 0.0	Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15:209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5140 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 66.0 9 65.0 9 50.0 9 0.0 9 50.0 9 510 9 510 9 510 9 510 9 610 <t< td=""><td>Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15:209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz Signal Radiated Field Strength (160.0 65.0 </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<>	Date of Test: 03/11/20 Config. Used: 1 Test Engineer: M. Birgani Config Change: - Test Location: Chamber 4 EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15:209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz Signal Radiated Field Strength (160.0 65.0	Standard:	FCC Part 15,	RSS-247						Class:	N/A
Test Engineer: M. Birgani Test Location: Chamber 4 Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees MHz dBµV/m V/H Limit Margin 5145.120 50.9 V 54.0 -3.1 AVG 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.070 70.0 65.0 0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz NHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 00 -	Test Engineer: M. Birgani Test Location: Chamber 4 Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4 Tx Data Rate: 72mbps / chain S150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 00 0	Test Engineer: M. Birgani Test Location: Chamber 4 Config Change: - EUT Voltage: 120V/ 60Hz Channel: 6 & 50 Mode: ax20 & ax160 Pwr Setting: 24 (q96) & 17 (q68) Tx Chain: 4 Tx Data Rate: 72mbps / chain S150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz NHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 0 <				surements,	5150-5350N		onfig. Used:	1		
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Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 7.0.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 65.0 60.0 65.0 60.0 65.0 60.0 65.0 60.0 65.0 60.0 65.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 60.0 <td>Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 </td> <td>Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 </td> <td>le</td> <td>est Location: (</td> <td>Chamber 4</td> <td></td> <td></td> <td>E</td> <td>UT Voltage:</td> <td>120V/ 60Hz</td> <td></td> <td></td>	Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0	Tx Chain: 4Tx Data Rate: 72mbps / chain 5150 MHz Band Edge Signal Radiated Field Strength Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0	le	est Location: (Chamber 4			E	UT Voltage:	120V/ 60Hz		
Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz	Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin Pk/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0 -	Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m V/H Limit Margin PK/QP/Avg degrees meters 5145.120 50.9 V 54.0 -3.1 AVG 167 1.6 RB 1 MHz; VB: 200 Hz; Note 3 5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz								Pwr Setting:	24 (q96) & 1	7 (q68)
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5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0	5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0	5146.170 70.3 V 74.0 -3.7 PK 167 1.6 RB 1 MHz; VB: 3 MHz RB 1 MHz; VB 200 Hz; Average(Black Trace); RB 1 MHz; VB 3 MHz; Peak (Blue Trace) 80.0									RB 1 MHz [.] \	/B: 200 Hz: Note 3
80.0 75.0 75.0 65.0 65.0 60.0 45.0 45.0 5110 5115 5120 5125 5130 5135 5140 5145 5150	80.0 75.0 75.0 60.0 90.0 60.0 45.0 45.0 5110 5115 5120 5125 5130 5135 5140 5145 5150	80.0 75.0 75.0 60.0 90.0 60.0 45.0 45.0 5110 5115 5120 5125 5130 5135 5140 5145 5150										
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	:	75.0								
			Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 55.0 - 55.0 - 50.0 - 45.0 - 40.0 -	Muntum Ammun 5115	·····	WF#7	Model And Alexander				алана МП/Тала 145 5150
			Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 55.0 - 55.0 - 50.0 - 45.0 - 40.0 -	Muntum Ammena 5115	·····	₩ ₩ 5125	¹¹ /1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	513			4/4/ /////////////////////////////////
			Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 55.0 - 55.0 - 50.0 - 45.0 - 40.0 -	Mun Mun M Qannon 5115	·····	₩ ₩ 5125	¹¹ /1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	513			444 444 445 145 5150
			Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 55.0 - 55.0 - 50.0 - 45.0 - 40.0 -	Mun Mun M Commence 5115	·····	₩ ₩ 5125	¹¹ /1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	513			444 145 145 150
			Amplitude (dBuV/m)	75.0 - 70.0 - 65.0 - 55.0 - 55.0 - 50.0 - 45.0 - 40.0 -	Muntum Ammono 5115	·····	5125	¹¹ /1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	513			4447 4447 445 145 5150



	NTS	5						EM	C Test Data
Client:	Arris							PR Number:	PR101106
Madal	NVG5X8	v					T-	Log Number:	TL-101106-RANA
wouer.	INVG5A0						Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rie	ger					Proje	ect Engineer:	David Bare
Standard:	FCC Part	15, RSS-247						Class:	N/A
C Te	Date of Te est Engine est Location 6 & 114	Bandedge Mea st: 03/24/20 er: M. Birgani n: Chamber 4	surements,	Mode	Co Con	0	- 120V/ 60Hz	z : 24 (q96) & 1	5.0 (q60)
					. / 211000 / 011				
		lge Signal Rad		<u>u</u>	Detector	۸ <u></u>	11	Commercial	
Frequency MHz	Level dBµV/n	Pol 1 V/H	Limit	15.209 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
5456.470	66.3	V/11	74.0	-7.7	PK	360	1.0	RB 1 MHz; \	/B· 3 MHz
5457.440	44.2	V	54.0	-9.8	AVG	360	1.0		/B: 200 Hz; Note 3
Amplitude (dBuV/m)	30.0 - 75.0 - 70.0 - 55.0 - 55.0 - 55.0 - 55.0 - 45.0 - 45.0 - 5420	<u>مرید میلامی میلامی</u> 5425	 5430	5435	<u>"IM-4.p. ^</u>	·····			<u></u>
	5420	5425			Frequency				



			EMC Test Data
Client: Arris			PR Number: PR101106
Model: NVG5X8AX			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
R	SS-247 (LELAN)	and FCC 15.4	07(UNII)
	• •	t Measuremer	
Pov	wer, PSD, Bandwidt	th and Spurious	Emissions
Fest Specific Details	this test session is to po	rform final qualificativ	on tooting of the ELIT with respect to the
Objective: The objective of specification liste		norm inal qualificatio	on testing of the EUT with respect to the
-	attenuator to prevent ove		a port of the EUT was connected to the spectrum ement system. All measurements are corrected
Ambient Conditions:	Temperature:	20-22 °C	
	Rel. Humidity:	42-45 %	
Modifications Made During Testi No modifications were made to the EUT	-		
Deviations From The Standard No deviations were made from the requ	irements of the standarc	l.	
Sample Notes			
Sample S/N: M11917QW000	г		
Driver:			
Date of Test: 7/25-29/19 Test Engineer: R. Varelas; M. B	iraani	Config. Used Config Change	
	nyanı	Host EUT Voltage	
Test Location: Lab 3			

	NTS				EM	C Test Data
Client:	Arris				PR Number:	PR101106
Model	NVG5X8AX			T-L	og Number:	TL-101106-RANA
wouer.	NV GJAUAA			Proje	ect Manager:	Deepa Shetty
Contact:	Mark Rieger			Proje	ect Engineer:	David Bare
Standard:	FCC Part 15	, RSS-247			Class:	N/A
	of Result	S Test Performed Power, 5250 - 5350MHz	Limit 15.407(a) (1), (2), (3) RSS-247 6.2	Pass / Fail Pass	Result / Mar a: 95.5 mW ac20: 97.3 r ac40: 178.1 ac80: 136.6 ac160: 87.5	nW mW mW mW
1		PSD, 5250 - 5350MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 7.1 mW/N ac20: 6.9 m' ac40: 6.3 m' ac80: 2.5 m' ac160: 1.6 n	W/MHz W/MHz W/MHz
			TPC required if EIRP≥			

500mW (27dBm).

EIRP ≥ 200mW

(23dBm) DFS threshold = -64dBm. 15.407

(Information only)

RSS-247

(Information only)

15.407(b)

-27dBm/MHz

Pass

-

N/A

Procedure Comments:

1

1

1

2

Measurements performed in accordance with FCC KDB 789033 D01

Max EIRP

5250 - 5350MHz

26dB Bandwidth

99% Bandwidth

Antenna Conducted - Out of Band

Spurious

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

EIRP = 28.2 dBm (657.8 mW)

> 20MHz for all modes

ac160: 155.0 MHz All emissions below the

a: 16.8 MHz ac20: 17.9 MHz

ac40: 36.6 MHz

ac80: 76.1 MHz

-27dBm/MHz limit

	NTS							EM	C Test	' Data
Client:	Arris							PR Number:	PR101106	
							T-I	Log Number:		RANA
Model:	NVG5X8AX							ect Manager:		
Contact:	Mark Rieger	r					-	ect Engineer:	-	,
	FCC Part 1							Class:		
Run #1: Ba		Itput Power		-	5	5				
Note 1:	OBW, # of p continuous,	ooints in swee duty cycle ≥	ep ≥ 2*span/F 98%) and po	RBW, auto s wer integrati	sweep, RMS ion over the (analyzer (see detector, pow OBW (methoo	ver averagin SA-1 of AN	ig on (transm NSI C63.10).	itted signal w	as
Note 1:	Span > OBV number to g by adding Y	N, # of points let true avera Y dB. This is	in sweep ≥ 2 ge), power a based on 10	2*span/RBW veraging on)log(1/x), wh	/, RMS detec and power in here x is the c	spectrum ana tor, trace ave ntegration ove duty cycle. (n	rage 100 tra er the OBW.	aces (at least Tthe measu	100 traces, i rements were	ncrease the
Note 2:		sing the sam							O hotwoo	4 5 and 5
Note 3:	times OBW.					ween 1-5 % o			•	
Note 4:	(in linear ter mode of the the limits is chain. If the	ms). The an MIMO device the highest g	tenna gain us e. If the sign ain of the ind coherent ther	sed to deterr als on the no lividual chain n the effectiv	mine the EIR on-coherent l ns and the EI re antenna ga	alculated from P and limits for between the t RP is the sum ain is the sum	or PSD/Outp ransmit cha n of the proc	out power dep ins then the lucts of gain a	pends on the gain used to and power or	operating determine n each
Antenna Ga					• • • • • •					
Freq		Antenna Gair	ı (dBi) / Chair	<u>ו</u>	BF	MultiChain	CDD	Sectorized	Dir G (dBi)	Dir G (dBi)
	1	2	3	4		Legacy		/ Xpol	(PWR)	(PSD)
5250-5350	4.8	4.4	4.3	4.7	Yes	Yes	Yes	Yes	2.5	8.3
	Min # of spa Max # of spa	ort CDD mod tial streams: tial streams: orming mode	1 4	Multichain I (Chain 2 = W	lue antenna c /hite antenna 11 legacy dat	cable	Chain 4 = B	rey antenna lack antenna ltichain trans	cable
Notes:	CDD = Cycl cross polaria	ic Delay Dive zed.	rsity (or Cycl	ic Shift Dive	rsity) modes	supported, Se	ectorized / X	(pol = antenn	as are sector	rized or
Notes:	•	· •		• • •		tions; GA (PS rray Gain val		-		
Notes:		or power/psd	calculated p	er KDB 6629	911 D01.					
Notes:	Option 1: D calculated b Option 2: A array gain a	elays are opt ased on bear ntennas are ssociated wit	timized for be mforming crit paired for bea h beamformi	eamforming, eria. amforming, a	rather than b and the pairs	wing options: being selected are configure b, and the arra	I from cyclic ed to use the	e cyclic delay	diversity of 8	802.11; the
	(3dB for PS	D and 0 dB fo	or power)							

	Arris							PR Number:	PR101106	
Model	NVG5X8AX						T-	Log Number:	TL-101106-F	RANA
							-	-	Deepa Shett	y
	Mark Rieger						Proje	ect Engineer:		
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
IIMO Devi	ce - 5250-535				•	mode uses				
Mode:			tenna Gain:		Ant 1			EIRP (mW):		
requency (MHz)	Chain	Software Setting	26dB BW (MHz)	Duty Cycle %	Power dBm	l otal I mW	Power ¹ dBm	FCC Limit dBm	Max Power (W)	Result
5260	2 1 2 2	21.5	21.4	99	19.4	87.1	19.4	24.0		Pass
5300	2 1 2 2	21.5	21.1	99	19.8	95.5	19.8	24.0	0.096	Pass
5320	2 1 2 2	20.0	21.2	99	18.4	69.2	18.4	24.0		Pass
IIMO Devi	ce - 5250-535	60 MHz Ban	d - ISED							
Mode:				· · · · ·				EIRP (mW):		
requency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	Power ¹ dBm		Power	ISED Limit dBm	Max Power (W)	Resul
(101112)	2	21.5	16.8	99	19.4	mW 87.1	dBm 19.4	23.3	(**)	Pass
5260	1 2 2									
. ,	2	21.5	16.8	99	19.8	95.5	19.8	23.3	0.096	Pass

Client: A	Arris							PR Number:		
Model N	IVG5X8AX								TL-101106-F	
							-		Deepa Shett	у
	/lark Rieger						Proje	ect Engineer:		
Standard: F	CC Part 15,	RSS-247						Class:	N/A	
250-5350 P	SD - FCC/ISE	ΕD								
Mode:	11a									
requency	Chain	Software	99% BW	Duty Cycle	PSD	Total			ISED Limit	Resu
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	1.000
5000	2	o 4 5			8.1	<u>.</u>	. (_
5260	2	21.5		99		6.5	8.1	11.0	11.0	Pass
	2			ļ						
_	2				8.5					
5300	2	21.5		99	0.0	7.1	8.5	11.0	11.0	Pass
	2									
	2				7.1					
5320	2	21.0		99	7.1	5.1	7.1	11.0	11.0	Pass
	2									
C turu	- An chanan Ca	- Hi								
_	n Analyzer Se 10.000 MHz	ettings 1	0.0-		querte	the manual		<u> </u>	🔊 NTS	
SPAN:	40.000 MHz		5.0-		\uparrow	- Y) — ×		
RB: 1.0 VB: 3.0			0.0-							
Detecto Attn: 10			5.0-					3		
RL Offs	et: 22.3 DB	-1	0.0-					4		
	Time: 1.0ms 20.0 DBM		5.0-		1			N		
Pwr av	g: 100 sweep	-			1			1 N -		
	rr: 0.0dB : 66.7 kHz	<u>ි</u> සි -2	0.0-	1				1		
		-2	5.0-	1				1		
Highest	PSD	-3	0.0-	1				1		
_	.5 dBm/1.00	_{о мна} -3	5.0-	-++				+ + +		
99% Bar			0.0-					- \w	month	
	84 MHz		5.0-	burning					marghter	
	over Span									
	36 mW	-5	0.0-¦ 5280.0	; 5285.0 52	90.0 5295	.0 5300.0	5305.0	5310.0 5	315.0 532	0.0
	.8 dBm		020010	0200.0 02		Frequency (01010 002	
		_								
			00%	Bandwidth,	Power Over	' Snan and D	SD			

Client	<u> </u>								C Test	
	Arris							PR Number:		
Model	NVG5X8AX							-	TL-101106-F	
							-	-	Deepa Shetty	ý
	Mark Riege						Proj	ect Engineer:		
Standard	FCC Part 15	5, RSS-247						Class:	N/A	
MIMO Devi Mode:	ce - 5250-53 ac20		d - FCC				Мах	EIRP (mW):	173.0	
Frequency		Software	26dB BW	Duty Cycle	Power	Total	Power ¹		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				13.4			1		
5260	3	15	21.1	98	13.6	94.0	19.7	24.0		Pass
	4				13.5	• • • •				
	2				13.9 13.8				d -	
	3				13.6		10.0			_
5300	4	15	21.4	98	13.6	97.3	19.9	24.0	0.097	Pass
	2				14.0					
	1				13.6					
5320	3	14.5	21.5	98	13.6	96.7	19.9	24.0		Pass
	4				13.7 14.0					
Mode:	1							EIRP (mW):		
Frequency	Chain	Software	99% BW	Duty Cycle	Power ¹		Power ¹		Max Power	Result
(MHz)	1	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	
	1				13.4 13.6					
5260	4	15	17.9	98	13.5	94.0	19.7	23.5		Pass
	2				13.9					
	1				13.8] Γ	
5300		15	17.9	98		97.3	19.9	23.5	0.097	Pass
		-	-							
								1	4 -	
										_
5320		14.5	17.9	98		96.7	19.9	23.5		Pass
	2				14.0					
5300	3 4 2 1 3 4	15 14.5	17.9 17.9	98 98	13.6 13.6 14.0 13.6 13.6 13.7	97.3 96.7	19.9 19.9		23.5	

