



15 Presidential Way, Woburn, MA 01801
Tel: 781-935-1200 Fax: 781-935-2040
www.agiltron.com

10W L-band EDFA UART Command V1.0

Power Level 2 - 10W

1 Settings of Serial Port

Baud rate	Data bit	Stop bit	Checksum	Flow control
9600	8 bits	1 bit	None	none

2 Command (CMD) Format

HEAD1	HEAD2	LEN	ADDR	DATA	SUM
-------	-------	-----	------	------	-----

HEAD: 0xEF 0xEF

LEN: Data length (DATA digits + 2)

ADDR: data address bits

DATA: Data bits (DATA is empty when querying) SUM:

SUM=HEAD1+HEAD2+LEN+ADDR+DATA

3 Return Format

HEAD1	HEAD2	LEN	ADDR	DATA	SUM
-------	-------	-----	------	------	-----

HEAD: 0xED 0xFA

LEN: Data length (DATA digits + 2)

ADDR: data address bits

DATA: Data bits

SUM: SUM=HEAD1+HEAD2+LEN+ADDR+DATA

4 Commands

4.1 Query device status (data address bit 0x00)

Send command:

0xEF	0xEF	0x02	0x00	0xE0
------	------	------	------	------

Return command:

0xED	0xFA	0x0E	0x00	DATA(1~12)	SUM
------	------	------	------	------------	-----

Current Read 1 = DATA1*256+DATA2(mA)

Current Read 2 = DATA3*256+DATA4(mA)

Input Power Read = (DATA5*256+DATA6)/100-70(dBm)

Output Power Read = (DATA7*256+DATA8)/100-70(dBm)

Example:

Send command: EF EF 02 00 E0

Return command: ED FA 0E 00 00 C8 03 E8 1F 40 2A F8 07 87 0A 6B 2C

Current Read 1 =0x00*256+0xC8=200(mA)

Current Read 2 =0x03*256+0xE8=1000(mA)

Input Power Read = (0x1F*256+0x40)/100-70=10.00(dBm)

Output Power Read = (0x2A*256+0xF8)/100-70=40.00(dBm)

4.2 Query target power (data address bit 0x03)

Send command:

0xEF	0xEF	0x02	0x03	0xE3
------	------	------	------	------

Return command:

0xED	0xFA	0x04	0x03	DATA(1~2)	SUM
------	------	------	------	-----------	-----

Target Power=(DATA1*256+DATA2)/100-70(dBm)

Example:

Send command: EF EF 02 03 E3

Return command: ED FA 04 03 23 28 39

Target Power=(0x23*256+0x28)/100-70=20.00(dBm)

4.3 Set target power (data address bit 0x04)

Send command:

0xEF	0xEF	0x04	0x04	DATA(1~2)	SUM
------	------	------	------	-----------	-----

Return command:

0xED	0xFA	0x04	0x03	DATA(1~2)	SUM
------	------	------	------	-----------	-----

Target Power=(DATA1*256+DATA2)/100-70(dBm)

Example:

Send command: EF EF 04 04 23 27 30

Return command: ED FA 04 03 23 27 38

Target Power=(0x23*256+0x27)/100-70=19.99(dBm)

4.4 Query working mode (data address bit 0x05)

Send command:

0xEF	0xEF	0x02	0x05	0xE5
------	------	------	------	------

Return command:

0xED	0xFA	0x03	0x05	DATA	SUM
------	------	------	------	------	-----

Work Mode=DATA (0x00 for APC, 0x01 for ACC)

Example:

Send command: EF EF 02 05 E5

Return command: ED FA 03 05 00 EF

Work Mode=0x00 (APC)

Return command: ED FA 03 05 01 F0

4.5 Set the working mode (data address bit 0x06)

Send command:

0xEF	0xEF	0x03	0x06	DATA	SUM
------	------	------	------	------	-----

Return command:

0xED	0xFA	0x03	0x05	DATA	SUM
------	------	------	------	------	-----

Work Mode=DATA (0x00 for APC, 0x01 for ACC)

Example:

Send command: EF EF 03 06 00 E7

Return command: ED FA 03 05 00 EF

Work Mode=0x00 (APC)

4.6 Query target current (data address bit 0x07)

Send command:

0xEF	0xEF	0x02	0x07	0xE7
------	------	------	------	------

Return command:

0xED	0xFA	0x06	0x07	DATA(1~4)	SUM
------	------	------	------	-----------	-----

Current Set=DATA3*256+DATA4(mA) Example:

Send command: EF EF 02 07 E7

Return command: ED FA 06 07 00 C8 01 F4 B1

Current Set=0x01*256+0xF4=500(mA)

4.7 Query the maximum current limit (data address bit 0x09)

Send command:

0xEF	0xEF	0x02	0x09	0xE9
------	------	------	------	------

Return command:

0xED	0xFA	0x06	0x09	DATA(1~4)	SUM
------	------	------	------	-----------	-----

Current Limitation=DATA3*256+DATA4(mA)

Example:

Send command: EF EF 02 09 E9

Return command: ED FA 06 09 00 C8 1F 40 1D

Current=0x1F*256+0x40=8000(mA)

4.8 Set the target current (data address bit 0x0D)

Send command:

0xEF	0xEF	0x04	0x0D	DATA(1~2)	SUM
------	------	------	------	-----------	-----

Return command:

0xED	0xFA	0x06	0x07	DATA(1~4)	SUM
------	------	------	------	-----------	-----

Current Set=DATA1*256+DATA2(mA) Example:

Send command: EF EF 04 0D 01 F3 E3

Return command: ED FA 06 07 00 C8 01 F3 B0

Current=0x01*256+0xF3=499(mA)

If the set value exceeds the maximum current limit, the current target current is returned.

4.9 Query the LD temperature (data address bit 0x0B)

Send command:

0xEF	0xEF	0x02	0x0B	0xEB
------	------	------	------	------

Return command:

0xED	0xFA	0x06	0x0B	DATA(1~4)	SUM
------	------	------	------	-----------	-----

LD Temp 1 =(DATA1*256+DATA2)/100(°C) LD

Temp 2 =(DATA3*256+DATA4)/100(°C)

Example:

Send command: EF EF 02 0B EB

Return command: ED FA 06 0B 09 C4 09 C4 92 LD

Temp 1 =(0x09*256+0xC4)/100=25.00(°C) LD Temp

2 =(0x09*256+0xC4)/100=25.00(°C)

4.10 Soft activation query (address bit 0x25)

Send command:

0xEF	0xEF	0x02	0x25	0x05
------	------	------	------	------

Return command:

0xED	0xFA	0x03	0x25	DATA	SUM
------	------	------	------	------	-----

SoftActive=DATA 1-activation 0-turn off

Example:

Send command: EF EF 02 25 05

Return command:

ED FA 03 25 01 10 activation

ED FA 03 25 00 0F turn off

4.11 Soft Activation Setting (Address 0x26)

Send command:

0xEF	0xEF	0x03	0x26	DATA	SUM
------	------	------	------	------	-----

Return command:

0xED	0xFA	0x03	0x25	DATA	SUM
------	------	------	------	------	-----

SoftActive=DATA 1-activation 0-turn off

Example:

Setting the laser activation

Send command: EF EF 03 26 01 08

Return command: ED FA 03 25 01 10

Turn off

Send command: EF EF 03 26 00 07

Return command: ED FA 03 25 00 0F

The activation command is valid only when the laser is in normal state and the key is turned on.