NOTIFIED BODY

MODULE B: EU TYPE EXAMINATION CERTIFICATE

(For Council Directive 2014/53/EU)

THIS CERTIFICATE IS ISSUED TO

NVIDIA CORPORATION

2701 San Tomas Expressway
Santa Clara, CA 95050
USA

TO STATE THAT THE EQUIPMENT KNOWN AS

Nvidia Model P3310 with optional P2597 Base Board

Conforms (following an evaluation of its associated Technical Construction File and subject to any restrictions stated in the attached Annex) with the essential requirements of Annex III, Module B, of the Council Directive **2014/53/EU** on Radio Equipment (RED) and the mutual recognition of their conformity, in relation to the essential requirements of:

Article 3.1(b) EMC

Article 3.2 Radio Spectrum

Details of this certification, standards used, RF parameters of this equipment and other information necessary for the correct interpretation and application, including any remarks, restrictions or observations are detailed in the attached Annex.

This is to certify that the sample(s) of the Product described herein has been investigated and found to have been in compliance with the Standard(s) indicated on this Certificate. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/ Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval. Authorization to apply the Notified Body Identification Number adjacent to the CE Marking is not permitted for Module B Certifications. The manufacturer shall keep a copy of the EU-type examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market.

Signed: Bob DeLisi

Bob DeLisi
on behalf of UL Verification Services Inc.

Issue Date: 26 January 2018[1]

Certificate No: AN17C10937-4

[1] This certificate expires 10 years after the issue date or within one year of publication of a standard that would supersede the standard(s) used to demonstrate compliance and that would require re-assessment of the device. See also remarks section, page 3.

ANNEX

SCOPE OF EXAMINATION

Article	✓/×	Applied standard(s) (and version) or reference.
Article 3.1a (Safety):	-	Outside the scope of Notified Body's assessment.
Article 3.1b (EMC)	✓	Draft EN301 489-1 v2.2.0, Final draft EN 301 489-3 v2.1.1 Draft EN301 489-17 v3.2.0
Article 3.2 (Radio Spectrum use)	✓	EN 300 328 V2.1.1, EN 300 440 V2.1.1 Final draft EN 301 893 V2.1.0, EN 302 502 V2.1.1 Clause 4.2.7
Article 3.3 a-i (Special Features)	-	Outside the scope of Notified Body's assessment.

TECHNICAL CONSTRUCTION FILE DETAILS

Title:	Technical Documentation Cover Sheet and Summary
Reference Number:	TDF P3310 V7
Issue Date:	January 22, 2018
Contact Name:	Charles Jackson, Nvidia

GENERAL PRODUCT DETAILS

Brand / Trade Name:	Nvidia
Model Number(s) / Type Designation:	P3310
Build Version / Revision Level:	C03
Software Name and Version:	C03A10011.0700 for 802.11abgn,ac C03A10387.0700 for Bluetooth LE and Bluetooth BR/EDR
Operating Frequency and Declared Output Power (dBm, e.i.r.p)	Bluetooth LE 2402 – 2480 MHz 7.0d Bm (2.9dBi antenna gain) Bluetooth BR/EDR 2402 – 2480 MHz 11.5 dBm (2.9dBi antenna gain) 802.11bgn 2412 – 2472 MHz 19.7 dBm (2.9dBi antenna gain) 802.11an, ac 5180 – 5320 MHz 22.7 dBm (5.6dBi antenna gain) 802.11an, ac 5500 – 5700 MHz 22.9 dBm (4.8dBi antenna gain) 802.11an, ac 5745 – 5825 MHz 13.6 dBm (2.0dBi antenna gain)
Additional Information (modulation)	Bluetooth LE GFSK Bluetooth BR/EDR GFSK π/4 DQPSK, 8DPSK 802.11bgn CKK BPSK/QPSK, OFDM BPSK, QPSK, QAM 802.11an, ac OFDM BPSK, QPSK, QAM
Description of Use / Function:	P3310 is a TEGRA X2 based Embedded System on a Module supporting IEEE 802.11a/b/g/n/ac, Bluetooth and Bluetooth LE. 802.11ac support is limited to 20 MHz, 40 MHz and 80 MHz bandwidths; there is no support for 11ac 80+80 or 160MHz modes and no support for channels straddling 5725 MHz (i.e. channels 138, 142, 144). The P3310 supports 2x2 MIMO for 802.11n and 802.11ac and has TPC for the 5150-5350 MHz and 5470-5725 MHz bands.
Manufacturers Company Name:	NVIDIA CORPORATION
Manufacturers Address:	2701 San Tomas Expressway, Santa Clara, CA 95050, USA

PRODUCT VARIANT DETAILS

Details of Product Variant(s) covered by this Notified Body Certification:	This certificate covers use of the module with the optional P2597 Base Board

REMARKS, RESTRICTIONS AND OBSERVATIONS

A mixture of harmonised and non-harmonised standards was used to demonstrate compliance with Article 3.2 of the RED Directive.

