

3-Series Appliance Module (4257050-RZHAC)

Tuesday, December 01, 2015 12:55 PM

Dongle IEEE Address:	00000000000000C0
3-Series IEEE Address:	000D6F0002F7F09B

1. Start the sniffer (COM33).
2. Connect the dongle (COM34) and open test tool.
3. Enable the AFDE and ZDP monitoring.

The screenshot shows the configuration for the **Command: ZTC-ModeSelectRequest**. On the left, a list of parameters is shown with dropdown menus: UARTTxBlocking[1] (checked), MCPS[1] (DisableMode), NLME[1] (DisableMode), ASP[1] (DisableMode), NLDE[1] (DisableMode), NLMIME[1] (DisableMode), APSDE[1] (DisableMode), AFDE[1] (MonitorMode), APSME[1] (DisableMode), ZDP[1] (MonitorMode), and HealthCare[1] (DisableMode). On the right, a packet capture window shows the following details:

```
TX: ZTC-ModeSelect.Request 02 A3 00 00 01 00 00 00 00 00 00 02 00 02 00 A3
Sync [1 byte] = 02
OpGroup [1 byte] = A3
OpCode [1 byte] = 00
Length [1 byte] = 08
UARTTxBlocking [1 byte] = 01 (true)
MCPS [1 byte] = 00 (DisableMode)
NLME [1 byte] = 00 (DisableMode)
ASP [1 byte] = 00 (DisableMode)
NLDE [1 byte] = 00 (DisableMode)
NLMIME [1 byte] = 00 (DisableMode)
APSDE [1 byte] = 00 (DisableMode)
AFDE [1 byte] = 02 (MonitorMode)
APSME [1 byte] = 00 (DisableMode)
ZDP [1 byte] = 02 (MonitorMode)
HealthCare [1 byte] = 00 (DisableMode)
CRC [1 byte] = A9

RX: ZTC-ModeSelect.Confirm 02 A4 00 01 00 A5
Sync [1 byte] = 02
OpGroup [1 byte] = A4
OpCode [1 byte] = 00
Length [1 byte] = 01
Status [1 byte] = 00 (gSuccess)
CRC [1 byte] = A6
```

4. Set channel.

The screenshot shows the configuration for the **Command: ZTC-SetChannelRequest**. The Channel[1] field is set to 0x0B. On the right, a packet capture window shows the following details:

```
TX: ZTC-SetChannel.Request 02 A3 13 01 0B BA
Sync [1 byte] = 02
OpGroup [1 byte] = A3
OpCode [1 byte] = 13
Length [1 byte] = 01
Channel [1 byte] = 0B
CRC [1 byte] = BA

RX: ZTC-SetChannel.Confirm 02 A4 13 01 00 B6
Sync [1 byte] = 02
OpGroup [1 byte] = A4
OpCode [1 byte] = 13
Length [1 byte] = 01
Status [1 byte] = 00 (SUCCESS)
CRC [1 byte] = B6
```

5. Set PAN ID.

The screenshot shows the configuration for the **Command: NLME-SETRequest**. The parameters are: NIBAttribute[1] (nwkpPanId), iIndex[1] (0x00), iEntries[1] (0x01), iEntrySize[1] (0x02), and nwkpPanId[2] (0x1234). On the right, a packet capture window shows the following details:

```
TX: NLME-SET.Request 02 A3 23 06 80 00 01 02 34 12 23
Sync [1 byte] = 02
OpGroup [1 byte] = A3
OpCode [1 byte] = 23
Length [1 byte] = 06
NIBAttribute [1 byte] = 80 (nwkpPanId)
iIndex [1 byte] = 00
iEntries [1 byte] = 01
iEntrySize [1 byte] = 02
nwkpPanId [2 bytes] = 12 34
CRC [1 byte] = 23

RX: NLME-SET.Confirm 02 A4 23 01 00 86
Sync [1 byte] = 02
OpGroup [1 byte] = A4
OpCode [1 byte] = 23
Length [1 byte] = 01
Status [1 byte] = 00 (gSuccess)
CRC [1 byte] = 86
```




