

CLAIMS

1. A method of low density parity check (LDPC) encoding, the method comprising:

maintaining a plurality of LDPC base graphs, the plurality of LDPC base graphs comprising at least a first LDPC base graph associated with a first information block length range and a second LDPC base graph associated with a second information block length range, wherein the second information block length range comprises a subset of the first information block length range;

selecting a select LDPC base graph from the plurality of LDPC base graphs for an information block based, at least in part, on an information block length of the information block;

encoding the information block utilizing the select LDPC base graph to produce a codeword; and

transmitting the codeword over a wireless air interface.

2. The method of claim 1, wherein selecting the select LDPC base graph for the information block based, at least in part, on the information block length of the information block further comprises:

selecting the first LDPC base graph as the select LDPC base graph from among the maintained LDPC base graphs if only the first LDPC base graph supports the information block length of the information block.

3. The method of claim 1, wherein selecting the select LDPC base graph for the information block based, at least in part, on the information block length of the information block further comprises:

selecting the select LDPC base graph further based, at least in part, on a lift size.

4. The method of claim 3, wherein selecting the select LDPC base graph further based, at least in part, on the lift size further comprises:

selecting the first LDPC base graph as the select LDPC base graph if a first lift size applied to the first LDPC base graph to produce the information block length is

greater than a second lift size applied to the second LDPC base graph to produce the information block length.

5. The method of claim 1, wherein selecting the select LDPC base graph for the information block based, at least in part, on the information block length of the information block further comprises:

selecting the select LDPC base graph further based, at least in part, on a code rate utilized to encode the information block.

6. The method of claim 5, wherein the first LDPC base graph is associated with a first code rate range and the second LDPC base graph is associated with a second code rate range, the second code rate range comprising a subset of the first code rate range.

7. The method of claim 6, wherein the second code rate range overlaps the first code rate range and comprises additional code rates outside of the first code rate range.

8. The method of claim 6, wherein selecting the select LDPC base graph further based, at least in part, on the code rate utilized to encode the information block further comprises:

selecting the first LDPC base graph as the select LDPC base graph from among the maintained LDPC base graphs if only the first code rate range comprises the code rate utilized to encode the information block.

9. The method of claim 8, wherein selecting the select LDPC base graph further based, at least in part, on the code rate utilized to encode the information block further comprises:

selecting the select LDPC base graph further based, at least in part, on a lift size.

10. The method of claim 9, wherein selecting the select LDPC base graph further based, at least in part, on the lift size applied to the select LDPC base graph further comprises:

selecting the first LDPC base graph as the select LDPC base graph if a first lift size applied to the first LDPC base graph to produce the information block length is greater than a second lift size applied to the second LDPC base graph to produce the information block length.

11. The method of claim 1, wherein the second information block length range overlaps the first information block length range and comprises additional information block lengths outside of the first information block length range.

12. The method of claim 1, wherein the plurality of LDPC base graphs further comprises a third LDPC base graph associated with a third information block range, wherein the third information block range comprises an additional subset of the first information block range that comprises the second information block range.

13. The method of claim 1, wherein encoding the information block utilizing the select LDPC base graph to produce the codeword further comprises:

selecting an LDPC graph represented by the select LDPC base graph to encode the information block.

14. The method of claim 13, wherein each of the plurality of LDPC base graphs represents a respective plurality of LDPC graphs, each comprising a respective number of bit nodes within a respective bit node range.

15. An apparatus configured for low density parity check (LDPC) coding, comprising:

a transceiver;

a memory; and

a processor communicatively coupled to the transceiver and the memory, the processor configured to:

maintain a plurality of LDPC base graphs, the plurality of LDPC base graphs comprising at least a first LDPC base graph associated with a first information block length range and a second LDPC base graph associated with a second information block length range, wherein the second information block length range comprises a subset of the first information block length range;

select a select LDPC base graph from the plurality of LDPC base graphs for an information block based, at least in part, on an information block length of the information block;

encode the information block utilizing the select LDPC base graph to produce a codeword; and

transmit the codeword over a wireless air interface via the transceiver.