- The harmonised standard EN 300 328 V2.1.1 was listed in OJ C 118 of April 12, 2017 and remained listed in OJ C 180 (June 8th, 2017).
- While the EN 300 440 V1.4.1 is harmonised the receiver performance requirements were considered inadequate; therefore nVidia have used the receiver blocking test case (Clause 4.2.7) from harmonised standard EN 302 502 V2.1.1 in combination with the most recent published version of EN 300 440 V2.1.1 to address all essential requirements for operating in the 5725 – 5875 MHz band. We consider this combination to represent the state-of-the-art with respect to evaluating compliance with article 3.2.
- At the time of testing the device EN 301 893 V2.1.0 was the most recent draft version, publically available on the ETSI website. Since then EN 301 893 V2.1.1 has been published and harmonised. The differences between the V2.1.1 harmonised and V2.1.0 draft standards are minimal and we consider EN 301 893 V2.1.0 to represent the state-of-the-art with respect to evaluating compliance with article 3.2.

Non-harmonised standards were used to demonstrate compliance with Article 3.1(b) of the RED Directive. The standards used represent the latest available versions of the EMC standards applicable to the technologies used in this device. There are no versions of these standards currently harmonised under the RE-D.

The manufacturer's declaration of conformity appropriately lists the standards used. The declaration is missing a batch or a serial number. The manufacturer is reminded that indication of batch or serial number in the DoC is required per the RE-D and the absence of it may cause problems with the product on the market due to inability to identify which version of DoC applies to which devices whenever the DoC is updated. The safety literature includes the shortened form of the DoC as described in Article 10(9) and Annex VII thereby meeting the requirement that the DoC be shipped with each device sold.

The product labelling contained the CE mark as required by the Directive. The product contains operations in the 5150-5350 MHz band that are subject to restrictions on use A list of all such Class 2 equipment can be found on the Europa website and on the date this evaluation was issued the publication was last updated in July 2014. As such product labelling will need to follow the implementing act related to article 10(10) once that act has been published. All other operations are in harmonised operating bands without restrictions as described in the Class 1 equipment list *Publication in accordance with Article 1(3) of Commission Decision 2000/299/EC (Version December 2014)* which is also available from the Europa website.

This certificate covers the essential requirements of Article 3.1(b) and Article 3.2 for use of the P3310 module and dipole antennas with the P2597 base board. Assessment of compliance for other hosts systems may be limited to the radiated spurious emissions and receiver blocking test requirements detailed in the referenced standards provided that the host system is for use in indoor locations (0° to 50°C) and has been designed to provide a stable voltage of between 5.5 and 19.6 Vdc. Additional, host-level evaluation is required for host systems using this module to demonstrate compliance with the other essential requirements of the Radio Equipment Directive (i.e. EMC and safety).

System integrators may find the following ETSI technical guide of use when performing evaluations of the final product: ETSI EG 203 367 V1.1.1 "*Guide to the application of harmonised standards covering articles 3.1b and 3.2 of the Directive 2014/53/EU (RED) to multi-radio and combined radio and non-radio equipment*". In addition, Guidance Note 01 published by the RED CA contains guidance on requirements for host system incorporating radio modules.

REVISION HISTORY

April 20, 2017	Original version (-1) released.
April 21, 2017	Updated the Software Name and Version section of Product Details to differentiate between Bluetooth and 802.11 software versions.
July 12, 2017	The Technical Documentation was revised to include an assessment for receiver blocking in the 5725-5875 MHz band based on harmonised standard EN 302 502. Remarks section updated to reflect this change and address publication of EN 300 440 V 1.4.1 and EN 301893 V2.1.1 in the OJ (C 180, June 8th, 2017).
January 26, 2018	The Technical Documentation was revised due to end of life of the RF filter for the 2.4GHz WLAN/BT functions. Spurious emissions were conducted to ensure that emissions are still compliant. (-4 released).