	NTS	_						EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shett	y
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
	ce - 5250-53 ac20 w /BF	50 MHz Ban	d - FCC				Мах	EIRP (mW):	657.8	
Frequency		Software	26dB BW	Duty Cycle	Power	Total	Power ¹		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				13.4					
5260	3	15	21.1	98	13.6	94.0	19.7	21.7		Pass
5200	4	10	21.1	30	13.5	34.0	15.7	21.7		1 000
	2				13.9				4 4	
	1				13.8					
5300	3	15	21.4	98	13.6	97.3	19.9	21.7	0.097	Pass
	4				13.6					
	<u> </u>				14.0 13.6				4 -	
	3				13.6					
5320	4	14.5	21.5	98	13.0	96.7	19.9	21.7		Pass
	2				14.0					
Mode:	ac20 w /BF	50 MHz Ban		Duty Cycle	Dowor ¹	Total		(EIRP (mW):		
Mode: Frequency		Software	99% BW	Duty Cycle	Power ¹		Power ¹	ISED Limit	Max Power	Result
Mode:	ac20 w /BF Chain			Duty Cycle %	dBm	Total I mW				Result
Mode: Frequency (MHz)	ac20 w /BF Chain 1	Software Setting	99% BW (MHz)	%	dBm 13.4	mW	Power ¹ dBm	ISED Limit dBm	Max Power	
Mode: Frequency	ac20 w /BF Chain 1 3	Software	99% BW		dBm 13.4 13.6		Power ¹	ISED Limit	Max Power	Result Pass
Mode: Frequency (MHz)	ac20 w /BF Chain 1 3 4	Software Setting	99% BW (MHz)	%	dBm 13.4 13.6 13.5	mW	Power ¹ dBm	ISED Limit dBm	Max Power	
Mode: Frequency (MHz)	ac20 w /BF Chain 1 3	Software Setting	99% BW (MHz)	%	dBm 13.4 13.6	mW	Power ¹ dBm	ISED Limit dBm	Max Power	
Mode: Frequency (MHz) 5260	ac20 w /BF Chain 1 3 4 2	Software Setting 15	99% BW (MHz) 17.9	98	dBm 13.4 13.6 13.5 13.9	mW 94.0	Power ¹ dBm 19.7	ISED Limit dBm 21.2	Max Power (W)	Pass
Mode: Frequency (MHz)	ac20 w /BF Chain 1 3 4 2 1 3 4 3 4	Software Setting	99% BW (MHz)	%	dBm 13.4 13.6 13.5 13.9 13.8	mW	Power ¹ dBm	ISED Limit dBm	Max Power	
Mode: Frequency (MHz) 5260	ac20 w /BF Chain 1 3 4 2 1 3 4 2 2	Software Setting 15	99% BW (MHz) 17.9	98	dBm 13.4 13.6 13.5 13.9 13.8 13.6 13.6 13.6 14.0	mW 94.0	Power ¹ dBm 19.7	ISED Limit dBm 21.2	Max Power (W)	Pass
Mode: Frequency (MHz) 5260	ac20 w /BF Chain 1 3 4 2 1 3 4 2 2 1 2 1	Software Setting 15	99% BW (MHz) 17.9	98	dBm 13.4 13.6 13.5 13.9 13.8 13.6 13.6 13.6 14.0 13.6	mW 94.0	Power ¹ dBm 19.7	ISED Limit dBm 21.2	Max Power (W)	Pass
Mode: Frequency (MHz) 5260 5300	ac20 w /BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3	Software Setting 15 15	99% BW (MHz) 17.9 17.9	% 98 98	dBm 13.4 13.6 13.5 13.9 13.8 13.6 13.6 14.0 13.6 13.6 13.6	mW 94.0 97.3	Power ¹ dBm 19.7 19.9	ISED Limit dBm 21.2 21.2	Max Power (W)	Pass Pass
Mode: Frequency (MHz) 5260	ac20 w /BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 15	99% BW (MHz) 17.9	98	dBm 13.4 13.6 13.5 13.9 13.8 13.6 13.6 14.0 13.6 13.6 13.6 13.7	mW 94.0	Power ¹ dBm 19.7	ISED Limit dBm 21.2	Max Power (W)	Pass
Mode: Frequency (MHz) 5260 5300	ac20 w /BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3	Software Setting 15 15	99% BW (MHz) 17.9 17.9	% 98 98	dBm 13.4 13.6 13.5 13.9 13.8 13.6 13.6 14.0 13.6 13.6 13.6	mW 94.0 97.3	Power ¹ dBm 19.7 19.9	ISED Limit dBm 21.2 21.2	Max Power (W)	Pass Pass
Mode: Frequency (MHz) 5260 5300	ac20 w /BF Chain 1 3 4 2 1 3 4 2 1 3 4 2 1 3 4	Software Setting 15 15	99% BW (MHz) 17.9 17.9	% 98 98	dBm 13.4 13.6 13.5 13.9 13.8 13.6 13.6 14.0 13.6 13.6 13.6 13.7	mW 94.0 97.3	Power ¹ dBm 19.7 19.9	ISED Limit dBm 21.2 21.2	Max Power (W)	Pass Pass

Client	Arris							PR Number:	PR101106	
									TL-101106-F	RANA
Model:	NVG5X8AX						Proje	ect Manager:	Deepa Shett	у
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
Mode:	PSD - FCC/IS ac20									
Frequency	Chain	Software	99% BW	Duty Cycle	PSD		PSD ¹		ISED Limit	Result
(MHz)		Setting	(MHz)	%	dBm/MHz 1.8	mW/MHz	dBm/MHz	dBm	/MHz	
5260	1 3 4 2	15		97.6	2.0 2.0 2.5	6.6	8.2	8.7	11.0	Pass
5300	1 3 4 2	15		97.6	2.2 2.2 2.0 2.7	6.9	8.4	8.7	11.0	Pass
5320	$ \begin{array}{c} 2 \\ 1 \\ 3 \\ 4 \\ 2 \end{array} $	14.5		97.6	2.0 2.1 2.3 2.4	6.8	8.3	8.7	11.0	Pass
CF: 5 SPAN RB: 1 VB: 3 Detect Attn: RL Of Swee Ref Ly Pwr a Amp Bin si: 9996 B 1 Power 24	um Analyzer S 300.000 MHz 1: 40.000 MHz 1: 000 MHz 1: 000 MHz tor: RMS 10 DB fset: 22.3 DB p Time: 1.0ms vg: 100 sweet corr: 0.0dB re: 66.7 kHz st PSD 2.7 dBm/1.0 andwidth 8.04 MHz Over Span 1:985 mW 14.0 dBm	 -1 -2 -2 -3 -3 -3 00 MHz -4 -4 -4	0.0 - 5.0 - 0.0 - 5.0 - 0.0 - 9.0 - 9.0 -	5285.0 52		5.0 5300.0 Frequency (5310.0 5	315.0 532	
			00%	Bandwidth	Power Over	r Span and P	SD			

Client: Arr Model: NV Contact: Ma Standard: FC	ris							EM	C Test	Data
Contact: Ma								PR Number:	PR101106	
Contact: Ma							T-	Log Number:	TL-101106-F	RANA
	VGSXOAX						Proj	ect Manager:	Deepa Shett	у
Standard [,] FC	ark Rieger						Proj	ect Engineer:	David Bare	
otariaara. i e	CC Part 15	, RSS-247						Class:	N/A	
MIMO Device - Mode:	- 5250-535 ac40	i0 MHz Ban	d - FCC				Мах	EIRP (mW):	316.7	
Frequency		Software	26dB BW	Duty Cycle	Power	Total F			Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				16.1					
5270	3	18	40.3	97	16.2	178.1	22.5	24.0		Pass
	4		10.0		16.1		22.0	20		1 400
	2				17.0 15.4				0.178	
5310	3	16.75	39.6	97	15.4	148.6	21.7	24.0		Pass
3310	4	10.75	00.0	57	15.9	140.0	21.7	24.0		1 035
	2		<u> </u>		15.6					
MIMO Device - Mode: Frequency	ac40	60 MHz Ban Software	d - ISED 99% BW	Duty Cycle	Power ¹	Total F		EIRP (mW):	316.7 Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
5270	1 3	18	36.6	97	16.1 16.2	178.1	22.5	24.0		Pass
5270	4	10	30.0	97	16.1 17.0	170.1	22.0	24.0		F 855
	1				15.4				0.178	
5310	3	16.75	36.6	97	15.4	148.6	21.7	24.0		Pass
5510	4	10.75	50.0	57	15.9	140.0	21.7	24.0		1 033
	2				15.6					

Client:	Arris							PR Number:	PR101106	
							T-L	og Number:	TL-101106-F	ANA
Model:	NVG5X8AX						Proje	ect Manager:	Deepa Shetty	/
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	i, RSS-247						Class:	N/A	
	ce - 5250-53 ac40 w/ BF	50 MHz Ban	d - FCC				Max	EIRP (mW):	256.8	
requency		Software	26dB BW	Duty Cycle	Power	Total	Power ¹		Max Power	Decult
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				15.5					
5270	3	16.5	38.0	97	14.2	144.4	21.6	21.7		Pass
	4				16.0		-			
	2				15.9 14.6				0.144	
	3				14.0					_
5310	4	15.5	38.0	97	15.2	115.7	20.6	21.7		Pass
	2				14.8					
Mode: requency (MHz)	ac40 w/ BF	Software Setting	99% BW (MHz)	Duty Cycle %	Power ¹ dBm	Total mW	Max Power ¹ dBm	EIRP (mW): ISED Limit dBm	256.8 Max Power (W)	Resul
5270	1 3 4 2	16.5	36.6	97	15.5 14.2 16.0 15.9	144.4	21.6	21.7		Pass
	1 3 4	15.5	36.6	97	13.9 14.6 13.1 15.2 14.8	115.7	20.6	21.7	0.144 -	Pass
5310	2									
	2 ce 5250-5350	0 PSD - FCC Software Setting	/ISED 99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz		ISED Limit /MHz	Resul
IMO Devi Mode: requency	2 ce 5250-5350 ac40	Software	99% BW							Result

Client: Arris			Pf	R Number:	PR101106
/lodel: NVG5X8AX			T-Lo	g Number:	TL-101106-RANA
					Deepa Shetty
ontact: Mark Rieger			Project	Engineer:	David Bare
ndard: FCC Part 15, RS	S-247			Class:	N/A
Spectrum Analyzer Settin	^{gs} 5.0 -				
CF: 5270.000 MHz		Anno and a second	man provide the second	<u>.</u>	şnts 🛛
SPAN: 80.000 MHz RB: 1.000 MHz	0.0-		Y		-
VB: 3.000 MHz	-5.0-		- Y -		
Detector: RMS Attn: 10 DB	-10.0 -			1	
RL Offset: 22.3 DB	-15.0-			1	
Sweep Time: 1.0ms Ref Lvl: 22.3 DBM	-20.0 -			1	
Pwr avg: 100 sweeps		- (1	
Amp corr: 0.0dB Bin size: 133 kHz	틆 -25.0-				
	-30.0 -				
Highest PSD	-35.0-			<u> </u>	
2.5 dBm/1.000 Mł	-40.0 -				
99% Bandwidth	-45.0-			· .	
36.47 MHz	-50.0			-	mound
Power Over Span					
49.579 mW	-55.0-¦ 5230.0 5240.0	5250.0 5260.0	5270.0 5280.0 5	290.0 5	300.0 5310.0
17.0 dBm			juency (MHz)		
	99% Bandwic	th, Power Over Spa	n and PSD		

Client:	NTS Arris							PR Number:	C Test	Data
Client.	AIIIS						Т_		TL-101106-F	ΔΝΙΔ
Model:	NVG5X8AX							-	Deepa Shett	
Contact	Mark Rieger							ect Engineer:		/
	FCC Part 15						FIUji	Class:		
Stanuaru.	FUUFAILIS	, NOO-241						01855.	N/A	
AIMO Devid Mode:	ce - 5250-53! ac80	50 MHz Ban	d - FCC				Мах	EIRP (mW):	242.9	
Frequency		Software	26dB BW	Duty Cycle	Power	Total F	² ower ¹		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
· /	1	- 5	· /	,0	14.8		4.511			
5290	3	16.5	81.9	96	15.2	136.6	21.4	24.0	0.137	Pass
5290	4	C.01	01.9	90	15.4	0.001	21.4	24.0	0.13/	rass
	2				15.2					
/IMO Devid	ce - 5250-53	50 MHz Ban	d - ISED							
Mode:	ac80							EIRP (mW):		
Frequency	Chain	Software	99% BW	Duty Cycle	Power ¹	Total F			Max Power	Result
(MHz)		Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	rtooun
	1				14.8					
5290	3	16.5	76.1	96	15.2	136.6	21.4	24.0	0.137	Pass
	4				15.4 15.2					

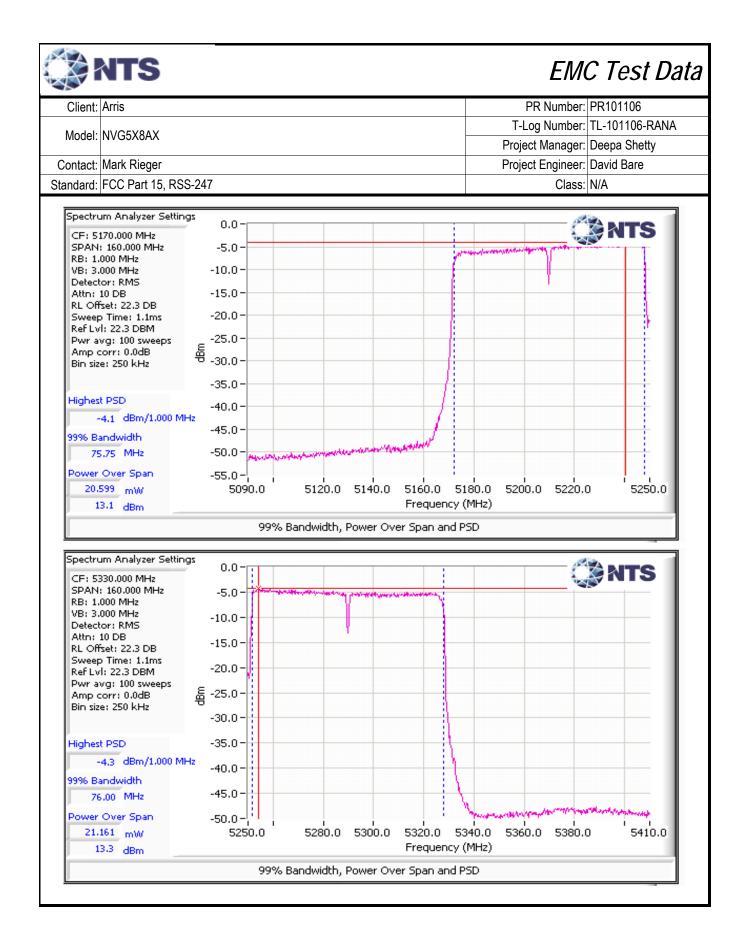
Client: Ar Model: N								EMO	C Test	Data
Model: N	vrris							PR Number:	PR101106	
							T-L	og Number:	TL-101106-F	RANA
	IV GJAOAA						Proje	ect Manager:	Deepa Shett	y
Contact: Ma	-						Proje	ct Engineer:		
Standard: FC	CC Part 15	, RSS-247						Class:	N/A	
MIMO Device Mode: ac	e - 5250-535 c80 w/ BF	0 MHz Ban	d - FCC				Max	EIRP (mW):	242.9	
Frequency	Chain	Software	26dB BW	Duty Cycle	Power	Total F	Power ¹		Max Power	Result
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				14.8					
5290	3 4	16.5	81.9	96	15.2 15.4	136.6	21.4	21.7	0.137	Pass
	4 2				15.4					
MIMO Device Mode: ac	e - 5250-535 c80 w/ BF	0 MHz Ban	d - ISED				Max	EIRP (mW):	242.9	
Frequency	Chain	Software	99% BW	Duty Cycle	Power ¹	Total F	Power ¹	ISED Limit	Max Power	Result
(MHz)		Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	rtesuit
5290	1 3 4 2	16.5	76.1	96	14.8 15.2 15.4 15.2	136.6	21.4	21.7	0.137	Pass
MIMO Device Mode: Frequency (MHz)	ac80 Chain	PSD - FCC Software Setting	/ISED 99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz		ISED Limit /MHz	Result
5290	1 3 4 2	16.5		96	-2.6 -2.2 -1.9 -2.1	2.5	4.0	8.7	11.0	Pass

