☰ pybricks / **technical-info**   🔍 ✉ 👤

<> **Code**   ⊙ Issues 4   ⇅ Pull requests   ▶ Actions   ⊘ Security   📈 Insights

technical-info / **assigned-numbers.md** ⧉

👤 **dlech** assigned-numbers: Add new SPIKE Prime service BLE UUIDs •••   d4599e7 · last year 🕓

171 lines (147 loc) · 13.3 KB

| Preview | Code | Blame | | 🎁 | Raw ⧉ ⤓ | ✏ ▾ | ☰ |

Assigned Numbers

Hub Type IDs

ID (hex)	Variant	Description	LEGO	Bricklink
0 (0x00)	*N/A*	WeDo 2.0 hub (LPF2 Smart Hub 2 I/O)	[45301](#)	[19071c01](#)
32 (0x20)	*N/A*	DUPLO Train Hub (?)		[28743c01](#)
64 (0x40)	*N/A*	BOOST Move Hub (JAJUR1)	[88006](#)	[bb0894c01](#)
65 (0x41)	*N/A*	Powered UP 2-port Smart Hub (Hub No. 4)	[88009](#)	[bb0892c01](#)
66 (0x42)	*N/A*	Powered UP Handset (Handset No. 2)	[88010](#)	[28739c01](#)
67 (0x43)	*N/A*	Mario (LEAF No. 1)	[71360](#)	[mar0007](#)
68 (0x44)	*N/A*	Luigi (LEAF No. 2)	[71387](#)	[mar0062](#)
69 (0x45)	*N/A*	Peach (LEAF No. 3)	[71403](#)	[mar0112](#)

ID (hex)	Variant	Description	LEGO	Bricklink
128 (0x80)	N/A	Technic Control+ Hub (Hub No. 2)	88012	bb0961c01
129 (0x81)	0	Technic Large Hub - SPIKE Prime (Hub No. 6)	45601	bb1142c01
129 (0x81)	1	Technic Large Hub - MINDSTORMS Robot Inventor (Hub No. 6)	51515	67718c01
131 (0x83)	0	Technic Small Hub - SPIKE Essential (Hub No. 7)	45609	67351c01
132 (0x84)	N/A	Technic Move (Hub No. 19)		103479c01

I/O Device Type IDs

I/O device type IDs are used to identify sensors and motors (including ones built into a programmable brick).

ID (hex)	Description	LEGO	Bricklink
0 (0x00)	no device	N/A	N/A
1 (0x01)	Powered Up Medium Motor	45303	21980
2 (0x02)	Powered Up Train Motor	88011	bb0896c01
8 (0x08)	Powered Up Lights	88005	22168c01
20 (0x14)	Powered Up Hub battery voltage	N/A	N/A
21 (0x15)	Powered Up Hub battery current	N/A	N/A
22 (0x16)	Powered Up Hub piezo tone	N/A	N/A
23 (0x17)	Powered Up Hub indicator light	N/A	N/A
29 (0x1D)	EV3 Color Sensor	45506 (retired)	95650

ID (hex)	Description	LEGO	Bricklink
30 (0x1E)	EV3 Ultrasonic Sensor	45504 (retired)	95652
32 (0x20)	EV3 Gyro Sensor	45505 (retired)	99380
33 (0x21)	EV3 Infrared Sensor	45509 (retired)	95654
34 (0x22)	WeDo 2.0 Tilt Sensor	45305	20841
35 (0x23)	WeDo 2.0 Motion Sensor	45304	20844
36 (0x24)	WeDo 2.0 generic device	N/A	N/A
37 (0x25)	BOOST Color and Distance Sensor	88007	bb0891c01
38 (0x26)	BOOST Interactive Motor	88008	bb0893c01
39 (0x27)	BOOST Move Hub built-in motor	N/A	N/A
40 (0x28)	BOOST Move Hub built-in accelerometer (tilt sensor)	N/A	N/A
41 (0x29)	DUPLO Train hub built-in motor	N/A	N/A
42 (0x2a)	DUPLO Train hub built-in beeper	N/A	N/A
43 (0x2b)	DUPLO Train hub built-in color sensor	N/A	N/A
44 (0x2c)	DUPLO Train hub built-in speed	N/A	N/A
46 (0x2e)	Technic Control+ Large Motor	88013	bb0959c01
47 (0x2f)	Technic Control+ XL Motor	88014	bb0960c01

