Probe: HFX
Part Number: SW50P38N09

Specifications

**Mechanical Specifications:**
Field: 500MHz 89mm bore.
Spinning system: 3.2mm Vespel
  
  Maximum spin rate: 25kHz
  
  Stability: The greater of +/- 0.1% of spin rate or 5 Hz, over 24 Hours.
  
  Active Sample Volume: 20ul (std. volume rotors)

Sample Temperature:
  
  Range: +100 C to -50 C

**RF Specifications:**
Tuning Range (X channel): $^{31}$P to $^{15}$N

Maximum $B_1$ field strengths (Duty cycle not to exceed 1.5%):

$^1$H:
  
  $T_{90}^1 = 2.0\,\text{us} @ 40\,\text{ms}$ maximum length ($<400$ Watts at probe).
  
  Tuning Bandwidth: $\geq -1$ to $+2$ MHz

$^{19}$F:
  
  $T_{90}^{19} = 2.0\,\text{us} @ 40\,\text{ms}$ maximum length ($<400$ Watts at probe).
  
  Tuning Bandwidth: $\geq -1$ to $+2$ MHz

$^1$H & $^{19}$F operating simultaneously:
  
  $T_{90}^1 = 2.3\,\text{us} @ 10\,\text{ms}$ maximum length ($<400$ Watts at probe).

$^{13}$C:
  
  $T_{90}^{13} = 2.0\,\text{us} @ 20\,\text{ms}$ maximum length ($<350$ Watts at probe).

$^{15}$N:
  
  $T_{90}^{15} = 3.6\,\text{us} @ 20\,\text{ms}$ maximum length ($<550$ Watts at probe).

Interchannel Isolation: H and F will exhibit a minimum of 30dB of isolation.

**NMR Specifications:**
Shimming on Adamantane:
  
  0.06 ppm FWHM, FW10%M 0.15ppm.

Signal to Noise: HMB

$^{13}$C: S/N $\geq 99:1$ (HMB, 4 scans, matched filter according to our standard test protocol)

Background:

$^{13}$C: The standard probe will be constructed of modern engineering materials that minimize the presence of $^{13}$C background (as measured via. cross polarization using spin temperature alternation.)

$^{19}$F: The standard probe will exhibit $^{19}$F background.

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$^1T_{90} = \frac{T_{360} - T_{180}}{2}$