GScom

Project Budget for Development of Broadband Wireless 1024-QAM Modem

Project Budget Analysis

Employees (Resources)

3 Systems Engineers
3 ASIC (HW) Engineers
1 RF (Analog) Engineer
3 SW Engineers

Total: 10 Engineers

Employee Salary

Employee salary estimation is obtained based on the following assumptions

1. No of employees: 10 engineers
2. Averaged annual salary: $120K USD
3. Product development period: 15 Months

Employee	Months of involvement
Systems Engr I	15
Systems Engr II	14
Systems Engr III	14
ASIC Engr I	15
ASIC Engr II	13
ASIC Engr III	13
RF Engr	13
L1 SW Engr	13
L2 SW Engr	12
L3 SW Engr	12
Total: 10 Engineers	134 Man/Months

Under the assumption of average salary of 120K/year for an engineer and 30% of budget overhead for benefit and operation:

Total Salary + Benefit = 134 (Man/Month) / 12 (Months) X 120K X 1.3 = 1742K USD

Capital Equipment

The following expense estimation is obtained based on the following assumptions
1. No of employees: 10 engineers
2. Product development period: 15 Months

Design Tools:
1. 2 Model sim License (60K)
2. Qaurtus FPGA toolset license (100K)
3. FPGA vendor IP (50K)
4. 10 Laptop Computers (12K)
5. 2 MATLAB License (10K)

Test Equipment (rental)
6. R&S SMA Signal Generator (23K)
7. Spectrum Analyzer (15K)
8. Channel Simulator (20K)
9. Lab equipment, such as power supply, volt meter, etc. (20K)

Budget for Design tool & Test equipment = 310K USD

3 FPGA boards development (60K)
Office rental & Office equipment (180K)

Project Budget Summary

Expense estimation is obtained based on the following assumptions

3. No of employees: 10 engineers
4. Averaged annual salary: $120K USD
5. Product development period: 15 Months

Budget Summary Table

Expense	Expense Items	Expense (K USD)
Employee Salary	Salary	1340
	Benefit	402
	Sub-Total	**1742**
Capital Expense	2 x Model simulator License	60
	Qaurtus FPGA toolset License	100
	FPGA Vendor IP	50
	2 X Matlab License	10
	10 X Laptop Computer	12
	R&S SMA Signal Generator	23
	Spectrum Analyzer	15
	Channel Simulator	20
	Lab equipment (power supply, volt meter, etc.)	20
	Sub-Total	**310**
Product Development	**3 X FPGA board development**	**60**
Operational Expense	Office rent	126
	Office Equipment rent	36
	Utility Fee	18
	Sub-Total	**180**
Grand Total		**2292**

Estimated project budget is $2,300K USD.