TSA₂

Advanced Thermosensory Stimulator
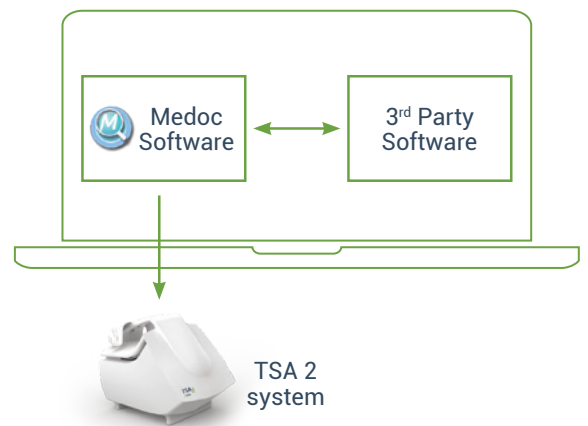
SYMBIOTIC DEVICES

The Latest Advance in Thermal Pain Stimulation

TSA₂
Medoc

- Precise stimulation temperature control
- External Control programming capability
- Rapid thermal stimulation rates- up to 13°C/sec
- Single and Dual Thermode configurations
- Upgradeable for the fMRI imaging environment

Medoc
advanced medical systems

TSA2 / Advanced Thermosensory Stimulator

Control, Precision, and Dependability for your Research Needs

✓ Develop dynamic protocols using MATLAB® and similar platforms

✓ EEPROM embedded thermode for calibration monitoring

✓ Dual thermode model to facilitate CPM and other advanced protocols

✓ Fifteen years of advancements in meeting fMRI Imaging needs

✓ Thermode configurations for 30x30mm, 16x16mm, intra-oral, intra-vaginal and fMRI

Dynamic protocols delivered through external control

CPM protocol based on dual thermode configuration

Evaluation of Temporal Summation

CE 1282   FDA CLEARED

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Comparison Chart

Parameter	TSA 2	Q-Sense	TSA Air2
Temperature range	0 to 53 °C	16 to 50 °C	0 to 53 °C
Maximum rate (°C/Sec.)	13	2	10
Available thermodes	30*30 - 16*16 - 30*30 fMRI - 16*16 fMRI - Intraoral - CHEPS - CHEPS fMRI	30*30	30*30
CHEPS available	✓	✗	✗
Cooling	💧	☁	☁
fMRI compatible	✓	✗	✗
External control	✓	✗	✓
TTL In/Out	✓	✗	✓
Modalities	CS, WS, CP, HP, tonic heat and cold, CHEPS	CS, WS, HP, tonic heat	CS, WS, CP, HP, tonic heat and cold
DUal thermodes	✓	✗	✗

Decision support

Potential use:
fMRI / CHEPS speed / Dual Thermode?

YES

NO

TSA2

Thermode size:
Need only 30*30?

YES

NO

TSA2

Cold pain:
Important?

YES

NO

TSA2

TSA2 Air

Speed:
Faster than 2°C/sec.?

YES

NO

TSA2

TSA2 Air

Q-Sense