



Nokia 5G 360 Camera

User manual

Document type	Manual
Document version	v1.0
Release date	September 2025

Contents

1	Preface.....	3
2	Safety guidelines	3
3	Environmental and RoHS guidelines	11
4	Product description	15
5	Device usage description	19
6	Additional Product and Feature information.....	41
7	Installation.....	45
8	Trouble shooting	50

1 Preface

1.1 Scope

This User Manual provides an overview of the 5G Nokia 360 camera, along with information about installing and configuring it.

1.2 Related documentation

- Product quick start guide
- Product datasheet
- Product OSC API

1.3 Safety information

- System Rating: Input: 56.0Vdc, 0.805A
- Ambient Operating Temperatures:

	Nokia 5G 360 Camera	Nokia 5G 360 Camera – Extreme Temperature	Nokia 360 Camera
Operating conditions	• PoE powered: -30°C ~ 45°C • Battery charging: 0°C ~ 20 °C • Battery powered: 0 °C~ 35 °C	• PoE powered (5G streaming): -35°C ~ 50°C • PoE powered (WiFi/Ethernet streaming): -35°C ~ 60 °C	• PoE powered: -30°C ~ 50°C • Battery charging: 0°C ~ 20 °C • Battery powered: 0 °C~ 40 °C

- Battery specification : 7.27Vdc, 2900mAh(minimal)

Battery Temperature range	Operating	0°C to 45°C (32°F to 113°F)
	Storage	-20°C to 60°C (-4°F to 140°F)
Battery operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	

Note1: When the battery temperature (see the camera WebUI dashboard or OSC API *state* command) reaches 64°C, dynamic stitching and HDR will be turned off and streaming will need to be restarted by user.

Note2: When the temperature of the battery reaches 67°C, internal safety mechanisms will be triggered, and streaming will be suspended for safety reasons, signified by the LED blinking green and red, preventing the user from starting streams.

For T-mount installation SOP: Please refer to section 7

1.4 Special information

Contents related to 5G are only applicable for products containing 5G functionality.

Contents related to battery management are only applicable for products containing a battery.

2 Safety guidelines

2.1 Safety instructions



Warning: Do not use this device in a hazardous location, for example: locations where flammables or explosives are stored, in gas stations, oil depots, or chemical plants. Otherwise, explosions, fires, or danger may occur.

Do not use this device in areas where the temperature is outside the range of defined operating temperatures

Before connecting and disconnecting cables, ensure that your hands are dry to avoid the risk of an electrical shock.

Read all instructional and cautionary documents before operating this device.

Switch off and unplug this device before relocating.

Stop using this device immediately if it appears to be faulty or have damaged parts and have it checked by competent persons.

CAUTION: Risk of explosion if batteries other than the specified type are used. Dispose of used batteries according to the instructions.

WARNING: Disassembling the battery by yourself will void its warranty and may cause serious harm.

Note: Removing the non-detachable battery will void the warranty.

For your safety, connect this device to a properly grounded electrical outlet only.

Outdoor usage

This device is suitable for outdoor use with an ingress protection code of IP67.

Associated PoE (Power over Ethernet) cable and all interconnecting wiring shall be limited to inside the building or to inside an UL approved water-proof conduit. For "PoE" input connection, use only I.T.E. PoE adaptor which is UL/CB safety certified and meets LPS (Limited Power Source) requirements.

PoE adapter specifications:

Input Characteristics

- Working Voltage range: 90Vac to 264Vac. Nominal range: 100Vac to 240Vac
- Input frequency range: 47Hz to 63Hz. Nominal Frequency: 50 / 60Hz.
- Input AC current: 1.5A (max) @ Full load & nominal AC input

Output Characteristics

- Output voltage range: 54Vdc to 57Vdc measured on the RJ45. Nominal range: 56Vdc
- Output current: 0mA to 805mA

Safety Standards

- Hi-pot: Primary to Secondary: 3000Vac 10mA for 60 second
- Isolation Resistance: DC 500V 10M ohm minimum
- Leakage Current: 0.25mA maximum at 264Vac
- UL, CE, CCC, IEC/UL/EN 60950 and EN62368

Environmental Specification

- Operating Temperature: -10°C to 40°C.
- Operating relative Humidity: 5% to 90%, non-condensing.
- Operating Altitude: -500 to 10,000 feet.
- Not suitable for outdoor use

2.2 Safety-related labels



2.3 Safety standards compliance

This product is compliant with the IEC/EN/UL 62368 ED3 standards.

2.4 FCC Regulations

MODIFICATION: Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

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 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 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.

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

2.5 EMC compliance



This product bears the CE mark which certifies its conformity with the directives LVD 2014/35/EU; EMC 2014/30/EU and RoHS 2011/65/EU. Compliance has been assessed in accordance with applicable standards in effect.

Nokia declares this equipment is in compliance with the essential requirements and other relevant provisions of the following directives:

2014/35/EU	The Low Voltage Directive
2014/30/EU	The Electromagnetic Compatibility Directive
EN 55032	EMC of Multimedia Equipment – Emission Requirements
EN 55035	EMC of Multimedia Equipment – Immunity Requirements
EN 61000-3-2/-3	EMC limits
EN301 489	EMC Standard for Radio Equipment and Services
2014/53/EU	Radio Equipment Directive

FCC Part 15	47 CFR Part 15 – Radio Frequency Devices
EN 61000-6-1/-3	Applies to electrical and electronic apparatus intended for use in residential, commercial and light-industrial environments.
EN 61000-6-2/-4	applies to electrical and electronic apparatus intended for use in industrial environments, as described below. Immunity requirements in the frequency range 0 Hz to 400 GHz are covered

2.6 RF exposure information

IMPORTANT NOTE for products with Wi-Fi or Cellular modules:

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator & your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 40 cm between the radiator & your body.

2.7 Electrical safety guidelines

To avoid electric shock, damage, and fire resulting from short-circuiting, do not use the product if wet, with wet hands, or while holding or drinking any liquids.

2.8 Power supplies

The PoE injector included in the package is not suitable for outdoor use. Please use a power supply designed for outdoor usage when PoE injector is deployed outdoors.

2.9 Cabling

The product is delivered with a pre-installed Ethernet cable to guarantee IP67 performance. If the cable needs to be replaced, please refer to section 7.2.

2.10 ESD safety guidelines

The IEC standard is a system level test that replicates a charged person discharging to a system in a system end user environment. The purpose of the system level test is to ensure that finished products can survive normal operation and it is generally assumed that the user of the product will not take any ESD precautions to lower ESD stress to the product. The IEC 61000-4-2 standard defines four standard levels of ESD protection, using two different testing methodologies. Contact discharge involves discharging an ESD pulse

directly from the ESD test gun that is touching the device under test. This is the preferred method of testing. However, the standard provides for an alternate test methodology known as air discharge for cases where contact discharge testing is not possible. In the air discharge test, the ESD test gun is brought close to the device under test until a discharge occurs. The standards are defined so that each level is considered equivalent – a Level 4 contact discharge of 8 kV is considered equivalent to a 15 kV air discharge.

IEC 61000-4-2 Test Levels:

Contact Discharge		Air Discharge	
Level	Test Voltage (kV)	Level	Test Voltage (kV)
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

IEC 61000-4-2 Performance Criteria:

Criteria	During test	After test
A	Shall operate as intended. May show degradation of performance (see note 1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 2). Shall be no loss of function. Shall be no loss of stored data or user programmable functions.
B	May show loss of function (one or more). May show degradation of performance (see note 1). No unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2). Shall be no loss of stored data or user programmable functions.
C	May be loss of function (one or more).	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2).

NOTE 1: Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended. NOTE 2: No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

2.11 Compliance with 2014/53/EU Radio Equipment Directive (RED)

In accordance with Article 10(10) the symbol and statement below indicate that this device is restricted to outdoor use only when operating in the frequency ranges:

5470 to 5725MHz

in countries Belgium (BE), Bulgaria (BG), Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE), Northern Ireland (UK(NI)), Norway (NO), Iceland (IS), Lichtenstein (LI), Switzerland (CH) , Turkey (TR) and United Kingdom.

	AT	BE	BG	CH	CY	CZ
	DE	DK	EE	EL	ES	FI
	FR	HR	HU	IE	IS	IT
	LI	LT	LU	LV	MT	NL
	NO	PL	PT	RO	SE	SI
	SK	TR	UK(NI)			

Restrictions or Requirements in the UK

- I In accordance with Article 10 (8)(a) and 10 (8)(b) of the RED, the following tables
Provide information on the frequency bands used and the maximum radio frequency
transmit power of Nokia wireless products for sale in the EU and UK:

Bluetooth

F (MHz)	dBm
2402-2480 – GFSK	9.98
2402-2480 – LE 2M	9.85

GPS

F (MHz)	GNSS
1559-1610 (L1 C/A)	GPS
1559-1610 (G1)	GLONASS
1559-1610 (B1I)	BDS
1559-1610 (E1)	Galileo

Wi-Fi

F (MHz)	dBm
2412-2472	19.98
5470-5725	22.87
5745-5825	13.97

Cellular

Band	F (MHz)	dBm
LTE B1	1920-1980	21.34
LTE B3	1710-1785	21.28
LTE B7	2500-2570	22.42
LTE B8	880-915	19.76
LTE B20	832-862	20.57
LTE B28	703-748	20.67
LTE B34	2010-2025	20.96
LTE B38	2570-2620	23.41

LTE B40	2300-2400	21.11
LTE B42	3400-3600	21.15
LTE B43	3600-3800	22
LTE B46	5150-5925	25.29
5G n1	1920-1980	22.41
5G n3	1710-1785	22.48
5G n7	2500-2570	22.66
5G n8	880-915	21.89
5G n20	832-862	22.22
5G n28	703-748	21.38
5G n38	2570-2620	24.21
5G n40	2300-2400	21.86
5G n41	2496-2690	26.76
5G n77	3300-4200	27.13
5G n78	3300-3800	26.89
5G n257	26500-29500	42.9
5G n258	24250-27500	41.38

2.12 Japan safety and warranty guidelines

The device is restricted to indoor use only when operating in the frequency ranges:
5150 to 5350 MHz

3 Environmental and RoHS guidelines

3.1 Environmental labels

3.1.1 EU area

a. CE mark



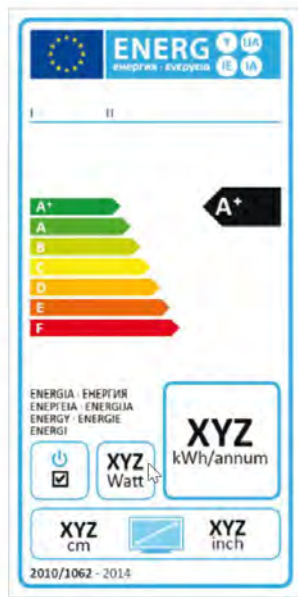
b. WEEE mark



c. Battery mark



d. Energy Labelling (example)



e. UKCA



f. France recycle logo



3.1.2 JAPAN area

a. Japan battery recycle logo



b. Japan 紙製容器包装 Paper package



c. Japan J-moss(ROHS)



d. Japan Plastic package



e. Class A ITE

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

3.1.3 US area

a. US/Canada battery recycling logo



b. CEC battery charger/external power supply EPS



c. US DOE_ Mark with energy efficiency

Table IV-16 EPS Marking Requirements by Product Class*

Class ID	Product class	Marking requirement
B	Direct Operation, AC-DC, Basic-Voltage	Roman numeral VI.
C	Direct Operation, AC-DC, Low-Voltage (except those with nameplate output voltage less than 3 volts and nameplate output current greater than or equal to 1,000 milliamperes that charge the battery of a product that is fully or primarily motor operated)	Roman numeral VI.
C-1	Direct Operation, AC-DC, Low-Voltage with nameplate output voltage less than 3 volts and nameplate output current greater than or equal to 1,000 milliamperes and charges the battery of a product that is fully or primarily motor operated	No marking requirement.
D	Direct Operation, AC-AC, Basic-Voltage	Roman numeral VI.
E	Direct Operation, AC-AC, Low-Voltage	Roman numeral VI.
X	Direct Operation, Multiple-Voltage	Roman numeral VI.
H	Direct Operation, High-Power	Roman numeral VI.
N	Indirect Operation	Class A: Roman numeral IV or higher; Non-Class A: No marking requirement.

d. Energy Independence and Security Act



e. US California prop65

⚠ WARNING: This product can expose you to chemicals including formaldehyde (gas), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

3.2 Other environmental requirements

This product is compliant with the requirements listed in [nokia-substance-list-2023_f2](#)

4 Product description

4.1 Product overview

Nokia 5G 360 Camera is an industrial 360 camera which captures video and audio from a 360-degree field of view (full spherical view). The captured content can be stored on a Micro SD card or streamed real-time to be processed and viewed with minimum latency.

Gain an unrestricted, secure real-time view with the world's first 5G 360° industrial camera. Designed to enhance your situational awareness and uncover every detail – even in the most demanding environments.

Nokia 5G 360 Camera provides 5G connectivity, high resolution low latency 8K video stream, spatial audio, IP67 protection, and Nokia RXRM integration.

4.2 Physical dimensions and interfaces

	Nokia 5G 360 Camera	Nokia 5G 260 Camera – Extreme Temperature	Nokia 360 Camera
Material	Plastic / Aluminum		
Dimension	149.5 x 149.5 x 204.7 mm		
Weight	2.37kg	2.23kg	2.32kg
Ethernet	RJ-45		
Slot	Micro SD (Max 1TB), Nano SIM	Micro SD (Max 1TB), Nano SIM	Micro SD (Max 1TB)
Hardware reset	TACT Switch		
SW (Factory) reset	TACT Switch		
Indicator LED	Green/Red		

4.3 Typical usage and configurations

- Configurable Image Quality Parameters: HDR, Stitching, Color tuning, Noise etc.
- IR cut control: If the environment has IR-LED illumination, the IR filter can be switched on/off to toggle between IR mode and VIS mode.
- Optimized stitching distances
- Connectivity configurations: LTE, 5G-FR1, 5G-FR2, Wi-Fi/BT, and Ethernet modes

4.4 Management user interface (WebUI)

1. Plug in the AC cable (not included) to the 45W power injector so the camera can be powered on by connecting the Ethernet cable.

