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SHENZHEN DIGITALTEK ELECTRONICS CO.,LTD

End Device Test Report:

1，40 pieces modules combine a network

（1） C power on, 1st R power on, then the R join in automatically (0001);

（2） C power off, keep R (0001) on, 2nd R power on, the R join in automatically (0002);

（3） Likewise, 3rd R (0003), 4th R (0004), 5th R (0005) join in;

（4） Due to C can only distribute address for 5 layers R, 6th R (0006) join in network via 4th R (0004);

（5） … …

（6） Keep C power on and other R off, power on 14 pieces E one by one, short address are 796F – 797C;

（7） Keep C and R (0002) on, power on 13 pieces E one by one, short address are 0351 – 035E;

（8） Keep C and R (0003) on, power on 6 pieces E one by one, short address are 0082 – 0087;

As shown in figure:
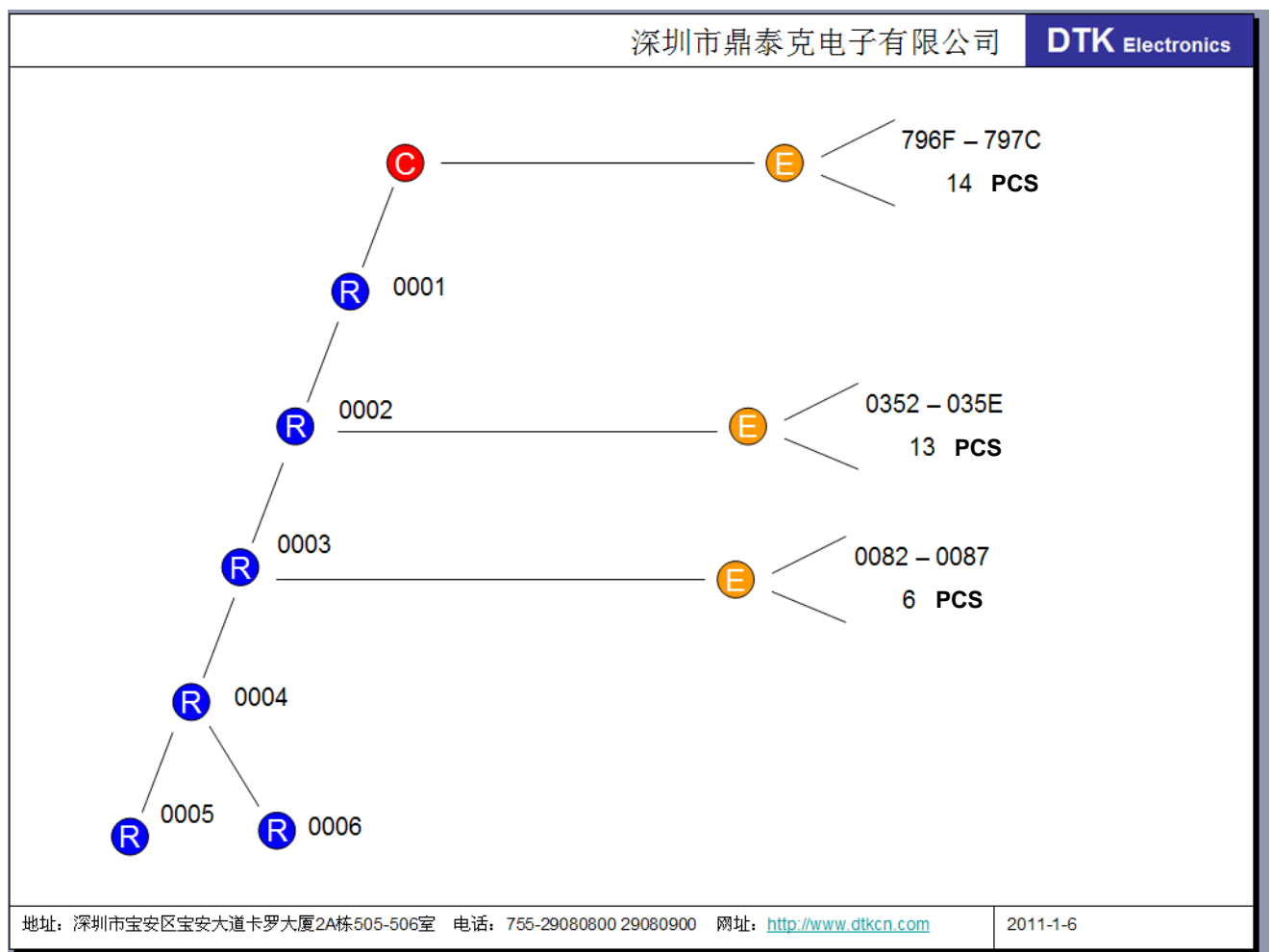
The number of join the network:

