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Subject of procurement: Procurement of services / **Predmet nabave: Nabava usluga**

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ANNEX 2 / ANEKS 2 SERVICE SPECIFICATION / OPIS PREDMETA NABAVE

Group 1: Services – FCC certification

Group 1: Services – FCC certification	REQUIRED DELIVERABLES
FCC certification of the Central unit for smart home system management (IoT gateway)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - FCC Certificate delivery ensured
FCC certification of the USB Dongle for receiving and interpreting ZigBee signals (USB dongle)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - FCC Certificate delivery ensured
FCC certification of the Security keypad for smart home alarm system management (security keypad)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - FCC Certificate delivery ensured

Group 2: Services – NOM/IFETEL certification

Group 2: Services – NOM/IFETEL certification	REQUIRED DELIVERABLES
NOM/IFETEL certification of the Central unit for smart home system management (IoT gateway)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - NOM/IFETEL Certificate delivery ensured
NOM/IFETEL certification of the central unit for Internet access and smart home system management (IoT LTE gateway)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - NOM/IFETEL Certificate delivery ensured
NOM/IFETEL certification of the USB Dongle for receiving and interpreting ZigBee signals (USB dongle)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - NOM/IFETEL Certificate delivery ensured

NOM/IFETEL certification of the Security keypad for smart home alarm system management (security keypad)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - NOM/IFETEL Certificate delivery ensured
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Group 3: Services – ZIGBEE certification

Group 3: Services – ZIGBEE certification	REQUIRED DELIVERABLES
ZIGBEE certification of the Central unit for smart home system management (IoT gateway)	<ul style="list-style-type: none"> - Test report - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - ZIGBEE Certificate delivery ensured
ZIGBEE certification of the central unit for Internet access and smart home system management (IoT LTE gateway)	<ul style="list-style-type: none"> - Test report - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - ZIGBEE Certificate delivery ensured
ZIGBEE certification of smart home automation sockets (HCSS)	<ul style="list-style-type: none"> - Test report - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - ZIGBEE Certificate delivery ensured
ZIGBEE certification of the Security keypad certification for smart home alarm system management (security keypad)	<ul style="list-style-type: none"> - Test report - Documentation for certification purposes prepared and submitted to Certification Body - Report on the state of the certification process. - ZIGBEE Certificate delivery ensured

Group 4: Services – CE marking

Group 4: Services – CE marking	REQUIRED DELIVERABLES
CE marking of the USB Dongle for receiving and interpreting ZigBee signals (USB dongle)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared - Report on the state of the certification process. - CE Declaration of Conformity ISSUED
CE marking of the Security keypad certification for smart home alarm system management (security keypad)	<ul style="list-style-type: none"> - Test report with provided testing environment images - Documentation for certification purposes prepared - Report on the state of the certification process. - CE Declaration of Conformity ISSUED

SERVICE REQUIREMENTS SPECIFICATION – ADDITIONAL INFORMATION

Purpose

The purpose of this document is to provide detailed description of the hardware devices for incoming testing and certification. It describes mainly radio components of the devices, both chipsets and modules, since those are the most important for the testing and certification process. This document also describes the desired communication procedure between the Tenderer and the Contracting Authority during the testing and certification process as well as the steps that must be undertaken during the process.

Testing and certification process

The Tenderer must ensure that following steps are undertaken in the device testing and certification process:

- Receive the devices that are subject of this process, sent by carrier service, on the testing location or pick up devices at headquarters of the company
- Make a project plan for testing and certification and present it to the Contracting Authority
- Run device testing according to standards for corresponding certification
- Actively report the state of the project to the Contracting Authority
- Actively collaborate with the Contracting Authority in the testing process that may include, but not limited to:
 - Changing a project plan defined earlier
 - Contact Contracting Authority representative to acquire additional information needed for testing devices
 - Request additional piece of software for testing devices and provide inputs for mentioned software
- Generate test report and provide testing environment images
- Request the mandatory documentation for certification purposes from the Contracting Authority and contribute in making/composing this documentation (if one is not available at the time requested) by providing advises on the structure and contents of the documents
- File a testing report to the Certification Body, initiate certification approval and run certification process (where applicable):
 - Submission of the application to the Certification Body
 - Handling Certification Body review of the application
 - Submission of documentation for certification purposes
 - Appointing local representative to hold the relevant documentation (if needed)
 - Pay Certification Body management fees (where applicable)
- Report the state of the certification process to the Contracting Authority
- Provide support in maintaining certificate validity