2. Connect the Ethernet cable to the 45W power injector (the port "OUT") to turn on the Nokia 5G 360 camera.
3. Connect another Ethernet cable (not included) to the 45W power injector (the port "IN") to network router, which acts as DHCP server.
4. Using a PC with an internet browser installed, connect to the network router and make sure it receives an IP address.
5. Wait 1 minute for the device to power on and get the IP address from the router. If the service door is left open, the LED can be seen blinking green.
6. Use a supported browser (Chrome, Firefox, Edge) to connect to the following URL, where XXXXXXXX is the serial number printed on the bottom of the camera:
<https://NOKIA360CAMERA-XXXXXXXXXX.local:8443/>
7. If the URL in the previous step cannot be accessed, login to the network router to find out the camera's IP address. You can then use it to connect to the camera at <https://XXX.XXX.XXX.XXX:8443/>
8. Download and install Nokia Certificate Authority (CA) on the PC/browser from <https://nokia.certificate.fi/>
Nokia Root CA 2067 certificate (or similar)
Nokia SW Factory CA 2067 certificate (or similar)
9. If Nokia CA is not installed on the client PC, a security warning will appear when connecting (as shown below). Click "Advanced..." to continue to the next step.



Your connection is not private

Attackers might be trying to steal your information from **192.168.1.113** (for example, passwords, messages, or credit cards). [Learn more about this warning](#)

NET::ERR_CERT_AUTHORITY_INVALID



[Turn on enhanced protection](#) to get Chrome's highest level of security

Advanced

Back to safety

10. Click "Proceed to XXX.XXX.XX.XXX (unsafe)".



Your connection is not private

Attackers might be trying to steal your information from **192.168.1.113** (for example, passwords, messages, or credit cards). [Learn more about this warning](#)

NET::ERR_CERT_AUTHORITY_INVALID

💡 [Turn on enhanced protection](#) to get Chrome's highest level of security

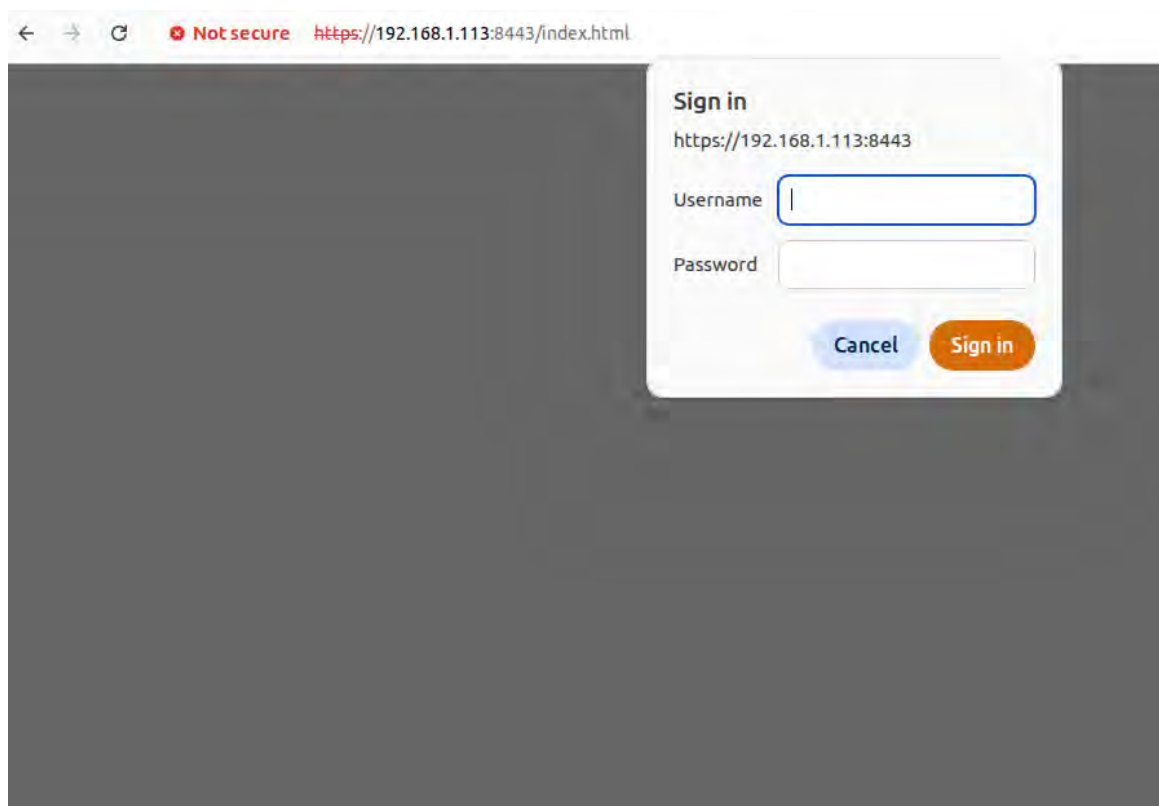
Hide advanced

Back to safety

This server could not prove that it is **192.168.1.113**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

[Proceed to 192.168.1.113 \(unsafe\)](#)

11. Enter the default username and password on the pop-up website (Default username: "admin"/Password: "Nokia_360")



12. Make sure to change the password upon your first login according to the instructions on the screen.

- Device Status >
- Camera >
- Network >
- Management >
 - Admin Password
 - TR-069
 - RXRM
 - NDT
 - OSC API
- Device Settings >

Change Admin Password

The administration function allows you to change the login password for the camera's Web UI. It's essential to change this password for the security of your camera. Use hard-to-guess password, which should include combinations of numbers, letters and symbols, and change your password regularly.

Change Admin Password

Current Password		👁
New Password		👁
Confirm New Password		👁

Cancel

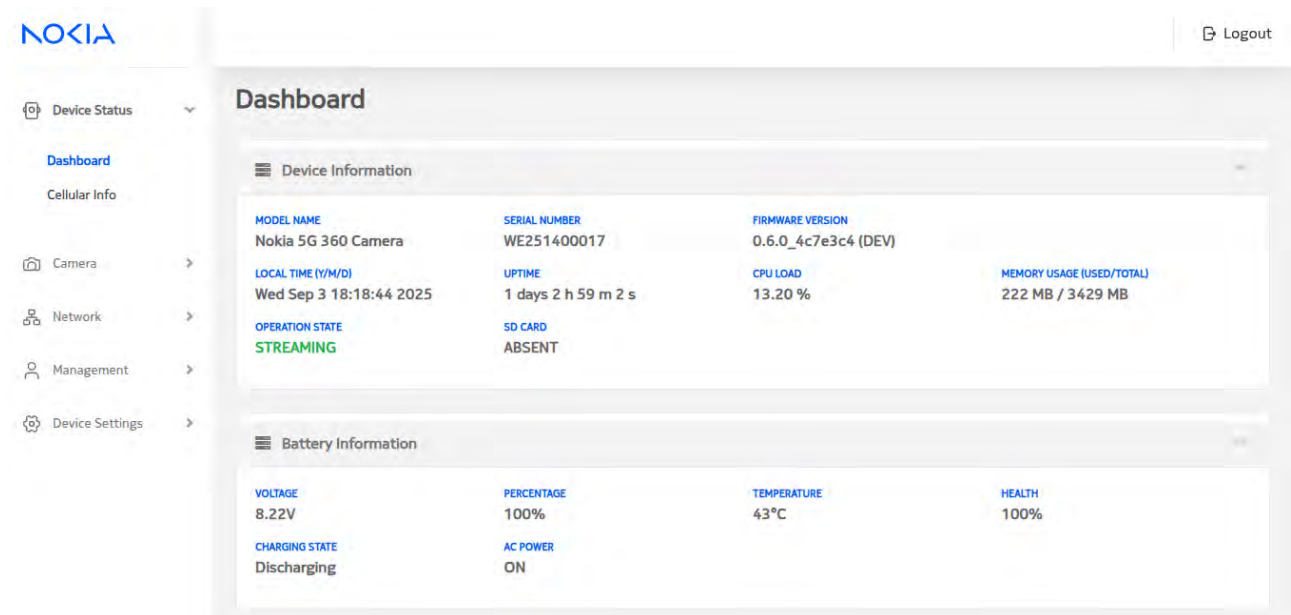
Apply

5 Device usage description

5.1 Device status

5.1.1 Dashboard

This section will display device information such as Model Name, Serial Number, Software version, peripheral runtime information



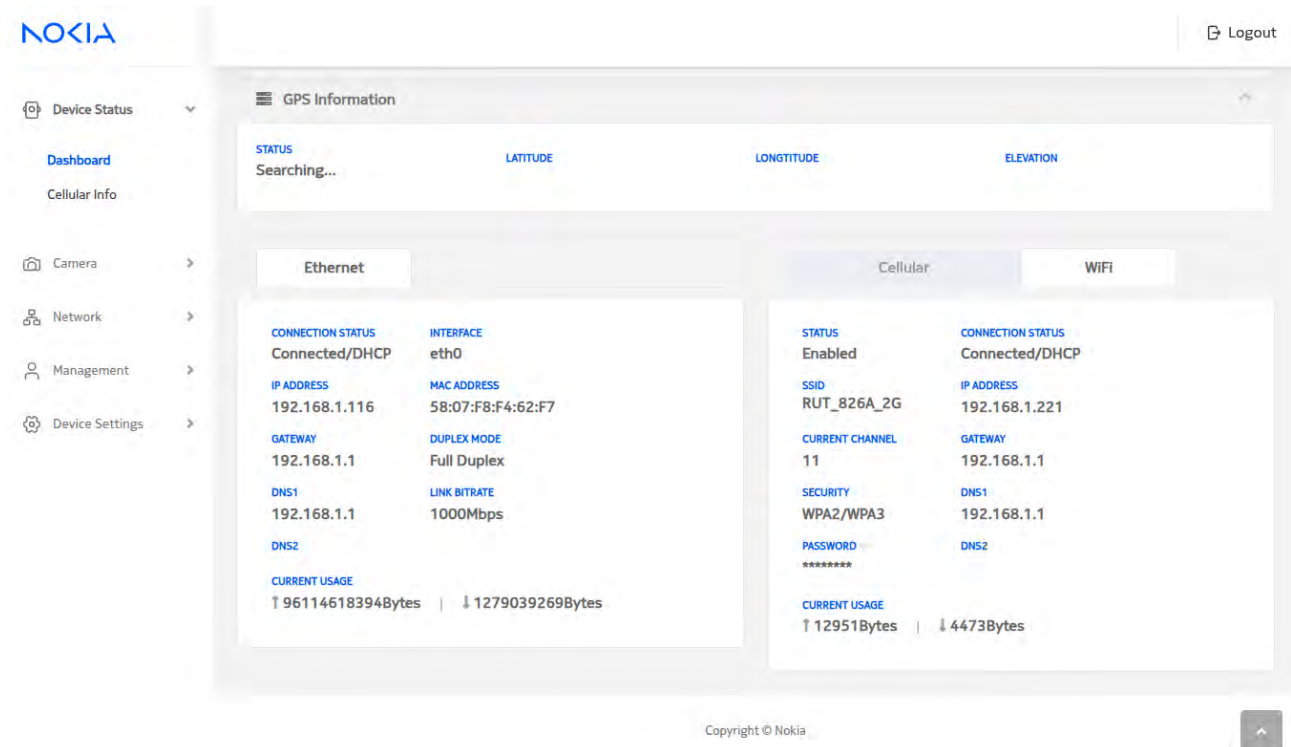
The screenshot shows the Nokia device status dashboard. The left sidebar contains a menu with options: Device Status (selected), Dashboard, Cellular Info, Camera, Network, Management, and Device Settings. The main content area is titled 'Dashboard' and contains two sections: 'Device Information' and 'Battery Information'.

Device Information

MODEL NAME	SERIAL NUMBER	FIRMWARE VERSION	
Nokia 5G 360 Camera	WE251400017	0.6.0_4c7e3c4 (DEV)	
LOCAL TIME (Y/M/D)	UPTIME	CPU LOAD	MEMORY USAGE (USED/TOTAL)
Wed Sep 3 18:18:44 2025	1 days 2 h 59 m 2 s	13.20 %	222 MB / 3429 MB
OPERATION STATE	SD CARD		
STREAMING	ABSENT		

Battery Information

VOLTAGE	PERCENTAGE	TEMPERATURE	HEALTH
8.22V	100%	43°C	100%
CHARGING STATE	AC POWER		
Discharging	ON		



The screenshot shows the Nokia device status dashboard with the 'GPS Information' section expanded. The left sidebar is the same as the previous screenshot. The main content area is titled 'GPS Information' and contains a table with columns: STATUS, LATITUDE, LONGITUDE, and ELEVATION. The STATUS column shows 'Searching...'. Below this, there are two tabs: 'Ethernet' and 'Cellular'. The 'Cellular' tab is selected, showing 'WIFI' settings.

GPS Information

STATUS	LATITUDE	LONGITUDE	ELEVATION
Searching...			

