Change the battery step-by-step

☞	Ensure that the tablet is turned off.
1.	Push the six locking mechanisms of the cover to the unlock position.
2.	Remove the cover of the battery compartment.
3.	Push the two locking levers and the locking mechanism of the battery to the unlock position.
4.	Remove the battery.
5.	To insert the battery, attach the connector side of the battery into the compartment at an angle and then lower the other side to engage the connector.
6.	Push the two locking levers and the locking mechanism of the battery to the lock position.
7.	To reattach the cover of the battery compartment, insert the side with the latches first.
8.	Push the six locking mechanisms of the cover to the lock position. ☞ The IP rating is only ensured if the battery compartment is attached correctly!
9.	Turn on the tablet.

6.2.3 Charging the Battery

Charge battery step-by-step

6.3 Power Functions

Turning the tablet on and off

1.	To turn on the device, firmly press and hold the top right power key until the boot screen appears.
2.	To turn off the device. Tap and hold the power key. Select the Power off option to shutdown.
3.	With the device turned on, press the power key to turn off the screen and go into sleep mode. Press the power key again to wake the device. Swipe upwards on the screen to unlock.
☞	If the device has been idle for a period of time, the screen will automatically turn off and go into sleep mode.

6.4 Working with the Memory Device

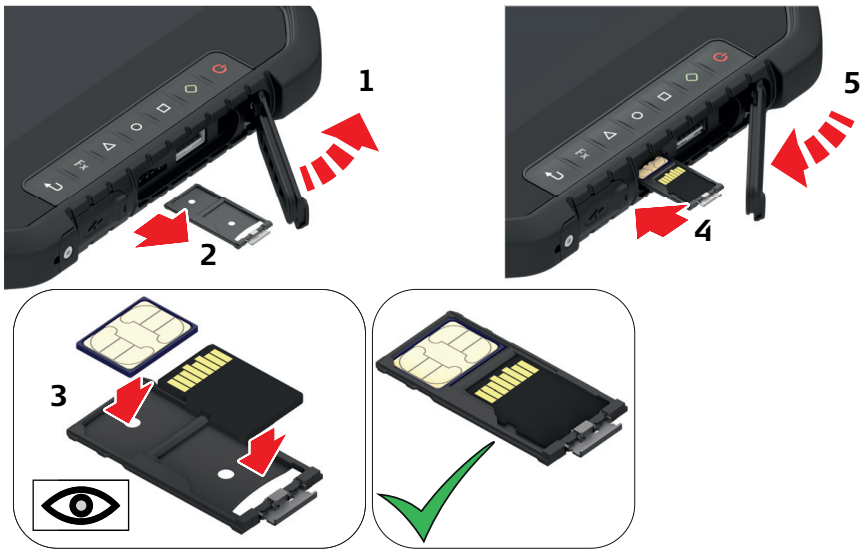
6.4.1 Working with the microSD Card and Nano SIM Card

☞

- Keep the card dry.
- Use it only within the specified temperature range.
- Do not bend the card.
- Protect the card from direct impacts.

☞ Failure to follow these instructions could result in data loss and/or permanent damage to the card.