Client: Arris						PR	Number:	PR101	106
/lodel: NVG5X8AX						T-Log N	lumber:	TL-101	106-RAN
						Project M	lanager:	Deepa	Shetty
ntact: Mark Rieger						Project E	ngineer:	David B	Bare
ndard: FCC Part 15, RS	S-247						Class:	N/A	
Spectrum Analyzer Settir	ngs 0.0 -						<i>M</i>		
CF: 5290.000 MHz				and a start of the	-	- And a state of the state	- {	Ş₹N.	TS
SPAN: 160.000 MHz RB: 1.000 MHz	-5.0-								
VB: 3.000 MHz	-10.0-								_
Detector: RMS Attn: 10 DB	-15.0-								
RL Offset: 22.3 DB	-20.0-								
Sweep Time: 1.0ms Ref Lvl: 22.3 DBM									
Pwr avg: 100 sweeps Amp corr: 0.0dB	-25.0- 특-30.0-								
Bin size: 267 kHz	卷-30.0-								_
	-35.0-					-			
Highest PSD	-40.0-								
-1.9 dBm/1.000 M	1Hz	/							
99% Bandwidth	-45.0-						1		
75.87 MHz	-50.0-	person and and the					Mary	Surger and	angel age
Power Over Span	-55.0-								
34.720 mW	5210.0	5240.0	5260.0	5280.0	5300.0	5320.0	5340.0	0	5370.0
15.4 dBm				Frequer	icy (MHz)				_
	99	9% Bandwidth,	Power Ove	er Span ar	nd PSD				

	NTS							FM	C Test	Data
Client:								PR Number:		Data
									TL-101106-F	RANA
Model:	NVG5X8AX							-	Deepa Shett	
Contact.	Mark Rieger							ect Engineer:)
	FCC Part 15							Class:		
otandara.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						01000.		
MIMO Devid Mode:	e - Portion ac160	within 5250-	5350 MHz E	Band (UNII-2/	4) - FCC		Мах	EIRP (mW):	155.6	
Frequency		Software	26dB BW	Duty Cycle	Power	Total I	Power ¹		Max Power	Desult
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				12.9					
5250	3	17.25		96	13.3	87.5	19.4	24.0	0.088	Pass
0200	4	11.20			13.1	01.0	10.1	21.0	0.000	1 400
	2				13.5					
Portion with	nin 5150-525									
Frequency	Chain	Software	26dB BW	Duty Cycle	Power		^D ower ¹	FCC Limit	Max Power	Result
(MHz)		Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	
	1 3				12.8 13.1					
5250	4	17.25	82.14	96	13.1	82.6	19.2	30.0	0.083	Pass
	2				12.8					
		within 5250-	-5350 MHz E	Band (UNII-2/	A) - ISED					
Mode:	ac160	Coffuero			– 1			EIRP (mW):		
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle	Power ¹		Power ¹		Max Power	Result
(11112)	1	Setting	(101112)	%	dBm 12.9	mW	dBm	dBm	(W)	
	3				13.3					_
5250	4	17.25	77.47	96	13.1	87.5	19.4	24.0	0.088	Pass
	2				13.5					
Portion with	nin 5150-525	60 MHz band	l (UNII-1)							
Frequency	Chain	Software	99% BW	Duty Cycle	Power ¹	Total	Power	ISED Limit	Max Power	Result
(MHz)	Onain	Setting	(MHz)	%	dBm	dBm	dBm (eirp)	dBm (eirp)	(W)	Result
	1				12.8					
5250	3	17.25	77.47	96	13.1	19.2	19.2	23.0	0.019	Pass
	4				13.1					
 	۷				12.8		<u> </u>			

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madal	NVG5X8AX						T-l	og Number:	TL-101106-F	RANA
woder.	NVGDAOAA						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 - Portion ac160 w/ BF		5350 MHz E	Band (UNII-24	4) - FCC		Max	EIRP (mW):	155.6	
Frequency	Chain	Software	26dB BW	Duty Cycle	Power	Total	Power ¹		Max Power	Deput
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				12.9					
5250	3	17.25		96	13.3	87.5	19.4	21.7	0.088	Pass
0200	4	17.20			13.1	01.0	10.4	21.7	0.000	1 400
	2				13.5					
	nin 5150-525	50 MHz band	· /		_		1			
Frequency	Chain	Software	26dB BW	Duty Cycle	Power		Power ¹		Max Power	Result
(MHz)	4	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	
	1				12.8					
5250	3	17.25	82.1	96	13.1 13.1	82.6	19.2	27.9	0.083	Pass
	2				12.8					
Mode:	ce - Portion ac160 w/ BF	-		Band (UNII-24	-			EIRP (mW):		
Frequency	Chain	Software	99% BW	Duty Cycle	Power ¹		Power ¹		Max Power	Result
(MHz)	1	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	
	1 3				9.8 8.8					
5250	4	13.5	77.3	96	10.1	39.1	15.9	21.7	0.039	Pass
	2				10.0					
Portion with	nin 5150-525	50 MHz band	I (UNII-1)							
Frequency	Chain	Software	99% BW	Duty Cycle	Power ¹	Total	Power	ISED Limit	Max Power	Result
(MHz)	Chain	Setting	(MHz)	%	dBm	dBm	dBm (eirp)	dBm (eirp)	(W)	Result
5250	1 3 4 2	13.5	77.3	96	9.0 7.4 8.8 9.2	14.9	23.0	23.0	0.015	Pass
	2			<u> </u>	9.2		<u></u>	<u> </u>	<u> </u>	

T-Log Number: TL-101106-RANA Model: IVVGSX8AX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare Standard: FCC Part 15, RSS-247 Class: N/A MIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - FCC Mimode: ac160 FCC Limit Resi frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Resi (MHz) Chain Software 99% BW Duty Cycle PSD MW/MHz dBm/MHz dBm/MHz Resi 96 4.3 4.3 1.6 2.0 8.7 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Resi MIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - ISED Mimode: ac160 2 1.6 2.0 14.9 Pas MIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - ISED Mode: ac160	Client:	Arris						F	R Number: PR101106	3
Model: INVGSXBAX Project Manager: Deepa Shetty Contact: Mark Rieger David Bare David Bare Standard: FCC Part 15, RSS-247 Class: IV/A MIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - FCC Mode: ac160 FCC Limit Resi Frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Resi 5250 3 1 1.6 2.0 8.7 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Resi (MHz) 1 . . 4.4 1.6 2.0 8.7 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Resi MIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - ISED Ad Ad Ad Ad Ad Ad										
Standard: FCC Part 15, RSS-247 Class: N/A MIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - FCC Mode: ac160 Frequency Chain Software 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ mW/MHz FCC Limit dBm/MHz Resident 5250 1 1 -4.3 -4.3 -4.4 -7.2 -7.2 -7.2 -7.2 -7.9 -7.7 -7.8 -7.7 -7.8 -7.7 -7.8 -7.9 -7.7 -7.7 -7.8 -7.7 -7.8 -7.9 0.7 -1.5 11.0 Past 6250 1 -1.5 96 -7.7 -7.7 -7.7 -7.8 -7.9 0.7 -1.5 11.0 Past 5250 1 -1.5 96 -7.7 -7.7 -7.7 -7.7 -7.8 -7.9 0.7 -1.5 11.0 Past 5250 1 1.3.5 96 -7.7 -7.7 -7.7 -7.7 -7.7 -7.7 <t< td=""><td>Model:</td><td>NVG5X8AX</td><td></td><td></td><td></td><td></td><td></td><td></td><td>•</td><td></td></t<>	Model:	NVG5X8AX							•	
VIIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - FCC Mode: ac160 Frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Resi (MHz) 1 -4.3 -4.3 -4.3 -4.3 -4.3 -4.2 -4.3 -4.2 -7.0 -8.7 Pas Portion within 5150-5250 MHz band (UNII-1)	Contact:	Mark Rieger	-					Projec	t Engineer: David Bar	е
Mode: ac160 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % PSD dBm/MHz Total PSD ¹ mW/MHz FCC Limit dBm/MHz Resident 5250 1 1 -4.3 1.6 2.0 8.7 Passion 5250 4 17.25 96 -4.3 1.6 2.0 8.7 Passion Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ mW/MHz FCC Limit dBm/MHz Resident 5250 1 1 -4.6 -4.1 -4.6 -4.1 -4.3 -4.3 -4.1 -4.3 -4.3 -4.3 -4.1 -4.3 -4.3 -4.3 -4.3 -4.4 -4.3	Standard:	FCC Part 15	5, RSS-247						Class: N/A	
Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % PSD dBm/MHz Total PSD ¹ mW/MHz FCC Limit dBm/MHz Resident dBm/MHz 5250 3 17.25 96 -4.3 -4.4 1.6 2.0 8.7 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ mW/MHz FCC Limit dBm/MHz Resident dBm/MHz 5250 1 3 17.25 96 -4.6 -4.1 1.6 2.0 14.9 Pas 5250 1 3 17.25 96 -4.6 -4.1 1.6 2.0 14.9 Pas MIMO Device - Portion within 520-5350 MHz Band (UNII-2A) PSD - ISED Mode: ac160 -7.7 0.7 -1.5 11.0 Pas 5250 1 3 13.5 96 -7.7 -7.8 0.7 -1.5 11.0 Pas Portion within 5150-5250 MHz band (UNII-1) 5 96 -7.7 -7.8 0.7 -1.5 <			within 5250	5350 MHz E	Band (UNII-2/	A) PSD - FC	С			
(MHz) Setting (MHz) % dBm/MHz mW/MHz dBm/MHz dBm/Mz dBm/Mz<			Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC Limit	Pocult
5250 3 17.25 96 4.3 1.6 2.0 8.7 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency Chain Software 99% BW Duty Cycle PSD Total PSD ¹ FCC Limit Residem/MHz MHZ MHz MHz MHz MMHz MMHz dBm/MHz Residem/MHz Residem/MHz <td>(MHz)</td> <td>Chain</td> <td>Setting</td> <td>(MHz)</td> <td>%</td> <td></td> <td>mW/MHz</td> <td>dBm/MHz</td> <td>dBm/MHz</td> <td>Result</td>	(MHz)	Chain	Setting	(MHz)	%		mW/MHz	dBm/MHz	dBm/MHz	Result
Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle % PSD dBm/MHz Total PSD ¹ mW/MHz FCC Limit dBm/MHz Residential dBm/MHz 1 -4.6 -4.1 1.6 2.0 14.9 Pas 5250	5250	3 4	17.25		96	-4.3 -4.4	1.6	2.0	8.7	Pass
(MHz) Chain Setting (MHz) % dBm/MHz mW/MHz dBm/MHz dBm/Mz dBm/Mz<								1	50011 //	
1 1 2 1 2 1 2 1		Chain								Result
5250 3 4 17.2596 4.1 4.1 4.3 1.62.014.9PasMIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - ISED Mode: ac160Mode: ac160Software Setting99% BW (MHz)Duty Cycle %PSD dBm/MHzTotal PSD1 mW/MHzISED Limit dBm/MHzResultfrequency (MHz)Chain 3Software Setting99% BW (MHz)Duty Cycle %PSD dBm/MHzTotal PSD1 mW/MHzISED Limit dBm/MHzResult5250 3 413.596 -7.9 -7.8 0.7-1.511.0PasPortion within 5150-5250 MHz band (UNII-1)PSD (MHz)Total PSD1 -7.8 ISED Limit dBm/MHzResultPortion within 5150-5250 MHz band (UNII-1) -7.8 <td>(11112)</td> <td>1</td> <td>Setting</td> <td></td> <td>%</td> <td></td> <td>MVV/IVIHZ</td> <td>abm/iviHz</td> <td></td> <td></td>	(11112)	1	Setting		%		MVV/IVIHZ	abm/iviHz		
IIMO Device - Portion within 5250-5350 MHz Band (UNII-2A) PSD - ISED Mode: ac160 Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ ISED Limit dBm/MHz Result 5250 $\frac{1}{3}$ $\frac{1}{3.5}$ 96 $\frac{-7.9}{-7.7}$ 0.7 -1.5 11.0 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ ISED Limit dBm/MHz Result Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ ISED Limit dBm/MHz Result Software (MHz) 99% BW (MHz) Duty Cycle PSD dBm/MHz Total PSD ¹ ISED Limit dBm/MHz Result Software (MHz) 99% BW (MHz) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5250	3	17.25		96	-4.1 -4.1	1.6	2.0	14.9	Pass
(MHz) Chain Setting (MHz) % dBm/MHz mW/MHz dBm/MHz dBm/Mz <	Mode:	ac160			-	-			ISED Limit	
5250 3 13.5 96 -8.9 0.7 -1.5 11.0 Pas Portion within 5150-5250 MHz band (UNII-1) -7.8 0.7 -1.5 11.0 Pas Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Software (MHz) 99% BW (MHz) Duty Cycle PSD (MHz) Total PSD ¹ ISED Limit (MHz) Result 5250 3 13.5 96 -9.5 0.6 -2.2 1.9 Pas		Chain								Result
Portion within 5150-5250 MHz band (UNII-1) Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD Total PSD ¹ ISED Limit dBm/MHz Results 1	5250	3 4	13.5			-7.9 -8.9 -7.7				Pass
Frequency (MHz) Chain Software Setting 99% BW (MHz) Duty Cycle PSD Total PSD ¹ ISED Limit dBm/MHz Result dBm/MHz 1 -8.0 3 13.5 96 -9.5 0.6 -2.2 1.9 Pase	Portion wit	hin 5150-525	50 MHz band	I (UNII-1)						
(MHZ) Setting (MHZ) % dBm/MHz mW/MHz dBm/MHz dBm/MHz 1 -8.0 -8.0 -8.0 10.000 10					Duty Cycle	PSD	Total	PSD ¹	ISED Limit	Desult
5250 <u>3</u> 13.5 <u>96</u> <u>-9.5</u> <u>0.6</u> <u>-2.2</u> <u>1.9</u> Pas	(MHz)	Chain	Setting	(MHz)	%		mW/MHz	dBm/MHz	dBm/MHz	Result
-7.8	5250	3	13.5		96	-9.5 -8.2	0.6	-2.2	1.9	Pass



