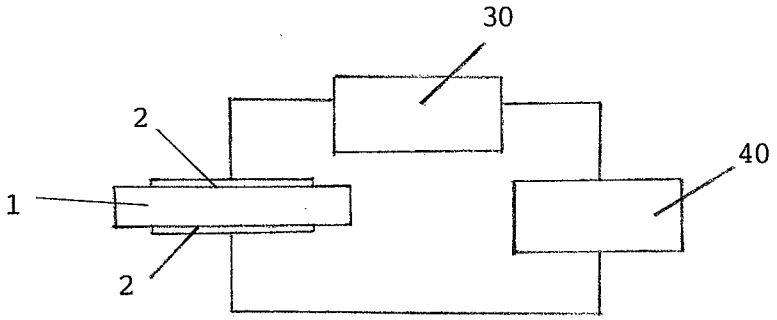


Fig. 1

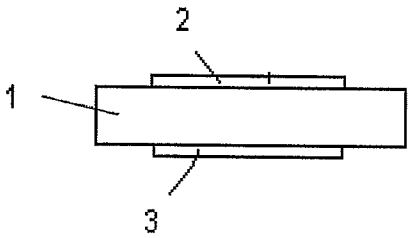


Fig. 2A

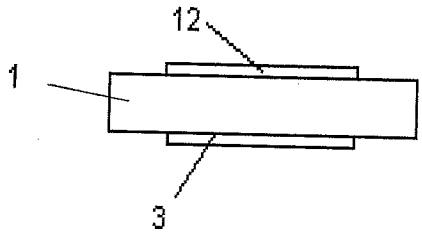


Fig. 2B

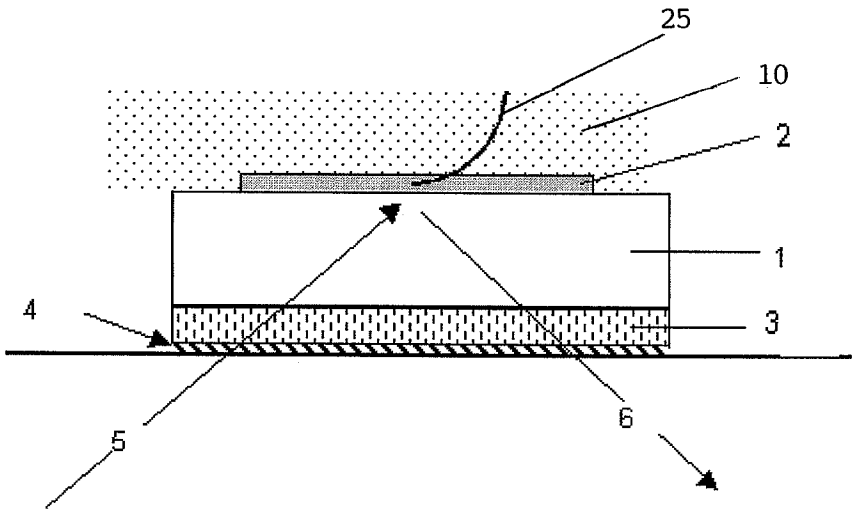


Fig. 3