Insert and remove the microSD card and Nano SIM card step-by-step



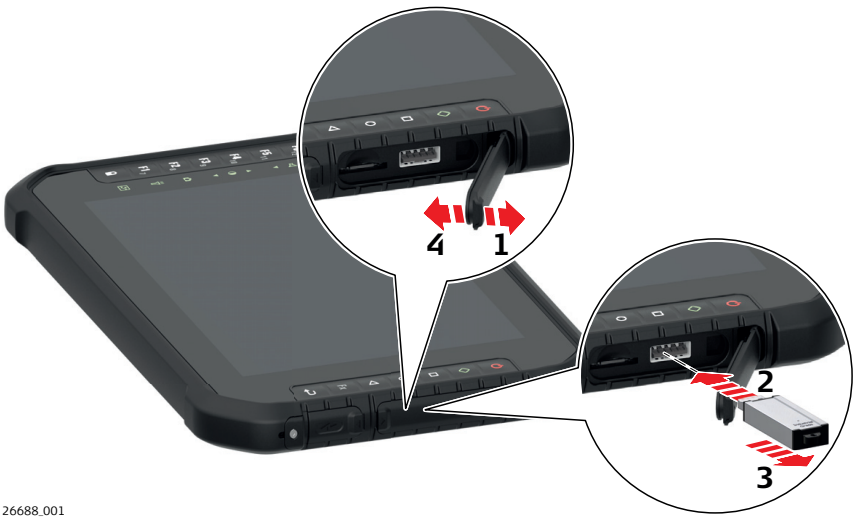
26686_001

☞	Inserting/removing a card while the CSX8 is turned on can result in permanent damage to the card. Only insert/remove a card when the CSX8 is switched off.
☞	Switch off the tablet.
1.	Open the protection cap of the card compartment.
2.	Remove the SIM and microSD card holder.
3.	Place the cards into the card holder, the chips facing downwards.
4.	Insert the card holder to the card compartment.
5.	Close the protection cap of the card compartment.

☞ The IP rating is only ensured if all protection caps on the device are properly closed.
No water proofing and dust proofing can be guaranteed if the protection caps are not properly closed.

6.4.2 Working with a USB Memory Stick

Insert a USB stick step-by-step



26688_001

☞ The USB stick can be inserted into a slot on the right small side of the tablet. Refer to 3.4 CSX8 Components.

1.	Open the protection cap of the card compartment.
2.	Insert the USB stick into the slot.
3.	After working with the USB stick, remove the USB stick.
4.	Close the protection cap of the card compartment. ☞ The IP rating is only ensured if all protection caps on the device are properly closed. No water proofing and dust proofing can be guaranteed if the protection caps are not properly closed.

6.5 Working under different environmental conditions

Working under different environmental conditions

The device is capable to work under extreme environmental conditions. However, it might be necessary to fine-tune the touch behavior to guarantee optimal working conditions.

To adjust the touch screen sensitivity go to
Settings - **Accessibility** - **Touch mode options**.

Touch mode options are:
- **Normal mode:** Maximum 10 point touch support
- **Glove mode:** Maximum 5 point touch support
- **Rain mode:** Maximum 2 point touch support

Under severe conditions where the touch technology will simply reach the end of its limits, it is possible to lock the touch-panel completely by pressing the **LOCK** button on the bottom left corner and use an USI 2.0 compatible active stylus which is active under all 3 modes. (Stylus not provided with the unit)

7 Care and Transport

7.1 Transport

Transport in a road vehicle

Never carry the product loose in a road vehicle, as it can be affected by shock and vibration. Always carry the product in its container and secure it.

For products for which no container is available use the original packaging or its equivalent.

Shipping

When transporting the product by rail, air or sea, always use the complete original Leica Geosystems packaging, container and cardboard box, or its equivalent, to protect against shock and vibration.

Shipping, transport of batteries

When transporting or shipping batteries, the person responsible for the product must ensure that the applicable national and international rules and regulations are observed. Before transportation or shipping, contact your local passenger or freight transport company.

7.2 Storage

Product

Respect the temperature limits when storing the equipment, particularly in summer if the equipment is inside a vehicle. Refer to 8 Technical Data for information about temperature limits.

Li-Ion batteries

- Refer to 8 Technical Data for information about storage temperature range
- Remove batteries from the product and the charger before storing
- After storage recharge batteries before using
- Protect batteries from damp and wetness. Wet or damp batteries must be dried before storing or use
- A storage temperature range of 0 °C to +30 °C / +32 °F to +86 °F in a dry environment is recommended to minimize self-discharging of the battery
- At the recommended storage temperature range, batteries containing a 40% to 50% charge can be stored for up to one year. After this storage period the batteries must be recharged

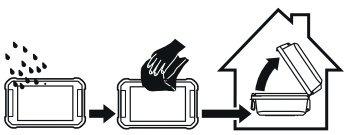
7.3 Cleaning and Drying

Product and accessories

- Use only a clean, soft, lint-free cloth for cleaning. If necessary, moisten the cloth with water or pure alcohol. Do not use other liquids; these may attack the polymer components.

Damp products

Dry the product, the transport container, the foam inserts and the accessories at a temperature not greater than 40 °C/104 °F and clean them. Remove the battery cover and dry the battery compartment. Do not repack until everything is dry. Always close the transport container when using in the field.



