beam selection **516** based on the received best quality beam number **552** as well as the previously determined best quality beam numbers **552** stored in decision storage system **554**. In one embodiment, decision storage system **554** maintains a set of best quality beam numbers **552** for each traffic channel and determines provisional beam selection **516** based on the beam number occurring most frequently in the set of best quality beam numbers **552**.

[**0214**] In addition, buffer **502** may determine whether to select a provisional beam selection **516** based on whether the quality factor **550** of best quality beam number **552** is sufficient. For example, buffer **502** may determine whether to select a provisional beam selection **516** based on whether the quality factor **550** of best quality beam number **552** meets a particular threshold value. In one embodiment, buffer **502** determines whether to select a provisional beam selection **516** based on whether the quality factor **550** of best quality beam number **552** exceeds that of the next best uplink beam **130** by a particular threshold value.

[**0215**] Beam selection verification module **516** may be operable to determine whether to verify the provisional beam selection **516** selected by buffer **502**, and to select uplink smart decision beam selection **506** accordingly. In particular, beam selection verification module **516** may determine whether to verify the provisional beam selection **516** based on relevant signaling information **180** received from signaling information monitoring system **106**, such as information regarding a new call beginning or an existing call ending, or information regarding frequency hopping. For example, relevant signaling information **180** may comprise frequency hopping information identifying one or more frequencies at which one or more mobile stations **15** are expected to receive traffic signals in particular frames or time slots. Beam selection verification module **516** may use frequency hopping information in conjunction with the provisional beam selection **516** selected by buffer **502** to select the appropriate uplink smart decision beam selection **506** for each frequency.

[**0216**] FIG. **18** illustrates a method of determining uplink smart decision beam selection **506** in accordance with an embodiment of the present invention. The method starts at step **570**. At step **572**, a correlation quality **508** is determined for each uplink beam **130**. In particular, each correlation quality **508** may be determined by correlation module **400**, as described in greater detail below with reference to FIGS. **19** and **20**. At step **574**, a signal strength **438** is determined for each uplink beam **130**. In particular, each signal strength **438** may be determined by signal strength module **402**. In addition, an average signal strength **438** may be determined for each uplink beam **130**, such as discussed above with reference to FIG. **12**.

[**0217**] At step **576**, smart decision beam selection module executes uplink quality factor algorithm **540** based on one or more inputs to determine a quality factor **550** for each uplink beam **130**. In particular, uplink quality factor algorithm **540** may use one or more uplink weights **520** to weight the significance of each input, such as discussed above with reference to FIG. **17**. At step **578**, the beam number of the beam having highest quality factor **550** is determined as best quality beam number **552**.

[**0218**] Best quality beam number **552** is communicated to buffer **502** at step **580**. Buffer **502** determines an appropriate provisional beam selection **516** based on the best quality beam number **552** received at step **580**, as well as previously received best quality beam numbers that are stored in decision storage system **554**. In one embodiment, buffer **502** determines provisional beam selection **516** by selecting the most frequently occurring beam number in buffer **502** for the appropriate time slot, or traffic channel.

[**0219**] At step **584**, it is determined whether provisional beam selection **516** should be verified. In one embodiment, this determination is made by beam selection verification module **514** based on relevant signaling information **180** received from signaling information monitoring system **106**. If it is determined that provisional beam selection **516** should be verified, provisional beam selection **516** is selected as uplink smart decision beam selection **506** at step **586**. If it is determined that provisional beam selection **516** should not be verified, beam selection verification module **514** selects an appropriate uplink smart decision beam selection **506** based at least in part on relevant signaling information **180**.

[**0220**] Whether or not provisional beam selection **516** is verified, the method returns to step **572** to continue sampling the correlation quality **508** and signal strength **438** of each uplink beam **130** in order to repetitively determine the quality factor **550** of each uplink beam **130**. In this manner, the method continues to communicate newly determined best quality beam numbers **552** to buffer **502** which may in turn update provisional beam selection **516** if appropriate.

[**0221**] FIGS. **19** through **21** illustrate a system and method for determining correlation qualities **508** of uplink beams **130** for use in determining a quality factor **550** of each uplink beam **130**.

[**0222**] FIG. **19** illustrates correlation module **400** in accordance with an embodiment of the present invention. Correlation module **400** may include a training sequence database **600**, a correlation algorithm **602**, and a known training sequence selection device **604**. Training sequence database **600** comprises one or more known training sequences **608**. In particular, training sequence database **600** may include each known training sequence **608** used in the appropriate communications standard. For example, in one embodiment, each known training sequence **608** is one of the training sequences defined in GSM standard 05.02, after being modulated by MSK (Minimum Shift Keying) modulation. Known training. sequence selection device **604** is generally operable to determine one or more appropriate training sequences **605** from the group of known training sequences **608** stored in training sequence database **600** with which each uplink beam **130** should be correlated, as discussed below in greater detail.

[**0223**] Correlation module **400** is generally operable to correlate received beam signals with known signals to determine the quality of the received signals. In particular, correlation module **400** is operable to execute correlation algorithm **602** to correlate a signal sequence **606** received via each uplink beam **130** with one or more known training sequences **608** in order to determine a correlation quality **508** of each uplink beam **130**. Correlation algorithm **602** generally determines the similarity between a particular signal sequence **606** and one or more known training sequences **608**. For example, correlation algorithm **602** may compare a signal sequence **606** with a known training