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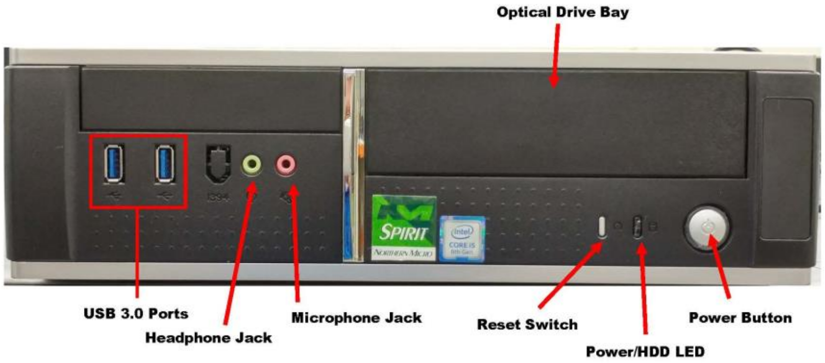
Northern Micro Spirit Q270-AS

NORTHERN MICRO

CHASSIS – Chenbro PC710 Series

Dimensions (D x W x H): 395mm x 95mm x 325mm (15.5” x 2.7” x 12.8”)

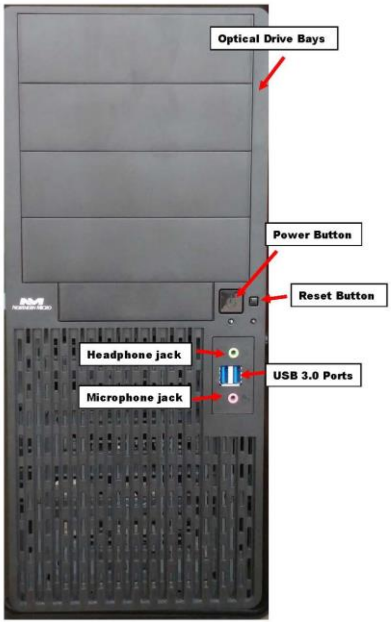
Drive Bays:	External 5.25” x1, External 3.5” x1, Internal 3.5” x1, Internal 2.5” x1
PSU Form Factor:	TFX
Indicators:	Power Status, HDD Activity
Front Buttons:	Power On / Off, System Reset, USB 3.0 x2, Headphone Jack, MIC Phone Jack
System Security:	Padlock Loop, Kensington Slot Lock
Expansion Slots:	4, Low Profile
Metal Thickness:	0.8mm


Optical Drive Bay
USB 3.0 Ports
Headphone Jack
Microphone Jack
Reset Switch
Power/HDD LED
Power Button
SPIRIT

Chassis – In Win PE689T2

Dimensions (D x W x H):	465 x 200 x 430 mm (18.3" x 7.9" x 16.9")
Drive Bays:	External 5.25” x4, External 3.5” x1, Internal 3.5” / 2.5” x5
Indicators:	Power Status, HDD Activity

Front Buttons:	Power On / Off, System Reset, USB 3.0 x2, Headphone Jack, MIC Phone Jack
System Security:	Padlock Loop, Kensington Slot Lock
Expansion Slots:	7
Metal Thickness:	1.0mm


Optical Drive Bays
Power Button
Reset Button
Headphone jack
USB 3.0 Ports
Microphone jack

Power Supply – Seasonic SS-300TGW

Total Continuous Power: 300W

Certification:	80Plus Gold Certification

MOTHERBOARD – Asus PRIME Q270M-C/CSM

CPU Compatibility:	Intel® for 7th/6th Generation Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processors, 14nm
Chipset:	Intel® Q270
Memory:	4 x DIMM, Max. 64GB, DDR4 2400/2133 MHz Non-ECC, Un-buffered Memory
Graphic:	Integrated Graphics Processor- Intel® HD Graphics support

	- Supports HDMI with max. resolution 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz - Supports RGB with max. resolution 1920 x 1200 @ 60 Hz - Supports DisplayPort with max. resolution 4096 x 2304 @ 60 Hz Maximum shared memory of 1024 MB (for iGPU exclusively) Supports up to 3 displays simultaneously
Expansion Slots:	1 x PCIe 3.0/2.0 x16 2 x PCIe 3.0/2.0 x1 1 x PCI
Storage:	1x M.2 Socket 3, with M key, type 2242/2260/2280 storage devices support (both SATA & PCIE mode) 1 x M.2 Socket 3, with M Key, type 2242/2260/2280 storage devices support (x4 PCIE mode) 6 x SATA 6Gb/s port(s) Support Raid 0, 1, 5, 10 Intel® Optane™ Memory Ready
LAN:	Intel® I219LM, 1 x Gigabit LAN Controller
Audio:	Realtek® ALC887 8-Channel High Definition Audio CODEC *1 - Supports : Jack-detection, Front Panel Jack-retasking
USB Ports:	Intel® Q270 Chipset : 10 x USB 3.1 Gen 1 port(s) (6 at back panel, blue, 4 at mid-board) Intel® Q270 Chipset : 4 x USB 2.0/1.1 port(s) (2 at back panel, black, 2 at mid-board)
Back I/O Ports:	1 x PS/2 keyboard (purple) 1 x PS/2 mouse (green) 1 x DVI-D 1 x D-Sub 1 x DisplayPort 1 x HDMI 1 x LAN (RJ45) port(s) 6 x USB 3.1 Gen 1 (blue)

	2 x USB 2.0 3 x Audio jack(s)
Internal I/O Ports	1 x MONO out header *3 2 x USB 3.1 Gen 1 connector(s) support(s) additional 4 USB 3.1 Gen 1 port(s) 1 x USB 2.0 connector(s) support(s) additional 2 USB 2.0 port(s) 1 x M.2 Socket 3 with M key, type 2242/2260/2280 storage devices support (SATA & PCIE 3.0 x 4 mode) 1 x M.2 Socket 3 with M Key, type 2242/2260/2280 storage devices support (PCIE mode only) 1 x LPT header 2 x COM port(s) connector(s) 6 x SATA 6Gb/s connector(s) 1 x CPU Fan connector(s) (1 x 4 -pin) 2 x Chassis Fan connector(s) (2 x 4 -pin) 1 x 24-pin EATX Power connector(s) 1 x 8-pin ATX 12V Power connector(s) 1 x Front panel audio connector(s) (AAFP) 1 x Internal speaker connector(s) 1 x System panel(s) 1 x Chassis Intrusion connector(s) 1 x LPC Debug header
Security:	TPM IC Onboard

Processor – Intel Core i5-6500

Processor Number:	i5-6500
Lithography:	14nm
# of Cores:	4
# of Threads:	4

Processor Base Frequency:	3.40 GHz
Max Turbo Frequency:	3.60GHz
Cache:	6MB SmartCache
Bus Speed:	8GT/s DMI3
TDP:	65W
Max Memory Size:	64GB
Memory Types:	DDR4-2133
ECC Memory Supported:	No
Processor Graphics:	Intel UHD Graphics 530
Graphics Base Frequency:	350MHz
Graphics Video Max Memory:	64GB
4K Support:	Yes, at 60Hz
Maximum Resolution:	4096 x 2304 @60Hz (DisplayPort)
DirectX Support:	12
OpenGL Support:	4.5
# Displays Supported:	3
Socket Supported:	FCLGA1151
Intel Optane Support:	No
Intel Turbo Boost Technology:	2.0
Intel vPro Platform:	Yes
Intel Hyper-Threading:	No
Intel VT-x:	Yes
Intel VT-d:	Yes

Memory – Crucial 8GB DDR4 – 2400 UDIMM

Total Capacity:	16GB (8GB x 2)
Speed:	2400 MT/s
Spec:	DDR4 PC4-19200, CL-17, Dual Ranked, x8 Based, Unbuffered, Non-ECC, 1.2V, 1024Meg x 64