Planned dates for certification process start

Some devices, subject to this document, are still in development stage. This means that the testing and certification process will not start immediately after the contract has been awarded to the best Tenderer, but it will be delayed.

The definite end date for all certifications is set to 1st May 2021.

Expected start dates of testing and certification process (changes are possible in agreement with the awarded Tenderer):

- IoT gateway
 - NOM – June 2020
 - FCC – September 2020
 - Zigbee – January 2021
- LTE gateway
 - NOM/IFETEL – June 2020
 - Zigbee – January 2021
- Security keypad
 - NOM – September 2020
 - CE – Spetember 2020
 - FCC – September 2020
 - Zigbee – January 2021
- Zigbee USB Dongle
 - CE – September 2020
 - FCC – September 2020
 - NOM – September 2020
- Home Control Smart Socket (HCSS)
 - Zigbee – before January 2021

Device descriptions

The devices presented here are subject of the testing and certification process. Data shown in tables are not certificate specific (except for Zigbee) and present the minimal data that give good overview of the radios in the devices. Radios for certain devices are not shown here if there is no testing and certification process that requires this information.

Beside radios, Zigbee clusters are enumerated in separate table for the Zigbee 3.0 certification purposes.

IoT Gateway

IoT gateway is a central device in smart home environment that will act as an access point for other IoT devices. It is a standalone device powered by standard 12V AC to DC power adapter, but it also contains a backup battery (2x1865 Li-ion cells). It is able to communicate with various smart home (home automation) devices by using Wi-Fi, Zigbee, BLE and Z-Wave communication standards. It contains a LTE (CatM) module for cellular connection and one Ethernet port.

The following table presents the list of radios available in the device that must be taken in consideration for deviCE markings.

Communication standard	Chipset	Module	Remarks
Wi-Fi 2.4GHz	X		Silicon Labs WF200C (2412 MHz – 2484 MHz)
Zigbee	X		Silicon Labs EFR32MG21A020F1024IM32-B (2.4 GHz)
Bluetooth	X		Silicon Labs EFR32MG21A020F1024IM32-B (2.4 GHz)
Z-Wave	X		Silicon Labs ERF32ZG14P231F256GM32-B with SAW filter bank
Cellular (LTE)		X	QUECTEL BG96MA-128-SGN (FCC ID: XMR201707BG96)

Zigbee testing and certification

IoT gateway is a Zigbee Coordinator device. At the time of writing this document, PICS files are not available and are not enclosed to this procurement. They will be made available to the Tenderer if one is awarded with the contract for certification.

Available clusters are shown in the following table:

Cluster ID	Description	Client side	Server side
0x0000	Basic (*)	X	X
0x0001	Power configuration		X
0x0003	Identify (*)	X	X
0x0004	Groups	X	X

0x0006	OnOff	X	
0x0008	Level control	X	
0x0101	DoorLock	X	X
0x0201	Thermostat	X	X
0x0202	Fan control	X	X
0x0300	Color control	X	
0x0400	Illuminance measurement		X
0x0402	Temperature measurement		X
0x0405	Humidity measurement		X
0x0406	Occupancy sensing	X	X
0x0500	IAS Zone	X	X
0x0501	IAS ACE	X	X
0x0502	IAS WD	X	X
0x0702	Metering (*)		X
0x0B04	Electrical measurement		X
(*) Part of Smart Energy Clusters			

LTE Gateway

Similar to IoT gateway, LTE gateway is also a central device in smart home environment. It can be described as standard home router with added LTE capabilities and additional Zigbee chip. It includes two Ethernet ports, Voice port and power port (12V DC). It works in both 2.4 GHz band and 5 GHz band.