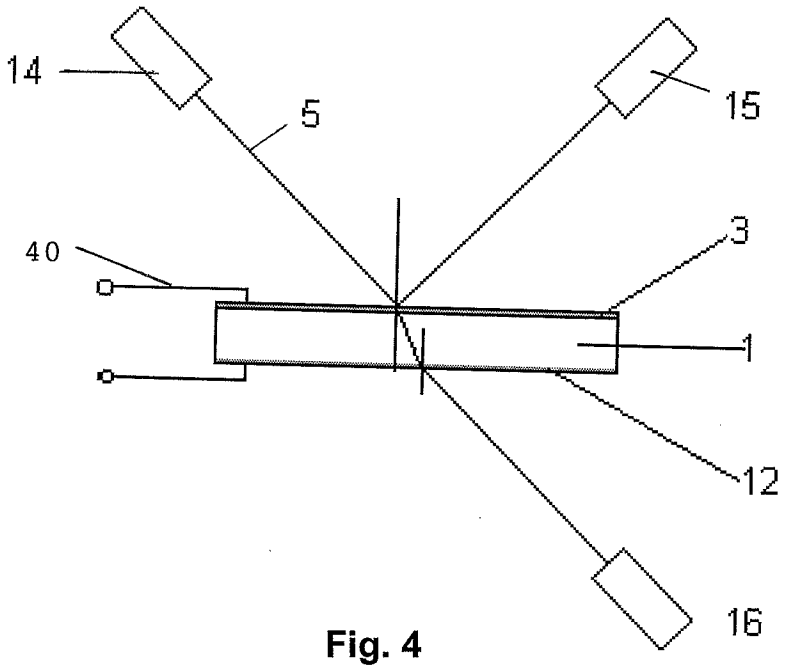


Fig. 4

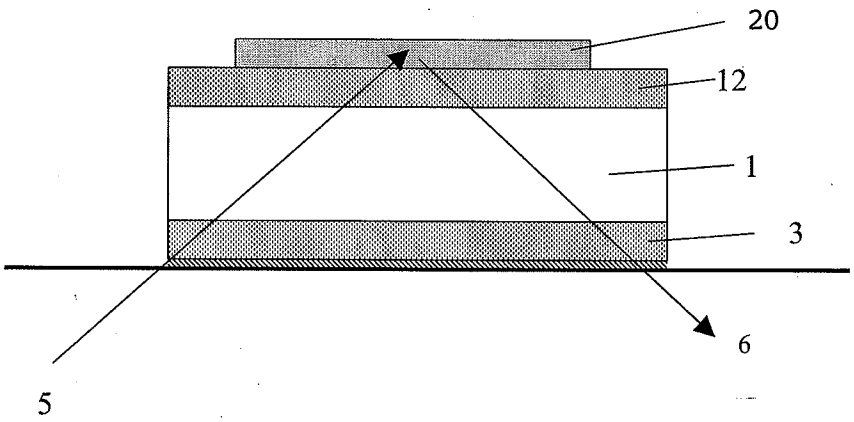


Fig. 5

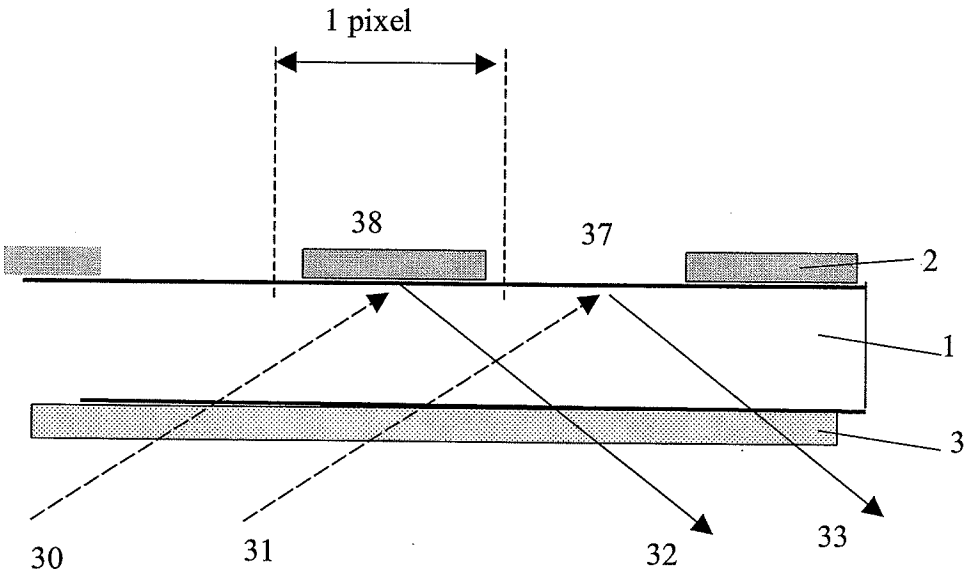


Fig. 6A

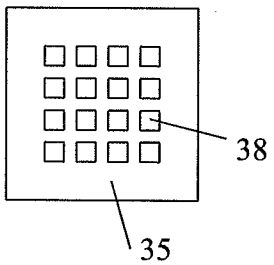


Fig. 6B

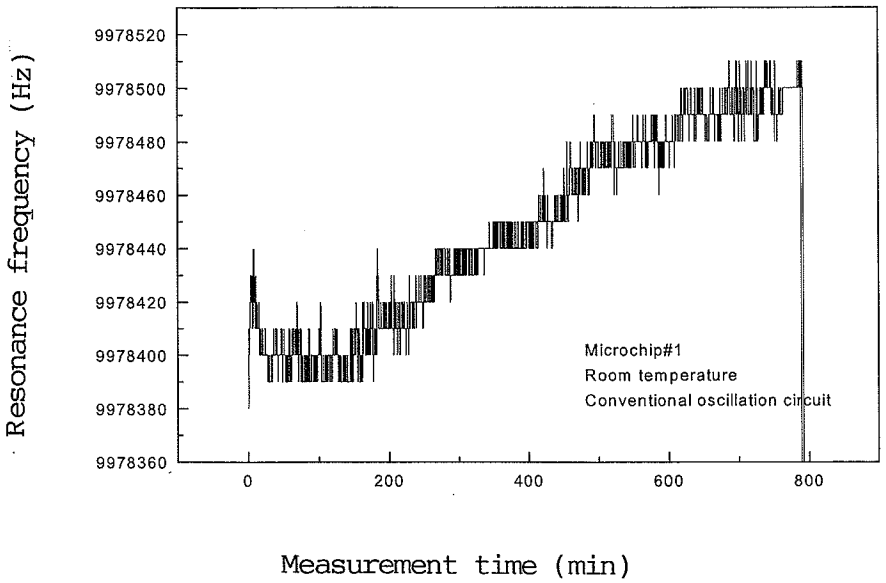

Resonance frequency (Hz)
9978520
9978500
9978480
9978460
9978440
9978420
9978400
9978380
9978360
0
200
400
600
800
Microchip#1
Room temperature
Conventional oscillation circuit
Measurement time (min)