Storage – Intel SSD 760p Series

Capacity: 256GB

Form Factor: M.2 2280

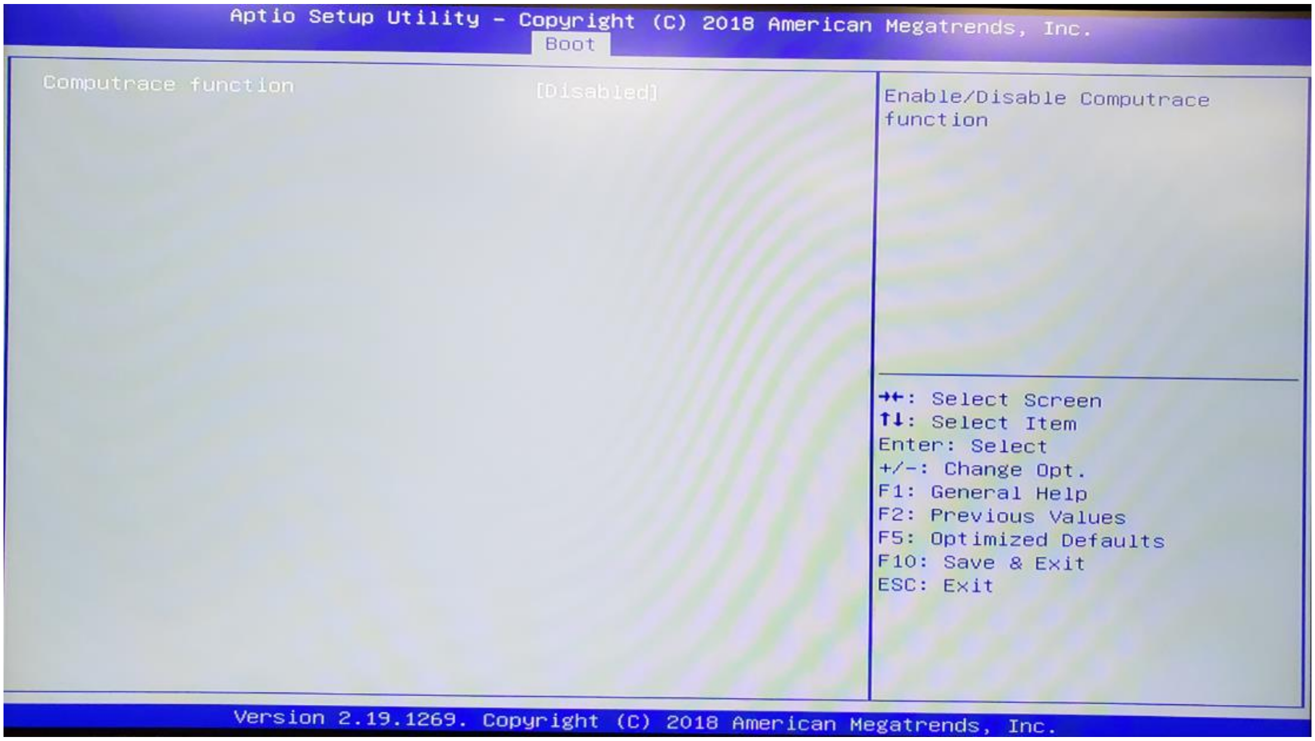
Interface: PCIe NVMe 3.1 x4

Hardware Encryption: AES 256 bit

Operating System

Installed OS: Windows 10 Professional, 64 bit

Computrace Compatibility



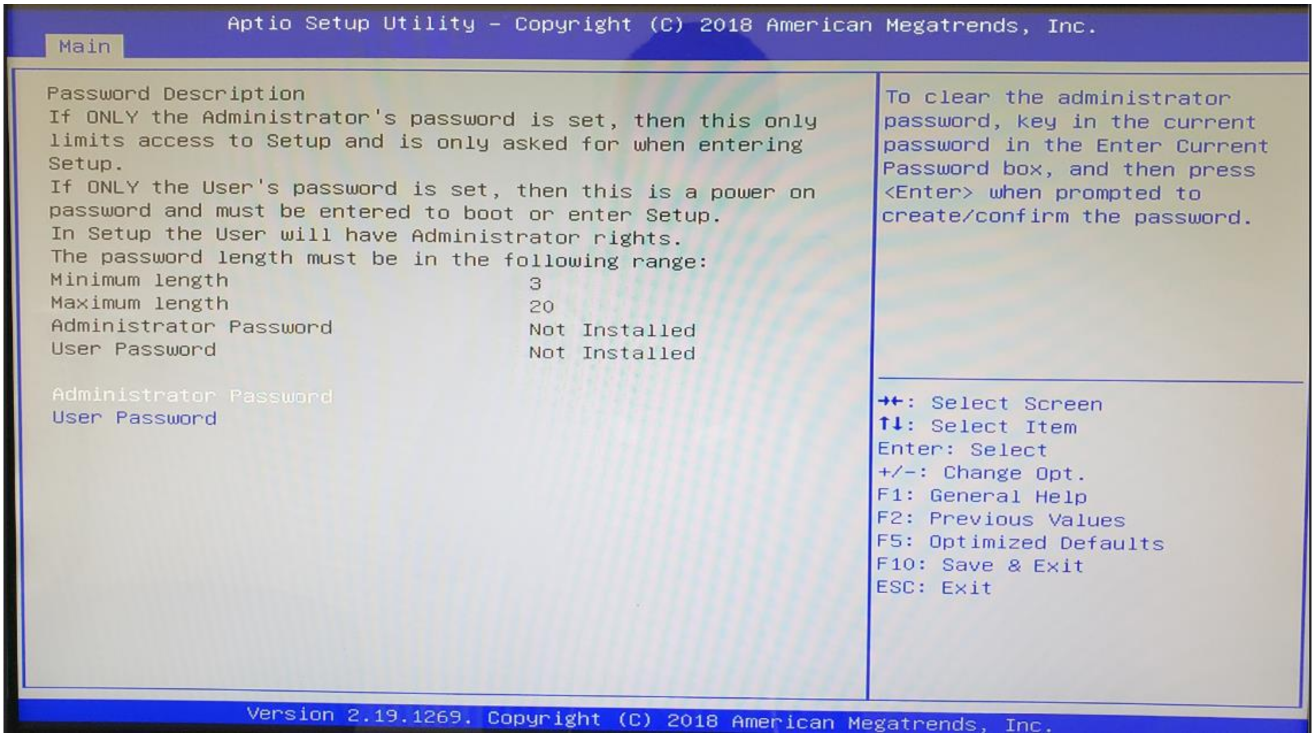
Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
Boot

Computrace function [Disabled]

Enable/Disable Computrace function

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F5: Optimized Defaults
F10: Save & Exit
ESC: Exit
Version 2.19.1269. Copyright (C) 2018 American Megatrends, Inc.

BIOS Protection



Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
Main

Password Description
If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.
If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup.
In Setup the User will have Administrator rights.
The password length must be in the following range:

Minimum length	3
Maximum length	20
Administrator Password	Not Installed
User Password	Not Installed

Administrator Password
User Password

To clear the administrator password, key in the current password in the Enter Current Password box, and then press <Enter> when prompted to create/confirm the password.

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F5: Optimized Defaults
F10: Save & Exit
ESC: Exit
Version 2.19.1269. Copyright (C) 2018 American Megatrends, Inc.

OPTION ITEMS

Communications

Wireless & Bluetooth Adapter:	N4G85AA (Intel 7265)
Wireless Protocol:	802.11 a/g, 802.11n, 802.11ac
Wi-FI Supported Frequency:	2.4G & 5G
Bluetooth:	4.2
Adapter Socket:	PCE-E x1

Keyboard – Bilingual

Part Number:	KBS225FE-USB-BL
Manufacturer:	Solidus
Keyboard Layout:	QWERTY - 105 Keys, English and French Function keys
Connectivity:	USB

Keyboard – TBITS 5

Part Number:	KBS225T5-USB-BL
Manufacturer:	Solidus
Keyboard Layout:	QWERTY - Symbol Function keys
Connectivity:	USB

Keyboard - English

Part Number:	ANB-00002
Manufacturer:	Microsoft
Keyboard Layout:	QWERTY - English Function keys
Connectivity:	USB

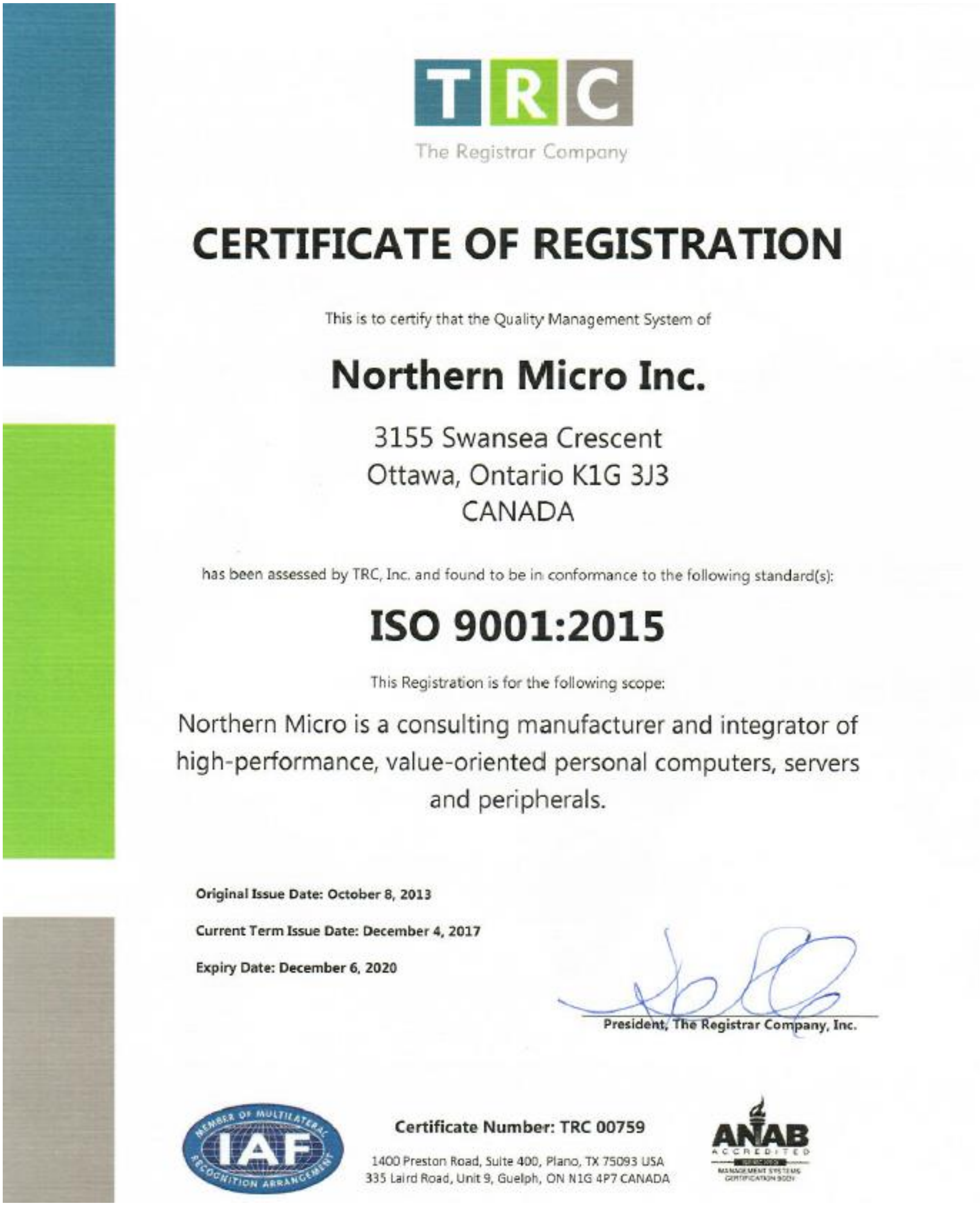
Mouse – Basic Scroll Mouse

Part Number:	4YH-00005
Manufacturer:	Microsoft
Connectivity:	USB

Buttons: 2-Buttons, 1-Scroll Wheel & Button

Technology: Optical

Northern Micro ISO 9001-2015 Certification



TRC
The Registrar Company

CERTIFICATE OF REGISTRATION

This is to certify that the Quality Management System of

Northern Micro Inc.

