LinTech BLE SPP Service

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Content

1. Description BLE SPP Services 1

2. Structure of Advertising Message 2

1. Description BLE SPP Services

In addition to the standard GAP service, we also use proprietary profiles for data transmission and securing the connection.

The data transfer service is used for data transmission and the Bond Password Service (optional) for authentication by means of a password.

Data-Transfer-Service:

UUID: 0xF18D63AECADC11E3AAAB1A514932AC01

The data transfer service consists of three characteristics.

Data_Transfer_Control: Reserved for future use.

Data_Transfer_Value: Used for data transmission, via write from central to peripheral and indication from peripheral to central.

Data_Transfer_Cmd_Value: Serves to transfer command commands from the central to the peripheral.

These are executed as AT commands.

Lenght n Byte	Access	Name	UUID
-	Read	DATA_TRANSFER_CONTROL	0xF18D669CCADC11E3AACB1A514932AC01
20	Write / Indicate	DATA_TRANSFER_VALUE	0xF18D68AECADC11E3AACB1A514932AC01
20	Write / Indicate	DATA_TRANSFER_CMD_VALUE	0xF18D67AECADC11E3AACB1A514932AC01

Structure of DATA_TRANSFER_ VALUE

20 – Byte complete for transparent data transfer

Structure of DATA_TRANSFER_CMD_VALUE

20 – Byte complete for transfer of commands, use of normal AT commands without "AT +". For example: the transfer of "name = test name" leads to a renaming of the peripheral.

Bond-Password-Service:
UUID: 0x6203494077C74EDCAB245613211AD100

The Bond Password Service consists of one characteristic.

BOND_PASW: Used to pass the connection password when using the second security mode.

Length in Byte	Access	Name	UUID
-	Write	BOND_PASW	0x6203494077C74EDCAB245613211AD101

2. Structure of Advertising Message

The BTLE-SPP Peripheral sends the advertising messages from Table 1 and Table 2 in the unconnected state. With this, the module can be clearly identified as a BTLE-SPP module and can be selected accordingly for a connection.

Table 1: Advertising of the BTLE-SPP module

Length	Name	Wert	Verwendung	Beschreibung
3 Byte	Flags[0]	0x02	mandatory	Length
	Flags[1]	0x01	mandatory	Flags Field
	Flags[2]	0x06	mandatory	LE General Discoverable Mode + BR/EDR Not Supported
6-16 Byte	Length	0x07	mandatory	Length
	Type	0xFF	mandatory	Manufacturer Specific Data
	Company ID	0x0144	mandatory	LinTech GmbH (little Endian)
	Device ID	0xFF02	mandatory	LinTech BTLE SPP Device(little Endian)
	Byte Adv. Data	0xXXXXXXXXXX	optional	Data set by User(big Endian)
3-22 Byte	Length	0x02-0x15	mandatory	Length
	Type	0x09	mandatory	Local Name Complete
	Name	„LinTech BTLE SPP01“	mandatory	Name

If the name no longer fits into the advertising data, the name will be added as follows:

13 Byte	**Length**	**0x0D**	**mandatory**	**Length**
	Type	0x08	mandatory	Local Name Short
	Name	„LinTech BT“	mandatory	Name

Table 2: Advertising of the BTLE-SPP module - Scan Response Data

Length	Name	Wert	Verwendung	Beschreibung
18 Byte	Length	0x11	mandatory	Length
	Type	0x07	mandatory	Service UUID 128-Bit
	Service UUID 128-Bit	0xf18d63aecadc11e3aacb1a514932ac01	mandatory	Complete UUID of Data Transfer Service (little Endian)