Network Settings

Ethernet		Cellular		WIFI	
CONNECTION STATUS	INTERFACE	STATUS	CONNECTION STATUS	SSID	IP ADDRESS
Connected/DHCP	eth0	Enabled	Connected/DHCP	RUT_826A_2G	192.168.1.221
IP ADDRESS	MAC ADDRESS	SSID	IP ADDRESS	CURRENT CHANNEL	GATEWAY
192.168.1.116	58:07:F8:F4:62:F7	RUT_826A_2G	192.168.1.221	11	192.168.1.1
GATEWAY	DUPLEX MODE	SECURITY	DNS1	PASSWORD	DNS2
192.168.1.1	Full Duplex	WPA2/WPA3	192.168.1.1	*****	
DNS1	LINK BITRATE	CURRENT USAGE			
192.168.1.1	1000Mbps	↑ 12951Bytes ↓ 4473Bytes			
DNS2					

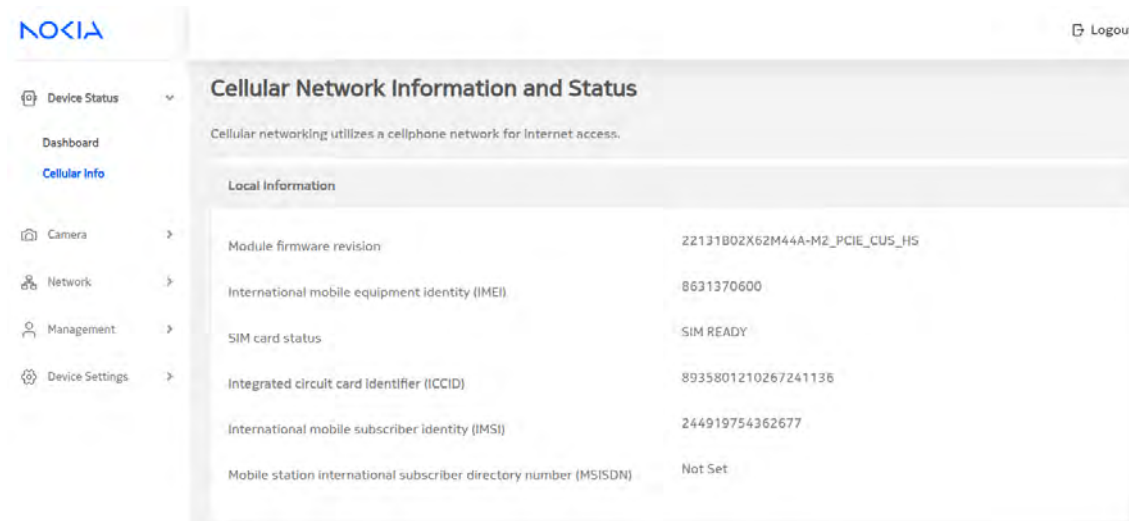
Copyright © Nokia

5.1.2 Cellular info

The section shows the basic information about your SIM card such as ICCID, IMSI and SIM status.

Note: If there is no SIM information displayed on the page, check that the SIM PIN is unlocked, or that the SIM card is inserted properly in the slot.

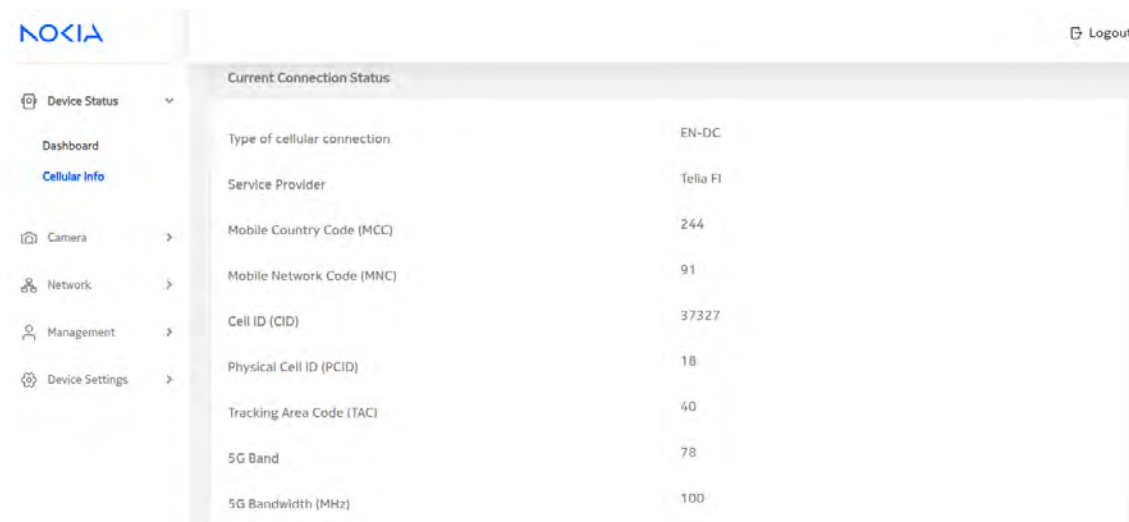
Cellular Network Information and Status



The screenshot shows the Nokia Device Status interface. The left sidebar contains a menu with 'Device Status' expanded, showing 'Dashboard' and 'Cellular Info' (highlighted). The main content area is titled 'Cellular Network Information and Status' and includes a 'Logout' link. Below the title, a note states: 'Cellular networking utilizes a cellphone network for Internet access.' A section titled 'Local Information' contains a table with the following data:

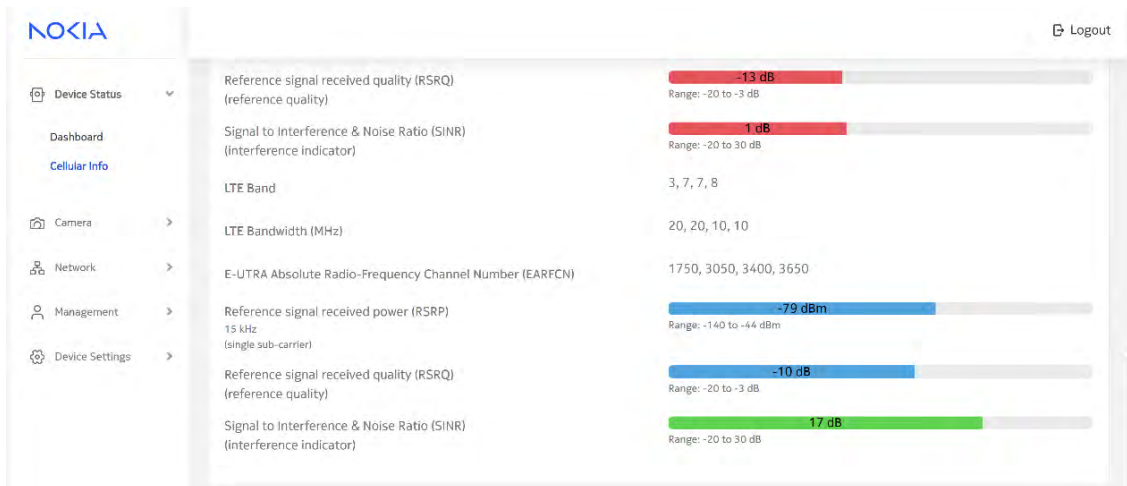
Module firmware revision	22131B02X62M44A-M2_PCIE_CUS_HS
International mobile equipment identity (IMEI)	8631370600
SIM card status	SIM READY
Integrated circuit card identifier (ICCID)	8935801210267241136
International mobile subscriber identity (IMSI)	244919754362677
Mobile station international subscriber directory number (MSISDN)	Not Set

Current Connection Status of 5G/LTE.



The screenshot shows the Nokia Device Status interface. The left sidebar contains a menu with 'Device Status' expanded, showing 'Dashboard' and 'Cellular Info' (highlighted). The main content area is titled 'Current Connection Status' and includes a 'Logout' link. Below the title, a table displays the following connection details:

Type of cellular connection	EN-DC
Service Provider	Telia FI
Mobile Country Code (MCC)	244
Mobile Network Code (MNC)	91
Cell ID (CID)	37327
Physical Cell ID (PCID)	18
Tracking Area Code (TAC)	40
5G Band	78
5G Bandwidth (MHz)	100

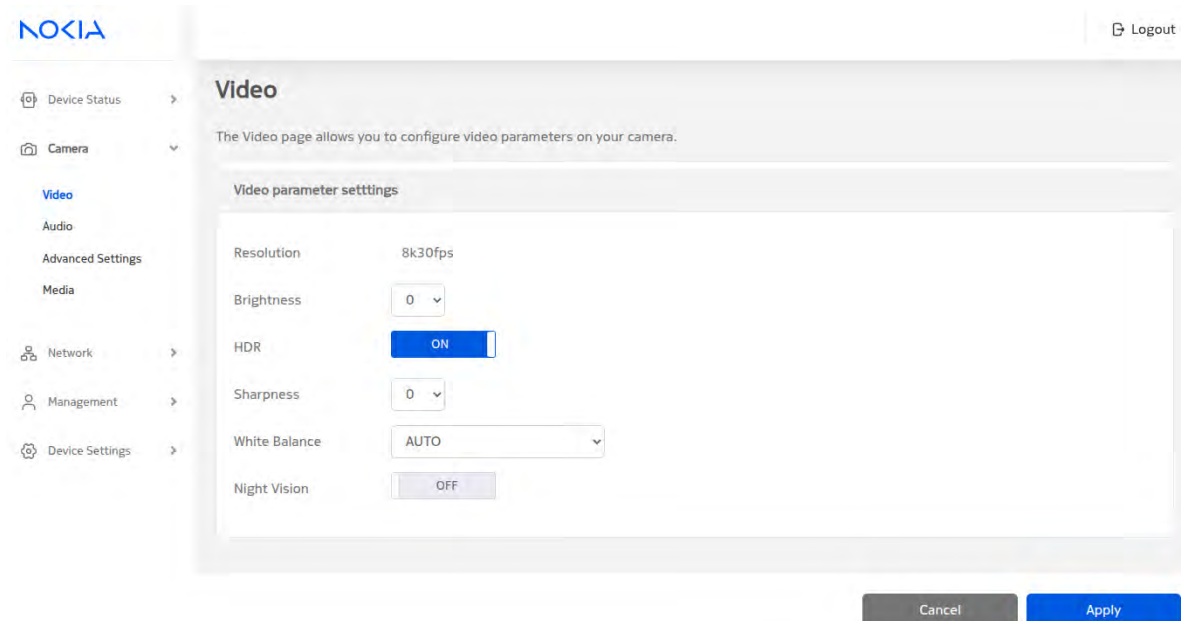


5.2 Camera

5.2.1 Video

This section allows you to configure the image settings of the IP Camera. Value 0 means auto, and value is the level of the feature

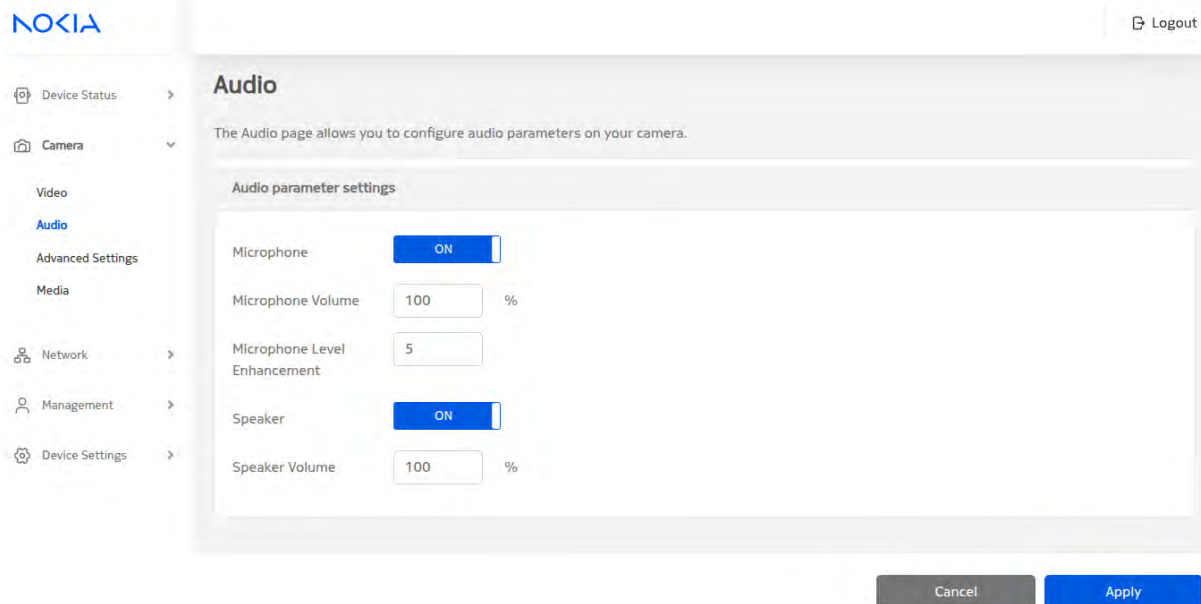
1. Resolution: Current resolution setting.
2. Brightness: Adjust the image brightness level on a scale from -2 to 2.
3. HDR: You can turn on/off the HDR. The camera needs to reboot if the HDR setting is changed. HDR can only be used when the frame rate is set to 30fps, but the resolution can be 4K/6K/8K.
4. Sharpness: Adjust the image sharpness level on a scale from -2 to 2.
5. White Balance: Choose the color temperature you like.
6. Night vision: Can be set to on/off depending on the ambient lighting condition.



5.2.2 Audio

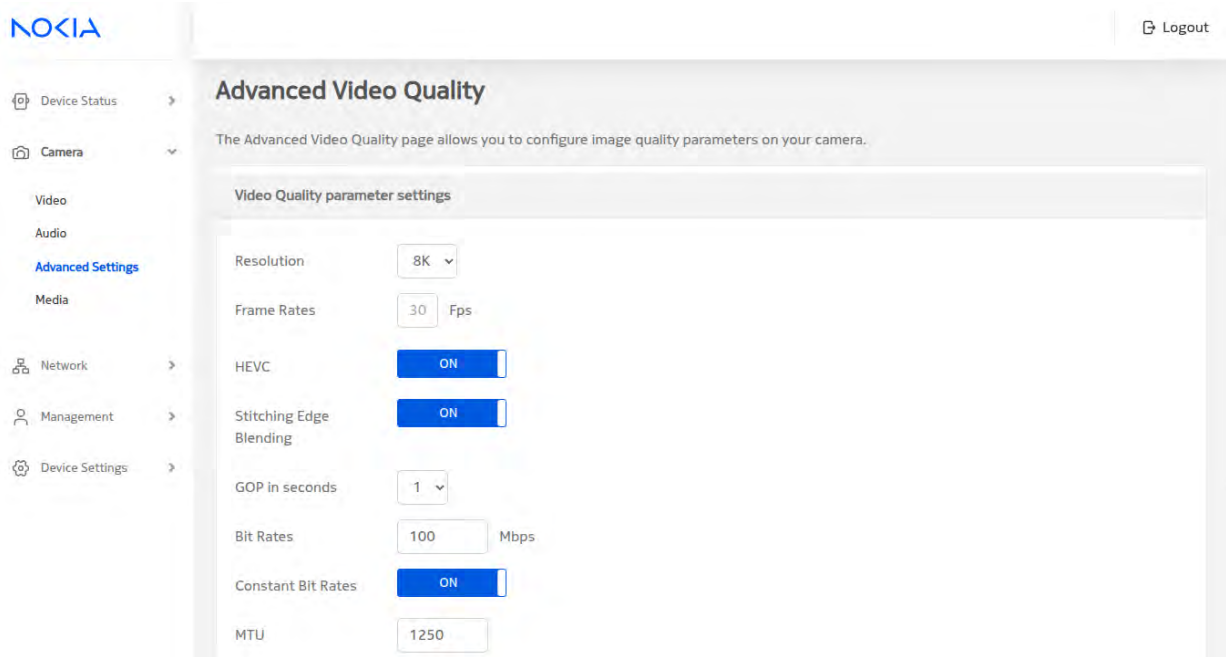
1. Microphone: You can turn on/off the microphone.

