Answers to administrative issues.

Issue 1.
The Ericsson specification for the antenna will always be short monopole configuration with a gain of 0dBi or as close as possible to this figure. Ericsson will can provide an antenna if the customer wishes or the customer with sufficient expertise can design their own antenna for use with their product. Depending on module location and the overall product design, the antenna may be designed as a trace on a printed circuit board or as an antenna to be mounted external to the unit. For external configurations, the antenna will be connected via a shielded coax cable in accordance with Ericsson's specifications. Specific instructions will be given to the purchaser of these modules regarding the antenna gain and interconnecting cable requirements to maintain compliance with the FCC Rules and Ericsson will inform purchasers of the need for conducting measurements to insure the finished product meets all applicable FCC requirements.

Issue 2.
Ericsson does not have a list of possible candidates for use of the module because such a list would extremely extensive. The modules intended applications are for any device where a short-range radio link is desired. It is capable of using modulation inputs from several different sources and thus Ericsson believes that its applications will be very broad. With this broad marketing concept in mind, Ericsson has developed its implementation of the Bluetooth specification to conform to the FCC's modular approval process. It has its own shielding, it buffers all data inputs, regulates the dc input voltage and provides for a specific antenna design, 0 dBi which must be implemented by module purchasers.

Issue 3.
The Bluetooth module has three modes of operation with two modes operating under the hybrid provisions of 15.247 and the third operating under the frequency hopping provisions of 15.247. In page mode and inquiry (acquisition) mode, the module uses a hopping sequence consisting of 32 frequencies. In these modes the combined processing gain from direct sequence and hopping operations is greater than 17 dB. In the connection (link) mode the module uses a pseudorandom hopping sequence of 79 channels. Each unit operating as a system member of a piconet will synchronize to the hopping sequence randomly selected by the master unit.

Issue 4.
The pseudorandom sequence is generated in a nine-stage shift register whose 5^{th} and 9^{th} stage outputs are added in a modulo-two addition stage with the result fed back to the input of the first stage. This produces a pseudorandom sequence length of 511 bits.

Issue 5.
Inquiry and paging modes are only used to monitor members of the system and to establish the initial connection between communicating units. These functions require only very brief intervals of time usually only a few milliseconds and are randomly selected from 32 channels. After the connection is made, the system goes into a

pseudorandom 79 channel hopping sequence for data transmission. The pseudorandom sequence is selected by the master unit system clock and all units within a specific system are synchronized to the same sequence. Since data transmission is not synchronized to initiate on any specific frequency, the random occurrences of request for such transmission and the indeterminate length of such transmissions insure that, on average, each frequency within a hopping sequence is equally used.

Issue 6.
The Bluetooth receiver system is synchronized to the transmission hopping sequence, thus it is synchronized with the transmissions of system members as they occur. This insures that the receiver has the best possible signal to noise ratio.

Issue 7.
In the receiver of the Bluetooth unit, a sliding correlator correlates against the access code and triggers when a threshold is exceeded. This trigger signal is used to determine and synchronize the receive timing. Once locked the system maintains synchronization.

Issues 8 and 9.
The maximum output of this module is 0dBm or 1 milliwatt. In order to exceed the EIRP limit of 4 watts, an antenna with a gain of better than 36 dBi would be required. It is estimated that such an antenna would have a dimension of approximately 4 feet. To connect such an antenna to a device such as Ericsson's Bluetooth module would certainly destroy its prime design functionality of portability. To connect such an antenna would also void the sales contract requirement to follow Ericsson's published requirements for implementation of its module.

Issue 10.
A copy of Ericsson's module specification is included in the file.

Issue 11.
Hopping sequence selection for a system is controlled by the master unit within a specific system. The sequence is selected by a combination of address codes and master unit system clock. There are no provisions for coordination between various systems.