3 User Interface

3.1 Operating Principles

Keyboard and touch screen

The user interface is operated by the touch screen with finger or supplied stylus. The workflow is the same for keyboard and touch screen entry, the only difference lies in the way information is selected and entered.

Operation by touch screen

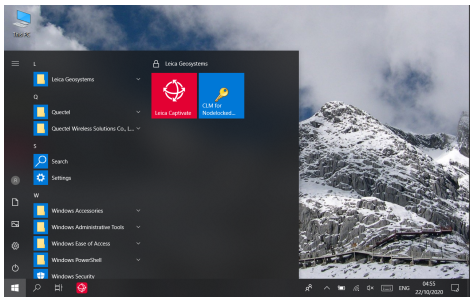
Information is selected and entered on the screen using the supplied stylus.

Operation	Description
To select an item	Tap on the item.
To start the edit mode in editable fields	Tap on the editable field.
To highlight an item or parts of it for editing	Drag the supplied stylus from the left to the right.
To accept data entered into an editable field and exit the edit mode	Tap on the screen outside of the editable field.
To open a context-sensitive menu	Tap on the item and hold for 2 s.

3.2 Home Screen

Home screen

From the home screen, you can view the device status and access the applications.



At the bottom of the home screen is the status bar, which contains the notification area, the status area and the display area.

The shortcut panel is at the bottom. The shortcut panel can be customized.

Using apps

The main screen shows all included apps. Double-click to open an app. Right-click Angle X to close an app.

Fix the app to the start menu/start screen

1. Right-click the application item on the left.
2. Set **Fix to start screen** to on.
3. The app icon or tile will appear in the right area.

Fix the application to the taskbar

1. Right-click an app item in the start menu.
2. Select **Pin to taskbar**.

3. More content is displayed in the lower left corner of the start menu. More folders can be displayed in the lower left corner of the start menu, including downloads, music, images, etc.

3.3 LED Indicators on CS30

LED indicators

The field controller has Light Emitting Diode (LED) indicators. They indicate the basic field controller status.

a Light sensor
b Power LED
c Charging LED

a Camera
b Flash LED for camera
c Battery LEDs

Description of the LEDs

LED	LED Status	Status of Field Controller
Power LED	off	CS30 is shut down or in hibernation mode.
	green	CS30 is powered on.
	flashing green	CS30 is in sleep mode.
Charging LED	off	No battery available or not charging.
	red	Battery is charging.
	flashing evey 2 seconds	Battery capacity is below 10%.
	green	Battery is fully charged.
Battery LEDs	4 LEDs on	Battery is fully charged.
	3 LEDs on	The remaining battery power is more than 50%.
	2 LEDs on	The remaining battery power is less than 50%.
	1 LEDs on	The remaining battery power is very low.
	0 LEDs on	Battery is empty.
Flash LED for rear camera		Supports lightning.

LED	LED Status	Status of Field Controller
	off	Lightning is off.
	on	Lightnig is on.

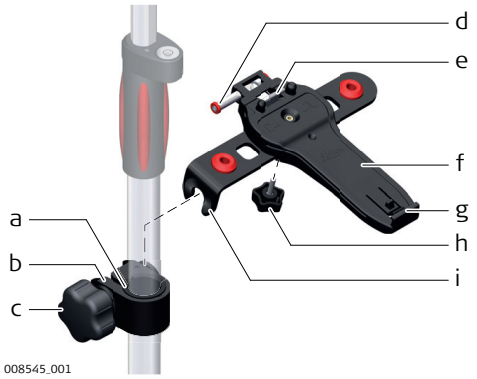
4 Operation

4.1 Equipment Setup

4.1.1 Fixing the Field Controller to a Holder and Pole

Components of the GHT81 holder

The GHT81 holder consists of the following components:



GHT63 clamp

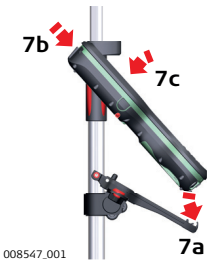
- a Plastic sleeve
- b Pole clamp
- c Clamp bolt

GHT81 holder

- d Locking pin
- e Top clip
- f Mounting plate
- g Bottom clip
- h Tightening screw
- i Mounting arm

Fixing the field controller and GHT81 to a pole step-by-step

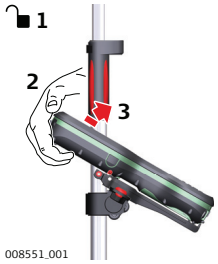
☞	For an aluminium pole, fit the plastic sleeve to the pole clamp.
1.	Insert the pole into the clamp hole.
2.	Attach the holder to the clamp using the clamp bolt.
3.	Adjust the angle and the height of the holder on the pole to a comfortable position.
4.	Tighten the clamp with the clamp bolt.
5.	Hold the CS field controller above the holder and lower the end of the CS field controller into the mounting plate.
6.	Apply slight pressure in a downward direction and then lower the top part of the CS field controller until the unit is clicked into the holder. Tighten the holder with the clamp bolt at the bottom of the unit.



Detaching the field controller from a pole step-by-step

1.	Unscrew the bottom clamp bolt.
2.	Place your palm over the bottom of the field controller.

3. While in this position, lift the bottom of the field controller from the holder.



4.1.2 Replacing the Display Foil on the CS

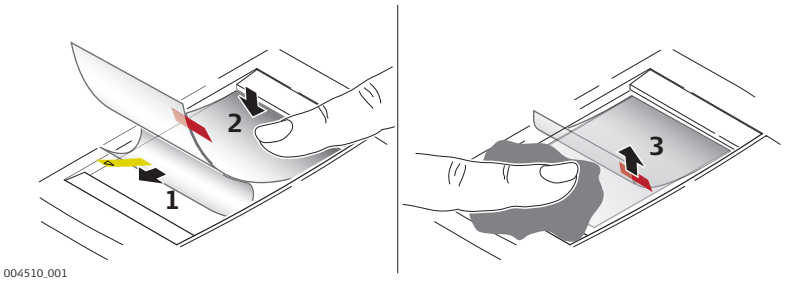
☞ On delivery, the display of the CS is covered by a foil to protect the display against scratches and dirt and to guarantee a trouble-free function of the touchscreen in extreme and humid weather conditions. We strongly recommend to use this display foil and to replace it, if necessary.