2. Microphone Volume: You can set up microphone volume on a scale from 0% to 100%
 3. Microphone Level Enhancement: You can set up the microphone level enhancement on a scale from 0 to 10 (0 disables the enhancement entirely).
 4. Speaker: You can turn the speaker on/off.
 5. Speaker Volume: You can adjust the speaker volume on a scale from 0% to 100%.
- Note: If you want to select audio output format, refer to OSC API. Audio format supports Ambisonics, Stereo and Raw, and default audio output format is Ambisonics.



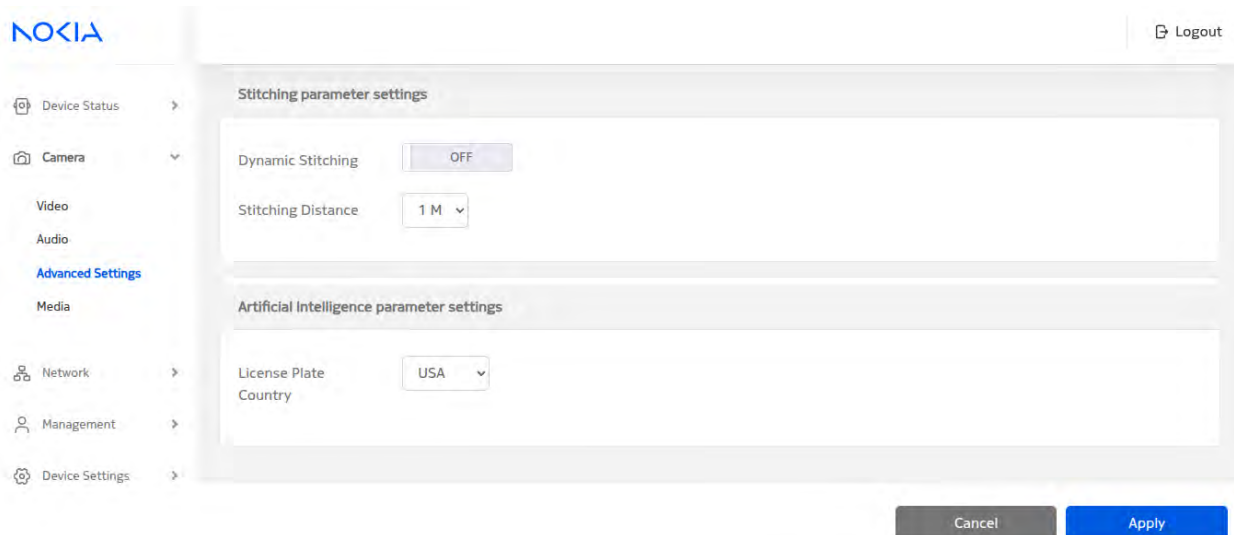
5.2.3 Advanced Settings > Advanced Video Quality

1. Resolution: Video resolutions 4K, 6K, and 8K are supported.
2. Frame Rate: Set the number of frames per second, the range is 2 to 30. If HDR is enabled, the frame rate is locked to 30 and cannot be changed.
3. HEVC (High Efficiency Video Coding): Select on for H.265, or off for H.264.
4. Stitching Edge Blending: Select on for enabling wider region blending around stitching edges, the edge blending might be seen as semi-transparent shadow effect, where overlapping region is blended into each other. Select off to keep stitching edge only as a vertical line, which is not visible in normal conditions.
5. GOP: GOP is short for "Group of Pictures". GOP is a group of consecutive pictures composing an encoded video stream. The range is 1 to 3 seconds.
6. Bit Rates: This limits the maximum bit rate per second. Set the bit rate higher for high video quality. The range is 2 to 100. When utilizing 5G/4G connectivity for streaming, it is recommended to set the bit rate value to ~5Mbps to avoid excessive bandwidth consumption and at the same time avoid the quality degradation that 2Mbps would introduce.
7. Constant Bit Rates (CBR): CBR ensures a steady bitrate for the encoder's output. Variable bit rate (VBR) allows the encoder to vary the output bitrate depending on the complexity of the content. (On is CBR; Off is VBR)
8. MTU: You can change the Maximum Transmission Unit of video stream packages.



5.2.3.1 Advanced Settings > Stitching parameter settings

1. **Dynamic Stitching:** Turning on will enable dynamic stitching feature, which dynamically adjusts stitching parameters according to the view across stitching line. Dynamic stitching corrects optical distortions caused by binocular parallax, but its operation takes 1-2 seconds, which means that this feature cannot correct objects in motion.
2. **Stitching Distance:** Choose the best distance for your scenes.



Note: It is recommended to lower the bitrate setting when enabling HDR and dynamic stitching at the same time to avoid possible system overload

Note2: HDR can only be used at 30fps, but the resolution can be 4K/6K/8K.

Note3: The Nokia 360 camera utilizes four camera sensors to capture full view imagery from its surroundings. Please note that the images captured by the sensors are stitched together to form a single 360 image and due to the nature of stitching process and

depending on camera settings, there might appear to be visual bias, for example binocular parallax artifacts, in the camera output, as well as other geometrical distortions at varying distances from the camera.

5.2.3.2 Advanced Settings > Artificial Intelligence parameter settings

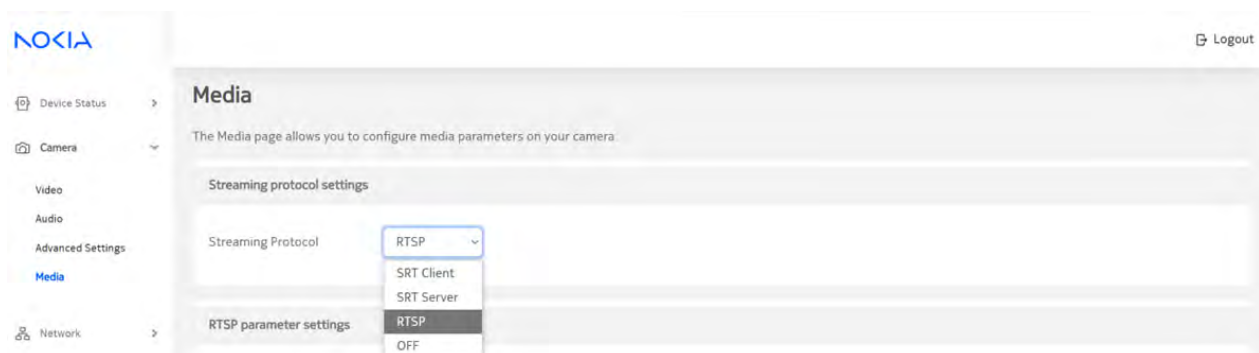
The camera has AI based face and license plate blurring, which can be turned on and off separately via the OSC API. In WebUI, users can toggle the country specific license plate detection setting, but currently the only supported countries are Taiwan and USA. See the FAQ document for known issues and performance limitations regarding face and license plate blurring, such as HDR and Dynamic Stitching automatically being turned off when AI features are enabled.

5.2.4 Media

5.2.4.1 Streaming protocol settings

Streaming protocols: You can select RTSP, SRT Client, SRT server or OFF.

SRT Client is caller mode; SRT server is listener mode; or you can turn off the streaming.



5.2.4.2 RTSP parameter settings

1. RTSP Port: The default RTSP TCP port is 554. If the port is changed to a different one, you need to use the defined port in the URL of RTSP client, with which you want to open the stream.
2. RTSP Port over TLS: Turn it on to support credentials authentication and video encryption.
3. If you turn on the RTSP over TLS, please enter your username and password.

Below is an example of using the gstreamer tool to start RTSPS recording:

- Download and install the gstreamer tool
- Enter the following command to record a RTSPS mp4 file

```
gst-launch-1.0 -e -v rtspsrc location=rtsp://xxx.xxx.xxx.xxx:554/ user-id=user user-pw=Nokia360 tls-validation-flags=generic-error name=r ! rtph265depay ! h265parse ! mp4mux name=m ! filesink location=rtsp.mp4 r. ! rtpmp4adepay ! aacparse ! m.
```
- Play the RTSPS mp4 file with a media player (e.g. VLC Player).

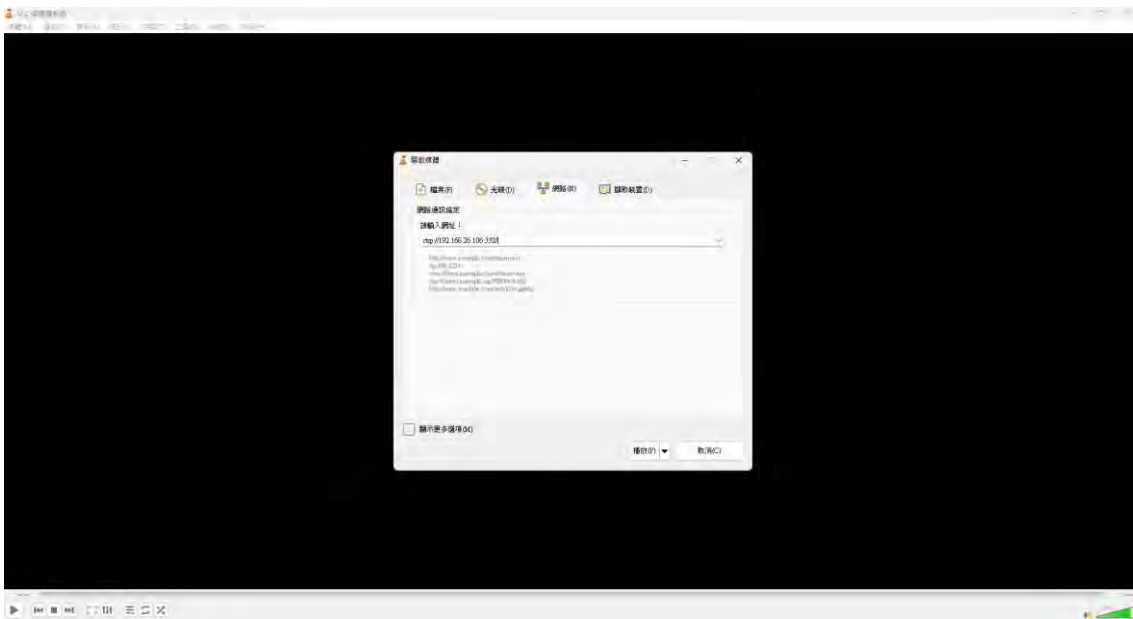
RTSP parameter settings

RTSP Port

RTSP Port over TLS ☒ ON

User

Password



5.2.4.3 SRT Client parameter settings

1. Server URL: Enter the server URL with the necessary SRT parameters and values all combined in the same URL.
2. Encryption: ON or OFF

Encryption key: If encryption is required, enter the encryption key used in the SRT server

SRT Client parameter settings

Server URL ✓

Encryption ☒ ON

Encryption key ✗

The length of Encryption key must be 10 to 50 characters.

5.2.4.4 SRT Server parameter settings

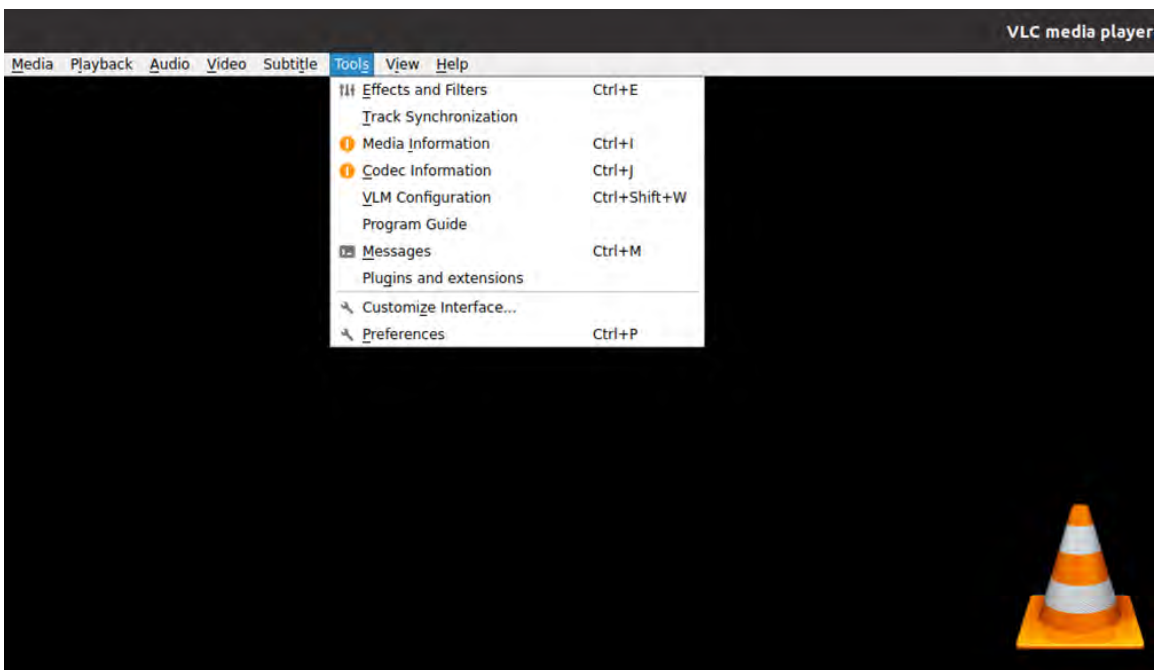
1. Define the port that the camera's SRT server is listening to client connection requests at: `srt://XXX.XXX.XX.XXX:port_number/`
2. Encryption: You don't need an Encryption key if the encryption is turned off
3. You need to enter the encryption key defined in the camera WebUI in VLC (or other media player) if the encryption is turned on.

