Following is a table which includes those modules which we can exclude to make a minimal kernel and also gives information about those modules which are necessary to load kernel on OCTEON Board.

Description:

1. Column 1 contains those modules which are necessary to include to compile the kernel on SDK.
2. Column 2 consists of those modules which can easily be excluded to minimize the features of kernel .BY removing these modules Kernel can run on board successfully .
3. Column 3 contains the most important modules which allows the kernel to load on OCTEON board. These modules are also removable and on removing these modules kernel code is also compiled. But kernel couldn't synchronize with OCTEON board. So to load on board these modules should be checked in “menu configuration”.

Modules removed result in Compilation errors	Successfully removed modules	Necessary modules to run kernel on OCTEON Board
1 .Enable loadable module support	1 .Enable the block layer	Real time Clock
2 .System V IPC	2 .General Setup------> ->BSD process accounting ->Prompt for development of incomplete code /drivers ->Disable heap ->Profiling Support ->Quirk workarounds ->Kernel-user space relay support(formerly)	Executable File formats-----> Support for ELF binaries
3 .Networking Support	3 . Device Drivers------> ->I2C support ->USB support ->MISC Devices-----> ->Support initial ramdisks compressed using gzip ->Enable deprecated sys features ->Generic thermal sysfs driver ->Sound card support ->Multimedia Support ->Watchdog timer support ->Staging Drivers ->Hardware crypto devices	Built the kernel to be used as the 2nd kernel on the same chip

	4 .Cryptographic API	
	5 .Kernel hacking ->Enable deprecated Logic ->Enable must_check logic	
	6 .Kernel Type ->High resolution timer support ->Multiprocessing support	
	7. Security Options -> Enable different security modules	
	8 .Kernel hacking -> Debug file system -> Kernel Debugging	

Errors generated by those modules which on removal compile the kernel but don't allow the kernel to load on board.

Removal of

i) Real Time Clock .....generates error "kernel panic not sync int=0".

ii) Support for ELF binaries .....generates error "runaway loop modprobe binfmt _4c46"

iii) Built the kernel to be used as 2nd kernel on same chip .....generates error "turnoff boot console early0"