3155 Swansea Crescent
Ottawa, Ontario K1G 3J3
CANADA

has been assessed by TRC, Inc. and found to be in conformance to the following standard(s):

ISO 9001:2015

This Registration is for the following scope:

Northern Micro is a consulting manufacturer and integrator of high-performance, value-oriented personal computers, servers and peripherals.

Original Issue Date: October 8, 2013

Current Term Issue Date: December 4, 2017

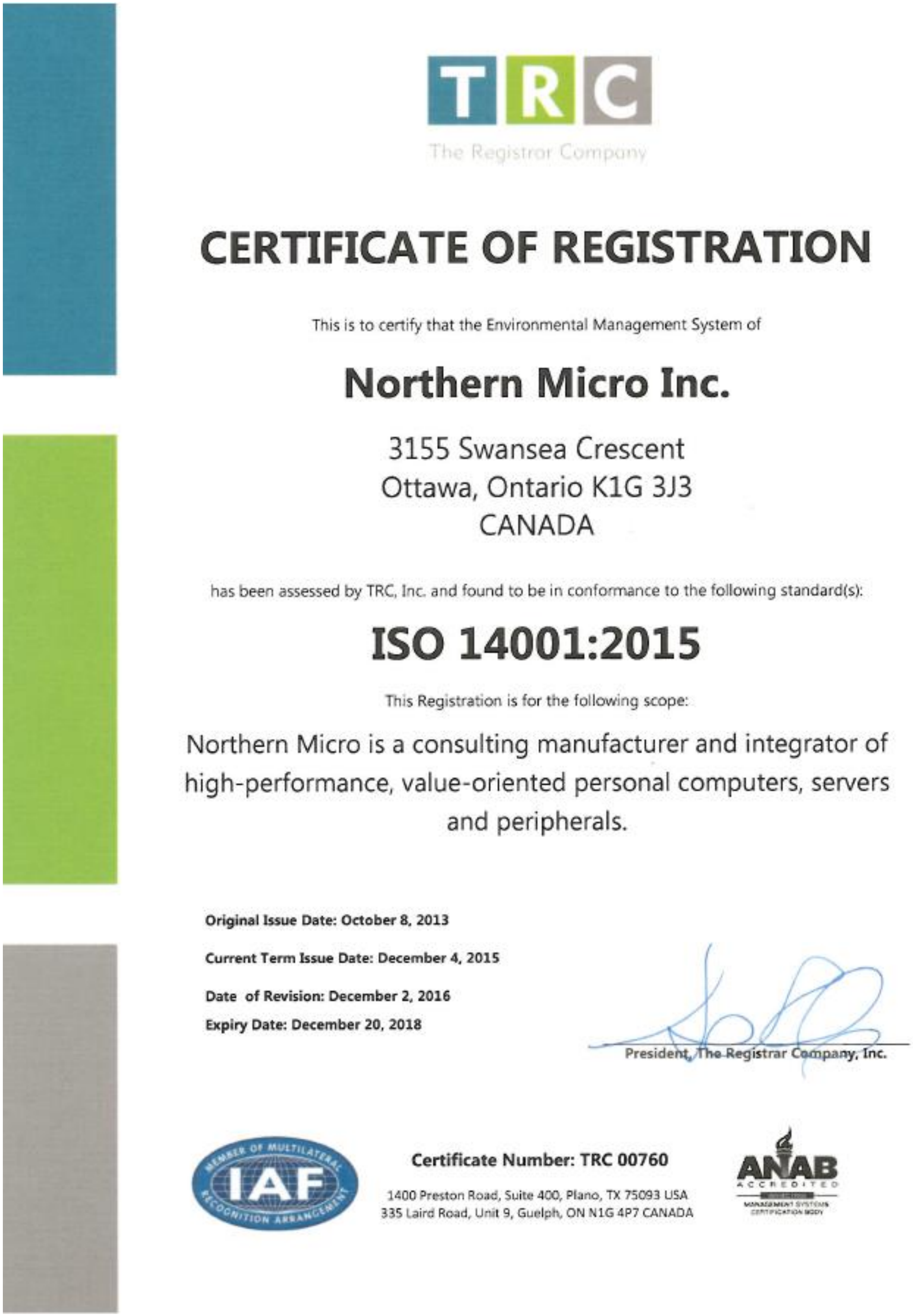
Expiry Date: December 6, 2020

President, The Registrar Company, Inc.

Certificate Number: TRC 00759

1400 Preston Road, Suite 400, Plano, TX 75093 USA
335 Laird Road, Unit 9, Guelph, ON N1G 4P7 CANADA

Northern Micro ISO 14001:2015 Certification



TRC
The Registrar Company

CERTIFICATE OF REGISTRATION

This is to certify that the Environmental Management System of

Northern Micro Inc.

3155 Swansea Crescent
Ottawa, Ontario K1G 3J3
CANADA

has been assessed by TRC, Inc. and found to be in conformance to the following standard(s):

ISO 14001:2015

This Registration is for the following scope:

Northern Micro is a consulting manufacturer and integrator of high-performance, value-oriented personal computers, servers and peripherals.

Original Issue Date: October 8, 2013

Current Term Issue Date: December 4, 2015

Date of Revision: December 2, 2016

Expiry Date: December 20, 2018

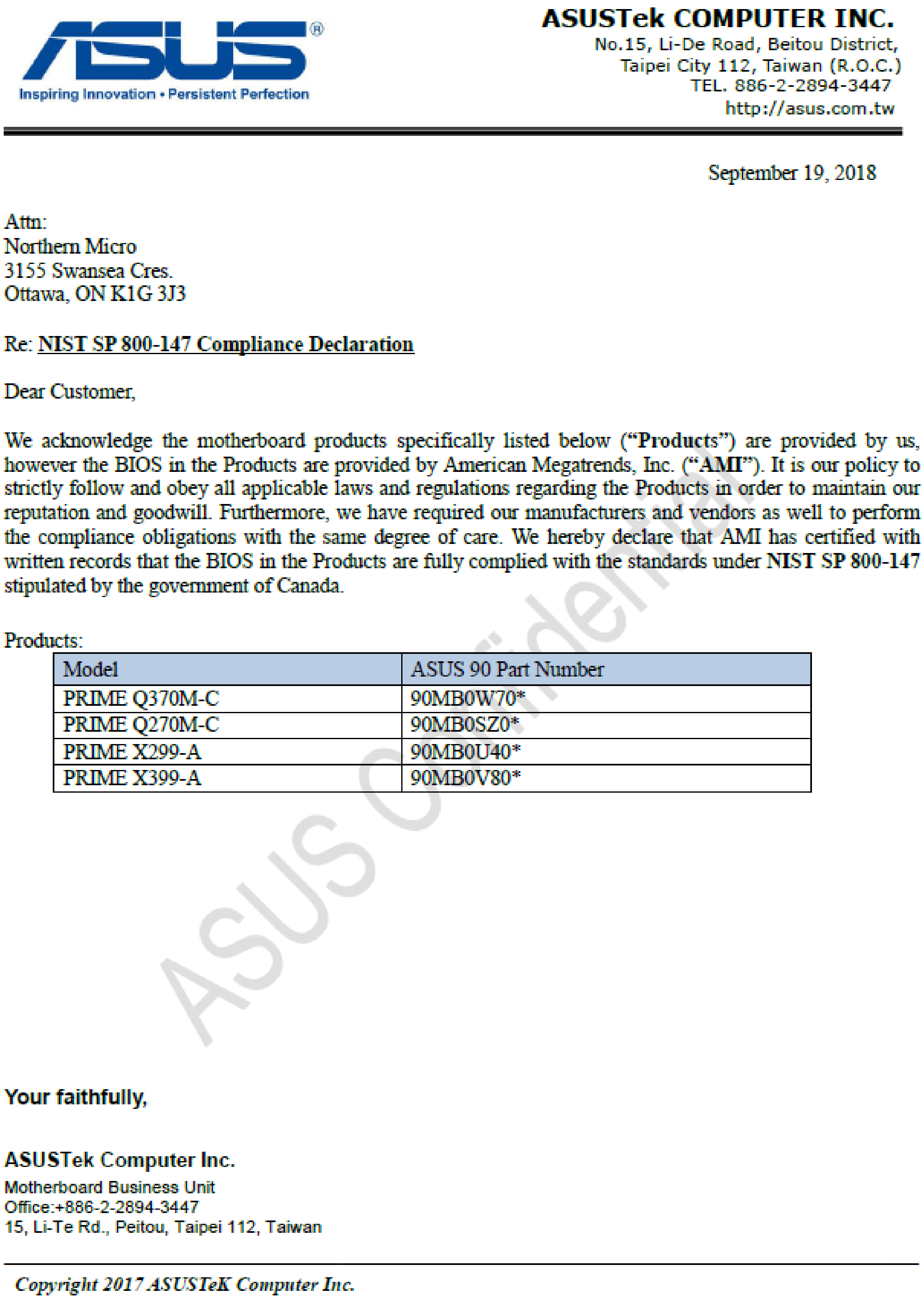
President, The Registrar Company, Inc.