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Cables and plugs	Keep plugs clean and dry. Blow away any dirt lodged in the plugs of the connecting cables.
Connectors with dust caps	Wet connectors must be dry before attaching the dust cap.
Battery charger	Use only a clean, soft, lint-free cloth for cleaning.
Keypad, touch screen and labels	To clean ink marks from the keypad, touch screen or from labels, use isopropyl alcohol.

8 Technical Data

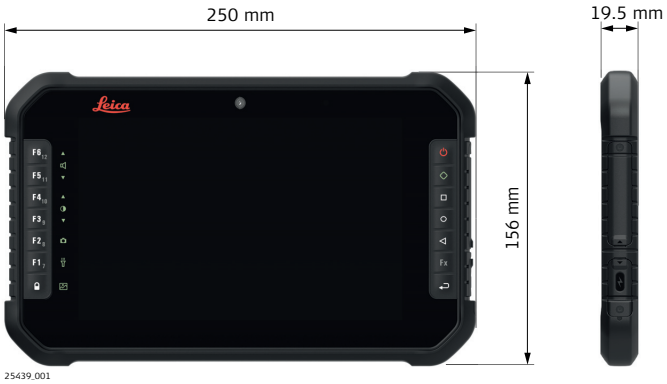
8.1 CSX8

Control unit

Type	Description
Operating system	Android 12
Processor	Qualcomm SM4350-AC
Graphics	Qualcomm Adreno 619 GPU
Display	8" IPS screen WUXGA 1200 × 1920 sunlight readable screen 500 nits brightness
Touch technology	Multi capacitive screen Supported operations Finger USI 2.0 active stylus
Sound	Integrated sealed speaker with dual noise reducing microphones
Camera	
Rear	32 MP, auto focus lens with dual LED flash light
Front	8 MP, fixed focus lens
RAM	8 GB LPDDR4X
Internal storage	256 GB Flash UFS 2.2
External storage	
MicroSD	Maximum 256 GB
USB Type-C	USB3.1, Charging, OTG
USB Type-A	USB2.0 Host
GNSS	Dual Frequency receiver supporting Beidou Galileo GLONASS NavIC GPS QZSS
WLAN	802.11 a/b/g/n/ac (2.4 & 5GHz)
Bluetooth	BT5.1 BLE with enhanced filtering
Cellular	5G FR1 N1/3/20/28/41/77/78/79 FDD B1/2/3/4/5/7/8/12/13/17/20/25/28 TDD B38/39/40/41 3G B1/B2/B5/B8

Dimensions

CSX8



Weight

Type	Weight [kg]
CSX8 tablet	0.730

Memory devices

Data can be stored on the microSD card, USB stick or on the internal memory.

Power

Type	Consumption [A]	External supply voltage
CSX8	0.7	Input: 100-240 V~50/60Hz Output: 5.0V/3.0A or 9.0V/2.0A or 12.0V/1.5A

Internal battery

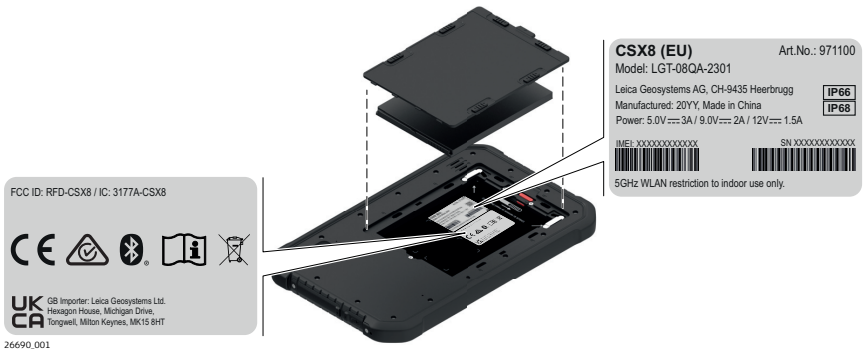
Type	Battery	Voltage	Capacity	Operating time, typical*
GEB256	Li-Ion	3.8 V	8200 mAh	> 8 h (using a new battery)

* Operating time depends on use of wireless communication devices, display use and brightness, processor drain and ambient temperature.