Client:	Arris				PR Number:	PR101106
Cilent.	71113					TL-101106-RANA
Model:	NVG5X8AX				•	Deepa Shetty
Contact:	Mark Rieger			-	ect Engineer:	
Standard:	FCC Part 15	, RSS-247			Class:	
		Antenna	AN) and FCC 15.4 Port Measuremer width and Spurious	nts	5	
est Spec		S The objective of this test session is t specification listed above.	to perform final qualificatio	on testing of th	ne EUT with r	respect to the
When mea analyzer c	or power mete	Juration onducted emissions from the EUT's er via a suitable attenuator to preven ttenuators and cables used.		•		•
mbient (Conditions	. Tomporature	00.00			
			e: 20 °C			
		: Temperature Rel. Humidity				
		Rel. Humidity				
ummary	of Results	Rel. Humidity	r: 45 %	Pass / Fail	Result / Mar	rain
Summary	n #	Rel. Humidity		Pass / Fail	Result / Mar ax20: 7.3 m ax40: 5.0 m ax80: 2.7 m ax160: 1.6 n	W/MHz W/MHz W/MHz
Summary Ru	n #	Rel. Humidity S Test Performed	r: 45 % Limit 15.407(a) (1), (2), (3)	Pass / Fail	ax20: 7.3 m' ax40: 5.0 m' ax80: 2.7 m'	W/MHz W/MHz W/MHz nW/MHz MHz MHz MHz
Summary Ru	n # 1 1 ions Made	Rel. Humidity Test Performed PSD, 5250 - 5350MHz	r: 45 % Limit 15.407(a) (1), (2), (3) RSS-247 6.2 RSS-247		ax20: 7.3 m ¹ ax40: 5.0 m ¹ ax80: 2.7 m ¹ ax160: 1.6 n ax20: 19.2 M ax40: 38.0 M ax80: 77.3 M	W/MHz W/MHz W/MHz nW/MHz MHz MHz MHz



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal		T-Log Number:	TL-101106-RANA
wouer.	NVG5X8AX	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
ac20	6.5	97.6%	Yes	5.27	0.1	0.2	190	4324
ac40	13.5	97.3%	Yes	5.24	0.1	0.2	191	8811
ac80	29.3	96.0%	Yes	1.43	0.2	0.4	698	5159
ac160	58.5	95.6%	Yes	1.44	0.2	0.4	695	10443

Sample Notes

Sample S/N: M11917QW000T

Date of Test: 03/11/20 Test Engineer: M. Birgani Test Location: Fremont EMC Lab #3 Config. Used: 1 Config Change: None EUT Voltage: 3.3Vdc

Chain 1: Blue Chain 3: Gray Chain 2: White Chain 4: Black

	1										
Client:	Arris							PR Number:			
Model.	NVG5X8AX					-		Log Number:			
modol.							Project Manager: Deepa Shetty				
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare		
Standard:	FCC Part 15,	RSS-247						Class:	N/A		
Run #1: Ba	ndwidth, Out	put Power a	and Power S	Spectral Dei	nsity - MIM	O Systems					
Note 2:	Measured us										
						s for the anten	-		•		
Note 3:						e the highest n				-	
					-	asured 99% ba	andwidth) by	more than 3	dB by the an	nount that	
	the measured					etween 1-5 % c	of OBW and	VB > 3*BB	Snan hetwee	n 1.5 and	
Note 4:	times OBW.				0.10 110 01			· • B ≟ 0 1 (B, •	opun bothoc		
		stems the to	tal output po	ower and tota	al PSD are o	calculated from	the sum of	the powers c	of the individu	al chains	
	(in linear terms). The antenna gain used to determine the EIRP and limits for PSD/Output power depends on the operating										
Note 5:	mode of the MIMO device. If the signals on the non-coherent between the transmit chains then the gain used to determine										
	the limits is the highest gain of the individual chains and the EIRP is the sum of the products of gain and power on each chain. If the signals are coherent then the effective antenna gain is the sum (in linear terms) of the gains for each chain and										
							•	-	•		
	chain. If the	signals are o	oherent the	n the effectiv	ve antenna g		•	-	•		
		signals are o	oherent the	n the effectiv	ve antenna g		•	-	•		
Antenna Ga	chain. If the	signals are o ne product o	oherent the	n the effectiv	ve antenna g		•	-	•		
	chain. If the sthe EIRP is the and the EIRP is the ain Information	signals are o ne product o	coherent the f the effectiv	n the effectiv e gain and to	ve antenna g otal power.		i (in linear te	-	•		
Freq	chain. If the s the EIRP is th ain Information Ai	signals are o ne product o n ntenna Gain 2	coherent the f the effectiv (dBi) / Chai 3	n the effectiv e gain and to n 4	ve antenna g otal power. BF	gain is the sum MultiChain Legacy	(in linear te	erms) of the g Sectorized / Xpol	ains for each Dir G (dBi) (PWR)	Dir G (dB	
Freq	chain. If the s the EIRP is th ain Informatio	signals are o ne product o nn ntenna Gain	coherent the f the effectiv (dBi) / Chai	n the effectiv e gain and to n	ve antenna g otal power.	gain is the sum	i (in linear te	erms) of the g	ains for each Dir G (dBi)	n chain and	
Freq 250-5350	chain. If the s the EIRP is th ain Information Ain 1 4.8	signals are on the product of the product of the product of the product of the product of the product of the product of the product of the product of the product of the product of the product of the pr	coherent the f the effectiv (dBi) / Chai 3 4.3	n the effectiv e gain and to n 4	ve antenna g otal power. BF	gain is the sum MultiChain Legacy	(in linear te	erms) of the g Sectorized / Xpol	ains for each Dir G (dBi) (PWR)	Dir G (dB	
Freq 250-5350	chain. If the s the EIRP is the ain Informatic Air 1 4.8 s that suppor	signals are c ne product o ntenna Gain 2 4.4 t CDD mode	coherent the f the effectiv (dBi) / Chai 3 4.3	n the effectiv e gain and to n 4	ve antenna g otal power. BF	gain is the sum MultiChain Legacy	(in linear te	erms) of the g Sectorized / Xpol	ains for each Dir G (dBi) (PWR)	Dir G (de	
Freq 250-5350 for devices	chain. If the s the EIRP is the ain Information Air 1 4.8 s that suppor Min # of spati	signals are one product of the produ	coherent the f the effectiv (dBi) / Chai 3 4.3	n the effectiv e gain and to n 4	ve antenna g otal power. BF	gain is the sum MultiChain Legacy	(in linear te	erms) of the g Sectorized / Xpol	ains for each Dir G (dBi) (PWR)	Dir G (de	
Freq 250-5350 for devices	chain. If the s the EIRP is the ain Informatic Ain 1 4.8 s that suppor Min # of spati Max # of spati	signals are o ne product o ntenna Gain 2 4.4 t CDD mode al streams: al streams:	coherent the <u>f the effectiv</u> (dBi) / Chai <u>3</u> 4.3 es	n the effectiv e gain and to n 4 4.7	ve antenna <u>o</u> <u>otal power.</u> BF Yes	gain is the sum MultiChain Legacy Yes	CDD Yes	Sectorized / Xpol Yes	ains for each Dir G (dBi) (PWR) 2.5	Dir G (de (PSD) 8.3	
Freq 250-5350 For devices	chain. If the s the EIRP is the ain Information Ain 1 4.8 s that suppor Min # of spati Max # of spati BF = beamfor	signals are on the product of the product of the product of the product of a streams: a streams: a streams: a streams:	coherent the f the effectiv (dBi) / Chai 3 4.3 es	n the effectiv e gain and to n 4.7 Multichain Le	e antenna g otal power. BF Yes	MultiChain Legacy Yes	CDD Yes	Sectorized / Xpol Yes	ains for each Dir G (dBi) (PWR) 2.5	Dir G (de (PSD) 8.3	
Freq 250-5350 for devices	chain. If the s the EIRP is the ain Information Ain 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic	signals are on the product of the product of the product of the product of the product of the product of the product of the product of the product of the pr	coherent the f the effectiv (dBi) / Chai 3 4.3 es	n the effectiv e gain and to n 4.7 Multichain Le	e antenna g otal power. BF Yes	gain is the sum MultiChain Legacy Yes	CDD Yes	Sectorized / Xpol Yes	ains for each Dir G (dBi) (PWR) 2.5	Dir G (de (PSD) 8.3	
Freq 250-5350 For devices	chain. If the s the EIRP is the ain Information Ain 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize	signals are on the product of the product of the product of the product of the product of the product of the product of the product of the product of the pr	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, l rsity (or Cyc	n the effectiv e gain and to n 4 4.7 Multichain Le lic Shift Dive	e antenna <u>(</u> <u>otal power.</u> BF Yes Yes egacy = 802 rsity) modes	MultiChain Legacy Yes	CDD Yes	Sectorized / Xpol Yes	ains for each Dir G (dBi) (PWR) 2.5 tichain trans as are sector	Dir G (de (PSD) 8.3	
Freq 250-5350 for devices Notes:	chain. If the s the EIRP is the ain Informatic Ain 1 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR)	signals are o ne product o on 2 4.4 t CDD mode al streams: al streams: al streams: rming mode Delay Diver ed. = total gain	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, 1 rsity (or Cyc (Gant + Arra	n the effectiv e gain and to n 4 4.7 Multichain Le lic Shift Dive	egacy = 802 rsity) modes	MultiChain Legacy Yes	CDD Yes a rates sup ectorized / >	Sectorized / Xpol Yes	Dir G (dBi) (PWR) 2.5 tichain trans as are sector	Dir G (dE (PSD) 8.3 missions, rized or	
Freq 250-5350 or devices	chain. If the s the EIRP is the ain Informatic Ain 1 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 66.	signals are o ne product o on 2 4.4 t CDD mode al streams: al streams: al streams: rming mode Delay Diver ed. = total gain	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, 1 rsity (or Cyc (Gant + Arra	n the effectiv e gain and to n 4 4.7 Multichain Le lic Shift Dive	egacy = 802 rsity) modes	MultiChain Legacy Yes	CDD Yes a rates sup ectorized / >	Sectorized / Xpol Yes	Dir G (dBi) (PWR) 2.5 tichain trans as are sector	Dir G (dE (PSD) 8.3 missions, rized or	
Freq 250-5350 or devices Notes:	chain. If the s the EIRP is the ain Information Ain 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 66 value.	signals are o ne product o n ntenna Gain 2 4.4 t CDD mode al streams: al streams: al streams: con Delay Diver ed. = total gain 2911. Depe	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, 1 rsity (or Cyc (Gant + Arra nding on the	n the effective e gain and to n 4.7 Multichain Le lic Shift Dive ay Gain) for p e modes sup	e antenna (<u>otal power.</u> BF Yes egacy = 802 rsity) modes power calcul ported, the <i>i</i>	MultiChain Legacy Yes	CDD Yes a rates sup ectorized / >	Sectorized / Xpol Yes	Dir G (dBi) (PWR) 2.5 tichain trans as are sector	Dir G (de (PSD) 8.3 missions, rized or	
Freq 250-5350 or device: Notes:	chain. If the s the EIRP is the ain Information Ain 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 660 value. Array gain for	signals are on the product of the product of the product of the product of the product of the product of the pr	coherent the <u>f the effectiv</u> (dBi) / Chai <u>3</u> 4.3 es supported, 1 rsity (or Cyc (Gant + Arra nding on the calculated p	n the effective e gain and to n 4 4.7 Multichain Le lic Shift Dive ay Gain) for p e modes sup er KDB 6625	e antenna (<u>otal power.</u> BF Yes egacy = 802 rsity) modes power calcul ported, the 2	MultiChain Legacy Yes	CDD Yes a rates sup ectorized / > CD) = total sup ue for powe	Sectorized / Xpol Yes	Dir G (dBi) (PWR) 2.5 tichain trans as are sector	Dir G (dE (PSD) 8.3 missions, rized or	
Freq 250-5350 or devices Notes:	chain. If the s the EIRP is the ain Information Ain 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 66 value. Array gain for For systems	signals are on the product of the product of the product of the product of the product of the product of the product of the product of the product of the product of the product of the product of the pr	coherent the <u>f the effectiv</u> (dBi) / Chai <u>3</u> 4.3 es supported, 1 rsity (or Cyc (Gant + Arra nding on the <u>calculated p</u> rming and C	n the effective e gain and to n 4 4.7 Multichain Le lic Shift Dive ay Gain) for p e modes sup er KDB 6629 CDD, choose	e antenna (<u>otal power.</u> BF Yes egacy = 802 rsity) modes power calcul ported, the <i>p</i> <u>211 D01.</u> one the foll	MultiChain Legacy Yes 2.11 legacy data s supported, Se lations; GA (PS Array Gain valu	CDD Yes a rates sup ectorized / > SD) = total y ue for powe	Sectorized / Xpol Yes ported for mul (pol = antenn gain for PSD o r could be diff	ains for each Dir G (dBi) (PWR) 2.5 tichain trans as are sector calculations f ferent from th	Dir G (dE (PSD) 8.3 missions, rized or based on he PSD	
Freq 250-5350 or devices Notes: Notes:	chain. If the s the EIRP is the ain Information Ain 4.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 66 value. Array gain for For systems	signals are on the product of the product of the product of the product of a streams: a streams: b belay Diver a belay Div	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, 1 rsity (or Cyc (Gant + Arra nding on the calculated p rming and C imized for be	n the effective e gain and to n 4 4.7 Multichain Le lic Shift Dive e modes sup er KDB 662S DD, choose eamforming,	e antenna (<u>otal power.</u> BF Yes egacy = 802 rsity) modes power calcul ported, the <i>p</i> <u>211 D01.</u> one the foll	MultiChain Legacy Yes 2.11 legacy data s supported, Se lations; GA (PS Array Gain value owing options:	CDD Yes a rates sup ectorized / > SD) = total y ue for powe	Sectorized / Xpol Yes ported for mul (pol = antenn gain for PSD o r could be diff	ains for each Dir G (dBi) (PWR) 2.5 tichain trans as are sector calculations f ferent from th	Dir G (dE (PSD) 8.3 missions, rized or based on he PSD	
Freq 250-5350 or devices Notes: Notes:	chain. If the s the EIRP is the ain Information Ain A.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 66 value. Array gain for For systems Option 1: De calculated ba Option 2: An	signals are o ne product o n ntenna Gain 2 4.4 t CDD mode al streams: al streams: al streams: con con con 2 4.4 t CDD mode al streams: con con con con con con con con con con	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, 1 rsity (or Cyc (Gant + Arra nding on the calculated p rming and C imized for be nforming cri paired for be	n the effective e gain and to n 4 4.7 Multichain Le lic Shift Dive ay Gain) for p e modes sup er KDB 6629 CDD, choose eamforming, teria. amforming, a	BF Yes BF Yes egacy = 802 rsity) modes power calcul ported, the power calcul	MultiChain Legacy Yes 2.11 legacy data s supported, Se ations; GA (PS Array Gain valu owing options: being selected s are configure	CDD Yes A rates suppectorized / > CDD = total pue for powe	Sectorized / Xpol Yes ported for mul kpol = antenn gain for PSD o r could be diff	Dir G (dBi) (PWR) 2.5 tichain trans as are sector calculations ferent from th of 802.11; An diversity of 8	Dir G (dE (PSD) 8.3 missions, rized or based on he PSD ray gains 302.11; the	
Freq 250-5350 For devices Notes: Notes: Notes:	chain. If the s the EIRP is the ain Information Ain A.8 s that suppor Min # of spati Max # of spati BF = beamfor CDD = Cyclic cross polarize Dir G (PWR) FCC KDB 66 value. Array gain for For systems Option 1: De calculated ba Option 2: An	signals are o ne product o n ntenna Gain 2 4.4 t CDD mode al streams: al streams: al streams: al streams: collay Diver ed. = total gain 2911. Depe power/psd with Beamfo lays are opti sed on bear tennas are p sociated with	coherent the f the effectiv (dBi) / Chai 3 4.3 es supported, 1 rsity (or Cyc (Gant + Arra nding on the calculated p rming and C imized for be nforming cri- paired for be n beamform	n the effective e gain and to n 4 4.7 Multichain Le lic Shift Dive ay Gain) for p e modes sup er KDB 6629 CDD, choose eamforming, teria. amforming, a	BF Yes BF Yes egacy = 802 rsity) modes power calcul ported, the power calcul	MultiChain Legacy Yes 2.11 legacy data s supported, Se lations; GA (PS Array Gain valu owing options: being selected	CDD Yes A rates suppectorized / > CDD = total pue for powe	Sectorized / Xpol Yes ported for mul kpol = antenn gain for PSD o r could be diff	Dir G (dBi) (PWR) 2.5 tichain trans as are sector calculations ferent from th of 802.11; An diversity of 8	Dir G (dE (PSD) 8.3 missions, rized or based on he PSD ray gains 302.11; the	

