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| Lp. | Parameter | Structure (enlisted from top to bottom) | Evaluation metod | result |
|  | GaAs lattice matched |  |  |  |
| 1 | GaAs(ud) background doping | GaAs(nd), buffer, d≥10μmGaAs:Si substrate 4” | Hall | Concentration <5e14cm-3If p-typeµ = 400 cm2/V/s in RT if n-typeµ ≥ 700 cm2/V/s in RT µ ≥ 104 cm2/V/s in 80K |
| 2 | Si doping uniformity and carrier cconcentration (cc) in the range 1x1017 cm-3 & 1x1018 cm-2 | GaAs(Si), d=1000nmGaAs(nd), buffer, d=500nmGaAs(SI), substrate 4” | CV or Hall | (ccmax-ccmin)/ccmean < 3%  |
| 3 | Zn doping uniformity and carrier cconcentration (cc) in the range 1x1017 cm-3 & 1x1018 cm-2 | GaAs:Zn , d=1000nmGaAs(nd), buffer, d=500nmGaAs(SI) substrate 4” | CV or Hall | (ccmax-ccmin)/ccmean <3%  |
| 4 | 2DEG mobility in HEMT structure | Struktura typu HEMT:GaAs:Si, cc ~1e18 cm-3, d=10nmAlxGa1-xAs:Si, x=0.27, cc~1e18 cm-3, d=50 nm AlxGa1-xAs(nd), x=0.27, d=150nm GaAs(SI) substrate 4” | Hall | µ = 6500 w 300Kµ = 100 000 w 80K |
| 5 | GaAs/AlAs on GaAs superlattice thickness (d) and composition (x) uniformity  | GaAs(nd), d=10nmSL: 30x(10nm GaAs/ 15 nm AlGaAs)GaAs(nd), buffer, d=500nmGaAs:Si substrate 4” | HRXRD | (dmax-dmin)/dmean < 2% (xmax-xmin)/xmean < 1%  |
| 6 | Microcavity  | 69.5nm GaAs14.5x (82.2nm AlGaAs, x=0.95 / 70.2nm nm AlGaAs x=0.05)278nm GaAs14.5x (82.2nm AlGaAs, x=0.95 / 70.2nm nm AlGaAs x=0.05)GaAs(n+) substrate 4” | Reflectivity | 100nm broad plateau of R>0.98, resonance width FWHM < 1.5nmWavelength dispersion on the wafer (λmax-λmin)/ λmean < 1% |
| 7 | MQW | 100nm GaAs5x(8nm InxGa1-xAs, x=0.15-0.2020nm GaAs)500nm GaAsGaAs(n+), substrate 4” | HRXRDPL | (dQW,max-d QW,min)/dmean < 2% (x QW,max-x QW,min)/x QW,mean < 1% PL (λ QW,max- λ QW,min)/ λQW,mean < 0.5% FWHM<25nm |
| 8 | MQW | 5x(8nm InGaP50nm {Ga0.67Al0.33)52In47P}500nm GaAsGaAs(n+), substrate 4” | HRXRDPL | HRXRD no alloy ordering(dQW,max-d QW,min)/dmean < 2% (x QW,max-x QW,min)/x QW,mean < 1% PL FWHM < 30nm(λ QW,max- λ QW,min)/ λQW,mean < 0.5%  |

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|  | InP lattice matched |  |  |  |
| 9 | InP(undoped) | 10μm InPInP substrate 4” | HallHRXRD | Concentration <2e15cm-3If p-typeµ = 400 cm2/V/s in RT if n-typeµ ≥ 700 cm2/V/s in RT µ ≥ 104 cm2/V/s in 80KHRXRD – single peak FWHM <20” |
| 10 | InP:Fe | 10μm InP:FeInP, substrate 4” | HallHRXRD | ρ>1e8 ΩcmHRXRD – single peak FWHM <20” |
| 11 | InxGa1-xAs on InP thickness (d) and composition (x) uniformity  | InxGa1-xAs, layer, x~0.47, d=1μmInP, substrate 4” | HRXRD | (dmax-dmin)/dmean <2% (xmax-xmin)/xmean <1%  |
| 12 | double superlattice InGaAs/InAlAs  | SL2: 40x(6nm InxGa1-xAs / 5nm InyAl1-yAs)SL1: 40x(12nm InxGa1-xAs / 5nm InyAl1-yAs)buffor InxGa1-xAs (nd), d=500nmInP:Fe(S), substrate 4”x=0.53-0.55, y=0.50-0.52 | HRXRD | Satelite peaks for SL1 -/+ 2 and 1, respectivelySatelite peaks SL2 -/+ 3 and 2, respectively xSL1-xSL2<1%,ySL1-ySL2<1% |