Certificate Number: TRC 00760

1400 Preston Road, Suite 400, Plano, TX 75093 USA
335 Laird Road, Unit 9, Guelph, ON N1G 4P7 CANADA

ANAB ACCREDITED
MANAGEMENT SYSTEMS CERTIFICATION BODY

Asus NIST SP800-147 Compliancy



Inspiring Innovation • Persistent Perfection

ASUSTek COMPUTER INC.
No.15, Li-De Road, Beitou District,
Taipei City 112, Taiwan (R.O.C.)
TEL. 886-2-2894-3447
http://asus.com.tw

September 19, 2018

Attn:
Northern Micro
3155 Swansea Cres.
Ottawa, ON K1G 3J3

Re: **NIST SP 800-147 Compliance Declaration**

Dear Customer,

We acknowledge the motherboard products specifically listed below (“**Products**”) are provided by us, however the BIOS in the Products are provided by American Megatrends, Inc. (“**AMI**”). It is our policy to strictly follow and obey all applicable laws and regulations regarding the Products in order to maintain our reputation and goodwill. Furthermore, we have required our manufacturers and vendors as well to perform the compliance obligations with the same degree of care. We hereby declare that AMI has certified with written records that the BIOS in the Products are fully complied with the standards under **NIST SP 800-147** stipulated by the government of Canada.

Products:

Model	ASUS 90 Part Number
PRIME Q370M-C	90MB0W70*
PRIME Q270M-C	90MB0SZ0*
PRIME X299-A	90MB0U40*
PRIME X399-A	90MB0V80*

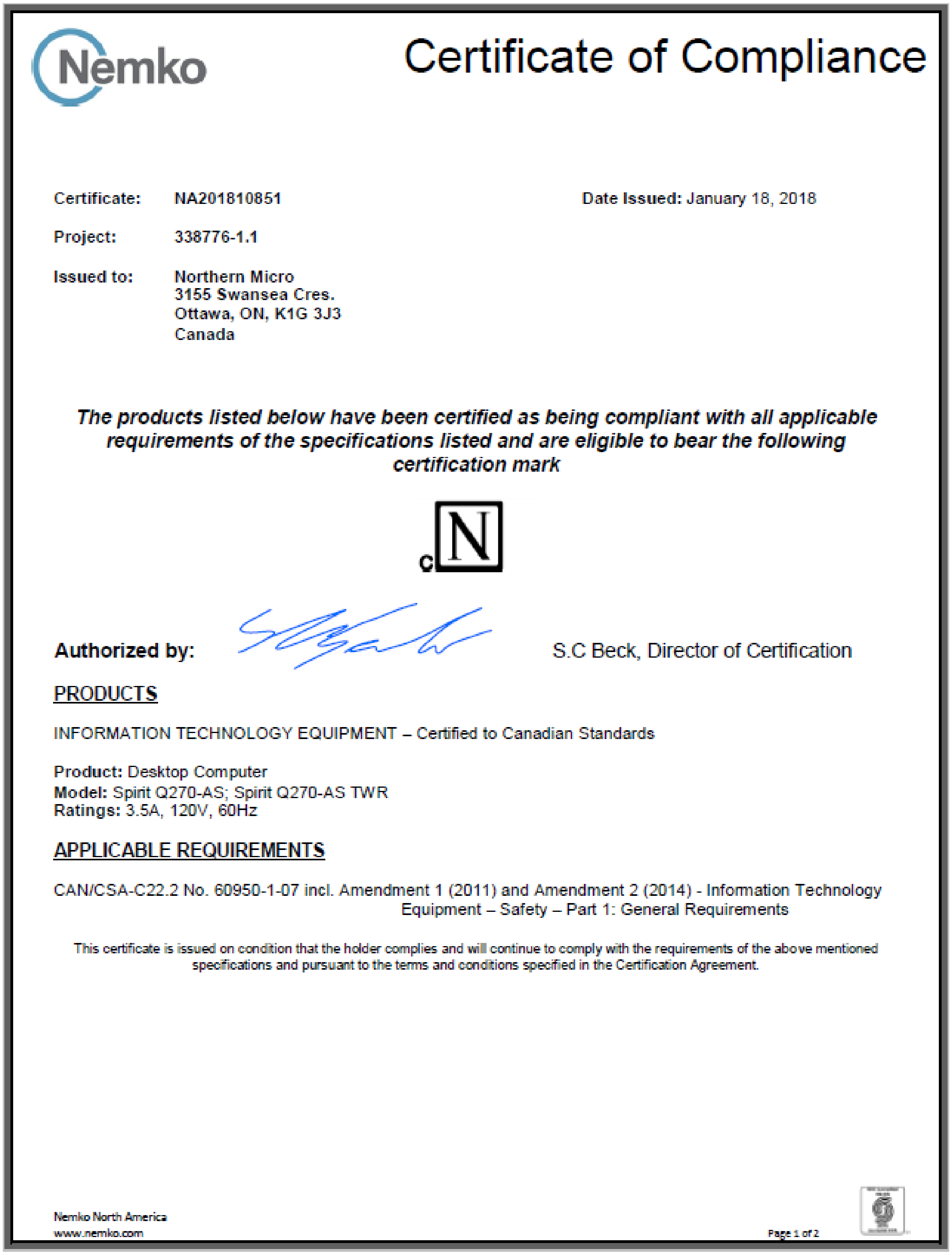
ASUS Confidential

Your faithfully,

ASUSTek Computer Inc.
Motherboard Business Unit
Office:+886-2-2894-3447
15, Li-Te Rd., Peitou, Taipei 112, Taiwan

Copyright 2017 ASUSTeK Computer Inc.

Northern Micro Spirt Q270-AS Electrical Certification



Nemko

Certificate of Compliance

Certificate: **NA201810851** **Date Issued:** January 18, 2018

Project: **338776-1.1**

Issued to:
Northern Micro
3155 Swansea Cres.
Ottawa, ON, K1G 3J3
Canada

The products listed below have been certified as being compliant with all applicable requirements of the specifications listed and are eligible to bear the following certification mark

cN

Authorized by: S.C Beck, Director of Certification

PRODUCTS

INFORMATION TECHNOLOGY EQUIPMENT – Certified to Canadian Standards

Product: Desktop Computer
Model: Spirit Q270-AS; Spirit Q270-AS TWR
Ratings: 3.5A, 120V, 60Hz

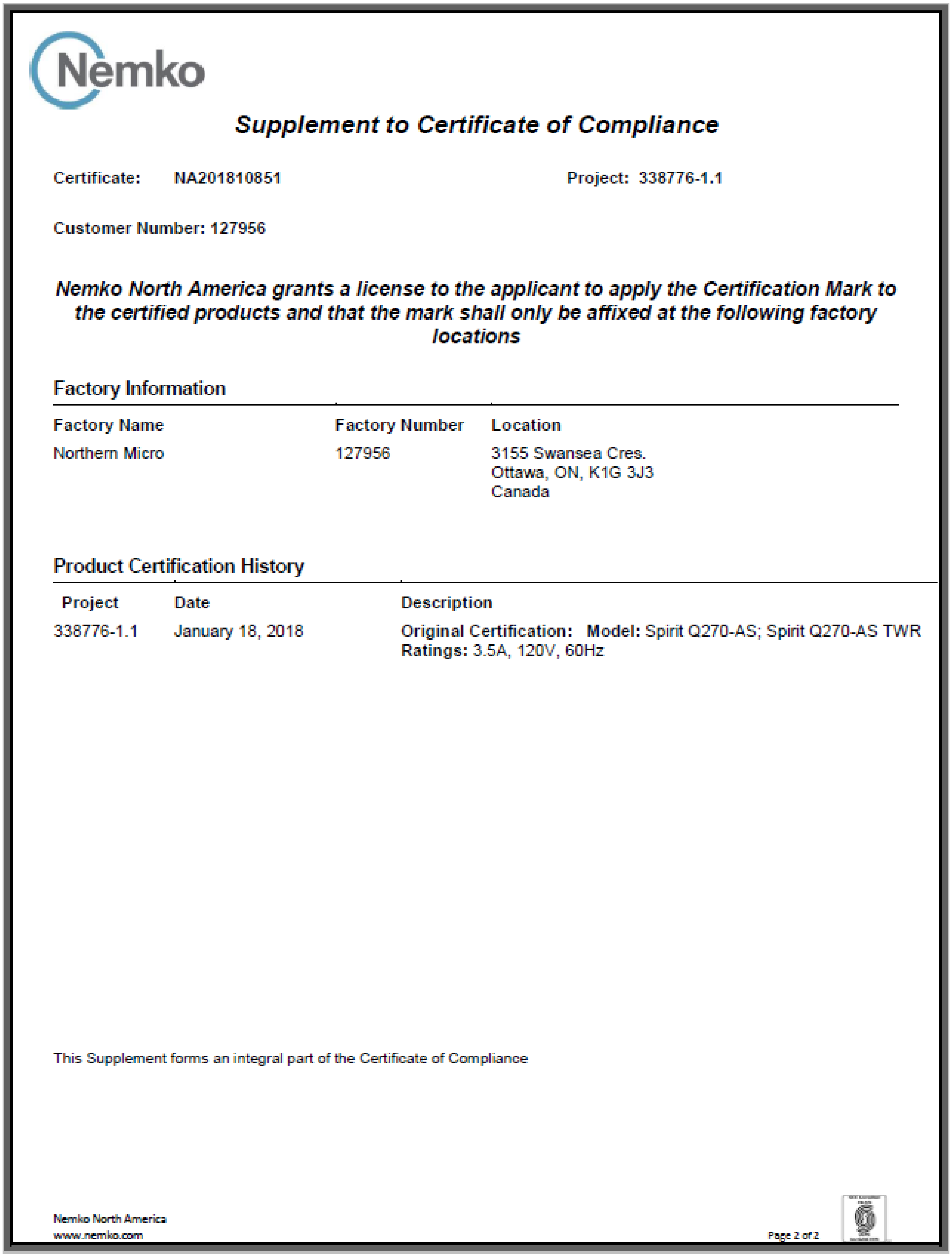
APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 60950-1-07 incl. Amendment 1 (2011) and Amendment 2 (2014) - Information Technology Equipment – Safety – Part 1: General Requirements

This certificate is issued on condition that the holder complies and will continue to comply with the requirements of the above mentioned specifications and pursuant to the terms and conditions specified in the Certification Agreement.