Preparation

- Remove the old display foil.
- Ensure that the display is free of dust and grease.
- Use the provided microfibre cloth to clean the display.
- Look for a dust free and dry atmosphere surrounding while fixing the display foil. The recommended conditions are:
  Temperature: approx. 21°C
  Humidity: < 55%

Fixing the display foil step-by-step

The display foil lies between two thin carrier foils. The display foil has a silver-coloured sticker to peel away the carrier foil from the actual display foil.



1. Touch the yellow-coloured sticker with two fingers and pull it slowly upwards. The carrier foil is peeling away.
   ☞ Do not peel the carrier foil more than 2 cm - 3 cm away.
2. Fix the adhesive underside of the display foil on the display edge. Peel away the carrier foil slowly and smooth it out gently onto the display.
3. Remove the additional layer foil which has a red-coloured sticker.
4. Potential air bubbles between display and display foil have to be smoothed out using the included microfibre cloth.
   ☞ Do not use sharp objects!

5. In case of remaining dust or grease under the display foil or the need to replace the display foil, lift it again with some adhesive tape.

4.1.3 Install USB Drivers

Install Leica USB drivers

1. Start the PC.

2. Run the **Setup_Leica_USB_XXbit.exe** to install the drivers necessary for Leica devices. Depending on the version (32bit or 64bit) of the operating system on your PC, you have to select between the three setup files following:
   - Setup_Leica_USB_32bit.exe
   - Setup_Leica_USB_64bit.exe
   - Setup_Leica_USB_64bit_itanium.exe

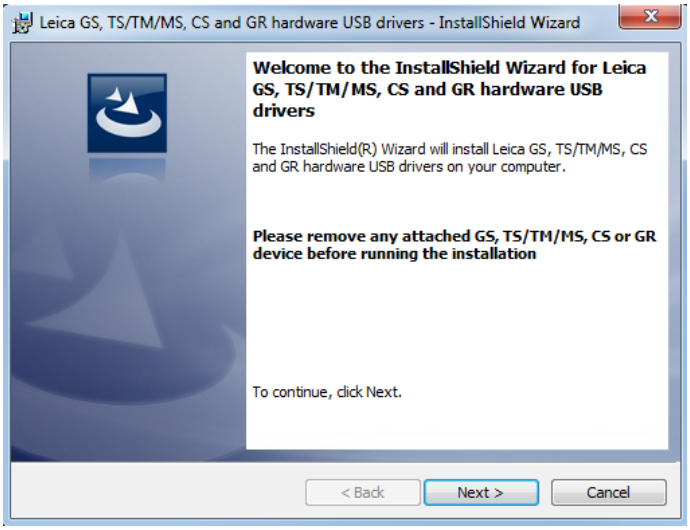
   ☞ To check the version of your operating system, go to **Control Panel** > **System** > **System type**.

   ☞ The setup requires administrative privileges.

   ☞ The setup has to be run only once for all Leica devices.

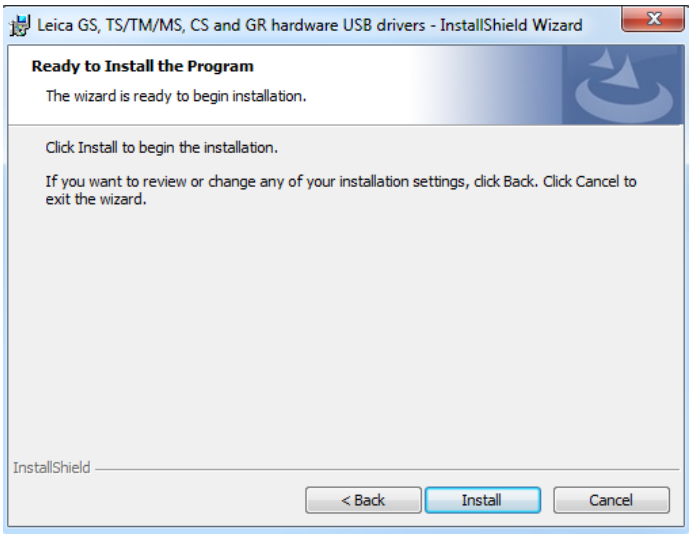
3. The **Welcome to InstallShield Wizard for Leica GS, TS/TM/MS, CS and GR USB drivers** window appears.

   ☞ Ensure that all Leica devices are disconnected from your PC before you continue!



4. Click **Next>**.

5. The **Ready to Install the Program** window appears.



6.	Click **Install**. The drivers will be installed on your PC.
7.	The **InstallShield Wizard Completed** window appears.
8.	Click **Finish** to exit the wizard.

4.2 Batteries

4.2.1 Operating Principles

First-time use/ charging batteries

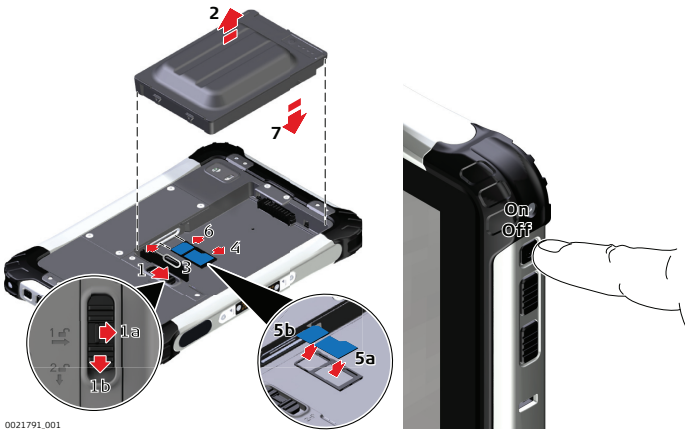
- The battery must be charged before using it for the first time because it is delivered with an energy content as low as possible
- The permissible temperature range for charging is from 0 °C to +40 °C/+32 °F to +104 °F. For optimal charging, we recommend charging the batteries at a low ambient temperature of +10 °C to +20 °C/+50 °F to +68 °F if possible
- It is normal for the battery to become warm during charging. Using the chargers recommended by Leica Geosystems, it is not possible to charge the battery once the temperature is too high
- For new batteries or batteries that have been stored for a long time (> three months), it is effectual to make only one charge/discharge cycle
- For Li-Ion batteries, a single discharging and charging cycle is sufficient. We recommend carrying out the process when the battery capacity indicated on the charger or on a Leica Geosystems product deviates significantly from the actual battery capacity available

Operation/discharging

- The batteries can be operated from –25°C to +55°C/–13°F to +131°F.
- Low operating temperatures reduce the capacity that can be drawn; high operating temperatures reduce the service life of the battery.