16. The apparatus of claim 15, wherein the processor is further configured to:

select the first LDPC base graph as the select LDPC base graph from among the maintained LDPC base graphs if only the first LDPC base graph supports the information block length of the information block.

17. The apparatus of claim 15, wherein the processor is further configured to:

select the select LDPC base graph further based, at least in part, on a lift size.

18. The apparatus of claim 17, wherein the processor is further configured to:

select the first LDPC base graph as the select LDPC base graph if a first lift size applied to the first LDPC base graph to produce the information block length is greater than a second lift size applied to the second LDPC base graph to produce the information block length.

19. The apparatus of claim 15, wherein the processor is further configured to:

select the select LDPC base graph further based, at least in part, on a code rate utilized to encode the information block.

20. The apparatus of claim 19, wherein the first LDPC base graph is associated with a first code rate range and the second LDPC base graph is associated with a second code rate range, the second code rate range comprising a subset of the first code rate range.

21. The apparatus of claim 20, wherein the second code rate range overlaps the first code rate range and comprises additional code rates outside of the first code rate range.

22. The apparatus of claim 20, wherein the processor is further configured to:

select the first LDPC base graph as the select LDPC base graph from among the maintained LDPC base graphs if only the first code rate range comprises the code rate utilized to encode the information block.

23. The apparatus of claim 15, wherein the processor is further configured to:

select an LDPC graph represented by the select LDPC base graph to encode the information block.

24. A wireless communication device, comprising:

means for maintaining a plurality of LDPC base graphs, the plurality of LDPC base graphs comprising at least a first LDPC base graph associated with a first information block length range and a second LDPC base graph associated with a second information block length range, wherein the second information block length range comprises a subset of the first information block length range;

means for selecting a select LDPC base graph from the plurality of LDPC base graphs for an information block based, at least in part, on an information block length of the information block;

means for encoding the information block utilizing the select LDPC base graph to produce a codeword; and

means for transmitting the codeword over a wireless air interface.

25. The wireless communication device of claim 24, wherein the means for selecting the select LDPC base graph further comprises:

means for selecting the first LDPC base graph as the select LDPC base graph if a first lift size applied to the first LDPC base graph to produce the information block length is greater than a second lift size applied to the second LDPC base graph to produce the information block length.

26. The wireless communication device of claim 24, wherein the first LDPC base graph is associated with a first code rate range and the second LDPC base graph is associated with a second code rate range, the second code rate range comprising a subset of the first code rate range, and wherein the means for selecting the select LDPC base graph further comprises:

means for selecting the first LDPC base graph as the select LDPC base graph from among the maintained LDPC base graphs if only the first code rate range comprises the code rate utilized to encode the information block.

27. The wireless communication device of claim 24, wherein the means for encoding the information block utilizing the select LDPC base graph to produce the codeword further comprises:

means for selecting an LDPC graph represented by the select LDPC base graph to encode the information block.

28. A non-transitory computer-readable medium storing computer executable code, comprising code for:

maintaining a plurality of LDPC base graphs, the plurality of LDPC base graphs comprising at least a first LDPC base graph associated with a first information block length range and a second LDPC base graph associated with a second information block length range, wherein the second information block length range comprises a subset of the first information block length range;

selecting a select LDPC base graph from the plurality of LDPC base graphs for an information block based, at least in part, on an information block length of the information block;

encoding the information block utilizing the select LDPC base graph to produce a codeword; and

transmitting the codeword over a wireless air interface.

29. The non-transitory computer-readable medium of claim 28, further comprising code for:

selecting the first LDPC base graph as the select LDPC base graph if a first lift size applied to the first LDPC base graph to produce the information block length is

greater than a second lift size applied to the second LDPC base graph to produce the information block length.

30. The non-transitory computer-readable medium of claim 29, wherein the first LDPC base graph is associated with a first code rate range and the second LDPC base graph is associated with a second code rate range, the second code rate range comprising a subset of the first code rate range, and further comprising code for:

selecting the first LDPC base graph as the select LDPC base graph from among the maintained LDPC base graphs if only the first code rate range comprises the code rate utilized to encode the information block.