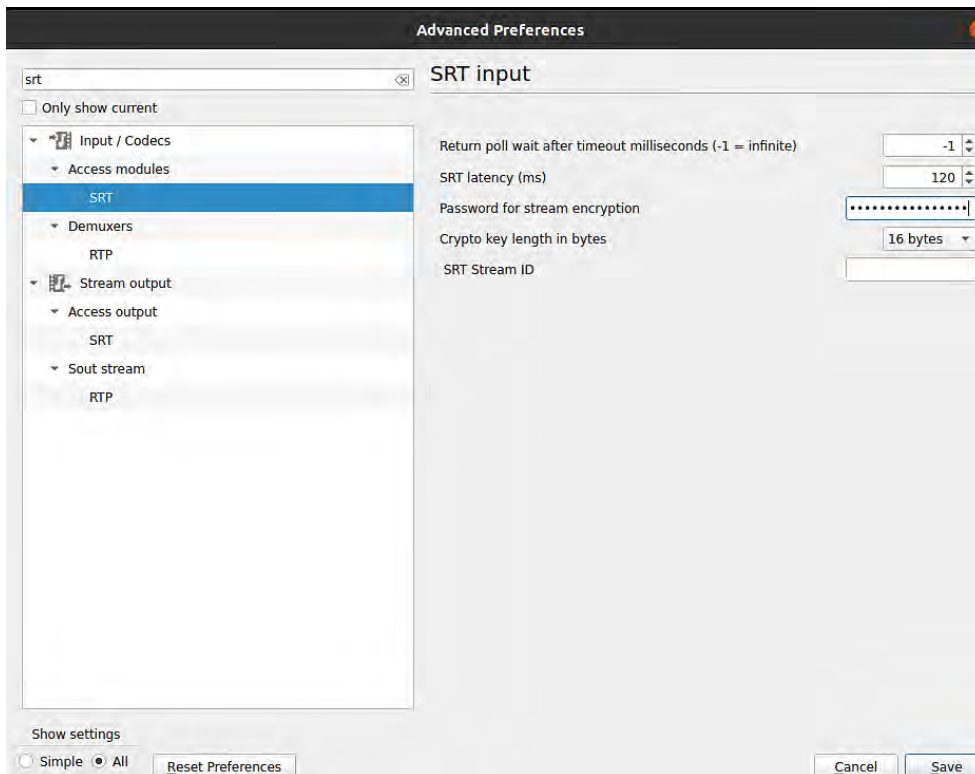
SRT Server parameter settings

Port: 4201 ✓

Encryption: ON

Encryption key: Nokia360AVStream ✓





5.2.4.5 Recording parameter settings

1. Recording: You can turn on/off the recording. Before you can start recording, you need to insert a microSD memory card into this device. Nokia 360 camera can only support the FAT32 file system, not exFAT/NTFS.

The recording file names are divided into the following three types:

- Autorec_20250502130231_20250502130236.mp4
Autorec → cataloger, for automatic recordings
20250502130231 → group ID, when the recording was started
20250502130236 → timestamp, time at the end of the recording.
 - UserCapture_20250502130231_20250502130236.mp4
UserCapture → cataloger, recordings triggered by the OSC command
20250502130231 → group ID, when the recording was started
20250502130236 → timestamp, time at the end of the recording
 - E_20250502130231_20250502130236.mp4
E → cataloger, recordings triggered by events such as losing power, losing 5G, losing Wi-Fi, or losing Ethernet
20250502130231 → group ID, when the recording was started
20250502130236 → timestamp, time at the end of the recording
2. Duration: The length options for recordings are 30, 60 and 90 seconds.
 3. Trigger Events: The selected trigger event will be recorded even if the above recording is off.
 4. Encryption:
If AES128: the encryption key needs to be 32 characters long, and only contain characters from the ranges 0~9 and A~F.

If AES256: the encryption key needs to be 64 characters long, and only contain characters from the ranges 0~9 and A~F.

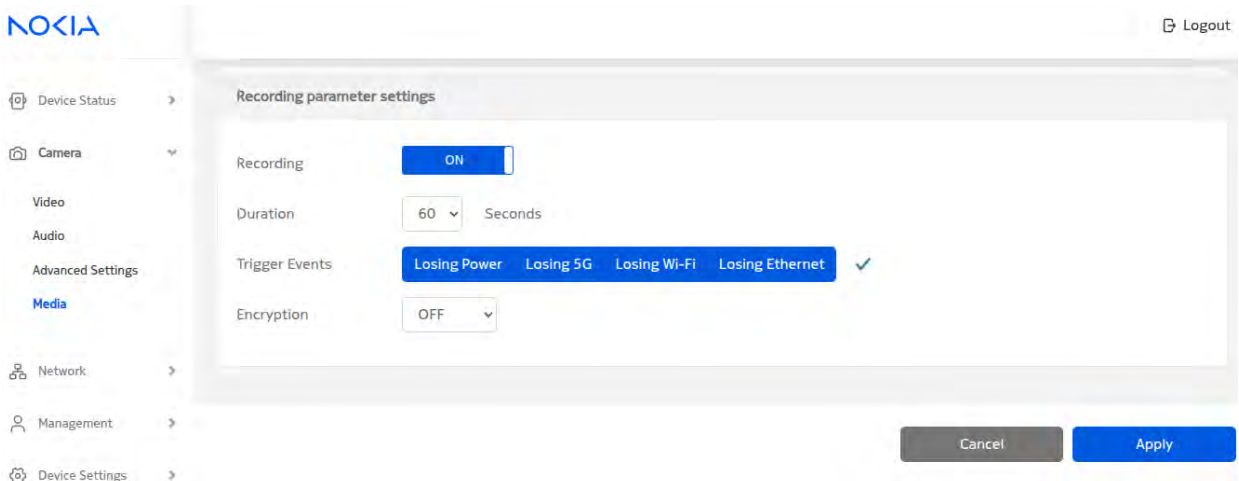
- The camera supports Micro SD Card sizes up to 1 TB. Video Speed Class supports V30 or higher. It is recommended to use Samsung Micro SD cards for a better experience.

Continuous recording time

Resolution	Video codec	Bitrate	SD card size	Available storage size	Recording time
8K/6K/4K	H.265	8Mbit/s	64GB	53.4GB	15.14 hr
8K/6K/4K	H.265	100Mbit/s	64GB	53.4GB	1.2 hr
8K/6K/4K	H.265	8Mbit/s	128GB	107GB	30.3 hr
8K/6K/4K	H.265	100Mbit/s	128GB	107GB	2.4 hr

Available storage size = SD card size - file system overhead - reserved size for logic control

You can use the OSC API command `listFiles` to retrieve the list of recordings available, then utilize generic tools such as `curl` or `wget` or in browser to view and download recordings. Please refer to the OSC API documentation for details.



5.3 Network

5.3.1 Basic settings

This section allows you to configure the network and internet parameters to be used.

Host name: You can configure a name for this device. The host name can be up to 32 characters, and it can only have ASCII lowercase letters, numbers, and "-" (hyphen). Spaces or other special characters such as punctuation marks are not supported.

Note: Hyphens ("-") cannot be used at the beginning or the end, nor can they be used consecutively.

- Please note that if you change the host name, the website URL <https://NOKIA360Camera-XXXXXXXXXX.local:8443/> also needs to be modified to be the same.

Routing priority

- Wired: Ethernet has higher priority.
- Wireless: 5G, Wi-Fi have higher priority

If the user is going to control the device via OSC/TR069 over the internet, it is recommended to set routing priority to the interface which has internet access.

- For example:

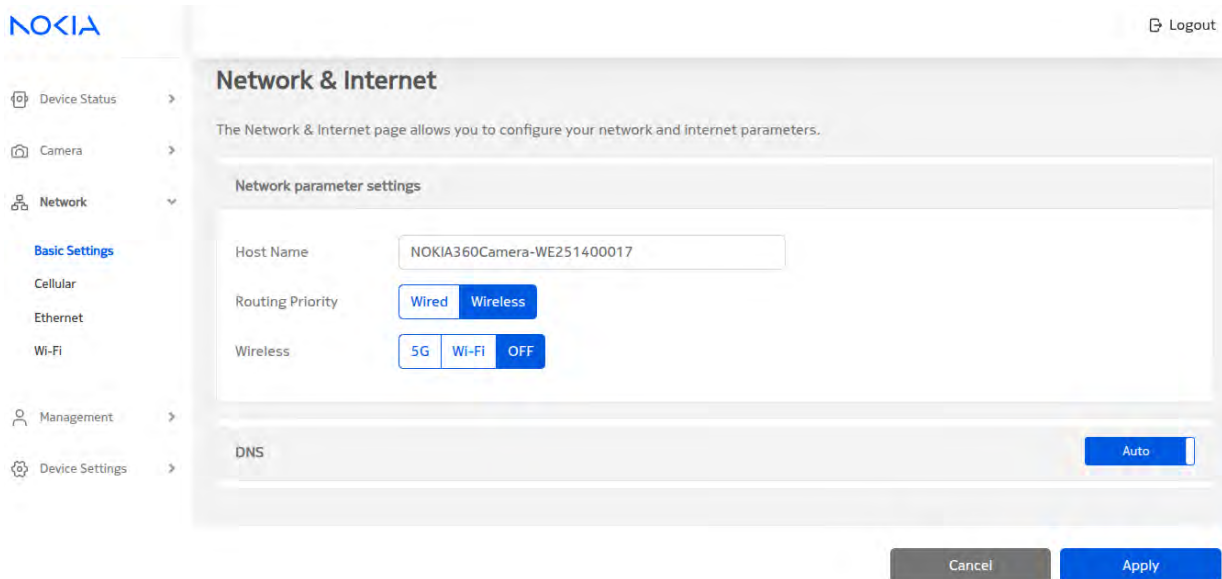
If the camera is connected simultaneously to **Ethernet** and **4G/5G** interfaces:

Routing Priority	Interface	OSC API	Video streaming	WebUI Connection
Wired	Ethernet	OK	OK	OK
	4G/5G	OK	Not available	Not available
Wireless	Ethernet	OK	OK	OK
	4G/5G	OK	OK	Not available

If the camera is connected simultaneously to **Ethernet** and **Wi-Fi** interfaces through two different Access Points (AP):

Routing Priority	Interface	OSC API	Video streaming	WebUI Connection
Wired	Ethernet	OK	OK	OK
	Wi-Fi	OK	OK	Not available
Wireless	Ethernet	Not available	Not available	OK
	Wi-Fi	OK	OK	Not available

- If both wireless and wired connections are enabled through same Access Point (AP), the streaming functionality **may encounter issues regardless of what the routing priority is set to**
- For wireless interface user can select either 5G, Wi-Fi, or both OFF.



5.3.2 Cellular

This settings page is visible only for devices which have 5G/4G connectivity. For the Nokia 360 Camera variant which does not have a 5G/4G modem, this settings page will be hidden.

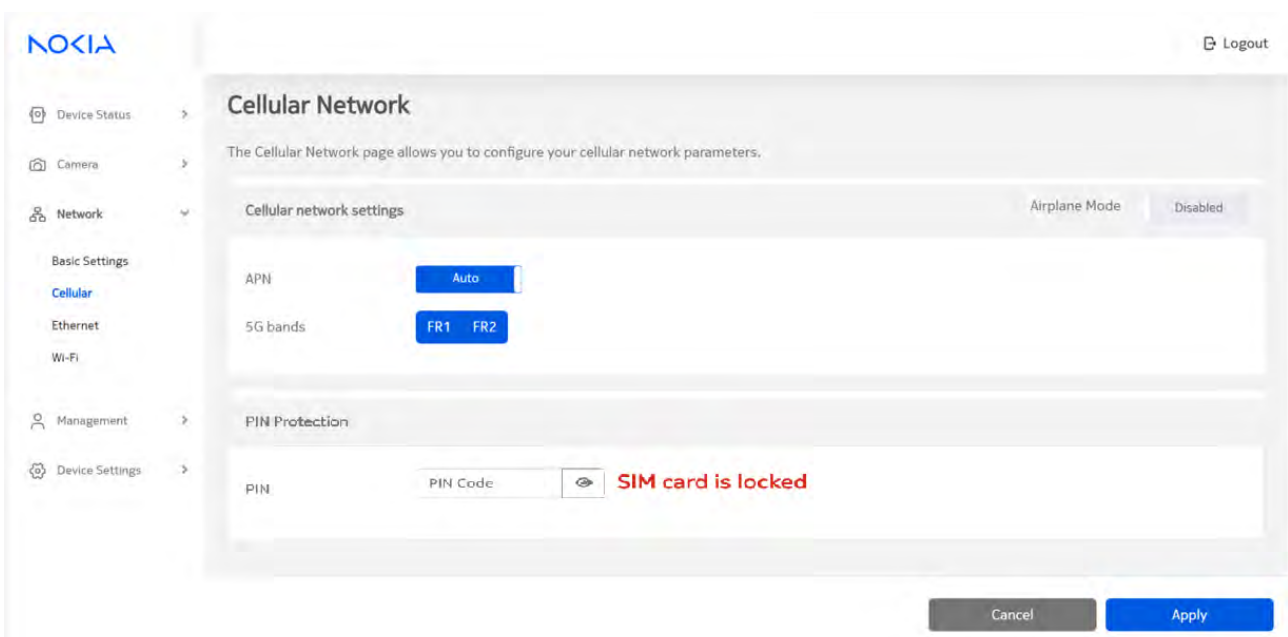
5.3.2.1 Cellular Network

This page allows you to configure the APN settings to connect to the cellular network. If you don't know the APN settings, please contact the (public or private) cellular network provider. APN settings become visible only when a SIM card is inserted.

The page also allows you to enable or disable the airplane mode.

5G band: You can select the frequency range to be used: FR1 (sub-6GHz), FR2 (mmWave), or both.