4.2.2 Changing the Battery

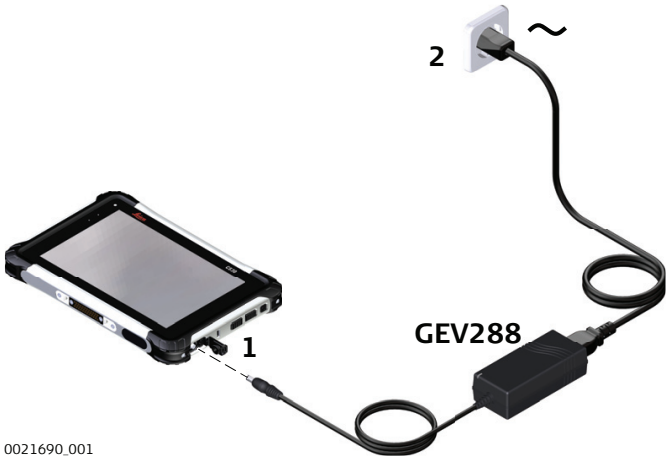
Insert and remove the battery step-by-step



1. Turn off the field controller.
2. Turn over the field controller.
3. Push the horizontal lock to the right.
4. Push the vertical lock downwards.
5. Remove the battery.
6. Insert a fully charged battery.
7. Push the vertical lock upwards.
8. Push the horizontal lock to the left.
9. Turn on the field controller.

4.2.3 Charging the Battery

Charge the battery inside the CS30 step-by-step



1. Connect the GEV288 power adapter with the field controller.
2. Connect the power adapter to the plug.
3. The Charging LED on the CS field controller switches on. While charging, the Charging LED is red. When the field controller's battery is fully charged the Charging LED is green.

   ☞ Refer to for detailed information about the Charging LED.

4.3 Power Functions

Turning field controller on and off

1. To turn on the device, firmly press and hold the bottom right power button until the boot screen appears.
2. To turn off the device. Click on the bottom left windows icon to display the options menu. Select the Power off option to shutdown.
3. With the device turned on, press the power button to turn off the screen and go into sleep mode.
   Press the power button 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.

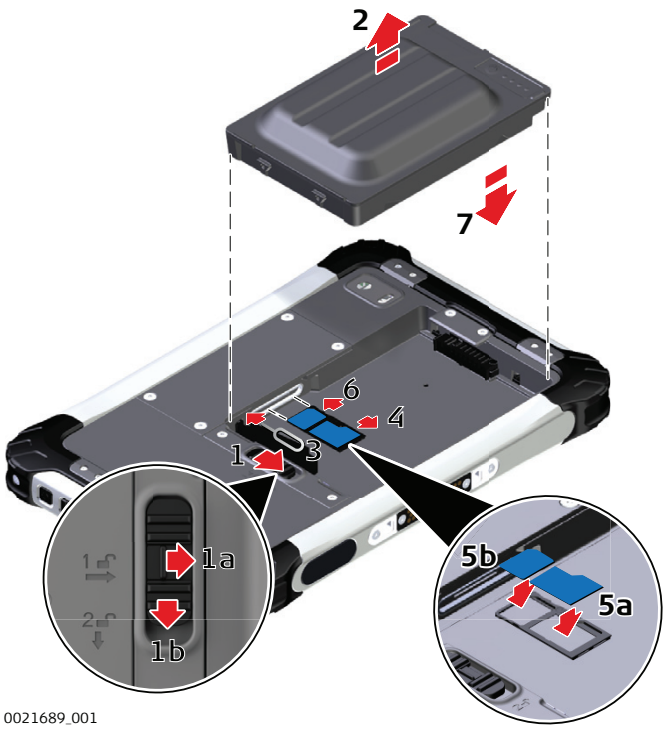
4.4 Working with the Memory Device

4.4.1 Working with the SD, 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 SD, microSD card and Nano SIM card step-by-step



0021689_001

☞ Inserting/removing a card while the CS30 is turned on can result in permanent damage to the card. Only insert/remove a card when the CS30 is switched off.

☞ The SD card is inserted into a slot inside the battery compartment.

☞	The Nano SIM and microSD card can be inserted into a slot below the battery.
☞	Switch off the field controller.
1.	Push the slide fastener of the battery compartment in the direction of the arrow with the open-lock symbol.
2.	Remove the battery from the battery compartment.
3.	Pull the SIM and SD card holder in the direction of the OPEN arrow.
4.	Place the card into the card holder, the chip facing the connectors inside the slot - as shown beside the SIM card holder.
5.	Press the card holder down and push the card holder in the direction of the LOCK arrow to close.
6.	Reinsert the battery.
7.	Push the slide fastener of the battery compartment in the direction of the arrow with the closed-lock symbol.

4.4.2 Working with a USB Memory Stick

Insert a USB stick step-by-step

☞	The USB stick can be inserted into a slot on the left small side of the controller. Refer to .
1.	Insert the USB stick into the slot.

5 Care and Transport

5.1 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.

5.2 Storage

Product

Respect the temperature limits when storing the equipment, particularly in summer if the equipment is inside a vehicle. Refer to 6 Technical Data for information about temperature limits.

Li-Ion batteries

- Refer to 6 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

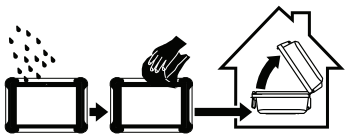
5.3 Cleaning and Drying

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.



817061_001

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.

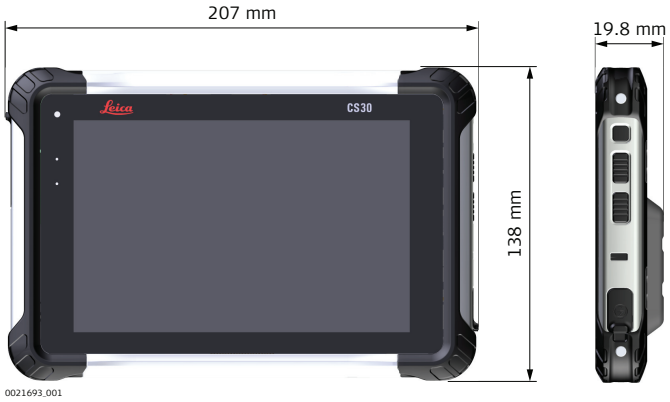
6 Technical Data

6.1 CS30

Control unit

Type	Description
Display	7" HD 1280 x 800 sunlight readable 650 NITS multi-capacitive touch screen
Touch technology	Capacitive
Sound	Integrated sealed speaker and microphone
Digital camera	8 MP, fixed focus lens, image capture: JPEG, flash

Dimensions



Weight

Type	Weight [kg]/[lbs]
CS30	≤ 0.760/1.6755

Memory devices

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

Power

Type	Consumption [A]	External supply voltage
CS30	2.2	Nominal voltage: 15 V DC (⎓) Voltage range: 11.1 V DC to 18.0 V DC Minimum voltage for charging: 14 V DC (⎓)

Internal battery

Type	Battery	Voltage	Capacity	Operating time, typical*
GEB260	Li-Ion	11.1 V	3000 mAh	> 8 h

* Operating time depends on use of wireless communication devices.

