CLAIMS

What is claimed is:

1.   A method for active scanning in a network comprising two transmitters comprising:

detecting a first probe request having a scanning target originating from a first transmitter;

desiring to send a probe request to the scanning target from a second transmitter; and

canceling the second probe request on a condition that the second transmitter detects the first probe request.

2.   The method of claim 1 wherein a relative received signal strength indicator (RSSI) of the first probe request frame is no less than a pre-defined threshold.

3.   The method of claim 1, wherein the probe request is transmitted by first station, and a probe response is sent in response to the first probe request, from an access point.

4.   The method of claim 1, wherein an SME generates a MLME-Scan-STOP.request primitive with an indication to stop active scanning of a current channel, on a condition that the first probe request is detected by the second transmitter.

5.   The method of claim 1, further comprising:

sending the probe request to the scanning target from the second transmitter on a condition that the second transmitter does not detect the first probe request with a same scanning target.

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6.   A method for active scanning in a network comprising two transmitters comprising:

sending a first probe request having a scanning target from a first transmitter;

desiring to send a second probe request to the scanning target from a second transmitter;

detecting a probe response to the first probe request;

canceling a probe request from the second transmitter on a condition that the second transmitter detects the probe response.

7.   The method of claim 6, wherein a relative received signal strength indicator (RSSI) of the first probe request frame is no less than a pre-defined threshold.

8.   The method of claim 7, further comprising:

setting a network allocation vector (NAV) to 0 and scanning a next channel on a condition that a PHY-CCA.indication primitive is not detected before the ProbeTimer reaches a MinChannelTime.

9.   The method of claim 6, wherein the probe request is transmitted by first station and the detection takes place at a second station, and the probe response is sent by an access point.

10.   The method of claim 6, wherein an SME generates a MLME-Scan-STOP.request primitive with an indication to stop active scanning of a current channel, on a condition that the probe response to the first probe request is sent.

11.   The method of claim 6, further comprising:

sending the second probe request to the scanning target on a condition that the second transmitter does not detect the probe response with a same scanning target.

12.   A method for active scanning in a network comprising at least two transmit/receive units (TRUs) comprising:

desiring to send a probe request from a first TRU to obtain the channel information of the channel to be scanned;

transmitting the channel information by a second TRU;

receiving the desired channel information by the first TRU; and

canceling a probe request from the first TRU.

13.   The method of claim 12, wherein the channel information received by the first WTRU is contained in a beacon frame transmitted from the second TRU.

14.   The method of claim 12, wherein the channel information received by the first WTRU is contained in a probe response frame transmitted from the second WTRU, wherein the probe response frame is transmitted as a response to a Probe Request from a third WTRU to the second TRU.

15.   The method of claim 12, wherein the channel information received by the first TRU is contained in a broadcast frame transmitted from the second TRU, further including at least one of the following: a short beacon frame, Fast Initial Link Setup (FILS) discovery frame, or measurement pilot frame.

16.   The method of claim 12, wherein the channel information is received by the first TRU during a waiting time interval between upon the receipt of the

MLME-SCAN.request primitive with ScanType indicating an active scan and the transmission of the probe request.

17.   The method of claim 16, wherein the waiting time further comprises a probe delay time, a time used to perform channel access procedure before transmitting, and a time used to adjust the waiting time interval.

18.   The methods of claim 16, further comprising adjusting the waiting time interval for receiving the channel information.

19.   The method of claim 12, wherein the cancelation of the probe request transmission from the first TRU comprises an SME generating a MLME-Scan-STOP.request primitive with an indication to stop active scanning of a current channel, on a condition that the channel information is received at the first TRU.

20.   The method of claim 12, wherein the cancelation of the probe request transmission from the first TRU comprises stopping active scanning of a current channel and switching to scan the next channel or reporting the collected channel information of the current channel.