



財團法人全國認證基金會  
Taiwan Accreditation Foundation

# Certificate of Accreditation

(Certificate No: L1190-230803)

This is to certify that

**Sporton International Inc.**

**EMC & Wireless Communications Laboratory**

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

**is accredited in respect of laboratory**

**Accreditation Criteria** : ISO/IEC 17025: 2017; CNS 17025: 2018

**Accreditation Number** : 1190

**Originally Accredited** : December 15, 2003

**Effective Period** : January 10, 2022 to January 09, 2025

**Accredited Scope** : Testing Field, see described in the Appendix  
Accreditation Program for Designated Testing Laboratory  
for Commodities Inspection

**Specific Accreditation Program** : Accreditation Program for Communication Equipment  
Laboratories  
Accreditation Program for BSMI Mutual Recognition  
Arrangement with Foreign Authorities



Scan to verify

*Ching-Chang Lien*

Ching-Chang Lien  
President, Taiwan Accreditation Foundation  
August 03, 2023

Accreditation Number : 1190  
Laboratory Head : CHEN, Alex

15. 03 Medical Devices

Medical Electrical Equipment

E002 EMC

IEC 60601-1-2

EN 60601-1-2

SANS 60601-1-2

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; TSAI, Jones

17. 02 Metrical Instrument

Small size (< 42 cm) Linear Polarization Antennas

E011 Antenna Pattern and Gain

ANSI/IEEE Std 149,

CTIA Test Plan for Wireless Device Over-the-Air Performance

600 MHz to 6000 MHz

Approval Signatory: KAO, Tim; KAO, Neil; FU, Jerry; LIU, Ace

19. 02 Electronic and Electric

Cable, Filter, Combiner, Divider, Connector, Attenuator, Pulse limiter, Pre-amplifier

E025 Insertion Loss

QA-3-QC008 standard operating procedure of passive components insertion loss measurement

QA-3-QC009 Standard operating procedure of Preamplifier gain measurement

Cable: 9 kHz to 40 GHz

Filter, Combiner, Divider, Connector, Attenuator: 9 kHz to 16 GHz

Pulse limiter: 9 kHz to 30 MHz

Pre-amplifier: 100 kHz to 26.5 GHz

Minimum measurement uncertainty: 3.4 dB

Approval Signatory: WU, Hayden; CHEN, Alex



19. 06 Electronic and Electric

External Power Supply for mobile phones

E002 EMC

ETSI EN 301 489-34

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

19. 99 Electronic and Electric

INDUSTRIAL, SCIENTIFIC, AND MEDICAL EQUIPMENT

E002 EMC

CISPR 11

EN 55011

AS/NZS CISPR 11

SANS 211

ICES-001

GB 4824

Conducted emission: 9 kHz to 30 MHz

Radiated emission: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

E002 EMC

47 CFR FCC Part 18

FCC MP-5 (February 1986)

Conducted Emission: 9 kHz to 30 MHz

Radiated emission: 30 MHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

19. 99 Electronic and Electric

Unintentional Radiators Devices

E002 EMC

47 CFR FCC Part 15 Subpart B

ANSI C63.4 (2014)

ANSI C63.4a (2017)

ICES-003

Conducted Emission: 9 kHz to 30 MHz

Radiated emission: 9 kHz to 40 GHz

Linkuo test site (Above 1 GHz is excluded)

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;

2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

P3, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



19. 99 Electronic and Electric

Electronic and Electric Products

E002 EMC

EN 61000-6-1

EN 61000-6-2

EN 61000-6-3

EN 61000-6-4

EN IEC 61000-6-1

EN IEC 61000-6-2

EN IEC 61000-6-3

EN IEC 61000-6-4

IEC 61000-6-1

IEC 61000-6-2

IEC 61000-6-3

IEC 61000-6-4

AS/NZS 61000.6.1

AS/NZS 61000.6.2

AS/NZS 61000.6.3

AS/NZS 61000.6.4

GB 17799.3

GB 17799.4

BS EN IEC 61000-6-1

BS EN IEC 61000-6-2

BS EN IEC 61000-6-3

BS EN IEC 61000-6-4

EUT Current < 16 A

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

19. 99 Electronic and Electric

Electrical & Electronic Products

E002 EMC

IEC 61000-4-2

EN 61000-4-2

AS/NZS 61000.4-2

SANS 61000-4-2

GB/T 17626.2

BS EN 61000-4-2

Air Discharge Voltage: 0 kV to 30 kV

Contact Discharge Voltage: 0 kV to 30 kV

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones



E002 EMC  
IEC 61000-4-3  
EN 61000-4-3  
EN IEC 61000-4-3  
AS/NZS 61000.4.3  
SANS 61000-4-3  
GB/T 17626.3  
BS EN IEC 61000-4-3  
Frequency: 80 MHz to 6 GHz  
Field Strength: 6 V/m,  
Modulated: AM, 1 kHz, 80 %, Pulse, Frequency Modulated