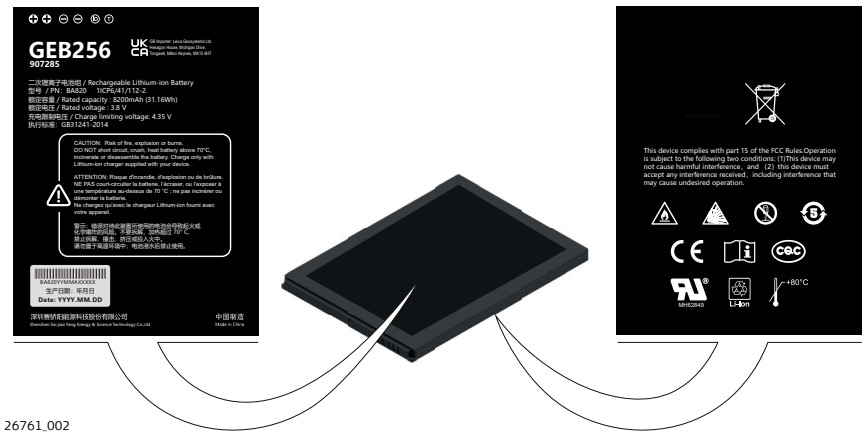
Interfaces

Type	USB Host	Bluetooth	RF antenna pass-through	WiFi
CSX8	• USB Type A (v2.0) • USB Type C (v3.1)	• Class 1 BT V5.1	• WWAN GNSS • WLAN	• 802.11 a/b/g/n/ac (2.4 & 5 GHz)

Labelling CSX8



Labelling GEB256



Antennas

Type	Antenna	Gain [dBi]
WLAN	Flexible Planar Inverted F Antenna (FlexPIFA)	2
Bluetooth	Flexible Planar Inverted F Antenna (FlexPIFA)	2

Product characteristics

Hardware version	Software version
PCB V1.02	RLC00.50.B8.01

Power range

☞ Restriction: WLAN 5150 MHz – 5250 MHz, only for indoor use.

☞ Non-European radio frequency bands and/or technologies supported by the equipment were not part of the assessment and are marked in *italic*.

UMTS / LTE part

Mode		Characteristics
Frequency band(s)	WCDMA	(FDD I, *II*, *XIX*)
	LTE	(FDD 1, 2, 3, *4*, 5, 7, 8, 12, 13, 17, 20, 25, 28) (TDD 38, 39, *40*, *41*)

Mode		Characteristics
Power class	WCDMA LTE	3

Frequency bands, output power

Type	Frequency band [MHz]	Output power[1)] [dBm]	Country restrictions
Bluetooth	2402–2480	5.90	
Bluetooth LE	2402–2480	4.74	
WLAN 2.4 GHz	2412–2472	16.23	
WLAN 5.2 GHz	5180–5240	18.00	See Japan
SRD 5.8 GHz	5745–5825	13.74	See Japan
WCDMA Band I	1920–1980	23.03	
WCDMA Band III	1710–1785	24.77	
WCDMA Band VIII	880–915	23.17	
LTE Band 1	1920–1980	23.15	
LTE Band 3	1710–1785	23.01	
LTE Band 7	2500–2570	23.29	
LTE Band 8	880–915	23.04	
LTE Band 20	832–862	23.66	
LTE Band 28	703–748	23.66	
LTE Band 32 (download only)	1452–1496	n/a[2)]	
LTE Band 38	2570–2620	23.16	
LTE Band 40	2300–2400	22.71	
GPS L1	1575.42	n/a[2)]	
GPS L2	1227.6	n/a[2)]	
GLONASS L1	1598.0625 - 1605.3750	n/a[2)]	
GLONASS L2	1242.9375 - 1248.6250	n/a[2)]	
Galileo E1	1575.42	n/a[2)]	
Galileo E5a	1176.45	n/a[2)]	
BeiDou B1	1575.42	n/a[2)]	
BeiDou B2	1176.45	n/a[2)]	
NavIC L5	1176.45	n/a[2)]	
QZSS L1	1575.42	n/a[2)]	

SAR limits EU

The maximum results of Specific Absorption Rate (SAR) have found during testing are as follows:

[1)] Conducted power for mobile technologies and EIRP for other technologies.