（1） Coordinator can distribute short address to 6 Routers and 14 End Devices;

（2） Router can distribute short address to 6 Routers and 14 End Devices;

（3） After 4th layer, Router can not distribute short address to Router and End Device, e.g. R（0005），R（0006）.

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2，Router rule

（1） After distributing all short addresses, Coordinator can not communicate with End Devices whose short addresses are distributed by Routers. Such as:
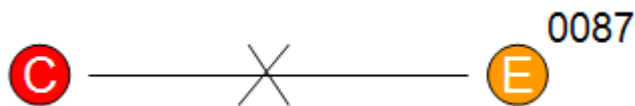
（2） After distributing all short addresses, Router can not communicate with End Devices whose short addresses are distributed by other Routers. Such as the short address of E (0087) shows as FFFE, but E (0087) remain in the network actually. Once R (0003) power on, E (0087) can communicate without config.
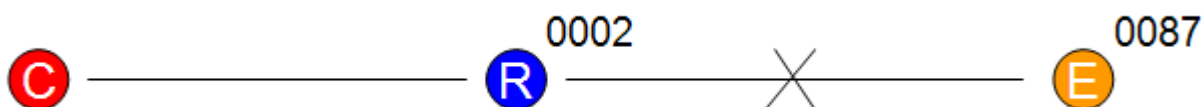
（3） This E（0087） can be routed by R（0001）, R（0003） and R（0004）;
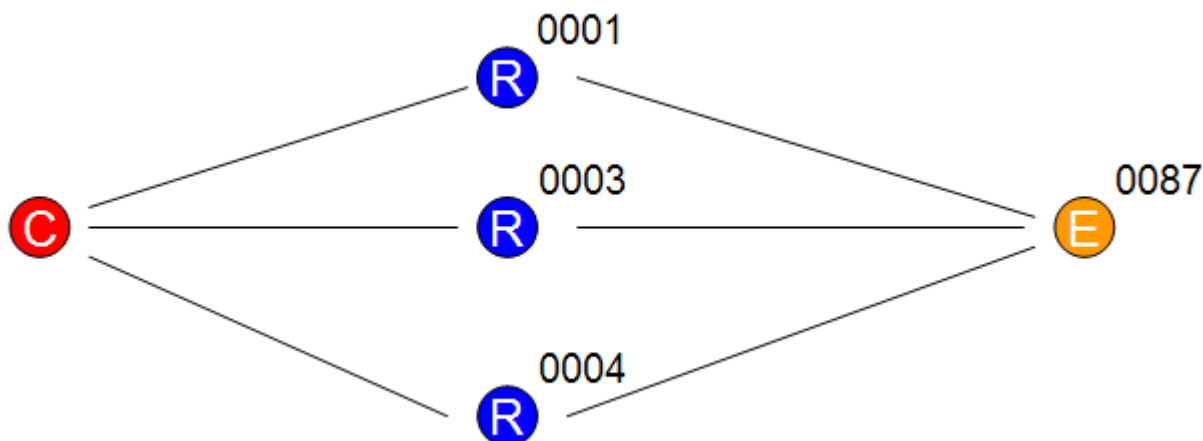
（4） Don't re-set father node, otherwise the son node will disconnect the network;
（5） For a network which is just composed of End Devices, Coordinator and the father node must keep power on.

