DATASHEET
400 X,F/H-D-5-Z

Key Features:

- X channel tuneable to ^{19}F.
- Fast channel adjustment for all nuclei within seconds.
- Full access to all nuclei around ^{2}H on the X channel .

NMR Nucleus	Signal/Noise	Sample, noise range
^{1}H	≥ 500:1*	0.1% Ethylbenzene in Chloroform-D / Noise = 200 Hz, LB = 1 Hz
^{1}H	≥ 100:1*	2mM Sucrose in 90% H_2O/ 10% D_2O / AQ=1s, Noise = 1.5ppm
$^{19}F_{[X]}$ (DEC)	≥ 250:1	TFT in Chloroform-D / Noise = 1 ppm, LB = 0.5 Hz (^{1}H decoupled)
^{31}P	≥ 200:1	TPP in Acetone-D6 / Noise = 5 ppm, LB = 5 Hz
^{13}C	≥ 200:1	ASTM (40% Dioxane in Benzene-D6) / Noise = 40 ppm, LB = 3.5 Hz
^{15}N	≥ 25:1	90% Formamide in DMSO-D6 / Noise = 2 ppm, LB = 0.3 Hz

NMR Nucleus	Pulse Width
^{1}H	≤ 10 µs
$^{19}F_{[X]}$	≤ 15 µs
^{31}P	≤ 15 µs
^{13}C	≤ 15 µs
^{15}N	≤ 20 µs

Description: QUAD 400 X,F/H-D-5-Z is a two radio frequency channel probe, optimized for X detection. The X channel covers ^{19}F and the nuclei range between ^{31}P and ^{15}N. The second probe circuit is tuned to ^{1}H. The probe is equipped with actively shielded single-axis gradient. All channels including lock can be tuned and matched without removing the probe. The probe can be operated at temperatures between -100°C and +150°C using the appropriate accessories (not included). This probe is equipped with FCA (fast channel adjustment) which enables tuning and matching of all channels within seconds without drift.

Feature	Rated	Parameters/Sample
^{1}H Line shape non-spinning*	≤ 0.8/7/14Hz	@ 50%/0.55%/0.11% peak height / Sample 1% Chloroform in Acetone-D6
^{1}H Line shape spinning	≤ 0.6/6/12Hz	@ 50%/0.55%/0.11% peak height / Sample 1% Chloroform in Acetone-D6
VT-range	-100 .... +150°C	
Z-Gradient	60 Gauss/cm (@10A)	

* These specifications are only valid for 400 MHz QUAD spectrometers. Probe performance on other systems may be up to 15% lower due to different configurations (shim system, preamp) .

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