

TABLE 1—5001-99'S FOUR CLASSES

IEEE-ISTO 5001-1999 Class	Class 1	Class 2	Class 3	Class 4
Trace features	None	Adds ownership trace and program trace via auxiliary ports	Adds data-write trace and read/write memory on the fly via auxiliary ports	Allows tracing to be triggered by a watchpoint via auxiliary ports
Debug-communication method	Half-duplex communication	Communication may be full-duplex using auxiliary port	Communication may be full-duplex using auxiliary port	Communication may be full-duplex using auxiliary port
Runtime control	Supports runtime-control features using IEEE-1149.1 interface	Supports runtime-control features using 1149.1 interface or auxiliary port	Supports runtime-control features using 1149.1 interface or auxiliary port	Supports runtime-control features using 1149.1 interface or auxiliary port
Auxiliary port	None	Allows port sharing; the auxiliary port may share slow I/O port pins	Allows port sharing with high-speed I/O ports	Allows port sharing with high-speed I/O ports
Data acquisition	None	None	Supports data acquisition	Supports data acquisition
Memory substitution	None	None	None	Supports memory substitution (fetching or reading data over the IEEE-ISTO 5001-1999 auxiliary port); optional memory substitution triggering on a watchpoint