

HEXIWEAR BLUETOOTH SPECIFICATIONS

1. BLE ADVERTISING DATA

[Generic Access Profile](#)

Data Type	Data Type Name	Data Value	Details
0x09	Complete Local Name	"HEXIWEAR"	Consider this.
0x01	Flags	0x06	LE General Discoverable Mode & BR/EDR Not Supported

2. BLE SIG SERVICES

1) Generic Access:

UUID: 0x1800

[Service Specifications](#)

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2A00	Device Name	UTF-8 string	None	Read	Consider: "HEXIWEAR"
0x2A01	Appearance	16bit	None	Read	Consider: 512 (Generic Tag)
0x2A04	Peripheral Preferred Conn Parameters	uint16[4]	None	Read	Think about suitable values.

2) Device Information Service (DIS):

UUID: 0x180A

[Service Specifications](#)

[Service Overview](#)

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2A29	Manufacturer Name String	UTF-8 string	None	Read	Represent the name of the manufacturer of device ("Mikroelektronika")
0x2A27	Hardware Revision String	UTF-8 string	None	Read	Represents the hardware revision for the hardware within the device ("1.0.0")
0x2A26	Firmware Revision String	UTF-8 string	None	Read	Represents the firmware revision for the firmware within the device ("1.0.0")

3) Battery Service (BAS):

UUID: 0x180F

[Service Specifications](#)

[Service Overview](#)

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2A19	Battery Level	uint8	None	Read Notify	Battery level as a percentage from 0% to 100%.

3. BLE CUSTOM SERVICES

1) Motion Service:

UUID: 0x2000

Sensors used for measurement: FXOS8700CQ (accel/magnet), FXAS21002 (gyro).

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2001	Accelerometer	int16_t[3]	Encryption with authentication	Read	Accel measurement for x, y, z coordinate. Range: +/- 4g
0x2002	Magnetometer	int16_t[3]	Encryption with authentication	Read	Magnet measurement for x, y, z coordinate.
0x2003	Gyro	int16_t[3]	Encryption with authentication	Read	Gyro measurement for x, y, z coordinate. Range: +/- 256 deg/seg.

Note:

-Characteristics values for each coordinate are measured values multiplied by 100 (e.g. if measured value for accel is 3.25g, characteristic value will be 325).

2) Weather Service:

UUID: 0x2010

Sensors used for measurement: MPL3115A2 (pressure/temp), HTU21D (humidity/temp).

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2011	Ambient Light	uint8_t	Encryption with authentication	Read	Level of light (percentage)
0x2012	Temperature	int16_t	Encryption with authentication	Read	Temperature measurement (Celsius)
0x2013	Humidity	uint16_t	Encryption with authentication	Read	Humidity measurement (percentage)
0x2014	Pressure	uint16_t	Encryption with authentication	Read	Pressure measurement (Pascal)

Note:

-Characteristics values for temperature, humidity and pressure are measured values multiplied by 100 (e.g. if measured value for humidity is 42.3%, characteristic value will be 4230).

3) Health Service:

UUID: 0x2020

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2021	Heart Rate	uint8_t	Encryption with authentication	Read	Heart Rate value (beats per minute)
0x2022	Steps	uint16_t	Encryption with authentication	Read	Number of steps measured by pedometer
0x2023	Activity	uint16_t	Encryption with authentication	Read	Not defined yet

4) Alert/Command Service:

UUID: 0x2030

Used for exchanging alerts/notifications and commands between phone and watch.

UUID	Characteristic	Format	Security Mode	R/W permissions	Details
0x2031	Alert In	uint8_t[20]	Encryption with authentication	Read Write	Used for sending alerts and commands from phone to watch.
0x2032	Alert Out	uint8_t[20]	Encryption with authentication	Read Notify	Used for sending alerts and commands from watch to phone .