Environmental specifications

Temperature

Type	Operating temperature [°C]	Storage temperature [°C]
CS30	–25 to +55	–40 to +70

Protection against water, dust and sand

	Protection
CS30	IP66 & IP68 (IEC 60529) ☞ CS30 is in compliance with IP68 only when expansion cover, connector cover and battery cover are closed. IP6x: Dust tight. No ingress of dust. Complete protection against contact. A vacuum must be applied. Test duration of up to 8 h based on airflow. IPx6: Water projected in powerful jets (12.5 mm) against the enclosure from any direction shall have no harmful effects. Tested for 1 min per square meter for at least 3 min. Water volume: 100 l/min. Pressure: 100 kPa at distance of 3 m. IPx8: Protected against continuous immersion in water. Tested for 2 hours in 1.40 m depth

Humidity

	Protection
CS30	0 - 95% RH, non-condensing

Interfaces

Type	USB Host	Bluetooth	RF antenna pass-through	WiFi
CS30	USB Type A (v2.0) USB Type C (v3.0)	Class 1 BTV4.2	WWAN GNSS WLAN	802.11 a/b/g/n/ac (2.4 & 5 GHz)

6.2 Conformity to National Regulations

6.2 CS30

Europe

- Hereby, Leica Geosystems AG declares that the radio equipment type CS30 is in compliance with Directive 2014/53/EU.
  The full text of the EU declaration of conformity is available at the following Internet address: http://www.leica-geosystems.com/ce.

CE Class 2 equipment according to European Directive 2014/53/EU (RED) for which following EEA Member States apply restrictions on the placing on the market or on the putting into service or require authorisation for use:

- 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

US

FCC ID: RFD-CS30

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15.247, 15.407, 15 subpart E, 24, 27 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, may cause harmful interference to radio communications. However, there is no guarantee that interference will 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.

Canada

IC: 3177A-CS30

RSS-132 Issue 3, RSS-133 Issue 6, RSS-139 Issue 3, RSS-199 Issue 3

RSS-130 Issue 1, RSS-195 Issue 2, RSS-140 Issue 1, RSS-102 Issue 5

This Class (B) digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe (B) est conforme à la norme NMB-003 du Canada.

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.

- Japanese Radio Law and Japanese Telecommunications Business Law Compliance.
  - 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).

Korea

There is a possibility of radio interference during operation of this radio facility.

China

SRRC NAL

The Chinese manual generally includes: appearance description, instructions for use, precautions, battery usage reminders, preset application list (including application name, function description, uninstallation, developer information, etc.), display mode of CMIIT ID, this is the certification process submitted in.

CCC

CCC acceptance must be able to determine the product category based on the content of the Chinese manual. If the application category does not match the description of the manual, the CCC application will be returned. This was submitted at the application stage CCC.

Product small class	Product name	According to the standard number	Corresponding international standard number
1606	Mobile user terminal	GB19484.1-2013	
		GB4943.1-2011	IEC 60950-1:2005
		GB22450.1-2008	
		YD/T1592.1-2012	
		YD/T1595.1-2012	
		YD/T2583.14-2013	

Power range

☞ Restriction: 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*.

Product characteristics

Hardware version	Software version
R1.0	EM12GPAR01A08M4G

UMTS / LTE part

Mode		Characteristics
Frequency band(s)	WCDMA	(FDD I, *II*, III, *IV*, *V*, VIII, *IX*, *XIX*)
	LTE	(FDD 1, 2, 3, 4, 5, 7, 8, 9, 12, 13, 14, 17, 18, 19, 20, 21, 25, 26, 28, 29, 30, 32, 66) (TDD 38, 39, 40, 41)
Power class	WCDMA LTE	3

GNSS part

Mode	Operating frequency range	Modulation
GPS Galileo	1559 MHz to 1610 MHz	BPSK
GLONASS	1559 MHz to 1610 MHz	BPSK
BDS	1559 MHz to 1610 MHz	BPSK
QZSS	1559 *MHz to* 1610 *MHz*	*BPSK*

Normal mode（WLAN/Bluetooth）

Band [GHz]	Mode
WLAN 2.4G (2.4 ~ 2.4835)	802.11b
	802.11g
	802.11n(HT20)
	802.11n(HT40)
WLAN 5.2 G (5.15 ~ 5.25)	802.11a
	802.11n(HT20)
	802.11n(HT40)
	802.11ac(VHT20)
	802.11ac(VHT40)
	802.11ac(VHT80)
WLAN 5.8G (5.725 ~ 5.850)	802.11a
	802.11n(HT20)
	802.11n(HT40)
	802.11ac(VHT20)
	802.11ac(VHT40)
	802.11ac(VHT80)
Bluetooth (2.4 ~ 2.4835)	GFSK
	π/4-DQPSK
	8-DPSK
	BLE

SAR limits

Country	SAR limit
USA & Canada	1.6 W/Kg_1 gram
Australia	2.0 W/Kg_10 gram
EU	2.0 W/Kg_10 gram
Japan	2.0 W/Kg_10 gram
Korea	1.6 W/Kg_1 gram

7 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 http://leica-geosystems.com/about-us/compliance-standards/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.

NOTICE:

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.

Le présent appareil est conforme.
L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

NOTICE:

Changes or modifications made to this equipment not expressly approved by manufacture. may void the FCC authorization to operate this equipment.

NOTE: 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 installe d and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will 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 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.

