

NeuroQuant / GE 3D T1 Settings

FIELD STRENGTH	1.5 T	3.0 T	3.0 T (PARALLEL IMAGING)*
PLANE	Sagittal	Sagittal	Sagittal
MODE	3D	3D	3D
PULSE SEQUENCE	SPGR	SPGR	SPGR
GRAD MODE	Zoom	Zoom	Zoom
IMAGING OPTIONS	EDR, IrP	EDR, IrP	EDR, IrP
TE	M in Full	M in Full	M in Full
PREP TIME	500 ms	600 ms	600 ms
FLIP ANGLE	10 deg	8 deg	8 deg
BANDWIDTH	~16 kHz	~31 kHz	~31 kHz
FREQUENCY	192	192	192
PHASE	192	192	192
FREQUENCY DIRECTION	S/I	S/I	S/I
NEX (AVERAGES)	1	1	1
PHASE FOV	1	1	1
SHIM	Auto	Auto	Auto
FOV	24.0 – 25.6 cm	24.0 – 25.6 cm	24.0 – 25.6 cm
SLICE THICKNESS	1.2 mm	1.2 mm	1.2 mm
SPACING BETWEEN SLICES	1.2 mm	1.2 mm	1.2 mm
LOCS PER SLAB (NUMBER OF SLICES)	160 - 170	160 - 170	160 - 170
PHASED ARRAY UNIFORMITY ENHANCEMENT (PURE)	On	On	On
PARALLEL IMAGING METHOD	N/A	N/A	ASSET
MAXIMUM PARALLEL IMAGING ACCELERATION FACTOR	N/A	N/A	1.8
SURFACE COIL INTENSITY CORRECTION (SCIC) ¹	Off	Off	Off

Notes

* ASSET parallel imaging compatible with Discovery 750 3T scanners, Signa 3T scanners, and Signa HDxt3T scanners. NeuroQuant 2.0 or greater required.

1. Ensure Surface Coil Intensity Correction (SCIC) is **OFF** to avoid affecting the cortical measurement.
2. CUBE sequence is not compatible with NeuroQuant 3D T1 MRI.

NeuroQuant / Philips 3D T1 Settings

FIELD STRENGTH	1.5 T	3.0 T	3.0 T (PARALLEL IMAGING)*
FOV	240 – 256 mm	240 – 256 mm	240 – 256 mm
RFOV	100 %	100 %	100 %
MATRIX SCAN	192	192	192
SCAN PERCENTAGE	100 %	100 %	100 %
STACKS	1	1	1
SLICES	160 - 170	160 - 170	160 - 170
SLICE THICKNESS	1.2 mm	1.2 mm	1.2 mm
SPACING BETWEEN SLICES	1.2 mm	1.2 mm	1.2 mm
SLICE ORIENTATION	Sagittal	Sagittal	Sagittal
SCAN MODE	3D	3D	3D
TECHNIQUE	FFE	FFE	FFE
CONTRAST ENHANCEMENT	T1	T1	T1
FAST IMAGING MODE	TFE	TFE	TFE
TFE SHOT INTERVAL	2300 ms	2500 ms	2500 ms
ECHOES	1	1	1
TE	4 ms	Shortest	Shortest
FLIP ANGLE	8 deg	9 deg	9 deg
TR	shortest	Shortest	Shortest
TFE PREPULSE DELAY / T1	1000 ms	900 ms	900 ms
WATER FAT SHIFT	Maximum	1.8 pix	1.8 pix
GRADIENT MODE	Default	Maximum	Maximum
CLEAR	On	On	On
PARALLEL IMAGING METHOD	N/A	N/A	SENSE
MAXIMUM PARALLEL IMAGING ACCELERATION FACTOR	N/A	N/A	1.8

Notes

* SENSE parallel imaging compatible with Achieva 3T scanners, Ingenia 3T scanners, and Intera 3T scanners. NeuroQuant 2.0 or greater required.