Nemko North America
www.nemko.com

Page 1 of 2



Nemko

Supplement to Certificate of Compliance

Certificate: **NA201810851** **Project: 338776-1.1**

Customer Number: 127956

Nemko North America grants a license to the applicant to apply the Certification Mark to the certified products and that the mark shall only be affixed at the following factory locations

Factory Information

Factory Name	**Factory Number**	**Location**
Northern Micro	127956	3155 Swansea Cres. Ottawa, ON, K1G 3J3 Canada

Product Certification History

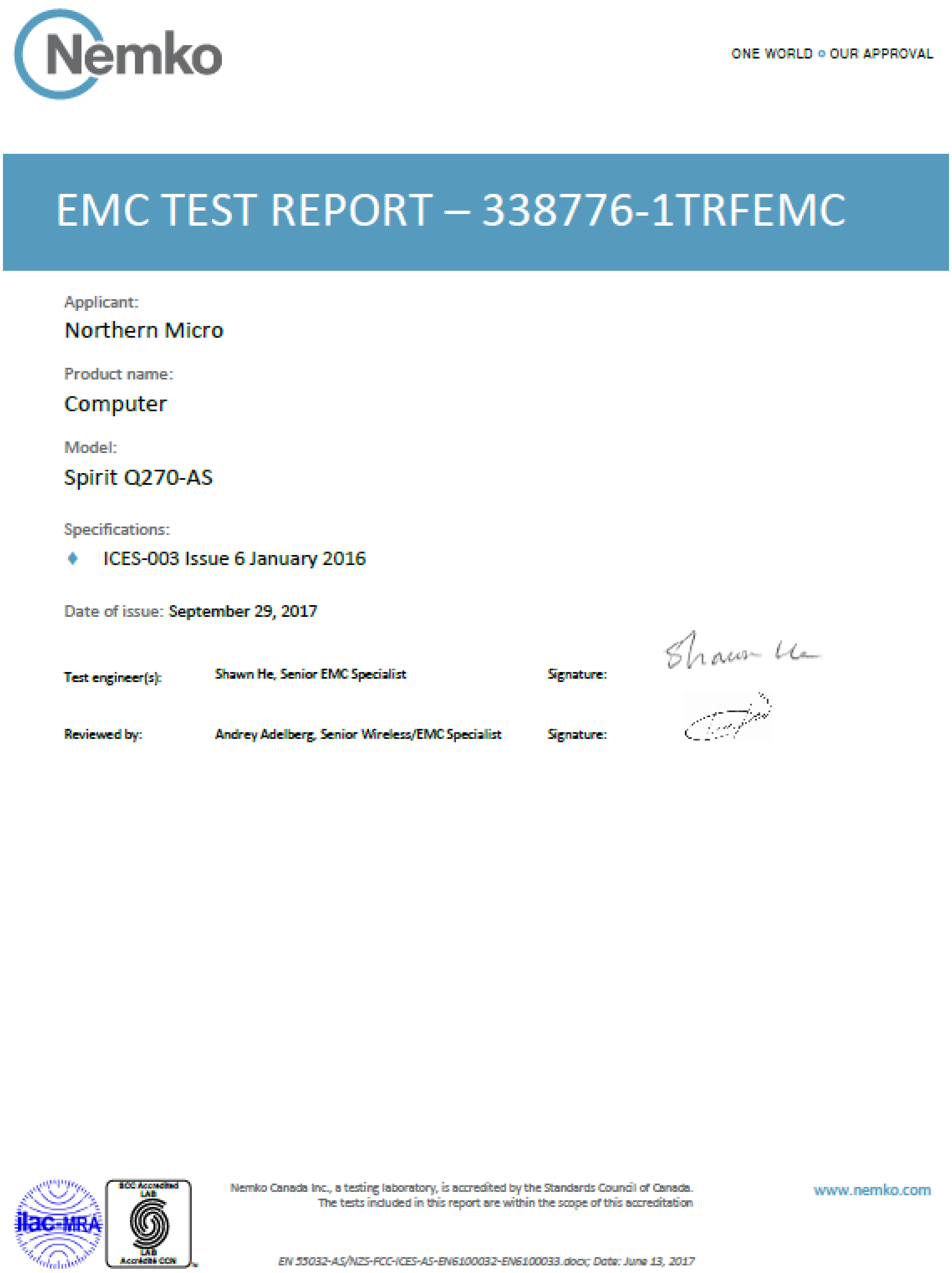
Project	**Date**	**Description**
338776-1.1	January 18, 2018	**Original Certification: Model:** Spirit Q270-AS; Spirit Q270-AS TWR **Ratings:** 3.5A, 120V, 60Hz

This Supplement forms an integral part of the Certificate of Compliance

Nemko North America
www.nemko.com

Page 2 of 2

Northern Micro Spirt Q270-AS FCC Class B and ICES-003



Nemko

ONE WORLD ○ OUR APPROVAL

EMC TEST REPORT – 338776-1TRFEMC

Applicant:
Northern Micro

Product name:
Computer

Model:
Spirit Q270-AS

Specifications:
- ICES-003 Issue 6 January 2016

Date of issue: **September 29, 2017**

Test engineer(s):	Shawn He, Senior EMC Specialist	Signature:	Shawn He
Reviewed by:	Andrey Adelberg, Senior Wireless/EMC Specialist	Signature:	

ilac-MRA

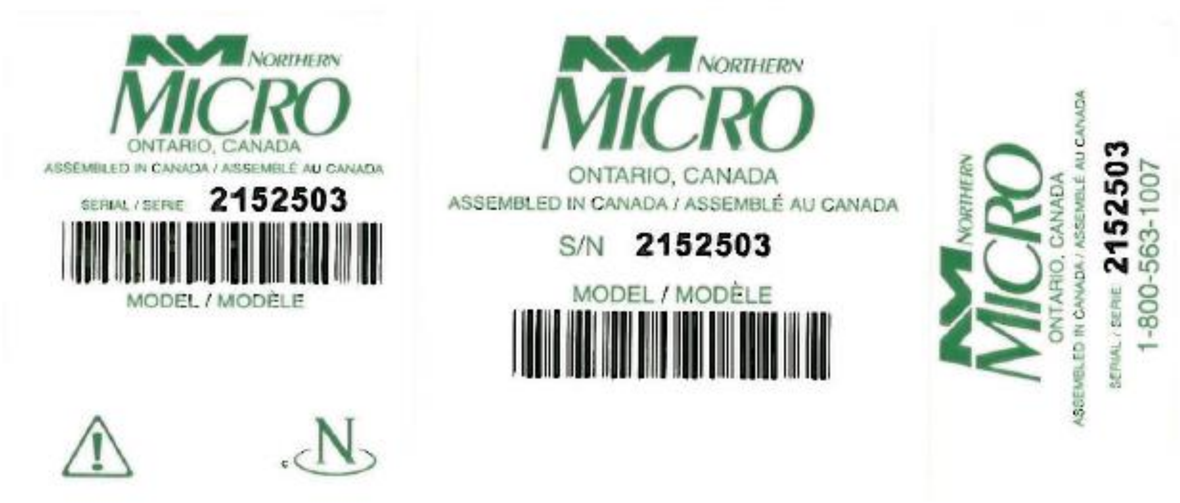
SCC Accredited LAB
LAB Accrédité CCN

Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada.
The tests included in this report are within the scope of this accreditation

www.nemko.com

EN 55032-AS/NZS-FCC-ICES-AS-EN6100032-EN6100033.docx; Date: June 13, 2017

Northern Micro System Serial Label



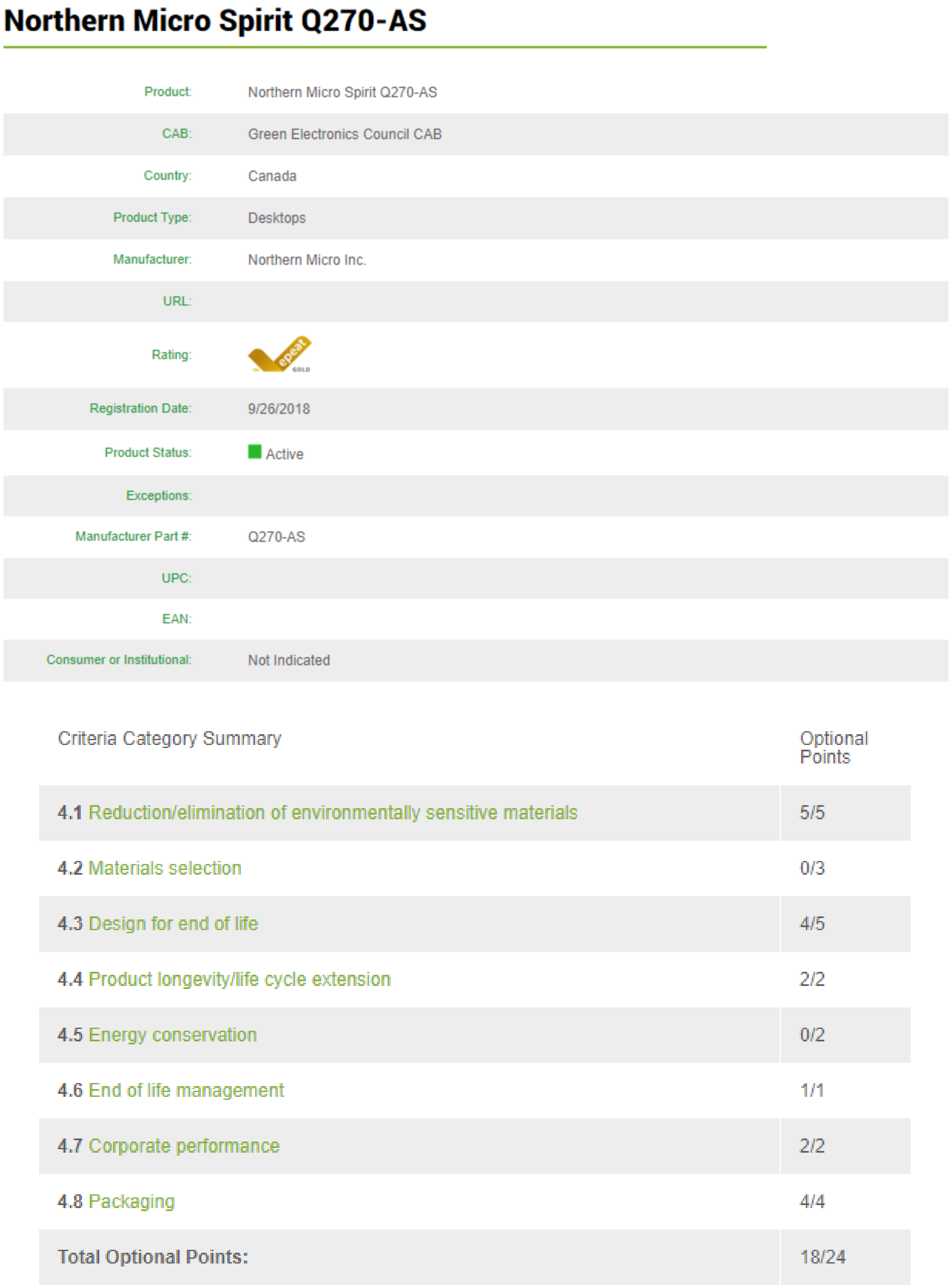
NORTHERN MICRO
ONTARIO, CANADA
ASSEMBLED IN CANADA / ASSEMBLÉ AU CANADA
SERIAL / SERIE 2152503
MODEL / MODÈLE