Following table presents the radios present in the device:

Communication standard	Chipset	Module	Remarks
Wi-Fi 2.4GHz	X		
Wi-Fi 5GHz	X		
Zigbee	X		Silicon Labs EFR32MG21A020F1024IM32-BR (2.4 GHz)
Cellular (LTE)		X	QUECTEL EG06ELA-512-SGA

Zigbee testing and certification

LTE gateway is a Zigbee Coordinator device. At the time of writing this document, PICS files are not available and are not enclosed to this procurement. They will be made available to the Tenderer if one is awarded with the contract for certification.

Available clusters are shown in the following table:

Cluster ID	Description	Client side	Server side
0x0000	Basic (*)	X	X
0x0001	Power configuration		X
0x0003	Identify (*)	X	X
0x0004	Groups	X	X
0x0006	OnOff	X	
0x0008	Level control	X	
0x0101	DoorLock	X	X
0x0201	Thermostat	X	X
0x0202	Fan control	X	X
0x0300	Color control	X	
0x0400	Illuminance measurement		X
0x0402	Temperature measurement		X
0x0405	Humidity measurement		X
0x0406	Occupancy sensing	X	X
0x0500	IAS Zone	X	X
0x0501	IAS ACE	X	X
0x0502	IAS WD	X	X
0x0702	Metering (*)		X
0x0B04	Electrical measurement		X
(*) Part of Smart Energy Clusters			

Security Keypad

Security keypad is a standalone device intended to manage the alarming system of the smart home. It is a simple device that works on Zigbee communication standard for communication with controller devices and NFC communication standard.

Following table presents the radios present in the device:

Communication standard	Chipset	Module	Remarks
Zigbee	X		Silicon Labs EFR32MG21A020F1024IM32-BR (2.4 GHz)
NFC	X		STMicroelectronics ST95HF-VMD5T

Zigbee testing and certification

Security keypad is a Zigbee end device – sleepy device. At the time of writing this document, PICS files are not available and are not enclosed to this procurement. They will be made available to the Tenderer if one is awarded with the contract for certification.

Available clusters are shown in the following table:

Cluster ID	Description	Client side	Server side
0x0000	Basic		X
0x0001	Power configuration		X
0x0003	Identify		X
0x0501	IAS ACE	X	X

Zigbee USB dongle

A simple USB to UART controller that acts as a transceiver for Zigbee communication standard.

Following table presents the radios present in the device:

Communication standard	Chipset	Module	Remarks
Zigbee		X	Silicon Labs MGM210P MIGHTY GECKO MODULE (CE DoC available; FCC ID: QOQGM210P)

Zigbee testing and certification

N/A

Home Control Smart Socket (HCSS)

HCSS is a wall outlet with two endpoints (double socket). It is an end device that is able to communicate to controller devices via Zigbee protocol. Other parts of the of the products include USB2.0 (primarily intended for charging other electronic devices) and a push button that can act as a switch.

Following table presents the radios present in the device:

Communication standard	Chipset	Module	Remarks
Zigbee	X		Silicon Labs EFR32MG21A020F1024IM32-B (2.4 GHz)

Zigbee testing and certification

HCSS is a Zigbee router device. At the time of writing this document, PICS files are not available and are not enclosed to this procurement. They will be made available to the Tenderer if one is awarded with the contract for certification.

Available clusters are shown in the following table:

Cluster ID	Description	Client side	Server side
0x0000	Basic		X
0x0002	Device temperature configuration		X
0x0003	Identify	X	X
0x0006	OnOff	X	X
0x0009	Alarms		X
0x0402	Temperature measurement		X
0x0019	OTA Upgrade		