[2)] Not applicable

Frequency band	Body (0mm Gap)	SAR_{10g} Limit [W/kg]
	Maximum SAR_{10g} [W/kg]	
GSM	0.721	2.0
WCDMA	0.915	2.0
LTE	0.880	2.0
NR	0.088	2.0
EN-DC	0.560	2.0
WLAN (2.4GHz)	0.160	2.0
WLAN (5GHz)	0.317	2.0
Bluetooth	0.057	2.0
Simultaneous Transmission	1.372	2.0

SAR limits USA

The maximum results of Specific Absorption Rate (SAR) have found during testing are as follows:

Frequency band	Body (0mm Gap)	SAR_{1g} Limit [W/kg]
	Maximum SAR_{1g} [W/kg]	
GSM	0.747	1.6
WCDMA	0.723	1.6
LTE	0.783	1.6
5G NR	0.094	1.6
5G NR EN-DC	0.673	1.6
WLAN (5GHz)	0.392	1.6
WLAN (2.4GHz)	0.160	1.6
Bluetooth	0.054	1.6
Simultaneous Transmission	1.528	1.6

EU

CE

Hereby, Leica Geosystems AG declares that the radio equipment type CSX8 is in compliance with Directive 2014/53/EU and other applicable European Directives.
The full text of the EU declaration of conformity is available at the following Internet address: http://www.leica-geosystems.com/ce.

The low band 5.15-5.35 GHz is for indoor use only.

CE 

AT, BE, BG, CH, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IS, IT, LI, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, TR, UK

⚠CAUTION

This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

USA

FCC ID: RFD-CSX8
Part 15 B/C/E, 22, 24, 27

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference does not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by Leica Geosystems for compliance could void the user's authority to operate the equipment.

Canada

CAN ICES-003 B/NMB-003 B
IC: 3177A-CSX8

Canada Compliance Statement
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference
2. This device must accept any interference, including interference that may cause undesired operation of the device

Canada Déclaration de Conformité
L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

Japan

5.2 GHz / 5.3 GHz band is restricted to indoor use due to the Radio Law.

- This device is granted pursuant to the Japanese Radio Law (電波法) and the Japanese Telecommunications Business Law (電気通信事業法).
- This device should not be modified (otherwise the granted designation number will become invalid).

Others

The conformity for countries with other national regulations has to be approved prior to use and operation.

8.3 Environmental Specifications

Environmental specifications

Temperature

Type	Operating temperature [°C]	Storage temperature [°C]
CSX8	−20 to +60	−40 to +70

Protection against water, dust and sand

Type	Protection
CSX8	IP66 & IP68 (IEC 60529) ☞ CSX8 is in compliance with IP68 only when protection caps and battery cover are closed. IP6x: Dust tight. IPx6: Water projected in powerful jets. IPx8: Protected against continuous immersion in water. Tested for 1 hour in 1.50 m depth.

☞ The IP rating is only ensured if all protection caps on the device are properly closed.
No water proofing and dust proofing can be guaranteed if the protection caps are not properly closed.

Pollution degree

Type	Pollution degree
CSX8	*4* Electrical equipment for indoor and outdoor use.

Humidity

Type	Protection
CSX8	0 - 95% RH, non-condensing

Altitude

Type	Usage	Range (above sea level)	
		[m]	[ft]
CSX8	Operation	-1000 to 8848	-3280 to 29028
	Storage	-1000 to 16000	-3280 to 52493

Sound level

Type	Value
CSX8	< 70 db(A)

9 Software Licence Agreement/Warranty

Software Licence Agreement

This product contains software that is preinstalled on the product, or that is supplied to you on a data carrier medium, or that can be downloaded by you online according to prior authorisation from Leica Geosystems. Such software is protected by copyright and other laws and its use is defined and regulated by the Leica Geosystems Software Licence Agreement, which covers aspects such as, but not limited to, Scope of the Licence, Warranty, Intellectual Property Rights, Limitation of Liability, Exclusion of other Assurances, Governing Law and Place of Jurisdiction. Please make sure, that at any time you fully comply with the terms and conditions of the Leica Geosystems Software Licence Agreement.