ID (hex)	Description	LEGO	Bricklink
48 (0x30)	SPIKE Prime Medium Motor	45603	54696c01
49 (0x31)	SPIKE Prime Large Motor	45602	54675c01
50 (0x32)	Technic Control+ Hub ?	N/A	N/A
54 (0x36)	Powered Up hub IMU gesture	N/A	N/A
55 (0x37)	Powered Up Handset Buttons	N/A	N/A
56 (0x38)	Powered Up hub Bluetooth RSSI	N/A	N/A
57 (0x39)	Powered Up hub IMU accelerometer	N/A	N/A
58 (0x3A)	Powered Up hub IMU gyro	N/A	N/A
59 (0x3B)	Powered Up hub IMU position	N/A	N/A
60 (0x3C)	Powered Up hub IMU temperature	N/A	N/A
61 (0x3D)	Technic Color Sensor	45605	37308c01
62 (0x3E)	Technic Ultrasonic/Distance Sensor	45604	37316c01
63 (0x3F)	Technic Force Sensor	45606	37312c01
64 (0x40)	Technic 3x3 Color Light Matrix	45608	47592c01
65 (0x41)	Technic Small Angular Motor	45607	68488c01
70 (0x46)	Mario built-in unknown	N/A	N/A

ID (hex)	Description	LEGO	Bricklink
71 (0x47)	Mario built-in IMU gesture sensor	*N/A*	*N/A*
73 (0x49)	Mario built-in color barcode sensor	*N/A*	*N/A*
74 (0x4A)	Mario built-in pants sensor	*N/A*	*N/A*
75 (0x4B)	Technic Medium Angular Motor, gray	88018	54696c01
76 (0x4C)	Technic Large Angular motor, gray	88017	54675c02
85 (0x55)	Mario built-in unknown	*N/A*	*N/A*
86 (0x56)	Technic Move hub built-in drive motor	*N/A*	*N/A*
87 (0x57)	Technic Move hub built-in steering motor	*N/A*	*N/A*
88 (0x58)	Technic Move hub built-in lights (6)	*N/A*	*N/A*
89 (0x59)	Technic Move hub built-in play VM	*N/A*	*N/A*
92 (0x5c)	Powered up hub unknown (ChgAct/PlyAct/Last/Total)	*N/A*	*N/A*
93 (0x5d)	Powered Up hub IMU orientation	*N/A*	*N/A*
94 (0x5e)	Powered Up hub unknown (GEST_BITMAP)	*N/A*	*N/A*

Bluetooth

OUIs

OUI	Vendor	Devices
00:16:53	LEGO System A/S	NXT, EV3, BOOST

OUI	Vendor	Devices
90:84:2B	LEGO System A/S	Powered Up
38:0B:3C	Texas Instruments	Inventor
F4:84:4C	Texas Instruments	Prime

BLE UUIDs

LEGO-specific UUIDs:

16-bit	128-bit	Description
1523	00001523-1212-efde-1523-785feabcd123	WeDo 2.0 hub service
1524	00001524-1212-efde-1523-785feabcd123	WeDo 2.0 name characteristic
1526	00001526-1212-efde-1523-785feabcd123	WeDo 2.0 button state characteristic
1527	00001527-1212-efde-1523-785feabcd123	WeDo 2.0 attached I/O characteristic
1528	00001528-1212-efde-1523-785feabcd123	WeDo 2.0 low voltage alert characteristic
1529	00001529-1212-efde-1523-785feabcd123	WeDo 2.0 high current alert characteristic
152A	0000152a-1212-efde-1523-785feabcd123	WeDo 2.0 low signal alert characteristic
152B	0000152b-1212-efde-1523-785feabcd123	WeDo 2.0 power off characteristic
152C	0000152c-1212-efde-1523-785feabcd123	WeDo 2.0 port vcc control characteristic
152D	0000152d-1212-efde-1523-785feabcd123	WeDo 2.0 battery type characteristic
152E	0000152e-1212-efde-1523-785feabcd123	WeDo 2.0 disconnect characteristic

16-bit	128-bit	Description
1560	00001560-1212-efde-1523-785feabcd123	WeDo 2.0 input value characteristic
1561	00001561-1212-efde-1523-785feabcd123	WeDo 2.0 input format characteristic
1563	00001563-1212-efde-1523-785feabcd123	WeDo 2.0 input command characteristic
1565	00001565-1212-efde-1523-785feabcd123	WeDo 2.0 output command characteristic
4F0E	00004f0e-1212-efde-1523-785feabcd123	WeDo 2.0 input service
1623	00001623-1212-efde-1623-785feabcd123	Powered Up LWP3 hub service
1624	00001624-1212-efde-1623-785feabcd123	Powered Up LWP3 hub characteristic
1625	00001625-1212-efde-1623-785feabcd123	Powered Up LWP3 bootloader service
1626	00001626-1212-efde-1623-785feabcd123	Powered Up LWP3 bootloader characteristic
0000	0000fd02-0000-1000-8000-00805f9b34fb	SPIKE Prime service
0001	0000fd02-0001-1000-8000-00805f9b34fb	SPIKE Prime RX characteristic
0002	0000fd02-0002-1000-8000-00805f9b34fb	SPIKE Prime TX characteristic

TI-specific UUIDs:

16-bit	128-bit	Description
ffc0	f000ffc0-0451-4000-b000-000000000000	TI OAD service
ffc1	f000ffc1-0451-4000-b000-000000000000	TI OAD Image Identify characteristic

16-bit	128-bit	Description
ffc2	f000ffc2-0451-4000-b000-000000000000	TI OAD Image Block characteristic
ffc5	f000ffc5-0451-4000-b000-000000000000	TI OAD Control Point characteristic

Pybricks-specific UUIDs:

16-bit	128-bit	Description
0001	c5f50001-8280-46da-89f4-6d8051e4aeef	Pybricks service
0002	c5f50002-8280-46da-89f4-6d8051e4aeef	Pybricks command/event characteristic
0003	c5f50003-8280-46da-89f4-6d8051e4aeef	Pybricks hub capabilities characteristic

BLE Advertising Data

Company ID: 919 (0x0397) - LEGO System A/S

USB

USB Device IDs

VID	PID	Description
0x0694	0x0001	LEGO MINDSTORMS RCX IR Tower
0x0694	0x0002	LEGO MINDSTORMS NXT
0x03eb	0x6124	LEGO MINDSTORMS NXT in firmware update mode (Atmel SAM-BA mode)
0x0694	0x0003	LEGO WeDo 1.0 USB Hub
0x0694	0x0005	LEGO MINDSTORMS EV3
0x0694	0x0006	LEGO MINDSTORMS EV3 in firmware update mode
0x0694	0x0008	LEGO Technic Large Hub in DFU mode (SPIKE Prime)

VID	PID	Description
0x0694	0x0009	LEGO Technic Large Hub (SPIKE Prime)
0x0694	0x000C	LEGO Technic Small Hub in DFU mode (SPIKE Essential)
0x0694	0x000D	LEGO Technic Small Hub (SPIKE Essential)
0x0694	0x0010	LEGO Technic Large Hub (MINDSTORMS Inventor)
0x0694	0x0011	LEGO Technic Large Hub in DFU mode (MINDSTORMS Inventor)