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

E002 EMC  
IEC 61000-4-6  
EN 61000-4-6  
AS/NZS 61000.4.6  
SANS 61000-4-6  
GB/T 17626.6  
BS EN 61000-4-6  
Frequency: 150 kHz to 230 MHz  
Amplitude Modulated: 10 Vrms, 80 %

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

19.99 Electronic and Electric  
Consumer IoT devices  
E013 Security Testing  
ETSI TS 103 645  
ETSI EN 303 645

Approval Signatory: Faiyaz Ansari

20.01 Information Technology and Communication  
Mobile Terminal and Modules  
E002 EMC  
ETSI EN 301 489-52  
Immunity test items and levels limited only to the scope listed in the 1999E002, IEC  
61000-4-series basic standards only.  
ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones



E020 Wireless and Radio frequency test  
ETSI EN 301 908-1

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
NCC PLMN01  
NCC PLMN ALL  
ETSI EN 301511: clause 4.2.10, 4.2.11, 4.2.12, 4.2.13, 4.2.16, 4.2.17  
NCC PLMN ALL (Only NCC PLMN01)

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
NCC PLMN08  
NCC PLMN ALL  
NCC PLMN ALL (Only NCC PLMN08)

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
NCC PLMN11  
NCC PLMN ALL  
NCC PLMN ALL (Only NCC PLMN11)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
RSS-GEN  
RSS-111  
RSS-130  
RSS-140  
RSS-192  
RSS-195  
RSS-197  
RSS-199  
Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones



20. 01 Information Technology and Communication

Telecommunication Network Equipment

E002 EMC

ETSI EN 300 386

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

Approval Signatory: WU, Louis; TSAI, Jones

20. 01 Information Technology and Communication

UWB (Ultra Wide Band) Radio equipment

E002 EMC

ETSI EN 301489-33

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; TSAI, Jones

20. 01 Information Technology and Communication

Cellular Communication Base Station (BS) , repeater and ancillary equipment

E002 EMC

ETSI EN 301 489-50

3GPP TS 25.113

3GPP TS 36.113

3GPP TS 36.124

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

Approval Signatory: WU, Louis; TSAI, Jones

20. 01 Information Technology and Communication

Radio Equipment

E009 Human exposure to electromagnetic fields

47 CFR FCC Part 2.1091

47 CFR FCC Part 2.1093

AS/NZS2772.2,

EN 50385

EN 50663

EN 50665

EN 62232

EN 62311

EN IEC 62311

EN 62479

P7, total 30 pages



IEC 50385  
IEC 50663  
IEC 50665  
IEC 62232  
IEC 62311  
IEC 62479  
RSS-216  
ACA Radio Communications Standards  
BS EN 50385  
BS EN 50663  
BS EN 50665  
BS EN 62232  
BS EN IEC 62311  
BS EN 62479  
≤ 300 GHz

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

E009 SAR  
47 CFR FCC Part 2.1093  
EN 50360  
EN 50364  
EN 50385  
EN 50663  
EN 50566  
EN 62209-1  
EN 62209-2  
EN 62232  
EN 62369-1  
EN 62479  
IEC 50360  
IEC 50364  
IEC 50385  
IEC 50663  
IEC 50566  
IEC 62209-1  
IEC 62209-2  
IEC 62232  
IEC 62369-1  
IEC 62479  
IEC TR 63170  
BS EN 50360  
BS EN 50364  
BS EN 50385  
BS EN 50663  
BS EN 50566  
BS EN 62209-1  
BS EN 62209-2  
BS EN 62232

P8, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix





BS EN 62369-1  
BS EN 62479  
ACA Radio Communications Standards  
CNS 14959  
CNS 14958-1  
NCC PLMN ALL Section 6.6  
ANATEL Resolution No.533  
RSS-216  
Article 14-2 of the Ordinance Regulating Radio Equipment  
Annex 79 of MIC Notification No. 88  
Frequency Range:  
 $\leq 60$  GHz  
5  $\mu$ W/g to 100 mW/g

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

20. 01 Information Technology and Communication

Wireless/Radio device  
E009 RF Radiation Exposure  
IEEE Std 1528<sup>TM</sup>-2013  
IEC/IEEE 62209-1528  
EN IEC/IEEE 62209-1528  
BS IEC/IEEE 62209-1528  
KDB Publication 865664  
KDB Publication 447498  
Frequency Range:  $\leq 60$  GHz  
5  $\mu$ W/g to 100 mW/g

