

information associated with the selected frequency band and mapping the received band quality information into modulation and channel coding for use in communications with said another wireless communication transceiver.

41. The apparatus of claim 40, wherein said modulation is one of QPSK, 16-QAM and 8-PSK, and wherein said channel coding has a coding rate that is one of $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$, $\frac{5}{6}$ and 1.

42. The apparatus of claim 38, wherein said band quality determiner is operable, for each of said frequency bands, to sum squares of the fading parameter amplitude estimates associated with the frequency channels in the frequency band to produce a sum for the frequency band, and wherein said selector is operable for selecting the frequency band whose associated sum is the largest of said sums.

43. The apparatus of claim 38, wherein said band quality determiner is operable, for each of said frequency bands, to select the smallest of the fading parameter amplitude estimates associated with the frequency channels within the frequency band, and wherein said selector is operable for selecting the frequency band whose smallest fading parameter amplitude estimate is the largest of said smallest fading parameter amplitude estimates.

44. The apparatus of claim 38, wherein said band quality determiner is operable, for each of said frequency bands, to

determine the smallest and largest of the fading parameter amplitude estimates associated with the frequency channels of the frequency band and, for each of said frequency bands, to sum squares of the fading parameter amplitude estimates associated with the frequency channels of the frequency band to produce a sum for the frequency band, said band quality determiner further operable for identifying those frequency bands whose smallest and largest fading parameter amplitude estimates have a predetermined mutual relationship, and wherein said selector is operable for selecting from said identified frequency bands the frequency band whose associated sum is the largest of said sums.

45. The apparatus of claim 44, wherein said selector is operable for identifying every frequency band wherein a ratio of the smallest fading parameter amplitude estimate thereof to the largest fading parameter amplitude estimate thereof exceeds a predetermined threshold value.

46. The method of claim 1, wherein at least one of the probe packets is a normal traffic packet from the first wireless packet communication transceiver to the second wireless packet communication transceiver.

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