	NTS	_						EMO	C Test	Data
Client:	Arris							PR Number:	PR101106	
Model	NVG5X8AX						T-L	og Number:	TL-101106-F	RANA
MOUEI.	INVGJAOAA						Project Manager: Deepa Shetty			
Contact:	Mark Rieger	•					Project Engineer: David Bare			
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
5250-5350 F Mode:	PSD - FCC/IS ax20	SED								
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ²	FCC Limit	IC Limit	Result
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm/	/MHz	Result
5260	1 3 4	15	19.2	97.6	2.6 2.0 2.0	7.1	8.5	8.7	11.0	Pass
	2 1 3				2.8 2.8 2.3					
5300	4 2	15	19.2	97.6	2.0 2.9	7.3	8.6	8.7	11.0	Pass
5320	1 3 4 2	14.5	19.2	97.6	2.4 2.5 1.3 2.0	6.6	8.2	8.7	11.0	Pass
Mode:	e 5250-5350 ax40) PSD - FCC								
Frequency	Chain	Software	99% BW	Duty Cycle	PSD		PSD ²	FCC Limit		Result
(MHz) 5270	1 3 4 2	Setting 16.5	(MHz) 38.0	% 97.3	dBm/MHz 0.8 0.9 0.5 1.1	mW/MHz 5.0	dBm/MHz 7.0	dBm/ 8.7	MHz 11.0	Pass
5310	1 3 4 2	15.5	38.0	97.3	0.3 0.1 -0.7 0.4	4.2	6.2	8.7	11.0	Pass
MIMO Devid Mode:	e 5250-5350 ax80) PSD - FCC	/ISED							
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
5290	1 3 4 2	16.5	77.3	96.0	-1.7 -1.9 -2.4 -1.7	2.7	4.3	8.7	11.0	Pass

	EMC Test Data										
Client:	Arris							PR Number:	PR101106		
Model.	NVG5X8AX						T-Log Number: TL-101106-RANA				
						-	ect Manager:		ty		
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare		
Standard:	FCC Part 15	, RSS-247						Class:	N/A		
Mode:											
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	i otai mW/MHz	PSD ² dBm/MHz	FCC Limit dBm		Result	
5250	1 3 4 2	17	155.0	95.6	-4.2 -4.2 -4.7 -4.0	1.6	2.0	8.7	11.0	Pass	
Mode:	ax160	w/BF									
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	
5250	1 3 4 2	14		95.6	-4.7 -4.5 -5.4 -4.3	1.4	1.5	8.7	11.0	Pass	

			EMC Test Data
Client: Arris			PR Number: PR101106
Model: NVG5X8AX			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
R	SS-247 (LELAN)	and FCC 15.40	7(UNII)
	Antenna Po	rt Measurement	S
Pov	ver, PSD, Bandwid	th and Spurious E	missions
Test Specific Details	this test session is to pe	rform final qualification	testing of the EUT with respect to the
Objective: specification liste			
-	attenuator to prevent over		ort of the EUT was connected to the spectrum nent system. All measurements are corrected
allow for the external attenuators and ca	adies used.		
Ambient Conditions:	Temperature:	20-22 °C	
	Rel. Humidity:	42-45 %	
Modifications Made During Testi No modifications were made to the EUT	-		
Deviations From The Standard			
Deviations From The Standard No deviations were made from the requ	irements of the standard	d.	
	irements of the standard	<u>.</u>	
No deviations were made from the requ		J.	
No deviations were made from the requ Sample Notes		1.	
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0007 Driver:			
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0001 Driver: Date of Test: 7/29-31/19	-	Config. Used: ´	
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0007 Driver: Date of Test: 7/29-31/19 Test Engineer: R. Varelas; M. B	-	Config. Used: ´ Config Change: -	
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0001 Driver: Date of Test: 7/29-31/19	-	Config. Used: ´	
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0007 Driver: Date of Test: 7/29-31/19 Test Engineer: R. Varelas; M. B	-	Config. Used: ´ Config Change: -	
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0007 Driver: Date of Test: 7/29-31/19 Test Engineer: R. Varelas; M. B	-	Config. Used: ´ Config Change: -	
No deviations were made from the requ Sample Notes Sample S/N: M11917QW0007 Driver: Date of Test: 7/29-31/19 Test Engineer: R. Varelas; M. B	-	Config. Used: ´ Config Change: -	

	NTS				EMC Test Data
Client:	Arris				PR Number: PR101106
Madalı	NVG5X8AX			T-L	og Number: TL-101106-RANA
Model	NVG5X6AX			Proje	ect Manager: Deepa Shetty
Contact:	Mark Rieger			Proje	ect Engineer: David Bare
Standard:	FCC Part 15	, RSS-247			Class: N/A
	of Result				
Ru	n #	Test Performed	Limit	Pass / Fail	Result / Margin
	I	Power, 5470 - 5725MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 91.2 mW ac20: 96.9 mW ac40: 180.7 mW ac80: 195.1 mW ac160: 134.0 mW
	I	PSD, 5470 - 5725MHz	15.407(a) (1), (2), (3) RSS-247 6.2	Pass	a: 6.8 mW/MHz ac20: 6.9 mW/MHz ac40: 6.4 mW/MHz ac80: 3.5 mW/MHz ac160: 1.3 mW/MHz
	1	Max EIRP 5470 - 5725MHz	TPC required if EIRP≥ 500mW (27dBm). EIRP ≥ 200mW (23dBm) DFS threshold	Pass	EIRP = 30.0 dBm (995.4 mW)
	1	26dB Bandwidth	15.407 (Information only)	-	> 20MHz for all modes
	1	99% Bandwidth	RSS-247 (Information only)	N/A	a: 17.0 MHz ac20: 18.0 MHz ac40: 36.5 MHz ac80: 75.9 MHz ac160: 154.0 MHz
2	2	Antenna Conducted - Out of Band Spurious	15.407(b) -27dBm/MHz		All emissions below the -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
ac160	58.5	95.6%	Yes	1.439	0.2	0.4	695	10443	-1

	NTS							EM	C Test	' Data
Client:	Arris							PR Number:	PR101106	
							T·	Log Number:	TL-101106-	RANA
Model:	NVG5X8AX					-		ject Manager:		
Contact:	Mark Rieger	•					-	ect Engineer:		,
	FCC Part 15						- ,	Class:		
Run #1: Ba	ndwidth, Ou	tput Power a	and Power S	Spectral Dei	nsity - MIMO	D Systems				
Note 1:	OBW, # of p continuous,	oints in swee duty cycle ≥	ep ≥ 2*span/l 98%) and po	RBW, auto s	sweep, RMS ion over the	n analyzer (see 6 detector, pow OBW (methoo	ver averagii SA-1 of A	ng on (transm NSI C63.10).	itted signal w	/as
Note 1:	Span > OBV number to g by adding Y	V, # of points et true avera Y dB. This is	in sweep ≥ ge), power a based on 10	2*span/RBW veraging on 0log(1/x), wh	/, RMS dete and power i here x is the	spectrum ana ctor, trace ave ntegration ove duty cycle. (n	rage 100 tr er the OBW	aces (at least . Tthe measu	100 traces, rements wer	increase the
Note 2:		sing the sam							0	45.45
Note 3:	99% Bandw times OBW.		d in accorda	nce with C6	3.10 - RB be	etween 1-5 % o	of OBW and	$d VB \ge 3^{RB}$	Span betwee	en 1.5 and 5
Note 4:	the limits is the chain. If the	the highest g signals are o the product o	ain of the ind	lividual chair n the effectiv	ns and the E re antenna g	between the t IRP is the sum pain is the sum	n of the pro	ducts of gain	and power or	n each
		Antenna Gain	(dBi) / Chai	n	рг	MultiChain		Sectorized	Dir G (dBi)	Dir G (dBi)
Freq	1	2	3	4	BF	Legacy	CDD	/ Xpol	(PWR)	(PSD)
5470-5725	4.6	4.9	5.6	5	Yes	Yes	Yes	Yes	2.6	8.6
	Min # of spa Max # of spa	rt CDD mod tial streams: tial streams:	1 4	Multichein	Chain 2 = \	Blue antenna c White antenna .11 legacy dat	cable	Chain 4 = B	rey antenna lack antenna	cable
Notes:		ic Delay Dive	•••		• •	supported, Se	•	•		
Notes:	Dir G (PWR) = total gain	·	• • •		ations; GA (PS Array Gain val	,	•		
Notes:										
Nataa	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 calculated based on beamforming criteria. 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									
Notes:				-	•	-		• •	•	

	EMC Test Data										
Client:	Arris							PR Number:	PR101106		
Model	NVG5X8AX						T-Log Number: TL-101106-RANA				
								-	Deepa Shett	у	
	Mark Rieger										
Standard:	Standard: FCC Part 15, RSS-247 Class: I										
MIMO De Mode:	MIMO Device - 5470-5725 MHz band (UNII-2C) - FCC Single chain mode uses Ant 1 Mode: 11a Antenna Gain: 4.6 dBi Ant 1 Max EIRP (mW): 263.0										
Frequency	Chain	Software	26dB BW	Duty Cycle	Power	Total I			Max Power	Result	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result	
5500	2 1 2 2	13.0	21.3	99.0	10.9	12.3	10.9	24.0		Pass	
5580	2 1 2 2	22.0	21.5	99.0	19.6	91.2	19.6	24.0	0.091	Pass	
5700	2 1 2 2	12.0	21.5	99.0	10.4	11.0	10.4	24.0		Pass	
Portion w	ithin 5475-5/	725 MHz ba	nd (UNII-2C)				1			
5720	2 1 2 2	21.0	15.8	99.0	17.7	58.9	17.7	23.0		Pass	
Portion w	ithin 5725-5/	850 MHz ba	nd (UNII-3)								
5720	2 1 2 2	21.0		99.0	11.5	14.1	11.5	30.0	0.0141	Pass	

	NTS	_						EM	C Test	Data	
Client:	Arris							PR Number:	PR101106		
Model	NVG5X8AX						T-Log Number: TL-101106-RANA				
MOUEI.	NV GJADAA						Proje	ect Manager:	Deepa Shet	y	
Contact:	Mark Rieger				Proje	ect Engineer:	David Bare				
Standard:	FCC Part 15	, RSS-247			Class:	N/A					
MIMO De Mode:	vice - 5470-5 11a	5725 MHz ba	ind (UNII-20	C) - ISED			Max	EIRP (mW):	263.0		
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total	Power		Max Power		
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result	
5500	1	13.0	16.8	99.0	2 10.9	13.9	11.4	23.3		Pass	
5580	1	22.0	17.0	99.0	19.6	91.2	19.6	23.3	0.091	Pass	
5700	1	12.0	16.8	99.0	10.4	11.0	10.4	23.3		Pass	
Portion w	vithin 5475-5	725 MHz ba	nd (UNII-2C)				1			
5720	1	21.0	13.5	99.0	17.7	58.9	17.7	22.3		Pass	
Portion w	vithin 5725-5	850 MHz ba	nd (UNII-3)								
5720	1 1 2 2	21	3.9	99.0	11.5	14.1	11.5	30.0	0.0141	Pass	

Client	Arris							PR Number:	PR101106		
Model	NVG5X8AX							-	TL-101106-F		
							-		Deepa Shett	у	
	Mark Rieger						Project Engineer: David Bare Class: N/A				
Standard:	FCC Part 15), KSS-241						Class:	N/A		
MIMO De Mode:	vice - 5470-5 11a	5725 MHz ba	Ind PSD (UN	NII-2C)							
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC Limit	ISED Limit	Result	
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Result	
5500	1	13.0		99.0	-0.3	0.9	-0.5	11.0	11.0	Pass	
5580	1	22.0		99.0	8.3	6.8	8.3	11.0	11.0	Pass	
5700	1	12.0		99.0	-0.7	0.9	-0.5	11.0	11.0	Pass	
Portion v	vithin 5475-5	725 MHz ba	nd (UNII-2C)							
5720	1	21.0		99.0	7.3	5.4	7.3	11.0	11.0	Pass	
Portion v	vithin 5725-5	850 MHz ba	nd (UNII-3)						I		
5720	1	21		99.0	7.2	5.2	7.2	30.0	27.2	Pass	

lient: Arris			PR Number: PR101106	j
			T-Log Number: TL-101106	6-RAN
odel: NVG5X8AX			Project Manager: Deepa She	etty
ntact: Mark Rieger			Project Engineer: David Bare	
dard: FCC Part 15, RS	S-247		Class: N/A	
,				
pectrum Analyzer Settir	igs 10.0 -			
CF: 5580.000 MHz		press and press	NT	S
5PAN: 40,000 MHz	5.0-	1		- 1
RB: 1.000 MHz VB: 3.000 MHz	0.0-			_ 1
Detector: RMS				
Attn: 10 DB RL Offset: 22.3 DB	-5.0-			
Sweep Time: 1.0ms	-10.0-	Ji		-
Ref Lvl: 20.0 DBM Pwr avg: 100 sweeps	15.0 - /	r	1	
Amp corr: 0.0dB			1 I L I	
Bin size: 66.7 kHz	₩-20.0-		1	
	-25.0-			-
lighest PSD	-30.0 -			
8.3 dBm/1.000 M	Hz 🤇			
996 Bandwidth	-35.0-		Year &	
16.84 MHz	-40.0-		Pak Martin	tt 👘
ower Over Span	-45.0 -		1.1	44T
91.222 mW	5560.0 5565.0 557	0.0 5575.0 5580.0	5585.0 5590.0 5595.0 56	500.0
19.6 dBm		Frequency (M	1Hz)	
	99% Bandwidth. I	ower Over Span and PSI	D	
			-	

X 15, RSS-247 5725 MHz Ban Software Setting 15.5	26dB BW (MHz)	Duty Cycle %	Power		Proj Proj	-	TL-101106-F Deepa Shett David Bare	
jer 15, RSS-247 5725 MHz Ban Software Setting	26dB BW (MHz)		Power		Proj Proj	ect Manager: ect Engineer:	Deepa Shett David Bare	
jer 15, RSS-247 5725 MHz Ban Software Setting	26dB BW (MHz)		Power		Proj	ect Engineer:	David Bare	у
15, RSS-247 5725 MHz Ban Software Setting	26dB BW (MHz)		Power			-		
5725 MHz Ban Software Setting	26dB BW (MHz)		Power			Class:	N/A	
Software Setting	26dB BW (MHz)		Power					
Setting	(MHz)		Power		Max	EIRP (mW):	176.3	
				Total	Power		Max Power	
15.5			dBm	mW	dBm	dBm	(W)	Result
15.5			13.5					
_	21.3	97.6	13.5	95.6	19.8	24.0		Pass
-	-		13.7			-		
			14.0 13.4				4 -	
45.5	04.7	07.0	13.4	00.0	40.0	04.0		D
15.5	21.7	97.6	13.9	96.9	19.9	24.0		Pass
			14.2					
			13.8				0.097	
15.5	21.2	97.6		91.9	19.6	24.0		Pass
5-5725 MHz ba	nd (UNII-2C)						
			13.0] [
15.5	15.9	97.6		74.8	18.7	23.0		Pass
5-5850 MHz ba	nd (UNII-3)		12.0					
			7.2					
15.5		97.6	6.9	20.2	13 1	30.0	0 020	Pass
- 10.0				20.2	10.1	00.0	0.020	1 400
			7.1					
	5-5725 MHz ba	5-5725 MHz band (UNII-2C 15.5 15.9 5-5850 MHz band (UNII-3)	5-5725 MHz band (UNII-2C) 15.5 15.9 97.6 5-5850 MHz band (UNII-3)	15.5 21.2 97.6 13.6 13.1 13.1 13.5 13.5 5-5725 MHz band (UNII-2C) 13.0 15.5 15.9 97.6 15.5 15.9 97.6 12.7 12.1 12.6 12.6 5-5850 MHz band (UNII-3) 7.2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \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 $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