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

E009 SAR  
RF exposure evaluation  
Nerve stimulation  
Localized Power Density  
RSS-102  
IEC/IEEE 62209-1528  
Frequency Range:  
SAR (Measurement) :  $\leq 60$  GHz;  
RF exposure evaluation (Measurement) : 10 MHz to 300 GHz;  
Nerve stimulation (Measurement) : 3 kHz to 10 MHz;  
Localized Power Density (Measurement) :  $\leq 71$  GHz

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones



20. 01 Information Technology and Communication  
Wireless Broadband Device / Wi-Fi Mobile Converged Devices  
E015 CTIA Device Characteristic Test  
CTIA Test Plan RF Performance Evaluation of Wi-Fi Mobile Converged Devices  
CTIA Test Plan for Wireless Device Over-the-Air Performance  
CTIA 01.01  
CTIA 01.20  
CTIA 01.50 (2G, 3G, 4G, 5G FR1 SA, 5G FR1 EN-DC)  
CTIA 01.51 (A-GPS L1, A-GPS L5, A-GALILEO E1)  
3GPP TS 34.114  
3GPP TS 25.144  
3GPP TS 37.544  
3GPP TS 38.521-2  
GCF-CC

Approval Signatory: KAO, Tim; KAO, Neil; FU, Jerry; LIU, Ace

20. 01 Information Technology and Communication  
Citizens Broadband Radio Services  
E019 Protocol Test  
WINNF-TS-0122 CBRS CBSD Test Specification  
CBRSA-TS-9001 Certification Test Plan  
ONGO-TS-9001 Certification Test Plan

Approval Signatory: CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication  
5G NR Broadband Terminal Equipment  
E020 Wireless and Radio frequency test  
NCC PLMN12  
NCC PLMN ALL  
NCC PLMN ALL (Only NCC PLMN12)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication  
Citizens Broadband Radio Service  
E020 Wireless and Radio test  
47 CFR FCC Part 96  
KDB Publication 971168  
KDB Publication 940660  
ANSI/TIA-603-E-2016  
TIA-102.CAAA-E-2016  
ANSI C63.26-2015  
Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones  
P10, total 30 pages



20. 01 Information Technology and Communication

Licensed Radio Service Equipment, Commercial Mobile Services Equipment, General Mobile Radio Services Equipment, Microwave Radio Services Equipment

E020 Wireless and Radio frequency test

47 CFR FCC Part 22

47 CFR FCC Part 90

47 CFR FCC Part 95

47 CFR FCC Part 97

47 CFR FCC Part 101

ANSI/TIA-603

TIA-102.CAAA

ANSI C63.26-2015

Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Subscriber Station for Mobile Broadband Type

E020 Wireless and Radio frequency test

NCC PLMN10

NCC PLMN ALL

NCC PLMN ALL (Only NCCPLMN10)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Low power radiator/ receivers

E020 Wireless and Radio Test

ETSI EN 302 288

ETSI EN 302 567

ETSI EN 305 550

ETSI EN 302 264

ETSI EN 301 091-1

ETSI EN 301 091-2

ETSI EN 301 091-3

ETSI EN 303 396

25 MHz to 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Fixed Radio Systems

E020 Wireless and Radio test

ETSI EN 302 217-2

ETSI EN 302 217-3

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

P11, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



20. 01 Information Technology and Communication

Commercial Mobile Service

E020 Wireless and Radio frequency test

47 CFR FCC Part 22 (Cellular)

47 CFR FCC Part 24

47 CFR FCC Part 25 (below 3 GHz)

47 CFR FCC Part 27

KDB Publication 971168

ANSI/TIA-603-E-2016

TIA-102.CAAA-E-2016

ANSI C63.26-2015

RSS-GEN

RSS-132

RSS-133

RSS-139

Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Base Stations, Repeaters and User Equipments

E020 Wireless and Radio frequency test

ETSI EN 301 908-14

3GPP TS 36.141

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

General Mobile Service

E020 Wireless and Radio frequency test

47 CFR FCC Part 22 (non-Cellular)

47 CFR FCC Part 90 (below 3 GHz)

47 CFR FCC Part 95

47 CFR FCC Part 97 (below 3 GHz)

47 CFR FCC Part 101 (below 3 GHz)

ANSI/TIA-603-E-2016

TIA-102.CAAA-E-2016

ANSI C63.26-2015

Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones



▀ 20. 01 Information Technology and Communication

Wireless power transmission systems  
E020 Wireless and Radio test  
ETSI EN 303 417

