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**August 14, 2001**
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**SPICE Product description**

The product is a 1900MHz transceiver system for mobile phone telecommunication use. The product is known as SPICE 'Small Profile Intelligent Coverage Element' with the designation of 'bSPICE' (base unit) and 'cSPICE' (coverage unit) and is defined as a 'Frequency Translating Repeater System'. Each SPICE unit will have coverage and link frequencies assignable within its entire GSM frequency band.
GSM 1900: 1850-1910 MHz paired with 1930-1990 MHz.

The SPICE network is based upon a distributed coverage architecture, where the SPICE network provides the RF distribution functionality, but relies upon the underlying GSM system to provide the core functionality of the GSM system. This approach dictates that the SPICE network must be essentially transparent to the underlying GSM system.

Operation:
The bSPICE
has antenna ports and interfaces directly with a third-party Base Transceiver Station (BTS) via cables; it can accommodate both duplexed and separate TX & RX connections. It translates the signal received from the BTS to a link frequency, usually a channel within the operator's band allocation. The bSPICE shall be capable of transmitting to a cluster of cSPICE located within the link range of 8km when the cSPICE is at a typical height of 30 meters. This link range assumes in-band back haul, flat terrain, and non Line-of-Sight conditions. The minimum separation between any channel frequencies (link or coverage) shall be 600 kHz.
All external communications with the bSPICE shall be via an internal modem or equivalent modem chipset to allow setup, monitoring & reconfiguration. The maintenance and supervision of a network of SPICE Units will be performed by the OMC (Operation & Maintenance Center) system, resident at the network operator's central office.

The cSPICE
unit contains an integral antenna and receives its input signal on a link frequency from a bSPICE. It shifts that signal to the desired coverage frequency for transmission to the subscriber's handset. No decoding is performed in the main signal path, only RF translation. It will typically be employed as part of a cluster that is simulcasting using an Omnidirectional Pattern (standard antenna) it provides coverage to the subscriber's handset and is located in the footprint of the coverage area. It may be part of a cluster of units that are simulating the same carriers, from the same BTS.

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