transmission and the at least one non-scheduled grant is a grant for non-scheduled data transmission;

circuitry configured to transmit an enhanced uplink medium access control (MAC-e) protocol data unit (PDU) payload amount over an enhanced dedicated channel (E-DCH);

wherein the MAC-e PDU includes multiplexed data; wherein the multiplexed data includes scheduled data; wherein an amount of the multiplexed data is not greater than a size of a largest supported enhanced uplink transport format combination (E-TFC) size that does not exceed a size based on the received scheduled grant, the received at least one non-scheduled grant, and a power offset; and wherein the MAC-e PDU is transmitted based on a selected E-TFC, wherein the selected E-TFC is a smallest E-TFC that supports the multiplexed data of the MAC-e PDU.

7. The WTRU of claim 6 wherein the supported E-TFCs are determined based on a remaining WTRU transmit power.

8. The WTRU of claim 6 wherein the multiplexed data comprises medium access control for dedicated channel (MAC-d) flow data multiplexed into the MAC-e PDU based on a priority associated with the MAC-d flow data.