NOTICE:
This Class [B] digital apparatus complies with Canadian ICES -003.
Cet appareil numérique de la classe [B] est conforme à la norme NMB - 003 du Canada.
RF mode and power tune-up refer to appendix A

ISED Statement

- English: This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This d evice must accept any interference, including interference that may cause undesired operation of the device.
The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

- French: Le présentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils

radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes: (1) l'appareil ne doit pas p roduire de brouillage, et (2) l'utilisateur de l'appareildoit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Caution:

(i) The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

(ii) For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the EIRP limit;

(iii) For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the EIRP limits specified for point-to-point and non-point-to-point operation as appropriate; and

Operations in the 5.25-5.35GHz band are restricted to indoor usage only.

Avertissement:

(i) les dispositifs fonctionnant dans la bande de 5150 à 5250MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

(ii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5250 à 5350MHz et de 5470 à 5725 MHz doit être conforme à la limite de la p.i.r.e;

(iii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;

Les opérations dans la bande de 5.25-5.35GHz sont limités à un usage intérieur seulement.

Normal Mode RF Power Range (WCDMA)

Mode	Range(dBm)
WCDMA Band 2 RMC	22.00-23.50
HSDPA Band 2	21.00-22.00
HSUPA Band 2	19.00-22.00
WCDMA Band 4 RMC	23.50-24.50
HSDPA Band 4	22.00-23.50
HSUPA Band 4	20.50-23.50
WCDMA Band 5 RMC	22.00-23.00
HSDPA Band 5	21.00-22.00
HSUPA Band 5	19.00-22.00

Normal Mode RF Power Range (LTE)

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 2	20 MHz	1	QPSK	22.00-23.50
		50		21.00-22.50
		100		21.00-22.50
		1	16QAM	21.50-23.00
		50		20.00-21.50
		100		20.00-21.50
	15 MHz	1	QPSK	22.00-23.50
		36		21.00-22.00
		75		21.00-22.00
		1	16QAM	21.00-22.50
		36		20.00-21.50
		75		20.00-21.50
	10 MHz	1	QPSK	21.50-23.50
		25		21.00-22.50
		50		21.00-22.50
		1	16QAM	21.00-22.50
		25		20.00-21.50
		50		20.00-21.50
	5 MHz	1	QPSK	22.00-23.50

		12		21.00-22.50
		25		21.00-22.50
		1		21.00-22.50
		12	16QAM	20.00-21.50
		25		20.00-21.50
	3 MHz	1		22.00-23.50
		8	QPSK	21.00-22.50
		15		21.00-22.50
		1		21.00-22.50
		8	16QAM	20.00-21.50
		15		20.00-21.50
	1.4 MHz	1		22.00-23.50
		3	QPSK	22.00-22.50
		6		21.00-22.00
		1		21.00-22.50
		3	16QAM	20.00-21.50
		6		20.00-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 4	20 MHz	1	QPSK	22.50-23.50
		50		21.50-22.50
		100		21.50-22.50
		1	16QAM	22.00-23.50
		50		20.50-21.50
		100		20.50-21.50
	15 MHz	1	QPSK	22.00-23.50
		36		21.50-22.50
		75		21.50-22.50
		1	16QAM	21.50-23.00
		36		20.50-21.50
		75		20.50-21.50
	10 MHz	1	QPSK	22.50-23.50
		25		21.00-22.50
		50		21.00-22.50

		1	16QAM	21.50-22.50
		25		20.50-21.50
		50		20.50-21.50
	5 MHz	1	QPSK	22.50-23.50
		12		21.50-22.50
		25		21.50-22.50
		1	16QAM	21.50-22.50
		12		20.50-21.50
		25		20.50-21.50
	3 MHz	1	QPSK	22.00-23.50
		8		21.50-22.50
		15		21.50-22.50
		1	16QAM	21.50-22.50
		8		20.50-21.50
		15		20.50-21.50
	1.4 MHz	1	QPSK	22.00-23.50
		3		21.00-22.50
		6		21.00-22.50
		1	16QAM	21.50-22.50
		3		20.50-21.50
		6		20.50-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 5	10 MHz	1	QPSK	22.00-23.50
		25		21.00-22.50
		50		21.00-22.50
		1	16QAM	21.50-22.50
		25		20.50-21.50
		50		20.50-21.50
	5 MHz	1	QPSK	22.00-23.50
		12		21.50-22.50
		25		21.50-22.50
		1	16QAM	21.50-22.50
		12		20.50-21.50

		25		20.50-21.50
	3 MHz	1	QPSK	22.00-23.50
		8		21.00-22.50
		15		21.00-22.50
		1	16QAM	21.50-22.50
		8		20.50-21.50
		15		20.50-21.50
	1.4 MHz	1	QPSK	22.00-23.50
		3		21.00-22.50
		6		21.00-22.50
		1	16QAM	21.50-22.50
		3		20.50-21.50
		6		20.50-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 7	20 MHz	1	QPSK	22.50-23.50
		50		21.00-22.50
		100		21.00-22.50
		1	16QAM	22.00-23.00
		50		20.50-21.50
		100		20.50-21.50
	15 MHz	1	QPSK	22.50-23.50
		36		21.00-22.50
		75		21.00-22.50
		1	16QAM	21.00-23.00
		36		20.50-21.50
		75		20.50-21.50
	10 MHz	1	QPSK	22.50-23.50
		25		21.00-22.50
		50		21.00-22.50
		1	16QAM	21.00-22.50
		25		20.50-21.50
		50		20.50-21.50
	5 MHz	1	QPSK	22.50-23.50

		12		21.00-22.50
		25		21.00-22.50
		1		21.00-22.80
		12	16QAM	20.50-21.50
		25		20.50-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 12	10 MHz	1	QPSK	22.00-23.50
		25		21.50-22.30
		50		21.50-22.30
		1	16QAM	21.00-22.80
		25		20.50-21.50
		50		20.50-21.50
	5 MHz	1	QPSK	22.00-23.50
		12		21.50-22.30
		25		21.50-22.30
		1	16QAM	21.00-22.80
		12		20.50-21.50
		25		20.50-21.50
	3 MHz	1	QPSK	22.00-23.50
		8		21.50-22.30
		15		21.50-22.30
		1	16QAM	21.00-22.80
		8		20.50-21.50
		15		20.50-21.50
	1.4 MHz	1	QPSK	22.00-23.50
		3		21.50-22.30
		6		21.50-22.30
		1	16QAM	21.00-22.80
		3		20.50-21.50
		6		20.50-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 13	10 MHz	1	QPSK	22.00-23.50
		25		21.00-22.30
		50		21.00-22.00
		1	16QAM	21.00-22.50
		25		20.00-21.50
		50		20.00-21.50
	5 MHz	1	QPSK	22.00-23.50
		12		21.00-22.50
		25		21.00-22.00
		1	16QAM	21.50-22.50
		12		20.50-21.50
		25		20.00-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 14	10 MHz	1	QPSK	22.50-24.00
		25		22.00-22.80
		50		21.50-22.50
		1	16QAM	21.50-23.00
		25		21.00-22.00
		50		21.00-22.00
	5 MHz	1	QPSK	22.50-24.00
		12		21.50-22.80
		25		21.50-22.50
		1	16QAM	22.00-23.50
		12		21.00-22.00
		25		21.00-22.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 17	10 MHz	1	QPSK	23.50-24.50
		25		22.50-23.50
		50		22.50-23.50
		1	16QAM	22.50-24.00
		25		21.50-22.50