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

Radiocommunications equipment  
E020 Wireless and Radio test  
ETSI EN 302 571

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

Microwave and Millimeter Bands Radio Services  
E020 Wireless and Radio frequency test (Microwave communication)  
47 CFR FCC Part 25  
47 CFR FCC Part 30  
47 CFR FCC Part 74  
47 CFR FCC Part 90 (above 3 GHz)  
47 CFR FCC Part 95 (above 3 GHz)  
47 CFR FCC Part 97 (above 3 GHz)  
47 CFR FCC Part 101  
KDB Publication 653005  
ANSI/TIA-603-E-2016  
TIA-102.CAAA-E-2016  
ANSI C63.26-2015  
RSS-251  
RSS-252  
The highest frequency range: 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

Telecommunication Terminals  
E020 Emergency Call – Advanced Mobile Location test  
Guidelines for compliance with delegated regulation (EU) 2019/320  
ETSI TS 103 825  
ETSI TR 103 393  
ETSI TS 103 625  
AS/CA S042.1 (Section: Advanced Mobile Location)

Approval Signatory: WU, Louis; TSAI, Jones; SU, Ricky



20. 01 Information Technology and Communication

Telecommunications equipment related products (Low power data communications system)

E020 Wireless and Radio Frequency test

Public notice of MIC No.88 (2004) Test method of specified radio equipments

Annex no. 43

Article 2 paragraph 1 item (19)

Article 2 paragraph 1 item (19) -2-2

Annex no. 44

Article 2 paragraph 1 item (19) -2

Article 2 paragraph 1 item (19) -2-3

Annex no. 45

Article 2 paragraph 1 item (19) -3

Article 2 paragraph 1 item (19) -3-2

Article 2 paragraph 1 item (19) -3-3

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Telecommunications equipment related products (Cellular Phone, RJ45 Equipments, Wireless LAN Equipments, Bluetooth Equipments, Zigbee Equipments)

E020 Performance and Application

Public notice of MIC No.99 (2004)

Test method of Technical Standards Conformity Approval, etc. for Terminal Equipment Paragraph #1, 2, 7 and 10

-Insulation Resistance

-Identification Code

-Measurement of Unassigned Channel

-Basic Function

-Dispatch Function

-Auto Re-dialing Function

-Transmission Timing

-Random Access Control

-Time Alignment Control

-Position Registration Control

-Function according to Command of Channel Changes

-Function for Inform a Receiving Levels

-Function according to Command of Transmission Stopping

-Function for Automatic Transmission Stopping when poor receiving

-Function for Securing of Important Command

-Emergency Call Function

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones



■ 20. 01 Information Technology and Communication  
Telecommunications equipment related products (Specified low power radio equipment)  
E020 Wireless and Radio Frequency test  
Public notice of MIC No.88 (2004) Test method of specified radio equipments  
Annex No. 22  
Article 2 paragraph 1 item (8) Only 920 MHz Radio Equipment

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 01 Information Technology and Communication  
Telecommunications equipment related products (Base station)  
E020 Wireless and Radio Frequency test  
Public notice of MIC No.88 (2004) Test method of specified radio equipments  
Annex no. 31  
Article 2 paragraph 1 item (11) -5  
Article 2 paragraph 1 item (11) -6-2  
Article 2 paragraph 1 item (11) -6-4  
Article 2 paragraph 1 item (11) -9  
Article 2 paragraph 1 item (11) -10-2  
Article 2 paragraph 1 item (11) -10-4  
The highest frequency range: 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 01 Information Technology and Communication  
Telecommunications Equipment related Products (Base station, Land mobile station)  
E020 Wireless and Radio Frequency test  
Public notice of MIC No.88 (2004) Test method of specified radio equipments  
Annex no. 74  
Annex no. 75  
Article 2 paragraph 1 item (53) Article 2 paragraph 1 item (54)  
Article 2 paragraph 1 item (54-2)  
Article 2 paragraph 1 item (54-3)  
The highest frequency range: 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 01 Information Technology and Communication  
Telecommunications equipment related products (Land mobile station)  
E020 Wireless and Radio Frequency test  
Public notice of MIC No.88 (2004) Test method of specified radio equipments  
Annex no. 29  
Article 2 paragraph 1 item (11) -3  
Article 2 paragraph 1 item (11) -7  
The highest frequency range: 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones  
P15, total 30 pages



20. 01 Information Technology and Communication

Telecommunications equipment related products (Land mobile station, Femtocell Base station, Base station)