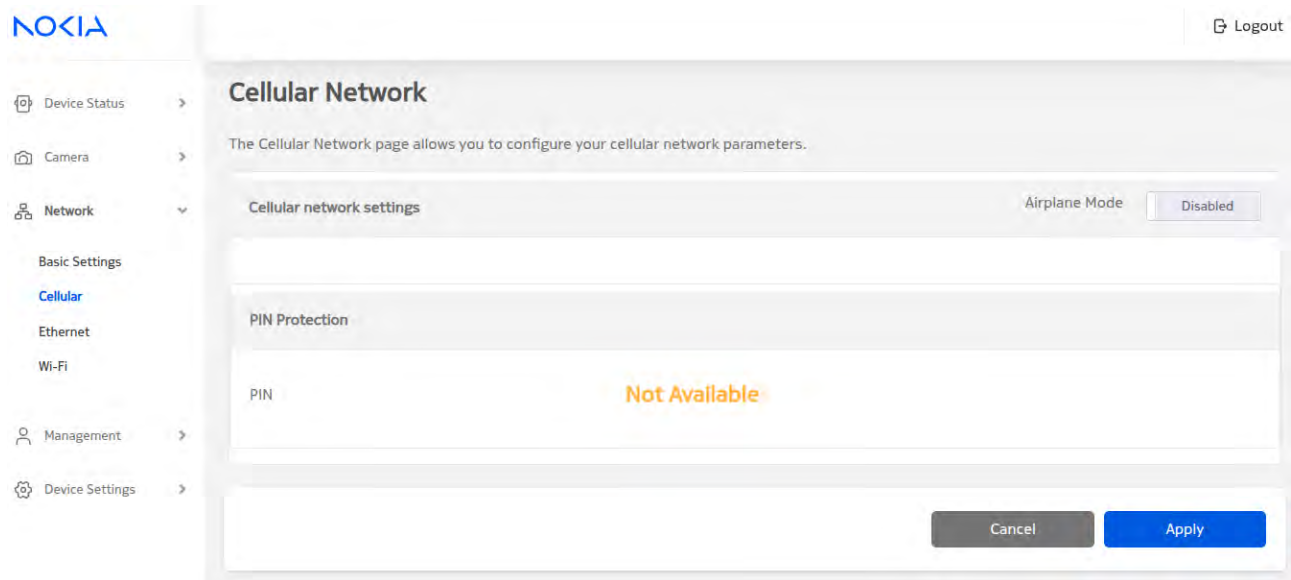
PIN: Enter the SIM card's PIN code to unlock the SIM card.



Note: Nokia 5G 360 Camera supports only the NSA mode of FR2 operation. When the FR2

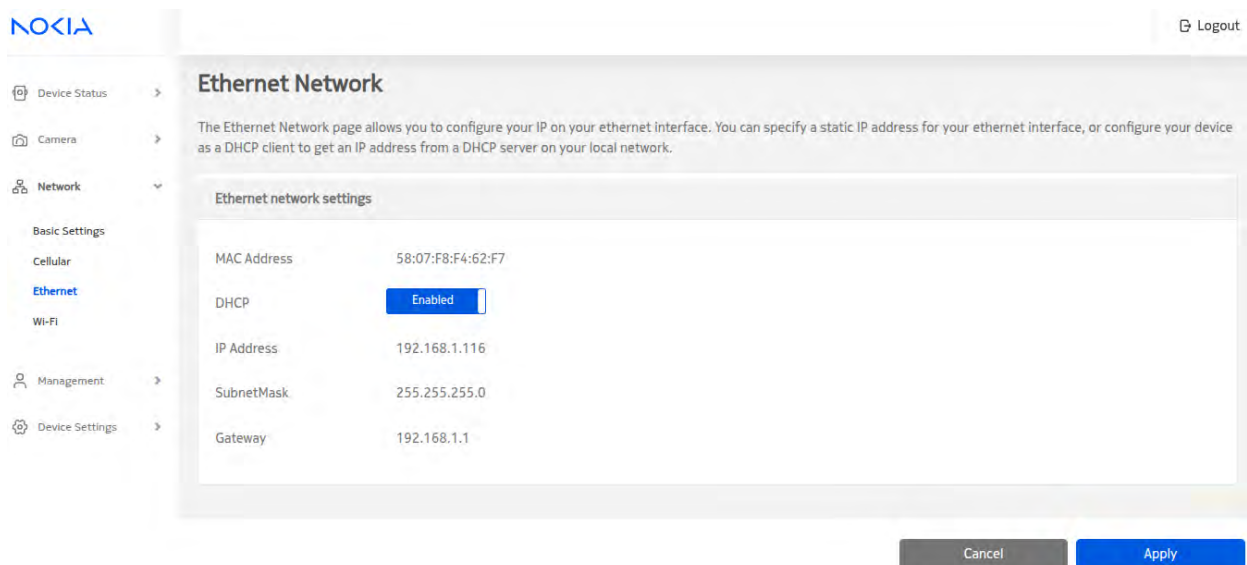
option is selected, the device automatically detects available LTE or FR1 bands, with which it connects to the network, and then utilizes FR2 bands to provide fast data transmission. You can select either FR2 only, or both FR1 and FR2, in which case device connects with the best available network band configuration.

If a SIM card is not inserted, it will be displayed as "Not available"



5.3.3 Ethernet

The Ethernet Network page allows you to configure your IP on your ethernet interface. You can specify a static IP address for your ethernet interface or configure your device as a DHCP client to get an IP address from a DHCP server on your local network.



5.3.4 Wi-Fi

You can configure the Wi-Fi network parameters on the Wi-Fi Network page.

Wi-Fi Network

The WiFi Network page allows you to configure your Wi-Fi network parameters.

Wireless Connection

SSID:

Security Option:

Password:

Wi-Fi network settings

MAC Address: 9C:B8:B4:F7:B8:9E

DHCP: ☒ Enabled

Gateway:

[Cancel](#) [Apply](#)

5.4 Management

5.4.1 Admin Password

You need to change this password upon your first login.

Change Admin Password

The administration function allows you to change the login password for the camera's Web UI. It's essential to change this password for the security of your camera. Use hard-to-guess password, which should include combinations of numbers, letters and symbols, and change your password regularly.

Change Admin Password

Current Password:

New Password:

Confirm New Password:

[Cancel](#) [Apply](#)

5.4.2 TR-069

Only supports the Nokia NIDM-IoT platform.

Note: Editing the settings marked in red may cause the camera to disconnect.

TR-069

Here you can configure the ACS server access URL and user name/password

ACS parameter settings

Informing Interval	60	✓
Last Periodic Inform Time	2024-10-08T11:53:27+03:00	
Next Periodic Inform Time	2024-10-08T11:54:27+03:00	
Persist Across Factory Reset	Off	
Bootstrap ACS server URL1	http://acs.dm.local.dac.nokia.com:8081	✓
Bootstrap ACS server URL2	https://pentdmwuseast2.saas.nokia.com/cwmpWeb/CFEmrgt	✓
Bootstrap User Name	acsuser	✓
Bootstrap User password	*****	✓
Connected ACS server URL		
Connected User Name		
Connected User password	Password	✓

5.4.3 RXRM

RXRM interface intended to create direct connection from camera to RXRM manager.

RXRM

Here you can configure the RXRM access information

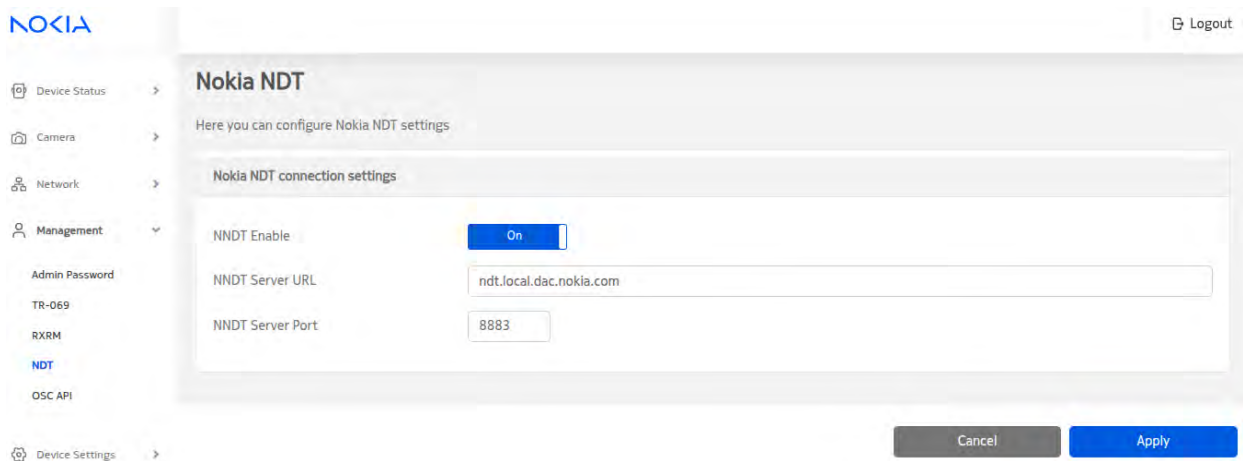
RXRM manager connection settings

IP Address	.
Port	5000
Camera Name	NOKIA360Camera-WE251400017
Token	

Cancel Apply

5.4.4 Nokia Network Digital Twin (NNDT)

Nokia 360 cameras support the Nokia Network Digital Twin platform.



5.4.5 OSC API

Nokia 360 cameras support the OSC API for remote control of the cameras. For the supported API list, please contact the Nokia support channels.

The camera's server authenticates user credentials and communicates with a client via HTTPs on port 8443. General HTTP protocol is not supported due to security concerns. The default username and password for OSC APIs are both "Nokia360", which can be changed on the camera's website.



The following is an example of using curl commands with user credentials and CA information to access the /osc/info API for a Nokia 360 camera with the default host name:

1. If Nokia CA is downloaded and installed (two Nokia CA certificates needed: Nokia Root CA 2067 and Nokia SW Factory CA 2067)

```
$ curl https://NOKIA360Camera-PT243100001.local/osc/info --digest -u Nokia360:Nokia360 --cacert "Nokia CA File" -H "Content-Type: application/json;charset=utf-8" -H "Accept: application/json" -H "X-XSRF-Protected: 1"
```
2. If Nokia CA is not installed

```
$ curl https://NOKIA360Camera-PT243100001.local/osc/info --digest -u Nokia360:Nokia360 --insecure -H "Content-Type: application/json;charset=utf-8" -H "Accept: application/json" -H "X-XSRF-Protected: 1"
```

5.4.5.1 OSC Audio format

Nokia 5G 360 Camera supports three different audio formats: binaural AAC (2ch), Ambisonics AAC (4ch), and Unprocessed AAC (4ch). The default format is Ambisonics AAC (4ch). To change the audio format, user needs to utilize OSC API command `_set_audio_config` and use parameter `_audioFormat`, for example:

```
curl -X POST https://XXX.XXX.XXX.XXX/osc/commands/execute --digest -H "Content-Type: application/json; charset=utf-8" -H "Accept: application/json" -H "X-XSRF-Protected: 1" -d '{"name": "camera._set_audio_config", "parameters": {"options": {"_audioFormat": "Stereo"}}}'
```

The option values for each format are listed below:

- Binaural AAC (2ch): "Stereo"
- Ambisonics AAC (4ch): "Ambisonics"
- Unprocessed AAC (4ch): "Raw"

5.4.5.2 Playback audio files

The camera's internal speaker can be used to play audio files from the microSD card. Please note that the audio files must meet the requirements below in order to be played:

Location to be saved	microSD Card, into /audio_files/ folder at the root
File format	.wav, 48K, 16bit and mono/stereo channels
File size	Maximum size of 10MB
Amount of audio files	Maximum 38 files

OSC commands	- <code>_get_speaker_playback</code> command with option <code>_files</code> will list available audio files in the system, there are three demo audio files in camera already
	- <code>get_speaker_playback</code> command with option <code>_volume_pct</code> can be used to set speaker volume for playback
	- <code>_set_speaker_playback</code> command with option <code>_file_name</code> can be used to set the audio file to be played
	- <code>_start_speaker_playback</code> command starts playback according to playback settings

Please refer to OSC API document for more details

5.4.5.3 Video recording

There are two modes of recording:

1. Basic recording always on based on the setting. You can turn on recording in the WebUI settings, found in WebUI > Camera > Media > Recording > ON. Please see subsection 5.2.4.5
2. User initiated recording using OSC commands. You can start recording with the command `startCapture`, and stop recording using the `stopCapture` command.

5.5 Device settings

5.5.1 Date/Time

You can enable the IP camera to synchronize its clock over the internet, either automatically or by setting a specific NTP server manually. If it's left on automatic, the default NTP server is time.nist.gov and time.cloudflare.com.

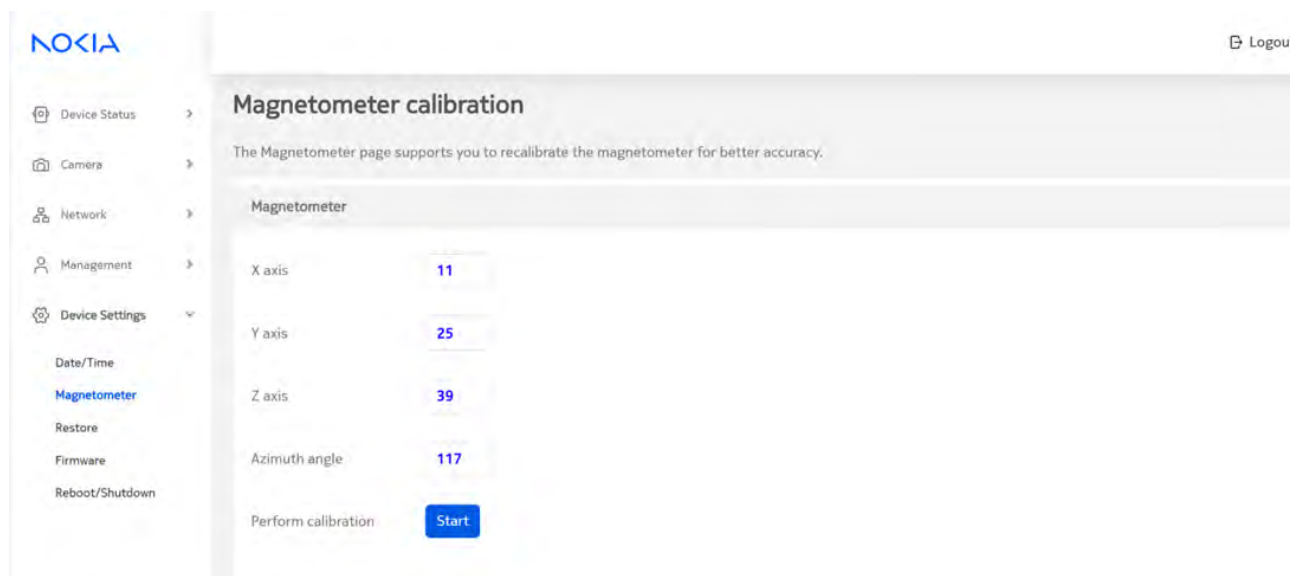
You can also set the time zone and daylight-saving time settings for the camera.

