

TABLE 1—COMPARISONS OF VARIOUS RFID APPROACHES

	Low frequency	High frequency		Ultrahigh frequency	Microwave
Frequency	125 to 134 kHz	13.56 MHz	JM 13.56 MHz	868 to 915 MHz	2.45 to 5.8 GHz
Market share*	74%	17%	Introduced 2003	6%	3%
Reading distance	As far as 1.2m	As far as 1.2m	As far as 1.2m	As far as 4m**	As far as 15m***
Speed	Not so fast	Medium	Very fast	Fast	Very fast
Wet environment	No influence	No influence	No influence	Bad influence	Bad influence
Orientation of transponder to reader necessary	No	No	No	Partly	Yes
Worldwide-accepted frequency	Yes	Yes	Yes	Partly (European Union, United States)	Partly (not European Union)
Existing ISO standards	11784/85, 14223	18000-3.1/15693, 14443 A, B, and C	18000-3/2	EPC C0, C1, C1G2	18000-4
Major applications	Access, immobilizer, gas, laundry	Library, item tracking, pallet, transportation	Airline, postal, pharmaceutical, cigarettes	Pallet, truck, trailer, tracking	Road toll, container

*Venture Development Corp report 2002, worldwide shipment of RFID transponders (units)

**In the United States

***Active (with battery)