E020 Wireless and Radio Frequency test

Public notice of MIC No.88 (2004) Test method of specified radio equipments

Annex no. 86

Annex no. 87

Article 2 paragraph 1 item (11) -21

Article 2 paragraph 1 item (11) -21-2

Article 2 paragraph 1 item (11) -22

Article 2 paragraph 1 item (11) -23

Article 2 paragraph 1 item (11) -24

Article 2 paragraph 1 item (11) -19

Article 2 paragraph 1 item (11) -20

Article 2 paragraph 1 item (11) -20-2

Article 2 paragraph 1 item (11) -20-3

The highest frequency range: 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Telecommunications Equipment related Products (wireless access system, Base station, Land Mobile Relay, Land mobile station)

E020 Wireless and Radio Frequency test

Public notice of MIC No.88 (2004) Test method of specified radio equipments

Annex no. 47

Article 2 paragraph 1 item (19) -5

Article 2 paragraph 1 item (19) -6

Article 2 paragraph 1 item (19) -7

Article 2 paragraph 1 item (19) -8

Article 2 paragraph 1 item (19) -9

Article 2 paragraph 1 item (19) -10

Article 2 paragraph 1 item (19) -11

The highest frequency range: 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 01 Information Technology and Communication

Telecommunications equipment related products (Premises radio)

E020 Wireless and Radio Frequency test

Public notice of MIC No.88 (2004) Test method of specified radio equipments

Annex no. 20

Article 2 paragraph 1 item (6)

Article 2 paragraph 1 item (6) -2

Only 920 MHz Radio Equipment

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones





■ 20. 01 Information Technology and Communication

Hearing Aid Compatibility  
E024 Hearing Aid Compatibility (HAC)  
47 CFR FCC Part 20  
ANSI C63.19-2011  
KDB Publication 285076  
CTIA Test Plan for Hearing Aid Compatibility

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

■ 20. 03 Information Technology and Communication

Radio Broadcast Receivers (Excluding DAB, DRM Receivers)  
E014 EMC  
ETSI EN 303 345

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 04 Information Technology and Communication

Global Positioning System  
E002 EMC  
ETSI EN 301 489-19  
Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.  
Current harmonic distortion and voltage fluctuations / flicker tests excluded.  
ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; TSAI, Jones

■ 20. 04 Information Technology and Communication

Global Positioning System  
E020 Wireless and Radio frequency test  
ETSI EN 303 413  
9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 06 Information Technology and Communication

3G Base Station  
E020 Wireless and Radio frequency test  
ETSI EN 301908-3  
3GPP TS 25.141  
3GPP TS 25.104  
ARIB STD-T63-25.141

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

P17, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



▀ 20.06 Information Technology and Communication

Base Station for 5G NR  
E020 Wireless and Radio frequency test  
ETSI EN 301 908-24 (Draft)  
3GPP TS 38.141-1  
FR1 only

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
NCC IS2051  
NCC IS ALL  
NCC IS ALL (Only NCC IS2051)  
The antenna aperture dimension of EUT is equal or lesser than 5 cm.

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20.06 Information Technology and Communication

Base Station for Mobile Broadband Type  
E020 Wireless and Radio frequency test  
NCC IS2050  
NCC IS ALL  
NCC IS ALL (Only NCC IS2050)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20.13 Information Technology and Communication

Low power R.F. equipment  
E002 EMC  
ETSI EN 301 489-17  
Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.  
Current harmonic distortion and voltage fluctuations / flicker tests excluded.  
ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

E020 Wireless and Radio frequency test  
ETSI EN 300 220-1  
ETSI EN 300 220-2  
ETSI EN 300 330  
ETSI EN 300 440  
ETSI EN 302 208  
AS/NZS 4268  
IMDA TS SSS  
ETSI EN 303 883  
P18, total 30 pages



ETSI EN 302 065-1  
ETSI EN 302 065-2  
ETSI EN 302 065-3  
Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
NCC LP0002  
Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

▀ 20.13 Information Technology and Communication

Fixed radio links, Broadband Data Transmission System

E002 EMC

ETSI EN 301 489-4

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

▀ 20.13 Information Technology and Communication

Radio Equipment

E002 EMC Common technical requirements

ETSI EN 301 489-1

ETSI EN 303 446-1

ETSI EN 303 446-2

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

E002 EMC Common technical requirements

TEC/SD/DD/EMC-221/05/OCT-16

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; TSAI, Jones

P19, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



20.13 Information Technology and Communication

Short-Range Devices

E002 EMC

ETSI EN 301 489-3

Immunity test items and levels limited only to the scope listed in the 1999E002, IEC 61000-4-series basic standards only.

Current harmonic distortion and voltage fluctuations / flicker tests excluded.