14	47	15:43:32.588209	15.020672	11	ZigBee	NWK	Link Status	0x0000	0xFFFF	26
15	47	15:43:35.699601	3.111392	11	ZigBee	NWK	Link Status	0x0FE6	0xFFFF	82
16	48	15:43:36.202881	0.503280	11	ZigBee	ZDP	Management Permit Joining Request	0x0FE6	0xFFFF	83
17	47	15:43:36.217953	0.015072	11	ZigBee	ZDP	Management Permit Joining Response	0x0000	0x0FE6	27
18	5	15:43:36.219841	0.001888	11	ZigBee	MAC	Acknowledgement			27
19	55	15:43:36.225185	0.005344	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	84
20	55	15:43:36.228497	0.003312	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	84
21	5	15:43:36.230641	0.002144	11	ZigBee	MAC	Acknowledgement			84
22	48	15:43:36.245457	0.014816	11	ZigBee	ZDP	Management Permit Joining Request	0x0000	0xFFFF	28
23	45	15:43:36.272993	0.027536	11	ZigBee	APS	Acknowledgement	0x0FE6	0x0000	85
24	5	15:43:36.274817	0.001824	11	ZigBee	MAC	Acknowledgement			85
25	48	15:43:36.418305	0.143488	11	ZigBee	ZDP	Management Permit Joining Request	0x0000	0xFFFF	29
26	48	15:43:36.620385	0.202080	11	ZigBee	ZDP	Management Permit Joining Request	0x0000	0xFFFF	30
27	48	15:43:36.661041	0.040656	11	ZigBee	ZDP	Management Permit Joining Request	0x0FE6	0xFFFF	86
28	48	15:43:37.115633	0.454592	11	ZigBee	ZDP	Management Permit Joining Request	0x0FE6	0xFFFF	87
29	50	15:43:39.786497	2.670864	11	ZigBee	NWK	Link Status	0x0FE6	0xFFFF	88
30	50	15:43:44.168705	4.382208	11	ZigBee	NWK	Link Status	0x0FE6	0xFFFF	89
31	50	15:43:47.593521	3.424816	11	ZigBee	NWK	Link Status	0x0000	0xFFFF	31
32	50	15:43:48.406977	0.813456	11	ZigBee	NWK	Link Status	0x0FE6	0xFFFF	90
33	50	15:44:02.594753	14.187776	11	ZigBee	NWK	Link Status	0x0000	0xFFFF	32
34	50	15:44:04.761665	2.166912	11	ZigBee	NWK	Link Status	0x0FE6	0xFFFF	91
35	54	15:44:06.477073	1.715408	11	ZigBee	ZDP	Match Descriptor Request	0x0FE6	0xFFFF	92
36	54	15:44:06.502689	0.025616	11	ZigBee	ZDP	Match Descriptor Request	0x0000	0xFFFF	33
37	54	15:44:06.742865	0.240176	11	ZigBee	ZDP	Match Descriptor Request	0x0000	0xFFFF	34
38	54	15:44:06.914849	0.171984	11	ZigBee	ZDP	Match Descriptor Request	0x0000	0xFFFF	35
39	54	15:44:06.966177	0.051328	11	ZigBee	ZDP	Match Descriptor Request	0x0FE6	0xFFFF	93
40	54	15:44:07.429745	0.463568	11	ZigBee	ZDP	Match Descriptor Request	0x0FE6	0xFFFF	94
41	50	15:44:17.607873	10.178128	11	ZigBee	NWK	Link Status	0x0000	0xFFFF	36
42	50	15:44:19.993105	2.385232	11	ZigBee	NWK	Link Status	0x0FE6	0xFFFF	95

8. Verify the active endpoints.

61	48	15:46:45.164388	2.737872	11	ZigBee	ZDP	Active Endpoints Request	0x0000	0x0FE6	46
62	5	15:46:45.166308	0.001920	11	ZigBee	MAC	Acknowledgement			46
63	55	15:46:45.170756	0.004448	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	105
64	5	15:46:45.172916	0.002160	11	ZigBee	MAC	Acknowledgement			105
65	51	15:46:45.219556	0.046640	11	ZigBee	ZDP	Active Endpoints Response	0x0FE6	0x0000	106
66	5	15:46:45.221588	0.002032	11	ZigBee	MAC	Acknowledgement			106

ZDP Transaction Sequence Number: 2
 ▲ Active Endpoints Response: 0x01010FE600
 Status: [0x00] Success
 NWK Address of Interest: 0x0FE6
 Active Endpoints Count: 1
 ▲ Active Endpoints List: 0x01
 Endpoint 0: 0x01

