

ARRIS  
310 Providence Mine Road  
Nevada City, CA 95959  
Tel: 530 274 5400  
Fax: 530 273 6340



June 11, 2019

TUV Rheinland of North America, Inc.  
1279 Quarry Ln., Ste. A  
Pleasanton, CA 94566

Re: FCC ID: PGR-NVG5XDBAC

To Whom It May Concern:

In accordance with Title 47 Section 15.212 (b), ARRIS believes it has met all of the requirements set out in that document for the granting of a **Limited Modular Approval**. Specifically, the criteria set out in Section 15.212 (b) are addressed as follows:

1. The Model NVG5X8AC 2.4 GHz and 5 Ghz 802.11 radio module has SPTe tin plated steel shields covering all critical RF components. This can be seen in the photographs included in the accompanying test report.
2. The modulation/data inputs are controlled via the PCIe interface by the BCM4366E WiFi compliant SoC's (U240 & U5003) meeting all IEEE 802.11 modulation and PCIe data bus requirements.
3. The 40MHz rf reference oscillator is integrated in each BCM4366E SoC contained within the module. The 5V/3.3V/1.2V power requirements are supplied by on-board regulation. 12 vdc is supplied from the host.
4. As described in the Description of Operation the NVG5X8AC module employs 8 antenna U.FL connector ports, 4 ports for the 2.4 GHz radio and four ports for the 5 Ghz radio. The antennas are a dipole design in essence a balun feed to a dipole mounted on a common plastic carrier integrated into the enclosure and are not accessible by the end user. All integrated antennas used in the host device have been verified at the time of initial authorization.
5. This PCIe module is designed to be installed into a ARRIS host based product. The test data contained in this application is for the device tested in a stand-alone configuration using a host board as a carrier sitting in a plastic housing to simulate the position of the antennas as they would be used in a typical end product. All other circuits not applicable to the operation of the module were disabled in this carrier. This module does not employ any ferrites to reduce unintended emissions. Radiated spurious emissions data and AC conducted emissions data demonstrating compliance with the requirements of Part 15 of the FCC rules for intentional radiators and RSS GEN/RSS 210 has been provided.
6. The PCIe module is fitted with its own part number ID; The FCC ID is displayed on the host label. The FCC label and location are outlined in the user manual.
7. The Model NVG5X8AC PCIe integrated module has been tested to comply with all rules under Part 15. The compliance is assured by the design of the device. In this implementation the end user is unable to intervene to cause the device to operate incorrectly. These safeguards are outline in more detail in the Software Security requirements for U-NII devices attestation.
8. The Model NVG5X8AC meets the requirements for a mobile device that may be used at separation distances of more than 20cm from the human body. Refer to the MPE calculation in the report and statements in the user manual. As noted above, this module complies with section 15.212 under a limited modular approval. ARRIS ensures compliance through manufacturing of its end products and through professional installation and user manuals controlled by ARRIS and its customers (service providers).



RSS GEN Checklist		
	Yes	No *
Modular approval requirement		
(a) The radio elements must have the radio frequency circuitry must be shielded. Physical/discrete and tuning capacitors may be located external to the shield but must be on the module assembly.	√	
(b) The module shall have buffered modulation/data input(s) (if such inputs are provided) to ensure that the module will comply with the requirements set out in the applicable RSS standard under conditions of excessive data rates or over-modulation.	√	
(c) The module shall have its own power supply regulation on the module. This is to ensure that the module will comply with the requirements set out in the applicable standard regardless of the design of the power supplying circuitry in the host device which houses the module.	√	
(d) The module shall comply with the provisions for external power amplifiers and antennas detailed in this standard. The equipment certification submission shall contain a detailed description of the configuration of all antennas that will be used with the module.	√	
(e) The module shall be tested for compliance with the applicable standard in a stand-alone configuration, i.e. the module must not be inside another device during testing.	√	
(f) The module shall comply with the Category I equipment labelling requirements.	√	
(g) The module shall comply with applicable RSS-102 exposure requirements, which are based on the intended use/configurations.	√	
(h) Is the modular device for an Industry Canada licensed exempt service?	√	
* Please refer to the previous sections for a detailed explanation if the answer is "No."		

Sincerely,

Mark Rieger  
 Principal Hardware Engineer  
 Regulatory compliance and conformance

ARRIS  
 310 Providence Mine Road, Ste. 200, Nevada City, CA 95959 USA

o: +1 530-274-5440  
 c: +1 530-575-6010  
 e: [mark.rieger@arris.com](mailto:mark.rieger@arris.com)