The screenshot shows the Nokia IP camera web interface. On the left is a sidebar menu with the following items: Device Status, Camera, Network, Management, Device Settings (expanded), Date/Time (selected), Magnetometer, Restore, Firmware, and Reboot/Shutdown. The main content area is titled 'Date / Time'. Below the title, it says 'The date and time for your camera is configured automatically over the internet and is displayed here.' There are two sections: 'NTP Server Settings' and 'Time Zone Settings'. In the 'NTP Server Settings' section, there are two tabs: 'Automatically' (which is selected) and 'Manually NTP Server'. In the 'Time Zone Settings' section, there is a 'Time Zone' dropdown menu currently showing '(GMT+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius, Jerusalem'. Below this is a toggle switch for 'Automatically adjust for daylight saving time' which is currently set to 'ON'. At the bottom right of the main content area are two buttons: 'Cancel' and 'Apply'.

5.5.2 Magnetometer Calibration

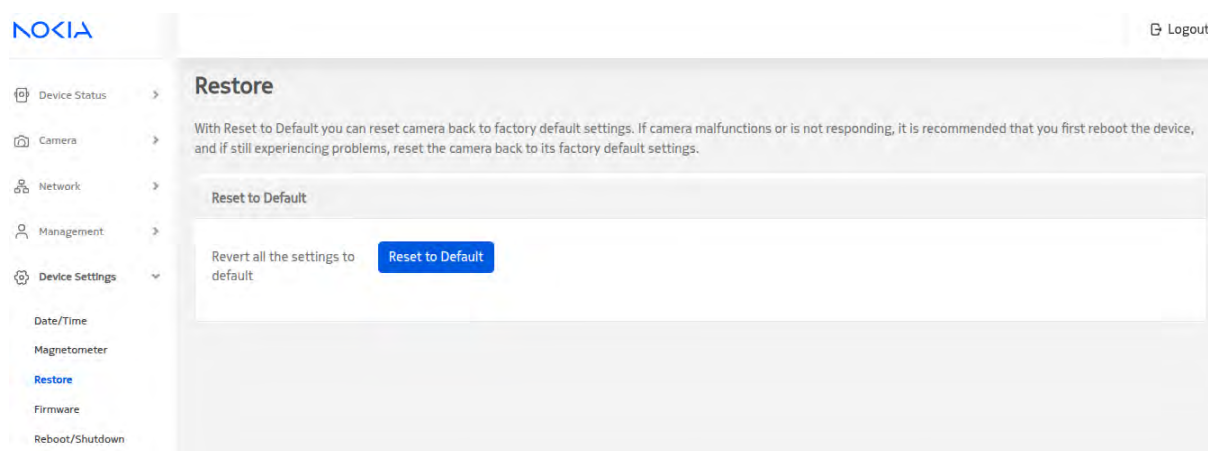
Magnetometer calibration is necessary when the device is initially set up or when the device is moved to a new location. Regular calibration helps to ensure accurate readings.

Click "Start" to begin the calibration process. While rotating the camera in various orientations, the camera collects 3D magnetometer readings. Continue until the device plays a sound to indicate the calibration has been completed successfully.



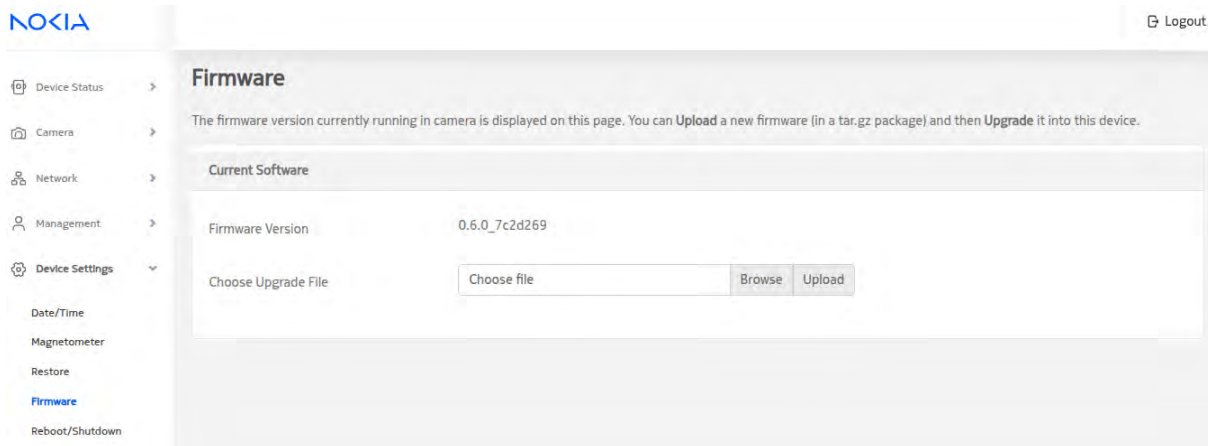
5.5.3 Restore

You can use the Reset Default option to reset everything to the factory settings.



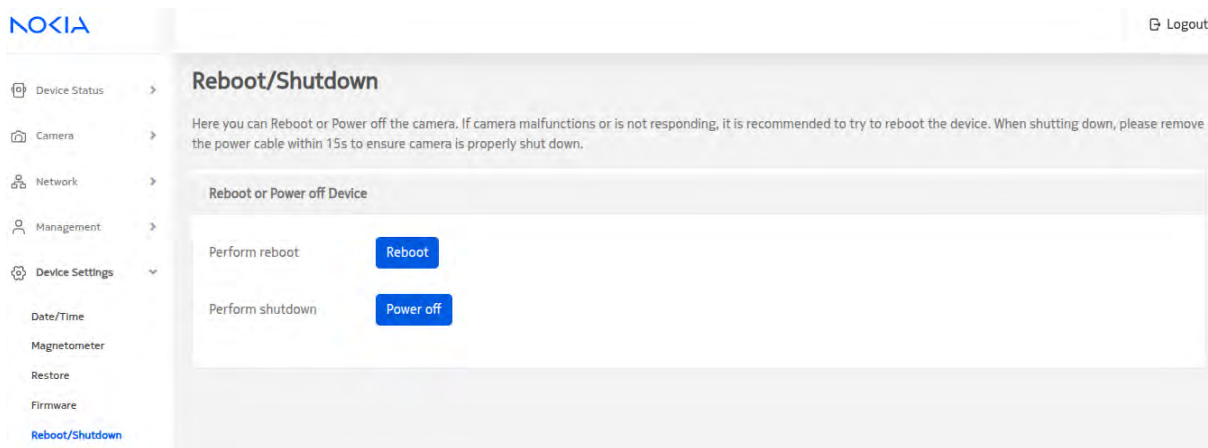
5.5.4 Firmware

You can upgrade the device's firmware in the Firmware page.



5.5.5 Reboot/Shutdown

You can perform a reboot or shutdown the device.



5.6 Other Usage Instructions

5.6.1 Device reset buttons

Hardware Reset Button

Located behind the service door, the Hardware (HW) reset button allows you to reset the system power and restart the device.

The HW reset will be triggered when the HW reset button is held down for 2 seconds.

Software (Factory) Reset Button

Located behind the service door, the Software (SW) reset button allows you to reset the factory default values and restart the device.

The SW (factory) reset will trigger when the SW reset button is held down for 15 seconds. After holding the button down for 15 seconds, the LED will blink continuously and frequently with a red light, after which the button can be released. The device will then reset to factory settings and restart.

The LED will not be blinking if the SW (factory) reset is triggered from the web UI.

5.6.2 LED indicator

The LED on the camera turns on when the camera is powered on. The LED changes colors and blinks to indicate the status of activities such as syncing the camera and updating the camera firmware. See the following table for explanations for the LED.

Color and Action	Meaning
Solid green	The camera is streaming.
Fast blinking green	Disconnected from a POE unit, running on battery power. Holding the SW reset button for 5-14 seconds will trigger shutdown.
Fast blinking short green	The streamer has stopped working and is being restarted.
Blinking green	The camera is idle.
Blink green once	Press the SW RESET button
Blink green and red	Out of Service (OOS) Device without battery: -5G mode: - Ambient temperature $\geq 50^{\circ}\text{C}$ → enter OOS mode - Ambient temperature $\leq 45^{\circ}\text{C}$ → exit OOS mode -WiFi mode: - Ambient temperature $\geq 60^{\circ}\text{C}$ → enter OOS mode - Ambient temperature $\leq 55^{\circ}\text{C}$ → exit OOS mode Device with battery: - Nokia 5G 360 Camera: - Ambient temperature $\geq 45^{\circ}\text{C}$ → enter OOS mode - Ambient temperature $\leq 40^{\circ}\text{C}$ → exit OOS mode - Nokia 360 Camera: - Ambient temperature $\geq 50^{\circ}\text{C}$ → enter OOS mode - Ambient temperature $\leq 45^{\circ}\text{C}$ → exit OOS mode
Solid red	Error (SIM card locked...)
Blinking red	A firmware update is in progress. DO NOT TURN OFF THE CAMERA
Fast blinking red until user releases the button and LED blinks for 5 more seconds after that.	Pressing SW RESET button for 15s to initiate factory reset. If SW (factory) reset is triggered from Web UI, LED will not display this behavior
Fast blinking red once per 3 seconds	The battery charge is low (20% or less)



Mix of solid green and red	The camera is booting up.
Mix of green and red blinking once	OSC/WebUI/TR069 command received

6 Additional Product and Feature information

- 8K Resolution in live streaming
- Low latency video streaming
- Integrated spatial audio capture
- Simple and versatile mounting solution
- Industrial standard device management platform (TR069)
- Multi-band antennas providing global coverage
- Designed for harsh environments (IP67)
- Secure and reliable long-term performance
- Model Name:

Product Name	Nokia 5G 360 Camera	Nokia 5G 360 Camera – Extreme Temperature	Nokia 360 Camera
Product ID	HWNDUSES1096	HWNDUSES1097	HWNDUSES1098
Model Name	CVTB520A		CVTBF21A
5G/4G function	Yes	Yes	No
Wi-Fi function	Yes	Yes	Yes
Battery	Yes	No	Yes
Operating conditions	• PoE powered: -30°C ~ 45°C • Battery charging: 0°C ~ 20 °C • Battery powered: 0 °C~ 35 °C	• PoE powered (5G streaming): -35°C ~ 50°C • PoE powered (WiFi/Ethernet streaming): -35°C ~ 60 °C	• PoE powered: -30°C ~ 50°C • Battery charging: 0°C ~ 20 °C • Battery powered: 0 °C~ 40 °C

6.1 Power

	Nokia 5G 360 Camera	Nokia 360 Camera
Power	23W in DC (Typ.) 37W in DC (Max.) (Include Battery Charging)	18W in DC (Typ.) 32W in DC (Max.) (Include Battery Charging)

Note: AI and dynamic stitching are mutually exclusive. The highest power consumption is based on dynamic stitching with HDR turned-on

6.2 Base operating system and platform support

This product runs on Linux Operating System.

6.3 Certifications

	Nokia 5G 360 Camera and variants
--	----------------------------------

Certifications	CE/FCC/TELEC/VCCI/UL
----------------	----------------------

6.4 Camera features

	Nokia 5G 360 Camera & Nokia 5G 360 Camera -Extreme Temperature	Nokia 360 Camera
SoC	Quad Core ARM Cortex A73	
Image sensor	3840 x 2160, 8.29M pixels	
Max output resolution	7680x3840, 8K@30FPS	
Shutter type	Rolling Shutter	
Day & night	Day & night (external IR lighting required)	
Lens type	FF type	
Focal length & FOV	2.357mm & 196.4°	
Lens mount	M14xP0.5	
Lens construction	6G2P	
FNO	2.2	
Depth of field	0.42m~Infinite (Focus@1.2m)	
Stitching distance	1m/3m/5m	

6.5 5G features

	Nokia 5G 360 Camera
Operating bands (5G FR1)	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n71/n75/n76/n77/n78/n79
Operating bands (5G FR2)	n257/n258/n260/n261
Operating bands (LTE)-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71
Operating bands (LTE)-TDD	B34/B38/B39/B40/B41/B42/B43/B46/B48
Modem solution	SDX65
mmWave IF solution	QTM545
Transmit power	Power Class 3 for LTE/ 5G NR (FR1 & FR2) Power Class 2 for n41/n77/ n78/n79
MIMO	DL 4*4 MIMO (LB only support 2*2) UL 2*2 MIMO (only support n38/n41/n48/n77/n78/n79)
Antenna	Built-in antenna *6

6.6 5G NR channel information

Band	Bandwidths (MHz)	SA/NSA
n1	5, 10, 15, 20, 25, 30, 40	SA/NSA
n2	5, 10, 15, 20	SA/NSA
n3	5, 10, 15, 20, 25, 30, 40	SA/NSA
n5	5, 10, 15, 20	SA/NSA
n7	5, 10, 15, 20, 25, 30, 40	SA/NSA
n8	5, 10, 15, 20	SA/NSA
n12	5, 10, 15	SA
n13	5, 10	SA
n14	5, 10	SA
n18	5, 10, 15	SA
n20	5, 10, 15, 20	SA/NSA
n25	5, 10, 15, 20, 25, 30, 40	SA/NSA
n26	5, 10, 15, 20	SA
n28	5, 10, 15, 20, 30	SA/NSA
n29	5, 10	A (Downlink only)
n30	5, 10	SA/NSA
n38	10, 15, 20, 30, 40	SA/NSA
n40	10, 15, 20, 30, 40, 50, 60, 80, 90, 100	SA/NSA
n41	20, 30, 40, 50, 60, 70, 80, 90, 100	SA/NSA
n48	10, 20, 30, 40, [50, 60, 80, 90, 100] * DL only	SA/NSA
n66	5, 10, 15, 20, 30, 40	SA/NSA
n71	5, 10, 15, 20	SA/NSA
n75	5, 10, 15, 20, 25, 30	N/A (Downlink only)
N76	5	N/A (Downlink only)
n77	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	SA/NSA
n78	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	SA/NSA

n79	40, 50, 60, 80, 100	SA/NSA
n257	50, 100, 200	NSA
n258	50, 100, 200	NSA
n260	50, 100	NSA
n261	50, 100	NSA