		50		21.50-22.50
	5 MHz	1	QPSK	23.50-24.50
		12		22.50-23.50
		25		22.50-23.50
		1	16QAM	22.50-24.00
		12		21.50-22.50
		25		21.50-22.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 25		1	QPSK	22.00-23.50
		50		21.00-22.50
		100		21.00-22.50
		1	16QAM	21.50-23.00
		50		20.50-21.50
		100		20.00-21.50
	15 MHz	1	QPSK	22.00-23.50
		36		21.00-22.50
		75		21.00-22.50
		1	16QAM	21.50-23.00
		36		20.50-21.50
		75		20.00-21.50
	10 MHz	1	QPSK	22.00-23.50
		25		21.00-22.50
		50		21.00-22.50
		1	16QAM	21.00-22.50
		25		20.50-21.50
		50		20.00-21.50
	5 MHz	1	QPSK	22.00-23.50
		12		21.00-22.50
		25		21.00-22.50
		1	16QAM	21.00-22.80
		12		20.50-21.50
		25		20.00-21.50
	3 MHz	1	QPSK	22.00-23.50

		8		21.00-22.50
		15		21.00-22.50
		1	16QAM	21.00-22.80
		8		20.50-21.50
		15		20.00-21.50
	1.4 MHz	1	QPSK	22.00-23.50
		3		21.00-22.50
		6		21.00-22.50
		1	16QAM	21.00-22.80
		3		20.50-21.50
		6		20.00-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 26	15 MHz	1	QPSK	24.00-25.50
		36		23.00-24.00
		75		23.00-24.00
		1	16QAM	23.00-24.50
		36		22.00-23.00
		75		22.00-23.00
	10 MHz	1	QPSK	24.00-25.00
		25		23.00-24.00
		50		23.00-24.00
		1	16QAM	23.00-24.50
		25		22.00-23.00
		50		22.00-23.00
	5 MHz	1	QPSK	24.00-25.00
		12		23.00-24.00
		25		23.00-24.00
		1	16QAM	23.00-24.00
		12		22.00-23.00
		25		22.00-23.00
	3 MHz	1	QPSK	24.00-25.00
		8		23.00-24.00
		15		23.00-24.00

		1	16QAM	23.00-24.00
		8		22.00-23.00
		15		22.00-23.00
	1.4 MHz	1	QPSK	24.00-25.00
		3		23.00-24.00
		6		23.00-24.00
		1	16QAM	23.00-24.00
		3		22.00-23.00
		6		22.00-23.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 30	10 MHz	1	QPSK	22.50-23.50
		25		21.50-22.50
		50		21.50-22.50
		1	16QAM	22.00-23.00
		25		21.00-22.00
		50		21.00-22.00
	5 MHz	1	QPSK	22.50-23.50
		12		21.50-22.50
		25		21.50-22.50
		1	16QAM	22.00-23.00
		12		21.00-22.00
		25		21.00-22.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 41	20 MHz	1	QPSK	23.00-24.00
		50		22.00-22.80
		100		22.00-23.00
		1	16QAM	22.00-23.00
		50		21.00-22.00
		100		21.00-22.00
	15 MHz	1	QPSK	23.00-24.00
		36		22.00-22.80
		75		22.00-23.00

		1	16QAM	22.00-23.00
		36		21.00-22.00
		75		21.00-22.00
	10 MHz	1	QPSK	23.00-24.00
		25		22.00-22.80
		50		22.00-23.00
		1	16QAM	22.00-23.00
		25		21.00-22.00
		50		21.00-22.00
	5 MHz	1	QPSK	23.00-24.00
		12		22.00-22.80
		25		22.00-23.00
		1	16QAM	22.00-23.00
		12		21.00-22.00
		25		21.00-22.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 66	20 MHz	1	QPSK	24.00-25.50
		50		23.00-24.20
		100		23.00-24.00
		1	16QAM	23.00-24.50
		50		22.00-23.00
		100		22.00-23.00
	15 MHz	1	QPSK	24.00-25.50
		36		23.00-24.20
		75		23.00-24.00
		1	16QAM	23.00-24.80
		36		22.00-23.00
		75		22.00-23.00
	10 MHz	1	QPSK	24.00-25.50
		25		23.00-24.20
		50		23.00-24.00
		1	16QAM	23.00-24.80
		25		22.00-23.00

		50		22.00-23.00
	5 MHz	1	QPSK	24.00-25.50
		12		23.00-24.20
		25		23.00-24.00
		1	16QAM	23.00-24.50
		12		22.00-23.00
		25		22.00-23.10

Normal Mode RF Power Range (WLAN/Bluetooth)

Band (GHz)	Mode	Range(dBm)
WIFI 2.4G (2.4~2.4835)	802.11b	14.00-15.00
	802.11g	13.50-14.80
	802.11n(HT20)	13.50-14.50
	802.11ac(VHT40)	13.50-14.30

Band (GHz)	Mode	Range(dBm)
WIFI 5.2 G (5.15~5.25)	802.11a	13.50-14.00
	802.11n(HT20)	13.50-14.50
	802.11ac(VHT20)	13.50-14.50
	802.11n(HT40)	13.00-14.00
	802.11ac(VHT40)	13.00-13.80
	802.11ac(VHT80)	13.00-13.50
WIFI 5.8G (5.725~5.850)	802.11a	12.00-13.50
	802.11n(HT20)	12.00-13.00
	802.11ac(VHT20)	12.00-13.50
	802.11n(HT40)	12.00-13.00
	802.11ac(VHT40)	12.00-12.80
	802.11ac(VHT80)	12.00-12.50

Band (GHz)	Mode	Range(dBm)
Bluetooth (2.4~2.4835)	GFSK	2.50-4.00
	Pi/4-DQPSK	0.00-1.50
	8-DPSK	(-0.20)-0.50
	BLE	1.50-3.00