	IVG5X8AX /lark Rieger									
Contact: M Standard: F	/lark Rieger							PR Number:	PR101106	
Contact: M Standard: F	/lark Rieger						T-	Log Number:	TL-101106-F	RANA
Standard: F	-						Proje	ect Manager:	Deepa Shett	у
	CC Part 15						Proje	ect Engineer:	David Bare	:
MIMO Device		, RSS-247						Class:	N/A	
Mode:	e - 5470-572 ac20	5 MHz Ban	d - ISED				Мах	EIRP (mW):	176.3	
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total I			Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
()	1		()	70	13.5	11100	QDIII	(Dill	()	
5500	3	15.5	18.0	97.6	13.5	95.6	19.8	23.6		Pass
5500	4	15.5	18.0	97.0	13.7	95.0	19.8	23.0		Pass
	2				14.0					
_	1				13.4					
5580	3	15.5	18.0	97.6	13.4	96.9	19.9	23.6		Pass
	4			-	13.9 14.2					
	2				14.2				0.097	
-	3			-	13.6				0.001	
5700	4	15.5	18.0	97.6	13.1	91.9	19.6	23.6		Pass
	2				13.5					
Portion wit	thin 5475-5	725 MHz ba	nd (UNII-2C)						
	1				13.0				[
5720	3	15.5	14.1	97.6	12.7	74.8	18.7	22.5		Pass
0120	4	10.0		01.0	12.1	7 1.0	10.1	22.0		1 400
Dention with	2				12.6					
Portion wit		850 MHZ Da	na (UNII-3)		7.2				<u>г</u>	
_	1 3				6.9					
5720	4	15.5		97.6	6.5	20.2	13.1	30.0	0.020	Pass
	2			-	7.1					

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proje	ect Manager:	Deepa Shett	у
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
	:e - 5470-572 ac20 w/ BF	25 MHz Ban	d - FCC				Мах	EIRP (mW):	702	
Frequency		Software	26dB BW	Duty Cycle	Power	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				13.5					
5500	3 4	15.5	21.3	97.6	13.5	95.6	19.8	21.4		Pass
					13.7					
	2 1				14.0 13.4					
	3				13.4					
5580	4	15.5	21.7	97.6	13.9	96.9	19.9	21.4		Pass
	2				14.2					
	1				13.8				0.097	
5700	3	15.5	21.2	97.6	13.6	91.9	19.6	21.4		Pass
	4				13.1 13.5					
Portion w	2 ithin 5475-5	725 MHz ba	nd (UNII-2C)	10.0					
	1				13.0					
5720	3	15.5	15.9	97.6	12.7	74.8	18.7	20.4		Pass
5720	4	15.5	15.5	57.0	12.1	74.0	10.7	20.4		r 855
Dortion	2		nd /UNII 2)		12.6					
Portion w	ithin 5725-5 1	830 IVIHZ Da	na (UNII-3)		7.2					
	3				6.9					
5720	4	15.5		97.6	6.5	20.2	13.1	27.2	0.020	Pass
	2				7.1					

	NTS							EM	C Test	Data		
Client:	Arris							PR Number:	PR101106			
Madalı	NVG5X8AX						T-	Log Number:	TL-101106-F	RANA		
woder.	INVGDAOAA						Proj	ect Manager:	Deepa Shett	y		
Contact:	Mark Rieger						Project Engineer: David Bare					
Standard:	FCC Part 15	5, RSS-247						Class:	N/A			
MIMO Devid Mode [.]	:e - 5470-572 ac20 w/ BF	25 MHz Ban	d - ISED				Мах	EIRP (mW):	702			
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total	Power		Max Power			
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result		
	1				13.5		-					
5500	3	15.5	18.0	97.6	13.5	95.6	19.8	21.0		Pass		
0000	4	10.0	10.0	01.0	13.7	00.0	10.0	21.0		1 000		
	2				14.0							
	1 3				13.4 13.4							
5580	4	15.5	18.0	97.6	13.4	96.9	19.9	21.0		Pass		
	2				14.2							
	1				13.8				0.097			
5700	3	15.5	18.0	97.6	13.6	91.9	19.6	21.0		Pass		
5700	4	10.0	10.0	57.0	13.1	51.5	15.0	21.0		1 435		
Dortion	2 ithin 5475-5				13.5							
POILION	111111 3473-3	723 IVITIZ Da		.) I I	13.0							
	3				12.7	- / 0	10 -	10.0				
5720	4	15.5	14.1	97.6	12.1	74.8	18.7	19.9		Pass		
	2				12.6							
Portion w	ithin 5725-5	850 MHz ba	nd (UNII-3)				1	1				
	1				7.2							
5720	3	15.5		97.6	6.9 6.5	20.2	13.1	27.2	0.020	Pass		
	2				7.1							

	NTS	_						EMO	C Test	Data
Client:	Arris							PR Number:	PR101106	
Model	NVG5X8AX						T-L	og Number:	TL-101106-F	RANA
	NVGJAOAA						-		Deepa Shett	y
	Mark Rieger						Proje	ect Engineer:		
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
MIMO Devic Mode:	ce - 5470-572 ac20	25 MHz band	I PSD (UNII)	-2C)						
Frequency		Software	99% BW	Duty Cycle	PSD	Total	PSD ¹	FCC Limit	ISED Limit	Decult
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz		/MHz	Result
	1				2.0					
5500	3 4	15.5		97.6	1.9 2.4	6.9	8.4	8.4	11.0	Pass
	2				2.4					
	1				2.1					
5580	3	15.5		97.6	2.0	6.9	8.4	8.4	11.0	Pass
0000	4	10.0		57.0	2.3	0.5	0.4	0.4	11.0	1 435
	2				2.6 2.3					
	3				2.3					
5700	4	15.5		97.6	1.6	6.5	8.1	8.4	11.0	Pass
	2				2.0					
Portion w	ithin 5475-5	725 MHz ba	nd (UNII-2C)			1			
	1				2.4 2.2					
5720	3	15.5		97.6	2.2 1.6	6.7	8.3	8.4	11.0	Pass
	2				2.2					
Portion w	ithin 5725-5	850 MHz ba	nd (UNII-3)							
	1				2.2					
5720	3	15.5		97.6	1.7	6.2	7.9	27.2	27.2	Pass
	4				1.4					
	Z				1.9					
	2				1.9					

Client: Arris					PR Number:	PR101106
				T-	Log Number:	TL-101106-RANA
lodel: NVG5X8AX				Proj	ect Manager:	Deepa Shetty
ntact: Mark Rieger				Proje	ect Engineer:	David Bare
idard: FCC Part 15, RS	S-247				Class:	N/A
pectrum Analyzer Settin	ngs 5.0 -					ANTO
CF: 5580.000 MHz	0.0-	- Anna	- Andrewson and the second	production and production	~~	SAI2
SPAN: 40.000 MHz RB: 1.000 MHz		1				
VB: 3.000 MHz	-5.0-					
Detector: RMS Attn: 10 DB	-10.0 -	<u> </u>				
RL Offset: 22.3 DB	-15.0-				1	
Sweep Time: 1.0ms Ref Lvl: 20.0 DBM	-20.0 -	1			1	
Pwr avg: 100 sweeps		/			- N	
Amp corr: 0.0dB	廣 -25.0 -				1	
Bin size: 66.7 kHz	-30.0 -					
	-35.0-					
Highest PSD	-40.0-					
2.6 dBm/1.000 M					- H N	
1996 Bandwidth	-45.0-				1	
18.04 MHz	-50.0-	a mart				And and and have when
Power Over Span	-55.0-				1	
26.251 mW	5560.0 55	65.0 5570.0 5	575.0 5580		5590.0 5	595.0 5600.0
14.2 dBm			Frequenc	y (MHZ)		
	99% B	andwidth, Power (Over Span and	d PSD		

	NTS	_						EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madali							T-	Log Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shett	у
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
MIMO Devid Mode:	ce - 5470-572 ac40	25 MHz Ban	d - FCC				Max	EIRP (mW):	328.8	
Frequency		Software	26dB BW	Duty Cycle	Power	Total	Power		Max Power	Desult
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				15.8					
5510	3	18	40.3	97.3	16.5	177.9	22.5	24.0		Pass
	4				16.6 16.5					
	1				16.2					
	3	10	00.0	07.0	16.6	100 7	00.0	04.0		5
5550	4	18	39.6	97.3	16.2	180.7	22.6	24.0		Pass
	2				16.7					
	1				16.2				0.181	
5670	3	18	39.7	97.3	16.3	174.5	22.4	24.0		Pass
	4				16.1 16.5					
Portion w	rithin 5475-5	725 MHz ba	nd (UNII-2C)	10.0					
	1				15.7					
5710	3	18	35.14	97.3	15.5	145.2	21.6	24.0		Pass
0/10	4	10	00.11	01.0	15.1	110.2	21.0	21.0		1 400
Dortion	2 rithin 5725-5	0E0 MUz ba	nd (UNII 2)		15.6					
FULIUITW	1	ODU IVITIZ DA	nu (uni-3)		5.4					
5740	3	10		07.0	5.2	40.0	11.0	20.0	0.0400	Dees
5710	4	18		97.3	4.8	13.6	11.3	30.0	0.0136	Pass
	2				5.3					

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proje	ect Manager:	Deepa Shett	у
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
MIMO Devio Mode:	ce - 5470-572 ac40	25 MHz Ban	d - ISED				Мау	EIRP (mW):	328.8	
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total			Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
()	1	ootang	()	70	15.8	11100	QDIII	QDIII	()	
5510	3	18	36.5	97.3	16.5	177.9	22 F	24.0		Pass
0100	4	10	30.5	97.3	16.6	177.9	22.5	24.0		Pass
	2				16.5					
	1				16.2					
5550	3	18	36.5	97.3	16.6	180.7	22.6	24.0		Pass
	4				16.2 16.7					
	2				16.7				0.181	
	3				16.3				0.101	
5670	4	18	36.5	97.3	16.1	174.5	22.4	24.0		Pass
	2				16.5					
Portion w	ithin 5475-5/	725 MHz ba	nd (UNII-2C)						
	1				15.7					
5710	3	18	33.4	97.3	15.5	145.2	21.6	24.0		Pass
0110	4	10	00.1	01.0	15.1	110.2	21.0	21.0		1 400
Dantian	2				15.6					
Portion w	/ithin 5725-5	850 MHZ Da	na (UNII-3)		5.4					
	1 3				5.4 5.2					
5710	4	18		97.3	4.8	13.6	11.3	30.0	0.0136	Pass
	2				5.3					

	NTS	-						EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
									TL-101106-F	RANA
Model:	NVG5X8AX						Proje	ect Manager:	Deepa Shett	y
Contact:	Mark Rieger						Proje	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
	:e - 5470-572 ac40 w/ BF	25 MHz Ban	d - FCC				Мах	EIRP (mW):	995.4	
Frequency		Software	26dB BW	Duty Cycle	Power	Total	Power	FCC Limit	Max Power	-
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1		. ,		14.9					
5510	3 4	16.0	40.3	97.3	13.7	119.4	20.8	21.4		Pass
0010		10.0	10.0	0110	15.1		20.0			1 400
	2 1				14.7 14.7					
	3				14.7					
5550	4	16.5	39.6	97.3	14.8	115.8	20.6	21.4		Pass
	2				14.7					
	1				15.5				0.137	
5670	3	16.5	39.7	97.3	14.7	137.4	21.4	21.4		Pass
	4				15.6 15.1					
Portion w	2 ithin 5475-5	725 MHz ba	nd (UNII-2C)	13.1					
	1			/	15.1					
5710	3	17.0	33.35	97.3	14.4	125.9	21.0	21.4		Pass
5710	4	17.0	55.55	51.5	15.2	125.5	21.0	21.4		1 033
Dortion	2		nd (UNIII 2)		14.7					
	ithin 5725-5 1	850 IVIHZ Da	na (UNII-3)		4.8			1		
	3				4.0					
5710	4	17.0		97.3	5.1	11.9	10.8	27.2	0.0119	Pass
	2				4.4					

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madalı							T-	Log Number:	TL-101106-F	RANA
wodel:	NVG5X8AX						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 - 5470-572 ac40 w/ BF	25 MHz Ban	d - ISED				Мах	EIRP (mW):	995.4	
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1		· · ·		14.9					
5510	3	16.0	38.0	97.3	13.7	119.4	20.8	21.4		Pass
0010	4	10.0	00.0	01.0	15.1	110.1	20.0	21.1		1 400
	2				14.7					
	1 3				14.7 13.7					
5550	4	16.5	38.0	97.3	14.8	115.8	20.6	21.4		Pass
	2				14.7					
	1				15.5				0.137	
5670	3	16.5	20.0	07.2	14.7	107 4	01.4	21.4		Dees
5670	4	10.5	38.0	97.3	15.6	137.4	21.4	21.4		Pass
	2				15.1					
Portion w	ithin 5475-5	725 MHz ba	nd (UNII-2C)				1		
	1				15.1					
5710	3	17.0	33.9	97.3	14.4 15.2	125.9	21.0	21.4		Pass
	4				15.2 14.7					
Portion w	∠ /ithin 5725-5	850 MHz ba	nd (UNII-3)		14.7					
I OITIOIT W	1				4.8					
5710	3	17.0		07.2	4.1	11.0	10.0	07.0	0.0110	Dees
5710	4	17.0		97.3	5.1	11.9	10.8	27.2	0.0119	Pass
	2				4.4					

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Model:	NVG5X8AX						T-L	og Number:	TL-101106-F	RANA
							-		Deepa Shett	у
	Mark Rieger						Proje	ect Engineer:		
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
MIMO Devid Mode:	ce 5470-5725 ac40	5 PSD - FCC	/ISED							
Frequency	Chain	Software	99% BW	Duty Cycle		Total	-		ISED Limit	Result
(MHz)		Setting	(MHz)	%	dBm/MHz 1.2	mW/MHz	dBm/MHz	dBm	/MHz	
5510	1 3 4	18.0		97.3	1.2 1.9 1.9	6.1	7.9	8.4	11.0	Pass
	2				1.9					
	1				1.7					
5550	3 4	18.0		97.3	2.1 1.9	6.4	8.1	8.4	11.0	Pass
	2				2.1					
5670	1 3 4	18.0		97.3	1.7 1.8 1.7	6.3	8.0	8.4	11.0	Pass
	2				2.1					
Portion w	/ithin 5475-5	725 MHz ba	nd (UNII-2C)	1.6					
5710	3 4	18.0		97.3	1.5 1.1	5.7	7.6	8.4	11.0	Pass
	2				1.5					
Portion w	vithin 5725-5 1	850 MHz ba	nd (UNII-3)		1.1					
5710	3 4 2	18.0		97.3	0.7 0.3 0.9	4.9	6.9	27.2	27.2	Pass