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Router Test Report:

1，25 pieces modules combine a network

（1） C power on, 1st R power on, then the R join in automatically (0001);

（2） C power off, keep R (0001) on, 2nd R power on, the R join in automatically (0002);

（3） Likewise, 3rd R (0003), 4th R (0004), 5th R (0005) join in;

（4） Due to C can only distribute address for 5 layers R, 6th R (0006) join in network via 4th R (0004);

（5） … …

（6） All Rs power off, C power on, a new R power on, then the R join in automatically (143E);

（7） Keep C on, keep all Rs on, then other new Rs join in one by one as R (287B), R (3CB8), R (50F5), R (6532);

（8） C power off, keep R (143E) on, then other new Rs join in one by one as R (143F), R (179C), R (1AF9), R (1E56), R (21B3), R (2510);

（9） Keep R (287B) power on, then other new Rs join in one by one as R (287C), R (2BD9), R (2F36), R (3293), R (35F0), R (394D);

（10） Keep R（394D） power on, then other new Rs join in one by one as R (394E), R (39DB);

Relationship as shown in figure:

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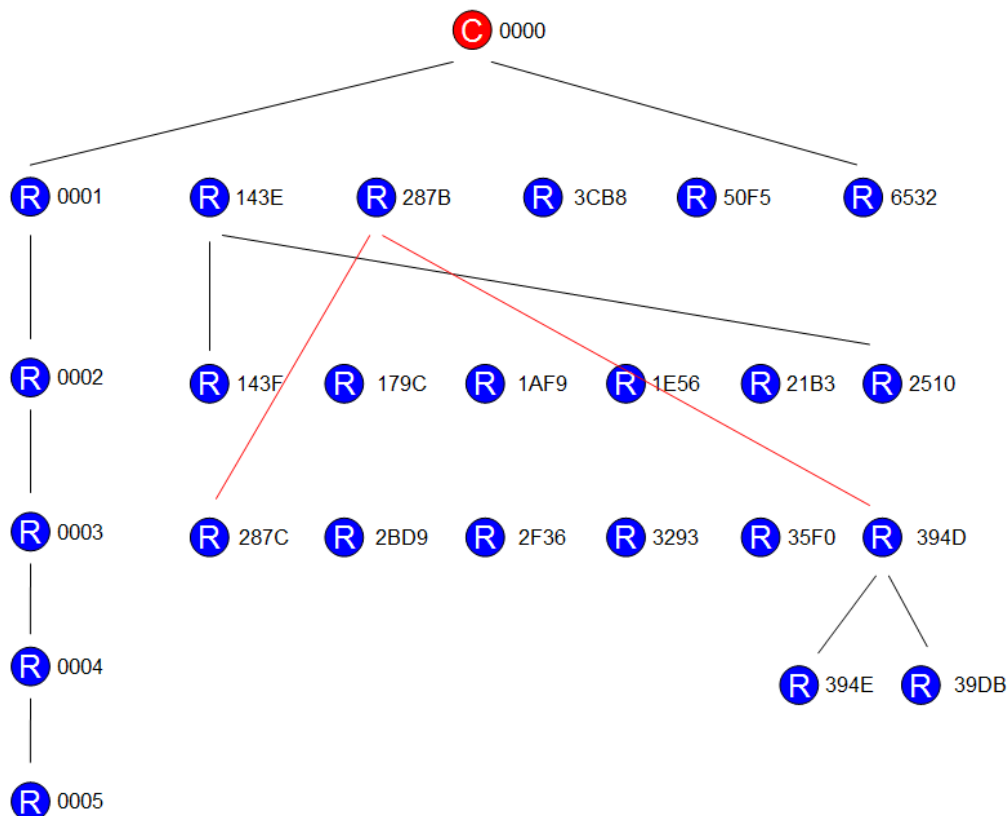
The number of join the network:

（1） Coordinator can distribute short address to 6 Routers;
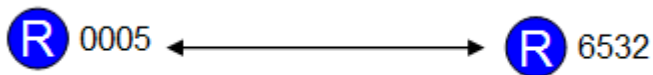
（2） Router can distribute short address to 6 Routers;

（3） One network can only distribute short address of 5 layers, the number of nodes in 5th layer is 6*6*6*6*6 = 7776 pieces.

2，Router Rule:

（1） Each R can communicates with C directly, it does not depend on the father R whether power on;

R 0005 ←——————→ **C** 0000

（2） Each node can communicates with any other one;

R 0005 ←——————→ **R** 6532

（3） The Router which has no short address to distribute can also be routing for other Routers.

R 0005 ←——————→ **R** 143E ←——————→ **C** 0000