ISO 7637-2 tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

20.13 Information Technology and Communication

Data transmission equipment operating in the 2, 4 GHz band

E020 Wireless and Radio frequency test

ETSI EN 300 328

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20.13 Information Technology and Communication

5 GHz high performance wireless access systems (WAS) including RLAN equipment

E020 Wireless and Radio frequency test

ETSI EN 301 893 (include DFS)

ETSI EN 302 502 (include DFS)

ETSI EN 303 258 (include DFS)

VNS – Voluntary National Specification 2030/8/3

IR 2030

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20.13 Information Technology and Communication

6 GHz RLAN equipment

E020 Wireless and Radio frequency test

ETSI EN 303 687

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20.13 Information Technology and Communication

Unlicensed National Information Infrastructure (U-NII) Devices

E020 Wireless and Radio frequency test (excluded DFS)

47 CFR FCC Part 15 Subpart E

ANSI C63.10 (2013)

ANSI C63.10 (2020)

KDB Publication 789033

RSS-GEN

RSS-247

P20, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



RSS-248  
Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

E020 DFS  
47 CFR FCC Part 15 Subpart E  
KDB Publication 905462  
RSS-GEN  
RSS-247  
RSS-248

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20.13 Information Technology and Communication

Intentional Radiators  
E020 Wireless and Radio frequency test  
47 CFR FCC Part 15 Subpart C  
ANSI C63.10 (2013)  
ANSI C63.10 (2020)  
RSS-GEN  
RSS-247  
Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20.13 Information Technology and Communication

Intentional Radiators, Ultra-Wideband System  
E020 Wireless and Radio frequency test  
47 CFR FCC Part 15 Subpart A  
47 CFR FCC Part 15 Subpart D  
47 CFR FCC Part 15 Subpart F  
ANSI C63.10 (2013)  
ANSI C63.10 (2020)  
RSS-310  
Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones



20. 13 Information Technology and Communication  
Intentional Radiators, Wide band modulation techniques Equipment  
E020 Wireless and Radio frequency test  
RSS-Gen  
RSS-210  
RSS-216  
RSS-111  
RSS-220

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 21 Information Technology and Communication  
MME  
E002 EMC  
CISPR 32  
EN 55032  
AS/NZS CISPR 32  
VCCI-CISPR 32  
SANS 2332  
BS EN 55032  
CNS 15936  
Linkuo test site (below 1 GHz)

Approval Signatory: WU, Louis; TSAI, Jones  
Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;  
2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

E002 EMC  
EN 55035  
CISPR 35  
SANS 2335  
BS EN 55035  
(Exclude IEC 61000-4-20 and IEC 61000-4-21)  
Immunity test items and levels limited only to the scope listed in the 1999E002, IEC  
61000-4-series basic standards only.  
xDSL Port Broadband Impulsive Conducted Disturbance tests excluded.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

20. 21 Information Technology and Communication  
ITE and peripherals  
E002 EMC  
CISPR 22  
EN 55022  
AS/NZS CISPR 22  
SANS 222  
GB 9254  
P22, total 30 pages



BS EN 55022  
Linkuo test site (Below 1 GHz)

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones  
Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;  
2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

E002 EMC  
CISPR 24  
EN 55024  
AS/NZS CISPR 24  
SANS 224  
BS EN 55024

Immunity tests limited only the items and level same as the IEC 61000-4-series basic standards corresponding to 1999E002.

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

E002 EMC  
CNS 13438  
Linkuo test site (Below 1 GHz)  
Huaya 1st rd. test sit (03CH05-HY, 03CH06-HY, 03CH07-HY, 03CH08-HY, CO05-HY)

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones  
Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;  
2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

20. 21 Information Technology and Communication  
Headphones and Earphones Associated with Portable Audio Equipment

E022 Sound Pressure Level Test  
EN 50332-1  
EN 50332-2  
CNS 15027-1  
CNS 15027-2  
Frequency Range: 20 Hz to 20 kHz  
Sound Pressure: (15 to 140) dB (A)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones



## **Accreditation Program for Designated Testing Laboratory for Commodities Inspection**

### ▀ 20. 21 Information Technology and Communication

MME

E002 EMC

CNS 15936 (2016)

Linkuo test site (below 1 GHz)

Huaya 1st rd. test sit (03CH05-HY, 03CH06-HY, 03CH07-HY, 03CH08-HY, CO05-HY)

Approval Signatory: WU, Louis; TSAI, Jones

Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;

2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

### ▀ 20. 21 Information Technology and Communication

ITE and peripherals

E002 EMC

CNS 13438 (2006)

Linkuo test site (Below 1 GHz)

Huaya 1st rd. test sit (03CH05-HY, 03CH06-HY, 03CH07-HY, 03CH08-HY, CO05-HY)

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;