NeuroQuant / Siemens 3D T1 Settings

	1.5 T	3.0 T	3.0 T (PARALLEL IMAGING)*
FIELD STRENGTH			
ORIENTATION	Sagittal	Sagittal	Sagittal
MODE	3D	3D	3D
SEQUENCE	MPRAGE	MPRAGE	MPRAGE
GRADIENT MODE	Fast	Fast	Fast
MAGN. PREPARATION	Non-Sel. IR	Non-Sel. IR	Non-Sel. IR
RF PULSE TYPE	Fast	Fast	Fast
EXCITATION	Non-Sel.	Non-Sel.	Non-Sel.
TR	2400 ms	2300 ms	2300 ms
TE	minimum	minimum	minimum
TI	1000 ms	900 ms	900 ms
FLIP ANGLE	8 deg	9 deg	9 deg
BANDWIDTH	180 HZ/pix	240 HZ/pix	240 HZ/pix
BASE RESOLUTION	192	192	192
AVERAGES	1	1	1
CONCATENTATIONS	1	1	1
PHASE OVERSAMPLING	0 %	0 %	0 %
SLICE OVERSAMPLING	0 %	0 %	0 %
FOV PHASE	100 %	100 %	100 %
FOV READ	240 – 256 mm	240 – 256 mm	240 – 256 mm
SLICE THICKNESS	1.2 mm	1.2 mm	1.2 mm
SPACING BETWEEN SLICES	1.2 mm	1.2 mm	1.2 mm
SLICES PER SLAB (NUMBER OF SLICES)	160 - 170	160 - 170	160 - 170
FILTER	Non	Non	Non
PARALLEL ACQUISITION TECHNIQUE (iPAT)	Off	Off	On
PARALLEL IMAGING METHOD	N/A	N/A	GRAPPA
MAXIMUM PARALLEL IMAGING ACCELERATION FACTOR	N/A	N/A	2.0
PRESCAN NORMALIZE	On	On	On

Notes

* GRAPPA parallel imaging compatible with Verio 3T scanners, Trio Tim 3T scanners and Skyra 3T scanners. NeuroQuant 2.0 or greater required.

NeuroQuant / Toshiba 3D T1 Settings

FIELD STRENGTH	1.5T*	3.0 T**
PLANE	Sagittal	Sagittal
MODE	3D	3D
SEQUENCE	FFE3D	FFE3D
SEQUENCE OPTION	Basic	Default
GRADIENT TYPE	Normal	Normal
RF TYPE	Fine	Normal
TE (ECHO TIME)	2.9 ms	3.2 ms
TR (RELAXATION TIME)	7.1 ms	7.3 ms
TI (INVERSION TIME)	800 ms	900 ms
IR PULSE	Non-Sel.	Non-Sel.
FLIP ANGLE	9 deg	9 deg
MATRIX	192 x 192	192 x 192
FOV	24 cm	24 cm
BANDWIDTH	217 Hz/pix	244 HZ/pix
SLICE THICKNESS	1.2 mm	1.2 mm
SPACING BETWEEN SLICES (3D)	1.2 mm	1.2 mm
NO WRAP	1	1
SPEEDER	PE 1	PE 1
FAT SUPPRESSION	Off	Off
NUMBER OF SEGMENTS/TYPE	2 / Sequential	1
SHOT INTERVAL	1600 ms	2300 ms
IDC (GRADIENT CORRECTION)	VMC	VMC
NAQ	1	1

Notes

Settings are for Toshiba Titan MRI Scanners.

* Only to be used with MPower v3.6 software or later. NeuroQuant 2.1 or greater required.

** Only to be used with MPower v3.5 software or later. NeuroQuant 2.0 or greater required.

NeuroQuant / Hitachi 3D T1 Settings

FIELD STRENGTH	1.2 T	1.5 T	3.0 T
SLICE PLANE	Sagittal	Sagittal	Sagittal
MR ACQUISITION TYPE (2D/3D)	3D	3D	3D
MODE	GEIR	GEIR	GEIR
SEQUENCE	RSSG	RSSG	RSSG
TE (ECHO TIME)	4.0 ms	4.0 ms	2.9 ms
TI (INVERSION TIME)	550 ms	550 ms	900 ms
TR (REPETITION TIME)	8.7 ms	8.6 ms	7.2 ms
FLIP ANGLE	12 deg	12 deg	10 deg
BANDWIDTH	53.2 KHz	58.2 KHz	92.6 KHz
ACQUISITION MATRIX	192 x 192	192 x 192	192 x 192
NUMBER OF AVERAGES	1	1	1
SLICE THICKNESS	1.2 mm	1.2 mm	1.2 mm
SPACING BETWEEN SLICES	1.2 mm	1.2 mm	1.2 mm
SLICES PER SLAB (NUMBER OF SLICES)	160 - 170	160 - 170	160 - 170
FIELD OF VIEW	240 – 256 mm	240 – 256 mm	240 – 256 mm
PARALLEL IMAGING (RAPID (PHASE))	1.0	1.0	1.0
PARALLEL IMAGING (RAPID (SLICE))	1.0	1.0	1.0
GRADIENT CORRECTION	On	On	On
FILTER OPTION (VIVID)	3	1	1

Notes