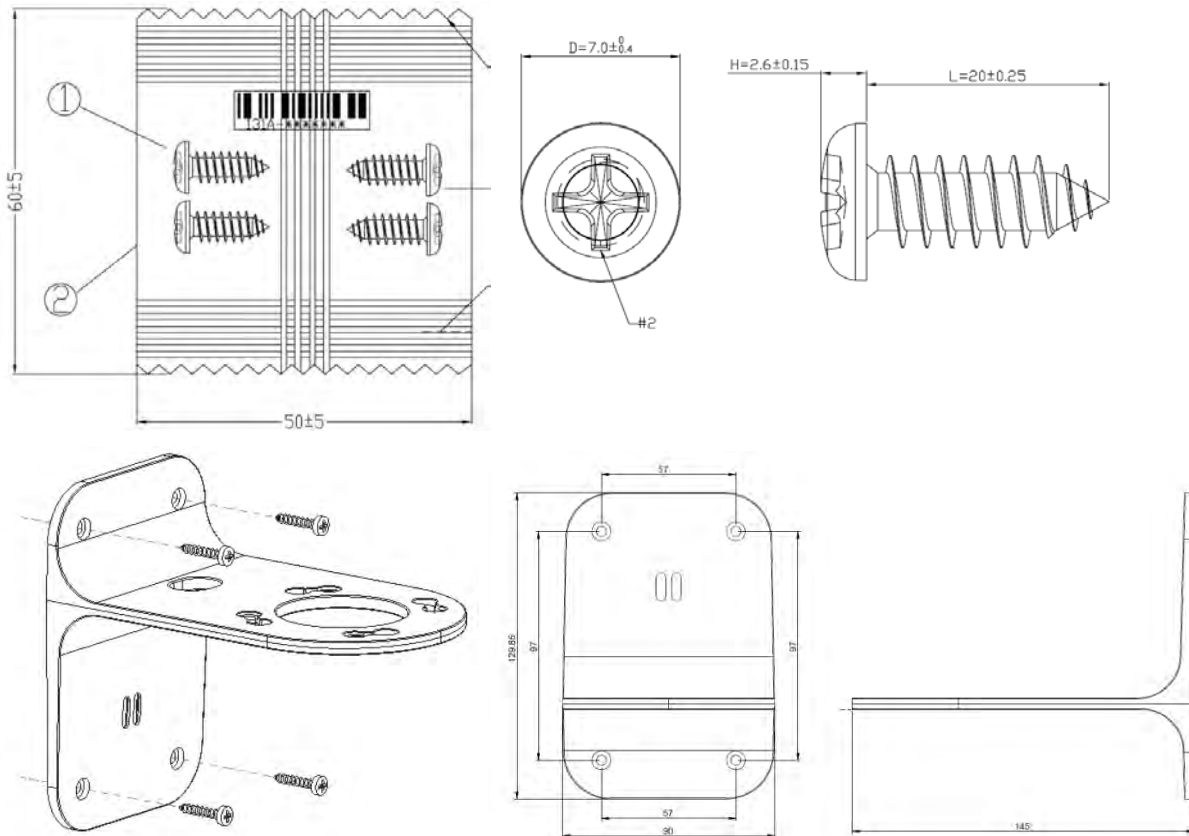
6.7 Wi-Fi features

Model Name	AP6275PH
Product Description	2T2R 802.11 ax/ac/a/b/g/n Wi-Fi 6 + BT 5.3 Module
WIFI Interface	Support PCIe v3.0 compliant and runs at Gen1 speeds
Operating temperature	-40°C to 85°C
Antenna	Built-in antenna *2

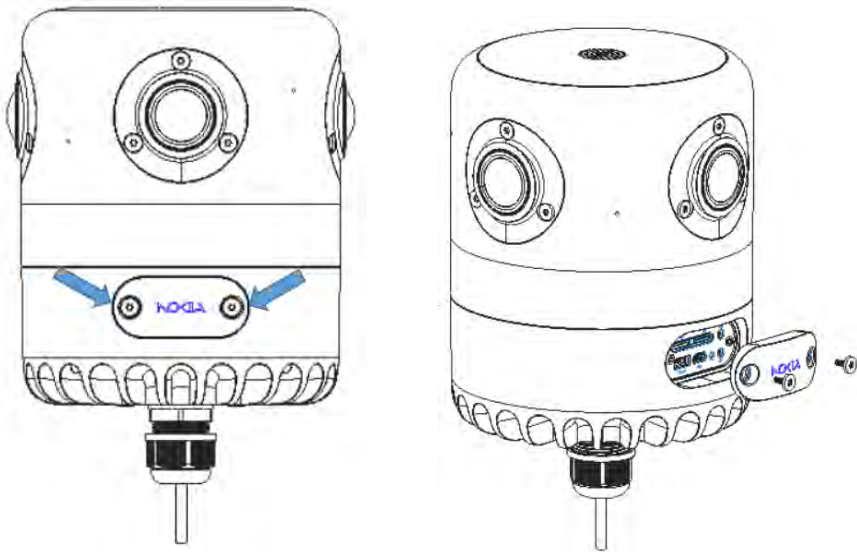
7 Installation

7.1 Device assembly

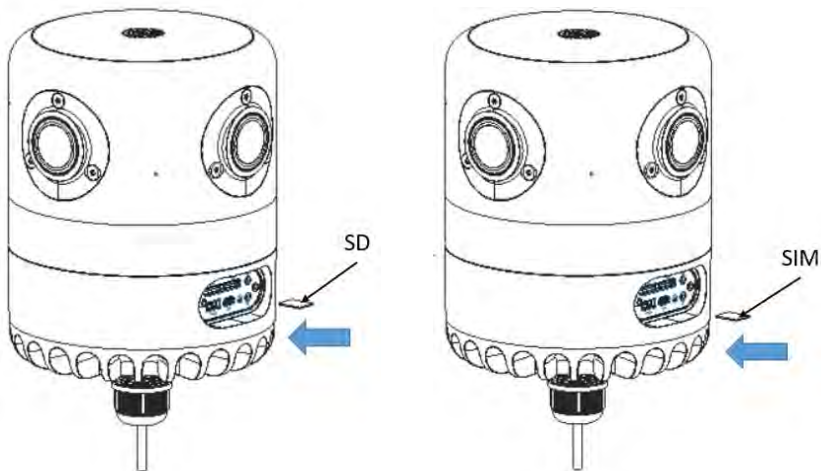
1. Put the T-shape mount on the desired location and secure it with the screws (M4 x 20L).



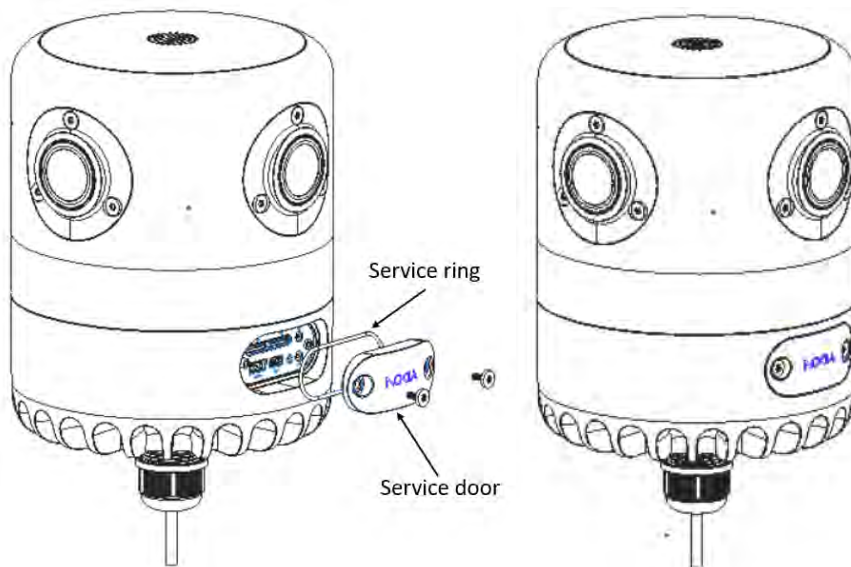
2. Open the I/O cover with a T8 screwdriver.



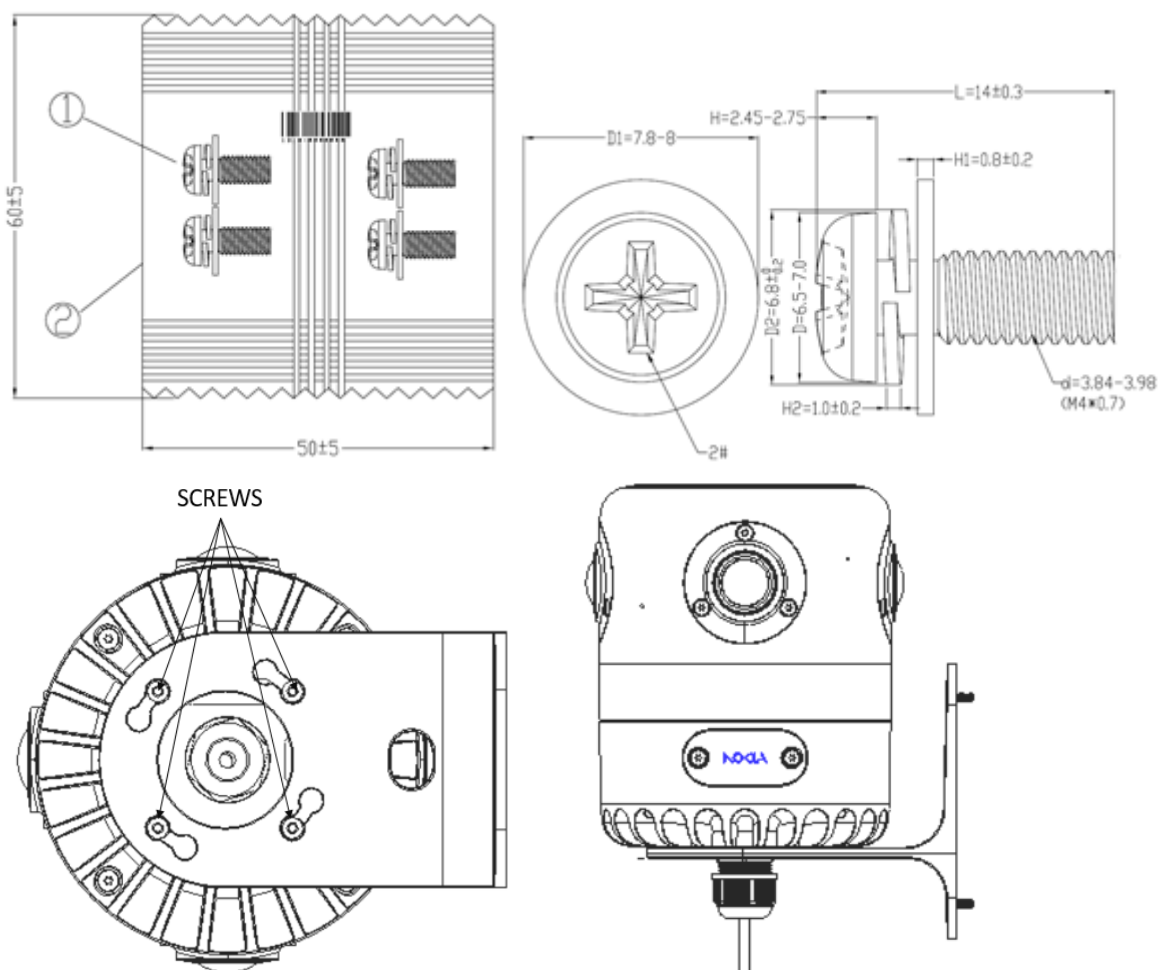
3. Insert the Micro SD card and the Nano SIM card.



4. Place the Service ring (O-ring/sealing ring) into the slot first, and then place the I/O door on it and secure it with screws. Please mind the Service ring (O-ring/sealing ring). Make sure it is properly screwed-in to ensure waterproof and dust-proof function



5. Lift the Camera on the T-shape mount and secure it with screws (M4 x 11.25L).



7.2 Replacing the Ethernet Cable

It is recommended to use the ethernet cable provided with the product. However, if there is a reason to use other cables, please choose a cable that meets the following criteria to avoid safety issues:

Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity
Interconnecting Cable (optional)	Various	Various	Min. 60 degree C, 30V min., max 3.05 m long, rated VW-1 or FT-1 or better.	AVLV2 or DVPJ	UL
Interconnecting Cable (optional) (Alternate)	Various	Various	Maximum 3.05 m long, type CMP, CMR, CMG, CM, CMX, CMUC, CMH. or rated FT4	DUZX	UL
Interconnecting Cable (optional) (Alternate)	Various	Various	--	DUXR	UL

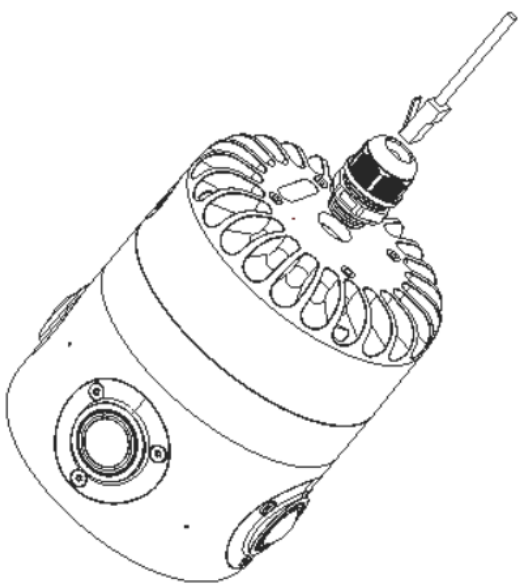
Note: It is not recommended to unplug and connect the ethernet cable and cable gland. If you need to unplug/connect the cable, please follow the steps below:

To disassemble the cable gland so that removing the LAN cable is possible:



The cable gland must be inserted before the LAN cable is inserted.



	⚠ CAUTION Removing the cable gland or unplugging the Ethernet cable is NOT recommended. Doing so means that IP67 water and dust proofing cannot be guaranteed.
---	---

8 Troubleshooting

Please see FAQ and Troubleshooting document for details.