Client: Arris		PR Number:	PR101106
		T-Log Number:	TL-101106-RANA
lodel: NVG5X8AX		Project Manager:	
ntact: Mark Rieger		Project Engineer:	
idard: FCC Part 15, RS	S-247	Class:	
pectrum Analyzer Settir	ar.		
	^{gs} 5.0-	<i>C</i>	STK 🕈
CF: 5550.000 MHz SPAN: 80.000 MHz	0.0-	and have a second in the second se	
RB: 1.000 MHz	-5.0-	V I	
VB: 3.000 MHz Detector: RMS	8		
Attn: 10 DB	-10.0 -		
RL Offset: 22.3 DB Sweep Time: 1.0ms	-15.0-		_
Ref Lvl: 20.0 DBM	-20.0 -		
Pwr avg: 100 sweeps			
Amp corr: 0.0dB Bin size: 133 kHz	ළි -25.0 -		
	-30.0 -		
set of pop	-35.0-		
Highest PSD	-40.0-		
2.1 dBm/1.000 M			
1996 Bandwidth	-45.0-	han	
36.34 MHz	-50.0 -		when where
Power Over Span	-55.0-		
46.631 mW	5510.0 5520.0 5530.0 5540.		580.0 5590.0
16.7 dBm	I	Frequency (MHz)	
	99% Bandwidth, Power Over	Span and PSD	
		•	

	NTS	-						EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Model	NVG5X8AX						T-	Log Number:	TL-101106-F	RANA
MOUEI.	INV GJADAA						Proj	ect Manager:	Deepa Shett	ý
	Mark Rieger						Proj	ect Engineer:		
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
MIMO Devid Mode:	ce - 5470-572 ac80	25 MHz Ban	d - FCC				Мау	EIRP (mW):	355.0	
Frequency		Software	26dB BW	Duty Cycle	Power ¹	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1			,,,	16.4				()	
5530	3	18.0	81.9	96.0	16.7	190.6	22.8	24.0		Pass
0000	4	10.0	01.0	00.0	16.5	100.0	22.0	24.0		1 000
	2				16.8 16.6				4 -	
	3				17.0					
5610	4	18.0	81.3	96.0	16.4	195.1	22.9	24.0	0.195	Pass
	2				16.8					
Portion w	/ithin 5475-5	725 MHz ba	nd (UNII-2C)	(0.0		1	1	4 4	
	1				16.0 16.3					
5690	3	18.0	76.1	96.0	15.7	168.0	22.3	24.0		Pass
	2				16.2					
Portion w	ithin 5725-5/	850 MHz ba	nd (UNII-3)							
	1				1.3					
5690	3	18.0		96.0	1.7 1.3	6.0	7.8	30.0	0.006	Pass
	2				1.9					
	2				1.9					

	NTS	_						EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madalı							T-	Log Number:	TL-101106-F	RANA
Model	NVG5X8AX						Proj	ect Manager:	Deepa Shett	y
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare	
Standard:	FCC Part 15	5, RSS-247						Class:	N/A	
MIMO Devid Mode:	ce - 5470-572 ac80	25 MHz Ban	d - ISED				Мах	EIRP (mW):	346.8	
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
,	1		. ,		16.4					
5530	3	18.0	75.9	96.0	16.7	190.6	22.8	24.0		Pass
0000	4	10.0	10.5	50.0	16.5	150.0	22.0	24.0		1 435
Death	2				16.8				0.101	
Portion w	/ithin 5475-5 1	725 MHZ ba	nd (UNII-2C	.) 	16.0			1	0.191	
	3				16.3					
5690	4	18.0	73.2	96.0	15.7	168.0	22.3	24.0		Pass
	2				16.2					
Portion w	ithin 5725-5/	850 MHz ba	nd (UNII-3)							
	1				1.3					
5690	3	18.0		96.0	1.7	6.0	7.8	30.0	0.006	Pass
	4				1.3 1.9					

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
Madali	NVG5X8AX						T-	Log Number:	TL-101106-F	ANA
MOUEI.	NVGJAOAA						Proj	ect Manager:	Deepa Shett	/
	Mark Rieger						Proj	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
	:e - 5470-572 ac80 w/ BF	25 MHz Ban	d - FCC				Мау	EIRP (mW):	925.1	
Frequency		Software	26dB BW	Duty Cycle	Power ¹	Total	Power		Max Power	
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1		()	,,,	15.0				,	
5530	3	16.5	81.9	96.0	14.3	127.7	21.1	21.4		Pass
0000	4	10.0	01.0	00.0	15.2	121.1	21.1	21.7		1 000
	2				14.9					
	1 3				14.8 14.2					
5610	4	16.0	81.3	96.0	14.9	121.8	20.9	21.4	0.128	Pass
	2				14.7					
Portion w	ithin 5475-5	725 MHz ba	nd (UNII-2C)] [
	1				14.6					
5690	3 4	16.0	76.1	96.0	14.1 14.7	115.6	20.6	21.4		Pass
	2				14.7					
Portion w		850 MHz ba	nd (UNII-3)	11					11	
	1				0.2					
5690	3	16.0		96.0	-0.1	4.4	6.4	27.2	0.0044	Pass
	4				0.8 0.1					

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
							T-	Log Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proj	ect Manager:	Deepa Shett	ý
Contact:	Mark Rieger						Proj	ect Engineer:	David Bare	
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
	ce - 5470-572 ac80 w/ BF	25 MHz Ban	d - ISED				Max	EIRP (mW):	925.1	
Frequency		Software	99% BW	Duty Cycle	Power ¹	Total	Power		Max Power	Decult
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1				15.0					
5530	3	16.5	77.6	96.0	14.3	127.7	21.1	21.4		Pass
0000	4	10.0	11.0	00.0	15.2	127.1	21	2		1 400
Deutleuru	2			<u> </u>	14.9				0.128	
	/ithin 5470-5 1	725 MHZ Da	na (UNII-2C	.) 	14.6			1	0.120	
	3				14.0					_
5690	4	16.0	73.4	96.0	14.7	115.6	20.6	21.4		Pass
	2				14.3					
Portion w	ithin 5725-5/	850 MHz ba	nd (UNII-3)							
5690	1 3 4 2	16.0		96.0	0.2 -0.1 0.8 0.1	4.4	6.4	27.2	0.0044	Pass

EMC Test Data										
Client:	Arris							PR Number:	PR101106	
							T-L	og Number:	TL-101106-F	RANA
Model:	NVG5X8AX						Proje	ct Manager:	Deepa Shett	y
Contact:	Mark Rieger						-	ct Engineer:		,
	FCC Part 15						,	Class:		
		,								
Mode:	ce 5470-5725 ac80			Note: 5610 I						
Frequency	Chain	Software	99% BW	Duty Cycle			PSD ¹		ISED Limit	Result
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	rtooun
	1				-1.0					
5530	3	18.0		96.0	-0.8 -1.1	3.4	5.3	8.4	11.0	Pass
	4				-1.1 -0.6					
	1				-0.0					
50.40	3	10.0			-0.5	0.5	- 4			-
5610	4	18.0		96.0	-1.0	3.5	5.4	8.4	-	Pass
	2				-0.7					
Portion w	ithin 5475-5/	725 MHz ba	nd (UNII-2C)						
	1				-1.3					
5690	3	18.0		96.0	-1.2	3.0	4.8	8.4	11.0	Pass
		10.0		00.0	-1.8	0.0		0.1		1 400
Dention	2		n al (LINIII 2)		-1.2					
Portion w	/ithin 5725-5 1	850 MHZ Da	na (UNII-3)		-3.0					
	3				-3.0					
5690	4	18.0		96.0	-2.7	2.2	3.4	27.2	27.2	Pass
	2				-2.6					
	L				2.0					

Client: Arris				PR N	lumber: PR101106
					lumber: TL-101106-RANA
Iodel: NVG5X8AX			-	-	anager: Deepa Shetty
ntact: Mark Rieger					ngineer: David Bare
ndard: FCC Part 15, RS	S-247				Class: N/A
Spectrum Analyzer Settin	ngs 0.0-		and the state of the second	Contraction of the second	- Mante
CF: 5610.000 MHz SPAN: 160.000 MHz	-5.0-		m Yr	and the second second	NIS
RB: 1.000 MHz			r		
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	05.0				
Pwr avg: 100 sweeps Amp corr: 0.0dB	-25.0- 뗡 _{-30.0} -				
Bin size: 267 kHz	节-30.0-				
	-35.0-				
Highest PSD	-40.0-				
-0.5 dBm/1.000 M	1Hz				
99% Bandwidth	-45.0-				
75.87 MHz	-50.0	milder			The second second
Power Over Span	-55.0-				may work and the second
49.684 mW	5530.0	5560.0 5580.0	5600.0 56	20.0 5640.0	5660.0 5690.0
17.0 dBm			Frequency (I	MHz)	
	99% Ba	andwidth, Power Ov	er Span and Ps	5D	

Client:	Arris							PR Number:	PR101106	
									TL-101106-F	RANA
Model:	NVG5X8AX								Deepa Shett	
Contact:	Mark Rieger						-	ect Engineer:		,
	FCC Part 15						,	Class:		
	ce - 5470-572	25 MHz Ban	d - FCC Onl	у						
Mode:	ac160	0.1			_ 1			EIRP (mW):	243.8	
Frequency (MHz)	Chain	Software Setting	26dB BW (MHz)	Duty Cycle	Power ¹		Power		Max Power (W)	Result
(11112)	1	Setting		%	dBm 14.7	mW	dBm	dBm	(VV)	
	3	4-	1010	05.0	15.2					-
5570	4	17	164.3	95.6	15.1	134.0	21.3	24.0	0.134	Pass
	2				15.2					
Mode: requency (MHz)	ac160 Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ¹ dBm/MHz	FCC Limit dBm	/MHz	Resul
	Chain									Result
	1				-5.5					
5570	3 4 2	17		95.6	-5.1 -5.1 -4.8	1.3	1.1	8.4	-	Pass
(Courseling	1									
_	um Analyzer : 570.000 MHz	settings	0.0-					- C	🔊 NTS	
SPAN	: 320.000 MH	z -	5.0-		and the second second		man	100		
	.000 MHz .000 MHz	-1	0.0-			11	- manual			
	tor: RMS 10 DB	-1	5.0-							
	fset: 22.3 DB									
	p Time: 2.1ms d: 20.0 DBM	-2	0.0-							
	vg: 100 swee	ps ε ⁻²	5.0-							
Ref Lu Pwr a	corr: 0.0dB	P3 -3	0.0-							
Ref Lv Pwr a Amp (e: 501 kHz									
Ref Lv Pwr a Amp (e: 501 kHz	-3	5.0-							
Ref Lv Pwr a Amp (5.0-							
Ref Ly Pwr a Amp (Bin siz		-4 00 MHz	0.0-							
Ref Lv Pwr a Amp (Bin siz Highes	it PSD -4.8 dBm/1.0 andwidth	-4 00 MHz -4	0.0- 5.0-							
Ref Lv Pwr a Amp (Bin siz Highes	it PSD -4.8 dBm/1.0	-4 00 MHz -4	0.0-					The share a second	riyotratura	
Ref Lv Pwr a Amp o Bin siz Highes 99% B 154 Power	it PSD -4,8 dBm/1.0 andwidth 4.00 MHz Over Span	-4 00 MHz -4 -5	0.0 - 5.0 - 0.0					The of the table of the table	-lehiter	
Ref Lv Pwr a Amp o Bin siz Highes 99% B 15- Power 33.	t PSD -4.8 dBm/1.0 andwidth 4.00 MHz Over Span 148 mW	-4 00 MHz -4 -5	0.0 - 5.0 - 0.0 -	5460.0	5510.0			560.0 57	10.0 576	0.0
Ref Ly Pwr a Amp o Bin siz Highes 99% B 15 Power 33.	it PSD -4,8 dBm/1.0 andwidth 4.00 MHz Over Span	-4 00 MHz -4 -5	0.0 - 5.0 - 0.0 - 5.0 - 5410.0	5460.0		Frequency	(MHz)	60.0 57	10.0 576	D.O

	NTS							EM	C Test	Data
Client:	Arris							PR Number:	PR101106	
							T-I	Log Number:	TL-101106-F	ANA
Model:	NVG5X8AX								Deepa Shett	
Contact:	Mark Rieger							ect Engineer:		,
	FCC Part 15							Class:		
Stanuaru.	1001 411 10	,1100-247						01033.	11/71	
MIMO Devid	ce - 5470-572	25 MHz Ban	d - FCC Onl	v						
	ac160 w/ BF			,			Max	EIRP (mW):	970.7	
Frequency		Software	26dB BW	Duty Cycle	Power ¹	Total	Power		Max Power	Deerst
(MHz)	Chain	Setting	(MHz)	%	dBm	mW	dBm	dBm	(W)	Result
	1		· · · ·		14.7					
5570	3	17	164.3	95.6	15.2	134.0	21.3	21.4	0.134	Pass
5570	4	17	104.5	35.0	15.1	134.0	21.0	21.4	0.134	1 055
	2				15.2					

Client:	Arris				PR Number:	PR101106
						TL-101106-RANA
Model:	NVG5X8AX				0	Deepa Shetty
Contact:	Mark Rieger			-	ect Engineer:	•
Standard:	FCC Part 15	, RSS-247			Class:	N/A
		Antenna	AN) and FCC 15.40 Port Measuremen width and Spurious	its	i	
est Spec		S The objective of this test session is t specification listed above.	to perform final qualificatio	n testing of th	ne EUT with r	espect to the
When me	est Config	-	ontonno nort the enterna	nort of the E		
allow for t	or power met		e: 20-22 °C			
allow for t	or power meternal a	er via a suitable attenuator to preven ttenuators and cables used.	e: 20-22 °C			
allow for t mbient (ummary	or power met he external a Conditions	er via a suitable attenuator to preven ttenuators and cables used. S: Temperature Rel. Humidity S	et overloading the measure e: 20-22 °C v: 42-45 %	ment system	. All measur	ements are corrected
allow for t Ambient (Summary	or power met he external a Conditions	er via a suitable attenuator to preven ttenuators and cables used. S: Temperature Rel. Humidity	e: 20-22 °C	ment system	. All measur	ements are corrected
allow for t Ambient (Summary	or power met he external a Conditions <u>v of Result</u> n #	er via a suitable attenuator to preven ttenuators and cables used. S: Temperature Rel. Humidity S	et overloading the measure e: 20-22 °C v: 42-45 %	ment system	. All measur	ements are corrected gin W/MHz W/MHz W/MHz
allow for t Ambient Summary Ru	or power met he external a Conditions <u>v of Result</u> n #	er via a suitable attenuator to preven ttenuators and cables used. S: Temperature Rel. Humidity S Test Performed	t overloading the measure 20-22 °C 20-22 °C 20-20 °C 20-2	ment system	Result / Mar ax20: 6.8 m ¹ ax40: 6.3 m ¹ ax80: 5.2 m ¹	ements are corrected gin W/MHz W/MHz W/MHz nW/MHz nW/MHz 1Hz 1Hz 1Hz
allow for t Ambient of Summary Ru Ru	or power meta he external a Conditions <u>r of Result</u> 1 1 1 ions Made	er via a suitable attenuator to preven ttenuators and cables used. S: Temperature Rel. Humidity S Test Performed PSD, 5470 - 5725MHz	t overloading the measure 20-22 °C 20-22 °C 22-45 % Limit 15.407(a) (1), (2), (3) RSS-247 6.2 RSS-247	Pass / Fail	Result / Mar ax20: 6.8 m ¹ ax40: 6.3 m ¹ ax80: 5.2 m ¹ ax160: 1.3 n ax20: 19.7 N ax40: 38.0 N ax80: 77.3 N	ements are corrected gin W/MHz W/MHz W/MHz nW/MHz nW/MHz 1Hz 1Hz 1Hz