Such agreement is provided together with all products and can also be referred to and downloaded at the Leica Geosystems home page at Hexagon – Legal Documents or collected from your Leica Geosystems distributor.

You must not install or use the software unless you have read and accepted the terms and conditions of the Leica Geosystems Software Licence Agreement. Installation or use of the software or any part thereof, is deemed to be an acceptance of all the terms and conditions of such Licence Agreement. If you do not agree to all or some of the terms of such Licence Agreement, you must not download, install or use the software and you must return the unused software together with its accompanying documentation and the purchase receipt to the distributor from whom you purchased the product within ten (10) days of purchase to obtain a full refund of the purchase price.

Open Source information

The software on the product may contain copyright-protected software that is licenced under various open source licences.

Copies of the corresponding licences

- are provided together with the product (for example in the About panel of the software)
- can be downloaded on http://opensource.leica-geosystems.com

If foreseen in the corresponding open source licence, you may obtain the corresponding source code and other related data on http://opensource.leica-geosystems.com.

Contact
opensource@leica-geosystems.com in case you need additional information.

Appendix A Appendix

A.1 Appendix A: Operating Frequencies EU (CE)

2G (EU)

Description	Type	Details
Supported Networks	GSM GPRS EDGE	
Supported Bands Frequency range [MHz]	GSM900 Transmit Receive DCS1800 Transmit Receive	 880 - 915 925 - 960 1710 - 1785 1805 - 1880
Nominal conducted power [dBm]	GSM900 GSM1800 EDGE900 EDGE1800	33 29 26 26
Modulation type	GMSK 8PSK	
Antenna type	FPC	
GPRS/EDGE Class	12	

3G (EU)

Description	Type	Details
Supported Networks	WCDMA HSDPA HSUPA	
Supported Bands Frequency range [MHz]	Band 1 Transmit Receive Band 8 Transmit Receive	 1920 - 1980 2110 - 2170 880 - 915 925 - 960
Nominal conducted power [dBm]	Band 1 Band 8	24 25
Modulation type	BPSK QPSK 16QAM	
Antenna type	FPC	

4G (EU)

Description	Type	Details
Supported Bands	E-UTRA Band	FDD Band 1 FDD Band 3 FDD Band 7 FDD Band 8 FDD Band 20 FDD Band 28 TDD Band 38 TDD Band 40

Description	Type	Details
	E-UTRA CA Band	TDD Band 38 TDD Band 40
Frequency range [MHz]	FDD-LTE Band 1	
	Transmit	1920 - 1980
	Receive	2110 - 2170
	FDD-LTE Band 3	
	Transmit	1710 - 1785
	Receive	1805 - 1880
	FDD-LTE Band 7	
	Transmit	2500 - 2570
	Receive	2620 - 2690
	FDD-LTE Band 8	
	Transmit	880 - 915
	Receive	925 - 960
	FDD-LTE Band 20	
	Transmit	832 - 862
	Receive	791 - 821
	FDD-LTE Band 28	
	Transmit	703 - 748
	Receive	758 - 803
	TDD-LTE Band 38	
	Transmit	2570 - 2620
	Receive	2570 - 2620
	TDD-LTE Band 40	
	Transmit	2300 - 2400
	Receive	2300 - 2400
	TDD-LTE CA Band 38	
	Transmit	2570 - 2620
	Receive	2570 - 2620
	TDD-LTE CA Band 40	
	Transmit	2300 - 2400
	Receive	2300 - 2400
Nominal conducted power [dBm]	FDD-LTE Band 1	23
	FDD-LTE Band 3	23
	FDD-LTE Band 7	24
	FDD-LTE Band 8	24
	FDD-LTE Band 20	24
	FDD-LTE Band 28	23
	TDD-LTE Band 38	23
	TDD-LTE Band 40	24
	TDD-LTE CA Band 38	22
	TDD-LTE CA Band 40	24
Modulation type	QPSK 16QAM	
Antenna type	FPC	

5G (EU)