NORTHERN MICRO
ONTARIO, CANADA
ASSEMBLED IN CANADA / ASSEMBLÉ AU CANADA
S/N 2152503
MODEL / MODÈLE

NORTHERN MICRO
ONTARIO, CANADA
ASSEMBLED IN CANADA / ASSEMBLÉ AU CANADA
SERIAL / SERIE 2152503
1-800-563-1007

Northern Micro Spirit Q270-AS WHQL Certification

Northern Micro Spirit Q270-AS EPEAT Certification

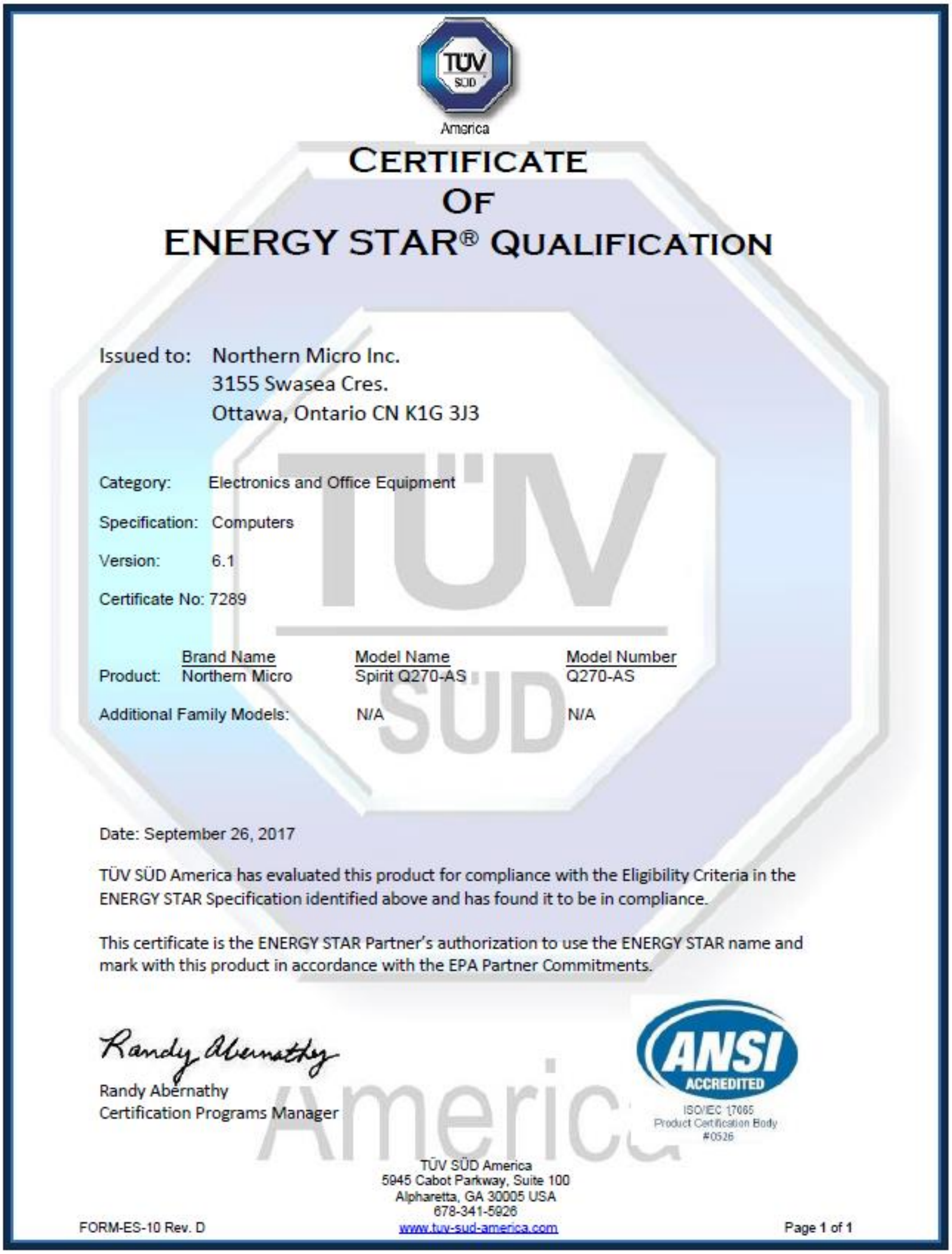


Northern Micro Spirit Q270-AS

Product:	Northern Micro Spirit Q270-AS
CAB:	Green Electronics Council CAB
Country:	Canada
Product Type:	Desktops
Manufacturer:	Northern Micro Inc.
URL:	
Rating:	epeat GOLD
Registration Date:	9/26/2018
Product Status:	🟩 Active
Exceptions:	
Manufacturer Part #:	Q270-AS
UPC:	
EAN:	
Consumer or Institutional:	Not Indicated

Criteria Category Summary	Optional Points
4.1 Reduction/elimination of environmentally sensitive materials	5/5
4.2 Materials selection	0/3
4.3 Design for end of life	4/5
4.4 Product longevity/life cycle extension	2/2
4.5 Energy conservation	0/2
4.6 End of life management	1/1
4.7 Corporate performance	2/2
4.8 Packaging	4/4
Total Optional Points:	18/24

Northern Micro Spirit Q270-AS Energy Star Certification



TÜV SÜD America

CERTIFICATE OF ENERGY STAR® QUALIFICATION

Issued to: Northern Micro Inc.
3155 Swasea Cres.
Ottawa, Ontario CN K1G 3J3

Category: Electronics and Office Equipment

Specification: Computers

Version: 6.1

Certificate No: 7289

	Brand Name	Model Name	Model Number
Product:	Northern Micro	Spirit Q270-AS	Q270-AS
Additional Family Models:		N/A	N/A

Date: September 26, 2017

TÜV SÜD America has evaluated this product for compliance with the Eligibility Criteria in the ENERGY STAR Specification identified above and has found it to be in compliance.

This certificate is the ENERGY STAR Partner's authorization to use the ENERGY STAR name and mark with this product in accordance with the EPA Partner Commitments.

Randy Abernathy

Randy Abernathy
Certification Programs Manager

ANSI ACCREDITED
ISO/IEC 17065
Product Certification Body
#0526

TÜV SÜD America
5945 Cabot Parkway, Suite 100
Alpharetta, GA 30005 USA
678-341-5926
www.tuv-sud-america.com