2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

## **Accreditation Program for Communication Equipment Laboratories**

### ▀ 20. 01 Information Technology and Communication

Wireless/Radio device

E009 SAR

RF exposure evaluation

Nerve stimulation

Localized Power Density

IEC/IEEE 62209-1528

RSS-102 Issue 5 (March 2015) , Amendment 1 (February 2021) (SAR, RF Exp., NS, LPD)

Measurement

Frequency Range:

SAR (Measurement) :  $\leq 60$  GHz;

RF exposure evaluation (Measurement) : 10 MHz to 300 GHz;

Nerve stimulation (Measurement) : 3 kHz to 10 MHz;

Localized Power Density (Measurement) :  $\leq 71$  GHz

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

E009 RF Exposure

IEEE Std 1528<sup>TM</sup>-2013

IEC/IEEE 62209-1528

EN IEC/IEEE 62209-1528

P24, total 30 pages





BS IEC/IEEE 62209-1528  
KDB Publication 865664  
KDB Publication 447498  
Frequency Range:  $\leq$  60 GHz  
5  $\mu$ W/g to 100 mW/g

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

■ 20. 01 Information Technology and Communication

5G NR Broadband Terminal Equipment  
E020 Wireless and Radio frequency test  
NCC PLMN12 (2020)  
NCC PLMN ALL (2020)  
NCC PLMN ALL (2023)  
NCC PLMN ALL (Only NCC PLMN12)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 01 Information Technology and Communication

Citizens Broadband Radio Service  
E020 Wireless and Radio test  
47 CFR FCC Part 96  
KDB Publication 971168  
KDB Publication 940660  
ANSI/TIA-603-E-2016  
TIA-102.CAAA-E-2016  
ANSI C63.26-2015  
Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

■ 20. 01 Information Technology and Communication

Mobile Terminal and Modules  
E020 Wireless and Radio frequency test  
NCC PLMN01 (2012)  
NCC PLMN ALL (2020)  
NCC PLMN ALL (2023)  
NCC PLMN ALL (Only NCC PLMN01)

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones



E020 Wireless and Radio frequency test  
NCC PLMN08 (2018)  
NCC PLMN ALL (2020)  
NCC PLMN ALL (2023)  
NCC PLMN ALL (Only NCC PLMN08)

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
NCC PLMN11 (2018)  
NCC PLMN ALL (2020)  
NCC PLMN ALL (2023)  
NCC PLMN ALL (Only NCC PLMN11)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

E020 Wireless and Radio frequency test  
RSS-GEN Issue 5 (April 2018) , Amendment 1 (March 2019) , Amendment 2 (February 2021)  
RSS-111 Issue 5 (September 2014)  
RSS-130 Issue 2 (February 2019)  
RSS-140 Issue 1 (April 2018)  
RSS-192 Issue 4 (May 2020)  
RSS-195 Issue 2 (April 2014)  
RSS-197 Issue 1 (February 2010)  
RSS-199 Issue 3 (December 2016)  
Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

Subscriber Station for Mobile Broadband Type

E020 Wireless and Radio frequency test  
NCC PLMN10 (2018)  
NCC PLMN ALL (2020)  
NCC PLMN ALL (2023)  
NCC PLMN ALL (Only NCCPLMN10)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

Commercial Mobile Service

E020 Wireless and Radio frequency test  
47 CFR FCC Part 22 (Cellular)  
47 CFR FCC Part 24  
47 CFR FCC Part 25 (below 3 GHz)

P26, total 30 pages



47 CFR FCC Part 27  
KDB Publication 971168  
ANSI/TIA-603-E-2016  
TIA-102.CAAA-E-2016  
ANSI C63.26-2015  
RSS-GEN Issue 5 (April 2018) , Amendment 1 (March 2019) , Amendment 2 (February 2021)  
RSS-132 Issue 4 (January 2023)  
RSS-133 Issue 6, Amendment 1 (January 2018)  
RSS-139 Issue 4, Amendment (October 2022)  
Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

General Mobile Radio Services

E020 Wireless and Radio frequency test

47 CFR FCC Part 22 (non-Cellular)

47 CFR FCC Part 90 (below 3 GHz)

47 CFR FCC Part 95

47 CFR FCC Part 97 (below 3 GHz)

47 CFR FCC Part 101 (below 3 GHz)

ANSI/TIA-603-E-2016

TIA-102.CAAA-E-2016

ANSI C63.26-2015

Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

▀ 20. 01 Information Technology and Communication

Microwave and Millimeter Bands Radio Services

E020 Wireless and Radio frequency test (Microwave communication)

47 CFR FCC Part 25

47 CFR FCC Part 30

47 CFR FCC Part 74

47 CFR FCC Part 90 (above 3 GHz)

47 CFR FCC Part 95 (above 3 GHz)

47 CFR FCC Part 97 (above 3 GHz)

47 CFR FCC Part 101

KDB Publication 653005

ANSI/TIA-603-E-2016

TIA-102.CAAA-E-2016

ANSI C63.26-2015

RSS-251 Issue 2 (July 2018)