Power Reduction Mode RF Power Range (WCDMA)

Mode	Range(dBm)
WCDMA Band 2 RMC	15.50-16.50
HSDPA Band 2	14.00-15.50
HSUPA Band 2	12.50-15.50
WCDMA Band 4 RMC	15.50-17.00
HSDPA Band 4	15.50-17.00
HSUPA Band 4	13.00-15.50
WCDMA Band 5 RMC	17.50-18.50
HSDPA Band 5	16.50-17.50
HSUPA Band 5	15.50-16.50

Power Reduction Mode RF Power Range (LTE)

ode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 2	20 MHz	1	QPSK	15.00-16.00
		50		15.00-16.00
		100		15.00-16.00
		1	16QAM	15.00-16.20
		50		15.00-16.00
		100		15.00-16.00
	15 MHz	1	QPSK	15.00-16.00
		36		15.00-16.00
		75		15.00-16.00
		1	16QAM	15.00-16.20
		36		15.00-16.00
		75		15.00-16.00
	10 MHz	1	QPSK	15.00-16.00
		25		15.00-16.00
		50		15.00-16.00
		1	16QAM	15.00-16.00
		25		15.00-16.00
		50		15.00-16.00
	5 MHz	1	QPSK	15.00-16.00

		12		15.00-16.00
		25		15.00-16.00
		1		15.00-16.20
		12	16QAM	15.00-16.00
		25		15.00-16.00
	3 MHz	1		15.00-16.00
		8	QPSK	15.00-16.00
		15		15.00-16.00
		1		15.00-16.00
		8	16QAM	15.00-16.00
		15		15.00-16.00
	1.4 MHz	1		15.00-16.00
		3	QPSK	15.00-16.00
		6		15.00-16.00
		1		15.00-16.00
		3	16QAM	15.00-16.00
		6		15.00-16.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 4	20 MHz	1	QPSK	15.00-16.50
		50		15.50-16.50
		100		15.50-16.50
		1	16QAM	15.50-16.80
		50		15.50-16.50
		100		15.50-16.50
	15 MHz	1	QPSK	15.00-16.50
		36		15.50-16.50
		75		15.50-16.50
		1	16QAM	15.00-16.80
		36		15.50-16.50
		75		15.50-16.50
	10 MHz	1	QPSK	15.50-16.50
		25		15.50-16.50
		50		15.50-16.50

		1	16QAM	15.50-16.80
		25		15.00-16.50
		50		15.00-16.50
	5 MHz	1	QPSK	15.00-16.50
		12		15.00-16.50
		25		15.00-16.50
		1	16QAM	15.50-16.80
		12		15.50-16.50
		25		15.50-16.50
	3 MHz	1	QPSK	15.00-16.50
		8		15.00-16.50
		15		15.00-16.50
		1	16QAM	15.00-16.80
		8		15.00-16.50
		15		15.00-16.50
	1.4 MHz	1	QPSK	15.00-16.50
		3		15.00-16.50
		6		15.00-16.50
		1	16QAM	15.00-16.80
		3		15.00-16.50
		6		15.00-16.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 5	10 MHz	1	QPSK	19.00-20.30
		25		19.00-20.30
		50		19.00-20.30
		1	16QAM	19.00-20.30
		25		19.00-20.30
		50		19.00-20.30
	5 MHz	1	QPSK	19.00-20.30
		12		19.00-20.30
		25		19.00-20.30
		1	16QAM	19.00-20.30
		12		19.00-20.30

		25		19.00-20.30
	3 MHz	1	QPSK	19.00-20.30
		8		19.00-20.30
		15		19.00-20.30
		1	16QAM	19.00-20.30
		8		19.00-20.30
		15		19.00-20.30
	1.4 MHz	1	QPSK	19.00-20.30
		3		19.00-20.30
		6		19.00-20.30
		1	16QAM	19.00-20.30
		3		19.00-20.30
		6		19.00-20.30

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 7	20 MHz	1	QPSK	15.00-16.50
		50		15.00-16.30
		100		15.00-16.30
		1	16QAM	15.50-16.50
		50		15.00-16.30
		100		15.00-16.30
	15 MHz	1	QPSK	15.00-16.50
		36		15.00-16.30
		75		15.00-16.30
		1	16QAM	15.50-16.50
		36		15.00-16.30
		75		15.00-16.30
	10 MHz	1	QPSK	15.00-16.50
		25		15.00-16.30
		50		15.00-16.30
		1	16QAM	15.50-16.50
		25		15.00-16.30
		50		15.00-16.30
	5 MHz	1	QPSK	15.00-16.50

		12		15.00-16.30
		25		15.00-16.30
		1		15.50-16.50
		12	16QAM	15.00-16.30
		25		15.00-16.30

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 12	10 MHz	1	QPSK	20.00-21.50
		25		20.00-21.30
		50		20.00-21.00
		1	16QAM	20.00-21.50
		25		20.00-21.30
		50		20.00-21.30
	5 MHz	1	QPSK	20.00-21.50
		12		20.00-21.30
		25		20.00-21.00
		1	16QAM	20.00-21.50
		12		20.00-21.30
		25		20.00-21.30
	3 MHz	1	QPSK	20.00-21.50
		8		20.00-21.00
		15		20.00-21.00
		1	16QAM	20.00-21.50
		8		20.00-21.30
		15		20.00-21.30
	1.4 MHz	1	QPSK	20.00-21.50
		3		20.00-21.00
		6		20.00-21.00
		1	16QAM	20.00-21.50
		3		20.00-21.30
		6		20.00-21.30

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 13	10 MHz	1	QPSK	19.00-20.50
		25		19.00-20.50
		50		19.00-20.50
		1	16QAM	19.00-20.50
		25		19.00-20.50
		50		19.00-20.50
	5 MHz	1	QPSK	19.00-20.50
		12		19.00-20.50
		25		19.00-20.50
		1	16QAM	19.00-20.50
		12		19.00-20.50
		25		19.00-20.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 14	10 MHz	1	QPSK	18.50-19.60
		25		17.50-18.60
		50		17.50-18.60
		1	16QAM	17.50-18.50
		25		17.00-18.00
		50		17.00-18.00
	5 MHz	1	QPSK	18.50-19.60
		12		17.50-18.60
		25		17.50-18.60
		1	16QAM	17.50-18.50
		12		17.00-18.00
		25		17.00-18.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 17	10 MHz	1	QPSK	22.00-23.50
		25		21.50-22.50
		50		21.50-22.50
		1	16QAM	21.00-22.80
		25		20.50-21.50