Description	Type	Details
Supported Bands	SA Band	N1 N3 N20 N28 N41 N77 N78
	NSA Band	DC_1A_N28A DC_1A_N77A DC_1A_N78A DC_3A-N28A DC_3A-N77A DC_7A_N28A DC_8A_N77A DC-28A_N78A DC_3A-N1A DC_8A-N1A DC_1A-N3A DC_8A-N3A DC_20A-N3A DC_1A-N41A DC_3A-N41A DC_40A-N1A DC_40A_N78A
Frequency range [MHz]	N1	
	Transmit	1920 - 1980
	Receive	2110 - 2170
	N3	
	Transmit	1710 - 1785
	Receive	1805 - 1880
	N20	
	Transmit	832 - 862
	Receive	791 - 821
	N28	
	Transmit	703 - 748
	Receive	758 - 803
	N41	
	Transmit	2496 - 2690
	Receive	2496 - 2690
	N77	
	Transmit	3300 - 4200
	Receive	3300 - 4200
	N78	
	Transmit	3300 - 3800
	Receive	3300 - 3800

Description	Type	Details
Nominal conducted power [dBm]	N1 N3 N20 N28 N41 N77 N78 1A_N28A 1A_N77A 1A_N78A 3A_N28A 3A_N77A 7A_N28A 8A_N77A 28A_N78A	24 24 24 23 28 27 27 23 25 25 25 24 24 24 24
Modulation type	UL & DL up to 256QAM	
Antenna type	FPC	

Bluetooth® (EU)

Description	Type
Radio Technology	Bluetooth V5.1
Frequency range [MHz]	2402 - 2480
Nominal conducted power [dBm]	7
Modulation type	GFSK π/4-DQPSK 8DPSK
Antenna type	FPC

WiFi 2.4 GHz (EU)

Description	Type	Details
Supported Standards	802.11b/g/n (HT20) 802.11n (HT40)	
Frequency range [MHz]	802.11b/g/n (HT20) 802.11n (HT40)	2412 - 2472 2422 - 2462
Nominal conducted power [dBm]	13	
Modulation type	CCK OFDM QPSK BPSK 16QAM 64QAM	
Antenna type	FPC	

WiFi 5 GHz (EU)

Description	Type
Supported Standards	802.11a 802.11n (HT20/40) 802.11ac-VHT80

Description	Type
Frequency range [MHz]	5745 - 5825
Nominal conducted power [dBm]	12
Modulation type	QPSK BPSK 16QAM 64QAM 256QAM
Antenna type	FPC

A.2 Appendix B: Operating Frequencies US/CAN

2G (US/CAN)

Description	Type	Details
Supported Networks	GSM GPRS EDGE	
Supported Bands Frequency range [MHz]	GSM/GPRS/EDGE 850 Transmit Receive GSM/GPRS/EDGE 1900 Transmit Receive	 824 - 849 869 - 894 1850 - 1910 1930 - 1990
Nominal conducted power [dBm]	GSM850 GSM1900 EDGE850 EDGE1900	34 31 28 27
Modulation type	GMSK 8PSK	
Antenna type	FPC	
GPRS/EDGE Class	12	

3G (US/CAN)

Description	Type	Details
Supported Networks	WCDMA HSDPA HSUPA	
Supported Bands Frequency range [MHz]	WCDMA Band 2 Transmit Receive WCDMA Band 5 Transmit Receive	 1850 - 1910 1930 - 1990 824 - 849 869 - 894
Nominal conducted power [dBm]	Band 1 Band 8	24 25
Modulation type	BPSK QPSK 16QAM	

Description	Type	Details
Antenna type	FPC	

4G (US/CAN)

Description	Type	Details
Supported Bands	FDD-LTE	Band 2 Band 4 Band 5 Band 7 Band 12 Band 13 Band 17 Band 25
	TDD-LTE	Band 38 Band 40 Band 41
Frequency range [MHz]	FDD-LTE Band 2 Transmit Receive	 1850 - 1910 1930 - 1990
	FDD-LTE Band 4 Transmit Receive	 1710 - 1755 2110 - 2155
	FDD-LTE Band 5 Transmit Receive	 824 - 849 869 - 894
	FDD-LTE Band 7 Transmit Receive	 2500 - 2570 2620 - 2690
	FDD-LTE Band 12 Transmit Receive	 699 - 716 729 - 746
	FDD-LTE Band 13 Transmit Receive	 777 - 787 746 - 756
	FDD-LTE Band 17 Transmit Receive	 704 - 716 734 - 746
	FDD-LTE Band 25 Transmit Receive	 1850 - 1915 1930 - 1995
	TDD-LTE Band 38 Transmit Receive	 2570 - 2620 2570 - 2620
	TDD-LTE CA Band 38 Transmit Receive	 2570 - 2620 2570 - 2620
	TDD-LTE Band 40 Transmit Receive	 2305 - 2315 2305 - 2315

