I-SYST BluePyro

BLE Services & Data Format

Bluetooth Services & Characteristics

UART Base UUID = 00000000-287c-11e4-ab74-0002a5d5c51b

	UUID (hex)	Description	Data format
UART service	00000101-287C-11E4-AB74-0002A5D5C51B	Sensor's raw data service	
UART_RX characteristic	00000102-287C-11E4-AB74-0002A5D5C51B	Send sensor's raw data to BLE	A text string

BluePyro Base UUID = a0080000-01fb-4109-8a0a-1816898a6725

	Values (hex)	Description	Data format
BluePyro service	A008FFE0-01FB-4109-8A0A-1816898A6725	BluePyro's configuration and DFU service	
BLEPYRO_CFG characteristic	A008FFE1-01FB-4109-8A0A-1816898A6725	Read/Write configuration characteristic	See data structure next slide
BLEPYRO_DFU characteristic	A008FFE2-01FB-4109-8A0A-1816898A6725	DFU mode	

BLEPYRO_CFG Characteristic Data Format

```
#define BLUEPYRO_ADV_NAME_MAXLEN        8

typedef struct {
    uint8_t Name[BLUEPYRO_ADV_NAME_MAXLEN];
    PyroCfg_reg_t PyroCfg;
} APP_DATA;


typedef union __Pyro_Cfg_Reg {
    struct {
        uint32_t PulseMode:1;       //!< count with (0) or without (1) BPF sign change
        uint32_t Reserved1:1;       //!< Reserved: Must be set to dec 0
        uint32_t HPFCutOff:1;       //!< 0:0.4Hz1:0.2Hz
        uint32_t Reserved2:2;       //!< Reserved: Must be set to dec 2
        uint32_t SignalSource:2;    //!< 0: PIR (BPF) 1: PIR (LPF) 2: Reserved 3: Temperature Sensor
        uint32_t OpMode:2;          //!< 0: Forced Readout 1: Interrupt Readout 2: Wake Up 3: Reserved
        uint32_t WindowTime:2;      //!< = 2s+[RegVal]·2s
        uint32_t PulseCounter:2;    //!< = 1+[RegVal]
        uint32_t BlindTime:4;       //!< = 0.5s + [Reg Val] · 0.5s
        uint32_t Threshold:8;       //!< Detection threshold on BPF value
    };
    uint32_t Val;
} PyroCfg_reg_t;
```

BluePyro BLE Advertising Data

```
typedef struct __BluePyro_AdvData {
    uint8_t Type;                           //!< Advertisement data type BLEADV_MANDATA_TYPE_APP (0)
    uint8_t MotionDet;                      //!< Motion detection event : 1 - Motion detected, 0 - No motion
    PyroCfg_reg_t PyroCfg;
    uint8_t Name[BLUEPYRO_ADV_NAME_MAXLEN];     //!< Location name
} BLUEPYRO_ADVDATA;
```

PyroCfg_reg_t and BLUEPYRO_ADV_NAME_MAXLEN are defined in the previous slide