9. Verify active clusters.

450	67	16:19:36.892753	3.211584	11	ZigBee	ZDP	Bind Request	0x0000	0x0FE6	211
451	5	16:19:36.895281	0.002528	11	ZigBee	MAC	Acknowledgement			211
452	55	16:19:36.901809	0.006528	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	16
453	5	16:19:36.903969	0.002160	11	ZigBee	MAC	Acknowledgement			16
454	47	16:19:36.949137	0.045168	11	ZigBee	ZDP	Bind Response	0x0FE6	0x0000	17
455	5	16:19:36.951041	0.001904	11	ZigBee	MAC	Acknowledgement			17

12. Configure on/off reporting

535	56	16:27:02.633382	12.997776	11	ZigBee	ZCL	On/Off: Configure Reporting	0x0000	0x0FE6	248
536	5	16:27:02.635558	0.002176	11	ZigBee	MAC	Acknowledgement			248
537	55	16:27:02.669414	0.033856	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	53
538	5	16:27:02.671574	0.002160	11	ZigBee	MAC	Acknowledgement			53
539	49	16:27:02.713174	0.041600	11	ZigBee	ZCL	On/Off: Configure Reporting Respo...	0x0FE6	0x0000	54
540	5	16:27:02.715142	0.001968	11	ZigBee	MAC	Acknowledgement			54
541	45	16:27:02.723910	0.008768	11	ZigBee	APS	Acknowledgement	0x0000	0x0FE6	249
542	5	16:27:02.725734	0.001824	11	ZigBee	MAC	Acknowledgement			249
543	50	16:27:02.731494	0.005760	11	ZigBee	ZCL	On/Off: Default Response	0x0000	0x0FE6	250
544	5	16:27:02.733478	0.001984	11	ZigBee	MAC	Acknowledgement			250

13. Turn on the light by pressing the push button

557	5	16:20:19.863990	0.002144	11	ZigBee	MAC	Acknowledgement			60
558	5	16:20:19.918662	0.002064	11	ZigBee	MAC	Acknowledgement			61
560	45	16:20:19.918774	0.008112	11	ZigBee	APS	Acknowledgement	0x0000	0x0FE6	1
561	5	16:20:19.920598	0.001824	11	ZigBee	MAC	Acknowledgement			1
563	50	16:20:19.924758	0.009160	11	ZigBee	ZCL	On/Off: Default Response	0x0000	0x0FE6	2
562	5	16:20:19.926742	0.001984	11	ZigBee	MAC	Acknowledgement			2
564	55	16:20:20.318790	0.392043	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	62
565	5	16:20:20.320934	0.002144	11	ZigBee	MAC	Acknowledgement			62
566	53	16:20:20.363543	0.044080	11	ZigBee	ZCL	Electrical Measurement: Report AT...	0x0FE6	0x0000	63
567	5	16:20:20.367622	0.002080	11	ZigBee	MAC	Acknowledgement			63
568	45	16:20:20.376398	0.008768	11	ZigBee	APS	Acknowledgement	0x0000	0x0FE6	3
569	5	16:20:20.378214	0.001824	11	ZigBee	MAC	Acknowledgement			3
570	50	16:20:20.380910	0.006720	11	ZigBee	ZCL	Electrical Measurement: Default R...	0x0000	0x0FE6	4
571	5	16:20:20.380918	0.001984	11	ZigBee	MAC	Acknowledgement			4
572	55	16:20:21.022470	0.935552	11	ZigBee	NWK	Route Record	0x0FE6	0x0000	64
573	5	16:20:21.024614	0.002144	11	ZigBee	MAC	Acknowledgement			64
574	53	16:20:21.369654	0.048048	11	ZigBee	ZCL	Electrical Measurement: Report AT...	0x0FE6	0x0000	65
575	5	16:20:21.371734	0.002080	11	ZigBee	MAC	Acknowledgement			65
576	45	16:20:21.380822	0.008080	11	ZigBee	APS	Acknowledgement	0x0000	0x0FE6	5
577	5	16:20:21.382646	0.001824	11	ZigBee	MAC	Acknowledgement			5
578	50	16:20:21.390000	0.007500	11	ZigBee	ZCL	Electrical Measurement: Default R...	0x0000	0x0FE6	6
579	5	16:20:21.393190	0.001984	11	ZigBee	MAC	Acknowledgement			6

14. Configure temperature reporting