EMC Test Data

Client:	Arris	PR Number:	PR101106
Madal	NVG5X8AX	T-Log Number:	TL-101106-RANA
wouer.		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
ac20	6.5	97.6%	Yes	5.27	0.1	0.2	190	4324
ac40	13.5	97.3%	Yes	5.24	0.1	0.2	191	8811
ac80	29.3	96.0%	Yes	1.43	0.2	0.4	698	5159
ac160	58.5	95.6%	Yes	1.44	0.2	0.4	695	10443

Sample Notes

Sample S/N: M11917QW000T

Date of Test: 3/24 & 3/26/2020		C	Config. Used: 1	
Test Engineer: M. Birgani		Cor	nfig Change: None	
Test Location: Fremont EMC Lab #3		E	EUT Voltage: 3.3Vdc	
Antenna chain information:	Chain 1: Chain 3:	Blue Gray	Chain 2: Chain 4:	White Black

NTS

EMC Test Data

Client:	Arris							PR Number:	PR101106	
Madalı							T-l	og Number:	TL-101106-I	RANA
woder:	NVG5X8AX						Proje	Project Manager: Deepa Shetty		
Contact:	Mark Riege						Project Engineer: David Bare			
Standard:	FCC Part 1	5, RSS-247						Class:	N/A	
	indwidth, Ou ment Spec			Spectral Der	nsity - MIM(O Systems				
				d bands the	limit is -27d	Bm/MHz eirp (6	68.3dBuV/m) The meas	urement met	hod
Note 1:						k detector). Pe				
		•			•	09, as an alter				
Note 2:	Emission ha	is a duty cycl	e ≥ 98%, av	erage measu	rement perf	ormed: RBW=	1MHz, VBW	/=3MHz, RM	S, Power ave	eraging, a
NOLE Z.	sweep, trac	e average 10	0 traces (me	thod AD of k	(DB 789033)				
Note 3:				-		ent performed:			but not less t	han 10Hz
						C traces (meth			Doworowo	reging o
Note 4:		•••		-	•	ormed: RBW= ed by Pwr corr				
						ny duty cycle c				
		-	p							
Note 5: ntenna Ga Freq		ion Antenna Gair	, ,	1	BF	MultiChain	CDD	Sectorized	Dir G	Dir G
ntenna Ga Freq	ain Informat	ion Antenna Gair 2	3	4		Legacy		/ Xpol	(PWR)	(PSD)
ntenna G Freq 470-5725	ain Informat	ion Antenna Gair 2 4.9	3 5.6	1	BF Yes		CDD Yes			
ntenna G Freq 470-5725 or devices	ain Informat	ion Antenna Gair 2 4.9 rt CDD mod tial streams:	3 5.6	4		Legacy		/ Xpol	(PWR)	(PSD)
ntenna G Freq 470-5725 or devices	ain Informat	ion Antenna Gair 2 4.9 rt CDD mod tial streams:	3 5.6	4		Legacy		/ Xpol	(PWR)	(PSD)
ntenna G Freq 470-5725 or devices	ain Informat	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams:	3 5.6 es	4 5	Yes	Legacy Yes	Yes	/ Xpol Yes	(PWR) 2.6	(PSD) 8.6
ntenna G Freq 470-5725 or devices	ain Informat 1 4.6 s that suppo Min # of spa Max # of spa BF = beamf	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: orming mode	3 5.6 es	4 5 Multichain Le	Yes egacy = 802	Legacy	Yes a rates supp	/ Xpol Yes	(PWR) 2.6 tichain transp	(PSD) 8.6 missions,
ntenna Ga Freq 470-5725 or devices	ain Informat	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.	3 5.6 es supported, ersity (or Cyc	4 5 Multichain Le lic Shift Dive	Yes egacy = 802 rsity) modes	Legacy Yes .11 legacy data s supported, Se	Yes a rates supp ectorized / X	/ Xpol Yes ported for mul pol = antenna	(PWR) 2.6 tichain transi	(PSD) 8.6 missions, ized or
ntenna G Freq 470-5725 or devices	ain Informat 1 4.6 s that suppor Min # of spa Max # of spa BF = beamf CDD = Cycl cross polari Dir G (PWR	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain	3 5.6 es supported, ersity (or Cyc (Gant + Arra	4 5 Multichain Le lic Shift Dive	Yes egacy = 802 rsity) modes	Legacy Yes .11 legacy data supported, Se ations; GA (PS	Yes a rates supp ectorized / X SD) = total g	/ Xpol Yes ported for mul pol = antenna jain for PSD o	(PWR) 2.6 tichain transi as are sector calculations t	(PSD) 8.6 missions, ized or pased on
ntenna Ga Freq 470-5725 or devices	ain Informat 1 4.6 s that support Min # of spatian Max # of spatian BF = beamf CDD = Cycl cross polari Dir G (PWR FCC KDB 6	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain	3 5.6 es supported, ersity (or Cyc (Gant + Arra	4 5 Multichain Le lic Shift Dive	Yes egacy = 802 rsity) modes	Legacy Yes .11 legacy data s supported, Se	Yes a rates supp ectorized / X SD) = total g	/ Xpol Yes ported for mul pol = antenna jain for PSD o	(PWR) 2.6 tichain transi as are sector calculations t	(PSD) 8.6 missions, ized or pased on
ntenna Ga Freq 170-5725 Dr devices Notes:	ain Informat 1 4.6 s that support Min # of spatian Max # of spatian BF = beamf CDD = Cycl cross polari Dir G (PWR FCC KDB 6 value.	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe	3 5.6 es supported, ersity (or Cyc (Gant + Arra ending on the	4 5 Multichain Le lic Shift Dive ay Gain) for p e modes sup	Yes egacy = 802 rsity) modes power calcul ported, the <i>i</i>	Legacy Yes .11 legacy data supported, Se ations; GA (PS	Yes a rates supp ectorized / X SD) = total g	/ Xpol Yes ported for mul pol = antenna jain for PSD o	(PWR) 2.6 tichain transi as are sector calculations t	(PSD) 8.6 missions, ized or pased on
ntenna Ga Freq 170-5725 or devices Notes:	ain Informat 1 4.6 s that support Min # of spa Max # of spa BF = beamf CDD = Cycl cross polari Dir G (PWR FCC KDB 6 value. Array gain f	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe	3 5.6 es esupported, ersity (or Cyc (Gant + Arra ending on the calculated p	4 5 Multichain Le lic Shift Dive ay Gain) for p e modes sup per KDB 6629	Yes egacy = 802 rsity) modes power calcul ported, the <i>i</i>	Legacy Yes .11 legacy data s supported, Se ations; GA (PS Array Gain valu	Yes a rates supp ectorized / X SD) = total g ue for power	/ Xpol Yes ported for mul pol = antenna jain for PSD o	(PWR) 2.6 tichain transi as are sector calculations t	(PSD) 8.6 missions, ized or pased on
ntenna Ga Freq 470-5725 or devices Notes:	ain Informat 1 4.6 s that support Min # of spatian Max # of spatian BF = beamf CDD = Cyclic cross polarit Dir G (PWR FCC KDB 6 value. Array gain f For systems	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd	3 5.6 es supported, ersity (or Cyc (Gant + Arra ending on the calculated p prming and C	4 5 Multichain Le lic Shift Diver ay Gain) for p e modes sup per KDB 6629 CDD, choose	Yes egacy = 802 rsity) modes ported, the / 011 D01. one the foll	Legacy Yes .11 legacy data supported, Se ations; GA (PS	Yes a rates supp ectorized / X SD) = total g ue for power	/ Xpol Yes ported for mul pol = antenna jain for PSD o	(PWR) 2.6 tichain transp as are sector calculations to ferent from th	(PSD) 8.6 missions, ized or based on he PSD
ntenna Ga Freq 470-5725 or devices Notes: Notes: Notes:	ain Informat 1 4.6 s that support Min # of spatian Max # of spatian BF = beamf CDD = Cycl cross polarit Dir G (PWR FCC KDB 6 value. Array gain f For systems Option 1: D	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: tial streams: orming mode ic Delay Dive zed.) = total gain 62911. Depe or power/psd	3 5.6 es esupported, ersity (or Cyc (Gant + Arra ending on the calculated p orming and C timized for b	4 5 Multichain Le lic Shift Dive ay Gain) for p e modes sup per KDB 662S CDD, choose eamforming,	Yes egacy = 802 rsity) modes ported, the / 011 D01. one the foll	Legacy Yes .11 legacy data supported, Se ations; GA (PS Array Gain valu	Yes a rates supp ectorized / X SD) = total g ue for power	/ Xpol Yes ported for mul pol = antenna jain for PSD o	(PWR) 2.6 tichain transp as are sector calculations to ferent from th	(PSD) 8.6 missions, ized or based on he PSD
ntenna Ga Freq 470-5725 or devices Notes:	ain Informat 1 4.6 s that support Min # of spa Max # of spa BF = beamf CDD = Cycl cross polari Dir G (PWR FCC KDB 6 value. Array gain f For systems Option 1: D calculated b Option 2: A	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: ic Delay Dive zed.) = total gain 62911. Depe or power/psd with Beamfor elays are opt ased on bea ntennas are	3 5.6 es supported, orsity (or Cyc (Gant + Arra ending on the calculated p orming and C timized for b mforming cri paired for be	4 5 Multichain Le lic Shift Dive ay Gain) for p e modes sup er KDB 6629 CDD, choose eamforming, teria. samforming, a	Yes egacy = 802 rsity) modes ported, the <i>J</i> <u>911 D01.</u> one the foll rather than and the pair	Legacy Yes .11 legacy data s supported, Se ations; GA (PS Array Gain valu owing options: being selected s are configure	Yes a rates supp ectorized / X SD) = total g ue for power I from cyclic ed to use the	/ Xpol Yes ported for mul pol = antenna jain for PSD of could be diff delay table of e cyclic delay	(PWR) 2.6 tichain transp as are sector calculations to ferent from the of 802.11; Arr diversity of 8	(PSD) 8.6 missions, ized or based on be PSD ay gains ay gains
ntenna Ga Freq 470-5725 or devices Notes: Notes: Notes:	ain Informat 1 4.6 s that support Min # of spation Max # of spation BF = beamf CDD = Cyclic cross polarit Dir G (PWR FCC KDB 6 value. Array gain f For systems Option 1: D calculated b Option 2: A array gain a	ion Antenna Gair 2 4.9 rt CDD mod tial streams: tial streams: ic Delay Dive zed.) = total gain 62911. Depe or power/psd with Beamfor elays are opt ased on bea ntennas are	3 5.6 es supported, orsity (or Cyc (Gant + Arra ending on the calculated p orming and C timized for be mforming cri paired for be h beamform	4 5 Multichain Le lic Shift Dive ay Gain) for p e modes sup er KDB 6629 CDD, choose eamforming, teria. samforming, a	Yes egacy = 802 rsity) modes ported, the <i>J</i> <u>911 D01.</u> one the foll rather than and the pair	Legacy Yes .11 legacy data s supported, Se ations; GA (PS Array Gain valu owing options: being selected	Yes a rates supp ectorized / X SD) = total g ue for power I from cyclic ed to use the	/ Xpol Yes ported for mul pol = antenna jain for PSD of could be diff delay table of e cyclic delay	(PWR) 2.6 tichain transp as are sector calculations to ferent from the of 802.11; Arr diversity of 8	(PSD) 8.6 missions, ized or based on be PSD ay gains ay gains

	NTS							EM	C Test	[•] Data
Client:	Arris							PR Number:	PR101106	
Model	NVG5X8AX					T-Log Number: TL-101106-RAN/			RANA	
wouer.	NVGJADAA				-	ect Manager:	-	ty		
	Mark Rieger		Proje	ect Engineer:						
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
5470-5725 F Mode:	PSD - FCC/IS ax20	ED								
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ²	FCC Limit	IC limit	Result
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Result
	1				2.2					
5500	3 4	15.5	19.7	97.6	2.0 2.3	6.8	8.3	8.4	11.0	Pass
	2				2.3					
	1				2.1					
5580	3	15.5	19.7	97.6	1.8	6.5	8.1	8.4	11.0	Pass
	4			•••••	2.1 2.0			••••		
	2 1				2.0					
5700	3	1E E	10.7	07.0	2.1	6.0	0.2	0.4	11.0	Dees
5700	4	15.5	19.7	97.6	2.1	6.8	8.3	8.4	11.0	Pass
	2				2.1					
	1 3				2.4 2.0					
5720	4	15.5	14.9	97.6	2.0	6.7	8.3	8.4	11.0	Pass
	2				2.0					
Portion with	nin 5725-585	0 MHz band	I (UNII-3)							
	1				2.4					
5720	3 4	15.5	5.3	97.6	1.9 1.8	6.5	8.1	27.4	27.4	Pass
	2				1.0					

	NTS							EM	C Test	' Data
Client:	Arris							PR Number:		
Model.	NVG5X8AX						og Number:			
						ect Manager:		ty		
	Mark Rieger			Proje	ect Engineer:					
Standard:	FCC Part 15	, RSS-247			Class:	N/A				
MIMO Devid Mode:	ce 5470-5725 ax40	5 PSD - FCC	/ISED							
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ²	FCC Limit	IC limit	Deput
(MHz)	Chain	Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Result
5510	1 3 4 2	18	38.0	97.3	1.8 2.0 1.8 1.7	6.3	8.0	8.4	11.0	Pass
5550	1 3 4 2	18	38.0	97.3	1.4 1.7 1.5 1.5	5.8	7.6	8.4	11.0	Pass
5670	1 3 4 2	18	38.0	97.3	1.9 1.6 1.7 1.8	6.2	7.9	8.4	11.0	Pass
5710	1 3 4 2	18	33.9	97.3	2.0 1.4 1.5 1.5	6.0	7.8	8.4	11.0	Pass
Dortion with	nin 5725-585	0 MHz band	I /I INIII 2)							
5710	1 3 4 2	18	4.7	97.3	1.0 0.8 0.7 0.9	5.0	7.0	27.4	27.4	Pass

EMC Test Data										
Client:	Arris							PR Number:	PR101106	
Madalı							T-Log Number: TL-101106-RANA			
Model:	NVG5X8AX				Proje	ect Manager:	Deepa Shet	ty		
Contact:	Mark Rieger				Proje	ect Engineer:				
Standard:	FCC Part 15	, RSS-247						Class:	N/A	
5470-5725 F Mode:	PSD - FCC/IS ax80	SED	Note: 5610	MHz channel	not used for	Canada				
Frequency	Chain	Software	99% BW	Duty Cycle	PSD	Total	PSD ²	FCC Limit	IC limit	Result
(MHz)		Setting	(MHz)	%	dBm/MHz	mW/MHz	dBm/MHz	dBm	/MHz	Result
5530	1 3 4 2	18	77.3	96.0	-1.2 -0.8 -1.0 -1.1	3.3	5.2	8.4	11.0	Pass
5610	1 3 4 2	18	77.3	96.0	-1.0 -1.1 -1.0 -1.3	3.2	5.1	8.4	-	Pass
5690	1 3 4 2	18	73.4	96.0	-1.1 -0.9 -1.2 -1.3	3.2	5.1	8.4	11.0	Pass
Portion with	nin 5725-585	i0 MHz band	I (UNII-3)							
5690	1 3 4 2	18	4.8	96.0	-2.8 -2.5 -2.8 -1.3	2.5	4.0	27.4	27.4	Pass
5470-5725 F Mode:	PSD - FCC O ax160	nly								
Frequency (MHz)	Chain	Software Setting	99% BW (MHz)	Duty Cycle %	PSD dBm/MHz	Total mW/MHz	PSD ² dBm/MHz	FCC Limit dBm	/MHz	Result
5570	1 3 4 2	17	155.7	95.6	-5.0 -4.8 -4.8 -5.2	1.3	1.1	8.4		Pass



End of Report

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