Fig. 7

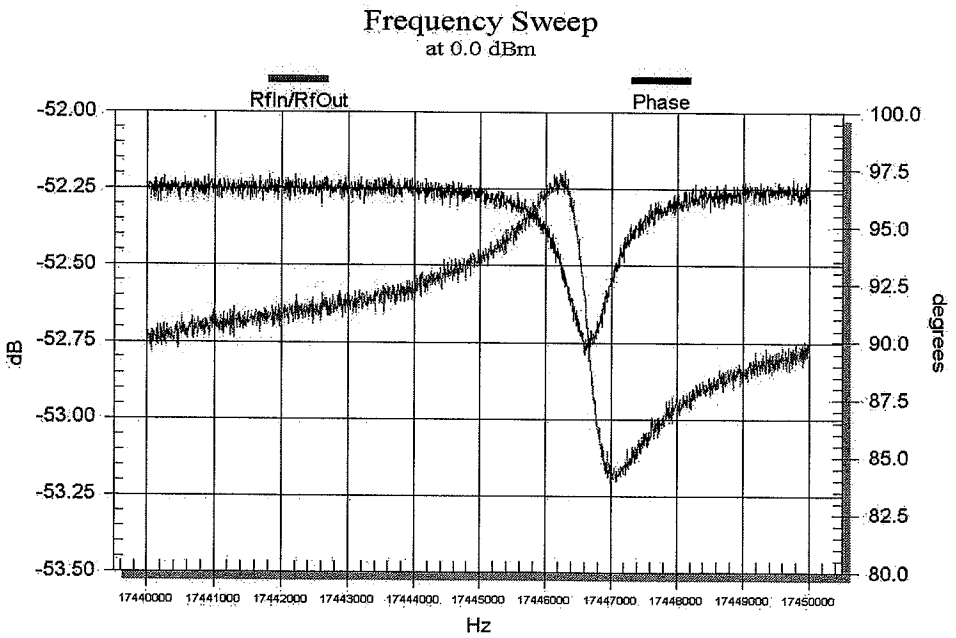

Frequency Sweep
at 0.0 dBm
RfIn/RfOut
Phase
-52.00
-52.25
-52.50
-52.75
-53.00
-53.25
-53.50
dB
100.0
97.5
95.0
92.5
90.0
87.5
85.0
82.5
80.0
degrees
17440000
17441000
17442000
17443000
17444000
17445000
17446000
17447000
17448000
17449000
17450000
Hz

Fig. 8A

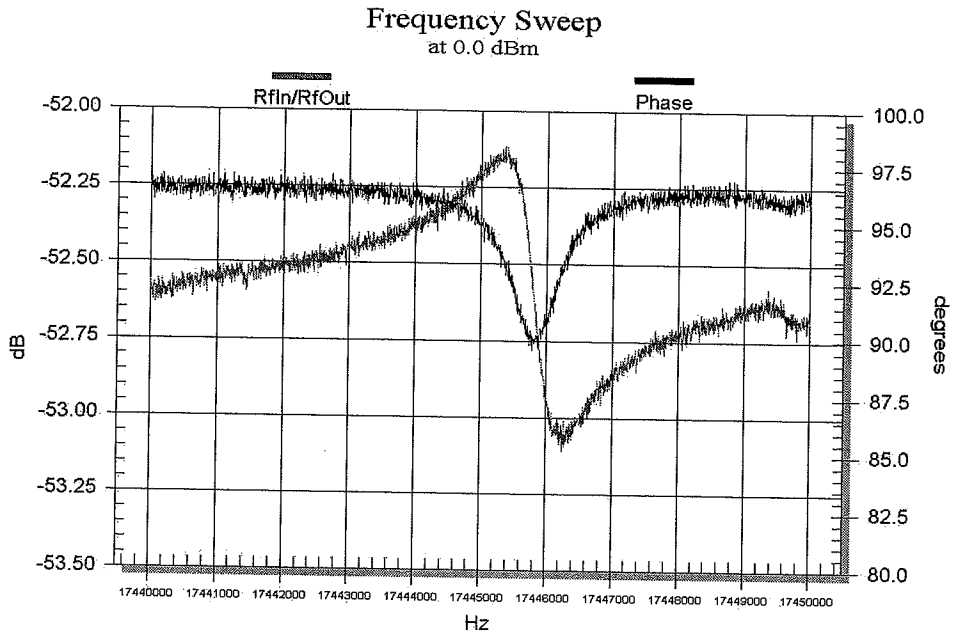

Frequency Sweep
at 0.0 dBm
RfIn/RfOut
Phase
-52.00
-52.25
-52.50
-52.75
-53.00
-53.25
-53.50
dB
100.0
97.5
95.0
92.5
90.0
87.5
85.0
82.5
80.0
degrees
17440000
17441000
17442000
17443000
17444000
17445000
17446000
17447000
17448000
17449000
17450000
Hz