FORM-ES-10 Rev. D

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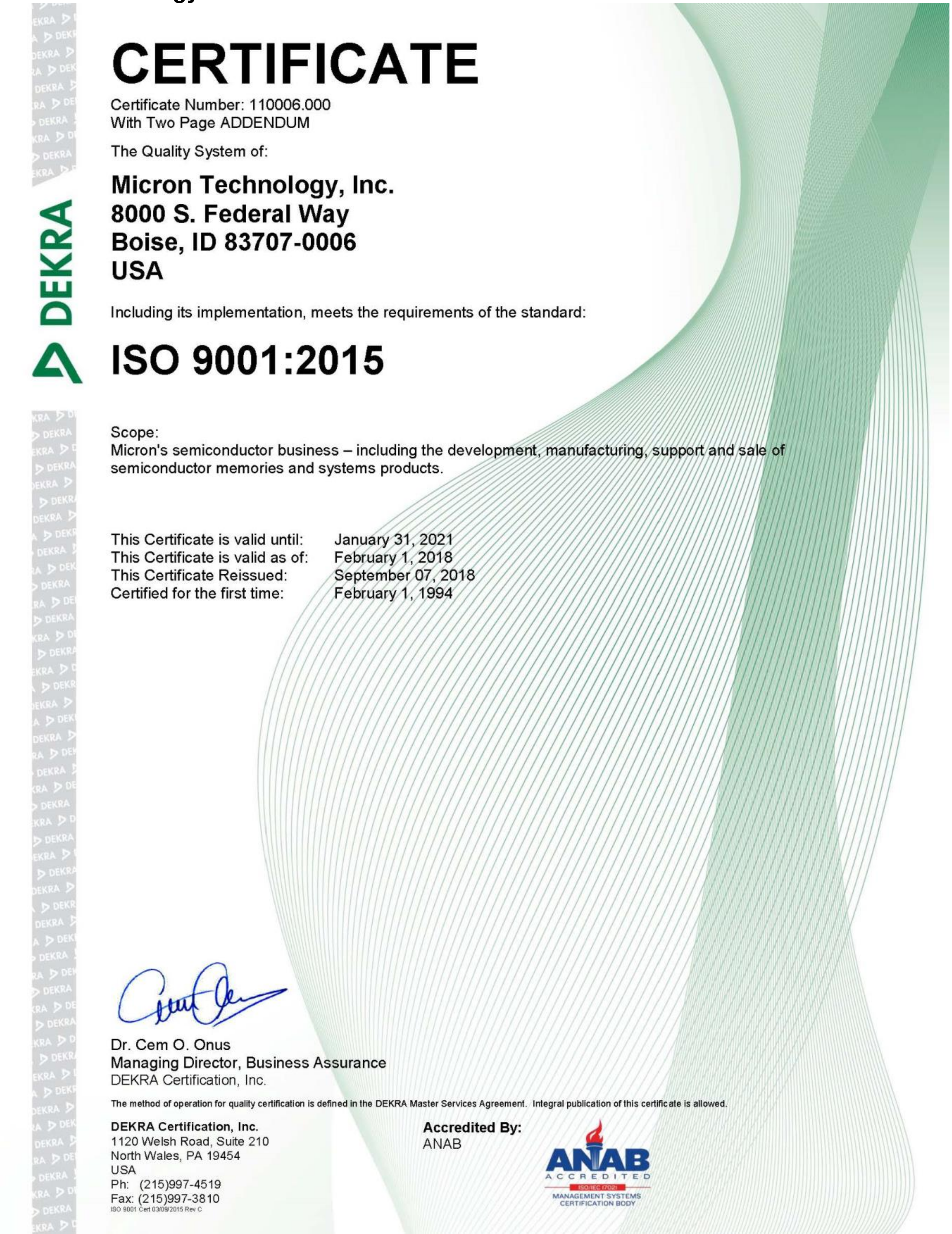
Micro Technology ISO 9001 Certification



CERTIFICATE

Certificate Number: 110006.000
With Two Page ADDENDUM

The Quality System of:

Micron Technology, Inc.
8000 S. Federal Way
Boise, ID 83707-0006
USA

Including its implementation, meets the requirements of the standard:

ISO 9001:2015

Scope:
Micron's semiconductor business – including the development, manufacturing, support and sale of semiconductor memories and systems products.

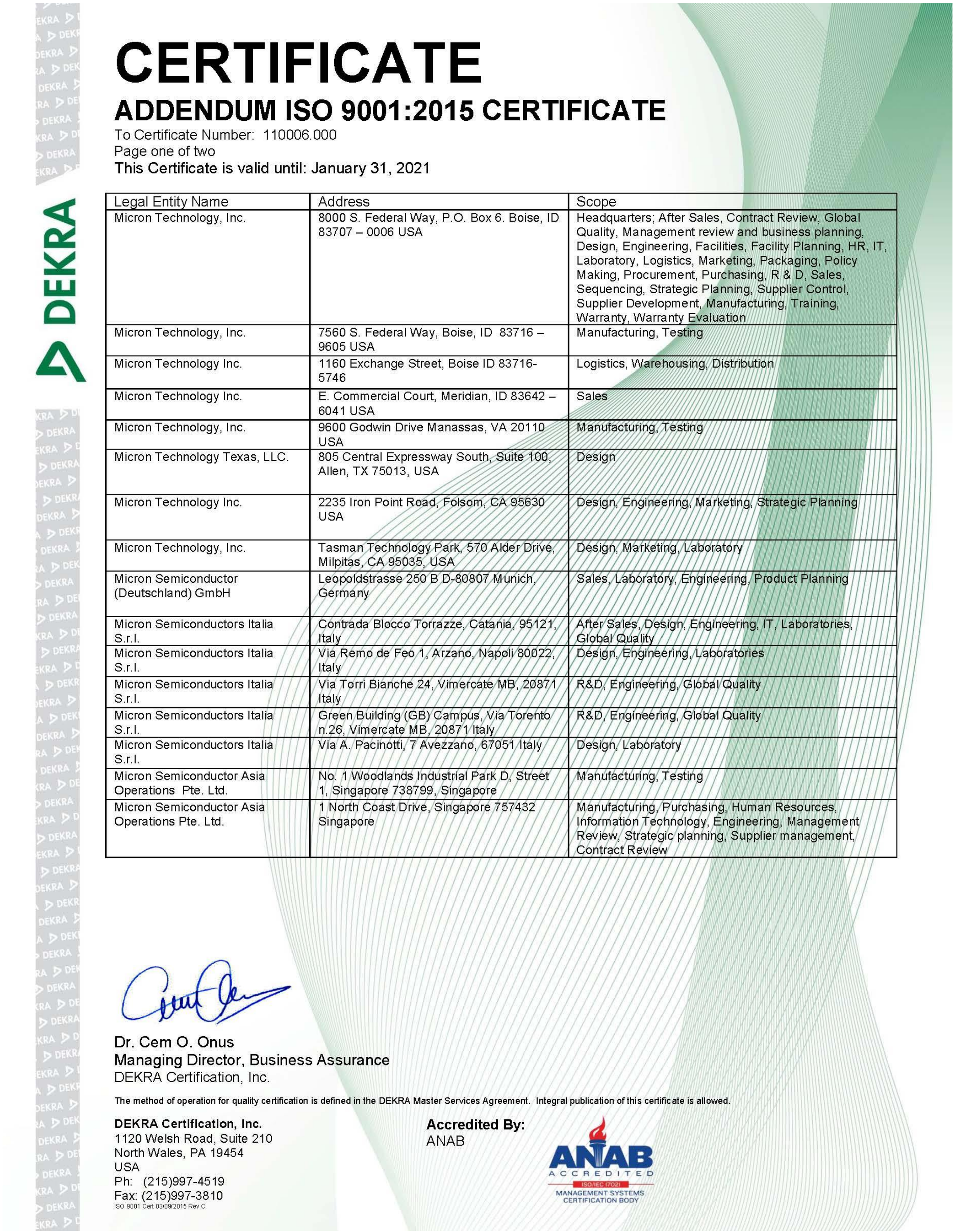
This Certificate is valid until:	January 31, 2021
This Certificate is valid as of:	February 1, 2018
This Certificate Reissued:	September 07, 2018
Certified for the first time:	February 1, 1994

Dr. Cem O. Onus
Managing Director, Business Assurance
DEKRA Certification, Inc.

The method of operation for quality certification is defined in the DEKRA Master Services Agreement. Integral publication of this certificate is allowed.

DEKRA Certification, Inc.
1120 Welsh Road, Suite 210
North Wales, PA 19454
USA
Ph: (215)997-4519
Fax: (215)997-3810
ISO 9001 Cert 03/09/2015 Rev C

Accredited By:
ANAB



CERTIFICATE

ADDENDUM ISO 9001:2015 CERTIFICATE

To Certificate Number: 110006.000
Page one of two
This Certificate is valid until: January 31, 2021

Legal Entity Name	Address	Scope
Micron Technology, Inc.	8000 S. Federal Way, P.O. Box 6. Boise, ID 83707 – 0006 USA	Headquarters; After Sales, Contract Review, Global Quality, Management review and business planning, Design, Engineering, Facilities, Facility Planning, HR, IT, Laboratory, Logistics, Marketing, Packaging, Policy Making, Procurement, Purchasing, R & D, Sales, Sequencing, Strategic Planning, Supplier Control, Supplier Development, Manufacturing, Training, Warranty, Warranty Evaluation
Micron Technology, Inc.	7560 S. Federal Way, Boise, ID 83716 – 9605 USA	Manufacturing, Testing
Micron Technology Inc.	1160 Exchange Street, Boise ID 83716-5746	Logistics, Warehousing, Distribution
Micron Technology Inc.	E. Commercial Court, Meridian, ID 83642 – 6041 USA	Sales
Micron Technology, Inc.	9600 Godwin Drive Manassas, VA 20110 USA	Manufacturing, Testing
Micron Technology Texas, LLC.	805 Central Expressway South, Suite 100, Allen, TX 75013, USA	Design
Micron Technology Inc.	2235 Iron Point Road, Folsom, CA 95630 USA	Design, Engineering, Marketing, Strategic Planning
Micron Technology, Inc.	Tasman Technology Park, 570 Alder Drive, Milpitas, CA 95035, USA	Design, Marketing, Laboratory
Micron Semiconductor (Deutschland) GmbH	Leopoldstrasse 250 B D-80807 Munich, Germany	Sales, Laboratory, Engineering, Product Planning
Micron Semiconductors Italia S.r.l.	Contrada Blocco Torrazze, Catania, 95121, Italy	After Sales, Design, Engineering, IT, Laboratories, Global Quality
Micron Semiconductors Italia S.r.l.	Via Remo de Feo 1, Arzano, Napoli 80022, Italy	Design, Engineering, Laboratories
Micron Semiconductors Italia S.r.l.	Via Torri Bianche 24, Vimercate MB, 20871 Italy	R&D, Engineering, Global Quality
Micron Semiconductors Italia S.r.l.	Green Building (GB) Campus, Via Torento n.26, Vimercate MB, 20871 Italy	R&D, Engineering, Global Quality
Micron Semiconductors Italia S.r.l.	Via A. Pacinotti, 7 Avezzano, 67051 Italy	Design, Laboratory
Micron Semiconductor Asia Operations Pte. Ltd.	No. 1 Woodlands Industrial Park D, Street 1, Singapore 738799, Singapore	Manufacturing, Testing
Micron Semiconductor Asia Operations Pte. Ltd.	1 North Coast Drive, Singapore 757432 Singapore	Manufacturing, Purchasing, Human Resources, Information Technology, Engineering, Management Review, Strategic planning, Supplier management, Contract Review