RSS-252 Issue 1 (September 2017)

The highest frequency range: 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

P27, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



20. 01 Information Technology and Communication

Hearing Aid Compatibility  
E024 Hearing Aid Compatibility (HAC)  
47 CFR FCC Part 20  
ANSI C63.19-2011  
KDB Publication 285076  
CTIA Test Plan for Hearing Aid Compatibility  
ANSI/TIA-5050

Approval Signatory: HUANG, Eric; HUANG, Cona; TSAI, Jones

20. 06 Information Technology and Communication

Base Station for 5G NR  
E020 Wireless and Radio frequency test  
NCC IS2051 (2020)  
NCC IS ALL (2020)  
NCC IS ALL (2023)  
NCC IS ALL (Only NCC IS2051)  
The antenna aperture dimension of EUT is equal or lesser than 5 cm.

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 06 Information Technology and Communication

Base Station for Mobile Broadband Type  
E020 Wireless and Radio frequency test  
NCC IS2050 (2018)  
NCC IS ALL (2020)  
NCC IS ALL (2023)  
NCC IS ALL (Only NCC IS2050)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20. 13 Information Technology and Communication

Low power R.F. equipment  
E020 Wireless and Radio frequency test  
NCC LP0002 (2020)  
Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; LEE, Danny; CHEN, William; TSAI, Jones

20. 13 Information Technology and Communication

Unlicensed National Information Infrastructure (U-NII) Devices  
E020 Wireless and Radio frequency test (excluded DFS)  
47 CFR FCC Part 15 Subpart E  
ANSI C63.10-2013

P28, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



KDB Publication 789033

RSS-GEN Issue 5 (April 2018) , Amendment 1 (March 2019) , Amendment 2 (February 2021)

RSS-247 Issue 2 (February 2017)

RSS-248 Issue 2 (December 2022)

Frequency Range: 9 kHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

E020 Devices with Dynamic Frequency Selection (DFS)

47 CFR FCC Part 15 Subpart E

FCC KDB Publication 905462 D02 U-NII DFS Compliance Procedures New Rules v02 (April 8, 2016)

RSS-GEN Issue 5 (April 2018) , Amendment 1 (March 2019) , Amendment 2 (February 2021)

RSS-247 Issue 2 (February 2017)

RSS-248 Issue 2 (December 2022)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20.13 Information Technology and Communication

Intentional Radiators

E020 Wireless and Radio frequency test

47 CFR FCC Part 15 Subpart C

ANSI C63.10-2013

RSS-GEN Issue 5 (April 2018) , Amendment 1 (March 2019) , Amendment 2 (February 2021)

RSS-247 Issue 2 (February 2017)

Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20.13 Information Technology and Communication

UWB Intentional Radiators

E020 Wireless and Radio frequency test

47 CFR FCC Part 15 Subpart F

ANSI C63.10-2013

RSS-310 Issue 5 (January 2020)

Frequency Range: 9 kHz to 280 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

20.13 Information Technology and Communication

Intentional Radiators – Wide band modulation techniques Equipment

E020 Wireless and Radio frequency test

RSS-GEN Issue 5 (April 2018) , Amendment 1 (March 2019) , Amendment 2 (February P29, total 30 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



2021)

RSS-210 Issue 10 (December 2019)

RSS-216 Issue 2 (January 2016) , Amendment 1 (September 2020)

RSS-111 Issue 5 (September 2014)

RSS-220 Issue 1, Amendment 1 (July 2018)

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

### **Accreditation Program for BSMI Mutual Recognition Arrangement with Foreign Authorities**

19.99 Electronic and Electric  
Industrial, Scientific and Medical Equipment  
E002 EMC  
47 CFR FCC Part 18  
FCC MP-5 (February 1986)  
Conducted Emission: 9 kHz to 30 MHz  
Radiated emission: 30 MHz to 40 GHz

Approval Signatory: WU, Louis; CHEN, William; TSAI, Jones

19.99 Electronic and Electric  
Unintentional Radiators  
E002 EMC  
47 CFR FCC Part 15 Subpart B  
ANSI C63.4-2014  
ANSI C63.4a-2017  
ICES-003  
Conducted Emission: 9 kHz to 30 MHz  
Radiated emission: 9 kHz to 40 GHz  
Linkuo test site (Above 1 GHz is excluded)

Approval Signatory: WU, Louis; LEE, Danny; TSAI, Jones

Testing Site: 1.No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) ;

2.No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.)

(Null below)