Fig. 8B

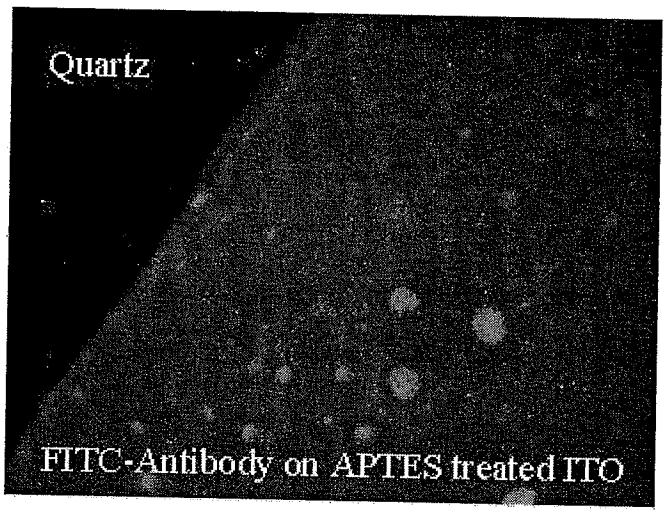

Quartz
FITC-Antibody on APTES treated ITO

Fig. 9

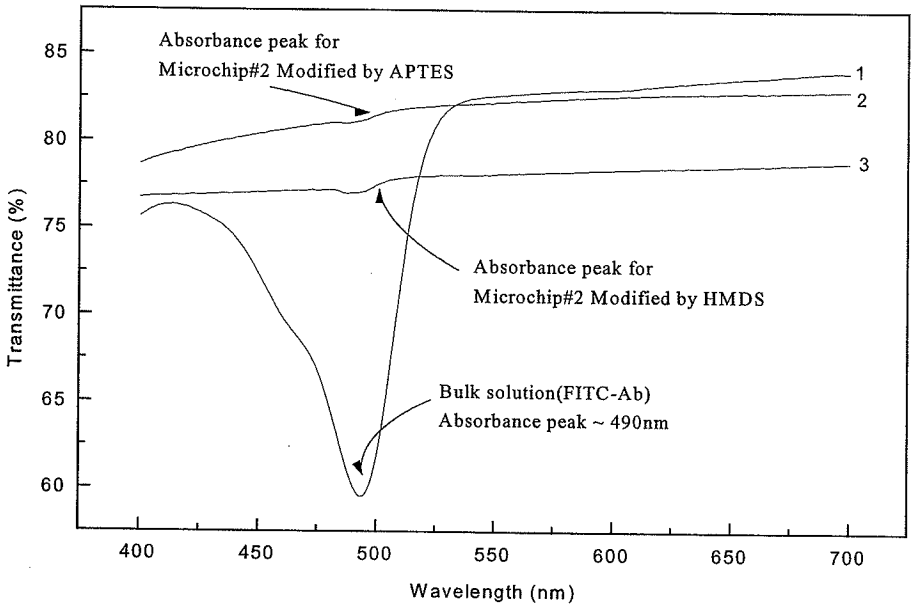


Fig. 10A

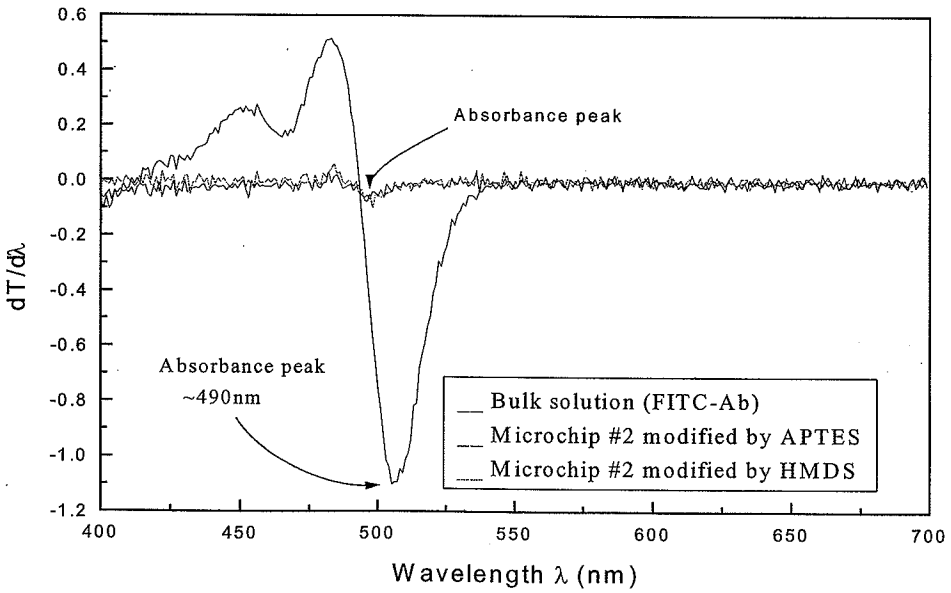


Fig. 10B