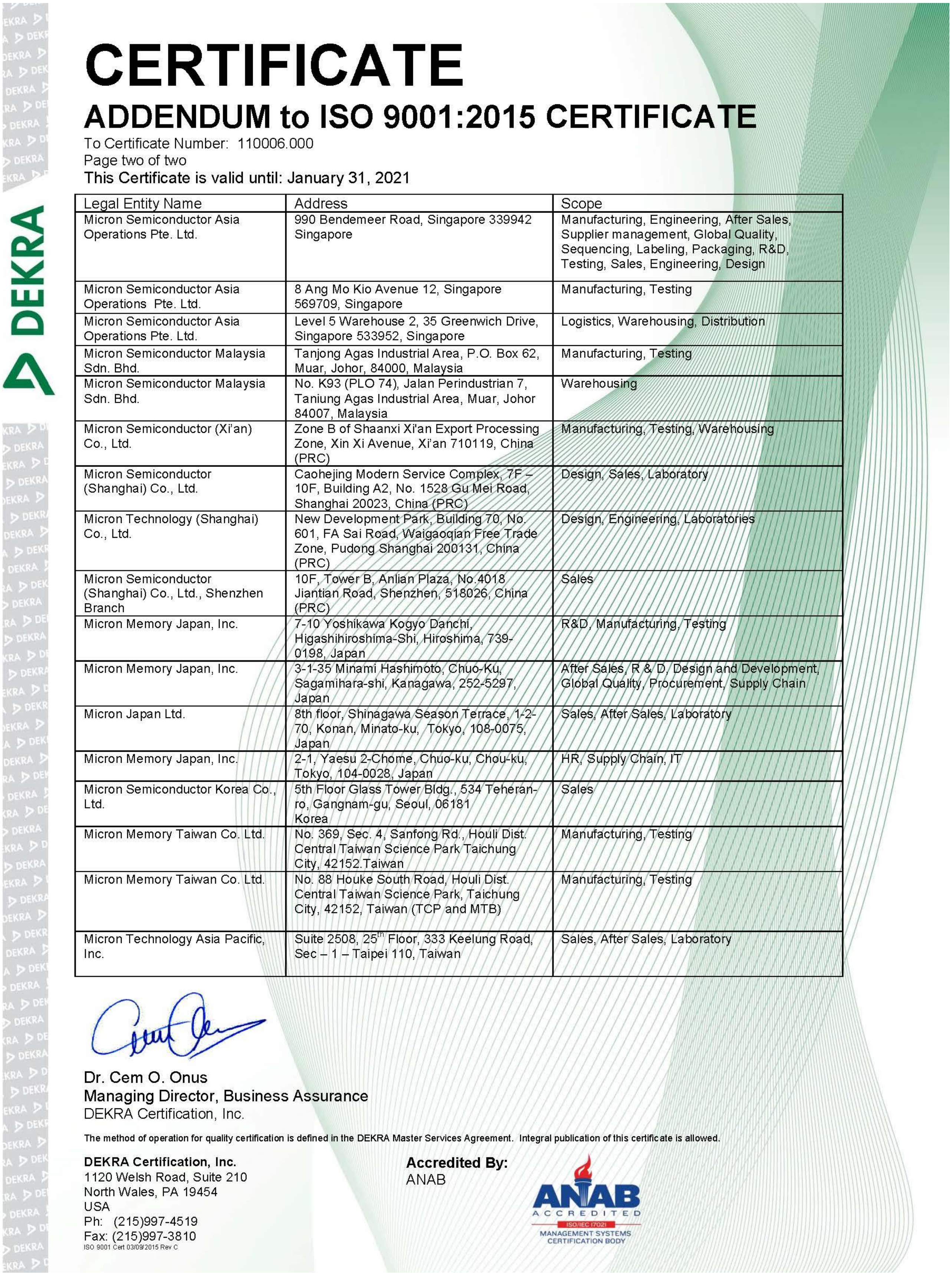
Dr. Cem O. Onus
Managing Director, Business Assurance
DEKRA Certification, Inc.

The method of operation for quality certification is defined in the DEKRA Master Services Agreement. Integral publication of this certificate is allowed.

DEKRA Certification, Inc.
1120 Welsh Road, Suite 210
North Wales, PA 19454
USA
Ph: (215)997-4519
Fax: (215)997-3810
ISO 9001 Cert 03/09/2015 Rev C

Accredited By:
ANAB

ANAB
ACCREDITED
ISO/IEC 17021
MANAGEMENT SYSTEMS
CERTIFICATION BODY



CERTIFICATE

ADDENDUM to ISO 9001:2015 CERTIFICATE

To Certificate Number: 110006.000
Page two of two
This Certificate is valid until: January 31, 2021

Legal Entity Name	Address	Scope
Micron Semiconductor Asia Operations Pte. Ltd.	990 Bendemeer Road, Singapore 339942 Singapore	Manufacturing, Engineering, After Sales, Supplier management, Global Quality, Sequencing, Labeling, Packaging, R&D, Testing, Sales, Engineering, Design
Micron Semiconductor Asia Operations Pte. Ltd.	8 Ang Mo Kio Avenue 12, Singapore 569709, Singapore	Manufacturing, Testing
Micron Semiconductor Asia Operations Pte. Ltd.	Level 5 Warehouse 2, 35 Greenwich Drive, Singapore 533952, Singapore	Logistics, Warehousing, Distribution
Micron Semiconductor Malaysia Sdn. Bhd.	Tanjong Agas Industrial Area, P.O. Box 62, Muar, Johor, 84000, Malaysia	Manufacturing, Testing
Micron Semiconductor Malaysia Sdn. Bhd.	No. K93 (PLO 74), Jalan Perindustrian 7, Taniung Agas Industrial Area, Muar, Johor 84007, Malaysia	Warehousing
Micron Semiconductor (Xi'an) Co., Ltd.	Zone B of Shaanxi Xi'an Export Processing Zone, Xin Xi Avenue, Xi'an 710119, China (PRC)	Manufacturing, Testing, Warehousing
Micron Semiconductor (Shanghai) Co., Ltd.	Caohejing Modern Service Complex, 7F – 10F, Building A2, No. 1528 Gu Mei Road, Shanghai 20023, China (PRC)	Design, Sales, Laboratory
Micron Technology (Shanghai) Co., Ltd.	New Development Park, Building 70, No. 601, FA Sai Road, Waigaoqian Free Trade Zone, Pudong Shanghai 200131, China (PRC)	Design, Engineering, Laboratories
Micron Semiconductor (Shanghai) Co., Ltd., Shenzhen Branch	10F, Tower B, Anlian Plaza, No.4018 Jiantian Road, Shenzhen, 518026, China (PRC)	Sales
Micron Memory Japan, Inc.	7-10 Yoshikawa Kogyo Danchi, Higashihiroshima-Shi, Hiroshima, 739-0198, Japan	R&D, Manufacturing, Testing
Micron Memory Japan, Inc.	3-1-35 Minami Hashimoto, Chuo-Ku, Sagamihara-shi, Kanagawa, 252-5297, Japan	After Sales, R & D, Design and Development, Global Quality, Procurement, Supply Chain
Micron Japan Ltd.	8th floor, Shinagawa Season Terrace, 1-2-70, Konan, Minato-ku, Tokyo, 108-0075, Japan	Sales, After Sales, Laboratory
Micron Memory Japan, Inc.	2-1, Yaesu 2-Chome, Chuo-ku, Chou-ku, Tokyo, 104-0028, Japan	HR, Supply Chain, IT
Micron Semiconductor Korea Co., Ltd.	5th Floor Glass Tower Bldg., 534 Teheran-ro, Gangnam-gu, Seoul, 06181 Korea	Sales
Micron Memory Taiwan Co. Ltd.	No. 369, Sec. 4, Sanfong Rd., Houli Dist. Central Taiwan Science Park Taichung City, 42152.Taiwan	Manufacturing, Testing
Micron Memory Taiwan Co. Ltd.	No. 88 Houke South Road, Houli Dist. Central Taiwan Science Park, Taichung City, 42152, Taiwan (TCP and MTB)	Manufacturing, Testing
Micron Technology Asia Pacific, Inc.	Suite 2508, 25th Floor, 333 Keelung Road, Sec – 1 – Taipei 110, Taiwan	Sales, After Sales, Laboratory

Dr. Cem O. Onus
Managing Director, Business Assurance
DEKRA Certification, Inc.

The method of operation for quality certification is defined in the DEKRA Master Services Agreement. Integral publication of this certificate is allowed.

DEKRA Certification, Inc.
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ISO 9001 Cert 03/09/2015 Rev C

Accredited By:
ANAB

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

Northern Micro Spirit Q270-AS Course Outline

Course # - NM101-Q370

Northern Micro Spirit Q270 Series

Course Outline

Setup

- Introduction
- Safety Precautions
- Electrostatic Discharge (ESD)
- Setup & Configuration
- Care & Maintenance

General Specifications

- Motherboard
- CPU
- Memory
- Rear Panel Connectors
- Audio Configuration
- Hard Drive (SATA, M.2, SSD)
- Optical Drive
- Power Supply
- Keyboard & Mouse
- Optional Features
- Internal & External Connections

Installation and Removal

- Accessing the inside components
- Removal and Replacement of components

BIOS

- Understanding the BIOS
- BIOS settings and Options

Troubleshooting

- Troubleshooting Tips and Tricks
- Approved Diagnostic Tools

Platform Security

- What is TPM
- Safety Precautions

Environmental

- Environmental policy
- Environmental initiatives

Contacts

- Support contact resources