Description	Type	Details
	TDD-LTE CA Band 40	
	Transmit	2350 - 2360
	Receive	2350 - 2360
	TDD-LTE Band 41	
	Transmit	2496 - 2690
	Receive	2496 - 2690
	TDD-LTE CA Band 41	
	Transmit	2496 - 2690
	Receive	2496 - 2690
Nominal conducted power [dBm]	FDD-LTE Band 2	24
	FDD-LTE Band 4	24
	FDD-LTE Band 5	24
	FDD-LTE Band 7	24
	FDD-LTE Band 12	23
	FDD-LTE Band 13	24
	FDD-LTE Band 17	24
	FDD-LTE Band 25	24
	TDD-LTE Band 38	23
	TDD-LTE CA Band 38	22
	TDD-LTE Band 40	25
	TDD-LTE CA Band 40	24
	TDD-LTE Band 41	23
	TDD-LTE CA Band 41	23
Modulation type	QPSK 16QAM	
Antenna type	FPC	

5G (US/CAN)

Description	Type	Details
Supported Bands	SA Band	N41 N77 N78
Frequency range [MHz]	N41	
	Transmit	2496 - 2690
	Receive	2496 - 2690
	N77	
	Transmit	3450 - 3550
	Receive	3450 - 3550
	N77	
	Transmit	3700 - 3980
	Receive	3700 - 3980
	N78	
	Transmit	3450 - 3550
	Receive	3450 - 3550
	N 78	
	Transmit	3650 - 3700
	Receive	3650 - 3700
	N78	
	Transmit	3700 - 3800
	Receive	3700 - 3800

Description	Type	Details
Nominal conducted power [dBm]	N41 N77_3450 - 3550 MHz N77_3700 - 3980 MHz N78_3450 - 3550 MHz N78_3650 - 3700 MHz N78_3700 - 3800 MHz	25 24 24 25 23 24
Modulation type	DFT-s-OFDM	PI/2 BPSK QPSK 16QAM 64QAM 256QAM
	CP-OFDM	QPSK 16QAM 64QAM 256QAM
Antenna type	FPC	

Bluetooth® (US)

Description	Type
Radio Technology	Bluetooth V5.0 (BLE mode)
Frequency range [MHz]	2402 - 2480
Nominal conducted power [dBm]	6
Modulation type	GFSK
Antenna type	FPC

Bluetooth® (CAN)

Description	Type	Description
Radio Technology	Bluetooth V5.0 (BLE mode)	Bluetooth V5.0 (BR/EDR mode)
Frequency range [MHz]	2402 - 2480	2402 - 2480
Nominal conducted power [dBm]	6	9
Modulation type	GFSK	GFSK π/4-DQPSK 8DPSK
Antenna type	FPC	FPC

WiFi 2.4 GHz (US/CAN)

Description	Type	Details
Supported Standards	802.11b/g/n (HT20) 802.11n (HT40)	
Frequency range [MHz]	802.11b/g/n (HT20) 802.11n (HT40)	2412 - 2462 2422 - 2452

Description	Type	Details
Nominal conducted power [dBm]	16	
Modulation type	CCK OFDM QPSK BPSK 16QAM 64QAM	
Antenna type	FPC	

WiFi 5 GHz (US/CAN)

Description	Type	Details
Supported Standards	802.11a 802.11n (HT20/40) 802.11ac-VHT80	
Frequency range [MHz]	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac-VHT80	5150 - 5250 5250 - 5350 5470 - 5725 5725 - 5850
Nominal conducted power [dBm]	15	
Modulation type	QPSK 16QAM 64QAM 256QAM	
Antenna type	FPC	

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Original text

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