		50		20.50-21.50
	5 MHz	1	QPSK	22.00-23.50
		12		21.50-22.50
		25		21.50-22.50
		1	16QAM	21.00-22.80
		12		20.50-21.50
		25		20.50-21.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 25	20 MHz	1	QPSK	15.00-16.00
		50		15.00-16.00
		100		15.00-16.00
		1	16QAM	15.00-16.20
		50		15.00-16.00
		100		15.00-16.00
	15 MHz	1	QPSK	15.00-16.00
		36		15.00-16.00
		75		15.00-16.00
		1	16QAM	15.00-16.20
		36		15.00-16.00
		75		15.00-16.00
	10 MHz	1	QPSK	15.00-16.00
		25		15.00-16.00
		50		15.00-16.00
		1	16QAM	15.00-16.20
		25		15.00-16.00
		50		15.00-16.00
	5 MHz	1	QPSK	15.00-16.00
		12		15.00-16.00
		25		15.00-16.00
		1	16QAM	15.00-16.20
		12		15.00-16.00
		25		15.00-16.00
	3 MHz	1	QPSK	15.00-16.00

		8		15.00-16.00
		15		15.00-16.00
		1	16QAM	15.00-16.20
		8		15.00-16.00
		15		15.00-16.00
	1.4 MHz	1	QPSK	15.00-16.00
		3		15.00-16.00
		6		15.00-16.00
		1	16QAM	15.00-16.20
		3		15.00-16.00
		6		15.00-16.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 26	15 MHz	1	QPSK	19.00-20.80
		36		19.00-20.50
		75		19.00-20.50
		1	16QAM	19.50-21.00
		36		19.50-20.50
		75		19.50-20.50
	10 MHz	1	QPSK	19.00-20.80
		25		19.00-20.50
		50		19.00-20.50
		1	16QAM	19.50-20.50
		25		19.50-20.50
		50		19.50-20.50
	5 MHz	1	QPSK	19.00-20.80
		12		19.00-20.50
		25		19.00-20.50
		1	16QAM	19.50-20.50
		12		19.50-20.50
		25		19.50-20.50
	3 MHz	1	QPSK	19.00-20.80
		8		19.00-20.50
		15		19.00-20.50

		1	16QAM	19.50-20.50
		8		19.50-20.50
		15		19.50-20.50
	1.4 MHz	1	QPSK	19.00-20.50
		3		19.00-20.50
		6		19.00-20.50
		1	16QAM	19.50-20.50
		3		19.50-20.50
		6		19.50-20.50

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 30	10 MHz	1	QPSK	19.00-20.00
		25		18.00-19.00
		50		18.00-19.00
		1	16QAM	18.00-19.00
		25		17.00-18.00
		50		17.00-18.00
	5 MHz	1	QPSK	19.00-20.00
		12		18.00-19.00
		25		18.00-19.00
		1	16QAM	17.00-19.20
		12		17.00-18.00
		25		17.00-18.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 41	20 MHz	1	QPSK	16.80-18.50
		50		16.80-18.30
		100		16.80-18.30
		1	16QAM	16.80-18.00
		50		16.80-18.00
		100		16.80-18.00
	15 MHz	1	QPSK	16.80-18.50
		36		16.80-18.30
		75		16.80-18.30

		1	16QAM	16.80-18.00
		36		16.80-18.00
		75		16.80-18.00
	10 MHz	1	QPSK	16.80-18.50
		25		16.80-18.30
		50		16.80-18.30
		1	16QAM	16.80-18.00
		25		16.80-18.00
		50		16.80-18.00
	5 MHz	1	QPSK	16.80-18.50
		12		16.80-18.30
		25		16.80-18.30
		1	16QAM	16.80-18.00
		12		16.80-18.00
		25		16.80-18.00

Mode	Bandwidth	RB	Modulation	Range(dBm)
LTE Band 66	20 MHz	1	QPSK	17.50-18.50
		50		17.50-18.50
		100		17.50-18.50
		1	16QAM	17.50-18.80
		50		17.50-18.50
		100		17.50-18.50
	15 MHz	1	QPSK	17.50-18.50
		36		17.50-18.50
		75		17.50-18.50
		1	16QAM	17.50-18.80
		36		17.50-18.50
		75		17.50-18.50
	10 MHz	1	QPSK	17.50-18.50
		25		17.50-18.50
		50		17.50-18.50
		1	16QAM	17.50-18.80
		25		17.50-18.50

		50		17.50-18.50
	5 MHz	1	QPSK	17.50-18.50
		12		17.50-18.50
		25		17.50-18.50
		1	16QAM	17.50-18.80
		12		17.50-18.50
		25		17.50-18.50

Normal Mode RF Power Range (WLAN/Bluetooth)

Band (GHz)	Mode	Range(dBm)
WIFI 2.4G (2.4~2.4835)	802.11b	14.00-14.50
	802.11g	13.50-14.20
	802.11n(HT20)	13.50-14.20
	802.11ac(VHT40)	13.50-14.20

Band (GHz)	Mode	Range(dBm)
WIFI 5.2 G (5.15~5.25)	802.11a	12.00-13.00
	802.11n(HT20)	11.50-12.50
	802.11ac(VHT20)	12.00-12.80
	802.11n(HT40)	11.00-12.00
	802.11ac(VHT40)	11.50-12.50
	802.11ac(VHT80)	11.50-12.00
WIFI 5.8G (5.725~5.850)	802.11a	11.00-12.00
	802.11n(HT20)	10.50-11.50
	802.11ac(VHT20)	11.00-11.50
	802.11n(HT40)	10.50-11.50
	802.11ac(VHT40)	10.50-11.50
	802.11ac(VHT80)	10.50-11.00

Band (GHz)	Mode	Range(dBm)
Bluetooth (2.4~2.4835)	GFSK	4.00-5.00
	Pi/4-DQPSK	3.00-5.00
	8-DPSK	3.50-5.00
	BLE	(-4.5)-(-3.0)

924352-0.9.0en
Original text (924352-0.9.0en)
Printed in Switzerland

PART OF HEXAGON

- when it has to be **right**

Leica Geosystems

Leica Geosystems AG
Heinrich-Wild-Strasse
CH-9435 Heerbrugg
Switzerland
Phone +41 71 727 31 31

www.leica-geosystems.com